PSE CONSULTING ENGINEERS INC.

STRUCTURAL ENGINEERING CALCULATIONS

PROJECT: Shipping Container Design

PROJECT LOCATION: 38600 Main St.,
Milner CO 80487

PSE PROJECT NUMBER: AquaWorks DBO Inc.
224-2002

DATE: February 22, 2024

REVIEW BY: Nabil Taha, Ph.D., P.E.
Design BY: Maverick Davison
(Under Supervision of Licensed Engineer)

3-1-2024

COLORADO LICENSED
NABIL M. TAHA
30389
PROFESSIONAL ENGINEER

Expires 10/31/2025

Table of Contents:

3-1-2024

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30389
PROFESSIONAL ENGINEER

Expires 10/31/2025

250-A Main Street
Klamath Falls, OR. 97601
E-Mail: info@structure1.com
Web: www.structure1.com
ph. (541) 850-6300
fax (541) 850-6233

References:

1- Literature:

a. 2021 International Building Code (IBC) as adopted by the Colorado State Buildings Program

b. Steel Construction Manual, AISC 15th Edition

c. American Iron and Steel Institute (AISI): Cold-Formed Steel Design Manual, 2017

d. American Society of Civil Engineers (ASCE): Minimum Design Loads for Buildings and Other Structures 7-16

e. ICC G5-2019
Guideline for the Safe Use of ISO Intermodal Shipping Containers Repurposed as Buildings and Building Components ISBN: 978-1-60983-876-8

f. Steel Deck Institute SDI, Diaphragm Design, Edition 4

2- Software:

a. RISA 3D Version 20.0,
RISA Technologies,

b. Wood Works Design Office Version 12.0,
American Forest & Paper Association

Design Criteria:

1- Location:	Milner, CO (Lat. 40.4805°, Long. -107.0200°)		
2- Seismic:	OC	II	
	SDC	C	
	Site Class	D	
	S_s	0.582	
	S_1	0.102	
	S_{DS}	0.518	
	S_{ms}	0.777	
	I_E	1.0	
	R	2.0	Refer to pg. 502
3- Wind:	Ultimate wind speed	105 mph (3 s. gust)	
	Exposure	C	
	I_W	1.0	
4- Snow:	76.82 psf (ground) 53.8 psf (flat roof)		
5- Soil Bearing Capacity:	1500 psf (presumptive value from IBC)		
6- Gravity Loads:	Container(s):	Self Weight	
	DL Floor:	5 psf additional	
	LL Floor:	40 psf	
	DL Roof:	5 to 20 psf	
7- Deflection Criteria:	Floor LL Deflection:	L/480	
	Roof TL Deflection:	L/180	

**Other criteria assumed as stated in design calculations.

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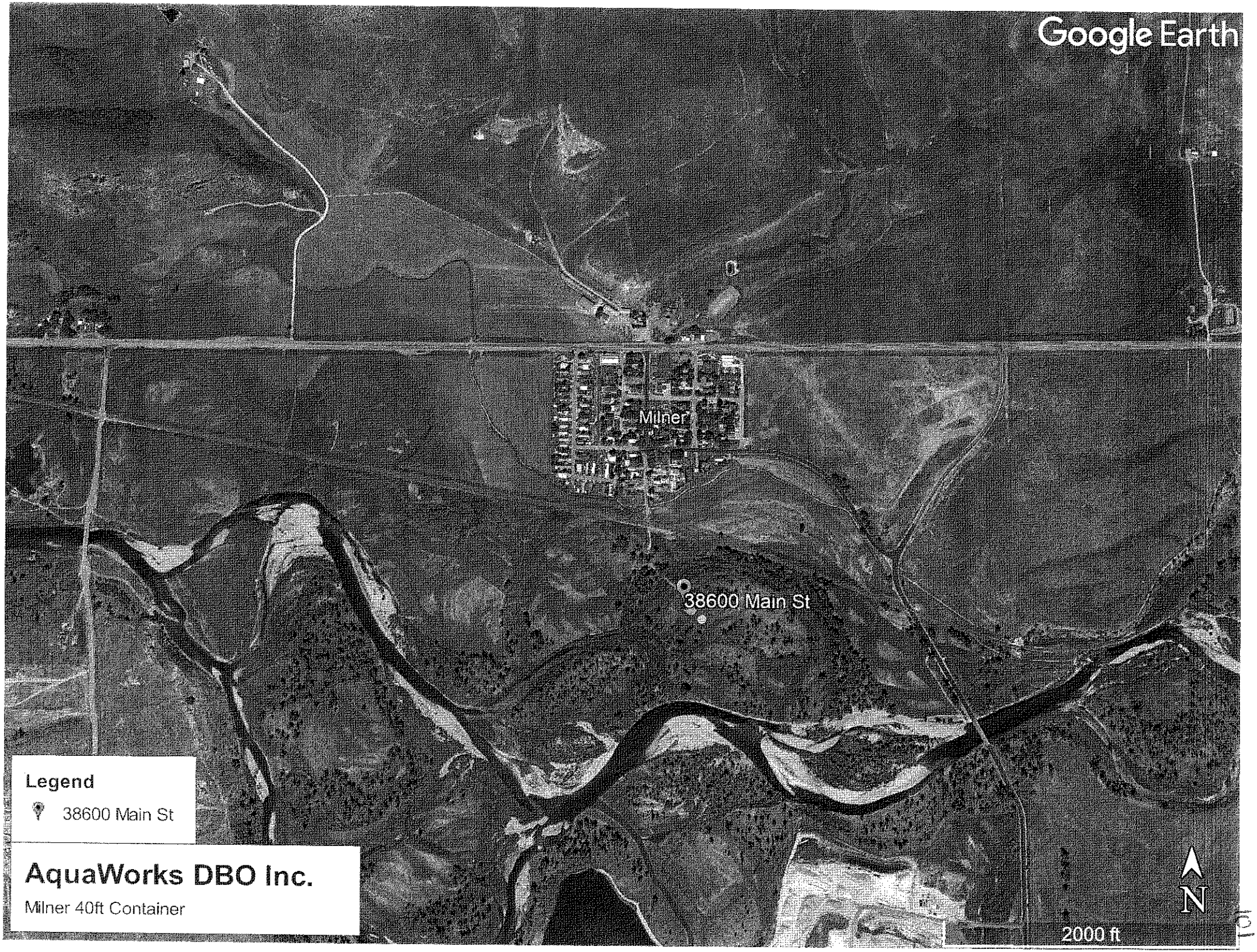

Google Earth
Milner
38600 Main St
Legend
38600 Main St
AquaWorks DBO Inc.
Milner 40ft Container
N
2000 ft


Google Earth
38600 Main St
Legend
38600 Main St
AquaWorks DBO Inc.
Milner 40ft Container
N
1000 ft

⚠ This is a beta release of the new ATC Hazards by Location website. Please contact us with feedback.

ⓘ The ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

ATC Hazards by Location

Search Information

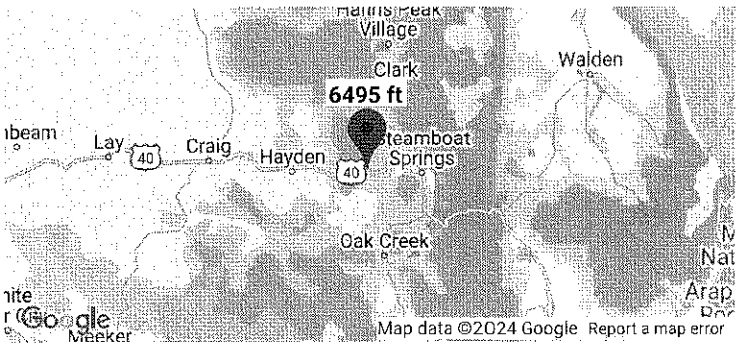
Address: 38600 Main St., Milner CO 80487

Coordinates: 40.4806125, -107.0200923

Elevation: 6495 ft

Timestamp: 2024-02-22T20:54:27.053Z

Hazard Type: Wind



ASCE 7-16

MRI 10-Year	77 mph
MRI 25-Year	83 mph
MRI 50-Year	88 mph
MRI 100-Year	92 mph
Risk Category I	100 mph
Risk Category II	105 mph
Risk Category III	112 mph
Risk Category IV	116 mph

ASCE 7-10

MRI 10-Year	76 mph
MRI 25-Year	84 mph
MRI 50-Year	90 mph
MRI 100-Year	96 mph
Risk Category I	105 mph
Risk Category II	115 mph
Risk Category III-IV	120 mph

ASCE 7-05

ASCE 7-05 Wind Speed	90 mph

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Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

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MecaWind v2355

Calculations Prepared by:
Date: Feb 22, 2024

File Location :

Basic Wind Parameters

Wind Load Standard	= ASCE 7-16	Exposure Category	= C
Wind Design Speed	= 105.0 mph	Risk Category	= II
Structure Type	= Building	Building Type	= Enclosed

General Wind Settings

=	ASCE 7-16 Wind Parameters	=
Incl_LF	= Include ASD Load Factor of 0.6 in Pressures	= False
DynType	= Dynamic Type of Structure	= Flexible
NF	= Natural Frequency of Structure (Mode 1)	= 8.333 Hz
NF	= Natural Frequency of Structure	= 8.333
Bs	= Structural Damping (Used for Flexible Only)	= 0.0100
Zg	= Altitude (Ground Elevation) above Sea Level	= 0.000 ft
Bdist	= Base Elevation of Structure	= 0.000 ft
GenElev	= Specify the Elevations For Wind Pressures	= Mean Roof Ht
SDB	= Simple Diaphragm Building	= False
MWFRS	= Analysis Procedure being used for MWFRS	= Ch 27 Pt 1
C&C	= Analysis Procedure being used for C&C	= Ch 30 Pt 4
Reacs	= Show the Base Reactions in the output	= False
MWFRSType	= MWFRS Method Selected	= Ch 27 Pt 1

Building Inputs

RoofType:	Building Roof Type = Flat		: Flat Roof	=	
RfHt	: Roof Height = 9.000 ft	W	: Building Width	= 8.000 ft	
L	: Building Length = 40.000 ft	Parapet	: Type of Parapet	= None	
Par	: Is there a Parapet = False	OH_ALL	:	= 0.000 ft	

Exposure Constants per Table 26.11-1:

Alpha:	Table 26.11-1 Const = 9.500	Zg:	Table 26.11-1 Const	= 900.000 ft	
At:	Table 26.11-1 Const = 0.105	Bt:	Table 26.11-1 Const	= 1.000	
Am:	Table 26.11-1 Const = 0.154	Bm:	Table 26.11-1 Const	= 0.650	
C:	Table 26.11-1 Const = 0.200	Eps:	Table 26.11-1 Const	= 0.200	

Main Wind Force Resisting System (MWFRS) Calculations per Ch 27 Part 1:

h	= Mean Roof Height above grade	= 9.000 ft
Kh	= Z < 15 ft [4.572 m]--> (2.01 * (15/zg)^(2/Alpha) {Table 26.10-1}	= 0.849
Kzt	= Topographic Factor is 1 since no Topographic feature specified	= 1.000
Kd	= Wind Directionality Factor per Table 26.6-1	= 0.85
Zg	= Elevation above Sea Level	= 0.000 ft
Ke	= Ground Elevation Factor: Ke = e^-(0.0000362*Zg) {Table 26.9-1}	= 1.000
GCPi	= Ref Table 26.13-1 for Enclosed Building	= +/-0.18
RA	= Roof Area	= 320.00 sq ft
LF	= Load Factor based upon STRENGTH Design	= 1.00
qh	= (0.00256 * Kh * Kzt * Kd * Ke * V^2) * LF	= 20.37 psf
qin	= For Negative Internal Pressure of Enclosed Building use qh*LF	= 20.37 psf
qip	= For Positive Internal Pressure of Enclosed Building use qh*LF	= 20.37 psf

Gust Factor Calculation:

Gust Factor Category I Rigid Structures - Simplified Method		
G1	= For Rigid Structures (Nat. Freq.>1 Hz) use 0.85	= 0.85
Gust Factor Category II Rigid Structures - Complete Analysis		
Zm	= 0.6 * Ht	= 15.000 ft
Izm	= Cc * (33 / Zm) ^ 0.167	= 0.228
Lzm	= L * (Zm / 33) ^ Epsilon	= 427.057
Q	= (1 / (1 + 0.63 * ((B + Ht) / Lzm)^0.63))^0.5	= 0.961
G2	= 0.925*((1+1.7*Izm*3.4*Q)/(1+1.7*3.4*Izm))	= 0.905
Gust Factor Used in Analysis		
G	= Lessor Of G1 Or G2	= 0.850

Wall Wind Pressures based On Positive Internal Pressure (+GCPi) - Normal to Ridge
All wind pressures include a load factor of 1.0

Elev	Kz	Kzt	qz	GCPi	Windward Press	Leeward Press	Side Press	Total Press	Minimum Pressure*
ft			psf		psf	psf	psf	psf	psf
----	-----	-----	-----	----	--------	-------	------	-----	---------

WLX
8FT
WALL
↓

WW LW

WLX

8Ft WALL

9.00	0.849	1.000	20.37	0.18	10.18	-12.32	-15.78	22.50	16.00

Wall Wind Pressures based on Negative Internal Pressure (-GCPi) - Normal to Ridge
All wind pressures include a load factor of 1.0

Elev ft	Kz	Kzt	qz psf	GCPi	Windward Press psf	Leeward Press psf	Side Press psf	Total Press psf	Minimum Pressure* psf
9.00	0.849	1.000	20.37	-0.18	17.51	-4.99	-8.45	22.50	16.00

Notes Wall Pressures:
Kz = Velocity Press Exp Coeff — Kzt = Topographical Factor
qz = 0.00256*Kz*Kzt*Kd*V^2 — GCPi = Internal Press Coefficient
Side = qh * G * Cp_SW - qip * +GCPi — Windward = qz * G * Cp_WW - qip * +GCPi
Leeward = qh * G * Cp_LW - qip * +GCPi — Total = Windward Press - Leeward Press
* Minimum Pressure: Para 27.1.5 no less than 16.00 psf (Incl LF) applied to Walls
+ Pressures Acting TOWARD Surface — - Pressures Acting AWAY from Surface

Roof Wind Pressures for Positive & Negative Internal Pressure (+/- GCPi) - Normal to Ridge
All wind pressures include a load factor of 1.0

Roof Var	Start Dist ft	End Dist ft	Cp_min	Cp_max	GCPi	− Pressure Pn_min* psf	+ Pressure Pp_min* psf	− Pressure Pn_max psf	+ Pressure Pp_max psf
OH_Bot_-Y	N/A	N/A	0.800	0.800	0.000	13.85	13.85	13.85	13.85
Roof (All)	0.000	4.500	-0.180	-1.158	0.180	0.55	-6.78	-16.38	-23.71
Roof (All)	4.500	8.000	-0.180	-0.700	0.180	0.55	-6.78	-8.45	-15.78

Notes Roof Pressures:
Start Dist = Start Dist from Windward Edge — End Dist = End Dist from Windward Edge
Cp_Max = Largest Coefficient Magnitude — Cp_Min = Smallest Coefficient Magnitude
Pp_max = qh*G*Cp_max - qip*(+GCPi) — Pn_max = qh*G*Cp_max - qin*(-GCpi)
Pp_min* = qh*G*Cp_min - qip*(+GCPi) — Pn_min* = qh*G*Cp_min - qin*(-GCPi)
OH = Overhang X = Dir along Ridge Y = Dir Perpendcular to Ridge Z = Vertical
* The smaller uplift pressures due to Cp_Min can become critical when wind is combined with roof live load or snow load; load combinations are given in ASCE 7
+ Pressures Acting TOWARD Surface — - Pressures Acting AWAY from Surface

WLZ 40Ft WALL

Wall Wind Pressures based On Positive Internal Pressure (+GCPi) - Parallel to Ridge
All wind pressures include a load factor of 1.0

Elev ft	Kz	Kzt	qz psf	GCPi	Windward Press psf	Leeward Press psf	Side Press psf	Total Press psf	Minimum Pressure* psf
9.00	0.849	1.000	20.37	0.18	10.18	-7.13	-15.78	17.31	16.00

Wall Wind Pressures based on Negative Internal Pressure (-GCPi) - Parallel to Ridge
All wind pressures include a load factor of 1.0

Elev ft	Kz	Kzt	qz psf	GCPi	Windward Press psf	Leeward Press psf	Side Press psf	Total Press psf	Minimum Pressure* psf
9.00	0.849	1.000	20.37	-0.18	17.51	0.20	-8.45	17.31	16.00

Notes Wall Pressures:
Kz = Velocity Press Exp Coeff — Kzt = Topographical Factor
qz = 0.00256*Kz*Kzt*Kd*V^2 — GCPi = Internal Press Coefficient
Side = qh * G * Cp_SW - qip * +GCPi — Windward = qz * G * Cp_WW - qip * +GCPi
Leeward = qh * G * Cp_LW - qip * +GCPi — Total = Windward Press - Leeward Press
* Minimum Pressure: Para 27.1.5 no less than 16.00 psf (Incl LF) applied to Walls
+ Pressures Acting TOWARD Surface — - Pressures Acting AWAY from Surface

Roof Wind Pressures for Positive & Negative Internal Pressure (+/- GCPi) - Parallel to Ridge
All wind pressures include a load factor of 1.0

Roof Var	Start Dist ft	End Dist ft	Cp_min	Cp_max	GCPi	Pressure Pn_min* psf	Pressure Pp_min* psf	Pressure Pn_max psf	Pressure Pp_max psf

 106

WL7
40ft
WALL

						−	+	−	+
OH_Bot_-X	N/A	N/A	0.800	0.800	0.000	13.85	13.85	13.85	13.85
Roof (All)	0.000	4.500	-0.180	-0.900	0.180	0.55	-6.78	-11.91	-19.24
Roof (All)	4.500	9.000	-0.180	-0.900	0.180	0.55	-6.78	-11.91	-19.24
Roof (All)	9.000	18.000	-0.180	-0.500	0.180	0.55	-6.78	-4.99	-12.32
Roof (All)	18.000	40.000	-0.180	-0.300	0.180	0.55	-6.78	-1.53	-8.86

Notes Roof Pressures:
Start Dist = Start Dist from Windward Edge End Dist = End Dist from Windward Edge
Cp_Max = Largest Coefficient Magnitude Cp_Min = Smallest Coefficient Magnitude
Pp_max = qh*G*Cp_max - qip*(+GCPi) Pn_max = qh*G*Cp_max - qin*(-GCpi)
Pp_min* = qh*G*Cp_min - qip*(+GCPi) Pn_min* = qh*G*Cp_min - qin*(-GCPi)
OH = Overhang X = Dir along Ridge Y = Dir Perpendcular to Ridge Z = Vertical
* The smaller uplift pressures due to Cp_Min can become critical when wind is combined with roof live load or snow load; load combinations are given in ASCE 7
+ Pressures Acting TOWARD Surface - Pressures Acting AWAY from Surface

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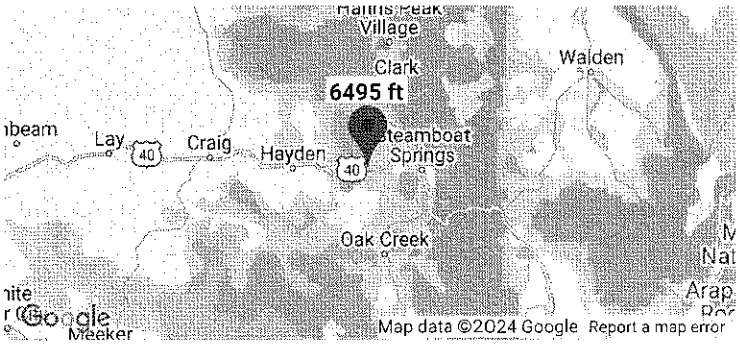
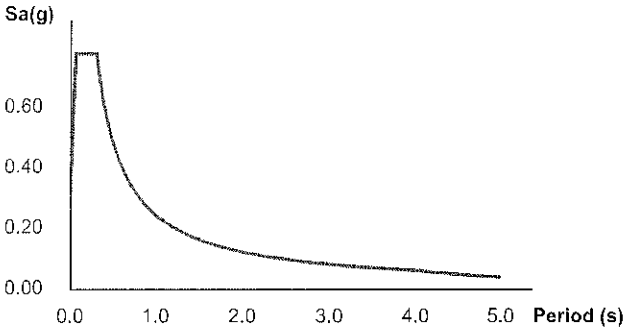
ATC Hazards by Location

Search Information

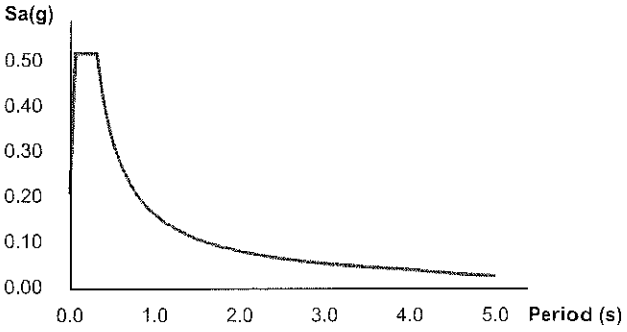
Address:	38600 Main St., Milner CO 80487
Coordinates:	40.4806125, -107.0200923
Elevation:	6495 ft
Timestamp:	2024-02-22T20:54:44.687Z
Hazard Type:	Seismic
Reference Document:	ASCE7-16
Risk Category:	II
Site Class:	D-default



MCER Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	0.582	MCE_R ground motion (period=0.2s)
S_1	0.102	MCE_R ground motion (period=1.0s)
S_{MS}	0.777	Site-modified spectral acceleration value
S_{M1}	0.244	Site-modified spectral acceleration value
S_{DS}	0.518	Numeric seismic design value at 0.2s SA
S_{D1}	0.163	Numeric seismic design value at 1.0s SA

▾Additional Information

Name	Value	Description
SDC	D	Seismic design category
F_a	1.334	Site amplification factor at 0.2s
F_v	2.396	Site amplification factor at 1.0s
CR_S	0.909	Coefficient of risk (0.2s)
CR_1	0.945	Coefficient of risk (1.0s)
PGA	0.406	MCE_G peak ground acceleration

F_{PGA}	1.2	Site amplification factor at PGA
PGA_M	0.487	Site modified peak ground acceleration
T_L	4	Long-period transition period (s)
SsRT	0.582	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.641	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.102	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.108	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Please note that the ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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ASCE 7-16 (2018 & 2021 IBC) SEISMIC DESIGN

Last updated July 4th, 2023 by Caleb Sale

EQUIVALENT LATERAL FORCE PROCEDURE

JOB NUMBER _____

DESIGNER _____

Design Information

DATA	VALUE	SOURCE
Site Class	D-Default	Site conditions, geotech report
S_s=	0.582	Seismic Design Parameters (Software)
S_1=	0.102	Seismic Design Parameters (Software)
S_{MS}=	0.777	Seismic Design Parameters (Calculated)
S_{M1}=	0.244	Seismic Design Parameters (Calculated)
I_E	1.0	ASCE 7-16 Table 1.5-2
Risk Category	2	ASCE 7-16 Table 1.5-1
R	2	ASCE 7-16 Table 12.2-1
h_n	9	Height per ASCE 7-16
C_t	0.02	ASCE 7-16 Table 12.8-2
T_L	6	Long-period Transition period (Software)
Diaphragm	Flexible	Rigid or Flexible
L	9	Maximum distance between LFRS Elements

S_{MS}: Max considered spectral response acceleration for short periods

S_{M1}: Max considered spectral response acceleration for 1-second period

I_E : Seismic importance factor

R: Response modification factor

1) Design spectral response acceleration

S_{DS}: 5% Damped spectral response acceleration at short periods

S_{D1}: 5% Damped spectral response acceleration at 1 second period

$S_{DS}=2/3(S_{ms})$ S_{DS}= 2/3 X 0.776621 S_{DS}= 0.518 [ASCE 7-16 Eq. 11.4-3]

$S_{D1}=2/3(S_{m1})$ S_{D1}= 2/3 X 0.244392 S_{D1}= 0.163 [ASCE 7-16 Eq. 11.4-4]

2) Seismic design category

11.6 EXCEPTIONS: ALL MUST BE MET TO USE EXCEPTION		
	1: $T_a < 0.8T_s$	MET
	2: T<Ts for Story Drift	MET
	3: Eq 12.8-2 Used for C_s	MET
	4: Diaphragm is Rigid or Flexible W/ L<40'	MET

From Table 11.6-1 ASCE 7-16 = D

From Table 11.6-2 ASCE 7-16 = C

Governing Design D

Note: S1<0.75 AND all exceptions of ASCE 7-16 11 met, SDC is permitted to be determined from Table 1 alone. IRC table 302.2.1.1 is equivalent to IBC T. 11.6-1 for alternate SDC Determination

3) Determine design base shear (V)

A. ASCE 7-16, 11.4.8 Exception

Ts= 0.3146864

$T = T_a = C_t (h_n^x)$ [ASCE 7-16, 12.8.2.1, Eq. 12.8-7]

T_a : Approximate Fundamental Period

$T = 0.020 \times 9^{0.75}$ T= 0.104

For Site Class D/D-Default: T is < 1.5 Ts

For site class D/-default Cs shall be calculated per Eq. 12.8-2

Equivalent Force Procedure [ASCE 7-16, 12.8.1] $V = C_s \times W$

C_s : Seismic Response Coefficient

W : Total dead load and other applicable loads

B. [ASCE 7-16, 12.8.1.1, Eq. 12.8-2]

$C_S = \frac{S_{DS}}{R / I}$ $C_S = \frac{0.518}{2} 1.0$ C_S= 0.259

C. Nor greater than

$C_S = \frac{S_{D1}}{T (R / I)}$ [ASCE 7-16, 12.8.1.1, Eq. 12.8-3] **OR** $C_S = \frac{S_{D1} * T_L}{T^2 (R / I)}$ [ASCE 7-16, 12.8.1.1, Eq. 12.8-4]

$C_S = \frac{0.163 \times 1}{0.104 \times 2}$ C_S= 0.784

$C_S = \frac{0.163 \times 6 \times 1}{0.011 \times 2}$ C_S= 45.26

D. Nor less than [ASCE 7-16, 12.8.1.1, Eq. 12.8-5]

$C_S = 0.044 (S_{DS}) (I)$ $C_S = 0.044 \times 0.518 \times 1$ C_S= 0.022781

Governing C_s = 0.259

V= Cs x W V = 0.259 X W Refer to sheet two for W and Calculated V

IBC SEISMIC DESIGN

VERTICAL FORCE DISTRIBUTION EQUIVALENT LATERAL FORCE PROCEDURE

JOB NUMBER 0

DESIGNER 0

1. Determine dead load at each level of building.

Structural portion		DL (PSF)	Area (SF)	Length (FT)	Height (FT)	Total Weight (LB)
a) Roof	Diaphram elevation from the base level in ft				9	
	Roof	15	320	NA	NA	4800
	Misc.	0	0	0	0	0
	Misc. (LBS)	0	NA	NA	NA	0
c) 5th floor	Diaphram elevation from the base level in ft				0	
	Ext. Walls	15	NA	0	0	0
	Int. Walls	10	NA	0	0	0
	Floor	15	0	NA	NA	0
	Misc.	0	0	0	0	0
	Misc. (LBS)	0	NA	NA	NA	0
d) 4th floor	Diaphram elevation from the base level in ft				0	
	Ext. Walls	15	NA	0	0	0
	Int. Walls	10	NA	0	0	0
	Floor	15	0	NA	NA	0
	Misc.	0	0	0	0	0
	Misc. (LBS)	0	NA	NA	NA	0
e) 3rd floor	Diaphram elevation from the base level in ft				0	
	Ext. Walls	15	NA	0	0	0
	Int. Walls	10	NA	0	0	0
	Floor	15	0	NA	NA	0
	Misc.	0	0	0	0	0
	Misc. (LBS)	0	NA	NA	NA	0
f) 2nd floor	Diaphram elevation from the base level in ft				0	
	Ext. Walls	0	NA	0	0	0
	Int. Walls	0	NA	0	0	0
	Floor	0	0	NA	NA	0
	Misc.	0	0	0	0	0
	Misc. (LBS)	0	NA	NA	NA	0
g) 1st floor	Ext. Walls	15	NA	96	4.5	6480
	Int. Walls	10	NA	0	0	0
	Misc.	0	0	0	0	0
				TOTAL DEAD LOAD (LB) =		11280

2) Determine verticle force distribution at each level ASCE 7-16 12.8.3

$F_x = C_{vx} \times V$ ASCE 7-16 Eq. 12.8-11

$$C_{vx} = \frac{w_x \times h_x^{\,k}}{\sum w_i h_i^{\,k}}$$ ASCE 7-16 Eq. 12.8-12

F_x: Lateral seismic force at any level

V: Seismic base shear (Kips)

w_x & w_i : The portion of the total gravity load of the structure (W) located or assigned to level i or x

h_x & h_x: The height (ft) from the base to level i or x diaphram.

k : An exponent related to the structures period (T) as follows;

T ≤ 0.5 sec k = 1 T ≥ 2.5 sec k = 2 0.5 ≤ T ≤ 2.5 Interpolate between 1 & 2

Refer to sheet one for V

V = 0.259 X W V = 0.259 X 11280 V= 2.92 (kips) T= 0.1039 k= 1

Level (floor)	Wall Height (ft)	Diaphram Height (Ft)	W_x (kips)	$W_x * h_x^k$	C_{vx}	F_x (kips)	Allowable F_x (kips)
Roof	4.5	9	8.040	72	1.000	2.92	2.04
5	0	0	0.000	0	0.000	0	0.00
4	0	0	0.000	0	0.000	0	0.00
3	0	0	0.000	0	0.000	0	0.00
2	0	0	0.000	0	0.000	0.00	0.00
			8.040	72	1.000	2.92	2.0

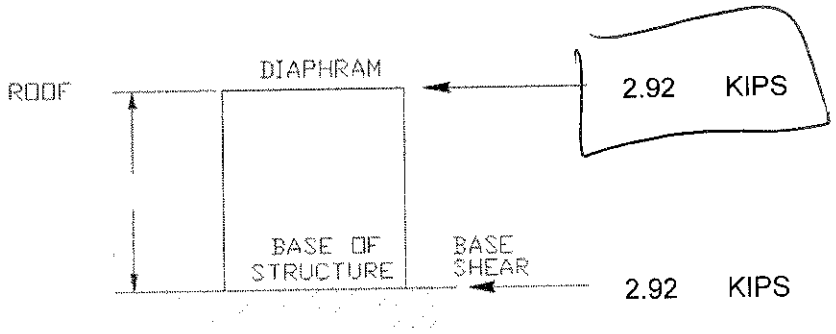
Note: The Total Shear shown in the right hand column is an "allowable" load.

IBC SEISMIC DESIGN

VERTICLE FORCE DISTRIBUTION EQUIVALENT LATERAL FORCE PROCEDURE

JOB NUMBER 0

DESIGNER 0



Routt County Addresses

Date Updated	November 15 2021
Full Address	38600 MAIN ST
Address PIN	938151001
Postal Community Name	MILNER
State	CO
Status	CURRENT
Zipcode	80487

North Routt Snow Load - High Res

Snowload: 76.82 psf

21

IBC SNOW LOAD

SLOPED ROOF

PROJECT NUMBER _____

DESIGNER MRD ELEVATION REVIEWED BY: _____

LOCATION (STATE) _____

P_s : Sloped roof snow load (PSF)

CS : Slope factor [ASCE 7-16, Fig 7-2]

P_f : Flat roof snow load (PSF)

C_e : Exposure factor [ASCE 7, Table 7-2]

Ct : Thermal factor [ASCE 7-16 Table 7-3]

I : Snow load importance factor [ASCE 7-16, Table 1.5-2]

P_g : Ground snow load

δ: Density of snow

h_d: Drift Height [ASCE 7, Fig 7-9, l_u=W from windward side]

S: roof slope for a rise of 1 = 48

1) Flat Roof Snow Load

$P_f = 0.7 \times C_e \times C_t \times I \times P_g$ [ASCE 7-16, Eq 7.3-1]

I = 1.0

P_g = 76.82

	Cat.	Exposure
C_e =	C-PartiallyExposed	1

C_t = 1

P_f = **53.8** (PSF)

2) Sloped Roof Snow Load

$P_s = C_S \times P_f$ [ASCE-7-10, Eq 7.4-1]

Roof slope = 0.25 / 12 = 1.2 °

Is roof unobstructed and slippery? No (choose N/A if unknown)

Is roof ventilated? Yes (ignore if Thermal Factor, Ct is 1.1, 1.2, or 1.3; choose N/A if unknown)

Roof R-Value R≥30 ft^2 hr °F/Btu (ignore if Thermal Factor, Ct is 1.1, 1.2, or 1.3; choose N/A if unknown)

Figure: **7-2a** [ASCE 7-16, Fig. 7-2]

Line: **Solid** [ASCE 7-16, Fig. 7-2]

C_s = **1.000** [ASCE 7-16, Fig. 7-2]

P_s = **53.8** (PSF)

Enter values from Code

Calculated Values

METHODOLOGY OF DESIGN FOR STEEL MODULAR CONTAINERS:

Pages 500 – 999

250-A Main Street
Klamath Falls, OR. 97601
E-Mail: info@structure1.com
Web: www.structure1.com
ph. (541) 850-6300
fax (541) 850-6233

PSE CONSULTING ENGINEERS INC.

PROJECT #: AQUAWORKS DBO INC. 224-2002 CO

RE: Description of the Structural Analysis and Design used in this project:

Dear Building Officials, plan examiners, and structural inspector:

This design package aims to introduce the structural analysis of the anticipated project located at Colorado, USA. The project consists of a single-story mechanical/pump house utilizing steel shipping/cargo containers.

Steel Modular Containers:

Structural analysis was conducted using very sophisticated finite element concepts using RISA 3D 20.0 software.

First, the Basic unit:

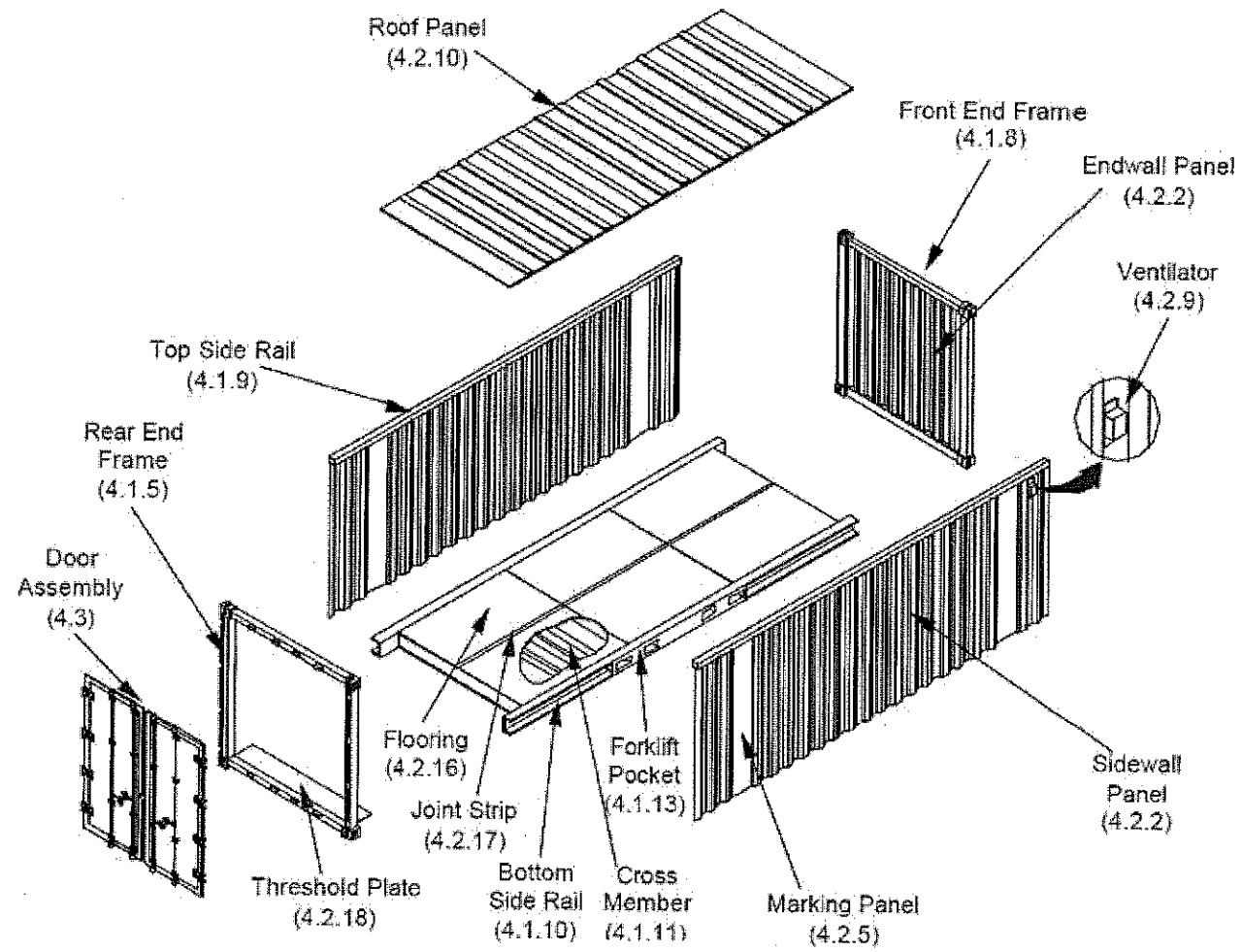
The main components of basic units consist of:

- Top side rail
- Bottom side rail
- Top and bottom beams at front, door, and rear
- Corner posts
- The corrugated steel decking panels, and reinforcement, if any, in the side walls, 14 gauge
- The corrugated steel decking panels and reinforcement, if any, in the front end
- The corrugated steel decking panels and reinforcement, in the rear end
- The corrugated steel decking panels in the roof of the container
- The steel joists and wood panels in the floor of the container

250-A Main Street
Klamath Falls, OR. 97601

E-Mail: info@structure1.com
Web: www.structure1.com

ph. (541) 850-6300
fax (541) 850-6233



For complete list of each member sizes, please refer to "Section sets" in the RISA print out files in the calculations.

The overall Computer model for each building:

From the above basic unit, the model for the entire building is assembled\created on RISA-3D according to the building geometry. Then the following modification were applied to the model:

- For multiple units, connections are made with rigid links to represent the connections between the units.
- Portions of the wall steel metal deck are removed from each unit corresponding to the openings shown on the Architectural drawings, if any.

- Reinforcement is added to those openings as shown on structural drawings.
- The following loads were added to the model according to the Building Code:
  - Dead load
  - Live load
  - Roof live load and/or Snow load
  - Wind forces/loads in both the major axis, perpendicular to each other
  - Seismic forces/loads in the both the major axis, perpendicular to each other
  - Other loads, if any

Load combinations:

- Load combinations were formed according to the International Building Code, the latest version used by the local Building Department.

Lateral Force Resisting System:

Per ICC G5-2019, Appendix 3: New Provisions for Shipping Containers in the 2021 IBC, section 3114.8.4.2:

- Where all or portions of the corrugated steel container sides are considered to be the seismic force-resisting system, designing shall be in accordance with:
  - Seismic Force-Resisting System = light-frame bearing-wall systems with shear panels of all other materials
  - Response Modification Coefficient, R = 2.0
- Where portions of the corrugated steel container sides are retained, but are not considered to be the seismic fore-resisting system, designing shall be in accordance with:
  - Steel Ordinary Moment Frames (ASCE Table 12.1-1 C.4 permitted in seismic zones D and E under section 12.2.5.6 with building height under 35 ft)
  - Response Modification Coefficient, R = 3.5, which shall be reduced to 3.0 for an added factor of safety.

Boundary conations and Supports:

- Boundary condition and\or supports were added to the computer model to represent the foundation used in the project.

Component Design:

Steel components:

RISA 3D has a built-in design module that pairs with RISA Section. All load bearing/transferring steel members' shapes, properties, and orientations were designed in RISA 3D and input into RISA 3D for analysis.

For complete list of each member sizes, please refer to "Section sets" in the RISA print out files in the calculations.

Steel Strength:

Shipping containers steel are fabricated with CORTEN steel (Fy = 50 ksi, Fu = 70 ksi). We may analyze the steel as a weaker A36 (Fy = 36 ksi, Fu = 58 ksi) as an added factor of safety for containers where the CSC plate cannot be verified.

Computer analysis results:

- The model is evaluated by finite element analysis according to the loads and load combinations above in the RISA 3D program.
- The model results were reviewed by our licensed engineer for accuracy, steel code checks, and deflection compatibility.

250-A Main Street
Klamath Falls, OR. 97601
E-Mail: info@structure1.com
Web: www.structure1.com
ph. (541) 850-6300
fax (541) 850-6233

PSE CONSULTING ENGINEERS INC.
PROJECT #: AQUAWORKS DBO INC. 224-2002 CO

RE: Why Steel Modular Containers?

Thank you so very much for being a big supporter of the green and sustainable construction to avoid destroying our only one planet earth for the next generation, your kids, families, relatives, and neighbors and mine.

As we all know, the big rule for sustainable construction now is the Three Rs: Reduce, Reuse, Recycle. That is where the re-using of the shipping container in our project is sustainable by giving the millions of deserted Shipping/Cargo containers a second life.

The good news:

Among the most common construction material, Concrete, Steel and Wood\timber, our Shipping\Cargo Congo Containers are fabricated from the best materials of the above three options, Steel:

1-Steel is the best material known to Building Officials, Architects, Engineers, and Builders.

2-Steel is the most trusted building materials in the world.

Why?
- Steel is produced in factories with high quality control.

- Steel factories are staffed with highly qualified professional such as metallurgists, engineers, and technicians.

- Steel members are joined with welding as opposed to nails which is common in wood construction.

- Variation in steel yield and ultimate strength is very minimal. This is because the procedure and method used in producing steel are well studied and executed around the world.

250-A Main Street
Klamath Falls, OR. 97601
E-Mail: info@structure1.com
Web: www.structure1.com
ph. (541) 850-6300
fax (541) 850-6233

In contrast:
Concrete - compressive strength is relatively variable due to the many different materials that could be used. Concrete is produced in batch plants with far less quality control than steel.

Wood - where it contains many natural defects and vulnerable to insects, decay, and fire.

• Even so, our Building Code does allow several types of multistory building from with Wood\Timber as building materials. We chose to do better than the minimum and used STEEL.

• We are using Steel that is not only much stronger, but also non-combustible, safer, and durable.

• Also, for connections, we are using welding instead of nails and lag bolts

• Shipping containers are built and fabricated according to the most stringent code, ISO, please see below.

• Just as an example, every single container is analyzed by the computer, built, and physically Tested to resist the following loads:

- Vertical loads:
- Individual container 58 kips
- 9 stacked high 464 Kips
- Lateral loads in the short direction of 33.75 Kips (150 kN)
- Lateral load in the long direction of 16.87 Kips (75 KN)

It is worth to mention that the above loads are to resist:

- The container filled with goods. Which is not the case for us.
  - The container in our building will be occupied by a few people and furniture, 40 PSF, which is much, much smaller than the 170 PSF minimum loading that the container is designed for.
- The sway of the ships in the ocean\sea, which are several times bigger than the strongest seismic forced in the USA and bigger than the wind and the seismic loads we have on our structure.

However, since Shipping/Cargo container design is not taught in schools, colleges, or universities, it is understandable that many people will be hesitant to use or approve a project that uses them. I also had concerns when I started designing with them 20+ years ago.

But, after many years of studying and designing Shipping/Cargo containers buildings, I found that they are very safe. They have been used for many years all over the world for residential apartment complexes, a large variety of commercial projects, office buildings, malls, schools, and much more.

The biggest user of shipping containers for offices, sleeping quarters, kitchen facilities, refrigerators, food/plant processing, and storage buildings is our very own military in USA and USA military bases all over the world.

The following facts about Shipping/Cargo containers brought me significant peace or mind and it may ease your mind as well:

First: Designed by the most stringent International Code, ISO Standard 1496.

Second: Tested before use by the same stringent Code, ISO Standard 1496.

Third: Tested again during use in shipping goods with the following very high loads:

1- Loaded with over 55,000 pounds of goods (Live load of 170 pounds per square foot for 40 ft containers, 340 pounds per square foot for 20 ft containers)

2- Stacked 9 high on top of each other.

3- Survived the shaking of the ships, which is far worse, than any earthquake a building will ever see. Then we take this very strong container and use it for a portion of the design load, it is at least four times stronger than its use.

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PROJECT #: AQUAWORKS DBO INC. 224-2002 CO

Please think about the following:

1- Which of our traditional type of building, Concrete, Steel or Timber do we design it for four times the required live load? We should be called wasteful and for sure crazy for not using this resource more often.

2- Which traditional building do we approve every day for use has been tested twice, once during fabrication and second during use in shipping, before we give the Certificate of Occupancy?

We all know that the answer to the above question is none, only Shipping/Cargo containers have that extra factor of safety.

But please don't take my word for it, if the above still didn't ease your mind, please take the time to explore the wonderful videos, websites, documents of sample projects that have been very successful and very safe for millions of people all over the world.

Please enjoy them and share them with a friend so you can help our community to build green and sustainable. Please remember the golden rule of the Three Rs: Reduce, Reuse, and Recycle, thank you.

I appreciate the opportunity to be of service to you on this project. If you have any questions, please contact me.

Please visit our website at https://www.structure1.com/projects/shipping-container-homes/

Have a great day.
Sincerely yours,

Nabil "Bill" Taha, Ph.D., P.E.
President/ PSE Consulting Engineers, Inc.

250 Main Street
Klamath Falls, Oregon 97601
Tel: 541-850-6300, Fax: 541-850-6322

PSE CONSULTING ENGINEERS INC.
PROJECT #: AQUAWORKS DBO INC. 224-2002 CO

RE: Additional Material & Resources:

Books:

- Technical Specification for a Typical Steel Dry Cargo Container, 40, 8x 8'-6" ISO ICC Type, "General Purpose"
- Department of Defense Handbook, Guide to Container Inspection for Commercial and Military Intermodal container. MIL-HDBK- 138B, FSC 8115, 8145 & 5411.
- Container Technology A-Z, Complete how to: from home construction to technical shells, start to finish and A-Z. Green Cub Publishing, http://www.greencubepublishing.com
- 83 Uses for Steel Shipping Containers by Falcon Structures, Think Inside the Box.
- ICC G5-2019
  Guideline for the Safe Use of ISO Intermodal Shipping Containers Repurposed as Buildings and Building Components

Websites:

- How Container is Made:
  https://www.youtube.com/watch?v=z7l6AQN1KV0
- PSE Website:
  https://www.structure1.com/projects/shipping-container-homes/
- Intermodal Steel Building Units and Container Homes (ISBU)
  http://www.isbu-association.org/index.htm
- International Organization for Standards (ISO)
  https://www.iso.org/standards.html
- Modular Building Institute (MBI)
  https://www.modular.org/

250-A Main Street
Klamath Falls, OR. 97601
E-Mail: info@structure1.com
Web: www.structure1.com
ph. (541) 850-6300
fax (541) 850-6233

ICC G5-2019

Guideline for the Safe Use of ISO Intermodal Shipping Containers Repurposed as Buildings and Building Components

MODULAR BUILDING INSTITUTE®

ICC INTERNATIONAL CODE COUNCIL®

ICC G5-2019

Guideline for the Safe Use of ISO Intermodal Shipping Containers Repurposed as Buildings and Building Components

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ICC INTERNATIONAL CODE COUNCIL®

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Publications Manager:	Mary Lou Luif
Project Editor:	Daniel Mutz
Production Technician:	Beverly Ledbetter
Cover Design:	Ricky Razo

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PRINTED IN THE USA

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Preface

Introduction

The principal purpose of the ICC Guideline series is to provide a state-of-the-art volume of knowledge that will contribute to public health, safety and general welfare in the built environment. Guideline projects are established based on market relevancy, demand, and the realization that existing technical information, regulations or standards, if any, do not adequately address the subject or that such existing technical information needs to be enhanced, clarified and made more user friendly. ICC Guidelines are in-depth topic-specific technical publications that have global relevancy and may be used internationally. They are different from codes or standards in that they will generally use nonmandatory language.

Development

Development of the ICC Guideline series was approved by the ICC Board of Directors in September 2008. ICC Policy GP33 *Guideline Development* governs the development of ICC Guidelines and can be viewed on the ICC website at www.iccsafe.org. ICC Guidelines are developed with the establishment of a Guideline Development Committee (GDC). The GDC is made up of a diverse stakeholder population and the participants are focused on ensuring high-quality and timely technical information for the built environment's usage. Upon the GDC reaching consensus, the final draft is posted for a "Public Comment" period for 30 days. The GDC considers all public comments, revises the public comment draft as appropriate and sends its recommendations to ICC for publication.

Maintenance

ICC Guidelines are not required to be updated on a specific cycle; however, they will be reviewed periodically and may be updated through a GDC-established process as needed based on changing trends, technology or relevant technical information.

About This Guideline

ICC G5-2019 Guideline for the Safe Use of ISO Intermodal Shipping Containers Repurposed as Buildings and Building Components

This ICC Guideline is intended to help state and local jurisdictions—as well as owners, architects, builders and engineers—in their assessment as to how to design, review and approve International Organization for Standardization (ISO) intermodal shipping containers as a building element.

Benefits of This Guideline

Local jurisdictions and state administrative programs are reacting to the growing trend of shipping container repurposing but are behind in terms of regulations and compliance. A patchwork of regulations has emerged, creating potentially conflicting or duplicative requirements. This ICC Guideline is intended to provide guidance in this process.

The development of this ICC Guideline will greatly contribute to the health, safety and welfare of the built environment. Aside from the ICC-ES AC462 criteria, there are no current codes, guidance or references that exist to assist code officials and the business industry navigate this process in a predictable and safe manner. (See Appendix 3 for "New Provisions for Shipping Containers in the 2021 IBC".)

Local authorities having jurisdiction (AHJ) need guidance on what to look for and how to address new or repurposed containers that are being considered as a building element in their jurisdiction.

About the International Code Council®

The International Code Council is a member-focused association. It is dedicated to developing model codes and standards used in the design, build and compliance process to construct safe, sustainable, affordable and resilient structures.

Most US communities and many global markets choose the I-Codes. ICC Evaluation Service (ICC-ES) is the industry leader in performing technical evaluations for code compliance fostering safe and sustainable design and construction.

Governmental Affairs Office

500 New Jersey Avenue, NW
6th Floor
Washington, DC 20001

Eastern Regional Office (BIRMINGHAM)
Central Regional Office (CHICAGO)
Western Regional Office (LA)

Phone: 888-ICC-SAFE (888-422-7233)
Website: www.iccsafe.org

About the Modular Building Institute

Founded in 1983, the Modular Building Institute (MBI) is the international non-profit trade association serving modular construction. Members are manufacturers, contractors and fleet owners in two distinct segments of the industry—permanent modular construction (PMC) and relocatable buildings (RB). Associate members are companies supplying build-

ing components, services and financing. MBI strives to keep up with the latest trends of the modular/offsite construction industry and has expanded its membership over the years to include architects, owner/developers and general contractors.

MBI Office

944 Glenwood Station Lane, Suite 204
Charlottesville, VA 22901

Phone: 1-888-811-3288

Website: www.modular.org

Other Guidelines of the Series

ICC G1-2010 Guideline for Replicable Buildings

ICC G2-2010 Guideline for Acoustics

ICC G3-2011 Global Guideline for Practical Public Toilet Design

ICC G4-2018 Guideline for Commissioning

Guideline Development Committee

The following GDC individuals participated in this ICC G5-2019 *Guideline for the Safe Use of ISO Intermodal Shipping Containers Repurposed as Buildings and Building Components*:

Roland Brown, Ramtech Building Systems, Mansfield, TX

Bill Bryant, CBO, MCP, Anne Arundel County, MD

Tom Hardiman, Modular Building Institute, Charlottesville, VA

Stephan Howard, Container Services International, Quincy, MA

Truong Huynh, P.E., CBO, City of Long Beach, CA

Michael Nugent, CBO, City of Rock Hill, SC

Guy Rodgers, CARU West Gulf Containers, Quincy, MA

Ara Sargsyan, P.E., CBO, LEED AP, City of Los Angeles, CA

Mehdi Shadyab, P.E., CASp, J.D., City of San Diego, CA

Stephen Shang, Falcon Structures, Manor, TX

Ralph Tavares, P.E., R&S Tavares Associates, San Diego, CA

Technical Support

Mike Pfeiffer, P.E., ICC

Michael Gardner, M Gardner Services, LLC, Clarksville, MD

Bill Gould, P.E., ICC-ES

William E. Koffel, P.E., FSFPE, Koffel Associates, Inc., Columbus, MD

Table of Contents

Introduction

Over thirty million International Organization for Standardization (ISO) intermodal shipping containers ("containers") are in use around the world today. These containers were built to ISO standards and maintained to standards defined by the International Maritime Organization's (IMO) "Convention for Safe Containers".

New or used, containers are being repurposed at a pace where container repurposing is now a multi-billion-dollar global industry. Containers are regularly repurposed and converted into *International Residential Code* (IRC) and *International Building Code* (IBC) occupancy uses. As a "building material", the applications are widely diverse as is the extent to which the container is used as a structural building element.

For industry participants, the primary advantages of using containers are: availability, safety and security (extremely hard to damage), strength and durability, mobility, and speed of construction or installation. Containers are also manufactured to be stackable.

Well-intentioned design professionals, builders and owners attracted by the idea of repurposing containers have greatly publicized their use. The positive aspects of container conversion and public awareness for recycling and being eco-friendly has generated considerable attention.

These drivers and factors have created a broad array of applications and different industry segments. These emerging segments are categorized as follows:

- Single-unit versus multi-unit
- Temporary versus permanent

Due to benefits such as environmental friendliness, availability, strength, and speed of construction, containers are now regularly being repurposed. State and local jurisdictions are now reacting to the growing trend and are lagging in terms of the appropriate regulations to apply and how best to achieve a reasonable level of code compliance. A patchwork of regulations has emerged, creating potentially conflicting and duplicative requirements. (See the section on Current Regulatory Environment and Appendix 3 for future provisions in the 2021 IBC.)

Despite inconsistencies at the state or local level, many design professionals, builders and owners have been able to demonstrate that projects utilizing containers comply with the general intent of model codes and can be approved by the authority having jurisdiction (AHJ).

Scope

As with all ICC Guidelines, this guideline is not intended to be a regulatory document but rather a nonmandatory document that provides useful information for the industry, design professionals and code officials regarding containers that are repurposed for use as buildings or structures or as part of buildings or structures.

Many code officials, when presented with a request to use containers in their jurisdictions, are challenged by the process of determining what is in the best interest of their community. Notwithstanding zoning issues that focus on the arrangement of compatible buildings and land uses, in the interest of the social and economic welfare of their community, they also may encounter a lack of clear and concise permitting requirements and appropriate standards that apply to containers.

This guideline is intended to provide information and recommendations to those involved in the use of containers as buildings or structures in achieving a reasonable level of safety, public health and general welfare for the occupants.

Container-based coffee/retail shop, courtesy of Radco, Inc, a Twining Company.

Current Regulatory Environment

To understand the current regulatory environment for the repurposing of containers, it is important to recognize the relationship and role of the various entities at the national, state, and local level that influence how a project is regulated and approved. The Modular Building Institute (MBI) is a nonprofit trade organization that represents manufacturers, contractors and fleet owners of both relocatable buildings and permanent modular construction projects. MBI contacted state and local jurisdictions to highlight their regulatory oversight for projects that use containers. In addition, MBI, code officials and other interested parties are working together to develop requirements at a national level intended to facilitate future container projects.

National Level

Despite a patchwork of emerging regulations and the absence of clear and uniform guidance, containers used as buildings or structures continue to gain acceptance on the state and local level. Nationally, recognizing the need to develop clear and reasonable code language that will enable uniform application and enforcement of regulations for containers, efforts have been completed by ICC's Building Code Action Committee (BCAC) to develop requirements for the IBC intended to help both design professionals and code officials in evaluating and approving future projects using containers. The codes used throughout the country are

updated and published every three years by ICC.

The first BCAC-sponsored code change proposal on containers was submitted in early January 2018. The proposal was incorporated into the code hearing process by ICC as proposal G151-18. Committee Action Hearings (CAH) were convened in April 2018 to consider the numerous code change proposals, including G151-18, and vote on the proposals. During the hearings, the original text of proposal G151 was modified slightly by the IBC - General Code Committee during the CAH process.

Following the CAH, interested parties and stakeholders were afforded the opportunity to submit public comments on the CAH action on all of the code change proposals, including G151. The only public comment on G151 was submitted by the BCAC, suggesting editorial clarifications and minor changes. The proposal was discussed and voted on during Public Comment Hearings (PCH) in October 2018, which was followed by an online vote of the eligible voting members of ICC called the Online Governmental Consensus Vote (OGCV).

Based on the results of the OGCV coupled with the vote taken at the PCH, ICC members voted to approve G151 "As Modified by Public Comments 1 & 2". See Appendix 3 for the new text, which will be included in the 2021 IBC.

State Level

In the United States, regulation of repurposed containers as elements in building construction is accomplished in the majority of states via a statewide modular building program or by the agency that regulates the construction and approval of residential and nonresidential buildings or structures (see Appendix 1). Some states allow the use of containers that are modified, provided the containers have first been evaluated in accordance with ICC-ES Acceptance Criteria for Structural Building Materials from Shipping Containers (AC462), which is discussed further in this Guideline. Other states have an outright prohibition on their use or have certain exceptions or exemptions depending upon size and purpose. A few states do not allow the use of containers that are modified within their state.

In addition, states with programs or agencies that oversee the use of repurposed containers occasionally vary in their interpretation of when and how a container may be modified or used as a building or structure or as a part thereof.

The following are examples of state laws or regulations governing or exempting the use of containers under specific conditions:

- California regulates containers that are modular and fabricated off-site, either in-state or out-of-state, under their Factory-Built Housing Program or Commercial Modular Program through the Housing and Community Development Department. Where containers that are proposed to be used as modular school buildings, such projects are regulated through the Division of the State Architect.
- Georgia regulates all containers intended for use as residential, commercial or industrialized buildings, including construction site office buildings with or without storage. Furthermore, the state is considering language that would require a container to be manufactured not more than 48 months prior to use as a building or building component.
- Maryland state law exempts industrialized buildings that are 8 body feet or less in width and 40 body feet or less in length that are used for business purposes, mobile offices or storage and not open to

the general public. The requirements are included in their Industrialized Building Program administered by the Department of Housing and Community Development.

- Massachusetts only allows new US shipping containers under their modular program. The program does not allow the use of repurposed shipping containers.
- Ohio regulates containers modified off-site with concealed components through their Board of Building Standards' Industrialize Unit (IU) Program.
- Texas allows repurposed shipping containers complying with the ICC-ES AC462 under its Industrialized Housing Building Program.

Local Level

Local jurisdictions vary in their regulatory approach to the use of containers. Many jurisdictions rely on their state's regulations or codes when addressing the use of containers. Others adopt model codes that are modified to fit the need of their community. Furthermore, locally adopted zoning ordinances may have design standards that impose restrictions on materials and appearance that limit the use of containers. Such ordinances tend to make the use of containers expensive or unfeasible.

The following are examples of local laws or regulations governing or exempting the use of containers under specific conditions:

- City of Anchorage, "Policy AG.19, Intermodal Shipping Containers," Anchorage Building Safety, Anchorage, Alaska. Effective November 21, 2016.
- City of Long Beach, "Cargo Containers Used as Storage in Industrial Zones" and "Cargo Containers Adapted as a Building Material," Building and Safety Bureau, Long Beach, California. Effective February 18, 2008 and November 27, 2012, respectively.
- City of Los Angeles, "Cargo Container Conversion to Building Modules," Department of Building and Safety, Los Angeles, California. Effective June 2017.
- City of Louisville, "Homeowner's Permit Tool Box – A Check Guide to Permitting Your Shipping Container Project in Louisville Metro," Louisville Metro Government Center, Construction Review, Louisville, Kentucky. No effective date.
- City of Portland, "Code Guide, Special Construction – IBC/3/#1 & IRC/1/#2," Bureau of Development Services, Portland, Oregon. Effective January 29, 2013.
- City of San Diego, "Cargo Containers Information Bulletin 149," Development Services, San Diego, California. Effective October 2015.
- City of Tioga, "Ordinance No. 295," Grayson County, Texas. Effective 2011.
- County of Grayson, "Ordinance No. 295," City of Tioga, Grayson County, Texas. Effective 2011.
- County of Yakima, "Cargo Containers, Shipping Containers, Trailers, Storage Units, Ordinance Chapter 19.18," Yakima County Public Services, Building & Fire Safety Division, Yakima, Washington. Revised March 30, 2017.

Industry Segments

There are multiple uses and applications for containers, each with its own need for segmentation and discussion. For example, there are obvious distinctions between a container used as a temporary, single-unit ground level office and a series of containers used as

building components in a multi-unit, permanent building or structure. Similarly, there is a distinction between containers used as permanent buildings or structures that incorporate enclosed utilities (e.g., electrical, plumbing, mechanical, etc.) versus containers used primarily as structural elements of a building or structure. Based on these distinctions, four industry segments have been identified that will help to guide the codes and regulations that are being developed. (See Exhibit A on following page.)

Single-Unit vs. Multi-Unit

Recognizing the difference between a single-unit container that is modified and used as a temporary relocatable building and multi-unit containers that are modified and used as a building material or component to create a larger building or structure, some states and local jurisdictions have amended model codes or administrative programs to provide exemptions based on the size and scope of the containers that are used. See Appendix 3 for a simplified approach to the structural design for either simple single-unit containers or multi-unit container systems that may be more complex and require a more detailed analysis, which will be included in the 2021 IBC.

Temporary vs. Permanent

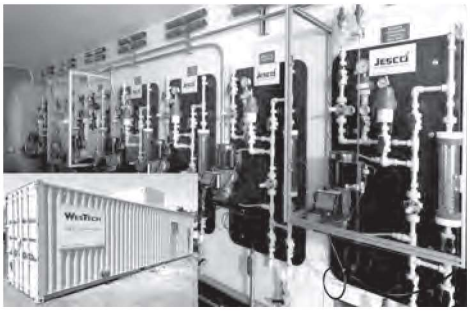
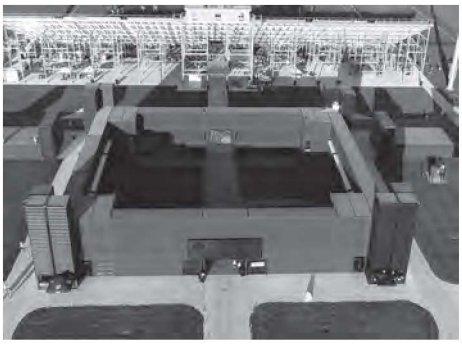
When determining the extent of compliance to a building code, code officials generally refer to Section 108.1 of the IBC to determine if a container is temporary or permanent. Specifically Section 108.1 of the IBC allows code officials to issue a permit for temporary structures that is valid for up to 180 days with a provision allowing for further extensions for demonstrated cause. Containers that are not considered temporary are by default considered permanent.

Section 108.2 of the IBC requires temporary structures to conform to the requirements of the building code as necessary to ensure public health, safety, and general welfare, while not requiring full compliance with the provisions of the building code. For example, containers that are treated as temporary may not require a permanent foundation. Conversely, where containers are determined to be permanent, code officials may require full compliance with the building code.

The determination of whether containers are viewed as temporary or permanent may vary from state to state or jurisdiction to jurisdiction. The City of San Diego and the City of Long Beach each, for example, currently provide an exemption for containers when “used temporarily on a site for and during construction of a building having a valid building permit…” as well as an exception for units when “used for equipment/storage/props during a permitted special event”. It is recommended that design professionals and owners have an early discussion with code officials to determine whether the containers are temporary or permanent.

Some states provide an outright exemption based on occupancy classification and use. For example, construction site offices, not open to the general public, are often exempt from the requirements of the building code and many state modular administrative programs.

EXHIBIT A: CONTAINER STRUCTURES INDUSTRY SEGMENTATION

	TEMPORARY	PERMANENT
SINGLE UNIT	**I** Ground Level Office, Construction Offices, Storage Units  A common 8′ x 20′ container “Ground Level Office” (GLO). These units are intended to remain on the building site temporarily, in accordance with provisions from IBC Section 108.1 for 180 days. The building official is authorized to grant extensions for demonstrated cause.	**III** Industrial Workspaces, Equipment Enclosures, Security Access Points  Because the envelope of the structure is a container, compliance with certain code requirements are not possible, such as the 2% roof slope. However, other codes related to life safety must be followed.
MULTI-UNIT	**II** Pop-up Retail, Trade Show Structures, Special Events  Despite its temporary nature, these facilities are often open to the general public and should not be exempted based on the provisions for temporary permits.	**IV** Industrial Housing, Hotels, Multi-family, Public Gathering Spaces  Fortress Obetz, the largest container structure in the United States to date, is a permanent stadium that hosts lacrosse games and festivals.

Images courtesy of Falcon Structures (I, III, IV) and Boxman Studios (II)

Current Code Requirements

Under the current code (2018 edition) shipping containers may be used as building components subject to the alternative building material requirements of the IBC (Section 104.11). Because approval procedures vary from location to location, developers and builders should consult local government authorities to gain an understanding of the state and local laws and regulations as well the required technical submissions for development review and approval.

There are multiple approaches that a design professional, builder or owner can take in order to demonstrate compliance with the requirements in effect in a jurisdiction. Similarly, code officials may need to rely on other consensus standards or documents to correctly evaluate what aspects of codes to apply when regulating projects that repurpose containers as buildings or structures.

When containers are presented to the authority having jurisdiction (AHJ) for use as buildings or structures or as structural building materials, it is important to understand the general process by which they are reviewed and approved by code officials. Containers, like any other building or structure, are required to comply with model codes (including, but not limited to the IBC, the IRC, the *International Fire Code*® (IFC®), the *International Existing Building Code*® (IEBC®), and others as relevant). Codes generally address issues such as structural strength, means of egress, sanitation, adequate lighting and ventilation, accessibility, energy conservation and life safety for new and existing buildings, facilities and systems.

The permitting process begins with construction documents typically prepared by a registered design professional (see IBC Section 107.1). Construction documents are defined in the codes as: “written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of a project necessary for obtaining a building permit.” This generally means that construction documents should contain information necessary to achieve code compliance, including but not limited to, verifying the dimensions and establishing the physical properties of the container’s steel and wood floor components, in addition to any other information that may be required in Section 107 of the IBC.

There are multiple approaches that a registered design professional, builder or owner can take to demonstrate code compliance. Regardless of the approach taken, the container must comply with the locally adopted codes, as well as all applicable federal, state, and local environmental regulations. The nonstructural and structural topics that follow highlight important design features to consider in preparing construction documents used to obtain code approval.

Nonstructural

The International Codes also regulate the nonstructural elements of a project.

Detached one- and two-family dwellings and townhouses not more than three stories above the grade plane fall under the scope of the IRC. The IRC addresses all aspects of residential construction, including means of egress, smoke and carbon monoxide detection, energy standards, fire protection, fire-resistant construction, room dimensions and sanitation.

All other structures generally fall under the scope of the IBC as far as building requirements. In many instances, the nonstructural guidelines in the IBC are similar to those in the IRC. The IBC addresses the requirements noted below.

- General Nonstructural. Construction documents should include basic information such as (and as applicable): project address, legal description of the lot, total floor area, type of construction, number of stories, use and occupancy, fire separation distance or setback to property lines or other buildings and structures on the lot, lot size and dimensions, location of street or alley, and parking spaces. At minimum, this information will assist the code official in determining code requirements applicable to the containers.
- Use and Occupancy Classification. Chapter 3 of the IBC provides the basis for the classification of containers that are repurposed as buildings or structures. Defining the use and occupancy of containers is important as it sets the applicable standards for such design issues such as allowable height, floor area, number of stories, potential fire hazard levels, fire protection and the means of egress system.
- Type of Construction. Chapter 6 of the IBC establishes the type of construction for a structure based on the height and area considerations in Chapter 5. The appropriate type of construction has to be established for every structure, including one constructed using containers. There are five types of construction classification ranging from Type I (highest fire-resistance rating, noncombustible) to Type V (lowest fire-resistance rating, combustible). The higher the type of construction, the higher the allowable height, floor area and stories permitted for containers.
- Fire Protection System. Chapter 9 of the IBC prescribes the minimum requirements for active fire protection systems. Generally, the requirements are based on the intended occupancy and the height and area of the structure, since these are the primary factors that affect fire-fighting capabilities and the relative hazards of a specific occupancy.
- Means of Egress. Chapter 10 of the IBC sets forth general criteria for the design of the building exiting scheme as a primary method for protection of people in containers by allowing timely relocation or evacuation of building occupants. Both prescriptive and performance language is utilized to provide a basic approach in the determination of a safe existing system for all occupancies.
- Interior Environment. IBC Chapter 12 establishes minimum criteria for the interior environment of containers. The chapter addresses the minimum sizes of rooms; sets minimum temperature, light and ventilation levels; limits sound transmission through walls, floors and ceilings; addresses ventilation of under floor spaces; and provides guidance on toilet and bathroom construction.

Structural

The IRC and IBC include specific structural regulations intended to address environmental issues such as wind, seismic and snow loading based on location and use. Included are requirements for foundation design and live loads for building systems based on the use and occupancy. Structural designs utilizing shipping containers will need to satisfy all applicable structural provisions. Appendix 3 provides a glimpse into what will be included in the 2021 IBC for intermodal shipping containers.

Regardless of the type of project, from a design and regulatory perspective, there are challenges. The designer must provide details that establish structural

integrity as well as fire and life safety. Once modified, a container becomes a building material component. Similar to a roof or floor truss, the modified unit needs to be engineered to perform when subjected to all applicable structural loads. The connection design, structural impact on container walls due to openings and all loads from the desired and required building features must be included.

- General Structural. Construction documents should include basic structural information such as the size and location of structural members in the container. Floor levels, column centers and offsets should be dimensioned. The steel members used in containers that provide structural load-carrying capabilities should be properly identified for conformity to the ordered steel grade in accordance with the applicable standards referenced in Chapter 35 of the IBC. Any questionable material, in particular material that is not readily identifiable as to grade from marking or test records, may be subject to testing where required by the AHJ as prescribed in Chapter 17 of the IBC or other approved rules to determine character, quality and limitations of use of the container. (See additional discussion on container steel at the end of this section.)
- Structural Design. Chapter 16 of the IBC prescribes minimum structural loading requirements for all buildings and structures, which include containers. It includes minimum design loads, assignment of risk categories, and permitted design methodologies to enhance the protection of life and property. This chapter references and relies on many nationally recognized design standards.
- Special Inspections and Tests. Chapter 17 of the IBC provides a variety of procedures and criteria for: testing materials and assemblies; labeling materials and assemblies; and special inspection of structural assemblies. Standards for special inspection, testing and reporting of structural components and quality of materials are identified in this chapter.
- Soils and Foundation. Chapter 18 of the IBC provides criteria for geotechnical and structural considerations in the selection, design and construction of foundation systems that support the loads imposed by containers. Care must be exercised by the registered design professional in the planning and design of foundation systems. Sufficient soils information must be obtained and the use of accepted engineering procedures coupled with good technical judgment must be utilized.
- Steel. Chapter 22 provides the requirements necessary for the design of the containers' structural steel, cold-formed steel, steel joists, and the like. Applicable design and construction standards are specified in this chapter.

One challenge for the AHJ is the general lack of information on material properties and specifications for the steel elements of a container. Because the steel elements perform as structural load-carrying elements, they need to be properly identified as conforming to the ordered grade in accordance with the specified standards referenced in IBC Chapters 22 and 35, as well as specifications approved by the code official. Since a majority of the steel elements are from foreign countries, and thus may not be constructed to US standards, investigating and identifying the material properties will help code officials in determining the acceptability of the use of the container for structural purposes.

Any material of questionable quality should be subjected to the tests

Container-based structure used for temporary retail application.
Courtesy of Modular Building Institute.

prescribed in Chapters 17 and 22 and other approved specifications to determine the character, quality and limitations of use. The steel elements of a container that are not readily identifiable as to grade from marking and test records require testing to determine conformity to such standards. A factor in determining the material properties and specifications may depend on whether the containers are used in a multi-unit configuration or as a single-unit stand-alone structure.

Referenced Standards

The Convention for Safe Containers (CSC) is an international agreement resulting from the 1972 International Convention for Safe Containers. The countries that have adopted the CSC are known as Contracting Parties; the United States, for example, is a Contracting Party. The CSC is administered by the governments of the Contracting Parties and by an organization designated by the governments, identified as a Classification Society. The selected Classification Society inspects containers at the point of manufacture. As each container passes inspection, the CSC assigns a unique safety approval number and places a CSC Safety Approval Placard on the container (see section on CSC Safety Approval Placard). The inspected containers also have the Classification Society's decal affixed to the container.

Model codes generally do not reference international treaties. However, AHJ's have the option of relying on the "approved agency" referenced in Section 104.4 of the IBC as the basis to recognize and accept the work of Classification Societies. The term "approved agency" is defined in Chapter 2 of the IBC as "An established and recognized agency that is regularly engaged in conducting tests, furnishing inspection services or furnishing product certification where such agency has been approved by the building official."

In the United States, the American Bureau of Shipping (ABS) is one such organization designated to administer this internationally adopted agreement and the standards referenced therein. Approvals under the authority of a Contracting Party are accepted by other Contracting Parties. As a result, containers can operate worldwide under a single set of safety regulations.

ABS is a member society of the International Association of Classification Societies (IACS), which is a technically-based non-governmental organization consisting of twelve member marine classification societies. More than 90% of the world's cargo-carrying ships' tonnage

is covered by the classification standards set by member societies of IACS.

Marine classification is a system for promoting the safety of life, property and the environment primarily through the establishment and verification of compliance with technical and engineering standards for the design, construction and life-cycle maintenance of ships, offshore units and other marine-related facilities. These standards are contained in rules established by each society. IACS provides a forum for member societies to discuss, research and adopt technical criteria that enhance maritime safety.

List of the Classification Societies

Name	Abbreviation
American Bureau of Shipping	ABS
Bureau Veritas	BV
China Classification Society	CCS
Croatian Register of Shipping/ Austrian Veritas (Hrvatski Registar Brodova)	Not applicable
DNV GL	DNV GL
Indian Register of Shipping	IR Class
Korean Register of Shipping	KR
Lloyd's Register	LR
Nippon Kaiji Kyokai (ClassNK)	NK
Polish Register of Shipping (Polski Rejestr Statków)	PRS
Registro Italiano Navale	RINA
Russian Maritime Register of Shipping (Российский морской регистр судоходства)	RS

CSC sets international standards in two areas:

- Design type approval to ensure that new containers are designed and built to meet the dimensional and strength requirements established by ISO.
- Safety inspections to ensure that containers are maintained in safe condition during the operational use of the container.

The specific ISO standards for containers that are the most pertinent are ISO 1496-1, ISO 6346, and ISO 668. Among other considerations, these ISO standards ensure that every container constructed must meet a rigorous set of requirements to receive an approval by a selected Classification Society.

ISO Standards

Standard Reference Number	Title
ISO 668:2013	Series 1 Freight Containers – Classifications, Dimensions and Ratings
ISO 1496-1:2013	Series 1 Freight Containers – Specification and Testing – Part 1: General Cargo Containers for General Purposes
ISO 6346:1995, with Amendment 3: 2012	Freight Containers – Coding, Identification and Marking

The following is a general overview of these ISO standards.

ISO 668 establishes the dimensional requirements and tolerances for the construction of containers.

ISO 1496-1 establishes both static and dynamic test loads for the construction of containers. The types of tests include:

Test No. 1 Stacking

Test No. 2 Lifting from the four top corner fittings

Test No. 3 Lifting from the four bottom corner fittings

Test No. 4 Restraint (longitudinal)

Test No. 5 Strength of end walls

Test No. 6 Strength of side walls

Test No. 7 Strength of the roof

Test No. 8 Floor strength

Test No. 9 Rigidity (transverse)

Test No. 10 Rigidity (longitudinal)

Test No. 11 Lifting from fork-lift pockets

Test No. 12 Lifting from the base at grappler arm positions

Test No. 13 Weather proof

ISO 6346 establishes how the container is to be identified with the relevant coding, identification and markings. This information is placed on the CSC Safety Approval Placard.

Two-story container-based structure used for classroom/meeting space.
Courtesy of Modular Building Institute.

CSC SAFETY APPROVAL	
D-HH-3000 / GL 6000	
DATE MANUFACTURED	MM/YYYY
IDENTIFICATION NO.	XXXX / YY / 123456
MAXIMUM GROSS MASS	34,000 KGS 74,960 LBS
ALLOWABLE STACK WT FOR 1.8G	216,000 KGS 476,190 LBS
RACKING TEST LOAD VALUE	15,240 KGS 33,600 LBS

CSC Safety Approval Placard

Containers that are built, tested and inspected to ISO standards by a Classification Society are identified by a CSC Safety Approval Placard affixed to the rear door of the container. The Safety Approval Placard, also known as a data plate among code officials, provides useful information such as the container's identification number and inspection examination date, and provides information to assist in the verification process to confirm that the container was maintained in safe operational condition. The information contained on the data plate includes, but is not limited to, the following:

- Manufacturer's name or identification number
- Date manufactured
- Safety approval number
- Identification number
- Maximum operating gross mass or weight (kg)(lbs)
- Allowable stacking load for 1.8G (kg)(lbs)
- Transverse racking test force (Newtons)
- Valid maintenance examination date

A code official can reasonably rely on a data plate to confirm that a container was built and inspected to the appropriate ISO standards. Information on the data plate can be used by the design professional to confirm the required ISO 1496-1 testing. Such information is contingent on the code official accepting that the data plate is current and valid for the specific container. Without the data plate, code officials are placed in a difficult position of using other methods to confirm or verify the quality and reliability of the unknown containers.

It is recommended that design professionals, builders and owners determine whether or not the container still has its original data plate affixed to its rear door prior to the purchase or acquisition of a container intended for repurposing. Removing the data plate or selecting a container that does not have a data plate may cause a code official to reject the use of the repurposed container.

Upon acceptance by the code official, retention of the data plate after the modification of a container is no longer

required. At that point, and after modifications have been made, the information represented on the data plate is no longer applicable.

Addressing the Interior of the Container and the Wood Floor

As with many repurposed materials, questions about the previous use and construction of shipping containers arise on occasion.

The issues presented typically focus on two topics: one, how can I become comfortable about what was transported in the container during cargo conveyance and, two, does the wood floor in a container need to be evaluated?

Shipping containers used for cargo conveyance are strictly regulated during use. These regulations require the proper packing, securing, storing and segregation of hazardous materials. Inspections are required to be performed at loading and unloading locations and when units are returned to a depot for repair and storage. As a result, it is highly unlikely that a contaminated container would make it into the marketplace.

Receiving a cargo worthy designation during inspection ensures the unit meets all the guidelines provided by the International Maritime Organization (IMO), International Organization for Standardization (ISO), International Maritime Dangerous Goods (IMDG) Code and Convention for Safe Containers (CSC). Most of these regulations are promulgated in the United States by Code of Federal Regulation Section 49 on transportation, which is enforced by the US Coast Guard.

As an added measure, many state modular or industrialized building programs require that the manufacturer have a quality control/quality assurance program in place. Third-party inspection agencies or third-party quality assurance agencies review the manufacturer's practices to determine if they are in compliance with their own quality control program. The third-party agency approval includes an inspection of the quality assurance program with regard to procedures and protocols used by the manufacturer to mitigate this risk.

As with any repurposed material, a container should be thoroughly cleaned and sanitized prior to reuse. Depending on its final use, recoating of the interior of the container with a sealant or paint, appropriate for the intended use, may be appropriate.

The Floor

A wood platform floor is installed in the container during manufacturing. Typical container exposure to a variety of climatic conditions during use and transit necessitates that floors are typically constructed using marine lumber, which is treated to prevent environmental degradation and insect infestation. The presence of wood treatment substances may impact the container reuse process.

To evaluate the floor, first determine the intended future of the container. If the container will have a static use that does not require repeated access to the interior of the unit—for example, a container that is being used as a storage unit or equipment shed—the floor likely can remain in place because the container is essentially replicating its life as a shipping unit. The same approach may also be appropriate for a container intended for short-duration temporary use or a permanent use that does not involve significant direct contact with the floor.

As discussed below, multiple options are available if it is determined that the floor will remain in the container and there are concerns about the floor.

One option is to use the container flooring as a subfloor and install another floor covering over the subfloor. Alternatively, if the container flooring is in good condition, seal the treated wood. In these instances, direct contact would be minimized as the flooring would either be below another material or would be sealed with polyurethane or other sealant material.

During renovation, removal, or repair activities, inhalation of treated wood dust—in particular, if the floor is sanded as part of the reuse operation—must be mitigated. The use of appropriate personal protective equipment, as mandated by local or federal statute, is recommended. Subsequent to renovation or removal, all surfaces should be cleaned to facilitate the application of additional floor coverings and to remove traces of dust or wood fragments.

Another option is to analyze the wood floor for wood treatment residue. One source of analysis is a study conducted by the National Portable Storage Association (NPSA). The study evaluated four commonly used wood treatment products approved for glue-line treatment of veneer-based plywood. The study concluded that there is minimal to no health risk due to the treated flooring used in storage containers. To access the full published study, contact the NPSA (see Appendix 4 for website information).

Where the floor is to remain in the container, examine the floor and its structure to determine that both are in appropriate condition and the unit is safe for the intended use. If the final decision is to retain the floor, remove or replace damaged or inadequate flooring or structural members.

For more information, consult the FAQ's in Appendix 2.

ICC-ES Acceptance Criteria for Structural Building Materials from Shipping Containers (AC462)

ICC-ES is a nonprofit, limited liability company and the United States' leading evaluation service for innovative building materials, components and systems. ICC-ES Evaluation Reports (ESRs), provide evidence that products and systems meet requirements of codes and technical standards. Evaluation reports issued by the ICC-ES are based upon performance features of the International family of codes and Section 104.11 of the IBC and Section R104.11 of the IRC. Section 104.11 provides AHJs latitude to allow materials and methods of construction that are not addressed in the code. With new products continually being introduced for industry use, this allowance is needed to promote, rather than hinder, innovation.

In February 2016, ICC-ES introduced AC462, which established criteria and a protocol for evaluating the reuse of shipping containers as a source of building materials. For any new building constructed in whole or in part from existing ISO shipping containers, ICC-ES AC462 is an acceptable starting point.

ICC-ES AC462 was approved by the Evaluation Committee and provides interested parties with criteria for demonstrating compliance with the performance features of the code. It is important to note that ICC-ES AC462 evaluates shipping containers to be used as the source of building materials for constructing building modules, but not the final building approval.

The development of ESRs and Acceptance Criteria is an on-going process. As a consequence, AC462 may be modified via the ICC-ES review process at a point in the future. The

Acceptance Criteria creation and modification process incorporates open, public hearings and encourages public input.

Because the purpose of this guideline is to provide local code officials with information and guidance on the various approval methods available, it is important to note that ICC-ES AC462 is not intended to be used retroactively to assess an existing building constructed from shipping containers, as modifications have already been made to the container. Additionally, while ICC-ES AC462 represents the most common and accepted path towards compliance, it is not the only path available to determine the safe use of modified shipping containers as new buildings or building components.

Appendix 1
State Modular Programs

State	Agency
AL	Manufactured Housing Commission
AZ	State Fire Marshal
CA	Housing & Community Development
CO	Division of Housing
FL	Business & Professional Regulations
GA	Department of Community Affairs
ID	Division of Building Safety
IL	Department of Public Health
IN	Department of Homeland Security/State Fire Marshal
KY	Department of Housing
LA	State Fire Marshal
MA	Board of Building Regulations and Standards/Manufactured Building Program
MD	Department of Labor, Licensing and Regulations
MI	Bureau of Construction Codes
MN*	Department of Labor & Industry
MO	Public Service Commission
MT	Department of Labor & Industry
NC	Department of Insurance/State Fire Marshal
ND*	Department of Commerce
NH	State Fire Marshal
NJ*	Department of Community Affairs/Bureau of Code Services
NM	Construction Industry Codes Division
NV	Department of Business & Industry
NY	Department of State
OH	Building Codes Division
OR	Building Codes Division
PA	Department of Labor & Industry (commercial) Department of Community & Economic Development (residential)
RI*	Building Code Commission
SC	Department of Labor
TN	Department of Commerce
TX	Industrialized Housing
UT	Factory Built Housing
VA	Housing & Community Development
WA	Department of Labor & Industry
WI	Department of Commerce

* States participating in the Interstate Industrialized Buildings Commission, a multi-state administrative agency for modular/industrialized buildings.

Appendix 2
FAQ's and Best Practices

Q. I own existing ground level offices made from modified containers (container-based structures). Can I continue to use these container-based structures?

A. It depends on whether these existing container-based structures were built to a previous version of the code and/or built in accordance with one of the state modular/industrialized building programs. If not, these container-based structures are subject to the code as enforced by the AHJ.

Q. Does my existing container-based structure have to be brought up to code when moved or relocated to another site or location?

A. Existing buildings are commonly addressed in the *International Existing Building Code* (IEBC). The 2018 IEBC defines an existing building as "a building erected prior to the date of adoption of the appropriate code, or one for which a legal building permit has been issued". Within the IEBC, Chapter 14 addresses relocatable buildings, requiring them to meet all the site requirements and conditions, such as seismic, snow, and wind loads as well as appropriate foundation requirements.

Q. Can I get an ICC-ES Evaluation Services Report (ESR) to establish that my existing container can be used as a building?

A. The issuance of an ESR for a shipping container is based on the requirement of the Acceptance Criteria for Structural Building Materials from Shipping Containers (AC462). The intent of AC462 is to evaluate the quality control procedures used to establish and verify the dimensions, chemical and physical properties of the steel components of the shipping containers, and to evaluate the steel components for design in accordance with the provisions of the code.

Q. Am I required to get an ESR in accordance with ICC-ES AC462 to use containers as structural building materials?

A. No. ICC-ES AC462 represents one method to establish and verify the dimensions, chemical and physical properties of the steel components of the shipping containers. There may be other methods if approved by the AHJ.

Q. What is the process to determine the presence of other possible chemicals or toxins, such as those used in the packing materials, contained in the shipped cargo, or used in the construction of the container itself?

A. There are several national and international protocols and procedures used by the shipping container industry that minimize the likelihood that a contaminated container could not be properly cleaned. Some examples include:

The International Maritime Dangerous Goods (IMDG) Code, which is developed by the International Maritime Organization (IMO). The IMO is a specialized agency of the United Nations and is the global standard-setting authority for the safety, security and environmental performance of international shipping. Its main role is to create a regulatory framework for the shipping industry that is fair and effective, universally adopted and universally implemented. IMDG Codes are mandatory documents, as of 2002, and are accepted as an international guide to the transport of dangerous goods by sea. See Appendix 4 for IMO website information.

The importation of toxic chemical substances is regulated by the US Environmental Protection Agency (USEPA). Commercial importation of chemical substances must comply with the Toxic Substances Control Act (TSCA). All importations of chemicals require a TSCA statement. The importer is required to certify that the shipment is subject to TSCA and complies with all applicable rules and orders, or that the chemical shipment is not subject to TSCA when filing and signing with US Customs and Border Protection (CBP). CBP must receive the statement in order to release the shipment. In short, the USEPA and US CBP already regulate the shipment of hazardous materials.

Q. How high can I stack my containers?

A. Most shipping containers are originally designed and tested to accommodate 66,000 pounds of cargo and stack nine containers high when used for shipping. With proper structural engineering analysis and design, containers used as buildings or structures can be engineered to stack as high as the code allows.

Q. How is the existing stock of relocatable building units being utilized?

A. There are currently about 350,000 existing relocatable building units owned and leased by the modular industry. These units are used as construction site offices, security offices and classroom spaces. MBI estimates about 15–20% of industry-owned relocatable buildings are modified shipping containers. This number does not include the number of units owned by construction companies, school districts, or other private companies. MBI expects this percentage to increase as older wood-framed relocatable buildings are taken out of service and replaced with container units.

Four-story constructed utilizing shipping containers.
Courtesy of the Modular Building Institute.

Q. As what type of construction would container-based structures be classified?

A. In most cases, it is appropriate to classify container-based structures as a Type VB construction. With appropriate modifications, container-based structures can be classified as any other types of construction. Refer to IBC Chapter 6 for additional information.

Q. Can a container-based structure have any use or occupancy?

A. There is no restriction on the type of use or occupancy allowed for a container-based structure provided all applicable code requirements for that specific use or occupancy are satisfied.

Q. What is the fire-resistance rating for shipping container walls?

A. There has not been a conclusive study or testing performed to determine the fire-resistance rating for the container walls, roof and floor. As such, any determination for fire-resistance rating may require performance testing to be conducted or other methods approved by the AHJ. The code prescribes ASTM E119 as the test standard for determining fire-resistance ratings.

Appendix 3
New Provisions for Shipping Containers in the 2021 IBC (to be published in 2020)

A code change (G151-18) to the 2018 IBC was submitted by ICC's Building Code Action Committee to address shipping containers. The final action on this proposal was "Approved as Modified by Public Comments 1 & 2." Access the 2018 Group A Public Comment Agenda and locate "G151-18" to review the original code change, the Committee Action Hearing results and the submitted public comments (http://media.iccsafe.org/code-development/group-a/IBC-General.pdf).

The following new provisions will be included in the 2021 IBC. Note that section numbers may change as a result of other sections being added or deleted in the 2018 cycle and the text may be further edited as part of the 2021 IBC publication process.

New definition in Chapter 2:

INTERMODAL SHIPPING CONTAINER. A six-sided steel unit originally constructed as a general cargo container used for the transport of goods and materials.

Revised subsection in Chapter 31:

3101.1 Scope. The provisions of this chapter shall govern special building construction including *membrane structures*, temporary structures, *pedestrian walkways* and tunnels, automatic vehicular gates, awnings and *canopies*, marquees, signs, towers, antennas, relocatable buildings, swimming pool enclosures and safety devices, solar energy systems and intermodal shipping containers.

New section in Chapter 31:

Section 3114
Intermodal Shipping Containers

3114.1 General. The provisions of Section 3114 and other applicable sections of this code, shall apply to intermodal shipping containers that are repurposed for use as buildings or structures or as a part of buildings or structures.

Exceptions:

1. Intermodal shipping containers previously approved as existing relocatable buildings complying with Chapter 14 of the *International Existing Building Code*.
2. Stationary storage battery arrays located in intermodal shipping containers complying with Chapter 12 of the *International Fire Code*.
3. Intermodal shipping containers that are listed as equipment complying with the standard for equipment, such as air chillers, engine generators, modular data centers, and other similar equipment.
4. Intermodal shipping containers housing or supporting experimental equipment are exempt from the requirements of Section 3114 provided they comply with all of the following:
   - 4.1. Such units shall be single stand-alone units supported at grade level and used only for occupancies as specified under Risk Category I in Table 1604.5;
   - 4.2. Such units are located a minimum of 8 feet from adjacent structures and are not connected to a fuel gas system or fuel gas utility; and
   - 4.3. In hurricane-prone regions and flood hazard areas, such units are designed in accordance with the applicable provisions of Chapter 16.

3114.2 Construction documents. The construction documents shall contain information to verify the dimensions and establish the physical properties of the steel components, and wood floor components, of the intermodal shipping container in addition to the information required by Sections 107 and 1603.

3114.3 Intermodal shipping container information. Intermodal shipping containers shall bear an existing data plate containing the following information as required by ISO 6346 and verified by an approved agency. A report of the verification process and findings shall be provided to the building owner.

1. Manufacturer's name or identification number

2. Date manufactured
3. Safety approval number
4. Identification number
5. Maximum operating gross mass or weight (kg) (lbs)
6. Allowable stacking load for 1.8G (kg) (lbs)
7. Transverse racking test force (Newtons)
8. Valid maintenance examination date

Where approved by the building official, the markings and existing data plate are permitted to be removed from the intermodal shipping containers before they are repurposed for use as buildings or structures or as a part of buildings or structures.

3114.4 Protection against decay and termites. Wood structural floors of intermodal shipping containers shall be protected from decay and termites in accordance with the applicable provisions of Section 2304.12.1.1.

3114.5 Under-floor ventilation. The space between the bottom of the floor joists and the earth under any intermodal shipping container, except spaces occupied by basements and cellars, shall be provided with ventilation in accordance with Section 1202.4.

3114.6 Roof assemblies. Intermodal shipping container roof assemblies shall comply with the applicable requirements of Chapter 15.

Exception: Single-unit stand-alone intermodal shipping containers not attached to, or stacked vertically over, other intermodal shipping containers, buildings or structures.

3114.7 Joints and voids. Joints and voids that create concealed spaces between intermodal shipping containers, that are connected or stacked, at fire-resistance-rated walls, floor or floor/ceiling assemblies and roofs or roof/ceiling assemblies shall be protected by an approved fire-resistant joint system in accordance with Section 715.

3114.8 Structural. Intermodal shipping containers which conform to ISO 1496-1 that are repurposed for use as buildings or structures, or as a part of buildings or structures, shall be designed in accordance with Chapter 16 and this section.

3114.8.1 Foundations. Intermodal shipping containers repurposed for use as a permanent building or structure shall be supported on foundations or other supporting structures designed and constructed in accordance with Chapters 16 through 23 of this code.

3114.8.1.1 Anchorage. Intermodal shipping containers shall be anchored to foundations or other supporting structures as necessary to provide a continuous load path for all applicable design and environmental loads in accordance with Chapter 16.

3114.8.2 Welds. All new welds and connections shall be equal to or greater than the original connections.

3114.8.3 Structural design. The structural design for the intermodal shipping containers repurposed for use as a building or structure, or as part of a building or structure, shall comply with Section 3114.8.4 or 3114.8.5.

3114.8.4 Detailed design procedure. A structural analysis meeting the requirements of this section shall be provided to the building official to demonstrate the structural adequacy of the intermodal shipping containers.

Exception: Intermodal shipping containers designed in accordance with Section 3114.8.5.

3114.8.4.1 Material properties. Structural material properties for

existing intermodal shipping container steel components shall be established by material testing where the steel grade and composition cannot be identified by the manufacturer's designation as to manufacture and mill test.

3114.8.4.2 Seismic design parameters. The seismic force-resisting system shall be designed and detailed in accordance with one of the following:

1. Where all or portions of the corrugated steel container sides are considered to be the seismic force-resisting system, design and detailing shall be in accordance with the ASCE 7 Table 12.2-1 requirements for light-frame bearing-wall systems with shear panels of all other materials,
2. Where portions of the corrugated steel container sides are retained, but are not considered to be the seismic force-resisting system, an independent seismic force-resisting system shall be selected, designed and detailed in accordance with ASCE 7 Table 12.2-1, or
3. Where portions of the corrugated steel container sides are retained and integrated into a seismic force-resisting system other than as permitted by Section 3114.8.4.2 Item 1, seismic design parameters shall be developed from testing and analysis in accordance with Section 104.11 and ASCE 7 Section 12.2.1.1 or 12.2.1.2.

3114.8.4.3 Allowable shear value. The allowable shear values for the intermodal shipping container corrugated steel sheet panel side walls and end walls shall be demonstrated by testing and analysis accordance with Section 104.11. Where penetrations are made in the side walls or end walls designated as part of the lateral force-resisting system, the penetrations shall be substantiated by rational analysis.

3114.8.5 Simplified structural design of single-unit containers. Single-unit intermodal shipping containers conforming to the limitations of Section 3114.8.5.1 shall be permitted to be designed in accordance with the simplified structural design provisions of this section.

3114.8.5.1 Limitations. Use of Section 3114.8.5 is subject to all the following limitations:

1. The intermodal shipping container shall be a single-unit, stand-alone unit supported on a foundation and shall not be in contact with or supporting any other shipping container or other structure.
2. The intermodal shipping container top and bottom rails, corner castings, and columns or any portion thereof shall not be notched, cut, or removed in any manner.
3. The intermodal shipping container shall be erected in a level and horizontal position with the floor located at the bottom.
4. The intermodal shipping container shall be located in Seismic Design Category A, B, C or D.

3114.8.5.2 Simplified structural design. Where permitted by Section 3114.8.5.1, single-unit, stand-alone intermodal shipping containers shall be designed using the following assumptions for the corrugated steel shear walls:

1. The appropriate detailing requirements contained in Chapters 16 through 23.
2. Response modification coefficient, R = 2,
3. Over strength factor, Ω = 2.5,
4. Deflection amplification factor, C = 2, and
5. Limits on structural height, h = 9.5 feet (2900 mm).

3114.8.5.3 Allowable shear. The allowable shear for the corrugated steel side walls (longitudinal) and end walls (transverse) for wind design and for seismic design using the coefficients of Section 3114.8.5.2 shall be in accordance with Table 3114.8.5.3 provided that all of the following conditions are met:

1. The total linear length of all openings in any individual side walls or end walls shall be limited to not more than 50 percent of the length of that side walls or end walls, as shown in Figure 3114.8.5.3(1).
2. Any full height wall length, or portion thereof, less than 4 feet (305 mm) long shall not be considered as a portion of the lateral force-resisting system, as shown in Figure 3114.8.5.3(2).
3. All side walls or end walls used as part of the lateral force-resisting system shall have an existing or new boundary element on all sides to form a continuous load path, or paths, with adequate strength and stiffness to transfer all forces from the point of application to the final point of resistance, as shown in Figure 3114.8.5.3(3).
4. Where openings are made in container walls, floors, or roofs for doors, windows and other openings:
   4.1. The openings shall be framed with steel elements that are designed in accordance with Chapter 16 and Chapter 22.
   4.2. The cross section and material grade of any new steel element shall be equal to or greater than the steel element removed.
5. A maximum of one penetration not greater than a 6-inch (152 mm) diameter hole for conduits, pipes, tubes or vents, or not greater than 16 square inches (10 322 mm^2) for electrical boxes, is permitted for each individual 8 foot length (2438 mm) lateral force resisting wall. Penetrations located in walls that are not part of the wall lateral force resisting system shall not be limited in size or quantity. Existing intermodal shipping container vents shall not be considered a penetration, as shown in Figure 3114.8.5.3(4).
6. End wall door or doors designated as part of the lateral force-resisting system shall be welded closed.

New Table and Figures in Section 3114:

TABLE 3114.8.5.3

Allowable Shear Values for Intermodal Shipping Container Corrugated Steel Walls for Wind or Seismic Loading

CONTAINER DESIGNATION[b]	CONTAINER DIMENSION (Nominal Length)	CONTAINER DIMENSION (Nominal Height)	ALLOWABLE SHEAR VALUES (PLF) [a, c]	
			Side Wall	End Wall
1EEE	45 feet (13.7 m)	9.5 feet (2896 mm)	75	843
1EE		8.5 feet (2591 mm)		
1AAA	40 feet (12.2 m)	9.5 feet (2896 mm)	84	
1AA		8.5 feet (2591 mm)		
1A		8.0 feet (2438 mm)		
1AX		< 8.0 feet (2438 mm)		
1BBB	30 feet (9.1 m)	9.5 feet (2896 mm)	112	
1BB		8.5 feet (2591 mm)		
1B		8.0 feet (2438 mm)		
1BX		< 8.0 feet (2438 mm)		
1CC	20 feet (9.1 m)	8.5 feet (2591 mm)	168	
1C		8.0 feet (2438 mm)		
1CX		< 8.0 feet (2438 mm)		
1D	10 feet (3.0 m)	8.0 feet (2438 mm)	337	
1DX		< 8.0 feet (2438 mm)		

a. The allowable shear for the side walls and end walls of the intermodal shipping containers are derived from ISO 1496-1 and reduced by a factor of safety of 5.
b. Container designation type is derived from ISO 668.
c. Limitations of Section 3114.8.5.1 shall apply.

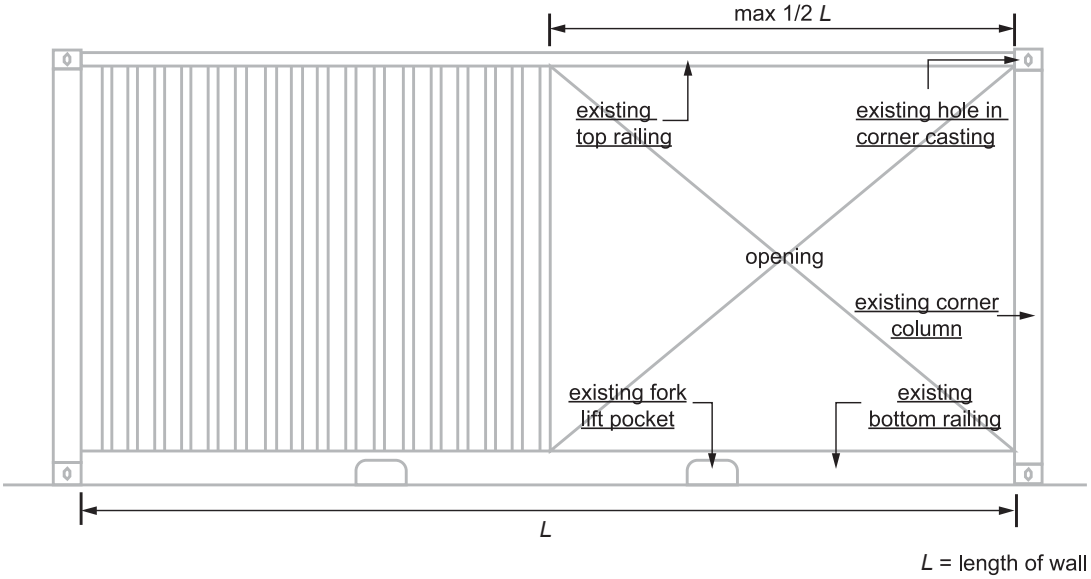


FIGURE 3114.8.5.3(1)
Bracing Unit Distribution—Maximum Linear Length

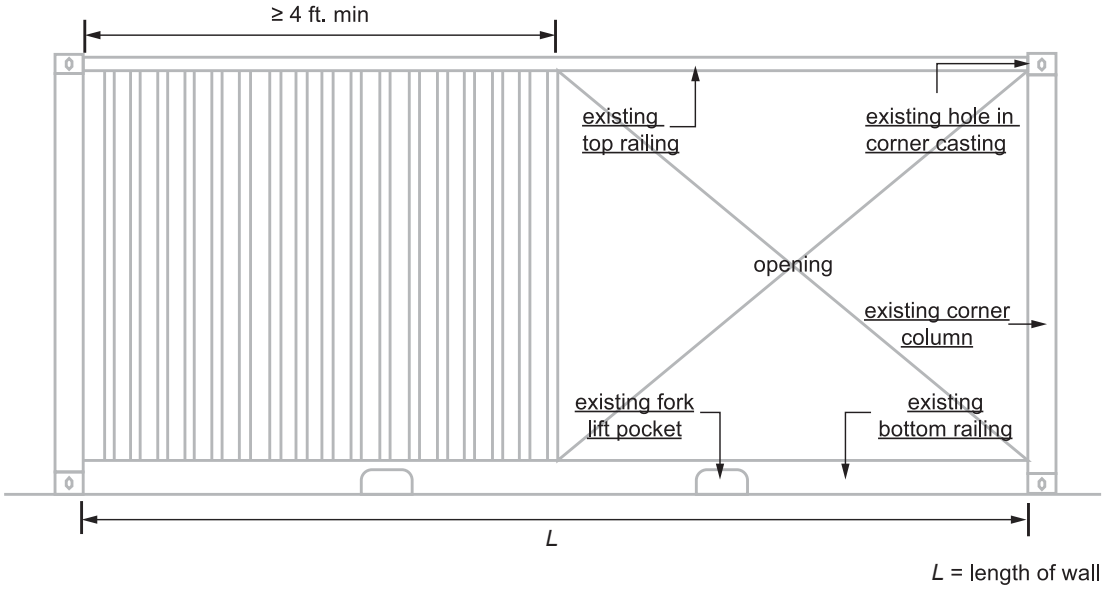


FIGURE 3114.8.5.3(2)
Bracing Unit Distribution—Minimum Linear Length

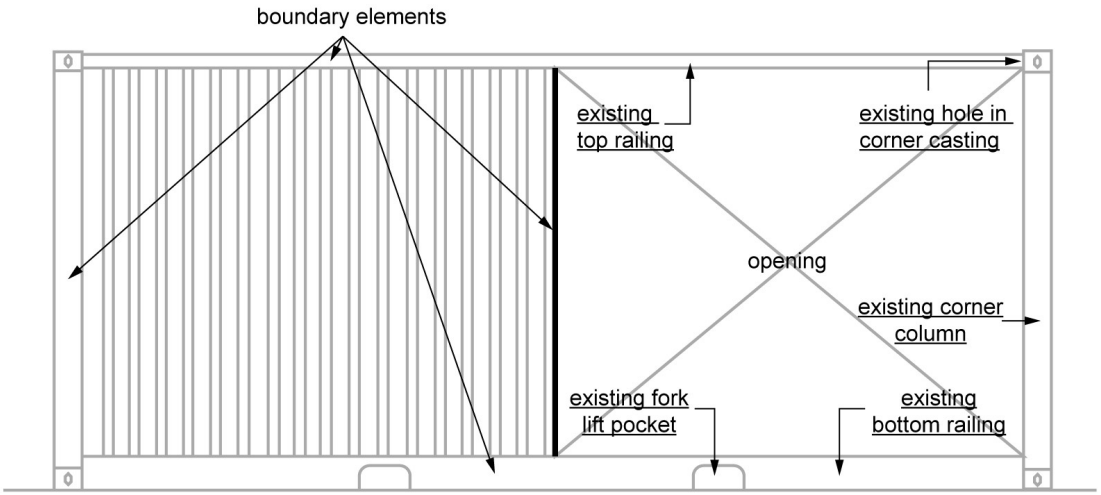


FIGURE 3114.8.5.3(3)
Bracing Unit Distribution—Boundary Elements

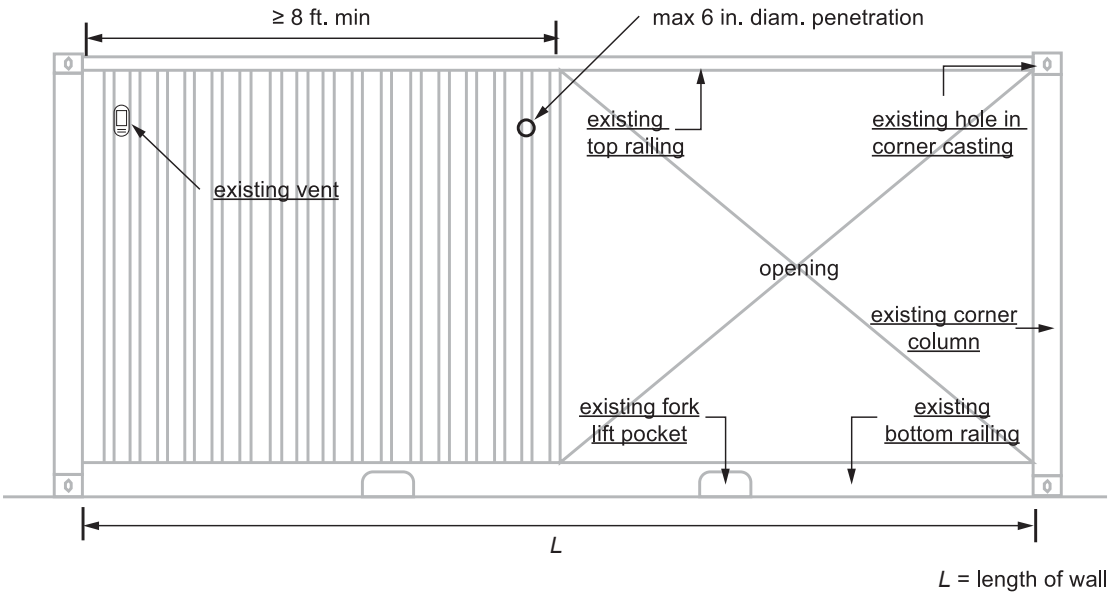


FIGURE 3114.8.5.3(4)
Bracing Unit Distribution—Penetration Limitations

New Standards in Chapter 35:

ISO 668:2013:
Series 1 Freight Containers – Classifications, Dimensions and Ratings

ISO 1496-1:2013:
Series 1 Freight Containers – Specification and Testing – Part 1: General Cargo Containers for General Purposes

ISO 6346:1995, with Amendment 3: 2012:
Freight Containers – Coding, Identification and Marking

Appendix 4
Resources

Contact Information

Container Owners Association
www.containerownersassociation.org

ICC Evaluation Service (ICC-ES)
www.icc-es.org

ICHCA International
www.ichca.org

IICL
www.iicl.org

International Code Council (ICC)
www.iccsafe.org

International Association of Classification Societies
http://www.iacs.org.uk/about/members/

International Maritime Organization (IMO)
www.imo.org

International Organization for Standardization (ISO)
www.iso.org

Modular Building Institute (MBI)
www.modular.org

National Portable Storage Association (NPSA)
www.npsa.org

World Shipping Council
www.worldshipping.org

STEEL MODULAR CONTAINER FRAMING ANALYSIS & DESIGN:

Pages 1,000 - 1,999

250-A Main Street
Klamath Falls, OR. 97601
E-Mail: info@structure1.com
Web: www.structure1.com
ph. (541) 850-6300
fax (541) 850-6233

PSE Consulting Engineers Inc.

Project Number	AquaWorks DBO Inc			Page No.	1,000
Project Name	224-2002, Milner	Designed by	MRD	Date	2/22/2024
Subject	Loads on Container	Checked by		Date	

Gravity Loads on Container Roof

Trib Width:	4	ft							
Dead Load =	10	psf	*	4	ft	=	40	plf	
Snow Load =	53.8	psf	*	4	ft	=	215.2	plf	

Gravity Loads on Container Floor

Dead Load =	15	psf
Live Load =	40	psf

Wind Loads on Container Roof

	Trib Width:	20	ft						
WL+X =	WW =	-23.71	psf	*	20	ft	=	-474.2	plf
	LW =	-15.78	psf	*	20	ft	=	-315.6	plf
WL-X =	WW =	0.55	psf	*	20	ft	=	11	plf
	LW =	-8.45	psf	*	20	ft	=	-169	plf
	Trib Width:	4	ft						
WL+Z =	WW =	-12.32	psf	*	4	ft	=	-49.28	plf
	LW =	-8.86	psf	*	4	ft	=	-35.44	plf
WL-Z =	WW =	0.55	psf	*	4	ft	=	2.2	plf
	LW =	-1.53	psf	*	4	ft	=	-6.12	plf

Wind Loads on Container Walls

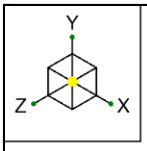
	Trib Width:	4	ft						
WL+X =	WW =	10.18	psf	*	4	ft	=	40.72	plf
	LW =	-12.32	psf	*	4	ft	=	-49.28	plf
WL-X =	WW =	17.51	psf	*	4	ft	=	70.04	plf
	LW =	-4.99	psf	*	4	ft	=	-19.96	plf
	Trib Width:	4	ft						
WL+Z =	WW =	10.18	psf	*	4	ft	=	40.72	plf
	LW =	-7.13	psf	*	4	ft	=	-28.52	plf
WL-Z =	WW =	17.51	psf	*	4	ft	=	70.04	plf
	LW =	0.2	psf	*	4	ft	=	0.8	plf

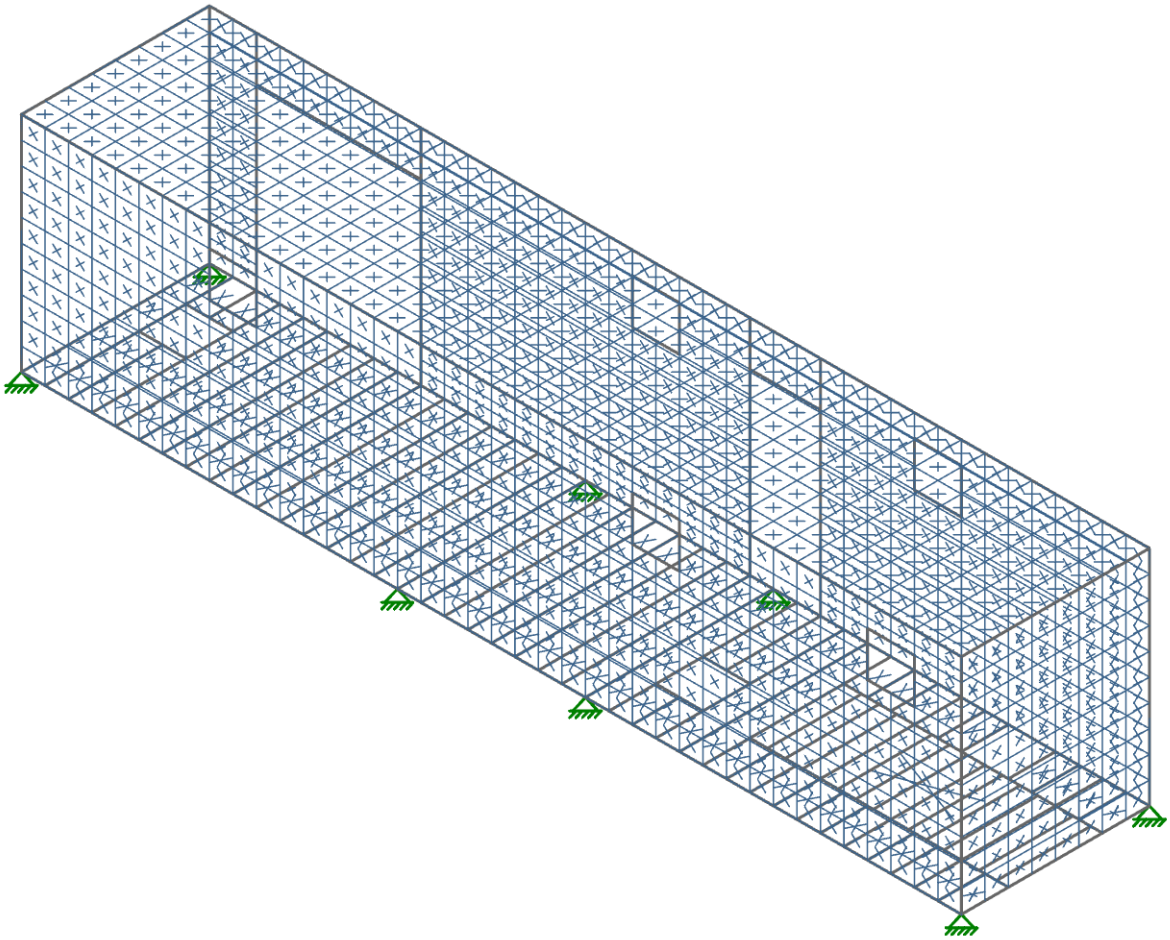
*Wind loads as per page 104-106

Seismic Loads on Container Walls

Seismic Load:	2920	lbs	As per page 111
Length of Wall (ELX):	8	ft	
Length of Wall (ELZ):	40	ft	

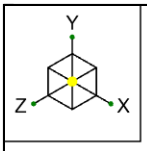
								Both Walls				
ELX =	2920	lbs	/	8	ft	/	2	=	182.5	plf		
ELZ =	2920	lbs	/	40	ft	/	2	=	36.5	plf		

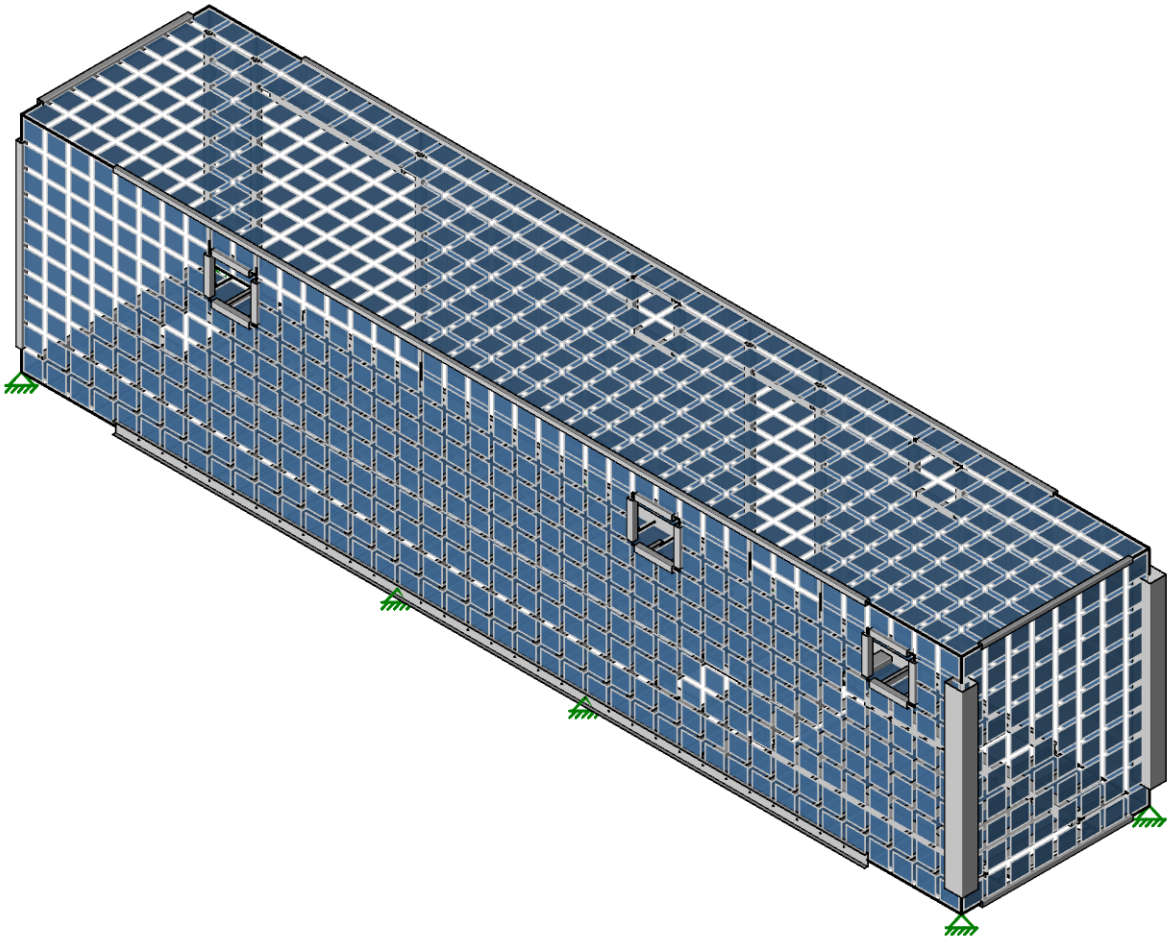




Envelope Only Solution

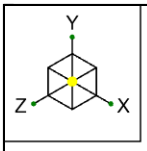
PSEI	40ft Container	SK-1
MRD		Feb 22, 2024
AquaWorks 224-2002		40ft Container Design with Floor O…

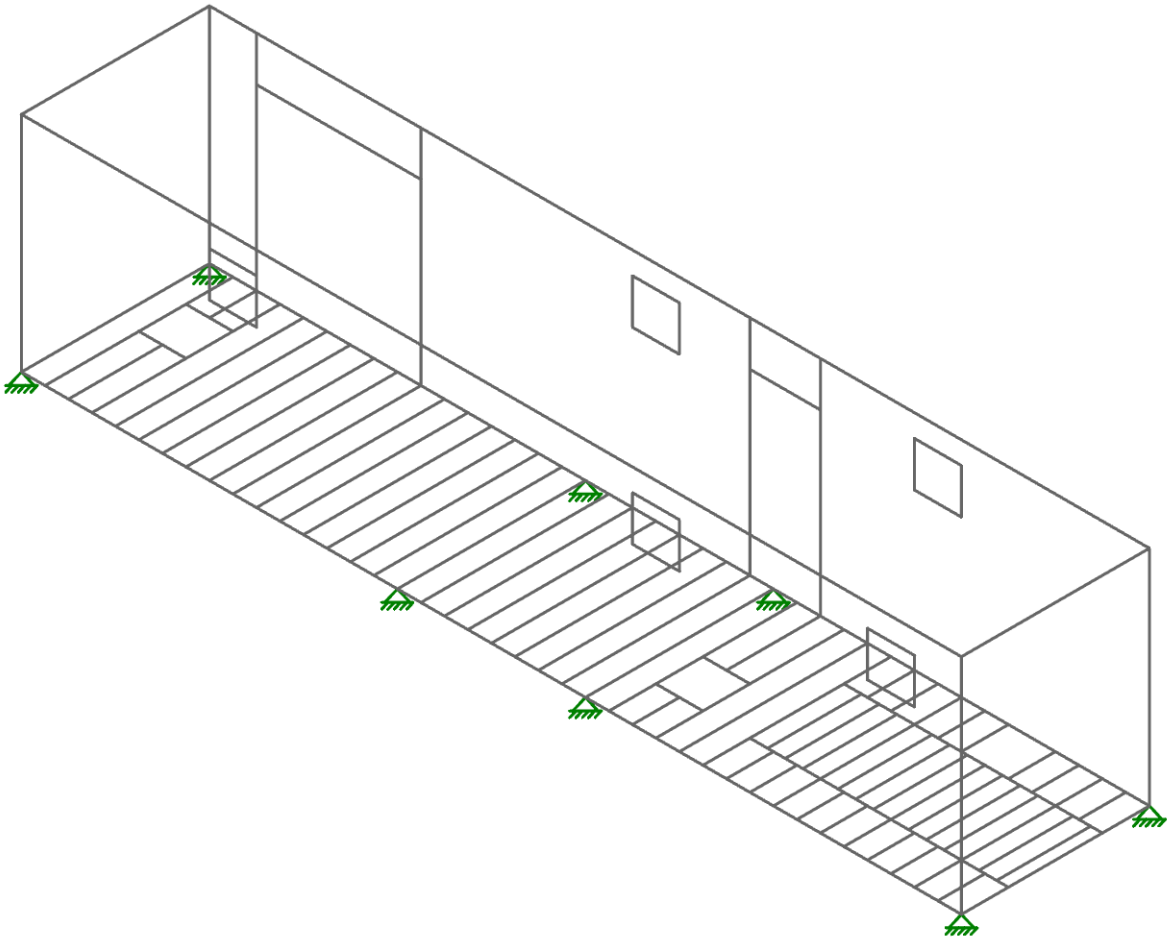




Envelope Only Solution

PSEI	40ft Container	SK-2
MRD		Feb 22, 2024
AquaWorks 224-2002		40ft Container Design with Floor O…





Envelope Only Solution

PSEI	40ft Container	SK-3
MRD		Feb 22, 2024
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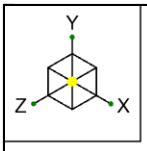
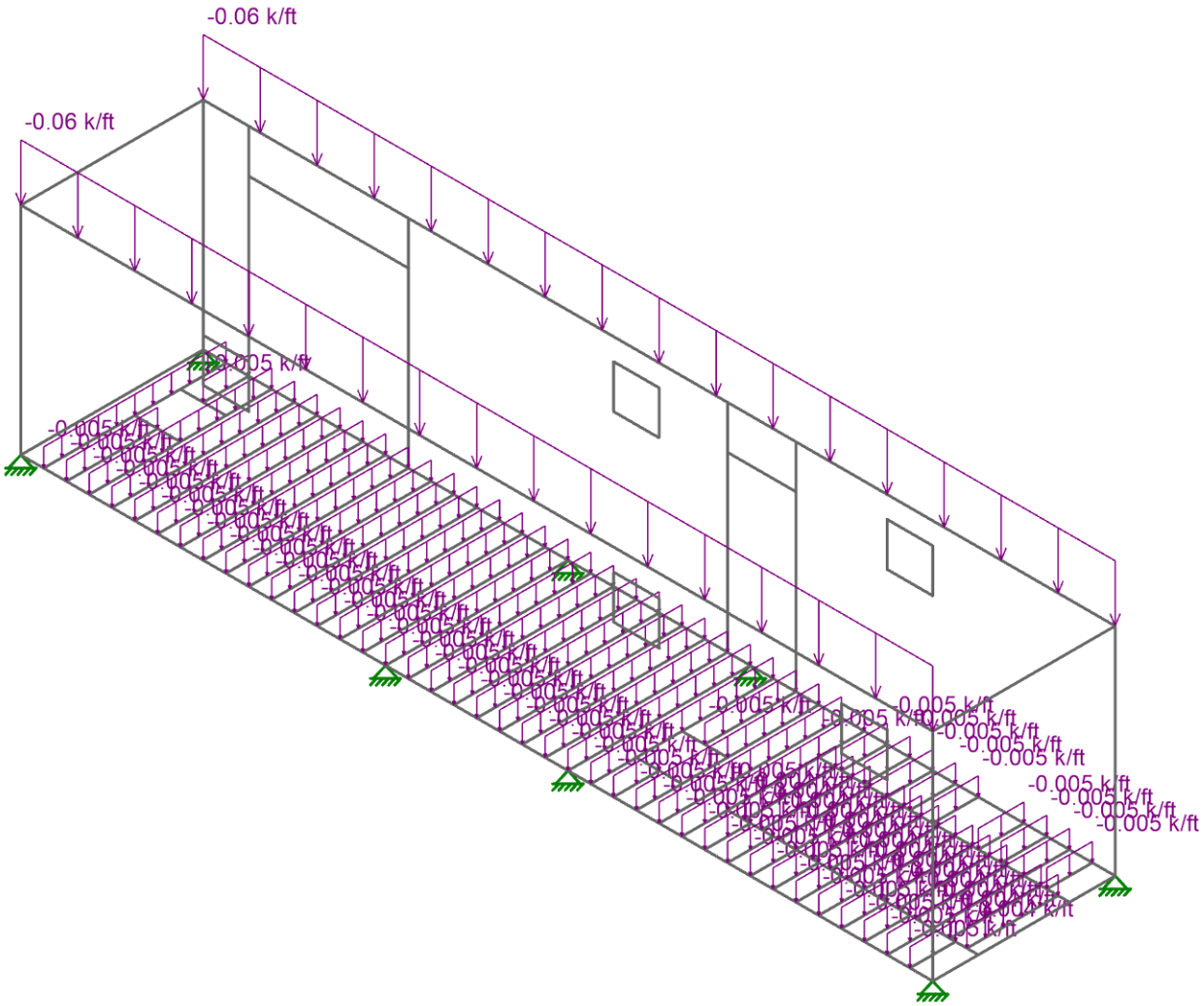
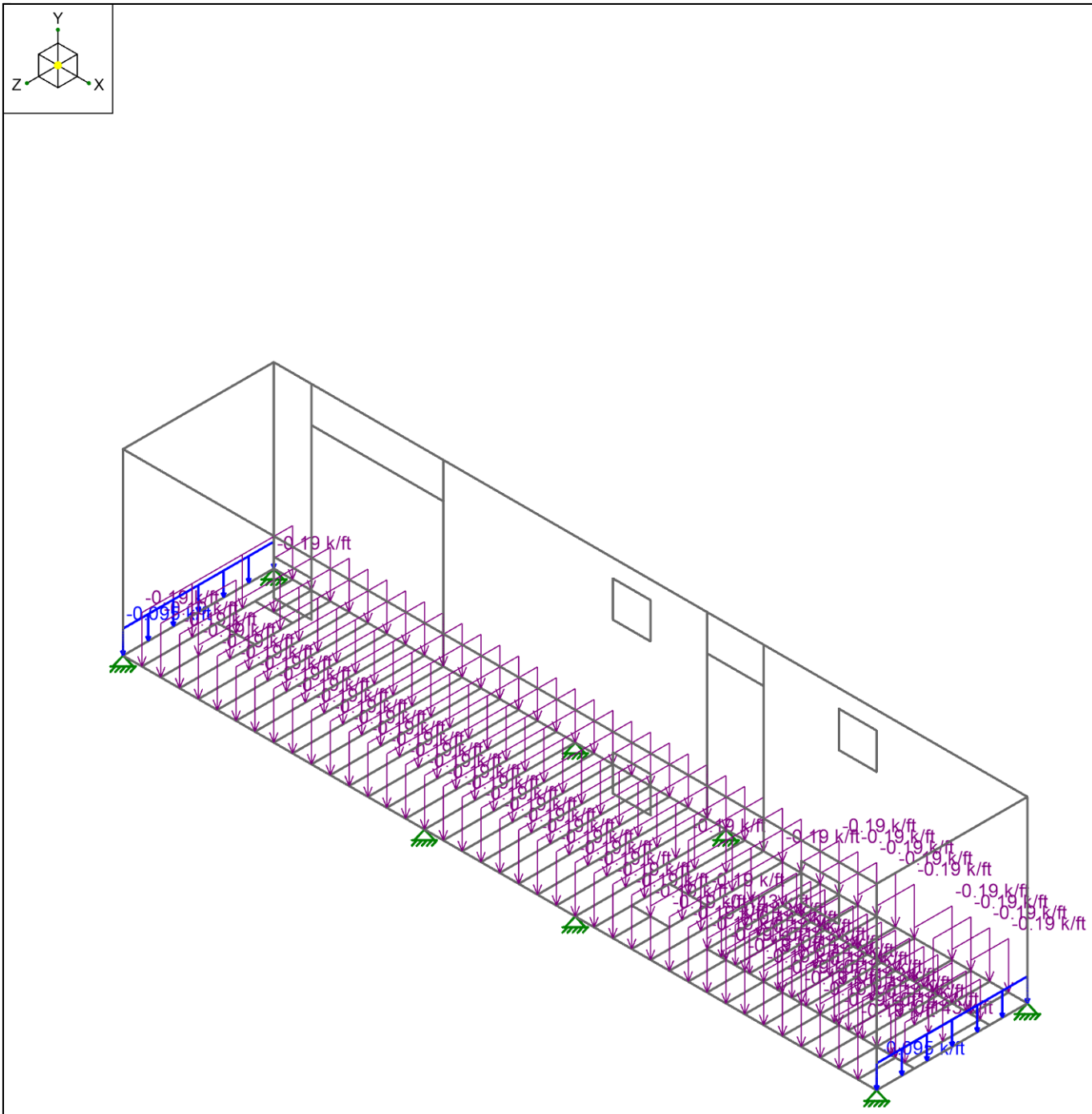




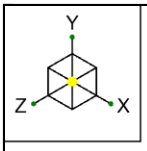
Loads: BLC 1, Dead Load
Envelope Only Solution

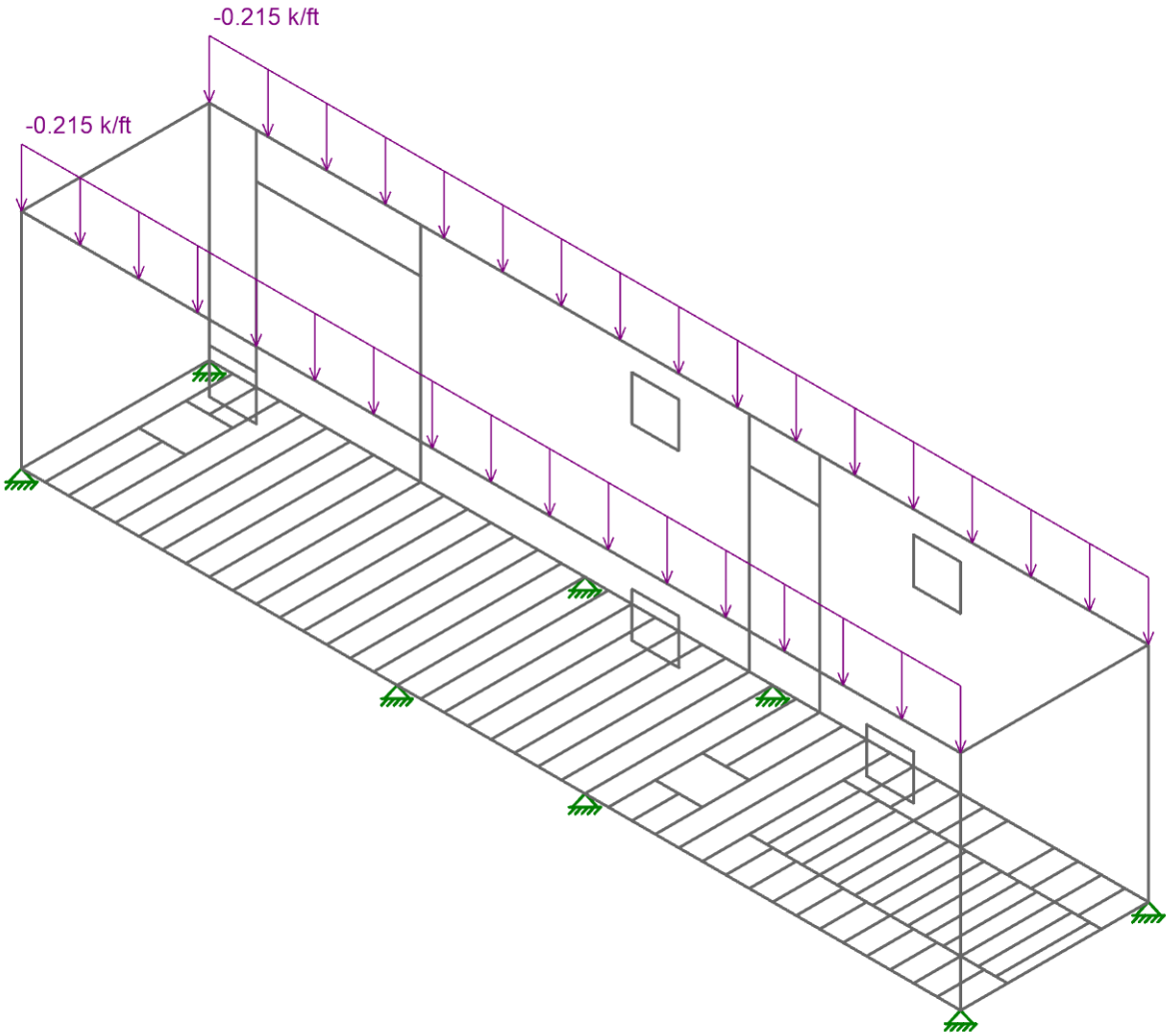
PSEI	40ft Container	SK-4
MRD		Feb 22, 2024
AquaWorks 224-2002		40ft Container Design with Floor O…



Loads: BLC 2, Live
Envelope Only Solution

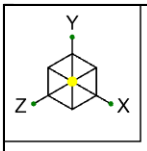
PSEI	40ft Container	SK-5
MRD		Feb 22, 2024
AquaWorks 224-2002		40ft Container Design with Floor O…

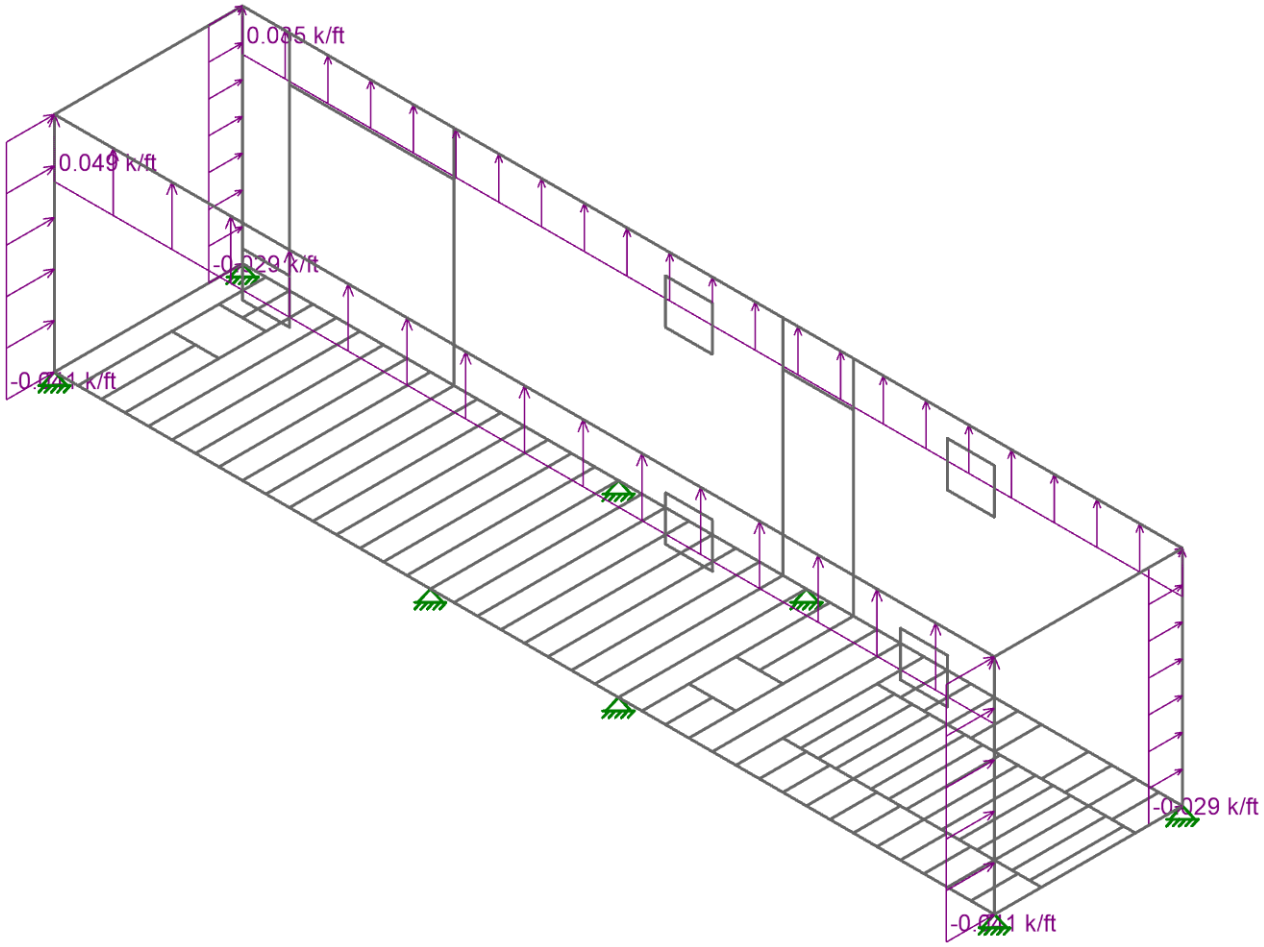




Loads: BLC 3, Snow Envelope Only Solution

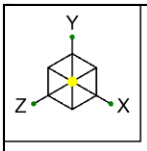
PSEI	40ft Container	SK-6
MRD		Feb 22, 2024
AquaWorks 224-2002		40ft Container Design with Floor O…

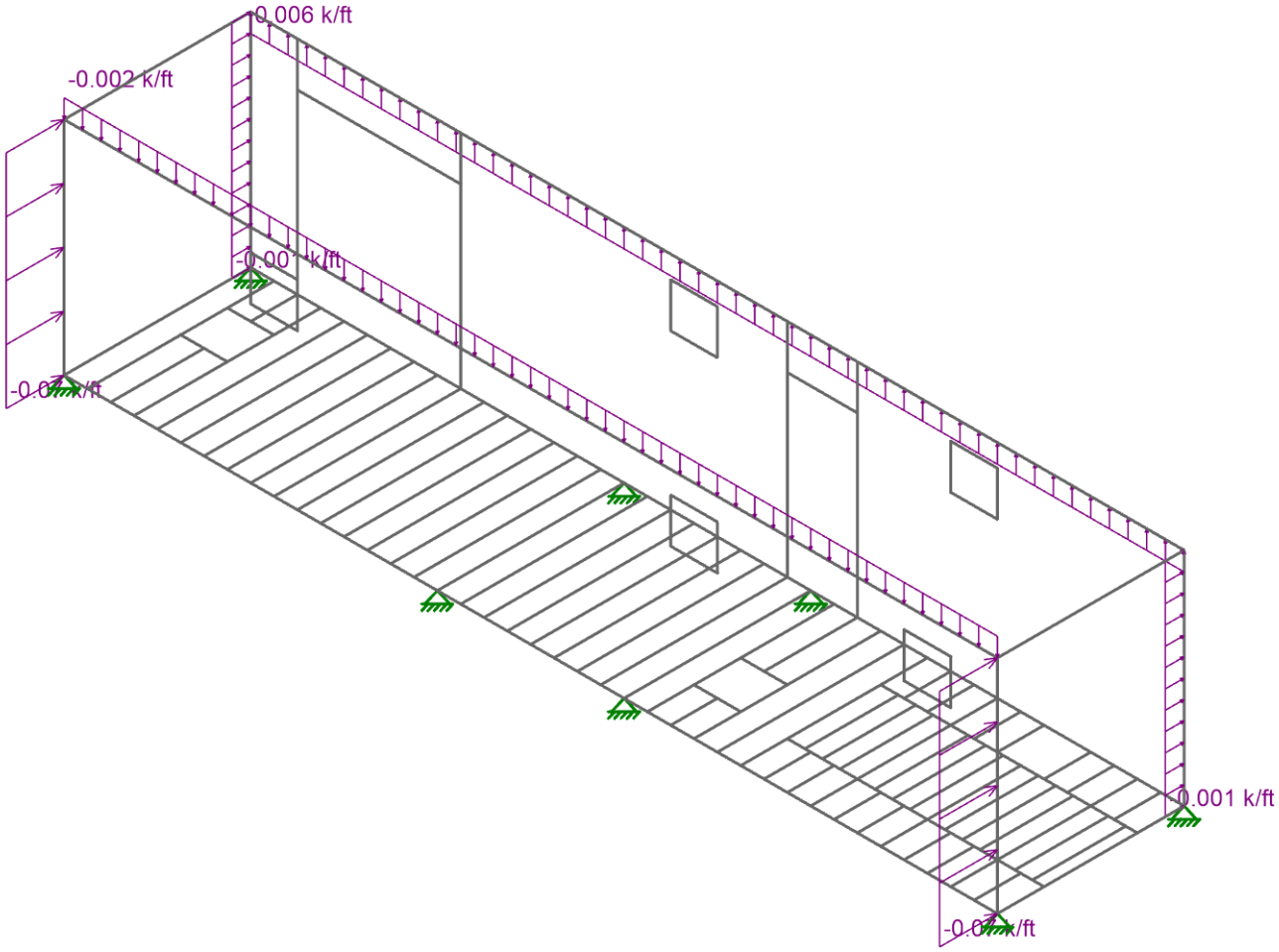




Loads: BLC 4, WL+Z
Envelope Only Solution

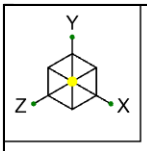
PSEI	40ft Container	SK-7
MRD		Feb 22, 2024
AquaWorks 224-2002		40ft Container Design with Floor O…

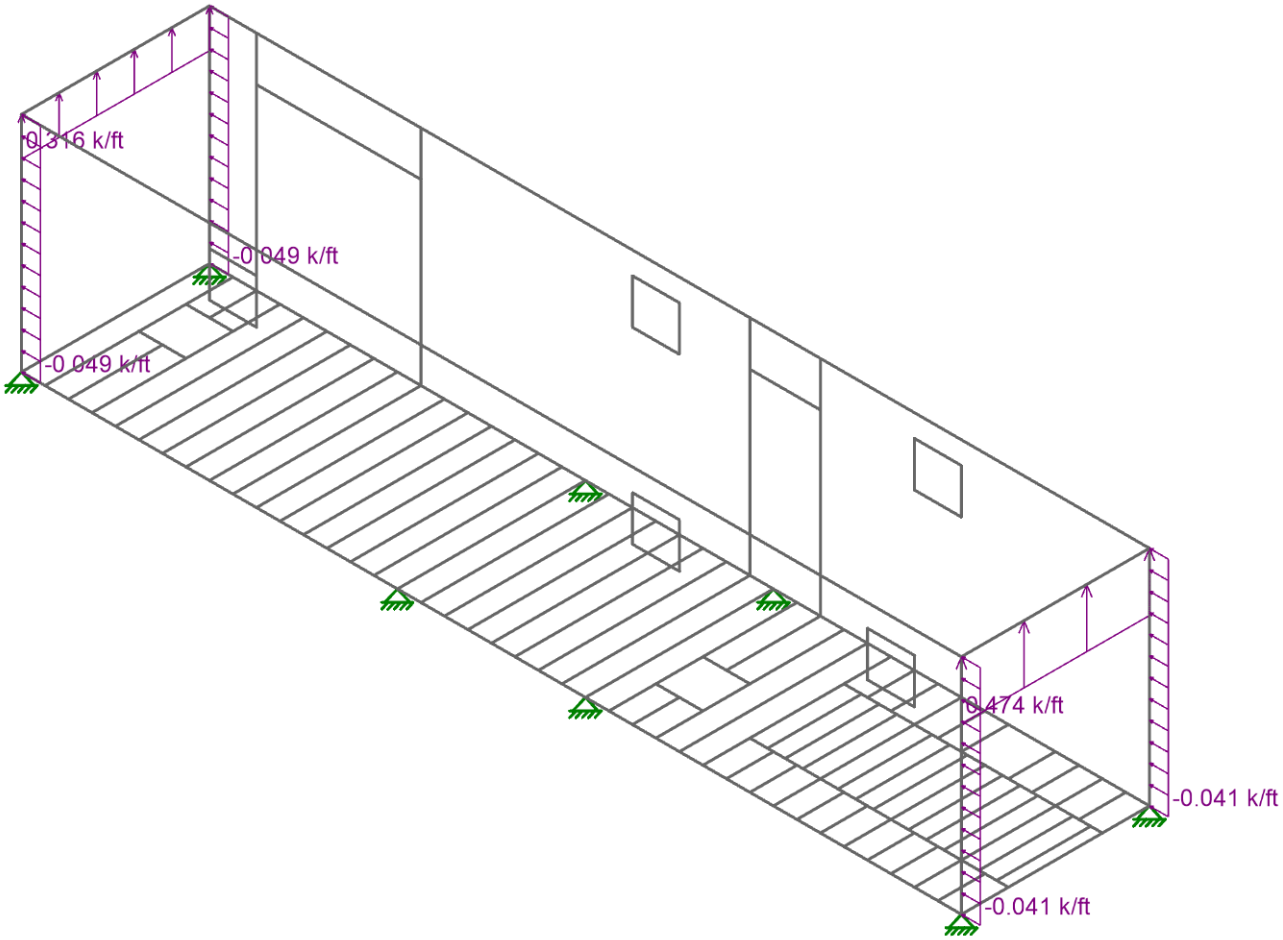




Loads: BLC 5, WL-Z
Envelope Only Solution

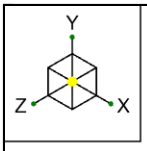
PSEI	40ft Container	SK-8
MRD		Feb 22, 2024
AquaWorks 224-2002		40ft Container Design with Floor O…

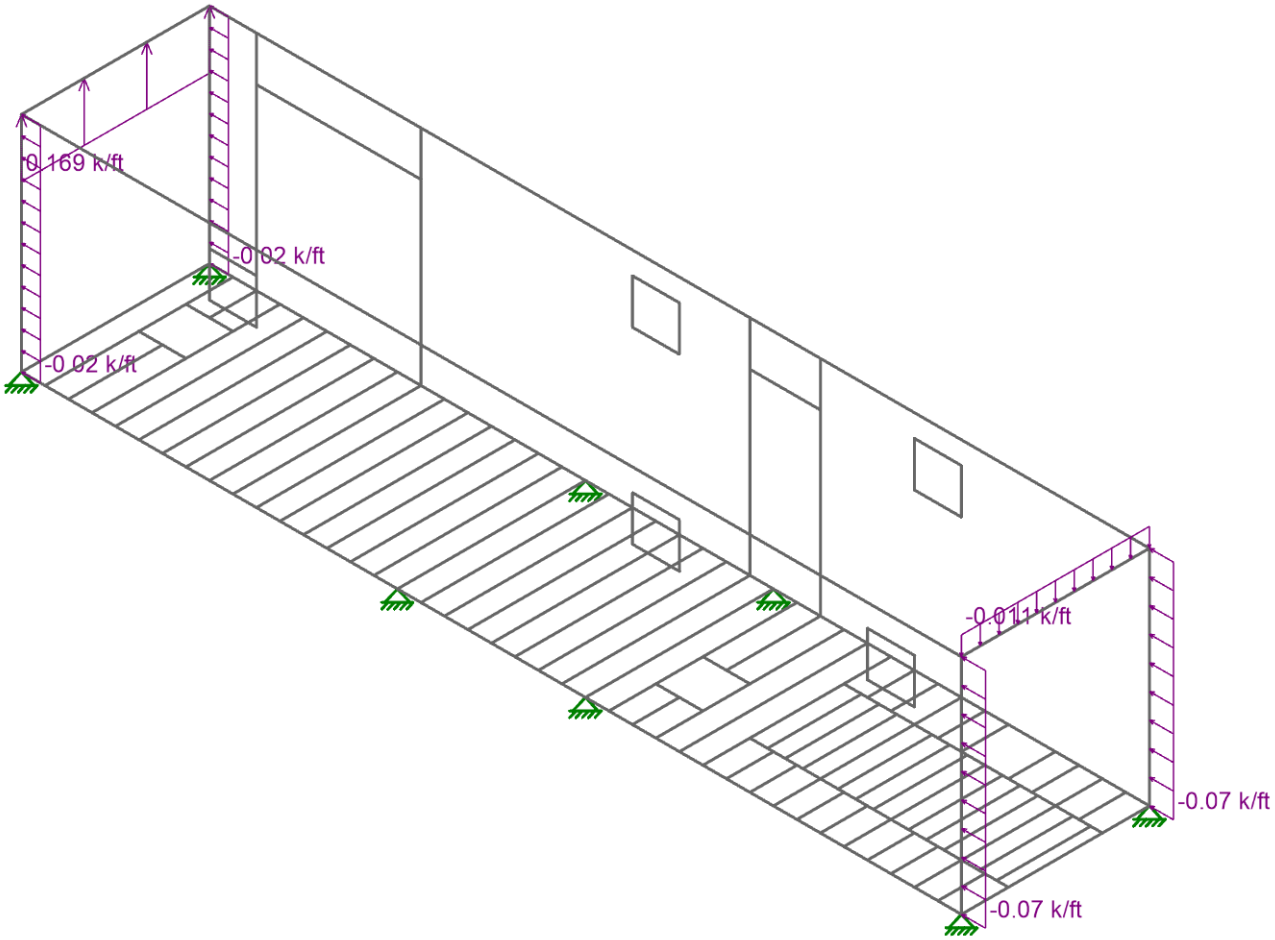




Loads: BLC 6, WL+X
Envelope Only Solution

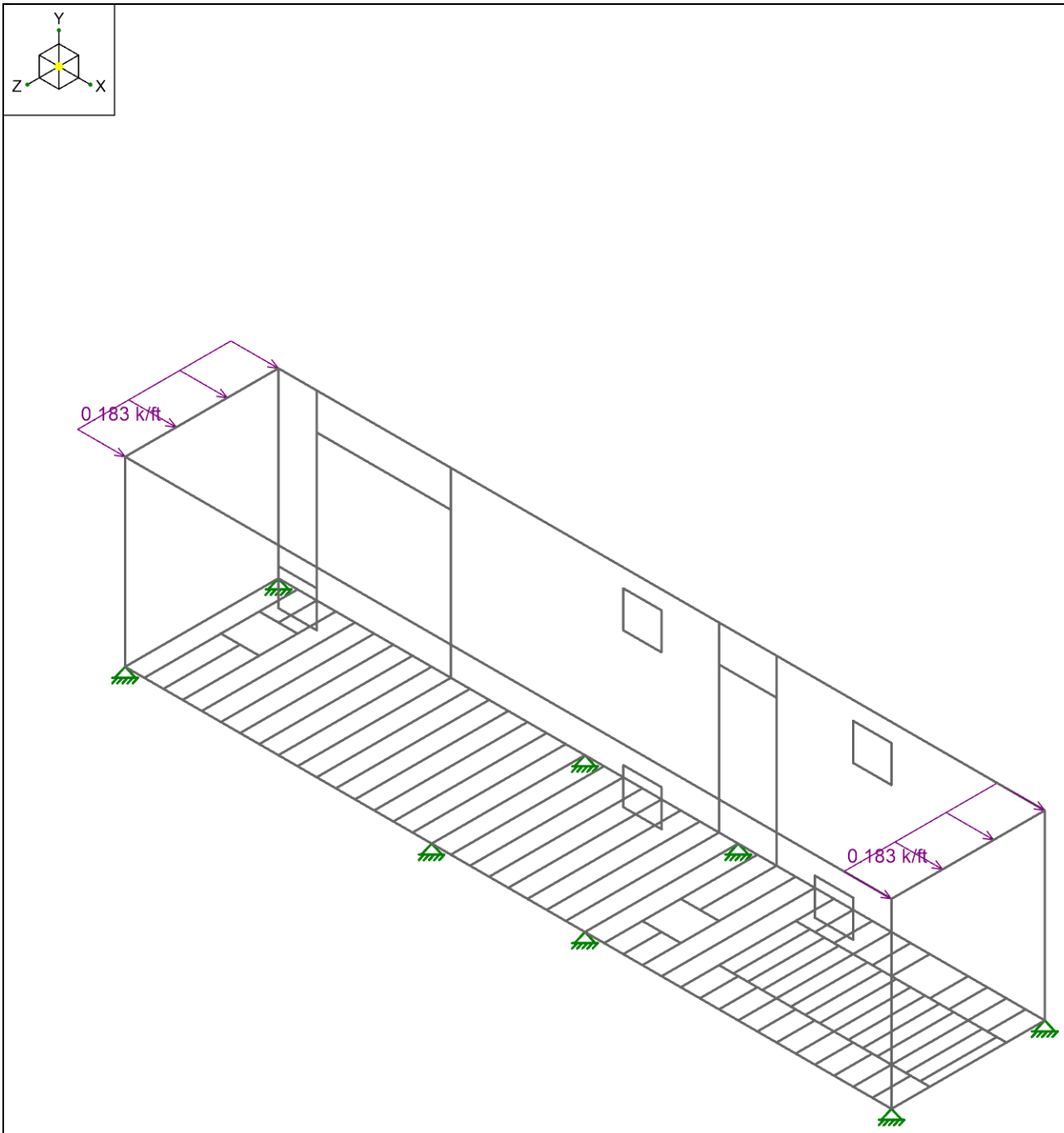
PSEI	40ft Container	SK-9
MRD		Feb 22, 2024
AquaWorks 224-2002		40ft Container Design with Floor O…





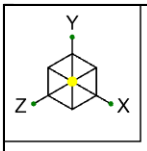
Loads: BLC 7, WL-X
Envelope Only Solution

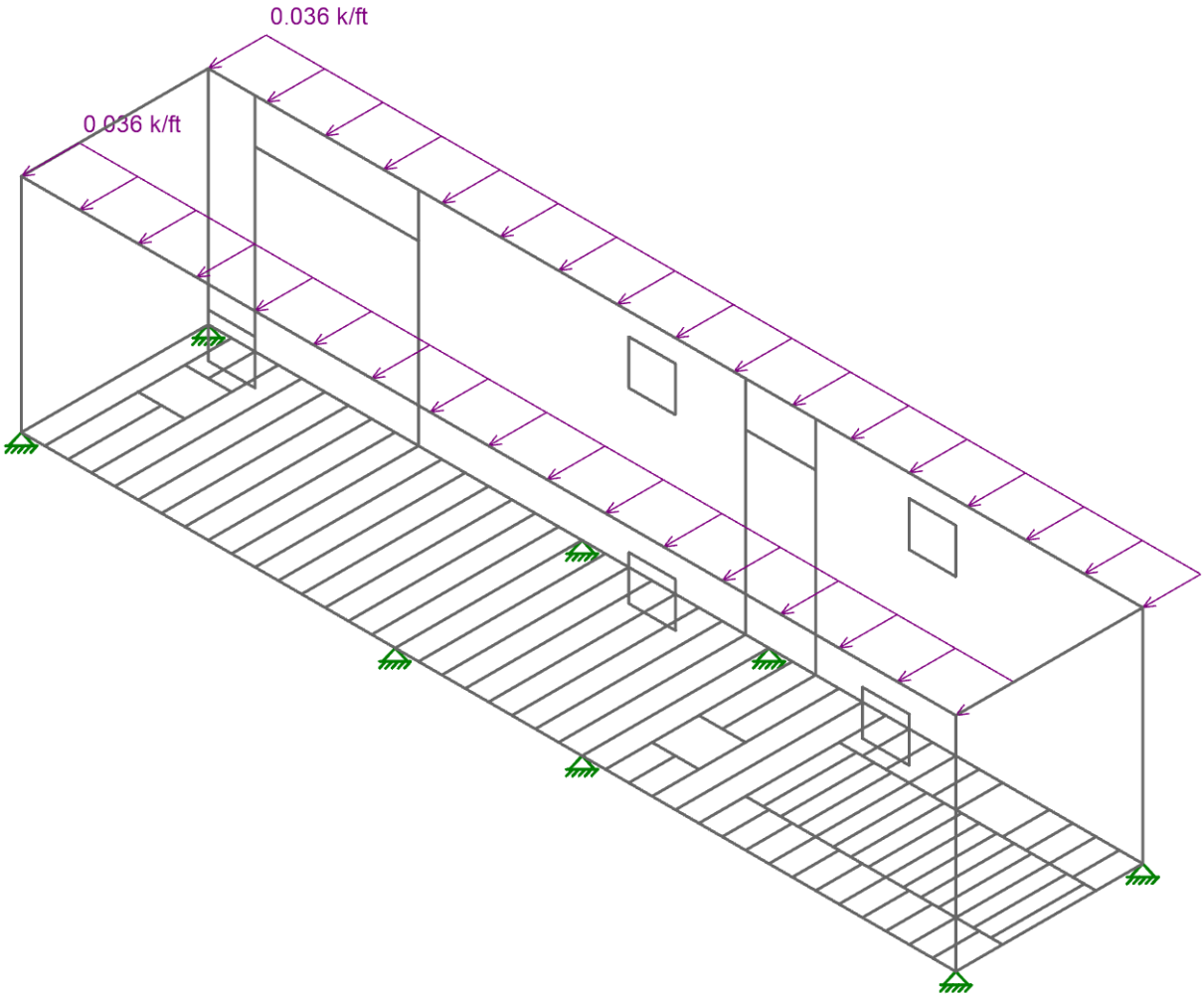
PSEI	40ft Container	SK-10
MRD		Feb 22, 2024
AquaWorks 224-2002		40ft Container Design with Floor O…



Loads: BLC 8, ELX
Envelope Only Solution

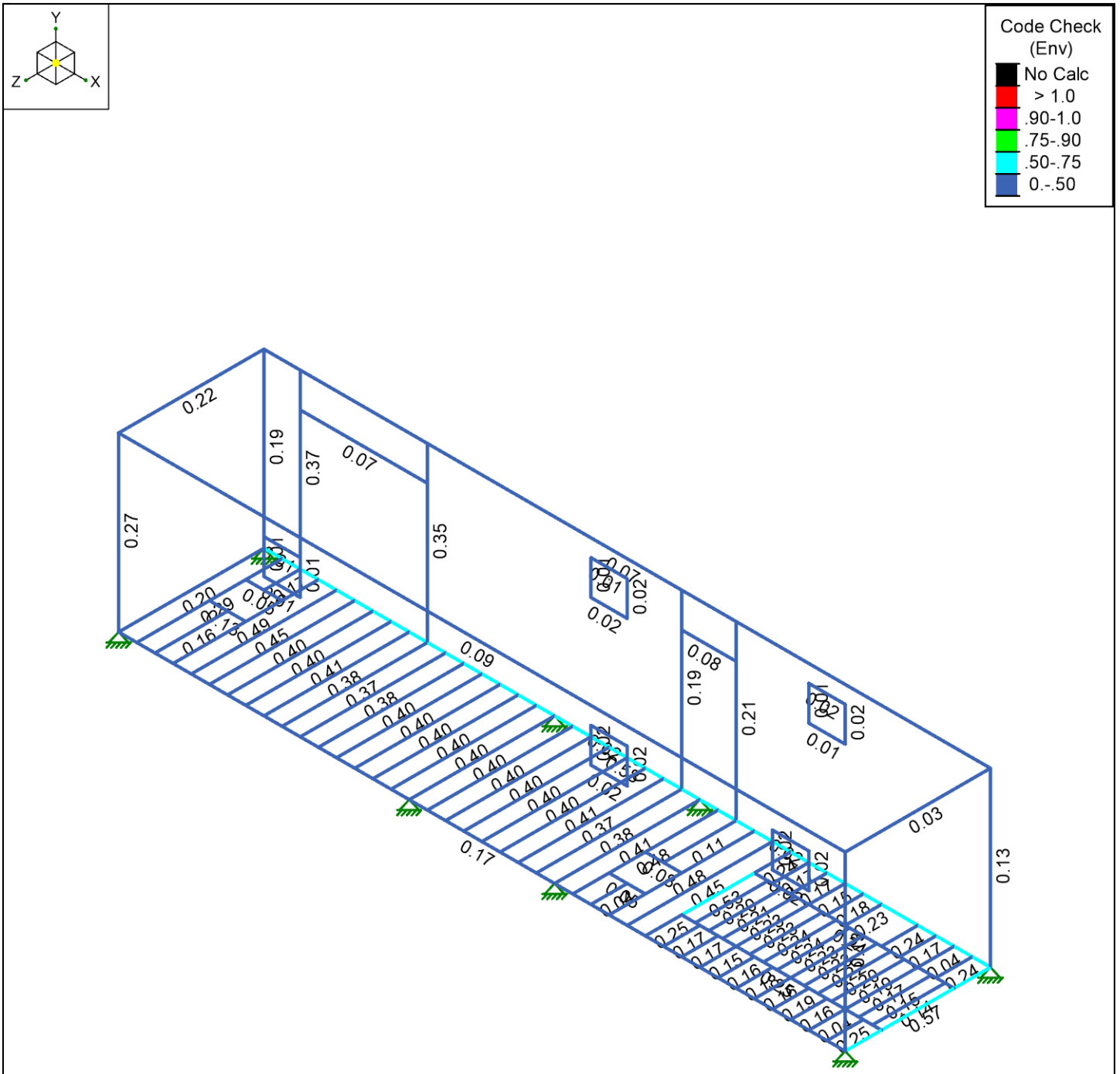
PSEI	40ft Container	SK-11
MRD		Feb 22, 2024
AquaWorks 224-2002		40ft Container Design with Floor O…





Loads: BLC 9, ELZ
Envelope Only Solution

PSEI	40ft Container	SK-12
MRD		Feb 22, 2024
AquaWorks 224-2002		40ft Container Design with Floor O…



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

PSEI	40ft Container	SK-13
MRD		Feb 22, 2024
AquaWorks 224-2002		40ft Container Design with Floor O…

Company :PSEI
Designer :MRD
Job Number :AquaWorks 224-2002 Checked By : NT
Model Name:40ft Container

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	CN1	0	0	0	
2	CN2	40	0	0	
3	CN3	0	0	8	
4	CN4	40	0	8	
5	CN5	0	9.5	0	
6	CN6	40	9.5	0	
7	CN7	0	9.5	8	
8	CN8	40	9.5	8	
9	N9	1	0	0	
10	N10	1	0	8	
11	N11	2	0	0	
12	N12	2	0	8	
13	N13	3	0	0	
14	N14	3	0	8	
15	N15	4	0	0	
16	N16	4	0	8	
17	N17	5	0	0	
18	N18	5	0	8	
19	N19	6	0	0	
20	N20	6	0	8	
21	N21	7	0	0	
22	N22	7	0	8	
23	N23	8	0	0	
24	N24	8	0	8	
25	N25	9	0	0	
26	N26	9	0	8	
27	N27	10	0	0	
28	N28	10	0	8	
29	N29	11	0	0	
30	N30	11	0	8	
31	N31	12	0	0	
32	N32	12	0	8	
33	N33	13	0	0	
34	N34	13	0	8	
35	N35	14	0	0	
36	N36	14	0	8	
37	N37	15	0	0	
38	N38	15	0	8	
39	N39	16	0	0	
40	N40	16	0	8	
41	N41	17	0	0	
42	N42	17	0	8	
43	N43	18	0	0	
44	N44	18	0	8	
45	N45	19	0	0	
46	N46	19	0	8	
47	N47	20	0	0	
48	N48	20	0	8	
49	N49	21	0	0	
50	N50	21	0	8	
51	N51	22	0	0	
52	N52	22	0	8	
53	N53	23	0	0	
54	N54	23	0	8	
55	N55	24	0	0	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	N56	24	0	8	
57	N57	25	0	0	
58	N58	25	0	8	
59	N59	26	0	0	
60	N60	26	0	8	
61	N61	27	0	0	
62	N62	27	0	8	
63	N63	28	0	0	
64	N64	28	0	8	
65	N65	29	0	0	
66	N66	29	0	8	
67	N67	30	0	0	
68	N68	30	0	8	
69	N69	31	0	0	
70	N70	31	0	8	
71	N71	32	0	0	
72	N72	32	0	8	
73	N73	33	0	0	
74	N74	33	0	8	
75	N75	34	0	0	
76	N76	34	0	8	
77	N77	35	0	0	
78	N78	35	0	8	
79	N79	36	0	0	
80	N80	36	0	8	
81	N81	37	0	0	
82	N82	37	0	8	
83	N83	38	0	0	
84	N84	38	0	8	
85	N85	39	0	0	
86	N86	39	0	8	
87	N87	29	0	6	
88	N88	29	0	2	
89	N89	29.75	0	6	
90	N90	29.75	0	2	
91	N91	30.5	0	6	
92	N92	30.5	0	2	
93	N93	31.25	0	6	
94	N94	31.25	0	2	
95	N95	32	0	6	
96	N96	32	0	2	
97	N97	32.75	0	6	
98	N98	32.75	0	2	
99	N99	33.5	0	6	
100	N100	33.5	0	2	
101	N101	34.25	0	6	
102	N102	34.25	0	2	
103	N103	35	0	6	
104	N104	35	0	2	
105	N105	35.75	0	6	
106	N106	35.75	0	2	
107	N107	36.5	0	6	
108	N108	36.5	0	2	
109	N109	37.25	0	6	
110	N110	37.25	0	2	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	N111	38	0	6	
112	N112	38	0	2	
113	N113	38.75	0	6	
114	N114	38.75	0	2	
115	N115	39.5	0	6	
116	N116	39.5	0	2	
117	N118	30	0	6	
118	N119	31	0	6	
119	N121	33	0	6	
120	N122	34	0	6	
121	N124	36	0	6	
122	N125	37	0	6	
123	N127	39	0	6	
124	N125A	30	0	2	
125	N126	31	0	2	
126	N128	33	0	2	
127	N129	34	0	2	
128	N131	36	0	2	
129	N132	37	0	2	
130	N134	39	0	2	
131	N131A	40	0	6	
132	N132A	40	0	2	
133	N339A	40	0	4	
134	N359A	40	9.5	6	
135	N360A	40	9.5	2	
136	N361A	40	9.5	4	
137	N359B	0	0	6	
138	N360B	0	0	2	
139	N369	0	0	4	
140	N382	0	9.5	6	
141	N383	0	9.5	2	
142	N384	0	9.5	4	
143	N430A	0	0	3.770833	
144	N435A	0	9.5	3.770833	
145	N436A	0	0	4.229167	
146	N441A	0	9.5	4.229167	
147	N147	0	9.5	6.114583	
148	N150	0	7.6	8	
149	N153	0	5.7	8	
150	N156	0	3.8	8	
151	N159	0	1.9	8	
152	N160	0	0	6.114583	
153	N161	0	9.5	1.885417	
154	N162	0	7.6	0	
155	N165	0	5.7	0	
156	N168	0	3.8	0	
157	N171	0	1.9	0	
158	N174	0	0	1.885417	
159	N175	40	7.6	8	
160	N176	40	7.6	6	
161	N177	40	7.6	4	
162	N178	40	7.6	2	
163	N179	40	7.6	0	
164	N180	40	5.7	8	
165	N181	40	5.7	6	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
166	N182	40	5.7	4	
167	N183	40	5.7	2	
168	N184	40	5.7	0	
169	N185	40	3.8	8	
170	N186	40	3.8	6	
171	N187	40	3.8	4	
172	N188	40	3.8	2	
173	N189	40	3.8	0	
174	N190	40	1.9	8	
175	N191	40	1.9	6	
176	N192	40	1.9	4	
177	N193	40	1.9	2	
178	N194	40	1.9	0	
179	N195	2	9.5	8	
180	N196	2	9.5	6	
181	N197	2	9.5	4	
182	N198	2	9.5	2	
183	N199	2	9.5	0	
184	N200	4	9.5	8	
185	N201	4	9.5	6	
186	N202	4	9.5	4	
187	N203	4	9.5	2	
188	N204	4	9.5	0	
189	N205	6	9.5	8	
190	N206	6	9.5	6	
191	N207	6	9.5	4	
192	N208	6	9.5	2	
193	N209	6	9.5	0	
194	N210	8	9.5	8	
195	N211	8	9.5	6	
196	N212	8	9.5	4	
197	N213	8	9.5	2	
198	N214	8	9.5	0	
199	N215	10	9.5	8	
200	N216	10	9.5	6	
201	N217	10	9.5	4	
202	N218	10	9.5	2	
203	N219	10	9.5	0	
204	N220	12	9.5	8	
205	N221	12	9.5	6	
206	N222	12	9.5	4	
207	N223	12	9.5	2	
208	N224	12	9.5	0	
209	N225	14	9.5	8	
210	N226	14	9.5	6	
211	N227	14	9.5	4	
212	N228	14	9.5	2	
213	N229	14	9.5	0	
214	N230	16	9.5	8	
215	N231	16	9.5	6	
216	N232	16	9.5	4	
217	N233	16	9.5	2	
218	N234	16	9.5	0	
219	N235	18	9.5	8	
220	N236	18	9.5	6	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
221	N237	18	9.5	4	
222	N238	18	9.5	2	
223	N239	18	9.5	0	
224	N240	20	9.5	8	
225	N241	20	9.5	6	
226	N242	20	9.5	4	
227	N243	20	9.5	2	
228	N244	20	9.5	0	
229	N245	22	9.5	8	
230	N246	22	9.5	6	
231	N247	22	9.5	4	
232	N248	22	9.5	2	
233	N249	22	9.5	0	
234	N250	24	9.5	8	
235	N251	24	9.5	6	
236	N252	24	9.5	4	
237	N253	24	9.5	2	
238	N254	24	9.5	0	
239	N255	26	9.5	8	
240	N256	26	9.5	6	
241	N257	26	9.5	4	
242	N258	26	9.5	2	
243	N259	26	9.5	0	
244	N260	28	9.5	8	
245	N261	28	9.5	6	
246	N262	28	9.5	4	
247	N263	28	9.5	2	
248	N264	28	9.5	0	
249	N265	30	9.5	8	
250	N266	30	9.5	6	
251	N267	30	9.5	4	
252	N268	30	9.5	2	
253	N269	30	9.5	0	
254	N270	32	9.5	8	
255	N271	32	9.5	6	
256	N272	32	9.5	4	
257	N273	32	9.5	2	
258	N274	32	9.5	0	
259	N275	34	9.5	8	
260	N276	34	9.5	6	
261	N277	34	9.5	4	
262	N278	34	9.5	2	
263	N279	34	9.5	0	
264	N280	36	9.5	8	
265	N281	36	9.5	6	
266	N282	36	9.5	4	
267	N283	36	9.5	2	
268	N284	36	9.5	0	
269	N285	38	9.5	8	
270	N286	38	9.5	6	
271	N287	38	9.5	4	
272	N288	38	9.5	2	
273	N289	38	9.5	0	
274	N290	2	7.6	8	
275	N291	4	7.6	8	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
276	N292	6	7.6	8	
277	N293	8	7.6	8	
278	N294	10	7.6	8	
279	N295	12	7.6	8	
280	N296	14	7.6	8	
281	N297	16	7.6	8	
282	N298	18	7.6	8	
283	N299	20	7.6	8	
284	N300	22	7.6	8	
285	N301	24	7.6	8	
286	N302	26	7.6	8	
287	N303	28	7.6	8	
288	N304	30	7.6	8	
289	N305	32	7.6	8	
290	N306	34	7.6	8	
291	N307	36	7.6	8	
292	N308	38	7.6	8	
293	N309	2	5.7	8	
294	N310	4	5.7	8	
295	N311	6	5.7	8	
296	N312	8	5.7	8	
297	N313	10	5.7	8	
298	N314	12	5.7	8	
299	N315	14	5.7	8	
300	N316	16	5.7	8	
301	N317	18	5.7	8	
302	N318	20	5.7	8	
303	N319	22	5.7	8	
304	N320	24	5.7	8	
305	N321	26	5.7	8	
306	N322	28	5.7	8	
307	N323	30	5.7	8	
308	N324	32	5.7	8	
309	N325	34	5.7	8	
310	N326	36	5.7	8	
311	N327	38	5.7	8	
312	N328	2	3.8	8	
313	N329	4	3.8	8	
314	N330	6	3.8	8	
315	N331	8	3.8	8	
316	N332	10	3.8	8	
317	N333	12	3.8	8	
318	N334	14	3.8	8	
319	N335	16	3.8	8	
320	N336	18	3.8	8	
321	N337	20	3.8	8	
322	N338	22	3.8	8	
323	N339	24	3.8	8	
324	N340	26	3.8	8	
325	N341	28	3.8	8	
326	N342	30	3.8	8	
327	N343	32	3.8	8	
328	N344	34	3.8	8	
329	N345	36	3.8	8	
330	N346	38	3.8	8	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
331	N347	2	1.9	8	
332	N348	4	1.9	8	
333	N349	6	1.9	8	
334	N350	8	1.9	8	
335	N351	10	1.9	8	
336	N352	12	1.9	8	
337	N353	14	1.9	8	
338	N354	16	1.9	8	
339	N355	18	1.9	8	
340	N356	20	1.9	8	
341	N357	22	1.9	8	
342	N358	24	1.9	8	
343	N359	26	1.9	8	
344	N360	28	1.9	8	
345	N361	30	1.9	8	
346	N362	32	1.9	8	
347	N363	34	1.9	8	
348	N364	36	1.9	8	
349	N365	38	1.9	8	
350	N366	38	7.6	0	
351	N367	36	7.6	0	
352	N368	34	7.6	0	
353	N369A	32	7.6	0	
354	N370	30	7.6	0	
355	N371	28	7.6	0	
356	N372	26	7.6	0	
357	N373	24	7.6	0	
358	N374	22	7.6	0	
359	N375	20	7.6	0	
360	N376	18	7.6	0	
361	N377	16	7.6	0	
362	N378	14	7.6	0	
363	N379	12	7.6	0	
364	N380	10	7.6	0	
365	N381	8	7.6	0	
366	N382A	6	7.6	0	
367	N383A	4	7.6	0	
368	N384A	2	7.6	0	
369	N385	38	5.7	0	
370	N386	36	5.7	0	
371	N387	34	5.7	0	
372	N388	32	5.7	0	
373	N389	30	5.7	0	
374	N390	28	5.7	0	
375	N391	26	5.7	0	
376	N392	24	5.7	0	
377	N393	22	5.7	0	
378	N394	20	5.7	0	
379	N395	18	5.7	0	
380	N396	16	5.7	0	
381	N397	14	5.7	0	
382	N398	12	5.7	0	
383	N399	10	5.7	0	
384	N400	8	5.7	0	
385	N401	6	5.7	0	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
386	N402	4	5.7	0	
387	N403	2	5.7	0	
388	N404	38	3.8	0	
389	N405	36	3.8	0	
390	N406	34	3.8	0	
391	N407	32	3.8	0	
392	N408	30	3.8	0	
393	N409	28	3.8	0	
394	N410	26	3.8	0	
395	N411	24	3.8	0	
396	N412	22	3.8	0	
397	N413	20	3.8	0	
398	N414	18	3.8	0	
399	N415	16	3.8	0	
400	N416	14	3.8	0	
401	N417	12	3.8	0	
402	N418	10	3.8	0	
403	N419	8	3.8	0	
404	N420	6	3.8	0	
405	N421	4	3.8	0	
406	N422	2	3.8	0	
407	N423	38	1.9	0	
408	N424	36	1.9	0	
409	N425	34	1.9	0	
410	N426	32	1.9	0	
411	N427	30	1.9	0	
412	N428	28	1.9	0	
413	N429	26	1.9	0	
414	N430	24	1.9	0	
415	N431	22	1.9	0	
416	N432	20	1.9	0	
417	N433	18	1.9	0	
418	N434	16	1.9	0	
419	N435	14	1.9	0	
420	N436	12	1.9	0	
421	N437	10	1.9	0	
422	N438	8	1.9	0	
423	N439	6	1.9	0	
424	N440	4	1.9	0	
425	N441	2	1.9	0	
426	N442	1	0	2	
427	N443	1	0	4	
428	N444	1	0	6	
429	N445	2	0	6	
430	N446	2	0	4	
431	N447	2	0	2	
432	N448	3	0	2	
433	N449	3	0	4	
434	N450	3	0	6	
435	N451	4	0	6	
436	N452	4	0	4	
437	N453	4	0	2	
438	N454	5	0	6	
439	N455	5	0	4	
440	N456	5	0	2	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
441	N457	6	0	6	
442	N458	6	0	4	
443	N459	6	0	2	
444	N460	7	0	6	
445	N461	7	0	4	
446	N462	7	0	2	
447	N463	8	0	6	
448	N464	8	0	4	
449	N465	8	0	2	
450	N466	9	0	6	
451	N467	9	0	4	
452	N468	9	0	2	
453	N469	10	0	6	
454	N470	10	0	4	
455	N471	10	0	2	
456	N472	11	0	6	
457	N473	11	0	4	
458	N474	11	0	2	
459	N475	12	0	6	
460	N476	12	0	4	
461	N477	12	0	2	
462	N478	13	0	6	
463	N479	13	0	4	
464	N480	13	0	2	
465	N481	14	0	6	
466	N482	14	0	4	
467	N483	14	0	2	
468	N484	15	0	6	
469	N485	15	0	4	
470	N486	15	0	2	
471	N487	16	0	6	
472	N488	16	0	4	
473	N489	16	0	2	
474	N490	17	0	6	
475	N491	17	0	4	
476	N492	17	0	2	
477	N493	18	0	6	
478	N494	18	0	4	
479	N495	18	0	2	
480	N496	19	0	6	
481	N497	19	0	4	
482	N498	19	0	2	
483	N499	20	0	6	
484	N500	20	0	4	
485	N501	20	0	2	
486	N502	21	0	6	
487	N503	21	0	4	
488	N504	21	0	2	
489	N505	22	0	6	
490	N506	22	0	4	
491	N507	22	0	2	
492	N508	23	0	6	
493	N509	23	0	4	
494	N510	23	0	2	
495	N511	24	0	6	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
496	N512	24	0	4	
497	N513	24	0	2	
498	N514	25	0	6	
499	N515	25	0	4	
500	N516	25	0	2	
501	N517	26	0	6	
502	N518	26	0	4	
503	N519	26	0	2	
504	N520	27	0	6	
505	N521	27	0	4	
506	N522	27	0	2	
507	N523	28	0	6	
508	N524	28	0	4	
509	N525	28	0	2	
510	N526	29	0	4	
511	N527	0	9.5	5.171875	
512	N532	0	9.5	7.057292	
513	N534	0	8.55	8	
514	N541	0	6.65	8	
515	N548	0	4.75	8	
516	N555	0	2.85	8	
517	N560	0	0	5.171875	
518	N562	0	0.95	8	
519	N563	0	0	7.057292	
520	N564	0	9.5	0.942708	
521	N565	0	8.55	0	
522	N569	0	9.5	2.828125	
523	N573	0	6.65	0	
524	N580	0	4.75	0	
525	N587	0	2.85	0	
526	N594	0	0.95	0	
527	N597	0	0	0.942708	
528	N600	0	0	2.828125	
529	N601	40	9.5	7	
530	N602	40	8.55	8	
531	N603	40	8.55	7	
532	N604	40	8.55	6	
533	N605	40	7.6	7	
534	N606	40	9.5	5	
535	N607	40	8.55	5	
536	N608	40	8.55	4	
537	N609	40	7.6	5	
538	N610	40	9.5	3	
539	N611	40	8.55	3	
540	N612	40	8.55	2	
541	N613	40	7.6	3	
542	N614	40	9.5	1	
543	N615	40	8.55	1	
544	N616	40	8.55	0	
545	N617	40	7.6	1	
546	N618	40	6.65	8	
547	N619	40	6.65	7	
548	N620	40	6.65	6	
549	N621	40	5.7	7	
550	N622	40	6.65	5	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
551	N623	40	6.65	4	
552	N624	40	5.7	5	
553	N625	40	6.65	3	
554	N626	40	6.65	2	
555	N627	40	5.7	3	
556	N628	40	6.65	1	
557	N629	40	6.65	0	
558	N630	40	5.7	1	
559	N631	40	4.75	8	
560	N632	40	4.75	7	
561	N633	40	4.75	6	
562	N634	40	3.8	7	
563	N635	40	4.75	5	
564	N636	40	4.75	4	
565	N637	40	3.8	5	
566	N638	40	4.75	3	
567	N639	40	4.75	2	
568	N640	40	3.8	3	
569	N641	40	4.75	1	
570	N642	40	4.75	0	
571	N643	40	3.8	1	
572	N644	40	2.85	8	
573	N645	40	2.85	7	
574	N646	40	2.85	6	
575	N647	40	1.9	7	
576	N648	40	2.85	5	
577	N649	40	2.85	4	
578	N650	40	1.9	5	
579	N651	40	2.85	3	
580	N652	40	2.85	2	
581	N653	40	1.9	3	
582	N654	40	2.85	1	
583	N655	40	2.85	0	
584	N656	40	1.9	1	
585	N657	40	0.95	8	
586	N658	40	0.95	7	
587	N659	40	0.95	6	
588	N660	40	0	7	
589	N661	40	0.95	5	
590	N662	40	0.95	4	
591	N663	40	0	5	
592	N664	40	0.95	3	
593	N665	40	0.95	2	
594	N666	40	0	3	
595	N667	40	0.95	1	
596	N668	40	0.95	0	
597	N669	40	0	1	
598	N670	0	9.5	7	
599	N671	1	9.5	8	
600	N672	1	9.5	7	
601	N673	1	9.5	6	
602	N674	2	9.5	7	
603	N675	0	9.5	5	
604	N676	1	9.5	5	
605	N677	1	9.5	4	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
606	N678	2	9.5	5	
607	N679	0	9.5	3	
608	N680	1	9.5	3	
609	N681	1	9.5	2	
610	N682	2	9.5	3	
611	N683	0	9.5	1	
612	N684	1	9.5	1	
613	N685	1	9.5	0	
614	N686	2	9.5	1	
615	N687	3	9.5	8	
616	N688	3	9.5	7	
617	N689	3	9.5	6	
618	N690	4	9.5	7	
619	N691	3	9.5	5	
620	N692	3	9.5	4	
621	N693	4	9.5	5	
622	N694	3	9.5	3	
623	N695	3	9.5	2	
624	N696	4	9.5	3	
625	N697	3	9.5	1	
626	N698	3	9.5	0	
627	N699	4	9.5	1	
628	N700	5	9.5	8	
629	N701	5	9.5	7	
630	N702	5	9.5	6	
631	N703	6	9.5	7	
632	N704	5	9.5	5	
633	N705	5	9.5	4	
634	N706	6	9.5	5	
635	N707	5	9.5	3	
636	N708	5	9.5	2	
637	N709	6	9.5	3	
638	N710	5	9.5	1	
639	N711	5	9.5	0	
640	N712	6	9.5	1	
641	N713	7	9.5	8	
642	N714	7	9.5	7	
643	N715	7	9.5	6	
644	N716	8	9.5	7	
645	N717	7	9.5	5	
646	N718	7	9.5	4	
647	N719	8	9.5	5	
648	N720	7	9.5	3	
649	N721	7	9.5	2	
650	N722	8	9.5	3	
651	N723	7	9.5	1	
652	N724	7	9.5	0	
653	N725	8	9.5	1	
654	N726	9	9.5	8	
655	N727	9	9.5	7	
656	N728	9	9.5	6	
657	N729	10	9.5	7	
658	N730	9	9.5	5	
659	N731	9	9.5	4	
660	N732	10	9.5	5	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
661	N733	9	9.5	3	
662	N734	9	9.5	2	
663	N735	10	9.5	3	
664	N736	9	9.5	1	
665	N737	9	9.5	0	
666	N738	10	9.5	1	
667	N739	11	9.5	8	
668	N740	11	9.5	7	
669	N741	11	9.5	6	
670	N742	12	9.5	7	
671	N743	11	9.5	5	
672	N744	11	9.5	4	
673	N745	12	9.5	5	
674	N746	11	9.5	3	
675	N747	11	9.5	2	
676	N748	12	9.5	3	
677	N749	11	9.5	1	
678	N750	11	9.5	0	
679	N751	12	9.5	1	
680	N752	13	9.5	8	
681	N753	13	9.5	7	
682	N754	13	9.5	6	
683	N755	14	9.5	7	
684	N756	13	9.5	5	
685	N757	13	9.5	4	
686	N758	14	9.5	5	
687	N759	13	9.5	3	
688	N760	13	9.5	2	
689	N761	14	9.5	3	
690	N762	13	9.5	1	
691	N763	13	9.5	0	
692	N764	14	9.5	1	
693	N765	15	9.5	8	
694	N766	15	9.5	7	
695	N767	15	9.5	6	
696	N768	16	9.5	7	
697	N769	15	9.5	5	
698	N770	15	9.5	4	
699	N771	16	9.5	5	
700	N772	15	9.5	3	
701	N773	15	9.5	2	
702	N774	16	9.5	3	
703	N775	15	9.5	1	
704	N776	15	9.5	0	
705	N777	16	9.5	1	
706	N778	17	9.5	8	
707	N779	17	9.5	7	
708	N780	17	9.5	6	
709	N781	18	9.5	7	
710	N782	17	9.5	5	
711	N783	17	9.5	4	
712	N784	18	9.5	5	
713	N785	17	9.5	3	
714	N786	17	9.5	2	
715	N787	18	9.5	3	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
716	N788	17	9.5	1	
717	N789	17	9.5	0	
718	N790	18	9.5	1	
719	N791	19	9.5	8	
720	N792	19	9.5	7	
721	N793	19	9.5	6	
722	N794	20	9.5	7	
723	N795	19	9.5	5	
724	N796	19	9.5	4	
725	N797	20	9.5	5	
726	N798	19	9.5	3	
727	N799	19	9.5	2	
728	N800	20	9.5	3	
729	N801	19	9.5	1	
730	N802	19	9.5	0	
731	N803	20	9.5	1	
732	N804	21	9.5	8	
733	N805	21	9.5	7	
734	N806	21	9.5	6	
735	N807	22	9.5	7	
736	N808	21	9.5	5	
737	N809	21	9.5	4	
738	N810	22	9.5	5	
739	N811	21	9.5	3	
740	N812	21	9.5	2	
741	N813	22	9.5	3	
742	N814	21	9.5	1	
743	N815	21	9.5	0	
744	N816	22	9.5	1	
745	N817	23	9.5	8	
746	N818	23	9.5	7	
747	N819	23	9.5	6	
748	N820	24	9.5	7	
749	N821	23	9.5	5	
750	N822	23	9.5	4	
751	N823	24	9.5	5	
752	N824	23	9.5	3	
753	N825	23	9.5	2	
754	N826	24	9.5	3	
755	N827	23	9.5	1	
756	N828	23	9.5	0	
757	N829	24	9.5	1	
758	N830	25	9.5	8	
759	N831	25	9.5	7	
760	N832	25	9.5	6	
761	N833	26	9.5	7	
762	N834	25	9.5	5	
763	N835	25	9.5	4	
764	N836	26	9.5	5	
765	N837	25	9.5	3	
766	N838	25	9.5	2	
767	N839	26	9.5	3	
768	N840	25	9.5	1	
769	N841	25	9.5	0	
770	N842	26	9.5	1	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
771	N843	27	9.5	8	
772	N844	27	9.5	7	
773	N845	27	9.5	6	
774	N846	28	9.5	7	
775	N847	27	9.5	5	
776	N848	27	9.5	4	
777	N849	28	9.5	5	
778	N850	27	9.5	3	
779	N851	27	9.5	2	
780	N852	28	9.5	3	
781	N853	27	9.5	1	
782	N854	27	9.5	0	
783	N855	28	9.5	1	
784	N856	29	9.5	8	
785	N857	29	9.5	7	
786	N858	29	9.5	6	
787	N859	30	9.5	7	
788	N860	29	9.5	5	
789	N861	29	9.5	4	
790	N862	30	9.5	5	
791	N863	29	9.5	3	
792	N864	29	9.5	2	
793	N865	30	9.5	3	
794	N866	29	9.5	1	
795	N867	29	9.5	0	
796	N868	30	9.5	1	
797	N869	31	9.5	8	
798	N870	31	9.5	7	
799	N871	31	9.5	6	
800	N872	32	9.5	7	
801	N873	31	9.5	5	
802	N874	31	9.5	4	
803	N875	32	9.5	5	
804	N876	31	9.5	3	
805	N877	31	9.5	2	
806	N878	32	9.5	3	
807	N879	31	9.5	1	
808	N880	31	9.5	0	
809	N881	32	9.5	1	
810	N882	33	9.5	8	
811	N883	33	9.5	7	
812	N884	33	9.5	6	
813	N885	34	9.5	7	
814	N886	33	9.5	5	
815	N887	33	9.5	4	
816	N888	34	9.5	5	
817	N889	33	9.5	3	
818	N890	33	9.5	2	
819	N891	34	9.5	3	
820	N892	33	9.5	1	
821	N893	33	9.5	0	
822	N894	34	9.5	1	
823	N895	35	9.5	8	
824	N896	35	9.5	7	
825	N897	35	9.5	6	

Company :PSEI
Designer :MRD
Job Number :AquaWorks 224-2002
Model Name:40ft Container

Checked By : NT

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
826	N898	36	9.5	7	
827	N899	35	9.5	5	
828	N900	35	9.5	4	
829	N901	36	9.5	5	
830	N902	35	9.5	3	
831	N903	35	9.5	2	
832	N904	36	9.5	3	
833	N905	35	9.5	1	
834	N906	35	9.5	0	
835	N907	36	9.5	1	
836	N908	37	9.5	8	
837	N909	37	9.5	7	
838	N910	37	9.5	6	
839	N911	38	9.5	7	
840	N912	37	9.5	5	
841	N913	37	9.5	4	
842	N914	38	9.5	5	
843	N915	37	9.5	3	
844	N916	37	9.5	2	
845	N917	38	9.5	3	
846	N918	37	9.5	1	
847	N919	37	9.5	0	
848	N920	38	9.5	1	
849	N921	39	9.5	8	
850	N922	39	9.5	7	
851	N923	39	9.5	6	
852	N924	39	9.5	5	
853	N925	39	9.5	4	
854	N926	39	9.5	3	
855	N927	39	9.5	2	
856	N928	39	9.5	1	
857	N929	39	9.5	0	
858	N930	1	8.55	8	
859	N931	2	8.55	8	
860	N932	1	7.6	8	
861	N933	3	8.55	8	
862	N934	4	8.55	8	
863	N935	3	7.6	8	
864	N936	5	8.55	8	
865	N937	6	8.55	8	
866	N938	5	7.6	8	
867	N939	7	8.55	8	
868	N940	8	8.55	8	
869	N941	7	7.6	8	
870	N942	9	8.55	8	
871	N943	10	8.55	8	
872	N944	9	7.6	8	
873	N945	11	8.55	8	
874	N946	12	8.55	8	
875	N947	11	7.6	8	
876	N948	13	8.55	8	
877	N949	14	8.55	8	
878	N950	13	7.6	8	
879	N951	15	8.55	8	
880	N952	16	8.55	8	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
881	N953	15	7.6	8	
882	N954	17	8.55	8	
883	N955	18	8.55	8	
884	N956	17	7.6	8	
885	N957	19	8.55	8	
886	N958	20	8.55	8	
887	N959	19	7.6	8	
888	N960	21	8.55	8	
889	N961	22	8.55	8	
890	N962	21	7.6	8	
891	N963	23	8.55	8	
892	N964	24	8.55	8	
893	N965	23	7.6	8	
894	N966	25	8.55	8	
895	N967	26	8.55	8	
896	N968	25	7.6	8	
897	N969	27	8.55	8	
898	N970	28	8.55	8	
899	N971	27	7.6	8	
900	N972	29	8.55	8	
901	N973	30	8.55	8	
902	N974	29	7.6	8	
903	N975	31	8.55	8	
904	N976	32	8.55	8	
905	N977	31	7.6	8	
906	N978	33	8.55	8	
907	N979	34	8.55	8	
908	N980	33	7.6	8	
909	N981	35	8.55	8	
910	N982	36	8.55	8	
911	N983	35	7.6	8	
912	N984	37	8.55	8	
913	N985	38	8.55	8	
914	N986	37	7.6	8	
915	N987	39	8.55	8	
916	N988	39	7.6	8	
917	N989	1	6.65	8	
918	N990	2	6.65	8	
919	N991	1	5.7	8	
920	N992	3	6.65	8	
921	N993	4	6.65	8	
922	N994	3	5.7	8	
923	N995	5	6.65	8	
924	N996	6	6.65	8	
925	N997	5	5.7	8	
926	N998	7	6.65	8	
927	N999	8	6.65	8	
928	N1000	7	5.7	8	
929	N1001	9	6.65	8	
930	N1002	10	6.65	8	
931	N1003	9	5.7	8	
932	N1004	11	6.65	8	
933	N1005	12	6.65	8	
934	N1006	11	5.7	8	
935	N1007	13	6.65	8	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
936	N1008	14	6.65	8	
937	N1009	13	5.7	8	
938	N1010	15	6.65	8	
939	N1011	16	6.65	8	
940	N1012	15	5.7	8	
941	N1013	17	6.65	8	
942	N1014	18	6.65	8	
943	N1015	17	5.7	8	
944	N1016	19	6.65	8	
945	N1017	20	6.65	8	
946	N1018	19	5.7	8	
947	N1019	21	6.65	8	
948	N1020	22	6.65	8	
949	N1021	21	5.7	8	
950	N1022	23	6.65	8	
951	N1023	24	6.65	8	
952	N1024	23	5.7	8	
953	N1025	25	6.65	8	
954	N1026	26	6.65	8	
955	N1027	25	5.7	8	
956	N1028	27	6.65	8	
957	N1029	28	6.65	8	
958	N1030	27	5.7	8	
959	N1031	29	6.65	8	
960	N1032	30	6.65	8	
961	N1033	29	5.7	8	
962	N1034	31	6.65	8	
963	N1035	32	6.65	8	
964	N1036	31	5.7	8	
965	N1037	33	6.65	8	
966	N1038	34	6.65	8	
967	N1039	33	5.7	8	
968	N1040	35	6.65	8	
969	N1041	36	6.65	8	
970	N1042	35	5.7	8	
971	N1043	37	6.65	8	
972	N1044	38	6.65	8	
973	N1045	37	5.7	8	
974	N1046	39	6.65	8	
975	N1047	39	5.7	8	
976	N1048	1	4.75	8	
977	N1049	2	4.75	8	
978	N1050	1	3.8	8	
979	N1051	3	4.75	8	
980	N1052	4	4.75	8	
981	N1053	3	3.8	8	
982	N1054	5	4.75	8	
983	N1055	6	4.75	8	
984	N1056	5	3.8	8	
985	N1057	7	4.75	8	
986	N1058	8	4.75	8	
987	N1059	7	3.8	8	
988	N1060	9	4.75	8	
989	N1061	10	4.75	8	
990	N1062	9	3.8	8	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
991	N1063	11	4.75	8	
992	N1064	12	4.75	8	
993	N1065	11	3.8	8	
994	N1066	13	4.75	8	
995	N1067	14	4.75	8	
996	N1068	13	3.8	8	
997	N1069	15	4.75	8	
998	N1070	16	4.75	8	
999	N1071	15	3.8	8	
1000	N1072	17	4.75	8	
1001	N1073	18	4.75	8	
1002	N1074	17	3.8	8	
1003	N1075	19	4.75	8	
1004	N1076	20	4.75	8	
1005	N1077	19	3.8	8	
1006	N1078	21	4.75	8	
1007	N1079	22	4.75	8	
1008	N1080	21	3.8	8	
1009	N1081	23	4.75	8	
1010	N1082	24	4.75	8	
1011	N1083	23	3.8	8	
1012	N1084	25	4.75	8	
1013	N1085	26	4.75	8	
1014	N1086	25	3.8	8	
1015	N1087	27	4.75	8	
1016	N1088	28	4.75	8	
1017	N1089	27	3.8	8	
1018	N1090	29	4.75	8	
1019	N1091	30	4.75	8	
1020	N1092	29	3.8	8	
1021	N1093	31	4.75	8	
1022	N1094	32	4.75	8	
1023	N1095	31	3.8	8	
1024	N1096	33	4.75	8	
1025	N1097	34	4.75	8	
1026	N1098	33	3.8	8	
1027	N1099	35	4.75	8	
1028	N1100	36	4.75	8	
1029	N1101	35	3.8	8	
1030	N1102	37	4.75	8	
1031	N1103	38	4.75	8	
1032	N1104	37	3.8	8	
1033	N1105	39	4.75	8	
1034	N1106	39	3.8	8	
1035	N1107	1	2.85	8	
1036	N1108	2	2.85	8	
1037	N1109	1	1.9	8	
1038	N1110	3	2.85	8	
1039	N1111	4	2.85	8	
1040	N1112	3	1.9	8	
1041	N1113	5	2.85	8	
1042	N1114	6	2.85	8	
1043	N1115	5	1.9	8	
1044	N1116	7	2.85	8	
1045	N1117	8	2.85	8	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1046	N1118	7	1.9	8	
1047	N1119	9	2.85	8	
1048	N1120	10	2.85	8	
1049	N1121	9	1.9	8	
1050	N1122	11	2.85	8	
1051	N1123	12	2.85	8	
1052	N1124	11	1.9	8	
1053	N1125	13	2.85	8	
1054	N1126	14	2.85	8	
1055	N1127	13	1.9	8	
1056	N1128	15	2.85	8	
1057	N1129	16	2.85	8	
1058	N1130	15	1.9	8	
1059	N1131	17	2.85	8	
1060	N1132	18	2.85	8	
1061	N1133	17	1.9	8	
1062	N1134	19	2.85	8	
1063	N1135	20	2.85	8	
1064	N1136	19	1.9	8	
1065	N1137	21	2.85	8	
1066	N1138	22	2.85	8	
1067	N1139	21	1.9	8	
1068	N1140	23	2.85	8	
1069	N1141	24	2.85	8	
1070	N1142	23	1.9	8	
1071	N1143	25	2.85	8	
1072	N1144	26	2.85	8	
1073	N1145	25	1.9	8	
1074	N1146	27	2.85	8	
1075	N1147	28	2.85	8	
1076	N1148	27	1.9	8	
1077	N1149	29	2.85	8	
1078	N1150	30	2.85	8	
1079	N1151	29	1.9	8	
1080	N1152	31	2.85	8	
1081	N1153	32	2.85	8	
1082	N1154	31	1.9	8	
1083	N1155	33	2.85	8	
1084	N1156	34	2.85	8	
1085	N1157	33	1.9	8	
1086	N1158	35	2.85	8	
1087	N1159	36	2.85	8	
1088	N1160	35	1.9	8	
1089	N1161	37	2.85	8	
1090	N1162	38	2.85	8	
1091	N1163	37	1.9	8	
1092	N1164	39	2.85	8	
1093	N1165	39	1.9	8	
1094	N1166	1	0.95	8	
1095	N1167	2	0.95	8	
1096	N1168	3	0.95	8	
1097	N1169	4	0.95	8	
1098	N1170	5	0.95	8	
1099	N1171	6	0.95	8	
1100	N1172	7	0.95	8	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1101	N1173	8	0.95	8	
1102	N1174	9	0.95	8	
1103	N1175	10	0.95	8	
1104	N1176	11	0.95	8	
1105	N1177	12	0.95	8	
1106	N1178	13	0.95	8	
1107	N1179	14	0.95	8	
1108	N1180	15	0.95	8	
1109	N1181	16	0.95	8	
1110	N1182	17	0.95	8	
1111	N1183	18	0.95	8	
1112	N1184	19	0.95	8	
1113	N1185	20	0.95	8	
1114	N1186	21	0.95	8	
1115	N1187	22	0.95	8	
1116	N1188	23	0.95	8	
1117	N1189	24	0.95	8	
1118	N1190	25	0.95	8	
1119	N1191	26	0.95	8	
1120	N1192	27	0.95	8	
1121	N1193	28	0.95	8	
1122	N1194	29	0.95	8	
1123	N1195	30	0.95	8	
1124	N1196	31	0.95	8	
1125	N1197	32	0.95	8	
1126	N1198	33	0.95	8	
1127	N1199	34	0.95	8	
1128	N1200	35	0.95	8	
1129	N1201	36	0.95	8	
1130	N1202	37	0.95	8	
1131	N1203	38	0.95	8	
1132	N1204	39	0.95	8	
1133	N1205	39	8.55	0	
1134	N1206	38	8.55	0	
1135	N1207	39	7.6	0	
1136	N1208	37	8.55	0	
1137	N1209	36	8.55	0	
1138	N1210	37	7.6	0	
1139	N1211	35	8.55	0	
1140	N1212	34	8.55	0	
1141	N1213	35	7.6	0	
1142	N1214	33	8.55	0	
1143	N1215	32	8.55	0	
1144	N1216	33	7.6	0	
1145	N1217	31	8.55	0	
1146	N1218	30	8.55	0	
1147	N1219	31	7.6	0	
1148	N1220	29	8.55	0	
1149	N1221	28	8.55	0	
1150	N1222	29	7.6	0	
1151	N1223	27	8.55	0	
1152	N1224	26	8.55	0	
1153	N1225	27	7.6	0	
1154	N1226	25	8.55	0	
1155	N1227	24	8.55	0	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1156	N1228	25	7.6	0	
1157	N1229	23	8.55	0	
1158	N1230	22	8.55	0	
1159	N1231	23	7.6	0	
1160	N1232	21	8.55	0	
1161	N1233	20	8.55	0	
1162	N1234	21	7.6	0	
1163	N1235	19	8.55	0	
1164	N1236	18	8.55	0	
1165	N1237	19	7.6	0	
1166	N1238	17	8.55	0	
1167	N1239	16	8.55	0	
1168	N1240	17	7.6	0	
1169	N1241	15	8.55	0	
1170	N1242	14	8.55	0	
1171	N1243	15	7.6	0	
1172	N1244	13	8.55	0	
1173	N1245	12	8.55	0	
1174	N1246	13	7.6	0	
1175	N1247	11	8.55	0	
1176	N1248	10	8.55	0	
1177	N1249	11	7.6	0	
1178	N1250	9	8.55	0	
1179	N1251	8	8.55	0	
1180	N1252	9	7.6	0	
1181	N1253	7	8.55	0	
1182	N1254	6	8.55	0	
1183	N1255	7	7.6	0	
1184	N1256	5	8.55	0	
1185	N1257	4	8.55	0	
1186	N1258	5	7.6	0	
1187	N1259	3	8.55	0	
1188	N1260	2	8.55	0	
1189	N1261	3	7.6	0	
1190	N1262	1	8.55	0	
1191	N1263	1	7.6	0	
1192	N1264	39	6.65	0	
1193	N1265	38	6.65	0	
1194	N1266	39	5.7	0	
1195	N1267	37	6.65	0	
1196	N1268	36	6.65	0	
1197	N1269	37	5.7	0	
1198	N1270	35	6.65	0	
1199	N1271	34	6.65	0	
1200	N1272	35	5.7	0	
1201	N1273	33	6.65	0	
1202	N1274	32	6.65	0	
1203	N1275	33	5.7	0	
1204	N1276	31	6.65	0	
1205	N1277	30	6.65	0	
1206	N1278	31	5.7	0	
1207	N1279	29	6.65	0	
1208	N1280	28	6.65	0	
1209	N1281	29	5.7	0	
1210	N1282	27	6.65	0	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1211	N1283	26	6.65	0	
1212	N1284	27	5.7	0	
1213	N1285	25	6.65	0	
1214	N1286	24	6.65	0	
1215	N1287	25	5.7	0	
1216	N1288	23	6.65	0	
1217	N1289	22	6.65	0	
1218	N1290	23	5.7	0	
1219	N1291	21	6.65	0	
1220	N1292	20	6.65	0	
1221	N1293	21	5.7	0	
1222	N1294	19	6.65	0	
1223	N1295	18	6.65	0	
1224	N1296	19	5.7	0	
1225	N1297	17	6.65	0	
1226	N1298	16	6.65	0	
1227	N1299	17	5.7	0	
1228	N1300	15	6.65	0	
1229	N1301	14	6.65	0	
1230	N1302	15	5.7	0	
1231	N1303	13	6.65	0	
1232	N1304	12	6.65	0	
1233	N1305	13	5.7	0	
1234	N1306	11	6.65	0	
1235	N1307	10	6.65	0	
1236	N1308	11	5.7	0	
1237	N1309	9	6.65	0	
1238	N1310	8	6.65	0	
1239	N1311	9	5.7	0	
1240	N1312	7	6.65	0	
1241	N1313	6	6.65	0	
1242	N1314	7	5.7	0	
1243	N1315	5	6.65	0	
1244	N1316	4	6.65	0	
1245	N1317	5	5.7	0	
1246	N1318	3	6.65	0	
1247	N1319	2	6.65	0	
1248	N1320	3	5.7	0	
1249	N1321	1	6.65	0	
1250	N1322	1	5.7	0	
1251	N1323	39	4.75	0	
1252	N1324	38	4.75	0	
1253	N1325	39	3.8	0	
1254	N1326	37	4.75	0	
1255	N1327	36	4.75	0	
1256	N1328	37	3.8	0	
1257	N1329	35	4.75	0	
1258	N1330	34	4.75	0	
1259	N1331	35	3.8	0	
1260	N1332	33	4.75	0	
1261	N1333	32	4.75	0	
1262	N1334	33	3.8	0	
1263	N1335	31	4.75	0	
1264	N1336	30	4.75	0	
1265	N1337	31	3.8	0	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1266	N1338	29	4.75	0	
1267	N1339	28	4.75	0	
1268	N1340	29	3.8	0	
1269	N1341	27	4.75	0	
1270	N1342	26	4.75	0	
1271	N1343	27	3.8	0	
1272	N1344	25	4.75	0	
1273	N1345	24	4.75	0	
1274	N1346	25	3.8	0	
1275	N1347	23	4.75	0	
1276	N1348	22	4.75	0	
1277	N1349	23	3.8	0	
1278	N1350	21	4.75	0	
1279	N1351	20	4.75	0	
1280	N1352	21	3.8	0	
1281	N1353	19	4.75	0	
1282	N1354	18	4.75	0	
1283	N1355	19	3.8	0	
1284	N1356	17	4.75	0	
1285	N1357	16	4.75	0	
1286	N1358	17	3.8	0	
1287	N1359	15	4.75	0	
1288	N1360	14	4.75	0	
1289	N1361	15	3.8	0	
1290	N1362	13	4.75	0	
1291	N1363	12	4.75	0	
1292	N1364	13	3.8	0	
1293	N1365	11	4.75	0	
1294	N1366	10	4.75	0	
1295	N1367	11	3.8	0	
1296	N1368	9	4.75	0	
1297	N1369	8	4.75	0	
1298	N1370	9	3.8	0	
1299	N1371	7	4.75	0	
1300	N1372	6	4.75	0	
1301	N1373	7	3.8	0	
1302	N1374	5	4.75	0	
1303	N1375	4	4.75	0	
1304	N1376	5	3.8	0	
1305	N1377	3	4.75	0	
1306	N1378	2	4.75	0	
1307	N1379	3	3.8	0	
1308	N1380	1	4.75	0	
1309	N1381	1	3.8	0	
1310	N1382	39	2.85	0	
1311	N1383	38	2.85	0	
1312	N1384	39	1.9	0	
1313	N1385	37	2.85	0	
1314	N1386	36	2.85	0	
1315	N1387	37	1.9	0	
1316	N1388	35	2.85	0	
1317	N1389	34	2.85	0	
1318	N1390	35	1.9	0	
1319	N1391	33	2.85	0	
1320	N1392	32	2.85	0	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1321	N1393	33	1.9	0	
1322	N1394	31	2.85	0	
1323	N1395	30	2.85	0	
1324	N1396	31	1.9	0	
1325	N1397	29	2.85	0	
1326	N1398	28	2.85	0	
1327	N1399	29	1.9	0	
1328	N1400	27	2.85	0	
1329	N1401	26	2.85	0	
1330	N1402	27	1.9	0	
1331	N1403	25	2.85	0	
1332	N1404	24	2.85	0	
1333	N1405	25	1.9	0	
1334	N1406	23	2.85	0	
1335	N1407	22	2.85	0	
1336	N1408	23	1.9	0	
1337	N1409	21	2.85	0	
1338	N1410	20	2.85	0	
1339	N1411	21	1.9	0	
1340	N1412	19	2.85	0	
1341	N1413	18	2.85	0	
1342	N1414	19	1.9	0	
1343	N1415	17	2.85	0	
1344	N1416	16	2.85	0	
1345	N1417	17	1.9	0	
1346	N1418	15	2.85	0	
1347	N1419	14	2.85	0	
1348	N1420	15	1.9	0	
1349	N1421	13	2.85	0	
1350	N1422	12	2.85	0	
1351	N1423	13	1.9	0	
1352	N1424	11	2.85	0	
1353	N1425	10	2.85	0	
1354	N1426	11	1.9	0	
1355	N1427	9	2.85	0	
1356	N1428	8	2.85	0	
1357	N1429	9	1.9	0	
1358	N1430	7	2.85	0	
1359	N1431	6	2.85	0	
1360	N1432	7	1.9	0	
1361	N1433	5	2.85	0	
1362	N1434	4	2.85	0	
1363	N1435	5	1.9	0	
1364	N1436	3	2.85	0	
1365	N1437	2	2.85	0	
1366	N1438	3	1.9	0	
1367	N1439	1	2.85	0	
1368	N1440	1	1.9	0	
1369	N1441	39	0.95	0	
1370	N1442	38	0.95	0	
1371	N1443	37	0.95	0	
1372	N1444	36	0.95	0	
1373	N1445	35	0.95	0	
1374	N1446	34	0.95	0	
1375	N1447	33	0.95	0	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1376	N1448	32	0.95	0	
1377	N1449	31	0.95	0	
1378	N1450	30	0.95	0	
1379	N1451	29	0.95	0	
1380	N1452	28	0.95	0	
1381	N1453	27	0.95	0	
1382	N1454	26	0.95	0	
1383	N1455	25	0.95	0	
1384	N1456	24	0.95	0	
1385	N1457	23	0.95	0	
1386	N1458	22	0.95	0	
1387	N1459	21	0.95	0	
1388	N1460	20	0.95	0	
1389	N1461	19	0.95	0	
1390	N1462	18	0.95	0	
1391	N1463	17	0.95	0	
1392	N1464	16	0.95	0	
1393	N1465	15	0.95	0	
1394	N1466	14	0.95	0	
1395	N1467	13	0.95	0	
1396	N1468	12	0.95	0	
1397	N1469	11	0.95	0	
1398	N1470	10	0.95	0	
1399	N1471	9	0.95	0	
1400	N1472	8	0.95	0	
1401	N1473	7	0.95	0	
1402	N1474	6	0.95	0	
1403	N1475	5	0.95	0	
1404	N1476	4	0.95	0	
1405	N1477	3	0.95	0	
1406	N1478	2	0.95	0	
1407	N1479	1	0.95	0	

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]
1	CN3	Reaction	Reaction	Reaction
2	CN1	Reaction	Reaction	Reaction
3	CN4	Reaction	Reaction	Reaction
4	CN2	Reaction	Reaction	Reaction
5	N40	Reaction	Reaction	Reaction
6	N39	Reaction	Reaction	Reaction
7	N56	Reaction	Reaction	Reaction
8	N55	Reaction	Reaction	Reaction

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e^{5}°F^{-1}]	Density [k/ft^{3}]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
3	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.C RND	29000	11154	0.3	0.65	0.527	46	1.4	62	1.3
5	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
6	A500 Gr.C Rect	29000	11154	0.3	0.65	0.527	50	1.4	62	1.3
7	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3

Company :PSEI
Designer :MRD
Job Number :AquaWorks 224-2002
Model Name:40ft Container

Checked By : NT

Hot Rolled Steel Properties (Continued)

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Ry	Fu [ksi]	Rt
8	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
9	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
10	Ship Cont. W FS	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
11	Corten A (A242)	29000	11154	0.3	0.65	0.49	50	1.4	70	1.3

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	New Vert Opening	HSS3X3X3	Column	None	A500 Gr.C Rect	Typical	1.89	2.46	2.46	4.03
2	New Horz Opening	HSS3X3X3	Beam	None	A500 Gr.C Rect	Typical	1.89	2.46	2.46	4.03
3	New Post	HSS3X3X3	Column	None	A500 Gr.C Rect	Typical	1.89	2.46	2.46	4.03
4	New Beam	HSS3X3X3	Beam	None	A500 Gr.C Rect	Typical	1.89	2.46	2.46	4.03
5	Rear Corner Post	Rear Corner Post	Column	None	Ship Cont. W FS	Typical	6.487	33.818	40.149	2.335
6	Door Corner Post	Front Door Post With Door	Column	None	Ship Cont. W FS	Typical	5.548	15.866	33.783	2.277
7	Top Rail	HSS2.25X2.25X2	Beam	None	Ship Cont. W FS	Typical	0.956	0.712	0.712	1.15
8	Rear Top Header	HSS2.25X2.25X2	Beam	None	Ship Cont. W FS	Typical	0.956	0.712	0.712	1.15
9	Rear Bottom Beam	HSS2.5X2.5X2	Beam	None	Ship Cont. W FS	Typical	1.07	0.998	0.998	1.61
10	Front Top Header	FrontDoor Top Header	Beam	None	Ship Cont. W FS	Typical	2.221	6.906	9.294	12.538
11	Bottom Side Rail	Bottom Side Rail	Beam	None	Ship Cont. W FS	Typical	1.37	0.253	6.222	0.012
12	Typical Floor Cross Beam	TYPCONTBOTCROSS	Beam	None	Ship Cont. W FS	Typical	1.283	0.353	4.241	0.011
13	Front Bottom Beam	HSS6X2X2	Beam	None	Ship Cont. W FS	Typical	1.77	1.31	7.42	3.72
14	Large Floor Cross Beam	Large Floor Cross Beam	Beam	None	Ship Cont. W FS	Typical	4.59	23.892	18.227	29.861
15	Large Floor Long Beam	Large Floor Long Beam	Beam	None	Ship Cont. W FS	Typical	4.753	19.224	22.476	32.804
16	U Floor Cross Beam	U Cross Beam	Beam	None	Ship Cont. W FS	Typical	1.721	2.802	0.248	0.804
17	Door Frame Beam	HSS3X3X3	Column	None	Ship Cont. W FS	Typical	1.89	2.46	2.46	4.03
18	Door Frame Column	HSS3X3X3	Column	None	Ship Cont. W FS	Typical	1.89	2.46	2.46	4.03
19	Floor Angle	L4X4X4	Beam	None	Ship Cont. W FS	Typical	1.93	3	3	0.044

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lb y-y [ft]	Lb z-z [ft]	Lcomp top [ft]	Lcomp bot [ft]	L-Torque [ft]	Channel Conn.	a [ft]	Function
1	M1	Front Bottom Beam	8	1		Lbyy			N/A	N/A	Lateral
2	M2	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
3	M3	Typical Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
4	M4	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
5	M5	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
6	M6	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
7	M7	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
8	M8	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
9	M9	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
10	M10	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
11	M11	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
12	M12	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
13	M13	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
14	M14	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
15	M15	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
16	M16	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
17	M17	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
18	M18	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
19	M19	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
20	M20	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
21	M21	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
22	M22	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
23	M23	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
24	M24	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral

Company :PSEI
Designer :MRD
Job Number :AquaWorks 224-2002
Model Name:40ft Container

Checked By : NT

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lb y-y [ft]	Lb z-z [ft]	Lcomp top [ft]	Lcomp bot [ft]	L-Torque [ft]	Channel Conn.	a [ft]	Function
25	M25	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
26	M26	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
27	M27	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
28	M28	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
29	M29	Typical Floor Cross Beam	8	1		Lbyy			N/A	N/A	Lateral
30	M30	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
31	M31	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
32	M32	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
33	M33	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
34	M34	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
35	M35	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
36	M36	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
37	M37	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
38	M38	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
39	M39	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
40	M40	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
41	M42	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
42	M43	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
43	M44	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
44	M45	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
45	M46	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
46	M47	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
47	M48	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
48	M49	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
49	M50	Rear Bottom Beam	8	1		Lbyy			N/A	N/A	Lateral
50	M51	Large Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
51	M52	Large Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
52	M53	Large Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
53	M54	Large Floor Long Beam	11	1		Lbyy			N/A	N/A	Lateral
54	M55	Large Floor Long Beam	11	1		Lbyy			N/A	N/A	Lateral
55	M56	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
56	M57	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
57	M58	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
58	M59	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
59	M60	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
60	M61	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
61	M62	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
62	M63	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
63	M64	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
64	M65	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
65	M66	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
66	M67	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
67	M68	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
68	M69	U Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral
69	M70	Bottom Side Rail	40	1	1	Lbyy	Lbyy	1	N/A	N/A	Lateral
70	M71	Bottom Side Rail	40	1	1	Lbyy	Lbyy	1	N/A	N/A	Lateral
71	M72	Rear Corner Post	9.5						N/A	N/A	Lateral
72	M73	Rear Corner Post	9.5						N/A	N/A	Lateral
73	M74	Door Frame Column	9.5						N/A	N/A	Lateral
74	M75	Door Frame Column	9.5						N/A	N/A	Lateral
75	M76	Rear Top Header	8	1	1	Lbyy	Lbyy	1	N/A	N/A	Lateral
76	M77	Door Frame Beam	8	1	1	Lbyy	Lbyy	1	N/A	N/A	Lateral
77	M78	Top Rail	40	1	1	Lbyy	Lbyy	1	N/A	N/A	Lateral
78	M79	Top Rail	40	1	1	Lbyy	Lbyy	1	N/A	N/A	Lateral
79	M82	New Vert Opening	1.9			Lbyy			N/A	N/A	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lb y-y [ft]	Lb z-z [ft]	Lcomp top [ft]	Lcomp bot [ft]	L-Torque [ft]	Channel Conn.	a [ft]	Function
80	M83	New Vert Opening	1.9			Lbyy			N/A	N/A	Lateral
81	M84	New Vert Opening	1.9			Lbyy			N/A	N/A	Lateral
82	M85	New Vert Opening	1.9			Lbyy			N/A	N/A	Lateral
83	M86	New Vert Opening	1.9			Lbyy			N/A	N/A	Lateral
84	M87	New Vert Opening	1.9			Lbyy			N/A	N/A	Lateral
85	M88	New Horz Opening	2			Lbyy			N/A	N/A	Lateral
86	M89	New Horz Opening	2			Lbyy			N/A	N/A	Lateral
87	M90	New Horz Opening	2			Lbyy			N/A	N/A	Lateral
88	M91	New Horz Opening	2			Lbyy			N/A	N/A	Lateral
89	M92	New Horz Opening	2			Lbyy			N/A	N/A	Lateral
90	M93	New Horz Opening	2			Lbyy			N/A	N/A	Lateral
91	M94	New Post	9.5			Lbyy			N/A	N/A	Lateral
92	M95	New Post	9.5			Lbyy			N/A	N/A	Lateral
93	M96	New Post	9.5			Lbyy			N/A	N/A	Lateral
94	M97	New Post	9.5			Lbyy			N/A	N/A	Lateral
95	M98	New Beam	7			Lbyy			N/A	N/A	Lateral
96	M99	New Beam	3			Lbyy			N/A	N/A	Lateral
97	M100	New Horz Opening	2			Lbyy			N/A	N/A	Lateral
98	M101	New Horz Opening	2			Lbyy			N/A	N/A	Lateral
99	M102	New Horz Opening	2			Lbyy			N/A	N/A	Lateral
100	M103	New Horz Opening	2			Lbyy			N/A	N/A	Lateral
101	M104	New Vert Opening	1.9			Lbyy			N/A	N/A	Lateral
102	M105	New Vert Opening	1.9			Lbyy			N/A	N/A	Lateral
103	M106	New Vert Opening	1.9			Lbyy			N/A	N/A	Lateral
104	M107	New Vert Opening	1.9			Lbyy			N/A	N/A	Lateral
105	M108	Floor Angle	2			2			N/A	N/A	Lateral
106	M109	Floor Angle	2			2			N/A	N/A	Lateral
107	M110	Typical Floor Cross Beam	2	1		Lbyy			N/A	N/A	Lateral
108	M111	Floor Angle	2			Lbyy			N/A	N/A	Lateral
109	M112	Floor Angle	2			Lbyy			N/A	N/A	Lateral
110	M113	Typical Floor Cross Beam	4	1		Lbyy			N/A	N/A	Lateral

Member Distributed Loads (BLC 1 : Dead Load)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M2	Y	-0.005	-0.005	0	%100
2	M4	Y	-0.005	-0.005	0	%100
3	M5	Y	-0.005	-0.005	0	%100
4	M6	Y	-0.005	-0.005	0	%100
5	M7	Y	-0.005	-0.005	0	%100
6	M8	Y	-0.005	-0.005	0	%100
7	M9	Y	-0.005	-0.005	0	%100
8	M10	Y	-0.005	-0.005	0	%100
9	M11	Y	-0.005	-0.005	0	%100
10	M12	Y	-0.005	-0.005	0	%100
11	M13	Y	-0.005	-0.005	0	%100
12	M14	Y	-0.005	-0.005	0	%100
13	M15	Y	-0.005	-0.005	0	%100
14	M16	Y	-0.005	-0.005	0	%100
15	M17	Y	-0.005	-0.005	0	%100
16	M18	Y	-0.005	-0.005	0	%100
17	M19	Y	-0.005	-0.005	0	%100
18	M20	Y	-0.005	-0.005	0	%100
19	M21	Y	-0.005	-0.005	0	%100
20	M22	Y	-0.005	-0.005	0	%100
21	M23	Y	-0.005	-0.005	0	%100

Member Distributed Loads (BLC 1 : Dead Load) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
22	M24	Y	-0.005	-0.005	0	%100
23	M25	Y	-0.005	-0.005	0	%100
24	M26	Y	-0.005	-0.005	0	%100
25	M28	Y	-0.005	-0.005	0	%100
26	M29	Y	-0.005	-0.005	0	%100
27	M30	Y	-0.005	-0.005	0	%100
28	M31	Y	-0.005	-0.005	0	%100
29	M32	Y	-0.005	-0.005	0	%100
30	M33	Y	-0.005	-0.005	0	%100
31	M34	Y	-0.005	-0.005	0	%100
32	M35	Y	-0.005	-0.005	0	%100
33	M36	Y	-0.005	-0.005	0	%100
34	M37	Y	-0.005	-0.005	0	%100
35	M38	Y	-0.005	-0.005	0	%100
36	M39	Y	-0.005	-0.005	0	%100
37	M40	Y	-0.005	-0.005	0	%100
38	M42	Y	-0.005	-0.005	0	%100
39	M43	Y	-0.005	-0.005	0	%100
40	M44	Y	-0.005	-0.005	0	%100
41	M45	Y	-0.005	-0.005	0	%100
42	M46	Y	-0.005	-0.005	0	%100
43	M47	Y	-0.005	-0.005	0	%100
44	M48	Y	-0.005	-0.005	0	%100
45	M49	Y	-0.005	-0.005	0	%100
46	M51	Y	-0.005	-0.005	0	%100
47	M52	Y	-0.005	-0.005	0	%100
48	M53	Y	-0.005	-0.005	0	%100
49	M56	Y	-0.004	-0.004	0	%100
50	M57	Y	-0.004	-0.004	0	%100
51	M58	Y	-0.004	-0.004	0	%100
52	M59	Y	-0.004	-0.004	0	%100
53	M60	Y	-0.004	-0.004	0	%100
54	M61	Y	-0.004	-0.004	0	%100
55	M62	Y	-0.004	-0.004	0	%100
56	M63	Y	-0.004	-0.004	0	%100
57	M64	Y	-0.004	-0.004	0	%100
58	M65	Y	-0.004	-0.004	0	%100
59	M66	Y	-0.004	-0.004	0	%100
60	M67	Y	-0.004	-0.004	0	%100
61	M68	Y	-0.004	-0.004	0	%100
62	M69	Y	-0.004	-0.004	0	%100
63	M79	Y	-0.06	-0.06	0	%100
64	M78	Y	-0.06	-0.06	0	%100
65	M3	Y	-0.005	-0.005	0	%100
66	M110	Y	-0.005	-0.005	0	%100
67	M27	Y	-0.005	-0.005	0	%100
68	M113	Y	-0.005	-0.005	0	%100

Member Distributed Loads (BLC 2 : Live)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M2	Y	-0.19	-0.19	0	%100
2	M4	Y	-0.19	-0.19	0	%100
3	M5	Y	-0.19	-0.19	0	%100
4	M6	Y	-0.19	-0.19	0	%100
5	M7	Y	-0.19	-0.19	0	%100

Member Distributed Loads (BLC 2 : Live) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
6	M8	Y	-0.19	-0.19	0	%100
7	M9	Y	-0.19	-0.19	0	%100
8	M10	Y	-0.19	-0.19	0	%100
9	M11	Y	-0.19	-0.19	0	%100
10	M12	Y	-0.19	-0.19	0	%100
11	M13	Y	-0.19	-0.19	0	%100
12	M14	Y	-0.19	-0.19	0	%100
13	M15	Y	-0.19	-0.19	0	%100
14	M16	Y	-0.19	-0.19	0	%100
15	M17	Y	-0.19	-0.19	0	%100
16	M18	Y	-0.19	-0.19	0	%100
17	M19	Y	-0.19	-0.19	0	%100
18	M20	Y	-0.19	-0.19	0	%100
19	M21	Y	-0.19	-0.19	0	%100
20	M22	Y	-0.19	-0.19	0	%100
21	M23	Y	-0.19	-0.19	0	%100
22	M24	Y	-0.19	-0.19	0	%100
23	M25	Y	-0.19	-0.19	0	%100
24	M26	Y	-0.19	-0.19	0	%100
25	M28	Y	-0.19	-0.19	0	%100
26	M29	Y	-0.19	-0.19	0	%100
27	M30	Y	-0.19	-0.19	0	%100
28	M31	Y	-0.19	-0.19	0	%100
29	M32	Y	-0.19	-0.19	0	%100
30	M33	Y	-0.19	-0.19	0	%100
31	M34	Y	-0.19	-0.19	0	%100
32	M35	Y	-0.19	-0.19	0	%100
33	M36	Y	-0.19	-0.19	0	%100
34	M37	Y	-0.19	-0.19	0	%100
35	M38	Y	-0.19	-0.19	0	%100
36	M39	Y	-0.19	-0.19	0	%100
37	M40	Y	-0.19	-0.19	0	%100
38	M42	Y	-0.19	-0.19	0	%100
39	M43	Y	-0.19	-0.19	0	%100
40	M44	Y	-0.19	-0.19	0	%100
41	M45	Y	-0.19	-0.19	0	%100
42	M46	Y	-0.19	-0.19	0	%100
43	M47	Y	-0.19	-0.19	0	%100
44	M48	Y	-0.19	-0.19	0	%100
45	M49	Y	-0.19	-0.19	0	%100
46	M51	Y	-0.19	-0.19	0	%100
47	M52	Y	-0.19	-0.19	0	%100
48	M53	Y	-0.19	-0.19	0	%100
49	M1	Y	-0.095	-0.095	0	%100
50	M50	Y	-0.095	-0.095	0	%100
51	M56	Y	-0.143	-0.143	0	%100
52	M57	Y	-0.143	-0.143	0	%100
53	M58	Y	-0.143	-0.143	0	%100
54	M59	Y	-0.143	-0.143	0	%100
55	M60	Y	-0.143	-0.143	0	%100
56	M61	Y	-0.143	-0.143	0	%100
57	M62	Y	-0.143	-0.143	0	%100
58	M63	Y	-0.143	-0.143	0	%100
59	M64	Y	-0.143	-0.143	0	%100
60	M65	Y	-0.143	-0.143	0	%100

Member Distributed Loads (BLC 2 : Live) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
61	M66	Y	-0.143	-0.143	0	%100
62	M67	Y	-0.143	-0.143	0	%100
63	M68	Y	-0.143	-0.143	0	%100
64	M69	Y	-0.143	-0.143	0	%100
65	M3	Y	-0.19	-0.19	0	%100
66	M110	Y	-0.19	-0.19	0	%100
67	M27	Y	-0.19	-0.19	0	%100
68	M113	Y	-0.19	-0.19	0	%100

Member Distributed Loads (BLC 3 : Snow)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M79	Y	-0.215	-0.215	0	%100
2	M78	Y	-0.215	-0.215	0	%100

Member Distributed Loads (BLC 4 : WL+Z)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M79	Y	0.049	0.049	0	%100
2	M78	Y	0.035	0.035	0	%100
3	M75	Z	-0.041	-0.041	0	%100
4	M72	Z	-0.041	-0.041	0	%100
5	M74	Z	-0.029	-0.029	0	%100
6	M73	Z	-0.029	-0.029	0	%100

Member Distributed Loads (BLC 5 : WL-Z)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M79	Y	-0.002	-0.002	0	%100
2	M78	Y	0.006	0.006	0	%100
3	M75	Z	-0.07	-0.07	0	%100
4	M72	Z	-0.07	-0.07	0	%100
5	M74	Z	-0.001	-0.001	0	%100
6	M73	Z	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 6 : WL+X)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M76	Y	0.474	0.474	0	%100
2	M77	Y	0.316	0.316	0	%100
3	M72	X	-0.041	-0.041	0	%100
4	M73	X	-0.041	-0.041	0	%100
5	M75	X	-0.049	-0.049	0	%100
6	M74	X	-0.049	-0.049	0	%100

Member Distributed Loads (BLC 7 : WL-X)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M76	Y	-0.011	-0.011	0	%100
2	M77	Y	0.169	0.169	0	%100
3	M72	X	-0.07	-0.07	0	%100
4	M73	X	-0.07	-0.07	0	%100
5	M75	X	-0.02	-0.02	0	%100
6	M74	X	-0.02	-0.02	0	%100

Member Distributed Loads (BLC 8 : ELX)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M76	X	0.183	0.183	0	%100
2	M77	X	0.183	0.183	0	%100

Member Distributed Loads (BLC 9 : ELZ)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M79	Z	0.037	0.037	0	%100
2	M78	Z	0.037	0.037	0	%100

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	CN3	max	3.456	38	7.941	38	0.206	22	0	40	0	40	0	40
2		min	-0.498	39	0.08	39	-0.04	37	0	1	0	1	0	1
3	CN1	max	1.568	37	6.499	37	0.147	16	0	40	0	40	0	40
4		min	-0.131	40	-0.005	10	-0.066	10	0	1	0	1	0	1
5	CN4	max	0.726	40	11.579	37	0.848	40	0	40	0	40	0	40
6		min	-3.74	37	-2.485	40	-1.501	37	0	1	0	1	0	1
7	CN2	max	1.299	39	11.801	38	1.289	38	0	40	0	40	0	40
8		min	-4.238	38	-2.741	39	-0.898	39	0	1	0	1	0	1
9	N40	max	1.176	40	10.93	38	0.032	4	0	40	0	40	0	40
10		min	-2.229	37	0.698	39	0.003	10	0	1	0	1	0	1
11	N39	max	2.276	37	17.952	37	0.006	16	0	40	0	40	0	40
12		min	-1.235	40	0.772	40	-0.003	5	0	1	0	1	0	1
13	N56	max	1.831	38	10.55	4	0.098	38	0	40	0	40	0	40
14		min	-1.44	39	0.832	18	-0.013	39	0	1	0	1	0	1
15	N55	max	2.061	37	4.942	4	0.076	38	0	40	0	40	0	40
16		min	-1.21	40	0.441	18	-0.008	39	0	1	0	1	0	1
17	Totals:	max	2.044	28	75.45	4	2.044	40						
18		min	-2.044	23	5.439	10	-2.044	35						

Envelope Member End Reactions

	Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1	M1	I	max	0.001	39	0.539	4	0.002	36	0.004	10	0.003	37	0.268	37
2			min	-0.042	3	-0.023	22	-0.002	39	-0.156	3	-0.002	10	-0.251	22
3		J	max	0.038	4	0.006	10	0.001	40	0.146	4	0	18	0.167	16
4			min	-0.002	39	-0.472	3	-0.003	7	-0.007	10	-0.006	9	-0.178	10
5	M2	I	max	0.053	4	0.255	4	0	10	0	22	0.01	4	-0.005	39
6			min	-0.001	22	0.003	39	-0.005	3	-0.002	3	0	10	-0.208	3
7		J	max	0.021	9	0.002	18	0.001	10	0.002	4	0.001	10	-0.002	18
8			min	0	40	-0.303	3	-0.003	3	0	10	-0.004	3	-0.239	3
9	M3	I	max	0.001	22	0.327	4	0	39	0	10	0.005	4	-0.007	18
10			min	-0.087	3	0.007	22	-0.004	3	-0.002	3	0	39	-0.257	3
11		J	max	0	22	-0.011	18	0.001	37	0	22	0.001	39	-0.004	22
12			min	-0.138	3	-0.406	3	-0.001	36	-0.004	3	-0.002	38	-0.185	3
13	M4	I	max	0.05	4	0.369	4	0	39	0	22	0.002	36	-0.012	40
14			min	-0.001	22	0.011	40	-0.002	38	-0.004	3	-0.001	2	-0.369	3
15		J	max	0.014	2	-0.009	40	0.002	4	0.001	4	0.001	25	-0.013	40
16			min	-0.002	7	-0.433	3	0	18	0	10	0	18	-0.427	3
17	M5	I	max	0	22	0.452	4	0	39	0.002	4	0.005	38	-0.013	22
18			min	-0.019	3	0.013	22	-0.004	38	0	22	0	39	-0.467	3
19		J	max	0	10	-0.011	10	0.001	4	0	22	0.001	2	-0.013	22
20			min	-0.008	3	-0.4	3	0	39	-0.001	3	0	24	-0.434	3

Envelope Member End Reactions (Continued)

	Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
21	M6	I	max	0.004	4	0.363	4	0.001	39	0	40	0.003	38	-0.012	10
22			min	0	27	0.01	10	-0.002	38	-0.001	3	-0.001	39	-0.393	3
23		J	max	0	39	-0.012	39	0	5	0	40	0	39	-0.013	10
24			min	-0.001	3	-0.4	3	0	3	0	3	-0.001	3	-0.416	3
25	M7	I	max	-0.001	40	0.411	4	0.001	39	0	2	0.003	38	-0.012	39
26			min	-0.005	3	0.013	18	-0.002	38	0	5	-0.001	39	-0.414	3
27		J	max	0	39	-0.011	40	0	10	0	2	0	39	-0.013	39
28			min	-0.004	3	-0.381	3	-0.001	3	0	19	-0.002	3	-0.4	3
29	M8	I	max	0	19	0.381	4	0.001	39	0	4	0.002	38	-0.012	40
30			min	-0.002	2	0.011	10	-0.001	38	0	39	-0.001	39	-0.395	3
31		J	max	0	39	-0.013	39	0	39	0.001	4	0	39	-0.013	39
32			min	-0.003	3	-0.41	3	-0.002	3	0	39	-0.003	3	-0.411	3
33	M9	I	max	0	28	0.393	4	0.001	39	0.001	4	0.002	36	-0.01	40
34			min	-0.001	21	0.011	40	-0.001	36	0	39	-0.001	39	-0.394	3
35		J	max	0.001	10	-0.006	40	0	39	0	39	0	39	-0.01	40
36			min	-0.004	3	-0.349	3	-0.004	3	-0.001	3	-0.005	3	-0.384	3
37	M10	I	max	-0.002	10	0.378	4	0.002	37	0	4	0.001	40	-0.01	40
38			min	-0.014	3	0.01	40	-0.001	40	0	10	-0.002	37	-0.384	3
39		J	max	-0.008	10	-0.016	39	0	18	0	4	0	18	0.15	4
40			min	-0.054	3	-0.484	3	-0.004	3	0	5	-0.005	3	0.014	39
41	M11	I	max	0	2	0.389	4	0.003	4	0	39	0	40	-0.009	40
42			min	-0.003	7	0.011	40	0	40	-0.001	3	-0.005	3	-0.391	3
43		J	max	-0.002	40	-0.006	40	0.001	35	0.002	4	0.002	35	-0.011	40
44			min	-0.009	9	-0.348	3	-0.002	2	0	39	-0.002	2	-0.38	3
45	M12	I	max	0.001	35	0.387	4	0.003	4	0	39	0	40	-0.012	40
46			min	0	40	0.011	10	0	40	0	3	-0.005	3	-0.398	3
47		J	max	0.005	4	-0.013	39	0	39	0	39	0	35	-0.012	39
48			min	0	40	-0.408	3	-0.002	38	0	3	-0.002	38	-0.41	3
49	M13	I	max	0	39	0.402	4	0.004	4	0	4	0	40	-0.012	39
50			min	-0.003	9	0.013	39	0	40	0	5	-0.005	3	-0.412	3
51		J	max	0.001	36	-0.011	40	0	35	0	4	0.001	35	-0.014	40
52			min	-0.002	2	-0.39	3	-0.002	38	0	10	-0.001	38	-0.407	3
53	M14	I	max	0	2	0.387	4	0.004	4	0	37	0	40	-0.012	40
54			min	-0.001	36	0.011	40	0	40	0	40	-0.005	3	-0.403	3
55		J	max	0.002	2	-0.012	39	0	39	0	39	0	35	-0.012	39
56			min	-0.002	35	-0.394	3	-0.002	9	0	3	-0.002	9	-0.407	3
57	M15	I	max	0.001	37	0.399	4	0.004	4	0	39	0	40	-0.012	39
58			min	-0.001	36	0.012	39	0	10	0	38	-0.005	3	-0.407	3
59		J	max	0.002	36	-0.011	40	0	18	0	4	0	23	-0.014	40
60			min	-0.001	2	-0.395	3	-0.002	9	0	40	-0.002	9	-0.407	3
61	M16	I	max	0.003	37	0.385	4	0.003	4	0	4	-0.001	27	-0.012	40
62			min	-0.001	36	0.011	40	0	39	0	40	-0.005	3	-0.401	3
63		J	max	0.006	2	-0.011	39	0	40	0	39	0.001	36	-0.011	39
64			min	-0.001	35	-0.386	3	-0.002	37	0	3	-0.001	9	-0.402	3
65	M17	I	max	-0.002	10	0.403	4	0.001	36	0	39	0	39	-0.012	18
66			min	-0.011	3	0.013	39	-0.001	39	0	3	-0.001	36	-0.412	3
67		J	max	0.007	4	-0.012	40	0.002	38	0	4	0.002	38	-0.014	40
68			min	0.001	10	-0.403	3	-0.001	39	0	10	0	39	-0.414	3
69	M18	I	max	0.001	38	0.384	4	0	40	0	4	0.003	4	-0.012	40
70			min	-0.001	35	0.011	40	-0.002	3	0	5	0	10	-0.4	3
71		J	max	0.007	2	-0.011	39	0.004	4	0	5	0.005	4	-0.011	39
72			min	-0.001	36	-0.384	3	0	28	0	2	0	18	-0.4	3
73	M19	I	max	0	40	0.401	4	0	10	0	39	0.002	38	-0.012	39
74			min	-0.001	37	0.012	39	-0.002	3	0	3	0	39	-0.409	3
75		J	max	0.002	35	-0.012	40	0.005	4	0	2	0.006	37	-0.014	40

Envelope Member End Reactions (Continued)

	Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
76			min	-0.002	2	-0.4	3	0	40	0	5	0	40	-0.41	3
77	M20	I	max	0	40	0.384	4	0	39	0	4	0.002	38	-0.012	40
78			min	-0.002	37	0.011	40	-0.002	38	0	39	0	39	-0.4	3
79		J	max	0.001	2	-0.012	39	0.005	37	0	39	0.006	37	-0.012	10
80			min	-0.002	5	-0.385	3	0	40	0	3	0	40	-0.402	3
81	M21	I	max	0	40	0.405	4	0	39	0	39	0.001	38	-0.012	39
82			min	-0.003	37	0.013	39	-0.001	38	0	3	0	39	-0.414	3
83		J	max	0.001	36	-0.012	18	0.004	37	0	4	0.005	37	-0.014	39
84			min	-0.004	2	-0.402	3	0	40	0	39	0	40	-0.415	3
85	M22	I	max	0	39	0.385	4	0	37	0	4	0	36	-0.012	40
86			min	-0.004	3	0.011	40	0	36	0	39	0	37	-0.397	3
87		J	max	0	40	-0.013	27	0.003	4	0	39	0.004	4	-0.012	40
88			min	-0.003	37	-0.39	3	0	18	0	3	0	40	-0.399	3
89	M23	I	max	0.003	4	0.39	4	0.001	37	0.001	4	0.001	36	-0.01	40
90			min	0	39	0.012	18	0	36	0	39	0	37	-0.391	3
91		J	max	-0.001	39	-0.009	40	0.002	25	0	39	0.002	2	-0.012	40
92			min	-0.006	3	-0.378	3	0	14	-0.001	3	0	11	-0.396	3
93	M24	I	max	0	39	0.374	4	0.003	38	0	38	0	39	-0.01	40
94			min	-0.023	3	0.009	40	0	39	0	39	-0.004	3	-0.381	3
95		J	max	-0.011	40	-0.016	39	0.002	38	0	39	0.002	38	0.143	4
96			min	-0.056	3	-0.433	3	-0.001	39	-0.001	3	-0.001	39	0.026	39
97	M25	I	max	0.005	39	0.397	4	0.001	26	0	40	0.001	40	-0.011	40
98			min	-0.036	38	0.012	40	0	27	-0.002	3	-0.001	37	-0.431	3
99		J	max	0.036	38	-0.011	40	0.001	36	0.004	4	0.001	25	-0.013	40
100			min	-0.005	39	-0.424	3	-0.001	39	0	39	0	28	-0.449	3
101	M26	I	max	0.017	2	0.472	4	0.002	39	0	36	0.014	38	-0.013	40
102			min	-0.008	36	0.014	40	-0.013	38	0	2	-0.002	39	-0.421	3
103		J	max	0.023	4	-0.008	40	0	39	0	39	0.001	39	-0.011	40
104			min	-0.002	40	-0.355	3	-0.001	38	-0.003	3	-0.002	36	-0.36	3
105	M27	I	max	0.002	40	0.12	4	0.003	39	0	40	0.007	38	-0.001	22
106			min	-0.043	3	0.004	39	-0.007	38	0	37	-0.003	39	-0.082	3
107		J	max	0.002	40	-0.008	40	0.003	39	0	40	0.003	39	0.076	4
108			min	-0.043	3	-0.278	3	-0.007	38	0	37	-0.007	38	0.003	40
109	M28	I	max	0.021	2	0.482	4	0.004	37	0	2	0.004	36	-0.013	40
110			min	-0.004	36	0.014	40	-0.004	36	0	5	-0.004	37	-0.427	3
111		J	max	0.02	2	-0.006	40	0.003	37	0.002	4	0.004	35	-0.01	40
112			min	-0.006	35	-0.339	3	-0.002	40	0	39	-0.003	40	-0.348	3
113	M29	I	max	0.004	40	0.373	4	0.002	39	0.001	2	0.005	38	-0.02	40
114			min	-0.006	37	0.013	40	-0.004	38	0	36	-0.003	39	-0.475	3
115		J	max	0.013	35	-0.016	39	0.005	37	0	36	0.007	37	-0.023	39
116			min	-0.011	40	-0.448	3	-0.003	40	-0.001	2	-0.004	40	-0.522	3
117	M30	I	max	0.001	39	0.289	4	0.002	35	0	39	0.002	38	-0.017	40
118			min	-0.011	38	0.012	40	-0.002	38	-0.006	3	-0.002	35	-0.301	3
119		J	max	0.001	39	0.001	35	0.002	35	0	39	0.002	35	-0.029	40
120			min	-0.011	38	-0.11	2	-0.002	38	-0.006	3	-0.001	40	-0.481	3
121	M31	I	max	0.006	40	0.289	4	0.004	35	0.007	4	0.004	40	-0.018	40
122			min	-0.013	37	0.011	40	-0.003	40	0	40	-0.004	35	-0.295	3
123		J	max	0.006	40	0.001	35	0.004	35	0.007	4	0.004	35	-0.029	40
124			min	-0.013	37	-0.11	2	-0.003	40	0	40	-0.003	40	-0.475	3
125	M32	I	max	0.004	36	0.321	4	0.002	37	0	39	0.001	40	-0.014	40
126			min	-0.002	39	0.012	40	-0.001	40	-0.005	3	-0.002	37	-0.246	3
127		J	max	0.004	36	0.002	35	0.002	37	0	39	0.002	37	-0.027	40
128			min	-0.002	39	-0.08	2	-0.001	40	-0.005	3	-0.001	40	-0.489	3
129	M33	I	max	0.006	35	0.322	4	0.003	39	0.005	4	0.003	38	-0.015	40
130			min	-0.004	40	0.012	40	-0.003	38	0	40	-0.003	39	-0.252	3

Envelope Member End Reactions (Continued)

	Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
131		J	max	0.006	35	0.002	35	0.003	39	0.005	4	0.003	39	-0.028	40
132			min	-0.004	40	-0.079	2	-0.003	38	0	40	-0.003	36	-0.498	3
133	M34	I	max	-0.001	39	0.329	4	0.003	37	0	39	0.001	40	-0.014	40
134			min	-0.005	38	0.013	40	-0.001	40	-0.001	3	-0.003	37	-0.27	3
135		J	max	-0.001	39	0.003	35	0.003	37	0	39	0.003	37	-0.028	40
136			min	-0.005	38	-0.073	2	-0.001	40	-0.001	3	-0.001	40	-0.529	3
137	M35	I	max	0.001	40	0.338	4	0.003	39	0.001	4	0.004	38	-0.015	39
138			min	-0.006	37	0.013	10	-0.004	38	0	40	-0.003	39	-0.284	3
139		J	max	0.001	40	0.004	11	0.003	39	0.001	4	0.003	39	-0.031	10
140			min	-0.006	37	-0.065	2	-0.004	38	0	40	-0.004	38	-0.561	3
141	M36	I	max	0.002	36	0.341	4	0.004	37	0	39	0.001	40	-0.016	28
142			min	-0.001	2	0.013	22	-0.001	40	-0.001	3	-0.004	37	-0.294	3
143		J	max	0.002	36	0.003	35	0.004	37	0	39	0.004	37	-0.03	10
144			min	-0.001	2	-0.06	2	-0.001	40	-0.001	3	-0.001	40	-0.577	3
145	M37	I	max	0.002	35	0.344	4	0.003	39	0.001	4	0.006	38	-0.019	39
146			min	-0.003	38	0.013	39	-0.006	38	0	40	-0.003	39	-0.351	3
147		J	max	0.002	35	0.003	36	0.003	39	0.001	4	0.003	39	-0.034	39
148			min	-0.003	38	-0.058	2	-0.006	38	0	40	-0.005	38	-0.641	3
149	M38	I	max	-0.001	2	0.347	4	0.005	37	0.002	4	0.002	40	-0.015	22
150			min	-0.004	37	0.014	39	-0.002	40	0	40	-0.005	37	-0.303	3
151		J	max	-0.001	2	0.004	19	0.005	37	0.002	4	0.005	37	-0.031	39
152			min	-0.004	37	-0.055	2	-0.002	40	0	40	-0.002	40	-0.599	3
153	M39	I	max	0.013	38	0.483	4	0.003	39	0	39	0.005	38	-0.012	39
154			min	-0.008	39	0.021	39	-0.006	38	-0.002	3	-0.003	39	-0.246	3
155		J	max	0.013	38	0.084	4	0.003	39	0	39	0.003	39	-0.042	39
156			min	-0.008	39	0.009	39	-0.006	38	-0.002	3	-0.006	38	-0.813	3
157	M40	I	max	0.002	35	0.34	4	0.005	37	0.001	4	0.001	40	-0.015	39
158			min	-0.001	2	0.013	39	-0.001	40	0	40	-0.005	37	-0.29	3
159		J	max	0.002	35	0.002	36	0.005	37	0.001	4	0.005	37	-0.029	39
160			min	-0.001	2	-0.061	2	-0.001	40	0	40	-0.002	40	-0.572	3
161	M42	I	max	0	40	0.319	4	0.006	37	0.008	4	0.002	40	-0.011	39
162			min	-0.004	37	0.012	39	-0.001	40	0	40	-0.006	37	-0.239	3
163		J	max	0	40	0.002	36	0.006	37	0.008	4	0.006	37	-0.024	39
164			min	-0.004	37	-0.082	2	-0.001	40	0	40	-0.001	40	-0.478	3
165	M43	I	max	0.006	39	0.444	4	0.002	39	0	39	0.006	38	-0.01	40
166			min	-0.016	38	0.019	40	-0.006	38	-0.008	3	-0.002	39	-0.196	3
167		J	max	0.006	39	0.046	4	0.002	39	0	39	0.002	39	-0.036	40
168			min	-0.016	38	0.007	40	-0.006	38	-0.008	3	-0.006	38	-0.686	3
169	M44	I	max	0.006	37	0.273	4	0.005	37	0.011	4	0.001	40	-0.007	39
170			min	-0.003	40	0.009	39	-0.001	40	0.001	40	-0.005	37	-0.136	3
171		J	max	0.006	37	-0.002	40	0.005	37	0.011	4	0.006	37	-0.014	39
172			min	-0.003	40	-0.125	3	-0.001	40	0.001	40	-0.001	40	-0.284	3
173	M45	I	max	0.01	38	0.278	4	0.002	39	-0.001	39	0.005	38	-0.01	40
174			min	-0.005	39	0.01	40	-0.005	38	-0.011	3	-0.002	39	-0.191	3
175		J	max	0.01	38	-0.001	39	0.002	39	-0.001	39	0.002	39	-0.018	40
176			min	-0.005	39	-0.12	3	-0.005	38	-0.011	3	-0.005	38	-0.349	3
177	M46	I	max	0.007	40	0.175	4	0.005	37	0.003	4	0.002	40	0.021	4
178			min	-0.008	35	0.005	40	-0.002	40	0	40	-0.006	37	0	40
179		J	max	0.007	40	-0.006	39	0.005	37	0.003	4	0.005	37	0.071	4
180			min	-0.008	35	-0.224	3	-0.002	40	0	40	-0.001	40	0.001	40
181	M47	I	max	0.008	39	0.184	4	0.002	39	0	39	0.005	38	0.007	2
182			min	-0.009	36	0.005	39	-0.005	38	-0.003	3	-0.002	39	-0.001	35
183		J	max	0.008	39	-0.005	40	0.002	39	0	39	0.002	39	0.038	4
184			min	-0.009	36	-0.215	3	-0.005	38	-0.003	3	-0.005	38	0	10
185	M48	I	max	0.005	39	0.172	4	0.003	26	0.014	4	0	27	0.495	4

Envelope Member End Reactions (Continued)

	Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
186			min	-0.005	36	-0.001	39	0	27	0.001	39	-0.003	26	0.015	39
187		J	max	0.005	39	-0.003	40	0.003	26	0.014	4	0.003	37	0.55	4
188			min	-0.005	36	-0.227	3	0	27	0.001	39	0	40	0.024	40
189	M49	I	max	0.013	38	0.175	4	0	27	-0.001	40	0.002	37	0.488	4
190			min	-0.008	39	0	40	-0.002	26	-0.014	3	0	40	0.015	40
191		J	max	0.013	38	-0.003	39	0	27	-0.001	40	0	27	0.537	4
192			min	-0.008	39	-0.224	3	-0.002	26	-0.014	3	-0.002	26	0.024	39
193	M50	I	max	0.738	37	0.341	4	0.001	36	0.268	4	0.005	37	0.142	4
194			min	-0.32	40	-0.011	40	-0.001	37	0.013	40	-0.003	40	-0.013	40
195		J	max	0.638	38	0.012	39	0.002	40	-0.012	39	0.005	40	0.138	4
196			min	-0.339	39	-0.335	3	-0.002	35	-0.265	3	-0.005	35	-0.014	39
197	M51	I	max	0.008	35	1.729	4	0.02	39	-0.071	39	0.012	38	-0.037	40
198			min	-0.007	40	0.102	40	-0.036	38	-1.776	3	-0.008	39	-0.634	3
199		J	max	0.008	35	1.308	4	0.02	39	-0.071	39	0.033	39	-0.217	40
200			min	-0.007	40	0.078	40	-0.036	38	-1.776	3	-0.059	38	-3.672	3
201	M52	I	max	0.146	4	0.404	4	0.026	38	0.044	4	0.037	39	-0.411	10
202			min	-0.001	10	0.022	39	-0.02	39	-0.003	40	-0.052	38	-7.505	3
203		J	max	0.15	4	-0.021	39	0.02	40	0.013	37	0.045	40	-0.41	40
204			min	0	10	-0.421	3	-0.022	35	-0.003	40	-0.049	35	-7.492	3
205	M53	I	max	0.007	40	-0.075	39	0.045	35	1.828	4	0.061	40	-0.212	39
206			min	-0.01	37	-1.239	3	-0.038	40	0.076	40	-0.071	35	-3.537	3
207		J	max	0.007	40	-0.1	39	0.045	35	1.828	4	0.019	37	-0.037	39
208			min	-0.01	37	-1.66	3	-0.038	40	0.076	40	-0.015	40	-0.638	3
209	M54	I	max	0.028	4	1.252	4	0.012	39	3.22	4	0.004	27	0.387	4
210			min	-0.004	40	0.057	39	-0.014	36	0.149	39	-0.014	26	0.008	40
211		J	max	0	28	-0.097	39	0.02	40	-0.131	40	0.002	23	1.548	4
212			min	-0.058	25	-2.38	3	-0.07	37	-2.769	3	-0.002	2	0.064	39
213	M55	I	max	0.028	4	1.236	4	0.007	40	-0.153	40	0.029	37	0.364	4
214			min	-0.003	39	0.057	18	-0.013	37	-3.215	3	-0.016	40	0.008	14
215		J	max	0.008	39	-0.091	40	0.068	38	2.675	4	0.002	37	1.524	4
216			min	-0.081	38	-2.349	3	-0.017	39	0.122	39	-0.002	36	0.06	40
217	M56	I	max	0.006	40	0.305	4	0.002	38	0.001	37	0.004	39	0.078	4
218			min	-0.008	35	0.012	40	-0.002	39	0	40	-0.005	38	0.001	40
219		J	max	0.006	40	-0.012	39	0.002	38	0.001	37	0.004	36	0.08	4
220			min	-0.008	35	-0.306	3	-0.002	39	0	40	-0.004	39	0.001	39
221	M57	I	max	0.002	40	0.305	4	0.002	38	0.001	37	0.003	39	0.063	4
222			min	-0.012	37	0.012	40	-0.001	39	0	40	-0.004	38	0	40
223		J	max	0.002	40	-0.012	39	0.002	38	0.001	37	0.003	38	0.065	4
224			min	-0.012	37	-0.306	3	-0.001	39	0	40	-0.003	39	0	39
225	M58	I	max	0	40	0.304	4	0.001	38	0.001	37	0.002	39	0.051	2
226			min	-0.007	3	0.012	40	-0.001	39	0	40	-0.003	38	-0.001	36
227		J	max	0	40	-0.012	39	0.001	38	0.001	37	0.003	38	0.054	2
228			min	-0.007	3	-0.306	3	-0.001	39	0	40	-0.002	39	0	15
229	M59	I	max	-0.001	40	0.304	4	0.001	38	0.001	37	0.002	39	0.042	2
230			min	-0.006	37	0.012	40	-0.001	39	0	40	-0.002	38	-0.001	36
231		J	max	-0.001	40	-0.012	39	0.001	38	0.001	37	0.002	38	0.046	2
232			min	-0.006	37	-0.306	3	-0.001	39	0	40	-0.002	39	-0.001	15
233	M60	I	max	0	40	0.304	4	0.001	36	0.001	37	0.001	39	0.037	2
234			min	-0.003	37	0.011	40	-0.001	39	0	40	-0.002	36	-0.001	36
235		J	max	0	40	-0.012	18	0.001	36	0.001	37	0.002	36	0.043	2
236			min	-0.003	37	-0.307	3	-0.001	39	0	40	-0.001	39	-0.001	15
237	M61	I	max	0.003	40	0.303	4	0	36	0	37	0.001	39	0.036	2
238			min	-0.003	35	0.011	40	0	39	0	40	-0.001	36	-0.001	36
239		J	max	0.003	40	-0.012	39	0	36	0	37	0.001	36	0.045	2
240			min	-0.003	35	-0.307	3	0	39	0	40	-0.001	39	-0.001	15

Envelope Member End Reactions (Continued)

	Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
241	M62	I	max	0.004	38	0.302	4	0	18	0	37	0.001	25	0.038	2
242			min	-0.004	39	0.011	40	0	25	0	40	0	18	-0.001	36
243		J	max	0.004	38	-0.012	39	0	18	0	37	0	39	0.051	2
244			min	-0.004	39	-0.309	3	0	25	0	40	-0.001	38	0	15
245	M63	I	max	0	40	0.3	4	0	39	0.001	37	0.002	38	0.042	2
246			min	-0.002	37	0.011	40	-0.001	38	0	40	-0.001	39	-0.001	36
247		J	max	0	40	-0.012	39	0	39	0.001	37	0.001	39	0.062	4
248			min	-0.002	37	-0.31	3	-0.001	38	0	40	-0.002	38	0	18
249	M64	I	max	0.002	39	0.302	4	0.001	39	0.001	37	0.002	38	0.056	4
250			min	-0.007	38	0.011	40	-0.001	38	0	40	-0.001	39	0	40
251		J	max	0.002	39	-0.012	39	0.001	39	0.001	37	0.001	39	0.07	4
252			min	-0.007	38	-0.309	3	-0.001	38	0	40	-0.002	38	0.001	27
253	M65	I	max	0.001	39	0.303	4	0.001	39	0.001	37	0.002	38	0.073	4
254			min	-0.003	38	0.011	40	-0.001	38	0	40	-0.001	39	0.001	40
255		J	max	0.001	39	-0.012	39	0.001	39	0.001	37	0.001	39	0.082	4
256			min	-0.003	38	-0.307	3	-0.001	38	0	40	-0.002	38	0.001	27
257	M66	I	max	0.007	4	0.304	4	0.001	35	0.001	37	0.002	36	0.093	4
258			min	0	28	0.011	40	-0.001	36	0	40	-0.002	39	0.002	40
259		J	max	0.007	4	-0.012	39	0.001	35	0.001	37	0.002	35	0.098	4
260			min	0	28	-0.307	3	-0.001	36	0	40	-0.002	40	0.002	27
261	M67	I	max	0.011	4	0.304	4	0.002	35	0.001	37	0.003	40	0.114	4
262			min	0	39	0.012	40	-0.002	40	0	40	-0.003	35	0.003	40
263		J	max	0.011	4	-0.012	39	0.002	35	0.001	37	0.003	35	0.117	4
264			min	0	39	-0.306	3	-0.002	40	0	40	-0.003	40	0.003	27
265	M68	I	max	0.007	38	0.305	4	0.002	35	0.001	37	0.005	40	0.135	4
266			min	-0.001	39	0.012	39	-0.002	40	0	40	-0.005	35	0.004	27
267		J	max	0.007	38	-0.012	40	0.002	35	0.001	37	0.005	39	0.137	4
268			min	-0.001	39	-0.306	3	-0.002	40	0	40	-0.005	36	0.004	40
269	M69	I	max	0.002	10	0.305	4	0.003	35	0.001	37	0.006	40	0.153	4
270			min	-0.071	3	0.012	39	-0.003	40	0	40	-0.007	35	0.005	39
271		J	max	0.002	10	-0.012	40	0.003	35	0.001	37	0.007	39	0.153	4
272			min	-0.071	3	-0.305	3	-0.003	40	0	40	-0.007	36	0.005	40
273	M70	I	max	1.226	38	0.171	38	0.001	19	0.001	4	0	10	0.056	38
274			min	-0.277	39	-0.006	39	-0.001	2	0	22	-0.004	3	-0.013	39
275		J	max	1.441	37	0.059	40	0.001	39	0	40	0	27	0.214	37
276			min	-0.304	40	-0.181	37	-0.001	36	-0.002	3	-0.001	24	-0.052	40
277	M71	I	max	0.617	37	0	2	0	10	0	10	0.003	4	0.073	2
278			min	-0.082	40	-0.068	37	-0.003	3	-0.002	3	-0.001	10	-0.024	5
279		J	max	1.677	38	0.2	38	0.001	40	0.002	4	0.001	38	0.073	39
280			min	-0.576	39	-0.077	39	-0.002	35	0	39	-0.001	39	-0.235	38
281	M72	I	max	8.404	37	0.499	37	0.552	4	0	40	0.015	39	0.488	37
282			min	-1.675	40	-0.067	40	-0.045	39	-0.004	37	-0.722	3	-0.044	40
283		J	max	0.256	37	0.04	11	-0.002	2	0.006	36	0.003	2	-0.008	2
284			min	-0.128	7	-0.012	2	-0.185	19	-0.002	2	-0.244	35	-0.069	37
285	M73	I	max	8.545	38	0.547	38	0.041	40	0.001	40	0.728	4	0.507	38
286			min	-1.792	39	-0.126	39	-0.573	3	-0.003	37	-0.014	40	-0.067	39
287		J	max	0.314	38	0.041	11	0.075	38	0.001	40	0.1	36	-0.009	2
288			min	-0.114	39	-0.006	2	-0.002	2	-0.004	37	-0.011	2	-0.07	38
289	M74	I	max	4.115	37	0.054	15	0.111	37	0.008	16	-0.002	40	0.298	16
290			min	-0.059	10	-0.035	10	-0.001	40	-0.005	10	-0.109	37	-0.159	10
291		J	max	0.098	40	0.031	4	0.031	36	0.006	10	0.032	5	0.491	10
292			min	-0.583	9	-0.042	10	-0.027	2	-0.01	3	-0.012	2	-0.127	36
293	M75	I	max	4.599	38	0.109	22	0.268	38	0.004	36	0.006	39	0.217	22
294			min	0.074	39	-0.037	37	-0.014	39	-0.003	2	-0.226	38	-0.435	3
295		J	max	0.166	21	0.037	10	0.047	5	-0.001	2	0.048	9	0.371	21

Envelope Member End Reactions (Continued)

	Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
296			min	-0.484	10	-0.118	19	0.002	2	-0.007	37	0.003	2	-0.453	10
297	M76	I	max	0.072	24	0.001	2	0.062	28	0.037	37	0.011	23	0.001	2
298			min	-0.016	2	-0.15	7	-0.064	23	0.001	2	-0.007	28	-0.034	7
299		J	max	0.027	24	0.147	7	0.063	23	0.001	2	0.009	23	0.002	40
300			min	-0.026	2	-0.003	14	-0.062	28	-0.035	36	-0.008	28	-0.029	7
301	M77	I	max	0.13	19	0.037	19	0.065	24	0.001	2	0.003	27	0.131	21
302			min	-0.064	10	-0.404	10	-0.057	27	-0.039	7	-0.012	26	-0.518	7
303		J	max	0.075	37	0.403	10	0.059	23	0.037	7	0.01	25	0.141	38
304			min	-0.062	10	-0.048	36	-0.059	28	0.001	2	-0.007	7	-0.473	10
305	M78	I	max	0.028	40	0.131	5	0.015	36	0.036	4	0.003	35	0.01	5
306			min	-0.184	37	-0.004	2	-0.012	39	-0.12	10	-0.002	40	-0.01	3
307		J	max	0.047	37	-0.003	2	0.014	39	0.108	35	0.004	39	0.027	5
308			min	-0.01	40	-0.143	5	-0.015	36	-0.013	2	-0.005	38	0.002	18
309	M79	I	max	0.048	9	0.133	5	0.013	36	0.281	7	0.002	26	0.014	5
310			min	-0.014	28	0.001	18	-0.012	39	-0.001	2	-0.003	23	-0.004	15
311		J	max	0.027	36	-0.002	2	0.014	39	0.005	2	0.004	37	0.026	5
312			min	-0.026	39	-0.142	5	-0.014	36	-0.271	5	-0.004	36	0.001	18
313	M82	I	max	0.2	5	0.043	25	0	2	0	2	0	2	0.022	37
314			min	-0.221	2	0	28	-0.002	3	-0.002	38	-0.006	5	-0.006	40
315		J	max	0.215	5	0.014	39	0	2	0	2	0	2	0.022	38
316			min	-0.187	2	-0.049	38	-0.001	20	-0.002	9	-0.009	3	-0.011	39
317	M83	I	max	0.179	5	0.017	39	0	5	0	2	0	2	0.013	39
318			min	-0.262	2	-0.034	38	-0.002	3	-0.002	9	-0.009	5	-0.014	36
319		J	max	0.235	5	0.054	25	0.002	5	0	2	0	2	0.004	40
320			min	-0.134	2	0.001	18	0	22	-0.004	3	-0.009	3	-0.034	37
321	M84	I	max	0.224	5	0.007	39	0	5	0.001	37	0	2	0.012	39
322			min	-0.141	2	-0.029	3	-0.002	3	0	2	-0.01	5	-0.037	38
323		J	max	0.329	38	0.021	39	0.003	5	0.003	4	0	2	0.064	38
324			min	0.027	39	-0.081	38	0	2	0	2	-0.01	3	-0.016	39
325	M85	I	max	0.352	38	0.021	39	0.001	5	0.002	37	0	2	0.016	39
326			min	-0.045	39	-0.088	38	-0.002	35	0	2	-0.009	5	-0.065	38
327		J	max	0.224	5	0.013	35	0.001	5	0.001	5	0	2	0.031	38
328			min	-0.15	2	-0.015	2	-0.001	16	0	2	-0.01	3	-0.015	39
329	M86	I	max	0.509	37	0.097	37	0.001	5	0.005	5	0.001	2	0.081	37
330			min	-0.074	40	-0.006	40	-0.001	2	-0.002	2	-0.005	5	-0.011	40
331		J	max	0.208	5	0.046	37	0	5	0.006	5	0	2	0.019	40
332			min	-0.147	2	-0.026	40	0	22	-0.001	2	-0.004	3	-0.055	37
333	M87	I	max	0.139	5	0.055	37	0	2	0.003	5	0.001	5	0.059	37
334			min	-0.192	2	-0.013	40	-0.001	35	-0.001	2	-0.001	2	-0.012	40
335		J	max	0.403	37	0.092	37	0	2	0.006	5	0	2	0.011	40
336			min	-0.018	40	-0.011	40	-0.004	19	-0.002	2	-0.004	35	-0.081	37
337	M88	I	max	0.425	38	0.044	38	0	2	0.001	4	0	2	0.022	38
338			min	-0.111	39	-0.007	39	-0.004	35	0	2	-0.001	5	-0.011	39
339		J	max	0.42	38	-0.003	40	0.007	9	0.006	9	0.004	4	0.034	37
340			min	-0.013	39	-0.054	37	0	2	0	2	0	2	-0.004	40
341	M89	I	max	0.44	4	0.007	2	0	2	0.001	9	0.002	4	0.006	40
342			min	0.011	39	-0.02	5	-0.002	5	0	2	0	2	-0.022	37
343		J	max	0.427	38	0.014	40	0.001	5	0.003	38	0	16	0.013	39
344			min	-0.086	39	-0.023	3	0	2	0	2	-0.001	5	-0.014	36
345	M90	I	max	0.006	40	0.034	4	0	2	0	2	0.001	36	0.037	38
346			min	-0.033	37	-0.01	39	-0.002	5	-0.003	37	-0.001	5	-0.012	39
347		J	max	0.42	38	0.074	38	0.002	5	0.001	38	0.002	16	0.016	39
348			min	-0.118	39	-0.018	39	0	2	0	35	0	2	-0.065	38
349	M91	I	max	0.424	38	0.085	38	0	2	0	2	0.003	4	0.064	38
350			min	-0.171	39	-0.012	39	-0.006	37	-0.005	5	0	2	-0.016	39

Envelope Member End Reactions (Continued)

	Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
351		J	max	0.046	38	0.023	2	0.004	5	0	5	0	36	0.015	39
352			min	-0.039	35	-0.021	5	0	2	-0.001	3	-0.001	5	-0.031	38
353	M92	I	max	0.153	40	0.026	36	0.001	2	0.002	2	0.005	5	0.019	40
354			min	-0.202	37	-0.038	2	-0.006	5	-0.008	5	-0.001	2	-0.055	37
355		J	max	0.351	4	0.005	40	0.001	4	0.002	2	0.001	2	0.081	37
356			min	0.011	40	-0.1	37	0	27	-0.005	5	-0.004	5	-0.011	40
357	M93	I	max	0.392	4	0.015	40	0	37	0.001	2	0.001	2	0.011	40
358			min	0.001	40	-0.091	37	0	2	-0.004	5	-0.001	5	-0.081	37
359		J	max	0.082	40	0.009	40	0.002	36	0.002	2	0.002	5	0.059	37
360			min	-0.175	37	-0.049	3	-0.001	2	-0.004	5	-0.001	2	-0.012	40
361	M94	I	max	-0.116	10	-0.021	40	0.05	4	0.001	2	-0.003	10	-0.019	40
362			min	-3.922	3	-1.125	3	-0.006	10	-0.01	7	-0.623	3	-1.016	3
363		J	max	0.674	37	0	10	0.028	4	0.029	7	0.096	16	0.016	26
364			min	-0.041	40	-0.028	37	-0.004	10	-0.004	2	-0.067	10	0	10
365	M95	I	max	-0.1	39	1.051	4	0.056	4	0	2	-0.028	39	0.929	4
366			min	-3.719	3	0.009	39	0.009	10	-0.008	7	-0.631	3	0.008	39
367		J	max	0.111	40	0.009	5	0.03	4	0.025	7	0.212	36	0.003	2
368			min	-0.377	3	-0.01	2	0.005	39	-0.006	2	-0.013	2	-0.01	5
369	M96	I	max	1.568	38	0.31	38	0.04	4	0.004	36	-0.041	39	0.288	38
370			min	0.082	39	-0.057	39	0.01	39	-0.005	2	-0.598	3	-0.044	39
371		J	max	0.895	37	0.018	40	0.028	4	0.004	2	0.185	5	0.064	37
372			min	-0.125	40	-0.09	37	0.004	39	-0.007	35	-0.012	2	-0.013	40
373	M97	I	max	0.899	37	0.035	40	0.043	4	0.002	40	-0.036	39	0.022	40
374			min	0.08	40	-0.505	37	0.009	39	-0.004	37	-0.595	3	-0.446	37
375		J	max	0.18	40	0.02	40	0.028	4	0.003	2	0.173	5	0.057	37
376			min	-0.775	37	-0.076	37	0.004	39	-0.004	35	-0.008	2	-0.015	40
377	M98	I	max	2.038	37	0.228	37	0.004	9	0.004	2	0.001	2	0.193	37
378			min	-0.207	40	-0.014	40	0	2	-0.021	7	-0.027	7	-0.015	40
379		J	max	0.39	40	0.101	4	0.003	7	0.004	2	0.027	7	0.033	40
380			min	-1.497	37	-0.04	40	0	2	-0.022	7	-0.003	2	-0.101	37
381	M99	I	max	2.39	37	0.358	37	0.002	2	0.004	35	0.002	36	0.297	37
382			min	-0.432	40	-0.059	40	-0.001	36	-0.004	2	-0.005	2	-0.053	40
383		J	max	0.32	40	0.285	37	0.002	2	0.004	35	0.004	2	0.054	40
384			min	-1.351	37	-0.066	40	-0.001	36	-0.004	2	-0.005	36	-0.25	37
385	M100	I	max	0.151	37	0.051	37	0.008	5	0.008	5	0.001	36	0.039	37
386			min	-0.088	40	0.001	40	0	2	0	2	-0.001	2	-0.005	40
387		J	max	0.069	35	0.008	2	0	2	0	2	0.004	5	0.005	5
388			min	-0.056	40	-0.025	5	-0.006	38	-0.004	38	-0.001	2	-0.004	2
389	M101	I	max	0.098	37	0.004	39	0.002	2	0.003	5	0.004	5	0.021	37
390			min	-0.075	40	-0.017	5	-0.002	35	-0.002	2	-0.002	2	-0.006	40
391		J	max	0.652	37	0.104	37	0.002	36	0.001	2	0.003	36	0.009	40
392			min	-0.156	40	-0.009	40	-0.002	2	0	36	-0.001	2	-0.076	37
393	M102	I	max	0.457	37	0.028	35	0.006	36	0.005	36	0.001	5	0.016	39
394			min	-0.083	40	-0.014	2	0	2	0	2	0	2	-0.027	38
395		J	max	0.676	4	-0.001	39	0	2	0	2	0	5	0.067	38
396			min	0.079	27	-0.092	38	-0.007	36	-0.006	36	0	2	-0.008	39
397	M103	I	max	0.351	38	0.009	39	0.002	4	0	39	0.001	5	0.011	39
398			min	-0.117	39	-0.046	38	0.001	40	-0.001	3	-0.001	2	-0.049	38
399		J	max	0.114	4	0.021	39	0	40	0	2	0.001	5	0.032	38
400			min	-0.003	40	-0.035	38	-0.002	3	0	5	-0.001	2	-0.019	39
401	M104	I	max	0.362	38	0.005	40	0.003	35	-0.001	40	0.002	4	0.006	40
402			min	0.009	39	-0.02	3	-0.002	2	-0.002	3	0.001	40	-0.021	37
403		J	max	0.413	37	0.007	40	0.002	2	0.002	2	0.002	4	0.039	37
404			min	0.041	18	-0.044	37	-0.003	5	-0.005	35	0.001	10	-0.005	40
405	M105	I	max	0.324	5	0.019	40	0.003	35	0.001	2	0.001	2	0.009	40

Envelope Member End Reactions (Continued)

	Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
406			min	-0.009	2	-0.133	37	-0.003	2	-0.001	5	-0.001	35	-0.076	37
407		J	max	0.191	5	0.051	37	0.002	2	0.002	36	0.001	4	0.004	2
408			min	-0.179	2	-0.005	40	-0.003	36	-0.001	2	0	10	-0.005	5
409	M106	I	max	0.34	5	0.065	38	0	40	0	2	0.002	4	0.049	38
410			min	0.04	2	-0.012	39	-0.001	3	-0.001	3	0	2	-0.011	39
411		J	max	0.26	5	0.016	2	0.002	4	0.001	2	0.003	4	0.016	39
412			min	-0.094	2	-0.017	35	0.001	39	0	36	0.001	2	-0.027	38
413	M107	I	max	0.169	5	0.021	40	0	40	0.002	4	0.002	4	0.032	38
414			min	-0.281	2	-0.027	35	-0.001	3	0	2	0.001	2	-0.019	39
415		J	max	0.277	5	0.094	38	0.001	4	0.002	36	0.003	4	0.008	39
416			min	-0.053	2	-0.003	39	0	40	0	2	0.001	2	-0.067	38
417	M108	I	max	0.001	40	0	10	0.155	4	0	10	0.006	18	0.003	18
418			min	-0.068	3	-0.051	3	-0.002	40	-0.009	3	-0.023	9	-0.047	3
419		J	max	0.034	4	0.039	4	-0.002	40	0.003	4	-0.003	39	-0.002	18
420			min	0.002	39	-0.002	10	-0.208	3	0	40	-0.073	3	-0.082	3
421	M109	I	max	0.006	38	0.192	4	0.001	40	0.007	4	0.06	4	0.003	22
422			min	0	39	0.008	40	-0.083	3	0	39	-0.005	22	-0.119	3
423		J	max	0.002	39	-0.006	22	0.108	4	0	40	0.033	4	0.001	22
424			min	-0.008	38	-0.238	3	0.002	22	-0.006	3	0	10	-0.06	3
425	M110	I	max	0.002	10	0.115	2	0.001	2	0.009	4	0.002	20	0.229	4
426			min	-0.076	3	-0.011	36	-0.002	7	0	10	0	2	0.004	39
427		J	max	0.002	10	-0.001	10	0.001	2	0.009	4	0.001	2	0.404	4
428			min	-0.076	3	-0.287	3	-0.002	7	0	10	-0.003	7	-0.004	10
429	M111	I	max	0.013	39	0.002	39	0.194	4	0	39	0.002	40	0.002	39
430			min	-0.014	36	-0.068	3	0.009	40	-0.01	3	-0.013	37	-0.01	36
431		J	max	0	39	0.065	4	-0.006	40	0.01	4	0.001	39	0.002	2
432			min	-0.012	38	0.001	40	-0.19	3	0	39	-0.013	3	-0.006	35
433	M112	I	max	0.021	39	0.085	4	0.01	40	0.004	4	0.014	4	0.003	39
434			min	-0.04	38	0.005	40	-0.025	37	0	40	-0.004	40	-0.04	3
435		J	max	0.024	39	-0.004	39	0.04	4	0	39	0.02	4	0.003	40
436			min	-0.024	36	-0.076	3	-0.004	39	-0.004	3	-0.003	39	-0.029	3
437	M113	I	max	-0.004	39	0.36	4	0.001	39	0	39	0.002	38	0.004	36
438			min	-0.104	3	0.007	40	-0.001	38	-0.001	3	-0.002	39	-0.1	2
439		J	max	-0.006	39	-0.014	39	0.002	37	0.001	4	0.002	35	0.243	4
440			min	-0.089	3	-0.386	3	-0.001	40	0	5	-0.002	40	0.025	39

Envelope Member Section Deflections - Service

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
1	M1	1	max	0	35	0	35	0	35	0	4	NC	35	NC	35
2			min	0	1	0	1	0	1	0	10	NC	1	NC	1
3		2	max	0	4	0	35	0	35	0.001	4	NC	35	NC	35
4			min	0	10	-0.051	3	0	9	0	10	1882.872	3	NC	1
5		3	max	0	4	-0.001	27	0	25	0.002	4	NC	35	NC	35
6			min	0	10	-0.074	3	0	28	0	10	1300.058	3	NC	1
7		4	max	0	4	-0.001	27	0	4	0.001	4	NC	35	NC	35
8			min	0	10	-0.052	3	0	35	0	10	1846.038	3	NC	1
9		5	max	0	35	0	35	0	35	0	4	NC	35	NC	35
10			min	0	1	0	1	0	1	0	10	NC	1	NC	1
11	M2	1	max	0.001	4	0	10	0	35	0	4	NC	35	NC	35
12			min	0	10	-0.003	3	0	9	0	10	NC	1	NC	1
13		2	max	0.001	4	-0.002	28	0	35	0.003	4	NC	35	NC	35
14			min	0	10	-0.079	3	0	7	0	10	1259.537	3	NC	1
15		3	max	0.001	4	-0.003	28	0	25	0.005	4	NC	35	NC	35
16			min	0	10	-0.114	3	0	24	0	10	859.55	3	NC	1
17		4	max	0.001	4	-0.002	28	0	4	0.004	4	NC	35	NC	35

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
18			min	0	10	-0.082	3	0	35	0	10	1202.181	3	NC	1
19		5	max	0.001	4	0	10	0	27	0	4	NC	35	NC	35
20			min	0	10	-0.002	3	0	3	0	10	NC	1	NC	1
21	M3	1	max	0.002	4	0	10	0	35	0	4	NC	35	NC	35
22			min	0	10	-0.005	3	-0.001	9	0	10	NC	1	NC	1
23		2	max	0.002	4	-0.002	27	0	35	0.001	4	NC	35	NC	35
24			min	0	10	-0.06	3	0	9	0	10	3591.03	3	NC	1
25		3	max	0.002	4	-0.004	27	0	35	0.001	4	NC	35	NC	35
26			min	0	10	-0.106	3	0	24	0	10	2593.713	3	NC	1
27		4	max	0.002	4	-0.005	28	0	25	0.003	4	NC	35	NC	35
28			min	0	10	-0.143	3	0	28	0	10	3576.108	3	NC	1
29		5	max	0.002	4	-0.005	28	0	25	0.004	4	NC	35	NC	35
30			min	0	10	-0.171	3	0	24	0	10	NC	1	NC	1
31	M4	1	max	0.002	4	0	10	0	35	0	4	NC	35	NC	35
32			min	0	10	-0.006	3	-0.001	9	0	10	NC	1	NC	1
33		2	max	0.002	4	-0.005	27	0	35	0.006	4	NC	35	NC	35
34			min	0	10	-0.151	3	0	24	0	10	693.337	3	NC	1
35		3	max	0.002	4	-0.008	28	0	25	0.004	4	NC	28	NC	35
36			min	0	10	-0.221	3	0	24	0	10	477.266	3	NC	1
37		4	max	0.002	4	-0.006	28	0	4	0.004	4	NC	35	NC	35
38			min	0	10	-0.17	3	0	35	0	10	668.164	3	NC	1
39		5	max	0.002	4	0	10	0	27	0.003	4	NC	35	NC	35
40			min	0	10	-0.034	3	0	9	0	27	NC	1	NC	1
41	M5	1	max	0.002	4	0	10	0	35	0	4	NC	35	NC	35
42			min	0	10	-0.006	3	0	9	0	28	NC	1	NC	1
43		2	max	0.002	4	-0.005	10	0	35	0	10	NC	35	NC	35
44			min	0	10	-0.168	3	0	24	-0.003	3	661.421	3	NC	1
45		3	max	0.002	4	-0.007	10	0	25	0	10	NC	28	NC	35
46			min	0	10	-0.239	3	0	28	-0.001	3	478.154	3	NC	1
47		4	max	0.002	4	-0.006	10	0	4	0.001	4	NC	35	NC	35
48			min	0	10	-0.196	3	0	35	0	27	679.007	3	NC	1
49		5	max	0.002	4	-0.002	10	0	2	0.003	4	NC	35	NC	35
50			min	0	10	-0.07	3	0	35	0	27	NC	1	NC	1
51	M6	1	max	0.002	4	0	10	0	35	0	9	NC	35	NC	35
52			min	0	10	-0.007	3	0	9	0	28	NC	1	NC	1
53		2	max	0.002	4	-0.005	10	0	35	0.001	4	NC	35	NC	35
54			min	0	10	-0.156	3	0	24	0	27	755.229	3	NC	1
55		3	max	0.002	4	-0.008	10	0	25	0	5	NC	35	NC	35
56			min	0	10	-0.232	3	0	28	0	3	530.507	3	NC	1
57		4	max	0.002	4	-0.007	10	0	4	0.001	4	NC	35	NC	35
58			min	0	10	-0.203	3	0	35	0	27	740.032	3	NC	1
59		5	max	0.002	4	-0.003	10	0	4	0.001	4	NC	35	NC	35
60			min	0	10	-0.095	3	0	35	0	27	NC	1	NC	1
61	M7	1	max	0.002	4	0	10	0	35	0	9	NC	35	NC	35
62			min	0	10	-0.007	3	0	9	0	28	NC	1	NC	1
63		2	max	0.002	4	-0.006	10	0	35	0	5	NC	35	NC	35
64			min	0	10	-0.16	3	0	24	0	2	738.66	3	NC	1
65		3	max	0.002	4	-0.008	10	0	25	0	4	NC	28	NC	35
66			min	0	10	-0.233	3	0	28	0	27	530.401	3	NC	1
67		4	max	0.002	4	-0.007	10	0	4	0	35	NC	35	NC	35
68			min	0	10	-0.203	3	0	35	-0.001	3	750.336	3	NC	1
69		5	max	0.002	4	-0.004	10	0.001	4	0	35	NC	35	NC	35
70			min	0	10	-0.097	3	0	35	-0.001	3	NC	1	NC	1
71	M8	1	max	0.002	4	-0.001	10	0	35	0	9	NC	35	NC	35
72			min	0	10	-0.008	3	0	7	0	35	NC	1	NC	1

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
73		2	max	0.002	4	-0.005	10	0	35	0	10	NC	35	NC	35
74			min	0	10	-0.154	3	0	24	0	3	743.49	3	NC	1
75		3	max	0.002	4	-0.008	27	0	25	0	28	NC	28	NC	35
76			min	0	10	-0.226	3	0	28	-0.002	3	524.181	3	NC	1
77		4	max	0.002	4	-0.007	27	0	25	0	5	NC	35	NC	35
78			min	0	10	-0.191	3	0	35	-0.001	3	731.905	3	NC	1
79		5	max	0.002	4	-0.003	27	0.001	4	0	10	NC	35	NC	35
80			min	0	10	-0.078	3	0	35	-0.002	3	NC	1	NC	1
81	M9	1	max	0.002	4	-0.001	10	0	35	0	9	NC	35	NC	35
82			min	0	10	-0.008	3	0	7	0	35	NC	1	NC	1
83		2	max	0.002	4	-0.005	27	0	35	0	10	NC	35	NC	35
84			min	0	10	-0.139	3	0	28	-0.002	3	787.057	3	NC	1
85		3	max	0.002	4	-0.006	27	0	25	0	10	NC	35	NC	35
86			min	0	10	-0.196	3	0	28	-0.003	3	565.872	3	NC	1
87		4	max	0.002	4	-0.005	27	0	25	0	10	NC	35	NC	35
88			min	0	10	-0.156	3	0	35	-0.005	3	802.774	3	NC	1
89		5	max	0.002	4	-0.002	27	0.001	4	0	10	NC	35	NC	35
90			min	0	10	-0.045	3	0	35	-0.003	3	NC	1	NC	1
91	M10	1	max	0.002	4	-0.001	10	0	35	0	10	NC	35	NC	35
92			min	0	10	-0.008	3	0	10	0	3	NC	1	NC	1
93		2	max	0.002	4	-0.004	27	0	35	0	10	NC	35	NC	35
94			min	0	10	-0.126	3	0	28	0	3	832.595	3	NC	1
95		3	max	0.002	4	-0.004	27	0	25	0	27	NC	35	NC	35
96			min	0	10	-0.172	3	0	28	-0.001	3	605.369	3	NC	1
97		4	max	0.002	4	-0.003	27	0	25	0	10	NC	35	NC	35
98			min	0	10	-0.123	3	0	35	-0.001	3	900.911	3	NC	1
99		5	max	0.002	4	-0.001	27	0.001	4	0	27	NC	35	NC	35
100			min	0	10	-0.019	3	0	35	-0.001	3	NC	1	NC	1
101	M11	1	max	0.002	4	-0.001	10	0	35	0	10	NC	35	NC	35
102			min	0	10	-0.008	3	0	10	0	3	NC	1	NC	1
103		2	max	0.002	4	-0.004	27	0	35	0.001	4	NC	35	NC	35
104			min	0	10	-0.131	3	0	28	0	10	793.402	3	NC	1
105		3	max	0.002	4	-0.006	27	0	25	0.002	4	NC	35	NC	35
106			min	0	10	-0.18	3	0	28	0	10	569.92	3	NC	1
107		4	max	0.002	4	-0.004	27	0	25	0.003	4	NC	35	NC	35
108			min	0	10	-0.132	3	0	35	0	10	808.344	3	NC	1
109		5	max	0.002	4	-0.001	27	0.001	4	0	27	NC	35	NC	35
110			min	0	10	-0.016	26	0	35	0	26	NC	1	NC	1
111	M12	1	max	0.001	4	-0.001	10	0.001	4	0	10	NC	35	NC	35
112			min	0	10	-0.007	3	0	10	0	3	NC	1	NC	1
113		2	max	0.001	4	-0.005	27	0	35	0	4	NC	35	NC	35
114			min	0	10	-0.139	3	0	28	0	5	740.928	3	NC	1
115		3	max	0.001	4	-0.007	27	0	25	0	4	NC	28	NC	35
116			min	0	10	-0.194	3	0	28	0	35	523.913	3	NC	1
117		4	max	0.001	4	-0.005	27	0	25	0	10	NC	35	NC	35
118			min	0	10	-0.144	3	0	35	-0.001	3	732.808	3	NC	1
119		5	max	0.001	4	-0.001	27	0.001	4	0	27	NC	35	NC	35
120			min	0	10	-0.015	26	0	35	0	26	NC	1	NC	1
121	M13	1	max	0.001	4	-0.001	10	0.001	4	0	10	NC	35	NC	35
122			min	0	10	-0.007	3	0	10	0	3	NC	1	NC	1
123		2	max	0.001	4	-0.005	27	0	35	0	10	NC	35	NC	35
124			min	0	10	-0.139	3	0	28	0	3	734.915	3	NC	1
125		3	max	0.001	4	-0.007	27	0	25	0	10	NC	28	NC	35
126			min	0	10	-0.193	3	0	28	-0.001	3	524.696	3	NC	1
127		4	max	0.001	4	-0.005	27	0	25	0	4	NC	35	NC	35

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
128			min	0	10	-0.141	3	0	35	0	35	739.477	3	NC	1
129		5	max	0.001	4	-0.001	27	0.001	4	0	27	NC	35	NC	35
130			min	0	10	-0.013	3	0	35	0	26	NC	1	NC	1
131	M14	1	max	0.001	4	-0.001	10	0.001	4	0	10	NC	35	NC	35
132			min	0	10	-0.006	3	0	10	0	3	NC	1	NC	1
133		2	max	0.001	4	-0.005	27	0	35	0	10	NC	35	NC	35
134			min	0	10	-0.137	3	0	28	0	26	742.974	3	NC	1
135		3	max	0.001	4	-0.007	27	0	25	0	4	NC	28	NC	35
136			min	0	10	-0.191	3	0	28	0	35	526.944	3	NC	1
137		4	max	0.001	4	-0.005	27	0	25	0	27	NC	35	NC	35
138			min	0	10	-0.14	3	0	35	-0.001	3	740.161	3	NC	1
139		5	max	0.001	4	-0.001	27	0.001	4	0	27	NC	35	NC	35
140			min	0	10	-0.012	3	0	35	0	26	NC	1	NC	1
141	M15	1	max	0.001	4	-0.001	10	0.001	4	0	10	NC	35	NC	35
142			min	0	10	-0.005	3	0	10	0	3	NC	1	NC	1
143		2	max	0.001	4	-0.005	27	0	35	0	27	NC	35	NC	35
144			min	0	10	-0.136	3	0	28	0	26	741.332	3	NC	1
145		3	max	0.001	4	-0.006	27	0	25	0	27	NC	35	NC	35
146			min	0	10	-0.189	3	0	28	-0.001	3	528.475	3	NC	1
147		4	max	0.001	4	-0.005	27	0	25	0	4	NC	35	NC	35
148			min	0	10	-0.138	3	0	35	0	35	742.46	3	NC	1
149		5	max	0.001	4	-0.001	27	0.001	4	0	27	NC	35	NC	35
150			min	0	10	-0.01	3	0	35	0	26	NC	1	NC	1
151	M16	1	max	0	4	0	10	0	4	0	10	NC	35	NC	35
152			min	0	10	-0.004	3	0	10	0	3	NC	1	NC	1
153		2	max	0	4	-0.004	27	0	35	0	10	NC	35	NC	35
154			min	0	10	-0.133	3	0	28	0	3	746.842	3	NC	1
155		3	max	0	4	-0.006	27	0	25	0	2	NC	35	NC	35
156			min	0	10	-0.186	3	0	28	0	5	530.102	3	NC	1
157		4	max	0	4	-0.005	27	0	25	0	27	NC	35	NC	35
158			min	0	10	-0.134	3	0	35	-0.001	3	746.428	3	NC	1
159		5	max	0	4	-0.001	27	0.001	4	0	27	NC	35	NC	35
160			min	0	10	-0.006	3	0	35	0	3	NC	1	NC	1
161	M17	1	max	0	35	0	35	0	35	0	35	NC	35	NC	35
162			min	0	1	0	1	0	1	0	26	NC	1	NC	1
163		2	max	0	4	-0.004	27	0	25	0	4	NC	35	NC	35
164			min	0	10	-0.131	3	0	28	0	28	732.306	3	NC	1
165		3	max	0	4	-0.006	27	0	25	0	27	NC	28	NC	35
166			min	0	10	-0.184	3	0	28	0	3	521.869	3	NC	1
167		4	max	0	4	-0.004	27	0	25	0	4	NC	35	NC	35
168			min	0	10	-0.131	3	0	35	0	35	731.854	3	NC	1
169		5	max	0	35	0	35	0	35	0	27	NC	35	NC	35
170			min	0	1	0	1	0	1	0	26	NC	1	NC	1
171	M18	1	max	0	10	0	10	0	35	0	4	NC	35	NC	35
172			min	0	35	-0.003	3	0	26	0	10	NC	1	NC	1
173		2	max	0	10	-0.004	10	0	25	0	26	NC	35	NC	35
174			min	0	35	-0.132	3	0	28	0	10	746.843	3	NC	1
175		3	max	0	10	-0.006	28	0	25	0	4	NC	35	NC	35
176			min	0	3	-0.185	3	0	28	0	10	529.938	3	NC	1
177		4	max	0	10	-0.004	28	0	25	0	26	NC	35	NC	35
178			min	0	3	-0.133	3	0	35	0	27	746.969	3	NC	1
179		5	max	0	10	-0.001	28	0	27	0	4	NC	35	NC	35
180			min	0	3	-0.005	3	-0.001	26	0	28	NC	1	NC	1
181	M19	1	max	0	4	0	10	0	35	0	4	NC	35	NC	35
182			min	0	35	-0.005	3	0	26	0	27	NC	1	NC	1

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
183		2	max	0	4	-0.005	10	0	25	0	4	NC	35	NC	35
184			min	0	35	-0.135	3	0	28	0	28	741.524	3	NC	1
185		3	max	0	4	-0.006	28	0	25	0	5	NC	35	NC	35
186			min	0	35	-0.187	3	0	28	0	2	528.885	3	NC	1
187		4	max	0	4	-0.005	28	0	25	0	4	NC	35	NC	35
188			min	0	35	-0.136	3	0	35	0	35	741.397	3	NC	1
189		5	max	0	4	-0.001	28	0	27	0	25	NC	35	NC	35
190			min	0	35	-0.007	3	-0.001	26	0	35	NC	1	NC	1
191	M20	1	max	0	4	-0.001	10	0	35	0	4	NC	35	NC	35
192			min	0	35	-0.005	3	0	26	0	27	NC	1	NC	1
193		2	max	0	4	-0.005	10	0	25	0	10	NC	35	NC	35
194			min	0	35	-0.135	3	0	28	0	3	742.821	3	NC	1
195		3	max	0	4	-0.006	28	0	25	0	4	NC	28	NC	35
196			min	0	35	-0.189	3	0	28	0	35	526.516	3	NC	1
197		4	max	0	4	-0.005	28	0	25	0	5	NC	35	NC	35
198			min	0	35	-0.136	3	0	35	0	2	742.263	3	NC	1
199		5	max	0	4	-0.001	28	0	27	0	25	NC	35	NC	35
200			min	0	35	-0.007	3	-0.001	26	0	35	NC	1	NC	1
201	M21	1	max	0	4	-0.001	10	0	35	0	28	NC	35	NC	35
202			min	0	27	-0.005	3	0	28	0	25	NC	1	NC	1
203		2	max	0	4	-0.005	28	0	25	0.001	4	NC	35	NC	35
204			min	0	27	-0.136	3	0	28	0	28	736.02	3	NC	1
205		3	max	0	4	-0.007	28	0	25	0	28	NC	28	NC	35
206			min	0	27	-0.189	3	0	28	0	3	525.661	3	NC	1
207		4	max	0	4	-0.005	28	0	25	0	4	NC	35	NC	35
208			min	0	27	-0.137	3	0	35	0	35	736.687	3	NC	1
209		5	max	0	4	-0.001	28	0	27	0	23	NC	35	NC	35
210			min	0	27	-0.008	3	-0.001	26	0	35	NC	1	NC	1
211	M22	1	max	0	4	-0.001	10	0	35	0	28	NC	35	NC	35
212			min	0	27	-0.005	3	0	28	0	3	NC	1	NC	1
213		2	max	0	4	-0.005	28	0	25	0	27	NC	35	NC	35
214			min	0	27	-0.136	3	0	28	-0.001	3	737.533	3	NC	1
215		3	max	0	4	-0.007	28	0	25	0.001	4	NC	28	NC	35
216			min	0	27	-0.19	3	0	28	0	35	521.749	3	NC	1
217		4	max	0	4	-0.005	28	0	25	0	10	NC	35	NC	35
218			min	0	27	-0.137	3	0	35	0	3	735.936	3	NC	1
219		5	max	0	4	-0.001	28	0	27	0	27	NC	35	NC	35
220			min	0	27	-0.007	25	-0.001	26	0	35	NC	1	NC	1
221	M23	1	max	0	4	-0.001	10	0	25	0	10	NC	35	NC	35
222			min	0	27	-0.005	3	0	28	0	3	NC	1	NC	1
223		2	max	0	4	-0.004	28	0	35	0	27	NC	35	NC	35
224			min	0	27	-0.126	3	0	28	-0.001	3	795.88	3	NC	1
225		3	max	0	4	-0.005	28	0	25	0	10	NC	35	NC	35
226			min	0	27	-0.174	3	0	28	-0.003	3	570.231	3	NC	1
227		4	max	0	4	-0.004	28	0	25	0	27	NC	35	NC	35
228			min	0	27	-0.127	3	0	35	-0.001	3	797.663	3	NC	1
229		5	max	0	4	0	35	0	27	0	27	NC	35	NC	35
230			min	0	27	-0.007	25	-0.001	26	0	3	NC	1	NC	1
231	M24	1	max	0	4	0	27	0	25	0	10	NC	35	NC	35
232			min	0	27	-0.003	3	0	28	0	3	NC	1	NC	1
233		2	max	0	4	-0.003	28	0	35	0	28	NC	35	NC	35
234			min	0	27	-0.118	3	0	28	0	25	839.056	3	NC	1
235		3	max	0	4	-0.004	28	0	25	0.001	4	NC	35	NC	35
236			min	0	27	-0.161	3	0	28	0	5	612.619	3	NC	1
237		4	max	0	4	-0.002	28	0	25	0	28	NC	35	NC	35

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
238			min	0	27	-0.108	3	0	35	-0.002	3	928.987	3	NC	1
239		5	max	0	4	0	35	0	27	0	28	NC	35	NC	35
240			min	0	27	-0.005	25	0	26	0	3	NC	1	NC	1
241	M25	1	max	0	35	0	35	0	35	0	4	NC	35	NC	35
242			min	0	1	0	1	0	1	0	28	NC	1	NC	1
243		2	max	0	4	-0.004	27	0	35	0.003	4	NC	35	NC	35
244			min	0	35	-0.132	3	0	28	0	27	725.86	3	NC	1
245		3	max	0	4	-0.005	27	0	25	0.003	4	NC	35	NC	35
246			min	0	35	-0.186	3	0	28	0	27	516.488	3	NC	1
247		4	max	0	4	-0.004	27	0	27	0.006	4	NC	35	NC	35
248			min	0	35	-0.134	3	0	35	0	27	714.604	3	NC	1
249		5	max	0	35	0	35	0	35	0	35	NC	35	NC	35
250			min	0	1	0	1	0	1	0	27	NC	1	NC	1
251	M26	1	max	0	4	0	10	0	35	0	4	NC	35	NC	35
252			min	0	35	-0.003	3	0	26	0	10	NC	1	NC	1
253		2	max	0	4	-0.005	27	0	25	0	4	NC	35	NC	35
254			min	0	35	-0.15	3	0	28	0	27	663.126	3	NC	1
255		3	max	0	4	-0.007	27	0	25	0	4	NC	28	NC	35
256			min	0	35	-0.207	3	0	28	0	27	478.647	3	NC	1
257		4	max	0	4	-0.005	27	0	25	0	5	NC	35	NC	35
258			min	0	35	-0.145	3	0	35	-0.004	3	700.712	3	NC	1
259		5	max	0	4	-0.001	27	0	27	0.001	4	NC	35	NC	35
260			min	0	35	-0.009	3	0	35	0	27	NC	1	NC	1
261	M27	1	max	0.001	4	-0.001	10	0	35	0	4	NC	35	NC	35
262			min	0	35	-0.005	3	-0.001	26	0	10	NC	1	NC	1
263		2	max	0.001	4	-0.002	27	0	35	0	4	NC	35	NC	35
264			min	0	35	-0.043	3	0	26	0	27	NC	1	NC	1
265		3	max	0.001	4	-0.003	27	0	35	0	4	NC	35	NC	35
266			min	0	35	-0.08	3	0	26	0	27	NC	1	NC	1
267		4	max	0.001	4	-0.004	27	0	25	0	4	NC	35	NC	35
268			min	0	35	-0.117	3	0	28	0	27	NC	1	NC	1
269		5	max	0.001	4	-0.005	27	0	25	0	4	NC	35	NC	35
270			min	0	35	-0.153	3	0	28	0	27	NC	1	NC	1
271	M28	1	max	0	4	-0.001	10	0	35	0	4	NC	35	NC	35
272			min	-0.001	35	-0.006	3	-0.001	26	0	10	NC	1	NC	1
273		2	max	0	4	-0.005	27	0	25	0	5	NC	35	NC	35
274			min	-0.001	35	-0.154	3	0	28	0	2	662.934	3	NC	1
275		3	max	0	4	-0.007	27	0	25	0	5	NC	28	NC	35
276			min	-0.001	35	-0.212	3	0	28	0	2	481.889	3	NC	1
277		4	max	0	4	-0.005	27	0	25	0.004	4	NC	35	NC	35
278			min	-0.001	35	-0.151	3	0	35	0	28	710.583	3	NC	1
279		5	max	0	4	-0.002	27	0	27	0	27	NC	35	NC	35
280			min	-0.001	35	-0.019	3	-0.001	35	0	26	NC	1	NC	1
281	M29	1	max	0	4	-0.001	10	0	35	0	26	NC	35	NC	35
282			min	-0.001	35	-0.007	3	0	26	0	10	NC	1	NC	1
283		2	max	0	4	-0.007	27	0	25	0	23	NC	28	NC	35
284			min	-0.001	35	-0.152	3	0	28	-0.001	2	675.827	3	NC	1
285		3	max	0	4	-0.01	27	0	25	0.001	23	NC	28	NC	35
286			min	-0.001	35	-0.215	3	0	28	0	2	474.764	3	NC	1
287		4	max	0	4	-0.008	27	0	25	0	23	NC	28	NC	35
288			min	-0.001	35	-0.163	3	0	35	-0.002	2	651.361	3	NC	1
289		5	max	0	4	-0.002	27	0	27	0	27	NC	35	NC	35
290			min	-0.001	35	-0.018	3	-0.001	35	0	3	NC	1	NC	1
291	M30	1	max	0	4	-0.001	10	0.001	35	0	28	NC	35	NC	35
292			min	-0.001	35	-0.008	3	0	28	0	3	NC	1	NC	1

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
293		2	max	0	4	-0.003	10	0	35	0	4	9329.975	27	NC	35
294			min	-0.001	35	-0.055	3	0	28	0	10	507.752	3	NC	1
295		3	max	0	4	-0.006	10	0	35	0.001	4	4755.589	27	NC	35
296			min	-0.001	35	-0.101	3	0	28	0	10	258.882	3	NC	1
297		4	max	0	4	-0.008	27	0	35	0.001	4	3240.422	27	NC	35
298			min	-0.001	35	-0.144	3	0	28	0	10	176.457	3	NC	1
299		5	max	0	4	-0.011	27	0	25	0.002	4	2489.318	27	NC	35
300			min	-0.001	35	-0.185	3	0	28	0	10	135.523	3	NC	1
301	M31	1	max	0.001	35	-0.002	27	0.001	35	0	4	NC	35	NC	35
302			min	0	3	-0.017	3	0	25	0	27	NC	1	NC	1
303		2	max	0.001	35	-0.004	27	0.001	35	0	5	9917.068	28	NC	35
304			min	0	3	-0.063	3	0	25	0	3	522.219	3	NC	1
305		3	max	0.001	35	-0.007	27	0.001	35	0	28	5062.563	28	NC	35
306			min	0	3	-0.107	3	0	25	-0.001	3	266.338	3	NC	1
307		4	max	0.001	35	-0.009	27	0	35	0	28	3455.324	28	NC	35
308			min	0	3	-0.149	3	0	25	-0.001	3	181.608	3	NC	1
309		5	max	0.001	35	-0.011	27	0	35	0	28	2659.111	28	NC	35
310			min	0	3	-0.189	3	0	25	-0.002	3	139.539	3	NC	1
311	M32	1	max	0	4	-0.001	10	0.001	35	0	35	NC	35	NC	35
312			min	-0.001	35	-0.007	3	0	28	0	3	NC	1	NC	1
313		2	max	0	4	-0.004	10	0	35	0	4	8623.34	27	NC	35
314			min	-0.001	35	-0.06	3	0	28	0	10	457.294	3	NC	1
315		3	max	0	4	-0.006	10	0	35	0.001	4	4378.604	27	NC	35
316			min	-0.001	35	-0.111	3	0	28	0	10	232.315	3	NC	1
317		4	max	0	4	-0.009	10	0	25	0.001	4	2971.65	27	NC	35
318			min	-0.001	35	-0.159	3	0	28	0	10	157.791	3	NC	1
319		5	max	0	4	-0.011	10	0	25	0.002	4	2273.41	27	NC	35
320			min	-0.001	35	-0.206	3	0	28	0	10	120.785	3	NC	1
321	M33	1	max	0.001	35	-0.002	27	0.001	35	0	4	NC	35	NC	35
322			min	0	3	-0.016	3	-0.001	25	0	27	NC	1	NC	1
323		2	max	0.001	35	-0.004	27	0.001	35	0	5	9047.767	28	NC	35
324			min	0	3	-0.067	3	0	25	0	3	467.084	3	NC	1
325		3	max	0.001	35	-0.007	27	0.001	35	0	5	4600.454	28	NC	35
326			min	0	3	-0.117	3	0	25	-0.001	3	237.441	3	NC	1
327		4	max	0.001	35	-0.009	27	0	35	0	28	3127.145	28	NC	35
328			min	0	3	-0.164	3	0	25	-0.001	3	161.392	3	NC	1
329		5	max	0.001	35	-0.012	27	0	35	0	28	2396.599	28	NC	35
330			min	0	3	-0.21	3	0	25	-0.001	3	123.642	3	NC	1
331	M34	1	max	0	4	-0.001	10	0.001	35	0	35	NC	35	NC	35
332			min	0	35	-0.007	3	0	28	0	9	NC	1	NC	1
333		2	max	0	4	-0.004	10	0.001	35	0	4	8156.908	27	NC	35
334			min	0	35	-0.064	3	0	28	0	5	424.184	3	NC	1
335		3	max	0	4	-0.007	10	0	35	0	4	4138.372	27	NC	35
336			min	0	35	-0.118	3	0	28	0	10	215.484	3	NC	1
337		4	max	0	4	-0.009	10	0	25	0.001	4	2806.375	27	NC	35
338			min	0	35	-0.171	3	0	28	0	10	146.341	3	NC	1
339		5	max	0	4	-0.012	10	0	25	0.001	4	2145.372	27	NC	35
340			min	0	35	-0.221	3	0	28	0	10	112.006	3	NC	1
341	M35	1	max	0	35	-0.001	27	0.001	35	0	4	NC	35	NC	35
342			min	0	3	-0.014	3	-0.001	25	0	27	NC	1	NC	1
343		2	max	0	35	-0.004	27	0.001	35	0	5	8465.141	28	NC	35
344			min	0	3	-0.07	3	-0.001	25	0	2	430.871	3	NC	1
345		3	max	0	35	-0.007	27	0.001	35	0	5	4302.354	28	NC	35
346			min	0	3	-0.124	3	0	25	0	3	219.096	3	NC	1
347		4	max	0	35	-0.01	27	0	35	0	5	2923.445	28	NC	35

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
348			min	0	3	-0.175	3	0	25	-0.001	3	148.969	3	NC	1
349		5	max	0	35	-0.012	27	0	35	0	28	2239.91	28	NC	35
350			min	0	3	-0.225	3	0	25	-0.001	3	114.174	3	NC	1
351	M36	1	max	0	4	-0.001	10	0.001	35	0	35	NC	35	NC	35
352			min	0	35	-0.007	3	0	28	0	9	NC	1	NC	1
353		2	max	0	4	-0.004	10	0.001	25	0	2	7956.197	27	NC	35
354			min	0	35	-0.065	3	0	28	0	5	408.91	3	NC	1
355		3	max	0	4	-0.007	10	0	25	0	2	4040.111	27	NC	35
356			min	0	35	-0.122	3	0	28	0	5	207.839	3	NC	1
357		4	max	0	4	-0.009	10	0	25	0	2	2741.932	27	NC	35
358			min	0	35	-0.177	3	0	28	0	5	141.24	3	NC	1
359		5	max	0	4	-0.012	10	0	25	0	2	2097.634	27	NC	35
360			min	0	35	-0.229	3	0	28	0	5	108.186	3	NC	1
361	M37	1	max	0	35	-0.001	27	0.001	35	0	4	NC	35	NC	35
362			min	0	3	-0.013	3	-0.001	25	0	27	NC	1	NC	1
363		2	max	0	35	-0.004	27	0.001	35	0	26	8163.044	28	NC	35
364			min	0	3	-0.071	3	-0.001	25	0	27	412.171	3	NC	1
365		3	max	0	35	-0.007	27	0	35	0	5	4157.559	28	NC	35
366			min	0	3	-0.127	3	-0.001	25	0	2	209.996	3	NC	1
367		4	max	0	35	-0.01	27	0	35	0	5	2830.83	28	NC	35
368			min	0	3	-0.181	3	0	25	0	2	143.068	3	NC	1
369		5	max	0	35	-0.013	27	0	35	0	5	2173.302	28	NC	35
370			min	0	3	-0.231	3	0	25	0	2	109.885	3	NC	1
371	M38	1	max	0	4	-0.001	10	0.001	25	0	27	NC	35	NC	35
372			min	0	35	-0.006	3	0	28	0	3	NC	1	NC	1
373		2	max	0	4	-0.004	10	0.001	25	0	27	8085.919	10	NC	35
374			min	0	35	-0.065	3	0	28	0	3	411.608	3	NC	1
375		3	max	0	4	-0.006	10	0	25	0	27	4106.388	10	NC	35
376			min	0	35	-0.121	3	0	28	0	3	209.331	3	NC	1
377		4	max	0	4	-0.009	10	0	25	0	27	2787.893	10	NC	35
378			min	0	35	-0.175	3	0	28	0	3	142.352	3	NC	1
379		5	max	0	4	-0.012	10	0	25	0	27	2134.1	10	NC	35
380			min	0	35	-0.226	3	0	28	-0.001	3	109.127	3	NC	1
381	M39	1	max	0	35	-0.001	27	0.001	35	0	4	NC	35	NC	35
382			min	0	11	-0.012	3	-0.001	25	0	27	NC	1	NC	1
383		2	max	0	35	-0.004	27	0.001	35	0	4	8241.35	28	NC	35
384			min	0	3	-0.07	3	-0.001	25	0	27	413.613	3	NC	1
385		3	max	0	35	-0.007	27	0	35	0	4	4190.359	28	NC	35
386			min	0	3	-0.126	3	-0.001	25	0	27	210.456	3	NC	1
387		4	max	0	35	-0.01	27	0	35	0.001	4	2853.821	28	NC	35
388			min	0	3	-0.179	3	0	25	0	27	143.449	3	NC	1
389		5	max	0	35	-0.012	27	0	35	0.001	4	2195.94	28	NC	35
390			min	0	3	-0.229	3	0	25	0	27	110.437	3	NC	1
391	M40	1	max	0	4	-0.001	10	0.001	25	0	27	NC	35	NC	35
392			min	0	35	-0.006	3	0	28	0	3	NC	1	NC	1
393		2	max	0	4	-0.003	10	0.001	25	0	27	8605.279	10	NC	35
394			min	0	35	-0.061	3	0	28	0	3	435.554	3	NC	1
395		3	max	0	4	-0.006	10	0	25	0	27	4374.267	10	NC	35
396			min	0	35	-0.114	3	0	28	-0.001	3	221.583	3	NC	1
397		4	max	0	4	-0.009	10	0	25	0	27	2972.329	10	NC	35
398			min	0	35	-0.165	3	0	28	-0.001	3	150.745	3	NC	1
399		5	max	0	4	-0.011	10	0	25	0	27	2276.993	10	NC	35
400			min	0	35	-0.213	3	0	28	-0.002	3	115.61	3	NC	1
401	M42	1	max	0	4	0	10	0.001	25	0	27	NC	35	NC	35
402			min	0	35	-0.005	3	0	28	0	3	NC	1	NC	1

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
403		2	max	0	4	-0.003	10	0.001	25	0	27	9762.953	10	NC	35
404			min	0	35	-0.054	3	0	28	-0.001	3	491.254	3	NC	1
405		3	max	0	4	-0.005	10	0.001	25	0	27	4957.724	10	NC	35
406			min	0	35	-0.101	3	0	28	-0.001	3	249.777	3	NC	1
407		4	max	0	4	-0.008	10	0	25	0	27	3365.846	10	NC	35
408			min	0	35	-0.146	3	0	28	-0.002	3	169.825	3	NC	1
409		5	max	0	4	-0.01	10	0	25	0	27	2576.358	10	NC	35
410			min	0	35	-0.189	3	0	28	-0.002	3	130.144	3	NC	1
411	M43	1	max	0	35	-0.001	27	0.001	35	0	26	NC	35	NC	35
412			min	0	3	-0.008	3	-0.001	25	0	27	NC	1	NC	1
413		2	max	0	35	-0.003	27	0	35	0.001	4	9851.469	10	NC	35
414			min	0	3	-0.057	3	-0.001	25	0	27	491.282	3	NC	1
415		3	max	0	35	-0.006	27	0	35	0.001	4	5010.226	10	NC	35
416			min	0	3	-0.104	3	-0.001	25	0	27	250.009	3	NC	1
417		4	max	0	35	-0.008	10	0	35	0.002	4	3413.896	10	NC	35
418			min	0	3	-0.149	3	0	25	0	27	170.47	3	NC	1
419		5	max	0	35	-0.01	10	0	35	0.002	4	2628.682	10	NC	35
420			min	0	3	-0.191	3	0	25	0	27	131.295	3	NC	1
421	M44	1	max	0	4	0	10	0.001	25	0	27	NC	35	NC	35
422			min	0	35	-0.004	3	0	28	0	3	NC	1	NC	1
423		2	max	0	4	-0.002	10	0.001	25	0	27	NC	28	NC	35
424			min	0	35	-0.043	3	0	28	-0.001	3	607.952	3	NC	1
425		3	max	0	8	-0.004	10	0	25	0	27	6132.492	10	NC	35
426			min	0	35	-0.082	3	0	28	-0.002	3	308.151	3	NC	1
427		4	max	0	8	-0.006	10	0	25	0	27	4151.455	10	NC	35
428			min	0	35	-0.119	3	0	28	-0.003	3	208.788	3	NC	1
429		5	max	0	8	-0.008	10	0	25	0	27	3166.153	10	NC	35
430			min	0	35	-0.155	3	0	28	-0.003	3	159.342	3	NC	1
431	M45	1	max	0	35	-0.001	27	0	35	0	4	NC	35	NC	35
432			min	0	24	-0.007	3	-0.001	25	0	27	NC	1	NC	1
433		2	max	0	35	-0.003	10	0	35	0.001	4	NC	28	NC	35
434			min	0	7	-0.046	3	-0.001	25	0	27	607.493	3	NC	1
435		3	max	0	35	-0.005	10	0	35	0.002	4	6206.523	10	NC	35
436			min	0	7	-0.084	3	-0.001	25	0	27	308.911	3	NC	1
437		4	max	0	35	-0.006	10	0	35	0.003	4	4218.135	10	NC	35
438			min	0	7	-0.121	3	0	25	0	27	210.021	3	NC	1
439		5	max	0	35	-0.008	10	0	35	0.003	4	3230.789	10	NC	35
440			min	0	7	-0.156	3	0	25	0	27	160.87	3	NC	1
441	M46	1	max	0	7	0	10	0.001	25	0	10	NC	35	NC	35
442			min	0	35	-0.003	3	0	28	0	3	NC	1	NC	1
443		2	max	0	7	-0.002	10	0.001	25	0	10	NC	35	NC	35
444			min	0	35	-0.03	3	0	28	-0.001	3	886.896	3	NC	1
445		3	max	0	7	-0.003	10	0	25	0	27	8887.753	10	NC	35
446			min	0	35	-0.057	3	0	28	-0.002	3	444.785	3	NC	1
447		4	max	0	7	-0.004	10	0	25	0	27	5940.085	10	NC	35
448			min	0	35	-0.083	3	0	28	-0.003	3	297.624	3	NC	1
449		5	max	0	7	-0.006	10	0	25	0	27	4463.379	10	NC	35
450			min	0	35	-0.11	3	0	28	-0.004	3	223.746	3	NC	1
451	M47	1	max	0	35	0	10	0	35	0	4	NC	35	NC	35
452			min	0	10	-0.005	3	-0.001	25	0	27	NC	1	NC	1
453		2	max	0	35	-0.002	10	0	35	0.001	4	NC	35	NC	35
454			min	0	10	-0.032	3	-0.001	25	0	27	890.695	3	NC	1
455		3	max	0	35	-0.003	10	0	35	0.002	4	9026.601	10	NC	35
456			min	0	10	-0.058	3	0	25	0	27	447.397	3	NC	1
457		4	max	0	35	-0.004	10	0	35	0.003	4	6046.872	10	NC	35

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
458			min	0	10	-0.085	3	0	25	0	27	299.924	3	NC	1
459		5	max	0	35	-0.006	10	0	35	0.004	4	4555.101	10	NC	35
460			min	0	10	-0.111	3	0	25	0	27	225.948	3	NC	1
461	M48	1	max	0	10	0	10	0	25	0	10	NC	35	NC	35
462			min	0	35	-0.001	3	0	28	0	3	NC	1	NC	1
463		2	max	0	10	-0.001	10	0	25	0	10	NC	35	NC	35
464			min	0	35	-0.013	3	0	28	-0.001	3	2120.624	3	NC	1
465		3	max	0	10	-0.001	10	0	25	0	10	NC	35	NC	35
466			min	0	35	-0.026	3	0	28	-0.002	3	977.302	3	NC	1
467		4	max	0	10	-0.002	10	0	25	0	10	NC	28	NC	35
468			min	0	35	-0.041	3	0	28	-0.003	3	604.967	3	NC	1
469		5	max	0	10	-0.003	10	0	25	0	27	8513.038	10	NC	35
470			min	0	35	-0.058	3	0	28	-0.004	3	422.309	3	NC	1
471	M49	1	max	0	35	0	10	0	35	0	4	NC	35	NC	35
472			min	0	28	-0.002	3	0	25	0	10	NC	1	NC	1
473		2	max	0	35	-0.001	10	0	35	0.001	4	NC	35	NC	35
474			min	0	28	-0.014	3	0	25	0	10	2133.992	3	NC	1
475		3	max	0	35	-0.001	10	0	35	0.002	4	NC	35	NC	35
476			min	0	28	-0.027	3	0	25	0	27	984.422	3	NC	1
477		4	max	0	35	-0.002	10	0	35	0.003	4	NC	28	NC	35
478			min	0	28	-0.042	3	0	25	0	27	610.001	3	NC	1
479		5	max	0	35	-0.003	10	0	35	0.004	4	8687.935	10	NC	35
480			min	0	28	-0.059	3	0	25	0	27	426.265	3	NC	1
481	M50	1	max	0	35	0	35	0	35	0	35	NC	35	NC	35
482			min	0	1	0	1	0	1	0	3	NC	1	NC	1
483		2	max	0	10	0	10	0	25	0	27	NC	35	NC	35
484			min	0	35	-0.004	3	0	28	-0.004	3	NC	1	NC	1
485		3	max	0	10	0	10	0	25	0	27	NC	35	NC	35
486			min	0	35	-0.003	3	0	28	-0.004	3	NC	1	NC	1
487		4	max	0	4	0	10	0	25	0	27	NC	35	NC	35
488			min	0	35	-0.004	3	0	35	-0.004	3	NC	1	NC	1
489		5	max	0	35	0	35	0	35	0	27	NC	35	NC	35
490			min	0	1	0	1	0	1	0	3	NC	1	NC	1
491	M51	1	max	0	4	-0.001	10	0	35	0	4	NC	35	NC	35
492			min	-0.001	35	-0.008	3	0	26	0	10	NC	1	NC	1
493		2	max	0	4	-0.003	10	0	35	0.001	4	NC	28	NC	35
494			min	-0.001	35	-0.049	3	0	26	0	10	579.78	3	NC	1
495		3	max	0	4	-0.005	27	0	35	0.001	4	5239.136	27	NC	35
496			min	-0.001	35	-0.089	3	0	28	0	10	295.239	3	NC	1
497		4	max	0	4	-0.008	27	0	35	0.002	4	3587.209	27	NC	35
498			min	-0.001	35	-0.127	3	0	28	0	10	201.88	3	NC	1
499		5	max	0	4	-0.009	27	0	25	0.002	4	2784.711	27	NC	35
500			min	-0.001	35	-0.161	3	0	28	0	10	156.43	3	NC	1
501	M52	1	max	0	4	-0.009	27	0	25	0.002	4	NC	35	NC	35
502			min	-0.001	35	-0.161	3	0	28	0	10	NC	1	NC	1
503		2	max	0	4	-0.012	27	0	25	0.002	4	NC	35	NC	35
504			min	-0.001	35	-0.21	3	0	28	0	10	998.951	3	NC	1
505		3	max	0	4	-0.013	27	0	25	0.002	4	NC	28	NC	35
506			min	-0.001	35	-0.228	3	0	28	0	10	746.718	3	NC	1
507		4	max	0	4	-0.012	27	0	25	0.002	4	NC	35	NC	35
508			min	-0.001	35	-0.213	3	0	28	0	10	998.818	3	NC	1
509		5	max	0	4	-0.01	27	0	25	0.002	4	NC	35	NC	35
510			min	-0.001	35	-0.166	3	0	35	0	28	NC	1	NC	1
511	M53	1	max	0	4	-0.01	27	0	25	0.002	4	3029.121	28	NC	35
512			min	-0.001	35	-0.166	3	0	35	0	28	162.415	3	NC	1

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
513		2	max	0	4	-0.008	27	0	25	0.002	4	3893.727	28	NC	35
514			min	-0.001	35	-0.133	3	0	35	0	28	209.563	3	NC	1
515		3	max	0	4	-0.006	27	0	25	0.001	4	5677.108	28	NC	35
516			min	-0.001	35	-0.097	3	0	35	0	28	306.398	3	NC	1
517		4	max	0	4	-0.004	27	0	25	0.001	4	NC	28	NC	35
518			min	-0.001	35	-0.058	3	-0.001	35	0	28	601.518	3	NC	1
519		5	max	0	4	-0.002	27	0	25	0	4	NC	35	NC	35
520			min	-0.001	35	-0.018	3	-0.001	35	0	35	NC	1	NC	1
521	M54	1	max	0	25	-0.009	27	0.001	35	0	27	NC	28	NC	35
522			min	0	28	-0.161	3	0	3	-0.005	3	838.568	3	NC	1
523		2	max	0	25	-0.012	10	0	35	0	27	NC	28	NC	35
524			min	0	28	-0.218	3	0	3	-0.008	3	615.911	3	NC	1
525		3	max	0	25	-0.012	10	0	35	0	10	NC	28	NC	35
526			min	0	28	-0.221	3	0	3	-0.008	3	607.603	3	NC	1
527		4	max	0	25	-0.007	10	0	35	0	10	NC	35	NC	35
528			min	0	28	-0.144	3	0	8	-0.005	3	939.586	3	NC	1
529		5	max	0	25	0	10	0	35	0	10	NC	35	NC	35
530			min	0	28	-0.004	3	0	10	-0.002	3	NC	1	NC	1
531	M55	1	max	0	25	-0.01	27	0.001	35	0.005	4	NC	28	NC	35
532			min	0	35	-0.166	3	0	3	0	28	813.76	3	NC	1
533		2	max	0	25	-0.012	27	0	35	0.008	4	NC	28	NC	35
534			min	0	35	-0.221	3	0	3	0	28	606.486	3	NC	1
535		3	max	0	25	-0.012	27	0	35	0.008	4	NC	28	NC	35
536			min	0	35	-0.224	3	0	3	0	28	600.497	3	NC	1
537		4	max	0	25	-0.008	10	0	35	0.005	4	NC	35	NC	35
538			min	0	35	-0.145	3	0	7	0	10	932.674	3	NC	1
539		5	max	0	25	0	10	0	35	0.002	4	NC	35	NC	35
540			min	0	35	-0.004	3	0	3	0	10	NC	1	NC	1
541	M56	1	max	0	4	-0.01	27	0	25	0.002	4	NC	35	NC	35
542			min	-0.001	35	-0.179	3	0	28	0	10	NC	1	NC	1
543		2	max	0	4	-0.014	27	0	25	0.002	4	NC	28	NC	35
544			min	-0.001	35	-0.254	3	0	28	0	10	653.577	3	NC	1
545		3	max	0	4	-0.016	27	0	25	0.002	4	9258.922	10	NC	35
546			min	-0.001	35	-0.287	3	0	28	0	10	454.899	3	NC	1
547		4	max	0	4	-0.014	27	0	25	0.002	4	NC	28	NC	35
548			min	-0.001	35	-0.256	3	0	35	0	10	654.354	3	NC	1
549		5	max	0	4	-0.011	27	0	25	0.002	4	NC	35	NC	35
550			min	-0.001	35	-0.184	3	0	35	0	28	NC	1	NC	1
551	M57	1	max	0	4	-0.011	27	0	25	0.002	4	NC	35	NC	35
552			min	-0.001	35	-0.196	3	0	28	0	10	NC	1	NC	1
553		2	max	0	4	-0.015	27	0	25	0.002	4	NC	28	NC	35
554			min	-0.001	35	-0.277	3	0	28	0	10	596.764	3	NC	1
555		3	max	0	4	-0.017	27	0	25	0.002	4	8542.584	10	NC	35
556			min	-0.001	35	-0.313	3	0	28	0	10	418.156	3	NC	1
557		4	max	0	4	-0.015	27	0	25	0.002	4	NC	28	NC	35
558			min	-0.001	35	-0.279	3	0	35	0	28	597.977	3	NC	1
559		5	max	0	4	-0.011	27	0	25	0.002	4	NC	35	NC	35
560			min	-0.001	35	-0.2	3	0	35	0	28	NC	1	NC	1
561	M58	1	max	0	4	-0.012	10	0	25	0.001	4	NC	35	NC	35
562			min	-0.001	35	-0.21	3	0	28	0	10	NC	1	NC	1
563		2	max	0	4	-0.016	27	0	25	0.001	4	NC	28	NC	35
564			min	-0.001	35	-0.297	3	0	28	0	10	558.751	3	NC	1
565		3	max	0	4	-0.018	27	0	25	0.001	4	8072.872	10	NC	35
566			min	-0.001	35	-0.334	3	0	28	0	10	393.332	3	NC	1
567		4	max	0	4	-0.016	27	0	25	0.001	4	NC	28	NC	35

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
568			min	-0.001	35	-0.299	3	0	35	0	28	560.319	3	NC	1
569		5	max	0	4	-0.012	27	0	25	0.001	4	NC	35	NC	35
570			min	-0.001	35	-0.214	3	0	35	0	28	NC	1	NC	1
571	M59	1	max	0	4	-0.012	10	0	25	0.001	4	NC	35	NC	35
572			min	0	35	-0.221	3	0	28	0	10	NC	1	NC	1
573		2	max	0	4	-0.017	10	0	25	0.001	4	NC	28	NC	35
574			min	0	35	-0.312	3	0	28	0	10	533.777	3	NC	1
575		3	max	0	4	-0.018	27	0	25	0.001	4	7774.315	10	NC	35
576			min	0	35	-0.35	3	0	28	0	10	376.951	3	NC	1
577		4	max	0	4	-0.017	27	0	25	0.001	4	NC	28	NC	35
578			min	0	35	-0.313	3	0	35	0	28	535.71	3	NC	1
579		5	max	0	4	-0.012	27	0	25	0.001	4	NC	35	NC	35
580			min	0	35	-0.225	3	0	35	0	28	NC	1	NC	1
581	M60	1	max	0	4	-0.012	10	0	25	0	4	NC	35	NC	35
582			min	0	35	-0.228	3	0	28	0	5	NC	1	NC	1
583		2	max	0	4	-0.017	10	0	25	0	4	NC	28	NC	35
584			min	0	35	-0.32	3	0	28	0	5	523.687	3	NC	1
585		3	max	0	4	-0.019	10	0	25	0	4	7685.918	10	NC	35
586			min	0	35	-0.359	3	0	28	0	5	370.49	3	NC	1
587		4	max	0	4	-0.017	27	0	25	0	4	NC	28	NC	35
588			min	0	35	-0.321	3	0	35	0	5	526.319	3	NC	1
589		5	max	0	4	-0.013	27	0	25	0	4	NC	35	NC	35
590			min	0	35	-0.231	3	0	35	0	5	NC	1	NC	1
591	M61	1	max	0	4	-0.012	10	0	25	0	27	NC	35	NC	35
592			min	0	35	-0.229	3	0	28	0	3	NC	1	NC	1
593		2	max	0	4	-0.017	10	0	25	0	27	NC	28	NC	35
594			min	0	35	-0.321	3	0	28	0	3	523.561	3	NC	1
595		3	max	0	4	-0.019	10	0	25	0	27	7737.255	10	NC	35
596			min	0	35	-0.359	3	0	28	0	3	370.843	3	NC	1
597		4	max	0	4	-0.017	27	0	25	0	27	NC	28	NC	35
598			min	0	35	-0.322	3	0	35	0	3	527.518	3	NC	1
599		5	max	0	4	-0.012	27	0	25	0	27	NC	35	NC	35
600			min	0	35	-0.231	3	0	35	0	3	NC	1	NC	1
601	M62	1	max	0	4	-0.012	10	0	25	0	27	NC	35	NC	35
602			min	0	35	-0.224	3	0	28	-0.001	3	NC	1	NC	1
603		2	max	0	4	-0.016	10	0	25	0	27	NC	28	NC	35
604			min	0	35	-0.315	3	0	28	-0.001	3	533.574	3	NC	1
605		3	max	0	4	-0.018	10	0	25	0	27	7938.678	10	NC	35
606			min	0	35	-0.352	3	0	28	-0.001	3	378.233	3	NC	1
607		4	max	0	4	-0.016	10	0	25	0	27	NC	28	NC	35
608			min	0	35	-0.315	3	0	35	-0.001	3	539.814	3	NC	1
609		5	max	0	4	-0.012	27	0	25	0	27	NC	35	NC	35
610			min	0	35	-0.227	3	0	35	-0.001	3	NC	1	NC	1
611	M63	1	max	0	4	-0.011	10	0	25	0	27	NC	35	NC	35
612			min	0	35	-0.213	3	0	28	-0.002	3	NC	1	NC	1
613		2	max	0	4	-0.015	10	0	25	0	27	NC	28	NC	35
614			min	0	35	-0.3	3	0	28	-0.002	3	555.17	3	NC	1
615		3	max	0	4	-0.017	10	0	25	0	27	8320.658	10	NC	35
616			min	0	35	-0.336	3	0	28	-0.002	3	393.777	3	NC	1
617		4	max	0	4	-0.015	10	0	25	0	27	NC	28	NC	35
618			min	0	35	-0.3	3	0	35	-0.002	3	565.342	3	NC	1
619		5	max	0	4	-0.011	10	0	25	0	27	NC	35	NC	35
620			min	0	35	-0.216	3	0	35	-0.002	3	NC	1	NC	1
621	M64	1	max	0	4	-0.01	10	0	25	0	27	NC	35	NC	35
622			min	0	35	-0.196	3	0	28	-0.002	3	NC	1	NC	1

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
623		2	max	0	4	-0.014	10	0	25	0	27	NC	28	NC	35
624			min	0	35	-0.278	3	0	28	-0.002	3	591.531	3	NC	1
625		3	max	0	4	-0.016	10	0	25	0	27	8868.192	10	NC	35
626			min	0	35	-0.313	3	0	28	-0.002	3	416.772	3	NC	1
627		4	max	0	4	-0.014	10	0	25	0	27	NC	28	NC	35
628			min	0	35	-0.278	3	0	35	-0.002	3	599.021	3	NC	1
629		5	max	0	4	-0.01	10	0	25	0	27	NC	35	NC	35
630			min	0	35	-0.198	3	0	35	-0.002	3	NC	1	NC	1
631	M65	1	max	0	4	-0.009	10	0	25	0	27	NC	35	NC	35
632			min	0	35	-0.173	3	0	28	-0.003	3	NC	1	NC	1
633		2	max	0	4	-0.012	10	0	25	0	27	NC	28	NC	35
634			min	0	35	-0.248	3	0	28	-0.003	3	645.823	3	NC	1
635		3	max	0	4	-0.014	10	0	25	0	27	9690.176	10	NC	35
636			min	0	35	-0.28	3	0	28	-0.003	3	451.453	3	NC	1
637		4	max	0	4	-0.013	10	0	25	0	27	NC	28	NC	35
638			min	0	35	-0.248	3	0	35	-0.003	3	651.456	3	NC	1
639		5	max	0	4	-0.009	10	0	25	0	27	NC	35	NC	35
640			min	0	35	-0.175	3	0	35	-0.003	3	NC	1	NC	1
641	M66	1	max	0	8	-0.007	10	0	25	0	27	NC	35	NC	35
642			min	0	35	-0.144	3	0	28	-0.004	3	NC	1	NC	1
643		2	max	0	7	-0.011	10	0	25	0	27	NC	28	NC	35
644			min	0	35	-0.211	3	0	28	-0.004	3	724.861	3	NC	1
645		3	max	0	7	-0.012	10	0	25	0	27	NC	28	NC	35
646			min	0	35	-0.241	3	0	28	-0.004	3	501.657	3	NC	1
647		4	max	0	7	-0.011	10	0	25	0	27	NC	28	NC	35
648			min	0	35	-0.211	3	0	35	-0.004	3	729.21	3	NC	1
649		5	max	0	7	-0.008	10	0	25	0	27	NC	35	NC	35
650			min	0	35	-0.145	3	0	35	-0.004	3	NC	1	NC	1
651	M67	1	max	0	7	-0.006	10	0	25	0	27	NC	35	NC	35
652			min	0	35	-0.11	3	0	28	-0.004	3	NC	1	NC	1
653		2	max	0	7	-0.008	10	0	25	0	27	NC	35	NC	35
654			min	0	35	-0.167	3	0	28	-0.004	3	841.272	3	NC	1
655		3	max	0	10	-0.009	10	0	25	0	27	NC	28	NC	35
656			min	0	35	-0.194	3	0	28	-0.004	3	574.384	3	NC	1
657		4	max	0	10	-0.008	10	0	25	0	27	NC	35	NC	35
658			min	0	35	-0.167	3	0	35	-0.004	3	844.845	3	NC	1
659		5	max	0	10	-0.006	10	0	25	0	27	NC	35	NC	35
660			min	0	35	-0.111	3	0	35	-0.004	3	NC	1	NC	1
661	M68	1	max	0	10	-0.004	10	0	25	0	27	NC	35	NC	35
662			min	0	35	-0.072	3	0	28	-0.004	3	NC	1	NC	1
663		2	max	0	10	-0.006	10	0	25	0	27	NC	35	NC	35
664			min	0	35	-0.12	3	0	28	-0.004	3	1004.48	3	NC	1
665		3	max	0	10	-0.007	10	0	25	0	27	NC	28	NC	35
666			min	0	35	-0.143	3	0	28	-0.004	3	673.458	3	NC	1
667		4	max	0	28	-0.006	10	0	25	0	27	NC	35	NC	35
668			min	0	35	-0.12	3	0	35	-0.004	3	1007.454	3	NC	1
669		5	max	0	28	-0.004	10	0	25	0	27	NC	35	NC	35
670			min	0	35	-0.072	3	0	35	-0.004	3	NC	1	NC	1
671	M69	1	max	0	10	-0.002	10	0	25	0	27	NC	35	NC	35
672			min	0	35	-0.031	3	0	28	-0.004	3	NC	1	NC	1
673		2	max	0	10	-0.003	10	0	25	0	27	NC	35	NC	35
674			min	0	35	-0.071	3	0	28	-0.004	3	1200.028	3	NC	1
675		3	max	0	10	-0.004	10	0	25	0	27	NC	35	NC	35
676			min	0	35	-0.092	3	0	28	-0.004	3	787.532	3	NC	1
677		4	max	0	28	-0.003	10	0	25	0	27	NC	35	NC	35

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
678			min	0	35	-0.071	3	0	35	-0.005	3	1201.63	3	NC	1
679		5	max	0	2	-0.002	10	0	25	0	27	NC	35	NC	35
680			min	0	35	-0.031	3	0	35	-0.005	3	NC	1	NC	1
681	M70	1	max	0	35	0	35	0	35	0	35	NC	35	NC	35
682			min	0	1	0	1	0	1	-0.002	2	NC	1	NC	1
683		2	max	0	35	-0.001	10	0	10	0	27	NC	35	NC	35
684			min	0	10	-0.008	3	-0.002	3	-0.006	3	NC	1	NC	1
685		3	max	0	35	-0.001	10	0	27	0	28	NC	35	NC	35
686			min	0	28	-0.005	3	0	3	-0.006	3	NC	1	NC	1
687		4	max	0.001	35	-0.001	10	0.001	35	0	27	NC	35	NC	35
688			min	0	28	-0.008	3	0	3	-0.008	3	NC	1	NC	1
689		5	max	0	35	0	35	0	35	0	4	NC	35	NC	35
690			min	0	1	0	1	0	1	0	5	NC	1	NC	1
691	M71	1	max	0	35	0	35	0	35	0.002	4	NC	35	NC	35
692			min	0	1	0	1	0	1	0	27	NC	1	NC	1
693		2	max	0.001	4	0.016	26	0.002	4	0.006	4	NC	35	NC	35
694			min	0	35	0.001	27	0	10	0	28	NC	1	NC	1
695		3	max	0	27	0.008	4	0	4	0.006	4	NC	35	NC	35
696			min	-0.001	26	0.001	28	0	27	0	27	NC	1	NC	1
697		4	max	0	25	0.017	4	0	4	0.008	4	NC	35	NC	35
698			min	-0.001	35	0.002	27	-0.001	35	0	28	NC	1	NC	1
699		5	max	0	35	0	35	0	35	0	35	NC	35	NC	35
700			min	0	1	0	1	0	1	0	3	NC	1	NC	1
701	M72	1	max	0	35	0	35	0	35	0	35	NC	35	NC	35
702			min	0	1	0	1	0	1	0	27	NC	1	NC	1
703		2	max	0	10	0.001	4	0.001	35	0	35	NC	35	NC	35
704			min	-0.001	3	-0.001	35	0	3	0	2	NC	1	NC	1
705		3	max	0	10	0.001	4	0.002	35	0	35	NC	35	NC	35
706			min	-0.002	3	-0.001	35	0	9	0	2	NC	1	NC	1
707		4	max	0	10	0.001	26	0.003	35	0	35	NC	35	NC	35
708			min	-0.002	3	-0.002	35	0	10	0	27	NC	1	NC	1
709		5	max	0	10	0.002	26	0.004	35	0	35	NC	35	NC	35
710			min	-0.002	3	-0.002	35	0	28	0	27	NC	1	NC	1
711	M73	1	max	0	35	0	35	0	35	0	35	NC	35	NC	35
712			min	0	1	0	1	0	1	0	28	NC	1	NC	1
713		2	max	0	35	0.003	26	0.001	35	0	25	NC	35	NC	35
714			min	-0.001	3	0	27	0	28	0	28	NC	1	NC	1
715		3	max	0	35	0.005	26	0.002	35	0	25	NC	35	NC	35
716			min	-0.002	25	0	27	0	28	0	28	NC	1	NC	1
717		4	max	0	35	0.008	26	0.003	35	0	25	NC	35	NC	35
718			min	-0.002	25	0	27	0	5	0	28	NC	1	NC	1
719		5	max	0	35	0.011	26	0.004	35	0	25	NC	35	NC	35
720			min	-0.002	25	0	27	0	5	0	28	NC	1	NC	1
721	M74	1	max	0	35	0	35	0	35	0	9	NC	35	NC	35
722			min	0	1	0	1	0	1	0	28	NC	1	NC	1
723		2	max	0	10	0.055	9	0.002	2	0	7	NC	35	NC	35
724			min	-0.002	3	-0.002	23	-0.002	35	0	2	2482.298	8	NC	1
725		3	max	0	10	0.087	9	0	27	0	7	NC	28	NC	35
726			min	-0.004	3	-0.005	23	-0.004	35	0	2	1669.852	9	NC	1
727		4	max	0.001	10	0.084	9	0	27	0	9	NC	28	NC	35
728			min	-0.004	3	-0.005	23	-0.006	26	0	28	2018.377	9	NC	1
729		5	max	0.001	10	0.044	35	0	27	0	25	NC	28	NC	35
730			min	-0.004	3	0.002	27	-0.007	26	0	28	2573.797	35	NC	1
731	M75	1	max	0	35	0	35	0	35	0	26	NC	35	NC	35
732			min	0	1	0	1	0	1	0	35	NC	1	NC	1

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
733		2	max	0	10	0.014	35	0.001	4	0	2	NC	35	NC	35
734			min	-0.002	26	-0.041	8	0	10	0	23	2302.823	9	NC	1
735		3	max	0	10	0.038	35	0.001	4	0	2	NC	28	NC	35
736			min	-0.003	26	-0.049	10	0	10	0	23	1779.843	9	NC	1
737		4	max	0	10	0.054	35	0.001	4	0	2	9941.816	27	NC	35
738			min	-0.004	26	-0.048	10	0	28	0	23	2174.499	10	NC	1
739		5	max	0	10	0.044	35	0.002	25	0	26	NC	35	NC	35
740			min	-0.004	26	0.002	27	0	28	0	27	3005.838	26	NC	1
741	M76	1	max	0	28	0	10	0.002	35	0	35	NC	35	NC	35
742			min	-0.004	35	-0.002	3	-0.002	26	0	26	NC	1	NC	1
743		2	max	0	28	0	10	0	27	0	2	NC	35	NC	35
744			min	-0.004	35	-0.002	3	-0.004	26	-0.001	26	NC	1	NC	1
745		3	max	0	5	0	10	0	27	0	2	NC	35	NC	35
746			min	-0.004	35	-0.002	3	-0.006	26	-0.001	26	NC	1	NC	1
747		4	max	0	5	0	10	0	27	0	2	NC	35	NC	35
748			min	-0.004	35	-0.002	3	-0.008	26	-0.001	26	NC	1	NC	1
749		5	max	0	5	0	35	0	27	0	27	NC	35	NC	35
750			min	-0.004	35	-0.002	25	-0.011	26	0	26	NC	1	NC	1
751	M77	1	max	-0.002	27	0	10	0.002	25	0	9	NC	35	NC	35
752			min	-0.044	35	-0.004	26	0	28	0	2	NC	1	NC	1
753		2	max	-0.002	27	0.088	10	0.001	27	0	9	NC	4	NC	35
754			min	-0.044	35	-0.023	5	-0.001	26	0	2	1091.691	10	NC	1
755		3	max	-0.002	27	0.132	10	0.001	27	0	9	NC	4	NC	35
756			min	-0.044	35	-0.029	5	-0.003	26	0	2	728.376	10	NC	1
757		4	max	-0.002	27	0.089	10	0.001	27	0	9	NC	26	NC	35
758			min	-0.044	35	-0.019	35	-0.005	26	0	2	1086.047	10	NC	1
759		5	max	-0.002	27	0.001	10	0	27	0	9	NC	35	NC	35
760			min	-0.044	35	-0.004	3	-0.007	26	0	2	NC	1	NC	1
761	M78	1	max	0	27	0.001	10	0.044	35	0.001	35	NC	35	NC	35
762			min	-0.007	26	-0.004	3	0.002	27	-0.003	10	NC	1	NC	1
763		2	max	0	27	-0.001	27	0.037	35	0.003	35	NC	35	NC	35
764			min	-0.007	26	-0.015	26	0.002	27	-0.002	2	NC	1	NC	1
765		3	max	0	27	-0.001	28	0.027	35	0.006	35	NC	35	NC	35
766			min	-0.007	26	-0.008	25	0.001	27	-0.002	2	NC	1	NC	1
767		4	max	0	27	-0.002	27	0.017	35	0.006	35	NC	35	NC	35
768			min	-0.009	26	-0.016	26	0.001	27	-0.001	2	NC	1	NC	1
769		5	max	0	27	0	35	0.004	35	0	35	NC	35	NC	35
770			min	-0.011	26	-0.002	25	0	5	0	2	NC	1	NC	1
771	M79	1	max	0.002	25	0	10	0.044	35	0.003	10	NC	35	NC	35
772			min	0	28	-0.004	26	0.002	27	-0.001	23	NC	1	NC	1
773		2	max	0.001	35	-0.001	10	0.037	35	0.001	2	NC	35	NC	35
774			min	0	28	-0.006	26	0.002	27	-0.026	5	NC	1	NC	1
775		3	max	0.002	35	-0.001	10	0.027	35	0.001	2	NC	35	NC	35
776			min	0	26	-0.005	26	0.001	27	-0.034	5	NC	1	NC	1
777		4	max	0.002	35	-0.001	10	0.017	35	0.001	2	NC	35	NC	35
778			min	-0.001	26	-0.006	26	0.001	27	-0.026	5	NC	1	NC	1
779		5	max	0.002	35	0	10	0.004	35	0	2	NC	35	NC	35
780			min	-0.002	26	-0.002	3	0	28	0	24	NC	1	NC	1
781	M82	1	max	-0.001	10	0	28	0.457	5	0	2	NC	35	NC	35
782			min	-0.007	25	-0.001	35	-0.029	2	-0.001	7	NC	1	598.242	2
783		2	max	-0.001	10	0	28	0.394	5	0	2	NC	35	NC	35
784			min	-0.007	25	-0.001	35	-0.02	2	-0.001	7	NC	1	797.742	2
785		3	max	-0.001	10	0	28	0.331	5	0	2	NC	35	NC	35
786			min	-0.007	25	-0.001	35	-0.01	2	-0.001	7	NC	1	1196.743	2
787		4	max	-0.001	10	0	28	0.268	5	0	2	NC	35	NC	35

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
788			min	-0.007	25	-0.001	35	-0.001	2	-0.001	7	NC	1	2393.648	2
789		5	max	-0.001	10	0	28	0.213	35	0	2	NC	35	NC	35
790			min	-0.007	25	-0.001	35	0.009	2	-0.001	7	NC	1	NC	1
791	M83	1	max	-0.001	10	0	28	0.478	5	0	2	NC	35	NC	35
792			min	-0.006	26	-0.001	35	-0.031	2	-0.001	7	NC	1	598.175	2
793		2	max	-0.001	10	0	28	0.415	5	0	2	NC	35	NC	35
794			min	-0.006	26	-0.001	35	-0.021	2	-0.001	7	NC	1	797.63	2
795		3	max	-0.001	10	0	28	0.351	5	0	2	NC	35	NC	35
796			min	-0.006	26	-0.001	35	-0.012	2	-0.001	7	NC	1	1196.539	2
797		4	max	-0.001	10	0	28	0.288	5	0	2	NC	35	NC	35
798			min	-0.006	26	-0.001	35	-0.002	2	-0.001	7	NC	1	2393.202	2
799		5	max	-0.001	10	0	28	0.232	35	0	2	NC	35	NC	35
800			min	-0.006	26	-0.001	35	0.007	2	-0.001	7	NC	1	NC	1
801	M84	1	max	-0.001	10	0	28	0.629	5	0.001	35	NC	35	NC	35
802			min	-0.005	25	-0.001	35	-0.047	2	0	2	NC	1	524.452	2
803		2	max	-0.001	10	0	28	0.54	5	0.001	35	NC	35	NC	35
804			min	-0.005	25	-0.001	35	-0.036	2	0	2	NC	1	699.333	2
805		3	max	-0.001	10	0	26	0.451	5	0.001	35	NC	35	NC	35
806			min	-0.005	25	-0.001	35	-0.025	2	0	2	NC	1	1049.116	2
807		4	max	-0.001	10	0	26	0.362	5	0.001	35	NC	35	NC	35
808			min	-0.005	25	-0.002	35	-0.014	2	0	2	NC	1	2098.45	2
809		5	max	-0.001	10	0.001	26	0.273	5	0.001	35	NC	35	NC	35
810			min	-0.005	25	-0.002	35	-0.004	2	0	2	NC	1	NC	1
811	M85	1	max	-0.001	10	0	28	0.615	5	0.001	35	NC	35	NC	35
812			min	-0.006	26	-0.001	35	-0.048	2	0	2	NC	1	524.338	2
813		2	max	-0.001	10	0	28	0.526	5	0.001	35	NC	35	NC	35
814			min	-0.006	26	-0.001	35	-0.037	2	0	2	NC	1	699.227	2
815		3	max	-0.001	10	0	26	0.437	5	0.001	35	NC	35	NC	35
816			min	-0.006	26	-0.002	35	-0.026	2	0	2	NC	1	1049.049	2
817		4	max	-0.001	10	0.001	26	0.348	5	0.001	35	NC	35	NC	35
818			min	-0.006	26	-0.002	35	-0.015	2	0	2	NC	1	2098.431	2
819		5	max	-0.001	10	0.001	26	0.258	5	0.001	35	NC	35	NC	35
820			min	-0.006	26	-0.002	35	-0.004	2	0	2	NC	1	NC	1
821	M86	1	max	-0.001	10	0.001	26	0.107	35	0.002	35	NC	35	NC	35
822			min	-0.005	25	-0.001	35	-0.011	2	0	2	NC	1	2071.673	2
823		2	max	-0.001	10	0.001	26	0.101	35	0.002	35	NC	35	NC	35
824			min	-0.005	25	-0.001	35	-0.009	2	0	2	NC	1	2762.638	2
825		3	max	-0.001	10	0.001	26	0.095	35	0.002	35	NC	35	NC	35
826			min	-0.005	25	-0.002	35	-0.006	2	0	2	NC	1	4146.177	2
827		4	max	-0.001	10	0.001	26	0.089	35	0.002	35	NC	35	NC	35
828			min	-0.005	25	-0.002	35	-0.003	2	0	2	NC	1	8297.575	2
829		5	max	-0.001	10	0.001	26	0.083	35	0.002	35	NC	35	NC	35
830			min	-0.005	25	-0.002	35	0	2	0	2	NC	1	NC	1
831	M87	1	max	0	10	0.001	26	0.071	5	0.002	35	NC	35	NC	35
832			min	-0.003	26	-0.001	35	-0.012	2	0	2	NC	1	2121.037	2
833		2	max	0	10	0.001	26	0.064	35	0.002	35	NC	35	NC	35
834			min	-0.003	26	-0.001	35	-0.009	2	0	2	NC	1	2830.1	2
835		3	max	0	10	0.001	26	0.058	35	0.002	35	NC	35	NC	35
836			min	-0.003	26	-0.002	35	-0.007	2	0	2	NC	1	4246.817	2
837		4	max	0	10	0.001	26	0.053	35	0.002	35	NC	35	NC	35
838			min	-0.003	26	-0.002	35	-0.004	2	0	2	NC	1	8494.623	2
839		5	max	0	10	0.001	26	0.047	35	0.002	35	NC	35	NC	35
840			min	-0.003	26	-0.002	35	-0.001	2	0	2	NC	1	NC	1
841	M88	1	max	0.001	35	-0.001	10	0.213	35	0.002	2	NC	35	NC	35
842			min	0	28	-0.007	25	0.009	2	-0.011	5	NC	1	NC	1

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
843		2	max	0.001	35	-0.001	10	0.218	35	0.002	2	NC	35	NC	35
844			min	0	28	-0.007	25	0.008	2	-0.011	5	NC	1	NC	1
845		3	max	0.001	35	-0.001	10	0.223	35	0.002	2	NC	35	NC	35
846			min	0	28	-0.007	26	0.008	2	-0.011	5	NC	1	NC	1
847		4	max	0.001	35	-0.001	10	0.227	35	0.002	2	NC	35	NC	35
848			min	0	28	-0.007	26	0.008	2	-0.011	5	NC	1	NC	1
849		5	max	0.001	35	-0.001	10	0.232	35	0.002	2	NC	35	NC	35
850			min	0	28	-0.006	26	0.007	2	-0.011	5	NC	1	NC	1
851	M89	1	max	0.001	35	-0.001	10	0.457	5	0.002	2	NC	35	NC	35
852			min	0	28	-0.007	25	-0.029	2	-0.011	5	NC	1	NC	1
853		2	max	0.001	35	-0.001	10	0.462	5	0.002	2	NC	35	NC	35
854			min	0	28	-0.007	25	-0.03	2	-0.011	5	NC	1	NC	1
855		3	max	0.001	35	-0.001	10	0.467	5	0.002	2	NC	35	NC	35
856			min	0	28	-0.007	26	-0.03	2	-0.011	5	NC	1	NC	1
857		4	max	0.001	35	-0.001	10	0.473	5	0.002	2	NC	35	NC	35
858			min	0	28	-0.006	26	-0.03	2	-0.011	5	NC	1	NC	1
859		5	max	0.001	35	-0.001	10	0.478	5	0.002	2	NC	35	NC	35
860			min	0	28	-0.006	26	-0.031	2	-0.011	5	NC	1	NC	1
861	M90	1	max	0.001	35	-0.001	10	0.629	5	0.002	2	NC	35	NC	35
862			min	0	28	-0.005	25	-0.047	2	-0.016	5	NC	1	NC	1
863		2	max	0.001	35	-0.001	10	0.626	5	0.002	2	NC	35	NC	35
864			min	0	28	-0.005	25	-0.047	2	-0.016	5	NC	1	NC	1
865		3	max	0.001	35	-0.001	10	0.622	5	0.002	2	NC	35	NC	35
866			min	0	28	-0.006	26	-0.048	2	-0.016	5	NC	1	NC	1
867		4	max	0.001	35	-0.001	10	0.618	5	0.002	2	NC	35	NC	35
868			min	0	28	-0.006	26	-0.048	2	-0.016	5	NC	1	NC	1
869		5	max	0.001	35	-0.001	10	0.615	5	0.002	2	NC	35	NC	35
870			min	0	28	-0.006	26	-0.048	2	-0.016	5	NC	1	NC	1
871	M91	1	max	0.002	35	-0.001	10	0.273	5	0.002	2	NC	35	NC	35
872			min	-0.001	26	-0.005	25	-0.004	2	-0.016	5	NC	1	NC	1
873		2	max	0.002	35	-0.001	10	0.269	5	0.002	2	NC	35	NC	35
874			min	-0.001	26	-0.005	25	-0.004	2	-0.016	5	NC	1	NC	1
875		3	max	0.002	35	-0.001	10	0.266	5	0.002	2	NC	35	NC	35
876			min	-0.001	26	-0.006	26	-0.004	2	-0.016	5	NC	1	NC	1
877		4	max	0.002	35	-0.001	10	0.262	5	0.002	2	NC	35	NC	35
878			min	-0.001	26	-0.006	26	-0.004	2	-0.016	5	NC	1	NC	1
879		5	max	0.002	35	-0.001	10	0.258	5	0.002	2	NC	35	NC	35
880			min	-0.001	26	-0.006	26	-0.004	2	-0.016	5	NC	1	NC	1
881	M92	1	max	0.002	35	-0.001	10	0.083	35	0	2	NC	35	NC	35
882			min	-0.001	26	-0.005	25	0	2	-0.001	5	NC	1	NC	1
883		2	max	0.002	35	0	10	0.074	35	0	2	NC	35	NC	35
884			min	-0.001	26	-0.004	25	-0.001	2	-0.001	5	NC	1	NC	1
885		3	max	0.002	35	0	10	0.065	35	0	2	NC	35	NC	35
886			min	-0.001	26	-0.004	25	-0.001	2	-0.001	5	NC	1	NC	1
887		4	max	0.002	35	0	10	0.056	35	0	2	NC	35	NC	35
888			min	-0.001	26	-0.003	26	-0.001	2	-0.001	5	NC	1	NC	1
889		5	max	0.002	35	0	10	0.047	35	0	2	NC	35	NC	35
890			min	-0.001	26	-0.003	26	-0.001	2	-0.001	5	NC	1	NC	1
891	M93	1	max	0.001	35	-0.001	10	0.107	35	0	2	NC	35	NC	35
892			min	-0.001	26	-0.005	25	-0.011	2	-0.001	5	NC	1	NC	1
893		2	max	0.001	35	0	10	0.098	5	0	2	NC	35	NC	35
894			min	-0.001	26	-0.004	25	-0.012	2	-0.001	5	NC	1	NC	1
895		3	max	0.001	35	0	10	0.089	5	0	2	NC	35	NC	35
896			min	-0.001	26	-0.004	25	-0.012	2	-0.001	5	NC	1	NC	1
897		4	max	0.001	35	0	10	0.08	5	0	2	NC	35	NC	35

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
898			min	-0.001	26	-0.003	26	-0.012	2	-0.001	5	NC	1	NC	1
899		5	max	0.001	35	0	10	0.071	5	0	2	NC	35	NC	35
900			min	-0.001	26	-0.003	26	-0.012	2	-0.001	5	NC	1	NC	1
901	M94	1	max	0.001	10	0	4	0	10	0	9	NC	35	NC	35
902			min	-0.005	3	0	27	-0.001	3	0	28	NC	1	NC	1
903		2	max	0.001	10	0.002	35	0.083	4	0	7	NC	35	NC	35
904			min	-0.003	3	-0.002	2	0	27	0	2	NC	1	1505.463	2
905		3	max	0	10	0.003	35	0.098	2	0	7	NC	35	NC	28
906			min	-0.002	3	0	27	-0.003	23	0	2	NC	1	1357.102	2
907		4	max	0	10	0.007	26	0.072	2	0	7	NC	35	NC	28
908			min	-0.003	25	0	27	-0.004	23	0	2	NC	1	2245.855	2
909		5	max	0	10	0.006	26	0.043	35	0	9	NC	35	NC	28
910			min	-0.004	25	0	27	0.002	27	0	27	NC	1	2656.666	35
911	M95	1	max	-0.001	27	0	35	0	10	0	7	NC	35	NC	35
912			min	-0.019	3	-0.001	3	-0.002	3	0	2	NC	1	NC	1
913		2	max	-0.001	27	0.003	26	0.082	2	0	7	NC	35	NC	35
914			min	-0.017	26	0	27	-0.006	23	0	2	NC	1	1484.623	2
915		3	max	-0.001	27	0.005	26	0.098	2	0	7	NC	35	NC	35
916			min	-0.016	26	0	27	-0.016	23	0	2	NC	1	1313.944	2
917		4	max	-0.001	27	0.007	26	0.071	2	0	9	NC	35	NC	35
918			min	-0.016	26	0	27	-0.018	23	0	2	NC	1	2118.333	2
919		5	max	-0.001	27	0.007	26	0.037	35	0	9	NC	35	NC	28
920			min	-0.015	26	0	27	0.002	27	0	27	NC	1	2995.485	35
921	M96	1	max	0	35	0	26	0	27	0	2	NC	35	NC	35
922			min	-0.005	25	0	27	0	3	0	23	NC	1	NC	1
923		2	max	0	35	0.003	26	0.082	2	0	2	NC	35	NC	35
924			min	-0.006	25	0	27	-0.006	23	0	23	NC	1	1447.313	2
925		3	max	0	35	0.004	26	0.096	2	0	2	NC	35	NC	35
926			min	-0.007	25	0	27	-0.015	23	0	23	NC	1	1269.513	2
927		4	max	-0.001	28	0.008	26	0.066	2	0	2	NC	35	NC	35
928			min	-0.008	25	0	27	-0.017	23	0	23	NC	1	2045.312	2
929		5	max	-0.001	28	0.006	26	0.024	35	0	35	NC	35	NC	28
930			min	-0.008	25	0	27	0.001	27	0	27	NC	1	4671.571	35
931	M97	1	max	-0.002	27	0.001	35	0	35	0	4	NC	35	NC	35
932			min	-0.019	3	0	27	0	3	0	35	NC	1	NC	1
933		2	max	-0.002	27	0.002	26	0.079	2	0	4	NC	35	NC	35
934			min	-0.019	26	0	27	-0.005	5	0	27	NC	1	1495.126	2
935		3	max	-0.002	27	0.005	26	0.093	2	0	4	NC	35	NC	35
936			min	-0.019	26	0	27	-0.014	23	0	27	NC	1	1315.443	2
937		4	max	-0.002	27	0.008	26	0.063	2	0	2	NC	35	NC	35
938			min	-0.018	26	0	27	-0.016	23	0	23	NC	1	2115.949	2
939		5	max	-0.002	27	0.007	26	0.021	35	0	35	NC	35	NC	28
940			min	-0.017	26	0	27	0.001	27	0	27	NC	1	5425.495	35
941	M98	1	max	0	27	0	10	0.064	2	0.001	35	NC	35	NC	35
942			min	-0.008	26	-0.003	25	-0.003	23	-0.001	2	NC	1	NC	1
943		2	max	0	27	-0.001	10	0.063	2	0.001	35	NC	35	NC	35
944			min	-0.008	26	-0.007	26	-0.006	23	-0.001	2	NC	1	NC	1
945		3	max	0	27	-0.001	27	0.063	2	0.001	35	NC	35	NC	35
946			min	-0.009	26	-0.011	26	-0.009	23	-0.002	2	NC	1	NC	1
947		4	max	0	27	-0.001	27	0.063	2	0.001	35	NC	35	NC	35
948			min	-0.008	26	-0.014	26	-0.013	23	-0.002	2	NC	1	NC	1
949		5	max	0	27	-0.001	27	0.063	2	0.001	35	NC	35	NC	35
950			min	-0.008	26	-0.015	26	-0.016	23	-0.002	2	NC	1	NC	1
951	M99	1	max	0	27	-0.001	28	0.056	2	0.001	35	NC	35	NC	35
952			min	-0.008	26	-0.008	25	-0.015	23	-0.002	2	NC	1	NC	1

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
953		2	max	0	27	-0.001	10	0.056	2	0.001	35	NC	35	NC	35
954			min	-0.009	26	-0.01	25	-0.015	23	-0.002	2	NC	1	NC	1
955		3	max	0	27	-0.002	27	0.055	2	0.001	35	NC	35	NC	35
956			min	-0.009	26	-0.013	26	-0.014	23	-0.002	2	NC	1	NC	1
957		4	max	0	27	-0.002	27	0.054	2	0.001	35	NC	35	NC	35
958			min	-0.009	26	-0.015	26	-0.014	23	-0.002	2	NC	1	NC	1
959		5	max	0	27	-0.002	27	0.054	2	0.001	35	NC	35	NC	35
960			min	-0.009	26	-0.017	26	-0.014	23	-0.002	2	NC	1	NC	1
961	M100	1	max	0	27	-0.001	28	0.038	2	0.002	5	NC	35	NC	35
962			min	-0.007	26	-0.008	25	-0.044	23	-0.002	2	NC	1	NC	1
963		2	max	0	27	-0.001	28	0.038	2	0.002	5	NC	35	NC	35
964			min	-0.007	26	-0.008	25	-0.042	23	-0.002	2	NC	1	NC	1
965		3	max	0	27	-0.001	28	0.037	2	0.002	5	NC	35	NC	35
966			min	-0.007	26	-0.008	25	-0.039	23	-0.002	2	NC	1	NC	1
967		4	max	0	27	-0.001	28	0.037	2	0.002	5	NC	35	NC	35
968			min	-0.007	26	-0.008	25	-0.037	23	-0.002	2	NC	1	NC	1
969		5	max	0	27	-0.001	28	0.037	2	0.002	5	NC	35	NC	35
970			min	-0.007	26	-0.008	25	-0.035	23	-0.002	2	NC	1	NC	1
971	M101	1	max	0	27	-0.001	28	0.081	2	0.002	5	NC	35	NC	35
972			min	-0.005	26	-0.008	25	-0.081	5	-0.002	2	NC	1	NC	1
973		2	max	0	27	-0.001	28	0.08	2	0.002	5	NC	35	NC	35
974			min	-0.006	26	-0.007	25	-0.079	5	-0.002	2	NC	1	NC	1
975		3	max	0	27	-0.001	28	0.08	2	0.002	5	NC	35	NC	35
976			min	-0.006	26	-0.007	25	-0.077	5	-0.002	2	NC	1	NC	1
977		4	max	0	27	-0.001	28	0.08	2	0.002	5	NC	35	NC	35
978			min	-0.006	26	-0.008	25	-0.075	5	-0.002	2	NC	1	NC	1
979		5	max	0	27	-0.001	28	0.079	2	0.002	5	NC	35	NC	35
980			min	-0.006	26	-0.008	25	-0.073	5	-0.002	2	NC	1	NC	1
981	M102	1	max	0	27	-0.002	27	0.027	2	0.002	5	NC	35	NC	35
982			min	-0.008	26	-0.016	26	-0.037	5	-0.002	2	NC	1	NC	1
983		2	max	0	27	-0.002	27	0.026	2	0.002	5	NC	35	NC	35
984			min	-0.008	26	-0.016	26	-0.038	5	-0.002	2	NC	1	NC	1
985		3	max	0	27	-0.002	27	0.026	2	0.002	5	NC	35	NC	35
986			min	-0.008	26	-0.015	26	-0.039	5	-0.002	2	NC	1	NC	1
987		4	max	0	27	-0.001	27	0.025	2	0.002	5	NC	35	NC	35
988			min	-0.008	26	-0.014	26	-0.04	5	-0.002	2	NC	1	NC	1
989		5	max	0	27	-0.001	27	0.024	2	0.002	5	NC	35	NC	35
990			min	-0.008	26	-0.013	26	-0.041	5	-0.002	2	NC	1	NC	1
991	M103	1	max	0	27	-0.002	27	0.069	2	0.002	5	NC	35	NC	35
992			min	-0.007	26	-0.016	26	-0.077	5	-0.002	2	NC	1	NC	1
993		2	max	0	27	-0.002	27	0.069	2	0.002	5	NC	35	NC	35
994			min	-0.007	26	-0.015	26	-0.079	5	-0.002	2	NC	1	NC	1
995		3	max	0	27	-0.002	27	0.068	2	0.002	5	NC	35	NC	35
996			min	-0.007	26	-0.015	26	-0.08	5	-0.002	2	NC	1	NC	1
997		4	max	0	27	-0.001	27	0.067	2	0.002	5	NC	35	NC	35
998			min	-0.007	26	-0.014	26	-0.081	5	-0.002	2	NC	1	NC	1
999		5	max	0	27	-0.001	27	0.066	2	0.002	5	NC	35	NC	35
1000			min	-0.007	26	-0.013	26	-0.082	5	-0.002	2	NC	1	NC	1
1001	M104	1	max	-0.001	28	0.005	26	0.081	2	0	2	NC	35	NC	35
1002			min	-0.008	25	0	27	-0.081	5	0	23	NC	1	1416.048	3
1003		2	max	-0.001	28	0.006	26	0.07	2	0	2	NC	35	NC	35
1004			min	-0.008	25	0	27	-0.071	5	0	23	NC	1	1891.388	3
1005		3	max	-0.001	28	0.006	26	0.059	2	0	2	NC	35	NC	35
1006			min	-0.008	25	0	27	-0.061	5	0	23	NC	1	2842.335	3
1007		4	max	-0.001	28	0.007	26	0.049	2	0	2	NC	35	NC	35

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
1008			min	-0.008	25	0	27	-0.051	5	0	23	NC	1	5695.103	3
1009		5	max	-0.001	28	0.007	26	0.038	2	0	2	NC	35	NC	35
1010			min	-0.008	25	0	27	-0.044	23	0	23	NC	1	NC	1
1011	M105	1	max	-0.001	28	0.006	26	0.079	2	0	2	NC	35	NC	35
1012			min	-0.008	25	0	27	-0.073	5	0	23	NC	1	1399.795	3
1013		2	max	-0.001	28	0.006	26	0.069	2	0	2	NC	35	NC	35
1014			min	-0.008	25	0	27	-0.063	5	0	23	NC	1	1868.241	3
1015		3	max	-0.001	28	0.007	26	0.058	2	0	2	NC	35	NC	35
1016			min	-0.008	25	0	27	-0.053	5	0	23	NC	1	2806.106	3
1017		4	max	-0.001	28	0.007	26	0.048	2	0	2	NC	35	NC	35
1018			min	-0.008	25	0	27	-0.043	5	0	23	NC	1	5620.511	3
1019		5	max	-0.001	28	0.007	26	0.037	2	0	2	NC	35	NC	35
1020			min	-0.008	25	0	27	-0.035	23	0	23	NC	1	NC	1
1021	M106	1	max	-0.002	27	0.007	26	0.069	2	0	4	NC	35	NC	35
1022			min	-0.016	26	0	27	-0.077	5	0	27	NC	1	541.385	2
1023		2	max	-0.002	27	0.007	26	0.059	2	0	4	NC	35	NC	35
1024			min	-0.016	26	0	27	-0.067	5	0	27	NC	1	721.86	2
1025		3	max	-0.002	27	0.007	26	0.048	2	0	4	NC	35	NC	35
1026			min	-0.016	26	0	27	-0.057	5	0	27	NC	1	1082.777	2
1027		4	max	-0.002	27	0.008	26	0.038	2	0	4	NC	35	NC	35
1028			min	-0.016	26	0	27	-0.047	5	0	27	NC	1	2165.688	2
1029		5	max	-0.002	27	0.008	26	0.027	2	0	4	NC	35	NC	35
1030			min	-0.016	26	0	27	-0.037	5	0	27	NC	1	NC	1
1031	M107	1	max	-0.001	27	0.007	26	0.066	2	0	4	NC	35	NC	35
1032			min	-0.013	26	0	27	-0.082	5	0	27	NC	1	NC	1
1033		2	max	-0.001	27	0.008	26	0.056	2	0	4	NC	35	NC	35
1034			min	-0.013	26	0	27	-0.072	5	0	27	NC	1	NC	1
1035		3	max	-0.001	27	0.008	26	0.045	2	0	4	NC	35	NC	35
1036			min	-0.013	26	0	27	-0.062	5	0	27	NC	1	NC	1
1037		4	max	-0.001	27	0.008	26	0.035	2	0	4	NC	35	NC	35
1038			min	-0.013	26	0	27	-0.051	5	0	27	NC	1	NC	1
1039		5	max	-0.001	27	0.008	26	0.024	2	0	4	NC	35	NC	35
1040			min	-0.013	26	0	27	-0.041	5	0	27	NC	1	NC	1
1041	M108	1	max	0	4	0.001	4	-0.002	28	0.003	4	NC	35	NC	35
1042			min	0	35	0	10	-0.082	3	0	27	NC	1	NC	1
1043		2	max	0	4	0.001	4	-0.003	28	0.004	4	NC	35	NC	28
1044			min	0	35	0	10	-0.105	3	0	27	NC	1	536.213	3
1045		3	max	0	4	0.001	4	-0.004	28	0.005	4	NC	35	NC	7
1046			min	0	35	0	10	-0.127	3	0	27	NC	1	268.745	3
1047		4	max	0	4	0.001	4	-0.005	28	0.005	4	NC	35	NC	7
1048			min	0	35	0	10	-0.149	3	0	27	NC	1	180.322	3
1049		5	max	0	4	0.002	4	-0.006	28	0.004	4	NC	35	NC	7
1050			min	0	35	0	10	-0.17	3	0	27	NC	1	135.571	3
1051	M109	1	max	0	25	-0.003	28	0	10	0	28	NC	35	NC	35
1052			min	0	24	-0.114	3	-0.001	3	0	3	NC	1	NC	1
1053		2	max	0	25	-0.004	28	0	10	0	28	NC	35	NC	35
1054			min	0	24	-0.143	3	-0.002	3	-0.001	3	8725.062	3	NC	1
1055		3	max	0	25	-0.005	28	0	10	0	28	NC	35	NC	35
1056			min	0	24	-0.171	3	-0.002	3	-0.002	3	6276.779	3	NC	1
1057		4	max	0	25	-0.007	28	0	10	0	28	NC	35	NC	35
1058			min	0	24	-0.197	3	-0.002	3	-0.001	3	9237.969	3	NC	1
1059		5	max	0	25	-0.008	28	0	10	0	28	NC	35	NC	35
1060			min	0	24	-0.221	3	-0.002	3	0	3	NC	1	NC	1
1061	M110	1	max	0.001	4	-0.004	28	0	4	0.004	4	NC	35	NC	35
1062			min	0	10	-0.127	3	0	35	0	10	NC	1	NC	1

Envelope Member Section Deflections - Service (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
1063		2	max	0.001	4	-0.003	28	0	25	0.003	4	NC	35	NC	35
1064			min	0	10	-0.095	3	0	35	0	10	NC	1	NC	1
1065		3	max	0.001	4	-0.002	28	0	23	0.002	4	NC	35	NC	35
1066			min	0	10	-0.064	3	0	2	0	10	NC	1	NC	1
1067		4	max	0.001	4	-0.001	28	0	23	0.002	4	NC	35	NC	35
1068			min	0	10	-0.034	3	0	2	0	10	NC	1	NC	1
1069		5	max	0.001	4	0.001	10	0	27	0.001	4	NC	35	NC	35
1070			min	0	10	-0.005	3	0	3	0	10	NC	1	NC	1
1071	M111	1	max	0	25	0	4	-0.007	27	0	4	NC	35	NC	35
1072			min	0	28	0	35	-0.207	3	0	35	NC	1	NC	1
1073		2	max	0	25	0	23	-0.007	27	0.002	4	NC	35	NC	35
1074			min	0	28	0	35	-0.209	3	0	28	NC	1	6487.282	3
1075		3	max	0	25	0	23	-0.007	27	0.003	4	NC	35	NC	35
1076			min	0	28	0	35	-0.211	3	0	28	NC	1	3540.926	3
1077		4	max	0	25	0	4	-0.007	27	0.002	4	NC	35	NC	35
1078			min	0	28	0	35	-0.212	3	0	28	NC	1	2801.265	26
1079		5	max	0	25	0	4	-0.007	27	0	2	NC	35	NC	28
1080			min	0	28	-0.001	35	-0.212	3	0	5	NC	1	2368.771	26
1081	M112	1	max	0	25	-0.005	27	0	35	0	27	NC	35	NC	35
1082			min	0	28	-0.15	3	0	3	-0.005	3	NC	1	NC	1
1083		2	max	0	25	-0.005	27	0	35	0	27	NC	35	NC	35
1084			min	0	28	-0.152	3	-0.001	3	-0.005	3	NC	1	NC	1
1085		3	max	0	25	-0.005	27	0	35	0	27	NC	35	NC	35
1086			min	0	28	-0.153	3	-0.001	3	-0.006	3	NC	1	NC	1
1087		4	max	0	25	-0.005	27	0	35	0	27	NC	35	NC	35
1088			min	0	28	-0.154	3	-0.001	3	-0.005	3	NC	1	NC	1
1089		5	max	0	25	-0.005	27	0.001	35	0	27	NC	35	NC	35
1090			min	0	28	-0.154	3	0	3	-0.005	3	NC	1	NC	1
1091	M113	1	max	0	23	-0.007	27	0	25	0	26	NC	35	NC	35
1092			min	0	35	-0.211	3	0	28	0	27	NC	1	NC	1
1093		2	max	0	23	-0.006	27	0	25	0.001	4	NC	35	NC	35
1094			min	0	35	-0.17	3	0	28	0	27	6416.485	2	NC	1
1095		3	max	0	23	-0.004	27	0	25	0.001	4	NC	35	NC	35
1096			min	0	35	-0.124	3	0	35	0	27	5300.811	2	NC	1
1097		4	max	0	23	-0.003	27	0	27	0.001	4	NC	35	NC	35
1098			min	0	35	-0.071	3	-0.001	35	0	27	9306.491	2	NC	1
1099		5	max	0	4	-0.002	27	0	27	0	26	NC	35	NC	35
1100			min	0	35	-0.019	3	-0.001	35	0	27	NC	1	NC	1

Envelope Member Section Deflections - Strength

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
1	M1	1	max	0	40	0	40	0	40	0	38	NC	40	NC	40
2			min	0	12	0	12	0	12	0	14	NC	12	NC	12
3		2	max	0	38	0	39	0	39	0.001	37	NC	40	NC	40
4			min	0	39	-0.045	21	0	38	0	22	2149.32	21	NC	12
5		3	max	0	38	-0.001	40	0	37	0.001	38	NC	40	NC	40
6			min	0	39	-0.062	21	0	14	0	22	1538.128	21	NC	12
7		4	max	0	38	0	40	0	38	0.001	38	NC	40	NC	40
8			min	0	39	-0.043	21	0	39	0	14	2218.176	21	NC	12
9		5	max	0	40	0	40	0	40	0	38	NC	40	NC	40
10			min	0	12	0	12	0	12	0	39	NC	12	NC	12
11	M2	1	max	0.001	38	0	39	0	39	0	38	NC	40	NC	40
12			min	0	39	-0.003	38	0	38	0	39	NC	12	NC	12
13		2	max	0.001	38	-0.002	39	0	39	0.003	37	NC	40	NC	40
14			min	0	39	-0.064	21	0	36	0	22	1564.932	21	NC	12

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
15		3	max	0.001	38	-0.003	40	0	37	0.004	37	NC	40	NC	40
16			min	0	39	-0.092	21	0	14	0	22	1072.327	21	NC	12
17		4	max	0.001	38	-0.002	40	0	38	0.003	38	NC	40	NC	40
18			min	0	39	-0.066	21	0	39	0	22	1507.842	21	NC	12
19		5	max	0.001	38	0	39	0	40	0	38	NC	40	NC	40
20			min	0	39	-0.002	38	0	37	0	39	NC	12	NC	12
21	M3	1	max	0.002	38	0	39	0	39	0	38	NC	40	NC	40
22			min	0	39	-0.004	38	-0.001	38	0	39	NC	12	NC	12
23		2	max	0.002	38	-0.002	18	0	39	0.001	17	NC	40	NC	40
24			min	0	39	-0.047	21	-0.001	38	0	14	4672.448	37	NC	12
25		3	max	0.002	38	-0.003	40	0	39	0.001	17	NC	40	NC	40
26			min	0	39	-0.083	21	0	36	0	14	3373.463	37	NC	12
27		4	max	0.002	38	-0.004	40	0	37	0.002	17	NC	40	NC	40
28			min	0	39	-0.111	21	0	40	0	14	4652.348	37	NC	12
29		5	max	0.002	38	-0.005	40	0	37	0.003	37	NC	40	NC	40
30			min	0	39	-0.134	21	0	14	0	22	NC	12	NC	12
31	M4	1	max	0.001	38	0	39	0	39	0	38	NC	40	NC	40
32			min	0	39	-0.006	38	-0.001	38	0	39	NC	12	NC	12
33		2	max	0.001	38	-0.005	18	0	39	0.005	37	NC	40	NC	40
34			min	0	39	-0.117	37	0	36	0	22	903.744	37	NC	12
35		3	max	0.001	38	-0.007	40	0	37	0.003	37	NC	40	NC	40
36			min	0	39	-0.17	37	0	14	0	22	621.57	37	NC	12
37		4	max	0.001	38	-0.006	18	0	38	0.003	38	NC	40	NC	40
38			min	0	39	-0.131	38	0	39	0	22	869.474	37	NC	12
39		5	max	0.001	38	-0.001	39	0	40	0.002	37	NC	40	NC	40
40			min	0	39	-0.027	38	0	37	0	40	NC	12	NC	12
41	M5	1	max	0.001	38	0	39	0	39	0	38	NC	40	NC	40
42			min	0	39	-0.006	38	-0.001	38	0	39	NC	12	NC	12
43		2	max	0.001	38	-0.006	22	0	39	0	22	NC	40	NC	40
44			min	0	39	-0.129	38	0	36	-0.002	37	863.993	37	NC	12
45		3	max	0.001	38	-0.008	22	0	37	0	22	NC	40	NC	40
46			min	0	39	-0.184	37	0	14	-0.001	37	624.663	37	NC	12
47		4	max	0.001	38	-0.006	14	0	38	0.001	21	NC	40	NC	40
48			min	0	39	-0.151	38	0	39	0	40	887.137	37	NC	12
49		5	max	0.001	38	-0.002	14	0	38	0.002	37	NC	40	NC	40
50			min	0	39	-0.055	38	0	39	0	40	NC	12	NC	12
51	M6	1	max	0.002	38	0	39	0	39	0	38	NC	40	NC	40
52			min	0	39	-0.007	38	-0.001	38	0	39	NC	12	NC	12
53		2	max	0.002	38	-0.005	14	0	39	0.001	13	NC	40	NC	40
54			min	0	39	-0.121	38	0	36	0	40	989.323	16	NC	12
55		3	max	0.002	38	-0.008	14	0	37	0	39	NC	40	NC	40
56			min	0	39	-0.179	37	0	14	0	16	694.948	38	NC	12
57		4	max	0.002	38	-0.007	40	0	38	0.001	37	NC	40	NC	40
58			min	0	39	-0.157	37	0	39	0	40	969.341	38	NC	12
59		5	max	0.002	38	-0.003	40	0	38	0.001	37	NC	40	NC	40
60			min	0	39	-0.075	37	0	39	0	40	NC	12	NC	12
61	M7	1	max	0.002	38	0	39	0	39	0	38	NC	40	NC	40
62			min	0	39	-0.007	38	-0.001	38	0	39	NC	12	NC	12
63		2	max	0.002	38	-0.006	18	0	37	0	15	NC	40	NC	40
64			min	0	39	-0.124	37	0	36	0	12	967.285	20	NC	12
65		3	max	0.002	38	-0.008	40	0	37	0	37	NC	40	NC	40
66			min	0	39	-0.181	37	0	14	0	40	694.585	20	NC	12
67		4	max	0.002	38	-0.006	40	0	38	0	39	NC	40	NC	40
68			min	0	39	-0.158	37	0	39	0	16	982.682	20	NC	12
69		5	max	0.002	38	-0.003	40	0.001	38	0	39	NC	40	NC	40

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
70			min	0	39	-0.078	37	0	39	-0.001	16	NC	12	NC	12
71	M8	1	max	0.002	38	0	39	0	39	0	38	NC	40	NC	40
72			min	0	39	-0.008	38	0	36	0	39	NC	12	NC	12
73		2	max	0.002	38	-0.005	40	0	37	0	39	NC	40	NC	40
74			min	0	39	-0.12	37	0	36	0	16	973.899	16	NC	12
75		3	max	0.002	38	-0.007	40	0	37	0	39	NC	40	NC	40
76			min	0	39	-0.175	37	0	14	-0.001	20	686.468	38	NC	12
77		4	max	0.002	38	-0.006	40	0	38	0	39	NC	40	NC	40
78			min	0	39	-0.15	37	0	39	-0.001	16	958.258	38	NC	12
79		5	max	0.002	38	-0.001	40	0.001	38	0	39	NC	40	NC	40
80			min	0	39	-0.064	37	0	39	-0.002	16	NC	12	NC	12
81	M9	1	max	0.002	38	0	39	0	39	0	38	NC	40	NC	40
82			min	0	39	-0.008	38	0	36	0	39	NC	12	NC	12
83		2	max	0.002	38	-0.004	40	0	37	0	39	NC	40	NC	40
84			min	0	39	-0.109	37	0	40	-0.002	38	1029.384	37	NC	12
85		3	max	0.002	38	-0.005	40	0	37	0	39	NC	40	NC	40
86			min	0	39	-0.154	37	0	14	-0.003	38	739.959	37	NC	12
87		4	max	0.002	38	-0.003	40	0	38	0	39	NC	40	NC	40
88			min	0	39	-0.124	37	0	39	-0.004	38	1049.36	37	NC	12
89		5	max	0.002	38	0	40	0.001	38	0	39	NC	40	NC	40
90			min	0	39	-0.04	37	0	39	-0.002	16	NC	12	NC	12
91	M10	1	max	0.002	16	0	39	0.001	37	0	14	NC	40	NC	40
92			min	0	39	-0.008	38	0	40	0	37	NC	12	NC	12
93		2	max	0.002	16	-0.003	40	0	37	0	14	NC	40	NC	40
94			min	0	39	-0.099	37	0	40	0	37	1087.089	37	NC	12
95		3	max	0.002	16	-0.002	40	0	38	0	40	NC	40	NC	40
96			min	0	39	-0.135	37	0	14	-0.001	12	789.595	37	NC	12
97		4	max	0.002	16	0	40	0	38	0	40	NC	40	NC	40
98			min	0	39	-0.099	37	0	39	-0.001	37	1172.847	37	NC	12
99		5	max	0.002	16	0.001	40	0.001	38	0	40	NC	40	NC	40
100			min	0	39	-0.021	37	0	39	-0.001	37	NC	12	NC	12
101	M11	1	max	0.002	16	0	39	0.001	37	0	14	NC	40	NC	40
102			min	0	14	-0.008	38	0	40	0	37	NC	12	NC	12
103		2	max	0.002	16	-0.004	40	0	37	0.001	38	NC	40	NC	40
104			min	0	14	-0.102	37	0	40	0	39	1037.374	37	NC	12
105		3	max	0.002	16	-0.004	40	0	38	0.002	38	NC	40	NC	40
106			min	0	14	-0.141	37	0	14	0	39	745.006	37	NC	12
107		4	max	0.002	16	-0.002	40	0	38	0.002	38	NC	40	NC	40
108			min	0	14	-0.106	37	0	39	0	39	1056.131	37	NC	12
109		5	max	0.002	16	0.001	40	0.001	38	0	40	NC	40	NC	40
110			min	0	14	-0.017	37	0	39	0	37	NC	12	NC	12
111	M12	1	max	0.001	16	0	39	0.001	37	0	14	NC	40	NC	40
112			min	0	14	-0.007	38	0	40	0	21	NC	12	NC	12
113		2	max	0.001	16	-0.005	18	0	37	0	16	NC	40	NC	40
114			min	0	14	-0.108	37	0	40	0	39	970.663	16	NC	12
115		3	max	0.001	16	-0.006	40	0	38	0	38	NC	40	NC	40
116			min	0	14	-0.151	37	0	14	0	39	686.139	38	NC	12
117		4	max	0.001	16	-0.004	40	0	38	0	40	NC	40	NC	40
118			min	0	14	-0.114	37	0	39	-0.001	37	959.568	38	NC	12
119		5	max	0.001	16	0.001	40	0.001	38	0	40	NC	40	NC	40
120			min	0	14	-0.016	37	0	39	0	37	NC	12	NC	12
121	M13	1	max	0.001	16	0	39	0.001	37	0	14	NC	40	NC	40
122			min	0	14	-0.007	38	0	40	0	38	NC	12	NC	12
123		2	max	0.001	16	-0.005	18	0	37	0	39	NC	40	NC	40
124			min	0	14	-0.108	37	0	40	0	20	962.506	38	NC	12

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
125		3	max	0.001	16	-0.006	40	0	38	0	18	NC	40	NC	40
126			min	0	14	-0.15	37	0	14	0	37	687.337	38	NC	12
127		4	max	0.001	16	-0.004	40	0	38	0	38	NC	40	NC	40
128			min	0	14	-0.111	37	0	39	0	39	968.684	38	NC	12
129		5	max	0.001	16	0.001	40	0.001	38	0	40	NC	40	NC	40
130			min	0	14	-0.014	37	0	39	0	37	NC	12	NC	12
131	M14	1	max	0.001	37	0	39	0.001	37	0	39	NC	40	NC	40
132			min	0	40	-0.006	38	0	40	0	38	NC	12	NC	12
133		2	max	0.001	37	-0.005	18	0	37	0	18	NC	40	NC	40
134			min	0	40	-0.106	37	0	40	0	37	973.298	37	NC	12
135		3	max	0.001	37	-0.006	40	0	38	0	38	NC	40	NC	40
136			min	0	40	-0.148	37	0	14	0	39	690.198	37	NC	12
137		4	max	0.001	37	-0.004	40	0	38	0	40	NC	40	NC	40
138			min	0	40	-0.11	37	0	39	0	37	969.663	38	NC	12
139		5	max	0.001	37	0	40	0.001	38	0	40	NC	40	NC	40
140			min	0	40	-0.012	37	0	39	0	37	NC	12	NC	12
141	M15	1	max	0	37	0	39	0.001	37	0	39	NC	40	NC	40
142			min	0	40	-0.005	38	0	40	0	38	NC	12	NC	12
143		2	max	0	37	-0.005	18	0	37	0	40	NC	40	NC	40
144			min	0	40	-0.105	37	0	40	0	37	971.369	20	NC	12
145		3	max	0	37	-0.006	40	0	38	0	40	NC	40	NC	40
146			min	0	40	-0.146	37	0	14	-0.001	37	692.452	16	NC	12
147		4	max	0	37	-0.004	40	0	38	0	38	NC	40	NC	40
148			min	0	40	-0.108	37	0	39	0	39	972.674	37	NC	12
149		5	max	0	37	0	40	0.001	38	0	40	NC	40	NC	40
150			min	0	40	-0.01	37	0	39	0	37	NC	12	NC	12
151	M16	1	max	0	37	0	39	0.001	37	0	39	NC	40	NC	40
152			min	0	40	-0.004	38	0	40	0	38	NC	12	NC	12
153		2	max	0	37	-0.004	18	0	37	0	18	NC	40	NC	40
154			min	0	40	-0.102	37	0	40	0	38	978.708	16	NC	12
155		3	max	0	37	-0.006	40	0	38	0	40	NC	40	NC	40
156			min	0	40	-0.143	37	0	14	0	37	694.627	16	NC	12
157		4	max	0	37	-0.004	40	0	40	0	40	NC	40	NC	40
158			min	0	40	-0.104	37	0	39	-0.001	37	978.076	16	NC	12
159		5	max	0	37	0	40	0.001	38	0	40	NC	40	NC	40
160			min	0	40	-0.007	37	0	39	-0.001	37	NC	12	NC	12
161	M17	1	max	0	40	0	40	0	40	0	39	NC	40	NC	40
162			min	0	12	0	12	0	12	0	38	NC	12	NC	12
163		2	max	0	16	-0.004	18	0	37	0	38	NC	40	NC	40
164			min	0	14	-0.1	37	0	40	0	39	956.439	37	NC	12
165		3	max	0	16	-0.006	18	0	38	0	40	NC	40	NC	40
166			min	0	14	-0.141	37	0	14	0	37	681.533	37	NC	12
167		4	max	0	16	-0.004	40	0	38	0	38	NC	40	NC	40
168			min	0	14	-0.101	37	0	39	0	39	955.016	37	NC	12
169		5	max	0	40	0	40	0	40	0	40	NC	40	NC	40
170			min	0	12	0	12	0	12	0	37	NC	12	NC	12
171	M18	1	max	0	40	0	18	0	39	0	38	NC	40	NC	40
172			min	0	37	-0.003	38	0	38	0	39	NC	12	NC	12
173		2	max	0	40	-0.004	18	0	37	0	38	NC	40	NC	40
174			min	0	37	-0.101	38	0	40	0	18	978.722	16	NC	12
175		3	max	0	40	-0.006	18	0	38	0	38	NC	40	NC	40
176			min	0	37	-0.142	38	0	14	0	39	694.415	16	NC	12
177		4	max	0	40	-0.004	18	0	38	0	37	NC	40	NC	40
178			min	0	37	-0.102	38	0	39	0	40	978.803	16	NC	12
179		5	max	0	40	0	18	0	40	0	37	NC	40	NC	40

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
180			min	0	37	-0.005	37	-0.001	37	0	18	NC	12	NC	12
181	M19	1	max	0	36	0	18	0	39	0	38	NC	40	NC	40
182			min	0	39	-0.005	38	0	38	0	18	NC	12	NC	12
183		2	max	0	36	-0.005	18	0	37	0	38	NC	40	NC	40
184			min	0	39	-0.104	38	0	40	0	39	971.637	20	NC	12
185		3	max	0	36	-0.006	18	0	38	0	39	NC	40	NC	40
186			min	0	39	-0.144	38	0	14	0	16	693.012	16	NC	12
187		4	max	0	36	-0.005	18	0	38	0	38	NC	40	NC	40
188			min	0	39	-0.105	38	0	39	0	39	971.334	37	NC	12
189		5	max	0	36	-0.001	18	0	40	0	38	NC	40	NC	40
190			min	0	39	-0.007	38	-0.001	37	0	39	NC	12	NC	12
191	M20	1	max	0	38	0	18	0	39	0	38	NC	40	NC	40
192			min	0	39	-0.005	38	0	36	0	18	NC	12	NC	12
193		2	max	0	38	-0.005	18	0	37	0	14	NC	40	NC	40
194			min	0	39	-0.104	38	0	40	0	16	973.211	37	NC	12
195		3	max	0	38	-0.006	39	0	38	0	38	NC	40	NC	40
196			min	0	39	-0.145	38	0	14	0	39	689.637	37	NC	12
197		4	max	0	38	-0.005	39	0	38	0	19	NC	40	NC	40
198			min	0	39	-0.106	38	0	39	0	16	972.527	12	NC	12
199		5	max	0	38	-0.001	39	0	40	0	38	NC	40	NC	40
200			min	0	39	-0.007	38	-0.001	37	0	39	NC	12	NC	12
201	M21	1	max	0	37	0	18	0	39	0	14	NC	40	NC	40
202			min	0	40	-0.005	38	0	40	0	38	NC	12	NC	12
203		2	max	0	37	-0.005	39	0	37	0	38	NC	40	NC	40
204			min	0	40	-0.105	38	0	40	0	39	963.986	38	NC	12
205		3	max	0	37	-0.006	39	0	38	0	39	NC	40	NC	40
206			min	0	40	-0.146	38	0	39	0	38	688.627	16	NC	12
207		4	max	0	37	-0.005	39	0	38	0	38	NC	40	NC	40
208			min	0	40	-0.107	38	0	39	0	39	964.906	38	NC	12
209		5	max	0	37	0	39	0	40	0	36	NC	40	NC	40
210			min	0	40	-0.008	38	-0.001	37	0	39	NC	12	NC	12
211	M22	1	max	0	37	0	18	0	37	0	18	NC	40	NC	40
212			min	0	40	-0.005	38	0	40	0	38	NC	12	NC	12
213		2	max	0	37	-0.004	39	0	37	0	39	NC	40	NC	40
214			min	0	40	-0.105	38	0	40	0	38	966.03	38	NC	12
215		3	max	0	37	-0.006	39	0	38	0	38	NC	40	NC	40
216			min	0	40	-0.147	38	0	39	0	39	683.019	38	NC	12
217		4	max	0	37	-0.004	39	0	38	0	40	NC	40	NC	40
218			min	0	40	-0.107	38	0	39	0	37	963.662	38	NC	12
219		5	max	0	37	0	39	0	40	0	40	NC	40	NC	40
220			min	0	40	-0.008	38	-0.001	37	0	37	NC	12	NC	12
221	M23	1	max	0	37	0	18	0	37	0	18	NC	40	NC	40
222			min	0	40	-0.005	38	0	40	0	38	NC	12	NC	12
223		2	max	0	37	-0.004	39	0	37	0	39	NC	40	NC	40
224			min	0	40	-0.097	38	0	40	-0.001	38	1043.566	37	NC	12
225		3	max	0	37	-0.005	39	0	38	0	39	NC	40	NC	40
226			min	0	40	-0.134	38	0	39	-0.003	38	747.933	37	NC	12
227		4	max	0	37	-0.003	39	0	38	0	18	NC	40	NC	40
228			min	0	40	-0.098	38	0	39	-0.001	12	1046.014	37	NC	12
229		5	max	0	37	0	39	0	40	0	40	NC	40	NC	40
230			min	0	40	-0.008	38	-0.001	37	0	37	NC	12	NC	12
231	M24	1	max	0	37	0	18	0	37	0	18	NC	40	NC	40
232			min	0	40	-0.003	38	0	40	0	38	NC	12	NC	12
233		2	max	0	37	-0.003	18	0	39	0	39	NC	40	NC	40
234			min	0	40	-0.09	37	0	40	0	38	1102.217	37	NC	12

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
235		3	max	0	37	-0.004	18	0	38	0.001	16	NC	40	NC	40
236			min	0	40	-0.123	21	0	39	0	40	804.413	37	NC	12
237		4	max	0	37	-0.002	39	0	40	0	39	NC	40	NC	40
238			min	0	40	-0.083	38	0	39	-0.001	38	1220.376	37	NC	12
239		5	max	0	37	0.001	39	0	40	0	39	NC	40	NC	40
240			min	0	40	-0.006	38	0	37	0	38	NC	12	NC	12
241	M25	1	max	0	40	0	40	0	40	0	37	NC	40	NC	40
242			min	0	12	0	12	0	12	0	40	NC	12	NC	12
243		2	max	0	38	-0.004	40	0	37	0.002	37	NC	40	NC	40
244			min	0	39	-0.101	37	0	40	0	40	945.911	37	NC	12
245		3	max	0	38	-0.005	40	0	38	0.003	37	NC	40	NC	40
246			min	0	39	-0.143	37	0	39	0	40	673.388	37	NC	12
247		4	max	0	38	-0.004	40	0	40	0.005	12	NC	40	NC	40
248			min	0	39	-0.103	37	0	39	0	40	931.86	37	NC	12
249		5	max	0	40	0	40	0	40	0	37	NC	40	NC	40
250			min	0	12	0	12	0	12	0	40	NC	12	NC	12
251	M26	1	max	0	38	0	18	0	39	0	37	NC	40	NC	40
252			min	0	39	-0.003	37	-0.001	38	0	18	NC	12	NC	12
253		2	max	0	38	-0.004	40	0	37	0	37	NC	40	NC	40
254			min	0	39	-0.116	37	0	40	0	40	868.931	37	NC	12
255		3	max	0	38	-0.006	40	0	38	0	37	NC	40	NC	40
256			min	0	39	-0.16	37	0	39	0	40	626.862	37	NC	12
257		4	max	0	38	-0.003	40	0	38	0	39	NC	40	NC	40
258			min	0	39	-0.113	37	0	39	-0.003	16	917.519	37	NC	12
259		5	max	0	38	0.001	40	0	40	0.001	37	NC	40	NC	40
260			min	0	39	-0.01	37	0	37	0	40	NC	12	NC	12
261	M27	1	max	0.001	38	0	18	0	39	0	37	NC	40	NC	40
262			min	0	39	-0.005	37	-0.001	38	0	18	NC	12	NC	12
263		2	max	0.001	38	-0.002	40	0	39	0	37	NC	40	NC	40
264			min	0	39	-0.034	37	-0.001	38	0	18	NC	12	NC	12
265		3	max	0.001	38	-0.003	40	0	39	0	37	NC	40	NC	40
266			min	0	39	-0.062	37	0	38	0	40	NC	12	NC	12
267		4	max	0.001	38	-0.004	40	0	37	0	37	NC	40	NC	40
268			min	0	39	-0.091	37	0	40	0	40	NC	12	NC	12
269		5	max	0.001	38	-0.005	40	0	37	0	37	NC	40	NC	40
270			min	0	39	-0.119	37	0	40	0	40	NC	12	NC	12
271	M28	1	max	0.001	38	0	18	0	39	0	13	NC	40	NC	40
272			min	-0.001	39	-0.006	37	-0.001	38	0	18	NC	12	NC	12
273		2	max	0.001	38	-0.005	40	0	37	0	37	NC	40	NC	40
274			min	-0.001	39	-0.12	37	0	40	0	40	868.278	37	NC	12
275		3	max	0.001	38	-0.006	40	0	38	0	37	NC	40	NC	40
276			min	-0.001	39	-0.165	37	0	39	0	16	631.112	37	NC	12
277		4	max	0.001	38	-0.004	40	0	38	0.003	38	NC	40	NC	40
278			min	-0.001	39	-0.12	37	0	39	0	39	930.235	37	NC	12
279		5	max	0.001	38	0	40	0.001	40	0	40	NC	40	NC	40
280			min	-0.001	39	-0.021	37	-0.001	39	0	37	NC	12	NC	12
281	M29	1	max	0.001	36	-0.001	18	0	39	0	37	NC	40	NC	40
282			min	-0.001	39	-0.006	37	-0.001	38	0	18	NC	12	NC	12
283		2	max	0.001	36	-0.006	40	0	37	0.001	36	NC	40	NC	40
284			min	-0.001	39	-0.119	37	0	40	0	37	878.086	37	NC	12
285		3	max	0.001	36	-0.009	40	0	38	0.001	36	NC	40	NC	40
286			min	-0.001	39	-0.169	37	0	39	0	39	616.864	37	NC	12
287		4	max	0.001	36	-0.006	40	0	38	0	36	NC	40	NC	40
288			min	-0.001	39	-0.13	37	0	39	-0.001	37	846.931	37	NC	12
289		5	max	0.001	36	0	40	0.001	40	0	40	NC	40	NC	40

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
290			min	-0.001	39	-0.02	37	-0.001	39	0	37	NC	12	NC	12
291	M30	1	max	0.001	36	-0.001	18	0.001	39	0	39	NC	40	NC	40
292			min	-0.001	39	-0.008	37	0	40	0	38	NC	12	NC	12
293		2	max	0.001	36	-0.003	18	0	39	0	12	9687.551	40	NC	40
294			min	-0.001	39	-0.044	37	0	40	0	40	653.69	37	NC	12
295		3	max	0.001	36	-0.006	40	0	39	0.001	16	4940.22	40	NC	40
296			min	-0.001	39	-0.08	37	0	40	0	39	333.253	37	NC	12
297		4	max	0.001	36	-0.008	40	0	37	0.001	16	3368.11	40	NC	40
298			min	-0.001	39	-0.113	37	0	40	0	39	227.121	37	NC	12
299		5	max	0.001	36	-0.01	40	0	37	0.001	16	2589.017	40	NC	40
300			min	-0.001	39	-0.145	37	0	14	0	39	174.414	37	NC	12
301	M31	1	max	0.001	39	0	40	0.001	39	0	37	NC	40	NC	40
302			min	-0.001	36	-0.018	37	-0.001	36	0	40	NC	12	NC	12
303		2	max	0.001	39	-0.003	40	0.001	39	0	39	NC	39	NC	40
304			min	-0.001	36	-0.053	37	-0.001	36	0	16	675.965	16	NC	12
305		3	max	0.001	39	-0.005	40	0.001	39	0	39	5255.31	39	NC	40
306			min	-0.001	36	-0.087	37	-0.001	38	-0.001	16	344.754	16	NC	12
307		4	max	0.001	39	-0.008	40	0	39	0	39	3590.356	39	NC	40
308			min	-0.001	36	-0.119	37	0	38	-0.001	16	235.079	16	NC	12
309		5	max	0.001	39	-0.01	40	0	39	0	39	2766.075	39	NC	40
310			min	-0.001	36	-0.15	37	0	38	-0.001	16	180.628	16	NC	12
311	M32	1	max	0.001	36	-0.001	18	0.001	37	0	39	NC	40	NC	40
312			min	-0.001	39	-0.007	37	0	40	0	38	NC	12	NC	12
313		2	max	0.001	36	-0.003	18	0.001	37	0	16	8882.03	40	NC	40
314			min	-0.001	39	-0.048	37	0	40	0	40	589.933	37	NC	12
315		3	max	0.001	36	-0.006	40	0	37	0.001	16	4511.293	40	NC	40
316			min	-0.001	39	-0.087	37	0	40	0	39	299.671	37	NC	12
317		4	max	0.001	36	-0.009	40	0	37	0.001	16	3062.759	40	NC	40
318			min	-0.001	39	-0.125	37	0	40	0	39	203.518	37	NC	12
319		5	max	0.001	36	-0.011	40	0	37	0.001	16	2344.002	40	NC	40
320			min	-0.001	39	-0.161	37	0	14	0	39	155.77	37	NC	12
321	M33	1	max	0.001	39	0	40	0.001	39	0	37	NC	40	NC	40
322			min	-0.001	36	-0.016	37	-0.001	38	0	40	NC	12	NC	12
323		2	max	0.001	39	-0.003	40	0.001	39	0	39	9309.438	39	NC	40
324			min	-0.001	36	-0.056	37	-0.001	38	0	16	605.027	16	NC	12
325		3	max	0.001	39	-0.006	40	0.001	39	0	39	4736.135	39	NC	40
326			min	-0.001	36	-0.094	37	-0.001	38	-0.001	16	307.563	16	NC	12
327		4	max	0.001	39	-0.008	40	0	39	0	39	3221.468	39	NC	40
328			min	-0.001	36	-0.131	37	0	38	-0.001	16	209.052	16	NC	12
329		5	max	0.001	39	-0.011	40	0	39	0	39	2470.705	39	NC	40
330			min	-0.001	36	-0.165	37	0	38	-0.001	16	160.154	16	NC	12
331	M34	1	max	0.001	36	-0.001	18	0.001	37	0	39	NC	40	NC	40
332			min	0	39	-0.007	37	0	40	0	38	NC	12	NC	12
333		2	max	0.001	36	-0.004	18	0.001	37	0	16	8343.141	40	NC	40
334			min	0	39	-0.051	37	0	40	0	40	548.026	37	NC	12
335		3	max	0.001	36	-0.006	40	0	37	0	16	4233.791	40	NC	40
336			min	0	39	-0.093	37	0	40	0	40	278.366	37	NC	12
337		4	max	0.001	36	-0.009	40	0	37	0.001	16	2871.848	40	NC	40
338			min	0	39	-0.134	37	0	40	0	39	189.024	37	NC	12
339		5	max	0.001	36	-0.012	40	0	37	0.001	16	2196.091	40	NC	40
340			min	0	39	-0.173	37	0	14	0	39	144.658	37	NC	12
341	M35	1	max	0	39	0	40	0.001	39	0	37	NC	40	NC	40
342			min	-0.001	36	-0.015	37	-0.001	38	0	40	NC	12	NC	12
343		2	max	0	39	-0.003	40	0.001	39	0	39	8662.198	39	NC	40
344			min	-0.001	36	-0.058	37	-0.001	38	0	16	558.393	16	NC	12

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
345		3	max	0	39	-0.006	40	0.001	39	0	39	4404.069	39	NC	40
346			min	-0.001	36	-0.099	37	-0.001	38	0	16	283.934	16	NC	12
347		4	max	0	39	-0.009	40	0	39	0	39	2993.835	39	NC	40
348			min	-0.001	36	-0.139	37	-0.001	38	-0.001	16	193.049	16	NC	12
349		5	max	0	39	-0.011	40	0	39	0	39	2294.966	39	NC	40
350			min	-0.001	36	-0.177	37	0	38	-0.001	16	147.955	16	NC	12
351	M36	1	max	0	36	-0.001	18	0.001	37	0	39	NC	40	NC	40
352			min	0	39	-0.007	37	0	40	0	38	NC	12	NC	12
353		2	max	0	36	-0.004	18	0.001	37	0	16	8086.856	40	NC	40
354			min	0	39	-0.052	37	0	40	0	36	528.816	37	NC	12
355		3	max	0	36	-0.006	40	0.001	37	0	16	4107.442	40	NC	40
356			min	0	39	-0.096	37	0	40	0	36	268.763	37	NC	12
357		4	max	0	36	-0.009	40	0	37	0	16	2788.396	40	NC	40
358			min	0	39	-0.138	37	0	40	0	39	182.623	37	NC	12
359		5	max	0	36	-0.012	40	0	37	0	16	2133.834	40	NC	40
360			min	0	39	-0.178	37	0	14	0	39	139.869	37	NC	12
361	M37	1	max	0	39	0	40	0.001	39	0	37	NC	40	NC	40
362			min	0	36	-0.014	37	-0.001	38	0	40	NC	12	NC	12
363		2	max	0	39	-0.003	40	0.001	39	0	37	8314.618	39	NC	40
364			min	0	36	-0.058	37	-0.001	38	0	40	534.315	16	NC	12
365		3	max	0	39	-0.006	40	0.001	39	0	39	4235.97	39	NC	40
366			min	0	36	-0.101	37	-0.001	38	0	16	272.222	16	NC	12
367		4	max	0	39	-0.009	40	0	39	0	39	2885.166	39	NC	40
368			min	0	36	-0.143	37	-0.001	38	0	16	185.458	16	NC	12
369		5	max	0	39	-0.012	40	0	39	0	39	2215.827	39	NC	40
370			min	0	36	-0.181	37	0	38	0	16	142.44	16	NC	12
371	M38	1	max	0	36	-0.001	18	0.001	37	0	39	NC	40	NC	40
372			min	0	39	-0.006	37	0	40	0	38	NC	12	NC	12
373		2	max	0	36	-0.003	40	0.001	37	0	39	8170.708	40	NC	40
374			min	0	39	-0.051	37	0	40	0	38	532.723	37	NC	12
375		3	max	0	36	-0.006	40	0.001	37	0	18	4150.459	40	NC	40
376			min	0	39	-0.095	37	0	40	0	38	270.901	37	NC	12
377		4	max	0	36	-0.009	40	0	37	0	18	2818.619	40	NC	40
378			min	0	39	-0.136	37	0	40	0	37	184.203	37	NC	12
379		5	max	0	36	-0.012	40	0	37	0	40	2158.325	40	NC	40
380			min	0	39	-0.176	37	0	14	-0.001	37	141.195	37	NC	12
381	M39	1	max	0	39	0	40	0.001	39	0	37	NC	40	NC	40
382			min	0	36	-0.012	37	-0.001	38	0	40	NC	12	NC	12
383		2	max	0	39	-0.003	40	0.001	39	0	37	8359.568	39	NC	40
384			min	0	36	-0.057	37	-0.001	38	0	40	536.303	16	NC	12
385		3	max	0	39	-0.006	40	0	39	0	37	4251.21	39	NC	40
386			min	0	36	-0.1	37	-0.001	38	0	40	272.876	16	NC	12
387		4	max	0	39	-0.009	40	0	39	0	37	2895.931	39	NC	40
388			min	0	36	-0.141	37	-0.001	38	0	40	185.99	16	NC	12
389		5	max	0	39	-0.012	40	0	39	0.001	37	2228.977	39	NC	40
390			min	0	36	-0.179	37	0	38	0	40	143.185	16	NC	12
391	M40	1	max	0	36	0	40	0.001	37	0	39	NC	40	NC	40
392			min	0	39	-0.006	37	0	40	0	38	NC	12	NC	12
393		2	max	0	36	-0.003	40	0.001	37	0	18	8633.59	40	NC	40
394			min	0	39	-0.048	37	0	40	0	38	564.023	37	NC	12
395		3	max	0	36	-0.006	40	0.001	37	0	18	4389.593	40	NC	40
396			min	0	39	-0.089	37	0	40	-0.001	37	286.919	37	NC	12
397		4	max	0	36	-0.008	40	0	37	0	18	2983.493	40	NC	40
398			min	0	39	-0.129	37	0	40	-0.001	37	195.176	37	NC	12
399		5	max	0	36	-0.011	40	0	37	0	40	2286.211	40	NC	40

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
400			min	0	39	-0.166	37	0	14	-0.001	37	149.67	37	NC	12
401	M42	1	max	0	36	0	40	0.001	37	0	39	NC	40	NC	40
402			min	0	39	-0.005	37	0	40	0	38	NC	12	NC	12
403		2	max	0	36	-0.003	40	0.001	37	0	18	9716.062	40	NC	40
404			min	0	39	-0.043	37	0	40	-0.001	38	636.475	37	NC	12
405		3	max	0	36	-0.005	40	0.001	37	0	18	4934.962	40	NC	40
406			min	0	39	-0.079	37	0	40	-0.001	37	323.584	37	NC	12
407		4	max	0	36	-0.007	40	0	37	0	18	3351.2	40	NC	40
408			min	0	39	-0.114	37	0	40	-0.001	37	219.983	37	NC	12
409		5	max	0	36	-0.01	40	0	37	0	40	2565.853	40	NC	40
410			min	0	39	-0.147	37	0	14	-0.002	37	168.563	37	NC	12
411	M43	1	max	0	39	0	40	0.001	39	0	37	NC	40	NC	40
412			min	0	36	-0.009	37	-0.001	38	0	40	NC	12	NC	12
413		2	max	0	39	-0.003	40	0.001	39	0.001	37	9884.883	39	NC	40
414			min	0	36	-0.046	37	-0.001	38	0	40	637.177	16	NC	12
415		3	max	0	39	-0.005	40	0	39	0.001	37	5027.477	39	NC	40
416			min	0	36	-0.082	37	-0.001	38	0	40	324.246	16	NC	12
417		4	max	0	39	-0.008	40	0	39	0.002	37	3425.862	39	NC	40
418			min	0	36	-0.117	37	0	38	0	40	221.083	16	NC	12
419		5	max	0	39	-0.01	40	0	39	0.002	37	2638.083	39	NC	40
420			min	0	36	-0.149	37	0	38	0	40	170.273	16	NC	12
421	M44	1	max	0	36	0	40	0.001	37	0	18	NC	40	NC	40
422			min	0	39	-0.004	37	0	40	0	38	NC	12	NC	12
423		2	max	0	36	-0.002	40	0.001	37	0	18	NC	40	NC	40
424			min	0	39	-0.034	37	0	40	-0.001	37	787.368	38	NC	12
425		3	max	0	36	-0.004	40	0.001	37	0	18	6124.504	39	NC	40
426			min	0	39	-0.064	37	0	40	-0.001	37	399.081	38	NC	12
427		4	max	0	36	-0.006	40	0	37	0	18	4141.052	39	NC	40
428			min	0	39	-0.093	37	0	40	-0.002	37	270.387	38	NC	12
429		5	max	0	36	-0.008	40	0	37	0	40	3153.78	39	NC	40
430			min	0	39	-0.12	37	0	14	-0.003	37	206.345	38	NC	12
431	M45	1	max	0	39	0	40	0.001	39	0	37	NC	40	NC	40
432			min	0	36	-0.007	37	-0.001	38	0	40	NC	12	NC	12
433		2	max	0	39	-0.002	40	0	39	0.001	37	NC	40	NC	40
434			min	0	36	-0.037	37	-0.001	38	0	40	787.945	20	NC	12
435		3	max	0	39	-0.004	40	0	39	0.001	37	6170.099	39	NC	40
436			min	0	36	-0.066	37	-0.001	38	0	40	400.664	20	NC	12
437		4	max	0	39	-0.006	40	0	39	0.002	37	4193.464	39	NC	40
438			min	0	36	-0.095	37	0	38	0	40	272.394	20	NC	12
439		5	max	0	39	-0.008	40	0	39	0.003	37	3212.047	39	NC	40
440			min	0	36	-0.122	37	0	38	0	40	208.641	20	NC	12
441	M46	1	max	0	36	0	40	0.001	37	0	18	NC	40	NC	40
442			min	0	39	-0.003	37	0	40	0	37	NC	12	NC	12
443		2	max	0	36	-0.001	40	0.001	37	0	18	NC	40	NC	40
444			min	0	39	-0.024	37	0	40	-0.001	37	1147.479	38	NC	12
445		3	max	0	36	-0.003	40	0.001	37	0	40	8936.996	39	NC	40
446			min	0	39	-0.045	37	0	40	-0.002	37	575.469	38	NC	12
447		4	max	0	36	-0.004	40	0	37	0	40	5956.745	39	NC	40
448			min	0	39	-0.065	37	0	40	-0.002	37	385.065	38	NC	12
449		5	max	0	36	-0.006	40	0	37	0	40	4464.097	39	NC	40
450			min	0	39	-0.086	37	0	14	-0.003	37	289.483	38	NC	12
451	M47	1	max	0	39	0	40	0	39	0	37	NC	40	NC	40
452			min	0	40	-0.005	37	-0.001	38	0	40	NC	12	NC	12
453		2	max	0	39	-0.002	40	0	39	0.001	37	NC	40	NC	40
454			min	0	40	-0.025	37	-0.001	38	0	40	1155.342	20	NC	12

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
455		3	max	0	39	-0.003	40	0	39	0.002	37	8931.925	14	NC	40
456			min	0	40	-0.046	37	-0.001	38	0	40	580.297	20	NC	12
457		4	max	0	39	-0.004	40	0	39	0.002	37	5976.62	14	NC	40
458			min	0	40	-0.066	37	0	38	0	40	388.993	20	NC	12
459		5	max	0	39	-0.006	40	0	39	0.003	37	4496.847	14	NC	40
460			min	0	40	-0.086	37	0	38	0	40	293.036	20	NC	12
461	M48	1	max	0	40	0	40	0.001	37	0	40	NC	40	NC	40
462			min	0	39	-0.002	37	0	40	0	37	NC	12	NC	12
463		2	max	0	40	-0.001	40	0	37	0	40	NC	40	NC	40
464			min	0	39	-0.01	37	0	40	-0.001	37	2732.279	37	NC	12
465		3	max	0	40	-0.001	40	0	37	0	40	NC	40	NC	40
466			min	0	39	-0.021	37	0	40	-0.002	37	1260.859	21	NC	12
467		4	max	0	40	-0.002	40	0	37	0	40	NC	40	NC	40
468			min	0	39	-0.032	37	0	14	-0.003	37	780.872	38	NC	12
469		5	max	0	40	-0.003	40	0	37	0	40	8259.094	39	NC	40
470			min	0	39	-0.046	37	0	14	-0.003	37	545.186	38	NC	12
471	M49	1	max	0	39	0	18	0	39	0	13	NC	40	NC	40
472			min	0	40	-0.002	37	-0.001	38	0	18	NC	12	NC	12
473		2	max	0	39	-0.001	18	0	39	0.001	37	NC	40	NC	40
474			min	0	40	-0.011	13	-0.001	38	0	18	2752.463	38	NC	12
475		3	max	0	39	-0.002	18	0	39	0.002	37	NC	40	NC	40
476			min	0	40	-0.021	13	0	38	0	40	1271.85	38	NC	12
477		4	max	0	39	-0.002	18	0	39	0.003	37	NC	40	NC	40
478			min	0	40	-0.033	13	0	38	0	40	788.974	38	NC	12
479		5	max	0	39	-0.003	18	0	39	0.003	37	8343.779	14	NC	40
480			min	0	40	-0.046	37	0	38	0	40	551.716	38	NC	12
481	M50	1	max	0	40	0	40	0	40	0	39	NC	40	NC	40
482			min	0	12	0	12	0	12	0	38	NC	12	NC	12
483		2	max	0	40	0	40	0	37	0	18	NC	40	NC	40
484			min	0	37	-0.003	37	0	14	-0.003	37	NC	12	NC	12
485		3	max	0	40	0	18	0	38	0	40	NC	40	NC	40
486			min	0	39	-0.003	21	0	39	-0.003	37	NC	12	NC	12
487		4	max	0	36	0	39	0	38	0	40	NC	40	NC	40
488			min	0	39	-0.003	38	0	39	-0.003	37	NC	12	NC	12
489		5	max	0	40	0	40	0	40	0	40	NC	40	NC	40
490			min	0	12	0	12	0	12	0	37	NC	12	NC	12
491	M51	1	max	0.001	36	-0.001	18	0	39	0	13	NC	40	NC	40
492			min	-0.001	39	-0.007	37	-0.001	38	0	18	NC	12	NC	12
493		2	max	0.001	36	-0.003	18	0	39	0.001	38	NC	40	NC	40
494			min	-0.001	39	-0.04	37	0	38	0	39	744.257	37	NC	12
495		3	max	0.001	36	-0.005	40	0	39	0.001	16	5491.067	40	NC	40
496			min	-0.001	39	-0.071	37	0	40	0	39	378.967	37	NC	12
497		4	max	0.001	36	-0.007	40	0	37	0.001	16	3763.621	40	NC	40
498			min	-0.001	39	-0.1	37	0	40	0	39	259.105	37	NC	12
499		5	max	0.001	36	-0.009	40	0	37	0.001	16	2925.706	40	NC	40
500			min	-0.001	39	-0.127	37	0	14	0	39	200.746	37	NC	12
501	M52	1	max	0.001	36	-0.009	40	0	37	0.001	16	NC	40	NC	40
502			min	-0.001	39	-0.127	37	0	14	0	39	NC	12	NC	12
503		2	max	0.001	36	-0.012	40	0	38	0.001	16	NC	40	NC	40
504			min	-0.001	39	-0.165	37	0	14	0	39	1292.545	16	NC	12
505		3	max	0.001	36	-0.012	40	0	38	0.001	16	NC	40	NC	40
506			min	-0.001	39	-0.179	37	0	39	0	39	966.192	16	NC	12
507		4	max	0.001	36	-0.011	40	0	38	0.001	16	NC	40	NC	40
508			min	-0.001	39	-0.168	37	0	39	0	39	1292.381	16	NC	12
509		5	max	0.001	36	-0.009	40	0	38	0.001	16	NC	40	NC	40

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
510			min	-0.001	39	-0.133	37	0	39	0	39	NC	12	NC	12
511	M53	1	max	0.001	36	-0.009	40	0	38	0.001	16	3194.066	39	NC	40
512			min	-0.001	39	-0.133	37	0	39	0	39	210.056	16	NC	12
513		2	max	0.001	36	-0.007	40	0	38	0.001	16	4098.473	39	NC	40
514			min	-0.001	39	-0.107	37	0	39	0	39	271.013	16	NC	12
515		3	max	0.001	36	-0.005	40	0.001	36	0.001	16	5967.703	39	NC	40
516			min	-0.001	39	-0.079	37	0	39	0	39	396.221	16	NC	12
517		4	max	0.001	36	-0.002	40	0.001	36	0.001	16	NC	40	NC	40
518			min	-0.001	39	-0.05	37	-0.001	39	0	39	777.828	16	NC	12
519		5	max	0.001	36	0	40	0.001	36	0	16	NC	40	NC	40
520			min	-0.001	39	-0.019	37	-0.001	39	0	39	NC	12	NC	12
521	M54	1	max	0	37	-0.009	40	0.001	39	0	40	NC	40	NC	40
522			min	0	14	-0.127	37	-0.001	36	-0.004	37	1067.381	37	NC	12
523		2	max	0	37	-0.011	40	0	39	0	40	NC	40	NC	40
524			min	0	14	-0.17	37	-0.001	36	-0.006	37	790.1	37	NC	12
525		3	max	0	37	-0.011	40	0	39	0	40	NC	40	NC	40
526			min	0	14	-0.172	37	0	36	-0.006	37	782.001	37	NC	12
527		4	max	0	37	-0.007	40	0	39	0	39	NC	40	NC	40
528			min	0	14	-0.112	37	0	36	-0.004	38	1211.022	37	NC	12
529		5	max	0	37	0	40	0	37	0	39	NC	40	NC	40
530			min	0	14	-0.003	37	0	40	-0.002	38	NC	12	NC	12
531	M55	1	max	0	38	-0.009	40	0.001	39	0.004	16	NC	40	NC	40
532			min	0	39	-0.133	37	-0.001	36	0	39	1020.065	37	NC	12
533		2	max	0	38	-0.011	40	0	39	0.006	16	NC	40	NC	40
534			min	0	39	-0.174	37	-0.001	36	0	39	771.194	37	NC	12
535		3	max	0	38	-0.011	40	0	39	0.006	16	NC	40	NC	40
536			min	0	39	-0.175	37	0	36	0	39	768.355	37	NC	12
537		4	max	0	38	-0.007	40	0	39	0.004	20	NC	40	NC	40
538			min	0	39	-0.113	37	0	36	0	39	1196.577	37	NC	12
539		5	max	0	38	0	39	0	39	0.002	37	NC	40	NC	40
540			min	0	39	-0.003	38	0	36	0	40	NC	12	NC	12
541	M56	1	max	0.001	36	-0.01	40	0	37	0.001	16	NC	40	NC	40
542			min	-0.001	39	-0.141	37	0	14	0	39	NC	12	NC	12
543		2	max	0.001	36	-0.013	40	0	38	0.001	16	NC	40	NC	40
544			min	-0.001	39	-0.199	37	0	14	0	39	847.817	16	NC	12
545		3	max	0.001	36	-0.015	40	0	38	0.001	16	9237.852	39	NC	40
546			min	-0.001	39	-0.225	37	0	39	0	39	590.373	16	NC	12
547		4	max	0.001	36	-0.013	40	0	38	0.001	16	NC	40	NC	40
548			min	-0.001	39	-0.201	37	0	39	0	39	848.806	16	NC	12
549		5	max	0.001	36	-0.009	40	0	38	0.001	16	NC	40	NC	40
550			min	-0.001	39	-0.146	37	0	39	0	39	NC	12	NC	12
551	M57	1	max	0.001	36	-0.011	40	0	37	0.001	16	NC	40	NC	40
552			min	-0.001	39	-0.154	37	0	14	0	39	NC	12	NC	12
553		2	max	0.001	36	-0.015	40	0	38	0.001	16	NC	40	NC	40
554			min	-0.001	39	-0.217	37	0	14	0	39	774.229	16	NC	12
555		3	max	0.001	36	-0.016	40	0	38	0.001	16	8520.628	39	NC	40
556			min	-0.001	39	-0.244	37	0	39	0	39	542.732	16	NC	12
557		4	max	0.001	36	-0.014	40	0	38	0.001	16	NC	40	NC	40
558			min	-0.001	39	-0.219	37	0	39	0	39	775.767	16	NC	12
559		5	max	0.001	36	-0.01	40	0	38	0.001	16	NC	40	NC	40
560			min	-0.001	39	-0.158	37	0	39	0	39	NC	12	NC	12
561	M58	1	max	0.001	36	-0.011	40	0	37	0.001	16	NC	40	NC	40
562			min	-0.001	39	-0.165	37	0	14	0	39	NC	12	NC	12
563		2	max	0.001	36	-0.015	40	0	38	0.001	16	NC	40	NC	40
564			min	-0.001	39	-0.232	37	0	14	0	39	725.021	16	NC	12

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
565		3	max	0.001	36	-0.017	40	0	38	0.001	16	8051.185	39	NC	40
566			min	-0.001	39	-0.261	37	0	39	0	39	510.567	16	NC	12
567		4	max	0.001	36	-0.015	40	0	38	0.001	16	NC	40	NC	40
568			min	-0.001	39	-0.234	37	0	39	0	39	727.008	16	NC	12
569		5	max	0.001	36	-0.011	40	0	38	0.001	16	NC	40	NC	40
570			min	-0.001	39	-0.169	37	0	39	0	39	NC	12	NC	12
571	M59	1	max	0.001	36	-0.012	40	0	37	0.001	16	NC	40	NC	40
572			min	0	39	-0.173	37	0	14	0	39	NC	12	NC	12
573		2	max	0.001	36	-0.016	40	0	38	0.001	16	NC	40	NC	40
574			min	0	39	-0.243	37	0	14	0	39	692.716	16	NC	12
575		3	max	0.001	36	-0.018	40	0	38	0.001	16	7753.559	39	NC	40
576			min	0	39	-0.273	37	0	39	0	39	489.359	16	NC	12
577		4	max	0.001	36	-0.016	40	0	38	0.001	16	NC	40	NC	40
578			min	0	39	-0.245	37	0	39	0	39	695.168	16	NC	12
579		5	max	0.001	36	-0.011	40	0	38	0.001	16	NC	40	NC	40
580			min	0	39	-0.177	37	0	39	0	39	NC	12	NC	12
581	M60	1	max	0	36	-0.012	40	0	37	0	16	NC	40	NC	40
582			min	0	39	-0.177	37	0	14	0	39	NC	12	NC	12
583		2	max	0	36	-0.016	40	0	38	0	16	NC	40	NC	40
584			min	0	39	-0.249	37	0	14	0	39	679.732	16	NC	12
585		3	max	0	36	-0.018	40	0	38	0	16	7665.844	39	NC	40
586			min	0	39	-0.279	37	0	39	0	39	481.038	16	NC	12
587		4	max	0	36	-0.016	40	0	38	0	16	NC	40	NC	40
588			min	0	39	-0.25	37	0	39	0	39	683.082	16	NC	12
589		5	max	0	36	-0.012	40	0	38	0	16	NC	40	NC	40
590			min	0	39	-0.181	37	0	39	0	39	NC	12	NC	12
591	M61	1	max	0	36	-0.012	40	0	37	0	40	NC	40	NC	40
592			min	0	39	-0.178	37	0	14	0	37	NC	12	NC	12
593		2	max	0	36	-0.016	40	0	38	0	40	NC	40	NC	40
594			min	0	39	-0.25	37	0	14	0	37	679.667	16	NC	12
595		3	max	0	36	-0.018	40	0	38	0	40	7716.965	39	NC	40
596			min	0	39	-0.279	37	0	39	0	37	481.561	16	NC	12
597		4	max	0	36	-0.016	40	0	38	0	40	NC	40	NC	40
598			min	0	39	-0.251	37	0	39	0	37	684.733	16	NC	12
599		5	max	0	36	-0.012	40	0	38	0	40	NC	40	NC	40
600			min	0	39	-0.181	37	0	39	0	37	NC	12	NC	12
601	M62	1	max	0	36	-0.012	40	0	37	0	40	NC	40	NC	40
602			min	0	39	-0.174	37	0	14	-0.001	37	NC	12	NC	12
603		2	max	0	36	-0.016	40	0	38	0	40	NC	40	NC	40
604			min	0	39	-0.244	37	0	14	-0.001	37	692.763	16	NC	12
605		3	max	0	36	-0.018	40	0	38	0	40	7916.797	39	NC	40
606			min	0	39	-0.274	37	0	39	-0.001	37	491.225	16	NC	12
607		4	max	0	36	-0.016	40	0	38	0	40	NC	40	NC	40
608			min	0	39	-0.245	37	0	39	-0.001	37	700.792	16	NC	12
609		5	max	0	36	-0.012	40	0	38	0	40	NC	40	NC	40
610			min	0	39	-0.177	37	0	39	-0.001	37	NC	12	NC	12
611	M63	1	max	0	36	-0.011	40	0	37	0	40	NC	40	NC	40
612			min	0	39	-0.166	37	0	14	-0.001	37	NC	12	NC	12
613		2	max	0	36	-0.015	40	0	38	0	40	NC	40	NC	40
614			min	0	39	-0.233	37	0	14	-0.001	37	720.898	38	NC	12
615		3	max	0	36	-0.017	40	0	38	0	40	8294.967	39	NC	40
616			min	0	39	-0.261	37	0	39	-0.001	37	511.492	16	NC	12
617		4	max	0	36	-0.015	40	0	38	0	40	NC	40	NC	40
618			min	0	39	-0.233	37	0	39	-0.001	37	734.046	16	NC	12
619		5	max	0	36	-0.011	40	0	38	0	40	NC	40	NC	40

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
620			min	0	39	-0.169	37	0	39	-0.001	37	NC	12	NC	12
621	M64	1	max	0	36	-0.01	40	0	37	0	40	NC	40	NC	40
622			min	0	39	-0.153	37	0	14	-0.002	37	NC	12	NC	12
623		2	max	0	36	-0.014	40	0	38	0	40	NC	40	NC	40
624			min	0	39	-0.216	37	0	14	-0.002	37	768.156	38	NC	12
625		3	max	0	36	-0.016	40	0	38	0	40	8835.061	39	NC	40
626			min	0	39	-0.242	37	0	39	-0.002	37	541.411	38	NC	12
627		4	max	0	36	-0.014	40	0	38	0	40	NC	40	NC	40
628			min	0	39	-0.216	37	0	39	-0.002	37	777.861	38	NC	12
629		5	max	0	36	-0.01	40	0	38	0	40	NC	40	NC	40
630			min	0	39	-0.155	37	0	39	-0.002	37	NC	12	NC	12
631	M65	1	max	0	36	-0.009	40	0	37	0	40	NC	40	NC	40
632			min	0	39	-0.135	37	0	14	-0.002	37	NC	12	NC	12
633		2	max	0	36	-0.012	40	0	38	0	40	NC	40	NC	40
634			min	0	39	-0.192	37	0	14	-0.002	37	838.702	38	NC	12
635		3	max	0	36	-0.014	40	0	38	0	40	9642.334	39	NC	40
636			min	0	39	-0.217	37	0	39	-0.002	37	586.514	38	NC	12
637		4	max	0	36	-0.012	40	0	38	0	40	NC	40	NC	40
638			min	0	39	-0.193	37	0	39	-0.002	37	846.006	38	NC	12
639		5	max	0	36	-0.009	40	0	38	0	40	NC	40	NC	40
640			min	0	39	-0.136	37	0	39	-0.002	37	NC	12	NC	12
641	M66	1	max	0	36	-0.007	40	0	37	0	40	NC	40	NC	40
642			min	0	39	-0.112	37	0	14	-0.003	37	NC	12	NC	12
643		2	max	0	36	-0.011	40	0	38	0	40	NC	40	NC	40
644			min	0	39	-0.164	37	0	14	-0.003	37	941.387	38	NC	12
645		3	max	0	36	-0.012	40	0	38	0	40	NC	40	NC	40
646			min	0	39	-0.186	37	0	39	-0.003	37	651.796	38	NC	12
647		4	max	0	36	-0.011	40	0	38	0	40	NC	40	NC	40
648			min	0	39	-0.164	37	0	39	-0.003	37	947.031	38	NC	12
649		5	max	0	36	-0.007	40	0	38	0	40	NC	40	NC	40
650			min	0	39	-0.113	37	0	39	-0.003	37	NC	12	NC	12
651	M67	1	max	0	36	-0.006	40	0	37	0	40	NC	40	NC	40
652			min	0	39	-0.086	37	0	14	-0.003	37	NC	12	NC	12
653		2	max	0	36	-0.008	40	0	38	0	40	NC	40	NC	40
654			min	0	39	-0.13	37	0	14	-0.003	37	1092.606	38	NC	12
655		3	max	0	40	-0.01	40	0	38	0	40	NC	40	NC	40
656			min	0	39	-0.15	37	0	39	-0.003	37	746.354	38	NC	12
657		4	max	0	40	-0.008	40	0	38	0	40	NC	40	NC	40
658			min	0	39	-0.13	37	0	39	-0.003	37	1097.227	38	NC	12
659		5	max	0	40	-0.006	40	0	38	0	40	NC	40	NC	40
660			min	0	39	-0.086	37	0	39	-0.003	37	NC	12	NC	12
661	M68	1	max	0	40	-0.004	40	0	37	0	40	NC	40	NC	40
662			min	0	39	-0.056	37	0	14	-0.003	37	NC	12	NC	12
663		2	max	0	40	-0.006	40	0	37	0	40	NC	40	NC	40
664			min	0	39	-0.093	37	0	14	-0.003	37	1304.64	38	NC	12
665		3	max	0	40	-0.007	40	0	38	0	40	NC	40	NC	40
666			min	0	39	-0.111	37	0	39	-0.003	37	875.161	38	NC	12
667		4	max	0	40	-0.006	40	0	38	0	40	NC	40	NC	40
668			min	0	39	-0.093	37	0	39	-0.003	37	1308.325	38	NC	12
669		5	max	0	40	-0.004	18	0	38	0	40	NC	40	NC	40
670			min	0	39	-0.056	37	0	39	-0.003	37	NC	12	NC	12
671	M69	1	max	0	40	-0.002	40	0	37	0	18	NC	40	NC	40
672			min	0	37	-0.024	37	0	14	-0.003	37	NC	12	NC	12
673		2	max	0	40	-0.003	40	0	37	0	40	NC	40	NC	40
674			min	0	39	-0.055	37	0	14	-0.003	37	1558.66	38	NC	12

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
675		3	max	0	40	-0.004	18	0	38	0	40	NC	40	NC	40
676			min	0	39	-0.071	37	0	39	-0.003	37	1023.519	38	NC	12
677		4	max	0	40	-0.004	18	0	38	0	40	NC	40	NC	40
678			min	0	39	-0.055	38	0	39	-0.004	37	1560.513	38	NC	12
679		5	max	0	40	-0.002	39	0	38	0	40	NC	40	NC	40
680			min	0	39	-0.024	38	0	39	-0.004	37	NC	12	NC	12
681	M70	1	max	0	40	0	40	0	40	0	39	NC	40	NC	40
682			min	0	12	0	12	0	12	-0.002	20	NC	12	NC	12
683		2	max	0.001	37	0	39	0	14	0	40	NC	40	NC	40
684			min	0	40	-0.008	38	-0.002	16	-0.005	37	NC	12	NC	12
685		3	max	0	39	0	18	0	40	0	39	NC	40	NC	40
686			min	0	40	-0.005	38	0	37	-0.005	38	NC	12	NC	12
687		4	max	0.001	39	-0.001	18	0.001	39	0	40	NC	40	NC	40
688			min	0	40	-0.008	37	-0.001	36	-0.006	37	NC	12	NC	12
689		5	max	0	40	0	40	0	40	0	37	NC	40	NC	40
690			min	0	12	0	12	0	12	0	40	NC	12	NC	12
691	M71	1	max	0	40	0	40	0	40	0.002	13	NC	40	NC	40
692			min	0	12	0	12	0	12	0	18	NC	12	NC	12
693		2	max	0.001	38	0.017	37	0.002	16	0.004	20	NC	40	NC	40
694			min	0	39	-0.001	40	0	14	0	39	NC	12	NC	12
695		3	max	0	40	0.008	38	0	37	0.005	12	NC	40	NC	40
696			min	-0.001	37	0	39	0	40	0	40	NC	12	NC	12
697		4	max	0.001	36	0.018	37	0.001	36	0.006	16	NC	40	NC	40
698			min	-0.001	39	0	40	-0.001	39	0	39	NC	12	NC	12
699		5	max	0	40	0	40	0	40	0	39	NC	40	NC	40
700			min	0	12	0	12	0	12	0	38	NC	12	NC	12
701	M72	1	max	0	40	0	40	0	40	0	39	NC	40	NC	40
702			min	0	12	0	12	0	12	0	40	NC	12	NC	12
703		2	max	0	40	0.001	38	0.001	39	0	37	NC	40	NC	40
704			min	-0.001	37	-0.001	39	-0.001	36	0	40	NC	12	NC	12
705		3	max	0	40	0.002	38	0.002	39	0	37	NC	40	NC	40
706			min	-0.002	37	-0.001	39	-0.002	40	0	40	NC	12	NC	12
707		4	max	0.001	40	0.002	38	0.003	39	0	37	NC	40	NC	40
708			min	-0.003	37	-0.002	39	-0.003	40	0	40	NC	12	NC	12
709		5	max	0.001	40	0.003	38	0.004	39	0	37	NC	40	NC	40
710			min	-0.003	37	-0.002	39	-0.004	40	0	40	NC	12	NC	12
711	M73	1	max	0	40	0	40	0	40	0	37	NC	40	NC	40
712			min	0	12	0	12	0	12	0	40	NC	12	NC	12
713		2	max	0	39	0.003	37	0.001	37	0	37	NC	40	NC	40
714			min	-0.001	38	-0.001	40	-0.001	40	0	40	NC	12	NC	12
715		3	max	0	39	0.007	37	0.002	39	0	37	NC	40	NC	40
716			min	-0.002	38	-0.002	40	-0.002	40	0	40	NC	12	NC	12
717		4	max	0.001	39	0.01	37	0.003	39	0	37	NC	40	NC	40
718			min	-0.003	38	-0.003	40	-0.003	40	0	40	NC	12	NC	12
719		5	max	0.001	39	0.014	37	0.004	39	0	37	NC	40	NC	40
720			min	-0.003	38	-0.004	40	-0.004	40	0	40	8356.079	37	NC	12
721	M74	1	max	0	40	0	40	0	40	0	13	NC	40	NC	40
722			min	0	12	0	12	0	12	0	18	NC	12	NC	12
723		2	max	0	14	0.045	13	0.002	38	0	14	NC	40	NC	40
724			min	-0.002	37	-0.011	15	-0.002	39	0	18	3126.511	12	NC	12
725		3	max	0	14	0.066	13	0.002	40	0	14	NC	40	NC	40
726			min	-0.004	37	-0.022	15	-0.004	37	0	16	2360.893	12	NC	12
727		4	max	0	14	0.063	13	0.003	40	0	37	NC	40	NC	40
728			min	-0.004	38	-0.031	36	-0.008	37	0	40	3179.973	13	NC	12
729		5	max	0	14	0.063	37	0.003	40	0	37	NC	40	NC	40

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
730			min	-0.004	38	-0.032	40	-0.008	37	0	40	2768.783	39	NC	12
731	M75	1	max	0	40	0	40	0	40	0	38	NC	40	NC	40
732			min	0	12	0	12	0	12	0	39	NC	12	NC	12
733		2	max	0	39	0.011	39	0.001	37	0	37	NC	40	NC	40
734			min	-0.002	38	-0.042	20	0	40	0	19	2321.043	21	NC	12
735		3	max	0	39	0.029	39	0.001	37	0	37	NC	40	NC	40
736			min	-0.004	38	-0.042	20	-0.001	40	0	36	2092.644	21	NC	12
737		4	max	0	39	0.051	37	0.002	37	0	37	NC	38	NC	40
738			min	-0.004	38	-0.026	22	-0.001	40	0	36	2253.583	37	NC	12
739		5	max	0	14	0.063	37	0.002	37	0	37	NC	39	NC	40
740			min	-0.004	38	-0.032	40	-0.001	40	0	40	1800.742	37	NC	12
741	M76	1	max	0.004	40	0.001	40	0.002	39	0	39	NC	40	NC	40
742			min	-0.004	39	-0.003	37	-0.003	38	0	38	NC	12	NC	12
743		2	max	0.004	40	0	40	0	39	0	39	NC	40	NC	40
744			min	-0.004	39	-0.002	37	-0.004	38	-0.001	38	NC	12	NC	12
745		3	max	0.004	40	0	18	0.001	40	-0.001	40	NC	40	NC	40
746			min	-0.004	39	-0.002	13	-0.006	37	-0.001	37	NC	12	NC	12
747		4	max	0.004	40	0	39	0.002	40	0	40	NC	40	NC	40
748			min	-0.004	39	-0.002	38	-0.01	37	-0.001	37	NC	12	NC	12
749		5	max	0.004	40	0.001	39	0.004	40	0	40	NC	40	NC	40
750			min	-0.004	39	-0.003	38	-0.014	37	0	37	NC	12	NC	12
751	M77	1	max	0.032	40	0	14	0.002	37	0	13	NC	40	NC	40
752			min	-0.063	37	-0.004	38	-0.001	40	0	18	NC	12	NC	12
753		2	max	0.032	40	0.041	14	0	40	0	13	NC	37	NC	40
754			min	-0.063	37	-0.024	36	-0.001	37	0	18	2328.786	14	NC	12
755		3	max	0.032	40	0.063	14	0.001	40	0	13	NC	22	NC	40
756			min	-0.063	37	-0.028	36	-0.003	37	0	18	1519.353	14	NC	12
757		4	max	0.032	40	0.043	14	0.002	40	0	13	NC	40	NC	40
758			min	-0.063	37	-0.017	15	-0.006	37	0	40	2243.387	14	NC	12
759		5	max	0.032	40	0	14	0.003	40	0	13	NC	40	NC	40
760			min	-0.063	37	-0.004	38	-0.008	37	0	40	NC	12	NC	12
761	M78	1	max	0.003	40	0	14	0.063	37	0.001	15	NC	40	NC	40
762			min	-0.008	37	-0.004	38	-0.032	40	-0.002	14	NC	12	NC	12
763		2	max	0.003	40	0.001	40	0.05	37	0.003	15	NC	40	NC	40
764			min	-0.01	37	-0.017	37	-0.027	40	0.001	38	NC	12	NC	12
765		3	max	0.003	40	-0.001	39	0.036	37	0.005	15	NC	40	NC	40
766			min	-0.01	37	-0.008	38	-0.02	40	0.003	40	NC	12	NC	12
767		4	max	0.003	40	0	40	0.022	37	0.005	19	NC	40	NC	40
768			min	-0.012	37	-0.017	37	-0.013	40	0.003	40	NC	12	NC	12
769		5	max	0.004	40	0.001	39	0.004	39	0	39	NC	40	NC	40
770			min	-0.014	37	-0.003	38	-0.004	40	0	40	NC	12	NC	12
771	M79	1	max	0.002	37	0	14	0.063	37	0.001	14	NC	40	NC	40
772			min	-0.001	40	-0.004	38	-0.032	40	-0.001	36	NC	12	NC	12
773		2	max	0.001	37	0	39	0.051	37	-0.014	14	NC	40	NC	40
774			min	-0.001	40	-0.007	38	-0.027	40	-0.026	36	NC	12	NC	12
775		3	max	0.002	39	0	18	0.036	37	-0.02	14	NC	40	NC	40
776			min	-0.002	36	-0.005	38	-0.02	40	-0.034	36	NC	12	NC	12
777		4	max	0.002	39	-0.001	18	0.022	37	-0.015	14	NC	40	NC	40
778			min	-0.002	38	-0.006	37	-0.013	40	-0.025	36	NC	12	NC	12
779		5	max	0.002	39	0.001	40	0.004	39	0	39	NC	40	NC	40
780			min	-0.003	38	-0.003	37	-0.004	40	0	36	NC	12	NC	12
781	M82	1	max	-0.001	39	0.001	40	0.366	19	0	39	NC	40	NC	40
782			min	-0.007	38	-0.001	37	0.2	40	-0.001	36	NC	12	NC	12
783		2	max	-0.001	39	0.001	40	0.325	37	0	39	NC	40	NC	40
784			min	-0.007	38	-0.001	37	0.17	40	-0.001	36	NC	12	NC	12

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
785		3	max	-0.001	39	0.001	40	0.287	37	0	39	NC	40	NC	40
786			min	-0.007	38	-0.001	37	0.14	40	-0.001	36	NC	12	NC	12
787		4	max	-0.001	39	0.001	40	0.25	37	0	39	NC	40	NC	40
788			min	-0.007	38	-0.001	37	0.109	40	-0.001	36	NC	12	NC	12
789		5	max	-0.001	39	0.001	40	0.212	37	0	39	NC	40	NC	40
790			min	-0.007	38	-0.001	37	0.079	40	-0.001	36	NC	12	NC	12
791	M83	1	max	0	39	0.001	40	0.387	19	0	39	NC	40	NC	40
792			min	-0.007	38	-0.001	39	0.214	40	-0.001	36	NC	12	NC	12
793		2	max	0	39	0.001	40	0.343	37	0	39	NC	40	NC	40
794			min	-0.007	38	-0.001	39	0.183	40	-0.001	36	NC	12	NC	12
795		3	max	0	39	0.001	40	0.306	37	0	39	NC	40	NC	40
796			min	-0.007	38	-0.001	39	0.153	40	-0.001	36	NC	12	NC	12
797		4	max	0	39	0.001	40	0.268	37	0	39	NC	40	NC	40
798			min	-0.007	38	-0.001	37	0.123	40	-0.001	36	NC	12	NC	12
799		5	max	0	39	0.001	40	0.231	37	0	39	NC	40	NC	40
800			min	-0.007	38	-0.001	37	0.093	40	-0.001	36	NC	12	NC	12
801	M84	1	max	0	18	0.001	40	0.513	37	0.001	37	NC	40	NC	40
802			min	-0.005	37	-0.001	39	0.278	40	0	40	NC	12	NC	12
803		2	max	0	18	0.001	40	0.45	37	0.001	37	NC	40	NC	40
804			min	-0.005	37	-0.001	39	0.24	40	0	40	NC	12	NC	12
805		3	max	0	18	0.001	40	0.388	37	0.001	37	NC	40	NC	40
806			min	-0.005	37	-0.001	39	0.203	40	0	40	NC	12	NC	12
807		4	max	0	18	0.002	36	0.325	37	0.001	37	NC	40	NC	40
808			min	-0.005	37	-0.002	39	0.165	40	0	40	NC	12	NC	12
809		5	max	0	18	0.002	36	0.262	37	0.001	37	NC	40	NC	40
810			min	-0.005	37	-0.002	39	0.127	40	0	40	NC	12	NC	12
811	M85	1	max	-0.001	18	0.001	40	0.496	37	0.001	37	NC	40	NC	40
812			min	-0.006	38	-0.001	39	0.272	40	0	40	NC	12	NC	12
813		2	max	-0.001	18	0.001	40	0.434	37	0.001	37	NC	40	NC	40
814			min	-0.006	38	-0.001	39	0.234	40	0	40	NC	12	NC	12
815		3	max	-0.001	18	0.002	36	0.371	37	0.001	37	NC	40	NC	40
816			min	-0.006	38	-0.002	39	0.196	40	0	40	NC	12	NC	12
817		4	max	-0.001	18	0.002	36	0.309	37	0.001	37	NC	40	NC	40
818			min	-0.006	38	-0.002	39	0.158	40	0	40	NC	12	NC	12
819		5	max	-0.001	18	0.002	36	0.246	37	0.001	37	NC	40	NC	40
820			min	-0.006	38	-0.002	39	0.12	40	0	40	NC	12	NC	12
821	M86	1	max	0	40	0.002	38	0.099	37	0.002	37	NC	40	NC	40
822			min	-0.005	37	-0.001	39	0.053	40	0.001	40	NC	12	NC	12
823		2	max	0	40	0.002	38	0.094	37	0.002	37	NC	40	NC	40
824			min	-0.005	37	-0.001	39	0.049	40	0.001	40	NC	12	NC	12
825		3	max	0	40	0.002	38	0.09	37	0.002	37	NC	40	NC	40
826			min	-0.005	37	-0.002	39	0.045	40	0.001	40	NC	12	NC	12
827		4	max	0	40	0.002	38	0.086	37	0.002	37	NC	40	NC	40
828			min	-0.005	37	-0.002	39	0.041	40	0.001	40	NC	12	NC	12
829		5	max	0	40	0.002	38	0.082	37	0.002	37	NC	40	NC	40
830			min	-0.005	37	-0.002	39	0.037	40	0.001	40	NC	12	NC	12
831	M87	1	max	0	40	0.002	38	0.064	19	0.002	37	NC	40	NC	40
832			min	-0.003	37	-0.001	39	0.034	40	0.001	40	NC	12	NC	12
833		2	max	0	40	0.002	38	0.058	19	0.002	37	NC	40	NC	40
834			min	-0.003	37	-0.002	39	0.03	40	0.001	40	NC	12	NC	12
835		3	max	0	40	0.002	38	0.053	37	0.002	37	NC	40	NC	40
836			min	-0.003	37	-0.002	39	0.027	40	0.001	40	NC	12	NC	12
837		4	max	0	40	0.002	38	0.049	37	0.002	37	NC	40	NC	40
838			min	-0.003	37	-0.002	39	0.023	40	0.001	40	NC	12	NC	12
839		5	max	0	40	0.003	38	0.045	37	0.002	37	NC	40	NC	40

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
840			min	-0.003	37	-0.002	39	0.019	40	0.001	40	NC	12	NC	12
841	M88	1	max	0.001	37	-0.001	39	0.212	37	-0.005	14	NC	40	NC	40
842			min	-0.001	40	-0.007	38	0.079	40	-0.009	36	NC	12	NC	12
843		2	max	0.001	37	-0.001	39	0.217	37	-0.005	14	NC	40	NC	40
844			min	-0.001	40	-0.007	38	0.082	40	-0.009	36	NC	12	NC	12
845		3	max	0.001	37	0	39	0.221	37	-0.005	14	NC	40	NC	40
846			min	-0.001	40	-0.007	38	0.086	40	-0.009	36	NC	12	NC	12
847		4	max	0.001	37	0	39	0.226	37	-0.005	14	NC	40	NC	40
848			min	-0.001	40	-0.007	38	0.089	40	-0.009	36	NC	12	NC	12
849		5	max	0.001	37	0	39	0.231	37	-0.005	14	NC	40	NC	40
850			min	-0.001	40	-0.007	38	0.093	40	-0.009	36	NC	12	NC	12
851	M89	1	max	0.001	37	-0.001	39	0.366	19	-0.005	14	NC	40	NC	40
852			min	-0.001	40	-0.007	38	0.2	40	-0.009	36	NC	12	NC	12
853		2	max	0.001	37	-0.001	39	0.371	19	-0.005	14	NC	40	NC	40
854			min	-0.001	40	-0.007	38	0.203	40	-0.009	36	NC	12	NC	12
855		3	max	0.001	37	0	39	0.376	19	-0.005	14	NC	40	NC	40
856			min	-0.001	40	-0.007	38	0.207	40	-0.009	36	NC	12	NC	12
857		4	max	0.001	37	0	39	0.382	19	-0.005	14	NC	40	NC	40
858			min	-0.001	40	-0.007	38	0.21	40	-0.009	36	NC	12	NC	12
859		5	max	0.001	39	0	39	0.387	19	-0.005	14	NC	40	NC	40
860			min	-0.001	40	-0.007	38	0.214	40	-0.009	36	NC	12	NC	12
861	M90	1	max	0.001	39	0	18	0.513	37	-0.006	18	NC	40	NC	40
862			min	-0.001	40	-0.005	37	0.278	40	-0.011	36	NC	12	NC	12
863		2	max	0.001	39	0	18	0.509	37	-0.006	18	NC	40	NC	40
864			min	-0.001	40	-0.005	37	0.277	40	-0.011	36	NC	12	NC	12
865		3	max	0.001	39	0	18	0.505	37	-0.006	18	NC	40	NC	40
866			min	-0.001	40	-0.006	37	0.275	40	-0.011	36	NC	12	NC	12
867		4	max	0.001	39	-0.001	18	0.501	37	-0.006	18	NC	40	NC	40
868			min	-0.001	40	-0.006	38	0.273	40	-0.011	36	NC	12	NC	12
869		5	max	0.001	39	-0.001	18	0.496	37	-0.006	18	NC	40	NC	40
870			min	-0.001	40	-0.006	38	0.272	40	-0.011	36	NC	12	NC	12
871	M91	1	max	0.002	39	0	18	0.262	37	-0.006	18	NC	40	NC	40
872			min	-0.002	36	-0.005	37	0.127	40	-0.011	36	NC	12	NC	12
873		2	max	0.002	39	0	18	0.258	37	-0.006	18	NC	40	NC	40
874			min	-0.002	36	-0.006	37	0.125	40	-0.011	36	NC	12	NC	12
875		3	max	0.002	39	-0.001	18	0.254	37	-0.006	18	NC	40	NC	40
876			min	-0.002	36	-0.006	37	0.123	40	-0.011	36	NC	12	NC	12
877		4	max	0.002	39	-0.001	18	0.25	37	-0.006	18	NC	40	NC	40
878			min	-0.002	36	-0.006	38	0.122	40	-0.011	36	NC	12	NC	12
879		5	max	0.002	39	-0.001	18	0.246	37	-0.006	18	NC	40	NC	40
880			min	-0.002	36	-0.006	38	0.12	40	-0.011	36	NC	12	NC	12
881	M92	1	max	0.002	39	0	40	0.082	37	-0.001	39	NC	40	NC	40
882			min	-0.002	38	-0.005	37	0.037	40	-0.001	36	NC	12	NC	12
883		2	max	0.002	39	0	40	0.073	37	-0.001	39	NC	40	NC	40
884			min	-0.002	38	-0.005	37	0.033	40	-0.001	36	NC	12	NC	12
885		3	max	0.002	39	0	40	0.064	37	-0.001	39	NC	40	NC	40
886			min	-0.002	38	-0.004	37	0.028	40	-0.001	36	NC	12	NC	12
887		4	max	0.002	39	0	40	0.054	37	-0.001	39	NC	40	NC	40
888			min	-0.002	38	-0.004	37	0.024	40	-0.001	36	NC	12	NC	12
889		5	max	0.002	39	0	40	0.045	37	-0.001	39	NC	40	NC	40
890			min	-0.003	38	-0.003	37	0.019	40	-0.001	36	NC	12	NC	12
891	M93	1	max	0.001	39	0	40	0.099	37	-0.001	39	NC	40	NC	40
892			min	-0.002	38	-0.005	37	0.053	40	-0.001	36	NC	12	NC	12
893		2	max	0.001	39	0	40	0.09	19	-0.001	39	NC	40	NC	40
894			min	-0.002	38	-0.005	37	0.048	40	-0.001	36	NC	12	NC	12

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
895		3	max	0.001	39	0	40	0.081	19	-0.001	39	NC	40	NC	40
896			min	-0.002	38	-0.004	37	0.044	40	-0.001	36	NC	12	NC	12
897		4	max	0.001	39	0	40	0.073	19	-0.001	39	NC	40	NC	40
898			min	-0.002	38	-0.003	37	0.039	40	-0.001	36	NC	12	NC	12
899		5	max	0.001	39	0	40	0.064	19	-0.001	39	NC	40	NC	40
900			min	-0.002	38	-0.003	37	0.034	40	-0.001	36	NC	12	NC	12
901	M94	1	max	0.001	39	0	37	0	39	0	13	NC	40	NC	40
902			min	-0.005	38	0	40	-0.001	38	0	18	NC	12	NC	12
903		2	max	0.001	39	0.001	39	0.067	37	0	13	NC	40	NC	40
904			min	-0.003	38	-0.002	38	-0.004	40	0	18	NC	12	1916.427	12
905		3	max	0	39	0.004	37	0.084	37	0	13	NC	40	NC	36
906			min	-0.003	38	-0.002	40	-0.016	36	0	40	NC	12	1789.839	12
907		4	max	0	39	0.009	37	0.074	37	0	13	NC	40	NC	36
908			min	-0.003	38	-0.003	40	-0.026	36	0	40	NC	12	3124.666	12
909		5	max	0	14	0.008	37	0.061	37	0	37	NC	40	NC	38
910			min	-0.004	38	-0.003	40	-0.031	40	0	40	NC	12	2863.649	39
911	M95	1	max	0.001	40	0	39	0	39	0	39	NC	40	NC	40
912			min	-0.021	37	-0.001	38	-0.002	16	0	38	NC	12	NC	12
913		2	max	0.001	40	0.003	37	0.059	37	0	37	NC	40	NC	40
914			min	-0.019	37	-0.001	40	-0.01	36	0	40	NC	12	2136.123	38
915		3	max	0.001	40	0.006	37	0.068	37	0	37	NC	40	NC	40
916			min	-0.018	37	-0.002	40	-0.027	36	0	40	NC	12	2273.713	38
917		4	max	0.001	40	0.009	37	0.056	37	0	37	NC	40	NC	40
918			min	-0.017	37	-0.003	40	-0.037	36	0	40	NC	12	5215.597	38
919		5	max	0.001	40	0.009	37	0.052	37	0	37	NC	40	NC	40
920			min	-0.017	37	-0.003	40	-0.027	40	0	40	NC	12	3233.434	39
921	M96	1	max	0.001	39	0	37	0	40	0	39	NC	40	NC	40
922			min	-0.006	38	0	40	0	37	0	36	NC	12	NC	12
923		2	max	0.001	39	0.003	37	0.059	37	0	37	NC	40	NC	40
924			min	-0.007	38	-0.001	40	-0.008	36	0	36	NC	12	2099.47	38
925		3	max	0	39	0.006	37	0.064	37	0	37	NC	40	NC	40
926			min	-0.007	38	-0.002	40	-0.022	36	0	36	NC	12	2176.513	38
927		4	max	0	39	0.01	37	0.045	37	0	37	NC	40	NC	40
928			min	-0.008	38	-0.003	40	-0.03	36	0	36	NC	12	4725.733	38
929		5	max	-0.001	39	0.009	37	0.032	37	0	37	NC	40	NC	40
930			min	-0.009	38	-0.003	40	-0.018	40	0	40	NC	12	4990.8	39
931	M97	1	max	0.001	40	0.001	37	0	39	0	38	NC	40	NC	40
932			min	-0.021	37	-0.001	40	-0.001	36	0	39	NC	12	NC	12
933		2	max	0.001	40	0.003	37	0.056	37	0	37	NC	40	NC	40
934			min	-0.021	37	-0.001	40	-0.007	36	0	40	NC	12	2137.325	38
935		3	max	0	40	0.007	37	0.061	37	0	37	NC	40	NC	40
936			min	-0.02	37	-0.002	40	-0.02	36	0	40	NC	12	2214.473	38
937		4	max	0	40	0.011	37	0.042	37	0	37	NC	40	NC	40
938			min	-0.019	37	-0.003	40	-0.027	36	0	36	NC	12	4755.561	38
939		5	max	0	40	0.009	37	0.028	37	0	37	NC	40	NC	40
940			min	-0.018	37	-0.003	40	-0.016	40	0	40	NC	12	5811.954	39
941	M98	1	max	0.003	40	0	39	0.071	37	0.001	39	NC	40	NC	40
942			min	-0.01	37	-0.004	38	-0.028	36	-0.001	38	NC	12	NC	12
943		2	max	0.003	40	-0.001	40	0.067	37	0.001	39	NC	40	NC	40
944			min	-0.011	37	-0.007	37	-0.03	36	-0.001	38	NC	12	NC	12
945		3	max	0.003	40	0	40	0.062	37	0.001	39	NC	40	NC	40
946			min	-0.011	37	-0.011	37	-0.032	36	-0.001	38	NC	12	NC	12
947		4	max	0.003	40	0	40	0.057	37	0.001	39	NC	40	NC	40
948			min	-0.011	37	-0.015	37	-0.035	36	-0.001	38	NC	12	NC	12
949		5	max	0.003	40	0.001	40	0.053	37	0.001	39	NC	40	NC	40

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
950			min	-0.01	37	-0.017	37	-0.037	36	-0.001	38	NC	12	NC	12
951	M99	1	max	0.003	40	0	39	0.041	37	0	39	NC	40	NC	40
952			min	-0.011	37	-0.008	38	-0.029	36	-0.001	38	NC	12	NC	12
953		2	max	0.003	40	-0.001	18	0.041	37	0	39	NC	40	NC	40
954			min	-0.011	37	-0.01	38	-0.028	36	-0.001	38	NC	12	NC	12
955		3	max	0.003	40	-0.001	40	0.04	37	0	39	NC	40	NC	40
956			min	-0.011	37	-0.013	37	-0.028	36	-0.001	38	NC	12	NC	12
957		4	max	0.003	40	0	40	0.039	37	0	39	NC	40	NC	40
958			min	-0.011	37	-0.016	37	-0.027	36	-0.001	38	NC	12	NC	12
959		5	max	0.003	40	0	40	0.038	37	0	39	NC	40	NC	40
960			min	-0.011	37	-0.019	37	-0.026	36	-0.001	38	NC	12	NC	12
961	M100	1	max	0.003	40	-0.001	18	0.005	37	0.001	19	NC	40	NC	40
962			min	-0.009	37	-0.008	37	-0.064	36	0	38	NC	12	NC	12
963		2	max	0.003	40	-0.001	18	0.007	37	0.001	19	NC	40	NC	40
964			min	-0.009	37	-0.008	38	-0.062	36	0	38	NC	12	NC	12
965		3	max	0.003	40	-0.001	39	0.008	37	0.001	19	NC	40	NC	40
966			min	-0.009	37	-0.008	38	-0.059	36	0	38	NC	12	NC	12
967		4	max	0.003	40	-0.001	39	0.01	37	0.001	19	NC	40	NC	40
968			min	-0.009	37	-0.008	38	-0.057	36	0	38	NC	12	NC	12
969		5	max	0.003	40	-0.001	39	0.012	37	0.001	19	NC	40	NC	40
970			min	-0.009	37	-0.008	38	-0.054	36	0	38	NC	12	NC	12
971	M101	1	max	0.002	40	-0.001	18	0.004	37	0.001	19	NC	40	NC	40
972			min	-0.007	37	-0.008	37	-0.088	36	0	38	NC	12	NC	12
973		2	max	0.002	40	-0.001	18	0.005	37	0.001	19	NC	40	NC	40
974			min	-0.007	37	-0.007	38	-0.086	36	0	38	NC	12	NC	12
975		3	max	0.002	40	-0.001	39	0.007	37	0.001	19	NC	40	NC	40
976			min	-0.007	37	-0.007	38	-0.083	36	0	38	NC	12	NC	12
977		4	max	0.002	40	-0.001	39	0.009	37	0.001	19	NC	40	NC	40
978			min	-0.007	37	-0.008	38	-0.081	36	0	38	NC	12	NC	12
979		5	max	0.002	40	-0.001	39	0.01	37	0.001	19	NC	40	NC	40
980			min	-0.007	37	-0.008	38	-0.078	36	0	38	NC	12	NC	12
981	M102	1	max	0.003	40	0	40	-0.003	37	0.001	19	NC	40	NC	40
982			min	-0.011	37	-0.017	37	-0.048	36	0	38	NC	12	NC	12
983		2	max	0.003	40	0	40	-0.005	37	0.001	19	NC	40	NC	40
984			min	-0.011	37	-0.017	37	-0.049	36	0	38	NC	12	NC	12
985		3	max	0.003	40	0	40	-0.007	37	0.001	19	NC	40	NC	40
986			min	-0.011	37	-0.016	37	-0.049	36	0	38	NC	12	NC	12
987		4	max	0.003	40	0	40	-0.009	37	0.001	19	NC	40	NC	40
988			min	-0.011	37	-0.015	37	-0.05	36	0	38	NC	12	NC	12
989		5	max	0.003	40	0	40	-0.011	37	0.001	19	NC	40	NC	40
990			min	-0.011	37	-0.015	37	-0.05	36	0	38	NC	12	NC	12
991	M103	1	max	0.003	40	0	40	0.001	37	0.001	19	NC	40	NC	40
992			min	-0.009	37	-0.017	37	-0.073	36	0	38	NC	12	NC	12
993		2	max	0.003	40	0	40	-0.001	37	0.001	19	NC	40	NC	40
994			min	-0.009	37	-0.016	37	-0.074	36	0	38	NC	12	NC	12
995		3	max	0.002	40	0	40	-0.003	37	0.001	19	NC	40	NC	40
996			min	-0.009	37	-0.016	37	-0.074	36	0	38	NC	12	NC	12
997		4	max	0.002	40	0	40	-0.005	37	0.001	19	NC	40	NC	40
998			min	-0.009	37	-0.015	37	-0.075	36	0	38	NC	12	NC	12
999		5	max	0.002	40	0	40	-0.007	37	0.001	19	NC	40	NC	40
1000			min	-0.009	37	-0.014	37	-0.076	36	0	38	NC	12	NC	12
1001	M104	1	max	-0.001	18	0.007	37	0.004	37	0	39	NC	40	NC	40
1002			min	-0.008	37	-0.002	40	-0.088	36	0	36	NC	12	NC	12
1003		2	max	-0.001	18	0.008	37	0.004	37	0	39	NC	40	NC	40
1004			min	-0.008	37	-0.003	40	-0.082	36	0	36	NC	12	NC	12

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
1005		3	max	-0.001	18	0.008	37	0.005	37	0	39	NC	40	NC	40
1006			min	-0.008	37	-0.003	40	-0.076	36	0	36	NC	12	NC	12
1007		4	max	-0.001	18	0.009	37	0.005	37	0	39	NC	40	NC	40
1008			min	-0.008	37	-0.003	40	-0.07	36	0	36	NC	12	NC	12
1009		5	max	-0.001	18	0.009	37	0.005	37	0	39	NC	40	NC	40
1010			min	-0.008	37	-0.003	40	-0.064	36	0	36	NC	12	NC	12
1011	M105	1	max	-0.001	39	0.007	37	0.01	37	0	39	NC	40	NC	40
1012			min	-0.008	38	-0.002	40	-0.078	36	0	36	NC	12	NC	12
1013		2	max	-0.001	39	0.008	37	0.011	37	0	39	NC	40	NC	40
1014			min	-0.008	38	-0.003	40	-0.072	36	0	36	NC	12	NC	12
1015		3	max	-0.001	39	0.009	37	0.011	37	0	39	NC	40	NC	40
1016			min	-0.008	38	-0.003	40	-0.066	36	0	36	NC	12	NC	12
1017		4	max	-0.001	39	0.009	37	0.011	37	0	39	NC	40	NC	40
1018			min	-0.008	38	-0.003	40	-0.06	36	0	36	NC	12	NC	12
1019		5	max	-0.001	39	0.009	37	0.012	37	0	39	NC	40	NC	40
1020			min	-0.008	38	-0.003	40	-0.054	36	0	36	NC	12	NC	12
1021	M106	1	max	0	40	0.009	37	0.001	37	0	37	NC	40	NC	40
1022			min	-0.017	37	-0.003	40	-0.073	36	0	40	NC	12	NC	12
1023		2	max	0	40	0.009	37	0	37	0	37	NC	40	NC	40
1024			min	-0.017	37	-0.003	40	-0.067	36	0	40	NC	12	NC	12
1025		3	max	0	40	0.01	37	-0.001	37	0	37	NC	40	NC	40
1026			min	-0.017	37	-0.003	40	-0.061	36	0	40	NC	12	NC	12
1027		4	max	0	40	0.01	37	-0.002	37	0	37	NC	40	NC	40
1028			min	-0.017	37	-0.003	40	-0.054	36	0	40	NC	12	NC	12
1029		5	max	0	40	0.011	37	-0.003	37	0	37	NC	40	NC	40
1030			min	-0.017	37	-0.003	40	-0.048	36	0	40	NC	12	NC	12
1031	M107	1	max	0	40	0.009	37	-0.007	37	0	37	NC	40	NC	40
1032			min	-0.014	37	-0.002	40	-0.076	36	0	40	NC	12	NC	12
1033		2	max	0	40	0.01	37	-0.008	37	0	37	NC	40	NC	40
1034			min	-0.014	37	-0.003	40	-0.069	36	0	40	NC	12	NC	12
1035		3	max	0	40	0.01	37	-0.009	37	0	37	NC	40	NC	40
1036			min	-0.014	37	-0.003	40	-0.063	36	0	40	NC	12	NC	12
1037		4	max	0	40	0.011	37	-0.01	37	0	37	NC	40	NC	40
1038			min	-0.014	37	-0.003	40	-0.057	36	0	40	NC	12	NC	12
1039		5	max	0	40	0.011	37	-0.011	37	0	37	NC	40	NC	40
1040			min	-0.015	37	-0.003	40	-0.05	36	0	40	NC	12	NC	12
1041	M108	1	max	0	38	0.001	38	-0.002	40	0.002	21	NC	40	NC	40
1042			min	0	39	0	39	-0.066	21	0	40	NC	12	NC	12
1043		2	max	0	38	0.001	38	-0.003	40	0.003	21	NC	40	NC	40
1044			min	0	39	0	39	-0.082	21	0	40	NC	12	692.019	38
1045		3	max	0	38	0.001	38	-0.004	40	0.004	13	NC	40	NC	22
1046			min	0	39	0	39	-0.099	21	0	40	NC	12	346.825	38
1047		4	max	0	38	0.001	38	-0.005	40	0.004	13	NC	40	NC	22
1048			min	0	39	0	39	-0.115	21	0	40	NC	12	232.638	38
1049		5	max	0	38	0.001	38	-0.006	18	0.003	37	NC	40	NC	22
1050			min	0	39	0	39	-0.131	38	0	40	NC	12	174.851	38
1051	M109	1	max	0	37	-0.003	40	0	39	0	18	NC	40	NC	40
1052			min	0	14	-0.092	21	-0.001	38	0	37	NC	12	NC	12
1053		2	max	0	37	-0.004	40	0	39	0	40	NC	40	NC	40
1054			min	0	14	-0.113	21	-0.001	38	-0.001	12	NC	12	NC	12
1055		3	max	0	37	-0.005	40	0	39	0	40	NC	40	NC	40
1056			min	0	14	-0.134	21	-0.002	38	-0.002	20	8085.847	37	NC	12
1057		4	max	0	37	-0.006	40	0	39	0	40	NC	40	NC	40
1058			min	0	14	-0.152	21	-0.002	38	-0.001	20	NC	12	NC	12
1059		5	max	0	37	-0.007	40	0	39	0	22	NC	40	NC	40

Envelope Member Section Deflections - Strength (Continued)

	Member	Sec		x [in]	LC	y [in]	LC	z [in]	LC	x Rotate [rad]	LC	(n) L/y' Ratio	LC	(n) L/z' Ratio	LC
1060			min	0	14	-0.17	37	-0.001	38	0	16	NC	12	NC	12
1061	M110	1	max	0.001	38	-0.004	40	0	38	0.003	38	NC	40	NC	40
1062			min	0	39	-0.099	21	0	39	0	22	NC	12	NC	12
1063		2	max	0.001	38	-0.003	40	0	38	0.002	38	NC	40	NC	40
1064			min	0	39	-0.074	21	0	39	0	22	NC	12	NC	12
1065		3	max	0.001	38	-0.002	39	0	36	0.002	38	NC	40	NC	40
1066			min	0	39	-0.05	21	0	37	0	14	NC	12	NC	12
1067		4	max	0.001	38	-0.001	39	0	36	0.001	38	NC	40	NC	40
1068			min	0	39	-0.027	21	0	37	0	14	NC	12	NC	12
1069		5	max	0.001	38	0.001	39	0	40	0.001	38	NC	40	NC	40
1070			min	0	39	-0.005	38	0	37	0	39	NC	12	NC	12
1071	M111	1	max	0	38	0	38	-0.006	40	0	38	NC	40	NC	40
1072			min	0	39	0	39	-0.16	37	0	39	NC	12	NC	12
1073		2	max	0	38	0.001	36	-0.006	40	0.001	16	NC	40	NC	40
1074			min	0	39	0	39	-0.162	37	0	39	NC	12	6496.363	37
1075		3	max	0	38	0.001	36	-0.006	40	0.003	16	NC	40	NC	40
1076			min	0	39	0	39	-0.164	37	0	39	NC	12	3469.251	37
1077		4	max	0	38	0.001	36	-0.006	40	0.001	16	NC	40	NC	40
1078			min	0	39	0	39	-0.165	37	0	39	NC	12	2641.952	37
1079		5	max	0	38	0.001	38	-0.006	40	0	16	NC	40	NC	40
1080			min	0	39	-0.001	39	-0.165	37	0	39	NC	12	2225.724	37
1081	M112	1	max	0	37	-0.004	40	0	39	0	40	NC	40	NC	40
1082			min	0	40	-0.116	37	0	38	-0.004	37	NC	12	NC	12
1083		2	max	0	37	-0.005	40	0	39	0	40	NC	40	NC	40
1084			min	0	40	-0.117	37	-0.001	38	-0.004	37	NC	12	NC	12
1085		3	max	0	37	-0.005	40	0	39	0	40	NC	40	NC	40
1086			min	0	40	-0.119	37	-0.001	38	-0.005	37	NC	12	NC	12
1087		4	max	0	37	-0.005	40	0	39	0	40	NC	40	NC	40
1088			min	0	40	-0.12	37	-0.001	38	-0.004	37	NC	12	NC	12
1089		5	max	0	37	-0.005	40	0.001	39	0	40	NC	40	NC	40
1090			min	0	40	-0.12	37	-0.001	38	-0.004	37	NC	12	NC	12
1091	M113	1	max	0.001	36	-0.006	40	0	38	0	37	NC	40	NC	40
1092			min	0	39	-0.164	37	0	39	0	40	NC	12	NC	12
1093		2	max	0.001	36	-0.004	40	0	38	0	37	NC	40	NC	40
1094			min	0	39	-0.134	37	0	14	0	40	8659.383	37	NC	12
1095		3	max	0.001	36	-0.002	40	0	38	0.001	37	NC	40	NC	40
1096			min	0	39	-0.099	37	0	39	0	18	7366.178	37	NC	12
1097		4	max	0.001	36	0	40	0	40	0.001	37	NC	40	NC	40
1098			min	0	39	-0.06	37	0	39	0	40	NC	12	NC	12
1099		5	max	0.001	36	0.001	40	0.001	40	0	37	NC	40	NC	40
1100			min	0	39	-0.021	37	-0.001	37	0	40	NC	12	NC	12

Envelope AISC 14TH (360-10): ASD Member Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1	M1	HSS6X2X2	0.202	4	4	0.088	0	y	4	31.076	38.156	2.118	5.731	1	H1-1b
2	M2	TYPCONTBOTCROSS	0.294	4	4	0.054	6	y	4	15.524	27.662	0.754	3.803	1	H1-1b
3	M3	TYPCONTBOTCROSS	0.164	2.25	4	0.042	3.542	y	4	20.177	27.662	0.761	3.803	1	H1-1b
4	M4	TYPCONTBOTCROSS	0.486	4	4	0.079	2	y	4	15.524	27.662	0.754	3.803	1	H1-1b
5	M5	TYPCONTBOTCROSS	0.448	3	4	0.045	0	y	4	15.524	27.662	0.761	3.803	1	H1-1b
6	M6	TYPCONTBOTCROSS	0.404	4.667	4	0.04	8	y	4	15.524	27.662	0.754	3.803	1	H1-1b
7	M7	TYPCONTBOTCROSS	0.4	3.167	4	0.041	0	y	4	15.524	27.662	0.761	3.803	1	H1-1b
8	M8	TYPCONTBOTCROSS	0.407	4.75	4	0.042	8	y	4	15.524	27.662	0.754	3.803	1	H1-1b
9	M9	TYPCONTBOTCROSS	0.378	3.167	4	0.04	6	y	4	15.524	27.662	0.761	3.803	1	H1-1b
10	M10	TYPCONTBOTCROSS	0.373	3.333	4	0.049	8	y	4	15.524	27.662	0.761	3.803	1	H1-1b
11	M11	TYPCONTBOTCROSS	0.375	3.167	4	0.044	6	y	4	15.524	27.662	0.754	3.803	1	H1-1b

Envelope AISC 14TH (360-10): ASD Member Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
12	M12	TYPCONTBOTCROSS	0.405	4.75	4	0.041	8	y	4	15.524	27.662	0.754	3.803	1	H1-1b
13	M13	TYPCONTBOTCROSS	0.402	3.25	4	0.04	0	y	4	15.524	27.662	0.754	3.803	1	H1-1b
14	M14	TYPCONTBOTCROSS	0.4	4.667	4	0.04	8	y	4	15.524	27.662	0.761	3.803	1	H1-1b
15	M15	TYPCONTBOTCROSS	0.397	3.25	4	0.04	0	y	4	15.524	27.662	0.754	3.803	1	H1-1b
16	M16	TYPCONTBOTCROSS	0.398	4.583	4	0.039	8	y	4	15.524	27.662	0.761	3.803	1	H1-1b
17	M17	TYPCONTBOTCROSS	0.401	4.75	4	0.041	8	y	4	15.524	27.662	0.761	3.803	1	H1-1b
18	M18	TYPCONTBOTCROSS	0.399	3.417	4	0.039	0	y	4	15.524	27.662	0.754	3.803	1	H1-1b
19	M19	TYPCONTBOTCROSS	0.396	4.833	4	0.04	0	y	4	15.524	27.662	0.761	3.803	1	H1-1b
20	M20	TYPCONTBOTCROSS	0.402	3.417	4	0.039	8	y	4	15.524	27.662	0.754	3.803	1	H1-1b
21	M21	TYPCONTBOTCROSS	0.398	4.833	4	0.041	0	y	4	15.524	27.662	0.761	3.803	1	H1-1b
22	M22	TYPCONTBOTCROSS	0.408	4.583	4	0.039	8	y	4	15.524	27.662	0.761	3.803	1	H1-1b
23	M23	TYPCONTBOTCROSS	0.368	3.083	4	0.039	0	y	4	15.524	27.662	0.754	3.803	1	H1-1b
24	M24	TYPCONTBOTCROSS	0.38	3.417	4	0.055	6	y	4	15.524	27.662	0.761	3.803	1	H1-1b
25	M25	TYPCONTBOTCROSS	0.41	5.083	4	0.058	6	y	4	15.524	27.662	0.761	3.803	1	H1-1b
26	M26	TYPCONTBOTCROSS	0.479	4	4	0.074	6	y	4	15.524	27.662	0.761	3.803	1	H1-1b
27	M27	TYPCONTBOTCROSS	0.036	0.458	4	0.028	2	y	4	24.667	27.662	0.754	3.803	1	H1-1b
28	M28	TYPCONTBOTCROSS	0.478	4	4	0.065	6	y	4	15.524	27.662	0.754	3.803	1	H1-1b
29	M29	TYPCONTBOTCROSS	0.455	5.083	4	0.045	8	y	4	15.524	27.662	0.761	3.803	1	H1-1b
30	M30	TYPCONTBOTCROSS	0.172	2	4	0.034	0.375	y	4	24.667	27.662	0.761	3.803	1	H1-1b
31	M31	TYPCONTBOTCROSS	0.172	2	4	0.03	0.417	y	4	24.667	27.662	0.754	3.803	1	H1-1b
32	M32	TYPCONTBOTCROSS	0.166	2	4	0.035	0.229	y	4	24.667	27.662	0.754	3.803	1	H1-1b
33	M33	TYPCONTBOTCROSS	0.169	2	4	0.032	0.292	y	4	24.667	27.662	0.761	3.803	1	H1-1b
34	M34	TYPCONTBOTCROSS	0.147	1.667	4	0.033	0	y	4	24.667	27.662	0.754	3.803	1	H1-1b
35	M35	TYPCONTBOTCROSS	0.154	1.688	4	0.034	0	y	4	24.667	27.662	0.761	3.803	1	H1-1b
36	M36	TYPCONTBOTCROSS	0.161	1.896	4	0.035	0	y	4	24.667	27.662	0.754	3.803	1	H1-1b
37	M37	TYPCONTBOTCROSS	0.179	1.938	4	0.034	0	y	4	24.667	27.662	0.761	3.803	1	H1-1b
38	M38	TYPCONTBOTCROSS	0.176	2	4	0.034	0	y	4	24.667	27.662	0.754	3.803	1	H1-1b
39	M39	TYPCONTBOTCROSS	0.23	2	4	0.049	0	y	4	24.667	27.662	0.761	3.803	1	H1-1b
40	M40	TYPCONTBOTCROSS	0.16	1.729	4	0.034	0	y	4	24.667	27.662	0.754	3.803	1	H1-1b
41	M42	TYPCONTBOTCROSS	0.187	2	4	0.035	0.5	y	4	24.667	27.662	0.754	3.803	1	H1-1b
42	M43	TYPCONTBOTCROSS	0.24	2	4	0.052	0.479	y	4	24.667	27.662	0.761	3.803	1	H1-1b
43	M44	TYPCONTBOTCROSS	0.156	2	4	0.037	1	z	4	24.667	27.662	0.754	3.803	1	H1-1b
44	M45	TYPCONTBOTCROSS	0.17	2	4	0.042	0.604	y	4	24.667	27.662	0.761	3.803	1	H1-1b
45	M46	TYPCONTBOTCROSS	0.042	0	4	0.049	2	y	4	24.667	27.662	0.761	3.803	1.561	H1-1b
46	M47	TYPCONTBOTCROSS	0.04	0.563	4	0.047	2	y	4	24.667	27.662	0.754	3.803	1	H1-1b
47	M48	TYPCONTBOTCROSS	0.249	2	4	0.049	1	z	4	24.667	27.662	0.754	3.803	1.196	H1-1b
48	M49	TYPCONTBOTCROSS	0.243	2	4	0.048	1	z	4	24.667	27.662	0.761	3.803	1.194	H1-1b
49	M50	HSS2.5X2.5X2	0.569	6	4	0.359	2	y	4	13.711	23.066	1.701	1.701	1	H1-1b
50	M51	Large Floor Cross Beam	0.247	2	4	0.205	0	y	4	98.195	98.948	17.005	14.977	1	H1-1b
51	M52	Large Floor Cross Beam	0.529	2	4	0.019	0	y	4	95.971	98.948	17.005	14.977	1	H1-1b
52	M53	Large Floor Cross Beam	0.238	0	4	0.206	2	y	4	98.195	98.948	17.005	14.977	1	H1-1b
53	M54	Large Floor Long Beam	0.252	8.25	4	0.331	9.969	y	4	84.399	102.468	15.951	16.805	1	H3-6
54	M55	Large Floor Long Beam	0.242	8.25	4	0.321	9.969	y	4	84.399	102.468	15.951	16.805	1	H3-6
55	M56	U Cross Beam	0.201	2	4	0.148	4	y	4	15.963	37.102	3.453	1.125	1	H1-1b
56	M57	U Cross Beam	0.215	2	4	0.148	4	y	4	15.963	37.102	3.453	1.125	1	H1-1b
57	M58	U Cross Beam	0.225	2	4	0.148	4	y	4	15.963	37.102	3.453	1.125	1	H1-1b
58	M59	U Cross Beam	0.233	2	4	0.148	4	y	4	15.963	37.102	3.453	1.125	1	H1-1b
59	M60	U Cross Beam	0.237	2	4	0.148	4	y	4	15.963	37.102	3.453	1.125	1	H1-1b
60	M61	U Cross Beam	0.236	2	4	0.148	4	y	4	15.963	37.102	3.453	1.125	1	H1-1b
61	M62	U Cross Beam	0.233	1.958	4	0.149	4	y	4	15.963	37.102	3.453	1.125	1	H1-1b
62	M63	U Cross Beam	0.225	1.958	4	0.15	4	y	4	15.963	37.102	3.453	1.125	1	H1-1b
63	M64	U Cross Beam	0.215	1.958	4	0.149	4	y	4	15.963	37.102	3.453	1.125	1	H1-1b
64	M65	U Cross Beam	0.202	2	4	0.149	4	y	4	15.963	37.102	3.453	1.125	1	H1-1b
65	M66	U Cross Beam	0.187	2	4	0.148	4	y	4	15.963	37.102	3.453	1.125	1	H1-1b
66	M67	U Cross Beam	0.169	2	4	0.148	4	y	4	15.963	37.102	3.453	1.125	1	H1-1b

Company :PSEI
Designer :MRD
Job Number :AquaWorks 224-2002
Model Name:40ft Container

Checked By : NT

Envelope AISC 14TH (360-10): ASD Member Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
67	M68	U Cross Beam	0.151	2	4	0.148	4	y	4	15.963	37.102	3.453	1.125	1	H1-1b
68	M69	U Cross Beam	0.138	4	4	0.148	4	y	4	15.963	37.102	3.453	1.125	1.056	H1-1b
69	M70	Bottom Side Rail	0.171	29.167	4	0.08	30	y	4	23.911	29.528	0.501	4.681	1	H1-1b
70	M71	Bottom Side Rail	0.583	2.083	4	0.169	2.917	y	4	23.911	29.528	0.319	4.681	1	H1-1b
71	M72	Rear Corner Post	0.134	0	4	0.023	0.891	z	4	100.009	139.832	11.338	12.958	3	H1-1b
72	M73	Rear Corner Post	0.133	0	4	0.024	0.891	z	4	100.009	139.832	11.338	12.958	3	H1-1b
73	M74	HSS3X3X3	0.188	0	17	0.011	0.891	z	37	24.086	40.743	3.539	3.539	2.634	H1-1b
74	M75	HSS3X3X3	0.271	0	4	0.024	0.891	z	38	24.086	40.743	3.539	3.539	2.053	H1-1b
75	M76	HSS2.25X2.25X2	0.028	0	7	0.057	0	y	7	20.4	20.608	1.356	1.356	1	H1-1b
76	M77	HSS3X3X3	0.218	4.25	10	0.048	0	y	7	40.506	40.743	3.539	3.539	1	H1-1b
77	M78	HSS2.25X2.25X2	0.07	26.667	37	0.152	10	y	5	20.4	20.608	1.356	1.356	1	H1-1b*
78	M79	HSS2.25X2.25X2	0.09	40	5	0.263	40	y	5	20.4	20.608	1.356	1.356	1	H3-6
79	M82	HSS3X3X3	0.007	0.95	4	0.004	0.95	y	38	54.958	56.587	4.915	4.915	1.526	H1-1b
80	M83	HSS3X3X3	0.01	1.9	37	0.004	1.9	y	25	54.958	56.587	4.915	4.915	1.963	H1-1b
81	M84	HSS3X3X3	0.018	1.9	38	0.006	1.9	y	38	54.958	56.587	4.915	4.915	2.211	H1-1b
82	M85	HSS3X3X3	0.018	0	38	0.006	0.95	y	38	54.958	56.587	4.915	4.915	2.122	H1-1b
83	M86	HSS3X3X3	0.022	0	37	0.007	0.95	y	37	54.958	56.587	4.915	4.915	2.234	H1-1b
84	M87	HSS3X3X3	0.021	1.9	37	0.007	1.9	y	37	54.958	56.587	4.915	4.915	2.311	H1-1b
85	M88	HSS3X3X3	0.011	2	25	0.005	2	y	37	54.785	56.587	4.915	4.915	2.179	H1-1b
86	M89	HSS3X3X3	0.008	0	37	0.002	1	y	5	54.785	56.587	4.915	4.915	2.376	H1-1b
87	M90	HSS3X3X3	0.017	2	38	0.006	1	y	38	54.785	56.587	4.915	4.915	2.205	H1-1b
88	M91	HSS3X3X3	0.018	0	38	0.007	0	y	38	54.785	56.587	4.915	4.915	2.175	H1-1b
89	M92	HSS3X3X3	0.02	2	37	0.008	1	y	37	54.785	56.587	4.915	4.915	2.168	H1-1b
90	M93	HSS3X3X3	0.02	0	37	0.007	1	y	37	54.785	56.587	4.915	4.915	2.152	H1-1b
91	M94	HSS3X3X3	0.368	0	4	0.073	0.891	y	4	27.268	56.587	4.915	4.915	3	H1-1b
92	M95	HSS3X3X3	0.35	0	4	0.069	0.891	y	4	27.268	56.587	4.915	4.915	3	H1-1b
93	M96	HSS3X3X3	0.194	0	4	0.03	7.521	y	37	27.268	56.587	4.915	4.915	3	H1-1b
94	M97	HSS3X3X3	0.213	0	4	0.034	0.891	y	37	27.268	56.587	4.915	4.915	3	H1-1b
95	M98	HSS3X3X3	0.069	0	37	0.016	0	y	9	38.069	56.587	4.915	4.915	3	H1-1b
96	M99	HSS3X3X3	0.084	0	37	0.023	0	y	37	52.614	56.587	4.915	4.915	3	H1-1b
97	M100	HSS3X3X3	0.009	0	37	0.005	0	y	37	54.785	56.587	4.915	4.915	2.512	H1-1b
98	M101	HSS3X3X3	0.022	2	37	0.008	1	y	37	54.785	56.587	4.915	4.915	2.059	H1-1b
99	M102	HSS3X3X3	0.02	2	38	0.007	2	y	38	54.785	56.587	4.915	4.915	2.116	H1-1b
100	M103	HSS3X3X3	0.013	0	38	0.004	1	y	38	54.785	56.587	4.915	4.915	2.509	H1-1b
101	M104	HSS3X3X3	0.012	1.9	37	0.004	1.9	y	37	54.958	56.587	4.915	4.915	2.435	H1-1b
102	M105	HSS3X3X3	0.018	0	37	0.009	0.95	y	37	54.958	56.587	4.915	4.915	1.887	H1-1b
103	M106	HSS3X3X3	0.013	0	38	0.005	0.95	y	38	54.958	56.587	4.915	4.915	2.11	H1-1b
104	M107	HSS3X3X3	0.016	1.9	38	0.007	0.95	y	38	54.958	56.587	4.915	4.915	2.072	H1-1b
105	M108	L4X4X4	0.054	2	4	0.056	1	z	4	36.254	41.605	2.088	4.468	1	H2-1
106	M109	L4X4X4	0.134	1	4	0.048	1	y	4	36.254	41.605	2.088	4.468	1	H2-1
107	M110	TYPCONTBOTCROSS	0.168	2	4	0.038	1.479	y	4	24.667	27.662	0.761	3.803	1.517	H1-1b
108	M111	L4X4X4	0.077	1	4	0.061	0	z	4	36.254	41.605	2.088	4.468	1.325	H2-1
109	M112	L4X4X4	0.052	1	4	0.026	0	y	4	36.254	41.605	2.088	4.468	1.205	H2-1
110	M113	TYPCONTBOTCROSS	0.115	1.75	4	0.039	4	y	4	20.177	27.662	0.761	3.803	1	H1-1b

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WoodWorks® SOFTWARE FOR WOOD DESIGN	COMPANY	PROJECT
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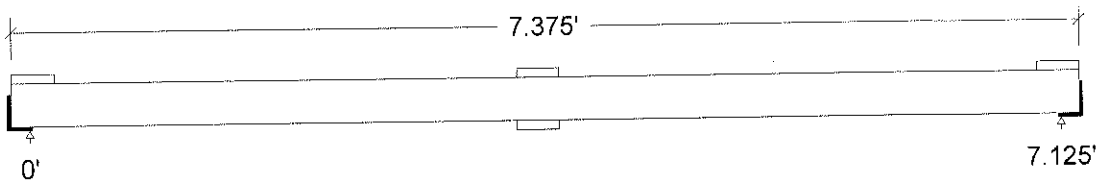
Design Check Calculation Sheet

WoodWorks Sizer 2019 (Update 3)

Loads:

Load	Type	Distribution	Pat-tern	Location [ft] Start	End	Magnitude Start	End	Unit
Roof DL	Dead	Full Area				10.00(12.0")		psf
Roof SL	Snow	Full Area				53.80(12.0")		psf
Self-weight	Dead	Full UDL				1.2		plf

Maximum Reactions (lbs), Bearing Capacities (lbs) and Bearing Lengths (in) :



Unfactored:			
Dead	41		41
Snow	198		198
Factored:			
Total	240		240
Bearing:			
Capacity			1641
Joist	1641		
Des ratio			0.15
Joist	0.15		#2
Load comb	#2		1.75
Length	1.75		0.50*
Min req'd	0.50*		1.00
Cb	1.00		1.00
Cb min	1.00		

*Minimum bearing length setting used: 1/2" for end supports

Ceiling Joist, typ

Lumber-soft, D.Fir-L, No.1, 2x4 (1-1/2"x3-1/2")

Supports: All - Hanger

Roof joist spaced at 12.0" c/c; Total length: 7.38'; Clear span: 7.063'; Volume = 0.3 cu.ft.

Lateral support: top = 3'-6 bottom = 3'-6 (in); Repetitive factor: applied where permitted (refer to online help);

This section PASSES the design code check.

Analysis vs. Allowable Stress and Deflection using NDS 2018 :

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	fv = 60	Fv' = 207	psi	fv/Fv' = 0.29
Bending(+)	fb = 1617	Fb' = 1938	psi	fb/Fb' = 0.83
Live Defl'n	0.34 = L/249	0.36 = L/240	in	0.96
Total Defl'n	0.45 = L/190	0.47 = L/180	in	0.95

Additional Data:

FACTORS:	F/E(psi)	CD	CM	Ct	CL	CF	Cfu	Cr	Cfrt	Ci	Cn	LC#
Fv'	180	1.15	1.00	1.00	-	-	-	-	1.00	1.00	1.00	2
Fb'+	1000	1.15	1.00	1.00	0.977	1.500	-	1.15	1.00	1.00	-	2
Fcp'	625	-	1.00	1.00	-	-	-	-	1.00	1.00	-	-
E'	1.7 million		1.00	1.00	-	-	-	-	1.00	1.00	-	2
Emin'	0.62 million		1.00	1.00	-	-	-	-	1.00	1.00	-	2

CRITICAL LOAD COMBINATIONS:

```
Shear      : LC #2  = D + S
Bending(+): LC #2  = D + S
Deflection: LC #2  = D + S  (live)
            LC #2  = D + S  (total)
Bearing    : Support 1 - LC #2 = D + S
             Support 2 - LC #2 = D + S
D=dead S=snow
All LC's are listed in the Analysis output
Load combinations:
```

CALCULATIONS:

```
V max = 232, V design = 211 lbs; M(+) = 413 lbs-ft
  EIy = 9.11 lb-in^2
"Live" deflection is due to all non-dead loads (live, wind, snow…)
Total deflection = 1.5 dead + "live"
Lateral stability(+):  Lu = 3.50'  Le = 6.56'  RB = 11.1
```

Design Notes:

1. Analysis and design are in accordance with the ICC International Building Code (IBC 2018) and the National Design Specification (NDS 2018), using Allowable Stress Design (ASD). Design values are from the NDS Supplement.
2. Please verify that the default deflection limits are appropriate for your application.
3. Sawn lumber bending members shall be laterally supported according to the provisions of NDS Clause 4.4.1.