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CLIENT	PROJECT
Design 2 Function LLC	Holiday Inn Express

ABQ JOB #	SUBJECT	DATE	BY	CHECKED
22-008	Structural Design Calculations	8/21/2023	JCH	DM/JCH

REVIEWED FOR CODE COMPLIANCE
01/12/2024

Structural Design Calculations

HOLIDAY INN EXPRESS
PROJECT #23-015, INN CODE: HICSCO
3400 S. LINCOLN AVE
STEAMBOAT, 80487

8/21/23

DATE - 10/26/2023 REV - 1

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CLIENT Design 2 Function LLC

PROJECT Holiday Inn Express

JOB NO.	SUBJECT	DATE	BY	CHECKED
22-008	TABLE OF CONTENTS	8/21/2023	JCH	DM/JCH

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NOTE TO REVIEWER -
SEACH PDF FILE FOR THE THE TEXT BELOW
TO LOCATE REVISED PAGES

REVISON 10-25-23

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Building Code Information

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Governing Code : IBC 2018, ASCE 7-16, CBC 2019, AISC 360-16, NDS 2018, ACI 318-14, TMS
City Jurisdiction : City of STEAMBOAT SPRINGS CO
Contact Name :
Alternate Contact :
Building Official :
Address : , ,
Phone : Fax : eMail :
Notes :

Project Information

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Project Title : Holiday Inn Express
Description : HIESCO

I.D. : ABQ #23-015
Address : 3400 S. LINCOLN AVE, STEAMBOAT SPRINGS, co 80487

Project Leader : James Craig Hagelegantz
Phone : 505-255-7802 Fax : eMail : chagelgantz@abqeng.co

Project Notes

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

ASCE Seismic Base Shear

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HICSO - Design Criteria

Risk Category

Calculations per ASCE 7-16

Risk Category of Building or Other Structure : "II" : All Buildings and other structures except those listed as Category I, III, and IV — *ASCE 7-16, Page 4, Table 1.5-1*

Seismic Importance Factor = 1 — *ASCE 7-16, Page 5, Table 1.5-2*

USER DEFINED Ground Motion

ASCE 7-16 11.4.2

Max. Ground Motions, 5% Damping :

S_S = 0.3240 g, 0.2 sec response
S_1 = 0.0830 g, 1.0 sec response

Site Class, Site Coeff. and Design Category

Site Classification "D" : Shear Wave Velocity 600 to 1,200 ft/sec = D — *ASCE 7-16 Table 20.3-1*

Site Coefficients Fa & Fv — Fa = 1.54, Fv = 2.40 — *ASCE 7-16 Table 11.4-1 & 11.4-2*
(using straight-line interpolation from table values)

Maximum Considered Earthquake Acceleration
$S_{MS} = Fa * Ss$ = 0.499 — *ASCE 7-16 Eq. 11.4-1*
$S_{M1} = Fv * S1$ = 0.199 — *ASCE 7-16 Eq. 11.4-2*

Design Spectral Acceleration
$S_{DS} = S_{MS} * 2/3$ = 0.333 — *ASCE 7-16 Eq. 11.4-3*
$S_{D1} = S_{M1} * 2/3$ = 0.133 — *ASCE 7-16 Eq. 11.4-4*

Seismic Design Category = C — *ASCE 7-16 Table 11.6-1 & -2*

Resisting System

ASCE 7-16 Table 12.2-1

Basic Seismic Force Resisting System . . . Bearing Wall Systems
15.Light-frame (wood) walls sheathed w/wood structural panels rated for shear resistance.

Response Modification Coefficient " R " = 6.50
System Overstrength Factor " Wo " = 3.00
Deflection Amplification Factor " Cd " = 4.00

NOTE! See ASCE 7-16 for all applicable footnotes.

Building height Limits :

Category "A & B" Limit:	No Limit
Category "C" Limit:	No Limit
Category "D" Limit:	Limit = 65
Category "E" Limit:	Limit = 65
Category "F" Limit:	Limit = 65

Lateral Force Procedure

ASCE 7-16 Section 12.8.2

Equivalent Lateral Force Procedure

The "Equivalent Lateral Force Procedure" is being used according to the provisions of ASCE 7-16 12.8

Determine Building Period

Use ASCE 12.8-7

Structure Type for Building Period Calculation : All Other Structural Systems

" Ct " value = 0.020 — " hn " : Height from base to highest level = 45.0 ft
" x " value = 0.75

" Ta " Approximate fundemental period using Eq. 12.8-7 : Ta = Ct * (hn ^ x) = 0.347 sec
"TL" : Long-period transition period per ASCE 7-16 Maps 22-14 -> 22-17 = 6.000 sec

Building Period " Ta " Calculated from Approximate Method selected = 0.347 sec

" Cs " Response Coefficient

ASCE 7-16 Section 12.8.1.1

S_{DS}: Short Period Design Spectral Response	0.333	From Eq. 12.8-2, Preliminary Cs	0.051
" R " : Response Modification Factor	6.50	From Eq. 12.8-3 & 12.8-4 , Cs need not exceed	0.059
" I " : Seismic Importance Factor	1	From Eq. 12.8-5 & 12.8-6, Cs not be less than	0.015

User has selected ASCE 12.8.1.3 : Regular structure,
Less than 5 Stories and with T <<= 0.5 sec, SO Ss <= 1.5 for Cs calculation

Cs : Seismic Response Coefficient = 0.0512

Seismic Base Shear

ASCE 7-16 Section 12.8.1

Cs = 0.0512 from 12.8.1.1

W (see Sum Wi below) = 1,535.00 k

Seismic Base Shear V = Cs * W = 78.60 k

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ASCE Seismic Base Shear

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Vertical Distribution of Seismic Forces

ASCE 7-16 Section 12.8.3

" k " : hx exponent based on Ta = 1.00

Table of building Weights by Floor Level...

Level #	Wi : Weight	Hi : Height	(Wi * Hi^k)	Cvx	Fx=Cvx * V	Sum Story Shear	Sum Story Moment
4	560.00	45.00	25,200.00	0.5017	39.43	39.43	0.00
3	325.00	38.00	12,350.00	0.2459	19.33	58.76	276.04
2	325.00	25.00	8,125.00	0.1618	12.71	71.47	1,039.93
1	325.00	14.00	4,550.00	0.0906	7.12	78.60	1,826.15

Sum Wi = 1,535.00 k Sum Wi * Hi = 50,225.00 k-ft Total Base Shear = 78.60 k

Base Moment = 2,926.5 k-ft

Diaphragm Forces : Seismic Design Category "B" to "F"

ASCE 7-16 12.10.1.1

Level #	Wi	Fi	Sum Fi	Sum Wi	Fpx : Calcd	Fpx : Min	Fpx : Max	Fpx	Dsgn. Force
4	560.00	39.43	39.43	560.00	39.43	24.19	48.38	39.43	39.43
3	325.00	19.33	58.76	885.00	21.58	14.04	28.08	21.58	21.58
2	325.00	12.71	71.47	1,210.00	19.20	14.04	28.08	19.20	19.20
1	325.00	7.12	78.60	1,535.00	16.64	14.04	28.08	16.64	16.64

Wpx . . . . . Weight at level of diaphragm and other structure elements attached to it.
Fi . . . . . Design Lateral Force applied at the level.
Sum Fi . . . . . Sum of "Lat. Force" of current level plus all levels above
MIN Req'd Force @ Level . . . . . 0.20 * S_{DS}^{*} I * Wpx
MAX Req'd Force @ Level . . . . . 0.40 * S_{DS}^{*} I * Wpx
Fpx : Design Force @ Level . . . . . Wpx * SUM(x->n) Fi / SUM(x->n) wi, x = Current level, n = Top Level

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ASCE Seismic Base Shear

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Porte Cochere Cover - Steel Frame

Risk Category

Calculations per ASCE 7-16

Risk Category of Building or Other Structure : "II" : All Buildings and other structures except those listed as Category I, III, and IV — *ASCE 7-16, Page 4, Table 1.5-1*

Seismic Importance Factor = 1 — *ASCE 7-16, Page 5, Table 1.5-2*

USER DEFINED Ground Motion

ASCE 7-16 11.4.2

Max. Ground Motions, 5% Damping :

S_S = 0.3240 g, 0.2 sec response
S_1 = 0.0830 g, 1.0 sec response

Site Class, Site Coeff. and Design Category

Site Classification "D" : Shear Wave Velocity 600 to 1,200 ft/sec = D — *ASCE 7-16 Table 20.3-1*

Site Coefficients Fa & Fv (*using straight-line interpolation from table values*) — *ASCE 7-16 Table 11.4-1 & 11.4-2*

Fa = 1.54
Fv = 2.40

Maximum Considered Earthquake Acceleration

$S_{MS} = Fa * Ss$ = 0.499 — *ASCE 7-16 Eq. 11.4-1*
$S_{M1} = Fv * S1$ = 0.199 — *ASCE 7-16 Eq. 11.4-2*

Design Spectral Acceleration

$S_{DS} = S_{MS} * 2/3$ = 0.333 — *ASCE 7-16 Eq. 11.4-3*
$S_{D1} = S_{M1} * 2/3$ = 0.133 — *ASCE 7-16 Eq. 11.4-4*

Seismic Design Category = C — *ASCE 7-16 Table 11.6-1 & -2*

Resisting System

ASCE 7-16 Table 12.2-1

Basic Seismic Force Resisting System . . . Moment Resisting Frame Systems
2.Steel special truss moment frames

Response Modification Coefficient " R " = 7.00
System Overstrength Factor " Wo " = 2.50
Deflection Amplification Factor " Cd " = 5.50

NOTE! See ASCE 7-16 for all applicable footnotes.

Building height Limits :

Category "A & B" Limit:	No Limit
Category "C" Limit:	No Limit
Category "D" Limit:	Limit = 160
Category "E" Limit:	Limit = 100
Category "F" Limit:	Not Permitted

Lateral Force Procedure

ASCE 7-16 Section 12.8.2

Equivalent Lateral Force Procedure

The "Equivalent Lateral Force Procedure" is being used according to the provisions of ASCE 7-16 12.8

Determine Building Period

Use ASCE 12.8-7

Structure Type for Building Period Calculation : STEEL 100% Moment Resisting Frame

" Ct " value = 0.028
" x " value = 0.80
" hn " : Height from base to highest level = 23.0 ft
" Ta " Approximate fundemental period using Eq. 12.8-7 : Ta = Ct * (hn ^ x) = 0.344 sec
"TL" : Long-period transition period per ASCE 7-16 Maps 22-14 -> 22-17 = 6.000 sec

Building Period " Ta " Calculated from Approximate Method selected = 0.344 sec

" Cs " Response Coefficient

ASCE 7-16 Section 12.8.1.1

S_{DS}: Short Period Design Spectral Response	=	0.333	From Eq. 12.8-2, Preliminary Cs	=	0.048
" R " : Response Modification Factor	=	7.00	From Eq. 12.8-3 & 12.8-4 , Cs need not exceed	=	0.055
" I " : Seismic Importance Factor	=	1	From Eq. 12.8-5 & 12.8-6, Cs not be less than	=	0.015

User has selected ASCE 12.8.1.3 : Regular structure,
Less than 5 Stories and with T <<= 0.5 sec, SO Ss <= 1.5 for Cs calculation

Cs : Seismic Response Coefficient = = 0.0475

Seismic Base Shear

ASCE 7-16 Section 12.8.1

Cs = 0.0475 from 12.8.1.1

W (see Sum Wi below) = 112.00 k

Seismic Base Shear V = Cs * W = 5.33 k ← Seismic Base Shear < Wind Base Shear

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Project Descr: HIESCO

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ASCE Seismic Base Shear

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Vertical Distribution of Seismic Forces

ASCE 7-16 Section 12.8.3

" k " : hx exponent based on Ta = 1.00

Table of building Weights by Floor Level...

Level #	Wi : Weight	Hi : Height	(Wi * Hi^k)	Cvx	Fx=Cvx * V	Sum Story Shear	Sum Story Moment
1	112.00	23.00	2,576.00	1.0000	5.33	5.33	0.00

Sum Wi = 112.00 k Sum Wi * Hi = 2,576.00 k-ft Total Base Shear = 5.33 k

Base Moment = 122.5 k-ft

Diaphragm Forces : Seismic Design Category "B" to "F"

ASCE 7-16 12.10.1.1

Level #	Wi	Fi	Sum Fi	Sum Wi	Fpx : Calcd	Fpx : Min	Fpx : Max	Fpx	Dsgn. Force
1	112.00	5.33	5.33	112.00	5.33	4.84	9.68	5.33	5.33

Wpx . . . . . Weight at level of diaphragm and other structure elements attached to it.
Fi . . . . . Design Lateral Force applied at the level.
Sum Fi . . . . . Sum of "Lat. Force" of current level plus all levels above
MIN Req'd Force @ Level . . . . . 0.20 * S_{DS}^{*} I * Wpx
MAX Req'd Force @ Level . . . . . 0.40 * S_{DS}^{*} I * Wpx
Fpx : Design Force @ Level . . . . . Wpx * SUM(x->n) Fi / SUM(x->n) wi, x = Current level, n = Top Level

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HICSO - Design Criteria

Risk Category

Calculations per ASCE 7-16

Risk Category of Building or Other Structure : "II" : All Buildings and other structures except those listed as Category I, III, and IV — *ASCE 7-16, Page 4, Table 1.5-1*

Seismic Importance Factor = 1 — *ASCE 7-16, Page 5, Table 1.5-2*

USER DEFINED Ground Motion

ASCE 7-16 11.4.2

Max. Ground Motions, 5% Damping :

S_S = 0.3240 g, 0.2 sec response
S_1 = 0.0830 g, 1.0 sec response

Site Class, Site Coeff. and Design Category

Site Classification "D" : Shear Wave Velocity 600 to 1,200 ft/sec = D — *ASCE 7-16 Table 20.3-1*

Site Coefficients Fa & Fv — *ASCE 7-16 Table 11.4-1 & 11.4-2*
(using straight-line interpolation from table values)
Fa = 1.54
Fv = 2.40

Maximum Considered Earthquake Acceleration
$S_{MS} = Fa * Ss$ = 0.499 — *ASCE 7-16 Eq. 11.4-1*
$S_{M1} = Fv * S1$ = 0.199 — *ASCE 7-16 Eq. 11.4-2*

Design Spectral Acceleration
$S_{DS} = S_{MS} * 2/3$ = 0.333 — *ASCE 7-16 Eq. 11.4-3*
$S_{D1} = S_{M1} * 2/3$ = 0.133 — *ASCE 7-16 Eq. 11.4-4*

Seismic Design Category = C — *ASCE 7-16 Table 11.6-1 & -2*

Resisting System

ASCE 7-16 Table 12.2-1

Basic Seismic Force Resisting System . . . Bearing Wall Systems
13.Ordinary reinforced AAC masonry shear walls

Response Modification Coefficient " R " = 2.00
System Overstrength Factor " Wo " = 2.00
Deflection Amplification Factor " Cd " = 2.00

NOTE! See ASCE 7-16 for all applicable footnotes.

Building height Limits :

Category "A & B" Limit:	No Limit
Category "C" Limit:	Limit = 35
Category "D" Limit:	Not Permitted
Category "E" Limit:	Not Permitted
Category "F" Limit:	Not Permitted

Lateral Force Procedure

ASCE 7-16 Section 12.8.2

Equivalent Lateral Force Procedure

The "Equivalent Lateral Force Procedure" is being used according to the provisions of ASCE 7-16 12.8

Determine Building Period

Use ASCE 12.8-7

Structure Type for Building Period Calculation : All Other Structural Systems

" Ct " value = 0.020
" x " value = 0.75
" hn " : Height from base to highest level = 45.0 ft
" Ta " Approximate fundemental period using Eq. 12.8-7 : Ta = Ct * (hn ^ x) = 0.347 sec
"TL" : Long-period transition period per ASCE 7-16 Maps 22-14 -> 22-17 = 6.000 sec

Building Period " Ta " Calculated from Approximate Method selected = 0.347 sec

" Cs " Response Coefficient

ASCE 7-16 Section 12.8.1.1

S_{DS}: Short Period Design Spectral Response = 0.333
" R " : Response Modification Factor = 2.00
" I " : Seismic Importance Factor = 1

From Eq. 12.8-2, Preliminary Cs = 0.166
From Eq. 12.8-3 & 12.8-4 , Cs need not exceed = 0.191
From Eq. 12.8-5 & 12.8-6, Cs not be less than = 0.015

User has selected ASCE 12.8.1.3 : Regular structure,
Less than 5 Stories and with T <<= 0.5 sec, SO Ss <= 1.5 for Cs calculation

Cs : Seismic Response Coefficient = = 0.1664

Seismic Base Shear

ASCE 7-16 Section 12.8.1

Cs = 0.1664 from 12.8.1.1

W (see Sum Wi below) = 1,535.00 k

Seismic Base Shear V = Cs * W = 255.43 k

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Vertical Distribution of Seismic Forces

ASCE 7-16 Section 12.8.3

" k " : hx exponent based on Ta = 1.00

Table of building Weights by Floor Level...

Level #	Wi : Weight	Hi : Height	(Wi * Hi^k)	Cvx	Fx=Cvx * V	Sum Story Shear	Sum Story Moment
4	560.00	45.00	25,200.00	0.5017	128.16	128.16	0.00
3	325.00	38.00	12,350.00	0.2459	62.81	190.97	897.13
2	325.00	25.00	8,125.00	0.1618	41.32	232.29	3,379.76
1	325.00	14.00	4,550.00	0.0906	23.14	255.43	5,934.99

Sum Wi = 1,535.00 k Sum Wi * Hi = 50,225.00 k-ft Total Base Shear = 255.43 k

Base Moment = 9,511.1 k-ft

Diaphragm Forces : Seismic Design Category "B" to "F"

ASCE 7-16 12.10.1.1

Level #	Wi	Fi	Sum Fi	Sum Wi	Fpx : Calcd	Fpx : Min	Fpx : Max	Fpx	Dsgn. Force
4	560.00	128.16	128.16	560.00	128.16	24.19	48.38	48.38	128.16
3	325.00	62.81	190.97	885.00	70.13	14.04	28.08	28.08	62.81
2	325.00	41.32	232.29	1,210.00	62.39	14.04	28.08	28.08	41.32
1	325.00	23.14	255.43	1,535.00	54.08	14.04	28.08	28.08	28.08

Wpx . . . . . Weight at level of diaphragm and other structure elements attached to it.
Fi . . . . . Design Lateral Force applied at the level.
Sum Fi . . . . . Sum of "Lat. Force" of current level plus all levels above
MIN Req'd Force @ Level . . . . . 0.20 * S_{DS}^{*} I * Wpx
MAX Req'd Force @ Level . . . . . 0.40 * S_{DS}^{*} I * Wpx
Fpx : Design Force @ Level . . . . . Wpx * SUM(x->n) Fi / SUM(x->n) wi, x = Current level, n = Top Level

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ASCE 7-16 Wind Forces, Chapter 27, Part I

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Description : HIESCO

--None--

Basic Values

Risk Category	2 per ASCE 7-16 Table 1.5-1	Horizontal Dim. in North-South Direction (B or L) =	180.0 ft
V : Basic Wind Speed	115.0	Horizontal Dim. in East-West Direction (B or L) =	135.0 ft
Kd : Directionality Factor	0.850 per ASCE 7-16 Table 26.6-1	h : Mean Roof height =	50.0 ft

Exposure Category per ASCE 7-16 Section 26.7

North : Exposure C East : Exposure C
South : Exposure C West : Exposure C

Topographic Factor per ASCE 7-16 Sec 26.8 & Figure 26.8-1

North : K1 = K2 = K3 = Kzt = 1.000
South : K1 = K2 = K3 = Kzt = 1.000
East : K1 = K2 = K3 = Kzt = 1.000
West : K1 = K2 = K3 = Kzt = 1.000

Building Period & Flexibility Category

User has specified the North-South building frequency is 1.0Hz, therefore it is considered RIGID in this direction

User has specified the East-West building frequency is 1.0Hz, therefore it is considered RIGID in this direction

Building Story Data

Level Description	hi ft	Story Ht ft	E_R : X ft	E_R : X ft
ROOF	45.00	9.00	0.000	0.000
4TH	36.00	11.00	0.000	0.000
3RD	25.00	11.00	0.000	0.000
2ND	14.00	14.00	0.000	0.000

North Gust Factor Calculation, Building RIGID for Wind from North direction

Calculate Gust Factor per ASCE 26.11.5 for Rigid Buildings — GUST FACTOR = 0.8926

From Table26.11-1 :

C	=	0.200	I	=	500.000	Lz bar	=	490.559 (Eq. 26.11-9)	Iz bar	=	0.203 (Eq. 26.11-7)
Zmin	=	15.000	eBar	=	0.200	Q	=	0.864 (Eq. 26.11-8)	G	=	0.893 (Eq. 26.11-6)

South Gust Factor Calculation, Building RIGID for Wind from South direction

Calculate Gust Factor per ASCE 26.11.5 for Rigid Buildings — GUST FACTOR = 0.8926

From Table26.11-1 :

C	=	0.200	I	=	500.000	Lz bar	=	490.559 (Eq. 26.11-9)	Iz bar	=	0.203 (Eq. 26.11-7)
Zmin	=	15.000	eBar	=	0.200	Q	=	0.864 (Eq. 26.11-8)	G	=	0.893 (Eq. 26.11-6)

East Gust Factor Calculation, Building RIGID for Wind from East direction

Calculate Gust Factor per ASCE 26.11.5 for Rigid Buildings — GUST FACTOR = 0.8775

From Table26.11-1 :

C	=	0.200	I	=	500.000	Lz bar	=	490.559 (Eq. 26.11-9)	Iz bar	=	0.203 (Eq. 26.11-7)
Zmin	=	15.000	eBar	=	0.200	Q	=	0.848 (Eq. 26.11-8)	G	=	0.878 (Eq. 26.11-6)

West Gust Factor Calculation, Building RIGID for Wind from West direction

Calculate Gust Factor per ASCE 26.11.5 for Rigid Buildings — GUST FACTOR = 0.8775

From Table26.11-1 :

C	=	0.200	I	=	500.000	Lz bar	=	490.559 (Eq. 26.11-9)	Iz bar	=	0.203 (Eq. 26.11-7)
Zmin	=	15.000	eBar	=	0.200	Q	=	0.848 (Eq. 26.11-8)	G	=	0.878 (Eq. 26.11-6)

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

ASCE 7-16 Wind Forces, Chapter 27, Part I

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Description : HIESCO

Enclosure

Check if Building Qualifies as "Open"

	North Wall	South Wall	East Wall	West Wall	Roof	Total
Agross	6,800.0 ft^2	6,800.0 ft^2	9,000.0 ft^2	9,000.0 ft^2	2,000.0 ft^2	33,600.0 ft^2
Aopenings	ft^2	ft^2	ft^2	ft^2	ft^2	0.0 ft^2
Aopenings >= 0.8 * Agross ?	No	No	No	No		

All four Agross values must be non-zero — Building does NOT qualify as "Open"

North Elevation : Determine Enclosure Classification per ASCE Section 26.12

Reference area = smaller of 4 sq. ft. or 1% of Agross	=	4.0 ft^2	Is Ao > 1.10 * Aoi ?	=	No
Aoi = Ao-total - Ao	=	0.0 ft^2	Is Ao > Reference Area ?	=	No
Agi = Ag-total - Ag	=	26,800.0 ft^2	Is Aoi / Agi >= 0.20 ?	=	Yes
Aoi / Agi	=	0.0			

Building is "Enclosed" when the North wall receives positive external pressure

South Elevation : Determine Enclosure Classification per ASCE Section 26.12

Reference area = smaller of 4 sq. ft. or 1% of Agross	=	4.0 ft^2	Is Ao > 1.10 * Aoi ?	=	No
Aoi = Ao-total - Ao	=	0.0 ft^2	Is Ao > Reference Area ?	=	No
Agi = Ag-total - Ag	=	26,800.0 ft^2	Is Aoi / Agi >= 0.20 ?	=	Yes
Aoi / Agi	=	0.0			

Building is "Enclosed" when the South wall receives positive external pressure

East Elevation : Determine Enclosure Classification per ASCE Section 26.12

Reference area = smaller of 4 sq. ft. or 1% of Agross	=	4.0 ft^2	Is Ao > 1.10 * Aoi ?	=	No
Aoi = Ao-total - Ao	=	0.0 ft^2	Is Ao > Reference Area ?	=	No
Agi = Ag-total - Ag	=	24,600.0 ft^2	Is Aoi / Agi >= 0.20 ?	=	Yes
Aoi / Agi	=	0.0			

Building is "Enclosed" when the East wall receives positive external pressure

West Elevation : Determine Enclosure Classification per ASCE Section 26.12

Reference area = smaller of 4 sq. ft. or 1% of Agross	=	4.0 ft^2	Is Ao > 1.10 * Aoi ?	=	No
Aoi = Ao-total - Ao	=	0.0 ft^2	Is Ao > Reference Area ?	=	No
Agi = Ag-total - Ag	=	24,600.0 ft^2	Is Aoi / Agi >= 0.20 ?	=	Yes
Aoi / Agi	=	0.0			

Building is "Enclosed" when the West wall receives positive external pressure

Velocity Pressures

When the following walls experience leeward or sidewall pressures, the value of Kh shall be (per Table 26.10-1) :

North Wall = 1.094 psf South Wall = 1.094 psf East Wall = 1.094 psf West Wall = 1.094 psf

When the following walls experience leeward or sidewall pressures, the value of qh shall be (per Table 26.10-1) :

North Wall = 31.476 psf South Wall = 31.476 psf East Wall = 31.476 psf West Wall = 31.476 psf

qz : Windward Wall Velocity Pressures at various heights per Eq. 26.10-1

	North Elevation		South Elevation		East Elevation		West Elevation	
Height Above Base (ft)	Kz	qz	Kz	qz	Kz	qz	Kz	qz
0.00	0.849	24.43	0.849	24.43	0.849	24.43	0.849	24.43
5.00	0.849	24.43	0.849	24.43	0.849	24.43	0.849	24.43
10.00	0.849	24.43	0.849	24.43	0.849	24.43	0.849	24.43
15.00	0.849	24.43	0.849	24.43	0.849	24.43	0.849	24.43
20.00	0.902	25.95	0.902	25.95	0.902	25.95	0.902	25.95
25.00	0.945	27.20	0.945	27.20	0.945	27.20	0.945	27.20
30.00	0.982	28.27	0.982	28.27	0.982	28.27	0.982	28.27
35.00	1.015	29.20	1.015	29.20	1.015	29.20	1.015	29.20

ASCE 7-16 Wind Forces, Chapter 27, Part I

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Description : HIESCO

40.00	1.044	30.03	1.044	30.03	1.044	30.03	1.044	30.03
45.00	1.070	30.79	1.070	30.79	1.070	30.79	1.070	30.79
50.00	1.094	31.48	1.094	31.48	1.094	31.48	1.094	31.48

Pressure Coefficients

GCpi Values when elevation receives positive external pressure

GCpi : Internal pressure coefficient, per sec. 26.13 and Table 26.13-1

North		South		East		West	
+/-	0.180	+/-	0.180	+/-	0.180	+/-	0.180

Specify Cp Values from Figure 27.3-1 for Windward, Leeward & Side Walls

Cp Values when elevation receives positive external pressure

	North	South	East	West
Windward Wall	0.80	0.80	0.80	0.80
Leeward Wall				
Side Walls	-0.70	-0.70	-0.70	-0.70

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Project Descr: HIESCO

ASCE 7-16 Wind Forces Chpt 28, Pt2 & Chpt 30, Pt2

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Description : HICSCO

Analytical Values

Calculations per ASCE 7-16

V : Basic Wind Speed per Sect 26.5-1 or 2	**115.0** mph	
Roof Slope Angle	15 degrees	
Occupancy per Table 1.5-1	II	All Buildings and other structures except those listed as Category I, III, and IV
Exposure Category per 26.7	Exposure C	
MRH : Mean Roof Height	50.0 ft	*"Lambda" is interpolated between height tablular values.*
Lambda : per Figure 26.8-1	**1.56**	
Effective Wind Area of Component & Cladding	10.0 ft^2	
Roof pitch for cladding pressure	>7 to 27 degrees	
User specified minimum design pressure	15.0 psf	
Topographic Factor Kzt per 26.8	**1.00**	
LHD : Least Horizontal Dimension	**4.0** ft	
a = max (0.04 * LHD, 3, min(0.10 * LHD, 0.4*MRH))	**3.00** ft	max (0.04 * LHD, 3, min(0.10 * LHD, 0.4*MRH))

Design Wind Pressures

Minimum Additional Load Case per 28.4.4 = 16 PSF on entire vertical plane

Horizontal Pressures . . .

Zone: A =	41.03 psf	Zone: C =	27.30 psf
Zone: B =	15.00 psf	Zone: D =	15.00 psf

Vertical Pressures . . .

Zone: E =	-39.31 psf	Zone: G =	-27.30 psf
Zone: F =	-25.74 psf	Zone: H =	-19.66 psf

Overhangs . . .

Zone: Eoh =	-55.07 psf	Zone: Goh =	-43.06 psf

Component & Cladding Design Wind Pressures

*Design Wind Pressure = Lambda * Kzt * Ps30 per Eq 30.4-1*

Roof Zone 1 :	Positive :	21.372 psf
	Negative :	-34.008 psf
Roof Zone 2 :	Positive :	21.372 psf
	Negative :	-59.124 psf
Roof Zone 3 :	Positive :	21.372 psf
	Negative :	-87.360 psf
Wall Zone 4 :	Positive :	37.128 psf
	Negative :	-40.248 psf
Wall Zone 5 :	Positive :	37.128 psf
	Negative :	-49.764 psf
Roof Overhang Zone 2:		-69.264 psf
Roof Overhang Zone 3:		-116.376 psf

Minimum Additional Load Case per 28.4.4 = 16 PSF on entire vertical plane

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Project Descr: HIESCO

Wood Beam

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Description : +Exterior Guest Room Window Headers (Typical)

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

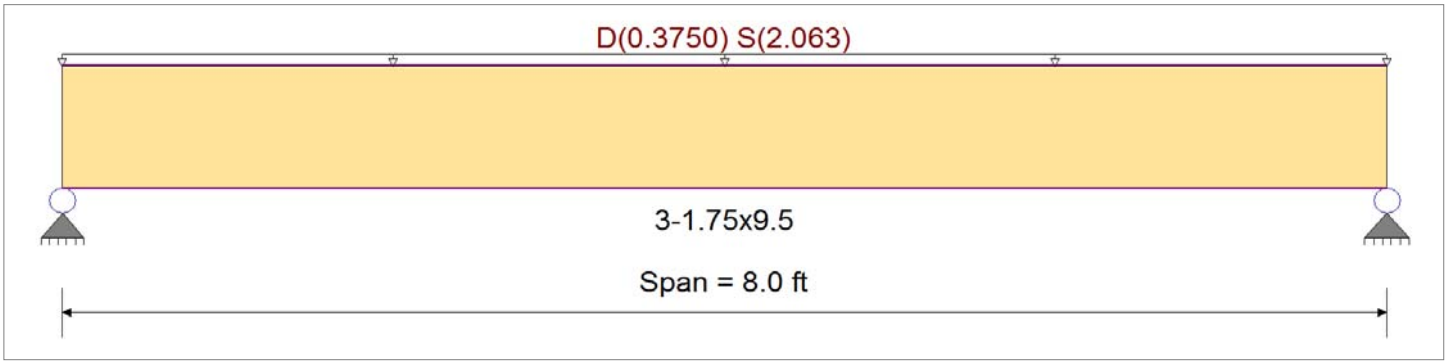
Wood Species : Trus Joist
Wood Grade : MicroLam LVL 2.0 E

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	2,600.0 psi
Fb -	2,600.0 psi
Fc - Prll	2,510.0 psi
Fc - Perp	750.0 psi
Fv	285.0 psi
Ft	1,555.0 psi

E : Modulus of Elasticity

Ebend- xx	2,000.0 ksi
Eminbend - xx	1,016.54 ksi
Density	42.0 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Loads on all spans...
Uniform Load on ALL spans : D = 0.020, S = 0.110 ksf, Tributary Width = 18.750 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.997 : 1	Maximum Shear Stress Ratio	=	0.723 : 1
Section used for this span		3-1.75x9.5	Section used for this span		3-1.75x9.5
fb : Actual	=	2,980.88 psi	fv : Actual	=	236.85 psi
FB : Allowable	=	2,990.00 psi	Fv : Allowable	=	327.75 psi
Load Combination		+D+S	Load Combination		+D+S
Location of maximum on span	=	4.000 ft	Location of maximum on span	=	7.212 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.255 in	Ratio =	376 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.303 in	Ratio =	316 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.202	0.147	0.90	1.000	1.00	1.00	1.00	1.00	1.00	3.12	473.56	2340.00	1.25	37.63	256.50
+D+S					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.997	0.723	1.15	1.000	1.00	1.00	1.00	1.00	1.00	19.62	2,980.88	2990.00	7.88	236.85	327.75
+D+0.750S					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.787	0.571	1.15	1.000	1.00	1.00	1.00	1.00	1.00	15.49	2,354.05	2990.00	6.22	187.04	327.75
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.068	0.050	1.60	1.000	1.00	1.00	1.00	1.00	1.00	1.87	284.14	4160.00	0.75	22.58	456.00

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Exterior Guest Room Window Headers (Typical)

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.3030	4.029		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 — Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	9.808	9.808
Overall MINimum	8.250	8.250
D Only	1.558	1.558
+D+S	9.808	9.808
+D+0.750S	7.746	7.746
+0.60D	0.935	0.935
S Only	8.250	8.250

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Description : +Exterior wall headers at GL S - GL G thru R

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

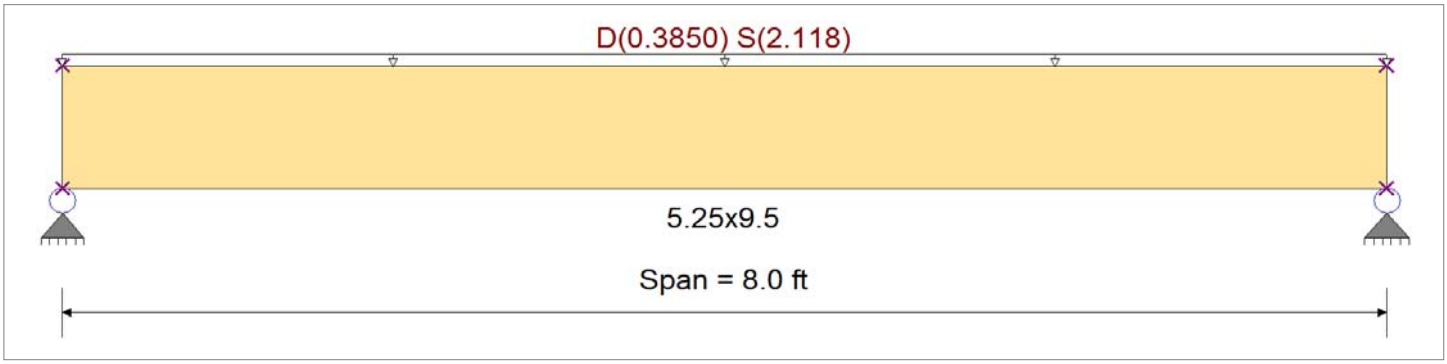
Wood Species : Trus Joist
Wood Grade : Parallam PSL 2.2E

Beam Bracing : Completely Unbraced

Fb +	2,900.0 psi
Fb -	2,900.0 psi
Fc - Prll	2,900.0 psi
Fc - Perp	625.0 psi
Fv	290.0 psi
Ft	2,025.0 psi

E : Modulus of Elasticity

Ebend- xx	2,200.0 ksi
Eminbend - xx	1,118.19 ksi
Density	45.050 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Loads on all spans...
Uniform Load on ALL spans : D = 0.020, S = 0.110 ksf, Tributary Width = 19.250 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.919 : 1	Maximum Shear Stress Ratio	=	0.729 : 1
Section used for this span		5.25x9.5	Section used for this span		5.25x9.5
fb : Actual	=	3,061.18 psi	fv : Actual	=	243.23 psi
FB : Allowable	=	3,330.43 psi	Fv : Allowable	=	333.50 psi
Load Combination		+D+S	Load Combination		+D+S
Location of maximum on span	=	4.000 ft	Location of maximum on span	=	7.212 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.238 in	Ratio =	403 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.283 in	Ratio =	339 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.187	0.148	0.90	1.000	1.00	1.00	1.00	1.00	1.00	3.20	487.00	2607.22	1.29	38.70	261.00
+D+S					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.919	0.729	1.15	1.000	1.00	1.00	1.00	1.00	1.00	20.14	3,061.18	3330.43	8.09	243.23	333.50
+D+0.750S					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.726	0.576	1.15	1.000	1.00	1.00	1.00	1.00	1.00	15.91	2,417.64	3330.43	6.39	192.09	333.50
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.063	0.050	1.60	1.000	1.00	1.00	1.00	1.00	1.00	1.92	292.20	4631.07	0.77	23.22	464.00

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Project Descr: HIESCO

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Description : +Exterior wall headers at GL S - GL G thru R

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.2829	4.029		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	10.072	10.072
Overall MINimum	8.470	8.470
D Only	1.602	1.602
+D+S	10.072	10.072
+D+0.750S	7.955	7.955
+0.60D	0.961	0.961
S Only	8.470	8.470

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Description : +Interior Hallway Wall headers (Typical)

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

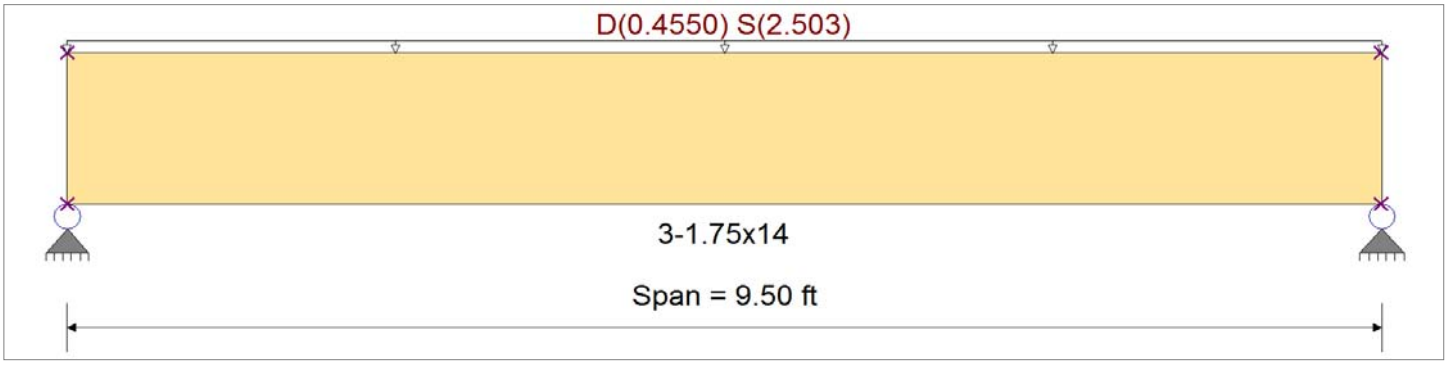
Wood Species : Trus Joist
Wood Grade : MicroLam LVL 2.0 E

Beam Bracing : Completely Unbraced

Fb +	2600 psi
Fb -	2600 psi
Fc - Prll	2510 psi
Fc - Perp	750 psi
Fv	285 psi
Ft	1555 psi

E : Modulus of Elasticity

Ebend- xx	2000 ksi
Eminbend - xx	1016.535 ksi
Density	42 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Loads on all spans...
Uniform Load on ALL spans : D = 0.020, S = 0.110 ksf, Tributary Width = 22.750 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.804 : 1	Maximum Shear Stress Ratio	=	0.669 : 1
Section used for this span		3-1.75x14	Section used for this span		3-1.75x14
fb : Actual	=	2,351.45 psi	fv : Actual	=	219.22 psi
FB : Allowable	=	2,925.75 psi	Fv : Allowable	=	327.75 psi
Load Combination		+D+S	Load Combination		+D+S
Location of maximum on span	=	4.750 ft	Location of maximum on span	=	8.356 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.192 in	Ratio =	593 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.229 in	Ratio =	498 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 9.50 ft	1	0.164	0.137	0.90	0.979	1.00	1.00	1.00	1.00	1.00	5.37	376.08	2290.10	1.72	35.06	256.50
+D+S					0.979	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 9.50 ft	1	0.804	0.669	1.15	0.979	1.00	1.00	1.00	1.00	1.00	33.61	2,351.45	2925.75	10.74	219.22	327.75
+D+0.750S					0.979	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 9.50 ft	1	0.635	0.528	1.15	0.979	1.00	1.00	1.00	1.00	1.00	26.55	1,857.61	2925.75	8.49	173.18	327.75
+0.60D					0.979	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 9.50 ft	1	0.055	0.046	1.60	0.979	1.00	1.00	1.00	1.00	1.00	3.22	225.65	4069.38	1.03	21.04	456.00

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Interior Hallway Wall headers (Typical)

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.2287	4.785		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 — Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	14.150	14.150
Overall MINimum	11.887	11.887
D Only	2.263	2.263
+D+S	14.150	14.150
+D+0.750S	11.178	11.178
+0.60D	1.358	1.358
S Only	11.887	11.887

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Wood Beam

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Description : +Header Framing @ Roof Hatch

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2012

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2012

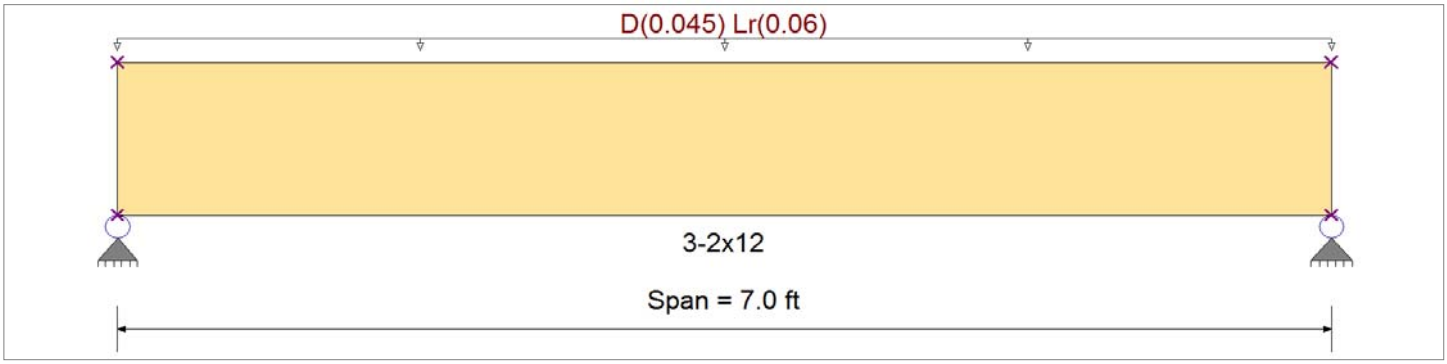
Wood Species : Spruce - Pine - Fir
Wood Grade : No. 1/No. 2

Beam Bracing : Completely Unbraced

Fb +	875.0 psi
Fb -	875.0 psi
Fc - Prll	1,150.0 psi
Fc - Perp	425.0 psi
Fv	135.0 psi
Ft	450.0 psi

E : Modulus of Elasticity

Ebend- xx	1,400.0 ksi
Eminbend - xx	510.0 ksi
Density	26.210 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Uniform Load : D = 0.0150, Lr = 0.020 ksf, Tributary Width = 3.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.081 : 1	Maximum Shear Stress Ratio	=	0.052 : 1
Section used for this span		3-2x12	Section used for this span		3-2x12
fb : Actual	=	88.44 psi	fv : Actual	=	8.73 psi
FB : Allowable	=	1,093.15 psi	Fv : Allowable	=	168.75 psi
Load Combination		+D+Lr	Load Combination		+D+Lr
Location of maximum on span	=	3.500 ft	Location of maximum on span	=	6.080 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.004 in	Ratio =	19259 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.008 in	Ratio =	10117 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 7.0 ft	1	0.053	0.034	0.90	1.000	1.00	1.00	1.00	1.00	1.00	0.33	41.98	787.19	0.14	4.14	121.50
+D+Lr					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 7.0 ft	1	0.081	0.052	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.70	88.44	1093.15	0.29	8.73	168.75
+D+0.750Lr					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 7.0 ft	1	0.070	0.045	1.25	1.000	1.00	1.00	1.00	1.00	1.00	0.61	76.82	1093.15	0.26	7.59	168.75
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 7.0 ft	1	0.018	0.012	1.60	1.000	1.00	1.00	1.00	1.00	1.00	0.20	25.19	1399.02	0.08	2.49	216.00

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Header Framing @ Roof Hatch

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+Lr	1	0.0083	3.526		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	0.400	0.400
Overall MINimum	0.210	0.210
D Only	0.190	0.190
+D+Lr	0.400	0.400
+D+0.750Lr	0.347	0.347
+0.60D	0.114	0.114
Lr Only	0.210	0.210

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Steel Beam

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Description : +ELEVATOR HOIST BEAM

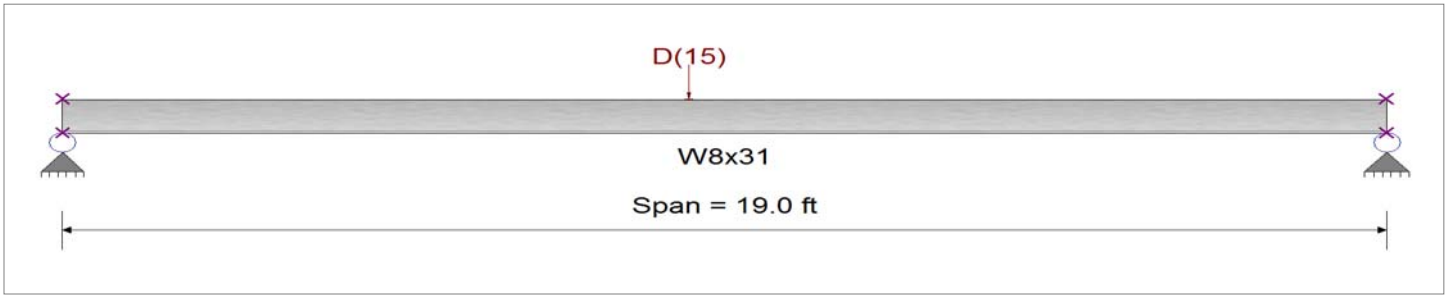
CODE REFERENCES

Calculations per AISC 360-10, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Strength Design
Beam Bracing : Completely Unbraced
Bending Axis : Major Axis Bending

Fy : Steel Yield : 50.0 ksi
E: Modulus : 29,000.0 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading
Load(s) for Span Number 1
Point Load : D = 15.0 k @ 9.0 ft, (HOIST LOAD (2 CARS AT CENTER OF BEAM))

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.955 : 1	Maximum Shear Stress Ratio =	0.180 : 1
Section used for this span	W8x31	Section used for this span	W8x31
Ma : Applied	72.367 k-ft	Va : Applied	8.189 k
Mn / Omega : Allowable	75.767 k-ft	Vn/Omega : Allowable	45.60 k
Load Combination	D Only	Load Combination	D Only
Location of maximum on span	9.011ft	Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.000 in	Ratio =	0 <360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	1.190 in	Ratio =	192 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	Summary of Moment Values Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Summary of Shear Values Va Max	Vnx	Vnx/Omega
D Only													
Dsgn. L = 19.00 ft	1	0.955	0.180	72.37		72.37	126.53	75.77	1.34	1.00	8.19	68.40	45.60
+D+Lr													
Dsgn. L = 19.00 ft	1	0.955	0.180	72.37		72.37	126.53	75.77	1.34	1.00	8.19	68.40	45.60
+D+0.750Lr													
Dsgn. L = 19.00 ft	1	0.955	0.180	72.37		72.37	126.53	75.77	1.34	1.00	8.19	68.40	45.60
+0.60D													
Dsgn. L = 19.00 ft	1	0.573	0.108	43.42		43.42	126.53	75.77	1.34	1.00	4.91	68.40	45.60

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+0.750Lr	1	1.1905	9.391		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 — Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	8.189	7.400
Overall MINimum	4.914	4.440
D Only	8.189	7.400
+D+Lr	8.189	7.400
+D+0.750Lr	8.189	7.400
+0.60D	4.914	4.440
Lr Only		

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Header Framing GL9 @ laundry Chute

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2012

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2012

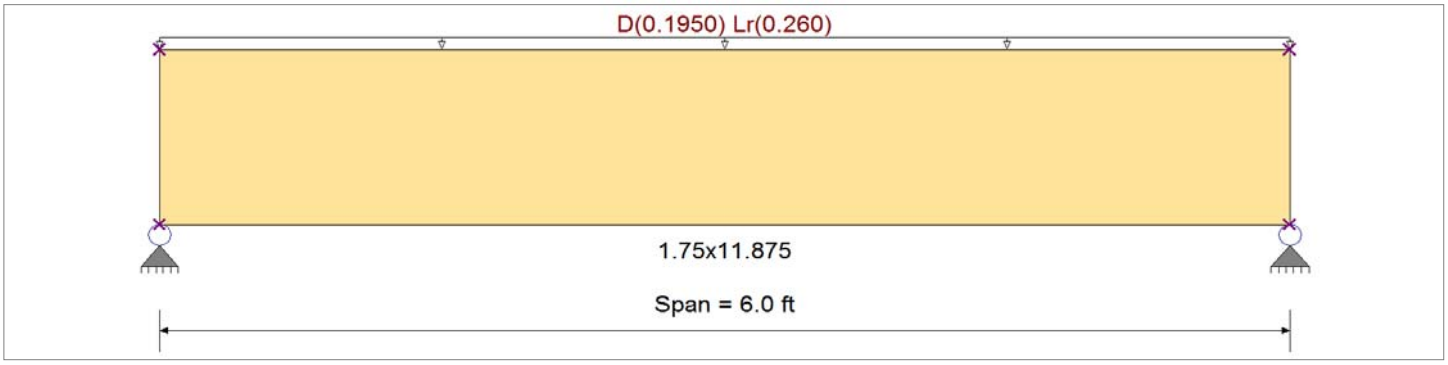
Wood Species : Trus Joist
Wood Grade : Parallam PSL 2.0E

Beam Bracing : Completely Unbraced

Fb +	2,900.0 psi
Fb -	2,900.0 psi
Fc - Prll	2,900.0 psi
Fc - Perp	750.0 psi
Fv	290.0 psi
Ft	2,025.0 psi

E : Modulus of Elasticity

Ebend- xx	2,000.0 ksi
Eminbend - xx	1,016.54 ksi
Density	45.050 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Loads on all spans...
Uniform Load on ALL spans : D = 0.0150, Lr = 0.020 ksf, Tributary Width = 13.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.167 : 1	Maximum Shear Stress Ratio	=	0.185 : 1
Section used for this span		1.75x11.875	Section used for this span		1.75x11.875
fb : Actual	=	605.92 psi	fv : Actual	=	67.11 psi
FB : Allowable	=	3,624.00 psi	Fv : Allowable	=	362.50 psi
Load Combination		+D+Lr	Load Combination		+D+Lr
Location of maximum on span	=	3.000 ft	Location of maximum on span	=	0.000 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.016 in	Ratio =	4611 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.028 in	Ratio =	2597 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.0 ft	1	0.101	0.112	0.90	1.000	1.00	1.00	1.00	1.00	1.00	0.91	264.56	2609.48	0.41	29.30	261.00
+D+Lr					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.0 ft	1	0.167	0.185	1.25	1.000	1.00	1.00	1.00	1.00	1.00	2.08	605.92	3624.00	0.93	67.11	362.50
+D+0.750Lr					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.0 ft	1	0.144	0.159	1.25	1.000	1.00	1.00	1.00	1.00	1.00	1.78	520.58	3624.00	0.80	57.66	362.50
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.0 ft	1	0.034	0.038	1.60	1.000	1.00	1.00	1.00	1.00	1.00	0.54	158.73	4638.37	0.24	17.58	464.00

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Header Framing GL9 @ laundry Chute

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+Lr	1	0.0277	3.022		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	1.385	1.385
Overall MINimum	0.780	0.780
D Only	0.605	0.605
+D+Lr	1.385	1.385
+D+0.750Lr	1.190	1.190
+0.60D	0.363	0.363
Lr Only	0.780	0.780

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Wood Beam

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Description : +Header @ GL10 at Elevator Shaft Door Opening Roof

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

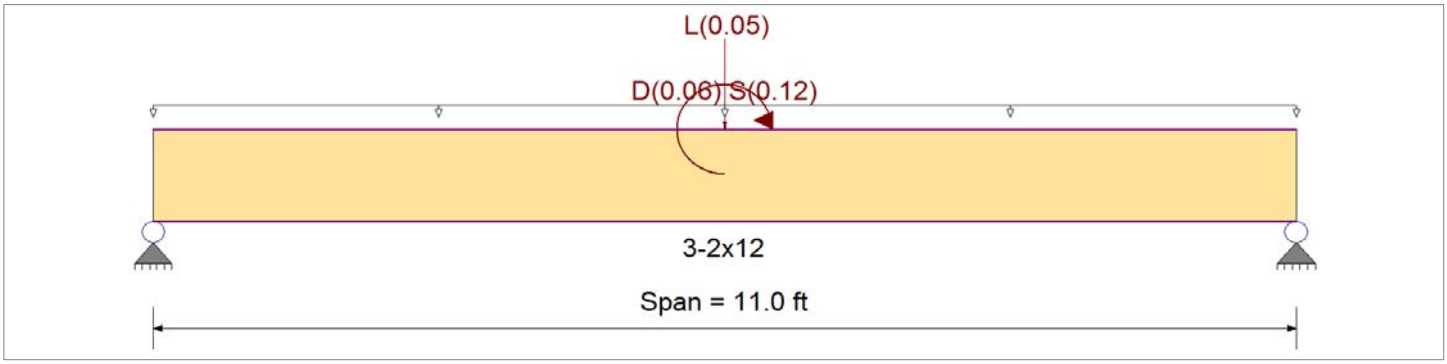
Wood Species : Spruce - Pine - Fir
Wood Grade : No. 1/No. 2

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	875.0 psi
Fb -	875.0 psi
Fc - Prll	1,150.0 psi
Fc - Perp	425.0 psi
Fv	135.0 psi
Ft	450.0 psi

E : Modulus of Elasticity

Ebend- xx	1,400.0 ksi
Eminbend - xx	510.0 ksi
Density	26.210 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Point Load : L = 0.050 k @ 5.50 ft, (Elevator Brace Beam)
Uniform Load : D = 0.0150, S = 0.030 ksf, Tributary Width = 4.0 ft
Moment : L = 2.0 k-ft, Location = 5.50 ft from left end of this span

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.409 : 1	Maximum Shear Stress Ratio	=	0.169 : 1
Section used for this span		3-2x12	Section used for this span		3-2x12
fb : Actual	=	411.48 psi	fv : Actual	=	26.19 psi
FB : Allowable	=	1,006.25 psi	Fv : Allowable	=	155.25 psi
Load Combination		+D+0.750L+0.750S	Load Combination		+D+0.750L+0.750S
Location of maximum on span	=	5.540 ft	Location of maximum on span	=	10.077 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.053 in	Ratio =	2481 >=360
Max Upward Transient Deflection	-0.002 in	Ratio =	59997 >=360
Max Downward Total Deflection	0.084 in	Ratio =	1573 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.168	0.077	0.90	1.000	1.00	1.00	1.00	1.00	1.00	1.05	132.34	787.50	0.32	9.39	121.50
+D+L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.314	0.115	1.00	1.000	1.00	1.00	1.00	1.00	1.00	2.18	275.09	875.00	0.52	15.51	135.00
+D+S					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.360	0.165	1.15	1.000	1.00	1.00	1.00	1.00	1.00	2.86	361.80	1006.25	0.87	25.66	155.25
+D+0.750L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.219	0.083	1.25	1.000	1.00	1.00	1.00	1.00	1.00	1.89	239.40	1093.75	0.47	13.98	168.75

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Header @ GL10 at Elevator Shaft Door Opening Roof

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+0.750L+0.750S					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.409	0.169	1.15	1.000	1.00	1.00	1.00	1.00	1.00	3.25	411.48	1006.25	0.88	26.19	155.25
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.057	0.026	1.60	1.000	1.00	1.00	1.00	1.00	1.00	0.63	79.41	1400.00	0.19	5.63	216.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.0839	5.540		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 — Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	1.041	1.041
Overall MINimum	0.660	0.660
D Only	0.381	0.381
+D+L	0.224	0.587
+D+S	1.041	1.041
+D+0.750L	0.263	0.536
+D+0.750L+0.750S	0.758	1.031
+0.60D	0.228	0.228
L Only	-0.157	0.207
S Only	0.660	0.660

ABQ Engineering
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tele: 505.255.7802 fax: 505.255.7902

Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

REVISON 10-25-23

Wood Beam

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Description : (REV) Roof Joist @ Storage Building

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

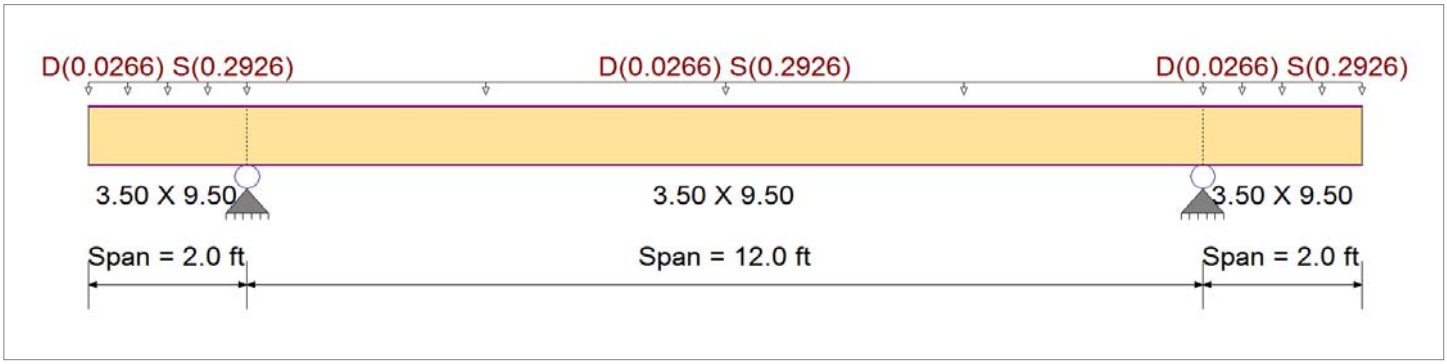
Wood Species : Spruce-Pine-Fir
Wood Grade : No. 1/No. 2

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	875 psi
Fb -	875 psi
Fc - Prll	1150 psi
Fc - Perp	425 psi
Fv	135 psi
Ft	450 psi

E : Modulus of Elasticity

Ebend- xx	1400 ksi
Eminbend - xx	510 ksi
Density	26.21 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Load for Span Number 1
Uniform Load : D = 0.010, S = 0.110 ksf, Tributary Width = 2.660 ft
Load for Span Number 2
Uniform Load : D = 0.010, S = 0.110 ksf, Tributary Width = 2.660 ft
Load for Span Number 3
Uniform Load : D = 0.010, S = 0.110 ksf, Tributary Width = 2.660 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.982 : 1	Maximum Shear Stress Ratio	=	0.500 : 1
Section used for this span		3.50 X 9.50	Section used for this span		3.50 X 9.50
fb : Actual	=	1,186.10 psi	fv : Actual	=	77.68 psi
FB : Allowable	=	1,207.50 psi	Fv : Allowable	=	155.25 psi
Load Combination		+D+S	Load Combination		+D+S
Location of maximum on span	=	6.050 ft	Location of maximum on span	=	2.000 ft
Span # where maximum occurs	=	Span # 2	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.342 in	Ratio =	420 >=240
Max Upward Transient Deflection	-0.170 in	Ratio =	280 >=240
Max Downward Total Deflection	0.381 in	Ratio =	378 >=180
Max Upward Total Deflection	-0.189 in	Ratio =	252 >=180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 2.0 ft	1	0.016	0.064	0.90	1.200	1.00	1.00	1.00	1.00	1.00	0.07	14.89	945.00	0.17	7.80	121.50
Length = 12.0 ft	2	0.126	0.064	0.90	1.200	1.00	1.00	1.00	1.00	1.00	0.52	119.07	945.00	0.17	7.80	121.50
Length = 2.0 ft	3	0.016	0.064	0.90	1.200	1.00	1.00	1.00	1.00	1.00	0.07	14.89	945.00	0.04	7.80	121.50
+D+L					1.200	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : (REV) Roof Joist @ Storage Building

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
Length = 2.0 ft	1	0.014	0.058	1.00	1.200	1.00	1.00	1.00	1.00	1.00	0.07	14.89	1050.00	0.17	7.80	135.00
Length = 12.0 ft	2	0.113	0.058	1.00	1.200	1.00	1.00	1.00	1.00	1.00	0.52	119.07	1050.00	0.17	7.80	135.00
Length = 2.0 ft	3	0.014	0.058	1.00	1.200	1.00	1.00	1.00	1.00	1.00	0.07	14.89	1050.00	0.04	7.80	135.00
+D+S					1.200	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 2.0 ft	1	0.123	0.500	1.15	1.200	1.00	1.00	1.00	1.00	1.00	0.65	148.27	1207.50	1.72	77.68	155.25
Length = 12.0 ft	2	0.982	0.500	1.15	1.200	1.00	1.00	1.00	1.00	1.00	5.20	1,186.10	1207.50	1.72	77.68	155.25
Length = 2.0 ft	3	0.123	0.500	1.15	1.200	1.00	1.00	1.00	1.00	1.00	0.65	148.27	1207.50	0.39	77.68	155.25
+D+0.750L					1.200	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 2.0 ft	1	0.011	0.046	1.25	1.200	1.00	1.00	1.00	1.00	1.00	0.07	14.89	1312.50	0.17	7.80	168.75
Length = 12.0 ft	2	0.091	0.046	1.25	1.200	1.00	1.00	1.00	1.00	1.00	0.52	119.07	1312.50	0.17	7.80	168.75
Length = 2.0 ft	3	0.011	0.046	1.25	1.200	1.00	1.00	1.00	1.00	1.00	0.07	14.89	1312.50	0.04	7.80	168.75
+D+0.750L+0.750S					1.200	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 2.0 ft	1	0.095	0.388	1.15	1.200	1.00	1.00	1.00	1.00	1.00	0.50	114.93	1207.50	1.33	60.21	155.25
Length = 12.0 ft	2	0.761	0.388	1.15	1.200	1.00	1.00	1.00	1.00	1.00	4.03	919.35	1207.50	1.33	60.21	155.25
Length = 2.0 ft	3	0.095	0.388	1.15	1.200	1.00	1.00	1.00	1.00	1.00	0.50	114.93	1207.50	0.31	60.21	155.25
+0.60D					1.200	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 2.0 ft	1	0.005	0.022	1.60	1.200	1.00	1.00	1.00	1.00	1.00	0.04	8.93	1680.00	0.10	4.68	216.00
Length = 12.0 ft	2	0.043	0.022	1.60	1.200	1.00	1.00	1.00	1.00	1.00	0.31	71.44	1680.00	0.10	4.68	216.00
Length = 2.0 ft	3	0.005	0.022	1.60	1.200	1.00	1.00	1.00	1.00	1.00	0.04	8.93	1680.00	0.02	4.68	216.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
	1	0.0000	0.000	+D+S	-0.1894	0.000
+D+S	2	0.3805	6.050		0.0000	0.000
	3	0.0000	6.050	+D+S	-0.1895	2.000

Vertical Reactions

Support notation : Far left is #1 — Values in KIPS

Load Combination	Support 1	Support 2	Support 3	Support 4
Overall MAXimum		2.602	2.602	
Overall MINimum		2.341	2.341	
D Only		0.261	0.261	
+D+L		0.261	0.261	
+D+S		2.602	2.602	
+D+0.750L		0.261	0.261	
+D+0.750L+0.750S		2.017	2.017	
+0.60D		0.157	0.157	
L Only				
S Only		2.341	2.341	

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Exterior Window Openings at 3rd&4th Floors

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

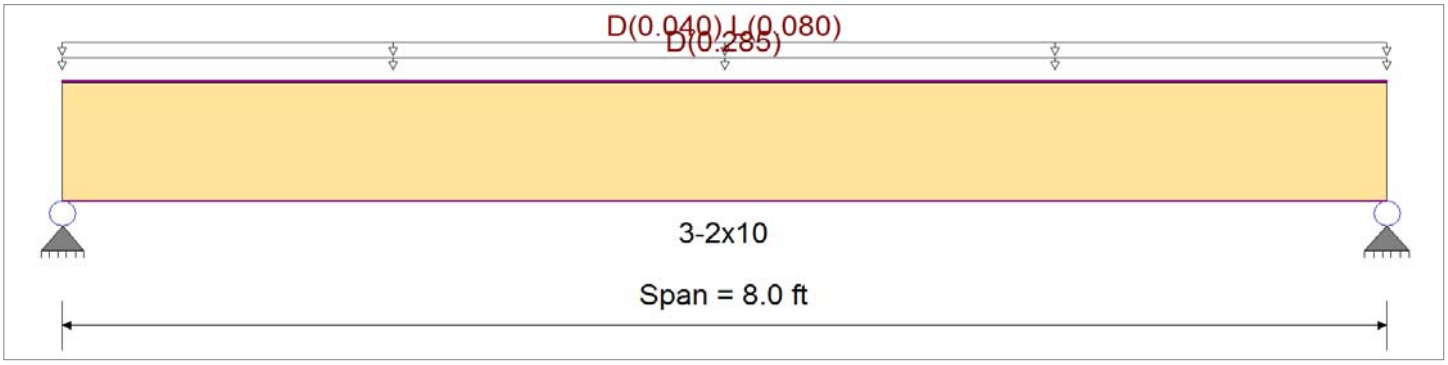
Wood Species : Spruce - Pine - Fir
Wood Grade : No. 1/No. 2

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	875.0 psi
Fb -	875.0 psi
Fc - Prll	1,150.0 psi
Fc - Perp	425.0 psi
Fv	135.0 psi
Ft	450.0 psi

E : Modulus of Elasticity

Ebend- xx	1,400.0 ksi
Eminbend - xx	510.0 ksi
Density	26.210 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Loads on all spans...
Uniform Load on ALL spans : D = 0.020, L = 0.040 ksf, Tributary Width = 2.0 ft
Uniform Load : D = 0.0150 ksf, Tributary Width = 19.0 ft, (3rd,4thwall &ParapetWall Above)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.641 : 1	Maximum Shear Stress Ratio	=	0.357 : 1
Section used for this span		3-2x10	Section used for this span		3-2x10
fb : Actual	=	617.21 psi	fv : Actual	=	48.18 psi
FB : Allowable	=	962.50 psi	Fv : Allowable	=	135.00 psi
Load Combination		+D+L	Load Combination		+D+L
Location of maximum on span	=	4.000 ft	Location of maximum on span	=	7.241 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.018 in	Ratio =	5378 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.092 in	Ratio =	1042 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.574	0.320	0.90	1.100	1.00	1.00	1.00	1.00	1.00	2.66	497.53	866.25	1.08	38.84	121.50
+D+L					1.100	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.641	0.357	1.00	1.100	1.00	1.00	1.00	1.00	1.00	3.30	617.21	962.50	1.34	48.18	135.00
+D+0.750L					1.100	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.488	0.272	1.25	1.100	1.00	1.00	1.00	1.00	1.00	3.14	587.29	1203.13	1.27	45.85	168.75
+0.60D					1.100	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.194	0.108	1.60	1.100	1.00	1.00	1.00	1.00	1.00	1.60	298.52	1540.00	0.65	23.30	216.00

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Exterior Window Openings at 3rd&4th Floors

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+L	1	0.0920	4.029		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 — Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	1.650	1.650
Overall MINimum	0.320	0.320
D Only	1.330	1.330
+D+L	1.650	1.650
+D+0.750L	1.570	1.570
+0.60D	0.798	0.798
L Only	0.320	0.320

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Description : +Header @ Hallway Door Openings at 3rd & 4th Floor Bearing

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

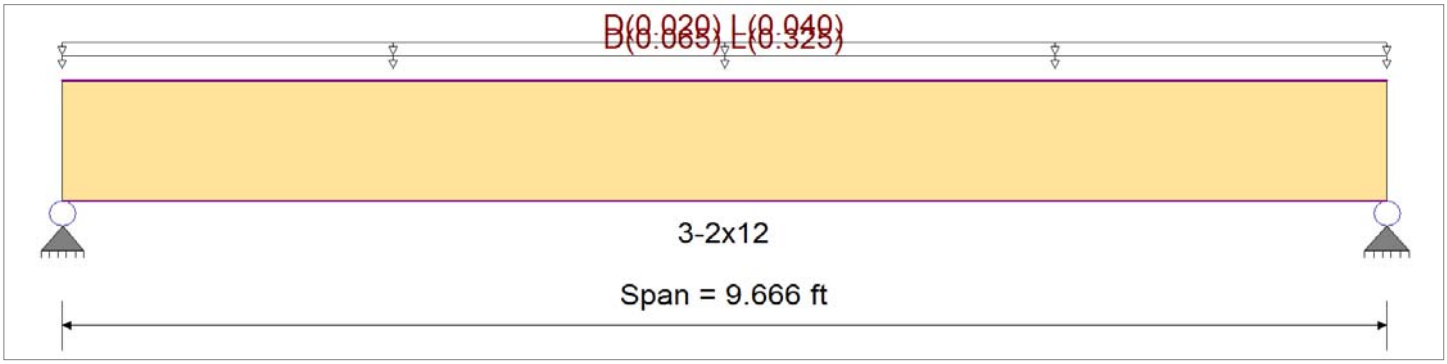
Wood Species : Spruce - Pine - Fir
Wood Grade : No. 1/No. 2

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	875.0 psi
Fb -	875.0 psi
Fc - Prll	1,150.0 psi
Fc - Perp	425.0 psi
Fv	135.0 psi
Ft	450.0 psi

E : Modulus of Elasticity

Ebend- xx	1,400.0 ksi
Eminbend - xx	510.0 ksi
Density	26.210 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Loads on all spans...
Uniform Load on ALL spans : D = 0.020, L = 0.040 k/ft
Uniform Load : D = 0.020, L = 0.10 ksf, Tributary Width = 3.250 ft, (Hallway Floor)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.775 : 1	Maximum Shear Stress Ratio	=	0.395 : 1
Section used for this span		3-2x12	Section used for this span		3-2x12
fb : Actual	=	678.01 psi	fv : Actual	=	53.28 psi
FB : Allowable	=	875.00 psi	Fv : Allowable	=	135.00 psi
Load Combination		+D+L	Load Combination		+D+L
Location of maximum on span	=	4.833 ft	Location of maximum on span	=	0.000 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.096 in	Ratio =	1202 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.121 in	Ratio =	955 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 9.666 ft	1	0.177	0.090	0.90	1.000	1.00	1.00	1.00	1.00	1.00	1.10	139.10	787.50	0.37	10.93	121.50
+D+L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 9.666 ft	1	0.775	0.395	1.00	1.000	1.00	1.00	1.00	1.00	1.00	5.36	678.01	875.00	1.80	53.28	135.00
+D+0.750L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 9.666 ft	1	0.497	0.253	1.25	1.000	1.00	1.00	1.00	1.00	1.00	4.30	543.28	1093.75	1.44	42.69	168.75
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 9.666 ft	1	0.060	0.030	1.60	1.000	1.00	1.00	1.00	1.00	1.00	0.66	83.46	1400.00	0.22	6.56	216.00

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Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Header @ Hallway Door Openings at 3rd & 4th Floor Bearing

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+L	1	0.1214	4.868		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	2.219	2.219
Overall MINimum	1.764	1.764
D Only	0.455	0.455
+D+L	2.219	2.219
+D+0.750L	1.778	1.778
+0.60D	0.273	0.273
L Only	1.764	1.764

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Wood Beam

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Description : +Floor Joists- Hallway GLD,E

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

Wood Species : Spruce - Pine - Fir
Wood Grade : No. 1/No. 2

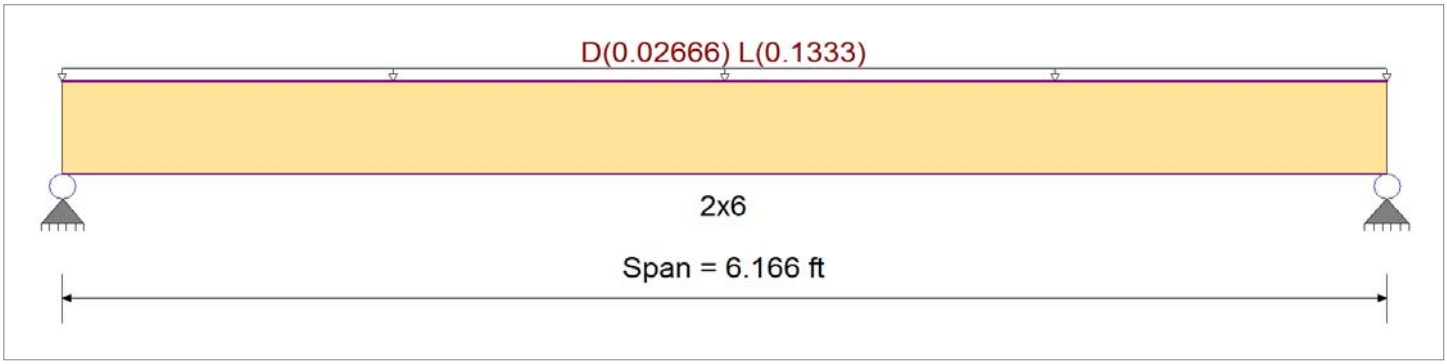
Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	875 psi
Fb -	875 psi
Fc - Prll	1150 psi
Fc - Perp	425 psi
Fv	135 psi
Ft	450 psi

E : Modulus of Elasticity

Ebend- xx	1400 ksi
Eminbend - xx	510 ksi
Density	26.21 pcf

Repetitive Member Stress Increase



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Loads on all spans...
Uniform Load on ALL spans : D = 0.020, L = 0.10 ksf, Tributary Width = 1.333 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.931 : 1	Maximum Shear Stress Ratio	=	0.573 : 1
Section used for this span		2x6	Section used for this span		2x6
fb : Actual	=	1,217.59 psi	fv : Actual	=	77.29 psi
FB : Allowable	=	1,308.13 psi	Fv : Allowable	=	135.00 psi
Load Combination		+D+L	Load Combination		+D+L
Location of maximum on span	=	3.083 ft	Location of maximum on span	=	5.716 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.150 in	Ratio =	494 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.181 in	Ratio =	407 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only					1.300	1.00	1.15	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.166 ft	1	0.180	0.111	0.90	1.300	1.00	1.15	1.00	1.00	1.00	0.13	212.37	1177.31	0.07	13.48	121.50
+D+L					1.300	1.00	1.15	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.166 ft	1	0.931	0.573	1.00	1.300	1.00	1.15	1.00	1.00	1.00	0.77	1,217.59	1308.13	0.43	77.29	135.00
+D+0.750L					1.300	1.00	1.15	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.166 ft	1	0.591	0.364	1.25	1.300	1.00	1.15	1.00	1.00	1.00	0.61	966.29	1635.16	0.34	61.34	168.75
+0.60D					1.300	1.00	1.15	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.166 ft	1	0.061	0.037	1.60	1.300	1.00	1.15	1.00	1.00	1.00	0.08	127.42	2093.00	0.04	8.09	216.00

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Floor Joists- Hallway GLD,E

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+L	1	0.1814	3.106		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	0.498	0.498
Overall MINimum	0.411	0.411
D Only	0.087	0.087
+D+L	0.498	0.498
+D+0.750L	0.395	0.395
+0.60D	0.052	0.052
L Only	0.411	0.411

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Description : +Header at Elevator Shaft Opening 3rd & 4th Floor

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

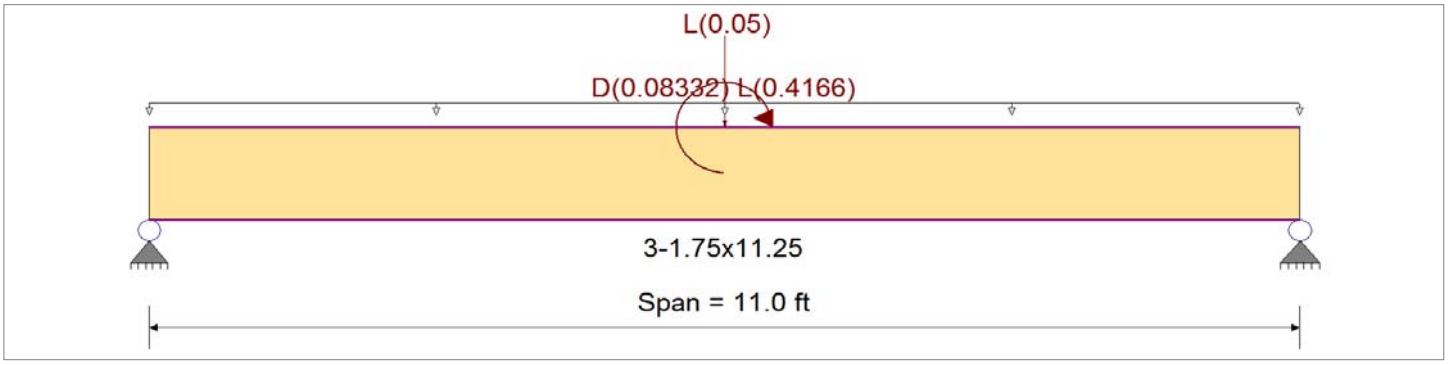
Wood Species : Trus Joist
Wood Grade : MicroLam LVL 2.0 E

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	2600 psi
Fb -	2600 psi
Fc - Prll	2510 psi
Fc - Perp	750 psi
Fv	285 psi
Ft	1555 psi

E : Modulus of Elasticity

Ebend- xx	2000 ksi
Eminbend - xx	1016.535 ksi
Density	42 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Point Load : L = 0.050 k @ 5.50 ft, (Elevator Brace Beam)
Uniform Load : D = 0.020, L = 0.10 ksf, Tributary Width = 4.166 ft
Moment : L = 2.0 k-ft, Location = 5.50 ft from left end of this span

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.373 : 1	Maximum Shear Stress Ratio	=	0.229 : 1
Section used for this span		3-1.75x11.25	Section used for this span		3-1.75x11.25
fb : Actual	=	969.89 psi	fv : Actual	=	65.36 psi
FB : Allowable	=	2,600.00 psi	Fv : Allowable	=	285.00 psi
Load Combination		+D+L	Load Combination		+D+L
Location of maximum on span	=	5.540 ft	Location of maximum on span	=	10.077 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.113 in	Ratio =	1167 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.140 in	Ratio =	944 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.070	0.046	0.90	1.000	1.00	1.00	1.00	1.00	1.00	1.52	164.79	2340.00	0.46	11.69	256.50
+D+L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.373	0.229	1.00	1.000	1.00	1.00	1.00	1.00	1.00	8.95	969.89	2600.00	2.57	65.36	285.00
+D+0.750L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.236	0.146	1.25	1.000	1.00	1.00	1.00	1.00	1.00	7.09	768.61	3250.00	2.05	51.94	356.25
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.024	0.015	1.60	1.000	1.00	1.00	1.00	1.00	1.00	0.91	98.87	4160.00	0.28	7.01	456.00

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Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Header at Elevator Shaft Opening 3rd & 4th Floor

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+L	1	0.1397	5.741		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	2.687	3.051
Overall MINimum	2.134	2.498
D Only	0.553	0.553
+D+L	2.687	3.051
+D+0.750L	2.154	2.427
+0.60D	0.332	0.332
L Only	2.134	2.498

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Description : +Header Exterior Large Window Openings at 2rd Floors

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

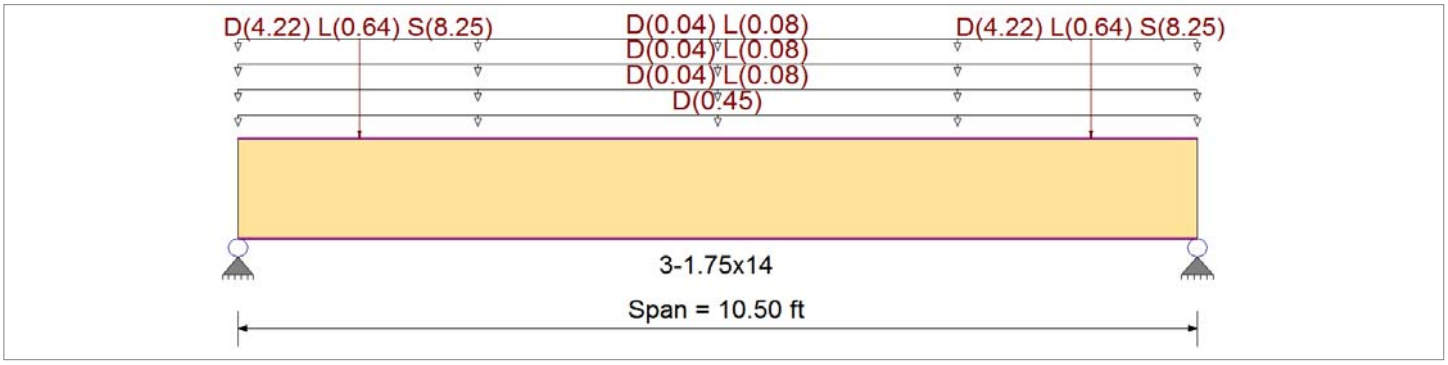
Wood Species : Trus Joist
Wood Grade : MicroLam LVL 2.0 E

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	2,600.0 psi
Fb -	2,600.0 psi
Fc - Prll	2,510.0 psi
Fc - Perp	750.0 psi
Fv	285.0 psi
Ft	1,555.0 psi

E : Modulus of Elasticity

Ebend- xx	2,000.0 ksi
Eminbend - xx	1,016.54 ksi
Density	42.0 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Uniform Load : D = 0.0150 ksf, Tributary Width = 30.0 ft, (2nd,3rd&4th Floor Load)
Uniform Load : D = 0.020, L = 0.040 ksf, Tributary Width = 2.0 ft, (4th floor)
Uniform Load : D = 0.020, L = 0.040 ksf, Tributary Width = 2.0 ft, (3rd floor)
Uniform Load : D = 0.020, L = 0.040 ksf, Tributary Width = 2.0 ft, (3rd floor)
Point Load : D = 4.220, L = 0.640, S = 8.250 k @ 1.333 ft
Point Load : D = 4.220, L = 0.640, S = 8.250 k @ 9.333 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.580 : 1	Maximum Shear Stress Ratio	=	0.940 : 1
Section used for this span		3-1.75x14	Section used for this span		3-1.75x14
fb : Actual	=	1,697.49 psi	fv : Actual	=	308.01 psi
FB : Allowable	=	2,927.97 psi	Fv : Allowable	=	327.75 psi
Load Combination		+D+0.750L+0.750S	Load Combination		+D+S
Location of maximum on span	=	5.020 ft	Location of maximum on span	=	9.350 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.101 in	Ratio =	1247 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.222 in	Ratio =	568 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 10.50 ft	1	0.410	0.534	0.90	0.979	1.00	1.00	1.00	1.00	1.00	13.43	939.67	2291.45	6.71	136.98	256.50
+D+L					0.979	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 10.50 ft	1	0.482	0.598	1.00	0.979	1.00	1.00	1.00	1.00	1.00	17.54	1,227.06	2546.06	8.35	170.33	285.00
+D+Lr					0.979	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Header Exterior Large Window Openings at 2rd Floors

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
Length = 10.50 ft	1	0.295	0.384	1.25	0.979	1.00	1.00	1.00	1.00	1.00	13.43	939.67	3182.57	6.71	136.98	356.25
+D+S					0.979	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 10.50 ft	1	0.568	0.940	1.15	0.979	1.00	1.00	1.00	1.00	1.00	23.77	1,663.28	2927.97	15.09	308.01	327.75
+D+0.750Lr+0.750L					0.979	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 10.50 ft	1	0.363	0.455	1.25	0.979	1.00	1.00	1.00	1.00	1.00	16.51	1,155.21	3182.57	7.94	161.99	356.25
+D+0.750L+0.750S					0.979	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 10.50 ft	1	0.580	0.886	1.15	0.979	1.00	1.00	1.00	1.00	1.00	24.26	1,697.49	2927.97	14.22	290.26	327.75
+0.60D					0.979	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 10.50 ft	1	0.138	0.180	1.60	0.979	1.00	1.00	1.00	1.00	1.00	8.06	563.80	4073.70	4.03	82.19	456.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+0.750L+0.750S	1	0.2217	5.250		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 — Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	15.378	15.772
Overall MINimum	8.120	8.380
D Only	7.258	7.392
+D+L	9.148	9.302
+D+Lr	7.258	7.392
+D+S	15.378	15.772
+D+0.750Lr+0.750L	8.676	8.824
+D+0.750L+0.750S	14.765	15.110
+0.60D	4.355	4.435
Lr Only		
L Only	1.890	1.910
S Only	8.120	8.380

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Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Header Hallway Openings at 2nd Floor Bearing

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

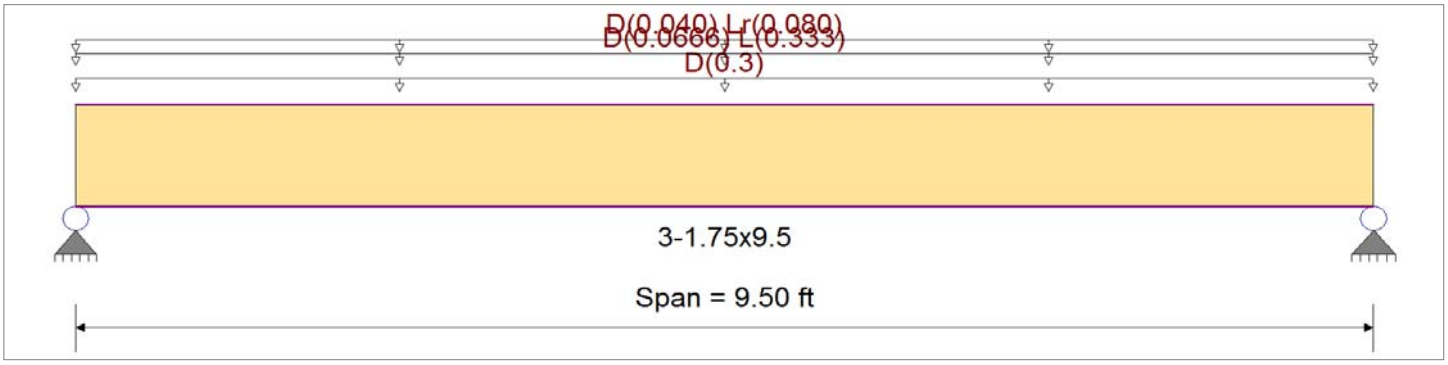
Wood Species : Trus Joist
Wood Grade : MicroLam LVL 2.0 E

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	2600 psi
Fb -	2600 psi
Fc - Prll	2510 psi
Fc - Perp	750 psi
Fv	285 psi
Ft	1555 psi

E : Modulus of Elasticity

Ebend- xx	2000 ksi
Eminbend - xx	1016.535 ksi
Density	42 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Loads on all spans...
Uniform Load on ALL spans : D = 0.020, Lr = 0.040 ksf, Tributary Width = 2.0 ft
Uniform Load : D = 0.010 ksf, Tributary Width = 30.0 ft, (2nd,3rd,&4th Floor Wall)
Uniform Load : D = 0.020, L = 0.10 ksf, Tributary Width = 3.330 ft, (2nd Hallway Floor)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.497 : 1	Maximum Shear Stress Ratio	=	0.317 : 1
Section used for this span		3-1.75x9.5	Section used for this span		3-1.75x9.5
fb : Actual	=	1,292.82 psi	fv : Actual	=	90.43 psi
FB : Allowable	=	2,600.00 psi	Fv : Allowable	=	285.00 psi
Load Combination		+D+L	Load Combination		+D+L
Location of maximum on span	=	4.750 ft	Location of maximum on span	=	8.737 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.082 in	Ratio =	1393 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.185 in	Ratio =	615 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
D Only													0.00	0.00	0.00	0.00
Length = 9.50 ft	1	0.309	0.197	0.90	1.000	1.00	1.00	1.00	1.00	1.00	4.75	721.97	2340.00	1.68	50.50	256.50
+D+L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 9.50 ft	1	0.497	0.317	1.00	1.000	1.00	1.00	1.00	1.00	1.00	8.51	1,292.82	2600.00	3.01	90.43	285.00
+D+Lr					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 9.50 ft	1	0.264	0.169	1.25	1.000	1.00	1.00	1.00	1.00	1.00	5.65	859.11	3250.00	2.00	60.10	356.25
+D+0.750Lr+0.750L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00

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Project Descr: HIESCO

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Description : +Header Hallway Openings at 2nd Floor Bearing

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
Length = 9.50 ft	1	0.386	0.246	1.25	1.000	1.00	1.00	1.00	1.00	1.00	8.25	1,252.97	3250.00	2.91	87.65	356.25
+D+0.750L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 9.50 ft	1	0.385	0.245	1.15	1.000	1.00	1.00	1.00	1.00	1.00	7.57	1,150.11	2990.00	2.68	80.45	327.75
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 9.50 ft	1	0.104	0.066	1.60	1.000	1.00	1.00	1.00	1.00	1.00	2.85	433.18	4160.00	1.01	30.30	456.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+L	1	0.1853	4.785		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 — Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	3.582	3.582
Overall MINimum	1.582	1.582
D Only	2.000	2.000
+D+L	3.582	3.582
+D+Lr	2.380	2.380
+D+0.750Lr+0.750L	3.472	3.472
+D+0.750L	3.187	3.187
+0.60D	1.200	1.200
Lr Only	0.380	0.380
L Only	1.582	1.582

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Description : +Header hallway Door Openings at 2rd Floors

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

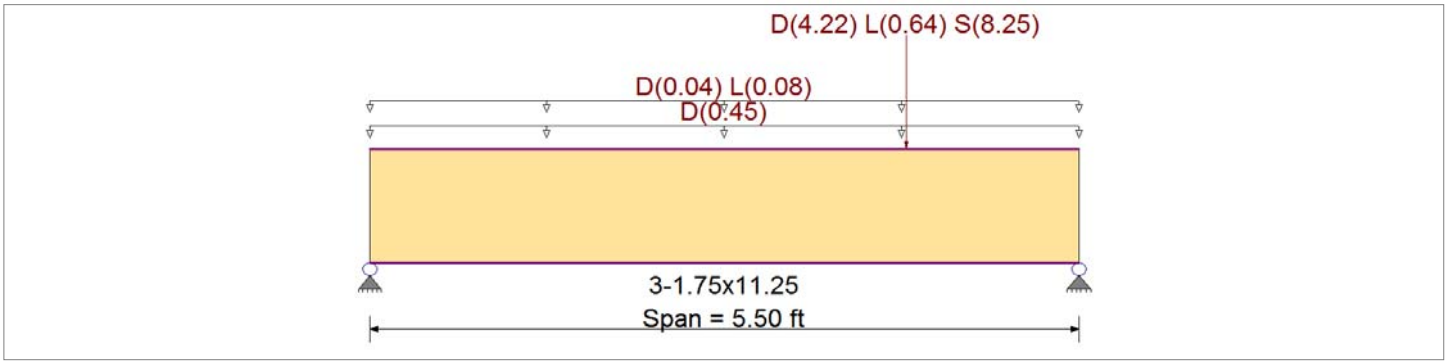
Wood Species : Trus Joist
Wood Grade : MicroLam LVL 2.0 E

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	2,600.0 psi
Fb -	2,600.0 psi
Fc - Prll	2,510.0 psi
Fc - Perp	750.0 psi
Fv	285.0 psi
Ft	1,555.0 psi

E : Modulus of Elasticity

Ebend- xx	2,000.0 ksi
Eminbend - xx	1,016.54 ksi
Density	42.0 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Uniform Load : D = 0.0150 ksf, Tributary Width = 30.0 ft, (2nd,3rd&4th Floor Load)
Uniform Load : D = 0.020, L = 0.040 ksf, Tributary Width = 2.0 ft, (4th floor)
Point Load : D = 4.220, L = 0.640, S = 8.250 k @ 4.160 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.509 : 1	Maximum Shear Stress Ratio	=	0.803 : 1
Section used for this span		3-1.75x11.25	Section used for this span		3-1.75x11.25
fb : Actual	=	1,521.49 psi	fv : Actual	=	263.07 psi
FB : Allowable	=	2,990.00 psi	Fv : Allowable	=	327.75 psi
Load Combination		+D+S	Load Combination		+D+S
Location of maximum on span	=	4.155 ft	Location of maximum on span	=	4.577 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.027 in	Ratio =	2419 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.050 in	Ratio =	1332 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 5.50 ft	1	0.263	0.408	0.90	1.000	1.00	1.00	1.00	1.00	1.00	5.69	616.49	2340.00	4.12	104.59	256.50
+D+L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 5.50 ft	1	0.273	0.423	1.00	1.000	1.00	1.00	1.00	1.00	1.00	6.56	710.92	2600.00	4.75	120.60	285.00
+D+Lr					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 5.50 ft	1	0.190	0.294	1.25	1.000	1.00	1.00	1.00	1.00	1.00	5.69	616.49	3250.00	4.12	104.59	356.25
+D+S					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 5.50 ft	1	0.509	0.803	1.15	1.000	1.00	1.00	1.00	1.00	1.00	14.04	1,521.49	2990.00	10.36	263.07	327.75

ABQ Engineering
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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Header hallway Door Openings at 2rd Floors

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+0.750Lr+0.750L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 5.50 ft	1	0.211	0.327	1.25	1.000	1.00	1.00	1.00	1.00	1.00	6.34	687.31	3250.00	4.59	116.60	356.25
+D+0.750L+0.750S					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 5.50 ft	1	0.457	0.718	1.15	1.000	1.00	1.00	1.00	1.00	1.00	12.61	1,366.06	2990.00	9.27	235.45	327.75
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 5.50 ft	1	0.089	0.138	1.60	1.000	1.00	1.00	1.00	1.00	1.00	3.41	369.89	4160.00	2.47	62.76	456.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.0495	3.031		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 — Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	4.433	10.827
Overall MINimum	2.010	6.240
D Only	2.423	4.587
+D+L	2.799	5.291
+D+Lr	2.423	4.587
+D+S	4.433	10.827
+D+0.750Lr+0.750L	2.705	5.115
+D+0.750L+0.750S	4.212	9.795
+0.60D	1.454	2.752
Lr Only		
L Only	0.376	0.704
S Only	2.010	6.240

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Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Header at Elevator Shaft Opening 2nd Floor

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

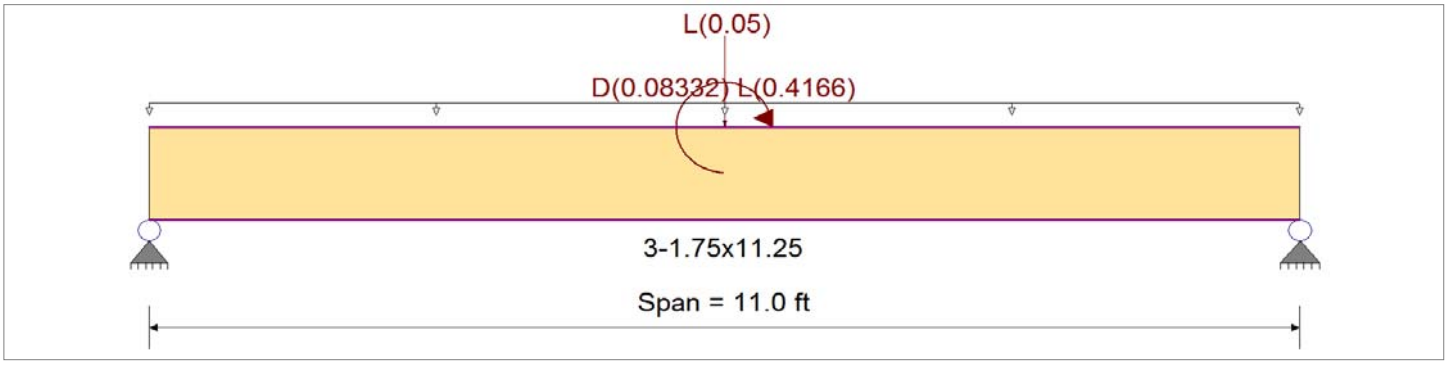
Wood Species : Trus Joist
Wood Grade : MicroLam LVL 2.0 E

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	2,600.0 psi
Fb -	2,600.0 psi
Fc - Prll	2,510.0 psi
Fc - Perp	750.0 psi
Fv	285.0 psi
Ft	1,555.0 psi

E : Modulus of Elasticity

Ebend- xx	2,000.0 ksi
Eminbend - xx	1,016.54 ksi
Density	42.0 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Point Load : L = 0.050 k @ 5.50 ft, (Elevator Brace Beam)
Uniform Load : D = 0.020, L = 0.10 ksf, Tributary Width = 4.166 ft
Moment : L = 2.0 k-ft, Location = 5.50 ft from left end of this span

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.373 : 1	Maximum Shear Stress Ratio	=	0.229 : 1
Section used for this span		3-1.75x11.25	Section used for this span		3-1.75x11.25
fb : Actual	=	969.89 psi	fv : Actual	=	65.36 psi
FB : Allowable	=	2,600.00 psi	Fv : Allowable	=	285.00 psi
Load Combination		+D+L	Load Combination		+D+L
Location of maximum on span	=	5.540 ft	Location of maximum on span	=	10.077 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.113 in	Ratio =	1167 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.140 in	Ratio =	944 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.070	0.046	0.90	1.000	1.00	1.00	1.00	1.00	1.00	1.52	164.79	2340.00	0.46	11.69	256.50
+D+L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.373	0.229	1.00	1.000	1.00	1.00	1.00	1.00	1.00	8.95	969.89	2600.00	2.57	65.36	285.00
+D+0.750L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.236	0.146	1.25	1.000	1.00	1.00	1.00	1.00	1.00	7.09	768.61	3250.00	2.05	51.94	356.25
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 11.0 ft	1	0.024	0.015	1.60	1.000	1.00	1.00	1.00	1.00	1.00	0.91	98.87	4160.00	0.28	7.01	456.00

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Header at Elevator Shaft Opening 2nd Floor

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+L	1	0.1397	5.741		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 — Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	2.687	3.051
Overall MINimum	2.134	2.498
D Only	0.553	0.553
+D+L	2.687	3.051
+D+0.750L	2.154	2.427
+0.60D	0.332	0.332
L Only	2.134	2.498

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Description : +Header at 2ND Floor corner GL 7, UtoW

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

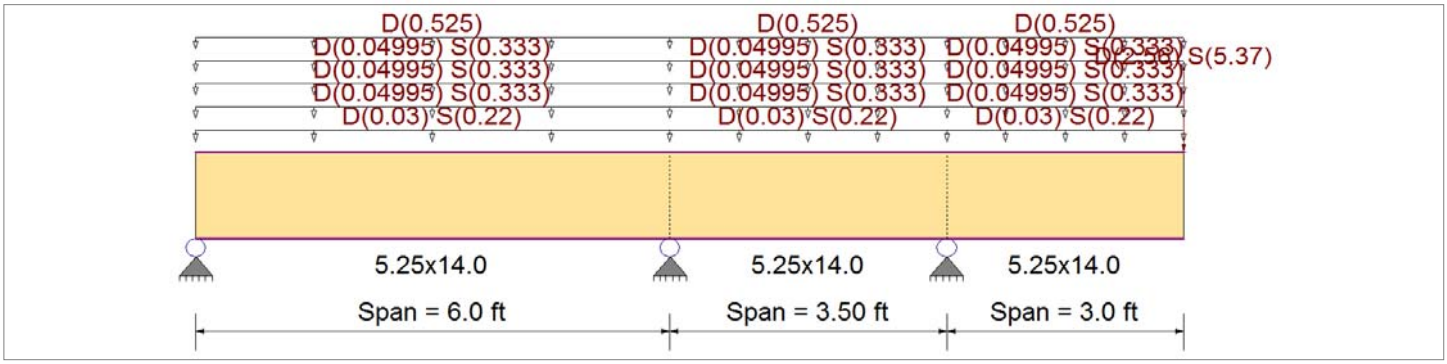
Wood Species : iLevel Truss Joist
Wood Grade : Parallam PSL 2.2E

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	2,900.0 psi
Fb -	2,900.0 psi
Fc - Prll	2,900.0 psi
Fc - Perp	750.0 psi
Fv	290.0 psi
Ft	2,025.0 psi

E : Modulus of Elasticity

Ebend- xx	2,200.0 ksi
Eminbend - xx	1,118.19 ksi
Density	45.050 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Load for Span Number 1
- Uniform Load : D = 0.0150, S = 0.110 ksf, Tributary Width = 2.0 ft, (roof)
- Uniform Load : D = 0.0150, S = 0.10 ksf, Tributary Width = 3.330 ft, (4th floor)
- Uniform Load : D = 0.0150, S = 0.10 ksf, Tributary Width = 3.330 ft, (3rd floor)
- Uniform Load : D = 0.0150, S = 0.10 ksf, Tributary Width = 3.330 ft, (2nd floor)
- Uniform Load : D = 0.0150 ksf, Tributary Width = 35.0 ft, (wall)

Load for Span Number 2
- Uniform Load : D = 0.0150, S = 0.110 ksf, Tributary Width = 2.0 ft, (roof)
- Uniform Load : D = 0.0150, S = 0.10 ksf, Tributary Width = 3.330 ft, (4th floor)
- Uniform Load : D = 0.0150, S = 0.10 ksf, Tributary Width = 3.330 ft, (3rd floor)
- Uniform Load : D = 0.0150, S = 0.10 ksf, Tributary Width = 3.330 ft, (2nd floor)
- Uniform Load : D = 0.0150 ksf, Tributary Width = 35.0 ft, (wall)

Load for Span Number 3
- Uniform Load : D = 0.0150, S = 0.110 ksf, Tributary Width = 2.0 ft, (roof)
- Uniform Load : D = 0.0150, S = 0.10 ksf, Tributary Width = 3.330 ft, (4th floor)
- Uniform Load : D = 0.0150, S = 0.10 ksf, Tributary Width = 3.330 ft, (3rd floor)
- Uniform Load : D = 0.0150, S = 0.10 ksf, Tributary Width = 3.330 ft, (2nd floor)
- Uniform Load : D = 0.0150 ksf, Tributary Width = 35.0 ft, (wall)
- Point Load : D = 2.560, S = 5.370 k @ 3.0 ft, (reaction beam on GL w)

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Header at 2ND Floor corner GL 7, UtoW

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.695 : 1	Maximum Shear Stress Ratio	=	0.705 : 1
Section used for this span		5.25x14.0	Section used for this span		5.25x14.0
fb : Actual	=	2,277.61 psi	fv : Actual	=	234.96 psi
FB : Allowable	=	3,278.42 psi	Fv : Allowable	=	333.50 psi
Load Combination		+D+S	Load Combination		+D+S
Location of maximum on span	=	3.500 ft	Location of maximum on span	=	3.500 ft
Span # where maximum occurs	=	Span # 2	Span # where maximum occurs	=	Span # 2

Maximum Deflection

Max Downward Transient Deflection	0.085 in	Ratio =	848 >=360
Max Upward Transient Deflection	-0.010 in	Ratio =	4295 >=360
Max Downward Total Deflection	0.128 in	Ratio =	562 >=180
Max Upward Total Deflection	-0.015 in	Ratio =	2842 >=180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only					0.983	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.0 ft	1	0.083	0.135	0.90	0.983	1.00	1.00	1.00	1.00	1.00	3.05	213.32	2565.72	1.72	35.20	261.00
Length = 3.50 ft	2	0.299	0.305	0.90	0.983	1.00	1.00	1.00	1.00	1.00	10.96	766.55	2565.72	3.90	79.58	261.00
Length = 3.0 ft	3	0.299	0.305	0.90	0.983	1.00	1.00	1.00	1.00	1.00	10.96	766.55	2565.72	3.90	79.58	261.00
+D+L					0.983	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.0 ft	1	0.075	0.121	1.00	0.983	1.00	1.00	1.00	1.00	1.00	3.05	213.32	2850.80	1.72	35.20	290.00
Length = 3.50 ft	2	0.269	0.274	1.00	0.983	1.00	1.00	1.00	1.00	1.00	10.96	766.55	2850.80	3.90	79.58	290.00
Length = 3.0 ft	3	0.269	0.274	1.00	0.983	1.00	1.00	1.00	1.00	1.00	10.96	766.55	2850.80	3.90	79.58	290.00
+D+S					0.983	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.0 ft	1	0.180	0.350	1.15	0.983	1.00	1.00	1.00	1.00	1.00	8.45	590.95	3278.42	5.71	116.57	333.50
Length = 3.50 ft	2	0.695	0.705	1.15	0.983	1.00	1.00	1.00	1.00	1.00	32.55	2,277.61	3278.42	11.51	234.96	333.50
Length = 3.0 ft	3	0.695	0.705	1.15	0.983	1.00	1.00	1.00	1.00	1.00	32.55	2,277.61	3278.42	11.51	234.96	333.50
+D+0.750L					0.983	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.0 ft	1	0.060	0.097	1.25	0.983	1.00	1.00	1.00	1.00	1.00	3.05	213.32	3563.50	1.72	35.20	362.50
Length = 3.50 ft	2	0.215	0.220	1.25	0.983	1.00	1.00	1.00	1.00	1.00	10.96	766.55	3563.50	3.90	79.58	362.50
Length = 3.0 ft	3	0.215	0.220	1.25	0.983	1.00	1.00	1.00	1.00	1.00	10.96	766.55	3563.50	3.90	79.58	362.50
+D+0.750L+0.750S					0.983	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.0 ft	1	0.151	0.289	1.15	0.983	1.00	1.00	1.00	1.00	1.00	7.10	496.54	3278.42	4.71	96.22	333.50
Length = 3.50 ft	2	0.579	0.588	1.15	0.983	1.00	1.00	1.00	1.00	1.00	27.15	1,899.84	3278.42	9.61	196.11	333.50
Length = 3.0 ft	3	0.579	0.588	1.15	0.983	1.00	1.00	1.00	1.00	1.00	27.15	1,899.84	3278.42	9.61	196.11	333.50
+0.60D					0.983	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.0 ft	1	0.028	0.046	1.60	0.983	1.00	1.00	1.00	1.00	1.00	1.83	127.99	4561.28	1.03	21.12	464.00
Length = 3.50 ft	2	0.101	0.103	1.60	0.983	1.00	1.00	1.00	1.00	1.00	6.57	459.93	4561.28	2.34	47.75	464.00
Length = 3.0 ft	3	0.101	0.103	1.60	0.983	1.00	1.00	1.00	1.00	1.00	6.57	459.93	4561.28	2.34	47.75	464.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.0208	3.025		0.0000	0.000
	2	0.0000	3.025	+D+S	-0.0148	2.088
+D+S	3	0.1277	3.000		0.0000	2.088

Vertical Reactions

Support notation : Far left is #1 — Values in KIPS

Load Combination	Support 1	Support 2	Support 3	Support 4
Overall MAXimum	5.735	0.536	26.296	
Overall MINimum	3.628	-0.301	17.281	
D Only	2.107	0.536	9.016	
+D+L	2.107	0.536	9.016	
+D+S	5.735	0.235	26.296	
+D+0.750L	2.107	0.536	9.016	
+D+0.750L+0.750S	4.828	0.310	21.976	
+0.60D	1.264	0.321	5.409	
L Only				

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Project Descr: HIESCO

Wood Beam

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Description : +Header at 2ND Floor corner GL 7, UtoW

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2	Support 3	Support 4
S Only	3.628	-0.301	17.281	

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Description : +Header at 2ND Floor corner GL W,6to7

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

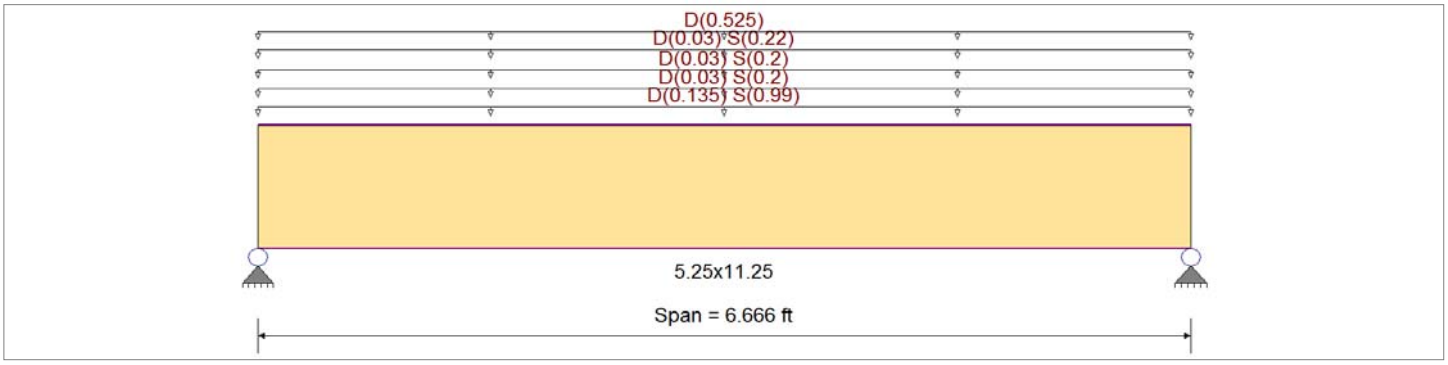
Wood Species : Trus Joist
Wood Grade : MicroLam LVL 2.0 E

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	2,600.0 psi
Fb -	2,600.0 psi
Fc - Prll	2,510.0 psi
Fc - Perp	750.0 psi
Fv	285.0 psi
Ft	1,555.0 psi

E : Modulus of Elasticity

Ebend- xx	2,000.0 ksi
Eminbend - xx	1,016.54 ksi
Density	42.0 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Uniform Load : D = 0.0150, S = 0.110 ksf, Tributary Width = 9.0 ft, (roof)
Uniform Load : D = 0.0150, S = 0.10 ksf, Tributary Width = 2.0 ft, (4th floor)
Uniform Load : D = 0.0150, S = 0.10 ksf, Tributary Width = 2.0 ft, (3rd floor)
Uniform Load : D = 0.0150, S = 0.110 ksf, Tributary Width = 2.0 ft, (2nd floor)
Uniform Load : D = 0.0150 ksf, Tributary Width = 35.0 ft, (wall)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.479 : 1	Maximum Shear Stress Ratio	=	0.444 : 1
Section used for this span		5.25x11.25	Section used for this span		5.25x11.25
fb : Actual	=	1,430.80 psi	fv : Actual	=	145.41 psi
FB : Allowable	=	2,990.00 psi	Fv : Allowable	=	327.75 psi
Load Combination		+D+S	Load Combination		+D+S
Location of maximum on span	=	3.333 ft	Location of maximum on span	=	5.742 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.058 in	Ratio =	1385 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.085 in	Ratio =	938 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	Max Stress Ratios V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	Moment Values fb	Moment Values F'b	Shear Values V	Shear Values fv	Shear Values F'v
D Only													0.00	0.00	0.00	0.00
Length = 6.666 ft	1	0.197	0.183	0.90	1.000	1.00	1.00	1.00	1.00	1.00	4.26	461.78	2340.00	1.85	46.93	256.50
+D+L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.666 ft	1	0.178	0.165	1.00	1.000	1.00	1.00	1.00	1.00	1.00	4.26	461.78	2600.00	1.85	46.93	285.00
+D+S					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.666 ft	1	0.479	0.444	1.15	1.000	1.00	1.00	1.00	1.00	1.00	13.20	1,430.80	2990.00	5.73	145.41	327.75

ABQ Engineering
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tele: 505.255.7802 fax: 505.255.7902

Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Beam

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Description : +Header at 2ND Floor corner GL W,6to7

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
+D+0.750L					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.666 ft	1	0.142	0.132	1.25	1.000	1.00	1.00	1.00	1.00	1.00	4.26	461.78	3250.00	1.85	46.93	356.25
+D+0.750L+0.750S					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.666 ft	1	0.398	0.369	1.15	1.000	1.00	1.00	1.00	1.00	1.00	10.97	1,188.55	2990.00	4.76	120.79	327.75
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 6.666 ft	1	0.067	0.062	1.60	1.000	1.00	1.00	1.00	1.00	1.00	2.56	277.07	4160.00	1.11	28.16	456.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.0853	3.357		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1 — Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	7.923	7.923
Overall MINimum	5.366	5.366
D Only	2.557	2.557
+D+L	2.557	2.557
+D+S	7.923	7.923
+D+0.750L	2.557	2.557
+D+0.750L+0.750S	6.582	6.582
+0.60D	1.534	1.534
L Only		
S Only	5.366	5.366

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Wood Beam

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Description : +Joists 2ND Floor J1

CODE REFERENCES

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design
Load Combination : IBC 2018

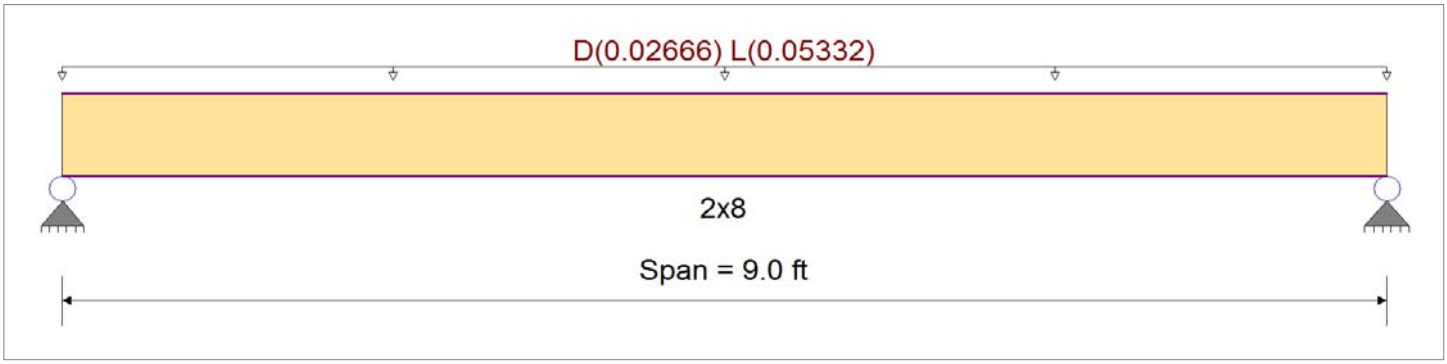
Wood Species : Spruce-Pine-Fir
Wood Grade : No. 1/No. 2

Beam Bracing : Beam is Fully Braced against lateral-torsional buckling

Fb +	875 psi
Fb -	875 psi
Fc - Prll	1150 psi
Fc - Perp	425 psi
Fv	135 psi
Ft	450 psi

E : Modulus of Elasticity

Ebend- xx	1400 ksi
Eminbend - xx	510 ksi
Density	26.21 pcf



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads
Uniform Load : D = 0.020, L = 0.040 ksf, Tributary Width = 1.333 ft, (floor)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.722 : 1	Maximum Shear Stress Ratio	=	0.327 : 1
Section used for this span		2x8	Section used for this span		2x8
fb : Actual	=	757.81 psi	fv : Actual	=	44.19 psi
FB : Allowable	=	1,050.00 psi	Fv : Allowable	=	135.00 psi
Load Combination		+D+L	Load Combination		+D+L
Location of maximum on span	=	4.500 ft	Location of maximum on span	=	8.409 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.119 in	Ratio =	909 >=360
Max Upward Transient Deflection	0.000 in	Ratio =	0 <360
Max Downward Total Deflection	0.182 in	Ratio =	591 >=180
Max Upward Total Deflection	0.000 in	Ratio =	0 <180

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	C_d	$C_{F/V}$	C_i	C_r	C_m	C_t	C_L	Moment Values M	fb	F'b	Shear Values V	fv	F'v
D Only													0.00	0.00	0.00	0.00
Length = 9.0 ft	1	0.280	0.127	0.90	1.200	1.00	1.00	1.00	1.00	1.00	0.29	264.80	945.00	0.11	15.44	121.50
+D+L					1.200	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 9.0 ft	1	0.722	0.327	1.00	1.200	1.00	1.00	1.00	1.00	1.00	0.83	757.81	1050.00	0.32	44.19	135.00
+D+0.750L					1.200	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 9.0 ft	1	0.483	0.219	1.25	1.200	1.00	1.00	1.00	1.00	1.00	0.69	634.56	1312.50	0.27	37.00	168.75
+0.60D					1.200	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 9.0 ft	1	0.095	0.043	1.60	1.200	1.00	1.00	1.00	1.00	1.00	0.17	158.88	1680.00	0.07	9.26	216.00

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Wood Beam

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Description : +Joists 2ND Floor J1

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+L	1	0.1825	4.533		0.0000	0.000

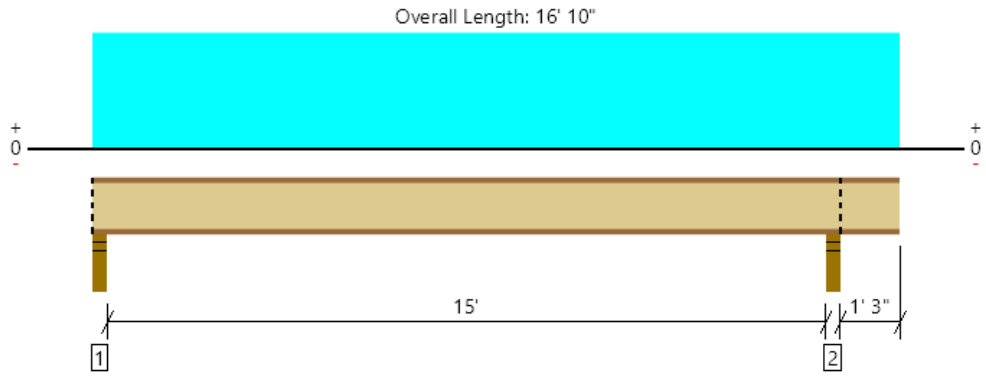
Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	0.369	0.369
Overall MINimum	0.240	0.240
D Only	0.129	0.129
+D+L	0.369	0.369
+D+0.750L	0.309	0.309
+0.60D	0.077	0.077
L Only	0.240	0.240

Level, Roof: Joist

1 piece(s) 11 7/8" TJI® 360 @ 16" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1194 @ 2 1/2"	1731 (3.50")	Passed (69%)	1.15	1.0 D + 1.0 S (Alt Spans)
Shear (lbs)	1149 @ 3 1/2"	1961	Passed (59%)	1.15	1.0 D + 1.0 S (Alt Spans)
Moment (Ft-lbs)	4403 @ 7' 9 7/16"	7107	Passed (62%)	1.15	1.0 D + 1.0 S (Alt Spans)
Live Load Defl. (in)	0.451 @ 7' 9 3/4"	0.508	Passed (L/405)	--	1.0 D + 1.0 S (Alt Spans)
Total Load Defl. (in)	0.518 @ 7' 9 3/4"	0.761	Passed (L/353)	--	1.0 D + 1.0 S (Alt Spans)

System : Roof
Member Type : Joist
Building Use : Residential
Building Code : IBC 2018
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/360) and TL (L/240).
- Overhang deflection criteria: LL (2L/360) and TL (2L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Factored	
1 - Stud wall - SPF	3.50"	3.50"	1.75"	155	1039	1194	Blocking
2 - Stud wall - SPF	3.50"	3.50"	3.50"	181	1210	1391	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	4' 5" o/c	
Bottom Edge (Lu)	9' 7" o/c	

•TJI joists are only analyzed using Maximum Allowable bracing solutions.
•Maximum allowable bracing intervals based on applied load.

Vertical Load	Location	Spacing	Dead (0.90)	Snow (1.15)	Comments
1 - Uniform (PSF)	0 to 16' 10"	16"	15.0	100.0	Default Load

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Craig Hagelgantz ABQ Engineering Inc. (505) 255-7802 chagelgantz@abqeng.com	Roof Joists over Main Entry / Bag Storage

Weyerhaeuser

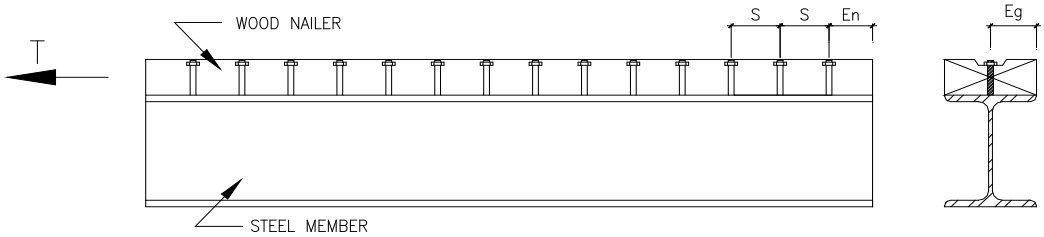
Nailer Connection Design Based on NDS 2001

INPUT DATA & DESIGN SUMMARY

AXIAL TENSILE FORCE (ASD)	T =	2.61	k
NUMBER OF STUDS	n =	29	
THREAD STUD DIAMETER	ϕ =	1/2	
THREAD STUD SPACING	S =	12	in
END DISTANCE OF WOOD	E_n =	4	in
NAILER TYPE (0=Douglas Fir-Larch, 1=Douglas Fir-Larch(N), 2=Hem-Fir(N), 3=Hem-Fir, 4=Spruce-Pine-Fir)		4	Spruce-Pine-Fir, G=0.42
NAILER SIZE	2 thk. x	6	width
SECTION AREA OF STEEL MEMBER	A_s =	11.8	in^2
LOAD DURATION FACTOR (Tab 2.3.2, NDS 2001, Page 9)	C_D =	1.6	
WET SERVICE FACTOR (Tab 10.3.3, NDS 2001, Page 59)	C_M =	1.0	
TEMPERATURE FACTOR (Tab 10.3.4, NDS 2001, Page 59)	C_t =	1.0	
GROUP ACTION FACTOR APPLY? (0 = No, 1 = Yes)		1	Yes, (C_g = 0.155 , NDS 2001, 10.3.6)

(If T is drag/collector force or stud spacing less than 12" o.c., the group action factor C_g must apply.)

THE CONNECTION DESIGN IS ADEQUATE.



ANALYSIS

CHECK EDGE, END, & SPACING DISTANCE REQUIREMENTS (NDS 2001, Table 11.5.1A, Table 11.5.1B, & Table 11.5.1C)

E_g =	2.75	in	>	1.5 D	[Satisfactory]
E_n =	4	in	>	3.5 D	[Satisfactory]
S =	12	in	>	3 D	[Satisfactory]

CHECK WOOD CAPACITY

C_Δ = Min ($C_{\Delta1}$, $C_{\Delta2}$, $C_{\Delta3}$) = 1.000 , (geometry factor, NDS 2001, 11.5.1, page 76)

where $C_{\Delta1}$ = (actual end distance) / (min end distance for full design value) = E_n / 7D = 1.000

$C_{\Delta2}$ = (actual shear area) / (min shear area for full design value) = 1.000

$C_{\Delta3}$ = (actual spacing) / (min spacing for full design value) = S / 4D = 6.000

$$C_g = \left[\frac{m\left(1-m^{2n}\right)}{n\left[\left(1+R_{EA}m^n\right)(1+m)-1+m^{2n}\right]} \right] \left[\frac{1+R_{EA}}{1-m} \right] = 0.155$$

, (group action factor, NDS 2001, 10.3.6, page 60)

where n = 29

E_sA_s = 3.4E+08 lbs

t_m = 1.5 in

E_mA_m = 1.2E+07 lbs, (E_m fr NDS, Tab.10.3.6C)

R_{EA} = Min [(E_sA_s/E_mA_m) , (E_mA_m/E_sA_s)] = 0.034

γ = 180000 $D^{1.5}$ = 63639.6

u = 1+γ S/2 [1 / E_mA_m + 1 / E_sA_s] = 1.034

m = u - $(u^2 - 1)^{0.5}$ = 0.771

Z'_{II} = n Z_{II} C_D C_M C_t C_g C_Δ = 4.108 kips > T [Satisfactory]

where Z_{II} = 570 lbs / stud, (interpolated from NDS 2001, Table 11E, Page 85)

Technical References:

1. "National Design Specification, NDS", 2001 Edition, AF&AP, AWC, 2001.
2. Alan Williams: "Structural Engineering Reference Manual", Professional Publications, Inc, 2001.

ABQ Engineering, Inc.

PROJECT :
CLIENT :
JOB NO. :
DATE :
PAGE :
DESIGN BY :
REVIEW BY :

Beam Connection Based on AISC Manual 13th Edition (AISC 360-05)

INPUT DATA & DESIGN SUMMARY

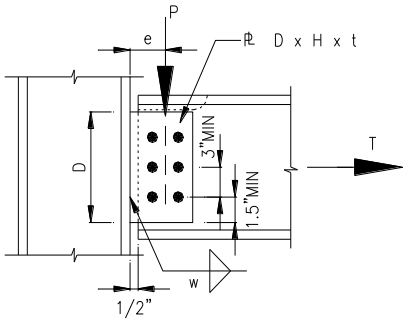
WF BEAM SECTION	= >	W21X57	
GRAVITY SERVICE LOAD	P =	46.3	kips
LATERAL TENSION LOAD, ASD	T =	2.32	kips
PLATE THICKNESS	t =	0.3125	in
PLATE STEEL YIELD STRESS	F_y =	36	ksi
TRIAL WELD SIZE	w =	0.25	in (1/4 in)
BOLT DIAMETER	ϕ =	0.75	in (3/4 in)
BOLT MATERIAL (A307, A325, A490)	ASTM =	A325	
HOLE TYPE (STD, NSL, OVS, SSL, LSL)	= >	STD	

STD = Standard round holes (d + 1/16 ")
NSL = Long or short-slotted hole normal to load direction
OVS = Oversize round holes
SSL = Short-slotted holes holes
LSL = Long-slotted holes

CONNECTION TYPE (SC, N, X)	= >	N	

SC = Slip critical connection
N = Bearing-type connection with threads included in the shear plane
X = Bearing-type connection with threads excluded from the shear plane

IS TOP FLANGE COPED ? (1=Yes, 0=No,)	= >	1	Yes



USE PLATE 15.0" x 3.5" x 5/16" WITH WELD 1/4" EACH SIDE TO COLUMN AND 1 ROW OF TOTAL (5) - 3/4" BOLTS AT BEAM END.

ANALYSIS

SECTION PROPERTIES (AISC 13th Table 1)

d	t_w	t_f
21.1	0.405	0.65

CHECK CAPACITY OF BOLTS (AISC 360-05 J3)

Allow shear per bolt	=	10.6	kips / bolt, (R_n / Ω_v, AISC 13th Table 7)					
(3/4 or 1.0) $(P^2 + T^2)^{0.5}$ =		35	kips					
No. of bolts required	=	4.4						
Bolt spacing required	=	2.25	in		Bolt spacing used	=	3.0	in
Edge spacing required	=	1.13	in		Edge spacing used	=	1.50	in, (Tab J3.4)
Bolt group capacity	=	53	kips	>	(3/4 or 1.0) $(P^2 + T^2)^{0.5}$ =	35	kips	
				>	P =	46	kips	[Satisfactory]

CHECK CAPACITY OF WELDING (AISC 360-05 J2)

e	=	2	in, (AISC 360-05, Table J3.4)			
Plate thickness	=	0.31	in			
Weld size,w	=	0.25	in			
Min allowable weld	=	0.19	in	[Satisfactory]		
Max allowable weld	=	0.25	in	[Satisfactory]		
t_e	=	0.18	in			
D	=	15.0	in			
I = 2 (t_e D^3 / 12)	=	99.4	in^4			
Vertical shear = P / A_w = P / 2 D t_e	=	8.7	ksi			
Bending stress = 0.5 P e D / I	=	7.0	ksi			
Tension stress = T / A_w = T / 2 D t_e	=	0.4	ksi			
Resultant Stress = 3/4 [$(P/A_w)^2$ + (0.5 P e D / I + T/A_w)^2]$^{0.5}$ =		8.6	ksi			
Resultant Stress = [$(P/A_w)^2$ + (0.5 P e D / I)^2]$^{0.5}$ =		11.2	ksi			
Allow shear F_w / Ω = (0.6 x 70 ksi) / 2.0 =	=	21.0	ksi	>	11.2	ksi [Satisfactory]

CHECK PLATE FOR SHEAR CAPACITY (AISC 365-05 G2)

P / A = 9.9 ksi < 0.6 F_y C_v / Ω_v = 0.6 F_y 1.0 / 1.5 = 14.4 ksi [Satisfactory]

CHECK PLATE FOR TENSION CAPACITY (AISC 365-05 D)

(3/4) T / A = 0.4 ksi < F_y / Ω_t = F_y / 1.67 = 21.56 ksi [Satisfactory]

CHECK NET SHEAR FRACTURE (AISC 360-05 J4.2)

F_u = 58 ksi (AISC Manual 13th Edition, Pg. 2-39)

P_{allow} = 0.6 F_u / Ω [D - n (d_s + 1/8)] t = 58 kips > 46.3 kips [Satisfactory]

CHECK NET TENSION FRACTURE (AISC 360-05 J4.1)

F_u = 58 ksi

T_{allow} = (4/3) F_u / Ω [D - n (d_s + 1/8)] t = 128 kips > 2.32 kips [Satisfactory]

CHECK BLOCK SHEAR (WEB TEAR-OUT, AISC 360-05 J4)
(Applies only if top flange is coped for P)

l_h = 1.1 in

l_v = 10.1 in

F_u = 65 ksi (for WF, AISC Manual 13th Edition, Pg. 2-39)

$R_{bs,P}$ = 0.6 A_v F_u / Ω + A_t F_u / Ω = (0.3 l_v + 0.5 l_h) t_w F_u = 95 kips

> P = 46.30 kips [Satisfactory]

$R_{bs,T}$ = 4/3 (0.5 l_v + 2 x 0.3 l_h) t_w F_u = 201 > T = 2 kips

[Satisfactory]

INPUT DATA & DESIGN SUMMARY

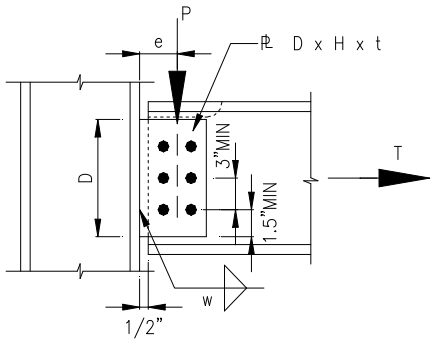
WF BEAM SECTION	= >	W18X60	
GRAVITY SERVICE LOAD	P =	40.56	kips
LATERAL TENSION LOAD, ASD	T =	0	kips
PLATE THICKNESS	t =	0.375	in
PLATE STEEL YIELD STRESS	F_y =	36	ksi
TRIAL WELD SIZE	w =	0.25	in (1/4 in)
BOLT DIAMETER	ϕ =	0.75	in (3/4 in)
BOLT MATERIAL (A307, A325, A490)	ASTM =	A325	
HOLE TYPE (STD, NSL, OVS, SSL, LSL)	= >	NSL	

STD = Standard round holes (d + 1/16 ")
NSL = Long or short-slotted hole normal to load direction
OVS = Oversize round holes
SSL = Short-slotted holes holes
LSL = Long-slotted holes

CONNECTION TYPE (SC, N, X)	= >	N	

SC = Slip critical connection
N = Bearing-type connection with threads included in the shear plane
X = Bearing-type connection with threads excluded from the shear plane

IS TOP FLANGE COPED ? (1=Yes, 0=No,)	= >	1	Yes



USE PLATE 12.0" x 3.5" x 3/8" WITH WELD 1/4" EACH SIDE TO COLUMN AND 1 ROW OF TOTAL (4) - 3/4" BOLTS AT BEAM END.

ANALYSIS

SECTION PROPERTIES (AISC 13th Table 1)

d	t_w	t_f
18.2	0.415	0.695

CHECK CAPACITY OF BOLTS (AISC 360-05 J3)

Allow shear per bolt = 10.6 kips / bolt, (R_n / Ω_v, AISC 13th Table 7)

(3/4 or 1.0) $(P^2 + T^2)^{0.5}$ = 41 kips

No. of bolts required	=	3.8					
Bolt spacing required	=	2.25	in	Bolt spacing used	=	3.0	in
Edge spacing required	=	1.13	in	Edge spacing used	=	1.50	in, (Tab J3.4)
Bolt group capacity	=	42	kips	> (3/4 or 1.0) $(P^2 + T^2)^{0.5}$	=	41	kips
				> P =	41	kips	[Satisfactory]

CHECK CAPACITY OF WELDING (AISC 360-05 J2)

e	=	2	in, (AISC 360-05, Table J3.4)	
Plate thickness	=	0.38	in	
Weld size,w	=	0.25	in	
Min allowable weld	=	0.19	in	[Satisfactory]
Max allowable weld	=	0.31	in	[Satisfactory]
t_e	=	0.18	in	
D	=	12.0	in	
$I = 2 (t_e D^3 / 12)$	=	50.9	in^4	
Vertical shear = $P / A_w = P / 2 D t_e$	=	9.6	ksi	
Bending stress = $0.5 P e D / I$	=	9.6	ksi	
Tension stress = $T / A_w = T / 2 D t_e$	=	0.0	ksi	
Resultant Stress = $3/4 [(P/A_w)^2 + (0.5 P e D / I + T/A_w)^2]^{0.5}$ =		10.1	ksi	
Resultant Stress = $[(P/A_w)^2 + (0.5 P e D / I)^2]^{0.5}$ =		13.5	ksi	
Allow shear F_w / Ω = (0.6 x 70 ksi) / 2.0 =	=	21.0	ksi	> 13.5 ksi [Satisfactory]

CHECK PLATE FOR SHEAR CAPACITY (AISC 365-05 G2)

P / A = 9.0 ksi < $0.6 F_y C_v / \Omega_v$ = $0.6 F_y$ 1.0 / 1.5 = 14.4 ksi [Satisfactory]

CHECK PLATE FOR TENSION CAPACITY (AISC 365-05 D)

(3/4) T / A = 0.0 ksi < $F_y / \Omega_t = F_y / 1.67$ = 21.56 ksi [Satisfactory]

CHECK NET SHEAR FRACTURE (AISC 360-05 J4.2)

F_u = 58 ksi (AISC Manual 13th Edition, Pg. 2-39)

$P_{allow} = 0.6 F_u / \Omega [D - n (d_s + 1/8)] t$ = 55 kips > 40.56 kips [Satisfactory]

CHECK NET TENSION FRACTURE (AISC 360-05 J4.1)

F_u = 58 ksi

$T_{allow} = (4/3) F_u / \Omega [D - n (d_s + 1/8)] t$ = 123 kips > 0 kips [Satisfactory]

CHECK BLOCK SHEAR (WEB TEAR-OUT, AISC 360-05 J4)
(Applies only if top flange is coped for P)

l_h = 1.1 in

l_v = 7.9 in

F_u = 65 ksi (for WF, AISC Manual 13th Edition, Pg. 2-39)

$R_{bs,P} = 0.6 A_v F_u / \Omega + A_t F_u / \Omega = (0.3 l_v + 0.5 l_h) t_w F_u$ = 79 kips

> P = 40.56 kips [Satisfactory]

$R_{bs,T} = 4/3 (0.5 l_v + 2 \times 0.3 l_h) t_w F_u$ = 166 > T = 0 kips [Satisfactory]

INPUT DATA & DESIGN SUMMARY

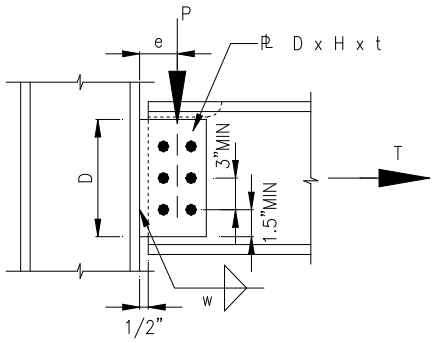
WF BEAM SECTION	= >	W12X35	
GRAVITY SERVICE LOAD	P =	13.34	kips
LATERAL TENSION LOAD, ASD	T =	0	kips
PLATE THICKNESS	t =	0.375	in
PLATE STEEL YIELD STRESS	F_y =	36	ksi
TRIAL WELD SIZE	w =	0.25	in (1/4 in)
BOLT DIAMETER	ϕ =	0.75	in (3/4 in)
BOLT MATERIAL (A307, A325, A490)	ASTM =	A325	
HOLE TYPE (STD, NSL, OVS, SSL, LSL)	= >	NSL	

STD = Standard round holes (d + 1/16 ")
NSL = Long or short-slotted hole normal to load direction
OVS = Oversize round holes
SSL = Short-slotted holes holes
LSL = Long-slotted holes

CONNECTION TYPE (SC, N, X)	= >	N	

SC = Slip critical connection
N = Bearing-type connection with threads included in the shear plane
X = Bearing-type connection with threads excluded from the shear plane

IS TOP FLANGE COPED ? (1=Yes, 0=No,)	= >	1	Yes



USE PLATE 6.0" x 3.5" x 3/8" WITH WELD 1/4" EACH SIDE TO COLUMN AND 1 ROW OF TOTAL (2) - 3/4" BOLTS AT BEAM END.

ANALYSIS

SECTION PROPERTIES (AISC 13th Table 1)

d	t_w	t_f
12.5	0.3	0.52

CHECK CAPACITY OF BOLTS (AISC 360-05 J3)

Allow shear per bolt	=	10.6	kips / bolt, (R_n / Ω_v, AISC 13th Table 7)					
(3/4 or 1.0) $(P^2 + T^2)^{0.5}$ =		13	kips					
No. of bolts required	=	1.3						
Bolt spacing required	=	2.25	in		Bolt spacing used	=	3.0	in
Edge spacing required	=	1.13	in		Edge spacing used	=	1.50	in, (Tab J3.4)
Bolt group capacity	=	21	kips	>	(3/4 or 1.0) $(P^2 + T^2)^{0.5}$ =	13	kips	
				>	P =	13	kips	[Satisfactory]

CHECK CAPACITY OF WELDING (AISC 360-05 J2)

e	=	2	in, (AISC 360-05, Table J3.4)				
Plate thickness	=	0.38	in				
Weld size,w	=	0.25	in				
Min allowable weld	=	0.19	in	[Satisfactory]			
Max allowable weld	=	0.31	in	[Satisfactory]			
t_e	=	0.18	in				
D	=	6.0	in				
I = 2 (t_e D^3 / 12)	=	6.4	in^4				
Vertical shear = P / A_w = P / 2 D t_e	=	6.3	ksi				
Bending stress = 0.5 P e D / I	=	12.6	ksi				
Tension stress = T / A_w = T / 2 D t_e	=	0.0	ksi				
Resultant Stress = 3/4 [$(P/A_w)^2$ + (0.5 P e D / I + T/A_w)^2]$^{0.5}$ =		10.5	ksi				
Resultant Stress = [$(P/A_w)^2$ + (0.5 P e D / I)^2]$^{0.5}$ =		14.1	ksi				
Allow shear F_w / Ω = (0.6 x 70 ksi) / 2.0 =	=	21.0	ksi	>	14.1	ksi	[Satisfactory]

CHECK PLATE FOR SHEAR CAPACITY (AISC 365-05 G2)

P / A =	5.9	ksi	<	0.6 F_y C_v / Ω_v = 0.6 F_y 1.0 / 1.5 =	14.4	ksi	[Satisfactory]	

CHECK PLATE FOR TENSION CAPACITY (AISC 365-05 D)

(3/4) T / A =	0.0	ksi	<	F_y / Ω_t = F_y / 1.67 =	21.56	ksi	[Satisfactory]

CHECK NET SHEAR FRACTURE (AISC 360-05 J4.2)

F_u	=	58	ksi (AISC Manual 13th Edition, Pg. 2-39)					
P_{allow} = 0.6 F_u / Ω [D - n (d_s + 1/8)] t	=	28	kips	>	13.34	kips	[Satisfactory]	

CHECK NET TENSION FRACTURE (AISC 360-05 J4.1)

F_u	=	58	ksi					
T_{allow} = (4/3) F_u / Ω [D - n (d_s + 1/8)] t	=	62	kips	>	0	kips	[Satisfactory]	

CHECK BLOCK SHEAR (WEB TEAR-OUT, AISC 360-05 J4)
(Applies only if top flange is coped for P)

l_h	=	1.1	in					
l_v	=	3.4	in					
F_u	=	65	ksi (for WF, AISC Manual 13th Edition, Pg. 2-39)					
$R_{bs,P}$ = 0.6 A_v F_u / Ω + A_t F_u / Ω = (0.3 l_v + 0.5 l_h) t_w F_u	=	31	kips					
				>	P =	13.34	kips	[Satisfactory]
$R_{bs,T}$ = 4/3 (0.5 l_v + 2 x 0.3 l_h) t_w F_u	=	61	>	T =	0	kips	[Satisfactory]	

ABQ Engineering, Inc.

PROJECT :
CLIENT :
JOB NO. :
DATE :
PAGE :
DESIGN BY :
REVIEW BY :

Beam Connection Based on AISC Manual 13th Edition (AISC 360-05)

INPUT DATA & DESIGN SUMMARY

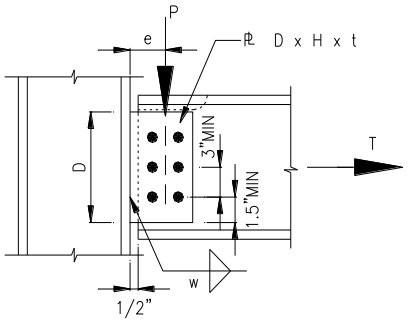
WF BEAM SECTION	= >	W10X30	
GRAVITY SERVICE LOAD	P =	20.1	kips
LATERAL TENSION LOAD, ASD	T =	2.32	kips
PLATE THICKNESS	t =	0.375	in
PLATE STEEL YIELD STRESS	F_y =	36	ksi
TRIAL WELD SIZE	w =	0.3125	in (5/16 in)
BOLT DIAMETER	ϕ =	0.75	in (3/4 in)
BOLT MATERIAL (A307, A325, A490)	$ASTM$ =	A325	
HOLE TYPE (STD, NSL, OVS, SSL, LSL)	= >	STD	

STD = Standard round holes (d + 1/16 ")
NSL = Long or short-slotted hole normal to load direction
OVS = Oversize round holes
SSL = Short-slotted holes holes
LSL = Long-slotted holes

CONNECTION TYPE (SC, N, X)	= >	N	

SC = Slip critical connection
N = Bearing-type connection with threads included in the shear plane
X = Bearing-type connection with threads excluded from the shear plane

IS TOP FLANGE COPED ? (1=Yes, 0=No,)	= >	1	Yes



USE PLATE 6.0" x 3.5" x 3/8" WITH WELD 5/16" EACH SIDE TO COLUMN AND 1 ROW OF TOTAL (2) - 3/4" BOLTS AT BEAM END.

ANALYSIS

SECTION PROPERTIES (AISC 13th Table 1)

d	t_w	t_f
10.5	0.3	0.51

CHECK CAPACITY OF BOLTS (AISC 360-05 J3)

Allow shear per bolt	=	10.6	kips / bolt, (R_n / Ω_v, AISC 13th Table 7)					
(3/4 or 1.0) $(P^2 + T^2)^{0.5}$ =		15	kips					
No. of bolts required	=	1.9						
Bolt spacing required	=	2.25	in		Bolt spacing used	=	3.0	in
Edge spacing required	=	1.13	in		Edge spacing used	=	1.50	in, (Tab J3.4)
Bolt group capacity	=	21	kips	>	(3/4 or 1.0) $(P^2 + T^2)^{0.5}$ =	15	kips	
				>	P =	20	kips	[Satisfactory]

CHECK CAPACITY OF WELDING (AISC 360-05 J2)

e	=	2	in, (AISC 360-05, Table J3.4)			
Plate thickness	=	0.38	in			
Weld size,w	=	0.31	in			
Min allowable weld	=	0.19	in	[Satisfactory]		
Max allowable weld	=	0.31	in	[Satisfactory]		
t_e	=	0.22	in			
D	=	6.0	in			
I = 2 (t_e D^3 / 12)	=	8.0	in^4			
Vertical shear = P / A_w = P / 2 D t_e	=	7.6	ksi			
Bending stress = 0.5 P e D / I	=	15.2	ksi			
Tension stress = T / A_w = T / 2 D t_e	=	0.9	ksi			
Resultant Stress = 3/4 [$(P/A_w)^2$ + (0.5 P e D / I + T/A_w)^2]$^{0.5}$ =		13.3	ksi			
Resultant Stress = [$(P/A_w)^2$ + (0.5 P e D / I)^2]$^{0.5}$ =		17.0	ksi			
Allow shear F_w / Ω = (0.6 x 70 ksi) / 2.0 =	=	21.0	ksi	>	17.0	ksi [Satisfactory]

CHECK PLATE FOR SHEAR CAPACITY (AISC 365-05 G2)

P / A = 8.9 ksi < 0.6 F_y C_v / Ω_v = 0.6 F_y 1.0 / 1.5 = 14.4 ksi [Satisfactory]

CHECK PLATE FOR TENSION CAPACITY (AISC 365-05 D)

(3/4) T / A = 0.8 ksi < F_y / Ω_t = F_y / 1.67 = 21.56 ksi [Satisfactory]

CHECK NET SHEAR FRACTURE (AISC 360-05 J4.2)

F_u = 58 ksi (AISC Manual 13th Edition, Pg. 2-39)

P_{allow} = 0.6 F_u / Ω [D - n (d_s + 1/8)] t = 28 kips > 20.1 kips [Satisfactory]

CHECK NET TENSION FRACTURE (AISC 360-05 J4.1)

F_u = 58 ksi

T_{allow} = (4/3) F_u / Ω [D - n (d_s + 1/8)] t = 62 kips > 2.32 kips [Satisfactory]

CHECK BLOCK SHEAR (WEB TEAR-OUT, AISC 360-05 J4)
(Applies only if top flange is coped for P)

l_h = 1.1 in

l_v = 3.4 in

F_u = 65 ksi (for WF, AISC Manual 13th Edition, Pg. 2-39)

$R_{bs,P}$ = 0.6 A_v F_u / Ω + A_t F_u / Ω = (0.3 l_v + 0.5 l_h) t_w F_u = 31 kips

> P = 20.10 kips [Satisfactory]

$R_{bs,T}$ = 4/3 (0.5 l_v + 2 x 0.3 l_h) t_w F_u = 61 > T = 2 kips

[Satisfactory]

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Column

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Description : -COLUMNS C1 (MAX AXIAL LOAD)

Code References

Calculations per AISC 360-10, IBC 2018, CBC 2016, ASCE 7-10
Load Combinations Used : IBC 2015

General Information

Steel Section Name : **HSS4x4x5/16**
Analysis Method : Allowable Strength
Steel Stress Grade
Fy : Steel Yield 46.0 ksi
E : Elastic Bending Modulus 29,000.0 ksi

Overall Column Height 14.0 ft
Top & Bottom Fixity Top & Bottom Pinned
Brace condition for deflection (buckling) along columns :
X-X (width) axis :
Unbraced Length for X-X Axis buckling = 13 ft, K = 1.0
Y-Y (depth) axis :
Unbraced Length for Y-Y Axis buckling = 13 ft, K = 1.0

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 207.620 lbs * Dead Load Factor
AXIAL LOADS . . .
Axial Load at 14.0 ft, D = 8.70, S = 39.60 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.8979** : 1
Load Combination +D+S
Location of max.above base 0.09396 ft
At maximum location values are . . .
Pa : Axial 48.508 k
Pn / Omega : Allowable 54.024 k
Ma-x : Applied 0.0 k-ft
Mn-x / Omega : Allowable 12.831 k-ft
Ma-y : Applied 0.0 k-ft
Mn-y / Omega : Allowable 12.831 k-ft

PASS Maximum Shear Stress Ratio = **0.0** : 1
Load Combination 0.0
Location of max.above base 0.0 ft
At maximum location values are . . .
Va : Applied 0.0 k
Vn / Omega : Allowable 0.0 k

Maximum Load Reactions . .
Top along X-X 0.0 k
Bottom along X-X 0.0 k
Top along Y-Y 0.0 k
Bottom along Y-Y 0.0 k

Maximum Load Deflections . . .
Along Y-Y 0.0 in at 0.0 ft above base
for load combination :
Along X-X 0.0 in at 0.0 ft above base
for load combination :

Load Combination Results

Load Combination	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Shear Ratios: Stress Ratio	Status	Location
D Only	0.165	PASS	0.00 ft	0.000	PASS	0.00 ft
+D+S	0.898	PASS	0.09 ft	0.000	PASS	0.00 ft
+D+0.750S	0.715	PASS	0.00 ft	0.000	PASS	0.00 ft
+0.60D	0.099	PASS	0.00 ft	0.000	PASS	0.00 ft

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	My - End Moments @ Base	My - End Moments @ Top
	k					k-ft			
D Only	8.908								
+D+S	48.508								
+D+0.750S	38.608								
+0.60D	5.345								
S Only	39.600								

Extreme Reactions

Item	Extreme Value	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	My - End Moments @ Base	My - End Moments @ Top
		k					k-ft			
Axial @ Base	Maximum	48.508								
"	Minimum	5.345								

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Column

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Description : -COLUMNS C1 (MAX AXIAL LOAD)

Extreme Reactions

Item	Extreme Value	Axial Reaction @ Base	X-X Axis Reaction @ Base	@ Top	k	Y-Y Axis Reaction @ Base	@ Top	Mx - End Moments @ Base	@ Top	k-ft	My - End Moments @ Base	@ Top
Reaction, X-X Axis Base	Maximum	8.908										
"	Minimum	8.908										
Reaction, Y-Y Axis Base	Maximum	8.908										
"	Minimum	8.908										
Reaction, X-X Axis Top	Maximum	8.908										
"	Minimum	8.908										
Reaction, Y-Y Axis Top	Maximum	8.908										
"	Minimum	8.908										
Moment, X-X Axis Base	Maximum	8.908										
"	Minimum	8.908										
Moment, Y-Y Axis Base	Maximum	8.908										
"	Minimum	8.908										
Moment, X-X Axis Top	Maximum	8.908										
"	Minimum	8.908										
Moment, Y-Y Axis Top	Maximum	8.908										
"	Minimum	8.908										

Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection		Distance		Max. Y-Y Deflection		Distance	
D Only	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+S	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+0.750S	0.0000	in	0.000	ft	0.000	in	0.000	ft
+0.60D	0.0000	in	0.000	ft	0.000	in	0.000	ft
S Only	0.0000	in	0.000	ft	0.000	in	0.000	ft

Steel Section Properties : HSS4x4x5/16

Depth	=	4.000	in	I xx	=	9.14	in^4	J	=	15.300 in^4
Design Thick	=	0.291	in	S xx	=	4.57	in^3			
Width	=	4.000	in	R xx	=	1.490	in			
Wall Thick	=	0.313	in	Zx	=	5.590	in^3			
Area	=	4.100	in^2	I yy	=	9.140	in^4	C	=	7.910 in^3
Weight	=	14.830	plf	S yy	=	4.570	in^3			
				R yy	=	1.490	in			

Ycg = 0.000 in

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Column

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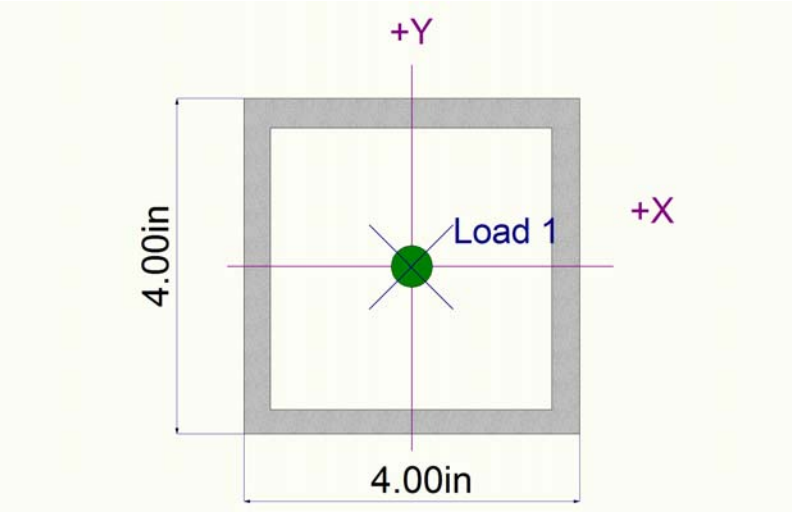
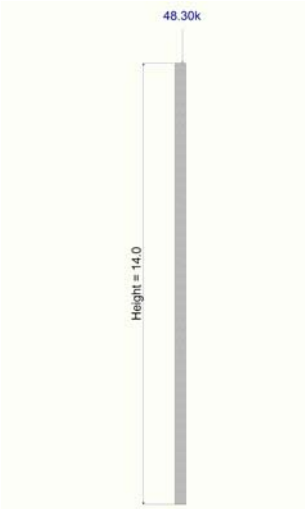
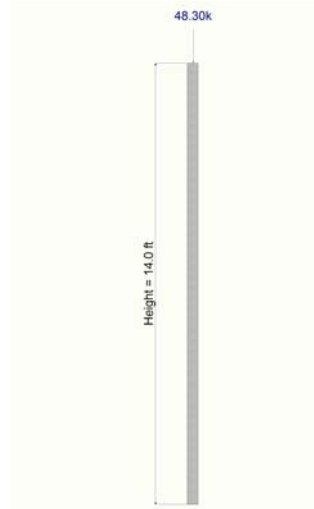
Description : -COLUMNS C1 (MAX AXIAL LOAD)

Sketches







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Engineer: James Craig Hagelegantz
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Steel Column

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Description : -COLUMNS C2 (MAX AXIAL LOAD)

Code References

Calculations per AISC 360-10, IBC 2018, CBC 2016, ASCE 7-10
Load Combinations Used : IBC 2015

General Information

Steel Section Name : **HSS3x3x5/16**
Analysis Method : Allowable Strength
Steel Stress Grade
Fy : Steel Yield 46.0 ksi
E : Elastic Bending Modulus 29,000.0 ksi

Overall Column Height 14.0 ft
Top & Bottom Fixity Top & Bottom Pinned
Brace condition for deflection (buckling) along columns :
X-X (width) axis :
Unbraced Length for X-X Axis buckling = 13 ft, K = 1.0
Y-Y (depth) axis :
Unbraced Length for Y-Y Axis buckling = 13 ft, K = 1.0

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 148.120 lbs * Dead Load Factor
AXIAL LOADS . . .
Axial Load at 14.0 ft, D = 6.0, S = 11.10 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.8144** : 1
Load Combination +D+S
Location of max.above base 0.09396 ft
At maximum location values are . . .
Pa : Axial 17.248 k
Pn / Omega : Allowable 21.180 k
Ma-x : Applied 0.0 k-ft
Mn-x / Omega : Allowable 6.657 k-ft
Ma-y : Applied 0.0 k-ft
Mn-y / Omega : Allowable 6.657 k-ft

PASS Maximum Shear Stress Ratio = **0.0** : 1
Load Combination 0.0
Location of max.above base 0.0 ft
At maximum location values are . . .
Va : Applied 0.0 k
Vn / Omega : Allowable 0.0 k

Maximum Load Reactions . .
Top along X-X 0.0 k
Bottom along X-X 0.0 k
Top along Y-Y 0.0 k
Bottom along Y-Y 0.0 k

Maximum Load Deflections . . .
Along Y-Y 0.0 in at 0.0 ft above base
for load combination :
Along X-X 0.0 in at 0.0 ft above base
for load combination :

Load Combination Results

Load Combination	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Shear Ratios: Stress Ratio	Status	Location
D Only	0.290	PASS	0.00 ft	0.000	PASS	0.00 ft
+D+S	0.814	PASS	0.09 ft	0.000	PASS	0.00 ft
+D+0.750S	0.683	PASS	0.00 ft	0.000	PASS	0.00 ft
+0.60D	0.174	PASS	0.00 ft	0.000	PASS	0.00 ft

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	My - End Moments @ Base	My - End Moments @ Top
	k					k-ft			
D Only	6.148								
+D+S	17.248								
+D+0.750S	14.473								
+0.60D	3.689								
S Only	11.100								

Extreme Reactions

Item	Extreme Value	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	My - End Moments @ Base	My - End Moments @ Top
		k					k-ft			
Axial @ Base	Maximum	17.248								
"	Minimum	3.689								

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Column

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Description : -COLUMNS C2 (MAX AXIAL LOAD)

Extreme Reactions

Item	Extreme Value	Axial Reaction @ Base	X-X Axis Reaction @ Base	@ Top	k	Y-Y Axis Reaction @ Base	@ Top	Mx - End Moments @ Base	@ Top	k-ft	My - End Moments @ Base	@ Top
Reaction, X-X Axis Base	Maximum	6.148										
"	Minimum	6.148										
Reaction, Y-Y Axis Base	Maximum	6.148										
"	Minimum	6.148										
Reaction, X-X Axis Top	Maximum	6.148										
"	Minimum	6.148										
Reaction, Y-Y Axis Top	Maximum	6.148										
"	Minimum	6.148										
Moment, X-X Axis Base	Maximum	6.148										
"	Minimum	6.148										
Moment, Y-Y Axis Base	Maximum	6.148										
"	Minimum	6.148										
Moment, X-X Axis Top	Maximum	6.148										
"	Minimum	6.148										
Moment, Y-Y Axis Top	Maximum	6.148										
"	Minimum	6.148										

Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection		Distance		Max. Y-Y Deflection		Distance	
D Only	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+S	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+0.750S	0.0000	in	0.000	ft	0.000	in	0.000	ft
+0.60D	0.0000	in	0.000	ft	0.000	in	0.000	ft
S Only	0.0000	in	0.000	ft	0.000	in	0.000	ft

Steel Section Properties : HSS3x3x5/16

Depth	=	3.000	in	I xx	=	3.45	in^4	J	=	5.940 in^4
Design Thick	=	0.291	in	S xx	=	2.30	in^3			
Width	=	3.000	in	R xx	=	1.080	in			
Wall Thick	=	0.313	in	Zx	=	2.900	in^3			
Area	=	2.940	in^2	I yy	=	3.450	in^4	C	=	4.180 in^3
Weight	=	10.580	plf	S yy	=	2.300	in^3			
				R yy	=	1.080	in			

Ycg = 0.000 in

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

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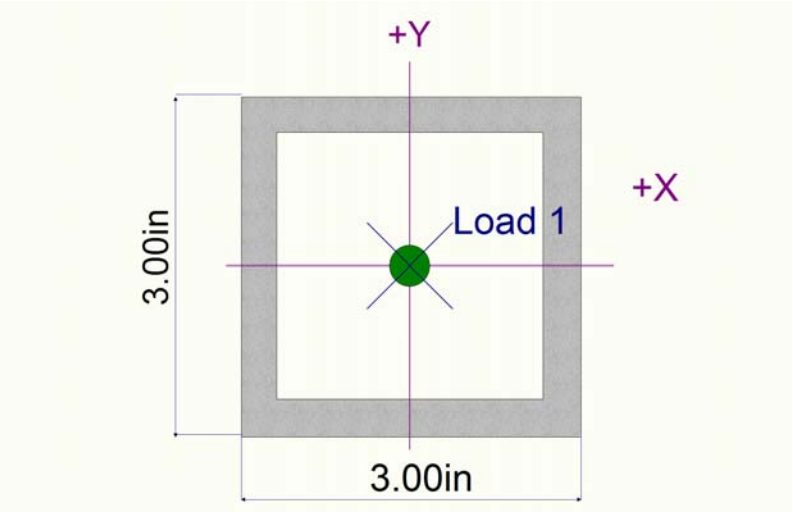
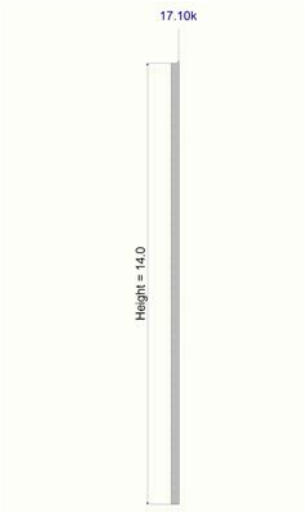
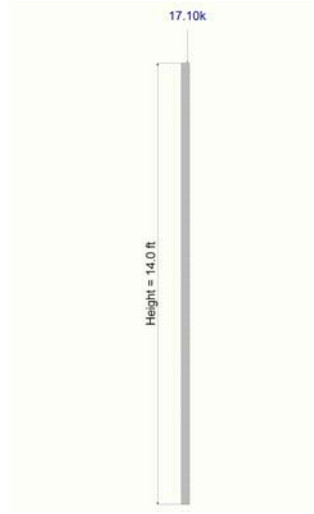
Description : -COLUMNS C2 (MAX AXIAL LOAD)

Sketches







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Project Title: Holiday Inn Express
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Project Descr: HIESCO

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Description : -COLUMNS C3 (MAX AXIAL LOAD)

Code References

Calculations per AISC 360-10, IBC 2018, CBC 2016, ASCE 7-10
Load Combinations Used : IBC 2018

General Information

Steel Section Name : **HSS6x6x5/16**
Analysis Method : Allowable Strength
Steel Stress Grade
Fy : Steel Yield 46.0 ksi
E : Elastic Bending Modulus 29,000.0 ksi

Overall Column Height 13.0 ft
Top & Bottom Fixity Top & Bottom Pinned
Brace condition for deflection (buckling) along columns :
X-X (width) axis :
Unbraced Length for X-X Axis buckling = 10 ft, K = 1.0
Y-Y (depth) axis :
Unbraced Length for Y-Y Axis buckling = 10 ft, K = 1.0

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 303.420 lbs * Dead Load Factor
AXIAL LOADS . . .
Axial Load at 13.0 ft, D = 15.0, S = 27.750 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.2915** : 1
Load Combination +D+S
Location of max.above base 0.08725 ft
At maximum location values are . . .
Pa : Axial 43.053 k
Pn / Omega : Allowable 147.712 k
Ma-x : Applied 0.0 k-ft
Mn-x / Omega : Allowable 31.218 k-ft
Ma-y : Applied 0.0 k-ft
Mn-y / Omega : Allowable 31.218 k-ft

PASS Maximum Shear Stress Ratio = **0.0** : 1
Load Combination 0.0
Location of max.above base 0.0 ft
At maximum location values are . . .
Va : Applied 0.0 k
Vn / Omega : Allowable 0.0 k

Maximum Load Reactions . .
Top along X-X 0.0 k
Bottom along X-X 0.0 k
Top along Y-Y 0.0 k
Bottom along Y-Y 0.0 k

Maximum Load Deflections . . .
Along Y-Y 0.0 in at 0.0 ft above base
for load combination :
Along X-X 0.0 in at 0.0 ft above base
for load combination :

Load Combination Results

Load Combination	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Shear Ratios: Stress Ratio	Status	Location
D Only	0.104	PASS	0.00 ft	0.000	PASS	0.00 ft
+D+S	0.291	PASS	0.09 ft	0.000	PASS	0.00 ft
+D+0.750S	0.245	PASS	0.00 ft	0.000	PASS	0.00 ft
+0.60D	0.062	PASS	0.00 ft	0.000	PASS	0.00 ft

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	My - End Moments @ Base	My - End Moments @ Top
	k					k-ft			
D Only	15.303								
+D+S	43.053								
+D+0.750S	36.116								
+0.60D	9.182								
S Only	27.750								

Extreme Reactions

Item	Extreme Value	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	My - End Moments @ Base	My - End Moments @ Top
		k					k-ft			
Axial @ Base	Maximum	43.053								
"	Minimum	9.182								

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Column

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Description : -COLUMNS C3 (MAX AXIAL LOAD)

Extreme Reactions

Item	Extreme Value	Axial Reaction @ Base	X-X Axis Reaction @ Base	@ Top	k	Y-Y Axis Reaction @ Base	@ Top	Mx - End Moments @ Base	@ Top	k-ft	My - End Moments @ Base	@ Top
Reaction, X-X Axis Base	Maximum	15.303										
"	Minimum	15.303										
Reaction, Y-Y Axis Base	Maximum	15.303										
"	Minimum	15.303										
Reaction, X-X Axis Top	Maximum	15.303										
"	Minimum	15.303										
Reaction, Y-Y Axis Top	Maximum	15.303										
"	Minimum	15.303										
Moment, X-X Axis Base	Maximum	15.303										
"	Minimum	15.303										
Moment, Y-Y Axis Base	Maximum	15.303										
"	Minimum	15.303										
Moment, X-X Axis Top	Maximum	15.303										
"	Minimum	15.303										
Moment, Y-Y Axis Top	Maximum	15.303										
"	Minimum	15.303										

Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection		Distance		Max. Y-Y Deflection		Distance	
D Only	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+S	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+0.750S	0.0000	in	0.000	ft	0.000	in	0.000	ft
+0.60D	0.0000	in	0.000	ft	0.000	in	0.000	ft
S Only	0.0000	in	0.000	ft	0.000	in	0.000	ft

Steel Section Properties : HSS6x6x5/16

Depth	=	6.000	in	I xx	=	34.30	in^4	J	=	55.400 in^4
Design Thick	=	0.291	in	S xx	=	11.40	in^3			
Width	=	6.000	in	R xx	=	2.310	in			
Wall Thick	=	0.313	in	Zx	=	13.600	in^3			
Area	=	6.430	in^2	I yy	=	34.300	in^4	C	=	18.900 in^3
Weight	=	23.340	plf	S yy	=	11.400	in^3			
				R yy	=	2.310	in			
Ycg	=	0.000	in							

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Column

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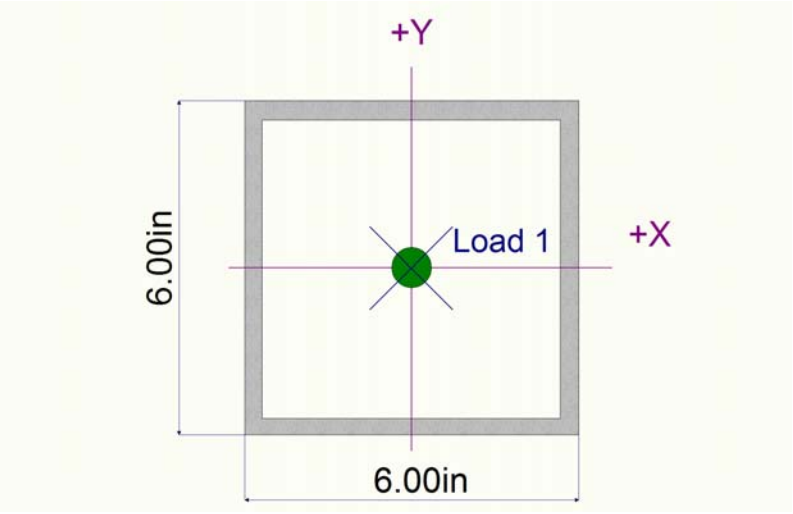
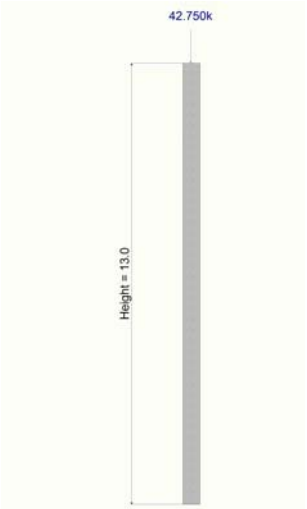
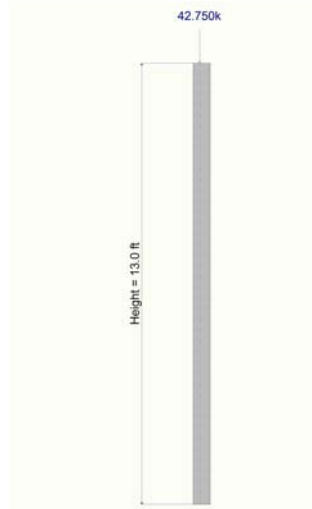
Description : -COLUMNS C3 (MAX AXIAL LOAD)

Sketches







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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Column

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Description : -COLUMNS C5 (MAX AXIAL LOAD)

Code References

Calculations per AISC 360-10, IBC 2018, CBC 2016, ASCE 7-10
Load Combinations Used : IBC 2018

General Information

Steel Section Name : **HSS5x5x5/16**
Analysis Method : Allowable Strength
Steel Stress Grade
Fy : Steel Yield 46.0 ksi
E : Elastic Bending Modulus 29,000.0 ksi

Overall Column Height 14.0 ft
Top & Bottom Fixity Top & Bottom Pinned
Brace condition for deflection (buckling) along columns :
X-X (width) axis :
Unbraced Length for X-X Axis buckling = 13 ft, K = 1.0
Y-Y (depth) axis :
Unbraced Length for Y-Y Axis buckling = 13 ft, K = 1.0

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 267.120 lbs * Dead Load Factor
AXIAL LOADS . . .
Axial Load at 14.0 ft, D = 12.250, S = 52.20 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.7030** : 1
Load Combination +D+S
Location of max.above base 0.09396 ft
At maximum location values are . . .
Pa : Axial 64.717 k
Pn / Omega : Allowable 92.063 k
Ma-x : Applied 0.0 k-ft
Mn-x / Omega : Allowable 21.026 k-ft
Ma-y : Applied 0.0 k-ft
Mn-y / Omega : Allowable 21.026 k-ft

PASS Maximum Shear Stress Ratio = **0.0** : 1
Load Combination 0.0
Location of max.above base 0.0 ft
At maximum location values are . . .
Va : Applied 0.0 k
Vn / Omega : Allowable 0.0 k

Maximum Load Reactions . .
Top along X-X 0.0 k
Bottom along X-X 0.0 k
Top along Y-Y 0.0 k
Bottom along Y-Y 0.0 k

Maximum Load Deflections . . .
Along Y-Y 0.0 in at 0.0 ft above base
for load combination :
Along X-X 0.0 in at 0.0 ft above base
for load combination :

Load Combination Results

Load Combination	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Shear Ratios: Stress Ratio	Status	Location
D Only	0.136	PASS	0.00 ft	0.000	PASS	0.00 ft
+D+S	0.703	PASS	0.09 ft	0.000	PASS	0.00 ft
+D+0.750S	0.561	PASS	0.00 ft	0.000	PASS	0.00 ft
+0.60D	0.082	PASS	0.00 ft	0.000	PASS	0.00 ft

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	My - End Moments @ Base	My - End Moments @ Top
	k					k-ft			
D Only	12.517								
+D+S	64.717								
+D+0.750S	51.667								
+0.60D	7.510								
S Only	52.200								

Extreme Reactions

Item	Extreme Value	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	My - End Moments @ Base	My - End Moments @ Top
		k					k-ft			
Axial @ Base	Maximum	64.717								
"	Minimum	7.510								

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Column

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Description : -COLUMNS C5 (MAX AXIAL LOAD)

Extreme Reactions

Item	Extreme Value	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	k	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	k-ft	My - End Moments @ Base	My - End Moments @ Top
Reaction, X-X Axis Base	Maximum	12.517										
"	Minimum	12.517										
Reaction, Y-Y Axis Base	Maximum	12.517										
"	Minimum	12.517										
Reaction, X-X Axis Top	Maximum	12.517										
"	Minimum	12.517										
Reaction, Y-Y Axis Top	Maximum	12.517										
"	Minimum	12.517										
Moment, X-X Axis Base	Maximum	12.517										
"	Minimum	12.517										
Moment, Y-Y Axis Base	Maximum	12.517										
"	Minimum	12.517										
Moment, X-X Axis Top	Maximum	12.517										
"	Minimum	12.517										
Moment, Y-Y Axis Top	Maximum	12.517										
"	Minimum	12.517										

Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection		Distance		Max. Y-Y Deflection		Distance	
D Only	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+S	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+0.750S	0.0000	in	0.000	ft	0.000	in	0.000	ft
+0.60D	0.0000	in	0.000	ft	0.000	in	0.000	ft
S Only	0.0000	in	0.000	ft	0.000	in	0.000	ft

Steel Section Properties : HSS5x5x5/16

Depth	=	5.000	in	I xx	=	19.00	in^4	J	=	31.200 in^4
Design Thick	=	0.291	in	S xx	=	7.62	in^3			
Width	=	5.000	in	R xx	=	1.900	in			
Wall Thick	=	0.313	in	Zx	=	9.160	in^3			
Area	=	5.260	in^2	I yy	=	19.000	in^4	C	=	12.800 in^3
Weight	=	19.080	plf	S yy	=	7.620	in^3			
				R yy	=	1.900	in			

Ycg = 0.000 in

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Column

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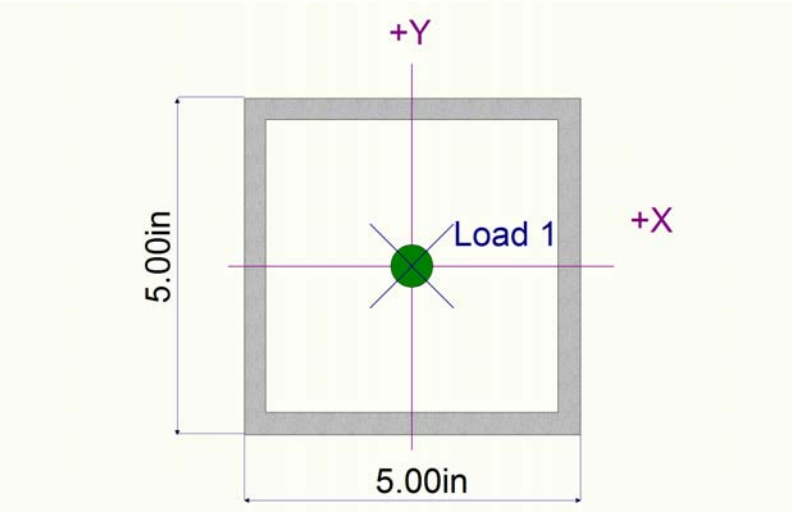
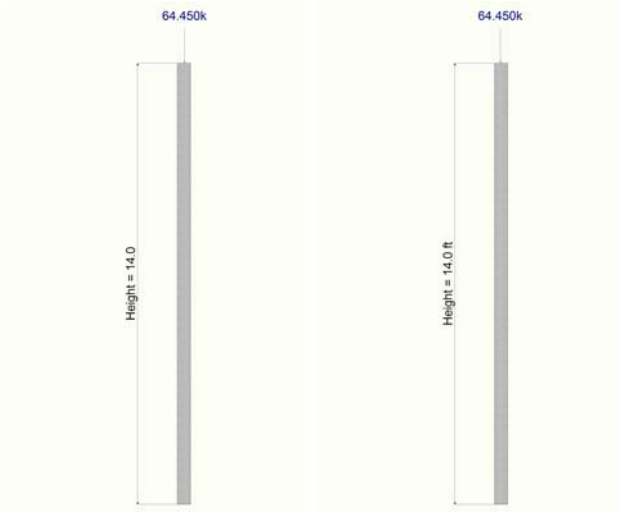
Description : -COLUMNS C5 (MAX AXIAL LOAD)

Sketches





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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Column

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Description : -COLUMNS C6 (MAX AXIAL LOAD)

Code References

Calculations per AISC 360-10, IBC 2018, CBC 2016, ASCE 7-10
Load Combinations Used : IBC 2018

General Information

Steel Section Name : **HSS8x4x3/8**
Analysis Method : Allowable Strength
Steel Stress Grade
Fy : Steel Yield 46.0 ksi
E : Elastic Bending Modulus 29,000.0 ksi

Overall Column Height 14.0 ft
Top & Bottom Fixity Top & Bottom Pinned
Brace condition for deflection (buckling) along columns :
X-X (width) axis :
Unbraced Length for X-X Axis buckling = 13 ft, K = 1.0
Y-Y (depth) axis :
Unbraced Length for Y-Y Axis buckling = 13 ft, K = 1.0

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 384.720 lbs * Dead Load Factor
AXIAL LOADS . . .
Axial Load at 14.0 ft, D = 18.340, S = 86.90 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.9513** : 1
Load Combination +D+S
Location of max.above base 0.09396 ft
At maximum location values are . . .
Pa : Axial 105.625 k
Pn / Omega : Allowable 111.028 k
Ma-x : Applied 0.0 k-ft
Mn-x / Omega : Allowable 43.154 k-ft
Ma-y : Applied 0.0 k-ft
Mn-y / Omega : Allowable 26.397 k-ft

PASS Maximum Shear Stress Ratio = **0.0** : 1
Load Combination 0.0
Location of max.above base 0.0 ft
At maximum location values are . . .
Va : Applied 0.0 k
Vn / Omega : Allowable 0.0 k

Maximum Load Reactions . .
Top along X-X 0.0 k
Bottom along X-X 0.0 k
Top along Y-Y 0.0 k
Bottom along Y-Y 0.0 k

Maximum Load Deflections . . .
Along Y-Y 0.0 in at 0.0 ft above base
for load combination :
Along X-X 0.0 in at 0.0 ft above base
for load combination :

Load Combination Results

Load Combination	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Shear Ratios: Stress Ratio	Status	Location
D Only	0.169	PASS	0.00 ft	0.000	PASS	0.00 ft
+D+S	0.951	PASS	0.09 ft	0.000	PASS	0.00 ft
+D+0.750S	0.756	PASS	0.00 ft	0.000	PASS	0.00 ft
+0.60D	0.101	PASS	0.00 ft	0.000	PASS	0.00 ft

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	My - End Moments @ Base	My - End Moments @ Top
	k					k-ft			
D Only	18.725								
+D+S	105.625								
+D+0.750S	83.900								
+0.60D	11.235								
S Only	86.900								

Extreme Reactions

Item	Extreme Value	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	My - End Moments @ Base	My - End Moments @ Top
		k					k-ft			
Axial @ Base	Maximum	105.625								
"	Minimum	11.235								

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Description : -COLUMNS C6 (MAX AXIAL LOAD)

Extreme Reactions

Item	Extreme Value	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	k	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	k-ft	My - End Moments @ Base	My - End Moments @ Top
Reaction, X-X Axis Base	Maximum	18.725										
"	Minimum	18.725										
Reaction, Y-Y Axis Base	Maximum	18.725										
"	Minimum	18.725										
Reaction, X-X Axis Top	Maximum	18.725										
"	Minimum	18.725										
Reaction, Y-Y Axis Top	Maximum	18.725										
"	Minimum	18.725										
Moment, X-X Axis Base	Maximum	18.725										
"	Minimum	18.725										
Moment, Y-Y Axis Base	Maximum	18.725										
"	Minimum	18.725										
Moment, X-X Axis Top	Maximum	18.725										
"	Minimum	18.725										
Moment, Y-Y Axis Top	Maximum	18.725										
"	Minimum	18.725										

Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection		Distance		Max. Y-Y Deflection		Distance	
D Only	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+S	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+0.750S	0.0000	in	0.000	ft	0.000	in	0.000	ft
+0.60D	0.0000	in	0.000	ft	0.000	in	0.000	ft
S Only	0.0000	in	0.000	ft	0.000	in	0.000	ft

Steel Section Properties : HSS8x4x3/8

Depth	=	8.000	in	I xx	=	58.70	in^4	J	=	49.300 in^4
Design Thick	=	0.349	in	S xx	=	14.70	in^3	Cw	=	19.30 in^6
Width	=	4.000	in	R xx	=	2.780	in			
Wall Thick	=	0.375	in	Zx	=	18.800	in^3			
Area	=	7.580	in^2	I yy	=	19.600	in^4	C	=	19.300 in^3
Weight	=	27.480	plf	S yy	=	9.800	in^3			
				R yy	=	1.610	in			
				Zy	=	11.500	in^3			
Ycg	=	0.000	in							

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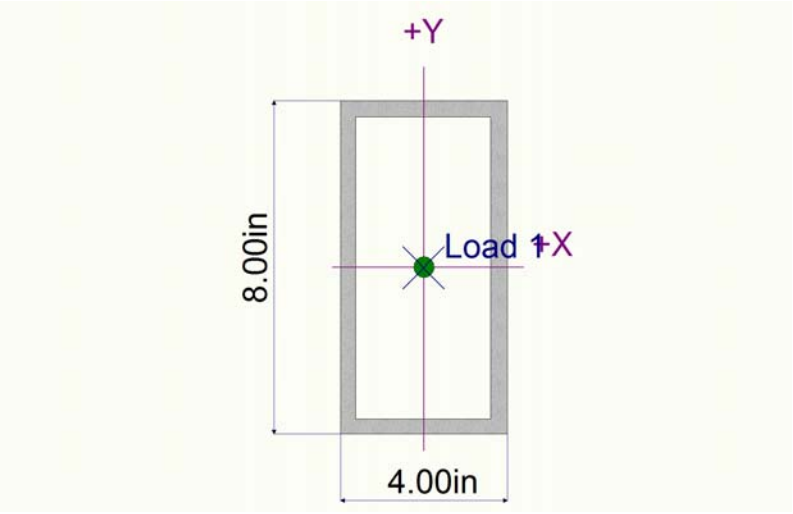
Description : -COLUMNS C6 (MAX AXIAL LOAD)

Sketches



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Wood Column

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Description : -Post at Elevator Door Opening 2nd,3rd &4th floors

Code References

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combinations Used : IBC 2018

General Information

Analysis Method : Allowable Stress Design
End Fixities : Top & Bottom Pinned
Overall Column Height : 8.0 ft
(Used for non-slender calculations)
Wood Species : Spruce - Pine - Fir
Wood Grade : No. 1/No. 2

Fb +	875.0 psi	Fv	135.0 psi
Fb -	875.0 psi	Ft	450.0 psi
Fc - Prll	1,150.0 psi	Density	26.210 pcf
Fc - Perp	425.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,400.0	1,400.0	1,400.0 ksi
Minimum	510.0	510.0	

Wood Section Name : **3-2x6**
Wood Grading/Manuf. : Graded Lumber
Wood Member Type : Sawn

Exact Width	**4.50**	in
Exact Depth	**5.50**	in
Area	24.750	in^2
Ix	62.391	in^4
Iy	41.766	in^4

Allow Stress Modification Factors

Cf or Cv for Bending	1.30
Cf or Cv for Compression	1.10
Cf or Cv for Tension	1.30
Cm : Wet Use Factor	1.0
Ct : Temperature Factor	1.0
Cfu : Flat Use Factor	1.0
Kf : Built-up columns	1.0 NDS 15.3.2
Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Unbraced Length for X-X Axis buckling = 8 ft, K = 1.0
Y-Y (depth) axis : Unbraced Length for Y-Y Axis buckling = 8 ft, K = 1.0

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 36.039 lbs * Dead Load Factor
AXIAL LOADS . . .
Axial Load at 8.0 ft, Xecc = 0.750 in, D = 0.7110, L = 0.1592, S = 0.660 k
Axial Load at 8.0 ft, Xecc = 0.750 in, D = 0.8223, Lr = 3.784 k
Axial Load at 8.0 ft, Xecc = 0.750 in, D = 0.8223, Lr = 3.784 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.7683** : 1
Load Combination +D+Lr
Governing NDS Forumla Comp + Myy, NDS Eq. 3.9-3
Location of max.above base 8.0 ft
At maximum location values are . . .
Applied Axial 9.924 k
Applied Mx 0.0 k-ft
Applied My -0.6202 k-ft
Fc : Allowable 773.18 psi

PASS Maximum Shear Stress Ratio = **0.02784** : 1
Load Combination +D+Lr
Location of max.above base 8.0 ft
Applied Design Shear 4.699 psi
Allowable Shear 168.750 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.0 k	Bottom along Y-Y	0.0 k
Top along X-X	0.0 k	Bottom along X-X	0.0 k

Maximum SERVICE Load Lateral Deflections . . .
Along Y-Y 0.0 in at 0.0 ft above base
for load combination : n/a
Along X-X -0.07591 in at 4.671 ft above base
for load combination : +D+Lr

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Load Combination Results

Load Combination	C_D	C_P	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Shear Ratios: Stress Ratio	Status	Location
D Only	0.900	0.614	0.1383	PASS	0.0 ft	0.009180	PASS	8.0 ft
+D+L	1.000	0.574	0.1420	PASS	0.0 ft	0.008820	PASS	8.0 ft
+D+Lr	1.250	0.489	0.7683	PASS	8.0 ft	0.02784	PASS	8.0 ft
+D+S	1.150	0.520	0.1629	PASS	0.0 ft	0.009197	PASS	8.0 ft
+D+0.750Lr+0.750L	1.250	0.489	0.5420	PASS	7.946 ft	0.02287	PASS	8.0 ft
+D+0.750L+0.750S	1.150	0.520	0.1605	PASS	0.0 ft	0.009058	PASS	8.0 ft
+0.60D	1.600	0.401	0.07138	PASS	0.0 ft	0.003098	PASS	8.0 ft

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Wood Column

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Description : -Post at Elevator Door Opening 2nd,3rd &4th floors

Maximum Reactions

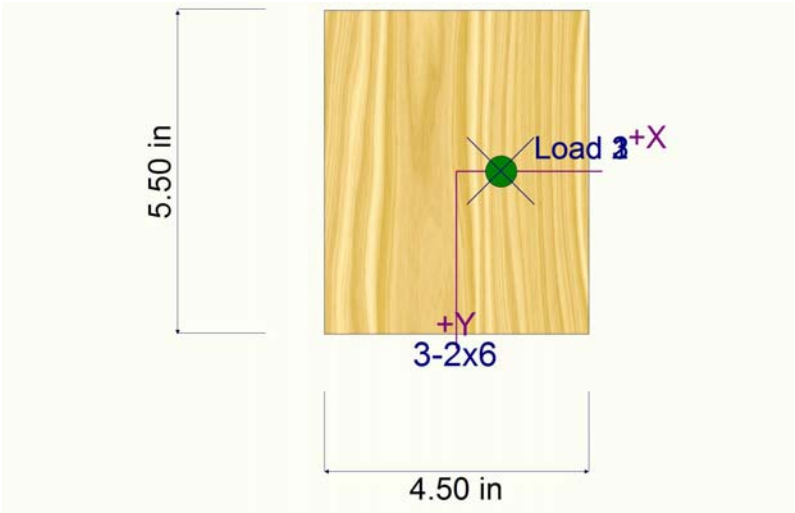
Note: Only non-zero reactions are listed.

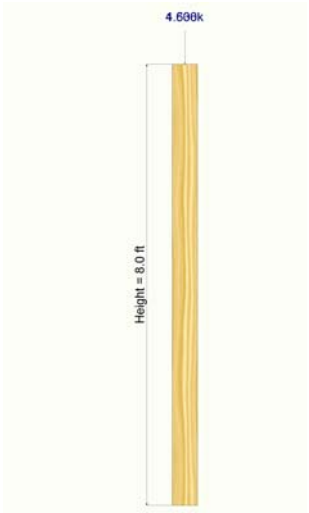
Load Combination	X-X Axis Reaction @ Base	@ Top	k	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments @ Base	@ Top	k-ft	Mx - End Moments @ Base	@ Top
D Only	-0.018	0.018				2.392					
+D+L	-0.020	0.020				2.551					
+D+Lr	-0.078	0.078				9.960					
+D+S	-0.024	0.024				3.052					
+D+0.750Lr+0.750L	-0.064	0.064				8.187					
+D+0.750L+0.750S	-0.023	0.023				3.006					
+0.60D	-0.011	0.011				1.435					
Lr Only	-0.059	0.059				7.568					
L Only	-0.001	0.001				0.159					
S Only	-0.005	0.005				0.660					

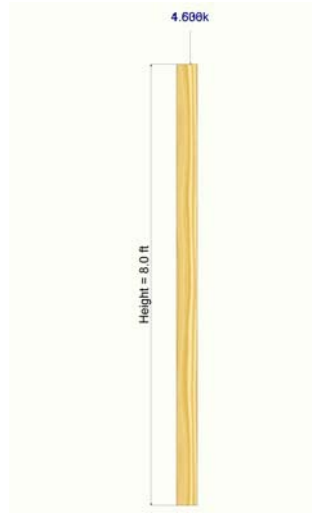
Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection	Distance	Max. Y-Y Deflection	Distance
D Only	-0.0180 in	4.671 ft	0.000 in	0.000 ft
+D+L	-0.0192 in	4.671 ft	0.000 in	0.000 ft
+D+Lr	-0.0759 in	4.671 ft	0.000 in	0.000 ft
+D+S	-0.0231 in	4.671 ft	0.000 in	0.000 ft
+D+0.750Lr+0.750L	-0.0623 in	4.671 ft	0.000 in	0.000 ft
+D+0.750L+0.750S	-0.0227 in	4.671 ft	0.000 in	0.000 ft
+0.60D	-0.0108 in	4.671 ft	0.000 in	0.000 ft
Lr Only	-0.0579 in	4.671 ft	0.000 in	0.000 ft
L Only	-0.0012 in	4.671 ft	0.000 in	0.000 ft
S Only	-0.0050 in	4.671 ft	0.000 in	0.000 ft

Sketches







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Wood Column

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Description : Post at Elevator Door Opening Ground floors

Code References

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combinations Used : IBC 2018

General Information

Analysis Method : Allowable Stress Design
End Fixities : Top & Bottom Pinned
Overall Column Height : 8.0 ft
(Used for non-slender calculations)
Wood Species : Spruce - Pine - Fir
Wood Grade : No. 1/No. 2

Fb +	875.0 psi	Fv	135.0 psi
Fb -	875.0 psi	Ft	450.0 psi
Fc - Prll	1,150.0 psi	Density	26.210 pcf
Fc - Perp	425.0 psi		

E : Modulus of Elasticity . . .

	x-x Bending	y-y Bending	Axial
Basic	1,400.0	1,400.0	1,400.0 ksi
Minimum	510.0	510.0	

Wood Section Name : **4-2x6**
Wood Grading/Manuf. : Graded Lumber
Wood Member Type : Sawn

Exact Width	**6.0**	in
Exact Depth	**5.50**	in
Area	33.0	in^2
Ix	83.188	in^4
Iy	99.0	in^4

Allow Stress Modification Factors

Cf or Cv for Bending	1.30
Cf or Cv for Compression	1.10
Cf or Cv for Tension	1.30
Cm : Wet Use Factor	1.0
Ct : Temperature Factor	1.0
Cfu : Flat Use Factor	1.0
Kf : Built-up columns	1.0 *NDS 15.3.2*
Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Unbraced Length for X-X Axis buckling = 8 ft, K = 1.0
Y-Y (depth) axis : Unbraced Length for Y-Y Axis buckling = 8 ft, K = 1.0

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 48.052 lbs * Dead Load Factor
AXIAL LOADS . . .
Axial Load at 8.0 ft, Xecc = 1.50 in, D = 0.7110, L = 0.1592, S = 0.660 k
Axial Load at 8.0 ft, Xecc = 1.50 in, D = 0.8223, Lr = 3.784 k
Axial Load at 8.0 ft, Xecc = 1.50 in, D = 0.8223, Lr = 3.784 k
Axial Load at 8.0 ft, Xecc = 1.50 in, D = 0.8773, L = 4.065 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.6288** : 1
Load Combination : +D+0.750Lr+0.750L
Governing NDS Forumla : Comp + Myy, NDS Eq. 3.9-3
Location of max.above base : 8.0 ft
At maximum location values are . . .
Applied Axial : 12.077 k
Applied Mx : 0.0 k-ft
Applied My : -1.510 k-ft
Fc : Allowable : 1,013.79 psi

PASS Maximum Shear Stress Ratio = **0.05083** : 1
Load Combination : +D+0.750Lr+0.750L
Location of max.above base : 8.0 ft
Applied Design Shear : 8.577 psi
Allowable Shear : 168.750 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.0 k	Bottom along Y-Y	0.0 k
Top along X-X	0.0 k	Bottom along X-X	0.0 k

Maximum SERVICE Load Lateral Deflections . . .
Along Y-Y : 0.0 in at 0.0 ft above base
for load combination : n/a
Along X-X : -0.07795 in at 4.671 ft above base
for load combination : +D+0.750Lr+0.750L

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Load Combination Results

Load Combination	C_D	C_P	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Shear Ratios: Stress Ratio	Status	Location
D Only	0.900	0.752	0.1660	PASS	8.0 ft	0.01890	PASS	8.0 ft
+D+L	1.000	0.719	0.4081	PASS	8.0 ft	0.03923	PASS	8.0 ft
+D+Lr	1.250	0.641	0.5369	PASS	8.0 ft	0.04546	PASS	8.0 ft
+D+S	1.150	0.671	0.1607	PASS	8.0 ft	0.01781	PASS	8.0 ft
+D+0.750Lr+0.750L	1.250	0.641	0.6288	PASS	8.0 ft	0.05083	PASS	8.0 ft
+D+0.750L+0.750S	1.150	0.671	0.3211	PASS	8.0 ft	0.03155	PASS	8.0 ft
+0.60D	1.600	0.547	0.05384	PASS	0.0 ft	0.006378	PASS	8.0 ft

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Description : Post at Elevator Door Opening Ground floors

Maximum Reactions

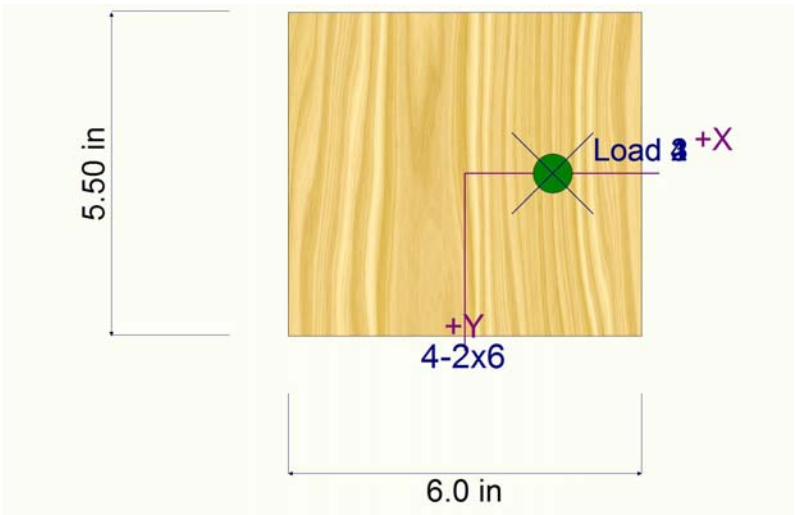
Note: Only non-zero reactions are listed.

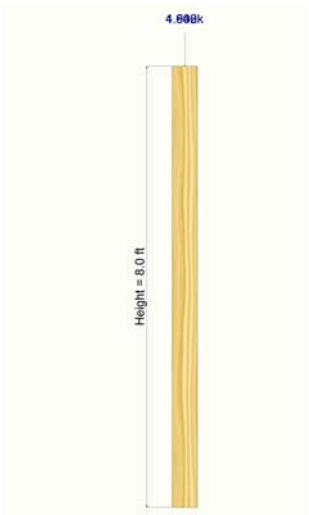
Load Combination	X-X Axis Reaction @ Base	@ Top	k	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments @ Base	@ Top	k-ft	Mx - End Moments @ Base	@ Top
D Only	-0.051	0.051				3.281					
+D+L	-0.117	0.117				7.505					
+D+Lr	-0.169	0.169				10.849					
+D+S	-0.061	0.061				3.941					
+D+0.750Lr+0.750L	-0.189	0.189				12.125					
+D+0.750L+0.750S	-0.108	0.108				6.944					
+0.60D	-0.030	0.030				1.969					
Lr Only	-0.118	0.118				7.568					
L Only	-0.066	0.066				4.224					
S Only	-0.010	0.010				0.660					

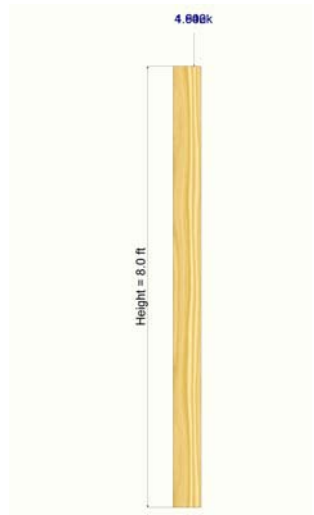
Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection	Distance	Max. Y-Y Deflection	Distance
D Only	-0.0209 in	4.671 ft	0.000 in	0.000 ft
+D+L	-0.0481 in	4.671 ft	0.000 in	0.000 ft
+D+Lr	-0.0697 in	4.671 ft	0.000 in	0.000 ft
+D+S	-0.0251 in	4.671 ft	0.000 in	0.000 ft
+D+0.750Lr+0.750L	-0.0779 in	4.671 ft	0.000 in	0.000 ft
+D+0.750L+0.750S	-0.0445 in	4.671 ft	0.000 in	0.000 ft
+0.60D	-0.0125 in	4.671 ft	0.000 in	0.000 ft
Lr Only	-0.0488 in	4.671 ft	0.000 in	0.000 ft
L Only	-0.0273 in	4.671 ft	0.000 in	0.000 ft
S Only	-0.0043 in	4.671 ft	0.000 in	0.000 ft

Sketches







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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Column

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Description : Post at 2nd Floor corner GL V & 7

Code References

Calculations per NDS 2015, IBC 2018, CBC 2016, ASCE 7-10
Load Combinations Used : IBC 2018

General Information

Analysis Method : Allowable Stress Design
End Fixities : Top & Bottom Pinned
Overall Column Height : 11 ft
(Used for non-slender calculations)
Wood Species : Spruce - Pine - Fir
Wood Grade : No. 1/No. 2

Fb +	875.0 psi	Fv	135.0 psi
Fb -	875.0 psi	Ft	450.0 psi
Fc - Prll	1,150.0 psi	Density	26.210 pcf
Fc - Perp	425.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,400.0	1,400.0	1,400.0 ksi
Minimum	510.0	510.0	

Wood Section Name : **3-2x6**
Wood Grading/Manuf. : Graded Lumber
Wood Member Type : Sawn

Exact Width	**4.50**	in
Exact Depth	**5.50**	in
Area	24.750	in^2
Ix	62.391	in^4
Iy	41.766	in^4

Allow Stress Modification Factors

Cf or Cv for Bending	1.30
Cf or Cv for Compression	1.10
Cf or Cv for Tension	1.30
Cm : Wet Use Factor	1.0
Ct : Temperature Factor	1.0
Cfu : Flat Use Factor	1.0
Kf : Built-up columns	1.0 *NDS 15.3.2*
Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling about X-X Axis
Y-Y (depth) axis : Fully braced against buckling about Y-Y Axis

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 49.553 lbs * Dead Load Factor
AXIAL LOADS . . .
reaction from beam at GL7: Axial Load at 11.0 ft, D = 9.020, S = 17.250 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.7310** : 1
Load Combination : +D+S
Governing NDS Forumla : Comp Only, fc/Fc'
Location of max.above base : 0.0 ft
At maximum location values are . . .
Applied Axial : 26.320 k
Applied Mx : 0.0 k-ft
Applied My : 0.0 k-ft
Fc : Allowable : 1,454.75 psi

PASS Maximum Shear Stress Ratio = **0.0** : 1
Load Combination : +0.60D
Location of max.above base : 11.0 ft
Applied Design Shear : 0.0 psi
Allowable Shear : 216.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.0 k	Bottom along Y-Y	0.0 k
Top along X-X	0.0 k	Bottom along X-X	0.0 k

Maximum SERVICE Load Lateral Deflections . . .
Along Y-Y : 0.0 in at 0.0 ft above base
for load combination : n/a
Along X-X : 0.0 in at 0.0 ft above base
for load combination : n/a

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Load Combination Results

Load Combination	C_D	C_P	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Maximum Shear Ratios: Stress Ratio	Status	Location
D Only	0.900	1.000	0.3219	PASS	0.0 ft	0.0	PASS	11.0 ft
+D+S	1.150	1.000	0.7310	PASS	0.0 ft	0.0	PASS	11.0 ft
+D+0.750S	1.150	1.000	0.6112	PASS	0.0 ft	0.0	PASS	11.0 ft
+0.60D	1.600	1.000	0.1086	PASS	0.0 ft	0.0	PASS	11.0 ft

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction k @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only					9.070				
+D+S					26.320				
+D+0.750S					22.007				

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Project Descr: HIESCO

Wood Column

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Description : Post at 2nd Floor corner GL V & 7

Maximum Reactions

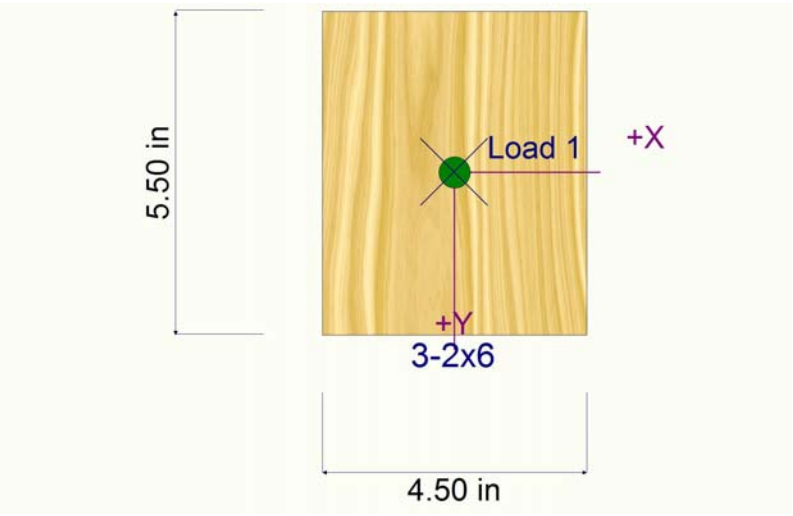
Note: Only non-zero reactions are listed.

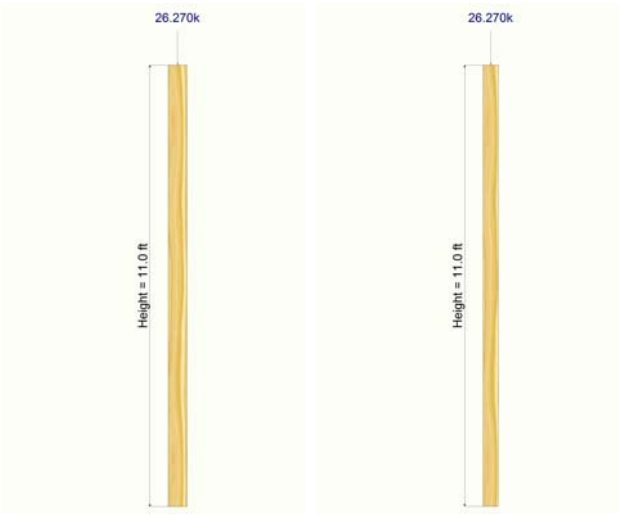
Load Combination	X-X Axis Reaction @ Base	@ Top	k	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments @ Base	@ Top	k-ft	Mx - End Moments @ Base	@ Top
+0.60D						5.442					
S Only						17.250					

Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection	Distance	Max. Y-Y Deflection	Distance
D Only	0.0000 in	0.000 ft	0.000 in	0.000 ft
+D+S	0.0000 in	0.000 ft	0.000 in	0.000 ft
+D+0.750S	0.0000 in	0.000 ft	0.000 in	0.000 ft
+0.60D	0.0000 in	0.000 ft	0.000 in	0.000 ft
S Only	0.0000 in	0.000 ft	0.000 in	0.000 ft

Sketches





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2-D Frame

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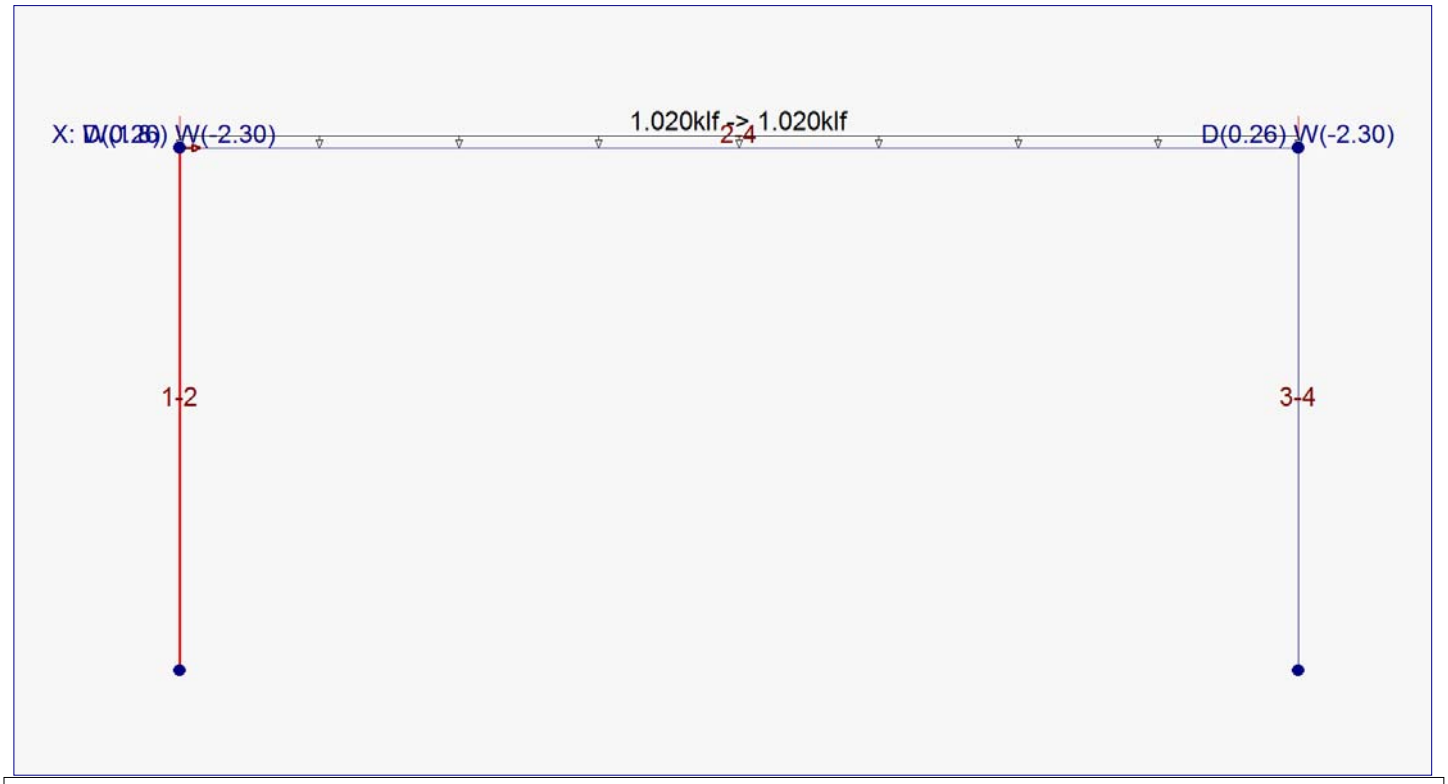
Description : STEEL Frame - 1ST FLOOR SW4 FRAME



Joints...

Joint Label	Joint Coordinates X ft	Y ft	X Translational Restraint	Y Translational Restraint	Z Rotational Restraint	Joint Temp deg F
1	0.0	0.0	Fixed	Fixed		0
2	0.0	14.0				0
3	30.0	0.0	Fixed	Fixed		0
4	30.0	14.0				0

Members...

Member Label	Property Label	Endpoint Joints I Joint	J Joint	Member Length ft	Releases Specify Connectivity of Member Ends to Joints I End x	I End y	I End z (rotation)	J End x	J End y	J End z (rotation)
1-2	ColLine 1	1	2	14.000	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
2-4	BmLvl 1	2	4	30.000	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
3-4	ColLine 2	3	4	14.000	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed

Member Stress Check Data...

Member Label	Unbraced Lengths Lu : z ft	Lu : y	Slenderness Factors K : z	K : y	AISC Bending & Stability Factors Cm	Cb
1-2	14.000	14.000	1.00	1.00	Internal	Internal
2-4	30.000	30.000	1.00	1.00	Internal	Internal
3-4	14.000	14.000	1.00	1.00	Internal	Internal

Materials...

Member Label	Youngs ksi	Density kcf	Thermal in/degr	Yield ksi
Default	1.00	0.000	0.000000	1.00
Steel	29,000.00	0.490	0.000007	46.00
Wood	1,800.00	0.035	0.000000	0.00

Wood Material Data...

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Description : STEEL Frame - 1ST FLOOR SW4 FRAME

Wood Material Data...

Wood, Not Defined, Density= 0.035pci, FbT= 1000psi, FbC= 1000psi, Fv= 1000psi, Ft= 1000, Fc= 400psi, E Bend XX= 1800ksi, E BendMin XX= 1800ksi, E Beny YY= 1800ksi, E BendMin YY= 1800ksi, E Axial= 1800ksi, Species= , Grade= Any, Class=

Member Sections...

Prop Label	Group Tag	Material	Area	Depth	Width	Ixx	Iyy
Default	Group	Default	1.0 in^2	0.0 in	0.0 in	1.0 in^4	1.0 in^4
W21x83	BmLvl 1	Steel	24.40 in^2	21.40 in	8.360 in	1,830.0 in^4	81.40 in^4
HSS4x4x5/16	ColLine 1	Steel	4.10 in^2	4.0 in	4.0 in	9.140 in^4	9.140 in^4
HSS4x4x5/16	ColLine 2	Steel	4.10 in^2	4.0 in	4.0 in	9.140 in^4	9.140 in^4
HSS4x4x5/16	ColLine 3	Steel	4.10 in^2	4.0 in	4.0 in	9.140 in^4	9.140 in^4
HSS4x4x5/16	ColLine 4	Steel	4.10 in^2	4.0 in	4.0 in	9.140 in^4	9.140 in^4

Joint Loads....

Joint Label	Load Direction	Load Magnitude: Dead	Roof Live	Live	Snow	Seismic	Wind	Earth
2	Global X						1.80	k

Member Point Loads....

Member Label	Load Direction	Distance from "I" Joint	Load Magnitude: Dead	Roof Live	Live	Snow	Seismic	Wind	Earth
2-4	Local y	0 ft	0.260					-2.30	k
2-4	Local y	30 ft	0.260					-2.30	k

Member Distributed Loads....

Member Label	Load Direction	Load Extents Start / End ft		Load Magnitude: Dead	Roof Live	Live	Snow	Seismic	Wind	Earth
2-4	Global Y	0.0	Start Mag :	0.50		0.520				k/ft
		30.0	End Mag :	0.50		0.520				k/ft

Stress/Strength Load Combinations — IBC 2018

Load Combination Description	Cd	Load Combination Factors: Dead	0.2*Sds* Seismic	Roof Live	Live	Snow	Wind	Seismic	Rho	Earth
+D+H	0.9	1.0								1.0
+D+L+H	1	1.0			1.0					1.0
+D+Lr+H	1.25	1.0		1.0						1.0
+D+S+H	1.15	1.0				1.0				1.0
+D+0.750Lr+0.750L+H	1.25	1.0		0.750	0.750					1.0
+D+0.750L+0.750S+H	1.15	1.0			0.750	0.750				1.0
+D+0.60W+H	1.6	1.0					0.60			1.0
+D+0.70E+H	0.9	1.0								1.0
+D+0.750Lr+0.750L+0.450W+H	1.6	1.0		0.750	0.750		0.450			1.0
+D+0.750L+0.750S+0.450W+H	1.6	1.0			0.750	0.750	0.450			1.0
+D+0.750L+0.750S+0.5250E+H	1.15	1.0			0.750	0.750				1.0
+0.60D+0.60W+0.60H	1.6	0.60					0.60			0.60
+0.60D+0.70E+0.60H	0.9	0.60								0.60

Reaction Load Combinations — IBC 2018

Load Combination Description	Load Combination Factors: Dead	Roof Live	Live	Snow	Wind	Seismic	Earth
+D+H	1.0						1.0
+D+L+H	1.0		1.0				1.0
+D+Lr+H	1.0	1.0					1.0
+D+S+H	1.0			1.0			1.0
+D+0.750Lr+0.750L+H	1.0	0.750	0.750				1.0
+D+0.750L+0.750S+H	1.0		0.750	0.750			1.0
+D+0.60W+H	1.0				0.60		1.0
+D+0.70E+H	1.0					0.70	1.0
+D+0.750Lr+0.750L+0.450W+H	1.0	0.750	0.750		0.450		1.0

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Project Descr: HIESCO

2-D Frame

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Description : STEEL Frame - 1ST FLOOR SW4 FRAME

Reaction Load Combinations

IBC 2018

Load Combination Description	Load Combination Factors						
	Dead	Roof Live	Live	Snow	Wind	Seismic	Earth
+D+0.750L+0.750S+0.450W+H	1.0		0.750	0.750	0.450		1.0
+D+0.750L+0.750S+0.5250E+H	1.0		0.750	0.750		0.5250	1.0
+0.60D+0.60W+0.60H	0.60				0.60		0.60
+0.60D+0.70E+0.60H	0.60					0.70	0.60
D Only	1.0						
Lr Only		1.0					
L Only			1.0				
S Only				1.0			
W Only					1.0		
E Only						1.0	
H Only							1.0

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Description : STEEL Frame - 1ST FLOOR SW4 FRAME

Deflection Load Combinations

IBC 2018

Load Combination Description	Load Combination Factors						
	Dead	Roof Live	Live	Snow	Wind	Seismic	Earth
+D+H	1.0						1.0
+D+L+H	1.0		1.0				1.0
+D+Lr+H	1.0	1.0					1.0
+D+S+H	1.0			1.0			1.0
+D+0.750Lr+0.750L+H	1.0	0.750	0.750				1.0
+D+0.750L+0.750S+H	1.0		0.750	0.750			1.0
+D+0.60W+H	1.0				0.60		1.0
+D+0.70E+H	1.0					0.70	1.0
+D+0.750Lr+0.750L+0.450W+H	1.0	0.750	0.750		0.450		1.0
+D+0.750L+0.750S+0.450W+H	1.0		0.750	0.750	0.450		1.0
+D+0.750L+0.750S+0.5250E+H	1.0		0.750	0.750		0.5250	1.0
+0.60D+0.60W+0.60H	0.60				0.60		0.60
+0.60D+0.70E+0.60H	0.60					0.70	0.60
D Only	1.0						
Lr Only		1.0					
L Only			1.0				
S Only				1.0			
W Only					1.0		
E Only						1.0	
H Only							1.0

Extreme Joint Displacements

Only Load Combinations giving maximum values are listed

Joint Label		Joint Displacements X in	Y in	Z Radians
1	Max	0.0 W Only	0.0 +D+L	-0.000451 +0.60D
1	Min	0.0 +0.60D	0.0 W Only	-0.04810 W Only
2	Max	5.397 W Only	0.02199 +D+L	0.003064 +D+L
2	Min	-.0000220 +D+L	-0.002063 W Only	-0.000178 W Only
3	Max	0.0 W Only	0.0 +D+L	0.001532 +D+L
3	Min	0.0 +D+L	0.0 W Only	-0.04809 W Only
4	Max	5.396 W Only	0.02199 +D+L	-0.000178 W Only
4	Min	.0000060 +0.60D	-0.004437 W Only	-0.003064 +D+L

Extreme Joint Reactions

Only Load Combinations giving maximum values are listed

Joint Label		Joint Reactions X k	Y k	Z k-ft
1	Max	-0.02539 +0.60D	1.460 W Only	
	Min	-0.90 W Only	-15.560 +D+L	
2	Max			
	Min			
3	Max	0.08633 +D+L	3.140 W Only	
	Min	-0.90 W Only	-15.560 +D+L	

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2-D Frame

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Description : STEEL Frame - 1ST FLOOR SW4 FRAME

Extreme Joint Reactions

Only Load Combinations giving maximum values are listed

Joint Label	Joint Reactions X k	Y k	Z k-ft
4			
Max			
Min			

Extreme Member End Forces

Only Load Combinations giving maximum values are listed

Member Label	Member " I " End Forces Axial k	Shear k	Moment k-ft	Member " J " End Forces Axial k	Shear k	Moment k-ft
1-2 Max	0.8760 +0.60W	0.540 +0.60W	0.0 +0.60W	7.80 L Only	0.0	7.560 +0.60W
1-2 Min	-7.80 L Only	0.0	0.0 L Only	-0.8760 +0.60W	-0.540 +0.60W	0.0
2-4 Max	0.540 +0.60W	0.8760 +0.60W	0.0	0.04401 L Only	1.884 +0.60W	0.6162 L Only
2-4 Min	-0.04401 L Only	-7.80 L Only	-7.560 +0.60W	-0.540 +0.60W	-7.80 L Only	-7.560 +0.60W
3-4 Max	1.884 +0.60W	0.540 +0.60W	0.0 +0.750L	7.80 L Only	0.04401 L Only	7.560 +0.60W
3-4 Min	-7.80 L Only	-0.04401 L Only	0.0 +0.750L+0.450W	-1.884 +0.60W	-0.540 +0.60W	-0.6162 L Only

Extreme Member Forces

Only Load Combinations giving maximum values are listed

Mmbr Label	Axial	Dist from "I" Joint	Moment	Dist from "I" Joint	Shear	Dist from "I" Joint
1-2 Max	7.80 k L Only	0.0 ft	-0.009431 k-ft +0.750L	0.2857 ft	0.540 k +0.60W	0.0 ft
1-2 Min	-0.8760 k +0.60W	0.0 ft	-7.560 k-ft +0.60W	14.0 ft	0.03301 k +0.750L	0.0 ft
2-4 Max	0.04401 k L Only	0.0 ft	57.859 k-ft L Only	14.694 ft	7.80 k L Only	30.0 ft
2-4 Min	-0.540 k +0.60W	0.0 ft	-7.560 k-ft +0.60W	0.0 ft	-7.80 k L Only	0.0 ft
3-4 Max	7.80 k L Only	0.0 ft	0.6162 k-ft L Only	14.0 ft	0.540 k +0.60W	0.0 ft
3-4 Min	-1.884 k +0.60W	0.0 ft	-7.560 k-ft +0.60W	14.0 ft	-0.04401 k L Only	0.0 ft

Member Stress Checks...

Member Label	Section Label	Material	Max. Axial + Bending Stress Ratios Load Combination	Ratio	Status	Dist (ft)	Max. Shear Stress Ratios Load Combination	Ratio	Status	Dist (ft)
1-2	ColLine 1	Steel	+0.60W	0.598	PASS	14.00	+0.60W	0.018	PASS	0.00
2-4	BmLvl 1	Steel	L Only	0.333	PASS	14.69	L Only	0.038	PASS	0.00
3-4	ColLine 2	Steel	+0.60W	0.609	PASS	14.00	+0.60W	0.018	PASS	0.00

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Steel Base Plate

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Description : -Base Plate A

Code References

Calculations per AISC Design Guide # 1, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2018

General Information

Material Properties

AISC Design Method: Allowable Strength Design
Steel Plate Fy = 36.0 ksi
Concrete Support f'c = 3.0 ksi
Assumed Bearing Area : Bearing Area = P / Fp

Ω c : ASD Safety Factor. 2.50
Allowable Bearing Fp per J8 0.0 ksi

Column & Plate

Column Properties

Steel Section : HSS5x5x5/16

Depth	5 in	Area	5.26 in^2
Width	5 in	Ixx	in^4
Flange Thickness	0.291 in	Iyy	in^4
Web Thickness	in		

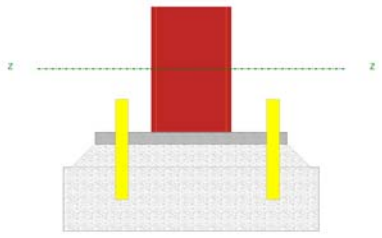
Plate Dimensions

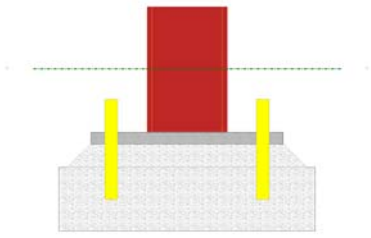
N : Length	12.0 in
B : Width	12.0 in
Thickness	0.750 in

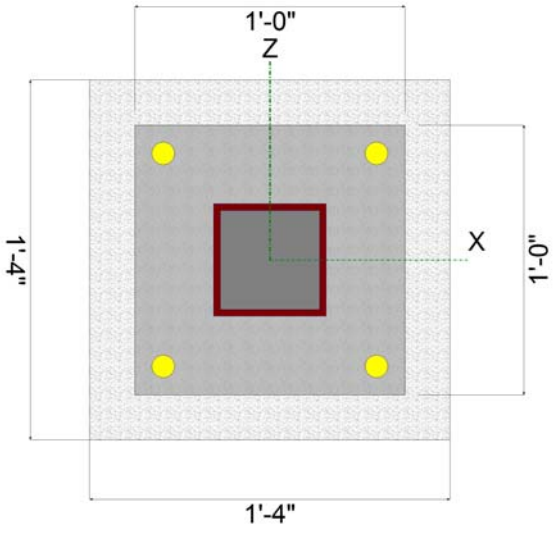
Column assumed welded to base plate.

Support Dimensions

Width along "X"	16.0 in
Length along "Z'	16.0 in





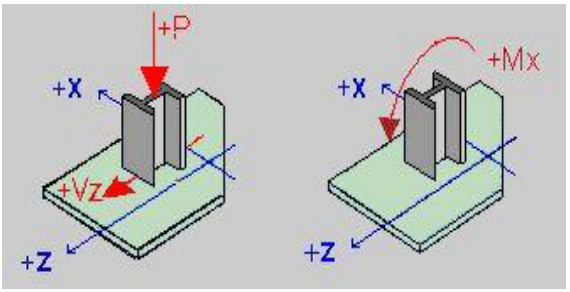


Applied Loads

	P-Y	V-Z	M-X
D : Dead Load	12.250 k	k	k-ft
L : Live	k	k	k-ft
Lr : Roof Live	k	k	k-ft
S : Snow	52.20 k	k	k-ft
W : Wind	k	k	k-ft
E : Earthquake	k	k	k-ft
H : Lateral Earth	k	k	k-ft

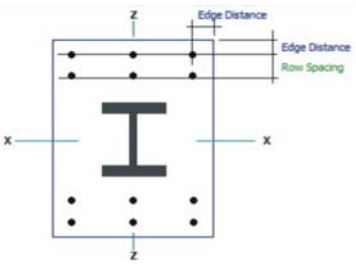
" P " = Gravity load, "+" sign is downward.

"+" Moments create higher soil pressure at +Z edge.
"+" Shears push plate towards +Z edge.



Anchor Bolts

Anchor Bolt or Rod Description	3/4"	
Max of Tension or Pullout Capacity.....	6.20	k
Shear Capacity.....	3.20	k
Edge distance : bolt to plate.....	1.250	in
Number of Bolts in each Row.....	2.0	
Number of Bolt Rows.....	1.0	



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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Base Plate

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Description : -Base Plate A

GOVERNING DESIGN LOAD CASE SUMMARY

Plate Design Summary

Design Method	Allowable Strength Design
Governing Load Combination	Overall Results
Governing Load Case Type	----------
Governing STRESS RATIO	
Design Plate Size	1'-0" x 1'-0" x 0 -3/4"

Pa : Axial Load	0.000	k
Ma : Moment	0.000	k-ft

Ma : Max. Moment	0.000	k-ft
fb : Max. Bending Stress	0.000	ksi
Fb : Allowable :	0.000	ksi
Fy / Omega		
Bending Stress Ratio	0.000	
Bending Stress OK		
fu : Max. Plate Bearing Stress	0.000	ksi
Fp : Allowable :	0.000	ksi
0.0		
Bearing Stress Ratio	0.000	
Bearing Stress OK		

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Base Plate

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Description : Base Plate B

Code References

Calculations per AISC Design Guide # 1, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2018

General Information

Material Properties

AISC Design Method: Allowable Strength Design
Steel Plate Fy = 36.0 ksi
Concrete Support f'c = 3.0 ksi
Assumed Bearing Area : Bearing Area = P / Fp

Ω c : ASD Safety Factor. 2.50
Allowable Bearing Fp per J8 0.0 ksi

Column & Plate

Column Properties

Steel Section : HSS5x5x3/8

Depth	5 in	Area	6.18 in^2
Width	5 in	Ixx	in^4
Flange Thickness	0.349 in	Iyy	in^4
Web Thickness	in		

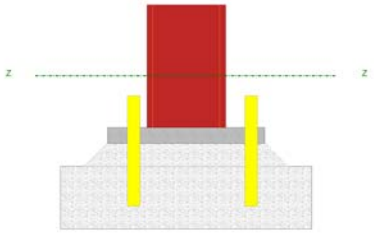
Plate Dimensions

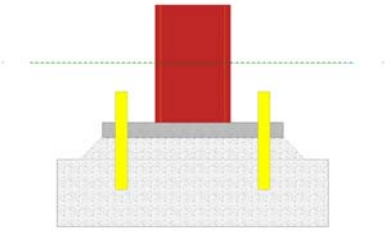
N : Length	10.0 in
B : Width	12.0 in
Thickness	1.0 in

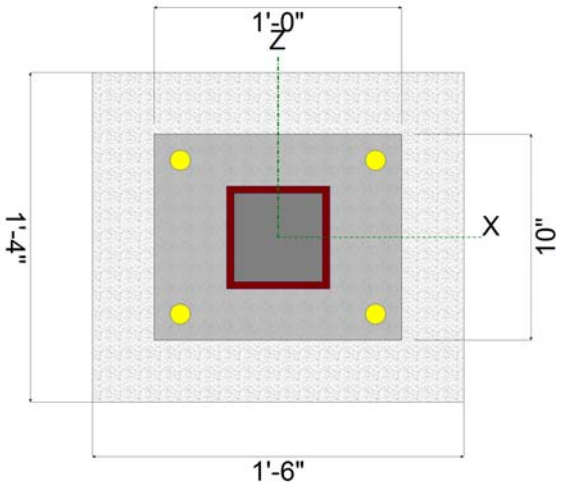
Column assumed welded to base plate.

Support Dimensions

Width along "X"	16.0 in
Length along "Z"	18.0 in





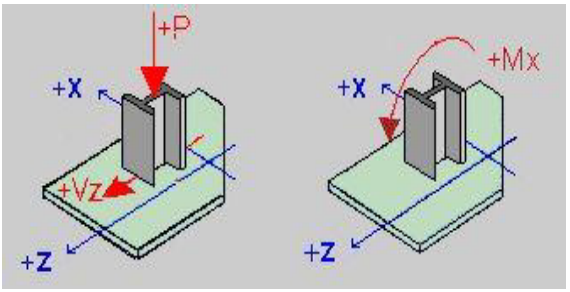


Applied Loads

	P-Y	V-Z	M-X
D : Dead Load	27.0 k	k	4.50 k-ft
L : Live	60.0 k	k	12.50 k-ft
Lr : Roof Live	k	k	k-ft
S : Snow	3.0 k	k	0.6250 k-ft
W : Wind	k	k	k-ft
E : Earthquake	k	k	k-ft
H : Lateral Earth	k	k	k-ft

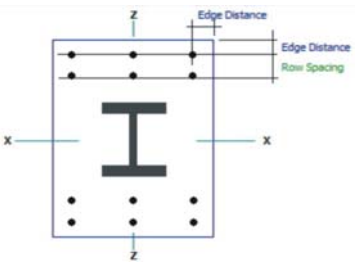
" P " = Gravity load, "+" sign is downward.

"+" Moments create higher soil pressure at +Z edge.
"+" Shears push plate towards +Z edge.



Anchor Bolts

Anchor Bolt or Rod Description	3/4"
Max of Tension or Pullout Capacity.....	6.20 k
Shear Capacity.....	3.20 k
Edge distance : bolt to plate.....	1.250 in
Number of Bolts in each Row.....	2.0
Number of Bolt Rows.....	1.0



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Project ID: ABQ #23-015
Project Descr: HIESCO

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Description : Base Plate B

GOVERNING DESIGN LOAD CASE SUMMARY

Plate Design Summary

Design Method	Allowable Strength Design
Governing Load Combination	Overall Results
Governing Load Case Type	----------
Governing STRESS RATIO	
Design Plate Size	10" x 1'-0" x 1"
Pa : Axial Load	0.000 k
Ma : Moment	0.000 k-ft

Ma : Max. Moment	0.000	k-ft
fb : Max. Bending Stress	0.000	ksi
Fb : Allowable :	0.000	ksi
Fy / Omega		
Bending Stress Ratio	0.000	
Bending Stress OK		
fu : Max. Plate Bearing Stress	0.000	ksi
Fp : Allowable :	0.000	ksi
0.0		
Bearing Stress Ratio	0.000	
Bearing Stress OK		

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Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Base Plate

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Description : Base Plate C

Code References

Calculations per AISC Design Guide # 1, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2018

General Information

Material Properties

AISC Design Method	Allowable Strength Design			
Steel Plate Fy	=	36.0 ksi		
Concrete Support f'c	=	3.0 ksi	Ω c : ASD Safety Factor.	2.50
Assumed Bearing Area :	Bearing Area = P / Fp		Allowable Bearing Fp per J8	0.0 ksi

Column & Plate

Column Properties

Steel Section :	HSS4x4x1/4			
Depth	4 in	Area	3.37 in^2	
Width	4 in	Ixx	in^4	
Flange Thickness	0.233 in	Iyy	in^4	
Web Thickness	in			

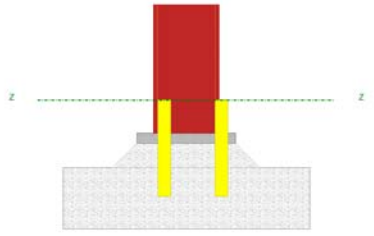
Plate Dimensions

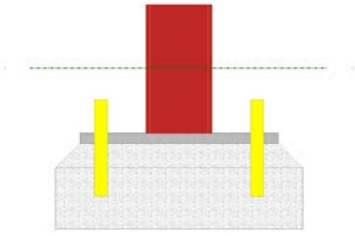
N : Length	6.0 in
B : Width	12.0 in
Thickness	0.6250 in

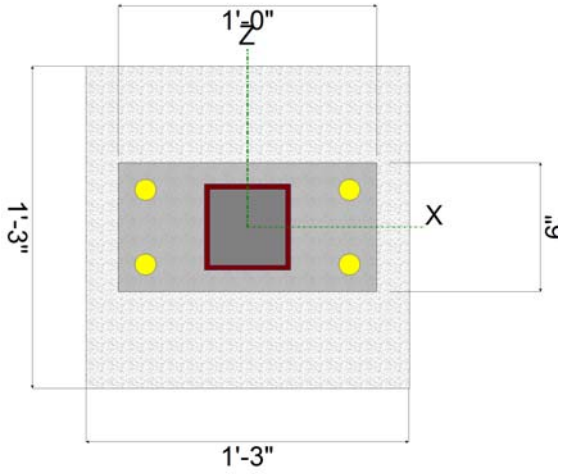
Column assumed welded to base plate.

Support Dimensions

Width along "X"	15.0 in
Length along "Z'	15.0 in





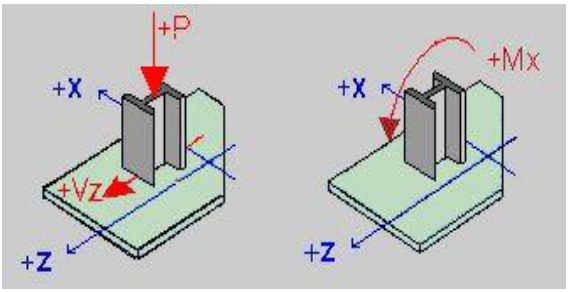


Applied Loads

	P-Y	V-Z	M-X
D : Dead Load	13.0 k	k	k-ft
L : Live	20.0 k	k	k-ft
Lr : Roof Live	k	k	k-ft
S : Snow	2.0 k	k	k-ft
W : Wind	k	k	k-ft
E : Earthquake	k	k	k-ft
H : Lateral Earth	k	k	k-ft

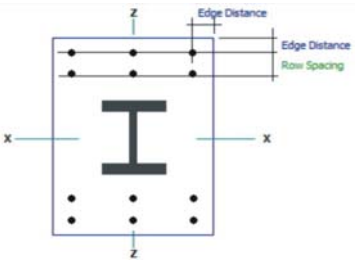
" P " = Gravity load, "+" sign is downward.

"+" Moments create higher soil pressure at +Z edge.
"+" Shears push plate towards +Z edge.



Anchor Bolts

Anchor Bolt or Rod Description	3/4"	
Max of Tension or Pullout Capacity.....		k
Shear Capacity.....		k
Edge distance : bolt to plate.....	1.250	in
Number of Bolts in each Row.....	2.0	
Number of Bolt Rows.....	1.0	



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Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Base Plate

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Description : Base Plate C

GOVERNING DESIGN LOAD CASE SUMMARY

Plate Design Summary

Design Method	Allowable Strength Design
Governing Load Combination	Overall Results
Governing Load Case Type	----------
Governing STRESS RATIO	
Design Plate Size	6" x 1'-0" x 0 -5/8

Pa : Axial Load .... 0.000 k
Ma : Moment ..... 0.000 k-ft

Ma : Max. Moment ..... 0.000 k-ft
fb : Max. Bending Stress ..... 0.000 ksi
Fb : Allowable : 0.000 ksi
Fy / Omega
Bending Stress Ratio 0.000
Bending Stress OK

fu : Max. Plate Bearing Stress .... 0.000 ksi
Fp : Allowable : 0.000 ksi
0.0
Bearing Stress Ratio 0.000
Bearing Stress OK

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

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Description : -Base Plate D

Code References

Calculations per AISC Design Guide # 1, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2018

General Information

Material Properties

AISC Design Method	Allowable Strength Design			
Steel Plate Fy	=	36.0 ksi		
Concrete Support f'c	=	3.0 ksi	Ω c : ASD Safety Factor.	2.50
Assumed Bearing Area :	Bearing Area = P / Fp		Allowable Bearing Fp per J8	0.0 ksi

Column & Plate

Column Properties

Steel Section :	HSS4x4x5/16			
Depth	4 in	Area	4.1	in^2
Width	4 in	Ixx		in^4
Flange Thickness	0.291 in	Iyy		in^4
Web Thickness	in			

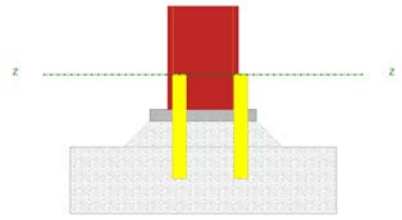
Plate Dimensions

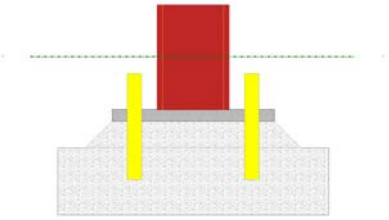
N : Length	6.0 in
B : Width	9.0 in
Thickness	0.6250 in

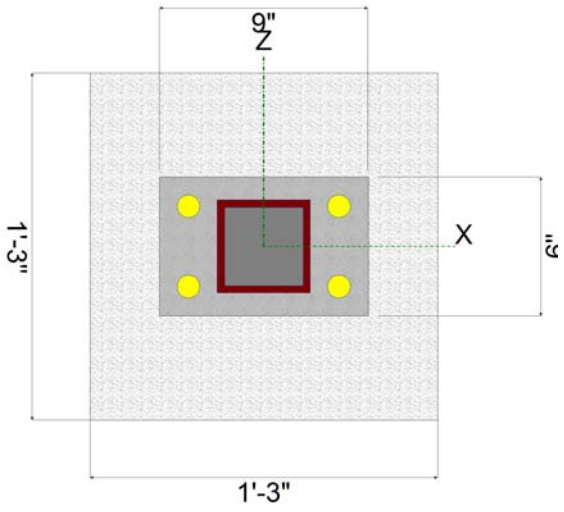
Column assumed welded to base plate.

Support Dimensions

Width along "X"	15.0 in
Length along "Z'	15.0 in





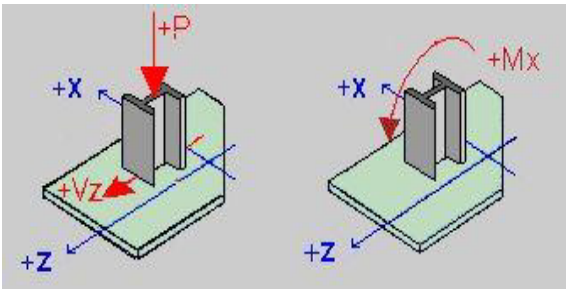


Applied Loads

	P-Y	V-Z	M-X
D : Dead Load	13.0 k	k	k-ft
L : Live	10.0 k	k	k-ft
Lr : Roof Live	k	k	k-ft
S : Snow	42.20 k	k	k-ft
W : Wind	k	k	k-ft
E : Earthquake	k	k	k-ft
H : Lateral Earth	k	k	k-ft

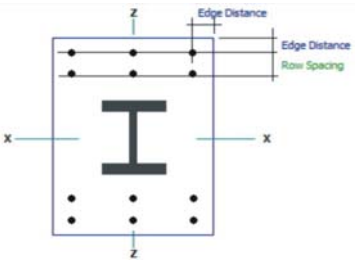
" P " = Gravity load, "+" sign is downward.

"+" Moments create higher soil pressure at +Z edge.
"+" Shears push plate towards +Z edge.



Anchor Bolts

Anchor Bolt or Rod Description	3/4"	
Max of Tension or Pullout Capacity.....		k
Shear Capacity.....		k
Edge distance : bolt to plate.....	1.250	in
Number of Bolts in each Row.....	2.0	
Number of Bolt Rows.....	1.0	



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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Base Plate

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Description : -Base Plate D

GOVERNING DESIGN LOAD CASE SUMMARY

Plate Design Summary

Design Method	Allowable Strength Design
Governing Load Combination	Overall Results
Governing Load Case Type	----------
Governing STRESS RATIO	
Design Plate Size	6" x 9" x 0 -5/8

Pa : Axial Load .... 0.000 k
Ma : Moment ..... 0.000 k-ft

Ma : Max. Moment ..... 0.000 k-ft
fb : Max. Bending Stress ..... 0.000 ksi
Fb : Allowable : 0.000 ksi
Fy / Omega
Bending Stress Ratio 0.000
Bending Stress OK

fu : Max. Plate Bearing Stress .... 0.000 ksi
Fp : Allowable : 0.000 ksi
0.0
Bearing Stress Ratio 0.000
Bearing Stress OK

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Base Plate

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Description : -Base Plate E (C6)

Code References

Calculations per AISC Design Guide # 1, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2018

General Information

Material Properties

AISC Design Method: Allowable Strength Design
Steel Plate Fy = 36.0 ksi
Concrete Support f'c = 3.0 ksi
Assumed Bearing Area : Bearing Area = P / Fp

Ω c : ASD Safety Factor. 2.50
Allowable Bearing Fp per J8 0.0 ksi

Column & Plate

Column Properties

Steel Section : HSS8x6x5/16

Depth	8 in	Area	7.59 in^2
Width	6 in	Ixx	in^4
Flange Thickness	0.291 in	Iyy	in^4
Web Thickness	in		

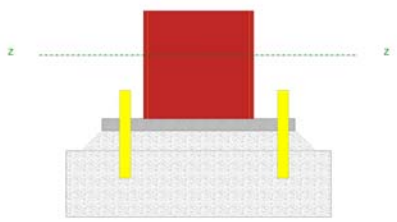
Plate Dimensions

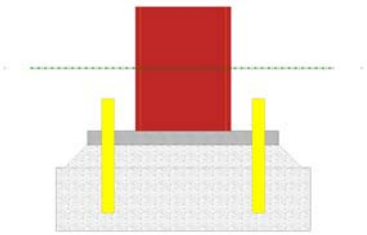
N : Length	14.0 in
B : Width	12.0 in
Thickness	0.8750 in

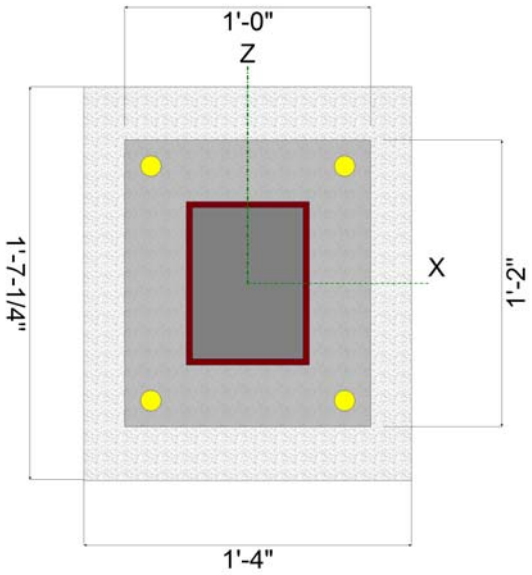
Column assumed welded to base plate.

Support Dimensions

Width along "X"	19.250 in
Length along "Z'	16.0 in





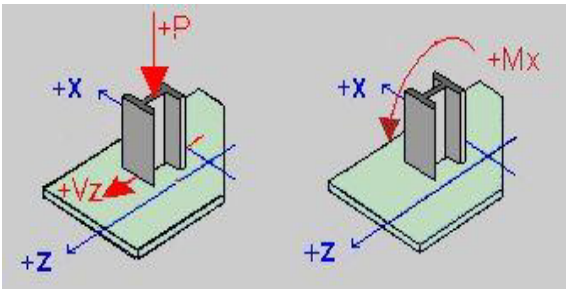


Applied Loads

	P-Y	V-Z	M-X
D : Dead Load	18.340 k	k	k-ft
L : Live	k	k	k-ft
Lr : Roof Live	k	k	k-ft
S : Snow	86.90 k	k	k-ft
W : Wind	k	k	k-ft
E : Earthquake	k	k	k-ft
H : Lateral Earth	k	k	k-ft

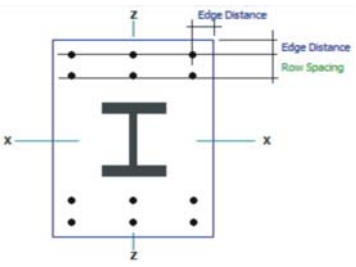
" P " = Gravity load, "+" sign is downward.

"+" Moments create higher soil pressure at +Z edge.
"+" Shears push plate towards +Z edge.



Anchor Bolts

Anchor Bolt or Rod Description	3/4"	
Max of Tension or Pullout Capacity.....	6.20	k
Shear Capacity.....	3.20	k
Edge distance : bolt to plate.....	1.250	in
Number of Bolts in each Row.....	2.0	
Number of Bolt Rows.....	1.0	



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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Steel Base Plate

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Description : -Base Plate E (C6)

GOVERNING DESIGN LOAD CASE SUMMARY

Plate Design Summary

Design Method	Allowable Strength Design
Governing Load Combination	Overall Results
Governing Load Case Type	----------
Governing STRESS RATIO	
Design Plate Size	1'-2" x 1'-0" x 0 -7/8"

Pa : Axial Load	0.000	k
Ma : Moment	0.000	k-ft

Ma : Max. Moment	0.000	k-ft
fb : Max. Bending Stress	0.000	ksi
Fb : Allowable :	0.000	ksi
Fy / Omega		
Bending Stress Ratio	0.000	
Bending Stress OK		

fu : Max. Plate Bearing Stress	0.000	ksi
Fp : Allowable :	0.000	ksi
0.0		
Bearing Stress Ratio	0.000	
Bearing Stress OK		

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Description : -Base Plate E (C6) CANOPY POST BASE PLAT

Code References

Calculations per AISC Design Guide # 1, IBC 2018, CBC 2019, ASCE 7-16
Load Combination Set : IBC 2018

General Information

Material Properties

AISC Design Method: Allowable Strength Design
Steel Plate Fy = 36.0 ksi
Concrete Support f'c = 3.0 ksi
Assumed Bearing Area : Bearing Area = P / Fp

Ω c : ASD Safety Factor. 2.50
Allowable Bearing Fp per J8 0.0 ksi

Column & Plate

Column Properties

Steel Section : HSS10x10x5/16

Depth	10 in	Area	11.1 in^2
Width	10 in	Ixx	in^4
Flange Thickness	0.291 in	Iyy	in^4
Web Thickness	in		

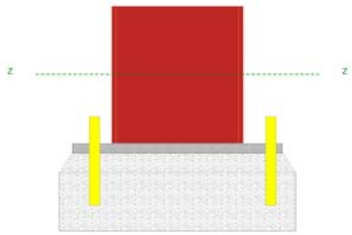
Plate Dimensions

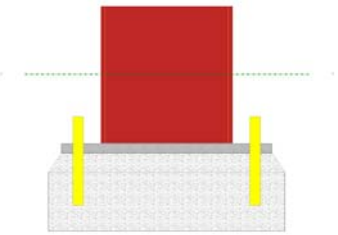
N : Length 16.0 in
B : Width 16.0 in
Thickness 0.750 in

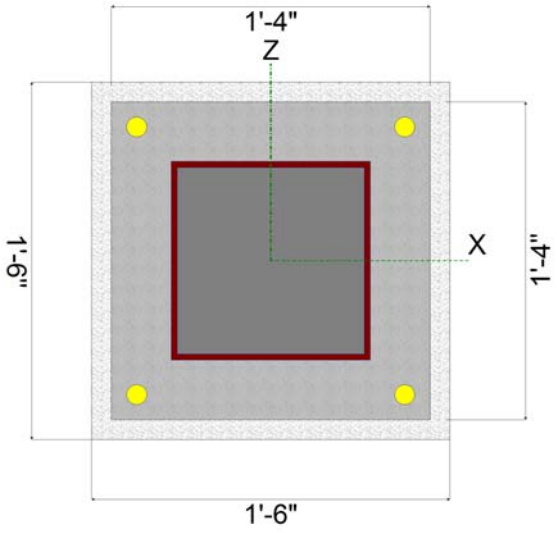
Column assumed welded to base plate.

Support Dimensions

Width along "X" 18.0 in
Length along "Z' 18.0 in





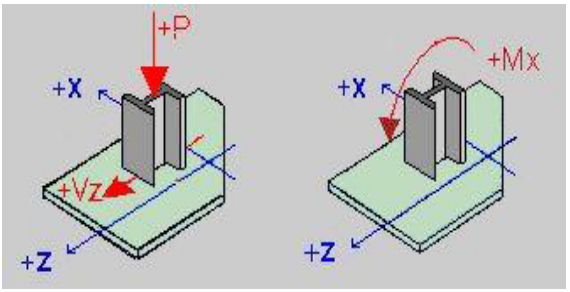


Applied Loads

	P-Y	V-Z	M-X
D : Dead Load	16.20 k	0.20 k	0.20 k-ft
L : Live	k	k	k-ft
Lr : Roof Live	k	k	k-ft
S : Snow	76.0 k	1.0 k	1.0 k-ft
W : Wind	-4.0 k	4.0 k	4.0 k-ft
E : Earthquake	k	k	k-ft
H : Lateral Earth	k	k	k-ft

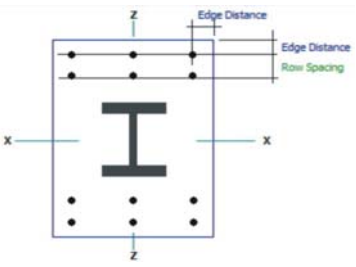
" P " = Gravity load, "+" sign is downward.

"+" Moments create higher soil pressure at +Z edge.
"+" Shears push plate towards +Z edge.



Anchor Bolts

Anchor Bolt or Rod Description	0.5	
Max of Tension or Pullout Capacity.....	6.20	k
Shear Capacity.....	3.20	k
Edge distance : bolt to plate.....	1.250	in
Number of Bolts in each Row.....	2.0	
Number of Bolt Rows.....	1.0	



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Steel Base Plate

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Description : -Base Plate E (C6) CANOPY POST BASE PLAT

GOVERNING DESIGN LOAD CASE SUMMARY

Plate Design Summary

Design Method	Allowable Strength Design
Governing Load Combination	Overall Results
Governing Load Case Type	----------
Governing STRESS RATIO	
Design Plate Size	1'-4" x 1'-4" x 0 -3/4"

Pa : Axial Load	0.000	k
Ma : Moment	0.000	k-ft

Ma : Max. Moment	0.000	k-ft
fb : Max. Bending Stress	0.000	ksi
Fb : Allowable :	0.000	ksi
Fy / Omega		
Bending Stress Ratio	0.000	

Bending Stress OK

fu : Max. Plate Bearing Stress	0.000	ksi
Fp : Allowable :	0.000	ksi
0.0		
Bearing Stress Ratio	0.000	

Bearing Stress OK

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General Footing

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Description : Footing F3 (MAX LOAD)

Code References

Calculations per TMS 402-16, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2015

General Information

Material Properties

f'c : Concrete 28 day strength	=	3.0	ksi
fy : Rebar Yield	=	60.0	ksi
Ec : Concrete Elastic Modulus	=	3,122.02	ksi
Concrete Density	=	145.0	pcf
φ Values Flexure	=	0.90	
Shear	=	0.750	

Analysis Settings

Min Steel % Bending Reinf.	=	
Min Allow % Temp Reinf.	=	0.00180
Min. Overturning Safety Factor	=	1.50 : 1
Min. Sliding Safety Factor	=	1.50 : 1
Add Ftg Wt for Soil Pressure	:	Yes
Use ftg wt for stability, moments & shears	:	Yes
Add Pedestal Wt for Soil Pressure	:	Yes
Use Pedestal wt for stability, mom & shear	:	Yes

Soil Design Values

Allowable Soil Bearing	=	3.50	ksf
Increase Bearing By Footing Weight	=	Yes	
Soil Passive Resistance (for Sliding)	=	390.0	pcf
Soil/Concrete Friction Coeff.	=	0.450	

Increases based on footing Depth

Footing base depth below soil surface	=	1.50	ft
Allow press. increase per foot of depth	=		ksf
when footing base is below	=		ft

Increases based on footing plan dimension

Allowable pressure increase per foot of depth	=		ksf
when max. length or width is greater than	=		ft

Dimensions

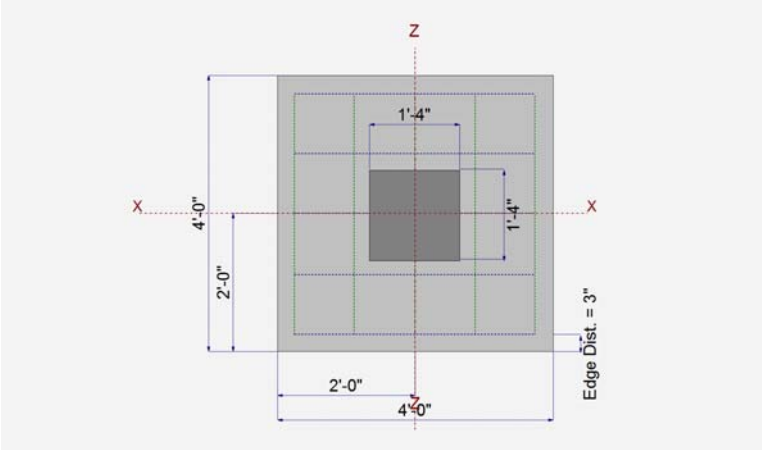
Width parallel to X-X Axis	=	4.0 ft
Length parallel to Z-Z Axis	=	4.0 ft
Footing Thickness	=	12.0 in

Pedestal dimensions...

px : parallel to X-X Axis	=	16.0 in
pz : parallel to Z-Z Axis	=	16.0 in
Height	=	24.0 in

Rebar Centerline to Edge of Concrete...

at Bottom of footing	=	3.0 in



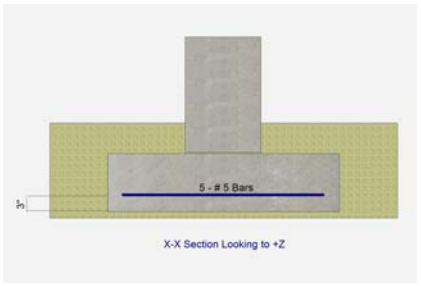
Reinforcing

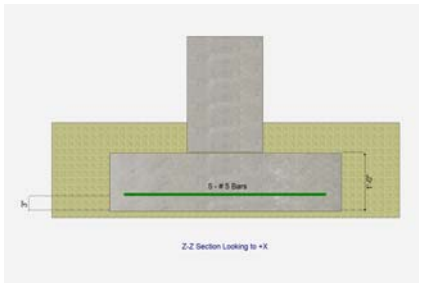
Bars parallel to X-X Axis			
Number of Bars	=		5.0
Reinforcing Bar Size	=	#	5
Bars parallel to Z-Z Axis			
Number of Bars	=		5.0
Reinforcing Bar Size	=	#	5

Bandwidth Distribution Check (ACI 15.4.4.2)

Direction Requiring Closer Separation — n/a

# Bars required within zone	n/a
# Bars required on each side of zone	n/a





Applied Loads

		D	Lr	L	S	W	E	H	
P : Column Load	=	12.0		27.0		-1.0			k
OB : Overburden	=								ksf
M-xx	=								k-ft
M-zz	=								k-ft
V-x	=								k
V-z	=								k

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Project Descr: HIESCO

General Footing

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Description : Footing F3 (MAX LOAD)

DESIGN SUMMARY

Design OK

	Min. Ratio	Item	Applied	Capacity	Governing Load Combination
PASS	0.7309	Soil Bearing	2.664 ksf	3.645 ksf	+D+L about Z-Z axis
PASS	n/a	Overturning - X-X	0.0 k-ft	0.0 k-ft	No Overturning
PASS	n/a	Overturning - Z-Z	0.0 k-ft	0.0 k-ft	No Overturning
PASS	n/a	Sliding - X-X	0.0 k	0.0 k	No Sliding
PASS	n/a	Sliding - Z-Z	0.0 k	0.0 k	No Sliding
PASS	15.618	Uplift	-0.60 k	9.371 k	+0.60D+0.60W
PASS	0.2147	Z Flexure (+X)	3.228 k-ft/ft	15.031 k-ft/ft	+1.20D+1.60L
PASS	0.2147	Z Flexure (-X)	3.228 k-ft/ft	15.031 k-ft/ft	+1.20D+1.60L
PASS	0.2147	X Flexure (+Z)	3.228 k-ft/ft	15.031 k-ft/ft	+1.20D+1.60L
PASS	0.2147	X Flexure (-Z)	3.228 k-ft/ft	15.031 k-ft/ft	+1.20D+1.60L
PASS	0.2456	1-way Shear (+X)	20.174 psi	82.158 psi	+1.20D+1.60L
PASS	0.2456	1-way Shear (-X)	20.174 psi	82.158 psi	+1.20D+1.60L
PASS	0.2456	1-way Shear (+Z)	20.174 psi	82.158 psi	+1.20D+1.60L
PASS	0.2456	1-way Shear (-Z)	20.174 psi	82.158 psi	+1.20D+1.60L
PASS	0.2866	2-way Punching	47.101 psi	164.317 psi	+1.20D+1.60L

Detailed Results

Soil Bearing

Rotation Axis & Load Combination...	Gross Allowable	Xecc (in)	Zecc (in)	Actual Soil Bearing Stress @ Location Bottom, -Z	Top, +Z	Left, -X	Right, +X	Actual / Allow Ratio
X-X, D Only	3.645	n/a	0.0	0.9761	0.9761	n/a	n/a	0.268
X-X, +D+L	3.645	n/a	0.0	2.664	2.664	n/a	n/a	0.731
X-X, +D+0.750L	3.645	n/a	0.0	2.242	2.242	n/a	n/a	0.615
X-X, +D+0.60W	3.645	n/a	0.0	0.9386	0.9386	n/a	n/a	0.258
X-X, +D+0.750L+0.450W	3.645	n/a	0.0	2.214	2.214	n/a	n/a	0.607
X-X, +0.60D+0.60W	3.645	n/a	0.0	0.5482	0.5482	n/a	n/a	0.150
X-X, +0.60D	3.645	n/a	0.0	0.5857	0.5857	n/a	n/a	0.161
Z-Z, D Only	3.645	0.0	n/a	n/a	n/a	0.9761	0.9761	0.268
Z-Z, +D+L	3.645	0.0	n/a	n/a	n/a	2.664	2.664	0.731
Z-Z, +D+0.750L	3.645	0.0	n/a	n/a	n/a	2.242	2.242	0.615
Z-Z, +D+0.60W	3.645	0.0	n/a	n/a	n/a	0.9386	0.9386	0.258
Z-Z, +D+0.750L+0.450W	3.645	0.0	n/a	n/a	n/a	2.214	2.214	0.607
Z-Z, +0.60D+0.60W	3.645	0.0	n/a	n/a	n/a	0.5482	0.5482	0.150
Z-Z, +0.60D	3.645	0.0	n/a	n/a	n/a	0.5857	0.5857	0.161

Overturning Stability

Rotation Axis & Load Combination...	Overturning Moment	Resisting Moment	Stability Ratio	Status
Footing Has NO Overturning				

All units k

Sliding Stability

Force Application Axis Load Combination...	Sliding Force	Resisting Force	Stability Ratio	Status
Footing Has NO Sliding				

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
X-X, +1.40D	0.9657	+Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
X-X, +1.40D	0.9657	-Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
X-X, +1.20D+1.60L	3.228	+Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
X-X, +1.20D+1.60L	3.228	-Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
X-X, +1.20D+0.50L	1.578	+Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
X-X, +1.20D+0.50L	1.578	-Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
X-X, +1.20D+0.50W	0.80	+Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
X-X, +1.20D+0.50W	0.80	-Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
X-X, +1.20D+0.50L+W	1.522	+Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
X-X, +1.20D+0.50L+W	1.522	-Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK

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Description : Footing F3 (MAX LOAD)

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
X-X, +0.90D+W	0.5653	+Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
X-X, +0.90D+W	0.5653	-Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
X-X, +0.90D	0.6208	+Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
X-X, +0.90D	0.6208	-Z	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +1.40D	0.9657	-X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +1.40D	0.9657	+X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +1.20D+1.60L	3.228	-X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +1.20D+1.60L	3.228	+X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +1.20D+0.50L	1.578	-X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +1.20D+0.50L	1.578	+X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +1.20D+0.50W	0.80	-X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +1.20D+0.50W	0.80	+X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +1.20D+0.50L+W	1.522	-X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +1.20D+0.50L+W	1.522	+X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +0.90D+W	0.5653	-X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +0.90D+W	0.5653	+X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +0.90D	0.6208	-X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK
Z-Z, +0.90D	0.6208	+X	Bottom	0.2592	Min Temp %	0.3875	15.031	OK

One Way Shear

Load Combination...	Vu @ -X	Vu @ +X	Vu @ -Z	Vu @ +Z	Vu:Max	Phi Vn	Vu / Phi*Vn	Status
+1.40D	6.04 psi	6.04 psi	6.04 psi	6.04 psi	6.04 psi	82.16 psi	0.07	OK
+1.20D+1.60L	20.17 psi	20.17 psi	20.17 psi	20.17 psi	20.17 psi	82.16 psi	0.25	OK
+1.20D+0.50L	9.86 psi	9.86 psi	9.86 psi	9.86 psi	9.86 psi	82.16 psi	0.12	OK
+1.20D+0.50W	5.00 psi	5.00 psi	5.00 psi	5.00 psi	5.00 psi	82.16 psi	0.06	OK
+1.20D+0.50L+W	9.51 psi	9.51 psi	9.51 psi	9.51 psi	9.51 psi	82.16 psi	0.12	OK
+0.90D+W	3.53 psi	3.53 psi	3.53 psi	3.53 psi	3.53 psi	82.16 psi	0.04	OK
+0.90D	3.88 psi	3.88 psi	3.88 psi	3.88 psi	3.88 psi	82.16 psi	0.05	OK

Two-Way "Punching" Shear

All units k

Load Combination...	Vu	Phi*Vn	Vu / Phi*Vn	Status
+1.40D	14.09 psi	164.32 psi	0.08577	OK
+1.20D+1.60L	47.10 psi	164.32 psi	0.2866	OK
+1.20D+0.50L	23.02 psi	164.32 psi	0.1401	OK
+1.20D+0.50W	11.68 psi	164.32 psi	0.07105	OK
+1.20D+0.50L+W	22.21 psi	164.32 psi	0.1352	OK
+0.90D+W	8.25 psi	164.32 psi	0.0502	OK
+0.90D	9.06 psi	164.32 psi	0.05514	OK

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Description : Footing F3 (MAX LOAD) PATIOS

Code References

Calculations per TMS 402-16, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2018

General Information

Material Properties

f'c : Concrete 28 day strength	=	3.0 ksi
fy : Rebar Yield	=	60.0 ksi
Ec : Concrete Elastic Modulus	=	3,122.02 ksi
Concrete Density	=	145.0 pcf
φ Values Flexure	=	0.90
Shear	=	0.750

Analysis Settings

Min Steel % Bending Reinf.	=	
Min Allow % Temp Reinf.	=	0.00180
Min. Overturning Safety Factor	=	1.50 : 1
Min. Sliding Safety Factor	=	1.50 : 1
Add Ftg Wt for Soil Pressure	:	Yes
Use ftg wt for stability, moments & shears	:	Yes
Add Pedestal Wt for Soil Pressure	:	Yes
Use Pedestal wt for stability, mom & shear	:	Yes

Soil Design Values

Allowable Soil Bearing	=	3.0 ksf
Increase Bearing By Footing Weight	=	Yes
Soil Passive Resistance (for Sliding)	=	390.0 pcf
Soil/Concrete Friction Coeff.	=	0.450

Increases based on footing Depth

Footing base depth below soil surface	=	5.0 ft
Allow press. increase per foot of depth	=	ksf
when footing base is below	=	ft

Increases based on footing plan dimension

Allowable pressure increase per foot of depth	=	ksf
when max. length or width is greater than	=	ft

Dimensions

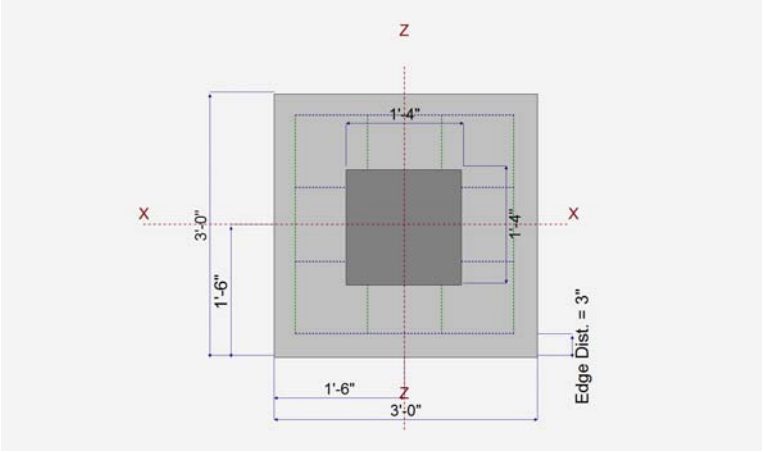
Width parallel to X-X Axis	=	3.0 ft
Length parallel to Z-Z Axis	=	3.0 ft
Footing Thickness	=	12.0 in

Pedestal dimensions...

px : parallel to X-X Axis	=	16.0 in
pz : parallel to Z-Z Axis	=	16.0 in
Height	=	54.0 in

Rebar Centerline to Edge of Concrete...

at Bottom of footing	=	3.0 in

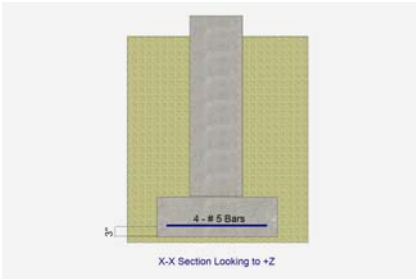


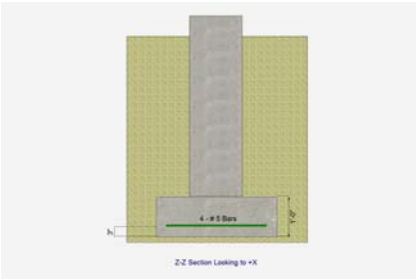
Reinforcing

Bars parallel to X-X Axis			
Number of Bars	=		4
Reinforcing Bar Size	=	#	5
Bars parallel to Z-Z Axis			
Number of Bars	=		4
Reinforcing Bar Size	=	#	5

Bandwidth Distribution Check (ACI 15.4.4.2)
Direction Requiring Closer Separation

	n/a
# Bars required within zone	n/a
# Bars required on each side of zone	n/a





Applied Loads

		D	Lr	L	S	W	E	H	
P : Column Load	=	0.550			6.050	-2.475			k
OB : Overburden	=								ksf
M-xx	=								k-ft
M-zz	=								k-ft
V-x	=					0.450			k
V-z	=					0.450			k

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

General Footing

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Description : Footing F3 (MAX LOAD) PATIOS

DESIGN SUMMARY

Design OK

	Min. Ratio	Item	Applied	Capacity	Governing Load Combination
PASS	0.4324	Soil Bearing	1.360 ksf	3.145 ksf	+D+S about Z-Z axis
PASS	1.501	Overturning - X-X	3.713 k-ft	5.574 k-ft	+0.60D+0.60W
PASS	1.501	Overturning - Z-Z	3.713 k-ft	5.574 k-ft	+0.60D+0.60W
PASS	23.218	Sliding - X-X	0.270 k	6.269 k	+0.60D+0.60W
PASS	23.218	Sliding - Z-Z	0.270 k	6.269 k	+0.60D+0.60W
PASS	2.502	Uplift	-1.485 k	3.716 k	+0.60D+0.60W
PASS	0.02793	Z Flexure (+X)	0.4464 k-ft/ft	15.986 k-ft/ft	+1.20D+1.60S+0.50W
PASS	0.03390	Z Flexure (-X)	0.5419 k-ft/ft	15.986 k-ft/ft	+1.20D+1.60S-0.50W
PASS	0.02793	X Flexure (+Z)	0.4464 k-ft/ft	15.986 k-ft/ft	+1.20D+1.60S+0.50W
PASS	0.03390	X Flexure (-Z)	0.5419 k-ft/ft	15.986 k-ft/ft	+1.20D+1.60S-0.50W
PASS	0.01348	1-way Shear (+X)	1.107 psi	82.158 psi	+1.20D+1.60S+0.50W
PASS	0.01626	1-way Shear (-X)	1.336 psi	82.158 psi	+1.20D+1.60S-0.50W
PASS	0.01348	1-way Shear (+Z)	1.107 psi	82.158 psi	+1.20D+1.60S+0.50W
PASS	0.01626	1-way Shear (-Z)	1.336 psi	82.158 psi	+1.20D+1.60S-0.50W
PASS	0.04149	2-way Punching	6.817 psi	164.317 psi	+1.20D+1.60S-0.50W

Detailed Results

Soil Bearing

Rotation Axis & Load Combination...	Gross Allowable	Xecc (in)	Zecc (in)	Actual Soil Bearing Stress @ Location Bottom, -Z	Top, +Z	Left, -X	Right, +X	Actual / Allow Ratio
X-X, D Only	3.145	n/a	0.0	0.6881	0.6881	n/a	n/a	0.219
X-X, +D+S	3.145	n/a	0.0	1.360	1.360	n/a	n/a	0.432
X-X, +D+0.750S	3.145	n/a	0.0	1.192	1.192	n/a	n/a	0.379
X-X, +D+0.60W	3.145	n/a	3.785	0.1964	0.8498	n/a	n/a	0.270
X-X, +D+0.450W	3.145	n/a	2.631	0.3193	0.8094	n/a	n/a	0.257
X-X, +D+0.750S+0.450W	3.145	n/a	1.390	0.8235	1.314	n/a	n/a	0.418
X-X, +0.60D+0.60W	3.145	n/a	7.989	0.0	0.5906	n/a	n/a	0.188
X-X, +0.60D	3.145	n/a	0.0	0.4129	0.4129	n/a	n/a	0.131
Z-Z, D Only	3.145	0.0	n/a	n/a	n/a	0.6881	0.6881	0.219
Z-Z, +D+S	3.145	0.0	n/a	n/a	n/a	1.360	1.360	0.432
Z-Z, +D+0.750S	3.145	0.0	n/a	n/a	n/a	1.192	1.192	0.379
Z-Z, +D+0.60W	3.145	3.785	n/a	n/a	n/a	0.1964	0.8498	0.270
Z-Z, +D+0.450W	3.145	2.631	n/a	n/a	n/a	0.3193	0.8094	0.257
Z-Z, +D+0.750S+0.450W	3.145	1.390	n/a	n/a	n/a	0.8235	1.314	0.418
Z-Z, +0.60D+0.60W	3.145	7.989	n/a	n/a	n/a	0.0	0.5906	0.188
Z-Z, +0.60D	3.145	0.0	n/a	n/a	n/a	0.4129	0.4129	0.131

Overturning Stability

Rotation Axis & Load Combination...	Overturning Moment	Resisting Moment	Stability Ratio	Status
X-X, D Only	None	0.0 k-ft	Infinity	OK
X-X, +D+S	None	0.0 k-ft	Infinity	OK
X-X, +D+0.750S	None	0.0 k-ft	Infinity	OK
X-X, +D+0.60W	3.713 k-ft	9.289 k-ft	2.502	OK
X-X, +D+0.450W	2.784 k-ft	9.289 k-ft	3.336	OK
X-X, +D+0.750S+0.450W	2.784 k-ft	16.095 k-ft	5.781	OK
X-X, +0.60D+0.60W	3.713 k-ft	5.574 k-ft	1.501	OK
X-X, +0.60D	None	0.0 k-ft	Infinity	OK
Z-Z, D Only	None	0.0 k-ft	Infinity	OK
Z-Z, +D+S	None	0.0 k-ft	Infinity	OK
Z-Z, +D+0.750S	None	0.0 k-ft	Infinity	OK
Z-Z, +D+0.60W	3.713 k-ft	9.289 k-ft	2.502	OK
Z-Z, +D+0.450W	2.784 k-ft	9.289 k-ft	3.336	OK
Z-Z, +D+0.750S+0.450W	2.784 k-ft	16.095 k-ft	5.781	OK
Z-Z, +0.60D+0.60W	3.713 k-ft	5.574 k-ft	1.501	OK
Z-Z, +0.60D	None	0.0 k-ft	Infinity	OK

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Engineer: James Craig Hagelegantz
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General Footing

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Description : Footing F3 (MAX LOAD) PATIOS

All units k

Sliding Stability

Force Application Axis Load Combination...	Sliding Force	Resisting Force	Stability Ratio	Status
X-X, D Only	0.0 k	8.052 k	No Sliding	OK
X-X, +D+S	0.0 k	10.774 k	No Sliding	OK
X-X, +D+0.750S	0.0 k	10.094 k	No Sliding	OK
X-X, +D+0.60W	0.270 k	7.384 k	27.346	OK
X-X, +D+0.450W	0.2025 k	7.551 k	37.287	OK
X-X, +D+0.750S+0.450W	0.2025 k	9.592 k	47.370	OK
X-X, +0.60D+0.60W	0.270 k	6.269 k	23.218	OK
X-X, +0.60D	0.0 k	6.937 k	No Sliding	OK
Z-Z, D Only	0.0 k	8.052 k	No Sliding	OK
Z-Z, +D+S	0.0 k	10.774 k	No Sliding	OK
Z-Z, +D+0.750S	0.0 k	10.094 k	No Sliding	OK
Z-Z, +D+0.60W	0.270 k	7.384 k	27.346	OK
Z-Z, +D+0.450W	0.2025 k	7.551 k	37.287	OK
Z-Z, +D+0.750S+0.450W	0.2025 k	9.592 k	47.370	OK
Z-Z, +0.60D+0.60W	0.270 k	6.269 k	23.218	OK
Z-Z, +0.60D	0.0 k	6.937 k	No Sliding	OK

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
X-X, +1.40D	0.05011	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.40D	0.05011	-Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D	0.04295	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D	0.04295	-Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+0.50S	0.1596	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+0.50S	0.1596	-Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+0.50W	0.0730	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+0.50W	0.08258	-Z	Top	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D-0.50W	0.01290	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D-0.50W	0.1685	-Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+1.60S	0.4164	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+1.60S	0.4164	-Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+1.60S+0.50W	0.4464	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+1.60S+0.50W	0.2909	-Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+1.60S-0.50W	0.3863	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+1.60S-0.50W	0.5419	-Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+W	0.1030	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+W	0.2081	-Z	Top	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D-W	0.01715	+Z	Top	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D-W	0.2940	-Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+0.50S+W	0.2197	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+0.50S+W	0.09141	-Z	Top	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+0.50S-W	0.09955	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+0.50S-W	0.4107	-Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+0.70S	0.2063	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +1.20D+0.70S	0.2063	-Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +0.90D+W	0.1131	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +0.90D+W	0.1828	-Z	Top	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +0.90D-W	0.02789	+Z	Top	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +0.90D-W	0.2833	-Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +0.90D	0.03221	+Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
X-X, +0.90D	0.03221	-Z	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.40D	0.05011	-X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.40D	0.05011	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D	0.04295	-X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D	0.04295	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+0.50S	0.1596	-X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+0.50S	0.1596	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+0.50W	0.08258	-X	Top	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+0.50W	0.0730	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D-0.50W	0.1685	-X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D-0.50W	0.01290	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+1.60S	0.4164	-X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK

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Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
Z-Z, +1.20D+1.60S	0.4164	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+1.60S+0.50W	0.2909	-X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+1.60S+0.50W	0.4464	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+1.60S-0.50W	0.5419	-X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+1.60S-0.50W	0.3863	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+W	0.2081	-X	Top	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+W	0.1030	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D-W	0.2940	-X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D-W	0.01715	+X	Top	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+0.50S+W	0.09141	-X	Top	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+0.50S+W	0.2197	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+0.50S-W	0.4107	-X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+0.50S-W	0.09955	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+0.70S	0.2063	-X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +1.20D+0.70S	0.2063	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +0.90D+W	0.1828	-X	Top	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +0.90D+W	0.1131	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +0.90D-W	0.2833	-X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +0.90D-W	0.02789	+X	Top	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +0.90D	0.03221	-X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK
Z-Z, +0.90D	0.03221	+X	Bottom	0.2592	Min Temp %	0.4133	15.986	OK

One Way Shear

Load Combination...	Vu @ -X	Vu @ +X	Vu @ -Z	Vu @ +Z	Vu:Max	Phi Vn	Vu / Phi*Vn	Status
+1.40D	0.12 psi	0.12 psi	0.12 psi	0.12 psi	0.12 psi	82.16 psi	0.00	OK
+1.20D	0.10 psi	0.10 psi	0.10 psi	0.10 psi	0.10 psi	82.16 psi	0.00	OK
+1.20D+0.50S	0.38 psi	0.38 psi	0.38 psi	0.38 psi	0.38 psi	82.16 psi	0.00	OK
+1.20D+0.50W	0.23 psi	0.21 psi	0.23 psi	0.21 psi	0.23 psi	82.16 psi	0.00	OK
+1.20D-0.50W	0.44 psi	0.00 psi	0.44 psi	0.00 psi	0.44 psi	82.16 psi	0.01	OK
+1.20D+1.60S	1.00 psi	1.00 psi	1.00 psi	1.00 psi	1.00 psi	82.16 psi	0.01	OK
+1.20D+1.60S+0.50W	0.66 psi	1.11 psi	0.66 psi	1.11 psi	1.11 psi	82.16 psi	0.01	OK
+1.20D+1.60S-0.50W	1.34 psi	0.89 psi	1.34 psi	0.89 psi	1.34 psi	82.16 psi	0.02	OK
+1.20D+W	0.57 psi	0.32 psi	0.57 psi	0.32 psi	0.57 psi	82.16 psi	0.01	OK
+1.20D-W	0.78 psi	0.11 psi	0.78 psi	0.11 psi	0.78 psi	82.16 psi	0.01	OK
+1.20D+0.50S+W	0.29 psi	0.60 psi	0.29 psi	0.60 psi	0.60 psi	82.16 psi	0.01	OK
+1.20D+0.50S-W	1.06 psi	0.17 psi	1.06 psi	0.17 psi	1.06 psi	82.16 psi	0.01	OK
+1.20D+0.70S	0.50 psi	0.50 psi	0.50 psi	0.50 psi	0.50 psi	82.16 psi	0.01	OK
+0.90D+W	0.44 psi	0.36 psi	0.44 psi	0.36 psi	0.44 psi	82.16 psi	0.01	OK
+0.90D-W	0.75 psi	0.14 psi	0.75 psi	0.14 psi	0.75 psi	82.16 psi	0.01	OK
+0.90D	0.08 psi	0.08 psi	0.08 psi	0.08 psi	0.08 psi	82.16 psi	0.00	OK

Two-Way "Punching" Shear

All units k

Load Combination...	Vu	Phi*Vn	Vu / Phi*Vn	Status
+1.40D	0.74 psi	164.32 psi	0.004479	OK
+1.20D	0.63 psi	164.32 psi	0.003839	OK
+1.20D+0.50S	2.35 psi	164.32 psi	0.01427	OK
+1.20D+0.50W	0.07 psi	164.32 psi	0.000428	OK
+1.20D-0.50W	1.33 psi	164.32 psi	0.008107	OK
+1.20D+1.60S	6.12 psi	164.32 psi	0.03722	OK
+1.20D+1.60S+0.50W	5.42 psi	164.32 psi	0.03295	OK
+1.20D+1.60S-0.50W	6.82 psi	164.32 psi	0.04149	OK
+1.20D+W	0.77 psi	164.32 psi	0.004696	OK
+1.20D-W	2.03 psi	164.32 psi	0.01238	OK
+1.20D+0.50S+W	0.94 psi	164.32 psi	0.005736	OK
+1.20D+0.50S-W	3.75 psi	164.32 psi	0.02281	OK
+1.20D+0.70S	3.03 psi	164.32 psi	0.01844	OK
+0.90D+W	0.73 psi	164.32 psi	0.004452	OK
+0.90D-W	1.88 psi	164.32 psi	0.01142	OK
+0.90D	0.47 psi	164.32 psi	0.00288	OK

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

General Footing

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Description : Footing F4 (MAX LOAD)

Code References

Calculations per TMS 402-16, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2015

General Information

Material Properties

f'c : Concrete 28 day strength	=	3.0	ksi
fy : Rebar Yield	=	60.0	ksi
Ec : Concrete Elastic Modulus	=	3,122.02	ksi
Concrete Density	=	145.0	pcf
φ Values Flexure	=	0.90	
Shear	=	0.750	

Analysis Settings

Min Steel % Bending Reinf.	=	
Min Allow % Temp Reinf.	=	0.00180
Min. Overturning Safety Factor	=	1.50 : 1
Min. Sliding Safety Factor	=	1.50 : 1
Add Ftg Wt for Soil Pressure	:	Yes
Use ftg wt for stability, moments & shears	:	Yes
Add Pedestal Wt for Soil Pressure	:	No
Use Pedestal wt for stability, mom & shear	:	No

Soil Design Values

Allowable Soil Bearing	=	3.50	ksf
Increase Bearing By Footing Weight	=	Yes	
Soil Passive Resistance (for Sliding)	=	390.0	pcf
Soil/Concrete Friction Coeff.	=	0.450	

Increases based on footing Depth

Footing base depth below soil surface	=	1.50	ft
Allow press. increase per foot of depth	=		ksf
when footing base is below	=		ft

Increases based on footing plan dimension

Allowable pressure increase per foot of depth	=		ksf
when max. length or width is greater than	=		ft

Dimensions

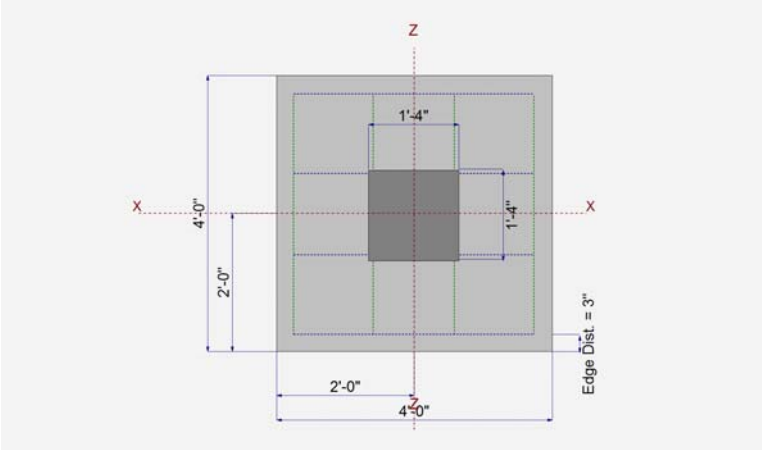
Width parallel to X-X Axis	=	4.0 ft
Length parallel to Z-Z Axis	=	4.0 ft
Footing Thickness	=	12.0 in

Pedestal dimensions...

px : parallel to X-X Axis	=	16.0 in
pz : parallel to Z-Z Axis	=	16.0 in
Height	=	2.0 in

Rebar Centerline to Edge of Concrete...

at Bottom of footing	=	3.0 in

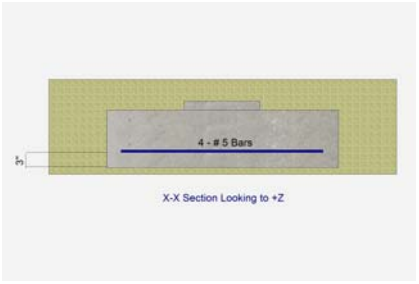


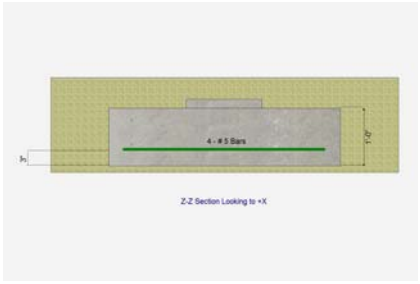
Reinforcing

Bars parallel to X-X Axis			
Number of Bars	=		4.0
Reinforcing Bar Size	=	#	5
Bars parallel to Z-Z Axis			
Number of Bars	=		4.0
Reinforcing Bar Size	=	#	5

Bandwidth Distribution Check (ACI 15.4.4.2)

Direction Requiring Closer Separation	n/a
# Bars required within zone	n/a
# Bars required on each side of zone	n/a





Applied Loads

		D	Lr	L	S	W	E	H	
P : Column Load	=	14		32.0		-2.0			k
OB : Overburden	=								ksf
M-xx	=								k-ft
M-zz	=								k-ft
V-x	=								k
V-z	=								k

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

General Footing

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Description : Footing F4 (MAX LOAD)

DESIGN SUMMARY

Design OK

	Min. Ratio	Item	Applied	Capacity	Governing Load Combination
PASS	0.8420	Soil Bearing	3.069 ksf	3.645 ksf	+D+L about Z-Z axis
PASS	n/a	Overturning - X-X	0.0 k-ft	0.0 k-ft	No Overturning
PASS	n/a	Overturning - Z-Z	0.0 k-ft	0.0 k-ft	No Overturning
PASS	n/a	Sliding - X-X	0.0 k	0.0 k	No Sliding
PASS	n/a	Sliding - Z-Z	0.0 k	0.0 k	No Sliding
PASS	8.551	Uplift	-1.20 k	10.261 k	+0.60D+0.60W
PASS	0.3108	Z Flexure (+X)	3.771 k-ft/ft	12.131 k-ft/ft	+1.20D+1.60L
PASS	0.3108	Z Flexure (-X)	3.771 k-ft/ft	12.131 k-ft/ft	+1.20D+1.60L
PASS	0.3108	X Flexure (+Z)	3.771 k-ft/ft	12.131 k-ft/ft	+1.20D+1.60L
PASS	0.3108	X Flexure (-Z)	3.771 k-ft/ft	12.131 k-ft/ft	+1.20D+1.60L
PASS	0.2869	1-way Shear (+X)	23.570 psi	82.158 psi	+1.20D+1.60L
PASS	0.2869	1-way Shear (-X)	23.570 psi	82.158 psi	+1.20D+1.60L
PASS	0.2869	1-way Shear (+Z)	23.570 psi	82.158 psi	+1.20D+1.60L
PASS	0.2869	1-way Shear (-Z)	23.570 psi	82.158 psi	+1.20D+1.60L
PASS	0.3349	2-way Punching	55.030 psi	164.317 psi	+1.20D+1.60L

Detailed Results

Soil Bearing

Rotation Axis & Load Combination...	Gross Allowable	Xecc (in)	Zecc (in)	Actual Soil Bearing Stress @ Location Bottom, -Z	Top, +Z	Left, -X	Right, +X	Actual / Allow Ratio
X-X, D Only	3.645	n/a	0.0	1.069	1.069	n/a	n/a	0.293
X-X, +D+L	3.645	n/a	0.0	3.069	3.069	n/a	n/a	0.842
X-X, +D+0.750L	3.645	n/a	0.0	2.569	2.569	n/a	n/a	0.705
X-X, +D+0.60W	3.645	n/a	0.0	0.9939	0.9939	n/a	n/a	0.273
X-X, +D+0.750L+0.450W	3.645	n/a	0.0	2.513	2.513	n/a	n/a	0.689
X-X, +0.60D+0.60W	3.645	n/a	0.0	0.5663	0.5663	n/a	n/a	0.155
X-X, +0.60D	3.645	n/a	0.0	0.6413	0.6413	n/a	n/a	0.176
Z-Z, D Only	3.645	0.0	n/a	n/a	n/a	1.069	1.069	0.293
Z-Z, +D+L	3.645	0.0	n/a	n/a	n/a	3.069	3.069	0.842
Z-Z, +D+0.750L	3.645	0.0	n/a	n/a	n/a	2.569	2.569	0.705
Z-Z, +D+0.60W	3.645	0.0	n/a	n/a	n/a	0.9939	0.9939	0.273
Z-Z, +D+0.750L+0.450W	3.645	0.0	n/a	n/a	n/a	2.513	2.513	0.689
Z-Z, +0.60D+0.60W	3.645	0.0	n/a	n/a	n/a	0.5663	0.5663	0.155
Z-Z, +0.60D	3.645	0.0	n/a	n/a	n/a	0.6413	0.6413	0.176

Overturning Stability

Rotation Axis & Load Combination...	Overturning Moment	Resisting Moment	Stability Ratio	Status
Footing Has NO Overturning				

All units k

Sliding Stability

Force Application Axis Load Combination...	Sliding Force	Resisting Force	Stability Ratio	Status
Footing Has NO Sliding				

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
X-X, +1.40D	1.081	+Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK
X-X, +1.40D	1.081	-Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK
X-X, +1.20D+1.60L	3.771	+Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK
X-X, +1.20D+1.60L	3.771	-Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK
X-X, +1.20D+0.50L	1.816	+Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK
X-X, +1.20D+0.50L	1.816	-Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK
X-X, +1.20D+0.50W	0.8712	+Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK
X-X, +1.20D+0.50W	0.8712	-Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK
X-X, +1.20D+0.50L+W	1.704	+Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK
X-X, +1.20D+0.50L+W	1.704	-Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

General Footing

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Description : Footing F4 (MAX LOAD)

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
X-X, +0.90D+W	0.5839	+Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK
X-X, +0.90D+W	0.5839	-Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK
X-X, +0.90D	0.6950	+Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK
X-X, +0.90D	0.6950	-Z	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +1.40D	1.081	-X	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +1.40D	1.081	+X	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +1.20D+1.60L	3.771	-X	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +1.20D+1.60L	3.771	+X	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +1.20D+0.50L	1.816	-X	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +1.20D+0.50L	1.816	+X	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +1.20D+0.50W	0.8712	-X	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +1.20D+0.50W	0.8712	+X	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +1.20D+0.50L+W	1.704	-X	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +1.20D+0.50L+W	1.704	+X	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +0.90D+W	0.5839	-X	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +0.90D+W	0.5839	+X	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +0.90D	0.6950	-X	Bottom	0.2592	Min Temp %	0.310	12.131	OK
Z-Z, +0.90D	0.6950	+X	Bottom	0.2592	Min Temp %	0.310	12.131	OK

One Way Shear

Load Combination...	Vu @ -X	Vu @ +X	Vu @ -Z	Vu @ +Z	Vu:Max	Phi Vn	Vu / Phi*Vn	Status
+1.40D	6.76 psi	6.76 psi	6.76 psi	6.76 psi	6.76 psi	82.16 psi	0.08	OK
+1.20D+1.60L	23.57 psi	23.57 psi	23.57 psi	23.57 psi	23.57 psi	82.16 psi	0.29	OK
+1.20D+0.50L	11.35 psi	11.35 psi	11.35 psi	11.35 psi	11.35 psi	82.16 psi	0.14	OK
+1.20D+0.50W	5.45 psi	5.45 psi	5.45 psi	5.45 psi	5.45 psi	82.16 psi	0.07	OK
+1.20D+0.50L+W	10.65 psi	10.65 psi	10.65 psi	10.65 psi	10.65 psi	82.16 psi	0.13	OK
+0.90D+W	3.65 psi	3.65 psi	3.65 psi	3.65 psi	3.65 psi	82.16 psi	0.04	OK
+0.90D	4.34 psi	4.34 psi	4.34 psi	4.34 psi	4.34 psi	82.16 psi	0.05	OK

Two-Way "Punching" Shear

All units k

Load Combination...	Vu	Phi*Vn	Vu / Phi*Vn	Status
+1.40D	15.78 psi	164.32 psi	0.09602	OK
+1.20D+1.60L	55.03 psi	164.32 psi	0.3349	OK
+1.20D+0.50L	26.50 psi	164.32 psi	0.1612	OK
+1.20D+0.50W	12.71 psi	164.32 psi	0.07737	OK
+1.20D+0.50L+W	24.87 psi	164.32 psi	0.1514	OK
+0.90D+W	8.52 psi	164.32 psi	0.05186	OK
+0.90D	10.14 psi	164.32 psi	0.06173	OK

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Project Title: Holiday Inn Express
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Project ID: ABQ #23-015
Project Descr: HIESCO

General Footing

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Description : Footing F5.5 (MAX LOAD)

Code References

Calculations per TMS 402-16, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2015

General Information

Material Properties

f'c : Concrete 28 day strength	=	3.0	ksi
fy : Rebar Yield	=	60.0	ksi
Ec : Concrete Elastic Modulus	=	3,122.02	ksi
Concrete Density	=	145.0	pcf
φ Values Flexure	=	0.90	
Shear	=	0.750	

Analysis Settings

Min Steel % Bending Reinf.	=	
Min Allow % Temp Reinf.	=	0.00180
Min. Overturning Safety Factor	=	1.50 : 1
Min. Sliding Safety Factor	=	1.50 : 1
Add Ftg Wt for Soil Pressure	:	Yes
Use ftg wt for stability, moments & shears	:	Yes
Add Pedestal Wt for Soil Pressure	:	No
Use Pedestal wt for stability, mom & shear	:	No

Soil Design Values

Allowable Soil Bearing	=	3.50	ksf
Increase Bearing By Footing Weight	=	Yes	
Soil Passive Resistance (for Sliding)	=	390.0	pcf
Soil/Concrete Friction Coeff.	=	0.450	

Increases based on footing Depth

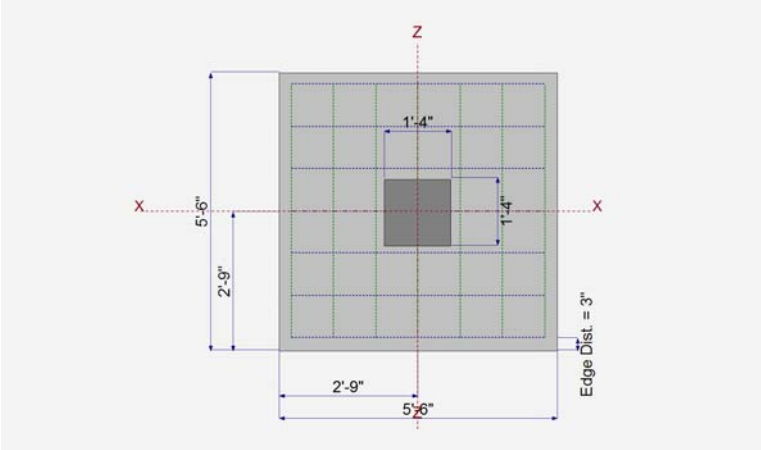
Footing base depth below soil surface	=	1.50	ft
Allow press. increase per foot of depth	=		ksf
when footing base is below	=		ft

Increases based on footing plan dimension

Allowable pressure increase per foot of depth	=		ksf
when max. length or width is greater than	=		ft

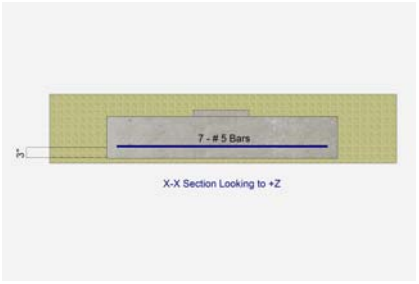
Dimensions

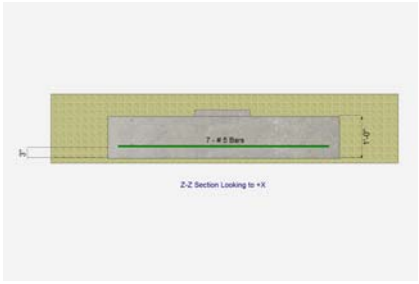
Width parallel to X-X Axis	=	5.50	ft
Length parallel to Z-Z Axis	=	5.50	ft
Footing Thickness	=	12.0	in
Pedestal dimensions...			
px : parallel to X-X Axis	=	16.0	in
pz : parallel to Z-Z Axis	=	16.0	in
Height	=	2.0	in
Rebar Centerline to Edge of Concrete...			
at Bottom of footing	=	3.0	in



Reinforcing

Bars parallel to X-X Axis			
Number of Bars	=		7.0
Reinforcing Bar Size	=	#	5
Bars parallel to Z-Z Axis			
Number of Bars	=		7.0
Reinforcing Bar Size	=	#	5
Bandwidth Distribution Check (ACI 15.4.4.2)			
Direction Requiring Closer Separation			
			n/a
# Bars required within zone			n/a
# Bars required on each side of zone			n/a





Applied Loads

		D	Lr	L	S	W	E	H	
P : Column Load	=	27		64.0		-2.0			k
OB : Overburden	=								ksf
M-xx	=								k-ft
M-zz	=								k-ft
V-x	=								k
V-z	=								k

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General Footing

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Description : Footing F5.5 (MAX LOAD)

DESIGN SUMMARY

Design OK

	Min. Ratio	Item	Applied	Capacity	Governing Load Combination
PASS	0.8793	Soil Bearing	3.205 ksf	3.645 ksf	+D+L about Z-Z axis
PASS	n/a	Overturning - X-X	0.0 k-ft	0.0 k-ft	No Overturning
PASS	n/a	Overturning - Z-Z	0.0 k-ft	0.0 k-ft	No Overturning
PASS	n/a	Sliding - X-X	0.0 k	0.0 k	No Sliding
PASS	n/a	Sliding - Z-Z	0.0 k	0.0 k	No Sliding
PASS	16.476	Uplift	-1.20 k	19.771 k	+0.60D+0.60W
PASS	0.6318	Z Flexure (+X)	9.662 k-ft/ft	15.292 k-ft/ft	+1.20D+1.60L
PASS	0.6318	Z Flexure (-X)	9.662 k-ft/ft	15.292 k-ft/ft	+1.20D+1.60L
PASS	0.6318	X Flexure (+Z)	9.662 k-ft/ft	15.292 k-ft/ft	+1.20D+1.60L
PASS	0.6318	X Flexure (-Z)	9.662 k-ft/ft	15.292 k-ft/ft	+1.20D+1.60L
PASS	0.6623	1-way Shear (+X)	54.417 psi	82.158 psi	+1.20D+1.60L
PASS	0.6623	1-way Shear (-X)	54.417 psi	82.158 psi	+1.20D+1.60L
PASS	0.6623	1-way Shear (+Z)	54.417 psi	82.158 psi	+1.20D+1.60L
PASS	0.6623	1-way Shear (-Z)	54.417 psi	82.158 psi	+1.20D+1.60L
PASS	0.7792	2-way Punching	128.038 psi	164.317 psi	+1.20D+1.60L

Detailed Results

Soil Bearing

Rotation Axis & Load Combination...	Gross Allowable	Xecc (in)	Zecc (in)	Actual Soil Bearing Stress @ Location Bottom, -Z	Top, +Z	Left, -X	Right, +X	Actual / Allow Ratio
X-X, D Only	3.645	n/a	0.0	1.089	1.089	n/a	n/a	0.299
X-X, +D+L	3.645	n/a	0.0	3.205	3.205	n/a	n/a	0.879
X-X, +D+0.750L	3.645	n/a	0.0	2.676	2.676	n/a	n/a	0.734
X-X, +D+0.60W	3.645	n/a	0.0	1.050	1.050	n/a	n/a	0.288
X-X, +D+0.750L+0.450W	3.645	n/a	0.0	2.646	2.646	n/a	n/a	0.726
X-X, +0.60D+0.60W	3.645	n/a	0.0	0.6139	0.6139	n/a	n/a	0.168
X-X, +0.60D	3.645	n/a	0.0	0.6536	0.6536	n/a	n/a	0.179
Z-Z, D Only	3.645	0.0	n/a	n/a	n/a	1.089	1.089	0.299
Z-Z, +D+L	3.645	0.0	n/a	n/a	n/a	3.205	3.205	0.879
Z-Z, +D+0.750L	3.645	0.0	n/a	n/a	n/a	2.676	2.676	0.734
Z-Z, +D+0.60W	3.645	0.0	n/a	n/a	n/a	1.050	1.050	0.288
Z-Z, +D+0.750L+0.450W	3.645	0.0	n/a	n/a	n/a	2.646	2.646	0.726
Z-Z, +0.60D+0.60W	3.645	0.0	n/a	n/a	n/a	0.6139	0.6139	0.168
Z-Z, +0.60D	3.645	0.0	n/a	n/a	n/a	0.6536	0.6536	0.179

Overturning Stability

Rotation Axis & Load Combination...	Overturning Moment	Resisting Moment	Stability Ratio	Status
Footing Has NO Overturning				

All units k

Sliding Stability

Force Application Axis Load Combination...	Sliding Force	Resisting Force	Stability Ratio	Status
Footing Has NO Sliding				

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
X-X, +1.40D	2.702	+Z	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
X-X, +1.40D	2.702	-Z	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
X-X, +1.20D+1.60L	9.662	+Z	Bottom	0.3268	Min ACI 10.5	0.3945	15.292	OK
X-X, +1.20D+1.60L	9.662	-Z	Bottom	0.3268	Min ACI 10.5	0.3945	15.292	OK
X-X, +1.20D+0.50L	4.612	+Z	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
X-X, +1.20D+0.50L	4.612	-Z	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
X-X, +1.20D+0.50W	2.244	+Z	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
X-X, +1.20D+0.50W	2.244	-Z	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
X-X, +1.20D+0.50L+W	4.468	+Z	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
X-X, +1.20D+0.50L+W	4.468	-Z	Bottom	0.2592	Min Temp %	0.3945	15.292	OK

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

General Footing

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Description : Footing F5.5 (MAX LOAD)

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
X-X, +0.90D+W	1.593	+Z	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
X-X, +0.90D+W	1.593	-Z	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
X-X, +0.90D	1.737	+Z	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
X-X, +0.90D	1.737	-Z	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
Z-Z, +1.40D	2.702	-X	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
Z-Z, +1.40D	2.702	+X	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
Z-Z, +1.20D+1.60L	9.662	-X	Bottom	0.3268	Min ACI 10.5	0.3945	15.292	OK
Z-Z, +1.20D+1.60L	9.662	+X	Bottom	0.3268	Min ACI 10.5	0.3945	15.292	OK
Z-Z, +1.20D+0.50L	4.612	-X	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
Z-Z, +1.20D+0.50L	4.612	+X	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
Z-Z, +1.20D+0.50W	2.244	-X	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
Z-Z, +1.20D+0.50W	2.244	+X	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
Z-Z, +1.20D+0.50L+W	4.468	-X	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
Z-Z, +1.20D+0.50L+W	4.468	+X	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
Z-Z, +0.90D+W	1.593	-X	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
Z-Z, +0.90D+W	1.593	+X	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
Z-Z, +0.90D	1.737	-X	Bottom	0.2592	Min Temp %	0.3945	15.292	OK
Z-Z, +0.90D	1.737	+X	Bottom	0.2592	Min Temp %	0.3945	15.292	OK

One Way Shear

Load Combination...	Vu @ -X	Vu @ +X	Vu @ -Z	Vu @ +Z	Vu:Max	Phi Vn	Vu / Phi*Vn	Status
+1.40D	15.22 psi	15.22 psi	15.22 psi	15.22 psi	15.22 psi	82.16 psi	0.19	OK
+1.20D+1.60L	54.42 psi	54.42 psi	54.42 psi	54.42 psi	54.42 psi	82.16 psi	0.66	OK
+1.20D+0.50L	25.97 psi	25.97 psi	25.97 psi	25.97 psi	25.97 psi	82.16 psi	0.32	OK
+1.20D+0.50W	12.64 psi	12.64 psi	12.64 psi	12.64 psi	12.64 psi	82.16 psi	0.15	OK
+1.20D+0.50L+W	25.17 psi	25.17 psi	25.17 psi	25.17 psi	25.17 psi	82.16 psi	0.31	OK
+0.90D+W	8.98 psi	8.98 psi	8.98 psi	8.98 psi	8.98 psi	82.16 psi	0.11	OK
+0.90D	9.78 psi	9.78 psi	9.78 psi	9.78 psi	9.78 psi	82.16 psi	0.12	OK

Two-Way "Punching" Shear

All units k

Load Combination...	Vu	Phi*Vn	Vu / Phi*Vn	Status
+1.40D	35.81 psi	164.32 psi	0.2179	OK
+1.20D+1.60L	128.04 psi	164.32 psi	0.7792	OK
+1.20D+0.50L	61.11 psi	164.32 psi	0.3719	OK
+1.20D+0.50W	29.74 psi	164.32 psi	0.181	OK
+1.20D+0.50L+W	59.21 psi	164.32 psi	0.3603	OK
+0.90D+W	21.12 psi	164.32 psi	0.1285	OK
+0.90D	23.02 psi	164.32 psi	0.1401	OK

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

REVISON 10-16-23

General Footing

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Description : Footing F6.0 (MAX LOAD) CANOPY

Code References

Calculations per TMS 402-16, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2018

General Information

Material Properties

f'c : Concrete 28 day strength	=	3.0	ksi
fy : Rebar Yield	=	60.0	ksi
Ec : Concrete Elastic Modulus	=	3,122.02	ksi
Concrete Density	=	145.0	pcf
φ Values Flexure	=	0.90	
Shear	=	0.750	

Analysis Settings

Min Steel % Bending Reinf.	=	
Min Allow % Temp Reinf.	=	0.00180
Min. Overturning Safety Factor	=	1.50 : 1
Min. Sliding Safety Factor	=	1.50 : 1
Add Ftg Wt for Soil Pressure	:	Yes
Use ftg wt for stability, moments & shears	:	Yes
Add Pedestal Wt for Soil Pressure	:	Yes
Use Pedestal wt for stability, mom & shear	:	Yes

Soil Design Values

Allowable Soil Bearing	=	3.0	ksf
Increase Bearing By Footing Weight	=	Yes	
Soil Passive Resistance (for Sliding)	=	390.0	pcf
Soil/Concrete Friction Coeff.	=	0.450	

Increases based on footing Depth

Footing base depth below soil surface	=	4.0	ft
Allow press. increase per foot of depth	=		ksf
when footing base is below	=		ft

Increases based on footing plan dimension

Allowable pressure increase per foot of depth	=		ksf
when max. length or width is greater than	=		ft

Dimensions

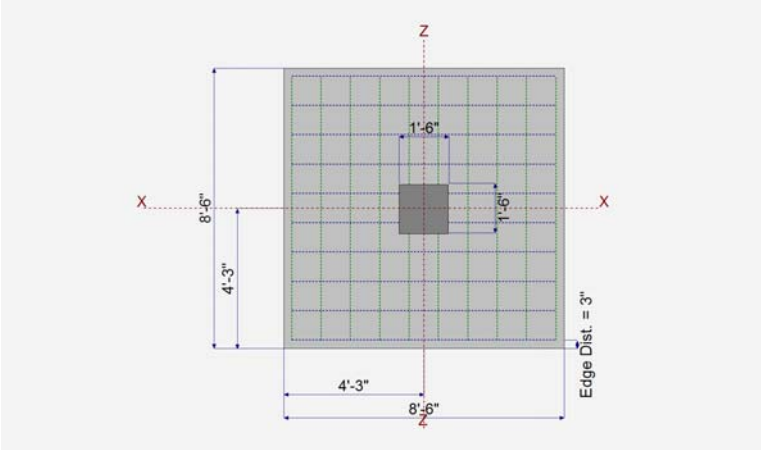
Width parallel to X-X Axis	=	8.50 ft
Length parallel to Z-Z Axis	=	8.50 ft
Footing Thickness	=	14.0 in

Pedestal dimensions...

px : parallel to X-X Axis	=	18.0 in
pz : parallel to Z-Z Axis	=	18.0 in
Height	=	54.0 in

Rebar Centerline to Edge of Concrete...

at Bottom of footing	=	3.0 in

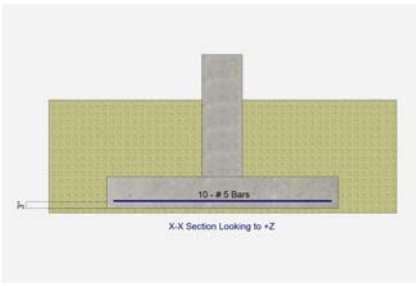


Reinforcing

Bars parallel to X-X Axis			
Number of Bars	=		10
Reinforcing Bar Size	=	#	5
Bars parallel to Z-Z Axis			
Number of Bars	=		10
Reinforcing Bar Size	=	#	5

Bandwidth Distribution Check (ACI 15.4.4.2)

Direction Requiring Closer Separation	n/a
# Bars required within zone	n/a
# Bars required on each side of zone	n/a



Applied Loads

		D	Lr	L	S	W	E	H	
P : Column Load	=	16.20			76.0	-26.50			k
OB : Overburden	=								ksf
M-xx	=								k-ft
M-zz	=								k-ft
V-x	=	0.20			1.0	4.0			k
V-z	=	0.20			1.0	4.0			k

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General Footing

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Description : Footing F6.0 (MAX LOAD) CANOPY

DESIGN SUMMARY

Design OK

	Min. Ratio	Item	Applied	Capacity	Governing Load Combination
PASS	0.5784	Soil Bearing	1.833 ksf	3.169 ksf	+D+S about Z-Z axis
PASS	1.611	Overturning - X-X	81.855 k-ft	131.853 k-ft	+0.60D+0.60W
PASS	1.611	Overturning - Z-Z	81.855 k-ft	131.853 k-ft	+0.60D+0.60W
PASS	7.944	Sliding - X-X	2.520 k	20.020 k	+0.60D+0.60W
PASS	7.944	Sliding - Z-Z	2.520 k	20.020 k	+0.60D+0.60W
PASS	1.951	Uplift	-15.90 k	31.024 k	+0.60D+0.60W
PASS	0.7511	Z Flexure (+X)	13.118 k-ft/ft	17.466 k-ft/ft	+1.20D+1.60S-0.50W
PASS	0.7556	Z Flexure (-X)	13.197 k-ft/ft	17.466 k-ft/ft	+1.20D+1.60S-0.50W
PASS	0.7511	X Flexure (+Z)	13.118 k-ft/ft	17.466 k-ft/ft	+1.20D+1.60S-0.50W
PASS	0.7556	X Flexure (-Z)	13.197 k-ft/ft	17.466 k-ft/ft	+1.20D+1.60S-0.50W
PASS	0.5037	1-way Shear (+X)	41.380 psi	82.158 psi	+1.20D+1.60S-0.50W
PASS	0.5066	1-way Shear (-X)	41.620 psi	82.158 psi	+1.20D+1.60S-0.50W
PASS	0.5037	1-way Shear (+Z)	41.380 psi	82.158 psi	+1.20D+1.60S-0.50W
PASS	0.5066	1-way Shear (-Z)	41.620 psi	82.158 psi	+1.20D+1.60S-0.50W
PASS	0.6822	2-way Punching	112.102 psi	164.317 psi	+1.20D+1.60S-0.50W

Detailed Results

Soil Bearing

Rotation Axis & Load Combination...	Gross Allowable	Xecc (in)	Zecc (in)	Actual Soil Bearing Stress @ Location Bottom, -Z	Top, +Z	Left, -X	Right, +X	Actual / Allow Ratio
X-X, D Only	3.169	n/a	0.2630	0.7047	0.7266	n/a	n/a	0.229
X-X, +D+S	3.169	n/a	0.6390	1.702	1.833	n/a	n/a	0.578
X-X, +D+0.750S	3.169	n/a	0.5943	1.453	1.557	n/a	n/a	0.491
X-X, +D+0.60W	3.169	n/a	4.938	0.3531	0.6381	n/a	n/a	0.201
X-X, +D+0.450W	3.169	n/a	3.419	0.4410	0.6602	n/a	n/a	0.208
X-X, +D+0.750S+0.450W	3.169	n/a	1.932	1.189	1.490	n/a	n/a	0.470
X-X, +0.60D+0.60W	3.169	n/a	11.330	0.07121	0.3475	n/a	n/a	0.110
X-X, +0.60D	3.169	n/a	0.2630	0.4228	0.4360	n/a	n/a	0.138
Z-Z, D Only	3.169	0.2630	n/a	n/a	n/a	0.7047	0.7266	0.229
Z-Z, +D+S	3.169	0.6390	n/a	n/a	n/a	1.702	1.833	0.578
Z-Z, +D+0.750S	3.169	0.5943	n/a	n/a	n/a	1.453	1.557	0.491
Z-Z, +D+0.60W	3.169	4.938	n/a	n/a	n/a	0.3531	0.6381	0.201
Z-Z, +D+0.450W	3.169	3.419	n/a	n/a	n/a	0.4410	0.6602	0.208
Z-Z, +D+0.750S+0.450W	3.169	1.932	n/a	n/a	n/a	1.189	1.490	0.470
Z-Z, +0.60D+0.60W	3.169	11.330	n/a	n/a	n/a	0.07121	0.3475	0.110
Z-Z, +0.60D	3.169	0.2630	n/a	n/a	n/a	0.4228	0.4360	0.138

Overturning Stability

Rotation Axis & Load Combination...	Overturning Moment	Resisting Moment	Stability Ratio	Status
X-X, D Only	1.133 k-ft	219.755 k-ft	193.902	OK
X-X, +D+S	6.80 k-ft	542.76 k-ft	79.817	OK
X-X, +D+0.750S	5.383 k-ft	462.005 k-ft	85.821	OK
X-X, +D+0.60W	82.308 k-ft	219.755 k-ft	2.670	OK
X-X, +D+0.450W	62.015 k-ft	219.755 k-ft	3.544	OK
X-X, +D+0.750S+0.450W	66.265 k-ft	462.005 k-ft	6.972	OK
X-X, +0.60D+0.60W	81.855 k-ft	131.853 k-ft	1.611	OK
X-X, +0.60D	0.680 k-ft	131.853 k-ft	193.902	OK
Z-Z, D Only	1.133 k-ft	219.755 k-ft	193.902	OK
Z-Z, +D+S	6.80 k-ft	542.76 k-ft	79.817	OK
Z-Z, +D+0.750S	5.383 k-ft	462.005 k-ft	85.821	OK
Z-Z, +D+0.60W	82.308 k-ft	219.755 k-ft	2.670	OK
Z-Z, +D+0.450W	62.015 k-ft	219.755 k-ft	3.544	OK
Z-Z, +D+0.750S+0.450W	66.265 k-ft	462.005 k-ft	6.972	OK
Z-Z, +0.60D+0.60W	81.855 k-ft	131.853 k-ft	1.611	OK
Z-Z, +0.60D	0.680 k-ft	131.853 k-ft	193.902	OK

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General Footing

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Description : Footing F6.0 (MAX LOAD) CANOPY

Sliding Stability

All units k

Force Application Axis

Load Combination...	Sliding Force	Resisting Force	Stability Ratio	Status
X-X, D Only	0.20 k	36.482 k	182.411	OK
X-X, +D+S	1.20 k	70.682 k	58.902	OK
X-X, +D+0.750S	0.950 k	62.132 k	65.402	OK
X-X, +D+0.60W	2.60 k	29.327 k	11.280	OK
X-X, +D+0.450W	2.0 k	31.116 k	15.558	OK
X-X, +D+0.750S+0.450W	2.750 k	56.766 k	20.642	OK
X-X, +0.60D+0.60W	2.520 k	20.020 k	7.944	OK
X-X, +0.60D	0.120 k	27.175 k	226.457	OK
Z-Z, D Only	0.20 k	36.482 k	182.411	OK
Z-Z, +D+S	1.20 k	70.682 k	58.902	OK
Z-Z, +D+0.750S	0.950 k	62.132 k	65.402	OK
Z-Z, +D+0.60W	2.60 k	29.327 k	11.280	OK
Z-Z, +D+0.450W	2.0 k	31.116 k	15.558	OK
Z-Z, +D+0.750S+0.450W	2.750 k	56.766 k	20.642	OK
Z-Z, +0.60D+0.60W	2.520 k	20.020 k	7.944	OK
Z-Z, +0.60D	0.120 k	27.175 k	226.457	OK

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
X-X, +1.40D	2.083	+Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.40D	1.945	-Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D	1.785	+Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D	1.667	-Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D+0.50S	5.129	+Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D+0.50S	4.765	-Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D+0.50W	1.154	+Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D+0.50W	0.05175	-Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D-0.50W	2.416	+Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D-0.50W	3.282	-Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D+1.60S	12.487	+Z	Bottom	0.3443	Min ACI 10.5	0.3647	17.466	OK
X-X, +1.20D+1.60S	11.582	-Z	Bottom	0.3188	Min ACI 10.5	0.3647	17.466	OK
X-X, +1.20D+1.60S+0.50W	11.856	+Z	Bottom	0.3265	Min ACI 10.5	0.3647	17.466	OK
X-X, +1.20D+1.60S+0.50W	9.967	-Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D+1.60S-0.50W	13.118	+Z	Bottom	0.3621	Min ACI 10.5	0.3647	17.466	OK
X-X, +1.20D+1.60S-0.50W	13.197	-Z	Bottom	0.3644	Min ACI 10.5	0.3647	17.466	OK
X-X, +1.20D+W	0.5225	+Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D+W	1.563	-Z	Top	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D-W	3.048	+Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D-W	4.897	-Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D+0.50S+W	3.867	+Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D+0.50S+W	1.535	-Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D+0.50S-W	6.392	+Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D+0.50S-W	7.996	-Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D+0.70S	6.467	+Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +1.20D+0.70S	6.005	-Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +0.90D+W	0.07623	+Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +0.90D+W	1.980	-Z	Top	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +0.90D-W	2.601	+Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +0.90D-W	4.481	-Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +0.90D	1.339	+Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
X-X, +0.90D	1.250	-Z	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.40D	1.945	-X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.40D	2.083	+X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D	1.667	-X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D	1.785	+X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D+0.50S	4.765	-X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D+0.50S	5.129	+X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D+0.50W	0.05175	-X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D+0.50W	1.154	+X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D-0.50W	3.282	-X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D-0.50W	2.416	+X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D+1.60S	11.582	-X	Bottom	0.3188	Min ACI 10.5	0.3647	17.466	OK

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

REVISON 10-16-23

General Footing

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Description : Footing F6.0 (MAX LOAD) CANOPY

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
Z-Z, +1.20D+1.60S	12.487	+X	Bottom	0.3443	Min ACI 10.5	0.3647	17.466	OK
Z-Z, +1.20D+1.60S+0.50W	9.967	-X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D+1.60S+0.50W	11.856	+X	Bottom	0.3265	Min ACI 10.5	0.3647	17.466	OK
Z-Z, +1.20D+1.60S-0.50W	13.197	-X	Bottom	0.3644	Min ACI 10.5	0.3647	17.466	OK
Z-Z, +1.20D+1.60S-0.50W	13.118	+X	Bottom	0.3621	Min ACI 10.5	0.3647	17.466	OK
Z-Z, +1.20D+W	1.563	-X	Top	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D+W	0.5225	+X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D-W	4.897	-X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D-W	3.048	+X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D+0.50S+W	1.535	-X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D+0.50S+W	3.867	+X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D+0.50S-W	7.996	-X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D+0.50S-W	6.392	+X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D+0.70S	6.005	-X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +1.20D+0.70S	6.467	+X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +0.90D+W	1.980	-X	Top	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +0.90D+W	0.07623	+X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +0.90D-W	4.481	-X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +0.90D-W	2.601	+X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +0.90D	1.250	-X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK
Z-Z, +0.90D	1.339	+X	Bottom	0.3024	Min Temp %	0.3647	17.466	OK

One Way Shear

Load Combination...	Vu @ -X	Vu @ +X	Vu @ -Z	Vu @ +Z	Vu:Max	Phi Vn	Vu / Phi*Vn	Status
+1.40D	6.14 psi	6.56 psi	6.14 psi	6.56 psi	6.56 psi	82.16 psi	0.08	OK
+1.20D	5.26 psi	5.62 psi	5.26 psi	5.62 psi	5.62 psi	82.16 psi	0.07	OK
+1.20D+0.50S	15.05 psi	16.16 psi	15.05 psi	16.16 psi	16.16 psi	82.16 psi	0.20	OK
+1.20D+0.50W	0.22 psi	3.58 psi	0.22 psi	3.58 psi	3.58 psi	82.16 psi	0.04	OK
+1.20D-0.50W	10.30 psi	7.67 psi	10.30 psi	7.67 psi	10.30 psi	82.16 psi	0.13	OK
+1.20D+1.60S	36.58 psi	39.34 psi	36.58 psi	39.34 psi	39.34 psi	82.16 psi	0.48	OK
+1.20D+1.60S+0.50W	31.54 psi	37.29 psi	31.54 psi	37.29 psi	37.29 psi	82.16 psi	0.45	OK
+1.20D+1.60S-0.50W	41.62 psi	41.38 psi	41.62 psi	41.38 psi	41.62 psi	82.16 psi	0.51	OK
+1.20D+W	4.82 psi	1.53 psi	4.82 psi	1.53 psi	4.82 psi	82.16 psi	0.06	OK
+1.20D-W	15.34 psi	9.72 psi	15.34 psi	9.72 psi	15.34 psi	82.16 psi	0.19	OK
+1.20D+0.50S+W	4.97 psi	12.07 psi	4.97 psi	12.07 psi	12.07 psi	82.16 psi	0.15	OK
+1.20D+0.50S-W	25.13 psi	20.25 psi	25.13 psi	20.25 psi	25.13 psi	82.16 psi	0.31	OK
+1.20D+0.70S	18.97 psi	20.37 psi	18.97 psi	20.37 psi	20.37 psi	82.16 psi	0.25	OK
+0.90D+W	6.13 psi	0.13 psi	6.13 psi	0.13 psi	6.13 psi	82.16 psi	0.07	OK
+0.90D-W	14.03 psi	8.31 psi	14.03 psi	8.31 psi	14.03 psi	82.16 psi	0.17	OK
+0.90D	3.95 psi	4.22 psi	3.95 psi	4.22 psi	4.22 psi	82.16 psi	0.05	OK

Two-Way "Punching" Shear

All units k

Load Combination...	Vu	Phi*Vn	Vu / Phi*Vn	Status
+1.40D	17.16 psi	164.32psi	0.1044	OK
+1.20D	14.71 psi	164.32psi	0.08949	OK
+1.20D+0.50S	42.15 psi	164.32psi	0.2565	OK
+1.20D+0.50W	5.14 psi	164.32psi	0.03125	OK
+1.20D-0.50W	24.28 psi	164.32psi	0.1477	OK
+1.20D+1.60S	102.53 psi	164.32psi	0.624	OK
+1.20D+1.60S+0.50W	92.96 psi	164.32psi	0.5657	OK
+1.20D+1.60S-0.50W	112.10 psi	164.32psi	0.6822	OK
+1.20D+W	4.43 psi	164.32psi	0.02699	OK
+1.20D-W	33.85 psi	164.32psi	0.206	OK
+1.20D+0.50S+W	23.01 psi	164.32psi	0.14	OK
+1.20D+0.50S-W	61.29 psi	164.32psi	0.373	OK
+1.20D+0.70S	53.13 psi	164.32psi	0.3233	OK
+0.90D+W	8.11 psi	164.32psi	0.04936	OK
+0.90D-W	30.17 psi	164.32psi	0.1836	OK
+0.90D	11.03 psi	164.32psi	0.06712	OK

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Cantilevered Retaining Wall

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Description : Wall at Elevator Pit

Calculations per ACI 318-14, TMS 402-16, IBC 2018, CBC 2019, ASCE 7-16

Criteria

Retained Height	=	5.00 ft
Wall height above soil	=	0.00 ft
Slope Behind Wall	=	0.00 : 1
Height of Soil over Toe	=	0.00 in
Water height over heel	=	0.0 ft
Vertical component of active Lateral soil pressure options:		
USED for Soil Pressure.		
USED for Sliding Resistance.		
NOT USED for Overturning Resistance.		

Soil Data

Allow Soil Bearing	=	3,500.0 psf
Equivalent Fluid Pressure Method		
Heel Active Pressure	=	39.0 psf/ft
Toe Active Pressure	=	82.0 psf/ft
Passive Pressure	=	406.0 psf/ft
Soil Density, Heel	=	110.00 pcf
Soil Density, Toe	=	0.00 pcf
Friction Coeff btwn Ftg & Soil	=	0.400
Soil height to ignore for passive pressure	=	12.00 in

Surcharge Loads

Surcharge Over Heel	=	36.7 psf
Used To Resist Sliding & Overturning		
Surcharge Over Toe	=	100.0 psf
Used for Sliding & Overturning		

Lateral Load Applied to Stem

Lateral Load	=	0.0 plf
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
Wind on Exposed Stem	=	0.0 psf

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type		Spread Footing
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Axial Load Applied to Stem

Axial Dead Load	=	900.0 lbs
Axial Live Load	=	700.0 lbs
Axial Load Eccentricity	=	0.0 in

Design Summary

Wall Stability Ratios

Overturning	=	4.48	OK
Sliding	=	2.25	OK
Total Bearing Load	=	3,317 lbs	
...resultant ecc.	=	3.93 in	
Soil Pressure @ Toe	=	422 psf	OK
Soil Pressure @ Heel	=	1,237 psf	OK
Allowable	=	3,500 psf	
Soil Pressure Less Than Allowable			
ACI Factored @ Toe	=	542 psf	
ACI Factored @ Heel	=	1,589 psf	
Footing Shear @ Toe	=	9.4 psi	OK
Footing Shear @ Heel	=	3.1 psi	OK
Allowable	=	82.2 psi	

Sliding Calcs (Vertical Component Used)

Lateral Sliding Force	=	705.4 lbs	
less 100% Passive Force	= -	536.9 lbs	
less 100% Friction Force	= -	1,046.9 lbs	
Added Force Req'd	=	0.0 lbs	OK
....for 1.5 : 1 Stability	=	0.0 lbs	OK

Load Factors

Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.600
Seismic, E	1.000

Stem Construction

Top Stem

Stem OK

Design Height Above Ftg	ft =	0.00
Wall Material Above "Ht"	=	Concrete
Thickness	in =	8.00
Rebar Size	=	# 5
Rebar Spacing	in =	12.00
Rebar Placed at	=	Center

Design Data

fb/FB + fa/Fa	=	0.303
Total Force @ Section	lbs =	884.0
Moment....Actual	ft-l =	1,560.0
Moment.....Allowable	ft-l =	5,154.8
Shear.....Actual	psi =	18.4
Shear.....Allowable	psi =	82.2
Wall Weight	psf =	100.0
Rebar Depth 'd'	in =	4.00
Lap splice if above	in =	21.36
Lap splice if below	in =	6.00
Hook embed into footing	in =	6.00

Concrete Data

f'c	psi =	3,000.0
Fy	psi =	

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Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Cantilevered Retaining Wall

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Description : Wall at Elevator Pit

Footing Dimensions & Strengths

Toe Width	=	2.75 ft
Heel Width	=	1.25
Total Footing Width	=	4.00
Footing Thickness	=	12.00 in
Key Width	=	12.00 in
Key Depth	=	0.00 in
Key Distance from Toe	=	2.00 ft

f'c = 3,000 psi Fy = 60,000 psi
Footing Concrete Density = 150.00 pcf
Min. As % = 0.0018
Cover @ Top 2.00 @ Btm.= 3.00 in

Footing Design Results

		Toe	Heel	
Factored Pressure	=	542	1,589	psf
Mu' : Upward	=	0	326	ft-lb
Mu' : Downward	=	0	153	ft-lb
Mu: Design	=	1,560	173	ft-lb
Actual 1-Way Shear	=	9.38	3.14	psi
Allow 1-Way Shear	=	82.16	82.16	psi

Toe Reinforcing = # 5 @ 12.00 in
Heel Reinforcing = # 5 @ 12.00 in
Key Reinforcing = None Spec'd

Other Acceptable Sizes & Spacings

Toe: Not req'd, Mu < S * Fr
Heel: Not req'd, Mu < S * Fr
Key:

Summary of Overturning & Resisting Forces & Moments

Item		.....OVERTURNING..... Force lbs	Distance ft	Moment ft-lb		.....RESISTING..... Force lbs	Distance ft	Moment ft-lb
Heel Active Pressure	=	702.0	2.00	1,404.0	Soil Over Heel	= 320.8	3.71	1,189.8
Surcharge over Heel	=	78.0	3.00	234.0	Sloped Soil Over Heel	=		
Toe Active Pressure	=				Surcharge Over Heel	= 21.4	3.71	79.3
Surcharge Over Toe	=	-74.5	0.50	-37.3	Adjacent Footing Load	=		
Adjacent Footing Load	=				Axial Dead Load on Stem	= 900.0	3.08	2,775.0
Added Lateral Load	=				* Axial Live Load on Stem	= 700.0	3.08	2,158.3
Load @ Stem Above Soil	=				Soil Over Toe	=		
					Surcharge Over Toe	= 275.0	1.38	378.1
					Stem Weight(s)	= 500.0	3.08	1,541.7
					Earth @ Stem Transitions	=		
					Footing Weight	= 600.0	2.00	1,200.0
					Key Weight	=	2.50	
					Vert. Component	=		
Total	=	705.4	O.T.M. =	1,600.7	Total	= 2,617.2 lbs	R.M. =	7,163.9

Resisting/Overturning Ratio = 4.48
Vertical Loads used for Soil Pressure = 3,317.2 lbs

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.

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Description : Wall at Exterior

Calculations per ACI 318-14, TMS 402-16, IBC 2018, CBC 2019, ASCE 7-16

Criteria

Retained Height	=	4.50 ft
Wall height above soil	=	0.00 ft
Slope Behind Wall	=	0.00 : 1
Height of Soil over Toe	=	0.00 in
Water height over heel	=	0.0 ft
Vertical component of active Lateral soil pressure options:		
USED for Soil Pressure.		
USED for Sliding Resistance.		
NOT USED for Overturning Resistance.		

Soil Data

Allow Soil Bearing	=	3,500.0 psf
Equivalent Fluid Pressure Method		
Heel Active Pressure	=	39.0 psf/ft
Toe Active Pressure	=	82.0 psf/ft
Passive Pressure	=	406.0 psf/ft
Soil Density, Heel	=	110.00 pcf
Soil Density, Toe	=	0.00 pcf
Friction Coeff btwn Ftg & Soil	=	0.400
Soil height to ignore for passive pressure	=	12.00 in

Surcharge Loads

Surcharge Over Heel	=	36.7 psf
Used To Resist Sliding & Overturning		
Surcharge Over Toe	=	100.0 psf
Used for Sliding & Overturning		

Lateral Load Applied to Stem

Lateral Load	=	0.0 plf
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
Wind on Exposed Stem	=	0.0 psf

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type		Spread Footing
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Axial Load Applied to Stem

Axial Dead Load	=	900.0 lbs
Axial Live Load	=	700.0 lbs
Axial Load Eccentricity	=	0.0 in

Design Summary

Wall Stability Ratios

Overturning	=	3.44	OK
Sliding	=	2.64	OK
Total Bearing Load	=	3,237 lbs	
...resultant ecc.	=	2.89 in	
Soil Pressure @ Toe	=	1,598 psf	OK
Soil Pressure @ Heel	=	560 psf	OK
Allowable	=	3,500 psf	
Soil Pressure Less Than Allowable			
ACI Factored @ Toe	=	2,056 psf	
ACI Factored @ Heel	=	720 psf	
Footing Shear @ Toe	=	7.3 psi	OK
Footing Shear @ Heel	=	1.5 psi	OK
Allowable	=	82.2 psi	

Sliding Calcs (Vertical Component Used)

Lateral Sliding Force	=	586.8 lbs	
less 100% Passive Force	= -	536.9 lbs	
less 100% Friction Force	= -	1,010.8 lbs	
Added Force Req'd	=	0.0 lbs	OK
....for 1.5 : 1 Stability	=	0.0 lbs	OK

Load Factors

Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.600
Seismic, E	1.000

Stem Construction

Top Stem

Stem OK

Design Height Above Ftg	ft =	0.00
Wall Material Above "Ht"	=	Concrete
Thickness	in =	8.00
Rebar Size	=	# 5
Rebar Spacing	in =	12.00
Rebar Placed at	=	Center

Design Data

fb/FB + fa/Fa	=	0.225
Total Force @ Section	lbs =	725.4
Moment....Actual	ft-l =	1,158.3
Moment.....Allowable	ft-l =	5,154.8
Shear.....Actual	psi =	15.1
Shear.....Allowable	psi =	82.2
Wall Weight	psf =	100.0
Rebar Depth 'd'	in =	4.00
Lap splice if above	in =	21.36
Lap splice if below	in =	6.00
Hook embed into footing	in =	6.00

Concrete Data

f'c	psi =	3,000.0
Fy	psi =	

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Cantilevered Retaining Wall

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Description : Wall at Exterior

Footing Dimensions & Strengths

Toe Width	=	1.17 ft
Heel Width	=	1.83
Total Footing Width	=	3.00
Footing Thickness	=	12.00 in
Key Width	=	12.00 in
Key Depth	=	0.00 in
Key Distance from Toe	=	2.00 ft

f'c = 3,000 psi Fy = 60,000 psi
Footing Concrete Density = 150.00 pcf
Min. As % = 0.0018
Cover @ Top 2.00 @ Btm.= 3.00 in

Footing Design Results

		Toe	Heel
Factored Pressure	=	2,056	720 psf
Mu' : Upward	=	1,282	608 ft-lb
Mu' : Downward	=	231	567 ft-lb
Mu: Design	=	1,050	41 ft-lb
Actual 1-Way Shear	=	7.25	1.51 psi
Allow 1-Way Shear	=	82.16	82.16 psi

Toe Reinforcing = # 5 @ 12.00 in
Heel Reinforcing = # 5 @ 12.00 in
Key Reinforcing = None Spec'd

Other Acceptable Sizes & Spacings

Toe: Not req'd, Mu < S * Fr
Heel: Not req'd, Mu < S * Fr
Key:

Summary of Overturning & Resisting Forces & Moments

Item		.....OVERTURNING..... Force lbs	Distance ft	Moment ft-lb		.....RESISTING..... Force lbs	Distance ft	Moment ft-lb
Heel Active Pressure	=	589.9	1.83	1,081.4	Soil Over Heel	= 577.5	2.42	1,395.6
Surcharge over Heel	=	71.5	2.75	196.6	Sloped Soil Over Heel	=		
Toe Active Pressure	=				Surcharge Over Heel	= 42.8	2.42	103.4
Surcharge Over Toe	=	-74.5	0.50	-37.3	Adjacent Footing Load	=		
Adjacent Footing Load	=				Axial Dead Load on Stem	= 900.0	1.50	1,350.0
Added Lateral Load	=				* Axial Live Load on Stem	= 700.0	1.50	1,050.0
Load @ Stem Above Soil	=				Soil Over Toe	=		
					Surcharge Over Toe	= 116.7	0.58	68.1
					Stem Weight(s)	= 450.0	1.50	675.0
					Earth @ Stem Transitions	=		
					Footing Weight	= 450.0	1.50	675.0
					Key Weight	=	2.50	
					Vert. Component	=		
Total	=	586.8	O.T.M. =	1,240.8	Total	= 2,536.9 lbs	R.M. =	4,267.0

Resisting/Overturning Ratio = 3.44
Vertical Loads used for Soil Pressure = 3,236.9 lbs

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.

ABQ Engineering
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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Cantilevered Retaining Wall

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Description : Wall at Exterior (Stem)

Calculations per ACI 318-14, TMS 402-16, IBC 2018, CBC 2019, ASCE 7-16

Criteria

Retained Height	=	4.50 ft
Wall height above soil	=	0.00 ft
Slope Behind Wall	=	0.00 : 1
Height of Soil over Toe	=	48.00 in
Water height over heel	=	0.0 ft

Vertical component of active Lateral soil pressure options:
USED for Soil Pressure.
USED for Sliding Resistance.
USED for Overturning Resistance.

Soil Data

Allow Soil Bearing	=	3,000.0 psf
Equivalent Fluid Pressure Method		
Heel Active Pressure	=	40.0 psf/ft
Toe Active Pressure	=	50.0 psf/ft
Passive Pressure	=	406.0 psf/ft
Soil Density, Heel	=	110.00 pcf
Soil Density, Toe	=	0.00 pcf
Friction Coeff btwn Ftg & Soil	=	0.400
Soil height to ignore for passive pressure	=	12.00 in

Surcharge Loads

Surcharge Over Heel	=	90.0 psf
NOT Used To Resist Sliding & Overturning		
Surcharge Over Toe	=	0.0 psf
NOT Used for Sliding & Overturning		

Lateral Load Applied to Stem

Lateral Load	=	0.0 plf
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
Wind on Exposed Stem	=	0.0 psf

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type		Spread Footing
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Axial Load Applied to Stem

Axial Dead Load	=	900.0 lbs
Axial Live Load	=	3,000.0 lbs
Axial Load Eccentricity	=	0.0 in

Design Summary

Wall Stability Ratios

Overturning	=	2.55	OK
Sliding	=	7.42	OK
Total Bearing Load	=	5,378 lbs	
...resultant ecc.	=	2.40 in	
Soil Pressure @ Toe	=	2,509 psf	OK
Soil Pressure @ Heel	=	1,076 psf	OK
Allowable	=	3,000 psf	

Soil Pressure Less Than Allowable

ACI Factored @ Toe	=	3,571 psf	
ACI Factored @ Heel	=	1,531 psf	
Footing Shear @ Toe	=	11.4 psi	OK
Footing Shear @ Heel	=	9.4 psi	OK
Allowable	=	82.2 psi	

Sliding Calcs (Vertical Component Used)

Lateral Sliding Force	=	785.0 lbs	
less 100% Passive Force	= -	4,872.0 lbs	
less 100% Friction Force	= -	950.0 lbs	
Added Force Req'd	=	0.0 lbs	OK
....for 1.5 : 1 Stability	=	0.0 lbs	OK

Load Factors

Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.600
Seismic, E	1.000

Stem Construction

Top Stem

Stem OK

Design Height Above Ftg	ft =	0.00
Wall Material Above "Ht"	=	Concrete
Thickness	in =	8.00
Rebar Size	=	# 5
Rebar Spacing	in =	18.00
Rebar Placed at	=	Center

Design Data

fb/FB + fa/Fa	=	0.184
Total Force @ Section	lbs =	243.6
Moment....Actual	ft-l =	648.8
Moment.....Allowable	ft-l =	3,531.0
Shear.....Actual	psi =	5.1
Shear.....Allowable	psi =	82.2
Wall Weight	psf =	100.0
Rebar Depth 'd'	in =	4.00
Lap splice if above	in =	21.36
Lap splice if below	in =	6.00
Hook embed into footing	in =	6.00

Concrete Data

f'c	psi =	3,000.0
Fy	psi =	

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Cantilevered Retaining Wall

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Description : Wall at Exterior (Stem)

Footing Dimensions & Strengths

Toe Width	=	1.17 ft
Heel Width	=	1.83
Total Footing Width	=	3.00
Footing Thickness	=	12.00 in
Key Width	=	12.00 in
Key Depth	=	0.00 in
Key Distance from Toe	=	2.00 ft

f'c = 3,000 psi Fy = 60,000 psi
Footing Concrete Density = 150.00 pcf
Min. As % = 0.0018
Cover @ Top 2.00 @ Btm.= 3.00 in

Footing Design Results

		Toe	Heel	
Factored Pressure	=	3,571	1,531	psf
Mu' : Upward	=	0	0	ft-lb
Mu' : Downward	=	0	625	ft-lb
Mu: Design	=	649	625	ft-lb
Actual 1-Way Shear	=	11.37	9.39	psi
Allow 1-Way Shear	=	82.16	82.16	psi

Toe Reinforcing = # 5 @ 12.00 in
Heel Reinforcing = # 5 @ 12.00 in
Key Reinforcing = None Spec'd

Other Acceptable Sizes & Spacings
Toe: Not req'd, Mu < S * Fr
Heel: Not req'd, Mu < S * Fr
Key:

Summary of Overturning & Resisting Forces & Moments

Item		.....OVERTURNING..... Force lbs	Distance ft	Moment ft-lb		.....RESISTING..... Force lbs	Distance ft	Moment ft-lb
Heel Active Pressure	=	605.0	1.83	1,109.2	Soil Over Heel	= 577.5	2.42	1,395.6
Surcharge over Heel	=	180.0	2.75	495.0	Sloped Soil Over Heel	=		
Toe Active Pressure	=				Surcharge Over Heel	=		
Surcharge Over Toe	=				Adjacent Footing Load	=		
Adjacent Footing Load	=				Axial Dead Load on Stem	= 900.0	1.50	1,350.0
Added Lateral Load	=				* Axial Live Load on Stem	= 3,000.0	1.50	4,500.0
Load @ Stem Above Soil	=				Soil Over Toe	=	0.58	
					Surcharge Over Toe	=		
					Stem Weight(s)	= 450.0	1.50	675.0
					Earth @ Stem Transitions	=		
Total	=	785.0	O.T.M. =	1,604.2	Footing Weight	= 450.0	1.50	675.0
					Key Weight	=	2.50	
					Vert. Component	=	3.00	
					Total	= 2,377.5 lbs	R.M. =	4,095.6

Resisting/Overturning Ratio = 2.55
Vertical Loads used for Soil Pressure = 5,377.5 lbs

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

REVISON 10-25-23

Cantilevered Retaining Wall

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Description : Wall at Exterior of Storage Building

Calculations per ACI 318-14, TMS 402-16, IBC 2018, CBC 2019, ASCE 7-16

Criteria

Retained Height	=	4.00 ft
Wall height above soil	=	11.00 ft
Slope Behind Wall	=	0.00 : 1
Height of Soil over Toe	=	48.00 in
Water height over heel	=	0.0 ft
Vertical component of active Lateral soil pressure options:		
USED for Soil Pressure.		
USED for Sliding Resistance.		
USED for Overturning Resistance.		

Soil Data

Allow Soil Bearing	=	3,000.0 psf
Equivalent Fluid Pressure Method		
Heel Active Pressure	=	40.0 psf/ft
Toe Active Pressure	=	50.0 psf/ft
Passive Pressure	=	406.0 psf/ft
Soil Density, Heel	=	110.00 pcf
Soil Density, Toe	=	110.00 pcf
Friction Coeff btwn Ftg & Soil	=	0.400
Soil height to ignore for passive pressure	=	0.00 in

Surcharge Loads

Surcharge Over Heel	=	0.0 psf
NOT Used To Resist Sliding & Overturning		
Surcharge Over Toe	=	0.0 psf
NOT Used for Sliding & Overturning		

Lateral Load Applied to Stem

Lateral Load	=	0.0 plf
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
Wind on Exposed Stem	=	0.0 psf

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type		Line Load
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Axial Load Applied to Stem

Axial Dead Load	=	80.0 lbs
Axial Live Load	=	880.0 lbs
Axial Load Eccentricity	=	0.0 in

Design Summary

Wall Stability Ratios

Overturning	=	1.12	Ratio < 1.5!
Sliding	=	10.90	OK
Total Bearing Load	=	1,816	lbs
...resultant ecc.	=	5.51	in
Soil Pressure @ Toe	=	2,239 psf	OK
Soil Pressure @ Heel	=	0 psf	OK
Allowable	=	3,000 psf	
Soil Pressure Less Than Allowable			
ACI Factored @ Toe	=	3,120 psf	
ACI Factored @ Heel	=	0 psf	
Footing Shear @ Toe	=	10.4 psi	OK
Footing Shear @ Heel	=	3.8 psi	OK
Allowable	=	82.2 psi	

Sliding Calcs (Vertical Component Used)

Lateral Sliding Force	=	500.0 lbs
less 100% Passive Force	= -	5,075.0 lbs
less 100% Friction Force	= -	370.0 lbs
Added Force Req'd	=	0.0 lbs OK
....for 1.5 : 1 Stability	=	0.0 lbs OK

Load Factors

Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.600
Seismic, E	1.000

Stem Construction

Top Stem

Stem OK

Design Height Above Ftg	ft =	15.50
Wall Material Above "Ht"	=	Masonry
Thickness	in =	8.00
Rebar Size	=	# 4
Rebar Spacing	in =	24.00
Rebar Placed at	=	Center

Design Data

fb/FB + fa/Fa	=	0.040
Total Force @ Section	lbs =	0.0
Moment....Actual	ft-l =	0.0
Moment.....Allowable	ft-l =	569.8
Shear.....Actual	psi =	0.0
Shear.....Allowable	psi =	38.7
Wall Weight	psf =	61.0
Rebar Depth 'd'	in =	3.75
Lap splice if above	in =	24.00
Lap splice if below	in =	6.00
Hook embed into footing	in =	6.00

Masonry Data

f'm	psi =	1,500
Fy (	psi =	20,000
Solid Grouting	=	No
Modular Ratio 'n'	=	21.48
Short Term Factor	=	1.000
Equiv. Solid Thick.	in =	5.20
Masonry Block Type	=	3
Masonry Design Method	=	ASD

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Cantilevered Retaining Wall

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Description : Wall at Exterior of Storage Building

Footing Dimensions & Strengths

Toe Width	=	0.67 ft
Heel Width	=	1.33
Total Footing Width	=	2.00
Footing Thickness	=	12.00 in
Key Width	=	12.00 in
Key Depth	=	0.00 in
Key Distance from Toe	=	2.00 ft

f'c = 3,000 psi Fy = 60,000 psi
Footing Concrete Density = 150.00 pcf
Min. As % = 0.0018
Cover @ Top 3.00 @ Btm.= 3.00 in

Footing Design Results

		Toe	Heel
Factored Pressure	=	3,120	0 psf
Mu' : Upward	=	897	30 ft-lb
Mu' : Downward	=	246	246 ft-lb
Mu: Design	=	652	215 ft-lb
Actual 1-Way Shear	=	10.42	3.84 psi
Allow 1-Way Shear	=	82.16	82.16 psi

Toe Reinforcing = # 4 @ 18.00 in
Heel Reinforcing = # 4 @ 18.00 in
Key Reinforcing = None Spec'd

Other Acceptable Sizes & Spacings

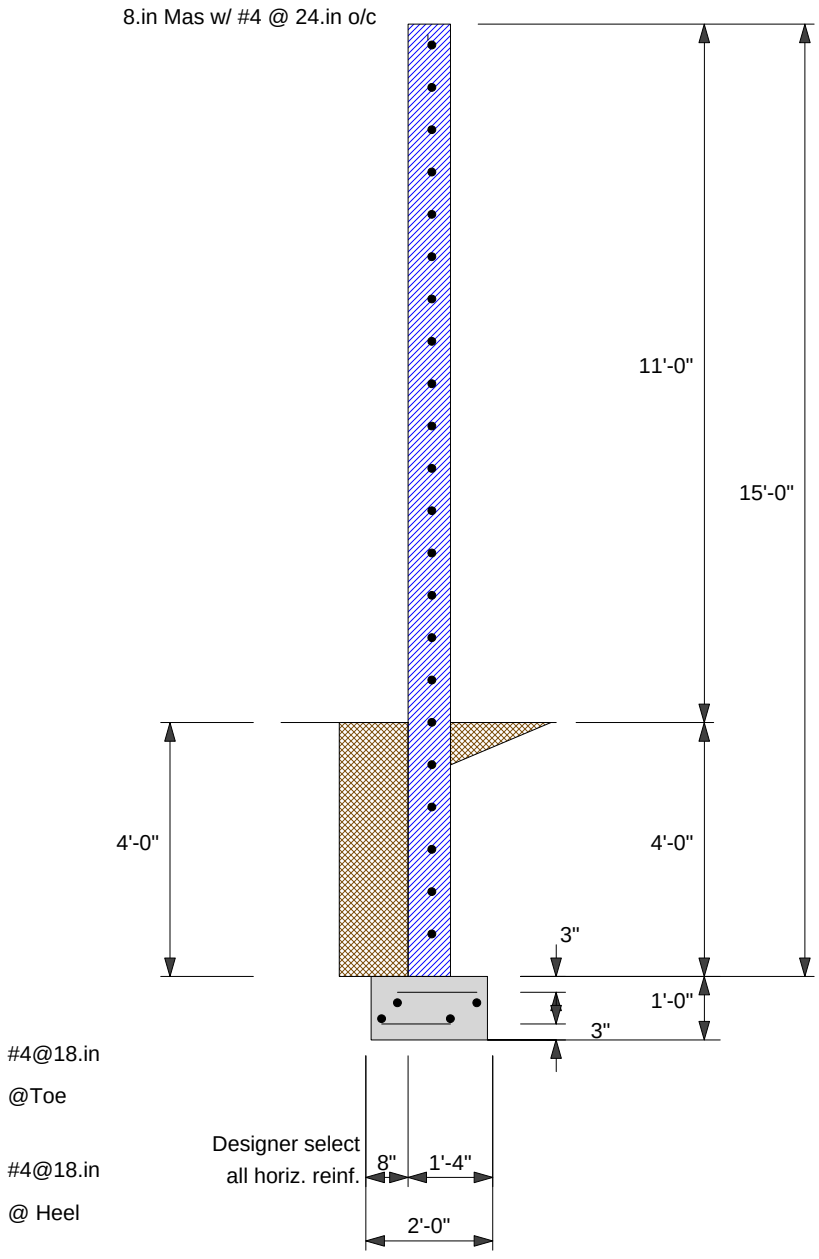
Toe: Not req'd, Mu < S * Fr
Heel: Not req'd, Mu < S * Fr
Key: Not req'd, Mu < S * Fr

Summary of Overturning & Resisting Forces & Moments

Item		.....OVERTURNING..... Force lbs	Distance ft	Moment ft-lb		.....RESISTING..... Force lbs	Distance ft	Moment ft-lb
Heel Active Pressure	=	500.0	1.67	833.3	Soil Over Heel	= 293.2	1.67	488.5
Surcharge over Heel	=				Sloped Soil Over Heel	=		
Toe Active Pressure	=				Surcharge Over Heel	=		
Surcharge Over Toe	=				Adjacent Footing Load	=		
Adjacent Footing Load	=				Axial Dead Load on Stem	= 80.0	1.00	80.0
Added Lateral Load	=				* Axial Live Load on Stem	= 880.0	1.00	879.7
Load @ Stem Above Soil	=				Soil Over Toe	= 293.2	0.33	97.7
					Surcharge Over Toe	=		
					Stem Weight(s)	= -30.5	1.00	-30.5
					Earth @ Stem Transitions	=		
Total	=	500.0	O.T.M. =	833.3	Footing Weight	= 299.9	1.00	299.8
					Key Weight	=	2.50	
					Vert. Component	=	2.00	
					Total	= 935.8 lbs	R.M. =	935.5

Resisting/Overturning Ratio = 1.12
Vertical Loads used for Soil Pressure = 1,815.8 lbs

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.


8.in Mas w/ #4 @ 24.in o/c
11'-0"
15'-0"
4'-0"
4'-0"
3"
1'-0"
3"
#4@18.in
@Toe
#4@18.in
@ Heel
Designer select
all horiz. reinf.
8"
1'-4"
2'-0"

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Project ID: ABQ #23-015
Project Descr: HIESCO

REVISON 10-25-23

Cantilevered Retaining Wall

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Description : Wall at Exterior of Storage Building

Calculations per ACI 318-14, TMS 402-16, IBC 2018, CBC 2019, ASCE 7-16

Criteria

Retained Height	=	4.00 ft
Wall height above soil	=	11.00 ft
Slope Behind Wall	=	0.00 : 1
Height of Soil over Toe	=	48.00 in
Water height over heel	=	0.0 ft
Vertical component of active Lateral soil pressure options:		
USED for Soil Pressure.		
USED for Sliding Resistance.		
USED for Overturning Resistance.		

Soil Data

Allow Soil Bearing	=	3,000.0 psf
Equivalent Fluid Pressure Method		
Heel Active Pressure	=	40.0 psf/ft
Toe Active Pressure	=	50.0 psf/ft
Passive Pressure	=	406.0 psf/ft
Soil Density, Heel	=	110.00 pcf
Soil Density, Toe	=	110.00 pcf
Friction Coeff btwn Ftg & Soil	=	0.400
Soil height to ignore for passive pressure	=	0.00 in

Surcharge Loads

Surcharge Over Heel	=	0.0 psf
NOT Used To Resist Sliding & Overturning		
Surcharge Over Toe	=	0.0 psf
NOT Used for Sliding & Overturning		

Lateral Load Applied to Stem

Lateral Load	=	0.0 plf
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
Wind on Exposed Stem	=	0.0 psf

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs
Footing Width	=	0.00 ft
Eccentricity	=	0.00 in
Wall to Ftg CL Dist	=	0.00 ft
Footing Type		Line Load
Base Above/Below Soil at Back of Wall	=	0.0 ft
Poisson's Ratio	=	0.300

Axial Load Applied to Stem

Axial Dead Load	=	80.0 lbs
Axial Live Load	=	880.0 lbs
Axial Load Eccentricity	=	0.0 in

Design Summary

Wall Stability Ratios

Overturning	=	1.12	Ratio < 1.5!
Sliding	=	10.90	OK
Total Bearing Load	=	1,816	lbs
...resultant ecc.	=	5.51	in
Soil Pressure @ Toe	=	2,239 psf	OK
Soil Pressure @ Heel	=	0 psf	OK
Allowable	=	3,000 psf	
Soil Pressure Less Than Allowable			
ACI Factored @ Toe	=	3,120 psf	
ACI Factored @ Heel	=	0 psf	
Footing Shear @ Toe	=	10.4 psi	OK
Footing Shear @ Heel	=	3.8 psi	OK
Allowable	=	82.2 psi	

Sliding Calcs (Vertical Component Used)

Lateral Sliding Force	=	500.0 lbs
less 100% Passive Force	= -	5,075.0 lbs
less 100% Friction Force	= -	370.0 lbs
Added Force Req'd	=	0.0 lbs OK
....for 1.5 : 1 Stability	=	0.0 lbs OK

Load Factors

Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.600
Seismic, E	1.000

Stem Construction

Top Stem

Stem OK

Design Height Above Ftg	ft =	15.50
Wall Material Above "Ht"	=	Masonry
Thickness	in =	8.00
Rebar Size	=	# 4
Rebar Spacing	in =	24.00
Rebar Placed at	=	Center

Design Data

fb/FB + fa/Fa	=	0.040
Total Force @ Section	lbs =	0.0
Moment....Actual	ft-l =	0.0
Moment.....Allowable	ft-l =	569.8
Shear.....Actual	psi =	0.0
Shear.....Allowable	psi =	38.7
Wall Weight	psf =	61.0
Rebar Depth 'd'	in =	3.75
Lap splice if above	in =	24.00
Lap splice if below	in =	6.00
Hook embed into footing	in =	6.00

Masonry Data

f'm	psi =	1,500
Fy (	psi =	20,000
Solid Grouting	=	No
Modular Ratio 'n'	=	21.48
Short Term Factor	=	1.000
Equiv. Solid Thick.	in =	5.20
Masonry Block Type	=	3
Masonry Design Method	=	ASD

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Project ID: ABQ #23-015
Project Descr: HIESCO

Cantilevered Retaining Wall

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Description : Wall at Exterior of Storage Building

Footing Dimensions & Strengths

Toe Width	=	0.67 ft
Heel Width	=	1.33
Total Footing Width	=	2.00
Footing Thickness	=	12.00 in
Key Width	=	12.00 in
Key Depth	=	0.00 in
Key Distance from Toe	=	2.00 ft

f'c = 3,000 psi Fy = 60,000 psi
Footing Concrete Density = 150.00 pcf
Min. As % = 0.0018
Cover @ Top 3.00 @ Btm.= 3.00 in

Footing Design Results

		Toe	Heel	
Factored Pressure	=	3,120	0	psf
Mu' : Upward	=	897	30	ft-lb
Mu' : Downward	=	246	246	ft-lb
Mu: Design	=	652	215	ft-lb
Actual 1-Way Shear	=	10.42	3.84	psi
Allow 1-Way Shear	=	82.16	82.16	psi

Toe Reinforcing = # 4 @ 18.00 in
Heel Reinforcing = # 4 @ 18.00 in
Key Reinforcing = None Spec'd

Other Acceptable Sizes & Spacings

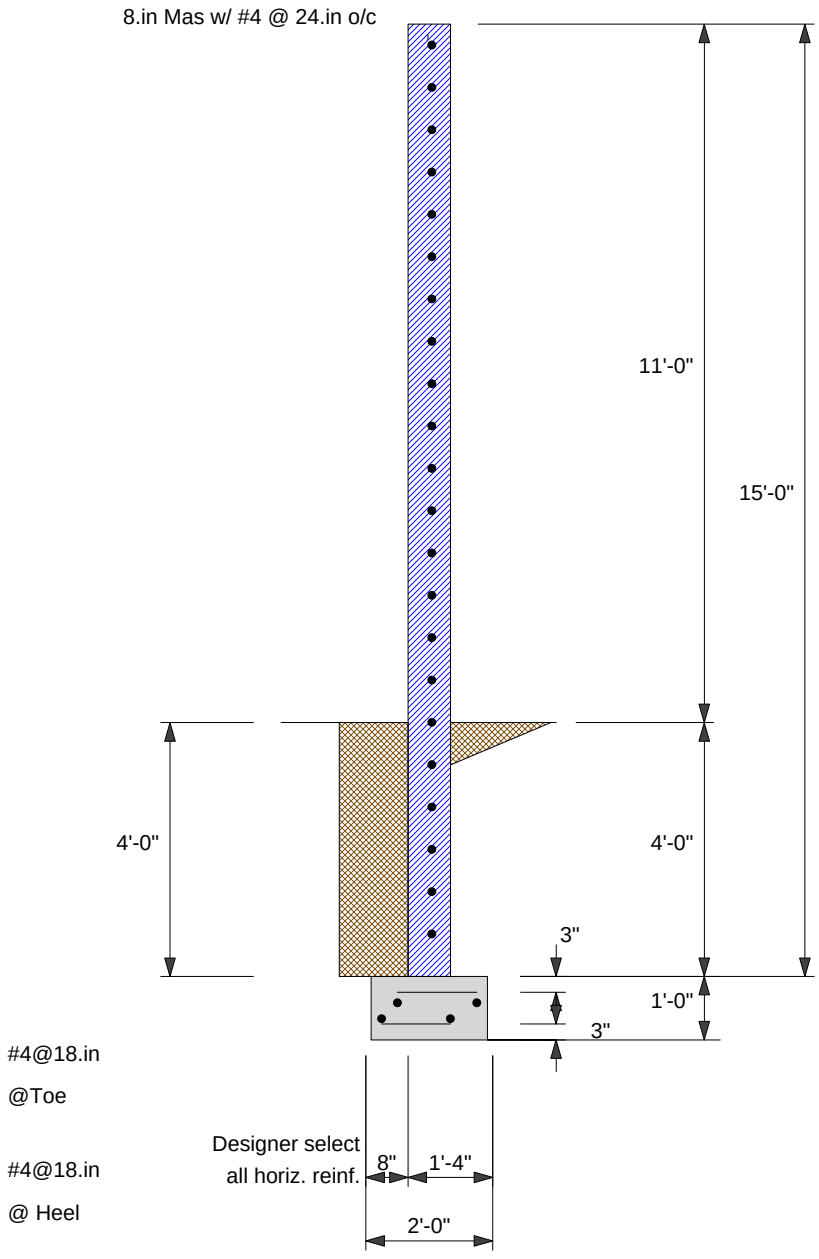
Toe: Not req'd, Mu < S * Fr
Heel: Not req'd, Mu < S * Fr
Key: Not req'd, Mu < S * Fr

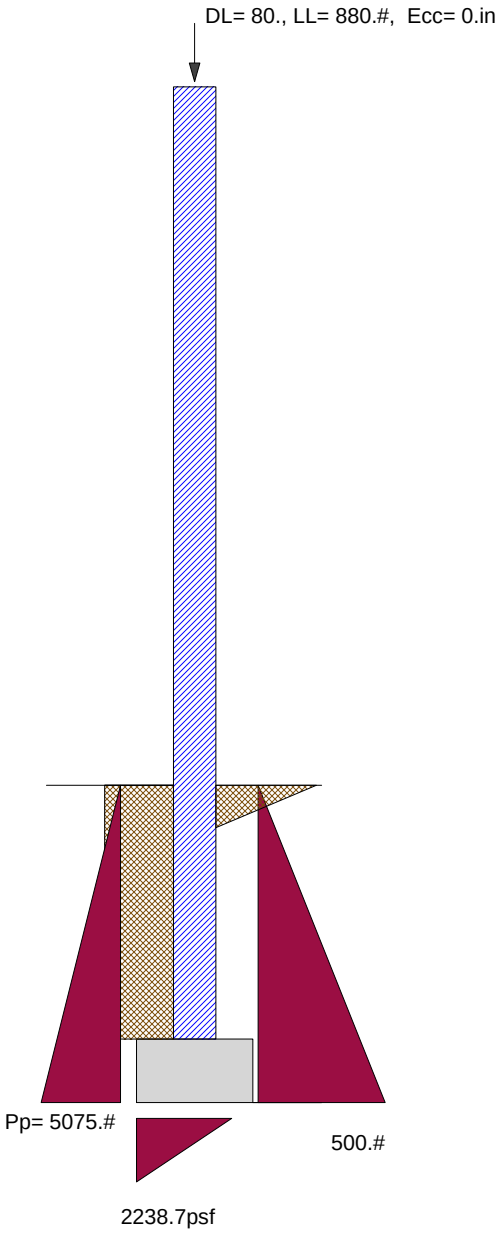
Summary of Overturning & Resisting Forces & Moments

Item		.....OVERTURNING..... Force lbs	Distance ft	Moment ft-lb		.....RESISTING..... Force lbs	Distance ft	Moment ft-lb
Heel Active Pressure	=	500.0	1.67	833.3	Soil Over Heel	= 293.2	1.67	488.5
Surcharge over Heel	=				Sloped Soil Over Heel	=		
Toe Active Pressure	=				Surcharge Over Heel	=		
Surcharge Over Toe	=				Adjacent Footing Load	=		
Adjacent Footing Load	=				Axial Dead Load on Stem	= 80.0	1.00	80.0
Added Lateral Load	=				* Axial Live Load on Stem	= 880.0	1.00	879.7
Load @ Stem Above Soil	=				Soil Over Toe	= 293.2	0.33	97.7
					Surcharge Over Toe	=		
					Stem Weight(s)	= -30.5	1.00	-30.5
					Earth @ Stem Transitions	=		
Total	=	500.0	O.T.M. =	833.3	Footing Weight	= 299.9	1.00	299.8
					Key Weight	=	2.50	
					Vert. Component	=	2.00	
					Total	= 935.8 lbs	R.M. =	935.5

Resisting/Overturning Ratio = 1.12
Vertical Loads used for Soil Pressure = 1,815.8 lbs

* Axial live load NOT included in total displayed, or used for overturning resistance, but is included for soil pressure calculation.


8.in Mas w/ #4 @ 24.in o/c
11'-0"
15'-0"
4'-0"
4'-0"
3"
1'-0"
3"
#4@18.in
@Toe
#4@18.in
@ Heel
Designer select
all horiz. reinf.
8"
1'-4"
2'-0"


DL= 80., LL= 880.#, Ecc= 0.in
Pp= 5075.#
500.#
2238.7psf

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

REVISON 10-25-23

Masonry Slender Wall

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Description : WALL EXTERIOR STORAGE BUILDING

Code References

Calculations per TMS 402-16, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2018

General Information

Calculations per TMS 402-16, IBC 2018, CBC 2019, ASCE 7-16

Construction Type : Grouted Hollow Concrete Masonry

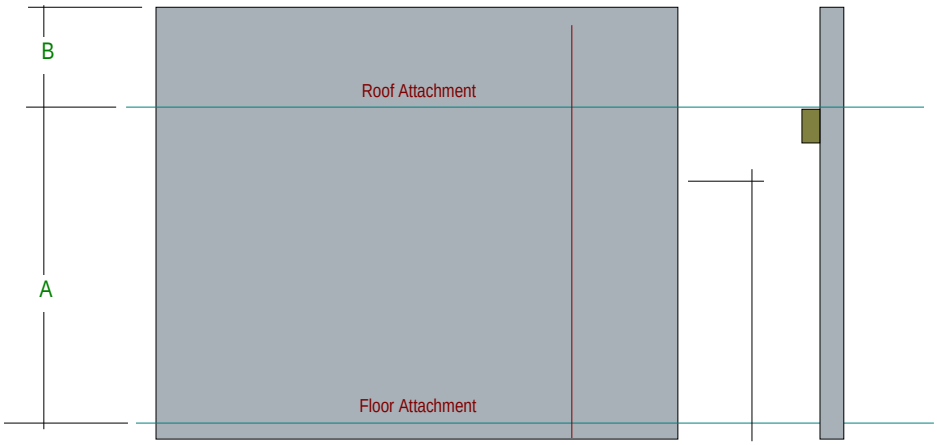
F'm	=	1.50 ksi	Nom. Wall Thickness		8 in	Temp Diff across thickness	=	deg F
Fy - Yield	=	60.0 ksi	Actual Thickness		7.625 in	Min Allow Out-of-plane Defl Ratio	=	0
Fr - Rupture	=	61.0 psi	Rebar "d" distance		3.8125 in	Minimum Vertical Steel %	=	0.0020
Em = f'm *	=	900.0	Lower Level Rebar . . .					
Max % of ρ bal.	=	0.1212	Bar Size	#	4			
Grout Density	=	140 pcf	Bar Spacing		24 in			
Block Weight		Normal Weight						
Wall Weight	=	61.0 psf						

Wall is grouted at rebar cells only

One-Story Wall Dimensions

A Clear Height = 11.0 ft
B Parapet height = ft

Wall Support Condition Top Pinned, Bottom F



Vertical Loads

Vertical Concentrated Loads . . . (Applied to full "Strip Width")

			DL : Dead	Lr : Roof Live	Lf : Floor Live	S : Snow	W : Wind
Beam Load #1	Eccentricity	in	0.260			2.340	k
	Dist. from Base	11.0 ft					

Lateral Loads

Wind Loads :
Full area WIND load 24.430 psf

Seismic Loads :
Wall Weight Seismic Load Input Method : Direct entry of Lateral Wall Weight
Seismic Wall Lateral Load 20.0 psf

Fp 1.0 = 20.0 psf

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Description : WALL EXTERIOR STORAGE BUILDING

DESIGN SUMMARY

Results reported for "Strip Width" of 12.0 in

	Governing Load Combination . . .	Actual Values . . .		Allowable Values . . .	
PASS	Moment Capacity Check +1.20D+0.50S+W	Maximum Bending Stress Ratio =	**0.2277**		
		Max Mu	-0.3705 k-ft	Phi * Mn	1.627 k-ft
PASS	Service Deflection Check W Only	Actual Defl. Ratio L/	18854	Allowable Defl. Ratio	150
		Max. Deflection	0.007001 in		
PASS	Axial Load Check +1.20D+0.50S+W	Max Pu / Ag	65.860 psi	Max. Allow. Defl.	0.880 in
		Location	0.1833 ft	0.2 * f'm	300.0 psi
PASS	Reinforcing Limit Check	Controlling As/bd	0.002186	As/bd @ 0.1212 rho bal	0.1212

Maximum Reactions . . . *for Load Combination....*

Top Horizontal	W Only	0.1008 k
Base Horizontal	W Only	0.1680 k
Vertical Reaction	+D+S	3.271 k

Design Maximum Combinations - Moments

Results reported for "Strip Width" = 12 in.

Load Combination	Axial Load Pu k	Axial Load 0.2*f'm*b*t k	Moment Values Mcr k-ft	Mu k-ft	Phi	Phi Mn k-ft	As in^2	As Ratio	0.6 * rho bal
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000
+1.20D+0.50W at 0.00 to 0.37	0.000	18.720	0.47	0.18	0.90	1.63	0.100	0.0022	0.1212
+1.20D-0.50W at 0.00 to 0.37	0.000	18.720	0.47	0.18	0.90	1.63	0.100	0.0022	0.1212
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000
+1.20D+1.60S+0.50W at 0.00 to 0.37	0.000	18.720	0.47	0.19	0.90	1.63	0.100	0.0022	0.1212
+1.20D+1.60S-0.50W at 0.00 to 0.37	0.000	18.720	0.47	0.19	0.90	1.63	0.100	0.0022	0.1212
+1.20D+W at 0.00 to 0.37	0.000	18.720	0.47	0.37	0.90	1.63	0.100	0.0022	0.1212
+1.20D-W at 0.00 to 0.37	0.000	18.720	0.47	0.37	0.90	1.63	0.100	0.0022	0.1212
+1.20D+0.50S+W at 0.00 to 0.37	0.000	18.720	0.47	0.37	0.90	1.63	0.100	0.0022	0.1212
+1.20D+0.50S-W at 0.00 to 0.37	0.000	18.720	0.47	0.37	0.90	1.63	0.100	0.0022	0.1212
+1.20D+0.70S+E at 0.00 to 0.37	0.000	18.720	0.47	0.30	0.90	1.63	0.100	0.0022	0.1212
+0.90D+W at 0.00 to 0.37	0.000	18.720	0.47	0.37	0.90	1.63	0.100	0.0022	0.1212
+0.90D-W at 0.00 to 0.37	0.000	18.720	0.47	0.37	0.90	1.63	0.100	0.0022	0.1212
+0.90D+E at 0.00 to 0.37	0.000	18.720	0.47	0.30	0.90	1.63	0.100	0.0022	0.1212

Design Maximum Combinations - Deflections

Results reported for "Strip Width" = 12 in.

Load Combination	Axial Load Pu k	Moment Values Mcr k-ft	Moment Values Mactual k-ft	Stiffness I gross in^4	Stiffness I cracked in^4	Stiffness I effective in^4	Deflections Deflection in	Deflections Defl. Ratio
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
+D+0.60W at 6.23 to 6.60	0.551	0.47	0.12	353.60	22.53	353.600	0.004	31,396.2
+D-0.60W at 6.23 to 6.60	0.551	0.47	0.12	353.60	22.53	353.600	0.004	31,396.2
+D+0.70E at 6.23 to 6.60	0.551	0.47	0.12	353.60	22.53	353.600	0.004	32,871.9
+D+0.450W at 6.23 to 6.60	0.551	0.47	0.09	353.60	22.53	353.600	0.003	41,861.7
+D-0.450W at 6.23 to 6.60	0.551	0.47	0.09	353.60	22.53	353.600	0.003	41,861.7
+D+0.750S+0.450W at 6.23 to 6.60	2.306	0.47	0.09	353.60	27.16	353.600	0.003	41,743.5
+D+0.750S-0.450W at 6.23 to 6.60	2.306	0.47	0.09	353.60	27.16	353.600	0.003	41,743.5
+D+0.750S+0.5250E at 6.23 to 6.60	2.306	0.47	0.09	353.60	27.16	353.600	0.003	43,705.5

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Project ID: ABQ #23-015
Project Descr: HIESCO

Masonry Slender Wall

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Description : WALL EXTERIOR STORAGE BUILDING

+0.60D+0.60W at 6.23 to 6.60	0.330	0.47	0.12	353.60	21.92	353.600	0.004	31,407.0
+0.60D-0.60W at 6.23 to 6.60	0.330	0.47	0.12	353.60	21.92	353.600	0.004	31,407.0
+0.60D+0.70E at 6.23 to 6.60	0.330	0.47	0.12	353.60	21.92	353.600	0.004	32,883.2
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0

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Description : WALL EXTERIOR STORAGE BUILDING

Design Maximum Combinations - Deflections

Results reported for "Strip Width" = 12 in.

Load Combination	Axial Load Pu k	Moment Values Mcr k-ft	Mactual k-ft	Stiffness I gross in^4	I cracked in^4	I effective in^4	Deflections Deflection in	Defl. Ratio
W Only at 6.23 to 6.60	0.000	0.47	0.20	353.60	20.99	353.600	0.007	18,853.9
-W at 6.23 to 6.60	0.000	0.47	0.20	353.60	20.99	353.600	0.007	18,853.9
E Only at 6.23 to 6.60	0.000	0.47	0.17	353.60	20.99	353.600	0.006	23,030.1

Reactions - Vertical & Horizontal

Results reported for "Strip Width" = 12 in.

Load Combination	Base Horizontal	Top Horizontal	Vertical @ Wall Base
D Only	0.0 k	0.00 k	0.931 k
+D+S	0.0 k	0.00 k	3.271 k
+D+0.750S	0.0 k	0.00 k	2.686 k
+D+0.60W	0.1 k	0.06 k	0.931 k
+D-0.60W	0.1 k	0.06 k	0.931 k
+D+0.70E	0.1 k	0.06 k	0.931 k
+D+0.450W	0.1 k	0.05 k	0.931 k
+D-0.450W	0.1 k	0.05 k	0.931 k
+D+0.750S+0.450W	0.1 k	0.05 k	2.686 k
+D+0.750S-0.450W	0.1 k	0.05 k	2.686 k
+D+0.750S+0.5250E	0.1 k	0.04 k	2.686 k
+0.60D+0.60W	0.1 k	0.06 k	0.559 k
+0.60D-0.60W	0.1 k	0.06 k	0.559 k
+0.60D+0.70E	0.1 k	0.06 k	0.559 k
S Only	0.0 k	0.00 k	2.340 k
W Only	0.2 k	0.10 k	0.000 k
-W	0.2 k	0.10 k	0.000 k
E Only	0.1 k	0.08 k	0.000 k

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Project Descr: HIESCO

Wood Ledger

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Description : Ledger at Stair and Elev

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2018

General Information

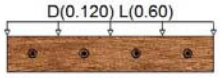
Ledger Width	1.50 in
Ledger Depth	11.50 in
Ledger Wood Species	Spruce-Pine-Fir
G : Specific Gravity	0.42
Bolt Diameter	1/2" in
Bolt Spacing	16.0 in
Cm - Wet Service Factor	1.0
Ct - Temperature Factor	1.0
Cg - Group Action Factor	1.0
C /\ - Geometry Factor	1.0

Design Method: ASD (using Service Load Combinations
Wood Stress Grade : Trus Joist, TimberStrand LSL 1.55E

Fb Allow	2,325.0 psi
Fv Allow	310.0 psi
Fyb : Bolt Bending Yield	45,000 psi

Wood as Main Supporting Member

Width	3.50 in
Wood Species	Spruce-Pine-Fir
G : Specific Gravity	0.42



Analytical model actually uses 100 spans to ensure that all possible combinations of bolt location and point load location are evaluated. Final results are an envelope solution.

Load Data

	Dead	Roof Live	Floor Live	Snow	Wind	Seismic	Earth
Uniform Load...	0.120 plf	plf	0.60 plf	plf	plf	plf	plf
Point Load...	lbs	lbs	lbs	lbs	lbs	lbs	lbs
Spacing	in						
Offset	in						
Horizontal Shear	lbs	lbs	lbs	lbs	0.30 lbs	lbs	lbs

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Wood Ledger

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Description : Ledger at Stair and Elev

DESIGN SUMMARY — Design OK

Maximum Ledger Bending

Load Combination . . .	+D+L	
Moment	0.1067	ft-lb
fb : Actual Stress	0.01659	psi
Fb : Allowable Stress	2,325.0	psi
Stress Ratio	.0000070	:1

Maximum Ledger Shear

Load Combination . . .	+D+L	
Shear	0.480	lbs
fv : Actual Stress	0.08348	psi
Fv : Allowable Stress	310.0	psi
Stress Ratio	0.000269	:1

Maximum Bolt Bearing Summary

Load Combination . . .	+D+L	
Max. Vertical Load	0.960	lbs
Bolt Allow Vertical Load	282.182	lbs
Max. Horizontal Load	0.0	lbs
Bolt Allow Horizontal Load	541.75	lbs
Angle of Resultant	90.0	deg
Diagonal Component	0.960	lbs
Allow Diagonal Bolt Force	282.182	lbs
Stress Ratio, Wood @ Bolt	0.003402	:1

Dowel Bearing Strengths

(for specific gravity & bolt diameter)

Ledger, Perp to Grain	2,450.0 ksi
Ledger, Parallel to Grain	4,700.0 ksi
Supporting Member, Perp to Grain	2,450.0 ksi
Supporting Member, Parallel to Grain	4,700.0 ksi

Allowable Bolt Capacity

Note ! Refer to NDS Section 11.3 for Bolt Capacity calculation method.

Governing Load Combination . . . **+D+L**

Resutant Load Angle : Theta = deg Ktheta = Fe theta =

Bolt Capacity - Load Perpendicular to Grain

Fem	2,450.0	Fes	2,450.0	Fyb	45,000.0		
Re	1.0	Rt	2.333				
k1	0.7828	k2	1.179	k3	1.843		
Im : Eq 11.3-1		Rd =		Z =	857.50	lbs	
Is : Eq 11.3-2		Rd =		Z =	367.50	lbs	
II : Eq 11.3-3		Rd =		Z =	319.653	lbs	
IIIm : Eq 11.3-4		Rd =		Z =	421.382	lbs	
IIIs : Eq 11.3-5		Rd =		Z =	282.182	lbs	
IV : Eq 11.3-6		Rd =		Z =	378.886	lbs	
		Zmin : Basic Design Value =			282.182	lbs	

Bolt Capacity - Load Parallel to Grain

Fem	4,700.0	Fes	4,700.0	Fyb	45,000.0		
Re	1.0	Rt	2.333				
k1	0.7828	k2	1.095	k3	1.475		
Im : Eq 11.3-1		Rd =		Z =	2,056.25	lbs	
Is : Eq 11.3-2		Rd =		Z =	881.25	lbs	
II : Eq 11.3-3		Rd =		Z =	766.51	lbs	
IIIm : Eq 11.3-4		Rd =		Z =	938.53	lbs	
IIIs : Eq 11.3-5		Rd =		Z =	541.75	lbs	
IV : Eq 11.3-6		Rd =		Z =	655.97	lbs	
		Zmin : Basic Design Value =			541.75	lbs	

Reference design value - Perpendicular to Grain :
Z * CM * CD* Ct * Cg * Cdelta = **282.182** lbs

Reference design value - Parallel to Grain :
Z * CM * CD* Ct * Cg * Cdelta = **541.75** lbs

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Wood Shear Wall

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Description : SW1 - Interior Hallway Shear Wall (GL F & G) L = 13'-0"

General Information

Calculations per NDS 2018, IBC 2015, CBC 2016, ASCE 7-10

Total Wall Length	13.0 ft
Number of Storys	4
Story #1 Height	14.0 ft
Story #2 Height	9.0 ft
Story #3 Height	9.0 ft
Story #4 Height	11.0 ft

Framing & Chord Material :

Wood Species :	Spruce - Pine - Fir		
Wood Grade :	No. 1/No. 2		
Fc - Prll =	1,150.0 psi	Ft - Tension	450.0 psi
Fc - Perp =	425.0 psi	E	1,400.0 ksi
Specific Gravity =	0.420		
SDC : Seismic Design Category :	B		

Sheathing

Main Sheathing

SDPWS 2008 Construction Table : 4.3C

Gypsum Board, 5/8" Thk, 6d Cooler or Wallboard nails, 7" Edge Spac,

Nominal Seismic Shear Capacities (plf) :

6" Spac.	230	3" Spac.
4" Spac.		2" Spac.

Nominal Wind Shear Capacities (plf) :

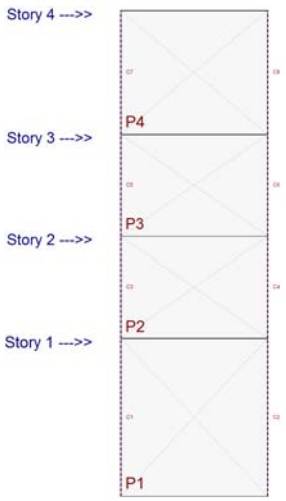
6" Spac.	230	3" Spac.
4" Spac.		2" Spac.

Chord Data

Chord Member Size for each level : See Chord Summary Tables for number of Chords required at each panel end.

Level 1 Chord Size :	3x6	Chord Cf:	Comp:	1.0	Tens:	1.0	Max. Allow Stress Ratio : 1.0 : 1
			Chord Area =		13.750 in^2		
Level 2 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0	All chords treated as fully braced about both axes
			Chord Area =		13.750 in^2		
Level 3 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0	
			Chord Area =		13.750 in^2		
Level 4 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0	
			Chord Area =		13.750 in^2		

Opening ID	Dist to Left Edge	Opening Width	Dist to Bottom	Opening Height
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft



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8102 Menaul Blvd. NE, Suite D, Albuquerque, NM 87110
tele: 505.255.7802 fax: 505.255.7902

Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Shear Wall

File = K:\Projects\2023\23-015\SEV10W~K\Calcs\HICSCO.ec6 .
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Description : SW1 - Interior Hallway Shear Wall (GL F & G) L = 13'-0"

Applied Distributed Vertical Loads

Load Location (ft)			Load Magnitude (klf)					
Start Location	End Location	Height of Application	Dead	Roof Live	Live	Snow	Wind	Seismic
	13.0	14.0	0.080		0.40			
	13.0	23.0	0.080		0.40			
	13.0	32.0	0.080		0.40			
	13.0	43.0	0.270	0.360		1.50	-0.630	

Applied Concentrated Lateral Loads

Load "Y" Location (ft)	Load Magnitude (kips)					
	Dead	Roof Live	Live	Snow	Wind	Seismic
14.0					0.750	
23.0					0.710	
32.0					0.4230	
43.0					0.590	

Shear Panel Summary

Panel ID	Level #	Max Shear (kips)	Load Comb	# Sides Used	Shear Summary & Attachment: Actual (plf)	Allow	Status	Attachment	Height/Width Ratio: Actual	Allow	Notes
P1	1	1.484	+D+0.60W	1	114.1	230.0	OK	Use fasteners per Table 4.3C	1.08	2.00	ST BE BLOCKED for h/b >
P2	2	1.034	+D+0.60W	1	79.5	230.0	OK	Use fasteners per Table 4.3C	0.69	2.00	ST BE BLOCKED for h/b >
P3	3	0.608	+D+0.60W	1	46.8	230.0	OK	Use fasteners per Table 4.3C	0.69	2.00	ST BE BLOCKED for h/b >
P4	4	0.354	+D+0.60W	1	27.2	230.0	OK	Use fasteners per Table 4.3C	0.85	2.00	ST BE BLOCKED for h/b >

Chord Summary

Chord ID	Level #	Dist from Left (ft)	Force (kips)	Load Comb	CHORD DESIGN SUMMARY: # Req'd @ Location	Member Size	Stress Ratio	Governs	Status
C1	1	0.00	3.0	+D+0.60W	1	3x6	0.12	Comp	OK
Comp Values :	Max. Down :		3.0 k	Load Comb : +D+0.60W		Max fc =	221 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :		3.0 k	Load Comb : +D+0.60W		Max ft =	221 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C2	1	13.00	3.0	+D+0.60W	1	3x6	0.12	Comp	OK
Comp Values :	Max. Down :		3.0 k	Load Comb : +D+0.60W		Max fc =	221 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :		3.0 k	Load Comb : +D+0.60W		Max ft =	221 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C3	2	0.00	1.4	+D+0.60W	1	3x6	0.06	Comp	OK
Comp Values :	Max. Down :		1.4 k	Load Comb : +D+0.60W		Max fc =	104 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :		1.4 k	Load Comb : +D+0.60W		Max ft =	104 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C4	2	13.00	1.4	+D+0.60W	1	3x6	0.06	Comp	OK
Comp Values :	Max. Down :		1.4 k	Load Comb : +D+0.60W		Max fc =	104 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :		1.4 k	Load Comb : +D+0.60W		Max ft =	104 psi	Allow F't =	720 psi
User-specified anchorage device : _____									

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Description : SW1 - Interior Hallway Shear Wall (GL F & G) L = 13'-0"

Chord Summary

Chord ID	Level #	Dist from Left (ft)	Force (kips)	Load Comb	CHORD DESIGN SUMMARY # Req'd @ Location	Member Size	Stress Ratio	Governs	Status
C5	3	0.00	0.7	+D+0.60W	1	3x6	0.03	Comp	OK
Comp Values :	Max. Down :	0.7 k	Load Comb : +D+0.60W			Max fc =	52 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	0.7 k	Load Comb : +D+0.60W			Max ft =	52 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C6	3	13.00	0.7	+D+0.60W	1	3x6	0.03	Comp	OK
Comp Values :	Max. Down :	0.7 k	Load Comb : +D+0.60W			Max fc =	52 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	0.7 k	Load Comb : +D+0.60W			Max ft =	52 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C7	4	0.00	0.3	+D+0.60W	1	3x6	0.01	Comp	OK
Comp Values :	Max. Down :	0.3 k	Load Comb : +D+0.60W			Max fc =	22 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	0.3 k	Load Comb : +D+0.60W			Max ft =	22 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C8	4	13.00	0.3	+D+0.60W	1	3x6	0.01	Comp	OK
Comp Values :	Max. Down :	0.3 k	Load Comb : +D+0.60W			Max fc =	22 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	0.3 k	Load Comb : +D+0.60W			Max ft =	22 psi	Allow F't =	720 psi
User-specified anchorage device : _____									

Chord Naming Information : C : Item is a Chord L : Followed by level number # : Followed by chord number from left to right
WL : Indicates Chord is on left edge of wall WR : Indicates Chord is on right edge of wall

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Description : SW1 - Interior Hallway Shear Wall (GL 6 & 7) L = 13'-0"

General Information

Calculations per NDS 2018, IBC 2015, CBC 2016, ASCE 7-10

Total Wall Length	13.0 ft
Number of Storys	4
Story #1 Height	14.0 ft
Story #2 Height	9.0 ft
Story #3 Height	9.0 ft
Story #4 Height	11.0 ft

Framing & Chord Material :

Wood Species :	Spruce - Pine - Fir		
Wood Grade :	No. 1/No. 2		
Fc - Prll =	1,150.0 psi	Ft - Tension	450.0 psi
Fc - Perp =	425.0 psi	E	1,400.0 ksi
Specific Gravity =	0.420		
SDC : Seismic Design Category :	B		

Sheathing

Main Sheathing

SDPWS 2008 Construction Table : 4.3C

Gypsum Board, 5/8" Thk, 6d Cooler or Wallboard nails, 7" Edge Spac,

Nominal Seismic Shear Capacities (plf) :

6" Spac.	230	3" Spac.
4" Spac.		2" Spac.

Nominal Wind Shear Capacities (plf) :

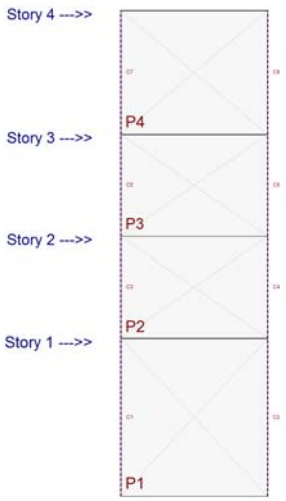
6" Spac.	230	3" Spac.
4" Spac.		2" Spac.

Chord Data

Chord Member Size for each level : See Chord Summary Tables for number of Chords required at each panel end.

Level 1 Chord Size :	3x6	Chord Cf:	Comp:	1.0	Tens:	1.0	Max. Allow Stress Ratio : 1.0 : 1
			Chord Area =		13.750 in^2		
Level 2 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0	All chords treated as fully braced about both axes
			Chord Area =		13.750 in^2		
Level 3 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0	
			Chord Area =		13.750 in^2		
Level 4 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0	
			Chord Area =		13.750 in^2		

Opening ID	Dist to Left Edge	Opening Width	Dist to Bottom	Opening Height
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft



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Applied Distributed Vertical Loads

Load Location (ft)			Load Magnitude (klf)					
Start Location	End Location	Height of Application	Dead	Roof Live	Live	Snow	Wind	Seismic
	13.0	14.0	0.080		0.40			
	13.0	23.0	0.080		0.40			
	13.0	32.0	0.080		0.40			
	13.0	43.0	0.270	0.360		1.50	-0.630	

Applied Concentrated Lateral Loads

Load "Y" Location (ft)	Load Magnitude (kips)					
	Dead	Roof Live	Live	Snow	Wind	Seismic
14.0					0.750	
23.0					0.710	
32.0					0.4230	
43.0					0.590	

Shear Panel Summary

Panel ID	Level #	Max Shear (kips)	Load Comb	# Sides Used	Shear Summary & Attachment: Actual (plf)	Allow	Status	Attachment	Height/Width Ratio: Actual	Allow	Notes
P1	1	1.484	+D+0.60W	1	114.1	230.0	OK	Use fasteners per Table 4.3C	1.08	2.00	ST BE BLOCKED for h/b >
P2	2	1.034	+D+0.60W	1	79.5	230.0	OK	Use fasteners per Table 4.3C	0.69	2.00	ST BE BLOCKED for h/b >
P3	3	0.608	+D+0.60W	1	46.8	230.0	OK	Use fasteners per Table 4.3C	0.69	2.00	ST BE BLOCKED for h/b >
P4	4	0.354	+D+0.60W	1	27.2	230.0	OK	Use fasteners per Table 4.3C	0.85	2.00	ST BE BLOCKED for h/b >

Chord Summary

Chord ID	Level #	Dist from Left (ft)	Force (kips)	Load Comb	CHORD DESIGN SUMMARY: # Req'd @ Location	Member Size	Stress Ratio	Governs	Status
C1	1	0.00	3.0	+D+0.60W	1	3x6	0.12	Comp	OK
Comp Values :	Max. Down :		3.0 k	Load Comb : +D+0.60W		Max fc =	221 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :		3.0 k	Load Comb : +D+0.60W		Max ft =	221 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C2	1	13.00	3.0	+D+0.60W	1	3x6	0.12	Comp	OK
Comp Values :	Max. Down :		3.0 k	Load Comb : +D+0.60W		Max fc =	221 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :		3.0 k	Load Comb : +D+0.60W		Max ft =	221 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C3	2	0.00	1.4	+D+0.60W	1	3x6	0.06	Comp	OK
Comp Values :	Max. Down :		1.4 k	Load Comb : +D+0.60W		Max fc =	104 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :		1.4 k	Load Comb : +D+0.60W		Max ft =	104 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C4	2	13.00	1.4	+D+0.60W	1	3x6	0.06	Comp	OK
Comp Values :	Max. Down :		1.4 k	Load Comb : +D+0.60W		Max fc =	104 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :		1.4 k	Load Comb : +D+0.60W		Max ft =	104 psi	Allow F't =	720 psi
User-specified anchorage device : _____									

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Description : SW1 - Interior Hallway Shear Wall (GL 6 & 7) L = 13'-0"

Chord Summary

Chord ID	Level #	Dist from Left (ft)	Force (kips)	Load Comb	CHORD DESIGN SUMMARY # Req'd @ Location	Member Size	Stress Ratio	Governs	Status
C5	3	0.00	0.7	+D+0.60W	1	3x6	0.03	Comp	OK
Comp Values :	Max. Down :	0.7 k	Load Comb : +D+0.60W			Max fc =	52 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	0.7 k	Load Comb : +D+0.60W			Max ft =	52 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C6	3	13.00	0.7	+D+0.60W	1	3x6	0.03	Comp	OK
Comp Values :	Max. Down :	0.7 k	Load Comb : +D+0.60W			Max fc =	52 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	0.7 k	Load Comb : +D+0.60W			Max ft =	52 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C7	4	0.00	0.3	+D+0.60W	1	3x6	0.01	Comp	OK
Comp Values :	Max. Down :	0.3 k	Load Comb : +D+0.60W			Max fc =	22 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	0.3 k	Load Comb : +D+0.60W			Max ft =	22 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C8	4	13.00	0.3	+D+0.60W	1	3x6	0.01	Comp	OK
Comp Values :	Max. Down :	0.3 k	Load Comb : +D+0.60W			Max fc =	22 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	0.3 k	Load Comb : +D+0.60W			Max ft =	22 psi	Allow F't =	720 psi
User-specified anchorage device : _____									

Chord Naming Information : C : Item is a Chord L : Followed by level number # : Followed by chord number from left to right
WL : Indicates Chord is on left edge of wall WR : Indicates Chord is on right edge of wall

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Description : SW3 - Exterior Endwall - Shear Wall (GL 1 & 21) L = 30'-0"

General Information

Calculations per NDS 2018, IBC 2015, CBC 2016, ASCE 7-10

Total Wall Length	30.0 ft
Number of Storys	4
Story #1 Height	14.0 ft
Story #2 Height	9.0 ft
Story #3 Height	9.0 ft
Story #4 Height	11.0 ft

Framing & Chord Material :

Wood Species :	Spruce - Pine - Fir		
Wood Grade :	No. 1/No. 2		
Fc - Prll =	1,150.0 psi	Ft - Tension	450.0 psi
Fc - Perp =	425.0 psi	E	1,400.0 ksi
Specific Gravity =	0.420		
SDC : Seismic Design Category :	B		

Sheathing

Main Sheathing

SDPWS 2008 Construction Table : 4.3A

Wood Structural Panels, Sheathing, 7/16" Thk, 1-3/8" Min Pen, 8d

Nominal Seismic Shear Capacities (plf) :

6" Spac.	520	3" Spac.	980
4" Spac.	760	2" Spac.	1280

Nominal Wind Shear Capacities (plf) :

6" Spac.	730	3" Spac.	1370
4" Spac.	1065	2" Spac.	1790

Chord Data

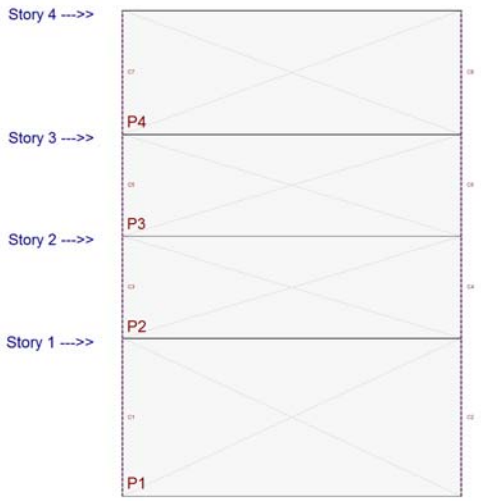
Chord Member Size for each level : See Chord Summary Tables for number of Chords required at each panel end.

Level 1 Chord Size :	3x6	Chord Cf:	Comp:	1.0	Tens:	1.0
			Chord Area =		13.750 in^2	
Level 2 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0
			Chord Area =		13.750 in^2	
Level 3 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0
			Chord Area =		13.750 in^2	
Level 4 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0
			Chord Area =		13.750 in^2	

Max. Allow Stress Ratio : 1.0 : 1

All chords treated as fully braced about both axes

Opening ID	Dist to Left Edge	Opening Width	Dist to Bottom	Opening Height
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft



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Description : SW3 - Exterior Endwall - Shear Wall (GL 1 & 21) L = 30'-0"

Applied Distributed Vertical Loads

Load Location (ft)			Load Magnitude (klf)					
Start Location	End Location	Height of Application	Dead	Roof Live	Live	Snow	Wind	Seismic
	30.0	14.0	0.090		0.10			
	30.0	23.0	0.090		0.10			
	30.0	32.0	0.090		0.10			
	30.0	43.0	0.060	0.080		1.50		

Applied Concentrated Lateral Loads

Load "Y" Location (ft)	Load Magnitude (kips)					
	Dead	Roof Live	Live	Snow	Wind	Seismic
14.0					3.90	
23.0					3.90	
32.0					3.50	
43.0					3.60	

Shear Panel Summary

Panel ID	Level #	Max Shear (kips)	Load Comb	# Sides Used	Shear Summary & Attachment: Actual (plf)	Allow	Status	Attachment	Height/Width Ratio: Actual	Allow	Notes
P1	1	8.940	+D+0.60W	1	298.0	335.8	OK	Use 6" at panel edges, 12" in field	0.47	2.00	Ratio OK
P2	2	6.600	+D+0.60W	1	220.0	335.8	OK	Use 6" at panel edges, 12" in field	0.30	2.00	Ratio OK
P3	3	4.260	+D+0.60W	1	142.0	335.8	OK	Use 6" at panel edges, 12" in field	0.30	2.00	Ratio OK
P4	4	2.160	+D+0.60W	1	72.0	335.8	OK	Use 6" at panel edges, 12" in field	0.37	2.00	Ratio OK

Chord Summary

Chord ID	Level #	Dist from Left (ft)	Force (kips)	Load Comb	CHORD DESIGN SUMMARY: # Req'd @ Location	Member Size	Stress Ratio	Governs	Status
C1	1	0.00	8.2	+D+0.60W	1	3x6	0.32	Comp	OK
Comp Values :	Max. Down :		8.2 k	Load Comb : +D+0.60W		Max fc =	598 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :		8.2 k	Load Comb : +D+0.60W		Max ft =	598 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C2	1	30.00	8.2	+D+0.60W	1	3x6	0.32	Comp	OK
Comp Values :	Max. Down :		8.2 k	Load Comb : +D+0.60W		Max fc =	598 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :		8.2 k	Load Comb : +D+0.60W		Max ft =	598 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C3	2	0.00	4.1	+D+0.60W	1	3x6	0.16	Comp	OK
Comp Values :	Max. Down :		4.1 k	Load Comb : +D+0.60W		Max fc =	295 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :		4.1 k	Load Comb : +D+0.60W		Max ft =	295 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C4	2	30.00	4.1	+D+0.60W	1	3x6	0.16	Comp	OK
Comp Values :	Max. Down :		4.1 k	Load Comb : +D+0.60W		Max fc =	295 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :		4.1 k	Load Comb : +D+0.60W		Max ft =	295 psi	Allow F't =	720 psi
User-specified anchorage device : _____									

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Chord Summary

Chord ID	Level #	Dist from Left (ft)	Force (kips)	Load Comb	CHORD DESIGN SUMMARY # Req"d @ Location	Member Size	Stress Ratio	Governs	Status
C5	3	0.00	2.1	+D+0.60W	1	3x6	0.08	Comp	OK
Comp Values :	Max. Down :	2.1 k	Load Comb : +D+0.60W			Max fc =	151 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	2.1 k	Load Comb : +D+0.60W			Max ft =	151 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C6	3	30.00	2.1	+D+0.60W	1	3x6	0.08	Comp	OK
Comp Values :	Max. Down :	2.1 k	Load Comb : +D+0.60W			Max fc =	151 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	2.1 k	Load Comb : +D+0.60W			Max ft =	151 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C7	4	0.00	0.8	+D+0.60W	1	3x6	0.03	Comp	OK
Comp Values :	Max. Down :	0.8 k	Load Comb : +D+0.60W			Max fc =	58 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	0.8 k	Load Comb : +D+0.60W			Max ft =	58 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C8	4	30.00	0.8	+D+0.60W	1	3x6	0.03	Comp	OK
Comp Values :	Max. Down :	0.8 k	Load Comb : +D+0.60W			Max fc =	58 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	0.8 k	Load Comb : +D+0.60W			Max ft =	58 psi	Allow F't =	720 psi
User-specified anchorage device : _____									

Chord Naming Information : C : Item is a Chord L : Followed by level number # : Followed by chord number from left to right
WL : Indicates Chord is on left edge of wall WR : Indicates Chord is on right edge of wall

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Project Title: Holiday Inn Express
Engineer: James Craig Hagelegantz
Project ID: ABQ #23-015
Project Descr: HIESCO

Wood Shear Wall

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Description : SW3 - Exterior Shear Wall (Typical) L = 7'-6"

General Information

Calculations per NDS 2018, IBC 2015, CBC 2016, ASCE 7-10

Total Wall Length	7.666 ft
Number of Storys	4
Story #1 Height	14.0 ft
Story #2 Height	9.0 ft
Story #3 Height	9.0 ft
Story #4 Height	11 ft

Framing & Chord Material :

Wood Species :	Spruce - Pine - Fir		
Wood Grade :	No. 1/No. 2		
Fc - Prll =	1,150.0 psi	Ft - Tension	450.0 psi
Fc - Perp =	425.0 psi	E	1,400.0 ksi
Specific Gravity =	0.420		
SDC : Seismic Design Category :	B		

Sheathing

Main Sheathing

SDPWS 2008 Construction Table : 4.3A

Wood Structural Panels, Sheathing, 5/16" Thk, 1-1/4" Min Pen, 6d

Nominal Seismic Shear Capacities (plf) :

6" Spac.	360	3" Spac.	700
4" Spac.	540	2" Spac.	900

Nominal Wind Shear Capacities (plf) :

6" Spac.	505	3" Spac.	980
4" Spac.	755	2" Spac.	1260

Chord Data

Chord Member Size for each level : See Chord Summary Tables for number of Chords required at each panel end.

Level 1 Chord Size :	3x6	Chord Cf:	Comp:	1.0	Tens:	1.0
			Chord Area =	13.750 in^2		
Level 2 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0
			Chord Area =	13.750 in^2		
Level 3 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0
			Chord Area =	13.750 in^2		
Level 4 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0
			Chord Area =	13.750 in^2		

Max. Allow Stress Ratio : 1.0 : 1

All chords treated as fully braced about both axes

Opening ID	Dist to Left Edge	Opening Width	Dist to Bottom	Opening Height
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft

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Description : SW3 - Exterior Shear Wall (Typical) L = 7'-6"

Applied Distributed Vertical Loads

Load Location (ft)			Load Magnitude (klf)					
Start Location	End Location	Height of Application	Dead	Roof Live	Live	Snow	Wind	Seismic
	7.660	14.0	0.030		0.90			
	7.660	23.0	0.030		0.90			
	7.660	32.0	0.030		0.90			
	7.660	43.0	0.2250	0.80		1.50		

Applied Concentrated Lateral Loads

Load "Y" Location (ft)	Load Magnitude (kips)					
	Dead	Roof Live	Live	Snow	Wind	Seismic
14.0					1.0	
23.0					1.0	
32.0					0.80	
43.0					0.950	

Shear Panel Summary

Panel ID	Level #	Max Shear (kips)	Load Comb	# Sides Used	Shear Summary & Attachment Actual (plf)	Allow	Status	Attachment	Height/Width Ratio Actual	Allow	Notes
P1	1	2.250	+D+0.60W	1	293.5	347.3	OK	Use 4" at panel edges, 12" in field	1.83	2.00	Ratio OK
P2	2	1.650	+D+0.60W	1	215.2	232.3	OK	Use 6" at panel edges, 12" in field	1.17	2.00	Ratio OK
P3	3	1.050	+D+0.60W	1	137.0	232.3	OK	Use 6" at panel edges, 12" in field	1.17	2.00	Ratio OK
P4	4	0.570	+D+0.60W	1	74.4	232.3	OK	Use 6" at panel edges, 12" in field	1.43	2.00	Ratio OK

Chord Summary

Chord ID	Level #	Dist from Left (ft)	Force (kips)	Load Comb	CHORD DESIGN SUMMARY # Req'd @ Location	Member Size	Stress Ratio	Governs	Status
C1	1	0.00	8.1	+D+0.60W	1	3x6	0.32	Comp	OK
Comp Values :	Max. Down :	8.1 k	Load Comb : +D+0.60W			Max fc =	589 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	8.1 k	Load Comb : +D+0.60W			Max ft =	589 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C2	1	7.67	8.1	+D+0.60W	1	3x6	0.32	Comp	OK
Comp Values :	Max. Down :	8.1 k	Load Comb : +D+0.60W			Max fc =	589 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	8.1 k	Load Comb : +D+0.60W			Max ft =	589 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C3	2	0.00	4.0	+D+0.60W	1	3x6	0.16	Comp	OK
Comp Values :	Max. Down :	4.0 k	Load Comb : +D+0.60W			Max fc =	290 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	4.0 k	Load Comb : +D+0.60W			Max ft =	290 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C4	2	7.67	4.0	+D+0.60W	1	3x6	0.16	Comp	OK
Comp Values :	Max. Down :	4.0 k	Load Comb : +D+0.60W			Max fc =	290 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	4.0 k	Load Comb : +D+0.60W			Max ft =	290 psi	Allow F't =	720 psi
User-specified anchorage device : _____									

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Project Descr: HIESCO

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Description : SW3 - Exterior Shear Wall (Typical) L = 7'-6"

Chord Summary

Chord ID	Level #	Dist from Left (ft)	Force (kips)	Load Comb	CHORD DESIGN SUMMARY # Req"d @ Location	Member Size	Stress Ratio	Governs	Status
C5	3	0.00	2.1	+D+0.60W	1	3x6	0.08	Comp	OK
Comp Values :	Max. Down :	2.1 k	Load Comb : +D+0.60W			Max fc =	149 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	2.1 k	Load Comb : +D+0.60W			Max ft =	149 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C6	3	7.67	2.1	+D+0.60W	1	3x6	0.08	Comp	OK
Comp Values :	Max. Down :	2.1 k	Load Comb : +D+0.60W			Max fc =	149 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	2.1 k	Load Comb : +D+0.60W			Max ft =	149 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C7	4	0.00	0.8	+D+0.60W	1	3x6	0.03	Comp	OK
Comp Values :	Max. Down :	0.8 k	Load Comb : +D+0.60W			Max fc =	59 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	0.8 k	Load Comb : +D+0.60W			Max ft =	59 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C8	4	7.67	0.8	+D+0.60W	1	3x6	0.03	Comp	OK
Comp Values :	Max. Down :	0.8 k	Load Comb : +D+0.60W			Max fc =	59 psi	Allow F'c =	1,840 psi
Tens Values :	Max. Uplift :	0.8 k	Load Comb : +D+0.60W			Max ft =	59 psi	Allow F't =	720 psi
User-specified anchorage device : _____									

Chord Naming Information : C : Item is a Chord L : Followed by level number # : Followed by chord number from left to right
WL : Indicates Chord is on left edge of wall WR : Indicates Chord is on right edge of wall

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Description : SW4 - Interior Room Shear Wall L = 25'-6"

General Information

Calculations per NDS 2018, IBC 2015, CBC 2016, ASCE 7-10

Total Wall Length	25.50 ft
Number of Storys	4
Story #1 Height	14.0 ft
Story #2 Height	9.0 ft
Story #3 Height	9.0 ft
Story #4 Height	11.0 ft

Framing & Chord Material :

Wood Species :	Spruce - Pine - Fir		
Wood Grade :	No. 1/No. 2		
Fc - Prll =	1,150.0 psi	Ft - Tension	450.0 psi
Fc - Perp =	425.0 psi	E	1,400.0 ksi
Specific Gravity =	0.420		
SDC : Seismic Design Category :	B		

Sheathing

Main Sheathing

SDPWS 2008 Construction Table : 4.3C

Gypsum Board, Two-Ply 5/8" Thk, 6d Base & 8d Face nails, Max

Nominal Seismic Shear Capacities (plf) :

6" Spac.	500	3" Spac.
4" Spac.		2" Spac.

Nominal Wind Shear Capacities (plf) :

6" Spac.	500	3" Spac.
4" Spac.		2" Spac.

Chord Data

Chord Member Size for each level :

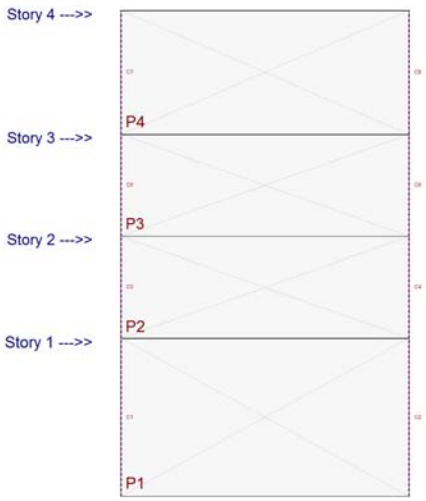
See Chord Summary Tables for number of Chords required at each panel end.

Level 1 Chord Size :	3x6	Chord Cf:	Comp:	1.0	Tens:	1.0
			Chord Area =		13.750 in^2	
Level 2 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0
			Chord Area =		13.750 in^2	
Level 3 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0
			Chord Area =		13.750 in^2	
Level 4 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0
			Chord Area =		13.750 in^2	

Max. Allow Stress Ratio : 1.0 : 1

All chords treated as unbraced out-of-plane of wall for story height

Opening ID	Dist to Left Edge	Opening Width	Dist to Bottom	Opening Height
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft



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Project Title: Holiday Inn Express
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Project ID: ABQ #23-015
Project Descr: HIESCO

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Description : SW4 - Interior Room Shear Wall L = 25'-6"

Applied Concentrated Lateral Loads

Load "Y" Location (ft)	Load Magnitude (kips) Dead	Roof Live	Live	Snow	Wind	Seismic
14.0					2.750	
23.0					2.750	
32.0					2.30	
43.0					2.40	

Shear Panel Summary

Panel ID	Level #	Max Shear (kips)	Load Comb	# Sides Used	Shear Summary & Attachment Actual (plf)	Allow	Status	Attachment	Height/Width Ratio Actual	Allow	Notes
P1	1	6.120	+D+0.60W	1	240.0	500.0	OK	Use fasteners per Table 4.3C	0.55	2.00	ST BE BLOCKED for h/b >
P2	2	4.470	+D+0.60W	1	175.3	500.0	OK	Use fasteners per Table 4.3C	0.35	2.00	ST BE BLOCKED for h/b >
P3	3	2.820	+D+0.60W	1	110.6	500.0	OK	Use fasteners per Table 4.3C	0.35	2.00	ST BE BLOCKED for h/b >
P4	4	1.440	+D+0.60W	1	56.5	500.0	OK	Use fasteners per Table 4.3C	0.43	2.00	ST BE BLOCKED for h/b >

Chord Summary

Chord ID	Level #	Dist from Left (ft)	Force (kips)	Load Comb	CHORD DESIGN SUMMARY # Req'd @ Location	Member Size	Stress Ratio	Governs	Status
C1	1	0.00	6.6	+D+0.60W	2	3x6	0.61	Comp	OK
Comp Values :	Max. Down :	6.6 k	Load Comb : +D+0.60W			Max fc =	238 psi	Allow F'c =	389 psi
Tens Values :	Max. Uplift :	6.6 k	Load Comb : +D+0.60W			Max ft =	238 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C2	1	25.50	6.6	+D+0.60W	2	3x6	0.61	Comp	OK
Comp Values :	Max. Down :	6.6 k	Load Comb : +D+0.60W			Max fc =	238 psi	Allow F'c =	389 psi
Tens Values :	Max. Uplift :	6.6 k	Load Comb : +D+0.60W			Max ft =	238 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C3	2	0.00	3.2	+D+0.60W	1	3x6	0.27	Comp	OK
Comp Values :	Max. Down :	3.2 k	Load Comb : +D+0.60W			Max fc =	232 psi	Allow F'c =	846 psi
Tens Values :	Max. Uplift :	3.2 k	Load Comb : +D+0.60W			Max ft =	232 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C4	2	25.50	3.2	+D+0.60W	1	3x6	0.27	Comp	OK
Comp Values :	Max. Down :	3.2 k	Load Comb : +D+0.60W			Max fc =	232 psi	Allow F'c =	846 psi
Tens Values :	Max. Uplift :	3.2 k	Load Comb : +D+0.60W			Max ft =	232 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C5	3	0.00	1.6	+D+0.60W	1	3x6	0.14	Comp	OK
Comp Values :	Max. Down :	1.6 k	Load Comb : +D+0.60W			Max fc =	118 psi	Allow F'c =	846 psi
Tens Values :	Max. Uplift :	1.6 k	Load Comb : +D+0.60W			Max ft =	118 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C6	3	25.50	1.6	+D+0.60W	1	3x6	0.14	Comp	OK
Comp Values :	Max. Down :	1.6 k	Load Comb : +D+0.60W			Max fc =	118 psi	Allow F'c =	846 psi
Tens Values :	Max. Uplift :	1.6 k	Load Comb : +D+0.60W			Max ft =	118 psi	Allow F't =	720 psi
User-specified anchorage device : _____									

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Description : SW4 - Interior Room Shear Wall L = 25'-6"

Chord Summary

Chord ID	Level #	Dist from Left (ft)	Force (kips)	Load Comb	CHORD DESIGN SUMMARY # Req"d @ Location	Member Size	Stress Ratio	Governs	Status
C7	4	0.00	0.6	+D+0.60W	1	3x6	0.07	Comp	OK
Comp Values :		Max. Down :	0.6 k	Load Comb : +D+0.60W		Max fc =	45 psi	Allow F'c =	604 psi
Tens Values :		Max. Uplift :	0.6 k	Load Comb : +D+0.60W		Max ft =	45 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C8	4	25.50	0.6	+D+0.60W	1	3x6	0.07	Comp	OK
Comp Values :		Max. Down :	0.6 k	Load Comb : +D+0.60W		Max fc =	45 psi	Allow F'c =	604 psi
Tens Values :		Max. Uplift :	0.6 k	Load Comb : +D+0.60W		Max ft =	45 psi	Allow F't =	720 psi
User-specified anchorage device : _____									

Chord Naming Information : C : Item is a Chord L : Followed by level number # : Followed by chord number from left to right
WL : Indicates Chord is on left edge of wall WR : Indicates Chord is on right edge of wall

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Description : SW4 - Interior Room Shear Wall L = 21'-0" 2,3,4 FLOORS

General Information

Calculations per NDS 2018, IBC 2015, CBC 2016, ASCE 7-10

Total Wall Length	21.0 ft
Number of Storys	2
Story #1 Height	9.0 ft
Story #2 Height	9.0 ft

Framing & Chord Material :

Wood Species :	Spruce - Pine - Fir		
Wood Grade :	No. 1/No. 2		
Fc - Prll =	1,150.0 psi	Ft - Tension	450.0 psi
Fc - Perp =	425.0 psi	E	1,400.0 ksi
Specific Gravity =	0.420		
SDC : Seismic Design Category :	B		

Sheathing

Main Sheathing

SDPWS 2008 Construction Table : 4.3C

Gypsum Board, Two-Ply 5/8" Thk, 6d Base & 8d Face nails, Max

Nominal Seismic Shear Capacities (plf) :

6" Spac.	500	3" Spac.
4" Spac.		2" Spac.

Nominal Wind Shear Capacities (plf) :

6" Spac.	500	3" Spac.
4" Spac.		2" Spac.

Chord Data

Chord Member Size for each level :

See Chord Summary Tables for number of Chords required at each panel end.

Level 1 Chord Size :	3x6	Chord Cf:	Comp:	1.0	Tens:	1.0	Max. Allow Stress Ratio : 1.0 : 1
			Chord Area =	13.750 in^2			
Level 2 Chord Size :	3x6	Chord Cf :	Comp:	1.0	Tens:	1.0	All chords treated as unbraced out-of-plane of wall for story height
			Chord Area =	13.750 in^2			

Opening ID	Dist to Left Edge	Opening Width	Dist to Bottom	Opening Height
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft
				ft

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Description : SW4 - Interior Room Shear Wall L = 21'-0" 2,3,4 FLOORS

Applied Concentrated Lateral Loads

Load "Y" Location (ft)	Load Magnitude (kips) Dead	Roof Live	Live	Snow	Wind	Seismic
9.0					3.30	
18.0					3.20	

Shear Panel Summary

Panel ID	Level #	Max Shear (kips)	Load Comb	# Sides Used	Shear Summary & Attachment Actual (plf)	Allow	Status	Attachment	Height/Width Ratio Actual	Allow	Notes
P1	1	3.900	+D+0.60W	1	185.7	500.0	OK	Use fasteners per Table 4.3C	0.43	2.00	ST BE BLOCKED for h/b >
P2	2	1.920	+D+0.60W	1	91.4	500.0	OK	Use fasteners per Table 4.3C	0.43	2.00	ST BE BLOCKED for h/b >

Chord Summary

Chord ID	Level #	Dist from Left (ft)	Force (kips)	Load Comb	CHORD DESIGN SUMMARY # Req'd @ Location	Member Size	Stress Ratio	Governs	Status
C1	1	0.00	2.5	+D+0.60W	1	3x6	0.21	Comp	OK
Comp Values :	Max. Down :	2.5 k	Load Comb : +D+0.60W			Max fc =	181 psi	Allow F'c =	846 psi
Tens Values :	Max. Uplift :	2.5 k	Load Comb : +D+0.60W			Max ft =	181 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C2	1	21.00	2.5	+D+0.60W	1	3x6	0.21	Comp	OK
Comp Values :	Max. Down :	2.5 k	Load Comb : +D+0.60W			Max fc =	181 psi	Allow F'c =	846 psi
Tens Values :	Max. Uplift :	2.5 k	Load Comb : +D+0.60W			Max ft =	181 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C3	2	0.00	0.8	+D+0.60W	1	3x6	0.07	Comp	OK
Comp Values :	Max. Down :	0.8 k	Load Comb : +D+0.60W			Max fc =	60 psi	Allow F'c =	846 psi
Tens Values :	Max. Uplift :	0.8 k	Load Comb : +D+0.60W			Max ft =	60 psi	Allow F't =	720 psi
User-specified anchorage device : _____									
C4	2	21.00	0.8	+D+0.60W	1	3x6	0.07	Comp	OK
Comp Values :	Max. Down :	0.8 k	Load Comb : +D+0.60W			Max fc =	60 psi	Allow F'c =	846 psi
Tens Values :	Max. Uplift :	0.8 k	Load Comb : +D+0.60W			Max ft =	60 psi	Allow F't =	720 psi
User-specified anchorage device : _____									

Chord Naming Information : C : Item is a Chord L : Followed by level number # : Followed by chord number from left to right
WL : Indicates Chord is on left edge of wall WR : Indicates Chord is on right edge of wall

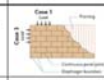
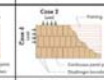
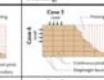
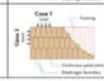
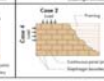
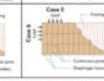
Table 4.2C Nominal Unit Shear Capacities for Wood-Frame Diaphragms

Unblocked Wood Structural Panel Diaphragms[1,2,3,4,5]

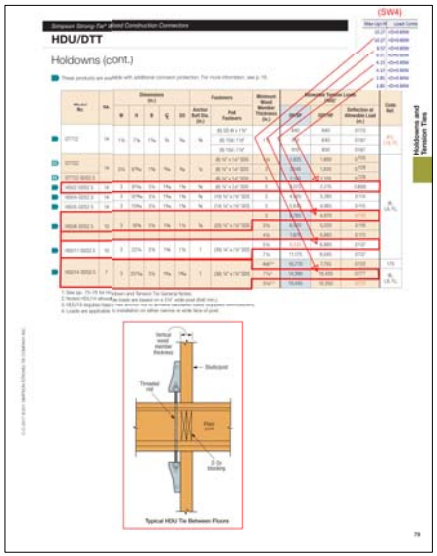
Sheathing Grade	Common Nail Size	Minimum Fastener Penetration in Framing (in.)	Minimum Nominal Panel Thickness (in.)	Minimum Nominal Width of Nailed Face at Supported Edges and Boundaries (in.)	A SEISMIC 6 in. Nail Spacing at diaphragm boundaries and supported panel edges				B WIND 6 in. Nail Spacing at diaphragm boundaries and supported panel edges	
					Case 1		Cases 2,3,4,5,6		Case 1	Cases 2,3,4,5,6
					v_s (plf)	G_a (kips/in.) OSB / PLY	v_s (plf)	G_a (kips/in.) OSB / PLY	v_w (plf)	v_w (plf)
Structural I	6d	1-1/4	5/16	2	330	9.0 / 7.0	250	6.0 / 4.5	460	350
				3	370	7.0 / 6.0	280	4.5 / 4.0	520	390
	8d	1-3/8	3/8	2	480	8.5 / 7.5	360	6.0 / 4.0	670	505
				3	530	7.5 / 6.0	400	5.0 / 4.0	740	560
	10d	1-1/2	15/32	2	570	14 / 10	430	9.5 / 7.0	800	600
				3	640	12 / 9.0	480	8.0 / 6.0	895	670
Sheathing and Single-Floor	6d	1-1/4	5/16	2	300	9.0 / 6.5	220	6.0 / 4.0	420	310
				3	340	7.0 / 5.5	250	5.0 / 3.5	475	350
			3/8	2	330	7.5 / 5.5	250	5.0 / 4.0	460	350
				3	370	6.0 / 4.5	280	4.0 / 3.0	520	390
	8d	1-3/8	3/8	2	430	9.0 / 6.5	320	6.0 / 4.5	600	450
				3	480	7.5 / 5.5	360	5.0 / 3.5	670	505
			7/16	2	460	8.5 / 6.0	340	5.5 / 4.0	645	475
				3	510	7.0 / 5.5	380	4.5 / 3.5	715	530
			15/32	2	480	7.5 / 5.5	360	5.0 / 4.0	670	505
				3	530	6.5 / 5.0	400	4.0 / 3.5	740	560
	10d	1-1/2	15/32	2	510	15 / 9.0	380	10 / 6.0	715	530
				3	580	12 / 8.0	430	8.0 / 5.5	810	600
			19/32	2	570	13 / 8.5	430	8.5 / 5.5	800	600
				3	640	10 / 7.5	480	7.0 / 5.0	895	670

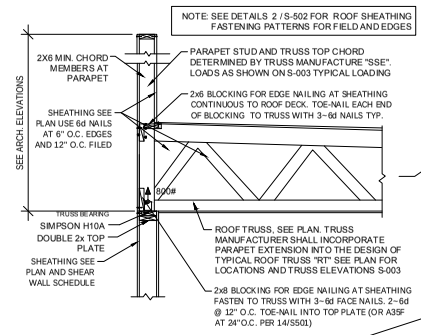
Va=670/2=335plf

1. Nominal unit shear capacities shall be adjusted in accordance with 4.2.3 to determine ASD allowable unit shear capacity and LRFD factored unit resistance. For general construction requirements see 4.2.6. For specific requirements, see 4.2.7.1 for wood structural panel diaphragms. See Appendix A for common nail dimensions.
2. For species and grades of framing other than Douglas-Fir-Larch or Southern Pine, reduced nominal unit shear capacities shall be determined by multiplying the tabulated nominal unit shear capacity by the Specific Gravity Adjustment Factor = [1-(0.5-G)], where G = Specific Gravity of the framing lumber from the *NDS* (Table 12.3.3A). The Specific Gravity Adjustment Factor shall not be greater than 1.
3. Apparent shear stiffness values, G_a, are based on nail slip in framing with moisture content less than or equal to 19% at time of fabrication and panel stiffness values for diaphragms constructed with either OSB or 3-ply plywood panels. When 4-ply or 5-ply plywood panels or composite panels are used, G_a values shall be permitted to be multiplied by 1.2.
4. Where moisture content of the framing is greater than 19% at time of fabrication, G_a values shall be multiplied by 0.5.
5. Diaphragm resistance depends on the direction of continuous panel joints with respect to the loading direction and direction of framing members, and is independent of the panel orientation.

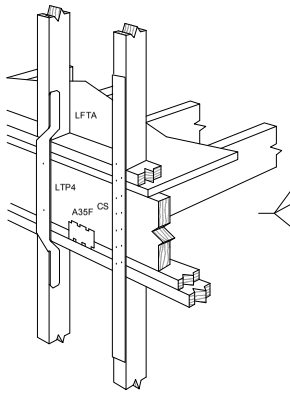
	Cases 1&3: Continuous Panel Joints Perpendicular to Framing	Cases 2&4: Continuous Panel Joints Parallel to Framing	Cases 5&6: Continuous Panel Joints Perpendicular and Parallel to Framing
Long Panel Direction Perpendicular to Supports			
Long Panel Direction Parallel to Supports[a]			

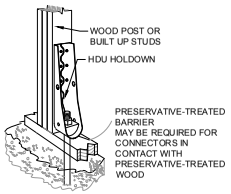
(a) Panel span rating for out-of-plane loads may be lower than the span rating with the long panel direction perpendicular to supports (See Section 3.2.2 and Section 3.2.3)

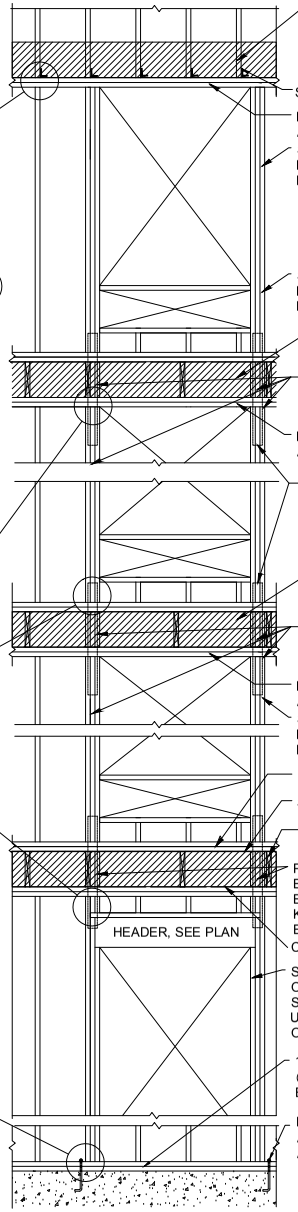




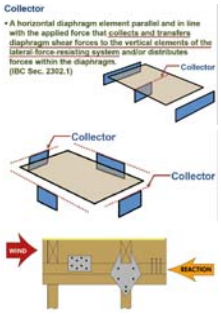
CONTINUOUS LOAD PATH FROM ROOF BEARING TO FOUNDATION AT SHEAR WALLS AND AT SHEAR WALL ENDS ADJACENT TO OPEINGS

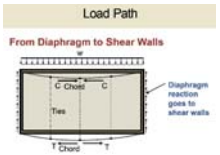






NOTE:
ALL WOOD MEMBERS FOR SHEAR WALLS, FLOORS, ROOF WILL BE PER 2012 IBC FASTENING SCHEDULE TABLE 2304.9.1





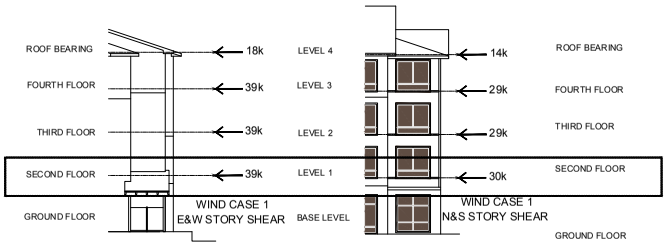
WIND CASE 1 - N&S STORY SHEAR
CONTROLLS FLOOR DIAPHRAM DESIGN

DIAPHRAM CORD ANALYSIS
RIM JOIST AT EXTERIOR WALL IS COLLECTOR/CHORD BETWEEN SHEAR WALLS.

RIM JOISTS IS 1.25X11.25 LSL
A = 14 IN^2
FC,PER-GRAIN = 680 PSI
ALLOWABLE AXIAL LOAD = 680X14 = 9520#
= 9.520 KIPS = PA

FASTENERS AT RIM TO TOP PLATES PER
2012 IBC (TABLE 2304.9.1) USE 8D NAILS
AT 6" O.C. VC = 335 PLF
FASTENERS RAFTER TO TOP PLATES PER
2012 IBC (TABLE 2304.9.1) USE 3~8D NAILS
VC = 503 LBS
TOTAL ALLOWABLE CORD FORCE FROM
DIAPHRAGM TO TOP CORD OF SHEAR
WALL
VA,C = 335+503/2 = 587 PLF

MAXIMUM COLLECTOR FORCE
VT = $V_{T,MAX}$ = 84.3 PLF < VA,C = 587 PLF OK
MAXIMUM CORD FORCE
PC = 1.38 KIPS < PA = 9.520 KIPS OK

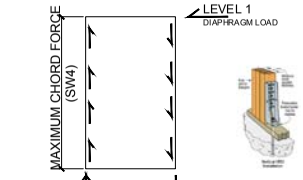


WIND CASE 1 - N&S STORY SHEAR CONTROLLS
FLOOR DIAPHRAM DESIGN

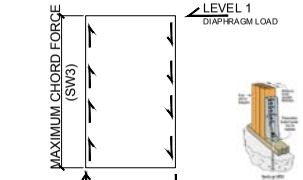
LEVEL 1 APPLIED DIAPHRAGM LOAD = 51400LBS
FLOOR DIAPHRAM LOAD = $V_{T,MAX}$ = 12167/63' = 193
PLF PER TABLE 4.2C (CASE1) VA=VN/2=670/2=335 PLF
(6in Nail Spacing at boundaries and edges,12" field)
Vd = 193< Va =335PLF ok

WIND COMBINATION CASE 1 - E&W STORY SHEAR
FLOOR DIAPHRAM DESIGN

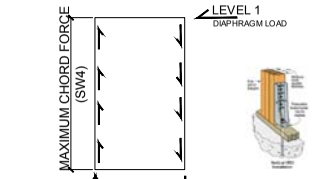
LEVEL 4 APPLIED DIAPHRAGM LOAD = 22000LBS
FLOOR DIAPHRAM LOAD = $V_{L,MAX}$ = 6745/197' = 34.2 PLF
PER TABLE 4.2C (CASE 3) VA=VN/2=670/2=335
(6in Nail Spacing at boundaries and edges,12" field)
V_D = 34.2 < Va =335PLF ok



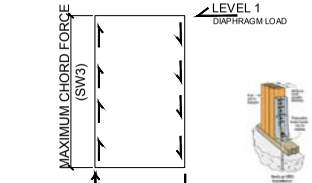
LEVEL 1, T&C = 10270 # USE HDU14-SDS2.5
SEE SHEARWALL SCHEDULE SHEET S-003



LEVEL 1, T&C = 2790 #
LEVEL 1, T&C = 2790 # USE HDU4-SDS2.5



LEVEL 1, T&C = 10270 # USE HDU14-SDS2.5
SEE SHEARWALL SCHEDULE SHEET S-003



LEVEL 1, T&C = 2790 #
LEVEL 1, T&C = 2790 # USE HDU4-SDS2.5
SEE SHEARWALL SCHEDULE SHEET S-003

SHEAR WALL SCHEDULE

MARK	SHEATHING LEVEL 1	SHEATHING LEVEL 2&3	SHEATHING LEVEL 4	ATTACHMENT AT PANEL EDGES LEVEL 1	ATTACHMENT AT PANEL EDGES LEVEL 2&3	ATTACHMENT AT PANEL EDGES LEVEL 4	SOLE PLATE CONNECTION LEVEL 1	SOLE PLATE CONNECTION LEVEL 2&3	SOLE PLATE CONNECTION LEVEL 4	HOLD DOWN LEVEL 1	HOLD DOWN LEVEL 2&3	HOLD DOWN LEVEL 4	REMARKS
S1	5/8" GYP. SHEATHING, BLOCKED, ONE FACE	5/8" GYP. SHEATHING, UNBLOCKED, ONE FACE	5/8" GYP. SHEATHING, UNBLOCKED, ONE FACE	6d COOLER NAILS @ 7"OC	6d COOLER NAILS @ 7"OC	6d COOLER NAILS @ 7"OC	1/2"Ø ANCHORS @72"OC	10d NAILS AT 8"OC	10d NAILS AT 8"OC	1/2"Ø ANCHOR EACH END			SDPWS TABLE 4.3C
S2	2 PLYS 5/8" GYP. SHEATHING, BLOCKED, ONE FACE	2 PLYS 5/8" GYP. SHEATHING, BLOCKED, ONE FACE	2 PLYS 5/8" GYP. SHEATHING, BLOCKED, ONE FACE	BASE PLY 6d COOLER NAILS @ 9"OC FACE PLY 8d COOLER NAILS @ 7"OC	BASE PLY 6d COOLER NAILS @ 9"OC FACE PLY 8d COOLER NAILS @ 7"OC	BASE PLY 6d COOLER NAILS @ 9"OC FACE PLY 8d COOLER NAILS @ 7"OC	1/2"Ø ANCHORS @72"OC	4-10d NAILS AT 16"OC	4-10d NAILS AT 16"OC	1/2"Ø ANCHOR EACH END W/SIMPSON BPS BEARING PLATE			SDPWS TABLE 4.3C
S3	1/2" WOOD SHEATHING, UNBLOCKED, ONE FACE	1/2" WOOD SHEATHING, UNBLOCKED, ONE FACE	1/2" WOOD SHEATHING, UNBLOCKED, ONE FACE	6d COOLER NAILS @ 6"OC	6d COOLER NAILS @ 6"OC	6d COOLER NAILS @ 6"OC	1/2"Ø ANCHORS @72"OC	4-10d NAILS AT 16"OC	4-10d NAILS AT 16"OC	HDU5-SDS2.5 SEE NOTE 10	CS18	CS22	SDPWS TABLE 4.3A
S4	2 PLYS 5/8" GYP. SHEATHING, BLOCKED, ONE FACE	2 PLYS 5/8" GYP. SHEATHING, BLOCKED, ONE FACE	2 PLYS 5/8" GYP. SHEATHING, BLOCKED, ONE FACE	BASE PLY 6d COOLER NAILS @ 9"OC FACE PLY 8d COOLER NAILS @ 7"OC	BASE PLY 6d COOLER NAILS @ 9"OC FACE PLY 8d COOLER NAILS @ 7"OC	BASE PLY 6d COOLER NAILS @ 9"OC FACE PLY 8d COOLER NAILS @ 7"OC	1/2"Ø ANCHORS @72"OC	4-10d NAILS AT 16"OC	4-10d NAILS AT 16"OC	HDU11-SDS2.5	HDU8-SDS2.5	HDU4-SDS2.5	SDPWS TABLE 4.3C

UNLESS NOTED OTHERWISE:
1. SHEATHING TO BE CONTINUOUS FOR LENGTH OF SHEAR WALL.
2. SEE 8/S5.1 FOR ANCHORAGE OF TIE DOWN CONNECTORS TO SLAB ON GRADE.
3. PROVIDE MIN. OF 2-2x STUDS AT EACH END OF SHEAR WALL PANEL. SEE MANUFACTURER AND SCHEDULE FOR MINIMUM STUD NUMBER AND SIZE AT TIE DOWN LOCATIONS.
4. PROVIDE RSP STRAP TIES ON EACH SIDE OF TOP/SILL PLATES FOR BORED HOLE/NOTCH GREATER THAN 1 1/2" FOR 2x4 OR 2 1/2" FOR 2x6.
5. PROVIDE 6d @ 6" OC BETWEEN STUDS AT LOCATIONS WHERE WALL STUD SIZE CHANGES.
6. AT GYPSUM SHEATHING, ATTACHMENT AT INTERMEDIATE FIELD STUDS EQUALS ATTACHMENT AT PANEL EDGES.
7. AT WOOD SHEATHING, ATTACHMENT AT INTERMEDIATE FIELD STUDS EQUALS 12" O.C.
8. ALTERNATE FASTENERS ARE PERMITTED TO BE USED IF THEIR DIMENSIONS ARE NOT LESS THAN THE SPECIFIED DIMENSIONS. DRYWALL SCREWS ARE PERMITTED TO SUBSTITUTE FOR THE 8d (2 1/2" X 0.131") , AND 6d (1 7/8" X 0.092") NAILS LISTED ABOVE. NO. 6 (1 1/ 4") SCREWS TYPE S OR W ARE PERMITTED TO SUBSTITUTE FOR 6d (1 7/8" X 0.092) NAILS.
9. ALL WOOD MEMBERS FASTENER FOR SHEAR WALLS, FLOORS, ROOF WILL BE PER 2015 IBC FASTENING SCHEDULE TABLE 2304.9.1
10. AT SHEAR WALL 3 AT LEVEL 1 ANCHORS AT EACH END OF SHEAR WALLS WILL BE 1/2" Ø ANCHORS UNLESS OTHERWISE SHOWN ON PLANS. SEE PLAN VIEWS FOR HDU5-SDS2.5 HOLD DOWN LOCATIONS.
11. HOLD DOWN ANCHORS BOLT DIAMETER WILL BE PER MANUFACTURE REQUIREMENTS.

5 SCHEDULES

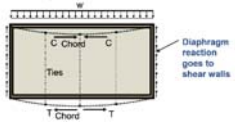
Scale: N.T.S.

SECOND FLOOR LATERAL PLAN

CS-102

Load Path

From Diaphragm to Shear Walls



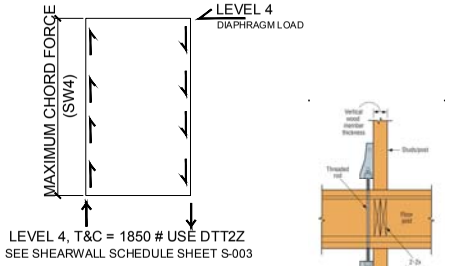
WIND CASE 1 - N&S STORY SHEAR CONTROLLS FLOOR DIAPHRAM DESIGN

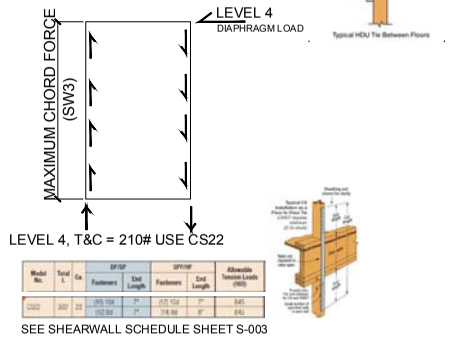
DIAPHRAM CORD ANALYSIS
TOP PLATES AT EXTERIOR WALL IS COLLECTOR/CHORD BETWEEN SHEAR WALLS.

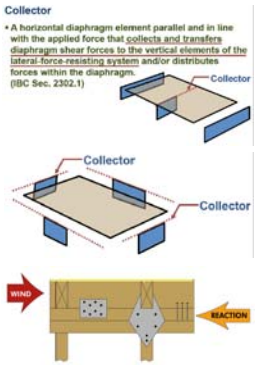
TOP PLATES IS 3"X5.5" SPF
A = 16.5 IN^2
FC,PER-GRAIN = 425 PSI
ALLOWABLE AXIAL LOAD = 425X16.5 = 7013# = 7.01 KIPS = PA

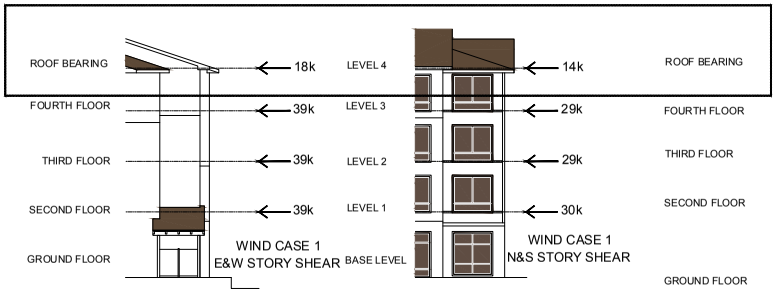
TOTAL ALLOWABLE CORD FORCE FROM DIAPHRAGM TO TOP CORD OF SHEAR WALL =VA,C = 425 PLF

MAXIMUM COLLECTOR FORCE
$V_{L,MAX}$ = 348 PLF <VA,C=425 PLF OK
MAXIMUM CORD FORCE
PC = 1.173 KIPS < PA = 7.01 KIPS OK









WIND COMBINATION CASE 3 - N&E STORY SHEAR CONTROLLS FLOOR DIAPHRAGM DESIGN

LEVEL 4 APPLIED STORY LOAD =82000LBS
FLOOR DIAPHRAGM LOAD = $V_{T,MAX}$ = 50(1366)/60' = 279 PLF PER TABLE 4.2C (CASE 1) VA=VN/2=670/2=335
(6in Nail Spacing at boundaries and edges,12" field)
V_D = 279 < Va =335PLF ok

WIND COMBINATION CASE 1 - S&W STORY SHEAR FLOOR DIAPHRAGM DESIGN

LEVEL 4 APPLIED DIAPHRAGM LOAD = 19800LBS
FLOOR DIAPHRAM LOAD = $V_{L,MAX}$ = 5411/196' = 27.6 PLF PER TABLE 4.2C (CASE 3) VA=VN/2=670/2=335
(6in Nail Spacing at boundaries and edges,12" field)
V_D = 27.6 < Va =335PLF ok

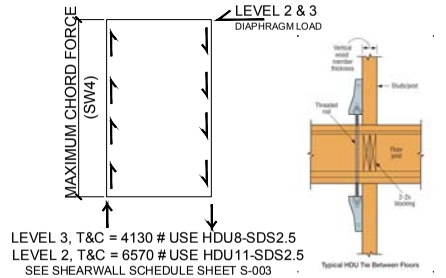
WIND CASE 1 - N&S STORY SHEAR CONTROLLS FLOOR DIAPHRAM DESIGN

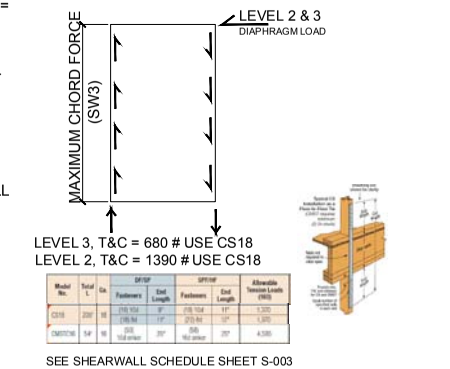
DIAPHRAM CORD ANALYSIS
RIM JOIST AT EXTERIOR WALL IS COLLECTOR/CHORD BETWEEN SHEAR WALLS.

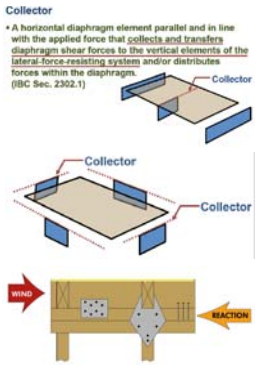
RIM JOISTS IS 1.25X11.25 LVL =
A = 14 IN^2
FC,PER-GRAIN = 680 PSI
ALLOWABLE AXIAL LOAD = 680X14 = 9520# = 9.52 KIPS = PA

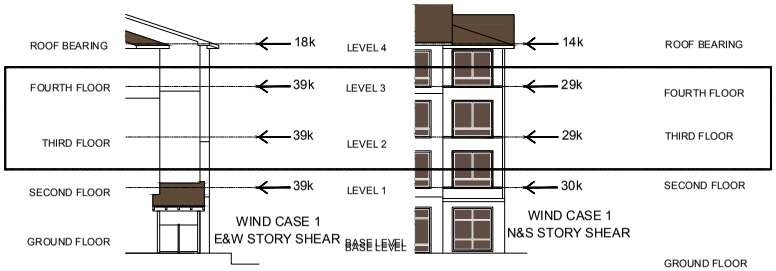
FASTENERS AT RIM TO TOP PLATES PER 2012 IBC (TABLE 2304.9.1) USE 8D NAILS AT 6" O.C. VC = 335 PLF
FASTENERS RAFTER TO TOP PLATES PER 2012 IBC (TABLE 2304.9.1) USE 3~8D NAILS VC = 503 LBS
TOTAL ALLOWABLE CORD FORCE FROM DIAPHRAGM TO TOP CORD OF SHEAR WALL =VA,C = 335+503/2 = 587 PLF

MAXIMUM COLLECTOR FORCE
$V_{T,MAX}$ = 58.0 PLF < VA,C = 587 PLF OK
MAXIMUM CORD FORCE
PC = 1.38 KIPS < PA = 9.52 KIPS OK









WIND COMBINATION CASE 1 - N&S STORY SHEAR CONTROLLS FLOOR DIAPHRAM DESIGN

LEVEL 2&3 APPLIED DIAPHRAGM LOAD = 49800LBS
FLOOR DIAPHRAM LOAD = $V_{T,MAX}$ = 7156/63' = 114 PLF PER TABLE 4.2C VA=VN/2=670/2=335 PLF
(6in Nail Spacing at boundaries and edges,12" field)
Vd = 114 < Va =335PLF ok

WIND COMBINATION CASE 1 - E&W STORY SHEAR FLOOR DIAPHRAM DESIGN

LEVEL 4 APPLIED DIAPHRAGM LOAD = 20700LBS
FLOOR DIAPHRAM LOAD = $V_{L,MAX}$ = 5397197' = 27.4 PLF PER TABLE 4.2C (CASE 3) VA=VN/2=670/2=335
(6in Nail Spacing at boundaries and edges,12" field)
V_D = 27.4 < Va =335PLF ok

ABQ
Engineering, Inc.

PROJECT :
CLIENT :
JOB NO. :
DATE :

PAGE :
DESIGN BY :
REVIEW BY :

Drag / Collector Force Diagram Generator

INPUT DATA

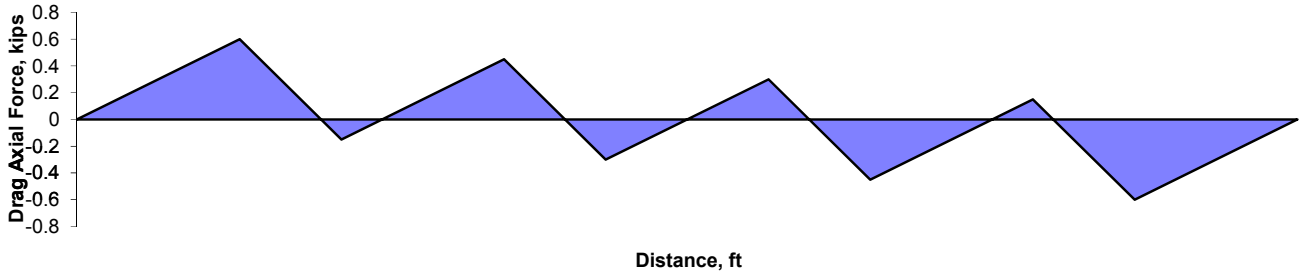
TOTAL SHEAR FORCE (ASD)	F_p =	9	kips
NUMBER OF SEGMENTS	n =	9	

Segment	1	2	3	4	5	6	7	8	9
Length, ft	8	5	8	5	8	5	8	5	8
Shear Wall ?	YES	No	Yes	No	Yes	No	Yes	No	Yes

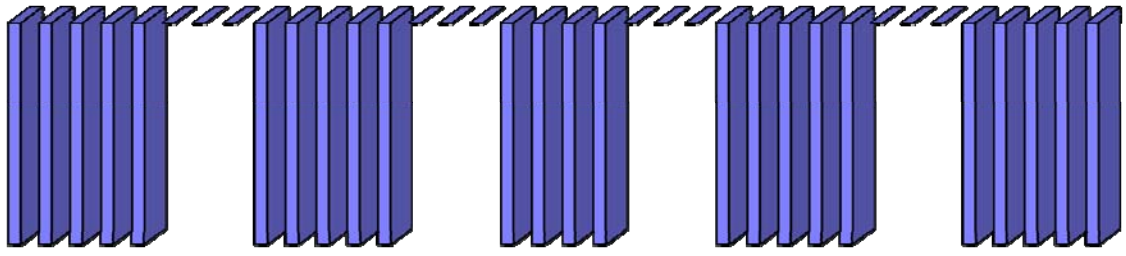
ANALYSIS

TOTAL DRAG LENGTH	L_{drag} =	60	ft	
TOTAL SHEAR WALL LENGTH	L_{wall} =	40	ft	
DIAPHRAGM SHEAR STRESS	$v_{diaphragm}$ = F_p / v_{drag} =	150	plf	
SHEAR WALL SHEAR STRESS	$v_{shear\ wall}$ = F_p / v_{wall} =	225	plf	

Section Point	0	1	2	3	4	5	6	7	8	9
Distance, ft	0	8	13	21	26	34	39	47	52	60
Axial Force	0	0.60	-0.15	0.45	-0.30	0.30	-0.45	0.15	-0.60	0.00



DRAG / COLLECTOR FORCE DIAGRAM



SHEAR WALL & DRAG ELEVATION

Standard and Balloon Framing on Concrete Foundations

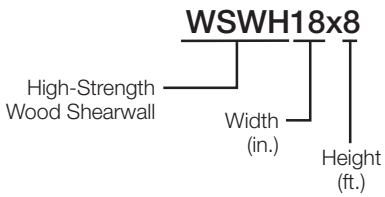
Simpson Strong-Tie® Strong-Wall® high-strength wood shearwalls combine design flexibility with performance. Field trimmable, they can be customized to accommodate varying heights or rake walls. They are evaluated to the 2018 IRC/IBC and are listed by ICC-ES.

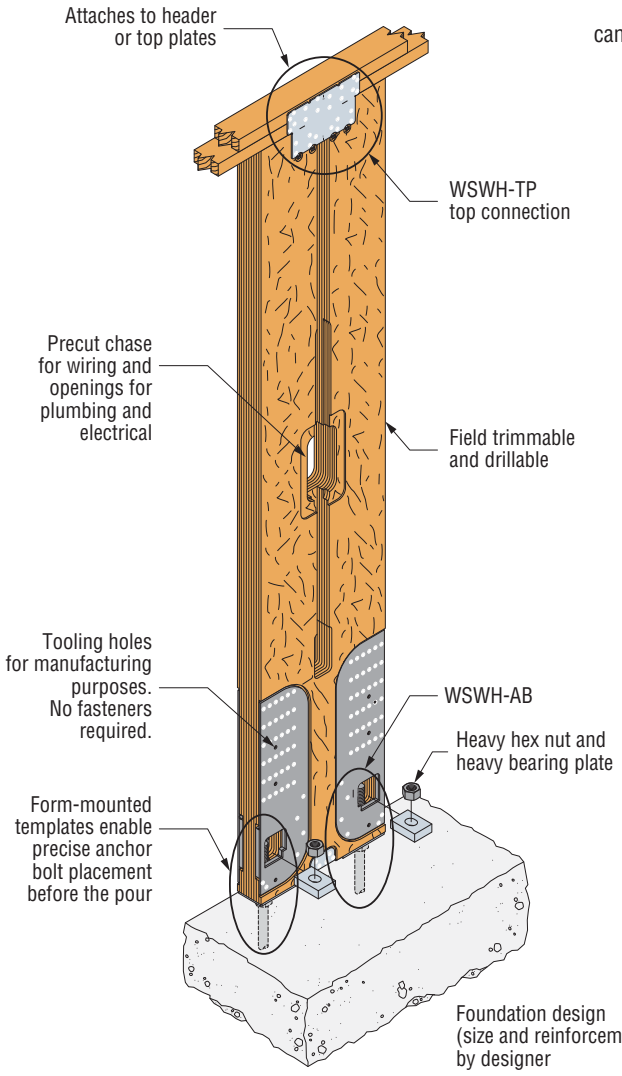
Installation

- All panels may be field trimmed to a minimum of 74½". Trim height from top of panel only, do not trim from sides or bottom. Drilling holes in the Strong-Wall high-strength wood shearwalls is not allowed except as shown on p. 36.
- Anchor bolt nuts should be finger tight plus ⅛ turn.
- Maximum shim thickness between the shearwall and top plates or header is ⅞". For additional shim thicknesses, see detail 9/WSWH2 on p. 35.
- Walls may also be used in 2x6 wall framing. Install the panel flush to the outside face of the framing and add furring to the opposite face as required to accommodate finish material. See detail 6/WSWH2 on p. 33.
- Top connection installs with a combination of SDS25600 Heavy-Duty Connector screws and SWS16150 Strong-Wall screws.

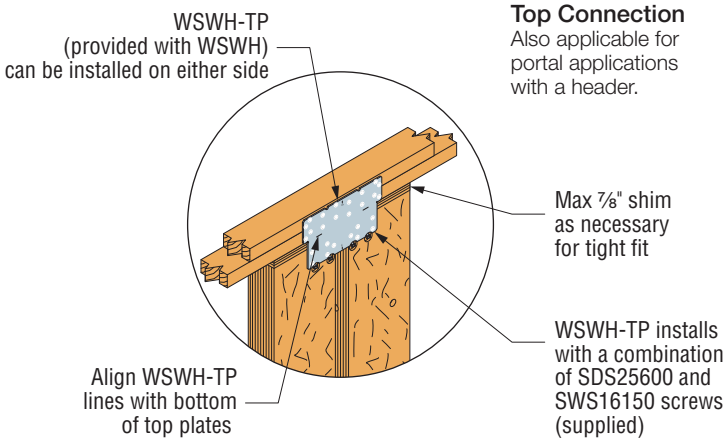
Codes: ICC-ES ESR-2652, City of LA Building Code Supplement and State of Florida FL5113

Strong-Wall High-Strength Wood Shearwall Naming Legend

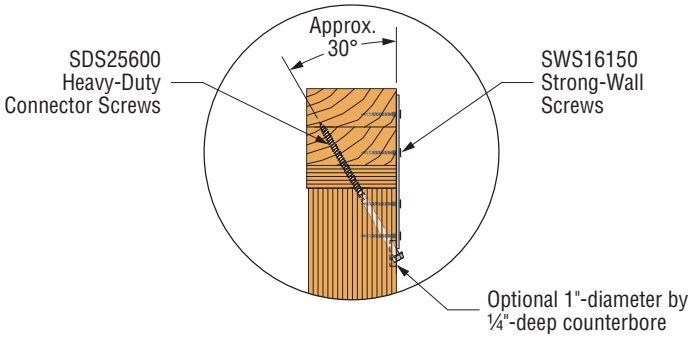




Standard Installation
US Patent 10,711,477



Top Connection
Also applicable for portal applications with a header.



Top Connection
Section View

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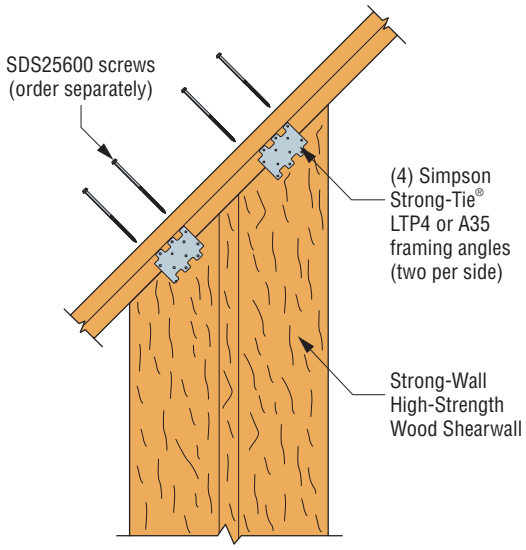
Standard and Balloon Framing on Concrete Foundations

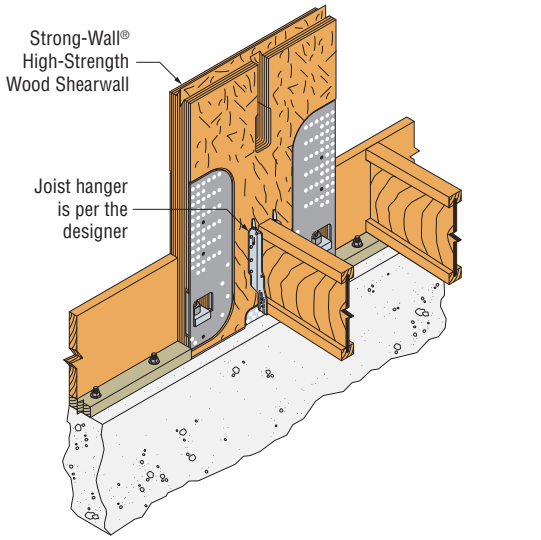
Strong-Wall® High-Strength Wood Shearwall Product Data

Model No.	Panel Information			Anchor Bolts	
	Width (in.)	Height (in.)	Weight (lb.)	Quantity	Diameter (in.)
WSWH12x7	12	84	105	2	1
WSWH18x7	18	84	155	2	1
WSWH12x8	12	96	120	2	1
WSWH18x8	18	96	175	2	1
WSWH24x8	24	96	225	2	1
WSWH12x9	12	108	130	2	1
WSWH18x9	18	108	195	2	1
WSWH24x9	24	108	250	2	1
WSWH12x10	12	120	145	2	1
WSWH18x10	18	120	210	2	1
WSWH24x10	24	120	275	2	1
WSWH12x12	12	144	165	2	1
WSWH18x12	18	144	245	2	1
WSWH24x12	24	144	325	2	1
WSWH18x14	18	168	285	2	1
WSWH24x14	24	168	370	2	1
WSWH24x16	24	192	420	2	1
WSWH18x20	18	240	390	2	1
WSWH24x20	24	240	520	2	1

1. To achieve evaluated panel heights listed in the allowable load table or for those not listed, order the next tallest panel and trim to fit. Minimum trimmed height for all panels is 74½".
2. All panels are supplied with preattached holdowns, two heavy hex nuts, two heavy bearing plates, one WSWH-TP top connection plate (width based on panel model), required fasteners and installation instructions.
3. All panels are 3½" thick.

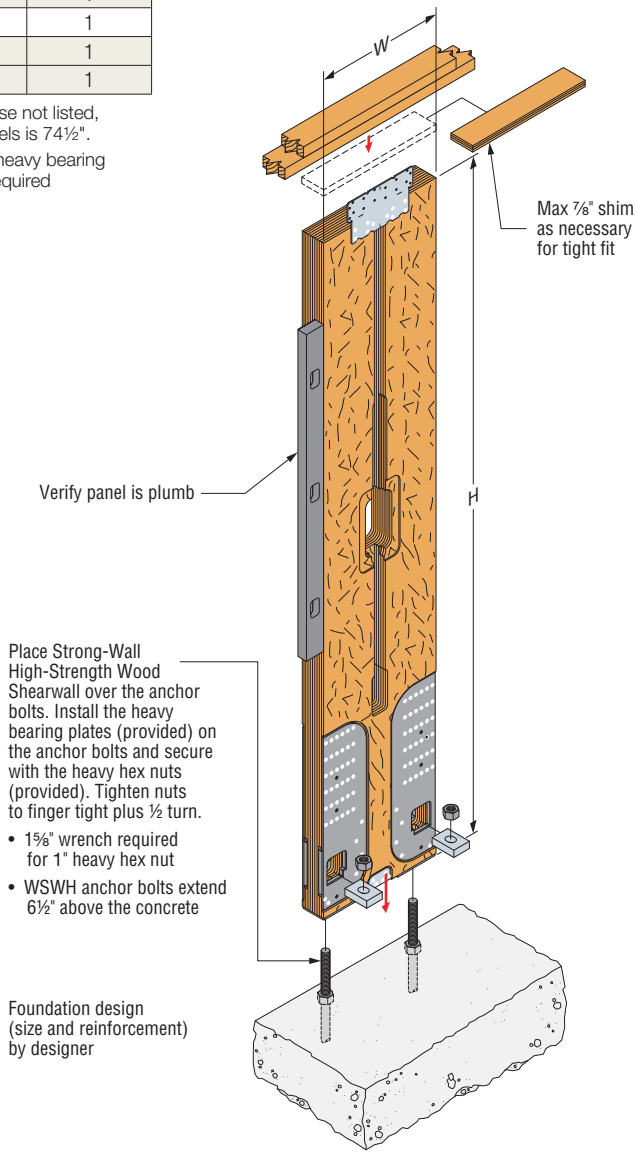


Rake Wall Application



First-Story Installation with Wood Floor System

Specify panel height from top of foundation to underside of the top plates or beam.



Standard Installation

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Standard and Balloon Framing on Concrete Foundations

(cont.)

Strong-Wall High-Strength Wood Shearwall Model No.	Panel Evaluation Height, H_e (lb.)[6]	Allow Vertical Load, P (lb.)[4]	2,500 psi Concrete						3,000 psi Concrete					
			Seismic[3]			Wind			Seismic[3]			Wind		
			Allowable ASD Shear Load, V (lb.)	Drift at Allowable Shear, Δ (in.)[7]	Anchor Tension at Allowable Shear, T (lb.)[11]	Allowable ASD Shear Load, V (lb.)	Drift at Allowable Shear, Δ (in.)[7]	Anchor Tension at Allowable Shear, T (lb.)[11]	Allowable ASD Shear Load, V (lb.)	Drift at Allowable Shear, Δ (in.)[7]	Anchor Tension at Allowable Shear, T (lb.)[11]	Allowable ASD Shear Load, V (lb.)	Drift at Allowable Shear, Δ (in.)[7]	Anchor Tension at Allowable Shear, T (lb.)[11]
WSWH12x12	144	1,000	505	0.61	9,495	645	0.80	12,150	505	0.61	9,495	645	0.80	12,150
		4,000	505	0.61	9,495	645	0.80	12,150	505	0.61	9,495	645	0.80	12,150
		7,500	505	0.61	9,495	645	0.80	12,150	505	0.61	9,495	645	0.80	12,150
WSWH18x12	144	1,000	1,705	0.61	19,665	2,195	0.80	25,285	1,705	0.61	19,665	2,195	0.80	25,285
		4,000	1,705	0.61	19,665	2,195	0.80	25,285	1,705	0.61	19,665	2,195	0.80	25,285
		7,500	1,705	0.61	19,665	2,195	0.80	25,285	1,705	0.61	19,665	2,195	0.80	25,285
WSWH24x12	144	1,000	3,525	0.60	29,015	4,305	0.75	35,430	3,525	0.60	29,015	4,475	0.78	36,815
		4,000	3,525	0.60	29,015	4,100	0.72	33,715	3,525	0.60	29,015	4,475	0.78	36,815
		7,500	3,525	0.60	29,015	3,855	0.67	31,715	3,525	0.60	29,015	4,475	0.78	36,815
WSWH18x13	156	1,000	1,490	0.66	18,575	1,910	0.87	23,855	1,490	0.66	18,575	1,910	0.87	23,855
		4,000	1,490	0.66	18,575	1,910	0.87	23,855	1,490	0.66	18,575	1,910	0.87	23,855
		7,500	1,490	0.66	18,575	1,910	0.87	23,855	1,490	0.66	18,575	1,910	0.87	23,855
WSWH24x13	156	1,000	3,110	0.65	27,705	3,975	0.86	35,430	3,110	0.65	27,705	4,025	0.87	35,885
		4,000	3,110	0.65	27,705	3,780	0.81	33,715	3,110	0.65	27,705	4,025	0.87	35,885
		7,500	3,110	0.65	27,705	3,560	0.77	31,715	3,110	0.65	27,705	4,025	0.87	35,885
WSWH18x14	168	1,000	1,180	0.72	15,890	1,515	0.93	20,370	1,180	0.72	15,890	1,515	0.93	20,370
		4,000	1,180	0.72	15,890	1,515	0.93	20,370	1,180	0.72	15,890	1,515	0.93	20,370
WSWH24x14	168	1,000	2,620	0.71	25,160	3,365	0.93	32,290	2,620	0.71	25,160	3,365	0.93	32,290
		4,000	2,620	0.71	25,160	3,365	0.93	32,290	2,620	0.71	25,160	3,365	0.93	32,290
WSWH18x16	192	1,000	985	0.82	15,160	1,265	1.07	19,395	985	0.82	15,160	1,265	1.07	19,395
		4,000	985	0.82	15,160	1,265	1.07	19,395	985	0.82	15,160	1,265	1.07	19,395
WSWH24x16	192	1,000	2,130	0.82	23,345	2,735	1.07	29,990	2,130	0.82	23,345	2,735	1.07	29,990
		4,000	2,130	0.82	23,345	2,735	1.07	29,990	2,130	0.82	23,345	2,735	1.07	29,990
WSWH18x18	216	1,000	750	0.93	12,965	960	1.20	16,550	750	0.93	12,965	960	1.20	16,550
		4,000	750	0.93	12,965	960	1.20	16,550	750	0.93	12,965	960	1.20	16,550
WSWH24x18	216	1,000	1,655	0.93	20,400	2,110	1.20	26,060	1,655	0.93	20,400	2,110	1.20	26,060
		4,000	1,655	0.93	20,400	2,110	1.20	26,060	1,655	0.93	20,400	2,110	1.20	26,060
WSWH18x20	240	1,000	605	1.04	11,640	770	1.33	14,825	605	1.04	11,640	770	1.33	14,825
		4,000	605	1.04	11,640	770	1.33	14,825	605	1.04	11,640	770	1.33	14,825
WSWH24x20	240	1,000	1,350	1.04	18,500	1,720	1.33	23,590	1,350	1.04	18,500	1,720	1.33	23,590
		4,000	1,350	1.04	18,500	1,720	1.33	23,590	1,350	1.04	18,500	1,720	1.33	23,590

1. Allowable shear loads are applicable to installations on concrete with specifed compressive strengths as listed using the ASD basic (IBC Section 1605.3.1) or the alternative basic (IBC Section 1605.3.2) load combinations.
2. Load values include evaluation of bearing stresses on concrete foundations and do not require further evaluation by the designer. For installations on masonry foundations, bearing capacity shall be evaluated by the designer.
3. Seismic design based on 2018 IBC using R = 6.5. For other codes, use the seismic coeffcients corresponding to light-frame bearing walls with wood structural panels or sheet-steel panels.
4. Allowable vertical load denotes the total maximum concentric vertical load permitted on the panel acting in combination with the allowable shear loads.
5. Allowable shear, drift and anchor tension values may be interpolated for intermediate height or vertical loads. For panels 74½"–78" tall, use the values for a 78"-tall panel.
6. To achieve required WSWH panel evaluation height, trim next tallest full-height panel defined in table on p. 13.
7. Drifts at lower design shear may be linearly reduced.
8. See p. 16 for allowable out-of-plane and axial capacities.
9. Angled SDS screws may be omitted from the WSWH-TP top connection for all panels taller than 100"; see p. 16 as reduced allowable out-of-plane loads may apply.
10. High-strength anchor bolts are required for anchor tension forces exceeding the allowable load for standard-strength bolts tabulated on pp. 22–23. See pp. 21–29 for WSWH-AB anchor bolt information and anchorage solutions.
11. Tabulated anchor tension values assume no resisting vertical load. Anchor tension loads at design shear values and including the effect of vertical load may be determined using the following equation:
    T = [(V x H) / B] – P/2, where:
    T = Anchor tension load (lb.)
    V = Design shear load (lb.)
    P = Applied vertical load (lb.)
    H = Panel height (in.)
    B = Moment arm (in.); 7.625" for WSWH12, 12.50" for WSWH18, 17.50" for WSWH24.

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Standard and Balloon Framing on Concrete Foundations

Allowable Out-of-Plane Loads for Single-Story Walls on Concrete Foundations (psf)

Panel Attachment	WSWH-TP Top Connection Fastening[4]	Strong-Wall High-Strength Wood Shearwall Model No.	Nominal Height of Shearwall (ft.)										
			7	8	9	10	11	12	13	14	16	18	20
Top Plates	Angled SDS Screws Omitted	WSWH12	N/A	N/A	85	75	70	35	N/A	N/A	N/A	N/A	N/A
		WSWH18	N/A	N/A	125	115	105	80	65	50	35	25	15
		WSWH24	N/A	N/A	120	110	100	80	65	50	35	25	15
	Angled SDS Screws Installed	WSWH12	420	290	205	145	95	35	N/A	N/A	N/A	N/A	N/A
		WSWH18	395	290	205	145	110	80	65	50	35	25	15
		WSWH24	370	290	205	145	110	80	65	50	35	25	15
Header[5,6]	Angled SDS Screws Installed	WSWH12	330	205	150	110	85	45	N/A	N/A	N/A	N/A	N/A
		WSWH18	285	205	150	110	85	65	N/A	N/A	N/A	N/A	N/A
		WSWH24	215	180	150	110	85	65	N/A	N/A	N/A	N/A	N/A

1. Loads shown are at ASD level in pounds per square foot with no further increase allowed.
2. Loads consider a maximum deflection limit of H/240.
3. Allowable out-of-plane loads can be applied in combination with the allowable vertical loads shown on pp. 14–15.
4. Angled SDS screws may be omitted for WSWH panels taller than 100" in standard applications; however, SWS16150 screws must be installed for all fastening conditions. When angled SDS screws are omitted, a reduced allowable out-of-plane load may apply.
5. Allowable values for header panel attachment assume a maximum header depth of 12". Use a load reduction factor of 0.94, 0.88 and 0.82 for 14", 16" and 18" deep headers respectively.
6. Allowable values shown for header panel attachment require the use of the portal straps to resist header rotation.
7. N/A = Not Applicable.

Allowable Axial Loads for Single-Story Walls on Concrete Foundations (lb.)

Strong-Wall High-Strength Wood Shearwall Model No.	Nominal Height of Shearwall (ft.)										
	7	8	9	10	11	12	13	14	16	18	20
WSWH12	30,700	22,400	17,900	14,600	12,100	9,800	N/A	N/A	N/A	N/A	N/A
WSWH18	53,500	39,100	31,200	25,400	21,000	17,000	14,500	12,600	9,600	7,600	6,200
WSWH24	72,000	56,100	44,700	36,400	30,200	24,400	20,900	18,000	13,900	11,000	8,900

1. Allowable ASD vertical load is the lesser of the WSWH panel buckling capacity and concrete bearing capacity beneath the holdowns assuming a minimum specified concrete compressive strength f'_c = 2,500 psi.
2. Allowable vertical loads assume concentric point load or uniformly distributed load without lateral loads present. For combined lateral and vertical loads, see pp. 14–15.
3. Tabulated loads apply to single-story panels on concrete foundations.
4. N/A = Not Applicable.

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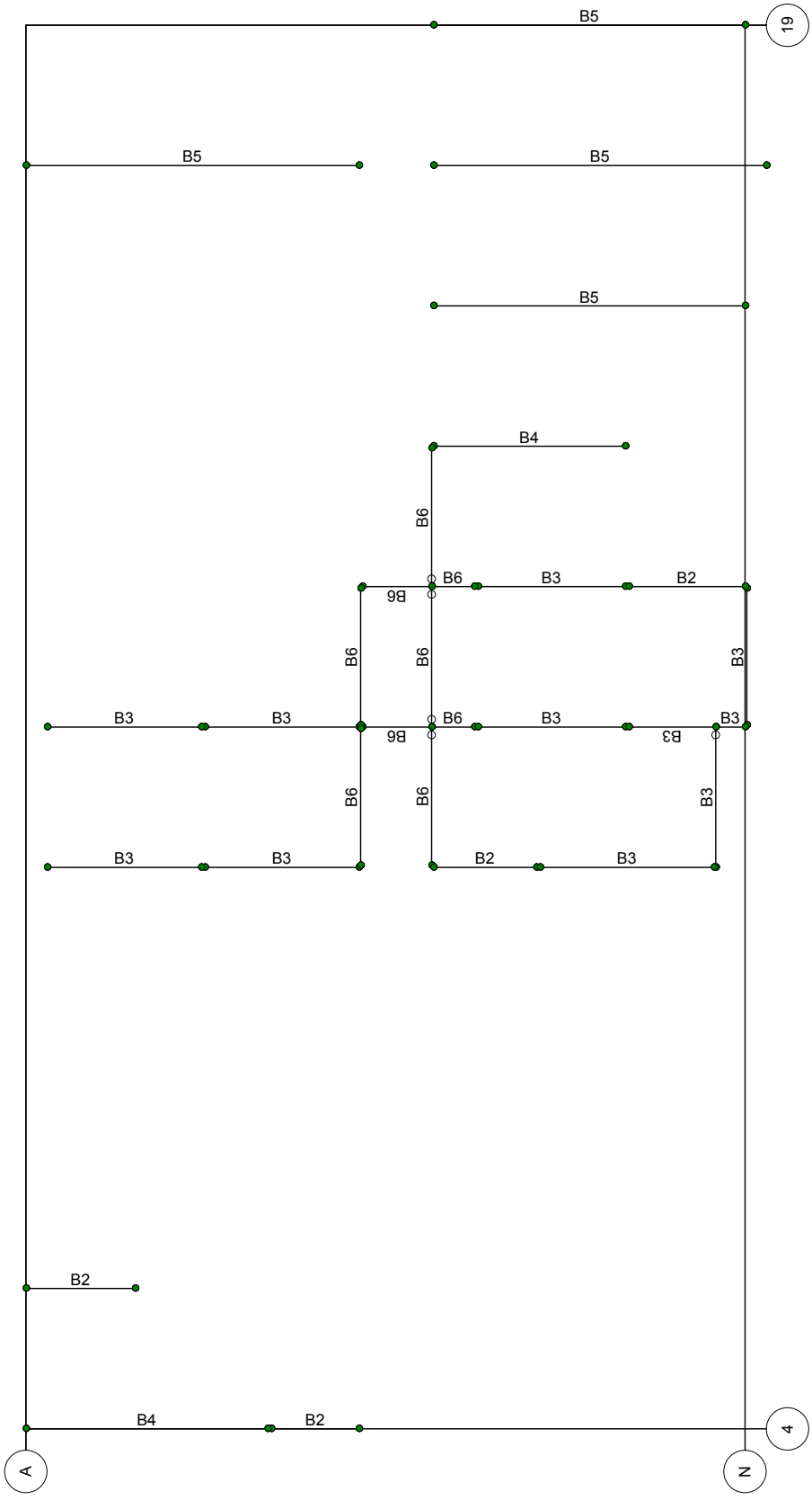
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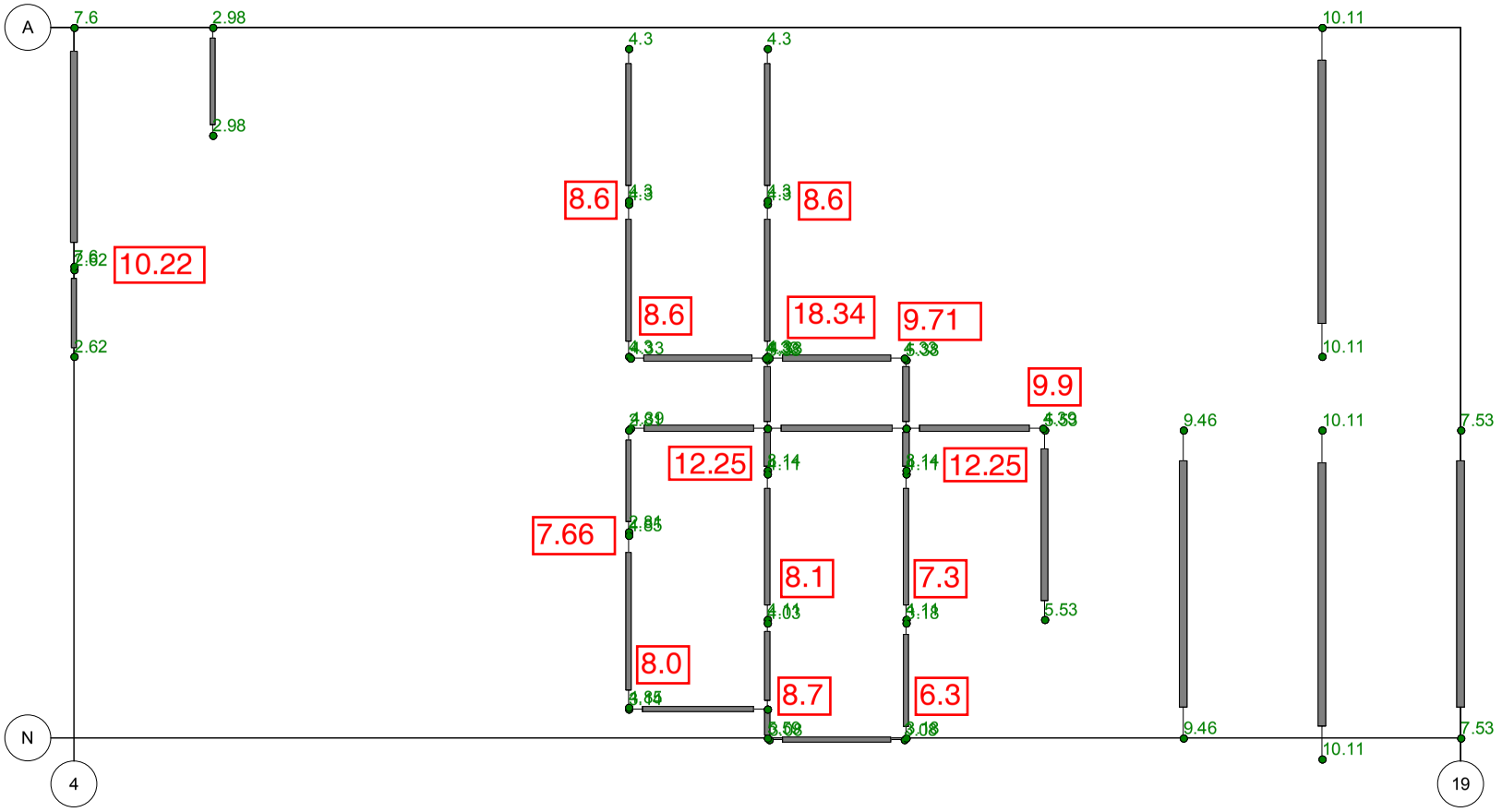
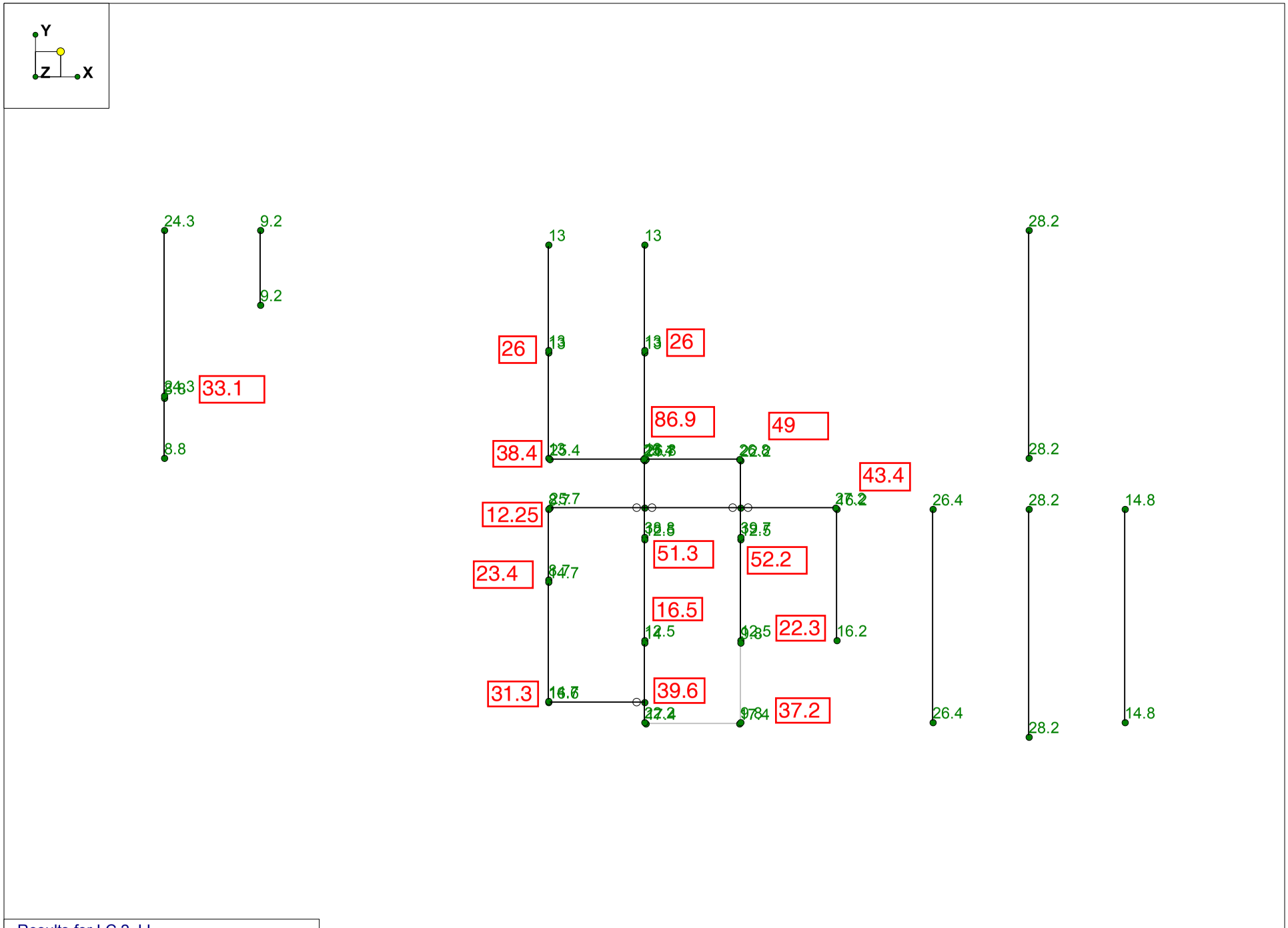
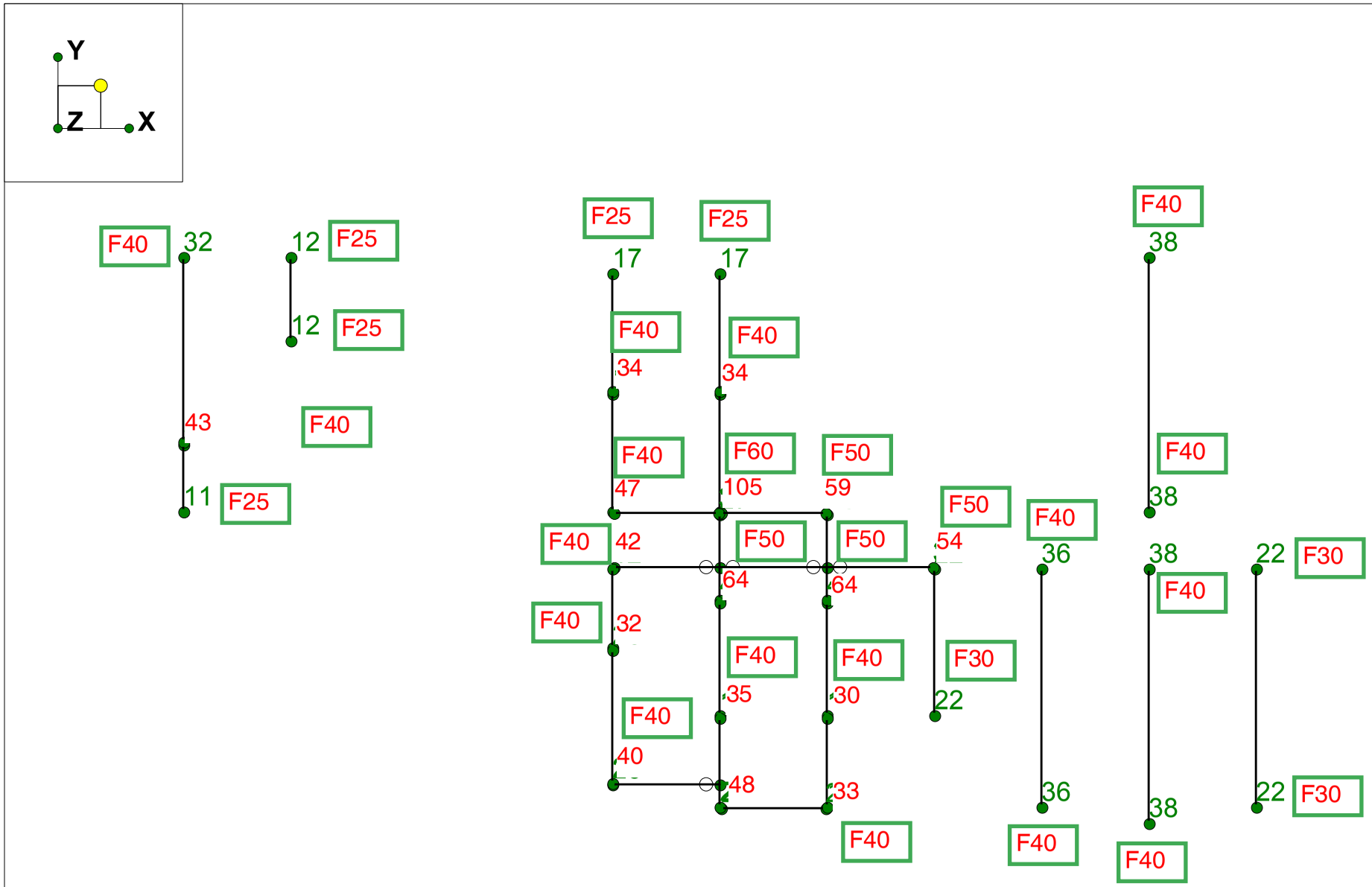


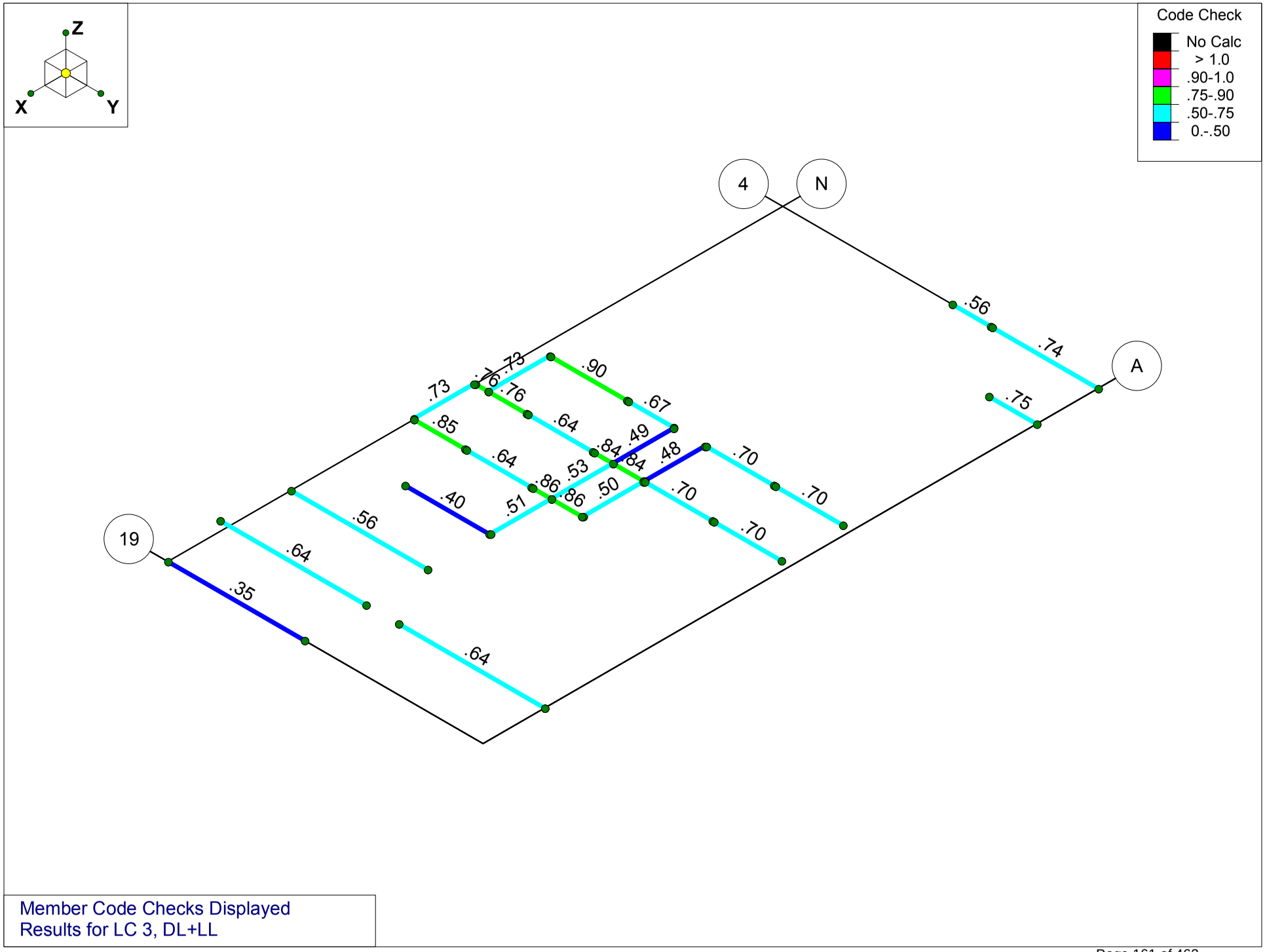
Results for LC 1, DL
Reaction units are k and k-ft



Results for LC 2, LL
Reaction units are k and k-ft



Results for LC 3, DL+LL
Reaction units are k and k-ft



Member Code Checks Displayed
Results for LC 3, DL+LL

Global

Steel Code	ASD: AISC 9th, AISI 99
Allowable Stress Increase Factor (ASIF)	1.333
Include Shear Deformation	Yes
Include Warping	Yes
No. of Sections for Member Calcs	5
Redesign Sections	Yes
P-Delta Analysis Tolerance	0.50%
Vertical Axis	Z

Materials (General)

Material Label	Young's Modulus (ksi)	Shear Modulus (ksi)	Poisson's Ratio	Thermal Coef. (per 10^5 F)	Weight Density (k/ft^3)	Yield Stress (ksi)
STL	29000	11154	.3	.65	.491	50

Sections

Section Label	Database Shape	Material Label	Area (in)^2	SA(yy)	SA(zz)	I y-y (in^4)	I z-z (in^4)	J (Torsion) (in^4)	T/C Only
B1	W6X12	STL	3.55	1.2	1.2	2.99	22.1	.09	
B2	W8X18	STL	5.26	1.2	1.2	7.97	61.9	.17	
B3	W10X30	STL	8.84	1.2	1.2	16.7	170	.62	
B4	W18X50	STL	14.7	1.2	1.2	40.1	800	1.24	
B5	W21X83	STL	24.3	1.2	1.2	81.4	1830	4.34	
B6	W16X45	STL	13.3	1.2	1.2	32.8	586	1.11	
B7	HSS12X6X5	STL	9.907	1.2	1.2	62.712	183.997	151.67	
B8	MC8X8.5	STL	2.5	1.2	1.2	.628	23.3	.06	
B9	W14X26	STL	7.69	1.2	1.2	8.91	245	.36	

Joint Coordinates

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Z Coordinate (ft)	Joint Temperature (F)	Detach from Diaphragm
N1	0	46.479167	0	0	No
N2	0	38.25	0	0	No
N3	118.500017	38.25	0	0	No
N4	118.500007	69.5	0	0	No
N5	52.83334	31.416667	0	0	No
N6	66.000007	1.833324	0	0	No
N7	78.83334	1.833334	0	0	No
N8	52.666674	4.749997	0	0	No
N9	65.833	4.75	0	0	No
N10	131.666678	2	0	0	No
N11	131.666672	31.25	0	0	No
N12	118.500012	0	0	0	No
N13	118.500005	31.25	0	0	No
N14	105.333345	2	0	0	No
N15	105.333339	31.25	0	0	No

Joint Coordinates (continued)

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Z Coordinate (ft)	Joint Temperature (F)	Detach from Diaphragm
N16	92.166676	13.25	0	0	No
N17	92.166672	31.25	0	0	No
N18	79.000006	13.25	0	0	No
N19	79.000002	27.083333	0	0	No
N20	79.000009	2	0	0	No
N21	79.000006	12.916667	0	0	No
N22	92.000007	31.41667	0	0	No
N23	79.000006	27.416667	0	0	No
N24	79.000002	37.916667	0	0	No
N25	65.833339	27.416667	0	0	No
N26	65.833335	37.916667	0	0	No
N27	65.833339	13.25	0	0	No
N28	65.833335	27.083333	0	0	No
N29	65.833342	2	0	0	No
N30	65.833339	12.916667	0	0	No
N31	52.66667	21.583333	0	0	No
N32	52.666663	31.25	0	0	No
N33	52.666675	4.916667	0	0	No
N34	52.66667	21.25	0	0	No
N35	0	46.8125	0	0	No
N36	0	69.5	0	0	No
N37	13.166674	59.25	0	0	No
N38	13.166667	69.5	0	0	No
N39	52.666675	38.25	0	0	No
N40	52.666664	52.708333	0	0	No
N41	52.666675	53.041667	0	0	No
N42	52.666664	67.5	0	0	No
N43	65.833351	38.25	0	0	No
N44	65.83334	52.708333	0	0	No
N45	65.833351	53.041667	0	0	No
N46	65.83334	67.5	0	0	No
N47	65.833	31.417	0	0	No
N48	79	31.417	0	0	No
N49	66.000007	38.083333	0	0	No
N50	78.83334	38.083342	0	0	No
N51	52.83334	38.083333	0	0	No
N52	65.666674	38.083342	0	0	No

Boundary Conditions

Joint Label	X Translation (k/in)	Y Translation (k/in)	Z Translation (k/in)	MX Rotation (k-ft/rad)	MY Rotation (k-ft/rad)	MZ Rotation (k-ft/rad)
N1	Reaction	Reaction	Reaction		Reaction	
N2	Reaction	Reaction	Reaction			
N3	Reaction	Reaction	Reaction			

Boundary Conditions (continued)

Joint Label	X Translation (k/in)	Y Translation (k/in)	Z Translation (k/in)	MX Rotation (k-ft/rad)	MY Rotation (k-ft/rad)	MZ Rotation (k-ft/rad)
N4	Reaction	Reaction	Reaction		Reaction	
N5	Reaction	Reaction	Reaction			
N6	Reaction	Reaction	Reaction			
N7	Reaction	Reaction	Reaction	Reaction		
N8	Reaction	Reaction	Reaction			
N9					Reaction	
N10	Reaction	Reaction	Reaction			
N11	Reaction	Reaction	Reaction		Reaction	
N12	Reaction	Reaction	Reaction			
N13	Reaction	Reaction	Reaction		Reaction	
N14	Reaction	Reaction	Reaction			
N15	Reaction	Reaction	Reaction		Reaction	
N16	Reaction	Reaction	Reaction			
N17	Reaction	Reaction	Reaction		Reaction	
N18	Reaction	Reaction	Reaction			
N19	Reaction	Reaction	Reaction		Reaction	
N20	Reaction	Reaction	Reaction			
N21	Reaction	Reaction	Reaction		Reaction	
N22	Reaction	Reaction	Reaction			
N23	Reaction	Reaction	Reaction			
N24	Reaction	Reaction	Reaction			
N25	Reaction	Reaction	Reaction			
N26	Reaction	Reaction	Reaction			
N27	Reaction	Reaction	Reaction			
N28	Reaction	Reaction	Reaction		Reaction	
N29	Reaction	Reaction	Reaction			
N30	Reaction	Reaction	Reaction			
N31	Reaction	Reaction	Reaction			
N32	Reaction	Reaction	Reaction		Reaction	
N33	Reaction	Reaction	Reaction			
N34	Reaction	Reaction	Reaction		Reaction	
N35	Reaction	Reaction	Reaction			
N36	Reaction	Reaction	Reaction		Reaction	
N37	Reaction	Reaction	Reaction			
N38	Reaction	Reaction	Reaction		Reaction	
N39	Reaction	Reaction	Reaction			
N40	Reaction	Reaction	Reaction		Reaction	
N41	Reaction	Reaction	Reaction			
N42	Reaction	Reaction	Reaction		Reaction	
N43	Reaction	Reaction	Reaction			
N44	Reaction	Reaction	Reaction		Reaction	
N45	Reaction	Reaction	Reaction			
N46	Reaction	Reaction	Reaction		Reaction	
N47					Reaction	
N48					Reaction	

Boundary Conditions (continued)

Joint Label	X Translation (k/in)	Y Translation (k/in)	Z Translation (k/in)	MX Rotation (k-ft/rad)	MY Rotation (k-ft/rad)	MZ Rotation (k-ft/rad)
N49	Reaction	Reaction	Reaction			
N50	Reaction	Reaction	Reaction	Reaction		
N51	Reaction	Reaction	Reaction			
N52	Reaction	Reaction	Reaction	Reaction		

Member Data

Member Label	I Joint	J Joint	K Joint	X-Axis Rotate (degrees)	Shape / Section Set	Material Set	Phys Memb	T.O.M.	End Releases I-End xyz xyz	End Releases J-End xyz xyz	End Offsets I-End (in)	End Offsets J-End (in)	Inactive Code	Member Length (ft)
M1	N1	N2		90	B2	STL								8.229
M2	N3	N4		90	B5	STL								31.25
M3	N5	N47		90	B6	STL				BenPIN				13
M4	N6	N7		90	B3	STL								12.833
M5	N8	N9		90	B3	STL				BenPIN				13.166
M6	N10	N11		90	B5	STL								29.25
M7	N12	N13		90	B5	STL								31.25
M8	N14	N15		90	B5	STL								29.25
M9	N16	N17		90	B4	STL								18
M10	N18	N19		90	B3	STL								13.833
M11	N20	N21		90	B2	STL								10.917
M12	N48	N22		90	B6	STL			BenPIN					13
M13	N23	N48		90	B6	STL								4
M14	N25	N47		90	B6	STL								4
M15	N27	N28		90	B3	STL								13.833
M16	N29	N9		90	B3	STL								2.75
M17	N31	N32		90	B2	STL								9.667
M18	N33	N34		90	B3	STL								16.333
M19	N35	N36		90	B4	STL								22.688
M20	N37	N38		90	B2	STL								10.25
M21	N39	N40		90	B3	STL								14.458
M22	N41	N42		90	B3	STL								14.458
M23	N43	N44		90	B3	STL								14.458
M24	N45	N46		90	B3	STL								14.458
M25	N47	N48		90	B6	STL			BenPIN	BenPIN				13.167
M26	N49	N50		90	B6	STL								12.833
M27	N51	N52		90	B6	STL								12.833
M28	N48	N24		90	B6	STL								6.5
M29	N47	N26		90	B6	STL								6.5
M30	N9	N30		90	B3	STL								8.167

Steel Design / NDS Parameters

Member Label	Section Set	Length (ft)	Lb y-y le2 (ft)	Lb z-z le1 (ft)	L_comp le_bend (ft)	K y-y	K z-z	Cm y-y CH	Cm z-z	Cb B	Sway y	Sway z	R

Steel Design / NDS Parameters (continued)

Member Label	Section Set	Length (ft)	Lb y-y le2 (ft)	Lb z-z le1 (ft)	L_comp le_bend (ft)	K y-y	K z-z	Cm y-y CH	Cm z-z	Cb B	Sway y	Sway z	R
M1	B2	8.229	1	1	1	1.	1.						0.
M2	B5	31.25	1	1	1	1.	1.						0.
M3	B6	13	1	1	1	1.	1.						0.
M4	B3	12.833	1	1	1	1.	1.						0.
M5	B3	13.166	1	1	1	1.	1.						0.
M6	B5	29.25	1	1	1	1.	1.						0.
M7	B5	31.25	1	1	1	1.	1.						0.
M8	B5	29.25	1	1	1	1.	1.						0.
M9	B4	18	1	1	1	1.	1.						0.
M10	B3	13.833	1	1	1	1.	1.						0.
M11	B2	10.917	1	1	1	1.	1.						0.
M12	B6	13	1	1	1	1.	1.						0.
M13	B6	4	1	1	1	1.	1.						0.
M14	B6	4	1	1	1	1.	1.						0.
M15	B3	13.833	1	1	1	1.	1.						0.
M16	B3	2.75	1	1	1	1.	1.						0.
M17	B2	9.667	1	1	1	1.	1.						0.
M18	B3	16.333	1	1	1	1.	1.						0.
M19	B4	22.688	1	1	1	1.	1.						0.
M20	B2	10.25	1	1	1	1.	1.						0.
M21	B3	14.458	1	1	1	1.	1.						0.
M22	B3	14.458	1	1	1	1.	1.						0.
M23	B3	14.458	1	1	1	1.	1.						0.
M24	B3	14.458	1	1	1	1.	1.						0.
M25	B6	13.167	1	1	1	1.	1.						0.
M26	B6	12.833	1	1	1	1.	1.						0.
M27	B6	12.833	1	1	1	1.	1.						0.
M28	B6	6.5	1	1	1	1.	1.						0.
M29	B6	6.5	1	1	1	1.	1.						0.
M30	B3	8.167	1	1	1	1.	1.						0.

Basic Load Case Data

BLC No.	Basic Load Case Description	Category Code	Category Description	Gravity X	Gravity Y	Gravity Z	Load Type Totals Joint	Point	Direct Dist.	Area	Surf.
1	DL	DL	Dead Load						58		
2	LL-F	LL	Live Load						28		
3	SL-R	SL	Snow Load						30		
5	TRIB	None							28		

Member Direct Distributed Loads, Category : DL, BLC 1 : DL

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M1	Z	-.32	-.32	0	0
M19	Z	-.32	-.32	0	0
M20	Z	-.264	-.264	0	0
M22	Z	-.264	-.264	0	0
M21	Z	-.264	-.264	0	0
M23	Z	-.264	-.264	0	0
M24	Z	-.264	-.264	0	0
M17	Z	-.264	-.264	0	0
M18	Z	-.264	-.264	0	0
M30	Z	-.264	-.264	0	0
M15	Z	-.264	-.264	0	0
M14	Z	-.264	-.264	0	0
M16	Z	-.264	-.264	0	0
M10	Z	-.264	-.264	0	0
M11	Z	-.264	-.264	0	0
M13	Z	-.264	-.264	0	0
M9	Z	-.264	-.264	0	0
M8	Z	-.264	-.264	0	0
M7	Z	-.264	-.264	0	0
M2	Z	-.264	-.264	0	0
M6	Z	-.132	-.132	0	0
M12	Z	-.33	-.33	0	0
M25	Z	-.33	-.33	0	0
M3	Z	-.33	-.33	0	0
M27	Z	-.33	-.33	0	0
M26	Z	-.33	-.33	0	0
M5	Z	-.147	-.147	0	0
M4	Z	-.15	-.15	0	0
M1	Z	-.3	-.3	0	0
M2	Z	-.3	-.3	0	0
M3	Z	-.3	-.3	0	0
M4	Z	-.3	-.3	0	0
M5	Z	-.3	-.3	0	0
M6	Z	-.3	-.3	0	0
M7	Z	-.3	-.3	0	0
M8	Z	-.3	-.3	0	0
M9	Z	-.3	-.3	0	0
M10	Z	-.3	-.3	0	0
M11	Z	-.3	-.3	0	0
M12	Z	-.3	-.3	0	0
M13	Z	-.3	-.3	0	0
M14	Z	-.3	-.3	0	0

Member Direct Distributed Loads, Category : DL, BLC 1 (continued)

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M15	Z	-.3	-.3	0	0
M16	Z	-.3	-.3	0	0
M17	Z	-.3	-.3	0	0
M18	Z	-.3	-.3	0	0
M19	Z	-.3	-.3	0	0
M20	Z	-.3	-.3	0	0
M21	Z	-.3	-.3	0	0
M22	Z	-.3	-.3	0	0
M23	Z	-.3	-.3	0	0
M24	Z	-.3	-.3	0	0
M25	Z	-.3	-.3	0	0
M26	Z	-.3	-.3	0	0
M27	Z	-.3	-.3	0	0
M28	Z	-.3	-.3	0	0
M29	Z	-.3	-.3	0	0
M30	Z	-.3	-.3	0	0

Member Direct Distributed Loads, Category : LL, BLC 2 : LL-F

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M1	Z	-1.92	-1.92	0	0
M19	Z	-1.92	-1.92	0	0
M20	Z	-1.584	-1.584	0	0
M22	Z	-1.584	-1.584	0	0
M21	Z	-1.584	-1.584	0	0
M23	Z	-1.584	-1.584	0	0
M24	Z	-1.584	-1.584	0	0
M17	Z	-1.584	-1.584	0	0
M18	Z	-1.584	-1.584	0	0
M30	Z	-1.584	-1.584	0	0
M15	Z	-1.584	-1.584	0	0
M14	Z	-1.584	-1.584	0	0
M16	Z	-1.584	-1.584	0	0
M10	Z	-1.584	-1.584	0	0
M11	Z	-1.584	-1.584	0	0
M13	Z	-1.584	-1.584	0	0
M9	Z	-1.584	-1.584	0	0
M8	Z	-1.584	-1.584	0	0
M7	Z	-1.584	-1.584	0	0
M2	Z	-1.584	-1.584	0	0
M6	Z	-.792	-.792	0	0
M12	Z	-1.98	-1.98	0	0
M25	Z	-1.98	-1.98	0	0
M3	Z	-1.98	-1.98	0	0

Member Direct Distributed Loads, Category : LL, BLC 2 (continued)

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M27	Z	-1.98	-1.98	0	0
M26	Z	-1.98	-1.98	0	0
M5	Z	-.12	-.12	0	0
M4	Z	-.12	-.12	0	0

Member Direct Distributed Loads, Category : SL, BLC 3 : SL-R

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M5	Z	-1.595	-1.595	0	0
M4	Z	-1.76	-1.76	0	0
M5	Z	-.8	-.8	0	0
M4	Z	-.825	-.825	0	0
M27	Z	-1.98	-1.98	0	0
M3	Z	-1.98	-1.98	0	0
M26	Z	-2.2	-2.2	0	0
M25	Z	-2.2	-2.2	0	0
M12	Z	-2.2	-2.2	0	0
M19	Z	-.22	-.22	0	0
M1	Z	-.22	-.22	0	0
M20	Z	-.22	-.22	0	0
M22	Z	-.22	-.22	0	0
M21	Z	-.22	-.22	0	0
M17	Z	-.22	-.22	0	0
M18	Z	-.22	-.22	0	0
M24	Z	-.22	-.22	0	0
M23	Z	-.22	-.22	0	0
M14	Z	-.22	-.22	0	0
M15	Z	-.22	-.22	0	0
M30	Z	-.22	-.22	0	0
M16	Z	-.22	-.22	0	0
M11	Z	-.22	-.22	0	0
M10	Z	-.22	-.22	0	0
M13	Z	-.22	-.22	0	0
M9	Z	-.22	-.22	0	0
M8	Z	-.22	-.22	0	0
M7	Z	-.22	-.22	0	0
M2	Z	-.22	-.22	0	0
M6	Z	-.22	-.22	0	0

Member Direct Distributed Loads, Category : None, BLC 5 : TRIB

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M1	Z	-16	-16	0	0
M19	Z	-16	-16	0	0

Member Direct Distributed Loads, Category : None, BLC 5 (continued)

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M20	Z	-13.2	-13.2	0	0
M22	Z	-13.2	-13.2	0	0
M21	Z	-13.2	-13.2	0	0
M23	Z	-13.2	-13.2	0	0
M24	Z	-13.2	-13.2	0	0
M17	Z	-13.2	-13.2	0	0
M18	Z	-13.2	-13.2	0	0
M30	Z	-13.2	-13.2	0	0
M15	Z	-13.2	-13.2	0	0
M14	Z	-13.2	-13.2	0	0
M16	Z	-13.2	-13.2	0	0
M10	Z	-13.2	-13.2	0	0
M11	Z	-13.2	-13.2	0	0
M13	Z	-13.2	-13.2	0	0
M9	Z	-13.2	-13.2	0	0
M8	Z	-13.2	-13.2	0	0
M7	Z	-13.2	-13.2	0	0
M2	Z	-13.2	-13.2	0	0
M6	Z	-6.6	-6.6	0	0
M12	Z	-3.3	-3.3	0	0
M25	Z	-3.3	-3.3	0	0
M3	Z	-3.3	-3.3	0	0
M27	Z	-3.3	-3.3	0	0
M26	Z	-3.3	-3.3	0	0
M5	Z	-7.33	-7.33	0	0
M4	Z	-7.5	-7.5	0	0

Load Combinations

Num	Description	Env	WS	PD	SRSS	CD	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	DL	y				1	DL	1	Z	-1				
2	LL					1	LL	1	SL	1				
3	DL+LL	y				1	DL	1	LL	1	SL	1	Z	-1

Joint Displacements, By Combination

LC	Joint Label	X Translation (in)	Y Translation (in)	Z Translation (in)	X Rotation (radians)	Y Rotation (radians)	Z Rotation (radians)
3	N1	0	0	0	5.174e-3	0	0
3	N2	0	0	0	-5.174e-3	0	0
3	N3	0	0	0	-8.456e-3	0	0
3	N4	0	0	0	8.456e-3	0	0
3	N5	0	0	0	-1.189e-3	4.96e-3	0

Joint Displacements, By Combination, (continued)

LC	Joint Label	X Translation (in)	Y Translation (in)	Z Translation (in)	X Rotation (radians)	Y Rotation (radians)	Z Rotation (radians)
3	N6	0	0	0	0	8.193e-3	0
3	N7	0	0	0	0	-8.193e-3	0
3	N8	0	0	0	-4.731e-3	1.003e-2	0
3	N9	0	0	-.245	-4.731e-3	0	0
3	N10	0	0	0	-4.32e-3	0	0
3	N11	0	0	0	4.32e-3	0	0
3	N12	0	0	0	-8.456e-3	0	0
3	N13	0	0	0	8.456e-3	0	0
3	N14	0	0	0	-6.934e-3	0	0
3	N15	0	0	0	6.934e-3	0	0
3	N16	0	0	0	-3.647e-3	0	0
3	N17	0	0	0	3.647e-3	0	0
3	N18	0	0	0	-7.726e-3	0	0
3	N19	0	0	0	7.726e-3	0	0
3	N20	0	0	0	-1.038e-2	0	0
3	N21	0	0	0	1.038e-2	0	0
3	N22	0	0	0	-1.214e-3	-5.163e-3	0
3	N23	0	0	0	-4.239e-3	0	0
3	N24	0	0	0	3.59e-3	0	0
3	N25	0	0	0	-4.154e-3	0	0
3	N26	0	0	0	3.517e-3	0	0
3	N27	0	0	0	-7.726e-3	0	0
3	N28	0	0	0	7.726e-3	0	0
3	N29	0	0	0	-7.562e-3	0	0
3	N30	0	0	0	6.493e-3	0	0
3	N31	0	0	0	-7.204e-3	0	0
3	N32	0	0	0	7.204e-3	0	0
3	N33	0	0	0	-1.272e-2	0	0
3	N34	0	0	0	1.272e-2	0	0
3	N35	0	0	0	-8.487e-3	0	0
3	N36	0	0	0	8.487e-3	0	0
3	N37	0	0	0	-8.588e-3	0	0
3	N38	0	0	0	8.588e-3	0	0
3	N39	0	0	0	-8.821e-3	0	0
3	N40	0	0	0	8.821e-3	0	0
3	N41	0	0	0	-8.821e-3	0	0
3	N42	0	0	0	8.821e-3	0	0
3	N43	0	0	0	-8.821e-3	0	0
3	N44	0	0	0	8.821e-3	0	0
3	N45	0	0	0	-8.821e-3	0	0
3	N46	0	0	0	8.821e-3	0	0
3	N47	0	0	-.19	-1.189e-3	0	0
3	N48	0	0	-.194	-1.214e-3	0	0
3	N49	0	0	0	0	3.623e-3	0
3	N50	0	0	0	0	-3.623e-3	0

Joint Displacements, By Combination, (continued)

LC	Joint Label	X Translation (in)	Y Translation (in)	Z Translation (in)	X Rotation (radians)	Y Rotation (radians)	Z Rotation (radians)
3	N51	0	0	0	0	3.459e-3	0
3	N52	0	0	0	0	-3.459e-3	0

Reactions, By Combination

LC	Joint Label	X Force (k)	Y Force (k)	Z Force (k)	X Moment (k-ft)	Y Moment (k-ft)	Z Moment (k-ft)
3	N1	0	0	11.43	0	0	0
3	N2	0	0	11.43	0	0	0
3	N3	0	0	38.294	0	0	0
3	N4	0	0	38.294	0	0	0
3	N5	0	0	30.129	0	0	0
3	N6	0	0	20.438	0	0	0
3	N7	0	0	20.438	0	0	0
3	N8	0	0	19.698	0	0	0
3	N9	0	0	0	0	0	0
3	N10	0	0	22.33	0	0	0
3	N11	0	0	22.33	0	0	0
3	N12	0	0	38.294	0	0	0
3	N13	0	0	38.294	0	0	0
3	N14	0	0	35.843	0	0	0
3	N15	0	0	35.843	0	0	0
3	N16	0	0	21.763	0	0	0
3	N17	0	0	21.763	0	0	0
3	N18	0	0	16.587	0	0	0
3	N19	0	0	16.587	0	0	0
3	N20	0	0	13.023	0	0	0
3	N21	0	0	13.023	0	0	0
3	N22	0	0	31.56	0	0	0
3	N23	0	0	47.833	0	0	0
3	N24	0	0	27.591	0	0	0
3	N25	0	0	46.947	0	0	0
3	N26	0	0	27.046	0	0	0
3	N27	0	0	16.587	0	0	0
3	N28	0	0	16.587	0	0	0
3	N29	0	0	27.825	0	0	0
3	N30	0	0	18.052	0	0	0
3	N31	0	0	11.532	0	0	0
3	N32	0	0	11.532	0	0	0
3	N33	0	0	19.585	0	0	0
3	N34	0	0	19.585	0	0	0
3	N35	0	0	31.877	0	0	0

Reactions, By Combination, (continued)

LC	Joint Label	X Force (k)	Y Force (k)	Z Force (k)	X Moment (k-ft)	Y Moment (k-ft)	Z Moment (k-ft)
3	N36	0	0	31.877	0	0	0
3	N37	0	0	12.228	0	0	0
3	N38	0	0	12.228	0	0	0
3	N39	0	0	17.336	0	0	0
3	N40	0	0	17.336	0	0	0
3	N41	0	0	17.336	0	0	0
3	N42	0	0	17.336	0	0	0
3	N43	0	0	17.336	0	0	0
3	N44	0	0	17.336	0	0	0
3	N45	0	0	17.336	0	0	0
3	N46	0	0	17.336	0	0	0
3	N47	0	0	0	0	0	0
3	N48	0	0	0	0	0	0
3	N49	0	0	31.155	0	0	0
3	N50	0	0	31.155	0	0	0
3	N51	0	0	29.743	0	0	0
3	N52	0	0	29.743	0	0	0
3	Totals:	0	0	1156.788			
3	COG (ft):	X: 72.111	Y: 30.841	Z: 0			

Member Section Forces, By Combination

LC	Member Label	Section	Axial (k)	Shear y-y (k)	Shear z-z (k)	Torque (k-ft)	Moment y-y (k-ft)	Moment z-z (k-ft)
3	M1	1	0	-11.43	0	0	0	0
		2	0	-5.715	0	0	0	17.636
		3	0	0	0	0	0	23.515
		4	0	5.715	0	0	0	17.636
		5	0	11.43	0	0	0	0
3	M2	1	0	38.294	0	0	0	0
		2	0	19.147	0	0	0	-224.379
		3	0	0	0	0	0	-299.172
		4	0	-19.147	0	0	0	-224.379
		5	0	-38.294	0	0	0	0
3	M3	1	0	30.129	0	0	0	0
		2	0	15.064	0	0	0	-73.437
		3	0	0	0	0	0	-97.916
		4	0	-15.064	0	0	0	-73.437
		5	0	-30.129	0	0	0	0
3	M4	1	0	20.438	0	0	0	0
		2	0	10.219	0	0	0	-49.179
		3	0	0	0	0	0	-65.572
		4	0	-10.219	0	0	0	-49.179
		5	0	-20.438	0	0	0	0

Member Section Forces, By Combination, (continued)

LC	Member Label	Section	Axial (k)	Shear y-y (k)	Shear z-z (k)	Torque (k-ft)	Moment y-y (k-ft)	Moment z-z (k-ft)
3	M5	1	0	19.698	0	0	0	0
		2	0	9.849	0	0	0	-48.627
		3	0	0	0	0	0	-64.836
		4	0	-9.849	0	0	0	-48.627
		5	0	-19.698	0	0	0	0
3	M6	1	0	22.33	0	0	0	0
		2	0	11.165	0	0	0	-122.464
		3	0	0	0	0	0	-163.286
		4	0	-11.165	0	0	0	-122.464
		5	0	-22.33	0	0	0	0
3	M7	1	0	38.294	0	0	0	0
		2	0	19.147	0	0	0	-224.379
		3	0	0	0	0	0	-299.172
		4	0	-19.147	0	0	0	-224.379
		5	0	-38.294	0	0	0	0
3	M8	1	0	35.843	0	0	0	0
		2	0	17.922	0	0	0	-196.577
		3	0	0	0	0	0	-262.103
		4	0	-17.922	0	0	0	-196.577
		5	0	-35.843	0	0	0	0
3	M9	1	0	21.763	0	0	0	0
		2	0	10.881	0	0	0	-73.45
		3	0	0	0	0	0	-97.933
		4	0	-10.881	0	0	0	-73.45
		5	0	-21.763	0	0	0	0
3	M10	1	0	16.587	0	0	0	0
		2	0	8.294	0	0	0	-43.023
		3	0	0	0	0	0	-57.364
		4	0	-8.294	0	0	0	-43.023
		5	0	-16.587	0	0	0	0
3	M11	1	0	13.023	0	0	0	0
		2	0	6.512	0	0	0	-26.657
		3	0	0	0	0	0	-35.542
		4	0	-6.512	0	0	0	-26.657
		5	0	-13.023	0	0	0	0
3	M12	1	0	31.56	0	0	0	0
		2	0	15.78	0	0	0	-76.927
		3	0	0	0	0	0	-102.569
		4	0	-15.78	0	0	0	-76.927
		5	0	-31.56	0	0	0	0
3	M13	1	0	47.833	0	0	0	0
		2	0	45.419	0	0	0	-46.63
		3	0	43.006	0	0	0	-90.846
		4	0	40.592	0	0	0	-132.648
		5	0	38.178	0	0	0	-172.036

Member Section Forces, By Combination, (continued)

LC	Member Label	Section	Axial (k)	Shear y-y (k)	Shear z-z (k)	Torque (k-ft)	Moment y-y (k-ft)	Moment z-z (k-ft)
3	M14	1	0	46.947	0	0	0	0
		2	0	44.533	0	0	0	-45.744
		3	0	42.12	0	0	0	-89.074
		4	0	39.706	0	0	0	-129.991
		5	0	37.293	0	0	0	-168.493
3	M15	1	0	16.587	0	0	0	0
		2	0	8.294	0	0	0	-43.023
		3	0	0	0	0	0	-57.364
		4	0	-8.294	0	0	0	-43.023
		5	0	-16.587	0	0	0	0
3	M16	1	0	27.825	0	0	0	0
		2	0	26.177	0	0	0	-18.563
		3	0	24.528	0	0	0	-35.993
		4	0	22.879	0	0	0	-52.289
		5	0	21.231	0	0	0	-67.452
3	M17	1	0	11.532	0	0	0	0
		2	0	5.766	0	0	0	-20.902
		3	0	0	0	0	0	-27.869
		4	0	-5.766	0	0	0	-20.902
		5	0	-11.532	0	0	0	0
3	M18	1	0	19.585	0	0	0	0
		2	0	9.792	0	0	0	-59.978
		3	0	0	0	0	0	-79.971
		4	0	-9.792	0	0	0	-59.978
		5	0	-19.585	0	0	0	0
3	M19	1	0	31.877	0	0	0	0
		2	0	15.939	0	0	0	-135.602
		3	0	0	0	0	0	-180.803
		4	0	-15.939	0	0	0	-135.602
		5	0	-31.877	0	0	0	0
3	M20	1	0	12.228	0	0	0	0
		2	0	6.114	0	0	0	-23.5
		3	0	0	0	0	0	-31.334
		4	0	-6.114	0	0	0	-23.5
		5	0	-12.228	0	0	0	0
3	M21	1	0	17.336	0	0	0	0
		2	0	8.668	0	0	0	-46.998
		3	0	0	0	0	0	-62.664
		4	0	-8.668	0	0	0	-46.998
		5	0	-17.336	0	0	0	0
3	M22	1	0	17.336	0	0	0	0
		2	0	8.668	0	0	0	-46.998
		3	0	0	0	0	0	-62.664
		4	0	-8.668	0	0	0	-46.998
		5	0	-17.336	0	0	0	0

Member Section Forces, By Combination, (continued)

LC	Member Label	Section	Axial (k)	Shear y-y (k)	Shear z-z (k)	Torque (k-ft)	Moment y-y (k-ft)	Moment z-z (k-ft)
3	M23	1	0	17.336	0	0	0	0
		2	0	8.668	0	0	0	-46.998
		3	0	0	0	0	0	-62.664
		4	0	-8.668	0	0	0	-46.998
		5	0	-17.336	0	0	0	0
3	M24	1	0	17.336	0	0	0	0
		2	0	8.668	0	0	0	-46.998
		3	0	0	0	0	0	-62.664
		4	0	-8.668	0	0	0	-46.998
		5	0	-17.336	0	0	0	0
3	M25	1	0	31.965	0	0	0	0
		2	0	15.983	0	0	0	-78.916
		3	0	0	0	0	0	-105.221
		4	0	-15.983	0	0	0	-78.916
		5	0	-31.965	0	0	0	0
3	M26	1	0	31.155	0	0	0	0
		2	0	15.578	0	0	0	-74.967
		3	0	0	0	0	0	-99.956
		4	0	-15.578	0	0	0	-74.967
		5	0	-31.155	0	0	0	0
3	M27	1	0	29.743	0	0	0	0
		2	0	14.872	0	0	0	-71.57
		3	0	0	0	0	0	-95.427
		4	0	-14.872	0	0	0	-71.57
		5	0	-29.743	0	0	0	0
3	M28	1	0	-25.346	0	0	0	-172.036
		2	0	-25.907	0	0	0	-130.395
		3	0	-26.468	0	0	0	-87.842
		4	0	-27.03	0	0	0	-44.377
		5	0	-27.591	0	0	0	0
3	M29	1	0	-24.801	0	0	0	-168.493
		2	0	-25.362	0	0	0	-127.738
		3	0	-25.923	0	0	0	-86.07
		4	0	-26.485	0	0	0	-43.491
		5	0	-27.046	0	0	0	0
3	M30	1	0	1.533	0	0	0	-67.452
		2	0	-3.363	0	0	0	-65.584
		3	0	-8.259	0	0	0	-53.719
		4	0	-13.156	0	0	0	-31.858
		5	0	-18.052	0	0	0	0

Member Stresses, By Combination

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
3	M1	1	0	-7.326	0	0	0	0	0
		2	0	-3.663	0	-13.915	13.915	0	0
		3	0	0	0	-18.554	18.554	0	0
		4	0	3.663	0	-13.915	13.915	0	0
		5	0	7.326	0	0	0	0	0
3	M2	1	0	4.164	0	0	0	0	0
		2	0	2.082	0	15.765	-15.765	0	0
		3	0	0	0	21.02	-21.02	0	0
		4	0	-2.082	0	15.765	-15.765	0	0
		5	0	-4.164	0	0	0	0	0
3	M3	1	0	6.497	0	0	0	0	0
		2	0	3.248	0	12.128	-12.128	0	0
		3	0	0	0	16.171	-16.171	0	0
		4	0	-3.248	0	12.128	-12.128	0	0
		5	0	-6.497	0	0	0	0	0
3	M4	1	0	7.808	0	0	0	0	0
		2	0	3.904	0	18.173	-18.173	0	0
		3	0	0	0	24.231	-24.231	0	0
		4	0	-3.904	0	18.173	-18.173	0	0
		5	0	-7.808	0	0	0	0	0
3	M5	1	0	7.525	0	0	0	0	0
		2	0	3.763	0	17.969	-17.969	0	0
		3	0	0	0	23.959	-23.959	0	0
		4	0	-3.763	0	17.969	-17.969	0	0
		5	0	-7.525	0	0	0	0	0
3	M6	1	0	2.428	0	0	0	0	0
		2	0	1.214	0	8.605	-8.605	0	0
		3	0	0	0	11.473	-11.473	0	0
		4	0	-1.214	0	8.605	-8.605	0	0
		5	0	-2.428	0	0	0	0	0
3	M7	1	0	4.164	0	0	0	0	0
		2	0	2.082	0	15.765	-15.765	0	0
		3	0	0	0	21.02	-21.02	0	0
		4	0	-2.082	0	15.765	-15.765	0	0
		5	0	-4.164	0	0	0	0	0
3	M8	1	0	3.897	0	0	0	0	0
		2	0	1.949	0	13.812	-13.812	0	0
		3	0	0	0	18.416	-18.416	0	0
		4	0	-1.949	0	13.812	-13.812	0	0
		5	0	-3.897	0	0	0	0	0
3	M9	1	0	4.089	0	0	0	0	0
		2	0	2.045	0	9.91	-9.91	0	0
		3	0	0	0	13.214	-13.214	0	0
		4	0	-2.045	0	9.91	-9.91	0	0

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		5	0	-4.089	0	0	0	0	0
3	M10	1	0	6.337	0	0	0	0	0
		2	0	3.168	0	15.898	-15.898	0	0
		3	0	0	0	21.198	-21.198	0	0
		4	0	-3.168	0	15.898	-15.898	0	0
		5	0	-6.337	0	0	0	0	0
3	M11	1	0	8.347	0	0	0	0	0
		2	0	4.174	0	21.033	-21.033	0	0
		3	0	0	0	28.043	-28.043	0	0
		4	0	-4.174	0	21.033	-21.033	0	0
		5	0	-8.347	0	0	0	0	0
3	M12	1	0	6.805	0	0	0	0	0
		2	0	3.403	0	12.705	-12.705	0	0
		3	0	0	0	16.94	-16.94	0	0
		4	0	-3.403	0	12.705	-12.705	0	0
		5	0	-6.805	0	0	0	0	0
3	M13	1	0	10.315	0	0	0	0	0
		2	0	9.794	0	7.701	-7.701	0	0
		3	0	9.274	0	15.003	-15.003	0	0
		4	0	8.753	0	21.907	-21.907	0	0
		5	0	8.233	0	28.412	-28.412	0	0
3	M14	1	0	10.124	0	0	0	0	0
		2	0	9.603	0	7.555	-7.555	0	0
		3	0	9.083	0	14.711	-14.711	0	0
		4	0	8.562	0	21.468	-21.468	0	0
		5	0	8.042	0	27.827	-27.827	0	0
3	M15	1	0	6.337	0	0	0	0	0
		2	0	3.168	0	15.898	-15.898	0	0
		3	0	0	0	21.198	-21.198	0	0
		4	0	-3.168	0	15.898	-15.898	0	0
		5	0	-6.337	0	0	0	0	0
3	M16	1	0	10.631	0	0	0	0	0
		2	0	10.001	0	6.86	-6.86	0	0
		3	0	9.371	0	13.3	-13.3	0	0
		4	0	8.741	0	19.322	-19.322	0	0
		5	0	8.111	0	24.926	-24.926	0	0
3	M17	1	0	7.392	0	0	0	0	0
		2	0	3.696	0	16.492	-16.492	0	0
		3	0	0	0	21.989	-21.989	0	0
		4	0	-3.696	0	16.492	-16.492	0	0
		5	0	-7.392	0	0	0	0	0
3	M18	1	0	7.482	0	0	0	0	0
		2	0	3.741	0	22.164	-22.164	0	0
		3	0	0	0	29.552	-29.552	0	0
		4	0	-3.741	0	22.164	-22.164	0	0

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		5	0	-7.482	0	0	0	0	0
3	M19	1	0	5.99	0	0	0	0	0
		2	0	2.995	0	18.296	-18.296	0	0
		3	0	0	0	24.395	-24.395	0	0
		4	0	-2.995	0	18.296	-18.296	0	0
		5	0	-5.99	0	0	0	0	0
3	M20	1	0	7.838	0	0	0	0	0
		2	0	3.919	0	18.542	-18.542	0	0
		3	0	0	0	24.723	-24.723	0	0
		4	0	-3.919	0	18.542	-18.542	0	0
		5	0	-7.838	0	0	0	0	0
3	M21	1	0	6.623	0	0	0	0	0
		2	0	3.312	0	17.367	-17.367	0	0
		3	0	0	0	23.156	-23.156	0	0
		4	0	-3.312	0	17.367	-17.367	0	0
		5	0	-6.623	0	0	0	0	0
3	M22	1	0	6.623	0	0	0	0	0
		2	0	3.312	0	17.367	-17.367	0	0
		3	0	0	0	23.156	-23.156	0	0
		4	0	-3.312	0	17.367	-17.367	0	0
		5	0	-6.623	0	0	0	0	0
3	M23	1	0	6.623	0	0	0	0	0
		2	0	3.312	0	17.367	-17.367	0	0
		3	0	0	0	23.156	-23.156	0	0
		4	0	-3.312	0	17.367	-17.367	0	0
		5	0	-6.623	0	0	0	0	0
3	M24	1	0	6.623	0	0	0	0	0
		2	0	3.312	0	17.367	-17.367	0	0
		3	0	0	0	23.156	-23.156	0	0
		4	0	-3.312	0	17.367	-17.367	0	0
		5	0	-6.623	0	0	0	0	0
3	M25	1	0	6.893	0	0	0	0	0
		2	0	3.446	0	13.033	-13.033	0	0
		3	0	0	0	17.378	-17.378	0	0
		4	0	-3.446	0	13.033	-13.033	0	0
		5	0	-6.893	0	0	0	0	0
3	M26	1	0	6.718	0	0	0	0	0
		2	0	3.359	0	12.381	-12.381	0	0
		3	0	0	0	16.508	-16.508	0	0
		4	0	-3.359	0	12.381	-12.381	0	0
		5	0	-6.718	0	0	0	0	0
3	M27	1	0	6.414	0	0	0	0	0
		2	0	3.207	0	11.82	-11.82	0	0
		3	0	0	0	15.76	-15.76	0	0
		4	0	-3.207	0	11.82	-11.82	0	0

Member Stresses, By Combination, (continued)

LC	Member Label	Section	Axial (ksi)	Shear y-y (ksi)	Shear z-z (ksi)	Bending y-top (ksi)	Bending y-bot (ksi)	Bending z-top (ksi)	Bending z-bot (ksi)
		5	0	-6.414	0	0	0	0	0
3	M28	1	0	-5.466	0	28.412	-28.412	0	0
		2	0	-5.587	0	21.535	-21.535	0	0
		3	0	-5.708	0	14.507	-14.507	0	0
		4	0	-5.829	0	7.329	-7.329	0	0
		5	0	-5.95	0	0	0	0	0
3	M29	1	0	-5.348	0	27.827	-27.827	0	0
		2	0	-5.469	0	21.096	-21.096	0	0
		3	0	-5.59	0	14.215	-14.215	0	0
		4	0	-5.711	0	7.183	-7.183	0	0
		5	0	-5.832	0	0	0	0	0
3	M30	1	0	.586	0	24.926	-24.926	0	0
		2	0	-1.285	0	24.235	-24.235	0	0
		3	0	-3.155	0	19.851	-19.851	0	0
		4	0	-5.026	0	11.772	-11.772	0	0
		5	0	-6.897	0	0	0	0	0

Member Deflections, By Combination

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
3	M1	1	0	0	0	0	NC	NC
		2	0	.114	0	0	867.989	NC
		3	0	.16	0	0	618.442	NC
		4	0	.114	0	0	867.989	NC
		5	0	0	0	0	NC	NC
3	M2	1	0	0	0	0	NC	NC
		2	0	-.706	0	0	531.132	NC
		3	0	-.991	0	0	378.432	NC
		4	0	-.706	0	0	531.132	NC
		5	0	0	0	0	NC	NC
3	M3	1	0	0	0	-1.189e-3	NC	NC
		2	0	-.172	0	-1.189e-3	1249.203	NC
		3	0	-.27	0	-1.189e-3	890.057	NC
		4	0	-.268	0	-1.189e-3	1249.203	NC
		5	0	-.19	0	-1.189e-3	NC	NC
3	M4	1	0	0	0	0	NC	NC
		2	0	-.281	0	0	548.171	NC
		3	0	-.394	0	0	390.571	NC
		4	0	-.281	0	0	548.171	NC
		5	0	0	0	0	NC	NC
3	M5	1	0	0	0	-4.731e-3	NC	NC
		2	0	-.354	0	-4.731e-3	540.365	NC
		3	0	-.533	0	-4.731e-3	385.01	NC
		4	0	-.476	0	-4.731e-3	540.365	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		5	0	-.245	0	-4.731e-3	NC	NC
3	M6	1	0	0	0	0	NC	NC
		2	0	-.338	0	0	1039.679	NC
		3	0	-.474	0	0	740.771	NC
		4	0	-.338	0	0	1039.679	NC
		5	0	0	0	0	NC	NC
3	M7	1	0	0	0	0	NC	NC
		2	0	-.706	0	0	531.132	NC
		3	0	-.991	0	0	378.432	NC
		4	0	-.706	0	0	531.132	NC
		5	0	0	0	0	NC	NC
3	M8	1	0	0	0	0	NC	NC
		2	0	-.542	0	0	647.702	NC
		3	0	-.761	0	0	461.487	NC
		4	0	-.542	0	0	647.702	NC
		5	0	0	0	0	NC	NC
3	M9	1	0	0	0	0	NC	NC
		2	0	-.175	0	0	1231.432	NC
		3	0	-.246	0	0	877.395	NC
		4	0	-.175	0	0	1231.432	NC
		5	0	0	0	0	NC	NC
3	M10	1	0	0	0	0	NC	NC
		2	0	-.286	0	0	581.31	NC
		3	0	-.401	0	0	414.184	NC
		4	0	-.286	0	0	581.31	NC
		5	0	0	0	0	NC	NC
3	M11	1	0	0	0	0	NC	NC
		2	0	-.303	0	0	432.888	NC
		3	0	-.425	0	0	308.433	NC
		4	0	-.303	0	0	432.888	NC
		5	0	0	0	0	NC	NC
3	M12	1	0	-.194	0	-1.214e-3	NC	NC
		2	0	-.276	0	-1.214e-3	1192.505	NC
		3	0	-.281	0	-1.214e-3	849.66	NC
		4	0	-.179	0	-1.214e-3	1192.505	NC
		5	0	0	0	-1.214e-3	NC	NC
3	M13	1	0	0	0	0	NC	NC
		2	0	-.06	0	0	4167.717	NC
		3	0	-.115	0	0	2621.116	NC
		4	0	-.161	0	0	3020.625	NC
		5	0	-.194	0	0	NC	NC
3	M14	1	0	0	0	0	NC	NC
		2	0	-.059	0	0	4250.834	NC
		3	0	-.113	0	0	2673.723	NC
		4	0	-.158	0	0	3081.767	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		5	0	-.19	0	0	NC	NC
3	M15	1	0	0	0	0	NC	NC
		2	0	-.286	0	0	581.31	NC
		3	0	-.401	0	0	414.184	NC
		4	0	-.286	0	0	581.31	NC
		5	0	0	0	0	NC	NC
3	M16	1	0	0	0	0	NC	NC
		2	0	-.069	0	0	4441.336	NC
		3	0	-.135	0	0	2796.449	NC
		4	0	-.194	0	0	3227.738	NC
		5	0	-.245	0	0	NC	NC
3	M17	1	0	0	0	0	NC	NC
		2	0	-.186	0	0	623.47	NC
		3	0	-.261	0	0	444.222	NC
		4	0	-.186	0	0	623.47	NC
		5	0	0	0	0	NC	NC
3	M18	1	0	0	0	0	NC	NC
		2	0	-.555	0	0	353.154	NC
		3	0	-.779	0	0	251.622	NC
		4	0	-.555	0	0	353.154	NC
		5	0	0	0	0	NC	NC
3	M19	1	0	0	0	0	NC	NC
		2	0	-.514	0	0	529.201	NC
		3	0	-.722	0	0	377.056	NC
		4	0	-.514	0	0	529.201	NC
		5	0	0	0	0	NC	NC
3	M20	1	0	0	0	0	NC	NC
		2	0	-.235	0	0	522.967	NC
		3	0	-.33	0	0	372.614	NC
		4	0	-.235	0	0	522.967	NC
		5	0	0	0	0	NC	NC
3	M21	1	0	0	0	0	NC	NC
		2	0	-.341	0	0	509.136	NC
		3	0	-.478	0	0	362.76	NC
		4	0	-.341	0	0	509.136	NC
		5	0	0	0	0	NC	NC
3	M22	1	0	0	0	0	NC	NC
		2	0	-.341	0	0	509.136	NC
		3	0	-.478	0	0	362.76	NC
		4	0	-.341	0	0	509.136	NC
		5	0	0	0	0	NC	NC
3	M23	1	0	0	0	0	NC	NC
		2	0	-.341	0	0	509.136	NC
		3	0	-.478	0	0	362.76	NC
		4	0	-.341	0	0	509.136	NC

Member Deflections, By Combination, (continued)

LC	Member Label	Section	x-Translation (in)	y-Translation (in)	z-Translation (in)	x-Rotation (radians)	(n) L/y Ratio	(n) L/z Ratio
		5	0	0	0	0	NC	NC
3	M24	1	0	0	0	0	NC	NC
		2	0	-.341	0	0	509.136	NC
		3	0	-.478	0	0	362.76	NC
		4	0	-.341	0	0	509.136	NC
		5	0	0	0	0	NC	NC
3	M25	1	0	-.19	0	-1.189e-3	NC	NC
		2	0	-.329	0	-1.196e-3	1147.706	NC
		3	0	-.385	0	-1.202e-3	817.74	NC
		4	0	-.331	0	-1.208e-3	1147.706	NC
		5	0	-.194	0	-1.214e-3	NC	NC
3	M26	1	0	0	0	0	NC	NC
		2	0	-.124	0	0	1239.575	NC
		3	0	-.174	0	0	883.197	NC
		4	0	-.124	0	0	1239.575	NC
		5	0	0	0	0	NC	NC
3	M27	1	0	0	0	0	NC	NC
		2	0	-.119	0	0	1298.406	NC
		3	0	-.166	0	0	925.115	NC
		4	0	-.119	0	0	1298.406	NC
		5	0	0	0	0	NC	NC
3	M28	1	0	-.194	0	0	NC	NC
		2	0	-.187	0	0	1902.528	NC
		3	0	-.144	0	0	1659.345	NC
		4	0	-.078	0	0	2648.514	NC
		5	0	0	0	0	NC	NC
3	M29	1	0	-.19	0	0	NC	NC
		2	0	-.183	0	0	1941.952	NC
		3	0	-.141	0	0	1693.617	NC
		4	0	-.076	0	0	2703.082	NC
		5	0	0	0	0	NC	NC
3	M30	1	0	-.245	0	0	NC	NC
		2	0	-.305	0	0	810.456	NC
		3	0	-.27	0	0	665.602	NC
		4	0	-.158	0	0	1017.845	NC
		5	0	0	0	0	NC	NC

Member Section Torsion, By Combination

LC	Member Label	Section	Torque (k-ft)	Torsion Shear (ksi)	y-y Warp Shear (ksi)	z-z Warp Shear (ksi)	z-Bot Warp Bend (ksi)	z-Top Warp Bend (ksi)
3	M1	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0

Member Section Torsion, By Combination, (continued)

LC	Member Label	Section	Torque (k-ft)	Torsion Shear (ksi)	y-y Warp Shear (ksi)	z-z Warp Shear (ksi)	z-Bot Warp Bend (ksi)	z-Top Warp Bend (ksi)
		5	0	0	0	0	0	0
3	M2	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M3	1	0	0	NC	NC	NC	NC
		2	0	0	NC	NC	NC	NC
		3	0	0	NC	NC	NC	NC
		4	0	0	NC	NC	NC	NC
		5	0	0	NC	NC	NC	NC
3	M4	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M5	1	0	0	NC	NC	NC	NC
		2	0	0	NC	NC	NC	NC
		3	0	0	NC	NC	NC	NC
		4	0	0	NC	NC	NC	NC
		5	0	0	NC	NC	NC	NC
3	M6	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M7	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M8	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M9	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M10	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0

Member Section Torsion, By Combination, (continued)

LC	Member Label	Section	Torque (k-ft)	Torsion Shear (ksi)	y-y Warp Shear (ksi)	z-z Warp Shear (ksi)	z-Bot Warp Bend (ksi)	z-Top Warp Bend (ksi)
		5	0	0	0	0	0	0
3	M11	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M12	1	0	0	NC	NC	NC	NC
		2	0	0	NC	NC	NC	NC
		3	0	0	NC	NC	NC	NC
		4	0	0	NC	NC	NC	NC
		5	0	0	NC	NC	NC	NC
3	M13	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M14	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M15	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M16	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M17	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M18	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M19	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0

Member Section Torsion, By Combination, (continued)

LC	Member Label	Section	Torque (k-ft)	Torsion Shear (ksi)	y-y Warp Shear (ksi)	z-z Warp Shear (ksi)	z-Bot Warp Bend (ksi)	z-Top Warp Bend (ksi)
		5	0	0	0	0	0	0
3	M20	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M21	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M22	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M23	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M24	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M25	1	0	0	NC	NC	NC	NC
		2	0	0	NC	NC	NC	NC
		3	0	0	NC	NC	NC	NC
		4	0	0	NC	NC	NC	NC
		5	0	0	NC	NC	NC	NC
3	M26	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M27	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M28	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0

Member Section Torsion, By Combination, (continued)

LC	Member Label	Section	Torque (k-ft)	Torsion Shear (ksi)	y-y Warp Shear (ksi)	z-z Warp Shear (ksi)	z-Bot Warp Bend (ksi)	z-Top Warp Bend (ksi)
		5	0	0	0	0	0	0
3	M29	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0
3	M30	1	0	0	0	0	0	0
		2	0	0	0	0	0	0
		3	0	0	0	0	0	0
		4	0	0	0	0	0	0
		5	0	0	0	0	0	0

Member AISC ASD 9th Code Checks, By Combination

LC	Member Label	Code Chk	Loc (ft)	Shear Chk	Loc (ft)	Dir	ASD Eqn.	Message
3	M1	.562	4.115	.366	0	y	H1-2	
3	M2	.637	15.625	.208	31.25	y	H1-2	
3	M3	.490	6.5	.325	0	y	H1-1	
3	M4	.734	6.417	.390	0	y	H1-2	
3	M5	.726	6.583	.376	0	y	H1-1	
3	M6	.348	14.625	.121	0	y	H1-2	
3	M7	.637	15.625	.208	0	y	H1-2	
3	M8	.558	14.625	.195	0	y	H1-2	
3	M9	.400	9	.204	18	y	H1-2	
3	M10	.642	6.917	.317	0	y	H1-2	
3	M11	.850	5.458	.417	10.917	y	H1-2	
3	M12	.513	6.5	.340	13	y	H1-1	
3	M13	.861	4	.516	0	y	H1-2	
3	M14	.843	4	.506	0	y	H1-2	
3	M15	.642	6.917	.317	0	y	H1-2	
3	M16	.755	2.75	.532	0	y	H1-2	
3	M17	.666	4.833	.370	9.667	y	H1-2	
3	M18	.896	8.167	.374	0	y	H1-2	
3	M19	.739	11.344	.299	0	y	H1-2	
3	M20	.749	5.125	.392	0	y	H1-2	
3	M21	.702	7.229	.331	0	y	H1-2	
3	M22	.702	7.229	.331	0	y	H1-2	
3	M23	.702	7.229	.331	0	y	H1-2	
3	M24	.702	7.229	.331	0	y	H1-2	
3	M25	.527	6.584	.345	0	y	H1-1	
3	M26	.500	6.417	.336	12.833	y	H1-2	
3	M27	.478	6.417	.321	0	y	H1-2	
3	M28	.861	0	.297	6.5	y	H1-2	
3	M29	.843	0	.292	6.5	y	H1-2	

Member AISC ASD 9th Code Checks, By Combination, (continued)

LC	Member Label	Code Chk	Loc (ft)	Shear Chk	Loc (ft)	Dir	ASD Eqn.	Message
3	M30	.761	.681	.345	8.167	y	H1-2	

Member AISC ASD 9th Code Details, By Combination

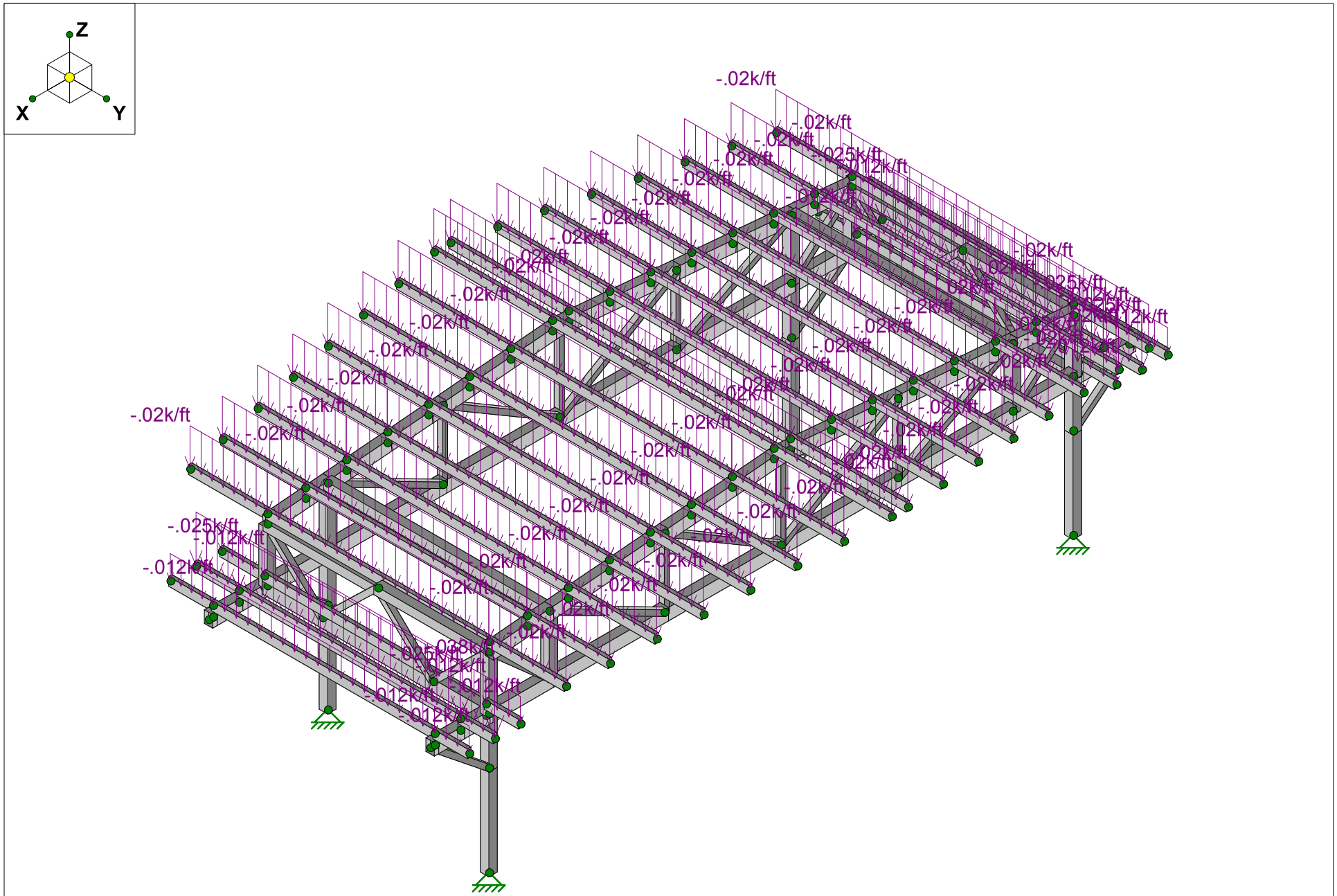
LC	Member Label	Fa (ksi)	Ft (ksi)	Fb y-y (ksi)	Fb z-z (ksi)	Cb	Cm y-y	Cm z-z
3	M1	29.277	30	37.5	33	1	.6	.85
3	M2	29.537	30	37.5	33	1	.6	.85
3	M3	29.451	30	37.5	33	1	.6	1
3	M4	29.362	30	37.5	33	1	.6	.85
3	M5	29.362	30	37.5	33	1	.6	1
3	M6	29.537	30	37.5	33	1	.6	.85
3	M7	29.537	30	37.5	33	1	.6	.85
3	M8	29.537	30	37.5	33	1	.6	.85
3	M9	29.481	30	37.5	33	1	.6	.85
3	M10	29.362	30	37.5	33	1	.6	.85
3	M11	29.277	30	37.5	33	1	.6	.85
3	M12	29.451	30	37.5	33	1	.6	1
3	M13	29.451	30	37.5	33	1	.6	.85
3	M14	29.451	30	37.5	33	1	.6	.85
3	M15	29.362	30	37.5	33	1	.6	.85
3	M16	29.362	30	37.5	33	1	.6	.85
3	M17	29.277	30	37.5	33	1	.6	.85
3	M18	29.362	30	37.5	33	1	.6	.85
3	M19	29.481	30	37.5	33	1	.6	.85
3	M20	29.277	30	37.5	33	1	.6	.85
3	M21	29.362	30	37.5	33	1	.6	.85
3	M22	29.362	30	37.5	33	1	.6	.85
3	M23	29.362	30	37.5	33	1	.6	.85
3	M24	29.362	30	37.5	33	1	.6	.85
3	M25	29.451	30	37.5	33	1	.6	1
3	M26	29.451	30	37.5	33	1	.6	.85
3	M27	29.451	30	37.5	33	1	.6	.85
3	M28	29.451	30	37.5	33	1.75	.6	.85
3	M29	29.451	30	37.5	33	1.75	.6	.85
3	M30	29.362	30	37.5	33	1	.6	.85

Member ASD AISI 99 Code Checks, By Combination

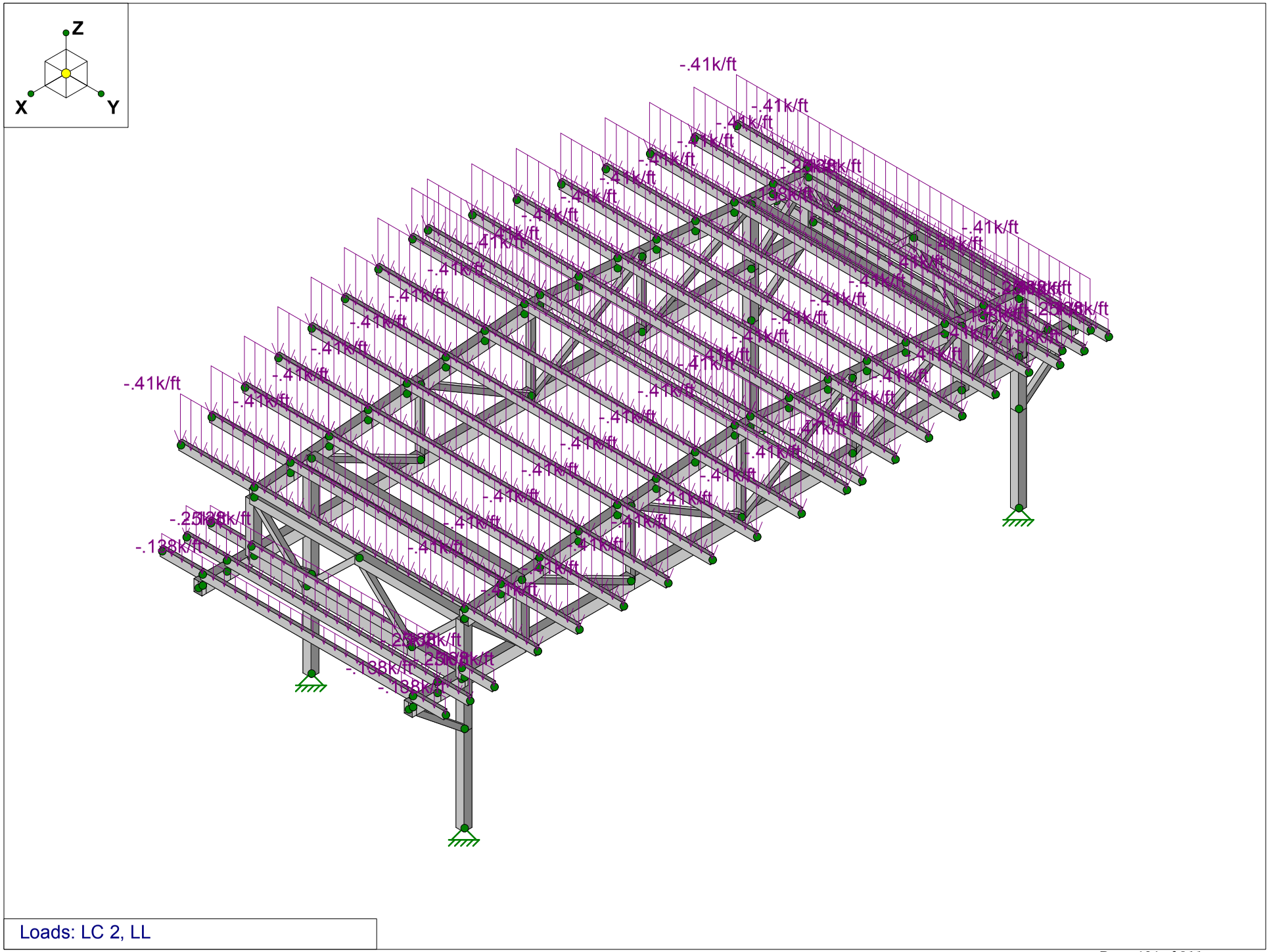
LC	Member Label	Code Chk	Loc (ft)	Shear Chk	Loc (ft)	Dir	ASD Eqn.	Message
No Data to Print...								

Member ASD AISI 99 Code Details, By Combination

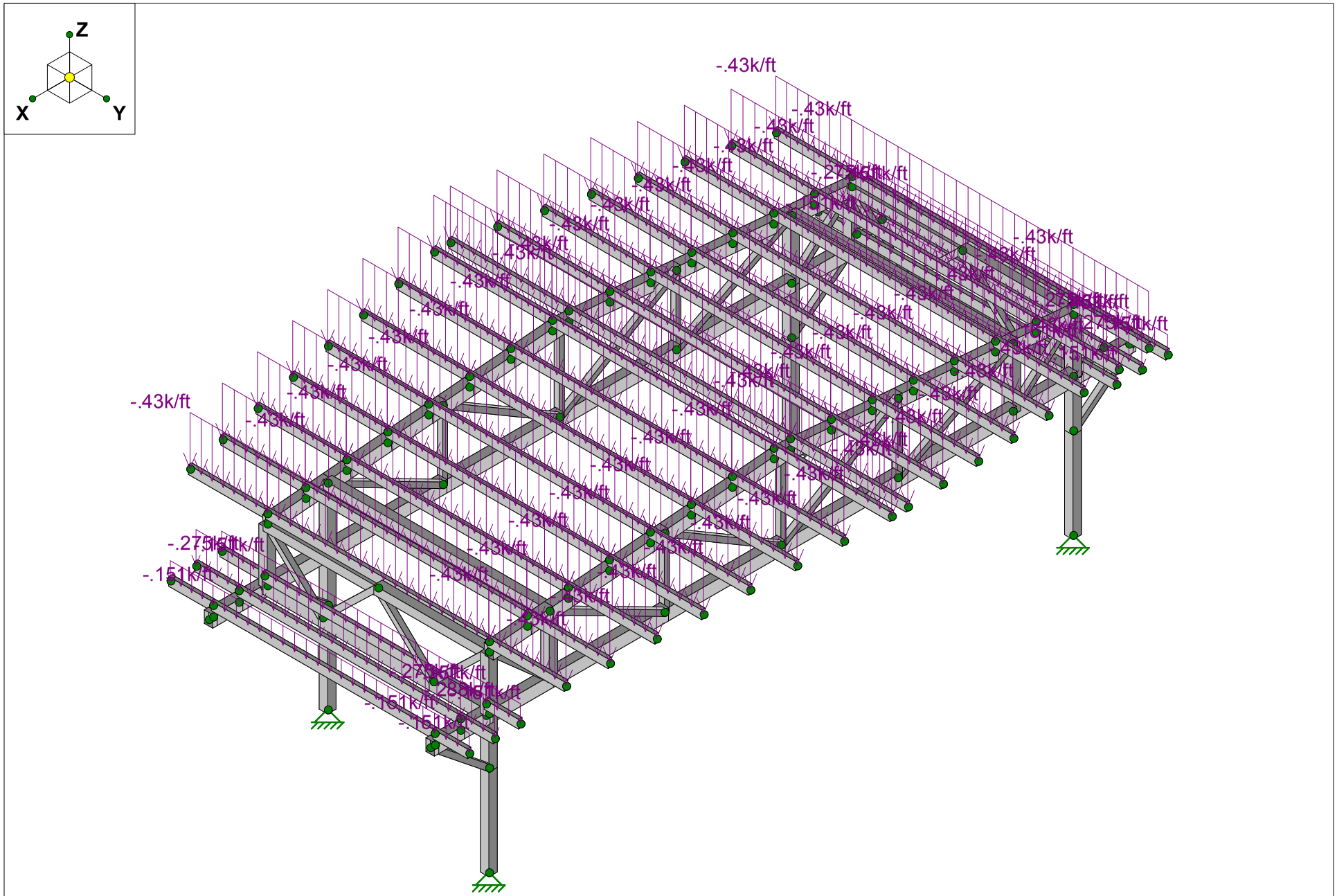
LC	Member Label	Pn (k)	Tn (k)	Mn y-y (k-ft)	Mn z-z (k-ft)	Cb	Cm y-y	Cm z-z
No Data to Print...								



Loads: LC 1, DL



Loads: LC 2, LL



Loads: LC 3, DL+LL

SEE SHEET S4.2 FOR FURTHER TRUSS DETAILS

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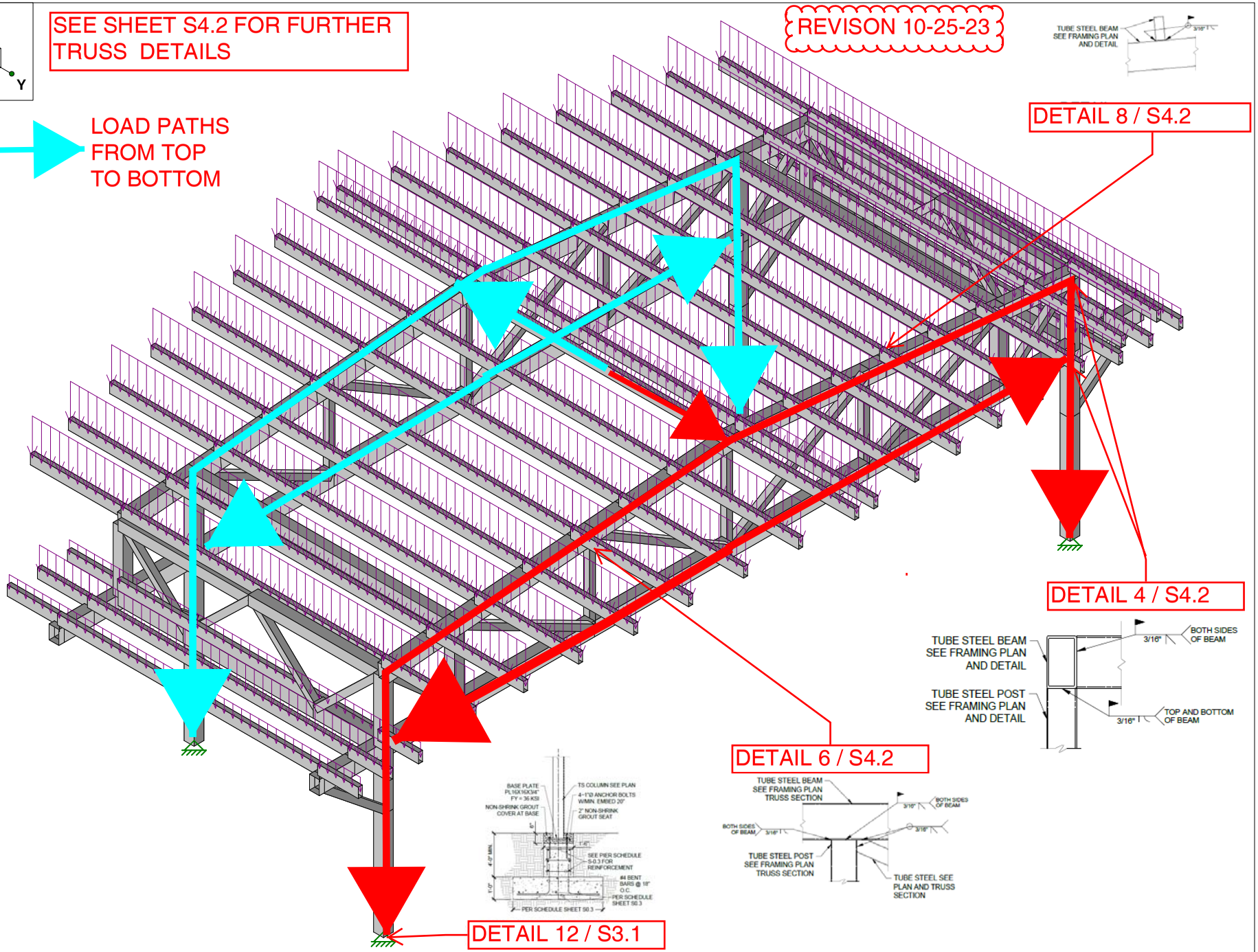
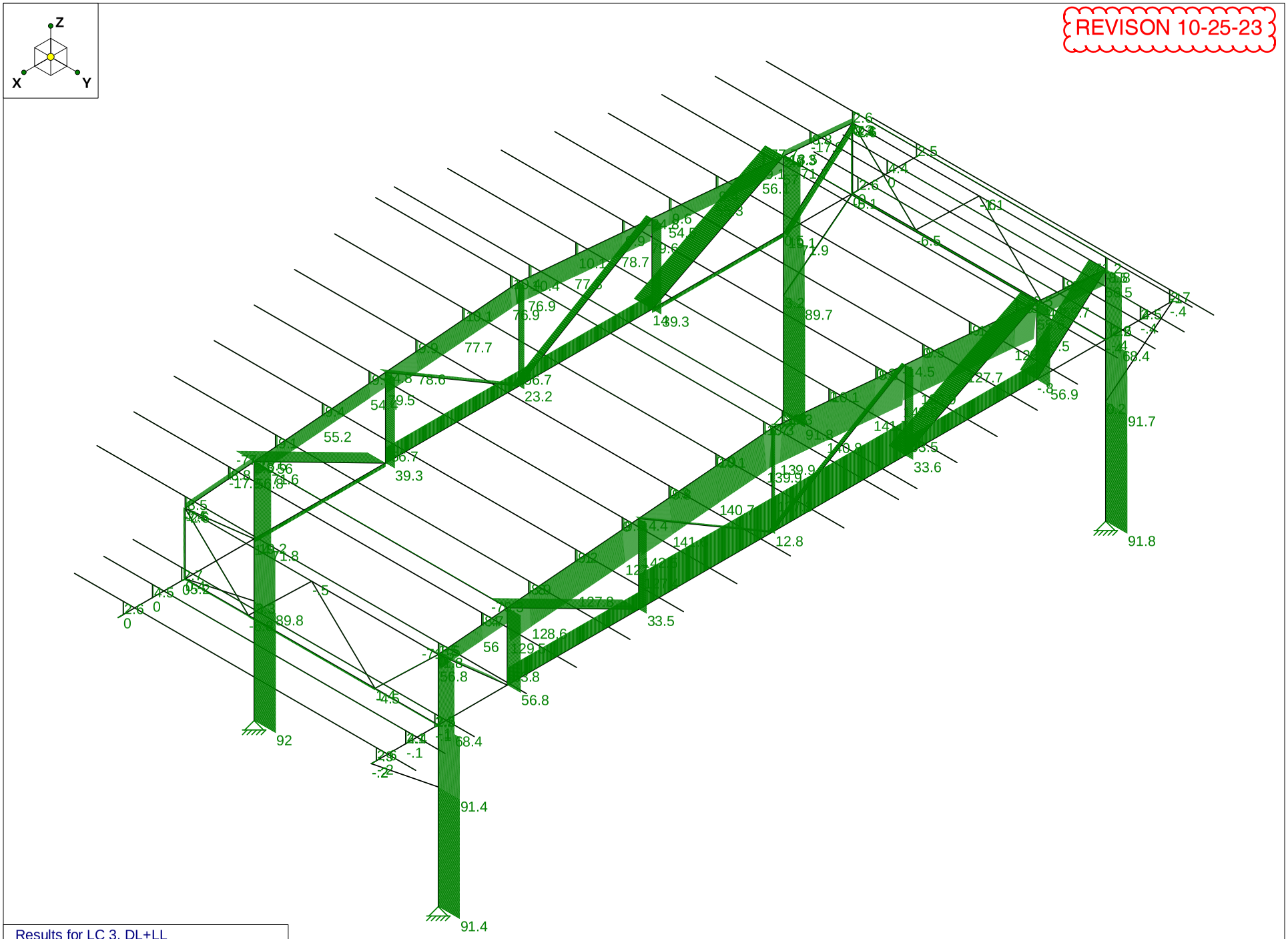
LOAD PATHS FROM TOP TO BOTTOM



Loads: LC 3, DL+LL


Z
X
Y
REVISON 10-25-23
Results for LC 3, DL+LL
Member Axial Forces (k)

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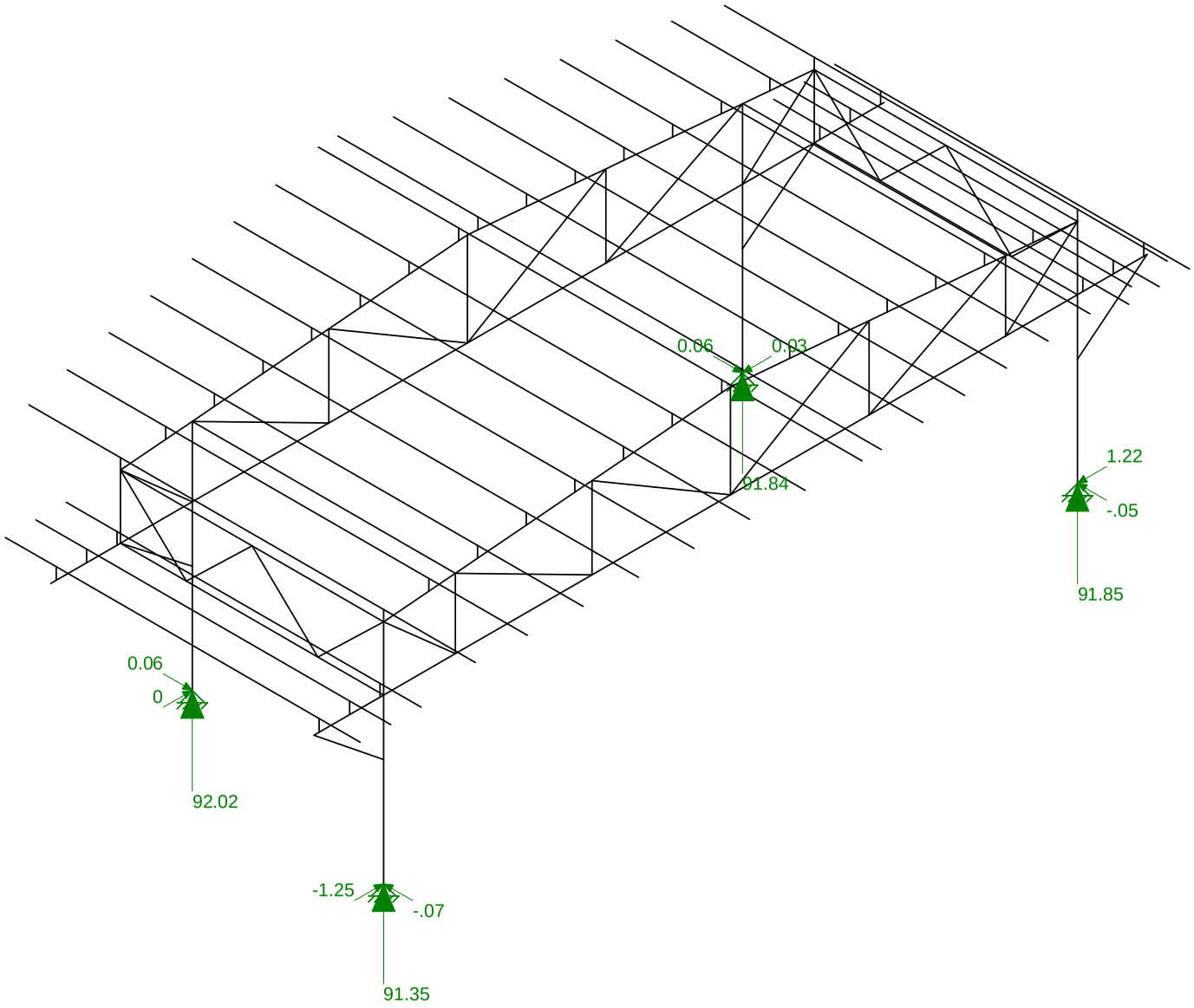
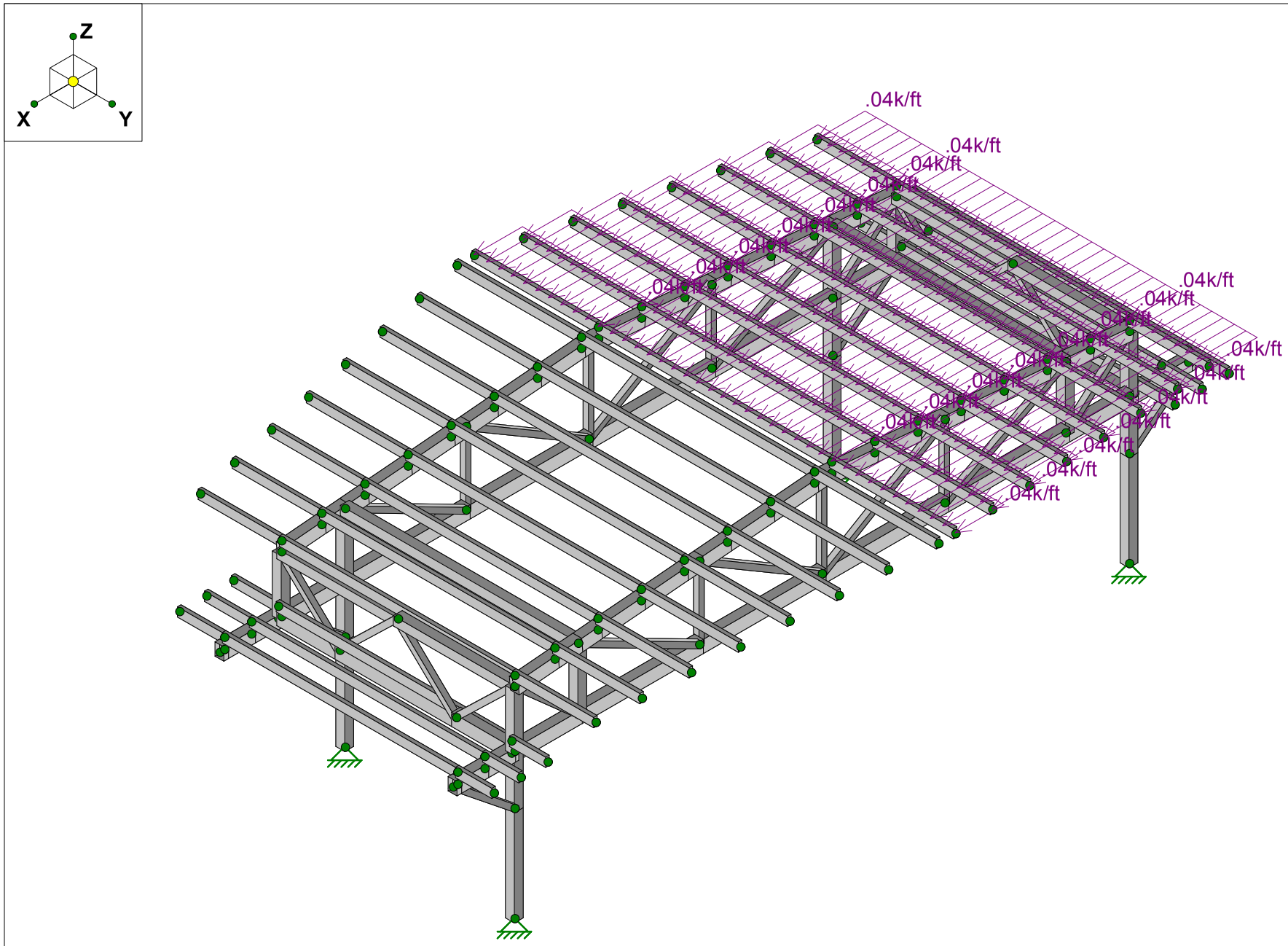


Results for LC 3, DL+LL
Reaction units are k and k-ft



Loads: LC 13, WLX

SEE SHEET S4.2 FOR FURTHER TRUSS DETAILS

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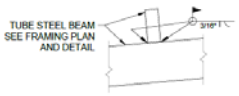
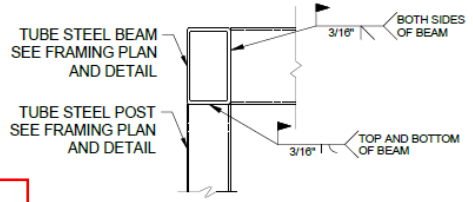


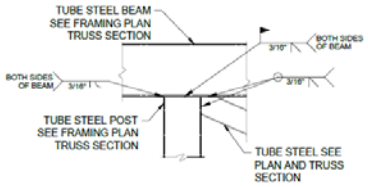
LOAD PATHS FROM TOP TO BOTTOM

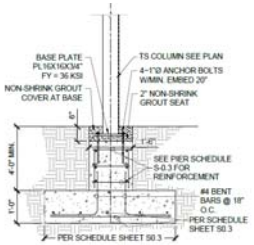
DETAIL 8 / S4.2

DETAIL 4 / S4.2



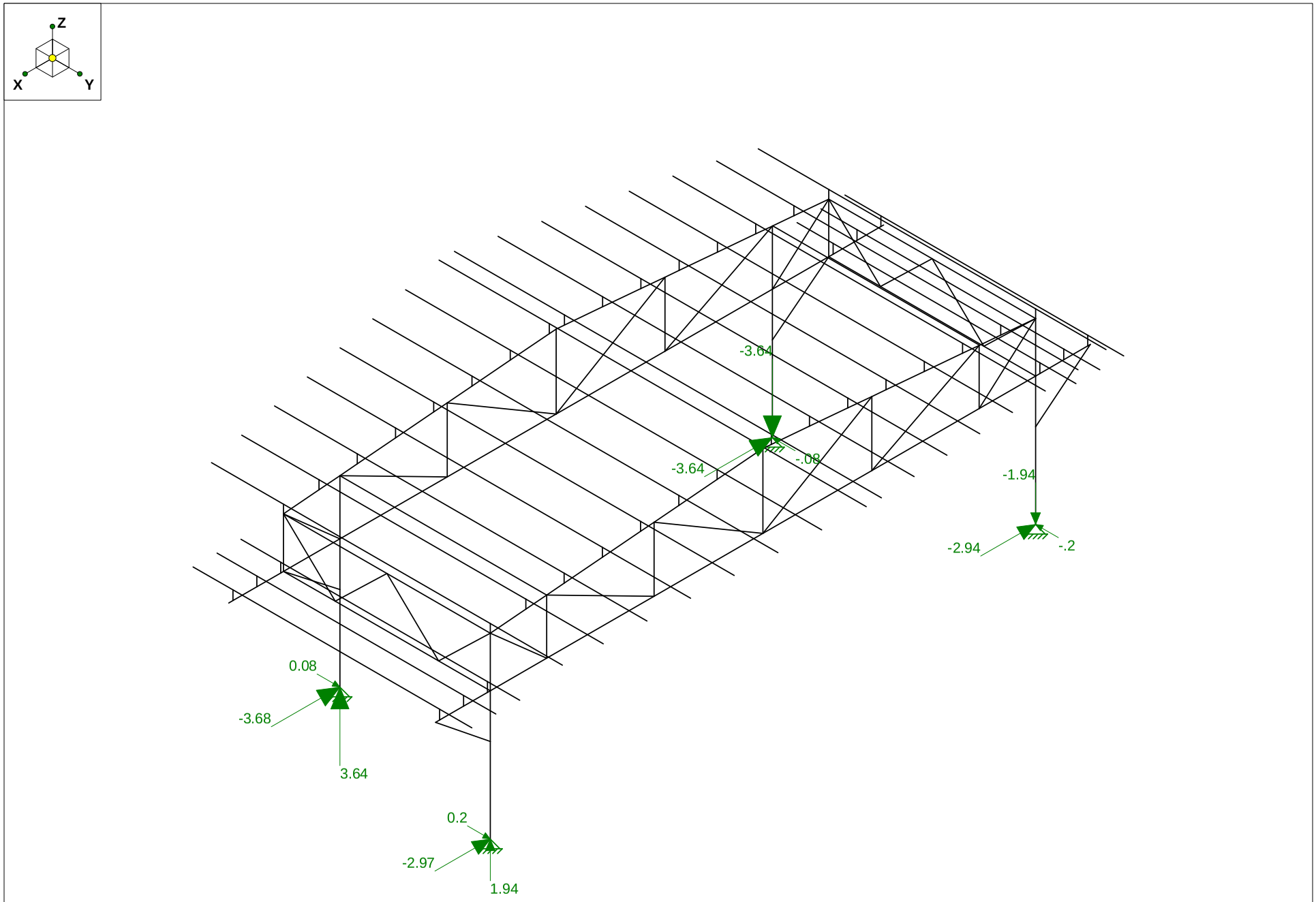
DETAIL 6 / S4.2



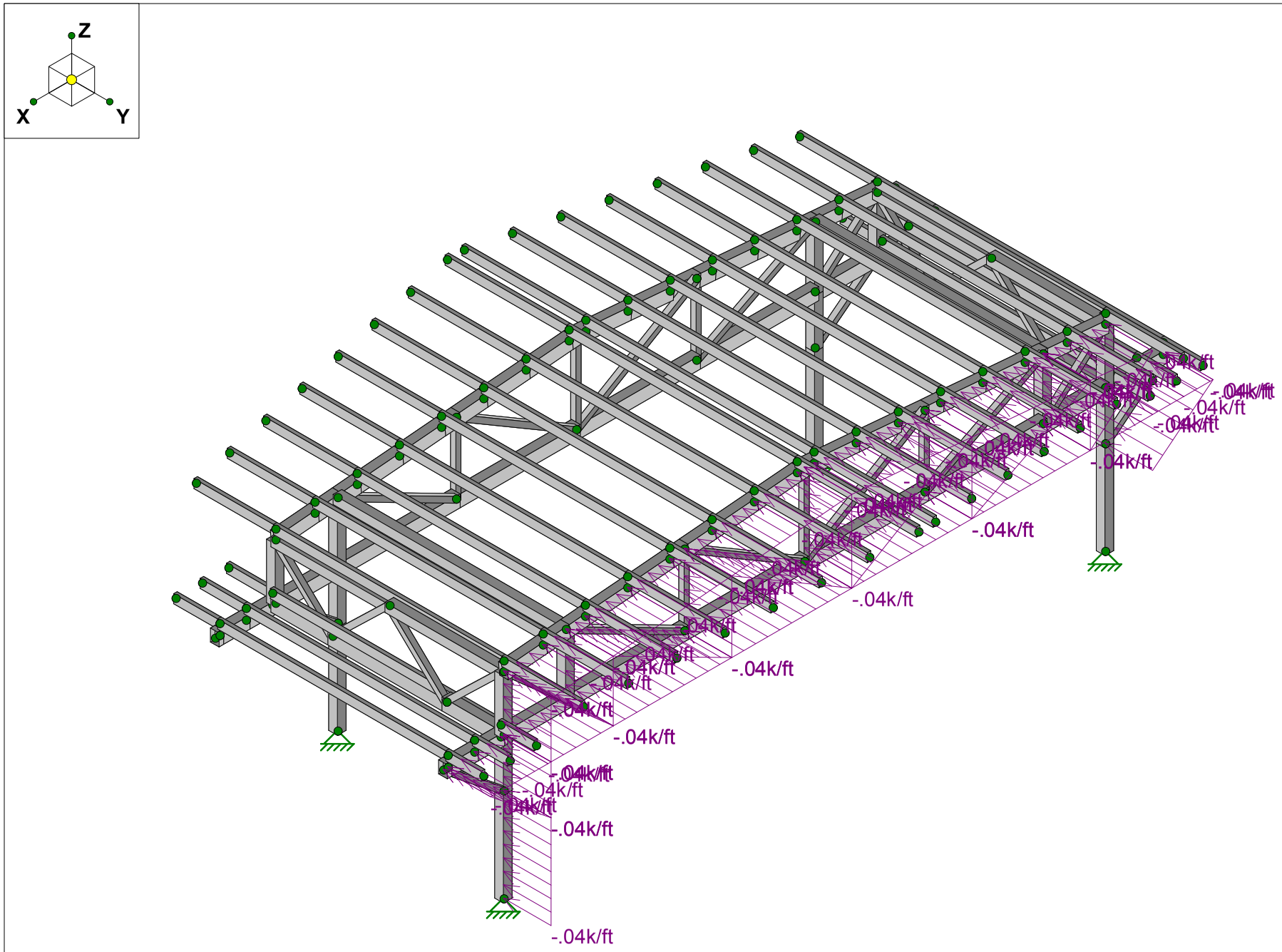


DETAIL 12 / S3.1

Loads: LC 13, WLX



Results for LC 13, WLX
Reaction units are k and k-ft



Loads: LC 12, WLY

SEE SHEET S4.2 FOR FURTHER TRUSS DETAILS

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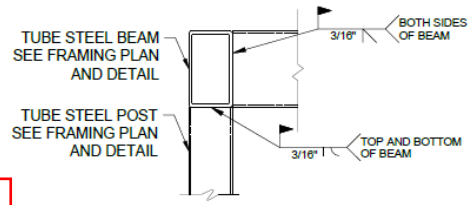
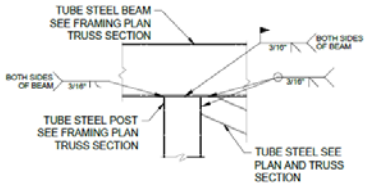
LOAD PATHS FROM TOP TO BOTTOM

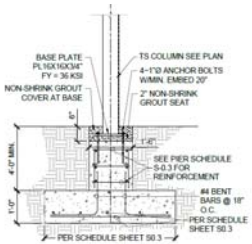
DETAIL 8 / S4.2

DETAIL 4 / S4.2



DETAIL 6 / S4.2





DETAIL 12 / S3.1

Loads: LC 12, WLY

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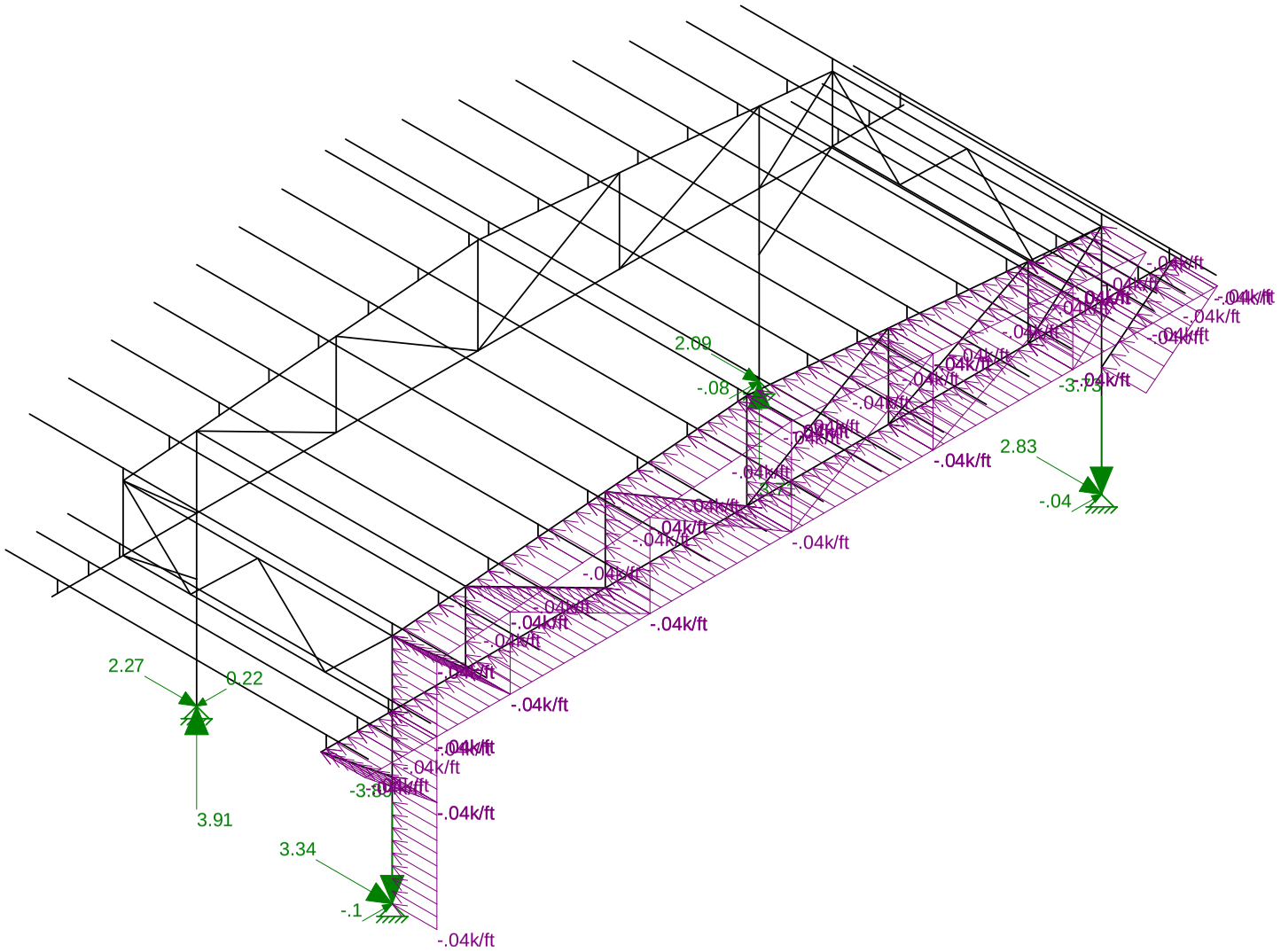
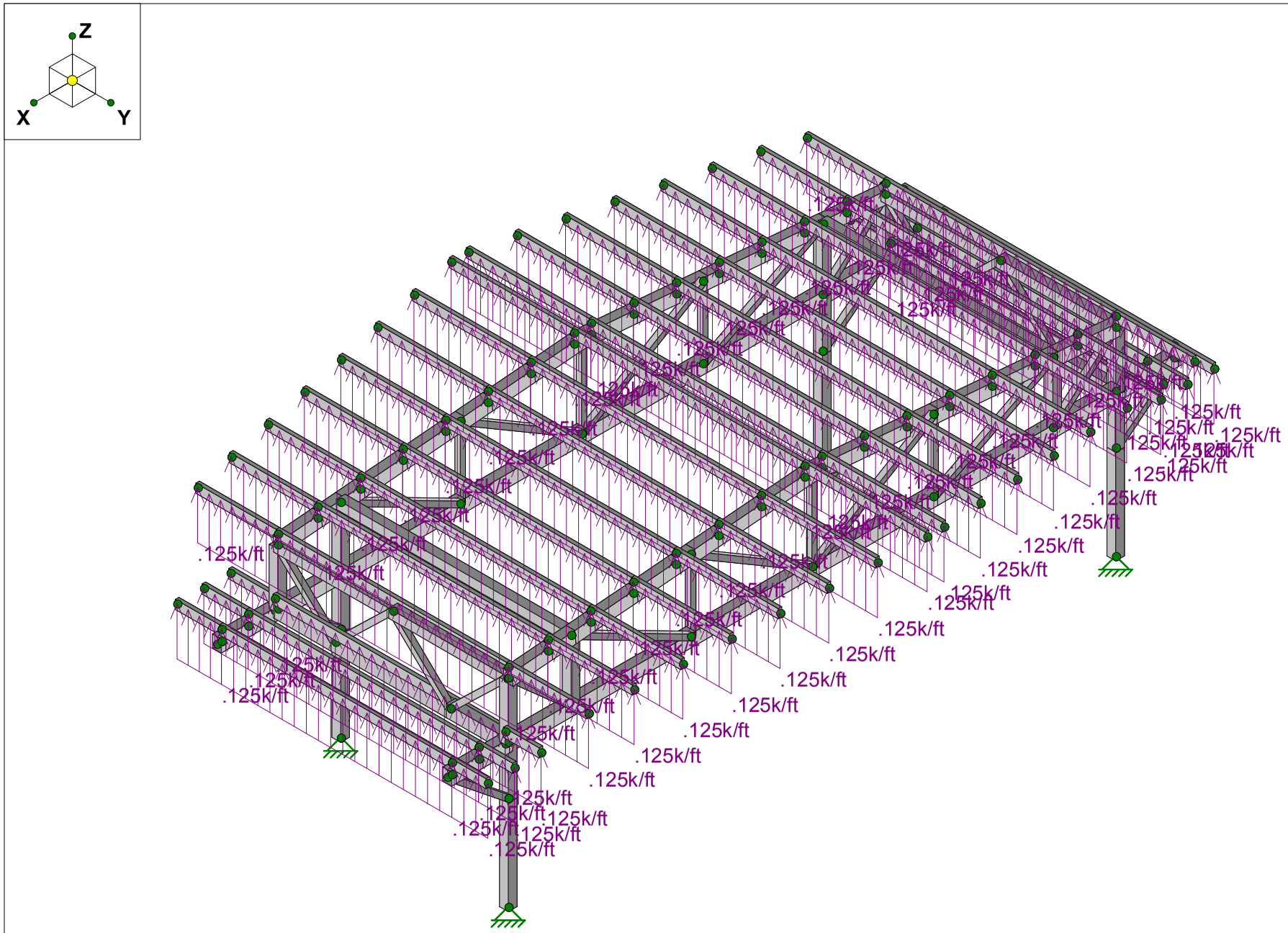
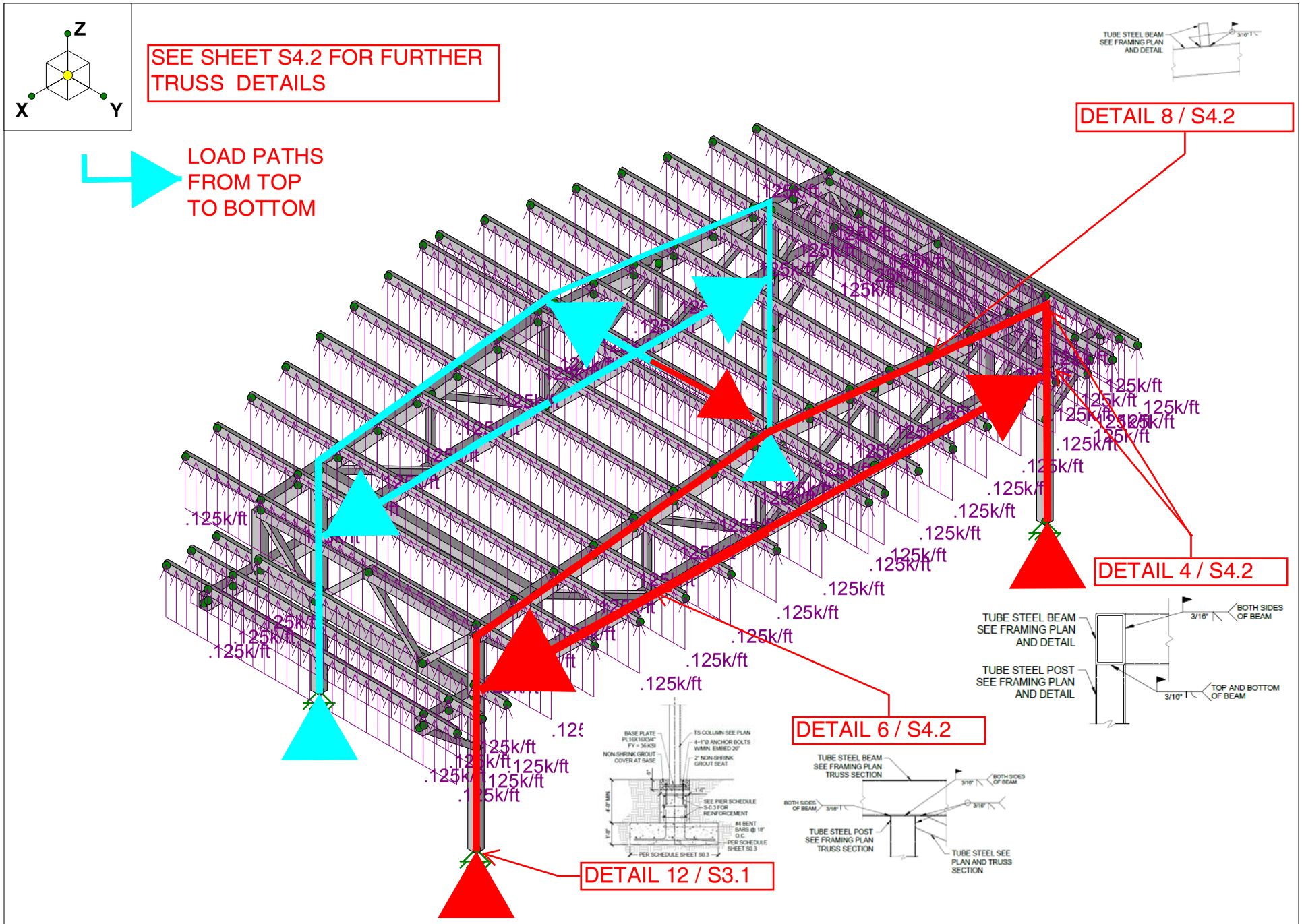


Loads: LC 12, WLY
Results for LC 12, WLY
Reaction units are k and k-ft



Loads: BLC 5, WL-UP



Loads: BLC 5, WL-UP

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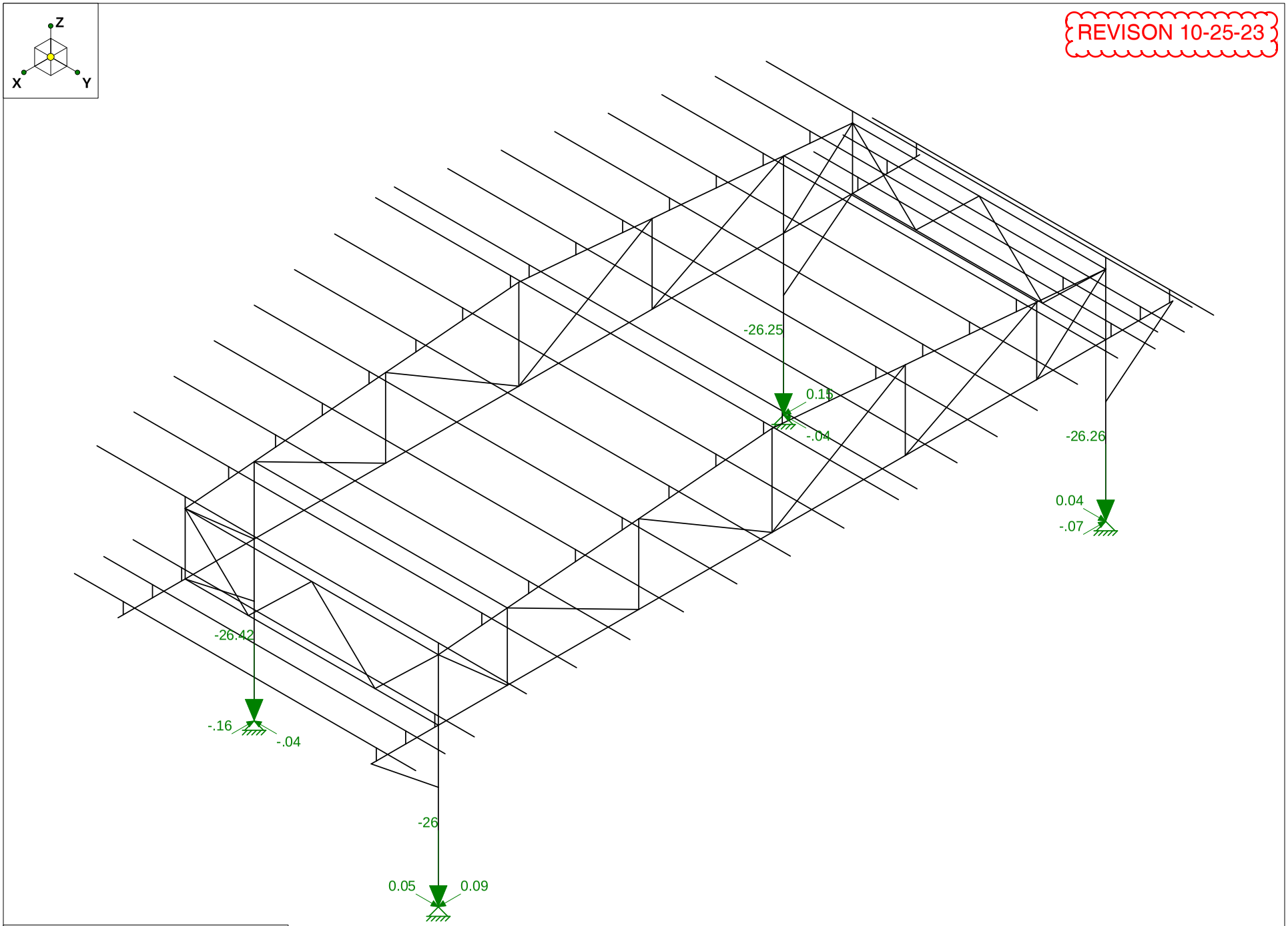
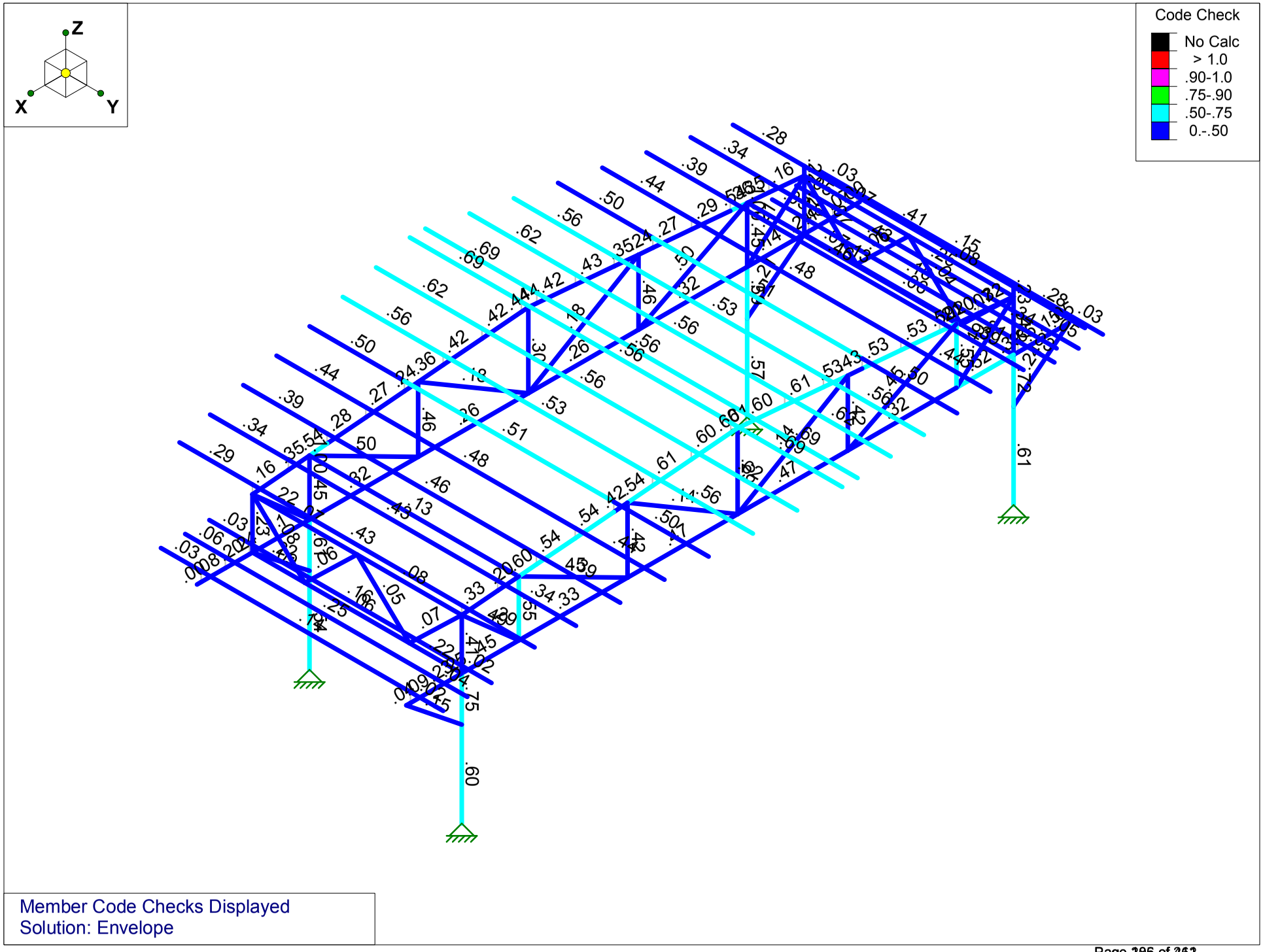


Results for LC 14, WLUP
Reaction units are k and k-ft


Z
X
Y
Code Check
No Calc
> 1.0
.90-1.0
.75-.90
.50-.75
0.-.50
Member Code Checks Displayed
Solution: Envelope

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Global

Steel Code	ASD: AISC 9th, AISI 99
Allowable Stress Increase Factor (ASIF)	1.333
Include Shear Deformation	Yes
Include Warping	Yes
No. of Sections for Member Calcs	5
Redesign Sections	Yes
P-Delta Analysis Tolerance	0.50%
Vertical Axis	Z

Materials (General)

Material Label	Young's Modulus (ksi)	Shear Modulus (ksi)	Poisson's Ratio	Thermal Coef. (per 10^5 F)	Weight Density (k/ft^3)	Yield Stress (ksi)
STL	29000	11154	.3	.65	.491	46
RIGID	1e+6		.3	.65	0	36

Sections

Section Label	Database Shape	Material Label	Area (in)^2	SA(yy)	SA(zz)	I y-y (in^4)	I z-z (in^4)	J (Torsion) (in^4)	T/C Only
6X6	HSS6X6X5	STL	6.42	1.2	1.2	34.267	34.267	55.362	
10X10	HSS10X10X5	STL	11.07	1.2	1.2	172.185	172.185	270.304	
14X10	HSS14X10X5	STL	13.395	1.2	1.2	226.996	379.696	445.808	
10X4	HSS10X4X5	STL	7.582	1.2	1.2	21.149	89.967	57.276	
LINK		RIGID	1e+6	1.2	1.2	1e+6	1e+6	1e+6	

Joint Coordinates

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Z Coordinate (ft)	Joint Temperature (F)	Detach from Diaphragm
N1	-58	0	35	0	No
N2	0	0	35	0	No
N3	-52	0	48.67	0	No
N4	-52	0	54.49	0	No
N5	-40.58	0	48.67	0	No
N6	-40.58	0	55.49	0	No
N7	-6	0	48.67	0	No
N8	-6	0	54.49	0	No
N9	-17.42	0	48.67	0	No
N10	-17.42	0	55.49	0	No
N11	-29	0	48.67	0	No
N12	0	0	53.97	0	No
N13	-29	0	56.5	0	No
N14	-58	0	53.97	0	No
N15	5.83	-22	48.67	0	No
N16	-63.83	-22	48.67	0	No
N17	-52	-22	48.67	0	No
N18	-52	-22	54.49	0	No

Joint Coordinates (continued)

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Z Coordinate (ft)	Joint Temperature (F)	Detach from Diaphragm
N19	-40.58	-22	48.67	0	No
N20	-40.58	-22	55.49	0	No
N21	-6	-22	48.67	0	No
N22	-6	-22	54.49	0	No
N23	-17.42	-22	48.67	0	No
N24	-17.42	-22	55.49	0	No
N25	-29	-22	48.67	0	No
N26	0	-22	53.97	0	No
N27	-29	-22	56.5	0	No
N28	-58	-22	53.97	0	No
N29	-6	-22	35	0	No
N30	-6	-22	54.43	0	No
N31	-52	-22	35	0	No
N32	-52	-22	54.43	0	No
N33	-52	-22	44	0	No
N34	-6	-22	44	0	No
N35	-63.83	0	48.67	0	No
N36	-58	0	44	0	No
N37	0	0	44	0	No
N38	5.83	0	48.67	0	No
N39	0	-22	48.67	0	No
N40	0	0	48.67	0	No
N41	0	-16.5	48.67	0	No
N42	0	-5.5	48.67	0	No
N43	0	-11	53.98	0	No
N44	2.84	3.43	49.66	0	No
N45	2.84	-26.23	49.66	0	No
N46	.3	-22	49.66	0	No
N47	.3	-26.23	49.66	0	No
N48	.3	0	49.66	0	No
N49	-28.27	11.72	57.36	0	No
N50	-28.27	-33.72	57.36	0	No
N51	-24.12	11.13	57	0	No
N52	-24.12	-33.13	57	0	No
N53	-20.05	10.55	56.64	0	No
N54	-20.05	-32.55	56.64	0	No
N55	-15.98	9.97	56.29	0	No
N56	-15.98	-31.97	56.29	0	No
N57	-11.92	9.39	55.93	0	No
N58	-11.92	-31.39	55.93	0	No
N59	-7.85	8.81	55.58	0	No
N60	-7.85	-30.81	55.58	0	No
N61	-3.78	8.23	55.22	0	No
N62	-3.78	-30.23	55.22	0	No
N63	0	7.66	54.86	0	No

Joint Coordinates (continued)

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Z Coordinate (ft)	Joint Temperature (F)	Detach from Diaphragm
N64	0	-29.66	54.86	0	No
N65	.3	3.43	49.66	0	No
N66	-61	3.83	49.66	0	No
N67	-61	-25.83	49.66	0	No
N68	-58.46	-22	49.66	0	No
N69	-58.46	-25.83	49.66	0	No
N70	-58.46	0	49.66	0	No
N71	-33.95	11.13	57	0	No
N72	-33.95	-33.13	57	0	No
N73	-38.02	10.55	56.64	0	No
N74	-38.02	-32.55	56.64	0	No
N75	-42.09	9.97	56.29	0	No
N76	-42.09	-31.97	56.29	0	No
N77	-46.16	9.39	55.93	0	No
N78	-46.16	-31.39	55.93	0	No
N79	-50.23	8.81	55.58	0	No
N80	-50.23	-30.81	55.58	0	No
N81	-54.29	8.23	55.22	0	No
N82	-54.29	-30.23	55.22	0	No
N83	-58.46	3.83	49.66	0	No
N84	-29.89	11.71	57.36	0	No
N85	-29.89	-33.71	57.36	0	No
N86	-52.04	-22	54.49	0	No
N87	-52.04	0	54.49	0	No
N88	-58	-22	54.86	0	No
N89	-58	0	54.86	0	No
N90	-58	-22	48.67	0	No
N91	-58	0	48.67	0	No
N92	-58	-16.5	48.67	0	No
N93	-58	-5.5	48.67	0	No
N94	-58	-11	53.98	0	No
N95	2.84	-22	49.66	0	No
N96	2.84	0	49.66	0	No
N97	-28.27	-22	57.36	0	No
N98	-24.12	-22	57	0	No
N99	-20.05	-22	56.64	0	No
N100	-15.98	-22	56.29	0	No
N101	-11.92	-22	55.93	0	No
N102	-7.85	-22	55.58	0	No
N103	-3.78	-22	55.22	0	No
N104	0	-22	54.86	0	No
N105	-61	-22	49.66	0	No
N106	-33.95	-22	57	0	No
N107	-38.02	-22	56.64	0	No
N108	-42.09	-22	56.29	0	No

Joint Coordinates (continued)

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Z Coordinate (ft)	Joint Temperature (F)	Detach from Diaphragm
N109	-46.16	-22	55.93	0	No
N110	-50.23	-22	55.58	0	No
N111	-54.29	-22	55.22	0	No
N112	-29.89	-22	57.36	0	No
N113	-28.27	0	57.36	0	No
N114	-24.12	0	57	0	No
N115	-20.05	0	56.64	0	No
N116	-15.98	0	56.29	0	No
N117	-11.92	0	55.93	0	No
N118	-7.85	0	55.58	0	No
N119	-3.78	0	55.22	0	No
N120	0	0	54.86	0	No
N121	-61	0	49.66	0	No
N122	-33.95	0	57	0	No
N123	-38.02	0	56.64	0	No
N124	-42.09	0	56.29	0	No
N125	-46.16	0	55.93	0	No
N126	-50.23	0	55.58	0	No
N127	-54.29	0	55.22	0	No
N128	-29.89	0	57.36	0	No
N129	5.39	3.43	49.66	0	No
N130	5.39	-26.23	49.66	0	No
N131	5.39	0	49.66	0	No
N132	-63.55	3.83	49.66	0	No
N133	-63.55	-25.83	49.66	0	No
N134	-63.55	-22	49.66	0	No
N135	-63.55	0	49.66	0	No
N136	-58	-29.5	54.86	0	No
N137	-58	7.5	54.86	0	No
N138	-28.27	-22	56.44	0	No
N139	-24.12	-22	56.08	0	No
N140	-20.05	-22	55.72	0	No
N141	-15.98	-22	55.37	0	No
N142	-11.92	-22	55.01	0	No
N143	-7.85	-22	54.66	0	No
N144	-3.78	-22	54.3	0	No
N145	-33.95	-22	56.08	0	No
N146	-38.02	-22	55.72	0	No
N147	-42.09	-22	55.37	0	No
N148	-46.16	-22	55.01	0	No
N149	-50.23	-22	54.66	0	No
N150	-54.29	-22	54.3	0	No
N151	-28.27	0	56.44	0	No
N152	-24.12	0	56.08	0	No
N153	-20.05	0	55.72	0	No

Joint Coordinates (continued)

Joint Label	X Coordinate (ft)	Y Coordinate (ft)	Z Coordinate (ft)	Joint Temperature (F)	Detach from Diaphragm
N154	-15.98	0	55.37	0	No
N155	-11.92	0	55.01	0	No
N156	-7.85	0	54.66	0	No
N157	-3.78	0	54.3	0	No
N158	-33.95	0	56.08	0	No
N159	-38.02	0	55.72	0	No
N160	-42.09	0	55.37	0	No
N161	-46.16	0	55.01	0	No
N162	-50.23	0	54.66	0	No
N163	-54.29	0	54.3	0	No
N164	.3	-22	48.67	0	No
N165	2.84	-22	48.67	0	No
N166	.3	0	48.67	0	No
N167	2.84	0	48.67	0	No
N168	5.39	0	48.67	0	No
N169	-58.46	0	48.67	0	No
N170	-61	0	48.67	0	No
N171	-63.55	0	48.67	0	No
N172	-58.46	-22	48.67	0	No
N173	-61	-22	48.67	0	No
N174	-63.55	-22	48.67	0	No
N175	-29.89	-22	56.424	0	No
N176	-29.89	0	56.424	0	No
N177	5.38	-22	49.66	0	No
N178	5.38	-22	48.67	0	No

Boundary Conditions

Joint Label	X Translation (k/in)	Y Translation (k/in)	Z Translation (k/in)	MX Rotation (k-ft/rad)	MY Rotation (k-ft/rad)	MZ Rotation (k-ft/rad)
N29	Reaction	Reaction	Reaction			
N31	Reaction	Reaction	Reaction			
N1	Reaction	Reaction	Reaction			
N2	Reaction	Reaction	Reaction			

Member Data

Member Label	I Joint	J Joint	K Joint	X-Axis Rotate (degrees)	Shape / Section Set	Material Set	Phys Memb	T.O.M.	End Releases I-End xyz xyz	End Releases J-End xyz xyz	End Offsets I-End (in)	End Offsets J-End (in)	Inactive Code	Member Length (ft)
M1	N38	N168		90	14X10	STL								.44
M2	N1	N36			10X10	STL								9
M3	N2	N37			10X10	STL								9
M4	N13	N11			6X6	STL								7.83
M5	N3	N4			10X10	STL								5.82
M6	N14	N3			6X6	STL								8.006

Member Data (continued)

Member Label	I Joint	J Joint	K Joint	X-Axis Rotate (degrees)	Shape / Section Set	Material Set	Phys Memb	T.O.M.	End Releases I-End xyz xyz	End Releases J-End xyz xyz	End Offsets I-End (in)	End Offsets J-End (in)	Inactive Code	Member Length (ft)
M7	N5	N6			6X6	STL								6.82
M8	N4	N5			6X6	STL								12.818
M9	N6	N11			6X6	STL								13.439
M10	N7	N8			10X10	STL								5.82
M11	N12	N7			6X6	STL								8.006
M12	N9	N10			6X6	STL								6.82
M13	N8	N9			6X6	STL								12.818
M14	N10	N11			6X6	STL								13.439
M15	N12	N157		90	14X10	STL								3.794
M16	N13	N176		90	14X10	STL								.893
M17	N15	N178		90	14X10	STL								.45
M18	N27	N25			6X6	STL								7.83
M19	N17	N32			10X10	STL								5.76
M20	N28	N17			6X6	STL								8.006
M21	N19	N20			6X6	STL								6.82
M22	N18	N19			6X6	STL								12.818
M23	N20	N25			6X6	STL								13.439
M24	N21	N30			10X10	STL								5.76
M25	N26	N21			6X6	STL								8.006
M26	N23	N24			6X6	STL								6.82
M27	N22	N23			6X6	STL								12.818
M28	N24	N25			6X6	STL								13.439
M29	N26	N144		90	14X10	STL								3.794
M30	N27	N175		90	14X10	STL								.893
M31	N29	N34			10X10	STL								9
M32	N31	N33			10X10	STL								9
M33	N34	N39			6X6	STL								7.603
M34	N35	N36			6X6	STL								7.47
M35	N37	N38			6X6	STL								7.47
M36	N39	N41		90	14X10	STL								5.5
M37	N26	N43			10X10	STL								11
M38	N41	N26			6X6	STL								7.638
M39	N42	N12			6X6	STL								7.638
M40	N42	N43			6X6	STL								7.645
M41	N41	N43			6X6	STL								7.645
M42	N44	N96		90	10X4	STL								3.43
M43	N64	N104		90	10X4	STL								7.66
M44	N46	N47		90	10X4	STL								4.23
M45	N65	N48		90	10X4	STL								3.43
M46	N49	N113		90	10X4	STL								11.72
M47	N51	N114		90	10X4	STL								11.13
M48	N53	N115		90	10X4	STL								10.55
M49	N55	N116		90	10X4	STL								9.97
M50	N57	N117		90	10X4	STL								9.39

Member Data (continued)

Member Label	I Joint	J Joint	K Joint	X-Axis Rotate (degrees)	Shape / Section Set	Material Set	Phys Memb	T.O.M.	End Releases I-End xyz xyz	End Releases J-End xyz xyz	End Offsets I-End (in)	End Offsets J-End (in)	Inactive Code	Member Length (ft)
M51	N59	N118		90	10X4	STL								8.81
M52	N61	N119		90	10X4	STL								8.23
M53	N63	N120		90	10X4	STL								7.66
M54	N66	N121		90	10X4	STL								3.83
M55	N68	N69		90	10X4	STL								3.83
M56	N83	N70		90	10X4	STL								3.83
M57	N71	N122		90	10X4	STL								11.13
M58	N73	N123		90	10X4	STL								10.55
M59	N75	N124		90	10X4	STL								9.97
M60	N77	N125		90	10X4	STL								9.39
M61	N79	N126		90	10X4	STL								8.81
M62	N81	N127		90	10X4	STL								8.23
M63	N84	N128		90	10X4	STL								11.71
M64	N22	N8		90	10X10	STL								22
M65	N86	N87		90	10X10	STL								22
M66	N90	N92		90	14X10	STL								5.5
M67	N28	N94			10X10	STL								11
M68	N92	N28			6X6	STL								7.638
M69	N93	N14			6X6	STL								7.638
M70	N93	N94			6X6	STL								7.645
M71	N92	N94			6X6	STL								7.645
M72	N91	N14			10X10	STL								5.3
M73	N28	N90			10X10	STL								5.3
M74	N128	N112		90	10X4	STL								22
M75	N127	N111		90	10X4	STL								22
M76	N126	N110		90	10X4	STL								22
M77	N125	N109		90	10X4	STL								22
M78	N124	N108		90	10X4	STL								22
M79	N123	N107		90	10X4	STL								22
M80	N122	N106		90	10X4	STL								22
M81	N121	N105		90	10X4	STL								22
M82	N120	N104		90	10X4	STL								22
M83	N119	N103		90	10X4	STL								22
M84	N118	N102		90	10X4	STL								22
M85	N117	N101		90	10X4	STL								22
M86	N116	N100		90	10X4	STL								22
M87	N115	N99		90	10X4	STL								22
M88	N114	N98		90	10X4	STL								22
M89	N113	N97		90	10X4	STL								22
M90	N112	N85		90	10X4	STL								11.71
M91	N111	N82		90	10X4	STL								8.23
M92	N110	N80		90	10X4	STL								8.81
M93	N109	N78		90	10X4	STL								9.39
M94	N108	N76		90	10X4	STL								9.97

Member Data (continued)

Member Label	I Joint	J Joint	K Joint	X-Axis Rotate (degrees)	Shape / Section Set	Material Set	Phys Memb	T.O.M.	End Releases I-End xyz xyz	End Releases J-End xyz xyz	End Offsets I-End (in)	End Offsets J-End (in)	Inactive Code	Member Length (ft)
M95	N107	N74		90	10X4	STL								10.55
M96	N106	N72		90	10X4	STL								11.13
M97	N105	N67		90	10X4	STL								3.83
M98	N103	N62		90	10X4	STL								8.23
M99	N102	N60		90	10X4	STL								8.81
M100	N101	N58		90	10X4	STL								9.39
M101	N100	N56		90	10X4	STL								9.97
M102	N99	N54		90	10X4	STL								10.55
M103	N98	N52		90	10X4	STL								11.13
M104	N97	N50		90	10X4	STL								11.72
M105	N96	N95		90	10X4	STL								22
M106	N95	N45		90	10X4	STL								4.23
M107	N40	N12			10X10	STL								5.3
M108	N39	N26			10X10	STL								5.3
M109	N39	N21		90	14X10	STL								6
M110	N90	N172		90	14X10	STL								.46
M111	N40	N7		90	14X10	STL								6
M112	N91	N169		90	14X10	STL								.46
M113	N94	N14			10X10	STL								11
M114	N93	N91		90	14X10	STL								5.5
M115	N36	N91			10X10	STL								4.67
M116	N14	N89			6X6	STL								.89
M117	N28	N88			6X6	STL								.89
M118	N92	N93		90	14X10	STL								11
M119	N43	N12			10X10	STL								11
M120	N42	N40		90	14X10	STL								5.5
M121	N37	N40			10X10	STL								4.67
M122	N41	N42		90	14X10	STL								11
M123	N34	N21			10X10	STL								4.67
M124	N33	N17			10X10	STL								4.67
M125	N32	N18			6X6	STL								.06
M126	N30	N22			6X6	STL								.06
M127	N25	N19		90	14X10	STL								11.58
M128	N24	N140		90	14X10	STL								2.64
M129	N23	N25		90	14X10	STL								11.58
M130	N22	N143		90	14X10	STL								1.858
M131	N21	N23		90	14X10	STL								11.42
M132	N20	N147		90	14X10	STL								1.515
M133	N19	N17		90	14X10	STL								11.42
M134	N18	N86		90	14X10	STL								.04
M135	N17	N90		90	14X10	STL								6
M136	N11	N5		90	14X10	STL								11.58
M137	N10	N153		90	14X10	STL								2.64
M138	N9	N11		90	14X10	STL								11.58

Member Data (continued)

Member Label	I Joint	J Joint	K Joint	X-Axis Rotate (degrees)	Shape / Section Set	Material Set	Phys Memb	T.O.M.	End Releases I-End xyz xyz	End Releases J-End xyz xyz	End Offsets I-End (in)	End Offsets J-End (in)	Inactive Code	Member Length (ft)
M139	N8	N156		90	14X10	STL								1.858
M140	N7	N9		90	14X10	STL								11.42
M141	N6	N160		90	14X10	STL								1.515
M142	N5	N3		90	14X10	STL								11.42
M143	N4	N87		90	14X10	STL								.04
M144	N3	N91		90	14X10	STL								6
M145	N129	N131		90	10X4	STL								3.43
M146	N131	N177		90	10X4	STL								22
M147	N177	N130		90	10X4	STL								4.23
M148	N132	N135		90	10X4	STL								3.83
M149	N135	N134		90	10X4	STL								22
M150	N134	N133		90	10X4	STL								3.83
M151	N70	N68		90	10X4	STL	Y							22
M152	N48	N46		90	10X4	STL	Y							22
M153	N136	N88		90	10X4	STL								7.5
M154	N89	N137		90	10X4	STL								7.5
M155	N88	N89		90	10X4	STL								22
M156	N90	N33			6X6	STL	Y							7.603
M157	N163	N14		90	14X10	STL								3.725
M158	N162	N4		90	14X10	STL								1.778
M159	N161	N162		90	14X10	STL								4.085
M160	N160	N161		90	14X10	STL								4.086
M161	N159	N6		90	14X10	STL								2.57
M162	N158	N159		90	14X10	STL								4.086
M163	N157	N8		90	14X10	STL								2.228
M164	N156	N155		90	14X10	STL								4.085
M165	N155	N154		90	14X10	STL								4.076
M166	N154	N10		90	14X10	STL								1.445
M167	N153	N152		90	14X10	STL								4.086
M168	N152	N151		90	14X10	STL								4.166
M169	N151	N13		90	14X10	STL								.732
M170	N150	N28		90	14X10	STL								3.725
M171	N149	N18		90	14X10	STL								1.778
M172	N148	N149		90	14X10	STL								4.085
M173	N147	N148		90	14X10	STL								4.086
M174	N146	N20		90	14X10	STL								2.57
M175	N145	N146		90	14X10	STL								4.086
M176	N144	N22		90	14X10	STL								2.228
M177	N143	N142		90	14X10	STL								4.085
M178	N142	N141		90	14X10	STL								4.076
M179	N141	N24		90	14X10	STL								1.445
M180	N140	N139		90	14X10	STL								4.086
M181	N139	N138		90	14X10	STL								4.166
M182	N138	N27		90	14X10	STL								.732

Member Data (continued)

Member Label	I Joint	J Joint	K Joint	X-Axis Rotate (degrees)	Shape / Section Set	Material Set	Phys Memb	T.O.M.	End Releases I-End xyz xyz	End Releases J-End xyz xyz	End Offsets I-End (in)	End Offsets J-End (in)	Inactive Code	Member Length (ft)
M183	N87	N163		90	14X10	STL								2.258
M184	N86	N150		90	14X10	STL								2.258
M185	N165	N164		90	14X10	STL								2.54
M186	N164	N39		90	14X10	STL								.3
M187	N168	N167		90	14X10	STL								2.55
M188	N167	N166		90	14X10	STL								2.54
M189	N166	N40		90	14X10	STL								.3
M190	N171	N35		90	14X10	STL								.28
M191	N170	N171		90	14X10	STL								2.55
M192	N169	N170		90	14X10	STL								2.54
M193	N174	N16		90	14X10	STL								.28
M194	N173	N174		90	14X10	STL								2.55
M195	N172	N173		90	14X10	STL								2.54
M196	N95	N165			LINK	RIGID	Y							.99
M197	N46	N164			LINK	RIGID	Y							.99
M198	N131	N168			LINK	RIGID	Y							.99
M199	N96	N167			LINK	RIGID	Y							.99
M200	N48	N166			LINK	RIGID	Y							.99
M201	N70	N169			LINK	RIGID	Y							.99
M202	N121	N170			LINK	RIGID	Y							.99
M203	N135	N171			LINK	RIGID	Y							.99
M204	N68	N172			LINK	RIGID	Y							.99
M205	N105	N173			LINK	RIGID	Y							.99
M206	N134	N174			LINK	RIGID	Y							.99
M207	N103	N144			LINK	RIGID	Y							.92
M208	N102	N143			LINK	RIGID	Y							.92
M209	N101	N142			LINK	RIGID	Y							.92
M210	N100	N141			LINK	RIGID	Y							.92
M211	N99	N140			LINK	RIGID	Y							.92
M212	N98	N139			LINK	RIGID	Y							.92
M213	N97	N138			LINK	RIGID	Y							.92
M214	N175	N145		90	14X10	STL								4.075
M215	N175	N112			LINK	RIGID	Y							.936
M216	N145	N106			LINK	RIGID	Y							.92
M217	N146	N107			LINK	RIGID	Y							.92
M218	N147	N108			LINK	RIGID	Y							.92
M219	N148	N109			LINK	RIGID	Y							.92
M220	N149	N110			LINK	RIGID	Y							.92
M221	N111	N150			LINK	RIGID	Y							.92
M222	N127	N163			LINK	RIGID	Y							.92
M223	N126	N162			LINK	RIGID	Y							.92
M224	N125	N161			LINK	RIGID	Y							.92
M225	N124	N160			LINK	RIGID	Y							.92
M226	N123	N159			LINK	RIGID	Y							.92

Member Data (continued)

Member Label	I Joint	J Joint	K Joint	X-Axis Rotate (degrees)	Shape / Section Set	Material Set	Phys Memb	T.O.M.	End Releases I-End xyz xyz	End Releases J-End xyz xyz	End Offsets I-End (in)	End Offsets J-End (in)	Inactive Code	Member Length (ft)
M227	N122	N158			LINK	RIGID	Y							.92
M228	N113	N151			LINK	RIGID	Y							.92
M229	N114	N152			LINK	RIGID	Y							.92
M230	N176	N158		90	14X10	STL								4.075
M231	N128	N176			LINK	RIGID	Y							.936
M232	N115	N153			LINK	RIGID	Y							.92
M233	N116	N154			LINK	RIGID	Y							.92
M234	N117	N155			LINK	RIGID	Y							.92
M235	N118	N156			LINK	RIGID	Y							.92
M236	N119	N157			LINK	RIGID	Y							.92
M237	N120	N12			LINK	RIGID	Y							.89
M238	N104	N26			LINK	RIGID	Y							.89
M239	N177	N178			LINK	RIGID	Y							.99
M240	N178	N165		90	14X10	STL								2.54

Steel Design / NDS Parameters

Member Label	Section Set	Length (ft)	Lb y-y le2 (ft)	Lb z-z le1 (ft)	L_comp le_bend (ft)	K y-y	K z-z	Cm y-y CH	Cm z-z	Cb B	Sway y	Sway z	R
M1	14X10	.44				1.	1.						0.
M2	10X10	9				1.	1.						0.
M3	10X10	9				1.	1.						0.
M4	6X6	7.83				1.	1.						0.
M5	10X10	5.82				1.	1.						0.
M6	6X6	8.006				1.	1.						0.
M7	6X6	6.82				1.	1.						0.
M8	6X6	12.818				1.	1.						0.
M9	6X6	13.439				1.	1.						0.
M10	10X10	5.82				1.	1.						0.
M11	6X6	8.006				1.	1.						0.
M12	6X6	6.82				1.	1.						0.
M13	6X6	12.818				1.	1.						0.
M14	6X6	13.439				1.	1.						0.
M15	14X10	3.794				1.	1.						0.
M16	14X10	.893				1.	1.						0.
M17	14X10	.45				1.	1.						0.
M18	6X6	7.83				1.	1.						0.
M19	10X10	5.76				1.	1.						0.
M20	6X6	8.006				1.	1.						0.
M21	6X6	6.82				1.	1.						0.
M22	6X6	12.818				1.	1.						0.
M23	6X6	13.439				1.	1.						0.
M24	10X10	5.76				1.	1.						0.
M25	6X6	8.006				1.	1.						0.

Steel Design / NDS Parameters (continued)

Member Label	Section Set	Length (ft)	Lb y-y le2 (ft)	Lb z-z le1 (ft)	L_comp le_bend (ft)	K y-y	K z-z	Cm y-y CH	Cm z-z	Cb B	Sway y	Sway z	R
M26	6X6	6.82				1.	1.						0.
M27	6X6	12.818				1.	1.						0.
M28	6X6	13.439				1.	1.						0.
M29	14X10	3.794				1.	1.						0.
M30	14X10	.893				1.	1.						0.
M31	10X10	9				1.	1.						0.
M32	10X10	9				1.	1.						0.
M33	6X6	7.603				1.	1.						0.
M34	6X6	7.47				1.	1.						0.
M35	6X6	7.47				1.	1.						0.
M36	14X10	5.5				1.	1.						0.
M37	10X10	11				1.	1.						0.
M38	6X6	7.638				1.	1.						0.
M39	6X6	7.638				1.	1.						0.
M40	6X6	7.645				1.	1.						0.
M41	6X6	7.645				1.	1.						0.
M42	10X4	3.43	1	1	1	1.	1.						0.
M43	10X4	7.66	1	1	1	1.	1.						0.
M44	10X4	4.23	1	1	1	1.	1.						0.
M45	10X4	3.43	1	1	1	1.	1.						0.
M46	10X4	11.72	1	1	1	1.	1.						0.
M47	10X4	11.13	1	1	1	1.	1.						0.
M48	10X4	10.55	1	1	1	1.	1.						0.
M49	10X4	9.97	1	1	1	1.	1.						0.
M50	10X4	9.39	1	1	1	1.	1.						0.
M51	10X4	8.81	1	1	1	1.	1.						0.
M52	10X4	8.23	1	1	1	1.	1.						0.
M53	10X4	7.66	1	1	1	1.	1.						0.
M54	10X4	3.83	1	1	1	1.	1.						0.
M55	10X4	3.83	1	1	1	1.	1.						0.
M56	10X4	3.83	1	1	1	1.	1.						0.
M57	10X4	11.13	1	1	1	1.	1.						0.
M58	10X4	10.55	1	1	1	1.	1.						0.
M59	10X4	9.97	1	1	1	1.	1.						0.
M60	10X4	9.39	1	1	1	1.	1.						0.
M61	10X4	8.81	1	1	1	1.	1.						0.
M62	10X4	8.23	1	1	1	1.	1.						0.
M63	10X4	11.71	1	1	1	1.	1.						0.
M64	10X10	22				1.	1.						0.
M65	10X10	22				1.	1.						0.
M66	14X10	5.5				1.	1.						0.
M67	10X10	11				1.	1.						0.
M68	6X6	7.638				1.	1.						0.
M69	6X6	7.638				1.	1.						0.

Steel Design / NDS Parameters (continued)

Member Label	Section Set	Length (ft)	Lb y-y le2 (ft)	Lb z-z le1 (ft)	L_comp le_bend (ft)	K y-y	K z-z	Cm y-y CH	Cm z-z	Cb B	Sway y	Sway z	R
M70	6X6	7.645				1.	1.						0.
M71	6X6	7.645				1.	1.						0.
M72	10X10	5.3				1.	1.						0.
M73	10X10	5.3				1.	1.						0.
M74	10X4	22	1	1	1	1.	1.						0.
M75	10X4	22	1	1	1	1.	1.						0.
M76	10X4	22	1	1	1	1.	1.						0.
M77	10X4	22	1	1	1	1.	1.						0.
M78	10X4	22	1	1	1	1.	1.						0.
M79	10X4	22	1	1	1	1.	1.						0.
M80	10X4	22	1	1	1	1.	1.						0.
M81	10X4	22	1	1	1	1.	1.						0.
M82	10X4	22	1	1	1	1.	1.						0.
M83	10X4	22	1	1	1	1.	1.						0.
M84	10X4	22	1	1	1	1.	1.						0.
M85	10X4	22	1	1	1	1.	1.						0.
M86	10X4	22	1	1	1	1.	1.						0.
M87	10X4	22	1	1	1	1.	1.						0.
M88	10X4	22	1	1	1	1.	1.						0.
M89	10X4	22	1	1	1	1.	1.						0.
M90	10X4	11.71	1	1	1	1.	1.						0.
M91	10X4	8.23	1	1	1	1.	1.						0.
M92	10X4	8.81	1	1	1	1.	1.						0.
M93	10X4	9.39	1	1	1	1.	1.						0.
M94	10X4	9.97	1	1	1	1.	1.						0.
M95	10X4	10.55	1	1	1	1.	1.						0.
M96	10X4	11.13	1	1	1	1.	1.						0.
M97	10X4	3.83	1	1	1	1.	1.						0.
M98	10X4	8.23	1	1	1	1.	1.						0.
M99	10X4	8.81	1	1	1	1.	1.						0.
M100	10X4	9.39	1	1	1	1.	1.						0.
M101	10X4	9.97	1	1	1	1.	1.						0.
M102	10X4	10.55	1	1	1	1.	1.						0.
M103	10X4	11.13	1	1	1	1.	1.						0.
M104	10X4	11.72	1	1	1	1.	1.						0.
M105	10X4	22	1	1	1	1.	1.						0.
M106	10X4	4.23	1	1	1	1.	1.						0.
M107	10X10	5.3				1.	1.						0.
M108	10X10	5.3				1.	1.						0.
M109	14X10	6				1.	1.						0.
M110	14X10	.46				1.	1.						0.
M111	14X10	6				1.	1.						0.
M112	14X10	.46				1.	1.						0.
M113	10X10	11				1.	1.						0.

Steel Design / NDS Parameters (continued)

Member Label	Section Set	Length (ft)	Lb y-y le2 (ft)	Lb z-z le1 (ft)	L_comp le_bend (ft)	K y-y	K z-z	Cm y-y CH	Cm z-z	Cb B	Sway y	Sway z	R
M114	14X10	5.5				1.	1.						0.
M115	10X10	4.67				1.	1.						0.
M116	6X6	.89				1.	1.						0.
M117	6X6	.89				1.	1.						0.
M118	14X10	11				1.	1.						0.
M119	10X10	11				1.	1.						0.
M120	14X10	5.5				1.	1.						0.
M121	10X10	4.67				1.	1.						0.
M122	14X10	11				1.	1.						0.
M123	10X10	4.67				1.	1.						0.
M124	10X10	4.67				1.	1.						0.
M125	6X6	.06				1.	1.						0.
M126	6X6	.06				1.	1.						0.
M127	14X10	11.58				1.	1.						0.
M128	14X10	2.64				1.	1.						0.
M129	14X10	11.58				1.	1.						0.
M130	14X10	1.858				1.	1.						0.
M131	14X10	11.42				1.	1.						0.
M132	14X10	1.515				1.	1.						0.
M133	14X10	11.42				1.	1.						0.
M134	14X10	.04				1.	1.						0.
M135	14X10	6				1.	1.						0.
M136	14X10	11.58				1.	1.						0.
M137	14X10	2.64				1.	1.						0.
M138	14X10	11.58				1.	1.						0.
M139	14X10	1.858				1.	1.						0.
M140	14X10	11.42				1.	1.						0.
M141	14X10	1.515				1.	1.						0.
M142	14X10	11.42				1.	1.						0.
M143	14X10	.04				1.	1.						0.
M144	14X10	6				1.	1.						0.
M145	10X4	3.43	1	1	1	1.	1.						0.
M146	10X4	22	1	1	1	1.	1.						0.
M147	10X4	4.23	1	1	1	1.	1.						0.
M148	10X4	3.83	1	1	1	1.	1.						0.
M149	10X4	22	1	1	1	1.	1.						0.
M150	10X4	3.83	1	1	1	1.	1.						0.
M151	10X4	22	1	1	1	1.	1.						0.
M152	10X4	22	1	1	1	1.	1.						0.
M153	10X4	7.5	1	1	1	1.	1.						0.
M154	10X4	7.5	1	1	1	1.	1.						0.
M155	10X4	22	1	1	1	1.	1.						0.
M156	6X6	7.603				1.	1.						0.
M157	14X10	3.725				1.	1.						0.

Steel Design / NDS Parameters (continued)

Member Label	Section Set	Length (ft)	Lb y-y le2 (ft)	Lb z-z le1 (ft)	L_comp le_bend (ft)	K y-y	K z-z	Cm y-y CH	Cm z-z	Cb B	Sway y	Sway z	R
M158	14X10	1.778				1.	1.						0.
M159	14X10	4.085				1.	1.						0.
M160	14X10	4.086				1.	1.						0.
M161	14X10	2.57				1.	1.						0.
M162	14X10	4.086				1.	1.						0.
M163	14X10	2.228				1.	1.						0.
M164	14X10	4.085				1.	1.						0.
M165	14X10	4.076				1.	1.						0.
M166	14X10	1.445				1.	1.						0.
M167	14X10	4.086				1.	1.						0.
M168	14X10	4.166				1.	1.						0.
M169	14X10	.732				1.	1.						0.
M170	14X10	3.725				1.	1.						0.
M171	14X10	1.778				1.	1.						0.
M172	14X10	4.085				1.	1.						0.
M173	14X10	4.086				1.	1.						0.
M174	14X10	2.57				1.	1.						0.
M175	14X10	4.086				1.	1.						0.
M176	14X10	2.228				1.	1.						0.
M177	14X10	4.085				1.	1.						0.
M178	14X10	4.076				1.	1.						0.
M179	14X10	1.445				1.	1.						0.
M180	14X10	4.086				1.	1.						0.
M181	14X10	4.166				1.	1.						0.
M182	14X10	.732				1.	1.						0.
M183	14X10	2.258				1.	1.						0.
M184	14X10	2.258				1.	1.						0.
M185	14X10	2.54				1.	1.						0.
M186	14X10	.3				1.	1.						0.
M187	14X10	2.55				1.	1.						0.
M188	14X10	2.54				1.	1.						0.
M189	14X10	.3				1.	1.						0.
M190	14X10	.28				1.	1.						0.
M191	14X10	2.55				1.	1.						0.
M192	14X10	2.54				1.	1.						0.
M193	14X10	.28				1.	1.						0.
M194	14X10	2.55				1.	1.						0.
M195	14X10	2.54				1.	1.						0.
M196	LINK	.99				1.	1.						0.
M197	LINK	.99				1.	1.						0.
M198	LINK	.99				1.	1.						0.
M199	LINK	.99				1.	1.						0.
M200	LINK	.99				1.	1.						0.
M201	LINK	.99				1.	1.						0.

Steel Design / NDS Parameters (continued)

Member Label	Section Set	Length (ft)	Lb y-y le2 (ft)	Lb z-z le1 (ft)	L_comp le_bend (ft)	K y-y	K z-z	Cm y-y CH	Cm z-z	Cb B	Sway y	Sway z	R
M202	LINK	.99				1.	1.						0.
M203	LINK	.99				1.	1.						0.
M204	LINK	.99				1.	1.						0.
M205	LINK	.99				1.	1.						0.
M206	LINK	.99				1.	1.						0.
M207	LINK	.92				1.	1.						0.
M208	LINK	.92				1.	1.						0.
M209	LINK	.92				1.	1.						0.
M210	LINK	.92				1.	1.						0.
M211	LINK	.92				1.	1.						0.
M212	LINK	.92				1.	1.						0.
M213	LINK	.92				1.	1.						0.
M214	14X10	4.075				1.	1.						0.
M215	LINK	.936				1.	1.						0.
M216	LINK	.92				1.	1.						0.
M217	LINK	.92				1.	1.						0.
M218	LINK	.92				1.	1.						0.
M219	LINK	.92				1.	1.						0.
M220	LINK	.92				1.	1.						0.
M221	LINK	.92				1.	1.						0.
M222	LINK	.92				1.	1.						0.
M223	LINK	.92				1.	1.						0.
M224	LINK	.92				1.	1.						0.
M225	LINK	.92				1.	1.						0.
M226	LINK	.92				1.	1.						0.
M227	LINK	.92				1.	1.						0.
M228	LINK	.92				1.	1.						0.
M229	LINK	.92				1.	1.						0.
M230	14X10	4.075				1.	1.						0.
M231	LINK	.936				1.	1.						0.
M232	LINK	.92				1.	1.						0.
M233	LINK	.92				1.	1.						0.
M234	LINK	.92				1.	1.						0.
M235	LINK	.92				1.	1.						0.
M236	LINK	.92				1.	1.						0.
M237	LINK	.89				1.	1.						0.
M238	LINK	.89				1.	1.						0.
M239	LINK	.99				1.	1.						0.
M240	14X10	2.54				1.	1.						0.

Basic Load Case Data

BLC No.	Basic Load Case Description	Category Code	Category Description	Gravity X	Gravity Y	Gravity Z	Load Type Totals Joint	Point	Direct Dist.	Area	Surf.
1	DL	DL	Dead Load						67		
2	LL (SNOW)	SL	Snow Load						66		
3	WL+ Y	WL+Y	Wind Load +Y						51		
4	WL- X	WL+X	Wind Load +X						24		
5	WL-UP	WL-Z	Wind Load -Z						66		

Load Combinations

Num	Description	Env	WS	PD	SRSS	CD	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	DL	y				1	DL	1	Z	-1				
2	LL	y				1	LL	1	SL	1				
3	DL+LL	y				1	DL	1	LL	1	SL	1	Z	-1
4						1								
5	DL+WL	y				1	DL	1	WL+Y	1	Z	-1		
6	DL+SL+WLY	y				1	DL	.75			SL	.75	WL+Y	.75
							Z	-1						
7	DL+SL+WLX	y				1	DL	.75			SL	.75	WL+X	-.75
							Z	-1						
8	DL+SL+WLZ UPLIFT	y				1	DL	.75			SL	.75	WL+Z	-.75
							Z	-1						
9						1								
10	DL	y				1	DL	1	Z	-1				
11	SL	y				1	SL	1						
12	WLY	y				1	WL+Y	1						
13	WLX	y				1	WL+X	1						
14	WLUP	y				1	WL-Z	1						
15						1								

Member Direct Distributed Loads, Category : DL, BLC 1 : DL

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M43	Z	-.02	-.02	0	0
M46	Z	-.02	-.02	0	0
M47	Z	-.02	-.02	0	0
M48	Z	-.02	-.02	0	0
M49	Z	-.02	-.02	0	0
M50	Z	-.02	-.02	0	0
M51	Z	-.02	-.02	0	0
M52	Z	-.02	-.02	0	0
M53	Z	-.02	-.02	0	0
M57	Z	-.02	-.02	0	0
M58	Z	-.02	-.02	0	0
M59	Z	-.02	-.02	0	0
M60	Z	-.02	-.02	0	0
M61	Z	-.02	-.02	0	0
M62	Z	-.02	-.02	0	0
M63	Z	-.02	-.02	0	0
M74	Z	-.02	-.02	0	0
M75	Z	-.02	-.02	0	0
M76	Z	-.02	-.02	0	0
M77	Z	-.02	-.02	0	0
M78	Z	-.02	-.02	0	0
M79	Z	-.02	-.02	0	0
M80	Z	-.02	-.02	0	0
M82	Z	-.02	-.02	0	0
M83	Z	-.02	-.02	0	0
M84	Z	-.02	-.02	0	0
M85	Z	-.02	-.02	0	0
M86	Z	-.02	-.02	0	0
M87	Z	-.02	-.02	0	0
M88	Z	-.02	-.02	0	0
M89	Z	-.02	-.02	0	0
M90	Z	-.02	-.02	0	0
M91	Z	-.02	-.02	0	0
M92	Z	-.02	-.02	0	0
M93	Z	-.02	-.02	0	0
M94	Z	-.02	-.02	0	0
M95	Z	-.02	-.02	0	0
M96	Z	-.02	-.02	0	0
M98	Z	-.02	-.02	0	0
M99	Z	-.02	-.02	0	0
M100	Z	-.02	-.02	0	0
M101	Z	-.02	-.02	0	0

Member Direct Distributed Loads, Category : DL, BLC 1 (continued)

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M102	Z	-.02	-.02	0	0
M103	Z	-.02	-.02	0	0
M104	Z	-.02	-.02	0	0
M153	Z	-.02	-.02	0	0
M154	Z	-.02	-.02	0	0
M155	Z	-.02	-.02	0	0
M106	Z	-.025	-.025	0	0
M105	Z	-.025	-.025	0	0
M42	Z	-.025	-.025	0	0
M97	Z	-.025	-.025	0	0
M81	Z	-.025	-.025	0	0
M54	Z	-.025	-.025	0	0
M147	Z	-.012	-.012	0	0
M44	Z	-.012	-.012	0	0
M152	Z	-.012	-.012	0	0
M146	Z	-.012	-.012	0	0
M145	Z	-.012	-.012	0	0
M42	Z	-.012	-.012	0	0
M45	Z	-.012	-.012	0	0
M55	Z	-.012	-.012	0	0
M151	Z	-.012	-.012	0	0
M56	Z	-.012	-.012	0	0
M148	Z	-.012	-.012	0	0
M149	Z	-.012	-.012	0	0
M150	Z	-.012	-.012	0	0

Member Direct Distributed Loads, Category : SL, BLC 2 : LL (SNOW)

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M43	Z	-.41	-.41	0	0
M46	Z	-.41	-.41	0	0
M47	Z	-.41	-.41	0	0
M48	Z	-.41	-.41	0	0
M49	Z	-.41	-.41	0	0
M50	Z	-.41	-.41	0	0
M51	Z	-.41	-.41	0	0
M52	Z	-.41	-.41	0	0
M53	Z	-.41	-.41	0	0
M57	Z	-.41	-.41	0	0
M58	Z	-.41	-.41	0	0
M59	Z	-.41	-.41	0	0
M60	Z	-.41	-.41	0	0
M61	Z	-.41	-.41	0	0
M62	Z	-.41	-.41	0	0

Member Direct Distributed Loads, Category : SL, BLC 2 (continued)

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M63	Z	-.41	-.41	0	0
M74	Z	-.41	-.41	0	0
M75	Z	-.41	-.41	0	0
M76	Z	-.41	-.41	0	0
M77	Z	-.41	-.41	0	0
M78	Z	-.41	-.41	0	0
M79	Z	-.41	-.41	0	0
M80	Z	-.41	-.41	0	0
M82	Z	-.41	-.41	0	0
M83	Z	-.41	-.41	0	0
M84	Z	-.41	-.41	0	0
M85	Z	-.41	-.41	0	0
M86	Z	-.41	-.41	0	0
M87	Z	-.41	-.41	0	0
M88	Z	-.41	-.41	0	0
M89	Z	-.41	-.41	0	0
M90	Z	-.41	-.41	0	0
M91	Z	-.41	-.41	0	0
M92	Z	-.41	-.41	0	0
M93	Z	-.41	-.41	0	0
M94	Z	-.41	-.41	0	0
M95	Z	-.41	-.41	0	0
M96	Z	-.41	-.41	0	0
M98	Z	-.41	-.41	0	0
M99	Z	-.41	-.41	0	0
M100	Z	-.41	-.41	0	0
M101	Z	-.41	-.41	0	0
M102	Z	-.41	-.41	0	0
M103	Z	-.41	-.41	0	0
M104	Z	-.41	-.41	0	0
M153	Z	-.41	-.41	0	0
M154	Z	-.41	-.41	0	0
M155	Z	-.41	-.41	0	0
M106	Z	-.25	-.25	0	0
M105	Z	-.25	-.25	0	0
M42	Z	-.25	-.25	0	0
M97	Z	-.25	-.25	0	0
M81	Z	-.25	-.25	0	0
M54	Z	-.25	-.25	0	0
M147	Z	-.138	-.138	0	0
M146	Z	-.138	-.138	0	0
M145	Z	-.138	-.138	0	0
M44	Z	-.138	-.138	0	0
M152	Z	-.138	-.138	0	0
M45	Z	-.138	-.138	0	0

Member Direct Distributed Loads, Category : SL, BLC 2 (continued)

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M55	Z	-.138	-.138	0	0
M151	Z	-.138	-.138	0	0
M56	Z	-.138	-.138	0	0
M150	Z	-.138	-.138	0	0
M149	Z	-.138	-.138	0	0
M148	Z	-.138	-.138	0	0

Member Direct Distributed Loads, Category : WL+Y, BLC 3 : WL+ Y

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M1	Y	-.04	-.04	0	0
M3	Y	-.04	-.04	0	0
M4	Y	-.04	-.04	0	0
M5	Y	-.04	-.04	0	0
M6	Y	-.04	-.04	0	0
M7	Y	-.04	-.04	0	0
M8	Y	-.04	-.04	0	0
M9	Y	-.04	-.04	0	0
M10	Y	-.04	-.04	0	0
M12	Y	-.04	-.04	0	0
M13	Y	-.04	-.04	0	0
M14	Y	-.04	-.04	0	0
M15	Y	-.04	-.04	0	0
M16	Y	-.04	-.04	0	0
M34	Y	-.04	-.04	0	0
M107	Y	-.04	-.04	0	0
M111	Y	-.04	-.04	0	0
M112	Y	-.04	-.04	0	0
M121	Y	-.04	-.04	0	0
M136	Y	-.04	-.04	0	0
M137	Y	-.04	-.04	0	0
M138	Y	-.04	-.04	0	0
M139	Y	-.04	-.04	0	0
M140	Y	-.04	-.04	0	0
M141	Y	-.04	-.04	0	0
M142	Y	-.04	-.04	0	0
M143	Y	-.04	-.04	0	0
M144	Y	-.04	-.04	0	0
M157	Y	-.04	-.04	0	0
M158	Y	-.04	-.04	0	0
M159	Y	-.04	-.04	0	0
M160	Y	-.04	-.04	0	0
M161	Y	-.04	-.04	0	0
M162	Y	-.04	-.04	0	0

Member Direct Distributed Loads, Category : WL+Y, BLC 3 (continued)

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M163	Y	-.04	-.04	0	0
M164	Y	-.04	-.04	0	0
M165	Y	-.04	-.04	0	0
M166	Y	-.04	-.04	0	0
M167	Y	-.04	-.04	0	0
M168	Y	-.04	-.04	0	0
M169	Y	-.04	-.04	0	0
M183	Y	-.04	-.04	0	0
M187	Y	-.04	-.04	0	0
M188	Y	-.04	-.04	0	0
M189	Y	-.04	-.04	0	0
M190	Y	-.04	-.04	0	0
M191	Y	-.04	-.04	0	0
M192	Y	-.04	-.04	0	0
M230	Y	-.04	-.04	0	0
M11	Y	-.04	-.04	0	0
M35	Y	-.04	-.04	0	0

Member Direct Distributed Loads, Category : WL+X, BLC 4 : WL- X

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M57	L	.04	.04	0	0
M58	L	.04	.04	0	0
M59	L	.04	.04	0	0
M60	L	.04	.04	0	0
M61	L	.04	.04	0	0
M62	L	.04	.04	0	0
M63	L	.04	.04	0	0
M74	L	.04	.04	0	0
M75	L	.04	.04	0	0
M76	L	.04	.04	0	0
M77	L	.04	.04	0	0
M78	L	.04	.04	0	0
M79	L	.04	.04	0	0
M80	L	.04	.04	0	0
M90	L	.04	.04	0	0
M91	L	.04	.04	0	0
M92	L	.04	.04	0	0
M93	L	.04	.04	0	0
M94	L	.04	.04	0	0
M95	L	.04	.04	0	0
M96	L	.04	.04	0	0
M153	L	.04	.04	0	0
M154	L	.04	.04	0	0

Member Direct Distributed Loads, Category : WL+X, BLC 4 (continued)

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M155	L	.04	.04	0	0

Member Direct Distributed Loads, Category : WL-Z, BLC 5 : WL-UP

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M42	Z	.125	.125	0	0
M43	Z	.125	.125	0	0
M44	Z	.125	.125	0	0
M45	Z	.125	.125	0	0
M46	Z	.125	.125	0	0
M47	Z	.125	.125	0	0
M48	Z	.125	.125	0	0
M49	Z	.125	.125	0	0
M50	Z	.125	.125	0	0
M51	Z	.125	.125	0	0
M52	Z	.125	.125	0	0
M53	Z	.125	.125	0	0
M54	Z	.125	.125	0	0
M55	Z	.125	.125	0	0
M56	Z	.125	.125	0	0
M57	Z	.125	.125	0	0
M58	Z	.125	.125	0	0
M59	Z	.125	.125	0	0
M60	Z	.125	.125	0	0
M61	Z	.125	.125	0	0
M62	Z	.125	.125	0	0
M63	Z	.125	.125	0	0
M74	Z	.125	.125	0	0
M75	Z	.125	.125	0	0
M76	Z	.125	.125	0	0
M77	Z	.125	.125	0	0
M78	Z	.125	.125	0	0
M79	Z	.125	.125	0	0
M80	Z	.125	.125	0	0
M81	Z	.125	.125	0	0
M82	Z	.125	.125	0	0
M83	Z	.125	.125	0	0
M84	Z	.125	.125	0	0
M85	Z	.125	.125	0	0
M86	Z	.125	.125	0	0
M87	Z	.125	.125	0	0
M88	Z	.125	.125	0	0
M89	Z	.125	.125	0	0
M90	Z	.125	.125	0	0

Member Direct Distributed Loads, Category : WL-Z, BLC 5 (continued)

Member Label	Direction	Start Magnitude (k/ft, F)	End Magnitude (k/ft, F)	Start Location (ft or %)	End Location (ft or %)
M91	Z	.125	.125	0	0
M92	Z	.125	.125	0	0
M93	Z	.125	.125	0	0
M94	Z	.125	.125	0	0
M95	Z	.125	.125	0	0
M96	Z	.125	.125	0	0
M97	Z	.125	.125	0	0
M98	Z	.125	.125	0	0
M99	Z	.125	.125	0	0
M100	Z	.125	.125	0	0
M101	Z	.125	.125	0	0
M102	Z	.125	.125	0	0
M103	Z	.125	.125	0	0
M104	Z	.125	.125	0	0
M105	Z	.125	.125	0	0
M106	Z	.125	.125	0	0
M145	Z	.125	.125	0	0
M146	Z	.125	.125	0	0
M147	Z	.125	.125	0	0
M148	Z	.125	.125	0	0
M149	Z	.125	.125	0	0
M150	Z	.125	.125	0	0
M151	Z	.125	.125	0	0
M152	Z	.125	.125	0	0
M153	Z	.125	.125	0	0
M154	Z	.125	.125	0	0
M155	Z	.125	.125	0	0

Envelope Joint Displacements

Joint Label		X Translate (in)	Lc	Y Translate (in)	Lc	Z Translate (in)	Lc	X Rotate (radians)	Lc	Y Rotate (radians)	Lc	Z Rotate (radians)	Lc
N1	max	0.000	13	0.000	13	0.000	14	7.876e-3	5	6.351e-3	13	2.24e-4	14
	min	0.000	7	0.000	12	0.000	3	-6.159e-4	13	-5.902e-3	7	-6.718e-4	6
N2	max	0.000	13	0.000	7	0.000	14	8.746e-3	5	6.37e-3	13	6.584e-4	7
	min	0.000	7	0.000	12	0.000	3	-3.126e-4	7	-3.667e-3	7	-4.167e-4	13
N3	max	.663	13	.049	13	.064	14	1.027e-4	14	2.694e-3	3	1.964e-4	14
	min	-.554	7	-.967	5	-.25	3	-4.837e-4	3	-6.974e-4	14	-1.417e-3	6
N4	max	.67	13	.055	13	.067	14	2.324e-4	14	2.717e-3	3	1.172e-4	7
	min	-.462	7	-.96	5	-.262	3	-8.271e-4	3	-6.862e-4	14	-8.621e-4	5
N5	max	.666	13	.074	14	.152	14	3.042e-4	14	1.72e-3	3	2.61e-4	14
	min	-.538	7	-1.171	5	-.591	3	-1.255e-3	6	-4.441e-4	14	-1.674e-3	6
N6	max	.669	13	.029	14	.156	14	8.976e-4	14	1.657e-3	3	1.077e-4	14
	min	-.473	7	-1.094	5	-.606	3	-3.277e-3	3	-4.304e-4	14	-9.939e-4	6
N7	max	.663	13	.037	14	.064	14	9.754e-5	14	6.959e-4	14	1.245e-3	6

Envelope Joint Displacements, (continued)

Joint Label		X Transate (in)	Lc	Y Transate (in)	Lc	Z Transate (in)	Lc	X Rotate (radians)	Lc	Y Rotate (radians)	Lc	Z Rotate (radians)	Lc
	min	-.448	7	-1.041	5	-.25	3	-4.735e-4	3	-2.691e-3	3	-2.886e-4	13
N8	max	.668	13	.025	14	.067	14	2.286e-4	14	6.905e-4	14	6.292e-4	5
	min	-.549	7	-1.035	5	-.262	3	-8.156e-4	3	-2.729e-3	3	-3.239e-4	13
N9	max	.666	13	.074	14	.152	14	3.014e-4	14	4.442e-4	14	1.477e-3	6
	min	-.467	7	-1.21	5	-.592	3	-1.245e-3	6	-1.72e-3	3	-2.658e-4	14
N10	max	.667	13	.029	14	.156	14	8.931e-4	14	4.264e-4	14	7.884e-4	6
	min	-.537	7	-1.133	5	-.606	3	-3.262e-3	3	-1.644e-3	3	-1.789e-4	13
N11	max	.667	13	.096	14	.181	14	3.91e-4	14	2.983e-5	7	9.698e-5	7
	min	-.504	7	-1.285	5	-.702	3	-1.678e-3	6	-3.85e-5	13	-1.429e-4	12
N12	max	.668	13	.032	7	.017	14	8.104e-5	13	6.454e-4	14	4.104e-4	5
	min	-.544	7	-.993	5	-.06	3	-1.673e-4	7	-2.52e-3	3	-3.591e-4	13
N13	max	.668	13	.029	14	.183	14	1.353e-3	14	4.242e-6	14	1.312e-4	7
	min	-.505	7	-1.165	5	-.708	3	-4.946e-3	3	-1.838e-5	13	-1.631e-4	13
N14	max	.67	13	.079	13	.017	14	3.144e-5	14	2.522e-3	3	2.335e-4	7
	min	-.467	7	-.903	5	-.06	3	-1.777e-4	3	-6.459e-4	14	-6.257e-4	12
N15	max	.544	13	.035	14	.06	14	6.716e-4	14	8.688e-4	3	1.826e-4	7
	min	-.397	7	-1.001	5	-.083	3	-1.219e-3	3	-6.984e-4	14	-4.232e-4	13
N16	max	.544	13	.102	13	.061	14	7.262e-4	14	7.222e-4	14	4.671e-4	7
	min	-.421	7	-.895	5	-.109	7	-1.309e-3	3	-1.012e-3	7	-4.238e-4	13
N17	max	.546	13	.047	13	.013	14	1.912e-3	5	6.158e-4	3	5.117e-4	7
	min	-.422	7	-.884	5	-.046	3	-1.474e-4	13	-9.357e-5	14	-3.112e-4	13
N18	max	.56	13	.055	13	.018	14	4.512e-4	12	1.125e-3	3	3.584e-4	7
	min	-.406	7	-.958	5	-.062	3	-2.446e-4	3	-2.217e-4	14	-6.874e-4	12
N19	max	.55	13	.064	2	.07	14	1.804e-3	5	1.499e-3	3	7.071e-4	3
	min	-.429	7	-.953	5	-.282	3	-1.252e-4	14	-3.793e-4	14	-6.938e-4	12
N20	max	.559	13	.023	13	.075	14	1.487e-3	6	1.36e-3	3	4.524e-4	7
	min	-.405	7	-1.076	5	-.299	3	-3.85e-4	14	-3.438e-4	14	-7.72e-4	12
N21	max	.546	13	.019	14	.013	14	2.045e-3	5	1.683e-4	13	1.075e-4	14
	min	-.399	7	-.954	5	-.047	3	-6.373e-5	14	-6.112e-4	3	-3.919e-4	6
N22	max	.558	13	.024	14	.018	14	4.695e-4	12	2.224e-4	14	4.526e-4	12
	min	-.435	7	-1.033	5	-.062	3	-2.652e-4	7	-1.131e-3	3	-3.245e-4	13
N23	max	.55	13	.063	2	.07	14	1.871e-3	5	3.796e-4	14	4.41e-4	12
	min	-.398	7	-.989	5	-.281	3	-1.237e-4	14	-1.5e-3	3	-7.036e-4	3
N24	max	.557	13	.02	7	.075	14	1.482e-3	6	3.406e-4	14	4.921e-4	12
	min	-.435	7	-1.115	5	-.299	3	-3.794e-4	14	-1.349e-3	3	-4.084e-4	3
N25	max	.552	13	.122	3	.094	14	1.759e-3	12	1.522e-6	7	7.757e-5	7
	min	-.415	7	-1.016	12	-.376	3	-1.378e-4	14	-1.919e-6	13	-1.286e-4	5
N26	max	.558	13	.032	7	.016	14	8.524e-5	12	2.609e-4	13	2.727e-4	5
	min	-.43	7	-.992	5	-.03	6	-2.647e-4	7	-5.605e-4	7	-3.836e-4	13
N27	max	.559	13	.034	3	.097	14	2.681e-3	3	1.177e-5	13	1.04e-4	7
	min	-.42	7	-1.146	12	-.387	3	-7.572e-4	14	-2.237e-5	7	-1.458e-4	13
N28	max	.56	13	.079	13	.027	13	8.728e-5	12	4.884e-4	3	3.413e-4	7
	min	-.411	7	-.901	5	-.044	7	-2.36e-4	3	-6.772e-5	12	-4.907e-4	12
N29	max	0.000	13	0.000	14	0.000	14	7.78e-3	5	6.142e-3	13	1.253e-4	14
	min	0.000	7	0.000	5	0.000	3	-1.512e-4	14	-4.506e-3	7	-6.755e-4	6

Envelope Joint Displacements, (continued)

Joint Label		X Transate (in)	Lc	Y Transate (in)	Lc	Z Transate (in)	Lc	X Rotate (radians)	Lc	Y Rotate (radians)	Lc	Z Rotate (radians)	Lc
N30	max	.558	13	.024	14	.018	14	5.168e-4	12	1.981e-4	14	4.222e-4	12
	min	-.434	7	-1.033	5	-.062	3	-2.327e-4	7	-1.026e-3	3	-3.239e-4	13
N31	max	0.000	13	0.000	13	0.000	14	7.197e-3	5	6.112e-3	13	5.416e-4	7
	min	0.000	7	0.000	5	0.000	3	-3.608e-4	13	-4.714e-3	7	-3.297e-4	13
N32	max	.56	13	.055	13	.017	14	4.957e-4	12	1.02e-3	3	3.658e-4	7
	min	-.407	7	-.958	5	-.062	3	-2.015e-4	3	-1.976e-4	14	-6.592e-4	12
N33	max	.514	13	.036	13	.009	14	4.722e-3	5	1.865e-3	13	5.416e-4	7
	min	-.4	7	-.692	5	-.031	3	-2.624e-4	13	-1.525e-3	7	-3.297e-4	13
N34	max	.516	13	.015	14	.009	14	5.095e-3	5	1.849e-3	13	1.253e-4	14
	min	-.376	7	-.748	5	-.031	3	-1.048e-4	14	-1.266e-3	7	-6.755e-4	6
N35	max	.661	13	.102	13	.111	13	1.717e-3	6	1.771e-3	13	1.89e-4	7
	min	-.552	7	-.878	5	-.071	7	-8.39e-4	14	-7.534e-4	7	-4.225e-4	13
N36	max	.568	13	.059	13	.009	14	4.597e-3	5	2.913e-3	13	2.24e-4	14
	min	-.511	7	-.738	5	-.031	3	-3.835e-4	13	-2.226e-3	7	-6.718e-4	6
N37	max	.569	13	.025	7	.009	14	5.019e-3	5	2.904e-3	13	6.584e-4	7
	min	-.345	7	-.815	5	-.031	3	-1.67e-4	14	-2.189e-3	7	-4.167e-4	13
N38	max	.661	13	.056	7	.098	7	1.75e-3	6	1.754e-3	13	4.639e-4	7
	min	-.446	7	-.984	5	-.109	13	-8.318e-4	14	-1.954e-3	7	-4.222e-4	13
N39	max	.544	13	.026	14	.017	14	2.652e-4	12	2.958e-4	13	1.226e-4	14
	min	-.397	7	-.988	5	-.031	6	-2.86e-4	7	-2.61e-4	14	-4.685e-4	6
N40	max	.662	13	.024	14	.013	14	7.135e-4	5	7.536e-4	13	5.172e-4	7
	min	-.447	7	-.986	5	-.047	3	-1.71e-4	14	-1.854e-3	7	-4.011e-4	13
N41	max	.571	13	.026	14	.018	14	1.013e-4	13	3.229e-4	13	9.671e-5	14
	min	-.403	7	-.988	5	-.041	3	-1.786e-4	7	-6.078e-4	7	-4.377e-4	13
N42	max	.632	13	.025	14	.018	14	7.735e-5	13	4.892e-4	13	2.695e-4	7
	min	-.422	7	-.987	5	-.055	3	-4.379e-5	7	-1.445e-3	7	-4.672e-4	13
N43	max	.616	13	.032	7	.018	14	8.763e-5	13	3.45e-4	14	4.807e-4	7
	min	-.484	7	-.991	5	-.049	3	-1.33e-4	7	-1.437e-3	3	-4.501e-4	13
N44	max	.697	13	.03	7	.061	7	1.329e-3	6	1.546e-3	13	4.64e-4	7
	min	-.488	7	-.993	5	-.044	13	-5.87e-4	14	-1.889e-3	7	-4.095e-4	13
N45	max	.527	13	.032	7	.018	7	3.985e-4	14	7.679e-4	3	1.308e-4	7
	min	-.386	7	-.994	5	-.037	13	-7.82e-4	3	-6.247e-4	14	-4.169e-4	13
N46	max	.547	13	.025	14	.018	14	2.4e-4	12	3.003e-4	13	1.301e-4	14
	min	-.398	7	-.991	5	-.033	6	-3.773e-4	3	-3.187e-4	14	-4.494e-4	6
N47	max	.527	13	.025	14	.013	14	2.4e-4	12	3.003e-4	13	1.301e-4	14
	min	-.393	7	-.991	5	-.031	13	-2.593e-4	7	-3.187e-4	14	-4.494e-4	6
N48	max	.672	13	.027	14	.012	14	7.568e-4	6	8.648e-4	13	5.168e-4	7
	min	-.469	7	-.994	5	-.041	3	-2.399e-4	14	-1.846e-3	7	-4.018e-4	13
N49	max	.69	13	.015	14	.573	14	3.223e-3	14	1.253e-4	3	2.059e-4	7
	min	-.535	7	-1.155	5	-2.135	3	-1.177e-2	3	-3.39e-5	14	-1.592e-4	13
N50	max	.537	13	.015	14	.404	14	9.489e-3	3	1.246e-4	3	3.022e-5	7
	min	-.416	7	-1.155	5	-1.494	3	-2.624e-3	14	-3.366e-5	14	-1.609e-4	6
N51	max	.688	13	.017	14	.521	14	2.896e-3	14	9.316e-5	14	5.131e-4	6
	min	-.585	7	-1.153	5	-1.941	3	-1.057e-2	3	-3.597e-4	3	-1.518e-4	13
N52	max	.537	13	.016	14	.356	14	8.311e-3	3	8.205e-5	14	1.419e-4	12

Envelope Joint Displacements, (continued)

Joint Label		X Transate (in)	Lc	Y Transate (in)	Lc	Z Transate (in)	Lc	X Rotate (radians)	Lc	Y Rotate (radians)	Lc	Z Rotate (radians)	Lc
	min	-.461	7	-1.153	5	-1.32	3	-2.301e-3	14	-3.213e-4	3	-4.407e-4	3
N53	max	.688	13	.018	14	.44	14	2.444e-3	14	4.057e-4	14	6.918e-4	6
	min	-.604	7	-1.139	5	-1.645	3	-8.921e-3	3	-1.545e-3	3	-1.665e-4	13
N54	max	.536	13	.018	14	.285	14	6.772e-3	3	3.595e-4	14	3.876e-4	12
	min	-.473	7	-1.138	5	-1.058	3	-1.883e-3	14	-1.386e-3	3	-4.501e-4	3
N55	max	.69	13	.019	14	.352	14	1.965e-3	14	4.273e-4	14	7.988e-4	6
	min	-.604	7	-1.113	5	-1.319	3	-7.171e-3	3	-1.657e-3	3	-1.934e-4	13
N56	max	.534	13	.019	14	.211	14	5.194e-3	3	3.231e-4	14	5.393e-4	12
	min	-.463	7	-1.113	5	-.781	3	-1.454e-3	14	-1.298e-3	3	-3.722e-4	3
N57	max	.694	13	.021	14	.271	14	1.533e-3	14	6.558e-4	14	7.862e-4	6
	min	-.611	7	-1.08	5	-1.019	3	-5.594e-3	3	-2.539e-3	3	-2.345e-4	13
N58	max	.531	13	.021	14	.148	14	3.824e-3	3	4.575e-4	14	6.246e-4	12
	min	-.457	7	-1.08	5	-.542	3	-1.081e-3	14	-1.859e-3	3	-2.855e-4	3
N59	max	.699	13	.022	14	.183	14	1.107e-3	14	7.98e-4	14	7.201e-4	5
	min	-.617	7	-1.047	5	-.688	3	-4.041e-3	3	-3.109e-3	3	-2.915e-4	13
N60	max	.528	13	.022	14	.089	14	2.678e-3	3	4.344e-4	14	5.335e-4	12
	min	-.444	7	-1.048	5	-.313	3	-7.748e-4	14	-1.866e-3	3	-2.937e-4	13
N61	max	.703	13	.027	7	.11	14	7.638e-4	14	7.036e-4	14	6.06e-4	12
	min	-.597	7	-1.017	5	-.412	3	-2.801e-3	3	-2.8e-3	3	-3.392e-4	13
N62	max	.528	13	.026	7	.058	14	1.925e-3	3	2.641e-4	13	5.917e-4	12
	min	-.417	7	-1.018	5	-.183	3	-5.727e-4	14	-5.856e-4	7	-3.355e-4	13
N63	max	.701	13	.034	7	.055	14	5.384e-4	14	6.454e-4	14	4.104e-4	5
	min	-.593	7	-.993	5	-.206	3	-2.027e-3	3	-2.52e-3	3	-3.591e-4	13
N64	max	.525	13	.035	7	.049	14	1.623e-3	3	2.609e-4	13	2.727e-4	5
	min	-.411	7	-.992	5	-.138	3	-4.822e-4	14	-5.605e-4	7	-3.836e-4	13
N65	max	.689	13	.027	14	.027	12	7.053e-4	6	8.648e-4	13	5.168e-4	7
	min	-.49	7	-.994	5	-.028	3	-1.935e-4	14	-1.846e-3	7	-4.018e-4	13
N66	max	.699	13	.088	13	.055	6	1.285e-3	6	1.594e-3	13	1.678e-4	7
	min	-.566	7	-.894	5	-.017	14	-5.788e-4	14	-5.354e-4	7	-4.098e-4	13
N67	max	.529	13	.088	13	.041	13	4.702e-4	14	6.503e-4	14	5.118e-4	7
	min	-.408	7	-.895	5	-.041	7	-9.217e-4	3	-9.252e-4	7	-4.177e-4	13
N68	max	.548	13	.077	13	.03	13	2.092e-4	12	3.538e-4	14	5.445e-4	7
	min	-.427	7	-.899	5	-.049	7	-4.385e-4	3	-5.146e-4	7	-4.047e-4	13
N69	max	.529	13	.077	13	.034	13	2.092e-4	12	3.538e-4	14	5.445e-4	7
	min	-.402	7	-.899	5	-.039	7	-3.474e-4	3	-5.146e-4	7	-4.047e-4	13
N70	max	.673	13	.077	13	.012	14	7.595e-4	6	1.444e-3	3	1.266e-4	14
	min	-.548	7	-.901	5	-.039	3	-2.636e-4	14	-2.36e-4	14	-5.237e-4	6
N71	max	.909	13	.017	14	.521	14	2.898e-3	14	3.909e-4	3	1.408e-3	7
	min	-.619	7	-1.136	5	-1.943	3	-1.058e-2	3	-1.016e-4	14	-2.328e-3	13
N72	max	.757	13	.016	14	.357	14	8.323e-3	3	3.467e-4	3	2.015e-3	13
	min	-.51	7	-1.136	5	-1.322	3	-2.305e-3	14	-8.867e-5	14	-1.168e-3	7
N73	max	.867	13	.018	14	.439	14	2.445e-3	14	1.565e-3	3	1.17e-3	7
	min	-.569	7	-1.108	5	-1.643	3	-8.922e-3	3	-4.113e-4	14	-2.016e-3	13
N74	max	.715	13	.018	14	.285	14	6.778e-3	3	1.406e-3	3	1.678e-3	13
	min	-.466	7	-1.107	5	-1.058	3	-1.885e-3	14	-3.65e-4	14	-9.086e-4	7

Envelope Joint Displacements, (continued)

Joint Label		X Transate (in)	Lc	Y Transate (in)	Lc	Z Transate (in)	Lc	X Rotate (radians)	Lc	Y Rotate (radians)	Lc	Z Rotate (radians)	Lc
N75	max	.833	13	.027	13	.351	14	1.966e-3	14	1.679e-3	3	1.042e-3	7
	min	-.546	7	-1.068	5	-1.318	3	-7.174e-3	3	-4.337e-4	14	-1.752e-3	13
N76	max	.677	13	.027	13	.211	14	5.201e-3	3	1.312e-3	3	1.361e-3	13
	min	-.446	7	-1.068	5	-.781	3	-1.456e-3	14	-3.266e-4	14	-8.183e-4	12
N77	max	.807	13	.037	13	.27	14	1.532e-3	14	2.562e-3	3	9.407e-4	7
	min	-.522	7	-1.022	5	-1.015	3	-5.591e-3	3	-6.62e-4	14	-1.534e-3	13
N78	max	.644	13	.037	13	.148	14	3.831e-3	3	1.873e-3	3	1.061e-3	13
	min	-.426	7	-1.022	5	-.541	3	-1.084e-3	14	-4.611e-4	14	-8.909e-4	12
N79	max	.787	13	.049	13	.182	14	1.106e-3	14	3.088e-3	3	8.559e-4	7
	min	-.506	7	-.977	5	-.684	3	-4.037e-3	3	-7.917e-4	14	-1.361e-3	13
N80	max	.616	13	.049	13	.089	14	2.687e-3	3	1.839e-3	3	7.748e-4	13
	min	-.415	7	-.978	5	-.312	3	-7.777e-4	14	-4.274e-4	14	-7.776e-4	12
N81	max	.77	13	.065	13	.109	14	7.656e-4	14	2.794e-3	3	9.194e-4	7
	min	-.516	7	-.936	5	-.41	3	-2.806e-3	3	-7.003e-4	14	-1.209e-3	13
N82	max	.596	13	.065	13	.058	14	1.934e-3	3	5.034e-4	3	5.338e-4	13
	min	-.426	7	-.937	5	-.183	3	-5.752e-4	14	-9.42e-5	12	-8.14e-4	12
N83	max	.691	13	.077	13	.028	12	6.878e-4	6	1.444e-3	3	1.266e-4	14
	min	-.552	7	-.901	5	-.023	3	-1.99e-4	14	-2.36e-4	14	-5.237e-4	6
N84	max	.959	13	.015	14	.573	14	3.221e-3	14	4.611e-5	14	1.928e-3	7
	min	-.709	7	-1.152	5	-2.134	3	-1.176e-2	3	-1.699e-4	3	-2.687e-3	13
N85	max	.806	13	.015	14	.404	14	9.479e-3	3	4.774e-5	14	2.376e-3	13
	min	-.592	7	-1.152	5	-1.493	3	-2.621e-3	14	-1.753e-4	3	-1.691e-3	7
N86	max	.56	13	.055	13	.017	14	4.458e-4	12	1.108e-3	3	3.563e-4	7
	min	-.406	7	-.958	5	-.062	3	-2.523e-4	3	-2.164e-4	14	-6.875e-4	12
N87	max	.67	13	.055	13	.067	14	2.309e-4	14	2.717e-3	3	1.211e-4	7
	min	-.462	7	-.959	5	-.261	3	-8.207e-4	3	-6.857e-4	14	-8.564e-4	5
N88	max	.564	13	.08	13	.027	13	1.466e-4	14	5.397e-4	3	3.798e-4	7
	min	-.41	7	-.902	5	-.044	7	-6.677e-4	3	-7.784e-5	14	-4.943e-4	13
N89	max	.672	13	.08	13	.017	14	3.22e-4	3	2.47e-3	3	1.393e-4	7
	min	-.448	7	-.902	5	-.061	3	-1.07e-4	14	-6.312e-4	14	-5.381e-4	5
N90	max	.544	13	.073	13	.028	13	2.482e-4	12	3.284e-4	13	5.333e-4	7
	min	-.421	7	-.897	5	-.046	7	-2.822e-4	3	-3.873e-4	7	-4.013e-4	13
N91	max	.662	13	.073	13	.013	14	6.733e-4	5	1.626e-3	3	1.217e-4	14
	min	-.553	7	-.896	5	-.047	3	-1.635e-4	14	-3.034e-4	14	-5.74e-4	6
N92	max	.571	13	.073	13	.021	13	1.501e-6	12	4.722e-4	3	5.839e-4	7
	min	-.458	7	-.898	5	-.048	7	-1.258e-4	3	1.752e-5	14	-4.395e-4	13
N93	max	.632	13	.073	13	.018	14	7.411e-5	7	1.372e-3	3	4.439e-4	7
	min	-.533	7	-.897	5	-.054	3	-8.607e-5	13	-2.628e-4	14	-4.65e-4	13
N94	max	.619	13	.079	13	.018	14	4.752e-5	5	1.438e-3	3	2.144e-4	7
	min	-.447	7	-.901	5	-.05	7	-9.658e-5	13	-3.462e-4	14	-4.502e-4	13
N95	max	.548	13	.032	7	.035	14	4.855e-4	14	7.679e-4	3	1.308e-4	7
	min	-.393	7	-.994	5	-.052	3	-9.914e-4	3	-6.247e-4	14	-4.169e-4	13
N96	max	.68	13	.03	7	.027	7	1.419e-3	6	1.546e-3	13	4.64e-4	7
	min	-.469	7	-.993	5	-.045	13	-6.334e-4	14	-1.889e-3	7	-4.095e-4	13
N97	max	.559	13	.015	14	.098	14	2.739e-3	3	1.246e-4	3	3.022e-5	7

Envelope Joint Displacements, (continued)

Joint Label		X Transate (in)	Lc	Y Transate (in)	Lc	Z Transate (in)	Lc	X Rotate (radians)	Lc	Y Rotate (radians)	Lc	Z Rotate (radians)	Lc
	min	-.42	7	-1.155	5	-.39	3	-7.725e-4	14	-3.366e-5	14	-1.609e-4	6
N98	max	.558	13	.016	14	.1	14	2.53e-3	3	8.205e-5	14	1.419e-4	12
	min	-.432	7	-1.153	5	-.397	3	-7.16e-4	14	-3.213e-4	3	-4.407e-4	3
N99	max	.558	13	.018	14	.088	14	1.852e-3	6	3.595e-4	14	3.876e-4	12
	min	-.445	7	-1.138	5	-.35	3	-5.324e-4	14	-1.386e-3	3	-4.501e-4	3
N100	max	.557	13	.019	14	.07	14	1.236e-3	6	3.231e-4	14	5.393e-4	12
	min	-.447	7	-1.113	5	-.279	3	-3.141e-4	14	-1.298e-3	3	-3.722e-4	3
N101	max	.558	13	.021	14	.052	14	6.09e-4	6	4.575e-4	14	6.246e-4	12
	min	-.452	7	-1.08	5	-.205	3	-1.293e-4	14	-1.859e-3	3	-2.855e-4	3
N102	max	.559	13	.022	14	.027	14	4.082e-4	12	4.344e-4	14	5.335e-4	12
	min	-.452	7	-1.048	5	-.102	3	-2.018e-4	7	-1.866e-3	3	-2.937e-4	13
N103	max	.561	13	.026	7	.016	14	2.805e-4	12	2.641e-4	13	5.917e-4	12
	min	-.439	7	-1.018	5	-.047	3	-4.125e-4	3	-5.856e-4	7	-3.355e-4	13
N104	max	.561	13	.035	7	.016	14	8.524e-5	12	2.609e-4	13	2.727e-4	5
	min	-.436	7	-.992	5	-.03	6	-2.647e-4	7	-5.605e-4	7	-3.836e-4	13
N105	max	.548	13	.088	13	.041	13	5.348e-4	14	6.503e-4	14	5.118e-4	7
	min	-.432	7	-.895	5	-.074	7	-1.077e-3	3	-9.252e-4	7	-4.177e-4	13
N106	max	.559	13	.016	14	.1	14	2.541e-3	3	3.467e-4	3	4.503e-4	7
	min	-.407	7	-1.136	5	-.397	3	-7.193e-4	14	-8.867e-5	14	-4.287e-4	12
N107	max	.559	13	.018	14	.088	14	1.855e-3	3	1.406e-3	3	4.698e-4	7
	min	-.394	7	-1.107	5	-.35	3	-5.345e-4	14	-3.65e-4	14	-6.718e-4	12
N108	max	.559	13	.027	13	.07	14	1.231e-3	6	1.312e-3	3	4.329e-4	7
	min	-.393	7	-1.068	5	-.278	3	-3.167e-4	14	-3.266e-4	14	-8.183e-4	12
N109	max	.56	13	.037	13	.051	14	6.055e-4	6	1.873e-3	3	4.023e-4	7
	min	-.389	7	-1.022	5	-.202	3	-1.319e-4	14	-4.611e-4	14	-8.909e-4	12
N110	max	.562	13	.049	13	.026	14	3.955e-4	12	1.839e-3	3	3.844e-4	7
	min	-.392	7	-.978	5	-.1	3	-1.807e-4	3	-4.274e-4	14	-7.776e-4	12
N111	max	.564	13	.065	13	.016	14	2.667e-4	12	5.034e-4	3	3.034e-4	7
	min	-.407	7	-.937	5	-.046	3	-4.035e-4	3	-9.42e-5	12	-8.14e-4	12
N112	max	.559	13	.015	14	.098	14	2.745e-3	3	4.774e-5	14	1.939e-4	7
	min	-.42	7	-1.152	5	-.391	3	-7.744e-4	14	-1.753e-4	3	-1.863e-4	12
N113	max	.668	13	.015	14	.183	14	1.372e-3	14	1.253e-4	3	2.059e-4	7
	min	-.506	7	-1.155	5	-.711	3	-5.016e-3	3	-3.39e-5	14	-1.592e-4	13
N114	max	.667	13	.017	14	.185	14	1.311e-3	14	9.316e-5	14	5.131e-4	6
	min	-.524	7	-1.153	5	-.716	3	-4.79e-3	3	-3.597e-4	3	-1.518e-4	13
N115	max	.667	13	.018	14	.172	14	1.094e-3	14	4.057e-4	14	6.918e-4	6
	min	-.544	7	-1.139	5	-.665	3	-3.997e-3	3	-1.545e-3	3	-1.665e-4	13
N116	max	.667	13	.019	14	.149	14	8.258e-4	14	4.273e-4	14	7.988e-4	6
	min	-.553	7	-1.113	5	-.581	3	-3.016e-3	3	-1.657e-3	3	-1.934e-4	13
N117	max	.667	13	.021	14	.124	14	5.807e-4	14	6.558e-4	14	7.862e-4	6
	min	-.567	7	-1.08	5	-.482	3	-2.122e-3	3	-2.539e-3	3	-2.345e-4	13
N118	max	.668	13	.022	14	.086	14	3.209e-4	14	7.98e-4	14	7.201e-4	5
	min	-.575	7	-1.047	5	-.333	3	-1.174e-3	3	-3.109e-3	3	-2.915e-4	13
N119	max	.669	13	.027	7	.049	14	1.228e-4	14	7.036e-4	14	6.06e-4	12
	min	-.572	7	-1.017	5	-.189	3	-4.635e-4	3	-2.8e-3	3	-3.392e-4	13

Envelope Joint Displacements, (continued)

Joint Label		X Transate (in)	Lc	Y Transate (in)	Lc	Z Transate (in)	Lc	X Rotate (radians)	Lc	Y Rotate (radians)	Lc	Z Rotate (radians)	Lc
N120	max	.668	13	.034	7	.017	14	8.104e-5	13	6.454e-4	14	4.104e-4	5
	min	-.565	7	-.993	5	-.06	3	-1.673e-4	7	-2.52e-3	3	-3.591e-4	13
N121	max	.68	13	.088	13	.049	13	1.405e-3	6	1.594e-3	13	1.678e-4	7
	min	-.559	7	-.894	5	-.044	7	-6.434e-4	14	-5.354e-4	7	-4.098e-4	13
N122	max	.668	13	.017	14	.185	14	1.313e-3	14	3.909e-4	3	1.21e-4	14
	min	-.484	7	-1.136	5	-.716	3	-4.799e-3	3	-1.016e-4	14	-7.27e-4	6
N123	max	.669	13	.018	14	.171	14	1.094e-3	14	1.565e-3	3	1.218e-4	14
	min	-.464	7	-1.108	5	-.664	3	-3.998e-3	3	-4.113e-4	14	-9.028e-4	6
N124	max	.669	13	.027	13	.149	14	8.266e-4	14	1.679e-3	3	9.65e-5	14
	min	-.455	7	-1.068	5	-.579	3	-3.018e-3	3	-4.337e-4	14	-1.006e-3	5
N125	max	.67	13	.037	13	.123	14	5.803e-4	14	2.562e-3	3	7.407e-5	14
	min	-.443	7	-1.022	5	-.479	3	-2.12e-3	3	-6.62e-4	14	-1.047e-3	5
N126	max	.671	13	.049	13	.085	14	3.201e-4	14	3.088e-3	3	6.086e-5	14
	min	-.436	7	-.977	5	-.329	3	-1.169e-3	3	-7.917e-4	14	-9.595e-4	5
N127	max	.672	13	.065	13	.049	14	1.247e-4	14	2.794e-3	3	2.65e-4	7
	min	-.441	7	-.936	5	-.187	3	-4.682e-4	3	-7.003e-4	14	-8.299e-4	12
N128	max	.668	13	.015	14	.184	14	1.374e-3	14	4.611e-5	14	4.348e-5	7
	min	-.503	7	-1.152	5	-.712	3	-5.025e-3	3	-1.699e-4	3	-2.532e-4	6
N129	max	.699	13	.04	7	.133	7	1.687e-3	6	1.763e-3	13	4.516e-4	7
	min	-.488	7	-.997	5	-.1	13	-7.982e-4	14	-1.957e-3	7	-4.205e-4	13
N130	max	.526	13	.039	7	.026	14	5.846e-4	14	8.69e-4	3	1.826e-4	7
	min	-.383	7	-.997	5	-.044	13	-1.096e-3	3	-6.986e-4	14	-4.232e-4	13
N131	max	.682	13	.04	7	.087	7	1.738e-3	6	1.763e-3	13	4.516e-4	7
	min	-.469	7	-.997	5	-.099	13	-8.446e-4	14	-1.957e-3	7	-4.205e-4	13
N132	max	.701	13	.1	13	.104	13	1.639e-3	6	1.779e-3	13	1.955e-4	7
	min	-.57	7	-.891	5	-.026	14	-7.827e-4	14	-7.62e-4	7	-4.213e-4	13
N133	max	.529	13	.1	13	.05	13	6.616e-4	14	7.222e-4	14	4.671e-4	7
	min	-.411	7	-.891	5	-.059	7	-1.218e-3	3	-1.012e-3	7	-4.238e-4	13
N134	max	.548	13	.1	13	.058	14	7.262e-4	14	7.222e-4	14	4.671e-4	7
	min	-.433	7	-.891	5	-.105	7	-1.309e-3	3	-1.012e-3	7	-4.238e-4	13
N135	max	.682	13	.1	13	.104	13	1.711e-3	6	1.779e-3	13	1.955e-4	7
	min	-.561	7	-.891	5	-.068	7	-8.473e-4	14	-7.62e-4	7	-4.213e-4	13
N136	max	.564	13	.08	13	.036	14	1.101e-3	3	5.397e-4	3	1.66e-4	13
	min	-.409	7	-.902	5	-.098	7	-3.385e-4	14	-7.784e-5	14	-4.162e-4	5
N137	max	.74	13	.08	13	.041	14	3.781e-4	14	2.47e-3	3	6.346e-4	7
	min	-.494	7	-.902	5	-.154	3	-1.447e-3	3	-6.312e-4	14	-9.226e-4	13
N138	max	.558	13	.035	3	.098	14	2.739e-3	3	1.246e-4	3	3.022e-5	7
	min	-.421	7	-1.147	12	-.39	3	-7.725e-4	14	-3.366e-5	14	-1.609e-4	6
N139	max	.558	13	.03	2	.1	14	2.53e-3	3	8.205e-5	14	1.419e-4	12
	min	-.429	7	-1.145	5	-.397	3	-7.16e-4	14	-3.213e-4	3	-4.407e-4	3
N140	max	.558	13	.023	7	.088	14	1.852e-3	6	3.595e-4	14	3.876e-4	12
	min	-.434	7	-1.13	5	-.35	3	-5.324e-4	14	-1.386e-3	3	-4.501e-4	3
N141	max	.558	13	.018	7	.07	14	1.236e-3	6	3.231e-4	14	5.393e-4	12
	min	-.436	7	-1.106	5	-.279	3	-3.141e-4	14	-1.298e-3	3	-3.722e-4	3
N142	max	.558	13	.019	14	.052	14	6.09e-4	6	4.575e-4	14	6.246e-4	12

Envelope Joint Displacements, (continued)

Joint Label		X Transate (in)	Lc	Y Transate (in)	Lc	Z Transate (in)	Lc	X Rotate (radians)	Lc	Y Rotate (radians)	Lc	Z Rotate (radians)	Lc
	min	-.436	7	-1.075	5	-.205	3	-1.293e-4	14	-1.859e-3	3	-2.855e-4	3
N143	max	.558	13	.023	14	.027	14	4.082e-4	12	4.344e-4	14	5.335e-4	12
	min	-.435	7	-1.044	5	-.102	3	-2.018e-4	7	-1.866e-3	3	-2.937e-4	13
N144	max	.558	13	.024	14	.016	14	2.805e-4	12	2.641e-4	13	5.917e-4	12
	min	-.433	7	-1.016	5	-.047	3	-4.125e-4	3	-5.856e-4	7	-3.355e-4	13
N145	max	.559	13	.03	2	.1	14	2.541e-3	3	3.467e-4	3	4.503e-4	7
	min	-.41	7	-1.128	5	-.397	3	-7.193e-4	14	-8.867e-5	14	-4.287e-4	12
N146	max	.559	13	.018	2	.088	14	1.855e-3	3	1.406e-3	3	4.698e-4	7
	min	-.406	7	-1.099	5	-.35	3	-5.345e-4	14	-3.65e-4	14	-6.718e-4	12
N147	max	.559	13	.026	13	.07	14	1.231e-3	6	1.312e-3	3	4.329e-4	7
	min	-.404	7	-1.061	5	-.278	3	-3.167e-4	14	-3.266e-4	14	-8.183e-4	12
N148	max	.56	13	.036	13	.051	14	6.055e-4	6	1.873e-3	3	4.023e-4	7
	min	-.405	7	-1.017	5	-.202	3	-1.319e-4	14	-4.611e-4	14	-8.909e-4	12
N149	max	.56	13	.049	13	.026	14	3.955e-4	12	1.839e-3	3	3.844e-4	7
	min	-.406	7	-.974	5	-.1	3	-1.807e-4	3	-4.274e-4	14	-7.776e-4	12
N150	max	.56	13	.064	13	.016	14	2.667e-4	12	5.034e-4	3	3.034e-4	7
	min	-.408	7	-.935	5	-.046	3	-4.035e-4	3	-9.42e-5	12	-8.14e-4	12
N151	max	.668	13	.03	14	.183	14	1.372e-3	14	1.253e-4	3	2.059e-4	7
	min	-.507	7	-1.167	5	-.711	3	-5.016e-3	3	-3.39e-5	14	-1.592e-4	13
N152	max	.668	13	.031	14	.185	14	1.311e-3	14	9.316e-5	14	5.131e-4	6
	min	-.521	7	-1.164	5	-.716	3	-4.79e-3	3	-3.597e-4	3	-1.518e-4	13
N153	max	.668	13	.03	14	.172	14	1.094e-3	14	4.057e-4	14	6.918e-4	6
	min	-.532	7	-1.149	5	-.665	3	-3.997e-3	3	-1.545e-3	3	-1.665e-4	13
N154	max	.668	13	.028	14	.149	14	8.258e-4	14	4.273e-4	14	7.988e-4	6
	min	-.539	7	-1.122	5	-.581	3	-3.016e-3	3	-1.657e-3	3	-1.934e-4	13
N155	max	.668	13	.027	14	.124	14	5.807e-4	14	6.558e-4	14	7.862e-4	6
	min	-.545	7	-1.086	5	-.482	3	-2.122e-3	3	-2.539e-3	3	-2.345e-4	13
N156	max	.668	13	.026	14	.086	14	3.209e-4	14	7.98e-4	14	7.201e-4	5
	min	-.548	7	-1.05	5	-.333	3	-1.174e-3	3	-3.109e-3	3	-2.915e-4	13
N157	max	.668	13	.025	14	.049	14	1.228e-4	14	7.036e-4	14	6.06e-4	12
	min	-.547	7	-1.018	5	-.189	3	-4.635e-4	3	-2.8e-3	3	-3.392e-4	13
N158	max	.669	13	.031	14	.185	14	1.313e-3	14	3.909e-4	3	1.21e-4	14
	min	-.488	7	-1.148	5	-.716	3	-4.799e-3	3	-1.016e-4	14	-7.27e-4	6
N159	max	.669	13	.03	14	.171	14	1.094e-3	14	1.565e-3	3	1.218e-4	14
	min	-.477	7	-1.118	5	-.664	3	-3.998e-3	3	-4.113e-4	14	-9.028e-4	6
N160	max	.669	13	.029	14	.149	14	8.266e-4	14	1.679e-3	3	9.65e-5	14
	min	-.47	7	-1.077	5	-.579	3	-3.018e-3	3	-4.337e-4	14	-1.006e-3	5
N161	max	.67	13	.036	13	.123	14	5.803e-4	14	2.562e-3	3	7.407e-5	14
	min	-.465	7	-1.028	5	-.479	3	-2.12e-3	3	-6.62e-4	14	-1.047e-3	5
N162	max	.67	13	.049	13	.085	14	3.201e-4	14	3.088e-3	3	6.086e-5	14
	min	-.462	7	-.979	5	-.329	3	-1.169e-3	3	-7.917e-4	14	-9.595e-4	5
N163	max	.67	13	.064	13	.049	14	1.247e-4	14	2.794e-3	3	2.65e-4	7
	min	-.464	7	-.937	5	-.187	3	-4.682e-4	3	-7.003e-4	14	-8.299e-4	12
N164	max	.544	13	.027	14	.018	14	2.4e-4	12	3.003e-4	13	1.301e-4	14
	min	-.397	7	-.989	5	-.033	6	-3.773e-4	3	-3.187e-4	14	-4.494e-4	6

Envelope Joint Displacements, (continued)

Joint Label		X Transate (in)	Lc	Y Transate (in)	Lc	Z Transate (in)	Lc	X Rotate (radians)	Lc	Y Rotate (radians)	Lc	Z Rotate (radians)	Lc
N165	max	.544	13	.031	14	.035	14	4.855e-4	14	7.679e-4	3	1.308e-4	7
	min	-.397	7	-.996	5	-.052	3	-9.914e-4	3	-6.247e-4	14	-4.169e-4	13
N166	max	.662	13	.025	7	.012	14	7.568e-4	6	8.648e-4	13	5.168e-4	7
	min	-.447	7	-.985	5	-.041	3	-2.399e-4	14	-1.846e-3	7	-4.018e-4	13
N167	max	.661	13	.041	7	.027	7	1.419e-3	6	1.546e-3	13	4.64e-4	7
	min	-.447	7	-.983	5	-.045	13	-6.334e-4	14	-1.889e-3	7	-4.095e-4	13
N168	max	.661	13	.054	7	.087	7	1.738e-3	6	1.763e-3	13	4.516e-4	7
	min	-.446	7	-.984	5	-.099	13	-8.446e-4	14	-1.957e-3	7	-4.205e-4	13
N169	max	.662	13	.075	13	.012	14	7.595e-4	6	1.444e-3	3	1.266e-4	14
	min	-.553	7	-.893	5	-.039	3	-2.636e-4	14	-2.36e-4	14	-5.237e-4	6
N170	max	.661	13	.088	13	.049	13	1.405e-3	6	1.594e-3	13	1.678e-4	7
	min	-.552	7	-.884	5	-.044	7	-6.434e-4	14	-5.354e-4	7	-4.098e-4	13
N171	max	.661	13	.1	13	.104	13	1.711e-3	6	1.779e-3	13	1.955e-4	7
	min	-.552	7	-.878	5	-.068	7	-8.473e-4	14	-7.62e-4	7	-4.213e-4	13
N172	max	.544	13	.075	13	.03	13	2.092e-4	12	3.538e-4	14	5.445e-4	7
	min	-.421	7	-.898	5	-.049	7	-4.385e-4	3	-5.146e-4	7	-4.047e-4	13
N173	max	.544	13	.088	13	.041	13	5.348e-4	14	6.503e-4	14	5.118e-4	7
	min	-.421	7	-.897	5	-.074	7	-1.077e-3	3	-9.252e-4	7	-4.177e-4	13
N174	max	.544	13	.101	13	.058	14	7.262e-4	14	7.222e-4	14	4.671e-4	7
	min	-.421	7	-.895	5	-.105	7	-1.309e-3	3	-1.012e-3	7	-4.238e-4	13
N175	max	.559	13	.036	3	.098	14	2.745e-3	3	4.774e-5	14	1.939e-4	7
	min	-.418	7	-1.144	12	-.391	3	-7.744e-4	14	-1.753e-4	3	-1.863e-4	12
N176	max	.668	13	.03	14	.184	14	1.374e-3	14	4.611e-5	14	4.348e-5	7
	min	-.501	7	-1.164	5	-.712	3	-5.025e-3	3	-1.699e-4	3	-2.532e-4	6
N177	max	.548	13	.039	7	.056	14	6.716e-4	14	8.688e-4	3	1.826e-4	7
	min	-.392	7	-.997	5	-.079	3	-1.219e-3	3	-6.984e-4	14	-4.232e-4	13
N178	max	.544	13	.035	14	.056	14	6.716e-4	14	8.688e-4	3	1.826e-4	7
	min	-.397	7	-1.001	5	-.079	3	-1.219e-3	3	-6.984e-4	14	-4.232e-4	13

Envelope Reactions

Joint Label		X Force (k)	Lc	Y Force (k)	Lc	Z Force (k)	Lc	X Moment (k-ft)	Lc	Y Moment (k-ft)	Lc	Z Moment (k-ft)	Lc
N29	max	2.774	7	2.299	5	92.02	3	0.000	1	0.000	1	0.000	1
	min	-3.676	13	-.04	14	-26.417	14	0.000	1	0.000	1	0.000	1
N31	max	2.73	7	2.119	5	91.842	3	0.000	1	0.000	1	0.000	1
	min	-3.636	13	-.084	13	-26.252	14	0.000	1	0.000	1	0.000	1
N1	max	3.147	7	2.833	12	91.849	3	0.000	1	0.000	1	0.000	1
	min	-2.943	13	-.199	13	-26.263	14	0.000	1	0.000	1	0.000	1
N2	max	1.266	7	3.338	12	91.353	3	0.000	1	0.000	1	0.000	1
	min	-2.967	13	-.207	7	-26.001	14	0.000	1	0.000	1	0.000	1
Reaction Totals :	max	9.917	7	10.537	12	367.064	3						

Envelope Reactions, (continued)

Joint Label		X Force (k)	Lc	Y Force (k)	Lc	Z Force (k)	Lc	X Moment (k-ft)	Lc	Y Moment (k-ft)	Lc	Z Moment (k-ft)	Lc
	min	-13.223	13	0	7	-104.932	14						

Envelope Member Section Forces

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
M1	1	max	5.424	13	5.697	13	.394	3	1.809	3	.842	14	2.881	13
		min	-4.241	7	-3.884	7	-.222	14	-3.151	12	-1.555	3	-1.363	7
	2	max	5.424	13	5.697	13	.394	3	1.809	3	.818	14	2.254	13
		min	-4.241	7	-3.879	7	-.222	14	-3.151	12	-1.512	3	-.936	7
	3	max	5.424	13	5.697	13	.394	3	1.809	3	.793	14	1.627	13
		min	-4.241	7	-3.874	7	-.222	14	-3.151	12	-1.469	3	-.509	7
	4	max	5.424	13	5.697	13	.394	3	1.809	3	.769	12	1	13
		min	-4.241	7	-3.869	7	-.222	14	-3.151	12	-1.426	3	-.392	14
	5	max	5.424	13	5.697	13	.394	3	1.809	3	.77	12	.776	3
		min	-4.241	7	-3.864	7	-.222	14	-3.151	12	-1.382	3	-.476	14
M2	1	max	91.849	3	2.833	12	2.943	13	0	1	0	1	0	1
		min	-26.263	14	-.199	13	-3.147	7	0	1	0	1	0	1
	2	max	91.764	3	2.833	12	2.943	13	0	1	6.623	13	.448	13
		min	-26.263	14	-.199	13	-3.147	7	0	1	-7.082	7	-6.374	12
	3	max	91.679	3	2.833	12	2.943	13	0	1	13.245	13	.895	13
		min	-26.263	14	-.199	13	-3.147	7	0	1	-14.164	7	-12.747	12
	4	max	91.594	3	2.833	12	2.943	13	0	1	19.868	13	1.343	13
		min	-26.263	14	-.199	13	-3.147	7	0	1	-21.245	7	-19.121	12
	5	max	91.509	3	2.833	12	2.943	13	0	1	26.49	13	1.791	13
		min	-26.263	14	-.199	13	-3.147	7	0	1	-28.327	7	-25.494	12
M3	1	max	91.353	3	3.338	12	2.967	13	0	1	0	1	0	1
		min	-26.001	14	-.207	7	-1.266	7	0	1	0	1	0	1
	2	max	91.268	3	3.248	12	2.967	13	0	1	6.677	13	.465	7
		min	-26.001	14	-.207	7	-1.266	7	0	1	-2.848	7	-7.41	12
	3	max	91.184	3	3.158	12	2.967	13	0	1	13.354	13	.931	7
		min	-26.001	14	-.207	7	-1.266	7	0	1	-5.695	7	-14.617	12
	4	max	91.099	3	3.068	12	2.967	13	0	1	20.031	13	1.396	7
		min	-26.001	14	-.207	7	-1.266	7	0	1	-8.543	7	-21.622	12
	5	max	91.014	3	2.978	12	2.967	13	0	1	26.707	13	1.861	7
		min	-26.001	14	-.207	7	-1.266	7	0	1	-11.39	7	-28.424	12
M4	1	max	12.594	3	.62	12	.055	13	.022	13	.106	7	2.215	12
		min	-3.74	14	-.786	3	-.033	7	-.019	7	-.197	13	-6.149	3
	2	max	12.636	3	.541	12	.055	13	.022	13	.041	7	1.264	14
		min	-3.74	14	-.786	3	-.033	7	-.019	7	-.09	13	-4.611	3
	3	max	12.679	3	.463	12	.055	13	.022	13	.018	13	.848	14
		min	-3.74	14	-.786	3	-.033	7	-.019	7	-.025	7	-3.073	3
	4	max	12.722	3	.385	12	.055	13	.022	13	.125	13	.432	14
		min	-3.74	14	-.786	3	-.033	7	-.019	7	-.09	7	-1.733	6

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	12.765	3	.307	12	.055	13	.022	13	.233	13	.024	2
		min	-3.74	14	-.786	3	-.033	7	-.019	7	-.155	7	-1.433	5
M5	1	max	56.942	3	.09	14	2.413	14	.545	14	26.492	3	1.034	14
		min	-15.108	14	-.237	6	-9.153	3	-2.348	6	-7.087	14	-3.217	6
	2	max	56.887	3	.09	14	2.413	14	.545	14	13.175	3	.903	14
		min	-15.108	14	-.28	6	-9.153	3	-2.348	6	-3.577	14	-2.841	6
	3	max	56.832	3	.09	14	2.413	14	.545	14	.499	7	.772	14
		min	-15.108	14	-.324	6	-9.153	3	-2.348	6	-.783	13	-2.401	6
	4	max	56.777	3	.09	14	2.413	14	.545	14	3.443	14	.641	14
		min	-15.108	14	-.372	5	-9.153	3	-2.348	6	-13.46	3	-1.898	6
	5	max	56.722	3	.09	14	2.413	14	.545	14	6.953	14	.51	14
		min	-15.108	14	-.43	5	-9.153	3	-2.348	6	-26.778	3	-1.64	2
M6	1	max	17.758	14	.12	12	.131	13	.033	14	1.369	7	.578	6
		min	-71.179	3	-.051	7	-.34	7	-.261	6	-.452	13	-.1	14
	2	max	17.758	14	.04	12	.131	13	.033	14	.655	7	.533	6
		min	-71.15	3	-.051	7	-.373	7	-.261	6	-.2	14	-.126	14
	3	max	17.758	14	.018	13	.131	13	.033	14	.071	13	.607	6
		min	-71.121	3	-.067	6	-.406	7	-.261	6	-.125	7	-.153	14
	4	max	17.758	14	.018	13	.131	13	.033	14	.332	13	.802	6
		min	-71.092	3	-.127	6	-.439	7	-.261	6	-.971	7	-.179	14
	5	max	17.758	14	.018	13	.131	13	.033	14	.593	13	1.118	6
		min	-71.063	3	-.206	5	-.472	7	-.261	6	-1.882	7	-.205	14
M7	1	max	33.567	3	.336	3	.279	14	.096	14	3.632	3	.31	14
		min	-8.992	14	-.236	12	-1.046	3	-.428	6	-.966	14	-1.618	6
	2	max	33.53	3	.336	3	.279	14	.096	14	1.848	3	.455	14
		min	-8.992	14	-.304	12	-1.046	3	-.428	6	-.49	14	-1.716	6
	3	max	33.493	3	.336	3	.279	14	.096	14	.064	3	.6	14
		min	-8.992	14	-.372	12	-1.046	3	-.428	6	-.014	14	-2.148	3
	4	max	33.455	3	.336	3	.279	14	.096	14	.462	14	.746	14
		min	-8.992	14	-.441	12	-1.046	3	-.428	6	-1.72	3	-2.72	3
	5	max	33.418	3	.336	3	.279	14	.096	14	.938	14	1.405	12
		min	-8.992	14	-.509	12	-1.046	3	-.428	6	-3.504	3	-3.292	3
M8	1	max	18.572	14	.359	5	.137	7	.055	5	.495	2	1.93	6
		min	-70.465	3	-.029	14	-.019	13	-.032	7	-.206	5	-.308	14
	2	max	18.572	14	.244	6	.075	7	.055	5	.581	3	.993	6
		min	-70.433	3	-.029	14	-.019	13	-.032	7	-.127	14	-.215	14
	3	max	18.572	14	.148	6	.012	7	.055	5	.67	3	.46	3
		min	-70.401	3	-.029	14	-.019	13	-.032	7	-.13	14	-.121	14
	4	max	18.572	14	.105	3	0	12	.055	5	.56	3	.142	7
		min	-70.369	3	-.039	12	-.066	3	-.032	7	-.134	14	-.068	12
	5	max	18.572	14	.105	3	0	12	.055	5	.417	2	.261	12
		min	-70.338	3	-.167	12	-.128	3	-.032	7	-.168	1	-.215	3
M9	1	max	4.079	13	.386	5	.115	5	.19	12	1.208	2	1.065	12
		min	-14.459	3	-.017	14	-.071	2	-.435	3	-.372	14	-.233	3
	2	max	4.079	13	.252	5	.051	5	.19	12	1.168	3	.122	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-14.422	3	-.017	14	-.071	2	-.435	3	-.296	14	-.443	3
	3	max	4.079	13	.131	6	.022	14	.19	12	.992	3	.181	14
		min	-14.385	3	-.017	14	-.084	3	-.435	3	-.221	14	-.94	6
	4	max	4.079	13	.062	3	.022	14	.19	12	.603	3	.239	14
		min	-14.347	3	-.023	12	-.147	3	-.435	3	-.145	14	-1.21	6
	5	max	4.079	13	.062	3	.022	14	.19	12	.247	2	.298	14
		min	-14.31	3	-.158	12	-.211	3	-.435	3	-.246	1	-1.143	6
M10	1	max	56.811	3	.088	14	9.16	3	2.333	6	7.037	14	1.037	14
		min	-15.026	14	-.232	6	-2.407	14	-.541	14	-26.427	3	-3.267	6
	2	max	56.756	3	.088	14	9.16	3	2.333	6	3.534	14	.909	14
		min	-15.026	14	-.275	6	-2.407	14	-.541	14	-13.1	3	-2.898	6
	3	max	56.702	3	.088	14	9.16	3	2.333	6	.74	7	.781	14
		min	-15.026	14	-.319	6	-2.407	14	-.541	14	-.781	13	-2.465	6
	4	max	56.647	3	.088	14	9.16	3	2.333	6	13.556	3	.653	14
		min	-15.026	14	-.365	5	-2.407	14	-.541	14	-3.47	14	-1.969	6
	5	max	56.592	3	.088	14	9.16	3	2.333	6	26.884	3	.525	14
		min	-15.026	14	-.424	5	-2.407	14	-.541	14	-6.973	14	-1.634	2
M11	1	max	17.838	14	.12	12	.322	2	.254	6	.426	14	.592	6
		min	-71.32	3	-.04	3	-.117	14	-.03	14	-1.31	3	-.112	14
	2	max	17.838	14	.04	12	.353	3	.254	6	.191	14	.534	6
		min	-71.291	3	-.04	3	-.117	14	-.03	14	-.636	3	-.133	14
	3	max	17.838	14	.011	14	.386	3	.254	6	.121	2	.602	3
		min	-71.262	3	-.061	6	-.117	14	-.03	14	-.043	14	-.154	14
	4	max	17.838	14	.011	14	.419	3	.254	6	.909	3	.779	6
		min	-71.233	3	-.127	5	-.117	14	-.03	14	-.278	14	-.176	14
	5	max	17.838	14	.011	14	.452	3	.254	6	1.78	3	1.081	6
		min	-71.205	3	-.207	5	-.117	14	-.03	14	-.513	14	-.197	14
M12	1	max	33.483	3	.332	3	1.035	3	.433	6	.957	14	.311	14
		min	-8.95	14	-.237	12	-.275	14	-.098	14	-3.607	3	-1.631	6
	2	max	33.445	3	.332	3	1.035	3	.433	6	.487	14	.455	14
		min	-8.95	14	-.305	12	-.275	14	-.098	14	-1.842	3	-1.722	6
	3	max	33.408	3	.332	3	1.035	3	.433	6	.027	13	.599	14
		min	-8.95	14	-.373	12	-.275	14	-.098	14	-.078	7	-2.138	3
	4	max	33.371	3	.332	3	1.035	3	.433	6	1.689	3	.743	14
		min	-8.95	14	-.442	12	-.275	14	-.098	14	-.451	14	-2.703	3
	5	max	33.333	3	.332	3	1.035	3	.433	6	3.454	3	1.398	12
		min	-8.95	14	-.51	12	-.275	14	-.098	14	-.921	14	-3.268	3
M13	1	max	18.472	14	.356	5	.008	2	.022	2	.21	5	1.897	6
		min	-70.268	3	-.029	14	-.128	5	-.059	5	-.515	2	-.304	14
	2	max	18.472	14	.241	6	.008	2	.022	2	.132	14	.969	6
		min	-70.236	3	-.029	14	-.066	5	-.059	5	-.596	3	-.212	14
	3	max	18.472	14	.145	6	.018	7	.022	2	.133	14	.461	3
		min	-70.204	3	-.029	14	-.019	13	-.059	5	-.677	3	-.12	14
	4	max	18.472	14	.104	3	.081	7	.022	2	.133	14	.127	3
		min	-70.172	3	-.042	12	-.019	13	-.059	5	-.557	3	-.079	12

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	18.472	14	.104	3	.143	7	.022	2	.17	1	.26	12
		min	-70.14	3	-.17	12	-.019	13	-.059	5	-.407	2	-.206	3
M14	1	max	3.887	14	.386	5	.069	2	.432	3	.363	14	1.057	12
		min	-14.377	3	-.018	14	-.115	5	-.19	12	-1.185	2	-.218	3
	2	max	3.887	14	.251	5	.069	2	.432	3	.291	14	.119	14
		min	-14.339	3	-.018	14	-.051	5	-.19	12	-1.153	3	-.431	3
	3	max	3.887	14	.131	6	.081	3	.432	3	.219	14	.179	14
		min	-14.302	3	-.018	14	-.021	14	-.19	12	-.987	3	-.936	6
	4	max	3.887	14	.064	3	.144	3	.432	3	.147	14	.238	14
		min	-14.265	3	-.024	12	-.021	14	-.19	12	-.608	3	-1.209	6
	5	max	3.887	14	.064	3	.208	3	.432	3	.244	1	.297	14
		min	-14.228	3	-.158	12	-.021	14	-.19	12	-.261	2	-1.143	6
M15	1	max	56.762	3	1.458	14	1.353	3	.894	14	5.075	12	3.938	14
		min	-13.679	14	-6.178	3	-1.494	12	-2.868	3	-3.494	3	-17.264	3
	2	max	56.758	3	1.458	14	1.353	3	.894	14	3.675	12	2.555	14
		min	-13.679	14	-6.135	3	-1.456	12	-2.868	3	-2.211	3	-11.424	3
	3	max	56.754	3	1.458	14	1.353	3	.894	14	2.312	12	1.635	13
		min	-13.679	14	-6.092	3	-1.418	12	-2.868	3	-.927	3	-5.625	3
	4	max	56.751	3	1.458	14	1.353	3	.894	14	1.101	5	.893	13
		min	-13.679	14	-6.049	3	-1.38	12	-2.868	3	.04	14	-.558	7
	5	max	56.747	3	1.458	14	1.353	3	.894	14	1.64	3	5.851	3
		min	-13.679	14	-6.005	3	-1.343	12	-2.868	3	-.393	14	-1.594	14
M16	1	max	139.89	3	4.89	14	.329	12	.943	14	1.611	14	5.768	14
		min	-35.653	14	-18.154	3	-.436	3	-3.448	3	-7.774	6	-21.317	3
	2	max	139.891	3	4.89	14	.338	12	.943	14	1.637	14	4.676	14
		min	-35.653	14	-18.144	3	-.436	3	-3.448	3	-7.793	6	-17.264	3
	3	max	139.892	3	4.89	14	.347	12	.943	14	1.663	14	3.584	14
		min	-35.653	14	-18.133	3	-.436	3	-3.448	3	-7.81	6	-13.213	3
	4	max	139.893	3	4.89	14	.356	12	.943	14	1.689	14	2.492	14
		min	-35.653	14	-18.123	3	-.436	3	-3.448	3	-7.826	6	-9.165	3
	5	max	139.894	3	4.89	14	.365	12	.943	14	1.715	14	1.4	14
		min	-35.653	14	-18.113	3	-.436	3	-3.448	3	-7.84	6	-5.119	3
M17	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.005	3	0	1	0	1	0	1	0	2
		min	0	1	0	2	0	1	0	1	0	1	0	6
	3	max	0	1	.01	3	0	1	0	1	0	1	0	2
		min	0	1	0	2	0	1	0	1	0	1	-.001	6
	4	max	0	1	.015	3	0	1	0	1	0	1	0	2
		min	0	1	0	2	0	1	0	1	0	1	-.003	6
	5	max	0	1	.021	3	0	1	0	1	0	1	0	2
		min	0	1	0	2	0	1	0	1	0	1	-.005	6
M18	1	max	23.027	3	.739	3	.084	13	.021	13	.189	7	4.96	3
		min	-6.777	14	-.282	12	-.054	7	-.014	7	-.317	13	-2.14	12
	2	max	23.069	3	.739	3	.084	13	.021	13	.084	7	3.514	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-6.777	14	-.282	12	-.054	7	-.014	7	-.152	13	-1.588	12
	3	max	23.112	3	.739	3	.084	13	.021	13	.012	13	2.069	3
		min	-6.777	14	-.282	12	-.054	7	-.014	7	-.021	7	-1.037	12
	4	max	23.155	3	.739	3	.084	13	.021	13	.177	13	.623	3
		min	-6.777	14	-.282	12	-.054	7	-.014	7	-.126	7	-.485	12
	5	max	23.198	3	.739	3	.084	13	.021	13	.341	13	.229	14
		min	-6.777	14	-.282	12	-.054	7	-.014	7	-.231	7	-.823	3
M19	1	max	71.898	3	1.108	3	.738	14	2.075	6	7.083	3	1.465	3
		min	-19.466	14	-1.148	12	-3.305	3	-.25	14	-1.501	14	-11.759	12
	2	max	71.844	3	1.108	3	.738	14	2.075	6	2.324	3	.435	13
		min	-19.466	14	-1.148	12	-3.305	3	-.25	14	-.437	14	-10.32	5
	3	max	71.79	3	1.108	3	.738	14	2.075	6	.626	14	.411	14
		min	-19.466	14	-1.148	12	-3.305	3	-.25	14	-2.435	3	-9.011	5
	4	max	71.735	3	1.108	3	.738	14	2.075	6	1.689	14	.904	14
		min	-19.466	14	-1.148	12	-3.305	3	-.25	14	-7.194	3	-7.783	6
	5	max	71.681	3	1.108	3	.738	14	2.075	6	2.753	14	1.398	14
		min	-19.466	14	-1.148	12	-3.305	3	-.25	14	-11.953	3	-7.807	6
M20	1	max	22.187	7	.312	5	.09	14	.052	13	.89	3	.09	14
		min	-9.432	13	-.013	13	-.227	2	-.604	5	-.335	14	-.355	3
	2	max	22.216	7	.312	5	.09	14	.052	13	.445	3	.099	14
		min	-9.432	13	-.013	13	-.239	3	-.604	5	-.155	14	-.778	6
	3	max	22.244	7	.312	5	.09	14	.052	13	.088	13	.107	14
		min	-9.432	13	-.013	13	-.272	3	-.604	5	-.108	7	-1.321	5
	4	max	22.273	7	.312	5	.09	14	.052	13	.207	14	.116	14
		min	-9.432	13	-.013	13	-.304	3	-.604	5	-.643	3	-1.945	5
	5	max	22.302	7	.312	5	.09	14	.052	13	.388	14	.125	14
		min	-9.432	13	-.013	13	-.337	3	-.604	5	-1.285	3	-2.569	5
M21	1	max	39.324	3	.387	12	.432	14	.183	3	5.505	3	.42	6
		min	-10.65	14	-.191	3	-1.573	3	-.047	14	-1.51	14	-.123	14
	2	max	39.287	3	.387	12	.432	14	.183	3	2.823	3	.7	3
		min	-10.65	14	-.191	3	-1.573	3	-.047	14	-.773	14	-.465	12
	3	max	39.249	3	.387	12	.432	14	.183	3	.141	3	1.026	3
		min	-10.65	14	-.191	3	-1.573	3	-.047	14	-.036	14	-1.124	12
	4	max	39.212	3	.387	12	.432	14	.183	3	.701	14	1.353	3
		min	-10.65	14	-.191	3	-1.573	3	-.047	14	-2.542	3	-1.784	12
	5	max	39.175	3	.387	12	.432	14	.183	3	1.438	14	1.679	3
		min	-10.65	14	-.191	3	-1.573	3	-.047	14	-5.224	3	-2.444	12
M22	1	max	20.657	14	.029	14	.166	7	.026	13	.212	13	.287	14
		min	-77.728	3	-.113	6	-.015	13	-.423	5	-.778	7	-1.272	6
	2	max	20.657	14	.029	14	.104	7	.026	13	.163	13	.195	14
		min	-77.696	3	-.113	6	-.015	13	-.423	5	-.345	7	-.91	6
	3	max	20.657	14	.029	14	.041	7	.026	13	.115	13	.103	14
		min	-77.665	3	-.113	6	-.015	13	-.423	5	-.156	2	-.548	6
	4	max	20.657	14	.029	14	.028	2	.026	13	.066	13	.011	14
		min	-77.633	3	-.113	6	-.053	1	-.423	5	-.079	7	-.187	6

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	20.657	14	.029	14	.028	2	.026	13	.021	2	.251	3
		min	-77.601	3	-.113	6	-.115	1	-.423	5	-.265	5	-.081	14
M23	1	max	6.911	14	.016	14	.113	1	.196	3	1.131	2	.073	7
		min	-24.755	3	-.082	6	-.079	2	-.19	12	-.344	14	-.918	12
	2	max	6.911	14	.016	14	.049	1	.196	3	1.046	3	.247	3
		min	-24.718	3	-.082	6	-.079	2	-.19	12	-.26	14	-.741	12
	3	max	6.911	14	.016	14	.025	14	.196	3	.84	3	.436	3
		min	-24.68	3	-.082	6	-.093	3	-.19	12	-.177	14	-.563	12
	4	max	6.911	14	.016	14	.025	14	.196	3	.421	3	.624	3
		min	-24.643	3	-.082	6	-.156	3	-.19	12	-.093	14	-.386	12
	5	max	6.911	14	.016	14	.025	14	.196	3	.081	13	.812	3
		min	-24.606	3	-.082	6	-.22	3	-.19	12	-.296	5	-.222	14
M24	1	max	71.843	3	1.112	3	3.315	3	.249	14	1.468	14	1.434	7
		min	-19.463	14	-1.267	12	-.735	14	-2.197	5	-7.05	3	-12.781	12
	2	max	71.788	3	1.112	3	3.315	3	.249	14	.41	14	.148	7
		min	-19.463	14	-1.267	12	-.735	14	-2.197	5	-2.277	3	-11.175	5
	3	max	71.734	3	1.112	3	3.315	3	.249	14	2.496	3	.422	14
		min	-19.463	14	-1.267	12	-.735	14	-2.197	5	-.649	14	-9.696	5
	4	max	71.68	3	1.112	3	3.315	3	.249	14	7.269	3	.915	14
		min	-19.463	14	-1.267	12	-.735	14	-2.197	5	-1.707	14	-8.216	5
	5	max	71.625	3	1.112	3	3.315	3	.249	14	12.042	3	1.408	14
		min	-19.463	14	-1.267	12	-.735	14	-2.197	5	-2.766	14	-8.105	6
M25	1	max	19.099	3	.335	5	.222	2	.636	5	.326	14	.103	14
		min	-8.231	14	-.007	7	-.088	14	-.015	7	-.866	3	-.402	3
	2	max	19.128	3	.335	5	.233	3	.636	5	.15	14	.108	14
		min	-8.231	14	-.007	7	-.088	14	-.015	7	-.432	3	-.854	6
	3	max	19.157	3	.335	5	.266	3	.636	5	.095	2	.113	14
		min	-8.231	14	-.007	7	-.088	14	-.015	7	-.041	5	-1.435	5
	4	max	19.186	3	.335	5	.299	3	.636	5	.634	3	.117	14
		min	-8.231	14	-.007	7	-.088	14	-.015	7	-.203	14	-2.106	5
	5	max	19.215	3	.335	5	.332	3	.636	5	1.265	3	.122	14
		min	-8.231	14	-.007	7	-.088	14	-.015	7	-.379	14	-2.777	5
M26	1	max	39.298	3	.4	12	1.565	3	.047	14	1.509	14	.411	6
		min	-10.655	14	-.188	3	-.431	14	-.186	3	-5.49	3	-.122	14
	2	max	39.261	3	.4	12	1.565	3	.047	14	.774	14	.691	3
		min	-10.655	14	-.188	3	-.431	14	-.186	3	-2.822	3	-.498	12
	3	max	39.224	3	.4	12	1.565	3	.047	14	.04	14	1.011	3
		min	-10.655	14	-.188	3	-.431	14	-.186	3	-.153	3	-1.18	12
	4	max	39.187	3	.4	12	1.565	3	.047	14	2.516	3	1.331	3
		min	-10.655	14	-.188	3	-.431	14	-.186	3	-.695	14	-1.863	12
	5	max	39.149	3	.4	12	1.565	3	.047	14	5.185	3	1.651	3
		min	-10.655	14	-.188	3	-.431	14	-.186	3	-1.43	14	-2.546	12
M27	1	max	20.659	14	.029	14	.013	14	.435	5	.692	3	.293	14
		min	-77.671	3	-.122	6	-.16	3	-.019	14	-.166	14	-1.353	6
	2	max	20.659	14	.029	14	.013	14	.435	5	.278	3	.2	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-77.639	3	-.122	6	-.098	3	-.019	14	-.125	14	-.963	6
	3	max	20.659	14	.029	14	.013	14	.435	5	.154	2	.108	14
		min	-77.607	3	-.122	6	-.035	3	-.019	14	-.089	1	-.573	6
	4	max	20.659	14	.029	14	.053	1	.435	5	.071	2	.076	13
		min	-77.576	3	-.122	6	-.026	2	-.019	14	-.044	14	-.183	6
	5	max	20.659	14	.029	14	.115	1	.435	5	.268	5	.24	3
		min	-77.544	3	-.122	6	-.026	2	-.019	14	-.012	2	-.077	14
M28	1	max	6.958	14	.016	14	.076	2	.19	12	.338	14	.039	2
		min	-24.836	3	-.086	6	-.113	1	-.193	3	-1.109	2	-.933	5
	2	max	6.958	14	.016	14	.076	2	.19	12	.256	14	.231	3
		min	-24.798	3	-.086	6	-.05	1	-.193	3	-1.031	3	-.74	12
	3	max	6.958	14	.016	14	.09	3	.19	12	.175	14	.424	3
		min	-24.761	3	-.086	6	-.024	14	-.193	3	-.834	3	-.55	12
	4	max	6.958	14	.016	14	.154	3	.19	12	.094	14	.618	3
		min	-24.724	3	-.086	6	-.024	14	-.193	3	-.425	3	-.359	12
	5	max	6.958	14	.016	14	.217	3	.19	12	.293	5	.812	3
		min	-24.686	3	-.086	6	-.024	14	-.193	3	-.083	2	-.222	14
M29	1	max	8.123	14	3.587	3	.147	14	1.516	12	8.118	5	6.273	3
		min	-17.85	3	-1.416	14	-2.185	5	-1.353	3	-.528	7	-3.141	14
	2	max	8.123	14	3.63	3	.147	14	1.516	12	6.078	12	3.019	6
		min	-17.854	3	-1.416	14	-2.185	5	-1.353	3	-.612	7	-1.797	14
	3	max	8.123	14	3.673	3	.147	14	1.516	12	4.07	12	.718	5
		min	-17.857	3	-1.416	14	-2.185	5	-1.353	3	-.695	7	-.784	2
	4	max	8.123	14	3.716	3	.147	14	1.516	12	2.061	12	.89	14
		min	-17.861	3	-1.416	14	-2.185	5	-1.353	3	-.778	7	-4.118	3
	5	max	8.123	14	3.759	3	.147	14	1.516	12	.261	13	2.234	14
		min	-17.865	3	-1.416	14	-2.185	5	-1.353	3	-.861	7	-7.664	3
M30	1	max	76.886	3	4.844	14	.42	3	2.885	3	5.954	3	5.828	14
		min	-17.324	14	-17.991	3	-.128	12	-1.244	12	-2.15	12	-21.512	3
	2	max	76.887	3	4.844	14	.42	3	2.885	3	6.048	3	4.746	14
		min	-17.324	14	-17.98	3	-.128	12	-1.244	12	-2.179	12	-17.496	3
	3	max	76.888	3	4.844	14	.42	3	2.885	3	6.142	3	3.664	14
		min	-17.324	14	-17.97	3	-.128	12	-1.244	12	-2.208	12	-13.482	3
	4	max	76.888	3	4.844	14	.42	3	2.885	3	6.235	3	2.583	14
		min	-17.324	14	-17.96	3	-.128	12	-1.244	12	-2.236	12	-9.47	3
	5	max	76.889	3	4.844	14	.42	3	2.885	3	6.329	3	1.501	14
		min	-17.324	14	-17.95	3	-.128	12	-1.244	12	-2.265	12	-5.461	3
M31	1	max	92.02	3	2.299	5	3.676	13	0	1	0	1	0	1
		min	-26.417	14	-.04	14	-2.774	7	0	1	0	1	0	1
	2	max	91.935	3	2.299	5	3.676	13	0	1	8.272	13	.089	14
		min	-26.417	14	-.04	14	-2.774	7	0	1	-6.242	7	-5.173	5
	3	max	91.85	3	2.299	5	3.676	13	0	1	16.544	13	.179	14
		min	-26.417	14	-.04	14	-2.774	7	0	1	-12.483	7	-10.346	5
	4	max	91.765	3	2.299	5	3.676	13	0	1	24.815	13	.268	14
		min	-26.417	14	-.04	14	-2.774	7	0	1	-18.725	7	-15.518	5

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	91.68	3	2.299	5	3.676	13	0	1	33.087	13	.357	14
		min	-26.417	14	-.04	14	-2.774	7	0	1	-24.967	7	-20.691	5
M32	1	max	91.842	3	2.119	5	3.636	13	0	1	0	1	0	1
		min	-26.252	14	-.084	13	-2.73	7	0	1	0	1	0	1
	2	max	91.757	3	2.119	5	3.636	13	0	1	8.181	13	.19	13
		min	-26.252	14	-.084	13	-2.73	7	0	1	-6.143	7	-4.769	5
	3	max	91.672	3	2.119	5	3.636	13	0	1	16.362	13	.379	13
		min	-26.252	14	-.084	13	-2.73	7	0	1	-12.286	7	-9.537	5
	4	max	91.587	3	2.119	5	3.636	13	0	1	24.543	13	.569	13
		min	-26.252	14	-.084	13	-2.73	7	0	1	-18.429	7	-14.306	5
	5	max	91.502	3	2.119	5	3.636	13	0	1	32.724	13	.758	13
		min	-26.252	14	-.084	13	-2.73	7	0	1	-24.572	7	-19.075	5
M33	1	max	13.112	7	.858	5	.582	7	2.112	5	4.919	13	.433	12
		min	-13.893	13	-.039	14	-.923	13	-.092	14	-3.115	7	-.034	7
	2	max	13.087	7	.858	5	.549	7	2.112	5	3.164	13	.044	14
		min	-13.893	13	-.039	14	-.923	13	-.092	14	-2.04	7	-1.21	5
	3	max	13.061	7	.858	5	.516	7	2.112	5	1.409	13	.118	14
		min	-13.893	13	-.039	14	-.923	13	-.092	14	-1.027	7	-2.841	5
	4	max	13.036	7	.858	5	.483	7	2.112	5	.347	14	.192	14
		min	-13.893	13	-.039	14	-.923	13	-.092	14	-.436	3	-4.472	5
	5	max	13.01	7	.858	5	.451	7	2.112	5	.81	7	.266	14
		min	-13.893	13	-.039	14	-.923	13	-.092	14	-2.1	13	-6.104	5
M34	1	max	7.737	13	.404	3	1.201	7	.434	3	2.853	13	2.401	3
		min	-5.69	7	-.227	14	-1.046	13	-1.809	12	-2.968	7	-2.373	12
	2	max	7.737	13	.404	3	1.169	7	.434	3	.899	13	1.645	3
		min	-5.665	7	-.227	14	-1.046	13	-1.809	12	-.754	7	-2.285	12
	3	max	7.737	13	.404	3	1.138	7	.434	3	1.4	7	.89	3
		min	-5.639	7	-.227	14	-1.046	13	-1.809	12	-1.055	13	-2.058	12
	4	max	7.737	13	.404	3	1.106	7	.434	3	3.495	7	.135	3
		min	-5.614	7	-.234	12	-1.046	13	-1.809	12	-3.009	13	-1.691	12
	5	max	7.737	13	.404	3	1.074	7	.434	3	5.53	7	.382	14
		min	-5.588	7	-.308	12	-1.046	13	-1.809	12	-4.963	13	-1.375	6
M35	1	max	5.84	7	.31	12	.508	7	1.977	12	5.006	13	.37	14
		min	-7.795	13	-.394	3	-1.056	13	-.472	7	-1.957	7	-1.502	5
	2	max	5.815	7	.235	12	.476	7	1.977	12	3.034	13	.203	7
		min	-7.795	13	-.394	3	-1.056	13	-.472	7	-1.038	7	-1.884	12
	3	max	5.789	7	.222	14	.444	7	1.977	12	1.063	13	.874	3
		min	-7.795	13	-.394	3	-1.056	13	-.472	7	-.178	7	-2.252	12
	4	max	5.764	7	.222	14	.412	7	1.977	12	.622	7	1.61	3
		min	-7.795	13	-.394	3	-1.056	13	-.472	7	-.909	13	-2.482	12
	5	max	5.738	7	.222	14	.381	7	1.977	12	1.363	7	2.345	3
		min	-7.795	13	-.394	3	-1.056	13	-.472	7	-2.881	13	-2.571	12
M36	1	max	4.121	12	1.719	12	.246	12	4.006	3	.533	3	8.466	12
		min	-5.243	3	-1.056	3	-.114	7	-1.561	14	-1.681	12	-5.203	3
	2	max	4.121	12	1.719	12	.246	12	4.006	3	.39	3	6.103	12

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-5.243	3	-1.119	3	-.114	7	-1.561	14	-1.343	12	-3.707	3
	3	max	4.121	12	1.719	12	.246	12	4.006	3	.313	13	3.74	12
		min	-5.243	3	-1.182	3	-.114	7	-1.561	14	-1.005	12	-2.126	3
	4	max	4.121	12	1.719	12	.246	12	4.006	3	.375	13	1.376	12
		min	-5.243	3	-1.244	3	-.114	7	-1.561	14	-.667	12	-.458	3
	5	max	4.121	12	1.719	12	.246	12	4.006	3	.438	13	1.296	3
		min	-5.243	3	-1.307	3	-.114	7	-1.561	14	-.336	7	-.987	12
M37	1	max	1.385	3	.095	2	.475	12	1.819	3	1.343	7	.957	2
		min	-2.105	12	-.352	5	-.122	7	-.544	14	-4.323	12	-1.189	5
	2	max	1.385	3	.095	2	.475	12	1.819	3	1.008	7	.808	3
		min	-2.105	12	-.248	5	-.122	7	-.544	14	-3.016	12	-.477	12
	3	max	1.385	3	.095	2	.475	12	1.819	3	.673	7	.731	3
		min	-2.105	12	-.144	5	-.122	7	-.544	14	-1.709	12	-.126	14
	4	max	1.384	3	.184	3	.475	12	1.819	3	.437	3	.497	6
		min	-2.105	12	-.129	12	-.122	7	-.544	14	-.403	12	-.151	14
	5	max	1.384	3	.287	3	.475	12	1.819	3	.931	5	.589	12
		min	-2.105	12	-.129	12	-.122	7	-.544	14	-.267	14	-.287	7
M38	1	max	.996	14	.117	6	.074	14	.059	14	.63	5	.263	6
		min	-3.626	6	-.011	13	-.271	5	-.2	6	-.279	14	-.058	13
	2	max	.996	14	.087	6	.074	14	.059	14	.144	13	.124	12
		min	-3.655	6	-.011	13	-.271	5	-.2	6	-.137	14	-.037	13
	3	max	.996	14	.057	6	.074	14	.059	14	.005	14	.08	12
		min	-3.684	6	-.011	13	-.271	5	-.2	6	-.425	6	-.157	3
	4	max	.996	14	.044	2	.074	14	.059	14	.147	14	.037	12
		min	-3.713	6	-.023	1	-.271	5	-.2	6	-.923	5	-.225	3
	5	max	.996	14	.044	2	.074	14	.059	14	.289	14	.039	1
		min	-3.742	6	-.053	1	-.271	5	-.2	6	-1.441	5	-.275	2
M39	1	max	.793	14	.178	12	.08	7	.397	3	.801	3	.69	12
		min	-2.438	6	-.095	7	-.107	13	-.161	12	-.419	14	-.329	3
	2	max	.793	14	.178	12	.08	7	.397	3	.802	3	.35	12
		min	-2.467	6	-.064	7	-.107	13	-.161	12	-.34	14	-.185	3
	3	max	.793	14	.178	12	.08	7	.397	3	.815	6	.036	14
		min	-2.496	6	-.034	7	-.107	13	-.161	12	-.261	14	-.105	2
	4	max	.793	14	.204	5	.08	7	.397	3	.925	6	.073	14
		min	-2.525	6	-.027	2	-.107	13	-.161	12	-.182	14	-.345	5
	5	max	.793	14	.235	5	.08	7	.397	3	1.035	6	.109	14
		min	-2.554	6	-.027	2	-.107	13	-.161	12	-.102	14	-.765	5
M40	1	max	1.361	3	.081	5	.061	14	.093	12	.567	13	.217	12
		min	-5.044	12	-.055	2	-.13	3	-.139	13	-.231	14	-.28	3
	2	max	1.332	3	.051	5	.061	14	.093	12	.381	13	.148	12
		min	-5.044	12	-.055	2	-.13	3	-.139	13	-.216	7	-.232	3
	3	max	1.303	3	.036	12	.061	14	.093	12	.212	12	.079	12
		min	-5.044	12	-.07	3	-.13	3	-.139	13	-.27	7	-.128	3
	4	max	1.274	3	.036	12	.061	14	.093	12	.15	12	.044	2
		min	-5.044	12	-.1	3	-.13	3	-.139	13	-.407	3	-.009	1

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	1.245	3	.036	12	.061	14	.093	12	.236	14	.254	3
		min	-5.044	12	-.13	3	-.13	3	-.139	13	-.657	3	-.058	12
M41	1	max	4.913	5	.022	14	.051	14	.196	3	1.247	6	.086	14
		min	-.701	2	-.091	3	-.143	6	-.084	14	-.519	14	-.159	3
	2	max	4.884	5	.022	14	.051	14	.196	3	1.034	3	.09	5
		min	-.701	2	-.061	3	-.143	6	-.084	14	-.422	14	-.039	2
	3	max	4.855	5	.022	14	.051	14	.196	3	.912	3	.104	6
		min	-.701	2	-.031	3	-.143	6	-.084	14	-.325	14	-.012	13
	4	max	4.826	5	.038	5	.051	14	.196	3	.791	3	.106	6
		min	-.701	2	-.029	2	-.143	6	-.084	14	-.254	12	-.04	14
	5	max	4.797	5	.068	5	.051	14	.196	3	.669	3	.128	2
		min	-.701	2	-.029	2	-.143	6	-.084	14	-.492	12	-.083	14
M42	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.269	3	0	1	0	1	0	1	.046	14
		min	0	1	-.107	14	0	1	0	1	0	1	-.115	3
	3	max	0	1	.537	3	0	1	0	1	0	1	.184	14
		min	0	1	-.214	14	0	1	0	1	0	1	-.461	3
	4	max	0	1	.806	3	0	1	0	1	0	1	.414	14
		min	0	1	-.322	14	0	1	0	1	0	1	-1.037	3
	5	max	0	1	1.075	3	0	1	0	1	0	1	.735	14
		min	0	1	-.429	14	0	1	0	1	0	1	-1.843	3
M43	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.239	14	0	1	0	1	0	1	.836	3
		min	0	1	-.873	3	0	1	0	1	0	1	-.229	14
	3	max	0	1	.479	14	0	1	0	1	0	1	3.343	3
		min	0	1	-1.746	3	0	1	0	1	0	1	-.917	14
	4	max	0	1	.718	14	0	1	0	1	0	1	7.523	3
		min	0	1	-2.619	3	0	1	0	1	0	1	-2.063	14
	5	max	0	1	.957	14	0	1	0	1	0	1	13.373	3
		min	0	1	-3.492	3	0	1	0	1	0	1	-3.667	14
M44	1	max	0	1	.529	14	0	1	0	1	0	1	1.118	14
		min	0	1	-.746	3	0	1	0	1	0	1	-1.578	3
	2	max	0	1	.397	14	0	1	0	1	0	1	.629	14
		min	0	1	-.559	3	0	1	0	1	0	1	-.887	3
	3	max	0	1	.264	14	0	1	0	1	0	1	.28	14
		min	0	1	-.373	3	0	1	0	1	0	1	-.394	3
	4	max	0	1	.132	14	0	1	0	1	0	1	.07	14
		min	0	1	-.186	3	0	1	0	1	0	1	-.099	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M45	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.151	3	0	1	0	1	0	1	.046	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	0	1	-.107	14	0	1	0	1	0	1	-.065	3
	3	max	0	1	.302	3	0	1	0	1	0	1	.184	14
		min	0	1	-.214	14	0	1	0	1	0	1	-.259	3
	4	max	0	1	.454	3	0	1	0	1	0	1	.414	14
		min	0	1	-.322	14	0	1	0	1	0	1	-.583	3
	5	max	0	1	.605	3	0	1	0	1	0	1	.735	14
		min	0	1	-.429	14	0	1	0	1	0	1	-1.037	3
M46	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	1.336	3	0	1	0	1	0	1	.537	14
		min	0	1	-.366	14	0	1	0	1	0	1	-1.957	3
	3	max	0	1	2.671	3	0	1	0	1	0	1	2.146	14
		min	0	1	-.733	14	0	1	0	1	0	1	-7.827	3
	4	max	0	1	4.007	3	0	1	0	1	0	1	4.829	14
		min	0	1	-1.099	14	0	1	0	1	0	1	-17.61	3
	5	max	0	1	5.342	3	0	1	0	1	0	1	8.585	14
		min	0	1	-1.465	14	0	1	0	1	0	1	-31.307	3
M47	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	1.268	3	0	1	0	1	0	1	.484	14
		min	0	1	-.348	14	0	1	0	1	0	1	-1.765	3
	3	max	0	1	2.537	3	0	1	0	1	0	1	1.936	14
		min	0	1	-.696	14	0	1	0	1	0	1	-7.059	3
	4	max	0	1	3.805	3	0	1	0	1	0	1	4.355	14
		min	0	1	-1.043	14	0	1	0	1	0	1	-15.882	3
	5	max	0	1	5.073	3	0	1	0	1	0	1	7.742	14
		min	0	1	-1.391	14	0	1	0	1	0	1	-28.234	3
M48	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	1.202	3	0	1	0	1	0	1	.435	14
		min	0	1	-.33	14	0	1	0	1	0	1	-1.586	3
	3	max	0	1	2.405	3	0	1	0	1	0	1	1.739	14
		min	0	1	-.659	14	0	1	0	1	0	1	-6.342	3
	4	max	0	1	3.607	3	0	1	0	1	0	1	3.913	14
		min	0	1	-.989	14	0	1	0	1	0	1	-14.27	3
	5	max	0	1	4.809	3	0	1	0	1	0	1	6.956	14
		min	0	1	-1.319	14	0	1	0	1	0	1	-25.368	3
M49	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	1.136	3	0	1	0	1	0	1	.388	14
		min	0	1	-.312	14	0	1	0	1	0	1	-1.416	3
	3	max	0	1	2.272	3	0	1	0	1	0	1	1.553	14
		min	0	1	-.623	14	0	1	0	1	0	1	-5.664	3
	4	max	0	1	3.409	3	0	1	0	1	0	1	3.495	14
		min	0	1	-.935	14	0	1	0	1	0	1	-12.744	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	0	1	4.545	3	0	1	0	1	0	1	6.213	14
		min	0	1	-1.246	14	0	1	0	1	0	1	-22.655	3
M50	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	1.07	3	0	1	0	1	0	1	.344	14
		min	0	1	-.293	14	0	1	0	1	0	1	-1.256	3
	3	max	0	1	2.14	3	0	1	0	1	0	1	1.378	14
		min	0	1	-.587	14	0	1	0	1	0	1	-5.024	3
	4	max	0	1	3.21	3	0	1	0	1	0	1	3.1	14
		min	0	1	-.88	14	0	1	0	1	0	1	-11.304	3
	5	max	0	1	4.28	3	0	1	0	1	0	1	5.511	14
		min	0	1	-1.174	14	0	1	0	1	0	1	-20.096	3
M51	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	1.004	3	0	1	0	1	0	1	.303	14
		min	0	1	-.275	14	0	1	0	1	0	1	-1.106	3
	3	max	0	1	2.008	3	0	1	0	1	0	1	1.213	14
		min	0	1	-.551	14	0	1	0	1	0	1	-4.423	3
	4	max	0	1	3.012	3	0	1	0	1	0	1	2.729	14
		min	0	1	-.826	14	0	1	0	1	0	1	-9.951	3
	5	max	0	1	4.016	3	0	1	0	1	0	1	4.851	14
		min	0	1	-1.101	14	0	1	0	1	0	1	-17.69	3
M52	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.938	3	0	1	0	1	0	1	.265	14
		min	0	1	-.257	14	0	1	0	1	0	1	-.965	3
	3	max	0	1	1.876	3	0	1	0	1	0	1	1.058	14
		min	0	1	-.514	14	0	1	0	1	0	1	-3.859	3
	4	max	0	1	2.814	3	0	1	0	1	0	1	2.381	14
		min	0	1	-.772	14	0	1	0	1	0	1	-8.684	3
	5	max	0	1	3.752	3	0	1	0	1	0	1	4.233	14
		min	0	1	-1.029	14	0	1	0	1	0	1	-15.438	3
M53	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.873	3	0	1	0	1	0	1	.229	14
		min	0	1	-.239	14	0	1	0	1	0	1	-.836	3
	3	max	0	1	1.746	3	0	1	0	1	0	1	.917	14
		min	0	1	-.479	14	0	1	0	1	0	1	-3.343	3
	4	max	0	1	2.619	3	0	1	0	1	0	1	2.063	14
		min	0	1	-.718	14	0	1	0	1	0	1	-7.523	3
	5	max	0	1	3.492	3	0	1	0	1	0	1	3.667	14
		min	0	1	-.957	14	0	1	0	1	0	1	-13.373	3
M54	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.288	3	0	1	0	1	0	1	.057	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	0	1	-.12	14	0	1	0	1	0	1	-.138	3
	3	max	0	1	.576	3	0	1	0	1	0	1	.229	14
		min	0	1	-.239	14	0	1	0	1	0	1	-.552	3
	4	max	0	1	.864	3	0	1	0	1	0	1	.516	14
		min	0	1	-.359	14	0	1	0	1	0	1	-1.241	3
	5	max	0	1	1.152	3	0	1	0	1	0	1	.917	14
		min	0	1	-.479	14	0	1	0	1	0	1	-2.206	3
M55	1	max	0	1	.479	14	0	1	0	1	0	1	.917	14
		min	0	1	-.675	3	0	1	0	1	0	1	-1.293	3
	2	max	0	1	.359	14	0	1	0	1	0	1	.516	14
		min	0	1	-.507	3	0	1	0	1	0	1	-.728	3
	3	max	0	1	.239	14	0	1	0	1	0	1	.229	14
		min	0	1	-.338	3	0	1	0	1	0	1	-.323	3
	4	max	0	1	.12	14	0	1	0	1	0	1	.057	14
		min	0	1	-.169	3	0	1	0	1	0	1	-.081	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M56	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.169	3	0	1	0	1	0	1	.057	14
		min	0	1	-.12	14	0	1	0	1	0	1	-.081	3
	3	max	0	1	.338	3	0	1	0	1	0	1	.229	14
		min	0	1	-.239	14	0	1	0	1	0	1	-.323	3
	4	max	0	1	.507	3	0	1	0	1	0	1	.516	14
		min	0	1	-.359	14	0	1	0	1	0	1	-.728	3
	5	max	0	1	.675	3	0	1	0	1	0	1	.917	14
		min	0	1	-.479	14	0	1	0	1	0	1	-1.293	3
M57	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	1.268	3	.111	13	0	1	.155	13	.484	14
		min	0	1	-.348	14	-.083	7	0	1	-.116	7	-1.765	3
	3	max	0	1	2.537	3	.223	13	0	1	.619	13	1.936	14
		min	0	1	-.696	14	-.167	7	0	1	-.465	7	-7.059	3
	4	max	0	1	3.805	3	.334	13	0	1	1.394	13	4.355	14
		min	0	1	-1.043	14	-.25	7	0	1	-1.045	7	-15.882	3
	5	max	0	1	5.073	3	.445	13	0	1	2.478	13	7.742	14
		min	0	1	-1.391	14	-.334	7	0	1	-1.858	7	-28.234	3
M58	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	1.202	3	.105	13	0	1	.139	13	.435	14
		min	0	1	-.33	14	-.079	7	0	1	-.104	7	-1.586	3
	3	max	0	1	2.405	3	.211	13	0	1	.557	13	1.739	14
		min	0	1	-.659	14	-.158	7	0	1	-.417	7	-6.342	3
	4	max	0	1	3.607	3	.316	13	0	1	1.252	13	3.913	14
		min	0	1	-.989	14	-.237	7	0	1	-.939	7	-14.27	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	0	1	4.809	3	.422	13	0	1	2.226	13	6.956	14
		min	0	1	-1.319	14	-.316	7	0	1	-1.67	7	-25.368	3
M59	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	1.136	3	.1	13	0	1	.124	13	.388	14
		min	0	1	-.312	14	-.075	7	0	1	-.093	7	-1.416	3
	3	max	0	1	2.272	3	.199	13	0	1	.497	13	1.553	14
		min	0	1	-.623	14	-.15	7	0	1	-.373	7	-5.664	3
	4	max	0	1	3.409	3	.299	13	0	1	1.118	13	3.495	14
		min	0	1	-.935	14	-.224	7	0	1	-.839	7	-12.744	3
	5	max	0	1	4.545	3	.399	13	0	1	1.988	13	6.213	14
		min	0	1	-1.246	14	-.299	7	0	1	-1.491	7	-22.655	3
M60	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	1.07	3	.094	13	0	1	.11	13	.344	14
		min	0	1	-.293	14	-.07	7	0	1	-.083	7	-1.256	3
	3	max	0	1	2.14	3	.188	13	0	1	.441	13	1.378	14
		min	0	1	-.587	14	-.141	7	0	1	-.331	7	-5.024	3
	4	max	0	1	3.21	3	.282	13	0	1	.992	13	3.1	14
		min	0	1	-.88	14	-.211	7	0	1	-.744	7	-11.304	3
	5	max	0	1	4.28	3	.376	13	0	1	1.763	13	5.511	14
		min	0	1	-1.174	14	-.282	7	0	1	-1.323	7	-20.096	3
M61	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	1.004	3	.088	13	0	1	.097	13	.303	14
		min	0	1	-.275	14	-.066	7	0	1	-.073	7	-1.106	3
	3	max	0	1	2.008	3	.176	13	0	1	.388	13	1.213	14
		min	0	1	-.551	14	-.132	7	0	1	-.291	7	-4.423	3
	4	max	0	1	3.012	3	.264	13	0	1	.873	13	2.729	14
		min	0	1	-.826	14	-.198	7	0	1	-.655	7	-9.951	3
	5	max	0	1	4.016	3	.352	13	0	1	1.552	13	4.851	14
		min	0	1	-1.101	14	-.264	7	0	1	-1.164	7	-17.69	3
M62	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.938	3	.082	13	0	1	.085	13	.265	14
		min	0	1	-.257	14	-.062	7	0	1	-.063	7	-.965	3
	3	max	0	1	1.876	3	.165	13	0	1	.339	13	1.058	14
		min	0	1	-.514	14	-.123	7	0	1	-.254	7	-3.859	3
	4	max	0	1	2.814	3	.247	13	0	1	.762	13	2.381	14
		min	0	1	-.772	14	-.185	7	0	1	-.571	7	-8.684	3
	5	max	0	1	3.752	3	.329	13	0	1	1.355	13	4.233	14
		min	0	1	-1.029	14	-.247	7	0	1	-1.016	7	-15.438	3
M63	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	1.334	3	.117	13	0	1	.171	13	.536	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	0	1	-.366	14	-.088	7	0	1	-.129	7	-1.953	3
	3	max	0	1	2.669	3	.234	13	0	1	.686	13	2.143	14
		min	0	1	-.732	14	-.176	7	0	1	-.514	7	-7.813	3
	4	max	0	1	4.003	3	.351	13	0	1	1.543	13	4.821	14
		min	0	1	-1.098	14	-.263	7	0	1	-1.157	7	-17.58	3
	5	max	0	1	5.338	3	.468	13	0	1	2.742	13	8.57	14
		min	0	1	-1.464	14	-.351	7	0	1	-2.057	7	-31.253	3
M64	1	max	3.541	6	.663	6	.146	7	1.521	3	5.55	12	5.574	6
		min	-.998	14	-.055	14	-.528	12	-.446	14	-1.967	7	-.938	14
	2	max	3.541	6	.456	6	.146	7	1.521	3	2.646	12	2.495	6
		min	-.998	14	-.055	14	-.528	12	-.446	14	-1.166	7	-.634	14
	3	max	3.541	6	.248	6	.146	7	1.521	3	.139	14	.942	2
		min	-.998	14	-.055	14	-.528	12	-.446	14	-.56	6	-.823	1
	4	max	3.541	6	.154	2	.146	7	1.521	3	.435	7	.163	12
		min	-.998	14	-.175	1	-.528	12	-.446	14	-3.162	12	-.43	1
	5	max	3.541	6	.154	2	.146	7	1.521	3	1.235	7	1.104	1
		min	-.998	14	-.383	1	-.528	12	-.446	14	-6.066	12	-.752	2
M65	1	max	3.596	6	.654	6	.557	12	.447	14	1.659	3	5.457	6
		min	-1.032	14	-.054	14	-.106	3	-1.531	3	-5.877	12	-.933	14
	2	max	3.596	6	.447	6	.557	12	.447	14	1.076	3	2.43	6
		min	-1.032	14	-.054	14	-.106	3	-1.531	3	-2.814	12	-.635	14
	3	max	3.596	6	.239	6	.557	12	.447	14	.559	6	.959	2
		min	-1.032	14	-.054	14	-.106	3	-1.531	3	-.141	14	-.824	1
	4	max	3.596	6	.152	2	.557	12	.447	14	3.314	12	.178	12
		min	-1.032	14	-.176	1	-.106	3	-1.531	3	-.426	13	-.428	1
	5	max	3.596	6	.152	2	.557	12	.447	14	6.378	12	1.109	1
		min	-1.032	14	-.383	1	-.106	3	-1.531	3	-.852	13	-.707	2
M66	1	max	4.197	12	1.566	12	.102	3	1.556	14	1.061	12	7.737	12
		min	-5.066	3	-1.144	3	-.182	12	-3.999	3	-.545	7	-5.549	3
	2	max	4.197	12	1.566	12	.102	3	1.556	14	.811	12	5.584	12
		min	-5.066	3	-1.206	3	-.182	12	-3.999	3	-.483	7	-3.933	3
	3	max	4.197	12	1.566	12	.102	3	1.556	14	.56	12	3.43	12
		min	-5.066	3	-1.269	3	-.182	12	-3.999	3	-.421	7	-2.231	3
	4	max	4.197	12	1.566	12	.102	3	1.556	14	.376	13	1.276	12
		min	-5.066	3	-1.332	3	-.182	12	-3.999	3	-.358	7	-.443	3
	5	max	4.197	12	1.566	12	.102	3	1.556	14	.436	13	1.442	7
		min	-5.066	3	-1.395	3	-.182	12	-3.999	3	-.296	7	-.878	12
M67	1	max	.688	1	.061	2	.08	3	.539	14	4.48	12	.675	2
		min	-2.039	12	-.345	5	-.485	12	-1.807	3	-1.135	3	-1.151	5
	2	max	.687	1	.061	2	.08	3	.539	14	3.147	12	.635	3
		min	-2.039	12	-.241	5	-.485	12	-1.807	3	-.914	3	-.471	12
	3	max	.687	1	.061	2	.08	3	.539	14	1.814	12	.647	3
		min	-2.039	12	-.137	5	-.485	12	-1.807	3	-.694	3	-.129	12
	4	max	.687	1	.151	3	.08	3	.539	14	.481	12	.484	6
		min	-2.039	12	-.125	12	-.485	12	-1.807	3	-.473	3	-.151	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	.687	1	.255	3	.08	3	.539	14	.289	14	.556	12
		min	-2.039	12	-.125	12	-.485	12	-1.807	3	-.885	5	-.201	14
M68	1	max	.999	14	.104	6	.262	5	.21	6	.294	14	.241	5
		min	-3.6	6	.01	13	-.077	14	-.062	14	-.578	5	.026	2
	2	max	.999	14	.074	6	.262	5	.21	6	.147	14	.113	12
		min	-3.629	6	.01	13	-.077	14	-.062	14	-.126	7	-.056	7
	3	max	.999	14	.044	6	.262	5	.21	6	.427	6	.077	12
		min	-3.658	6	.008	1	-.077	14	-.062	14	0	14	-.138	3
	4	max	.999	14	.03	2	.262	5	.21	6	.92	5	.042	12
		min	-3.687	6	-.022	1	-.077	14	-.062	14	-.145	14	-.18	3
	5	max	.999	14	.03	2	.262	5	.21	6	1.42	5	.041	5
		min	-3.716	6	-.052	1	-.077	14	-.062	14	-.292	14	-.199	2
M69	1	max	.779	14	.167	12	.084	7	.179	12	.772	13	.646	12
		min	-2.358	6	-.076	3	-.107	13	-.42	7	-1.237	7	-.299	3
	2	max	.779	14	.167	12	.084	7	.179	12	.568	13	.327	12
		min	-2.387	6	-.046	3	-.107	13	-.42	7	-1.076	7	-.183	3
	3	max	.779	14	.167	12	.084	7	.179	12	.364	13	.043	14
		min	-2.416	6	-.022	14	-.107	13	-.42	7	-.915	7	-.131	2
	4	max	.779	14	.193	5	.084	7	.179	12	.185	14	.086	14
		min	-2.445	6	-.022	14	-.107	13	-.42	7	-.945	6	-.326	6
	5	max	.779	14	.223	5	.084	7	.179	12	.1	14	.129	14
		min	-2.474	6	-.022	14	-.107	13	-.42	7	-1.055	6	-.72	5
M70	1	max	1.364	3	.078	5	.176	7	.206	7	.55	13	.203	12
		min	-4.739	12	-.053	2	-.095	13	-.134	13	-.705	7	-.269	3
	2	max	1.335	3	.048	5	.176	7	.206	7	.37	13	.139	12
		min	-4.739	12	-.053	2	-.095	13	-.134	13	-.369	7	-.225	3
	3	max	1.306	3	.034	12	.176	7	.206	7	.189	13	.074	12
		min	-4.739	12	-.068	3	-.095	13	-.134	13	-.197	12	-.123	3
	4	max	1.277	3	.034	12	.176	7	.206	7	.396	3	.046	2
		min	-4.739	12	-.098	3	-.095	13	-.134	13	-.141	12	-.009	1
	5	max	1.248	3	.034	12	.176	7	.206	7	.654	3	.254	3
		min	-4.739	12	-.129	3	-.095	13	-.134	13	-.237	14	-.055	12
M71	1	max	4.623	5	.023	14	.137	6	.086	14	.527	14	.091	14
		min	-.8	2	-.094	3	-.052	14	-.207	7	-1.224	6	-.188	7
	2	max	4.594	5	.023	14	.137	6	.086	14	.428	14	.085	5
		min	-.8	2	-.064	3	-.052	14	-.207	7	-1.045	3	-.051	2
	3	max	4.565	5	.023	14	.137	6	.086	14	.329	14	.099	5
		min	-.8	2	-.034	3	-.052	14	-.207	7	-.921	3	.003	14
	4	max	4.536	5	.038	5	.137	6	.086	14	.244	12	.106	3
		min	-.8	2	-.033	2	-.052	14	-.207	7	-.798	3	-.04	14
	5	max	4.507	5	.068	5	.137	6	.086	14	.464	12	.136	2
		min	-.8	2	-.033	2	-.052	14	-.207	7	-.674	3	-.084	14
M72	1	max	68.449	3	.638	14	.587	7	.549	12	13.563	13	2.967	14
		min	-17.271	14	-2.869	6	-3.345	13	-.934	3	-9.657	7	-12.814	6
	2	max	68.399	3	.638	14	.587	7	.549	12	9.132	13	2.121	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-17.271	14	-2.869	6	-3.345	13	-.934	3	-8.879	7	-9.012	6
	3	max	68.349	3	.638	14	.587	7	.549	12	4.7	13	1.276	14
		min	-17.271	14	-2.869	6	-3.345	13	-.934	3	-8.101	7	-5.21	6
	4	max	68.299	3	.638	14	.587	7	.549	12	2.391	14	.43	14
		min	-17.271	14	-2.869	6	-3.345	13	-.934	3	-9.161	3	-1.409	6
	5	max	68.249	3	.638	14	.587	7	.549	12	2.541	14	2.393	6
		min	-17.271	14	-2.869	6	-3.345	13	-.934	3	-12.462	3	-.415	14
M73	1	max	7.572	13	1.026	12	3.325	3	2.481	6	2.626	14	1.667	12
		min	-11.465	7	-1.238	3	-1.802	14	-.412	14	-4.965	7	-2.977	3
	2	max	7.572	13	1.026	12	3.325	3	2.481	6	.81	13	.307	12
		min	-11.415	7	-1.238	3	-1.802	14	-.412	14	-.746	7	-1.337	3
	3	max	7.572	13	1.026	12	3.325	3	2.481	6	4.273	3	.302	3
		min	-11.365	7	-1.238	3	-1.802	14	-.412	14	-2.15	14	-1.053	12
	4	max	7.572	13	1.026	12	3.325	3	2.481	6	8.679	3	1.942	3
		min	-11.315	7	-1.238	3	-1.802	14	-.412	14	-4.537	14	-2.413	12
	5	max	7.572	13	1.026	12	3.325	3	2.481	6	13.085	3	3.582	3
		min	-11.265	7	-1.238	3	-1.802	14	-.412	14	-6.925	14	-3.773	12
M74	1	max	.502	14	1.365	14	.309	7	.006	13	1.322	13	6.7	14
		min	-1.825	3	-4.98	3	-.413	13	-.005	7	-.955	7	-24.413	3
	2	max	.502	14	.677	14	.144	7	.006	13	.293	7	1.084	14
		min	-1.825	3	-2.473	3	-.193	13	-.005	7	-.344	13	-3.915	3
	3	max	.502	14	.036	6	.027	13	.006	13	.634	7	2.794	3
		min	-1.825	3	-.01	14	-.021	7	-.005	7	-.8	13	-.869	12
	4	max	.502	14	2.541	3	.247	13	.006	13	.067	7	1.195	14
		min	-1.825	3	-.698	14	-.186	7	-.005	7	-.054	12	-4.287	3
	5	max	.502	14	5.048	3	.467	13	.006	13	1.919	13	6.922	14
		min	-1.825	3	-1.385	14	-.351	7	-.005	7	-1.407	7	-25.157	3
M75	1	max	.192	1	1.362	14	.346	7	.134	14	1.53	13	4.951	14
		min	-1.056	6	-4.971	3	-.432	13	-.462	3	-1.382	7	-17.965	3
	2	max	.192	1	.675	14	.181	7	.134	14	.413	12	2.482	3
		min	-1.056	6	-2.464	3	-.212	13	-.462	3	-.244	13	-.651	14
	3	max	.192	1	.063	6	.028	3	.134	14	.612	7	9.139	3
		min	-1.056	6	-.013	14	-.075	12	-.462	3	-.807	13	-2.472	14
	4	max	.192	1	2.55	3	.228	13	.134	14	.248	7	2.008	3
		min	-1.056	6	-.7	14	-.149	7	-.462	3	-.407	12	-.512	14
	5	max	.192	1	5.057	3	.448	13	.134	14	1.696	13	5.229	14
		min	-1.056	6	-1.388	14	-.314	7	-.462	3	-1.023	7	-18.913	3
M76	1	max	.34	14	1.349	14	.335	7	.073	14	1.475	13	5.017	14
		min	-1.243	6	-4.928	3	-.427	13	-.252	3	-1.203	7	-18.247	3
	2	max	.34	14	.662	14	.17	7	.073	14	.467	12	1.961	3
		min	-1.243	6	-2.42	3	-.207	13	-.252	3	-.271	13	-.514	14
	3	max	.34	14	.108	6	.019	3	.073	14	.669	7	8.378	3
		min	-1.243	6	-.026	14	-.079	12	-.252	3	-.808	13	-2.264	14
	4	max	.34	14	2.594	3	.233	13	.073	14	.244	7	1.007	3
		min	-1.243	6	-.713	14	-.16	7	-.252	3	-.402	12	-.73	12

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	.34	14	5.101	3	.453	13	.073	14	1.75	13	5.579	14
		min	-1.243	6	-1.401	14	-.325	7	-.252	3	-1.089	7	-20.153	3
M77	1	max	.291	12	1.353	14	.328	7	.041	14	1.408	13	5.388	14
		min	-.073	3	-4.94	3	-.421	13	-.139	3	-1.104	7	-19.614	3
	2	max	.291	12	.666	14	.163	7	.041	14	.516	12	.663	3
		min	-.073	3	-2.433	3	-.201	13	-.139	3	-.304	13	-.405	12
	3	max	.291	12	.087	6	.019	13	.041	14	.689	7	7.151	3
		min	-.073	3	-.022	14	-.089	12	-.139	3	-.806	13	-1.934	14
	4	max	.291	12	2.581	3	.239	13	.041	14	.224	7	.076	14
		min	-.073	3	-.709	14	-.167	7	-.139	3	-.465	12	-.834	5
	5	max	.291	12	5.088	3	.459	13	.041	14	1.819	13	5.868	14
		min	-.073	3	-1.397	14	-.332	7	-.139	3	-1.148	7	-21.24	3
M78	1	max	.278	12	1.355	14	.322	7	.022	14	1.362	13	5.759	14
		min	-.059	13	-4.945	3	-.417	13	-.074	3	-1.01	7	-20.975	3
	2	max	.278	12	.667	14	.157	7	.022	14	.489	5	.199	14
		min	-.059	13	-2.438	3	-.197	13	-.074	3	-.327	13	-.999	6
	3	max	.278	12	.08	6	.023	13	.022	14	.712	7	5.846	3
		min	-.059	13	-.02	14	-.083	12	-.074	3	-.805	13	-1.579	14
	4	max	.278	12	2.576	3	.243	13	.022	14	.212	7	.424	14
		min	-.059	13	-.708	14	-.173	7	-.074	3	-.427	12	-1.877	6
	5	max	.278	12	5.083	3	.463	13	.022	14	1.869	13	6.208	14
		min	-.059	13	-1.395	14	-.338	7	-.074	3	-1.196	7	-22.489	3
M79	1	max	.529	6	1.359	14	.316	7	.009	14	1.333	13	6.209	14
		min	-.074	14	-4.961	3	-.414	13	-.032	3	-.924	7	-22.621	3
	2	max	.529	6	.672	14	.151	7	.009	14	.379	6	.624	14
		min	-.074	14	-2.454	3	-.194	13	-.032	3	-.34	13	-2.263	6
	3	max	.529	6	.061	6	.026	13	.009	14	.736	7	4.373	3
		min	-.074	14	-.016	14	-.064	12	-.032	3	-.803	13	-1.179	14
	4	max	.529	6	2.56	3	.246	13	.009	14	.213	3	.798	14
		min	-.074	14	-.703	14	-.179	7	-.032	3	-.336	12	-2.931	6
	5	max	.529	6	5.067	3	.466	13	.009	14	1.901	13	6.557	14
		min	-.074	14	-1.391	14	-.344	7	-.032	3	-1.233	7	-23.79	3
M80	1	max	1.08	6	1.364	14	.312	7	.006	13	1.321	13	6.598	14
		min	-.277	14	-4.978	3	-.413	13	-.011	7	-.886	7	-24.037	3
	2	max	1.08	6	.677	14	.147	7	.006	13	.377	7	.985	14
		min	-.277	14	-2.471	3	-.193	13	-.011	7	-.345	13	-3.55	3
	3	max	1.08	6	.04	6	.027	13	.006	13	.733	7	3.147	3
		min	-.277	14	-.011	14	-.039	12	-.011	7	-.801	13	-.847	14
	4	max	1.08	6	2.543	3	.247	13	.006	13	.19	3	1.102	14
		min	-.277	14	-.698	14	-.183	7	-.011	7	-.198	12	-3.944	3
	5	max	1.08	6	5.05	3	.467	13	.006	13	1.916	13	6.833	14
		min	-.277	14	-1.386	14	-.348	7	-.011	7	-1.279	7	-24.825	3
M81	1	max	1.988	3	1.395	14	.009	13	.137	14	.23	7	4.293	14
		min	-1.133	12	-3.358	3	-.015	7	-.337	3	-.101	13	-10.797	3
	2	max	1.988	3	.708	14	.009	13	.137	14	.148	7	3.261	6

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-1.133	12	-1.704	3	-.015	7	-.337	3	-.059	14	-1.49	14
	3	max	1.988	3	.112	12	.009	13	.137	14	.084	3	7.942	3
		min	-1.133	12	-.049	3	-.015	7	-.337	3	-.048	14	-3.491	14
	4	max	1.988	3	1.606	3	.009	13	.137	14	.048	13	3.662	3
		min	-1.133	12	-.667	14	-.015	7	-.337	3	-.038	14	-1.711	14
	5	max	1.988	3	3.26	3	.009	13	.137	14	.098	13	3.85	14
		min	-1.133	12	-1.355	14	-.015	7	-.337	3	-.097	7	-9.72	3
M82	1	max	1.542	3	1.386	14	.045	12	.411	3	.245	3	5.155	14
		min	-.45	14	-5.052	3	-.024	3	-.118	14	-.521	12	-18.705	3
	2	max	1.542	3	.699	14	.045	12	.411	3	.115	3	2.188	3
		min	-.45	14	-2.545	3	-.024	3	-.118	14	-.274	12	-.579	14
	3	max	1.542	3	.011	14	.045	12	.411	3	.01	14	9.291	3
		min	-.45	14	-.038	3	-.024	3	-.118	14	-.031	6	-2.532	14
	4	max	1.542	3	2.469	3	.045	12	.411	3	.219	12	2.605	3
		min	-.45	14	-.676	14	-.024	3	-.118	14	-.145	3	-.703	14
	5	max	1.542	3	4.976	3	.045	12	.411	3	.466	12	4.907	14
		min	-.45	14	-1.364	14	-.024	3	-.118	14	-.275	3	-17.87	3
M83	1	max	.181	1	1.362	14	.072	12	.461	3	.308	3	4.94	14
		min	-1.014	12	-4.969	3	-.029	3	-.134	14	-.794	12	-17.926	3
	2	max	.181	1	.674	14	.072	12	.461	3	.15	3	2.507	3
		min	-1.014	12	-2.462	3	-.029	3	-.134	14	-.398	12	-.659	14
	3	max	.181	1	.067	6	.072	12	.461	3	.002	14	9.151	3
		min	-1.014	12	-.013	14	-.029	3	-.134	14	-.009	2	-2.476	14
	4	max	.181	1	2.553	3	.072	12	.461	3	.393	12	2.006	3
		min	-1.014	12	-.701	14	-.029	3	-.134	14	-.166	3	-.512	14
	5	max	.181	1	5.06	3	.072	12	.461	3	.789	12	5.234	14
		min	-1.014	12	-1.388	14	-.029	3	-.134	14	-.324	3	-18.929	3
M84	1	max	.328	14	1.349	14	.074	12	.251	3	.21	7	5.015	14
		min	-1.23	6	-4.928	3	-.025	7	-.073	14	-.85	12	-18.246	3
	2	max	.328	14	.662	14	.074	12	.251	3	.074	7	1.962	3
		min	-1.23	6	-2.421	3	-.025	7	-.073	14	-.441	12	-.516	14
	3	max	.328	14	.109	6	.074	12	.251	3	.024	14	8.382	3
		min	-1.23	6	-.026	14	-.025	7	-.073	14	-.088	6	-2.266	14
	4	max	.328	14	2.594	3	.074	12	.251	3	.376	12	1.012	3
		min	-1.23	6	-.713	14	-.025	7	-.073	14	-.199	7	-.751	12
	5	max	.328	14	5.101	3	.074	12	.251	3	.784	12	5.578	14
		min	-1.23	6	-1.401	14	-.025	7	-.073	14	-.335	7	-20.147	3
M85	1	max	.299	12	1.353	14	.082	12	.137	3	.215	7	5.387	14
		min	-.078	3	-4.94	3	-.027	7	-.04	14	-.93	12	-19.611	3
	2	max	.299	12	.666	14	.082	12	.137	3	.065	7	.666	3
		min	-.078	3	-2.433	3	-.027	7	-.04	14	-.478	12	-.414	12
	3	max	.299	12	.087	6	.082	12	.137	3	.031	14	7.155	3
		min	-.078	3	-.022	14	-.027	7	-.04	14	-.11	3	-1.936	14
	4	max	.299	12	2.581	3	.082	12	.137	3	.426	12	.074	14
		min	-.078	3	-.709	14	-.027	7	-.04	14	-.233	7	-.852	5

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	.299	12	5.088	3	.082	12	.137	3	.878	12	5.866	14
		min	-.078	3	-1.397	14	-.027	7	-.04	14	-.382	7	-21.235	3
M86	1	max	.282	12	1.355	14	.075	12	.072	3	.193	7	5.756	14
		min	-.013	3	-4.945	3	-.027	7	-.021	14	-.85	12	-20.967	3
	2	max	.282	12	.667	14	.075	12	.072	3	.042	7	.196	14
		min	-.013	3	-2.438	3	-.027	7	-.021	14	-.442	5	-1.001	6
	3	max	.282	12	.081	6	.075	12	.072	3	.039	14	5.854	3
		min	-.013	3	-.02	14	-.027	7	-.021	14	-.143	3	-1.582	14
	4	max	.282	12	2.576	3	.075	12	.072	3	.38	12	.421	14
		min	-.013	3	-.708	14	-.027	7	-.021	14	-.259	7	-1.889	6
	5	max	.282	12	5.083	3	.075	12	.072	3	.79	12	6.205	14
		min	-.013	3	-1.395	14	-.027	7	-.021	14	-.41	7	-22.481	3
M87	1	max	.532	6	1.359	14	.055	12	.032	3	.155	7	6.209	14
		min	-.074	14	-4.961	3	-.026	7	-.009	14	-.616	5	-22.619	3
	2	max	.532	6	.672	14	.055	12	.032	3	.032	14	.623	14
		min	-.074	14	-2.454	3	-.026	7	-.009	14	-.332	6	-2.264	6
	3	max	.532	6	.061	6	.055	12	.032	3	.048	14	4.378	3
		min	-.074	14	-.016	14	-.026	7	-.009	14	-.175	3	-1.181	14
	4	max	.532	6	2.56	3	.055	12	.032	3	.286	12	.795	14
		min	-.074	14	-.703	14	-.026	7	-.009	14	-.276	7	-2.934	6
	5	max	.532	6	5.067	3	.055	12	.032	3	.586	12	6.554	14
		min	-.074	14	-1.391	14	-.026	7	-.009	14	-.42	7	-23.781	3
M88	1	max	1.033	6	1.364	14	.03	12	.008	3	.137	7	6.593	14
		min	-.26	14	-4.978	3	-.024	7	-.002	14	-.353	5	-24.017	3
	2	max	1.033	6	.677	14	.03	12	.008	3	.037	14	.98	14
		min	-.26	14	-2.471	3	-.024	7	-.002	14	-.245	6	-3.532	3
	3	max	1.033	6	.04	6	.03	12	.008	3	.047	14	3.164	3
		min	-.26	14	-.011	14	-.024	7	-.002	14	-.171	3	-.852	14
	4	max	1.033	6	2.543	3	.03	12	.008	3	.147	13	1.098	14
		min	-.26	14	-.698	14	-.024	7	-.002	14	-.263	7	-3.929	3
	5	max	1.033	6	5.05	3	.03	12	.008	3	.31	12	6.828	14
		min	-.26	14	-1.386	14	-.024	7	-.002	14	-.396	7	-24.811	3
M89	1	max	.459	14	1.365	14	.027	13	.006	13	.204	7	6.695	14
		min	-1.665	3	-4.98	3	-.022	7	-.005	7	-.297	13	-24.395	3
	2	max	.459	14	.677	14	.027	13	.006	13	.085	7	1.08	14
		min	-1.665	3	-2.473	3	-.022	7	-.005	7	-.148	13	-3.9	3
	3	max	.459	14	.036	6	.027	13	.006	13	.012	14	2.806	3
		min	-1.665	3	-.01	14	-.022	7	-.005	7	-.043	3	-.876	12
	4	max	.459	14	2.541	3	.027	13	.006	13	.151	13	1.192	14
		min	-1.665	3	-.698	14	-.022	7	-.005	7	-.153	7	-4.277	3
	5	max	.459	14	5.049	3	.027	13	.006	13	.3	13	6.92	14
		min	-1.665	3	-1.385	14	-.022	7	-.005	7	-.272	7	-25.149	3
M90	1	max	0	1	1.464	14	.351	7	0	1	2.742	13	8.57	14
		min	0	1	-5.338	3	-.468	13	0	1	-2.057	7	-31.253	3
	2	max	0	1	1.098	14	.263	7	0	1	1.543	13	4.821	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	0	1	-4.003	3	-.351	13	0	1	-1.157	7	-17.58	3
	3	max	0	1	.732	14	.176	7	0	1	.686	13	2.143	14
		min	0	1	-2.669	3	-.234	13	0	1	-.514	7	-7.813	3
	4	max	0	1	.366	14	.088	7	0	1	.171	13	.536	14
		min	0	1	-1.334	3	-.117	13	0	1	-.129	7	-1.953	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M91	1	max	0	1	1.029	14	.247	7	0	1	1.355	13	4.233	14
		min	0	1	-3.752	3	-.329	13	0	1	-1.016	7	-15.438	3
	2	max	0	1	.772	14	.185	7	0	1	.762	13	2.381	14
		min	0	1	-2.814	3	-.247	13	0	1	-.571	7	-8.684	3
	3	max	0	1	.514	14	.123	7	0	1	.339	13	1.058	14
		min	0	1	-1.876	3	-.165	13	0	1	-.254	7	-3.859	3
	4	max	0	1	.257	14	.062	7	0	1	.085	13	.265	14
		min	0	1	-.938	3	-.082	13	0	1	-.063	7	-.965	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M92	1	max	0	1	1.101	14	.264	7	0	1	1.552	13	4.851	14
		min	0	1	-4.016	3	-.352	13	0	1	-1.164	7	-17.69	3
	2	max	0	1	.826	14	.198	7	0	1	.873	13	2.729	14
		min	0	1	-3.012	3	-.264	13	0	1	-.655	7	-9.951	3
	3	max	0	1	.551	14	.132	7	0	1	.388	13	1.213	14
		min	0	1	-2.008	3	-.176	13	0	1	-.291	7	-4.423	3
	4	max	0	1	.275	14	.066	7	0	1	.097	13	.303	14
		min	0	1	-1.004	3	-.088	13	0	1	-.073	7	-1.106	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M93	1	max	0	1	1.174	14	.282	7	0	1	1.763	13	5.511	14
		min	0	1	-4.28	3	-.376	13	0	1	-1.323	7	-20.096	3
	2	max	0	1	.88	14	.211	7	0	1	.992	13	3.1	14
		min	0	1	-3.21	3	-.282	13	0	1	-.744	7	-11.304	3
	3	max	0	1	.587	14	.141	7	0	1	.441	13	1.378	14
		min	0	1	-2.14	3	-.188	13	0	1	-.331	7	-5.024	3
	4	max	0	1	.293	14	.07	7	0	1	.11	13	.344	14
		min	0	1	-1.07	3	-.094	13	0	1	-.083	7	-1.256	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M94	1	max	0	1	1.246	14	.299	7	0	1	1.988	13	6.213	14
		min	0	1	-4.545	3	-.399	13	0	1	-1.491	7	-22.655	3
	2	max	0	1	.935	14	.224	7	0	1	1.118	13	3.495	14
		min	0	1	-3.409	3	-.299	13	0	1	-.839	7	-12.744	3
	3	max	0	1	.623	14	.15	7	0	1	.497	13	1.553	14
		min	0	1	-2.272	3	-.199	13	0	1	-.373	7	-5.664	3
	4	max	0	1	.312	14	.075	7	0	1	.124	13	.388	14
		min	0	1	-1.136	3	-.1	13	0	1	-.093	7	-1.416	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M95	1	max	0	1	1.319	14	.316	7	0	1	2.226	13	6.956	14
		min	0	1	-4.809	3	-.422	13	0	1	-1.67	7	-25.368	3
	2	max	0	1	.989	14	.237	7	0	1	1.252	13	3.913	14
		min	0	1	-3.607	3	-.316	13	0	1	-.939	7	-14.27	3
	3	max	0	1	.659	14	.158	7	0	1	.557	13	1.739	14
		min	0	1	-2.405	3	-.211	13	0	1	-.417	7	-6.342	3
	4	max	0	1	.33	14	.079	7	0	1	.139	13	.435	14
		min	0	1	-1.202	3	-.106	13	0	1	-.104	7	-1.586	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M96	1	max	0	1	1.391	14	.334	7	0	1	2.478	13	7.742	14
		min	0	1	-5.073	3	-.445	13	0	1	-1.858	7	-28.234	3
	2	max	0	1	1.043	14	.25	7	0	1	1.394	13	4.355	14
		min	0	1	-3.805	3	-.334	13	0	1	-1.045	7	-15.882	3
	3	max	0	1	.696	14	.167	7	0	1	.619	13	1.936	14
		min	0	1	-2.537	3	-.223	13	0	1	-.465	7	-7.059	3
	4	max	0	1	.348	14	.083	7	0	1	.155	13	.484	14
		min	0	1	-1.268	3	-.111	13	0	1	-.116	7	-1.765	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M97	1	max	0	1	.479	14	0	1	0	1	0	1	.917	14
		min	0	1	-1.152	3	0	1	0	1	0	1	-2.206	3
	2	max	0	1	.359	14	0	1	0	1	0	1	.516	14
		min	0	1	-.864	3	0	1	0	1	0	1	-1.241	3
	3	max	0	1	.239	14	0	1	0	1	0	1	.229	14
		min	0	1	-.576	3	0	1	0	1	0	1	-.552	3
	4	max	0	1	.12	14	0	1	0	1	0	1	.057	14
		min	0	1	-.288	3	0	1	0	1	0	1	-.138	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M98	1	max	0	1	1.029	14	0	1	0	1	0	1	4.233	14
		min	0	1	-3.752	3	0	1	0	1	0	1	-15.438	3
	2	max	0	1	.772	14	0	1	0	1	0	1	2.381	14
		min	0	1	-2.814	3	0	1	0	1	0	1	-8.684	3
	3	max	0	1	.514	14	0	1	0	1	0	1	1.058	14
		min	0	1	-1.876	3	0	1	0	1	0	1	-3.859	3
	4	max	0	1	.257	14	0	1	0	1	0	1	.265	14
		min	0	1	-.938	3	0	1	0	1	0	1	-.965	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M99	1	max	0	1	1.101	14	0	1	0	1	0	1	4.851	14
		min	0	1	-4.016	3	0	1	0	1	0	1	-17.69	3
	2	max	0	1	.826	14	0	1	0	1	0	1	2.729	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	0	1	-3.012	3	0	1	0	1	0	1	-9.951	3
	3	max	0	1	.551	14	0	1	0	1	0	1	1.213	14
		min	0	1	-2.008	3	0	1	0	1	0	1	-4.423	3
	4	max	0	1	.275	14	0	1	0	1	0	1	.303	14
		min	0	1	-1.004	3	0	1	0	1	0	1	-1.106	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M100	1	max	0	1	1.174	14	0	1	0	1	0	1	5.511	14
		min	0	1	-4.28	3	0	1	0	1	0	1	-20.096	3
	2	max	0	1	.88	14	0	1	0	1	0	1	3.1	14
		min	0	1	-3.21	3	0	1	0	1	0	1	-11.304	3
	3	max	0	1	.587	14	0	1	0	1	0	1	1.378	14
		min	0	1	-2.14	3	0	1	0	1	0	1	-5.024	3
	4	max	0	1	.293	14	0	1	0	1	0	1	.344	14
		min	0	1	-1.07	3	0	1	0	1	0	1	-1.256	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M101	1	max	0	1	1.246	14	0	1	0	1	0	1	6.213	14
		min	0	1	-4.545	3	0	1	0	1	0	1	-22.655	3
	2	max	0	1	.935	14	0	1	0	1	0	1	3.495	14
		min	0	1	-3.409	3	0	1	0	1	0	1	-12.744	3
	3	max	0	1	.623	14	0	1	0	1	0	1	1.553	14
		min	0	1	-2.272	3	0	1	0	1	0	1	-5.664	3
	4	max	0	1	.312	14	0	1	0	1	0	1	.388	14
		min	0	1	-1.136	3	0	1	0	1	0	1	-1.416	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M102	1	max	0	1	1.319	14	0	1	0	1	0	1	6.956	14
		min	0	1	-4.809	3	0	1	0	1	0	1	-25.368	3
	2	max	0	1	.989	14	0	1	0	1	0	1	3.913	14
		min	0	1	-3.607	3	0	1	0	1	0	1	-14.27	3
	3	max	0	1	.659	14	0	1	0	1	0	1	1.739	14
		min	0	1	-2.405	3	0	1	0	1	0	1	-6.342	3
	4	max	0	1	.33	14	0	1	0	1	0	1	.435	14
		min	0	1	-1.202	3	0	1	0	1	0	1	-1.586	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M103	1	max	0	1	1.391	14	0	1	0	1	0	1	7.742	14
		min	0	1	-5.073	3	0	1	0	1	0	1	-28.234	3
	2	max	0	1	1.043	14	0	1	0	1	0	1	4.355	14
		min	0	1	-3.805	3	0	1	0	1	0	1	-15.882	3
	3	max	0	1	.696	14	0	1	0	1	0	1	1.936	14
		min	0	1	-2.537	3	0	1	0	1	0	1	-7.059	3
	4	max	0	1	.348	14	0	1	0	1	0	1	.484	14
		min	0	1	-1.268	3	0	1	0	1	0	1	-1.765	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M104	1	max	0	1	1.465	14	0	1	0	1	0	1	8.585	14
		min	0	1	-5.342	3	0	1	0	1	0	1	-31.307	3
	2	max	0	1	1.099	14	0	1	0	1	0	1	4.829	14
		min	0	1	-4.007	3	0	1	0	1	0	1	-17.61	3
	3	max	0	1	.732	14	0	1	0	1	0	1	2.146	14
		min	0	1	-2.671	3	0	1	0	1	0	1	-7.827	3
	4	max	0	1	.366	14	0	1	0	1	0	1	.537	14
		min	0	1	-1.336	3	0	1	0	1	0	1	-1.957	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M105	1	max	2.065	3	1.386	14	.01	3	.455	7	.067	14	4.243	14
		min	-1.183	12	-3.342	3	-.002	14	-.245	13	-.196	3	-10.702	3
	2	max	2.065	3	.699	14	.01	3	.455	7	.058	14	3.345	6
		min	-1.183	12	-1.687	3	-.002	14	-.245	13	-.14	3	-1.49	14
	3	max	2.065	3	.126	12	.01	3	.455	7	.048	14	7.854	3
		min	-1.183	12	-.044	7	-.002	14	-.245	13	-.084	3	-3.442	14
	4	max	2.065	3	1.622	3	.01	3	.455	7	.048	13	3.482	3
		min	-1.183	12	-.676	14	-.002	14	-.245	13	-.059	7	-1.613	14
	5	max	2.065	3	3.277	3	.01	3	.455	7	.098	13	3.997	14
		min	-1.183	12	-1.364	14	-.002	14	-.245	13	-.053	7	-9.991	3
M106	1	max	0	1	.529	14	0	1	0	1	0	1	1.118	14
		min	0	1	-1.273	3	0	1	0	1	0	1	-2.691	3
	2	max	0	1	.397	14	0	1	0	1	0	1	.629	14
		min	0	1	-.954	3	0	1	0	1	0	1	-1.514	3
	3	max	0	1	.264	14	0	1	0	1	0	1	.28	14
		min	0	1	-.636	3	0	1	0	1	0	1	-.673	3
	4	max	0	1	.132	14	0	1	0	1	0	1	.07	14
		min	0	1	-.318	3	0	1	0	1	0	1	-.168	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M107	1	max	68.43	3	.695	14	4.534	7	.932	3	13.608	13	3.1	14
		min	-17.337	14	-3.019	6	-3.322	13	-.566	12	-11.248	7	-13.454	6
	2	max	68.38	3	.695	14	4.534	7	.932	3	9.207	13	2.18	14
		min	-17.337	14	-3.059	6	-3.322	13	-.566	12	-5.24	7	-9.428	6
	3	max	68.33	3	.695	14	4.534	7	.932	3	5.6	3	1.26	14
		min	-17.337	14	-3.098	6	-3.322	13	-.566	12	-2.09	14	-5.349	6
	4	max	68.28	3	.695	14	4.534	7	.932	3	9.107	3	.339	14
		min	-17.337	14	-3.138	6	-3.322	13	-.566	12	-2.37	14	-1.289	5
	5	max	68.23	3	.695	14	4.534	7	.932	3	12.783	7	2.968	6
		min	-17.337	14	-3.178	6	-3.322	13	-.566	12	-3.996	13	-.581	14
M108	1	max	4.603	14	1.301	3	1.787	14	.405	14	12.922	3	3.559	3
		min	-7.688	13	-1.119	12	-3.305	3	-2.586	5	-6.832	14	-4.144	12
	2	max	4.603	14	1.301	3	1.787	14	.405	14	8.543	3	1.835	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-7.688	13	-1.119	12	-3.305	3	-2.586	5	-4.464	14	-2.661	12
	3	max	4.603	14	1.301	3	1.787	14	.405	14	4.165	3	.139	7
		min	-7.688	13	-1.119	12	-3.305	3	-2.586	5	-2.096	14	-1.177	12
	4	max	4.603	14	1.301	3	1.787	14	.405	14	.312	7	.306	12
		min	-7.688	13	-1.119	12	-3.305	3	-2.586	5	-.684	13	-1.612	3
	5	max	4.603	14	1.301	3	1.787	14	.405	14	2.64	14	1.789	12
		min	-7.688	13	-1.119	12	-3.305	3	-2.586	5	-4.592	3	-3.336	3
M109	1	max	11.106	13	1.484	13	2.366	12	10.517	5	1.586	3	6.626	14
		min	-8.015	7	-1.134	7	-.725	3	-.965	14	-5.78	12	-9.553	7
	2	max	11.106	13	1.484	13	2.366	12	10.517	5	.601	13	5.552	14
		min	-8.015	7	-1.066	7	-.725	3	-.965	14	-2.231	12	-9.546	3
	3	max	11.106	13	1.484	13	2.366	12	10.517	5	1.473	5	4.478	14
		min	-8.015	7	-.997	7	-.725	3	-.965	14	-.901	7	-9.7	3
	4	max	11.106	13	1.484	13	2.366	12	10.517	5	4.867	12	3.404	14
		min	-8.015	7	-.929	7	-.725	3	-.965	14	-1.817	7	-9.957	3
	5	max	11.106	13	1.484	13	2.366	12	10.517	5	8.416	12	2.33	14
		min	-8.015	7	-.86	7	-.725	3	-.965	14	-2.765	3	-10.317	3
M110	1	max	.025	13	5.49	14	1.995	14	6.971	14	1.727	3	15.951	14
		min	-.046	7	-9.796	3	-3.188	3	-11.733	3	-4.7	12	-28.07	3
	2	max	.025	13	5.49	14	1.995	14	6.971	14	1.408	7	15.32	14
		min	-.046	7	-9.79	3	-3.188	3	-11.733	3	-4.672	12	-26.944	3
	3	max	.025	13	5.49	14	1.995	14	6.971	14	1.116	7	14.689	14
		min	-.046	7	-9.785	3	-3.188	3	-11.733	3	-4.643	12	-25.818	3
	4	max	.025	13	5.49	14	1.995	14	6.971	14	.824	7	14.057	14
		min	-.046	7	-9.78	3	-3.188	3	-11.733	3	-4.615	12	-24.693	3
	5	max	.025	13	5.49	14	1.995	14	6.971	14	.531	7	13.426	14
		min	-.046	7	-9.775	3	-3.188	3	-11.733	3	-4.587	12	-23.569	3
M111	1	max	6.55	13	3.768	14	.067	14	1.545	14	9.728	6	16.018	14
		min	-5.664	7	-12.406	3	-1.199	12	-5.62	6	-.77	14	-50.029	3
	2	max	6.55	13	3.768	14	.067	14	1.545	14	7.963	6	10.366	14
		min	-5.664	7	-12.337	3	-1.154	6	-5.62	6	-.669	14	-31.472	3
	3	max	6.55	13	3.768	14	.067	14	1.545	14	6.266	6	4.715	14
		min	-5.664	7	-12.269	3	-1.109	6	-5.62	6	-.568	14	-13.017	3
	4	max	6.55	13	3.768	14	.067	14	1.545	14	4.636	6	6.639	7
		min	-5.664	7	-12.2	3	-1.064	6	-5.62	6	-.468	14	-3.344	13
	5	max	6.55	13	3.768	14	.067	14	1.545	14	3.073	6	23.583	3
		min	-5.664	7	-12.132	3	-1.019	6	-5.62	6	-.367	14	-6.589	14
M112	1	max	3.736	7	5.547	13	2.784	3	13.463	3	6.431	12	28.92	13
		min	-5.41	13	-12.365	7	-1.769	14	-7.511	14	-.493	1	-47.23	7
	2	max	3.736	7	5.547	13	2.784	3	13.463	3	6.377	12	28.282	13
		min	-5.41	13	-12.359	7	-1.769	14	-7.511	14	-.421	1	-45.808	7
	3	max	3.736	7	5.547	13	2.784	3	13.463	3	6.324	12	27.644	13
		min	-5.41	13	-12.354	7	-1.769	14	-7.511	14	-.348	1	-44.387	7
	4	max	3.736	7	5.547	13	2.784	3	13.463	3	6.271	12	27.006	13
		min	-5.41	13	-12.349	7	-1.769	14	-7.511	14	-.276	1	-42.967	7

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	3.736	7	5.547	13	2.784	3	13.463	3	6.219	12	26.368	13
		min	-5.41	13	-12.344	7	-1.769	14	-7.511	14	-.204	1	-41.547	7
M113	1	max	4.971	5	.162	1	.341	12	.571	14	1.235	7	.299	14
		min	-1.533	2	-.134	12	-.28	3	-2.063	3	-.535	14	-.506	12
	2	max	4.972	5	.075	14	.341	12	.571	14	1.344	5	.093	14
		min	-1.533	2	-.134	12	-.28	3	-2.063	3	-.389	13	-.303	5
	3	max	4.972	5	.075	14	.341	12	.571	14	2.239	12	.266	2
		min	-1.533	2	-.219	6	-.28	3	-2.063	3	-.38	3	-.183	1
	4	max	4.972	5	.075	14	.341	12	.571	14	3.176	12	.931	6
		min	-1.533	2	-.323	6	-.28	3	-2.063	3	-1.149	3	-.317	14
	5	max	4.972	5	.075	14	.341	12	.571	14	4.113	12	1.962	6
		min	-1.533	2	-.427	6	-.28	3	-2.063	3	-1.919	3	-.523	14
M114	1	max	2.53	14	4.105	5	.487	7	.255	14	3.225	6	2.021	12
		min	-5.661	6	-.543	14	-.232	13	-1.631	13	-.704	14	-2.801	3
	2	max	2.53	14	4.042	5	.487	7	.255	14	3.774	6	1.306	14
		min	-5.661	6	-.543	14	-.232	13	-1.631	13	-.96	14	-4.995	6
	3	max	2.53	14	3.979	5	.487	7	.255	14	4.323	6	2.053	14
		min	-5.661	6	-.543	14	-.232	13	-1.631	13	-1.216	14	-9.453	5
	4	max	2.53	14	3.94	12	.487	7	.255	14	4.872	6	2.8	14
		min	-5.661	6	-.543	14	-.232	13	-1.631	13	-1.473	14	-14.881	5
	5	max	2.53	14	3.94	12	.487	7	.255	14	5.421	6	3.547	14
		min	-5.661	6	-.543	14	-.232	13	-1.631	13	-1.729	14	-20.223	5
M115	1	max	91.701	3	2.579	5	1.258	14	.459	14	21.528	13	1.632	13
		min	-25.407	14	-.191	14	-2.441	13	-.756	3	-22.797	7	-23.342	12
	2	max	91.657	3	2.579	5	1.258	14	.459	14	18.678	13	1.81	13
		min	-25.407	14	-.191	14	-2.441	13	-.756	3	-22.163	7	-26.289	12
	3	max	91.613	3	2.579	5	1.258	14	.459	14	15.828	13	1.988	13
		min	-25.407	14	-.191	14	-2.441	13	-.756	3	-21.53	7	-29.237	12
	4	max	91.569	3	2.579	5	1.258	14	.459	14	12.978	13	2.166	13
		min	-25.407	14	-.191	14	-2.441	13	-.756	3	-20.896	7	-32.184	12
	5	max	91.524	3	2.579	5	1.258	14	.459	14	10.129	13	2.344	13
		min	-25.407	14	-.191	14	-2.441	13	-.756	3	-20.263	7	-35.153	5
M116	1	max	8.477	3	.721	14	.737	13	.454	7	.843	7	2.736	3
		min	-2.32	14	-2.56	3	-.567	7	-.44	12	-.702	13	-.753	14
	2	max	8.472	3	.721	14	.737	13	.454	7	.717	7	3.305	3
		min	-2.32	14	-2.56	3	-.567	7	-.44	12	-.538	13	-.913	14
	3	max	8.467	3	.721	14	.737	13	.454	7	.591	7	3.875	3
		min	-2.32	14	-2.56	3	-.567	7	-.44	12	-.374	13	-1.073	14
	4	max	8.462	3	.721	14	.737	13	.454	7	.465	7	4.444	3
		min	-2.32	14	-2.56	3	-.567	7	-.44	12	-.21	13	-1.234	14
	5	max	8.457	3	.721	14	.737	13	.454	7	.389	3	5.014	3
		min	-2.32	14	-2.56	3	-.567	7	-.44	12	-.112	14	-1.394	14
M117	1	max	8.429	3	2.56	3	.743	13	.478	13	.145	7	.599	14
		min	-2.305	14	-.721	14	-.543	7	-.392	12	-.615	13	-2.266	2
	2	max	8.424	3	2.56	3	.743	13	.478	13	.115	14	.759	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-2.305	14	-.721	14	-.543	7	-.392	12	-.45	13	-2.778	3
	3	max	8.419	3	2.56	3	.743	13	.478	13	.114	14	.919	14
		min	-2.305	14	-.721	14	-.543	7	-.392	12	-.398	3	-3.347	3
	4	max	8.414	3	2.56	3	.743	13	.478	13	.113	14	1.08	14
		min	-2.305	14	-.721	14	-.543	7	-.392	12	-.393	3	-3.917	3
	5	max	8.409	3	2.56	3	.743	13	.478	13	.112	14	1.24	14
		min	-2.305	14	-.721	14	-.543	7	-.392	12	-.389	3	-4.486	3
M118	1	max	3.194	14	.579	3	.33	6	.88	14	.277	13	1.375	3
		min	-6.517	3	-.166	12	-.077	14	-2.825	3	-.668	7	-.654	12
	2	max	3.194	14	.454	3	.33	6	.88	14	.487	12	.235	2
		min	-6.517	3	-.166	12	-.077	14	-2.825	3	-.152	14	-.478	5
	3	max	3.194	14	.328	3	.33	6	.88	14	1.373	6	.259	12
		min	-6.517	3	-.166	12	-.077	14	-2.825	3	-.364	14	-1.12	3
	4	max	3.194	14	.272	2	.33	6	.88	14	2.28	6	.716	12
		min	-6.517	3	-.236	5	-.077	14	-2.825	3	-.575	14	-1.849	3
	5	max	3.194	14	.272	2	.33	6	.88	14	3.186	6	1.172	12
		min	-6.517	3	-.361	5	-.077	14	-2.825	3	-.787	14	-2.233	3
M119	1	max	5.28	5	.161	1	.279	3	2.061	3	.51	14	.273	14
		min	-.358	2	-.142	12	-.318	12	-.572	14	-1.157	6	-.54	12
	2	max	5.28	5	.065	14	.279	3	2.061	3	.212	14	.094	14
		min	-.358	2	-.142	12	-.318	12	-.572	14	-1.316	5	-.314	5
	3	max	5.28	5	.065	14	.279	3	2.061	3	.558	7	.243	12
		min	-.358	2	-.198	6	-.318	12	-.572	14	-2.153	12	-.18	1
	4	max	5.28	5	.065	14	.279	3	2.061	3	1.197	3	.803	6
		min	-.358	2	-.302	6	-.318	12	-.572	14	-3.029	12	-.263	14
	5	max	5.28	5	.065	14	.279	3	2.061	3	1.965	3	1.776	6
		min	-.358	2	-.406	6	-.318	12	-.572	14	-3.904	12	-.442	14
M120	1	max	2.595	14	4.391	5	.179	14	2.568	7	.685	14	2.162	12
		min	-6.195	6	-.562	14	-.391	3	-1.66	13	-3.06	6	-2.907	3
	2	max	2.595	14	4.328	5	.179	14	2.568	7	.931	14	1.352	14
		min	-6.195	6	-.562	14	-.391	3	-1.66	13	-3.562	6	-5.244	6
	3	max	2.595	14	4.266	5	.179	14	2.568	7	1.177	14	2.125	14
		min	-6.195	6	-.562	14	-.391	3	-1.66	13	-4.063	6	-10.089	5
	4	max	2.595	14	4.216	12	.179	14	2.568	7	1.423	14	2.898	14
		min	-6.195	6	-.562	14	-.391	3	-1.66	13	-4.565	6	-15.911	5
	5	max	2.595	14	4.216	12	.179	14	2.568	7	1.669	14	3.671	14
		min	-6.195	6	-.562	14	-.391	3	-1.66	13	-5.066	6	-21.646	5
M121	1	max	91.376	3	2.718	5	2.975	7	.74	3	21.702	13	1.763	7
		min	-25.245	14	-.176	14	-2.456	13	-.452	14	-9.434	7	-26.021	12
	2	max	91.332	3	2.671	5	2.975	7	.74	3	18.834	13	1.607	7
		min	-25.245	14	-.176	14	-2.456	13	-.452	14	-5.961	7	-29.11	12
	3	max	91.288	3	2.625	5	2.975	7	.74	3	15.966	13	1.451	7
		min	-25.245	14	-.176	14	-2.456	13	-.452	14	-3.063	14	-32.144	12
	4	max	91.244	3	2.578	5	2.975	7	.74	3	13.854	3	1.295	7
		min	-25.245	14	-.176	14	-2.456	13	-.452	14	-4.396	14	-35.123	12

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	91.2	3	2.531	5	2.975	7	.74	3	15.506	3	1.138	7
		min	-25.245	14	-.176	14	-2.456	13	-.452	14	-5.729	14	-38.048	12
M122	1	max	3.259	14	.577	3	.076	14	2.862	3	.602	3	1.288	3
		min	-6.772	3	-.181	12	-.297	6	-.904	14	-.309	12	-.738	12
	2	max	3.259	14	.452	3	.076	14	2.862	3	.207	13	.225	13
		min	-6.772	3	-.181	12	-.297	6	-.904	14	-.651	12	-.516	5
	3	max	3.259	14	.326	3	.076	14	2.862	3	.347	14	.259	12
		min	-6.772	3	-.181	12	-.297	6	-.904	14	-1.375	6	-1.196	3
	4	max	3.259	14	.271	2	.076	14	2.862	3	.557	14	.757	12
		min	-6.772	3	-.251	5	-.297	6	-.904	14	-2.191	6	-1.919	3
	5	max	3.259	14	.271	2	.076	14	2.862	3	.767	14	1.255	12
		min	-6.772	3	-.377	5	-.297	6	-.904	14	-3.007	6	-2.298	3
M123	1	max	89.761	3	1.441	5	7.216	7	.08	14	28.168	13	.303	14
		min	-25.415	14	-.056	7	-6.72	13	-1.63	5	-21.852	7	-19.283	5
	2	max	89.717	3	1.441	5	7.216	7	.08	14	20.323	13	.304	14
		min	-25.415	14	-.056	7	-6.72	13	-1.63	5	-13.427	7	-20.966	5
	3	max	89.673	3	1.441	5	7.216	7	.08	14	12.477	13	.311	7
		min	-25.415	14	-.056	7	-6.72	13	-1.63	5	-5.003	7	-22.648	5
	4	max	89.629	3	1.441	5	7.216	7	.08	14	8.82	3	.377	7
		min	-25.415	14	-.056	7	-6.72	13	-1.63	5	-2.843	14	-24.33	5
	5	max	89.585	3	1.441	5	7.216	7	.08	14	12.015	3	.442	7
		min	-25.415	14	-.056	7	-6.72	13	-1.63	5	-4.348	14	-26.012	5
M124	1	max	89.653	3	1.326	5	2.832	7	1.535	5	27.856	13	.7	13
		min	-25.294	14	-.066	13	-6.636	13	-.086	14	-20.306	7	-17.771	5
	2	max	89.609	3	1.326	5	2.832	7	1.535	5	20.109	13	.777	13
		min	-25.294	14	-.066	13	-6.636	13	-.086	14	-16.999	7	-19.319	5
	3	max	89.565	3	1.326	5	2.832	7	1.535	5	12.361	13	.854	13
		min	-25.294	14	-.066	13	-6.636	13	-.086	14	-13.693	7	-20.867	5
	4	max	89.521	3	1.326	5	2.832	7	1.535	5	4.613	13	.931	13
		min	-25.294	14	-.066	13	-6.636	13	-.086	14	-10.387	7	-22.414	5
	5	max	89.477	3	1.326	5	2.832	7	1.535	5	4.334	14	1.009	13
		min	-25.294	14	-.066	13	-6.636	13	-.086	14	-12.01	3	-23.962	5
M125	1	max	71.681	3	1.108	3	.738	14	2.075	6	2.753	14	1.398	14
		min	-19.466	14	-1.148	12	-3.305	3	-.25	14	-11.953	3	-7.807	6
	2	max	71.681	3	1.108	3	.738	14	2.075	6	2.764	14	1.403	14
		min	-19.466	14	-1.148	12	-3.305	3	-.25	14	-12.002	3	-7.807	6
	3	max	71.68	3	1.108	3	.738	14	2.075	6	2.775	14	1.408	14
		min	-19.466	14	-1.148	12	-3.305	3	-.25	14	-12.052	3	-7.807	6
	4	max	71.68	3	1.108	3	.738	14	2.075	6	2.786	14	1.413	14
		min	-19.466	14	-1.148	12	-3.305	3	-.25	14	-12.102	3	-7.808	6
	5	max	71.68	3	1.108	3	.738	14	2.075	6	2.797	14	1.418	14
		min	-19.466	14	-1.148	12	-3.305	3	-.25	14	-12.151	3	-7.808	6
M126	1	max	71.625	3	1.112	3	3.315	3	.249	14	12.042	3	1.408	14
		min	-19.463	14	-1.267	12	-.735	14	-2.197	5	-2.766	14	-8.105	6
	2	max	71.625	3	1.112	3	3.315	3	.249	14	12.091	3	1.413	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-19.463	14	-1.267	12	-.735	14	-2.197	5	-2.777	14	-8.104	6
	3	max	71.625	3	1.112	3	3.315	3	.249	14	12.141	3	1.418	14
		min	-19.463	14	-1.267	12	-.735	14	-2.197	5	-2.788	14	-8.103	6
	4	max	71.624	3	1.112	3	3.315	3	.249	14	12.191	3	1.423	14
		min	-19.463	14	-1.267	12	-.735	14	-2.197	5	-2.799	14	-8.101	6
	5	max	71.624	3	1.112	3	3.315	3	.249	14	12.24	3	1.428	14
		min	-19.463	14	-1.267	12	-.735	14	-2.197	5	-2.81	14	-8.1	6
M127	1	max	11.832	14	.109	14	.194	12	.142	5	4.595	3	6.741	3
		min	-56.74	3	-.721	3	-.309	3	-.22	13	-3.353	12	-1.87	14
	2	max	11.832	14	.109	14	.194	12	.142	5	3.7	3	8.638	3
		min	-56.74	3	-.589	3	-.309	3	-.22	13	-2.792	12	-2.187	14
	3	max	11.832	14	.109	14	.194	12	.142	5	2.805	3	10.152	3
		min	-56.74	3	-.457	3	-.309	3	-.22	13	-2.232	12	-2.504	14
	4	max	11.832	14	.109	14	.194	12	.142	5	1.91	3	11.284	3
		min	-56.74	3	-.393	2	-.309	3	-.22	13	-1.672	12	-2.821	14
	5	max	11.832	14	.2	1	.194	12	.142	5	1.085	7	12.034	3
		min	-56.74	3	-.393	2	-.309	3	-.22	13	-1.112	12	-3.138	14
M128	1	max	79.493	3	3.354	14	.203	7	7.522	3	.329	13	4.975	14
		min	-18.024	14	-12.4	3	-.723	12	-2.006	14	-.992	5	-17.394	3
	2	max	79.49	3	3.354	14	.203	7	7.522	3	.257	13	2.761	14
		min	-18.024	14	-12.37	3	-.723	12	-2.006	14	-1.462	12	-9.22	3
	3	max	79.488	3	3.354	14	.203	7	7.522	3	.185	13	.548	14
		min	-18.024	14	-12.34	3	-.723	12	-2.006	14	-1.939	12	-1.283	2
	4	max	79.485	3	3.354	14	.203	7	7.522	3	.249	3	7.07	3
		min	-18.024	14	-12.31	3	-.723	12	-2.006	14	-2.416	12	-1.666	14
	5	max	79.482	3	3.354	14	.203	7	7.522	3	.352	3	15.185	3
		min	-18.024	14	-12.28	3	-.723	12	-2.006	14	-2.893	12	-3.879	14
M129	1	max	11.789	14	.391	2	.316	3	.292	7	.937	3	12.027	3
		min	-56.659	3	-.201	1	-.198	12	-.343	5	-1.102	12	-3.138	14
	2	max	11.789	14	.391	2	.316	3	.292	7	1.851	3	11.284	3
		min	-56.659	3	-.109	14	-.198	12	-.343	5	-1.675	12	-2.823	14
	3	max	11.789	14	.455	3	.316	3	.292	7	2.764	3	10.159	3
		min	-56.659	3	-.109	14	-.198	12	-.343	5	-2.248	12	-2.507	14
	4	max	11.789	14	.587	3	.316	3	.292	7	3.678	3	8.651	3
		min	-56.659	3	-.109	14	-.198	12	-.343	5	-2.821	12	-2.192	14
	5	max	11.789	14	.719	3	.316	3	.292	7	4.592	3	6.76	3
		min	-56.659	3	-.109	14	-.198	12	-.343	5	-3.394	12	-1.876	14
M130	1	max	56.841	3	4.432	14	1.006	2	1.393	3	1.826	12	12.844	14
		min	-11.664	14	-16.267	3	-.357	14	-1.272	12	-2.403	3	-45.327	3
	2	max	56.839	3	4.432	14	1.006	2	1.393	3	1.835	12	10.786	14
		min	-11.664	14	-16.246	3	-.357	14	-1.272	12	-2.045	7	-37.777	3
	3	max	56.837	3	4.432	14	1.006	2	1.393	3	1.845	12	8.727	14
		min	-11.664	14	-16.225	3	-.357	14	-1.272	12	-1.704	7	-30.236	3
	4	max	56.835	3	4.432	14	1.006	2	1.393	3	1.854	12	6.669	14
		min	-11.664	14	-16.204	3	-.357	14	-1.272	12	-1.363	7	-22.706	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	56.833	3	4.432	14	1.006	2	1.393	3	1.863	12	4.61	14
		min	-11.664	14	-16.183	3	-.357	14	-1.272	12	-1.023	7	-15.185	3
M131	1	max	14.036	3	1.154	14	.402	3	.615	2	6.219	12	8.525	14
		min	-7.043	14	-4.499	3	-.657	12	-.524	5	-3.72	3	-30.647	3
	2	max	14.036	3	1.154	14	.402	3	.615	2	4.343	12	5.231	14
		min	-7.043	14	-4.369	3	-.657	12	-.524	5	-2.571	3	-17.988	3
	3	max	14.036	3	1.154	14	.402	3	.615	2	2.468	12	1.937	14
		min	-7.043	14	-4.238	3	-.657	12	-.524	5	-1.569	7	-5.701	3
	4	max	14.036	3	1.154	14	.402	3	.615	2	.592	12	6.213	3
		min	-7.043	14	-4.108	3	-.657	12	-.524	5	-.581	7	-1.357	14
	5	max	14.036	3	1.154	14	.402	3	.615	2	.876	3	17.756	3
		min	-7.043	14	-3.978	3	-.657	12	-.524	5	-1.284	12	-4.651	14
M132	1	max	54.509	3	3.067	14	.318	12	1.57	14	.117	14	3.195	14
		min	-11.063	14	-11.404	3	-.036	7	-5.931	6	-1.464	5	-11.062	3
	2	max	54.511	3	3.067	14	.318	12	1.57	14	.121	14	2.033	14
		min	-11.063	14	-11.387	3	-.036	7	-5.931	6	-1.361	6	-6.747	3
	3	max	54.512	3	3.067	14	.318	12	1.57	14	.126	14	.871	14
		min	-11.063	14	-11.37	3	-.036	7	-5.931	6	-1.276	6	-2.438	3
	4	max	54.514	3	3.067	14	.318	12	1.57	14	.13	14	1.865	3
		min	-11.063	14	-11.353	3	-.036	7	-5.931	6	-1.192	6	-.29	14
	5	max	54.515	3	3.067	14	.318	12	1.57	14	.135	14	6.161	3
		min	-11.063	14	-11.336	3	-.036	7	-5.931	6	-1.107	6	-1.452	14
M133	1	max	19.822	7	3.973	3	.628	12	.325	5	.952	7	17.766	3
		min	-11.472	13	-1.149	14	-.4	3	-.612	2	-1.223	12	-4.648	14
	2	max	19.822	7	4.104	3	.628	12	.325	5	.568	12	6.236	3
		min	-11.472	13	-1.149	14	-.4	3	-.612	2	-.487	13	-1.367	14
	3	max	19.822	7	4.234	3	.628	12	.325	5	2.36	12	1.913	14
		min	-11.472	13	-1.149	14	-.4	3	-.612	2	-1.343	3	-5.665	3
	4	max	19.822	7	4.364	3	.628	12	.325	5	4.151	12	5.194	14
		min	-11.472	13	-1.149	14	-.4	3	-.612	2	-2.485	3	-17.939	3
	5	max	19.822	7	4.495	3	.628	12	.325	5	5.943	12	8.475	14
		min	-11.472	13	-1.149	14	-.4	3	-.612	2	-3.628	3	-30.585	3
M134	1	max	9.53	13	4.542	14	1.133	12	1.645	14	1.285	14	10.158	14
		min	-20.901	7	-14.655	3	-2.169	3	-8.834	6	-4.039	3	-33.639	3
	2	max	9.53	13	4.542	14	1.133	12	1.645	14	1.293	14	10.113	14
		min	-20.901	7	-14.655	3	-2.169	3	-8.834	6	-4.061	3	-33.492	3
	3	max	9.53	13	4.542	14	1.133	12	1.645	14	1.3	14	10.068	14
		min	-20.901	7	-14.654	3	-2.169	3	-8.834	6	-4.083	3	-33.346	3
	4	max	9.53	13	4.542	14	1.133	12	1.645	14	1.307	14	10.022	14
		min	-20.901	7	-14.654	3	-2.169	3	-8.834	6	-4.104	3	-33.199	3
	5	max	9.53	13	4.542	14	1.133	12	1.645	14	1.315	14	9.977	14
		min	-20.901	7	-14.653	3	-2.169	3	-8.834	6	-4.126	3	-33.053	3
M135	1	max	8.655	7	1.49	13	.717	3	.994	14	7.949	12	6.098	13
		min	-11.03	13	-1.296	7	-2.138	12	-9.855	5	-2.671	3	-12.618	7
	2	max	8.655	7	1.49	13	.717	3	.994	14	4.741	12	3.863	13

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-11.03	13	-1.227	7	-2.138	12	-9.855	5	-1.595	3	-10.726	7
	3	max	8.655	7	1.49	13	.717	3	.994	14	1.701	5	4.575	14
		min	-11.03	13	-1.159	7	-2.138	12	-9.855	5	-.687	13	-9.879	3
	4	max	8.655	7	1.49	13	.717	3	.994	14	.975	7	5.737	14
		min	-11.03	13	-1.09	7	-2.138	12	-9.855	5	-1.674	12	-9.869	3
	5	max	8.655	7	1.49	13	.717	3	.994	14	1.786	7	6.898	14
		min	-11.03	13	-1.022	7	-2.138	12	-9.855	5	-4.882	12	-9.961	3
M136	1	max	32.476	14	.098	14	.329	3	1.261	6	1.554	14	8.446	3
		min	-127.322	3	-.678	3	-.089	14	-.259	14	-8.377	6	-2.363	14
	2	max	32.476	14	.098	14	.346	6	1.261	6	1.297	14	10.217	3
		min	-127.322	3	-.546	3	-.089	14	-.259	14	-7.501	6	-2.646	14
	3	max	32.476	14	.098	14	.433	6	1.261	6	1.04	14	11.605	3
		min	-127.322	3	-.413	3	-.089	14	-.259	14	-6.374	6	-2.929	14
	4	max	32.476	14	.098	14	.52	6	1.261	6	.782	14	12.61	3
		min	-127.322	3	-.357	2	-.089	14	-.259	14	-4.995	6	-3.212	14
	5	max	32.476	14	.211	5	.607	6	1.261	6	.525	14	13.233	3
		min	-127.322	3	-.357	2	-.089	14	-.259	14	-3.365	6	-3.495	14
M137	1	max	142.511	3	3.207	14	.121	12	2.633	14	.33	13	3.634	14
		min	-36.36	14	-11.897	3	-.126	3	-9.638	3	-3.272	5	-12.782	3
	2	max	142.508	3	3.207	14	.147	12	2.633	14	.265	13	1.517	14
		min	-36.36	14	-11.867	3	-.126	3	-9.638	3	-3.193	5	-4.955	2
	3	max	142.505	3	3.207	14	.174	12	2.633	14	.199	13	2.882	3
		min	-36.36	14	-11.837	3	-.126	3	-9.638	3	-3.096	5	-.6	14
	4	max	142.503	3	3.207	14	.2	12	2.633	14	.134	13	10.685	3
		min	-36.36	14	-11.807	3	-.126	3	-9.638	3	-2.982	5	-2.716	14
	5	max	142.5	3	3.207	14	.227	12	2.633	14	.108	14	18.467	3
		min	-36.36	14	-11.777	3	-.126	3	-9.638	3	-2.85	5	-4.833	14
M138	1	max	32.525	14	.358	2	.089	14	.267	14	.527	14	13.259	3
		min	-127.385	3	-.213	5	-.601	6	-1.289	6	-3.423	6	-3.509	14
	2	max	32.525	14	.358	2	.089	14	.267	14	.783	14	12.632	3
		min	-127.385	3	-.099	14	-.514	6	-1.289	6	-5.038	6	-3.223	14
	3	max	32.525	14	.415	3	.089	14	.267	14	1.04	14	11.623	3
		min	-127.385	3	-.099	14	-.427	6	-1.289	6	-6.401	6	-2.937	14
	4	max	32.525	14	.547	3	.089	14	.267	14	1.297	14	10.231	3
		min	-127.385	3	-.099	14	-.341	6	-1.289	6	-7.512	6	-2.65	14
	5	max	32.525	14	.679	3	.089	14	.267	14	1.553	14	8.456	3
		min	-127.385	3	-.099	14	-.331	3	-1.289	6	-8.373	6	-2.364	14
M139	1	max	129.466	3	3.958	14	.302	14	1.735	14	3.472	6	8.103	14
		min	-32.823	14	-14.662	3	-1.68	6	-6.723	3	-.455	14	-29.227	3
	2	max	129.464	3	3.958	14	.302	14	1.735	14	2.773	12	6.264	14
		min	-32.823	14	-14.64	3	-1.666	6	-6.723	3	-.315	14	-22.422	3
	3	max	129.462	3	3.958	14	.302	14	1.735	14	2.084	12	4.426	14
		min	-32.823	14	-14.619	3	-1.652	6	-6.723	3	-.215	7	-15.627	3
	4	max	129.46	3	3.958	14	.302	14	1.735	14	1.403	12	2.587	14
		min	-32.823	14	-14.598	3	-1.638	6	-6.723	3	-.428	7	-8.842	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	129.458	3	3.958	14	.302	14	1.735	14	.76	5	.749	14
		min	-32.823	14	-14.577	3	-1.624	6	-6.723	3	-.642	7	-2.067	3
M140	1	max	15.792	14	.463	14	.144	14	.616	14	6.385	6	.961	14
		min	-63.797	3	-2.122	3	-1.07	6	-2.878	6	-1.076	14	-4.624	3
	2	max	15.792	14	.463	14	.144	14	.616	14	3.453	6	1.247	3
		min	-63.797	3	-1.991	3	-.984	6	-2.878	6	-.664	14	-.362	14
	3	max	15.792	14	.463	14	.144	14	.616	14	1.123	3	6.747	3
		min	-63.797	3	-1.861	3	-.898	6	-2.878	6	-.252	14	-1.685	14
	4	max	15.792	14	.463	14	.144	14	.616	14	.407	13	11.874	3
		min	-63.797	3	-1.731	3	-.813	6	-2.878	6	-1.793	5	-3.009	14
	5	max	15.792	14	.463	14	.144	14	.616	14	.573	14	16.629	3
		min	-63.797	3	-1.608	2	-.727	6	-2.878	6	-3.875	6	-4.332	14
M141	1	max	126.929	3	3.139	14	.798	12	5.961	3	.832	7	2.212	14
		min	-32.104	14	-11.65	3	-.216	13	-1.634	14	-2.336	12	-7.691	3
	2	max	126.931	3	3.139	14	.813	12	5.961	3	.853	7	1.023	14
		min	-32.104	14	-11.633	3	-.216	13	-1.634	14	-2.031	12	-3.371	2
	3	max	126.932	3	3.139	14	.828	12	5.961	3	.874	7	1.164	7
		min	-32.104	14	-11.616	3	-.216	13	-1.634	14	-1.721	12	-.254	13
	4	max	126.933	3	3.139	14	.843	12	5.961	3	.895	7	5.515	3
		min	-32.104	14	-11.599	3	-.216	13	-1.634	14	-1.404	12	-1.355	14
	5	max	126.935	3	3.139	14	.858	12	5.961	3	.916	7	9.904	3
		min	-32.104	14	-11.581	3	-.216	13	-1.634	14	-1.082	12	-2.543	14
M142	1	max	15.651	14	1.603	2	.733	6	2.844	6	.568	14	16.616	3
		min	-63.549	3	-.46	14	-.145	14	-.609	14	-3.809	6	-4.324	14
	2	max	15.651	14	1.725	3	.819	6	2.844	6	.155	14	11.877	3
		min	-63.549	3	-.46	14	-.145	14	-.609	14	-1.674	5	-3.01	14
	3	max	15.651	14	1.855	3	.905	6	2.844	6	1.242	7	6.766	3
		min	-63.549	3	-.46	14	-.145	14	-.609	14	-.494	13	-1.696	14
	4	max	15.651	14	1.986	3	.99	6	2.844	6	3.572	6	1.29	7
		min	-63.549	3	-.46	14	-.145	14	-.609	14	-.672	14	-.382	14
	5	max	15.651	14	2.116	3	1.076	6	2.844	6	6.521	6	.932	14
		min	-63.549	3	-.46	14	-.145	14	-.609	14	-1.085	14	-4.571	3
M143	1	max	55.619	3	2.001	3	2.477	6	5.56	3	8.217	6	1.642	13
		min	-13.306	14	-.318	14	-.436	14	-1.292	14	-1.459	14	-2.308	7
	2	max	55.619	3	2.002	3	2.477	6	5.56	3	8.242	6	1.632	13
		min	-13.306	14	-.318	14	-.436	14	-1.292	14	-1.463	14	-2.315	7
	3	max	55.619	3	2.002	3	2.478	6	5.56	3	8.267	6	1.621	13
		min	-13.306	14	-.318	14	-.436	14	-1.292	14	-1.468	14	-2.322	7
	4	max	55.619	3	2.003	3	2.478	6	5.56	3	8.291	6	1.611	13
		min	-13.306	14	-.318	14	-.436	14	-1.292	14	-1.472	14	-2.329	7
	5	max	55.619	3	2.003	3	2.478	6	5.56	3	8.316	6	1.6	13
		min	-13.306	14	-.318	14	-.436	14	-1.292	14	-1.477	14	-2.337	7
M144	1	max	4.268	7	13.01	7	1.027	6	5.517	6	3.162	6	23.739	3
		min	-6.545	13	-4.551	13	-.117	13	-1.532	14	-.48	13	-6.689	14
	2	max	4.268	7	13.078	7	1.072	6	5.517	6	4.736	6	5.152	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-6.545	13	-4.551	13	-.117	13	-1.532	14	-.655	13	-.834	14
	3	max	4.268	7	13.147	7	1.117	6	5.517	6	6.378	6	10.201	13
		min	-6.545	13	-4.551	13	-.117	13	-1.532	14	-.83	13	-18.211	7
	4	max	4.268	7	13.215	7	1.162	6	5.517	6	8.087	6	17.028	13
		min	-6.545	13	-4.551	13	-.117	13	-1.532	14	-1.006	13	-37.983	7
	5	max	4.268	7	13.284	7	1.207	6	5.517	6	9.863	6	23.854	13
		min	-6.545	13	-4.551	13	-.117	13	-1.532	14	-1.181	13	-57.858	7
M145	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.151	3	0	1	0	1	0	1	.046	14
		min	0	1	-.107	14	0	1	0	1	0	1	-.065	3
	3	max	0	1	.302	3	0	1	0	1	0	1	.184	14
		min	0	1	-.214	14	0	1	0	1	0	1	-.259	3
	4	max	0	1	.454	3	0	1	0	1	0	1	.414	14
		min	0	1	-.322	14	0	1	0	1	0	1	-.583	3
	5	max	0	1	.605	3	0	1	0	1	0	1	.735	14
		min	0	1	-.429	14	0	1	0	1	0	1	-1.037	3
M146	1	max	.337	14	1.418	14	.012	3	.483	7	.073	14	4.271	14
		min	-1.025	6	-2.043	3	-.003	14	-.286	13	-.199	3	-6.021	3
	2	max	.337	14	.731	14	.012	3	.483	7	.058	14	3.036	6
		min	-1.025	6	-1.073	3	-.003	14	-.286	13	-.133	3	-1.64	14
	3	max	.337	14	.127	12	.012	3	.483	7	.043	14	5.78	3
		min	-1.025	6	-.138	7	-.003	14	-.286	13	-.067	3	-3.77	14
	4	max	.337	14	.867	3	.012	3	.483	7	.049	13	3.68	3
		min	-1.025	6	-.644	14	-.003	14	-.286	13	-.038	7	-2.118	14
	5	max	.337	14	1.837	3	.012	3	.483	7	.098	13	3.315	14
		min	-1.025	6	-1.332	14	-.003	14	-.286	13	-.023	7	-3.755	3
M147	1	max	0	1	.746	3	0	1	0	1	0	1	1.578	3
		min	0	1	-.529	14	0	1	0	1	0	1	-1.118	14
	2	max	0	1	.559	3	0	1	0	1	0	1	.887	3
		min	0	1	-.397	14	0	1	0	1	0	1	-.629	14
	3	max	0	1	.373	3	0	1	0	1	0	1	.394	3
		min	0	1	-.264	14	0	1	0	1	0	1	-.28	14
	4	max	0	1	.186	3	0	1	0	1	0	1	.099	3
		min	0	1	-.132	14	0	1	0	1	0	1	-.07	14
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M148	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.169	3	0	1	0	1	0	1	.057	14
		min	0	1	-.12	14	0	1	0	1	0	1	-.081	3
	3	max	0	1	.338	3	0	1	0	1	0	1	.229	14
		min	0	1	-.239	14	0	1	0	1	0	1	-.323	3
	4	max	0	1	.507	3	0	1	0	1	0	1	.516	14
		min	0	1	-.359	14	0	1	0	1	0	1	-.728	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	0	1	.675	3	0	1	0	1	0	1	.917	14
		min	0	1	-.479	14	0	1	0	1	0	1	-1.293	3
M149	1	max	.361	14	1.429	14	.009	13	.144	14	.232	7	4.34	14
		min	-1	6	-2.061	3	-.016	7	-.334	3	-.097	13	-6.135	3
	2	max	.361	14	.742	14	.009	13	.144	14	.142	7	2.918	6
		min	-1	6	-1.091	3	-.016	7	-.334	3	-.06	14	-1.629	14
	3	max	.361	14	.11	12	.009	13	.144	14	.067	3	5.863	3
		min	-1	6	-.121	3	-.016	7	-.334	3	-.043	14	-3.817	14
	4	max	.361	14	.849	3	.009	13	.144	14	.048	13	3.861	3
		min	-1	6	-.633	14	-.016	7	-.334	3	-.037	7	-2.223	14
	5	max	.361	14	1.819	3	.009	13	.144	14	.096	13	3.151	14
		min	-1	6	-1.321	14	-.016	7	-.334	3	-.127	7	-3.476	3
M150	1	max	0	1	.479	14	0	1	0	1	0	1	.917	14
		min	0	1	-.675	3	0	1	0	1	0	1	-1.293	3
	2	max	0	1	.359	14	0	1	0	1	0	1	.516	14
		min	0	1	-.507	3	0	1	0	1	0	1	-.728	3
	3	max	0	1	.239	14	0	1	0	1	0	1	.229	14
		min	0	1	-.338	3	0	1	0	1	0	1	-.323	3
	4	max	0	1	.12	14	0	1	0	1	0	1	.057	14
		min	0	1	-.169	3	0	1	0	1	0	1	-.081	3
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M151	1	max	2.614	6	1.372	14	.007	13	.119	14	.33	6	4.624	14
		min	-1.373	14	-1.932	3	-.016	6	-.356	3	-.085	14	-6.32	3
	2	max	2.614	6	.684	14	.007	13	.119	14	.243	6	2.14	6
		min	-1.373	14	-.962	3	-.016	6	-.356	3	-.069	14	-1.03	14
	3	max	2.614	6	.154	5	.007	13	.119	14	.155	6	4.265	3
		min	-1.373	14	-.004	13	-.016	6	-.356	3	-.054	14	-2.903	14
	4	max	2.614	6	.977	3	.007	13	.119	14	.068	6	1.556	3
		min	-1.373	14	-.691	14	-.016	6	-.356	3	-.038	14	-.994	14
	5	max	2.614	6	1.947	3	.007	13	.119	14	.081	13	4.695	14
		min	-1.373	14	-1.378	14	-.016	6	-.356	3	-.074	7	-6.487	3
M152	1	max	3.038	6	1.368	14	.013	6	.37	7	.081	14	4.628	14
		min	-1.321	14	-1.924	3	-.003	14	-.121	14	-.306	6	-6.317	3
	2	max	3.038	6	.68	14	.013	6	.37	7	.066	14	2.187	6
		min	-1.321	14	-.954	3	-.003	14	-.121	14	-.233	6	-1.003	14
	3	max	3.038	6	.173	5	.013	6	.37	7	.051	14	4.177	3
		min	-1.321	14	-.007	14	-.003	14	-.121	14	-.161	6	-2.852	14
	4	max	3.038	6	.986	3	.013	6	.37	7	.04	13	1.423	3
		min	-1.321	14	-.695	14	-.003	14	-.121	14	-.089	6	-.921	14
	5	max	3.038	6	1.956	3	.013	6	.37	7	.08	13	4.792	14
		min	-1.321	14	-1.382	14	-.003	14	-.121	14	-.045	7	-6.665	3
M153	1	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.234	14	.075	13	0	1	.07	13	.801	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	0	1	-.855	3	-.056	7	0	1	-.053	7	-.22	14
	3	max	0	1	.469	14	.15	13	0	1	.281	13	3.205	3
		min	0	1	-1.709	3	-.113	7	0	1	-.211	7	-.879	14
	4	max	0	1	.703	14	.225	13	0	1	.633	13	7.212	3
		min	0	1	-2.564	3	-.169	7	0	1	-.475	7	-1.978	14
	5	max	0	1	.938	14	.3	13	0	1	1.125	13	12.82	3
		min	0	1	-3.419	3	-.225	7	0	1	-.844	7	-3.516	14
M154	1	max	0	1	3.419	3	.225	7	0	1	1.125	13	12.82	3
		min	0	1	-.938	14	-.3	13	0	1	-.844	7	-3.516	14
	2	max	0	1	2.564	3	.169	7	0	1	.633	13	7.212	3
		min	0	1	-.703	14	-.225	13	0	1	-.475	7	-1.978	14
	3	max	0	1	1.709	3	.112	7	0	1	.281	13	3.205	3
		min	0	1	-.469	14	-.15	13	0	1	-.211	7	-.879	14
	4	max	0	1	.855	3	.056	7	0	1	.07	13	.801	3
		min	0	1	-.234	14	-.075	13	0	1	-.053	7	-.22	14
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M155	1	max	2.56	3	4.99	3	.318	7	.112	14	1.603	13	17.307	3
		min	-.721	14	-1.368	14	-.443	13	-.389	3	-1.03	7	-4.756	14
	2	max	2.56	3	2.483	3	.153	7	.112	14	.265	7	.878	14
		min	-.721	14	-.68	14	-.223	13	-.389	3	-.229	13	-3.245	3
	3	max	2.56	3	.007	14	.038	12	.112	14	.652	7	2.73	14
		min	-.721	14	-.024	3	-.019	3	-.389	3	-.852	13	-10.008	3
	4	max	2.56	3	.695	14	.217	13	.112	14	.232	12	.801	14
		min	-.721	14	-2.531	3	-.177	7	-.389	3	-.264	13	-2.981	3
	5	max	2.56	3	1.382	14	.437	13	.112	14	1.533	13	17.834	3
		min	-.721	14	-5.038	3	-.342	7	-.389	3	-1.297	7	-4.91	14
M156	1	max	13.728	13	.04	14	.938	7	.097	13	2.077	13	.273	14
		min	-7.779	7	-.794	5	-.913	13	-1.972	5	-2.368	7	-5.624	5
	2	max	13.728	13	.04	14	.905	7	.097	13	.364	14	.196	14
		min	-7.753	7	-.794	5	-.913	13	-1.972	5	-.616	7	-4.115	5
	3	max	13.728	13	.04	14	.873	7	.097	13	1.074	7	.119	14
		min	-7.727	7	-.794	5	-.913	13	-1.972	5	-1.395	13	-2.607	5
	4	max	13.728	13	.04	14	.84	7	.097	13	2.702	7	.043	14
		min	-7.702	7	-.794	5	-.913	13	-1.972	5	-3.131	13	-1.098	5
	5	max	13.728	13	.04	14	.807	7	.097	13	4.267	7	.421	12
		min	-7.676	7	-.794	5	-.913	13	-1.972	5	-4.867	13	-.034	14
M157	1	max	56.514	3	6.077	3	1.358	12	2.64	3	1.452	3	5.823	3
		min	-13.527	14	-1.463	14	-1.289	3	-.836	14	-.345	13	-1.607	14
	2	max	56.518	3	6.12	3	1.396	12	2.64	3	1.26	5	.88	7
		min	-13.527	14	-1.463	14	-1.289	3	-.836	14	-.224	13	-1.015	13
	3	max	56.521	3	6.162	3	1.433	12	2.64	3	2.456	12	1.116	14
		min	-13.527	14	-1.463	14	-1.289	3	-.836	14	-.949	3	-5.574	3
	4	max	56.525	3	6.204	3	1.47	12	2.64	3	3.808	12	2.478	14
		min	-13.527	14	-1.463	14	-1.289	3	-.836	14	-2.149	3	-11.331	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	56.529	3	6.247	3	1.507	12	2.64	3	5.194	12	3.84	14
		min	-13.527	14	-1.463	14	-1.289	3	-.836	14	-3.35	3	-17.128	3
M158	1	max	129.452	3	14.227	3	1.672	6	6.714	3	1.045	5	1.622	13
		min	-32.785	14	-3.876	14	-.317	14	-1.726	14	-.71	13	-3.735	7
	2	max	129.454	3	14.247	3	1.685	6	6.714	3	1.673	12	2.815	14
		min	-32.785	14	-3.876	14	-.317	14	-1.726	14	-.758	13	-9.588	3
	3	max	129.456	3	14.268	3	1.699	6	6.714	3	2.339	12	4.538	14
		min	-32.785	14	-3.876	14	-.317	14	-1.726	14	-.806	13	-15.926	3
	4	max	129.458	3	14.288	3	1.712	6	6.714	3	3.013	12	6.261	14
		min	-32.785	14	-3.876	14	-.317	14	-1.726	14	-.854	13	-22.273	3
	5	max	129.46	3	14.308	3	1.725	6	6.714	3	3.694	12	7.984	14
		min	-32.785	14	-3.876	14	-.317	14	-1.726	14	-.902	13	-28.629	3
M159	1	max	128.503	3	6.422	3	.463	5	8.044	3	.133	7	23.085	3
		min	-32.53	14	-1.761	14	-.107	13	-2.201	14	-.378	6	-6.024	14
	2	max	128.507	3	6.468	3	.504	5	8.044	3	.18	7	16.503	3
		min	-32.53	14	-1.761	14	-.107	13	-2.201	14	-.472	13	-4.225	14
	3	max	128.511	3	6.515	3	.545	5	8.044	3	.693	5	9.873	3
		min	-32.53	14	-1.761	14	-.107	13	-2.201	14	-.581	13	-2.427	14
	4	max	128.515	3	6.561	3	.586	5	8.044	3	1.27	5	3.196	3
		min	-32.53	14	-1.761	14	-.107	13	-2.201	14	-.69	13	-.628	14
	5	max	128.519	3	6.608	3	.627	5	8.044	3	1.889	5	2.355	13
		min	-32.53	14	-1.761	14	-.107	13	-2.201	14	-.798	13	-4.495	7
M160	1	max	127.674	3	.835	14	.58	12	7.625	3	.276	3	9.989	3
		min	-32.307	14	-3.261	3	-.157	13	-2.09	14	-2.016	12	-2.568	14
	2	max	127.678	3	.835	14	.621	12	7.625	3	.299	7	13.296	3
		min	-32.307	14	-3.214	3	-.157	13	-2.09	14	-1.403	12	-3.421	14
	3	max	127.682	3	.835	14	.662	12	7.625	3	.323	7	16.555	3
		min	-32.307	14	-3.168	3	-.157	13	-2.09	14	-.749	5	-4.274	14
	4	max	127.686	3	.835	14	.703	12	7.625	3	.348	7	19.767	3
		min	-32.307	14	-3.121	3	-.157	13	-2.09	14	-.566	13	-5.126	14
	5	max	127.69	3	.835	14	.744	12	7.625	3	.688	12	22.932	3
		min	-32.307	14	-3.075	3	-.157	13	-2.09	14	-.727	13	-5.979	14
M161	1	max	142.552	3	11.659	3	.274	7	9.704	3	.226	13	17.79	3
		min	-36.372	14	-3.181	14	-.225	13	-2.65	14	-2.872	5	-4.655	14
	2	max	142.555	3	11.688	3	.274	7	9.704	3	.085	14	10.289	3
		min	-36.372	14	-3.181	14	-.225	13	-2.65	14	-2.979	5	-2.611	14
	3	max	142.558	3	11.717	3	.274	7	9.704	3	.063	14	2.769	3
		min	-36.372	14	-3.181	14	-.225	13	-2.65	14	-3.069	5	-.567	14
	4	max	142.56	3	11.746	3	.274	7	9.704	3	.041	14	1.477	14
		min	-36.372	14	-3.181	14	-.225	13	-2.65	14	-3.142	5	-4.824	2
	5	max	142.563	3	11.776	3	.274	7	9.704	3	.209	7	3.522	14
		min	-36.372	14	-3.181	14	-.225	13	-2.65	14	-3.199	5	-12.327	3
M162	1	max	141.652	3	1.938	3	.515	7	6.743	3	.496	13	26.051	3
		min	-36.13	14	-.564	14	-.286	13	-1.841	14	-3.385	6	-6.949	14
	2	max	141.656	3	1.985	3	.515	7	6.743	3	.335	14	24.047	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-36.13	14	-.564	14	-.286	13	-1.841	14	-2.995	6	-6.372	14
	3	max	141.66	3	2.031	3	.515	7	6.743	3	.225	14	21.996	3
		min	-36.13	14	-.564	14	-.286	13	-1.841	14	-2.652	5	-5.796	14
	4	max	141.664	3	2.078	3	.515	7	6.743	3	.114	14	19.898	3
		min	-36.13	14	-.564	14	-.286	13	-1.841	14	-2.418	5	-5.22	14
	5	max	141.668	3	2.124	3	.515	7	6.743	3	.467	7	17.752	3
		min	-36.13	14	-.564	14	-.286	13	-1.841	14	-2.142	5	-4.644	14
M163	1	max	55.964	3	2.584	3	1.738	3	1.702	14	1.201	6	5.363	3
		min	-13.465	14	-.9	14	-.579	14	-5.672	3	-.233	14	-1.452	14
	2	max	55.962	3	2.609	3	1.738	3	1.702	14	2.064	3	3.917	3
		min	-13.465	14	-.9	14	-.579	14	-5.672	3	-.556	14	-.951	14
	3	max	55.96	3	2.635	3	1.738	3	1.702	14	3.032	3	2.542	7
		min	-13.465	14	-.9	14	-.579	14	-5.672	3	-.878	14	-.749	13
	4	max	55.958	3	2.66	3	1.738	3	1.702	14	4	3	1.763	7
		min	-13.465	14	-.9	14	-.579	14	-5.672	3	-1.2	14	-1.186	13
	5	max	55.956	3	2.685	3	1.738	3	1.702	14	4.968	3	.969	7
		min	-13.465	14	-.9	14	-.579	14	-5.672	3	-1.523	14	-1.623	13
M164	1	max	128.585	3	1.709	14	.105	7	2.196	14	1.545	5	.828	14
		min	-32.583	14	-6.425	3	-.582	5	-8.023	3	-.906	7	-2.336	3
	2	max	128.581	3	1.709	14	.105	7	2.196	14	.971	5	4.491	7
		min	-32.583	14	-6.379	3	-.541	5	-8.023	3	-.798	7	-1.657	13
	3	max	128.577	3	1.709	14	.105	7	2.196	14	.618	13	10.693	3
		min	-32.583	14	-6.332	3	-.5	5	-8.023	3	-.691	7	-2.663	14
	4	max	128.573	3	1.709	14	.105	7	2.196	14	.523	13	17.136	3
		min	-32.583	14	-6.286	3	-.459	5	-8.023	3	-.584	7	-4.408	14
	5	max	128.569	3	1.709	14	.105	7	2.196	14	.427	13	23.531	3
		min	-32.583	14	-6.239	3	-.419	5	-8.023	3	-.514	6	-6.154	14
M165	1	max	127.754	3	3.285	3	.169	7	2.084	14	.639	13	23.379	3
		min	-32.359	14	-.894	14	-.707	12	-7.605	3	-.681	7	-6.109	14
	2	max	127.75	3	3.332	3	.169	7	2.084	14	.543	13	20.007	3
		min	-32.359	14	-.894	14	-.666	12	-7.605	3	-.509	7	-5.198	14
	3	max	127.746	3	3.378	3	.169	7	2.084	14	.448	13	16.589	3
		min	-32.359	14	-.894	14	-.626	12	-7.605	3	-.911	5	-4.287	14
	4	max	127.742	3	3.424	3	.169	7	2.084	14	.352	13	13.123	3
		min	-32.359	14	-.894	14	-.585	12	-7.605	3	-1.522	12	-3.376	14
	5	max	127.738	3	3.471	3	.169	7	2.084	14	.264	3	9.61	3
		min	-32.359	14	-.894	14	-.544	12	-7.605	3	-2.098	12	-2.464	14
M166	1	max	126.953	3	12.25	3	.182	7	1.625	14	.516	13	9.526	3
		min	-32.143	14	-3.314	14	-.826	12	-5.933	3	-1.262	12	-2.44	14
	2	max	126.952	3	12.267	3	.182	7	1.625	14	.496	3	5.098	3
		min	-32.143	14	-3.314	14	-.811	12	-5.933	3	-1.558	12	-1.242	14
	3	max	126.951	3	12.283	3	.182	7	1.625	14	.547	3	.663	3
		min	-32.143	14	-3.314	14	-.797	12	-5.933	3	-1.848	12	-.045	14
	4	max	126.949	3	12.3	3	.182	7	1.625	14	.598	3	1.152	14
		min	-32.143	14	-3.314	14	-.783	12	-5.933	3	-2.134	12	-3.786	2

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	126.948	3	12.316	3	.182	7	1.625	14	.649	3	2.349	14
		min	-32.143	14	-3.314	14	-.768	12	-5.933	3	-2.414	12	-8.223	3
M167	1	max	141.642	3	.503	14	.103	14	1.822	14	.355	13	18.427	3
		min	-36.125	14	-1.904	3	-.459	6	-6.671	3	-2.224	5	-4.821	14
	2	max	141.638	3	.503	14	.103	14	1.822	14	.253	13	20.348	3
		min	-36.125	14	-1.857	3	-.429	6	-6.671	3	-2.469	5	-5.335	14
	3	max	141.634	3	.503	14	.103	14	1.822	14	.233	14	22.221	3
		min	-36.125	14	-1.811	3	-.398	6	-6.671	3	-2.672	5	-5.849	14
	4	max	141.63	3	.503	14	.103	14	1.822	14	.338	14	24.047	3
		min	-36.125	14	-1.764	3	-.383	3	-6.671	3	-2.992	6	-6.364	14
	5	max	141.626	3	.503	14	.103	14	1.822	14	.443	14	25.826	3
		min	-36.125	14	-1.718	3	-.383	3	-6.671	3	-3.351	6	-6.878	14
M168	1	max	140.749	3	8.056	3	.363	14	.442	14	.293	14	25.814	3
		min	-35.884	14	-2.181	14	-1.37	6	-1.628	3	-2.679	6	-6.874	14
	2	max	140.745	3	8.103	3	.363	14	.442	14	.671	14	17.399	3
		min	-35.884	14	-2.181	14	-1.339	6	-1.628	3	-4.09	6	-4.603	14
	3	max	140.741	3	8.151	3	.363	14	.442	14	1.048	14	8.936	3
		min	-35.884	14	-2.181	14	-1.316	3	-1.628	3	-5.468	6	-2.332	14
	4	max	140.737	3	8.198	3	.363	14	.442	14	1.426	14	.423	3
		min	-35.884	14	-2.181	14	-1.316	3	-1.628	3	-6.814	6	-.062	14
	5	max	140.733	3	8.246	3	.363	14	.442	14	1.804	14	2.209	14
		min	-35.884	14	-2.181	14	-1.316	3	-1.628	3	-8.127	6	-8.139	3
M169	1	max	139.921	3	17.896	3	.511	7	3.702	3	1.679	14	2.21	14
		min	-35.661	14	-4.838	14	-.324	13	-1.013	14	-7.796	6	-8.141	3
	2	max	139.921	3	17.905	3	.511	7	3.702	3	1.661	14	3.096	14
		min	-35.661	14	-4.838	14	-.324	13	-1.013	14	-7.79	6	-11.419	3
	3	max	139.92	3	17.913	3	.511	7	3.702	3	1.644	14	3.982	14
		min	-35.661	14	-4.838	14	-.324	13	-1.013	14	-7.783	6	-14.698	3
	4	max	139.919	3	17.921	3	.511	7	3.702	3	1.626	14	4.868	14
		min	-35.661	14	-4.838	14	-.324	13	-1.013	14	-7.776	6	-17.979	3
	5	max	139.919	3	17.93	3	.511	7	3.702	3	1.609	14	5.754	14
		min	-35.661	14	-4.838	14	-.324	13	-1.013	14	-7.767	6	-21.261	3
M170	1	max	8.78	13	1.362	14	2.167	5	1.544	3	.261	12	1.97	14
		min	-20.751	7	-3.579	3	-.279	13	-1.391	12	-.64	3	-6.868	3
	2	max	8.78	13	1.362	14	2.167	5	1.544	3	2.204	12	.708	13
		min	-20.748	7	-3.537	3	-.279	13	-1.391	12	-.437	3	-3.555	3
	3	max	8.78	13	1.362	14	2.167	5	1.544	3	4.148	12	.77	5
		min	-20.744	7	-3.495	3	-.279	13	-1.391	12	-.681	13	-.567	14
	4	max	8.78	13	1.362	14	2.167	5	1.544	3	6.091	12	3.093	6
		min	-20.74	7	-3.452	3	-.279	13	-1.391	12	-.94	13	-1.835	14
	5	max	8.78	13	1.362	14	2.167	5	1.544	3	8.099	5	6.148	3
		min	-20.736	7	-3.41	3	-.279	13	-1.391	12	-1.2	13	-3.103	14
M171	1	max	56.999	3	16.129	3	.362	14	1.245	12	2.141	12	4.907	14
		min	-11.736	14	-4.431	14	-1.024	2	-1.35	3	-.615	13	-16.329	3
	2	max	57.001	3	16.15	3	.362	14	1.245	12	2.155	12	6.876	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-11.736	14	-4.431	14	-1.024	2	-1.35	3	-.995	3	-23.504	3
	3	max	57.003	3	16.17	3	.362	14	1.245	12	2.169	12	8.846	14
		min	-11.736	14	-4.431	14	-1.024	2	-1.35	3	-1.422	3	-30.687	3
	4	max	57.005	3	16.19	3	.362	14	1.245	12	2.183	12	10.816	14
		min	-11.736	14	-4.431	14	-1.024	2	-1.35	3	-1.848	3	-37.88	3
	5	max	57.007	3	16.21	3	.362	14	1.245	12	2.197	12	12.786	14
		min	-11.736	14	-4.431	14	-1.024	2	-1.35	3	-2.275	3	-45.081	3
M172	1	max	56.057	3	7.426	3	.886	12	1.197	14	.239	7	14.655	3
		min	-11.482	14	-2.055	14	-.105	3	-4.607	3	-.524	5	-3.565	14
	2	max	56.061	3	7.472	3	.886	12	1.197	14	.425	12	7.047	3
		min	-11.482	14	-2.055	14	-.105	3	-4.607	3	-.576	13	-1.467	14
	3	max	56.065	3	7.519	3	.886	12	1.197	14	1.331	12	2.173	13
		min	-11.482	14	-2.055	14	-.105	3	-4.607	3	-.659	13	-2.198	7
	4	max	56.069	3	7.565	3	.886	12	1.197	14	2.236	12	2.73	14
		min	-11.482	14	-2.055	14	-.105	3	-4.607	3	-.742	13	-8.559	7
	5	max	56.073	3	7.612	3	.886	12	1.197	14	3.141	12	4.828	14
		min	-11.482	14	-2.055	14	-.105	3	-4.607	3	-.824	13	-16.06	3
M173	1	max	55.249	3	.534	14	.596	12	1.572	14	.175	7	6.076	3
		min	-11.265	14	-2.23	3	-.031	3	-5.838	3	-1.898	5	-1.427	14
	2	max	55.253	3	.534	14	.596	12	1.572	14	.171	7	8.33	3
		min	-11.265	14	-2.184	3	-.031	3	-5.838	3	-1.306	5	-1.973	14
	3	max	55.257	3	.534	14	.596	12	1.572	14	.167	7	10.537	3
		min	-11.265	14	-2.137	3	-.031	3	-5.838	3	-.713	5	-2.519	14
	4	max	55.261	3	.534	14	.596	12	1.572	14	.163	7	12.696	3
		min	-11.265	14	-2.091	3	-.031	3	-5.838	3	-.521	13	-3.064	14
	5	max	55.265	3	.534	14	.596	12	1.572	14	.542	12	14.808	3
		min	-11.265	14	-2.044	3	-.031	3	-5.838	3	-.552	13	-3.61	14
M174	1	max	79.552	3	12.347	3	.757	12	2.013	14	.527	7	14.559	3
		min	-18.046	14	-3.382	14	-.154	3	-7.558	3	-2.884	12	-3.715	14
	2	max	79.555	3	12.376	3	.757	12	2.013	14	.443	7	6.616	3
		min	-18.046	14	-3.382	14	-.154	3	-7.558	3	-2.397	12	-1.542	14
	3	max	79.557	3	12.405	3	.757	12	2.013	14	.359	7	.631	14
		min	-18.046	14	-3.382	14	-.154	3	-7.558	3	-1.911	12	-1.533	2
	4	max	79.56	3	12.434	3	.757	12	2.013	14	.274	7	2.804	14
		min	-18.046	14	-3.382	14	-.154	3	-7.558	3	-1.424	12	-9.326	3
	5	max	79.563	3	12.463	3	.757	12	2.013	14	.19	7	4.977	14
		min	-18.046	14	-3.382	14	-.154	3	-7.558	3	-.941	5	-17.326	3
M175	1	max	78.655	3	2.432	3	.312	12	1.554	14	1.613	3	24.914	3
		min	-17.804	14	-.708	14	-.41	3	-5.774	3	-3.404	12	-6.618	14
	2	max	78.659	3	2.478	3	.312	12	1.554	14	1.194	3	22.406	3
		min	-17.804	14	-.708	14	-.41	3	-5.774	3	-3.086	12	-5.895	14
	3	max	78.663	3	2.525	3	.312	12	1.554	14	.775	3	19.851	3
		min	-17.804	14	-.708	14	-.41	3	-5.774	3	-2.767	12	-5.172	14
	4	max	78.667	3	2.571	3	.312	12	1.554	14	.356	3	17.248	3
		min	-17.804	14	-.708	14	-.41	3	-5.774	3	-2.449	12	-4.449	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	78.672	3	2.618	3	.312	12	1.554	14	.014	14	14.598	3
		min	-17.804	14	-.708	14	-.41	3	-5.774	3	-2.132	5	-3.726	14
M176	1	max	8.318	14	12.571	3	.27	14	4.116	6	.977	12	2.091	14
		min	-18.581	3	-3.839	14	-3.132	12	-.802	14	-.931	7	-7.176	3
	2	max	8.318	14	12.597	3	.27	14	4.116	6	.321	14	4.23	14
		min	-18.583	3	-3.839	14	-3.132	12	-.802	14	-1.494	6	-14.186	3
	3	max	8.318	14	12.622	3	.27	14	4.116	6	.471	14	6.368	14
		min	-18.586	3	-3.839	14	-3.132	12	-.802	14	-3.051	6	-21.209	3
	4	max	8.318	14	12.647	3	.27	14	4.116	6	.621	14	8.507	14
		min	-18.588	3	-3.839	14	-3.132	12	-.802	14	-4.608	6	-28.247	3
	5	max	8.318	14	12.673	3	.27	14	4.116	6	.771	14	10.646	14
		min	-18.59	3	-3.839	14	-3.132	12	-.802	14	-6.165	6	-35.299	3
M177	1	max	55.976	3	2.007	14	.168	7	4.62	3	2.81	12	4.532	14
		min	-11.43	14	-7.43	3	-.846	12	-1.202	14	-1.166	7	-14.916	3
	2	max	55.972	3	2.007	14	.168	7	4.62	3	1.946	12	2.482	14
		min	-11.43	14	-7.384	3	-.846	12	-1.202	14	-.994	7	-7.351	3
	3	max	55.968	3	2.007	14	.168	7	4.62	3	1.082	12	1.557	7
		min	-11.43	14	-7.337	3	-.846	12	-1.202	14	-.822	7	-2.036	13
	4	max	55.964	3	2.007	14	.168	7	4.62	3	.522	13	7.635	3
		min	-11.43	14	-7.291	3	-.846	12	-1.202	14	-.65	7	-1.64	13
	5	max	55.96	3	2.007	14	.168	7	4.62	3	.426	13	15.057	3
		min	-11.43	14	-7.244	3	-.846	12	-1.202	14	-.695	5	-3.667	14
M178	1	max	55.168	3	2.237	3	.104	7	5.852	3	.639	13	15.21	3
		min	-11.213	14	-.584	14	-.548	12	-1.578	14	-.773	7	-3.712	14
	2	max	55.164	3	2.284	3	.104	7	5.852	3	.543	13	12.907	3
		min	-11.213	14	-.584	14	-.548	12	-1.578	14	-.666	7	-3.117	14
	3	max	55.16	3	2.33	3	.104	7	5.852	3	.447	13	10.556	3
		min	-11.213	14	-.584	14	-.548	12	-1.578	14	-.859	5	-2.521	14
	4	max	55.156	3	2.376	3	.104	7	5.852	3	.351	13	8.158	3
		min	-11.213	14	-.584	14	-.548	12	-1.578	14	-1.4	5	-1.926	14
	5	max	55.152	3	2.423	3	.104	7	5.852	3	.255	13	5.713	3
		min	-11.213	14	-.584	14	-.548	12	-1.578	14	-1.941	5	-1.331	14
M179	1	max	54.377	3	11.726	3	.092	7	5.99	6	.515	13	5.797	3
		min	-11.001	14	-3.158	14	-.266	12	-1.574	14	-1.209	6	-1.356	14
	2	max	54.376	3	11.742	3	.092	7	5.99	6	.481	13	1.558	3
		min	-11.001	14	-3.158	14	-.266	12	-1.574	14	-1.274	6	-.215	14
	3	max	54.375	3	11.759	3	.092	7	5.99	6	.447	13	.926	14
		min	-11.001	14	-3.158	14	-.266	12	-1.574	14	-1.338	6	-2.687	3
	4	max	54.373	3	11.775	3	.092	7	5.99	6	.413	13	2.067	14
		min	-11.001	14	-3.158	14	-.266	12	-1.574	14	-1.402	6	-6.937	3
	5	max	54.372	3	11.792	3	.092	7	5.99	6	.379	13	3.207	14
		min	-11.001	14	-3.158	14	-.266	12	-1.574	14	-1.492	5	-11.194	3
M180	1	max	78.633	3	.637	14	.414	3	5.729	3	.33	13	15.225	3
		min	-17.792	14	-2.363	3	-.273	12	-1.544	14	-2.244	5	-3.891	14
	2	max	78.629	3	.637	14	.414	3	5.729	3	.354	3	17.615	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-17.792	14	-2.316	3	-.273	12	-1.544	14	-2.521	12	-4.542	14
	3	max	78.625	3	.637	14	.414	3	5.729	3	.776	3	19.957	3
		min	-17.792	14	-2.27	3	-.273	12	-1.544	14	-2.8	12	-5.192	14
	4	max	78.62	3	.637	14	.414	3	5.729	3	1.199	3	22.252	3
		min	-17.792	14	-2.224	3	-.273	12	-1.544	14	-3.079	12	-5.843	14
	5	max	78.616	3	.637	14	.414	3	5.729	3	1.621	3	24.5	3
		min	-17.792	14	-2.177	3	-.273	12	-1.544	14	-3.358	12	-6.493	14
M181	1	max	77.743	3	7.776	3	1.347	3	1.486	3	1.016	3	24.512	3
		min	-17.553	14	-2.1	14	-.375	14	-.401	14	-2.994	12	-6.497	14
	2	max	77.739	3	7.824	3	1.347	3	1.486	3	2.419	3	16.389	3
		min	-17.553	14	-2.1	14	-.375	14	-.401	14	-2.832	12	-4.311	14
	3	max	77.734	3	7.871	3	1.347	3	1.486	3	3.821	3	8.217	3
		min	-17.553	14	-2.1	14	-.375	14	-.401	14	-2.67	12	-2.124	14
	4	max	77.73	3	7.918	3	1.347	3	1.486	3	5.224	3	.267	13
		min	-17.553	14	-2.1	14	-.375	14	-.401	14	-2.508	12	-.18	7
	5	max	77.726	3	7.966	3	1.347	3	1.486	3	6.626	3	2.249	14
		min	-17.553	14	-2.1	14	-.375	14	-.401	14	-2.346	12	-8.275	3
M182	1	max	76.912	3	17.97	3	.154	12	1.264	12	6.18	3	2.249	14
		min	-17.329	14	-4.861	14	-.331	7	-3.089	3	-2.258	12	-8.274	3
	2	max	76.911	3	17.979	3	.154	12	1.264	12	6.122	3	3.139	14
		min	-17.329	14	-4.861	14	-.331	7	-3.089	3	-2.23	12	-11.565	3
	3	max	76.91	3	17.987	3	.154	12	1.264	12	6.064	3	4.029	14
		min	-17.329	14	-4.861	14	-.331	7	-3.089	3	-2.202	12	-14.858	3
	4	max	76.91	3	17.995	3	.154	12	1.264	12	6.005	3	4.919	14
		min	-17.329	14	-4.861	14	-.331	7	-3.089	3	-2.173	12	-18.152	3
	5	max	76.909	3	18.004	3	.154	12	1.264	12	5.947	3	5.809	14
		min	-17.329	14	-4.861	14	-.331	7	-3.089	3	-2.145	12	-21.448	3
M183	1	max	55.715	3	.859	14	.596	14	5.597	3	4.983	3	1.502	13
		min	-13.311	14	-2.462	3	-1.802	3	-1.685	14	-1.532	14	-1.067	7
	2	max	55.718	3	.859	14	.596	14	5.597	3	3.965	3	1.274	3
		min	-13.311	14	-2.436	3	-1.802	3	-1.685	14	-1.195	14	-.011	14
	3	max	55.72	3	.859	14	.596	14	5.597	3	2.948	3	2.643	3
		min	-13.311	14	-2.411	3	-1.802	3	-1.685	14	-.859	14	-.496	14
	4	max	55.722	3	.859	14	.596	14	5.597	3	1.93	3	3.996	3
		min	-13.311	14	-2.385	3	-1.802	3	-1.685	14	-.523	14	-.981	14
	5	max	55.724	3	.859	14	.596	14	5.597	3	1.217	6	5.335	3
		min	-13.311	14	-2.359	3	-1.802	3	-1.685	14	-.186	14	-1.466	14
M184	1	max	9.551	13	3.806	14	3.055	12	.781	14	.778	14	10.423	14
		min	-21.87	7	-12.542	3	-.298	14	-3.891	6	-5.95	6	-34.584	3
	2	max	9.551	13	3.806	14	3.055	12	.781	14	.61	14	8.275	14
		min	-21.868	7	-12.516	3	-.298	14	-3.891	6	-4.369	6	-27.511	3
	3	max	9.551	13	3.806	14	3.055	12	.781	14	.441	14	6.126	14
		min	-21.866	7	-12.49	3	-.298	14	-3.891	6	-2.788	6	-20.453	3
	4	max	9.551	13	3.806	14	3.055	12	.781	14	.273	14	3.977	14
		min	-21.863	7	-12.465	3	-.298	14	-3.891	6	-1.208	6	-13.41	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	9.551	13	3.806	14	3.055	12	.781	14	1.201	12	2.12	13
		min	-21.861	7	-12.439	3	-.298	14	-3.891	6	-.62	3	-6.609	7
M185	1	max	.005	14	7.269	3	1.14	3	8.802	6	.898	14	4.444	14
		min	-.023	3	-3.753	14	-1.609	12	-4.389	14	-2.537	6	-6.105	3
	2	max	.005	14	7.298	3	1.14	3	8.802	6	.458	14	6.827	14
		min	-.023	3	-3.753	14	-1.609	12	-4.389	14	-2.728	6	-10.729	3
	3	max	.005	14	7.327	3	1.14	3	8.802	6	.258	13	9.21	14
		min	-.023	3	-3.753	14	-1.609	12	-4.389	14	-3.131	12	-15.372	3
	4	max	.005	14	7.356	3	1.14	3	8.802	6	.315	1	11.593	14
		min	-.023	3	-3.753	14	-1.609	12	-4.389	14	-4.153	12	-20.034	3
	5	max	.005	14	7.385	3	1.14	3	8.802	6	.638	3	13.976	14
		min	-.023	3	-3.753	14	-1.609	12	-4.389	14	-5.174	12	-24.714	3
M186	1	max	.007	14	10.086	3	3.291	3	11.306	3	.656	3	13.858	14
		min	-.034	3	-5.664	14	-2.014	14	-6.755	14	-5.217	12	-24.362	3
	2	max	.007	14	10.089	3	3.291	3	11.306	3	.903	3	14.282	14
		min	-.034	3	-5.664	14	-2.014	14	-6.755	14	-5.201	12	-25.118	3
	3	max	.007	14	10.093	3	3.291	3	11.306	3	1.15	3	14.707	14
		min	-.034	3	-5.664	14	-2.014	14	-6.755	14	-5.185	12	-25.875	3
	4	max	.007	14	10.096	3	3.291	3	11.306	3	1.397	3	15.132	14
		min	-.034	3	-5.664	14	-2.014	14	-6.755	14	-5.169	12	-26.632	3
	5	max	.007	14	10.1	3	3.291	3	11.306	3	1.643	3	15.557	14
		min	-.034	3	-5.664	14	-2.014	14	-6.755	14	-5.152	12	-27.39	3
M187	1	max	5.433	13	5.621	13	1.338	6	2.861	14	.771	12	.669	13
		min	-4.238	7	-1.724	7	-.559	14	-4.327	6	-1.183	3	-.332	14
	2	max	5.433	13	5.621	13	1.357	6	2.861	14	1.055	12	.955	7
		min	-4.238	7	-1.695	7	-.559	14	-4.327	6	-.449	7	-2.914	13
	3	max	5.433	13	5.621	13	1.376	6	2.861	14	1.388	6	2.026	7
		min	-4.238	7	-1.666	7	-.559	14	-4.327	6	-.041	14	-6.498	13
	4	max	5.433	13	5.621	13	1.395	6	2.861	14	2.271	6	3.079	7
		min	-4.238	7	-1.637	7	-.559	14	-4.327	6	-.397	14	-10.081	13
	5	max	5.433	13	5.621	13	1.414	6	2.861	14	3.166	6	4.113	7
		min	-4.238	7	-1.608	7	-.559	14	-4.327	6	-.753	14	-13.664	13
M188	1	max	5.442	13	7.726	3	1.718	12	5.349	14	3.355	6	3.659	7
		min	-4.237	7	-2.907	14	-.746	3	-10.905	3	-.82	14	-13.409	13
	2	max	5.442	13	7.755	3	1.743	12	5.349	14	3.799	6	4.437	14
		min	-4.237	7	-2.907	14	-.746	3	-10.905	3	-.521	14	-16.963	13
	3	max	5.442	13	7.784	3	1.769	12	5.349	14	4.267	12	6.282	14
		min	-4.237	7	-2.907	14	-.746	3	-10.905	3	-.222	14	-20.516	13
	4	max	5.442	13	7.813	3	1.794	12	5.349	14	5.399	12	8.128	14
		min	-4.237	7	-2.907	14	-.746	3	-10.905	3	-.16	1	-24.069	13
	5	max	5.442	13	7.842	3	1.819	12	5.349	14	6.546	12	9.974	14
		min	-4.237	7	-2.907	14	-.746	3	-10.905	3	-.312	1	-27.951	3
M189	1	max	5.449	13	10.371	3	1.792	14	7.935	14	6.711	12	10.092	14
		min	-4.233	7	-4.703	14	-2.898	3	-14.055	3	-.279	1	-28.303	3
	2	max	5.449	13	10.374	3	1.792	14	7.935	14	6.711	12	10.445	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-4.233	7	-4.703	14	-2.898	3	-14.055	3	-.325	1	-29.081	3
	3	max	5.449	13	10.378	3	1.792	14	7.935	14	6.711	12	10.798	14
		min	-4.233	7	-4.703	14	-2.898	3	-14.055	3	-.372	1	-29.859	3
	4	max	5.449	13	10.381	3	1.792	14	7.935	14	6.711	12	11.151	14
		min	-4.233	7	-4.703	14	-2.898	3	-14.055	3	-.419	1	-30.638	3
	5	max	5.449	13	10.385	3	1.792	14	7.935	14	6.712	12	11.503	14
		min	-4.233	7	-4.703	14	-2.898	3	-14.055	3	-.465	1	-31.416	3
M190	1	max	3.69	7	5.654	13	.227	14	2.895	12	.799	14	1.707	7
		min	-5.384	13	-4.508	7	-.404	3	-1.84	3	-1.489	3	-1.27	13
	2	max	3.69	7	5.654	13	.227	14	2.895	12	.815	14	2.023	7
		min	-5.384	13	-4.505	7	-.404	3	-1.84	3	-1.517	3	-1.666	13
	3	max	3.69	7	5.654	13	.227	14	2.895	12	.831	14	2.338	7
		min	-5.384	13	-4.502	7	-.404	3	-1.84	3	-1.546	3	-2.061	13
	4	max	3.69	7	5.654	13	.227	14	2.895	12	.847	14	2.653	7
		min	-5.384	13	-4.498	7	-.404	3	-1.84	3	-1.574	3	-2.457	13
	5	max	3.69	7	5.654	13	.227	14	2.895	12	.863	14	2.968	7
		min	-5.384	13	-4.495	7	-.404	3	-1.84	3	-1.602	3	-2.853	13
M191	1	max	3.706	7	5.576	13	.588	14	4.148	6	3.022	6	12.658	13
		min	-5.393	13	-6.718	7	-1.393	6	-2.761	14	-.776	14	-15.31	7
	2	max	3.706	7	5.576	13	.588	14	4.148	6	2.14	6	9.103	13
		min	-5.393	13	-6.689	7	-1.374	6	-2.761	14	-.402	14	-11.036	7
	3	max	3.706	7	5.576	13	.588	14	4.148	6	1.27	6	5.548	13
		min	-5.393	13	-6.66	7	-1.368	3	-2.761	14	-.206	13	-6.781	7
	4	max	3.706	7	5.576	13	.588	14	4.148	6	.988	12	1.994	13
		min	-5.393	13	-6.631	7	-1.368	3	-2.761	14	-.411	3	-2.545	7
	5	max	3.706	7	5.576	13	.588	14	4.148	6	.755	12	1.673	7
		min	-5.393	13	-6.602	7	-1.368	3	-2.761	14	-1.284	3	-1.561	13
M192	1	max	3.721	7	5.55	13	.62	3	10.579	3	6.027	12	26.499	13
		min	-5.402	13	-10.295	7	-1.689	12	-5.163	14	-.238	1	-41.376	7
	2	max	3.721	7	5.55	13	.62	3	10.579	3	4.962	12	22.974	13
		min	-5.402	13	-10.266	7	-1.664	12	-5.163	14	-.127	13	-34.848	7
	3	max	3.721	7	5.55	13	.62	3	10.579	3	4.138	6	19.45	13
		min	-5.402	13	-10.237	7	-1.638	12	-5.163	14	-.343	14	-28.338	7
	4	max	3.721	7	5.55	13	.62	3	10.579	3	3.681	6	15.926	13
		min	-5.402	13	-10.208	7	-1.613	12	-5.163	14	-.594	14	-21.847	7
	5	max	3.721	7	5.55	13	.62	3	10.579	3	3.236	6	12.401	13
		min	-5.402	13	-10.179	7	-1.588	12	-5.163	14	-.846	14	-15.374	7
M193	1	max	0	1	0	2	0	1	0	1	0	1	0	2
		min	0	1	-.013	3	0	1	0	1	0	1	-.002	3
	2	max	0	1	0	2	0	1	0	1	0	1	0	2
		min	0	1	-.01	3	0	1	0	1	0	1	-.001	3
	3	max	0	1	0	2	0	1	0	1	0	1	0	2
		min	0	1	-.006	3	0	1	0	1	0	1	0	8
	4	max	0	1	0	2	0	1	0	1	0	1	0	2
		min	0	1	-.003	3	0	1	0	1	0	1	0	8

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1
M194	1	max	.009	13	1.8	14	1	6	2.592	14	.93	14	4.448	14
		min	-.016	7	-2.623	3	-.361	14	-3.152	6	-2.472	6	-6.221	3
	2	max	.009	13	1.8	14	1	6	2.592	14	.7	14	3.301	14
		min	-.016	7	-2.594	3	-.361	14	-3.152	6	-1.834	6	-4.558	3
	3	max	.009	13	1.8	14	1	6	2.592	14	.47	14	2.154	14
		min	-.016	7	-2.565	3	-.361	14	-3.152	6	-1.197	6	-2.914	3
	4	max	.009	13	1.8	14	1	6	2.592	14	.239	14	1.006	14
		min	-.016	7	-2.536	3	-.361	14	-3.152	6	-.56	6	-1.288	3
	5	max	.009	13	1.8	14	1	6	2.592	14	.127	7	.32	3
		min	-.016	7	-2.507	3	-.361	14	-3.152	6	-.096	13	-.141	14
M195	1	max	.018	13	3.633	14	1.484	12	4.552	14	.457	7	13.542	14
		min	-.031	7	-7.152	3	-1.024	3	-8.776	6	-4.596	12	-23.913	3
	2	max	.018	13	3.633	14	1.484	12	4.552	14	.247	1	11.235	14
		min	-.031	7	-7.123	3	-1.024	3	-8.776	6	-3.653	12	-19.381	3
	3	max	.018	13	3.633	14	1.484	12	4.552	14	.167	14	8.928	14
		min	-.031	7	-7.094	3	-1.024	3	-8.776	6	-2.796	6	-14.867	3
	4	max	.018	13	3.633	14	1.484	12	4.552	14	.562	14	6.621	14
		min	-.031	7	-7.065	3	-1.024	3	-8.776	6	-2.607	6	-10.372	3
	5	max	.018	13	3.633	14	1.484	12	4.552	14	.957	14	4.313	14
		min	-.031	7	-7.036	3	-1.024	3	-8.776	6	-2.418	6	-5.895	3
M196	1	max	4.549	3	1.183	12	.01	3	.098	13	.245	13	2.879	14
		min	-1.893	14	-2.065	3	-.002	14	-.053	7	-.455	7	-7.299	3
	2	max	4.549	3	1.183	12	.01	3	.098	13	.248	13	2.624	14
		min	-1.893	14	-2.065	3	-.002	14	-.053	7	-.455	7	-6.788	3
	3	max	4.549	3	1.183	12	.01	3	.098	13	.25	13	2.369	14
		min	-1.893	14	-2.065	3	-.002	14	-.053	7	-.455	7	-6.277	3
	4	max	4.549	3	1.183	12	.01	3	.098	13	.252	13	2.114	14
		min	-1.893	14	-2.065	3	-.002	14	-.053	7	-.455	7	-5.766	3
	5	max	4.549	3	1.183	12	.01	3	.098	13	.254	13	1.859	14
		min	-1.893	14	-2.065	3	-.002	14	-.053	7	-.454	7	-5.531	6
M197	1	max	2.701	3	1.321	14	.013	6	.08	13	.121	14	3.674	14
		min	-1.911	14	-3.038	6	-.003	14	-.045	7	-.37	7	-5.178	6
	2	max	2.701	3	1.321	14	.013	6	.08	13	.121	14	3.347	14
		min	-1.911	14	-3.038	6	-.003	14	-.045	7	-.369	7	-4.555	3
	3	max	2.701	3	1.321	14	.013	6	.08	13	.12	14	3.02	14
		min	-1.911	14	-3.038	6	-.003	14	-.045	7	-.368	7	-4.023	3
	4	max	2.701	3	1.321	14	.013	6	.08	13	.119	14	2.693	14
		min	-1.911	14	-3.038	6	-.003	14	-.045	7	-.367	7	-3.49	3
	5	max	2.701	3	1.321	14	.013	6	.08	13	.121	13	2.366	14
		min	-1.911	14	-3.038	6	-.003	14	-.045	7	-.366	7	-2.958	3
M198	1	max	2.648	3	.337	14	.003	14	.199	3	.48	7	4.984	3
		min	-1.847	14	-1.025	6	-.012	3	-.073	14	-.286	13	-3.535	14
	2	max	2.648	3	.337	14	.003	14	.199	3	.48	7	5.213	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-1.847	14	-1.025	6	-.012	3	-.073	14	-.288	13	-3.619	14
	3	max	2.648	3	.337	14	.003	14	.199	3	.479	7	5.442	3
		min	-1.847	14	-1.025	6	-.012	3	-.073	14	-.291	13	-3.702	14
	4	max	2.648	3	.337	14	.003	14	.199	3	.478	7	5.671	3
		min	-1.847	14	-1.025	6	-.012	3	-.073	14	-.293	13	-3.786	14
	5	max	2.648	3	.337	14	.003	14	.199	3	.477	7	5.9	3
		min	-1.847	14	-1.025	6	-.012	3	-.073	14	-.295	13	-3.869	14
M199	1	max	4.416	3	2.065	3	.002	14	.196	3	.455	7	8.859	3
		min	-1.815	14	-1.183	12	-.01	3	-.067	14	-.245	13	-3.508	14
	2	max	4.416	3	2.065	3	.002	14	.196	3	.455	7	8.348	3
		min	-1.815	14	-1.183	12	-.01	3	-.067	14	-.248	13	-3.253	14
	3	max	4.416	3	2.065	3	.002	14	.196	3	.455	7	7.837	3
		min	-1.815	14	-1.183	12	-.01	3	-.067	14	-.25	13	-2.998	14
	4	max	4.416	3	2.065	3	.002	14	.196	3	.455	7	7.325	3
		min	-1.815	14	-1.183	12	-.01	3	-.067	14	-.252	13	-2.744	14
	5	max	4.416	3	2.065	3	.002	14	.196	3	.454	7	6.814	3
		min	-1.815	14	-1.183	12	-.01	3	-.067	14	-.254	13	-2.489	14
M200	1	max	2.529	3	3.038	6	.003	14	.306	6	.37	7	5.28	3
		min	-1.796	14	-1.321	14	-.013	6	-.081	14	-.121	14	-3.893	14
	2	max	2.529	3	3.038	6	.003	14	.306	6	.369	7	4.748	3
		min	-1.796	14	-1.321	14	-.013	6	-.081	14	-.121	14	-3.566	14
	3	max	2.529	3	3.038	6	.003	14	.306	6	.368	7	4.215	3
		min	-1.796	14	-1.321	14	-.013	6	-.081	14	-.12	14	-3.239	14
	4	max	2.529	3	3.038	6	.003	14	.306	6	.367	7	3.683	3
		min	-1.796	14	-1.321	14	-.013	6	-.081	14	-.119	14	-3.533	12
	5	max	2.529	3	3.038	6	.003	14	.306	6	.366	7	3.15	3
		min	-1.796	14	-1.321	14	-.013	6	-.081	14	-.121	13	-3.984	12
M201	1	max	2.608	3	2.614	6	.016	6	.085	14	.119	14	5.027	3
		min	-1.851	14	-1.373	14	-.007	13	-.33	6	-.356	3	-3.708	14
	2	max	2.608	3	2.614	6	.016	6	.085	14	.118	14	4.491	3
		min	-1.851	14	-1.373	14	-.007	13	-.33	6	-.353	3	-3.368	14
	3	max	2.608	3	2.614	6	.016	6	.085	14	.118	14	3.956	3
		min	-1.851	14	-1.373	14	-.007	13	-.33	6	-.35	3	-3.028	14
	4	max	2.608	3	2.614	6	.016	6	.085	14	.117	14	3.42	3
		min	-1.851	14	-1.373	14	-.007	13	-.33	6	-.347	3	-2.895	12
	5	max	2.608	3	2.614	6	.016	6	.085	14	.116	14	2.884	3
		min	-1.851	14	-1.373	14	-.007	13	-.33	6	-.344	3	-3.201	12
M202	1	max	4.51	3	1.988	3	.015	7	.101	13	.137	14	8.591	3
		min	-1.874	14	-1.133	12	-.009	13	-.23	7	-.337	3	-3.376	14
	2	max	4.51	3	1.988	3	.015	7	.101	13	.136	14	8.099	3
		min	-1.874	14	-1.133	12	-.009	13	-.23	7	-.335	3	-3.132	14
	3	max	4.51	3	1.988	3	.015	7	.101	13	.136	14	7.607	3
		min	-1.874	14	-1.133	12	-.009	13	-.23	7	-.332	3	-2.889	14
	4	max	4.51	3	1.988	3	.015	7	.101	13	.135	14	7.115	3
		min	-1.874	14	-1.133	12	-.009	13	-.23	7	-.329	3	-2.646	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	4.51	3	1.988	3	.015	7	.101	13	.135	14	6.623	3
		min	-1.874	14	-1.133	12	-.009	13	-.23	7	-.327	3	-2.402	14
M203	1	max	2.736	3	.361	14	.016	7	.097	13	.144	14	4.842	3
		min	-1.908	14	-1	6	-.009	13	-.232	7	-.334	3	-3.424	14
	2	max	2.736	3	.361	14	.016	7	.097	13	.143	14	5.08	3
		min	-1.908	14	-1	6	-.009	13	-.232	7	-.331	3	-3.513	14
	3	max	2.736	3	.361	14	.016	7	.097	13	.143	14	5.319	3
		min	-1.908	14	-1	6	-.009	13	-.232	7	-.328	3	-3.602	14
	4	max	2.736	3	.361	14	.016	7	.097	13	.142	14	5.557	3
		min	-1.908	14	-1	6	-.009	13	-.232	7	-.325	3	-3.692	14
	5	max	2.736	3	.361	14	.016	7	.097	13	.141	14	5.796	3
		min	-1.908	14	-1	6	-.009	13	-.232	7	-.322	3	-3.781	14
M204	1	max	2.623	3	1.373	14	.007	13	.081	13	.356	3	3.779	14
		min	-1.857	14	-2.614	6	-.016	6	-.074	7	-.119	14	-5.194	3
	2	max	2.623	3	1.373	14	.007	13	.081	13	.353	3	3.439	14
		min	-1.857	14	-2.614	6	-.016	6	-.074	7	-.118	14	-4.658	3
	3	max	2.623	3	1.373	14	.007	13	.081	13	.35	3	3.099	14
		min	-1.857	14	-2.614	6	-.016	6	-.074	7	-.118	14	-4.123	3
	4	max	2.623	3	1.373	14	.007	13	.081	13	.347	3	2.759	14
		min	-1.857	14	-2.614	6	-.016	6	-.074	7	-.117	14	-3.587	3
	5	max	2.623	3	1.373	14	.007	13	.081	13	.344	3	2.419	14
		min	-1.857	14	-2.614	6	-.016	6	-.074	7	-.116	14	-3.051	3
M205	1	max	4.412	3	1.133	12	.009	13	.098	13	.337	3	2.933	14
		min	-1.834	14	-1.988	3	-.015	7	-.097	7	-.137	14	-7.513	3
	2	max	4.412	3	1.133	12	.009	13	.098	13	.335	3	2.69	14
		min	-1.834	14	-1.988	3	-.015	7	-.097	7	-.136	14	-7.021	3
	3	max	4.412	3	1.133	12	.009	13	.098	13	.332	3	2.447	14
		min	-1.834	14	-1.988	3	-.015	7	-.097	7	-.136	14	-6.529	3
	4	max	4.412	3	1.133	12	.009	13	.098	13	.329	3	2.203	14
		min	-1.834	14	-1.988	3	-.015	7	-.097	7	-.135	14	-6.037	3
	5	max	4.412	3	1.133	12	.009	13	.098	13	.327	3	1.96	14
		min	-1.834	14	-1.988	3	-.015	7	-.097	7	-.135	14	-5.624	6
M206	1	max	2.494	3	1	6	.009	13	.096	13	.334	3	2.234	14
		min	-1.8	14	-.361	14	-.016	7	-.127	7	-.144	14	-2.343	7
	2	max	2.494	3	1	6	.009	13	.096	13	.331	3	2.324	14
		min	-1.8	14	-.361	14	-.016	7	-.127	7	-.143	14	-2.523	7
	3	max	2.494	3	1	6	.009	13	.096	13	.328	3	2.413	14
		min	-1.8	14	-.361	14	-.016	7	-.127	7	-.143	14	-2.704	7
	4	max	2.494	3	1	6	.009	13	.096	13	.325	3	2.503	14
		min	-1.8	14	-.361	14	-.016	7	-.127	7	-.142	14	-2.904	6
	5	max	2.494	3	1	6	.009	13	.096	13	.322	3	2.592	14
		min	-1.8	14	-.361	14	-.016	7	-.127	7	-.141	14	-3.152	6
M207	1	max	8.811	3	1.014	12	.072	12	.789	12	.134	14	1	14
		min	-2.417	14	-.181	1	-.029	3	-.324	3	-.461	3	-3.491	3
	2	max	8.811	3	1.014	12	.072	12	.789	12	.136	14	1.028	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-2.417	14	-.181	1	-.029	3	-.324	3	-.468	3	-3.58	3
	3	max	8.811	3	1.014	12	.072	12	.789	12	.138	14	1.057	14
		min	-2.417	14	-.181	1	-.029	3	-.324	3	-.475	3	-3.67	6
	4	max	8.811	3	1.014	12	.072	12	.789	12	.14	14	1.085	14
		min	-2.417	14	-.181	1	-.029	3	-.324	3	-.481	3	-3.9	6
	5	max	8.811	3	1.014	12	.072	12	.789	12	.142	14	1.113	14
		min	-2.417	14	-.181	1	-.029	3	-.324	3	-.488	3	-4.13	6
M208	1	max	9.117	3	1.23	6	.074	12	.784	12	.073	14	.727	14
		min	-2.502	14	-.328	14	-.025	7	-.335	7	-.251	3	-2.67	6
	2	max	9.117	3	1.23	6	.074	12	.784	12	.075	14	.802	14
		min	-2.502	14	-.328	14	-.025	7	-.335	7	-.255	3	-2.953	6
	3	max	9.117	3	1.23	6	.074	12	.784	12	.076	14	.878	14
		min	-2.502	14	-.328	14	-.025	7	-.335	7	-.26	3	-3.236	6
	4	max	9.117	3	1.23	6	.074	12	.784	12	.077	14	.953	14
		min	-2.502	14	-.328	14	-.025	7	-.335	7	-.264	3	-3.519	6
	5	max	9.117	3	1.23	6	.074	12	.784	12	.079	14	1.029	14
		min	-2.502	14	-.328	14	-.025	7	-.335	7	-.269	3	-3.802	6
M209	1	max	9.368	3	.078	3	.082	12	.878	12	.04	14	.355	14
		min	-2.571	14	-.299	12	-.027	7	-.382	7	-.137	3	-1.672	6
	2	max	9.368	3	.078	3	.082	12	.878	12	.041	14	.359	14
		min	-2.571	14	-.299	12	-.027	7	-.382	7	-.141	3	-1.635	6
	3	max	9.368	3	.078	3	.082	12	.878	12	.042	14	.362	14
		min	-2.571	14	-.299	12	-.027	7	-.382	7	-.145	3	-1.598	6
	4	max	9.368	3	.078	3	.082	12	.878	12	.051	12	.366	14
		min	-2.571	14	-.299	12	-.027	7	-.382	7	-.149	3	-1.561	6
	5	max	9.368	3	.078	3	.082	12	.878	12	.07	12	.369	14
		min	-2.571	14	-.299	12	-.027	7	-.382	7	-.153	3	-1.525	6
M210	1	max	9.628	3	.013	3	.075	12	.79	12	.021	14	.188	7
		min	-2.642	14	-.282	12	-.027	7	-.41	7	-.072	3	-1.279	5
	2	max	9.628	3	.013	3	.075	12	.79	12	.022	14	.185	7
		min	-2.642	14	-.282	12	-.027	7	-.41	7	-.075	3	-1.217	5
	3	max	9.628	3	.013	3	.075	12	.79	12	.031	12	.183	7
		min	-2.642	14	-.282	12	-.027	7	-.41	7	-.078	3	-1.154	5
	4	max	9.628	3	.013	3	.075	12	.79	12	.048	12	.18	2
		min	-2.642	14	-.282	12	-.027	7	-.41	7	-.081	3	-1.092	5
	5	max	9.628	3	.013	3	.075	12	.79	12	.065	12	.179	2
		min	-2.642	14	-.282	12	-.027	7	-.41	7	-.084	3	-1.029	5
M211	1	max	9.876	3	.074	14	.055	12	.586	12	.009	14	1.587	3
		min	-2.709	14	-.532	6	-.026	7	-.42	7	-.032	3	-1.197	12
	2	max	9.876	3	.074	14	.055	12	.586	12	.011	12	1.646	3
		min	-2.709	14	-.532	6	-.026	7	-.42	7	-.034	3	-1.093	12
	3	max	9.876	3	.074	14	.055	12	.586	12	.023	12	1.705	3
		min	-2.709	14	-.532	6	-.026	7	-.42	7	-.036	3	-.99	12
	4	max	9.876	3	.074	14	.055	12	.586	12	.036	12	1.764	3
		min	-2.709	14	-.532	6	-.026	7	-.42	7	-.039	7	-.887	12

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	9.876	3	.074	14	.055	12	.586	12	.048	12	1.823	3
		min	-2.709	14	-.532	6	-.026	7	-.42	7	-.045	7	-.783	12
M212	1	max	10.124	3	.26	14	.03	12	.31	12	.002	14	3.423	3
		min	-2.777	14	-1.033	6	-.024	7	-.396	7	-.008	3	-1.026	12
	2	max	10.124	3	.26	14	.03	12	.31	12	.006	12	3.638	3
		min	-2.777	14	-1.033	6	-.024	7	-.396	7	-.009	3	-.974	14
	3	max	10.124	3	.26	14	.03	12	.31	12	.013	12	3.852	3
		min	-2.777	14	-1.033	6	-.024	7	-.396	7	-.013	7	-1.034	14
	4	max	10.124	3	.26	14	.03	12	.31	12	.02	12	4.067	3
		min	-2.777	14	-1.033	6	-.024	7	-.396	7	-.019	7	-1.093	14
	5	max	10.124	3	.26	14	.03	12	.31	12	.027	12	4.281	3
		min	-2.777	14	-1.033	6	-.024	7	-.396	7	-.024	7	-1.153	14
M213	1	max	10.391	3	1.665	3	.027	13	.3	13	.005	7	6.158	3
		min	-2.85	14	-.459	14	-.022	7	-.272	7	-.006	13	-1.665	14
	2	max	10.391	3	1.665	3	.027	13	.3	13	0	13	5.775	3
		min	-2.85	14	-.459	14	-.022	7	-.272	7	0	7	-1.559	14
	3	max	10.391	3	1.665	3	.027	13	.3	13	.007	13	5.392	3
		min	-2.85	14	-.459	14	-.022	7	-.272	7	-.005	7	-1.454	14
	4	max	10.391	3	1.665	3	.027	13	.3	13	.013	13	5.009	3
		min	-2.85	14	-.459	14	-.022	7	-.272	7	-.01	7	-1.348	14
	5	max	10.391	3	1.665	3	.027	13	.3	13	.019	13	4.626	3
		min	-2.85	14	-.459	14	-.022	7	-.272	7	-.015	7	-1.243	14
M214	1	max	77.778	3	1.993	14	.388	14	.4	14	6.744	3	1.501	14
		min	-17.568	14	-7.55	3	-1.405	3	-1.488	3	-2.464	12	-5.461	3
	2	max	77.782	3	1.993	14	.388	14	.4	14	5.313	3	2.206	3
		min	-17.568	14	-7.504	3	-1.405	3	-1.488	3	-2.582	12	-.529	14
	3	max	77.786	3	1.993	14	.388	14	.4	14	3.882	3	9.826	3
		min	-17.568	14	-7.458	3	-1.405	3	-1.488	3	-2.701	12	-2.56	14
	4	max	77.79	3	1.993	14	.388	14	.4	14	2.451	3	17.4	3
		min	-17.568	14	-7.411	3	-1.405	3	-1.488	3	-2.82	12	-4.591	14
	5	max	77.794	3	1.993	14	.388	14	.4	14	1.02	3	24.926	3
		min	-17.568	14	-7.365	3	-1.405	3	-1.488	3	-2.938	12	-6.621	14
M215	1	max	10.386	3	.502	14	.936	13	.65	7	.652	7	4.389	3
		min	-2.849	14	-1.825	3	-.702	7	-.824	13	-.87	13	-1.178	14
	2	max	10.386	3	.502	14	.936	13	.65	7	.487	7	4.816	3
		min	-2.849	14	-1.825	3	-.702	7	-.824	13	-.651	13	-1.296	14
	3	max	10.386	3	.502	14	.936	13	.65	7	.323	7	5.243	3
		min	-2.849	14	-1.825	3	-.702	7	-.824	13	-.432	13	-1.413	14
	4	max	10.386	3	.502	14	.936	13	.65	7	.159	7	5.67	3
		min	-2.849	14	-1.825	3	-.702	7	-.824	13	-.213	13	-1.531	14
	5	max	10.386	3	.502	14	.936	13	.65	7	.006	13	6.097	3
		min	-2.849	14	-1.825	3	-.702	7	-.824	13	-.005	7	-1.648	14
M216	1	max	10.124	3	1.08	6	.912	13	.579	7	.616	7	4.324	3
		min	-2.777	14	-.277	14	-.682	7	-.561	13	-.834	13	-1.165	14
	2	max	10.124	3	1.08	6	.912	13	.579	7	.459	7	4.095	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-2.777	14	-.277	14	-.682	7	-.561	13	-.624	13	-1.101	14
	3	max	10.124	3	1.08	6	.912	13	.579	7	.302	7	3.867	3
		min	-2.777	14	-.277	14	-.682	7	-.561	13	-.414	13	-1.037	14
	4	max	10.124	3	1.08	6	.912	13	.579	7	.146	7	3.638	3
		min	-2.777	14	-.277	14	-.682	7	-.561	13	-.204	13	-.973	14
	5	max	10.124	3	1.08	6	.912	13	.579	7	.006	13	3.409	3
		min	-2.777	14	-.277	14	-.682	7	-.561	13	-.011	7	-1.018	12
M217	1	max	9.876	3	.529	6	.888	13	.436	7	.578	7	1.814	3
		min	-2.71	14	-.074	14	-.661	7	-.686	12	-.811	13	-.772	12
	2	max	9.876	3	.529	6	.888	13	.436	7	.426	7	1.755	3
		min	-2.71	14	-.074	14	-.661	7	-.686	12	-.607	13	-.875	12
	3	max	9.876	3	.529	6	.888	13	.436	7	.274	7	1.696	3
		min	-2.71	14	-.074	14	-.661	7	-.686	12	-.402	13	-.978	12
	4	max	9.876	3	.529	6	.888	13	.436	7	.122	7	1.637	3
		min	-2.71	14	-.074	14	-.661	7	-.686	12	-.198	13	-1.08	12
	5	max	9.876	3	.529	6	.888	13	.436	7	.009	14	1.578	3
		min	-2.71	14	-.074	14	-.661	7	-.686	12	-.032	3	-1.183	12
M218	1	max	9.628	3	.278	12	.862	13	.295	7	.524	7	.172	2
		min	-2.642	14	-.059	13	-.638	7	-.883	12	-.787	13	-1.003	5
	2	max	9.628	3	.278	12	.862	13	.295	7	.377	7	.173	2
		min	-2.642	14	-.059	13	-.638	7	-.883	12	-.588	13	-1.065	5
	3	max	9.628	3	.278	12	.862	13	.295	7	.231	7	.173	2
		min	-2.642	14	-.059	13	-.638	7	-.883	12	-.39	13	-1.126	5
	4	max	9.628	3	.278	12	.862	13	.295	7	.084	7	.174	2
		min	-2.642	14	-.059	13	-.638	7	-.883	12	-.192	13	-1.188	5
	5	max	9.628	3	.278	12	.862	13	.295	7	.022	14	.175	2
		min	-2.642	14	-.059	13	-.638	7	-.883	12	-.074	3	-1.249	5
M219	1	max	9.368	3	.291	12	.834	13	.28	3	.45	7	.37	14
		min	-2.571	14	-.073	3	-.614	7	-.956	12	-.759	13	-1.514	6
	2	max	9.368	3	.291	12	.834	13	.28	3	.309	7	.367	14
		min	-2.571	14	-.073	3	-.614	7	-.956	12	-.567	13	-1.55	6
	3	max	9.368	3	.291	12	.834	13	.28	3	.167	7	.363	14
		min	-2.571	14	-.073	3	-.614	7	-.956	12	-.375	13	-1.586	6
	4	max	9.368	3	.291	12	.834	13	.28	3	.042	14	.36	14
		min	-2.571	14	-.073	3	-.614	7	-.956	12	-.183	13	-1.622	6
	5	max	9.368	3	.291	12	.834	13	.28	3	.041	14	.357	14
		min	-2.571	14	-.073	3	-.614	7	-.956	12	-.139	3	-1.659	6
M220	1	max	9.117	3	.34	14	.805	13	.289	3	.334	7	1.041	14
		min	-2.502	14	-1.243	6	-.589	7	-.836	12	-.725	13	-3.795	6
	2	max	9.117	3	.34	14	.805	13	.289	3	.198	7	.963	14
		min	-2.502	14	-1.243	6	-.589	7	-.836	12	-.54	13	-3.509	6
	3	max	9.117	3	.34	14	.805	13	.289	3	.076	14	.885	14
		min	-2.502	14	-1.243	6	-.589	7	-.836	12	-.355	13	-3.223	6
	4	max	9.117	3	.34	14	.805	13	.289	3	.075	14	.806	14
		min	-2.502	14	-1.243	6	-.589	7	-.836	12	-.256	3	-2.937	6

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	9.117	3	.34	14	.805	13	.289	3	.073	14	.728	14
		min	-2.502	14	-1.243	6	-.589	7	-.836	12	-.252	3	-2.651	6
M221	1	max	8.809	3	1.056	6	.777	13	.341	13	.462	3	.996	14
		min	-2.416	14	-.192	1	-.561	7	-.817	12	-.134	14	-3.475	3
	2	max	8.809	3	1.056	6	.777	13	.341	13	.468	3	1.032	14
		min	-2.416	14	-.192	1	-.561	7	-.817	12	-.136	14	-3.593	3
	3	max	8.809	3	1.056	6	.777	13	.341	13	.475	3	1.068	14
		min	-2.416	14	-.192	1	-.561	7	-.817	12	-.138	14	-3.711	3
	4	max	8.809	3	1.056	6	.777	13	.341	13	.503	13	1.104	14
		min	-2.416	14	-.192	1	-.561	7	-.817	12	-.14	14	-3.894	6
	5	max	8.809	3	1.056	6	.777	13	.341	13	.681	13	1.139	14
		min	-2.416	14	-.192	1	-.561	7	-.817	12	-.141	14	-4.137	6
M222	1	max	8.723	3	.192	1	.762	13	.366	7	.134	14	2.527	3
		min	-2.391	14	-1.056	6	-.593	7	-.823	12	-.462	3	-.718	14
	2	max	8.723	3	.192	1	.762	13	.366	7	.208	13	2.645	3
		min	-2.391	14	-1.056	6	-.593	7	-.823	12	-.522	7	-.754	14
	3	max	8.723	3	.192	1	.762	13	.366	7	.384	13	2.763	3
		min	-2.391	14	-1.056	6	-.593	7	-.823	12	-.659	7	-.789	14
	4	max	8.723	3	.192	1	.762	13	.366	7	.559	13	2.881	3
		min	-2.391	14	-1.056	6	-.593	7	-.823	12	-.795	7	-.825	14
	5	max	8.723	3	.192	1	.762	13	.366	7	.734	13	2.999	3
		min	-2.391	14	-1.056	6	-.593	7	-.823	12	-.932	7	-.861	14
M223	1	max	8.944	3	.34	14	.78	13	.121	3	.073	14	.622	2
		min	-2.451	14	-1.243	6	-.599	7	-.901	12	-.252	3	-.213	5
	2	max	8.944	3	.34	14	.78	13	.121	3	.195	13	.843	2
		min	-2.451	14	-1.243	6	-.599	7	-.901	12	-.346	7	-.244	14
	3	max	8.944	3	.34	14	.78	13	.121	3	.374	13	1.064	2
		min	-2.451	14	-1.243	6	-.599	7	-.901	12	-.484	7	-.323	14
	4	max	8.944	3	.34	14	.78	13	.121	3	.554	13	1.284	2
		min	-2.451	14	-1.243	6	-.599	7	-.901	12	-.622	7	-.401	14
	5	max	8.944	3	.34	14	.78	13	.121	3	.733	13	1.505	2
		min	-2.451	14	-1.243	6	-.599	7	-.901	12	-.76	7	-.479	14
M224	1	max	9.221	3	.291	12	.797	13	.355	13	.041	14	.193	12
		min	-2.527	14	-.073	3	-.61	7	-1.007	12	-.139	3	-.482	3
	2	max	9.221	3	.291	12	.797	13	.355	13	.192	13	.126	12
		min	-2.527	14	-.073	3	-.61	7	-1.007	12	-.255	7	-.465	3
	3	max	9.221	3	.291	12	.797	13	.355	13	.375	13	.116	14
		min	-2.527	14	-.073	3	-.61	7	-1.007	12	-.395	7	-.448	3
	4	max	9.221	3	.291	12	.797	13	.355	13	.558	13	.113	14
		min	-2.527	14	-.073	3	-.61	7	-1.007	12	-.536	7	-.431	7
	5	max	9.221	3	.291	12	.797	13	.355	13	.742	13	.118	13
		min	-2.527	14	-.073	3	-.61	7	-1.007	12	-.676	7	-.426	7
M225	1	max	9.49	3	.278	12	.816	13	.626	13	.022	14	.48	12
		min	-2.601	14	-.059	13	-.621	7	-.943	12	-.074	3	-1.68	3
	2	max	9.49	3	.278	12	.816	13	.626	13	.194	13	.455	14

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-2.601	14	-.059	13	-.621	7	-.943	12	-.205	7	-1.677	3
	3	max	9.49	3	.278	12	.816	13	.626	13	.382	13	.456	14
		min	-2.601	14	-.059	13	-.621	7	-.943	12	-.348	7	-1.674	3
	4	max	9.49	3	.278	12	.816	13	.626	13	.569	13	.456	14
		min	-2.601	14	-.059	13	-.621	7	-.943	12	-.491	7	-1.671	3
	5	max	9.49	3	.278	12	.816	13	.626	13	.757	13	.457	14
		min	-2.601	14	-.059	13	-.621	7	-.943	12	-.634	7	-1.668	3
M226	1	max	9.77	3	.529	6	.836	13	.893	13	.009	14	.747	14
		min	-2.678	14	-.074	14	-.632	7	-.745	7	-.032	3	-2.747	3
	2	max	9.77	3	.529	6	.836	13	.893	13	.198	13	.764	14
		min	-2.678	14	-.074	14	-.632	7	-.745	7	-.175	7	-2.806	3
	3	max	9.77	3	.529	6	.836	13	.893	13	.391	13	.781	14
		min	-2.678	14	-.074	14	-.632	7	-.745	7	-.32	7	-2.865	3
	4	max	9.77	3	.529	6	.836	13	.893	13	.583	13	.798	14
		min	-2.678	14	-.074	14	-.632	7	-.745	7	-.466	7	-2.924	3
	5	max	9.77	3	.529	6	.836	13	.893	13	.775	13	.815	14
		min	-2.678	14	-.074	14	-.632	7	-.745	7	-.611	7	-2.983	3
M227	1	max	10.052	3	1.08	6	.858	13	1.157	13	.006	13	1.144	14
		min	-2.756	14	-.277	14	-.646	7	-.973	7	-.011	7	-4.197	3
	2	max	10.052	3	1.08	6	.858	13	1.157	13	.203	13	1.208	14
		min	-2.756	14	-.277	14	-.646	7	-.973	7	-.16	7	-4.426	3
	3	max	10.052	3	1.08	6	.858	13	1.157	13	.4	13	1.272	14
		min	-2.756	14	-.277	14	-.646	7	-.973	7	-.308	7	-4.655	3
	4	max	10.052	3	1.08	6	.858	13	1.157	13	.598	13	1.335	14
		min	-2.756	14	-.277	14	-.646	7	-.973	7	-.457	7	-4.884	3
	5	max	10.052	3	1.08	6	.858	13	1.157	13	.795	13	1.399	14
		min	-2.756	14	-.277	14	-.646	7	-.973	7	-.606	7	-5.112	3
M228	1	max	10.322	3	.459	14	.022	7	.297	13	.006	13	1.889	14
		min	-2.83	14	-1.665	3	-.027	13	-.204	7	-.005	7	-6.912	3
	2	max	10.322	3	.459	14	.022	7	.297	13	0	7	1.784	14
		min	-2.83	14	-1.665	3	-.027	13	-.204	7	0	13	-6.529	3
	3	max	10.322	3	.459	14	.022	7	.297	13	.005	7	1.679	14
		min	-2.83	14	-1.665	3	-.027	13	-.204	7	-.007	13	-6.146	3
	4	max	10.322	3	.459	14	.022	7	.297	13	.01	7	1.573	14
		min	-2.83	14	-1.665	3	-.027	13	-.204	7	-.013	13	-5.763	3
	5	max	10.322	3	.459	14	.022	7	.297	13	.015	7	1.468	14
		min	-2.83	14	-1.665	3	-.027	13	-.204	7	-.019	13	-5.38	3
M229	1	max	10.052	3	1.033	6	.024	7	.353	5	.008	3	1.149	14
		min	-2.756	14	-.26	14	-.03	12	-.137	7	-.002	14	-4.217	3
	2	max	10.052	3	1.033	6	.024	7	.353	5	.009	3	1.209	14
		min	-2.756	14	-.26	14	-.03	12	-.137	7	-.006	12	-4.431	3
	3	max	10.052	3	1.033	6	.024	7	.353	5	.013	7	1.269	14
		min	-2.756	14	-.26	14	-.03	12	-.137	7	-.013	12	-4.646	3
	4	max	10.052	3	1.033	6	.024	7	.353	5	.019	7	1.329	14
		min	-2.756	14	-.26	14	-.03	12	-.137	7	-.02	12	-4.86	3

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	10.052	3	1.033	6	.024	7	.353	5	.024	7	1.388	14
		min	-2.756	14	-.26	14	-.03	12	-.137	7	-.027	12	-5.075	3
M230	1	max	140.776	3	2.048	14	1.388	3	1.666	3	1.851	14	1.4	14
		min	-35.895	14	-7.739	3	-.385	14	-.452	14	-8.26	6	-5.118	3
	2	max	140.78	3	2.048	14	1.388	3	1.666	3	1.458	14	2.742	3
		min	-35.895	14	-7.693	3	-.385	14	-.452	14	-6.895	6	-.686	14
	3	max	140.784	3	2.048	14	1.388	3	1.666	3	1.066	14	10.555	3
		min	-35.895	14	-7.647	3	-.385	14	-.452	14	-5.499	6	-2.773	14
	4	max	140.788	3	2.048	14	1.416	6	1.666	3	.673	14	18.321	3
		min	-35.895	14	-7.6	3	-.385	14	-.452	14	-4.072	6	-4.859	14
	5	max	140.792	3	2.048	14	1.447	6	1.666	3	.281	14	26.039	3
		min	-35.895	14	-7.554	3	-.385	14	-.452	14	-2.614	6	-6.945	14
M231	1	max	10.318	3	.502	14	.881	13	1.421	13	.006	13	1.87	14
		min	-2.829	14	-1.825	3	-.661	7	-1.102	7	-.005	7	-6.841	3
	2	max	10.318	3	.502	14	.881	13	1.421	13	.212	13	1.753	14
		min	-2.829	14	-1.825	3	-.661	7	-1.102	7	-.16	7	-6.414	3
	3	max	10.318	3	.502	14	.881	13	1.421	13	.418	13	1.635	14
		min	-2.829	14	-1.825	3	-.661	7	-1.102	7	-.315	7	-5.987	3
	4	max	10.318	3	.502	14	.881	13	1.421	13	.625	13	1.518	14
		min	-2.829	14	-1.825	3	-.661	7	-1.102	7	-.469	7	-5.56	3
	5	max	10.318	3	.502	14	.881	13	1.421	13	.831	13	1.4	14
		min	-2.829	14	-1.825	3	-.661	7	-1.102	7	-.624	7	-5.133	3
M232	1	max	9.771	3	.532	6	.026	7	.616	5	.032	3	.748	14
		min	-2.678	14	-.074	14	-.055	12	-.155	7	-.009	14	-2.749	3
	2	max	9.771	3	.532	6	.026	7	.616	5	.034	3	.765	14
		min	-2.678	14	-.074	14	-.055	12	-.155	7	-.011	12	-2.808	3
	3	max	9.771	3	.532	6	.026	7	.616	5	.036	3	.782	14
		min	-2.678	14	-.074	14	-.055	12	-.155	7	-.023	12	-2.867	3
	4	max	9.771	3	.532	6	.026	7	.616	5	.039	7	.799	14
		min	-2.678	14	-.074	14	-.055	12	-.155	7	-.036	12	-2.926	3
	5	max	9.771	3	.532	6	.026	7	.616	5	.045	7	.816	14
		min	-2.678	14	-.074	14	-.055	12	-.155	7	-.048	12	-2.985	3
M233	1	max	9.49	3	.282	12	.027	7	.85	12	.072	3	.483	12
		min	-2.601	14	-.013	3	-.075	12	-.193	7	-.021	14	-1.688	3
	2	max	9.49	3	.282	12	.027	7	.85	12	.075	3	.457	14
		min	-2.601	14	-.013	3	-.075	12	-.193	7	-.022	14	-1.685	3
	3	max	9.49	3	.282	12	.027	7	.85	12	.078	3	.458	14
		min	-2.601	14	-.013	3	-.075	12	-.193	7	-.031	12	-1.682	3
	4	max	9.49	3	.282	12	.027	7	.85	12	.081	3	.459	14
		min	-2.601	14	-.013	3	-.075	12	-.193	7	-.048	12	-1.679	3
	5	max	9.49	3	.282	12	.027	7	.85	12	.084	3	.46	14
		min	-2.601	14	-.013	3	-.075	12	-.193	7	-.065	12	-1.676	3
M234	1	max	9.221	3	.299	12	.027	7	.93	12	.137	3	.197	12
		min	-2.527	14	-.078	3	-.082	12	-.215	7	-.04	14	-.485	3
	2	max	9.221	3	.299	12	.027	7	.93	12	.141	3	.129	12

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
		min	-2.527	14	-.078	3	-.082	12	-.215	7	-.041	14	-.467	3
	3	max	9.221	3	.299	12	.027	7	.93	12	.145	3	.117	14
		min	-2.527	14	-.078	3	-.082	12	-.215	7	-.042	14	-.449	3
	4	max	9.221	3	.299	12	.027	7	.93	12	.149	3	.114	14
		min	-2.527	14	-.078	3	-.082	12	-.215	7	-.051	12	-.431	3
	5	max	9.221	3	.299	12	.027	7	.93	12	.153	3	.11	14
		min	-2.527	14	-.078	3	-.082	12	-.215	7	-.07	12	-.413	3
M235	1	max	8.944	3	.328	14	.025	7	.85	12	.251	3	.621	2
		min	-2.451	14	-1.23	6	-.074	12	-.21	7	-.073	14	-.22	5
	2	max	8.944	3	.328	14	.025	7	.85	12	.255	3	.835	2
		min	-2.451	14	-1.23	6	-.074	12	-.21	7	-.075	14	-.24	14
	3	max	8.944	3	.328	14	.025	7	.85	12	.26	3	1.049	2
		min	-2.451	14	-1.23	6	-.074	12	-.21	7	-.076	14	-.315	14
	4	max	8.944	3	.328	14	.025	7	.85	12	.264	3	1.262	2
		min	-2.451	14	-1.23	6	-.074	12	-.21	7	-.077	14	-.391	14
	5	max	8.944	3	.328	14	.025	7	.85	12	.269	3	1.476	2
		min	-2.451	14	-1.23	6	-.074	12	-.21	7	-.079	14	-.466	14
M236	1	max	8.72	3	.181	1	.029	3	.794	12	.461	3	2.489	3
		min	-2.39	14	-1.014	12	-.072	12	-.308	3	-.134	14	-.706	14
	2	max	8.72	3	.181	1	.029	3	.794	12	.468	3	2.577	3
		min	-2.39	14	-1.014	12	-.072	12	-.308	3	-.136	14	-.735	14
	3	max	8.72	3	.181	1	.029	3	.794	12	.475	3	2.666	3
		min	-2.39	14	-1.014	12	-.072	12	-.308	3	-.138	14	-.763	14
	4	max	8.72	3	.181	1	.029	3	.794	12	.481	3	2.754	3
		min	-2.39	14	-1.014	12	-.072	12	-.308	3	-.14	14	-.791	14
	5	max	8.72	3	.181	1	.029	3	.794	12	.488	3	2.843	3
		min	-2.39	14	-1.014	12	-.072	12	-.308	3	-.142	14	-.819	14
M237	1	max	8.544	3	1.542	3	.024	3	.521	12	.411	3	5.332	3
		min	-2.344	14	-.45	14	-.045	12	-.245	3	-.118	14	-1.488	14
	2	max	8.544	3	1.542	3	.024	3	.521	12	.416	3	4.989	3
		min	-2.344	14	-.45	14	-.045	12	-.245	3	-.12	14	-1.388	14
	3	max	8.544	3	1.542	3	.024	3	.521	12	.422	3	4.645	3
		min	-2.344	14	-.45	14	-.045	12	-.245	3	-.121	14	-1.287	14
	4	max	8.544	3	1.542	3	.024	3	.521	12	.427	3	4.302	3
		min	-2.344	14	-.45	14	-.045	12	-.245	3	-.123	14	-1.187	14
	5	max	8.544	3	1.542	3	.024	3	.521	12	.432	3	3.964	2
		min	-2.344	14	-.45	14	-.045	12	-.245	3	-.124	14	-1.087	14
M238	1	max	8.468	3	.45	14	.045	12	.466	12	.118	14	1.24	14
		min	-2.321	14	-1.542	3	-.024	3	-.275	3	-.411	3	-4.496	3
	2	max	8.468	3	.45	14	.045	12	.466	12	.12	14	1.14	14
		min	-2.321	14	-1.542	3	-.024	3	-.275	3	-.416	3	-4.153	3
	3	max	8.468	3	.45	14	.045	12	.466	12	.121	14	1.039	14
		min	-2.321	14	-1.542	3	-.024	3	-.275	3	-.422	3	-3.81	3
	4	max	8.468	3	.45	14	.045	12	.466	12	.123	14	.939	14
		min	-2.321	14	-1.542	3	-.024	3	-.275	3	-.427	3	-3.472	2

Envelope Member Section Forces, (continued)

Member Label	Section		Axial (k)	Lc	Shear y-y (k)	Lc	Shear z-z (k)	Lc	Torque (k-ft)	Lc	Moment y-y (k-ft)	Lc	Moment z-z (k-ft)	Lc
	5	max	8.468	3	.45	14	.045	12	.466	12	.124	14	.839	14
		min	-2.321	14	-1.542	3	-.024	3	-.275	3	-.432	3	-3.268	2
M239	1	max	2.583	3	1.025	6	.012	3	.098	13	.287	13	2.197	14
		min	-1.86	14	-.337	14	-.003	14	-.023	7	-.479	7	-2.256	6
	2	max	2.583	3	1.025	6	.012	3	.098	13	.289	13	2.28	14
		min	-1.86	14	-.337	14	-.003	14	-.023	7	-.478	7	-2.51	6
	3	max	2.583	3	1.025	6	.012	3	.098	13	.291	13	2.363	14
		min	-1.86	14	-.337	14	-.003	14	-.023	7	-.477	7	-2.764	6
	4	max	2.583	3	1.025	6	.012	3	.098	13	.293	13	2.447	14
		min	-1.86	14	-.337	14	-.003	14	-.023	7	-.477	7	-3.017	6
	5	max	2.583	3	1.025	6	.012	3	.098	13	.296	13	2.53	14
		min	-1.86	14	-.337	14	-.003	14	-.023	7	-.476	7	-3.271	6
M240	1	max	.003	14	2.603	3	.337	14	3.271	6	.098	13	.471	7
		min	-.012	3	-1.86	14	-1.025	6	-2.53	14	-.023	7	-.296	13
	2	max	.003	14	2.632	3	.337	14	3.271	6	.227	14	1.04	14
		min	-.012	3	-1.86	14	-1.025	6	-2.53	14	-.605	6	-1.343	3
	3	max	.003	14	2.661	3	.337	14	3.271	6	.441	14	2.221	14
		min	-.012	3	-1.86	14	-1.025	6	-2.53	14	-1.256	6	-3.024	3
	4	max	.003	14	2.69	3	.337	14	3.271	6	.655	14	3.402	14
		min	-.012	3	-1.86	14	-1.025	6	-2.53	14	-1.907	6	-4.723	3
	5	max	.003	14	2.719	3	.337	14	3.271	6	.869	14	4.583	14
		min	-.012	3	-1.86	14	-1.025	6	-2.53	14	-2.558	6	-6.44	3

Envelope Member Stresses

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
M1	1	max	.405	13	.84	13	.081	3	.301	7	.637	13	.223	14	.411	3
		min	-.317	7	-.573	7	-.046	14	-.637	13	-.301	7	-.411	3	-.223	14
	2	max	.405	13	.84	13	.081	3	.207	7	.499	13	.216	14	.4	3
		min	-.317	7	-.572	7	-.046	14	-.499	13	-.207	7	-.4	3	-.216	14
	3	max	.405	13	.84	13	.081	3	.113	7	.36	13	.21	14	.388	3
		min	-.317	7	-.571	7	-.046	14	-.36	13	-.113	7	-.388	3	-.21	14
	4	max	.405	13	.84	13	.081	3	.087	14	.221	13	.203	12	.377	3
		min	-.317	7	-.571	7	-.046	14	-.221	13	-.087	14	-.377	3	-.203	12
	5	max	.405	13	.84	13	.081	3	.105	14	.172	3	.204	12	.365	3
		min	-.317	7	-.57	7	-.046	14	-.172	3	-.105	14	-.365	3	-.204	12
M2	1	max	8.297	3	.585	12	.608	13	0	1	0	1	0	1	0	1
		min	-2.373	14	-.041	13	-.65	7	0	1	0	1	0	1	0	1
	2	max	8.29	3	.585	12	.608	13	2.221	12	.156	13	2.308	13	2.468	7
		min	-2.373	14	-.041	13	-.65	7	-.156	13	-2.221	12	-2.468	7	-2.308	13
	3	max	8.282	3	.585	12	.608	13	4.442	12	.312	13	4.615	13	4.935	7
		min	-2.373	14	-.041	13	-.65	7	-.312	13	-4.442	12	-4.935	7	-4.615	13
	4	max	8.274	3	.585	12	.608	13	6.663	12	.468	13	6.923	13	7.403	7
		min	-2.373	14	-.041	13	-.65	7	-.468	13	-6.663	12	-7.403	7	-6.923	13

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	8.267	3	.585	12	.608	13	8.884	12	.624	13	9.231	13	9.871	7
		min	-2.373	14	-.041	13	-.65	7	-.624	13	-8.884	12	-9.871	7	-9.231	13
M3	1	max	8.253	3	.689	12	.613	13	0	1	0	1	0	1	0	1
		min	-2.349	14	-.043	7	-.261	7	0	1	0	1	0	1	0	1
	2	max	8.245	3	.671	12	.613	13	2.582	12	.162	7	2.327	13	.992	7
		min	-2.349	14	-.043	7	-.261	7	-.162	7	-2.582	12	-.992	7	-2.327	13
	3	max	8.237	3	.652	12	.613	13	5.094	12	.324	7	4.653	13	1.985	7
		min	-2.349	14	-.043	7	-.261	7	-.324	7	-5.094	12	-1.985	7	-4.653	13
	4	max	8.23	3	.633	12	.613	13	7.534	12	.486	7	6.98	13	2.977	7
		min	-2.349	14	-.043	7	-.261	7	-.486	7	-7.534	12	-2.977	7	-6.98	13
	5	max	8.222	3	.615	12	.613	13	9.905	12	.649	7	9.307	13	3.969	7
		min	-2.349	14	-.043	7	-.261	7	-.649	7	-9.905	12	-3.969	7	-9.307	13
M4	1	max	1.962	3	.213	12	.019	13	6.46	3	2.327	12	.111	7	.207	13
		min	-.583	14	-.27	3	-.011	7	-2.327	12	-6.46	3	-.207	13	-.111	7
	2	max	1.968	3	.186	12	.019	13	4.844	3	1.328	14	.043	7	.094	13
		min	-.583	14	-.27	3	-.011	7	-1.328	14	-4.844	3	-.094	13	-.043	7
	3	max	1.975	3	.159	12	.019	13	3.229	3	.89	14	.019	13	.026	7
		min	-.583	14	-.27	3	-.011	7	-.89	14	-3.229	3	-.026	7	-.019	13
	4	max	1.982	3	.132	12	.019	13	1.82	6	.453	14	.132	13	.094	7
		min	-.583	14	-.27	3	-.011	7	-.453	14	-1.82	6	-.094	7	-.132	13
	5	max	1.988	3	.105	12	.019	13	1.506	5	.026	2	.244	13	.163	7
		min	-.583	14	-.27	3	-.011	7	-.026	2	-1.506	5	-.163	7	-.244	13
M5	1	max	5.144	3	.019	14	.498	14	1.121	6	.36	14	9.232	3	2.47	14
		min	-1.365	14	-.049	6	-1.89	3	-.36	14	-1.121	6	-2.47	14	-9.232	3
	2	max	5.139	3	.019	14	.498	14	.99	6	.315	14	4.591	3	1.247	14
		min	-1.365	14	-.058	6	-1.89	3	-.315	14	-.99	6	-1.247	14	-4.591	3
	3	max	5.134	3	.019	14	.498	14	.837	6	.269	14	.174	7	.273	13
		min	-1.365	14	-.067	6	-1.89	3	-.269	14	-.837	6	-.273	13	-.174	7
	4	max	5.129	3	.019	14	.498	14	.661	6	.224	14	1.2	14	4.69	3
		min	-1.365	14	-.077	5	-1.89	3	-.224	14	-.661	6	-4.69	3	-1.2	14
	5	max	5.124	3	.019	14	.498	14	.572	2	.178	14	2.423	14	9.331	3
		min	-1.365	14	-.089	5	-1.89	3	-.178	14	-.572	2	-9.331	3	-2.423	14
M6	1	max	2.766	14	.041	12	.045	13	.105	14	.607	6	1.438	7	.475	13
		min	-11.088	3	-.017	7	-.117	7	-.607	6	-.105	14	-.475	13	-1.438	7
	2	max	2.766	14	.014	12	.045	13	.133	14	.559	6	.688	7	.21	14
		min	-11.083	3	-.017	7	-.128	7	-.559	6	-.133	14	-.21	14	-.688	7
	3	max	2.766	14	.006	13	.045	13	.16	14	.638	6	.074	13	.132	7
		min	-11.079	3	-.023	6	-.14	7	-.638	6	-.16	14	-.132	7	-.074	13
	4	max	2.766	14	.006	13	.045	13	.188	14	.843	6	.349	13	1.02	7
		min	-11.074	3	-.044	6	-.151	7	-.843	6	-.188	14	-1.02	7	-.349	13
	5	max	2.766	14	.006	13	.045	13	.215	14	1.174	6	.623	13	1.977	7
		min	-11.07	3	-.071	5	-.162	7	-1.174	6	-.215	14	-1.977	7	-.623	13
M7	1	max	5.229	3	.115	3	.096	14	1.7	6	.326	14	3.815	3	1.015	14
		min	-1.401	14	-.081	12	-.36	3	-.326	14	-1.7	6	-1.015	14	-3.815	3
	2	max	5.223	3	.115	3	.096	14	1.802	6	.478	14	1.941	3	.515	14

Envelope Member Stresses, (continued)

Member Label	Section		Axial		Shear y-y		Shear z-z		Bending y-top		Bending y-bot		Bending z-top		Bending z-bot	
			(ksi)	Lc	(ksi)	Lc	(ksi)	Lc	(ksi)	Lc	(ksi)	Lc	(ksi)	Lc	(ksi)	Lc
		min	-1.401	14	-.105	12	-.36	3	-.478	14	-1.802	6	-.515	14	-1.941	3
	3	max	5.217	3	.115	3	.096	14	2.256	3	.631	14	.067	3	.015	14
		min	-1.401	14	-.128	12	-.36	3	-.631	14	-2.256	3	-.015	14	-.067	3
	4	max	5.211	3	.115	3	.096	14	2.858	3	.783	14	.486	14	1.807	3
		min	-1.401	14	-.152	12	-.36	3	-.783	14	-2.858	3	-1.807	3	-.486	14
	5	max	5.206	3	.115	3	.096	14	3.459	3	1.476	12	.986	14	3.682	3
		min	-1.401	14	-.175	12	-.36	3	-1.476	12	-3.459	3	-3.682	3	-.986	14
M8	1	max	2.893	14	.123	5	.047	7	.324	14	2.027	6	.52	2	.216	5
		min	-10.976	3	-.01	14	-.006	13	-2.027	6	-.324	14	-.216	5	-.52	2
	2	max	2.893	14	.084	6	.026	7	.226	14	1.043	6	.61	3	.133	14
		min	-10.972	3	-.01	14	-.006	13	-1.043	6	-.226	14	-.133	14	-.61	3
	3	max	2.893	14	.051	6	.004	7	.127	14	.483	3	.704	3	.137	14
		min	-10.967	3	-.01	14	-.006	13	-.483	3	-.127	14	-.137	14	-.704	3
	4	max	2.893	14	.036	3	0	12	.072	12	.149	7	.588	3	.141	14
		min	-10.962	3	-.013	12	-.023	3	-.149	7	-.072	12	-.141	14	-.588	3
	5	max	2.893	14	.036	3	0	12	.226	3	.274	12	.438	2	.177	1
		min	-10.957	3	-.057	12	-.044	3	-.274	12	-.226	3	-.177	1	-.438	2
M9	1	max	.635	13	.133	5	.039	5	.245	3	1.118	12	1.269	2	.39	14
		min	-2.252	3	-.006	14	-.025	2	-1.118	12	-.245	3	-.39	14	-1.269	2
	2	max	.635	13	.087	5	.018	5	.465	3	.128	14	1.227	3	.311	14
		min	-2.247	3	-.006	14	-.025	2	-.128	14	-.465	3	-.311	14	-1.227	3
	3	max	.635	13	.045	6	.008	14	.987	6	.19	14	1.042	3	.232	14
		min	-2.241	3	-.006	14	-.029	3	-.19	14	-.987	6	-.232	14	-1.042	3
	4	max	.635	13	.021	3	.008	14	1.272	6	.251	14	.634	3	.153	14
		min	-2.235	3	-.008	12	-.051	3	-.251	14	-1.272	6	-.153	14	-.634	3
	5	max	.635	13	.021	3	.008	14	1.2	6	.313	14	.26	2	.258	1
		min	-2.229	3	-.054	12	-.073	3	-.313	14	-1.2	6	-.258	1	-.26	2
M10	1	max	5.132	3	.018	14	1.891	3	1.138	6	.361	14	2.452	14	9.209	3
		min	-1.357	14	-.048	6	-.497	14	-.361	14	-1.138	6	-9.209	3	-2.452	14
	2	max	5.127	3	.018	14	1.891	3	1.01	6	.317	14	1.232	14	4.565	3
		min	-1.357	14	-.057	6	-.497	14	-.317	14	-1.01	6	-4.565	3	-1.232	14
	3	max	5.122	3	.018	14	1.891	3	.859	6	.272	14	.258	7	.272	13
		min	-1.357	14	-.066	6	-.497	14	-.272	14	-.859	6	-.272	13	-.258	7
	4	max	5.117	3	.018	14	1.891	3	.686	6	.227	14	4.724	3	1.209	14
		min	-1.357	14	-.075	5	-.497	14	-.227	14	-.686	6	-1.209	14	-4.724	3
	5	max	5.112	3	.018	14	1.891	3	.569	2	.183	14	9.368	3	2.43	14
		min	-1.357	14	-.087	5	-.497	14	-.183	14	-.569	2	-2.43	14	-9.368	3
M11	1	max	2.779	14	.041	12	.111	2	.117	14	.622	6	.448	14	1.376	3
		min	-11.11	3	-.014	3	-.04	14	-.622	6	-.117	14	-1.376	3	-.448	14
	2	max	2.779	14	.014	12	.121	3	.14	14	.561	6	.201	14	.668	3
		min	-11.105	3	-.014	3	-.04	14	-.561	6	-.14	14	-.668	3	-.201	14
	3	max	2.779	14	.004	14	.133	3	.162	14	.632	3	.127	2	.046	14
		min	-11.101	3	-.021	6	-.04	14	-.632	3	-.162	14	-.046	14	-.127	2
	4	max	2.779	14	.004	14	.144	3	.185	14	.818	6	.955	3	.292	14
		min	-11.096	3	-.044	5	-.04	14	-.818	6	-.185	14	-.292	14	-.955	3

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	2.779	14	.004	14	.155	3	.207	14	1.136	6	1.87	3	.539	14
		min	-11.092	3	-.071	5	-.04	14	-1.136	6	-.207	14	-.539	14	-1.87	3
M12	1	max	5.216	3	.114	3	.356	3	1.713	6	.327	14	1.005	14	3.79	3
		min	-1.394	14	-.082	12	-.095	14	-.327	14	-1.713	6	-3.79	3	-1.005	14
	2	max	5.21	3	.114	3	.356	3	1.809	6	.478	14	.512	14	1.935	3
		min	-1.394	14	-.105	12	-.095	14	-.478	14	-1.809	6	-1.935	3	-.512	14
	3	max	5.204	3	.114	3	.356	3	2.246	3	.629	14	.029	13	.082	7
		min	-1.394	14	-.128	12	-.095	14	-.629	14	-2.246	3	-.082	7	-.029	13
	4	max	5.198	3	.114	3	.356	3	2.84	3	.78	14	1.774	3	.474	14
		min	-1.394	14	-.152	12	-.095	14	-.78	14	-2.84	3	-.474	14	-1.774	3
	5	max	5.192	3	.114	3	.356	3	3.434	3	1.468	12	3.629	3	.967	14
		min	-1.394	14	-.175	12	-.095	14	-1.468	12	-3.434	3	-.967	14	-3.629	3
M13	1	max	2.877	14	.122	5	.003	2	.319	14	1.992	6	.221	5	.541	2
		min	-10.946	3	-.01	14	-.044	5	-1.992	6	-.319	14	-.541	2	-.221	5
	2	max	2.877	14	.083	6	.003	2	.223	14	1.018	6	.139	14	.626	3
		min	-10.941	3	-.01	14	-.023	5	-1.018	6	-.223	14	-.626	3	-.139	14
	3	max	2.877	14	.05	6	.006	7	.126	14	.484	3	.139	14	.711	3
		min	-10.936	3	-.01	14	-.007	13	-.484	3	-.126	14	-.711	3	-.139	14
	4	max	2.877	14	.036	3	.028	7	.083	12	.134	3	.14	14	.585	3
		min	-10.931	3	-.014	12	-.007	13	-.134	3	-.083	12	-.585	3	-.14	14
	5	max	2.877	14	.036	3	.049	7	.217	3	.273	12	.178	1	.428	2
		min	-10.926	3	-.058	12	-.007	13	-.273	12	-.217	3	-.428	2	-.178	1
M14	1	max	.605	14	.133	5	.024	2	.229	3	1.111	12	.382	14	1.244	2
		min	-2.24	3	-.006	14	-.039	5	-1.111	12	-.229	3	-1.244	2	-.382	14
	2	max	.605	14	.086	5	.024	2	.453	3	.125	14	.306	14	1.211	3
		min	-2.234	3	-.006	14	-.018	5	-.125	14	-.453	3	-1.211	3	-.306	14
	3	max	.605	14	.045	6	.028	3	.984	6	.188	14	.23	14	1.037	3
		min	-2.228	3	-.006	14	-.007	14	-.188	14	-.984	6	-1.037	3	-.23	14
	4	max	.605	14	.022	3	.05	3	1.27	6	.25	14	.155	14	.639	3
		min	-2.222	3	-.008	12	-.007	14	-.25	14	-1.27	6	-.639	3	-.155	14
	5	max	.605	14	.022	3	.071	3	1.2	6	.312	14	.256	1	.274	2
		min	-2.216	3	-.054	12	-.007	14	-.312	14	-1.2	6	-.274	2	-.256	1
M15	1	max	4.238	3	.215	14	.279	3	3.819	3	.871	14	1.341	12	.924	3
		min	-1.021	14	-.911	3	-.309	12	-.871	14	-3.819	3	-.924	3	-1.341	12
	2	max	4.237	3	.215	14	.279	3	2.527	3	.565	14	.971	12	.584	3
		min	-1.021	14	-.905	3	-.301	12	-.565	14	-2.527	3	-.584	3	-.971	12
	3	max	4.237	3	.215	14	.279	3	1.244	3	.362	13	.611	12	.245	3
		min	-1.021	14	-.898	3	-.293	12	-.362	13	-1.244	3	-.245	3	-.611	12
	4	max	4.237	3	.215	14	.279	3	.123	7	.198	13	.291	5	-.011	14
		min	-1.021	14	-.892	3	-.285	12	-.198	13	-.123	7	.011	14	-.291	5
	5	max	4.237	3	.215	14	.279	3	.353	14	1.294	3	.433	3	.104	14
		min	-1.021	14	-.886	3	-.277	12	-1.294	3	-.353	14	-.104	14	-.433	3
M16	1	max	10.444	3	.721	14	.068	12	4.716	3	1.276	14	.426	14	2.055	6
		min	-2.662	14	-2.677	3	-.09	3	-1.276	14	-4.716	3	-2.055	6	-.426	14
	2	max	10.444	3	.721	14	.07	12	3.819	3	1.035	14	.433	14	2.06	6

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-2.662	14	-2.676	3	-.09	3	-1.035	14	-3.819	3	-2.06	6	-.433	14
	3	max	10.444	3	.721	14	.072	12	2.923	3	.793	14	.44	14	2.064	6
		min	-2.662	14	-2.674	3	-.09	3	-.793	14	-2.923	3	-2.064	6	-.44	14
	4	max	10.444	3	.721	14	.074	12	2.028	3	.551	14	.447	14	2.068	6
		min	-2.662	14	-2.673	3	-.09	3	-.551	14	-2.028	3	-2.068	6	-.447	14
	5	max	10.444	3	.721	14	.075	12	1.132	3	.31	14	.453	14	2.072	6
		min	-2.662	14	-2.671	3	-.09	3	-.31	14	-1.132	3	-2.072	6	-.453	14
M17	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	0	3	0	1	0	6	0	2	0	1	0	1
		min	0	1	0	2	0	1	0	2	0	6	0	1	0	1
	3	max	0	1	.002	3	0	1	0	6	0	2	0	1	0	1
		min	0	1	0	2	0	1	0	2	0	6	0	1	0	1
	4	max	0	1	.002	3	0	1	0	6	0	2	0	1	0	1
		min	0	1	0	2	0	1	0	2	0	6	0	1	0	1
	5	max	0	1	.003	3	0	1	.001	6	0	2	0	1	0	1
		min	0	1	0	2	0	1	0	2	-.001	6	0	1	0	1
M18	1	max	3.587	3	.254	3	.029	13	2.249	12	5.211	3	.198	7	.333	13
		min	-1.056	14	-.097	12	-.018	7	-5.211	3	-2.249	12	-.333	13	-.198	7
	2	max	3.594	3	.254	3	.029	13	1.669	12	3.692	3	.088	7	.16	13
		min	-1.056	14	-.097	12	-.018	7	-3.692	3	-1.669	12	-.16	13	-.088	7
	3	max	3.6	3	.254	3	.029	13	1.089	12	2.173	3	.013	13	.022	7
		min	-1.056	14	-.097	12	-.018	7	-2.173	3	-1.089	12	-.022	7	-.013	13
	4	max	3.607	3	.254	3	.029	13	.509	12	.655	3	.185	13	.132	7
		min	-1.056	14	-.097	12	-.018	7	-.655	3	-.509	12	-.132	7	-.185	13
	5	max	3.614	3	.254	3	.029	13	.864	3	.241	14	.358	13	.243	7
		min	-1.056	14	-.097	12	-.018	7	-.241	14	-.864	3	-.243	7	-.358	13
M19	1	max	6.495	3	.229	3	.152	14	4.098	12	.51	3	2.468	3	.523	14
		min	-1.759	14	-.237	12	-.682	3	-.51	3	-4.098	12	-.523	14	-2.468	3
	2	max	6.49	3	.229	3	.152	14	3.596	5	.152	13	.81	3	.152	14
		min	-1.759	14	-.237	12	-.682	3	-.152	13	-3.596	5	-.152	14	-.81	3
	3	max	6.485	3	.229	3	.152	14	3.14	5	.143	14	.218	14	.849	3
		min	-1.759	14	-.237	12	-.682	3	-.143	14	-3.14	5	-.849	3	-.218	14
	4	max	6.48	3	.229	3	.152	14	2.712	6	.315	14	.589	14	2.507	3
		min	-1.759	14	-.237	12	-.682	3	-.315	14	-2.712	6	-2.507	3	-.589	14
	5	max	6.475	3	.229	3	.152	14	2.72	6	.487	14	.959	14	4.165	3
		min	-1.759	14	-.237	12	-.682	3	-.487	14	-2.72	6	-4.165	3	-.959	14
M20	1	max	3.456	7	.107	5	.031	14	.373	3	.094	14	.935	3	.352	14
		min	-1.469	13	-.005	13	-.078	2	-.094	14	-.373	3	-.352	14	-.935	3
	2	max	3.461	7	.107	5	.031	14	.818	6	.104	14	.467	3	.162	14
		min	-1.469	13	-.005	13	-.082	3	-.104	14	-.818	6	-.162	14	-.467	3
	3	max	3.465	7	.107	5	.031	14	1.388	5	.113	14	.092	13	.113	7
		min	-1.469	13	-.005	13	-.093	3	-.113	14	-1.388	5	-.113	7	-.092	13
	4	max	3.47	7	.107	5	.031	14	2.044	5	.122	14	.217	14	.675	3
		min	-1.469	13	-.005	13	-.105	3	-.122	14	-2.044	5	-.675	3	-.217	14

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	3.474	7	.107	5	.031	14	2.699	5	.131	14	.407	14	1.35	3
		min	-1.469	13	-.005	13	-.116	3	-.131	14	-2.699	5	-1.35	3	-.407	14
M21	1	max	6.126	3	.133	12	.149	14	.13	14	.441	6	5.783	3	1.587	14
		min	-1.659	14	-.066	3	-.541	3	-.441	6	-.13	14	-1.587	14	-5.783	3
	2	max	6.12	3	.133	12	.149	14	.488	12	.735	3	2.966	3	.812	14
		min	-1.659	14	-.066	3	-.541	3	-.735	3	-.488	12	-.812	14	-2.966	3
	3	max	6.114	3	.133	12	.149	14	1.181	12	1.078	3	.148	3	.038	14
		min	-1.659	14	-.066	3	-.541	3	-1.078	3	-1.181	12	-.038	14	-.148	3
	4	max	6.108	3	.133	12	.149	14	1.874	12	1.421	3	.737	14	2.67	3
		min	-1.659	14	-.066	3	-.541	3	-1.421	3	-1.874	12	-2.67	3	-.737	14
	5	max	6.102	3	.133	12	.149	14	2.567	12	1.764	3	1.511	14	5.488	3
		min	-1.659	14	-.066	3	-.541	3	-1.764	3	-2.567	12	-5.488	3	-1.511	14
M22	1	max	3.218	14	.01	14	.057	7	1.336	6	.302	14	.222	13	.817	7
		min	-12.108	3	-.039	6	-.005	13	-.302	14	-1.336	6	-.817	7	-.222	13
	2	max	3.218	14	.01	14	.036	7	.956	6	.205	14	.171	13	.362	7
		min	-12.103	3	-.039	6	-.005	13	-.205	14	-.956	6	-.362	7	-.171	13
	3	max	3.218	14	.01	14	.014	7	.576	6	.108	14	.12	13	.164	2
		min	-12.098	3	-.039	6	-.005	13	-.108	14	-.576	6	-.164	2	-.12	13
	4	max	3.218	14	.01	14	.01	2	.196	6	.012	14	.07	13	.083	7
		min	-12.093	3	-.039	6	-.018	1	-.012	14	-.196	6	-.083	7	-.07	13
	5	max	3.218	14	.01	14	.01	2	.085	14	.263	3	.022	2	.279	5
		min	-12.088	3	-.039	6	-.04	1	-.263	3	-.085	14	-.279	5	-.022	2
M23	1	max	1.077	14	.005	14	.039	1	.965	12	.077	7	1.189	2	.362	14
		min	-3.856	3	-.028	6	-.027	2	-.077	7	-.965	12	-.362	14	-1.189	2
	2	max	1.077	14	.005	14	.017	1	.778	12	.26	3	1.099	3	.274	14
		min	-3.85	3	-.028	6	-.027	2	-.26	3	-.778	12	-.274	14	-1.099	3
	3	max	1.077	14	.005	14	.009	14	.592	12	.458	3	.883	3	.185	14
		min	-3.844	3	-.028	6	-.032	3	-.458	3	-.592	12	-.185	14	-.883	3
	4	max	1.077	14	.005	14	.009	14	.406	12	.656	3	.443	3	.097	14
		min	-3.839	3	-.028	6	-.054	3	-.656	3	-.406	12	-.097	14	-.443	3
	5	max	1.077	14	.005	14	.009	14	.234	14	.853	3	.085	13	.311	5
		min	-3.833	3	-.028	6	-.076	3	-.853	3	-.234	14	-.311	5	-.085	13
M24	1	max	6.49	3	.23	3	.684	3	4.454	12	.5	7	.512	14	2.457	3
		min	-1.758	14	-.262	12	-.152	14	-.5	7	-4.454	12	-2.457	3	-.512	14
	2	max	6.485	3	.23	3	.684	3	3.894	5	.051	7	.143	14	.793	3
		min	-1.758	14	-.262	12	-.152	14	-.051	7	-3.894	5	-.793	3	-.143	14
	3	max	6.48	3	.23	3	.684	3	3.379	5	.147	14	.87	3	.226	14
		min	-1.758	14	-.262	12	-.152	14	-.147	14	-3.379	5	-.226	14	-.87	3
	4	max	6.475	3	.23	3	.684	3	2.863	5	.319	14	2.533	3	.595	14
		min	-1.758	14	-.262	12	-.152	14	-.319	14	-2.863	5	-.595	14	-2.533	3
	5	max	6.47	3	.23	3	.684	3	2.824	6	.491	14	4.196	3	.964	14
		min	-1.758	14	-.262	12	-.152	14	-.491	14	-2.824	6	-.964	14	-4.196	3
M25	1	max	2.975	3	.115	5	.076	2	.423	3	.108	14	.342	14	.91	3
		min	-1.282	14	-.002	7	-.03	14	-.108	14	-.423	3	-.91	3	-.342	14
	2	max	2.98	3	.115	5	.08	3	.898	6	.113	14	.157	14	.454	3

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-1.282	14	-.002	7	-.03	14	-.113	14	-.898	6	-.454	3	-.157	14
	3	max	2.984	3	.115	5	.092	3	1.508	5	.118	14	.099	2	.043	5
		min	-1.282	14	-.002	7	-.03	14	-.118	14	-1.508	5	-.043	5	-.099	2
	4	max	2.989	3	.115	5	.103	3	2.213	5	.123	14	.666	3	.213	14
		min	-1.282	14	-.002	7	-.03	14	-.123	14	-2.213	5	-.213	14	-.666	3
	5	max	2.993	3	.115	5	.114	3	2.918	5	.128	14	1.329	3	.399	14
		min	-1.282	14	-.002	7	-.03	14	-.128	14	-2.918	5	-.399	14	-1.329	3
M26	1	max	6.122	3	.138	12	.539	3	.128	14	.432	6	1.585	14	5.768	3
		min	-1.66	14	-.065	3	-.148	14	-.432	6	-.128	14	-5.768	3	-1.585	14
	2	max	6.116	3	.138	12	.539	3	.523	12	.726	3	.813	14	2.964	3
		min	-1.66	14	-.065	3	-.148	14	-.726	3	-.523	12	-2.964	3	-.813	14
	3	max	6.11	3	.138	12	.539	3	1.24	12	1.062	3	.042	14	.16	3
		min	-1.66	14	-.065	3	-.148	14	-1.062	3	-1.24	12	-.16	3	-.042	14
	4	max	6.104	3	.138	12	.539	3	1.957	12	1.398	3	2.643	3	.73	14
		min	-1.66	14	-.065	3	-.148	14	-1.398	3	-1.957	12	-.73	14	-2.643	3
	5	max	6.098	3	.138	12	.539	3	2.674	12	1.734	3	5.447	3	1.502	14
		min	-1.66	14	-.065	3	-.148	14	-1.734	3	-2.674	12	-1.502	14	-5.447	3
M27	1	max	3.218	14	.01	14	.004	14	1.421	6	.308	14	.727	3	.174	14
		min	-12.099	3	-.042	6	-.055	3	-.308	14	-1.421	6	-.174	14	-.727	3
	2	max	3.218	14	.01	14	.004	14	1.011	6	.211	14	.292	3	.132	14
		min	-12.094	3	-.042	6	-.034	3	-.211	14	-1.011	6	-.132	14	-.292	3
	3	max	3.218	14	.01	14	.004	14	.602	6	.114	14	.162	2	.094	1
		min	-12.089	3	-.042	6	-.012	3	-.114	14	-.602	6	-.094	1	-.162	2
	4	max	3.218	14	.01	14	.018	1	.192	6	.08	13	.075	2	.046	14
		min	-12.084	3	-.042	6	-.009	2	-.08	13	-.192	6	-.046	14	-.075	2
	5	max	3.218	14	.01	14	.04	1	.08	14	.252	3	.281	5	.012	2
		min	-12.079	3	-.042	6	-.009	2	-.252	3	-.08	14	-.012	2	-.281	5
M28	1	max	1.084	14	.006	14	.026	2	.98	5	.041	2	.355	14	1.165	2
		min	-3.869	3	-.03	6	-.039	1	-.041	2	-.98	5	-1.165	2	-.355	14
	2	max	1.084	14	.006	14	.026	2	.778	12	.242	3	.269	14	1.083	3
		min	-3.863	3	-.03	6	-.017	1	-.242	3	-.778	12	-1.083	3	-.269	14
	3	max	1.084	14	.006	14	.031	3	.578	12	.446	3	.184	14	.877	3
		min	-3.857	3	-.03	6	-.008	14	-.446	3	-.578	12	-.877	3	-.184	14
	4	max	1.084	14	.006	14	.053	3	.378	12	.649	3	.098	14	.447	3
		min	-3.851	3	-.03	6	-.008	14	-.649	3	-.378	12	-.447	3	-.098	14
	5	max	1.084	14	.006	14	.075	3	.233	14	.853	3	.308	5	.088	2
		min	-3.845	3	-.03	6	-.008	14	-.853	3	-.233	14	-.088	2	-.308	5
M29	1	max	.606	14	.529	3	.03	14	.695	14	1.388	3	2.146	5	.14	7
		min	-1.333	3	-.209	14	-.451	5	-1.388	3	-.695	14	-.14	7	-2.146	5
	2	max	.606	14	.535	3	.03	14	.398	14	.668	6	1.607	12	.162	7
		min	-1.333	3	-.209	14	-.451	5	-.668	6	-.398	14	-.162	7	-1.607	12
	3	max	.606	14	.542	3	.03	14	.174	2	.159	5	1.076	12	.184	7
		min	-1.333	3	-.209	14	-.451	5	-.159	5	-.174	2	-.184	7	-1.076	12
	4	max	.606	14	.548	3	.03	14	.911	3	.197	14	.545	12	.206	7
		min	-1.333	3	-.209	14	-.451	5	-.197	14	-.911	3	-.206	7	-.545	12

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	.606	14	.554	3	.03	14	1.695	3	.494	14	.069	13	.228	7
		min	-1.334	3	-.209	14	-.451	5	-.494	14	-1.695	3	-.228	7	-.069	13
M30	1	max	5.74	3	.714	14	.087	3	4.759	3	1.289	14	1.574	3	.568	12
		min	-1.293	14	-2.653	3	-.027	12	-1.289	14	-4.759	3	-.568	12	-1.574	3
	2	max	5.74	3	.714	14	.087	3	3.871	3	1.05	14	1.599	3	.576	12
		min	-1.293	14	-2.651	3	-.027	12	-1.05	14	-3.871	3	-.576	12	-1.599	3
	3	max	5.74	3	.714	14	.087	3	2.983	3	.811	14	1.623	3	.584	12
		min	-1.293	14	-2.65	3	-.027	12	-.811	14	-2.983	3	-.584	12	-1.623	3
	4	max	5.74	3	.714	14	.087	3	2.095	3	.571	14	1.648	3	.591	12
		min	-1.293	14	-2.648	3	-.027	12	-.571	14	-2.095	3	-.591	12	-1.648	3
	5	max	5.74	3	.714	14	.087	3	1.208	3	.332	14	1.673	3	.599	12
		min	-1.293	14	-2.647	3	-.027	12	-.332	14	-1.208	3	-.599	12	-1.673	3
M31	1	max	8.313	3	.475	5	.759	13	0	1	0	1	0	1	0	1
		min	-2.386	14	-.008	14	-.573	7	0	1	0	1	0	1	0	1
	2	max	8.305	3	.475	5	.759	13	1.803	5	.031	14	2.882	13	2.175	7
		min	-2.386	14	-.008	14	-.573	7	-.031	14	-1.803	5	-2.175	7	-2.882	13
	3	max	8.297	3	.475	5	.759	13	3.605	5	.062	14	5.765	13	4.35	7
		min	-2.386	14	-.008	14	-.573	7	-.062	14	-3.605	5	-4.35	7	-5.765	13
	4	max	8.29	3	.475	5	.759	13	5.408	5	.093	14	8.647	13	6.525	7
		min	-2.386	14	-.008	14	-.573	7	-.093	14	-5.408	5	-6.525	7	-8.647	13
	5	max	8.282	3	.475	5	.759	13	7.21	5	.125	14	11.53	13	8.7	7
		min	-2.386	14	-.008	14	-.573	7	-.125	14	-7.21	5	-8.7	7	-11.53	13
M32	1	max	8.297	3	.438	5	.751	13	0	1	0	1	0	1	0	1
		min	-2.372	14	-.017	13	-.564	7	0	1	0	1	0	1	0	1
	2	max	8.289	3	.438	5	.751	13	1.662	5	.066	13	2.851	13	2.141	7
		min	-2.372	14	-.017	13	-.564	7	-.066	13	-1.662	5	-2.141	7	-2.851	13
	3	max	8.281	3	.438	5	.751	13	3.323	5	.132	13	5.701	13	4.281	7
		min	-2.372	14	-.017	13	-.564	7	-.132	13	-3.323	5	-4.281	7	-5.701	13
	4	max	8.274	3	.438	5	.751	13	4.985	5	.198	13	8.552	13	6.422	7
		min	-2.372	14	-.017	13	-.564	7	-.198	13	-4.985	5	-6.422	7	-8.552	13
	5	max	8.266	3	.438	5	.751	13	6.647	5	.264	13	11.403	13	8.563	7
		min	-2.372	14	-.017	13	-.564	7	-.264	13	-6.647	5	-8.563	7	-11.403	13
M33	1	max	2.043	7	.295	5	.2	7	.036	7	.455	12	5.168	13	3.273	7
		min	-2.164	13	-.013	14	-.318	13	-.455	12	-.036	7	-3.273	7	-5.168	13
	2	max	2.039	7	.295	5	.189	7	1.271	5	.047	14	3.324	13	2.143	7
		min	-2.164	13	-.013	14	-.318	13	-.047	14	-1.271	5	-2.143	7	-3.324	13
	3	max	2.035	7	.295	5	.178	7	2.985	5	.124	14	1.481	13	1.079	7
		min	-2.164	13	-.013	14	-.318	13	-.124	14	-2.985	5	-1.079	7	-1.481	13
	4	max	2.031	7	.295	5	.166	7	4.699	5	.202	14	.364	14	.458	3
		min	-2.164	13	-.013	14	-.318	13	-.202	14	-4.699	5	-.458	3	-.364	14
	5	max	2.027	7	.295	5	.155	7	6.413	5	.28	14	.851	7	2.206	13
		min	-2.164	13	-.013	14	-.318	13	-.28	14	-6.413	5	-2.206	13	-.851	7
M34	1	max	1.205	13	.139	3	.413	7	2.493	12	2.522	3	2.997	13	3.118	7
		min	-.886	7	-.078	14	-.36	13	-2.522	3	-2.493	12	-3.118	7	-2.997	13
	2	max	1.205	13	.139	3	.402	7	2.4	12	1.729	3	.945	13	.792	7

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-.882	7	-.078	14	-.36	13	-1.729	3	-2.4	12	-.792	7	-.945	13
	3	max	1.205	13	.139	3	.391	7	2.162	12	.935	3	1.471	7	1.108	13
		min	-.878	7	-.078	14	-.36	13	-.935	3	-2.162	12	-1.108	13	-1.471	7
	4	max	1.205	13	.139	3	.38	7	1.776	12	.141	3	3.672	7	3.161	13
		min	-.874	7	-.08	12	-.36	13	-.141	3	-1.776	12	-3.161	13	-3.672	7
	5	max	1.205	13	.139	3	.369	7	1.444	6	.401	14	5.81	7	5.214	13
		min	-.87	7	-.106	12	-.36	13	-.401	14	-1.444	6	-5.214	13	-5.81	7
M35	1	max	.91	7	.107	12	.175	7	1.578	5	.389	14	5.259	13	2.056	7
		min	-1.214	13	-.135	3	-.363	13	-.389	14	-1.578	5	-2.056	7	-5.259	13
	2	max	.906	7	.081	12	.164	7	1.979	12	.213	7	3.188	13	1.09	7
		min	-1.214	13	-.135	3	-.363	13	-.213	7	-1.979	12	-1.09	7	-3.188	13
	3	max	.902	7	.076	14	.153	7	2.366	12	.919	3	1.116	13	.187	7
		min	-1.214	13	-.135	3	-.363	13	-.919	3	-2.366	12	-.187	7	-1.116	13
	4	max	.898	7	.076	14	.142	7	2.607	12	1.691	3	.654	7	.955	13
		min	-1.214	13	-.135	3	-.363	13	-1.691	3	-2.607	12	-.955	13	-.654	7
	5	max	.894	7	.076	14	.131	7	2.702	12	2.464	3	1.431	7	3.026	13
		min	-1.214	13	-.135	3	-.363	13	-2.464	3	-2.702	12	-3.026	13	-1.431	7
M36	1	max	.308	12	.253	12	.051	12	1.151	3	1.873	12	.141	3	.444	12
		min	-.391	3	-.156	3	-.023	7	-1.873	12	-1.151	3	-.444	12	-.141	3
	2	max	.308	12	.253	12	.051	12	.82	3	1.35	12	.103	3	.355	12
		min	-.391	3	-.165	3	-.023	7	-1.35	12	-.82	3	-.355	12	-.103	3
	3	max	.308	12	.253	12	.051	12	.47	3	.827	12	.083	13	.266	12
		min	-.391	3	-.174	3	-.023	7	-.827	12	-.47	3	-.266	12	-.083	13
	4	max	.308	12	.253	12	.051	12	.101	3	.305	12	.099	13	.176	12
		min	-.391	3	-.183	3	-.023	7	-.305	12	-.101	3	-.176	12	-.099	13
	5	max	.308	12	.253	12	.051	12	.218	12	.287	3	.116	13	.089	7
		min	-.391	3	-.193	3	-.023	7	-.287	3	-.218	12	-.089	7	-.116	13
M37	1	max	.125	3	.02	2	.098	12	.414	5	.334	2	.468	7	1.506	12
		min	-.19	12	-.073	5	-.025	7	-.334	2	-.414	5	-1.506	12	-.468	7
	2	max	.125	3	.02	2	.098	12	.166	12	.282	3	.351	7	1.051	12
		min	-.19	12	-.051	5	-.025	7	-.282	3	-.166	12	-1.051	12	-.351	7
	3	max	.125	3	.02	2	.098	12	.044	14	.255	3	.235	7	.596	12
		min	-.19	12	-.03	5	-.025	7	-.255	3	-.044	14	-.596	12	-.235	7
	4	max	.125	3	.038	3	.098	12	.053	14	.173	6	.152	3	.14	12
		min	-.19	12	-.027	12	-.025	7	-.173	6	-.053	14	-.14	12	-.152	3
	5	max	.125	3	.059	3	.098	12	.1	7	.205	12	.325	5	.093	14
		min	-.19	12	-.027	12	-.025	7	-.205	12	-.1	7	-.093	14	-.325	5
M38	1	max	.155	14	.04	6	.026	14	.06	13	.276	6	.662	5	.294	14
		min	-.565	6	-.004	13	-.093	5	-.276	6	-.06	13	-.294	14	-.662	5
	2	max	.155	14	.03	6	.026	14	.039	13	.13	12	.151	13	.144	14
		min	-.569	6	-.004	13	-.093	5	-.13	12	-.039	13	-.144	14	-.151	13
	3	max	.155	14	.02	6	.026	14	.165	3	.085	12	.005	14	.446	6
		min	-.574	6	-.004	13	-.093	5	-.085	12	-.165	3	-.446	6	-.005	14
	4	max	.155	14	.015	2	.026	14	.237	3	.039	12	.154	14	.97	5
		min	-.578	6	-.008	1	-.093	5	-.039	12	-.237	3	-.97	5	-.154	14

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	.155	14	.015	2	.026	14	.289	2	.041	1	.304	14	1.514	5
		min	-.583	6	-.018	1	-.093	5	-.041	1	-.289	2	-1.514	5	-.304	14
M39	1	max	.124	14	.061	12	.028	7	.346	3	.725	12	.841	3	.44	14
		min	-.38	6	-.033	7	-.037	13	-.725	12	-.346	3	-.44	14	-.841	3
	2	max	.124	14	.061	12	.028	7	.195	3	.368	12	.842	3	.357	14
		min	-.384	6	-.022	7	-.037	13	-.368	12	-.195	3	-.357	14	-.842	3
	3	max	.124	14	.061	12	.028	7	.11	2	.038	14	.856	6	.274	14
		min	-.389	6	-.012	7	-.037	13	-.038	14	-.11	2	-.274	14	-.856	6
	4	max	.124	14	.07	5	.028	7	.363	5	.076	14	.972	6	.191	14
		min	-.393	6	-.009	2	-.037	13	-.076	14	-.363	5	-.191	14	-.972	6
	5	max	.124	14	.081	5	.028	7	.803	5	.115	14	1.088	6	.108	14
		min	-.398	6	-.009	2	-.037	13	-.115	14	-.803	5	-.108	14	-1.088	6
M40	1	max	.212	3	.028	5	.021	14	.294	3	.228	12	.596	13	.243	14
		min	-.786	12	-.019	2	-.045	3	-.228	12	-.294	3	-.243	14	-.596	13
	2	max	.208	3	.018	5	.021	14	.244	3	.155	12	.4	13	.227	7
		min	-.786	12	-.019	2	-.045	3	-.155	12	-.244	3	-.227	7	-.4	13
	3	max	.203	3	.012	12	.021	14	.134	3	.083	12	.223	12	.284	7
		min	-.786	12	-.024	3	-.045	3	-.083	12	-.134	3	-.284	7	-.223	12
	4	max	.198	3	.012	12	.021	14	.01	1	.046	2	.158	12	.428	3
		min	-.786	12	-.034	3	-.045	3	-.046	2	-.01	1	-.428	3	-.158	12
	5	max	.194	3	.012	12	.021	14	.061	12	.267	3	.248	14	.69	3
		min	-.786	12	-.045	3	-.045	3	-.267	3	-.061	12	-.69	3	-.248	14
M41	1	max	.765	5	.008	14	.017	14	.167	3	.09	14	1.311	6	.545	14
		min	-.109	2	-.031	3	-.049	6	-.09	14	-.167	3	-.545	14	-1.311	6
	2	max	.761	5	.008	14	.017	14	.041	2	.094	5	1.087	3	.443	14
		min	-.109	2	-.021	3	-.049	6	-.094	5	-.041	2	-.443	14	-1.087	3
	3	max	.756	5	.008	14	.017	14	.013	13	.11	6	.959	3	.341	14
		min	-.109	2	-.011	3	-.049	6	-.11	6	-.013	13	-.341	14	-.959	3
	4	max	.752	5	.013	5	.017	14	.042	14	.111	6	.831	3	.267	12
		min	-.109	2	-.01	2	-.049	6	-.111	6	-.042	14	-.267	12	-.831	3
	5	max	.747	5	.023	5	.017	14	.087	14	.135	2	.703	3	.517	12
		min	-.109	2	-.01	2	-.049	6	-.135	2	-.087	14	-.517	12	-.703	3
M42	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.055	3	0	1	.077	3	.031	14	0	1	0	1
		min	0	1	-.022	14	0	1	-.031	14	-.077	3	0	1	0	1
	3	max	0	1	.111	3	0	1	.307	3	.123	14	0	1	0	1
		min	0	1	-.044	14	0	1	-.123	14	-.307	3	0	1	0	1
	4	max	0	1	.166	3	0	1	.691	3	.276	14	0	1	0	1
		min	0	1	-.066	14	0	1	-.276	14	-.691	3	0	1	0	1
	5	max	0	1	.222	3	0	1	1.229	3	.49	14	0	1	0	1
		min	0	1	-.089	14	0	1	-.49	14	-1.229	3	0	1	0	1
M43	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.049	14	0	1	.153	14	.557	3	0	1	0	1

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	0	1	-.18	3	0	1	-.557	3	-.153	14	0	1	0	1
	3	max	0	1	.099	14	0	1	.611	14	2.23	3	0	1	0	1
		min	0	1	-.36	3	0	1	-2.23	3	-.611	14	0	1	0	1
	4	max	0	1	.148	14	0	1	1.376	14	5.017	3	0	1	0	1
		min	0	1	-.541	3	0	1	-5.017	3	-1.376	14	0	1	0	1
	5	max	0	1	.198	14	0	1	2.446	14	8.919	3	0	1	0	1
		min	0	1	-.721	3	0	1	-8.919	3	-2.446	14	0	1	0	1
M44	1	max	0	1	.109	14	0	1	1.052	3	.746	14	0	1	0	1
		min	0	1	-.154	3	0	1	-.746	14	-1.052	3	0	1	0	1
	2	max	0	1	.082	14	0	1	.592	3	.42	14	0	1	0	1
		min	0	1	-.115	3	0	1	-.42	14	-.592	3	0	1	0	1
	3	max	0	1	.055	14	0	1	.263	3	.186	14	0	1	0	1
		min	0	1	-.077	3	0	1	-.186	14	-.263	3	0	1	0	1
	4	max	0	1	.027	14	0	1	.066	3	.047	14	0	1	0	1
		min	0	1	-.038	3	0	1	-.047	14	-.066	3	0	1	0	1
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M45	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.031	3	0	1	.043	3	.031	14	0	1	0	1
		min	0	1	-.022	14	0	1	-.031	14	-.043	3	0	1	0	1
	3	max	0	1	.062	3	0	1	.173	3	.123	14	0	1	0	1
		min	0	1	-.044	14	0	1	-.123	14	-.173	3	0	1	0	1
	4	max	0	1	.094	3	0	1	.389	3	.276	14	0	1	0	1
		min	0	1	-.066	14	0	1	-.276	14	-.389	3	0	1	0	1
	5	max	0	1	.125	3	0	1	.692	3	.49	14	0	1	0	1
		min	0	1	-.089	14	0	1	-.49	14	-.692	3	0	1	0	1
M46	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.276	3	0	1	1.305	3	.358	14	0	1	0	1
		min	0	1	-.076	14	0	1	-.358	14	-1.305	3	0	1	0	1
	3	max	0	1	.551	3	0	1	5.22	3	1.431	14	0	1	0	1
		min	0	1	-.151	14	0	1	-1.431	14	-5.22	3	0	1	0	1
	4	max	0	1	.827	3	0	1	11.744	3	3.221	14	0	1	0	1
		min	0	1	-.227	14	0	1	-3.221	14	-11.744	3	0	1	0	1
	5	max	0	1	1.103	3	0	1	20.879	3	5.725	14	0	1	0	1
		min	0	1	-.302	14	0	1	-5.725	14	-20.879	3	0	1	0	1
M47	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.262	3	0	1	1.177	3	.323	14	0	1	0	1
		min	0	1	-.072	14	0	1	-.323	14	-1.177	3	0	1	0	1
	3	max	0	1	.524	3	0	1	4.707	3	1.291	14	0	1	0	1
		min	0	1	-.144	14	0	1	-1.291	14	-4.707	3	0	1	0	1
	4	max	0	1	.786	3	0	1	10.592	3	2.904	14	0	1	0	1
		min	0	1	-.215	14	0	1	-2.904	14	-10.592	3	0	1	0	1

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	0	1	1.047	3	0	1	18.83	3	5.163	14	0	1	0	1
		min	0	1	-.287	14	0	1	-5.163	14	-18.83	3	0	1	0	1
M48	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.248	3	0	1	1.057	3	.29	14	0	1	0	1
		min	0	1	-.068	14	0	1	-.29	14	-1.057	3	0	1	0	1
	3	max	0	1	.496	3	0	1	4.23	3	1.16	14	0	1	0	1
		min	0	1	-.136	14	0	1	-1.16	14	-4.23	3	0	1	0	1
	4	max	0	1	.745	3	0	1	9.517	3	2.61	14	0	1	0	1
		min	0	1	-.204	14	0	1	-2.61	14	-9.517	3	0	1	0	1
	5	max	0	1	.993	3	0	1	16.918	3	4.639	14	0	1	0	1
		min	0	1	-.272	14	0	1	-4.639	14	-16.918	3	0	1	0	1
M49	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.235	3	0	1	.944	3	.259	14	0	1	0	1
		min	0	1	-.064	14	0	1	-.259	14	-.944	3	0	1	0	1
	3	max	0	1	.469	3	0	1	3.777	3	1.036	14	0	1	0	1
		min	0	1	-.129	14	0	1	-1.036	14	-3.777	3	0	1	0	1
	4	max	0	1	.704	3	0	1	8.499	3	2.331	14	0	1	0	1
		min	0	1	-.193	14	0	1	-2.331	14	-8.499	3	0	1	0	1
	5	max	0	1	.938	3	0	1	15.109	3	4.143	14	0	1	0	1
		min	0	1	-.257	14	0	1	-4.143	14	-15.109	3	0	1	0	1
M50	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.221	3	0	1	.838	3	.23	14	0	1	0	1
		min	0	1	-.061	14	0	1	-.23	14	-.838	3	0	1	0	1
	3	max	0	1	.442	3	0	1	3.351	3	.919	14	0	1	0	1
		min	0	1	-.121	14	0	1	-.919	14	-3.351	3	0	1	0	1
	4	max	0	1	.663	3	0	1	7.539	3	2.067	14	0	1	0	1
		min	0	1	-.182	14	0	1	-2.067	14	-7.539	3	0	1	0	1
	5	max	0	1	.884	3	0	1	13.402	3	3.675	14	0	1	0	1
		min	0	1	-.242	14	0	1	-3.675	14	-13.402	3	0	1	0	1
M51	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.207	3	0	1	.737	3	.202	14	0	1	0	1
		min	0	1	-.057	14	0	1	-.202	14	-.737	3	0	1	0	1
	3	max	0	1	.415	3	0	1	2.949	3	.809	14	0	1	0	1
		min	0	1	-.114	14	0	1	-.809	14	-2.949	3	0	1	0	1
	4	max	0	1	.622	3	0	1	6.636	3	1.82	14	0	1	0	1
		min	0	1	-.171	14	0	1	-1.82	14	-6.636	3	0	1	0	1
	5	max	0	1	.829	3	0	1	11.798	3	3.235	14	0	1	0	1
		min	0	1	-.227	14	0	1	-3.235	14	-11.798	3	0	1	0	1
M52	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.194	3	0	1	.643	3	.176	14	0	1	0	1

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	0	1	-.053	14	0	1	-.176	14	-.643	3	0	1	0	1
	3	max	0	1	.387	3	0	1	2.574	3	.706	14	0	1	0	1
		min	0	1	-.106	14	0	1	-.706	14	-2.574	3	0	1	0	1
	4	max	0	1	.581	3	0	1	5.791	3	1.588	14	0	1	0	1
		min	0	1	-.159	14	0	1	-1.588	14	-5.791	3	0	1	0	1
	5	max	0	1	.775	3	0	1	10.296	3	2.823	14	0	1	0	1
		min	0	1	-.212	14	0	1	-2.823	14	-10.296	3	0	1	0	1
M53	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.18	3	0	1	.557	3	.153	14	0	1	0	1
		min	0	1	-.049	14	0	1	-.153	14	-.557	3	0	1	0	1
	3	max	0	1	.36	3	0	1	2.23	3	.611	14	0	1	0	1
		min	0	1	-.099	14	0	1	-.611	14	-2.23	3	0	1	0	1
	4	max	0	1	.541	3	0	1	5.017	3	1.376	14	0	1	0	1
		min	0	1	-.148	14	0	1	-1.376	14	-5.017	3	0	1	0	1
	5	max	0	1	.721	3	0	1	8.919	3	2.446	14	0	1	0	1
		min	0	1	-.198	14	0	1	-2.446	14	-8.919	3	0	1	0	1
M54	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.059	3	0	1	.092	3	.038	14	0	1	0	1
		min	0	1	-.025	14	0	1	-.038	14	-.092	3	0	1	0	1
	3	max	0	1	.119	3	0	1	.368	3	.153	14	0	1	0	1
		min	0	1	-.049	14	0	1	-.153	14	-.368	3	0	1	0	1
	4	max	0	1	.178	3	0	1	.828	3	.344	14	0	1	0	1
		min	0	1	-.074	14	0	1	-.344	14	-.828	3	0	1	0	1
	5	max	0	1	.238	3	0	1	1.472	3	.611	14	0	1	0	1
		min	0	1	-.099	14	0	1	-.611	14	-1.472	3	0	1	0	1
M55	1	max	0	1	.099	14	0	1	.863	3	.611	14	0	1	0	1
		min	0	1	-.139	3	0	1	-.611	14	-.863	3	0	1	0	1
	2	max	0	1	.074	14	0	1	.485	3	.344	14	0	1	0	1
		min	0	1	-.105	3	0	1	-.344	14	-.485	3	0	1	0	1
	3	max	0	1	.049	14	0	1	.216	3	.153	14	0	1	0	1
		min	0	1	-.07	3	0	1	-.153	14	-.216	3	0	1	0	1
	4	max	0	1	.025	14	0	1	.054	3	.038	14	0	1	0	1
		min	0	1	-.035	3	0	1	-.038	14	-.054	3	0	1	0	1
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M56	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.035	3	0	1	.054	3	.038	14	0	1	0	1
		min	0	1	-.025	14	0	1	-.038	14	-.054	3	0	1	0	1
	3	max	0	1	.07	3	0	1	.216	3	.153	14	0	1	0	1
		min	0	1	-.049	14	0	1	-.153	14	-.216	3	0	1	0	1
	4	max	0	1	.105	3	0	1	.485	3	.344	14	0	1	0	1
		min	0	1	-.074	14	0	1	-.344	14	-.485	3	0	1	0	1

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	0	1	.139	3	0	1	.863	3	.611	14	0	1	0	1
		min	0	1	-.099	14	0	1	-.611	14	-.863	3	0	1	0	1
M57	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.262	3	.057	13	1.177	3	.323	14	.176	13	.132	7
		min	0	1	-.072	14	-.043	7	-.323	14	-1.177	3	-.132	7	-.176	13
	3	max	0	1	.524	3	.115	13	4.707	3	1.291	14	.703	13	.527	7
		min	0	1	-.144	14	-.086	7	-1.291	14	-4.707	3	-.527	7	-.703	13
	4	max	0	1	.786	3	.172	13	10.592	3	2.904	14	1.581	13	1.186	7
		min	0	1	-.215	14	-.129	7	-2.904	14	-10.592	3	-1.186	7	-1.581	13
	5	max	0	1	1.047	3	.23	13	18.83	3	5.163	14	2.812	13	2.109	7
		min	0	1	-.287	14	-.172	7	-5.163	14	-18.83	3	-2.109	7	-2.812	13
M58	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.248	3	.054	13	1.057	3	.29	14	.158	13	.118	7
		min	0	1	-.068	14	-.041	7	-.29	14	-1.057	3	-.118	7	-.158	13
	3	max	0	1	.496	3	.109	13	4.23	3	1.16	14	.632	13	.474	7
		min	0	1	-.136	14	-.082	7	-1.16	14	-4.23	3	-.474	7	-.632	13
	4	max	0	1	.745	3	.163	13	9.517	3	2.61	14	1.421	13	1.066	7
		min	0	1	-.204	14	-.123	7	-2.61	14	-9.517	3	-1.066	7	-1.421	13
	5	max	0	1	.993	3	.218	13	16.918	3	4.639	14	2.526	13	1.895	7
		min	0	1	-.272	14	-.163	7	-4.639	14	-16.918	3	-1.895	7	-2.526	13
M59	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.235	3	.051	13	.944	3	.259	14	.141	13	.106	7
		min	0	1	-.064	14	-.039	7	-.259	14	-.944	3	-.106	7	-.141	13
	3	max	0	1	.469	3	.103	13	3.777	3	1.036	14	.564	13	.423	7
		min	0	1	-.129	14	-.077	7	-1.036	14	-3.777	3	-.423	7	-.564	13
	4	max	0	1	.704	3	.154	13	8.499	3	2.331	14	1.269	13	.952	7
		min	0	1	-.193	14	-.116	7	-2.331	14	-8.499	3	-.952	7	-1.269	13
	5	max	0	1	.938	3	.206	13	15.109	3	4.143	14	2.256	13	1.692	7
		min	0	1	-.257	14	-.154	7	-4.143	14	-15.109	3	-1.692	7	-2.256	13
M60	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.221	3	.048	13	.838	3	.23	14	.125	13	.094	7
		min	0	1	-.061	14	-.036	7	-.23	14	-.838	3	-.094	7	-.125	13
	3	max	0	1	.442	3	.097	13	3.351	3	.919	14	.5	13	.375	7
		min	0	1	-.121	14	-.073	7	-.919	14	-3.351	3	-.375	7	-.5	13
	4	max	0	1	.663	3	.145	13	7.539	3	2.067	14	1.126	13	.844	7
		min	0	1	-.182	14	-.109	7	-2.067	14	-7.539	3	-.844	7	-1.126	13
	5	max	0	1	.884	3	.194	13	13.402	3	3.675	14	2.001	13	1.501	7
		min	0	1	-.242	14	-.145	7	-3.675	14	-13.402	3	-1.501	7	-2.001	13
M61	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.207	3	.045	13	.737	3	.202	14	.11	13	.083	7

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	0	1	-.057	14	-.034	7	-.202	14	-.737	3	-.083	7	-.11	13
	3	max	0	1	.415	3	.091	13	2.949	3	.809	14	.44	13	.33	7
		min	0	1	-.114	14	-.068	7	-.809	14	-2.949	3	-.33	7	-.44	13
	4	max	0	1	.622	3	.136	13	6.636	3	1.82	14	.991	13	.743	7
		min	0	1	-.171	14	-.102	7	-1.82	14	-6.636	3	-.743	7	-.991	13
	5	max	0	1	.829	3	.182	13	11.798	3	3.235	14	1.762	13	1.321	7
		min	0	1	-.227	14	-.136	7	-3.235	14	-11.798	3	-1.321	7	-1.762	13
M62	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.194	3	.042	13	.643	3	.176	14	.096	13	.072	7
		min	0	1	-.053	14	-.032	7	-.176	14	-.643	3	-.072	7	-.096	13
	3	max	0	1	.387	3	.085	13	2.574	3	.706	14	.384	13	.288	7
		min	0	1	-.106	14	-.064	7	-.706	14	-2.574	3	-.288	7	-.384	13
	4	max	0	1	.581	3	.127	13	5.791	3	1.588	14	.865	13	.649	7
		min	0	1	-.159	14	-.096	7	-1.588	14	-5.791	3	-.649	7	-.865	13
	5	max	0	1	.775	3	.17	13	10.296	3	2.823	14	1.537	13	1.153	7
		min	0	1	-.212	14	-.127	7	-2.823	14	-10.296	3	-1.153	7	-1.537	13
M63	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.276	3	.06	13	1.303	3	.357	14	.195	13	.146	7
		min	0	1	-.076	14	-.045	7	-.357	14	-1.303	3	-.146	7	-.195	13
	3	max	0	1	.551	3	.121	13	5.211	3	1.429	14	.778	13	.584	7
		min	0	1	-.151	14	-.091	7	-1.429	14	-5.211	3	-.584	7	-.778	13
	4	max	0	1	.827	3	.181	13	11.724	3	3.215	14	1.751	13	1.313	7
		min	0	1	-.227	14	-.136	7	-3.215	14	-11.724	3	-1.313	7	-1.751	13
	5	max	0	1	1.102	3	.242	13	20.843	3	5.716	14	3.112	13	2.334	7
		min	0	1	-.302	14	-.181	7	-5.716	14	-20.843	3	-2.334	7	-3.112	13
M64	1	max	.32	6	.137	6	.03	7	.327	14	1.942	6	1.934	12	.685	7
		min	-.09	14	-.011	14	-.109	12	-1.942	6	-.327	14	-.685	7	-1.934	12
	2	max	.32	6	.094	6	.03	7	.221	14	.869	6	.922	12	.406	7
		min	-.09	14	-.011	14	-.109	12	-.869	6	-.221	14	-.406	7	-.922	12
	3	max	.32	6	.051	6	.03	7	.287	1	.328	2	.048	14	.195	6
		min	-.09	14	-.011	14	-.109	12	-.328	2	-.287	1	-.195	6	-.048	14
	4	max	.32	6	.032	2	.03	7	.15	1	.057	12	.152	7	1.102	12
		min	-.09	14	-.036	1	-.109	12	-.057	12	-.15	1	-1.102	12	-.152	7
	5	max	.32	6	.032	2	.03	7	.262	2	.385	1	.431	7	2.114	12
		min	-.09	14	-.079	1	-.109	12	-.385	1	-.262	2	-2.114	12	-.431	7
M65	1	max	.325	6	.135	6	.115	12	.325	14	1.902	6	.578	3	2.048	12
		min	-.093	14	-.011	14	-.022	3	-1.902	6	-.325	14	-2.048	12	-.578	3
	2	max	.325	6	.092	6	.115	12	.221	14	.847	6	.375	3	.98	12
		min	-.093	14	-.011	14	-.022	3	-.847	6	-.221	14	-.98	12	-.375	3
	3	max	.325	6	.049	6	.115	12	.287	1	.334	2	.195	6	.049	14
		min	-.093	14	-.011	14	-.022	3	-.334	2	-.287	1	-.049	14	-.195	6
	4	max	.325	6	.031	2	.115	12	.149	1	.062	12	1.155	12	.148	13
		min	-.093	14	-.036	1	-.022	3	-.062	12	-.149	1	-.148	13	-1.155	12

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	.325	6	.031	2	.115	12	.246	2	.386	1	2.222	12	.297	13
		min	-.093	14	-.079	1	-.022	3	-.386	1	-.246	2	-.297	13	-2.222	12
M66	1	max	.313	12	.231	12	.021	3	1.228	3	1.712	12	.281	12	.144	7
		min	-.378	3	-.169	3	-.038	12	-1.712	12	-1.228	3	-.144	7	-.281	12
	2	max	.313	12	.231	12	.021	3	.87	3	1.235	12	.214	12	.128	7
		min	-.378	3	-.178	3	-.038	12	-1.235	12	-.87	3	-.128	7	-.214	12
	3	max	.313	12	.231	12	.021	3	.494	3	.759	12	.148	12	.111	7
		min	-.378	3	-.187	3	-.038	12	-.759	12	-.494	3	-.111	7	-.148	12
	4	max	.313	12	.231	12	.021	3	.098	3	.282	12	.099	13	.095	7
		min	-.378	3	-.196	3	-.038	12	-.282	12	-.098	3	-.095	7	-.099	13
	5	max	.313	12	.231	12	.021	3	.194	12	.319	7	.115	13	.078	7
		min	-.378	3	-.206	3	-.038	12	-.319	7	-.194	12	-.078	7	-.115	13
M67	1	max	.062	1	.013	2	.017	3	.401	5	.235	2	1.561	12	.395	3
		min	-.184	12	-.071	5	-.1	12	-.235	2	-.401	5	-.395	3	-1.561	12
	2	max	.062	1	.013	2	.017	3	.164	12	.221	3	1.096	12	.319	3
		min	-.184	12	-.05	5	-.1	12	-.221	3	-.164	12	-.319	3	-1.096	12
	3	max	.062	1	.013	2	.017	3	.045	12	.225	3	.632	12	.242	3
		min	-.184	12	-.028	5	-.1	12	-.225	3	-.045	12	-.242	3	-.632	12
	4	max	.062	1	.031	3	.017	3	.053	14	.169	6	.167	12	.165	3
		min	-.184	12	-.026	12	-.1	12	-.169	6	-.053	14	-.165	3	-.167	12
	5	max	.062	1	.053	3	.017	3	.07	14	.194	12	.101	14	.308	5
		min	-.184	12	-.026	12	-.1	12	-.194	12	-.07	14	-.308	5	-.101	14
M68	1	max	.156	14	.036	6	.09	5	-.027	2	.253	5	.308	14	.607	5
		min	-.561	6	.004	13	-.026	14	-.253	5	.027	2	-.607	5	-.308	14
	2	max	.156	14	.025	6	.09	5	.059	7	.118	12	.155	14	.132	7
		min	-.565	6	.004	13	-.026	14	-.118	12	-.059	7	-.132	7	-.155	14
	3	max	.156	14	.015	6	.09	5	.145	3	.081	12	.448	6	0	14
		min	-.57	6	.003	1	-.026	14	-.081	12	-.145	3	0	14	-.448	6
	4	max	.156	14	.01	2	.09	5	.189	3	.045	12	.967	5	.153	14
		min	-.574	6	-.008	1	-.026	14	-.045	12	-.189	3	-.153	14	-.967	5
	5	max	.156	14	.01	2	.09	5	.209	2	.044	5	1.492	5	.306	14
		min	-.579	6	-.018	1	-.026	14	-.044	5	-.209	2	-.306	14	-1.492	5
M69	1	max	.121	14	.057	12	.029	7	.314	3	.679	12	.811	13	1.299	7
		min	-.367	6	-.026	3	-.037	13	-.679	12	-.314	3	-1.299	7	-.811	13
	2	max	.121	14	.057	12	.029	7	.192	3	.344	12	.597	13	1.131	7
		min	-.372	6	-.016	3	-.037	13	-.344	12	-.192	3	-1.131	7	-.597	13
	3	max	.121	14	.057	12	.029	7	.138	2	.045	14	.383	13	.962	7
		min	-.376	6	-.008	14	-.037	13	-.045	14	-.138	2	-.962	7	-.383	13
	4	max	.121	14	.066	5	.029	7	.342	6	.09	14	.195	14	.993	6
		min	-.381	6	-.008	14	-.037	13	-.09	14	-.342	6	-.993	6	-.195	14
	5	max	.121	14	.077	5	.029	7	.757	5	.135	14	.105	14	1.109	6
		min	-.385	6	-.008	14	-.037	13	-.135	14	-.757	5	-1.109	6	-.105	14
M70	1	max	.212	3	.027	5	.061	7	.283	3	.213	12	.578	13	.741	7
		min	-.738	12	-.018	2	-.033	13	-.213	12	-.283	3	-.741	7	-.578	13
	2	max	.208	3	.017	5	.061	7	.236	3	.146	12	.388	13	.387	7

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-.738	12	-.018	2	-.033	13	-.146	12	-.236	3	-.387	7	-.388	13
	3	max	.203	3	.012	12	.061	7	.129	3	.078	12	.199	13	.207	12
		min	-.738	12	-.024	3	-.033	13	-.078	12	-.129	3	-.207	12	-.199	13
	4	max	.199	3	.012	12	.061	7	.009	1	.048	2	.416	3	.148	12
		min	-.738	12	-.034	3	-.033	13	-.048	2	-.009	1	-.148	12	-.416	3
	5	max	.194	3	.012	12	.061	7	.057	12	.267	3	.687	3	.249	14
		min	-.738	12	-.044	3	-.033	13	-.267	3	-.057	12	-.249	14	-.687	3
M71	1	max	.72	5	.008	14	.047	6	.197	7	.095	14	.553	14	1.286	6
		min	-.125	2	-.032	3	-.018	14	-.095	14	-.197	7	-1.286	6	-.553	14
	2	max	.716	5	.008	14	.047	6	.053	2	.089	5	.449	14	1.098	3
		min	-.125	2	-.022	3	-.018	14	-.089	5	-.053	2	-1.098	3	-.449	14
	3	max	.711	5	.008	14	.047	6	-.003	14	.104	5	.345	14	.968	3
		min	-.125	2	-.012	3	-.018	14	-.104	5	.003	14	-.968	3	-.345	14
	4	max	.707	5	.013	5	.047	6	.042	14	.112	3	.257	12	.838	3
		min	-.125	2	-.011	2	-.018	14	-.112	3	-.042	14	-.838	3	-.257	12
	5	max	.702	5	.023	5	.047	6	.088	14	.143	2	.488	12	.708	3
		min	-.125	2	-.011	2	-.018	14	-.143	2	-.088	14	-.708	3	-.488	12
M72	1	max	6.183	3	.132	14	.121	7	4.465	6	1.034	14	4.726	13	3.365	7
		min	-1.56	14	-.592	6	-.691	13	-1.034	14	-4.465	6	-3.365	7	-4.726	13
	2	max	6.179	3	.132	14	.121	7	3.14	6	.739	14	3.182	13	3.094	7
		min	-1.56	14	-.592	6	-.691	13	-.739	14	-3.14	6	-3.094	7	-3.182	13
	3	max	6.174	3	.132	14	.121	7	1.816	6	.445	14	1.638	13	2.823	7
		min	-1.56	14	-.592	6	-.691	13	-.445	14	-1.816	6	-2.823	7	-1.638	13
	4	max	6.17	3	.132	14	.121	7	.491	6	.15	14	.833	14	3.192	3
		min	-1.56	14	-.592	6	-.691	13	-.15	14	-.491	6	-3.192	3	-.833	14
	5	max	6.165	3	.132	14	.121	7	.145	14	.834	6	.885	14	4.343	3
		min	-1.56	14	-.592	6	-.691	13	-.834	6	-.145	14	-4.343	3	-.885	14
M73	1	max	.684	13	.212	12	.686	3	1.037	3	.581	12	.915	14	1.73	7
		min	-1.036	7	-.256	3	-.372	14	-.581	12	-1.037	3	-1.73	7	-.915	14
	2	max	.684	13	.212	12	.686	3	.466	3	.107	12	.282	13	.26	7
		min	-1.031	7	-.256	3	-.372	14	-.107	12	-.466	3	-.26	7	-.282	13
	3	max	.684	13	.212	12	.686	3	.367	12	.105	3	1.489	3	.749	14
		min	-1.027	7	-.256	3	-.372	14	-.105	3	-.367	12	-.749	14	-1.489	3
	4	max	.684	13	.212	12	.686	3	.841	12	.677	3	3.024	3	1.581	14
		min	-1.022	7	-.256	3	-.372	14	-.677	3	-.841	12	-1.581	14	-3.024	3
	5	max	.684	13	.212	12	.686	3	1.315	12	1.248	3	4.56	3	2.413	14
		min	-1.018	7	-.256	3	-.372	14	-1.248	3	-1.315	12	-2.413	14	-4.56	3
M74	1	max	.066	14	.282	14	.16	7	16.281	3	4.468	14	1.5	13	1.084	7
		min	-.241	3	-1.028	3	-.213	13	-4.468	14	-16.281	3	-1.084	7	-1.5	13
	2	max	.066	14	.14	14	.075	7	2.611	3	.723	14	.333	7	.39	13
		min	-.241	3	-.511	3	-.1	13	-.723	14	-2.611	3	-.39	13	-.333	7
	3	max	.066	14	.007	6	.014	13	.58	12	1.863	3	.72	7	.907	13
		min	-.241	3	-.002	14	-.011	7	-1.863	3	-.58	12	-.907	13	-.72	7
	4	max	.066	14	.525	3	.128	13	2.859	3	.797	14	.076	7	.061	12
		min	-.241	3	-.144	14	-.096	7	-.797	14	-2.859	3	-.061	12	-.076	7

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	.066	14	1.042	3	.241	13	16.777	3	4.616	14	2.178	13	1.596	7
		min	-.241	3	-.286	14	-.181	7	-4.616	14	-16.777	3	-1.596	7	-2.178	13
M75	1	max	.025	1	.281	14	.179	7	11.981	3	3.302	14	1.736	13	1.569	7
		min	-.139	6	-1.026	3	-.223	13	-3.302	14	-11.981	3	-1.569	7	-1.736	13
	2	max	.025	1	.139	14	.094	7	.434	14	1.655	3	.469	12	.276	13
		min	-.139	6	-.509	3	-.11	13	-1.655	3	-.434	14	-.276	13	-.469	12
	3	max	.025	1	.013	6	.015	3	1.649	14	6.095	3	.695	7	.916	13
		min	-.139	6	-.003	14	-.038	12	-6.095	3	-1.649	14	-.916	13	-.695	7
	4	max	.025	1	.526	3	.117	13	.342	14	1.339	3	.282	7	.462	12
		min	-.139	6	-.145	14	-.077	7	-1.339	3	-.342	14	-.462	12	-.282	7
	5	max	.025	1	1.044	3	.231	13	12.613	3	3.487	14	1.925	13	1.161	7
		min	-.139	6	-.286	14	-.162	7	-3.487	14	-12.613	3	-1.161	7	-1.925	13
M76	1	max	.045	14	.279	14	.173	7	12.169	3	3.346	14	1.673	13	1.365	7
		min	-.164	6	-1.017	3	-.221	13	-3.346	14	-12.169	3	-1.365	7	-1.673	13
	2	max	.045	14	.137	14	.088	7	.343	14	1.307	3	.53	12	.308	13
		min	-.164	6	-.5	3	-.107	13	-1.307	3	-.343	14	-.308	13	-.53	12
	3	max	.045	14	.022	6	.01	3	1.51	14	5.588	3	.759	7	.916	13
		min	-.164	6	-.005	14	-.041	12	-5.588	3	-1.51	14	-.916	13	-.759	7
	4	max	.045	14	.535	3	.12	13	.487	12	.672	3	.277	7	.456	12
		min	-.164	6	-.147	14	-.082	7	-.672	3	-.487	12	-.456	12	-.277	7
	5	max	.045	14	1.053	3	.234	13	13.44	3	3.721	14	1.986	13	1.236	7
		min	-.164	6	-.289	14	-.168	7	-3.721	14	-13.44	3	-1.236	7	-1.986	13
M77	1	max	.038	12	.279	14	.169	7	13.081	3	3.594	14	1.598	13	1.253	7
		min	-.01	3	-1.02	3	-.217	13	-3.594	14	-13.081	3	-1.253	7	-1.598	13
	2	max	.038	12	.137	14	.084	7	.27	12	.442	3	.586	12	.345	13
		min	-.01	3	-.502	3	-.104	13	-.442	3	-.27	12	-.345	13	-.586	12
	3	max	.038	12	.018	6	.01	13	1.29	14	4.769	3	.782	7	.915	13
		min	-.01	3	-.004	14	-.046	12	-4.769	3	-1.29	14	-.915	13	-.782	7
	4	max	.038	12	.533	3	.123	13	.556	5	.051	14	.255	7	.528	12
		min	-.01	3	-.146	14	-.086	7	-.051	14	-.556	5	-.528	12	-.255	7
	5	max	.038	12	1.05	3	.237	13	14.165	3	3.913	14	2.064	13	1.302	7
		min	-.01	3	-.288	14	-.171	7	-3.913	14	-14.165	3	-1.302	7	-2.064	13
M78	1	max	.037	12	.28	14	.166	7	13.989	3	3.841	14	1.545	13	1.146	7
		min	-.008	13	-1.021	3	-.215	13	-3.841	14	-13.989	3	-1.146	7	-1.545	13
	2	max	.037	12	.138	14	.081	7	.667	6	.133	14	.555	5	.371	13
		min	-.008	13	-.503	3	-.102	13	-.133	14	-.667	6	-.371	13	-.555	5
	3	max	.037	12	.016	6	.012	13	1.053	14	3.899	3	.808	7	.913	13
		min	-.008	13	-.004	14	-.043	12	-3.899	3	-1.053	14	-.913	13	-.808	7
	4	max	.037	12	.532	3	.125	13	1.252	6	.283	14	.241	7	.484	12
		min	-.008	13	-.146	14	-.09	7	-.283	14	-1.252	6	-.484	12	-.241	7
	5	max	.037	12	1.049	3	.239	13	14.998	3	4.14	14	2.121	13	1.357	7
		min	-.008	13	-.288	14	-.175	7	-4.14	14	-14.998	3	-1.357	7	-2.121	13
M79	1	max	.07	6	.281	14	.163	7	15.086	3	4.141	14	1.513	13	1.049	7
		min	-.01	14	-1.024	3	-.214	13	-4.141	14	-15.086	3	-1.049	7	-1.513	13
	2	max	.07	6	.139	14	.078	7	1.509	6	.416	14	.43	6	.386	13

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-.01	14	-.507	3	-.1	13	-.416	14	-1.509	6	-.386	13	-.43	6
	3	max	.07	6	.013	6	.013	13	.787	14	2.916	3	.836	7	.911	13
		min	-.01	14	-.003	14	-.033	12	-2.916	3	-.787	14	-.911	13	-.836	7
	4	max	.07	6	.529	3	.127	13	1.955	6	.532	14	.241	3	.381	12
		min	-.01	14	-.145	14	-.092	7	-.532	14	-1.955	6	-.381	12	-.241	3
	5	max	.07	6	1.046	3	.24	13	15.866	3	4.373	14	2.157	13	1.399	7
		min	-.01	14	-.287	14	-.178	7	-4.373	14	-15.866	3	-1.399	7	-2.157	13
M80	1	max	.142	6	.282	14	.161	7	16.031	3	4.4	14	1.499	13	1.005	7
		min	-.037	14	-1.028	3	-.213	13	-4.4	14	-16.031	3	-1.005	7	-1.499	13
	2	max	.142	6	.14	14	.076	7	2.368	3	.657	14	.428	7	.392	13
		min	-.037	14	-.51	3	-.1	13	-.657	14	-2.368	3	-.392	13	-.428	7
	3	max	.142	6	.008	6	.014	13	.565	14	2.099	3	.832	7	.909	13
		min	-.037	14	-.002	14	-.02	12	-2.099	3	-.565	14	-.909	13	-.832	7
	4	max	.142	6	.525	3	.128	13	2.63	3	.735	14	.215	3	.224	12
		min	-.037	14	-.144	14	-.094	7	-.735	14	-2.63	3	-.224	12	-.215	3
	5	max	.142	6	1.043	3	.241	13	16.556	3	4.557	14	2.175	13	1.451	7
		min	-.037	14	-.286	14	-.18	7	-4.557	14	-16.556	3	-1.451	7	-2.175	13
M81	1	max	.262	3	.288	14	.005	13	7.201	3	2.863	14	.261	7	.115	13
		min	-.149	12	-.693	3	-.008	7	-2.863	14	-7.201	3	-.115	13	-.261	7
	2	max	.262	3	.146	14	.005	13	.994	14	2.175	6	.169	7	.067	14
		min	-.149	12	-.352	3	-.008	7	-2.175	6	-.994	14	-.067	14	-.169	7
	3	max	.262	3	.023	12	.005	13	2.328	14	5.297	3	.096	3	.055	14
		min	-.149	12	-.01	3	-.008	7	-5.297	3	-2.328	14	-.055	14	-.096	3
	4	max	.262	3	.331	3	.005	13	1.141	14	2.442	3	.055	13	.043	14
		min	-.149	12	-.138	14	-.008	7	-2.442	3	-1.141	14	-.043	14	-.055	13
	5	max	.262	3	.673	3	.005	13	6.482	3	2.568	14	.111	13	.11	7
		min	-.149	12	-.28	14	-.008	7	-2.568	14	-6.482	3	-.11	7	-.111	13
M82	1	max	.203	3	.286	14	.023	12	12.475	3	3.438	14	.278	3	.591	12
		min	-.059	14	-1.043	3	-.012	3	-3.438	14	-12.475	3	-.591	12	-.278	3
	2	max	.203	3	.144	14	.023	12	.386	14	1.459	3	.131	3	.311	12
		min	-.059	14	-.525	3	-.012	3	-1.459	3	-.386	14	-.311	12	-.131	3
	3	max	.203	3	.002	14	.023	12	1.688	14	6.196	3	.011	14	.035	6
		min	-.059	14	-.008	3	-.012	3	-6.196	3	-1.688	14	-.035	6	-.011	14
	4	max	.203	3	.51	3	.023	12	.469	14	1.737	3	.249	12	.164	3
		min	-.059	14	-.14	14	-.012	3	-1.737	3	-.469	14	-.164	3	-.249	12
	5	max	.203	3	1.027	3	.023	12	11.918	3	3.272	14	.529	12	.312	3
		min	-.059	14	-.282	14	-.012	3	-3.272	14	-11.918	3	-.312	3	-.529	12
M83	1	max	.024	1	.281	14	.037	12	11.955	3	3.294	14	.35	3	.901	12
		min	-.134	12	-1.026	3	-.015	3	-3.294	14	-11.955	3	-.901	12	-.35	3
	2	max	.024	1	.139	14	.037	12	.439	14	1.672	3	.17	3	.452	12
		min	-.134	12	-.508	3	-.015	3	-1.672	3	-.439	14	-.452	12	-.17	3
	3	max	.024	1	.014	6	.037	12	1.651	14	6.103	3	.002	14	.01	2
		min	-.134	12	-.003	14	-.015	3	-6.103	3	-1.651	14	-.01	2	-.002	14
	4	max	.024	1	.527	3	.037	12	.341	14	1.338	3	.446	12	.189	3
		min	-.134	12	-.145	14	-.015	3	-1.338	3	-.341	14	-.189	3	-.446	12

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	.024	1	1.045	3	.037	12	12.624	3	3.49	14	.895	12	.368	3
		min	-.134	12	-.287	14	-.015	3	-3.49	14	-12.624	3	-.368	3	-.895	12
M84	1	max	.043	14	.279	14	.038	12	12.169	3	3.345	14	.238	7	.965	12
		min	-.162	6	-1.017	3	-.013	7	-3.345	14	-12.169	3	-.965	12	-.238	7
	2	max	.043	14	.137	14	.038	12	.344	14	1.309	3	.084	7	.501	12
		min	-.162	6	-.5	3	-.013	7	-1.309	3	-.344	14	-.501	12	-.084	7
	3	max	.043	14	.022	6	.038	12	1.511	14	5.59	3	.027	14	.1	6
		min	-.162	6	-.005	14	-.013	7	-5.59	3	-1.511	14	-.1	6	-.027	14
	4	max	.043	14	.535	3	.038	12	.501	12	.675	3	.426	12	.226	7
		min	-.162	6	-.147	14	-.013	7	-.675	3	-.501	12	-.226	7	-.426	12
	5	max	.043	14	1.053	3	.038	12	13.437	3	3.72	14	.89	12	.38	7
		min	-.162	6	-.289	14	-.013	7	-3.72	14	-13.437	3	-.38	7	-.89	12
M85	1	max	.039	12	.279	14	.042	12	13.079	3	3.592	14	.243	7	1.055	12
		min	-.01	3	-1.02	3	-.014	7	-3.592	14	-13.079	3	-1.055	12	-.243	7
	2	max	.039	12	.137	14	.042	12	.276	12	.444	3	.074	7	.542	12
		min	-.01	3	-.502	3	-.014	7	-.444	3	-.276	12	-.542	12	-.074	7
	3	max	.039	12	.018	6	.042	12	1.291	14	4.772	3	.035	14	.125	3
		min	-.01	3	-.005	14	-.014	7	-4.772	3	-1.291	14	-.125	3	-.035	14
	4	max	.039	12	.533	3	.042	12	.568	5	.05	14	.483	12	.265	7
		min	-.01	3	-.146	14	-.014	7	-.05	14	-.568	5	-.265	7	-.483	12
	5	max	.039	12	1.05	3	.042	12	14.162	3	3.912	14	.996	12	.434	7
		min	-.01	3	-.288	14	-.014	7	-3.912	14	-14.162	3	-.434	7	-.996	12
M86	1	max	.037	12	.28	14	.038	12	13.983	3	3.839	14	.219	7	.965	12
		min	-.002	3	-1.021	3	-.014	7	-3.839	14	-13.983	3	-.965	12	-.219	7
	2	max	.037	12	.138	14	.038	12	.667	6	.131	14	.048	7	.501	5
		min	-.002	3	-.503	3	-.014	7	-.131	14	-.667	6	-.501	5	-.048	7
	3	max	.037	12	.017	6	.038	12	1.055	14	3.904	3	.045	14	.162	3
		min	-.002	3	-.004	14	-.014	7	-3.904	3	-1.055	14	-.162	3	-.045	14
	4	max	.037	12	.532	3	.038	12	1.26	6	.281	14	.431	12	.294	7
		min	-.002	3	-.146	14	-.014	7	-.281	14	-1.26	6	-.294	7	-.431	12
	5	max	.037	12	1.049	3	.038	12	14.993	3	4.138	14	.896	12	.466	7
		min	-.002	3	-.288	14	-.014	7	-4.138	14	-14.993	3	-.466	7	-.896	12
M87	1	max	.07	6	.281	14	.028	12	15.085	3	4.141	14	.176	7	.699	5
		min	-.01	14	-1.024	3	-.013	7	-4.141	14	-15.085	3	-.699	5	-.176	7
	2	max	.07	6	.139	14	.028	12	1.51	6	.416	14	.036	14	.377	6
		min	-.01	14	-.507	3	-.013	7	-.416	14	-1.51	6	-.377	6	-.036	14
	3	max	.07	6	.013	6	.028	12	.788	14	2.92	3	.055	14	.198	3
		min	-.01	14	-.003	14	-.013	7	-2.92	3	-.788	14	-.198	3	-.055	14
	4	max	.07	6	.529	3	.028	12	1.957	6	.53	14	.324	12	.314	7
		min	-.01	14	-.145	14	-.013	7	-.53	14	-1.957	6	-.314	7	-.324	12
	5	max	.07	6	1.046	3	.028	12	15.86	3	4.371	14	.665	12	.477	7
		min	-.01	14	-.287	14	-.013	7	-4.371	14	-15.86	3	-.477	7	-.665	12
M88	1	max	.136	6	.282	14	.015	12	16.018	3	4.397	14	.156	7	.4	5
		min	-.034	14	-1.028	3	-.013	7	-4.397	14	-16.018	3	-.4	5	-.156	7
	2	max	.136	6	.14	14	.015	12	2.356	3	.654	14	.042	14	.278	6

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-.034	14	-.51	3	-.013	7	-.654	14	-2.356	3	-.278	6	-.042	14
	3	max	.136	6	.008	6	.015	12	.568	14	2.11	3	.054	14	.194	3
		min	-.034	14	-.002	14	-.013	7	-2.11	3	-.568	14	-.194	3	-.054	14
	4	max	.136	6	.525	3	.015	12	2.62	3	.732	14	.167	13	.298	7
		min	-.034	14	-.144	14	-.013	7	-.732	14	-2.62	3	-.298	7	-.167	13
	5	max	.136	6	1.043	3	.015	12	16.547	3	4.554	14	.352	12	.45	7
		min	-.034	14	-.286	14	-.013	7	-4.554	14	-16.547	3	-.45	7	-.352	12
M89	1	max	.06	14	.282	14	.014	13	16.269	3	4.465	14	.231	7	.337	13
		min	-.22	3	-1.028	3	-.011	7	-4.465	14	-16.269	3	-.337	13	-.231	7
	2	max	.06	14	.14	14	.014	13	2.601	3	.72	14	.096	7	.168	13
		min	-.22	3	-.511	3	-.011	7	-.72	14	-2.601	3	-.168	13	-.096	7
	3	max	.06	14	.008	6	.014	13	.584	12	1.872	3	.014	14	.049	3
		min	-.22	3	-.002	14	-.011	7	-1.872	3	-.584	12	-.049	3	-.014	14
	4	max	.06	14	.525	3	.014	13	2.852	3	.795	14	.171	13	.173	7
		min	-.22	3	-.144	14	-.011	7	-.795	14	-2.852	3	-.173	7	-.171	13
	5	max	.06	14	1.042	3	.014	13	16.772	3	4.615	14	.341	13	.308	7
		min	-.22	3	-.286	14	-.011	7	-4.615	14	-16.772	3	-.308	7	-.341	13
M90	1	max	0	1	.302	14	.181	7	20.843	3	5.716	14	3.112	13	2.334	7
		min	0	1	-1.102	3	-.242	13	-5.716	14	-20.843	3	-2.334	7	-3.112	13
	2	max	0	1	.227	14	.136	7	11.724	3	3.215	14	1.751	13	1.313	7
		min	0	1	-.827	3	-.181	13	-3.215	14	-11.724	3	-1.313	7	-1.751	13
	3	max	0	1	.151	14	.091	7	5.211	3	1.429	14	.778	13	.584	7
		min	0	1	-.551	3	-.121	13	-1.429	14	-5.211	3	-.584	7	-.778	13
	4	max	0	1	.076	14	.045	7	1.303	3	.357	14	.195	13	.146	7
		min	0	1	-.276	3	-.06	13	-.357	14	-1.303	3	-.146	7	-.195	13
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M91	1	max	0	1	.212	14	.127	7	10.296	3	2.823	14	1.537	13	1.153	7
		min	0	1	-.775	3	-.17	13	-2.823	14	-10.296	3	-1.153	7	-1.537	13
	2	max	0	1	.159	14	.096	7	5.791	3	1.588	14	.865	13	.649	7
		min	0	1	-.581	3	-.127	13	-1.588	14	-5.791	3	-.649	7	-.865	13
	3	max	0	1	.106	14	.064	7	2.574	3	.706	14	.384	13	.288	7
		min	0	1	-.387	3	-.085	13	-.706	14	-2.574	3	-.288	7	-.384	13
	4	max	0	1	.053	14	.032	7	.643	3	.176	14	.096	13	.072	7
		min	0	1	-.194	3	-.042	13	-.176	14	-.643	3	-.072	7	-.096	13
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M92	1	max	0	1	.227	14	.136	7	11.798	3	3.235	14	1.762	13	1.321	7
		min	0	1	-.829	3	-.182	13	-3.235	14	-11.798	3	-1.321	7	-1.762	13
	2	max	0	1	.171	14	.102	7	6.636	3	1.82	14	.991	13	.743	7
		min	0	1	-.622	3	-.136	13	-1.82	14	-6.636	3	-.743	7	-.991	13
	3	max	0	1	.114	14	.068	7	2.949	3	.809	14	.44	13	.33	7
		min	0	1	-.415	3	-.091	13	-.809	14	-2.949	3	-.33	7	-.44	13
	4	max	0	1	.057	14	.034	7	.737	3	.202	14	.11	13	.083	7
		min	0	1	-.207	3	-.045	13	-.202	14	-.737	3	-.083	7	-.11	13

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M93	1	max	0	1	.242	14	.145	7	13.402	3	3.675	14	2.001	13	1.501	7
		min	0	1	-.884	3	-.194	13	-3.675	14	-13.402	3	-1.501	7	-2.001	13
	2	max	0	1	.182	14	.109	7	7.539	3	2.067	14	1.126	13	.844	7
		min	0	1	-.663	3	-.145	13	-2.067	14	-7.539	3	-.844	7	-1.126	13
	3	max	0	1	.121	14	.073	7	3.351	3	.919	14	.5	13	.375	7
		min	0	1	-.442	3	-.097	13	-.919	14	-3.351	3	-.375	7	-.5	13
	4	max	0	1	.061	14	.036	7	.838	3	.23	14	.125	13	.094	7
		min	0	1	-.221	3	-.048	13	-.23	14	-.838	3	-.094	7	-.125	13
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M94	1	max	0	1	.257	14	.154	7	15.109	3	4.143	14	2.256	13	1.692	7
		min	0	1	-.938	3	-.206	13	-4.143	14	-15.109	3	-1.692	7	-2.256	13
	2	max	0	1	.193	14	.116	7	8.499	3	2.331	14	1.269	13	.952	7
		min	0	1	-.704	3	-.154	13	-2.331	14	-8.499	3	-.952	7	-1.269	13
	3	max	0	1	.129	14	.077	7	3.777	3	1.036	14	.564	13	.423	7
		min	0	1	-.469	3	-.103	13	-1.036	14	-3.777	3	-.423	7	-.564	13
	4	max	0	1	.064	14	.039	7	.944	3	.259	14	.141	13	.106	7
		min	0	1	-.235	3	-.051	13	-.259	14	-.944	3	-.106	7	-.141	13
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M95	1	max	0	1	.272	14	.163	7	16.918	3	4.639	14	2.526	13	1.895	7
		min	0	1	-.993	3	-.218	13	-4.639	14	-16.918	3	-1.895	7	-2.526	13
	2	max	0	1	.204	14	.123	7	9.517	3	2.61	14	1.421	13	1.066	7
		min	0	1	-.745	3	-.163	13	-2.61	14	-9.517	3	-1.066	7	-1.421	13
	3	max	0	1	.136	14	.082	7	4.23	3	1.16	14	.632	13	.474	7
		min	0	1	-.496	3	-.109	13	-1.16	14	-4.23	3	-.474	7	-.632	13
	4	max	0	1	.068	14	.041	7	1.057	3	.29	14	.158	13	.118	7
		min	0	1	-.248	3	-.054	13	-.29	14	-1.057	3	-.118	7	-.158	13
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M96	1	max	0	1	.287	14	.172	7	18.83	3	5.163	14	2.812	13	2.109	7
		min	0	1	-1.047	3	-.23	13	-5.163	14	-18.83	3	-2.109	7	-2.812	13
	2	max	0	1	.215	14	.129	7	10.592	3	2.904	14	1.581	13	1.186	7
		min	0	1	-.786	3	-.172	13	-2.904	14	-10.592	3	-1.186	7	-1.581	13
	3	max	0	1	.144	14	.086	7	4.707	3	1.291	14	.703	13	.527	7
		min	0	1	-.524	3	-.115	13	-1.291	14	-4.707	3	-.527	7	-.703	13
	4	max	0	1	.072	14	.043	7	1.177	3	.323	14	.176	13	.132	7
		min	0	1	-.262	3	-.057	13	-.323	14	-1.177	3	-.132	7	-.176	13
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M97	1	max	0	1	.099	14	0	1	1.472	3	.611	14	0	1	0	1
		min	0	1	-.238	3	0	1	-.611	14	-1.472	3	0	1	0	1
	2	max	0	1	.074	14	0	1	.828	3	.344	14	0	1	0	1

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	0	1	-.178	3	0	1	-.344	14	-.828	3	0	1	0	1
	3	max	0	1	.049	14	0	1	.368	3	.153	14	0	1	0	1
		min	0	1	-.119	3	0	1	-.153	14	-.368	3	0	1	0	1
	4	max	0	1	.025	14	0	1	.092	3	.038	14	0	1	0	1
		min	0	1	-.059	3	0	1	-.038	14	-.092	3	0	1	0	1
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M98	1	max	0	1	.212	14	0	1	10.296	3	2.823	14	0	1	0	1
		min	0	1	-.775	3	0	1	-2.823	14	-10.296	3	0	1	0	1
	2	max	0	1	.159	14	0	1	5.791	3	1.588	14	0	1	0	1
		min	0	1	-.581	3	0	1	-1.588	14	-5.791	3	0	1	0	1
	3	max	0	1	.106	14	0	1	2.574	3	.706	14	0	1	0	1
		min	0	1	-.387	3	0	1	-.706	14	-2.574	3	0	1	0	1
	4	max	0	1	.053	14	0	1	.643	3	.176	14	0	1	0	1
		min	0	1	-.194	3	0	1	-.176	14	-.643	3	0	1	0	1
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M99	1	max	0	1	.227	14	0	1	11.798	3	3.235	14	0	1	0	1
		min	0	1	-.829	3	0	1	-3.235	14	-11.798	3	0	1	0	1
	2	max	0	1	.171	14	0	1	6.636	3	1.82	14	0	1	0	1
		min	0	1	-.622	3	0	1	-1.82	14	-6.636	3	0	1	0	1
	3	max	0	1	.114	14	0	1	2.949	3	.809	14	0	1	0	1
		min	0	1	-.415	3	0	1	-.809	14	-2.949	3	0	1	0	1
	4	max	0	1	.057	14	0	1	.737	3	.202	14	0	1	0	1
		min	0	1	-.207	3	0	1	-.202	14	-.737	3	0	1	0	1
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M100	1	max	0	1	.242	14	0	1	13.402	3	3.675	14	0	1	0	1
		min	0	1	-.884	3	0	1	-3.675	14	-13.402	3	0	1	0	1
	2	max	0	1	.182	14	0	1	7.539	3	2.067	14	0	1	0	1
		min	0	1	-.663	3	0	1	-2.067	14	-7.539	3	0	1	0	1
	3	max	0	1	.121	14	0	1	3.351	3	.919	14	0	1	0	1
		min	0	1	-.442	3	0	1	-.919	14	-3.351	3	0	1	0	1
	4	max	0	1	.061	14	0	1	.838	3	.23	14	0	1	0	1
		min	0	1	-.221	3	0	1	-.23	14	-.838	3	0	1	0	1
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M101	1	max	0	1	.257	14	0	1	15.109	3	4.143	14	0	1	0	1
		min	0	1	-.938	3	0	1	-4.143	14	-15.109	3	0	1	0	1
	2	max	0	1	.193	14	0	1	8.499	3	2.331	14	0	1	0	1
		min	0	1	-.704	3	0	1	-2.331	14	-8.499	3	0	1	0	1
	3	max	0	1	.129	14	0	1	3.777	3	1.036	14	0	1	0	1
		min	0	1	-.469	3	0	1	-1.036	14	-3.777	3	0	1	0	1
	4	max	0	1	.064	14	0	1	.944	3	.259	14	0	1	0	1
		min	0	1	-.235	3	0	1	-.259	14	-.944	3	0	1	0	1

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M102	1	max	0	1	.272	14	0	1	16.918	3	4.639	14	0	1	0	1
		min	0	1	-.993	3	0	1	-4.639	14	-16.918	3	0	1	0	1
	2	max	0	1	.204	14	0	1	9.517	3	2.61	14	0	1	0	1
		min	0	1	-.745	3	0	1	-2.61	14	-9.517	3	0	1	0	1
	3	max	0	1	.136	14	0	1	4.23	3	1.16	14	0	1	0	1
		min	0	1	-.496	3	0	1	-1.16	14	-4.23	3	0	1	0	1
	4	max	0	1	.068	14	0	1	1.057	3	.29	14	0	1	0	1
		min	0	1	-.248	3	0	1	-.29	14	-1.057	3	0	1	0	1
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M103	1	max	0	1	.287	14	0	1	18.83	3	5.163	14	0	1	0	1
		min	0	1	-1.047	3	0	1	-5.163	14	-18.83	3	0	1	0	1
	2	max	0	1	.215	14	0	1	10.592	3	2.904	14	0	1	0	1
		min	0	1	-.786	3	0	1	-2.904	14	-10.592	3	0	1	0	1
	3	max	0	1	.144	14	0	1	4.707	3	1.291	14	0	1	0	1
		min	0	1	-.524	3	0	1	-1.291	14	-4.707	3	0	1	0	1
	4	max	0	1	.072	14	0	1	1.177	3	.323	14	0	1	0	1
		min	0	1	-.262	3	0	1	-.323	14	-1.177	3	0	1	0	1
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M104	1	max	0	1	.302	14	0	1	20.879	3	5.725	14	0	1	0	1
		min	0	1	-1.103	3	0	1	-5.725	14	-20.879	3	0	1	0	1
	2	max	0	1	.227	14	0	1	11.744	3	3.221	14	0	1	0	1
		min	0	1	-.827	3	0	1	-3.221	14	-11.744	3	0	1	0	1
	3	max	0	1	.151	14	0	1	5.22	3	1.431	14	0	1	0	1
		min	0	1	-.551	3	0	1	-1.431	14	-5.22	3	0	1	0	1
	4	max	0	1	.076	14	0	1	1.305	3	.358	14	0	1	0	1
		min	0	1	-.276	3	0	1	-.358	14	-1.305	3	0	1	0	1
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M105	1	max	.272	3	.286	14	.005	3	7.137	3	2.83	14	.076	14	.222	3
		min	-.156	12	-.69	3	0	14	-2.83	14	-7.137	3	-.222	3	-.076	14
	2	max	.272	3	.144	14	.005	3	.994	14	2.231	6	.065	14	.159	3
		min	-.156	12	-.348	3	0	14	-2.231	6	-.994	14	-.159	3	-.065	14
	3	max	.272	3	.026	12	.005	3	2.296	14	5.238	3	.055	14	.096	3
		min	-.156	12	-.009	7	0	14	-5.238	3	-2.296	14	-.096	3	-.055	14
	4	max	.272	3	.335	3	.005	3	1.076	14	2.322	3	.055	13	.067	7
		min	-.156	12	-.14	14	0	14	-2.322	3	-1.076	14	-.067	7	-.055	13
	5	max	.272	3	.677	3	.005	3	6.663	3	2.666	14	.112	13	.06	7
		min	-.156	12	-.282	14	0	14	-2.666	14	-6.663	3	-.06	7	-.112	13
M106	1	max	0	1	.109	14	0	1	1.795	3	.746	14	0	1	0	1
		min	0	1	-.263	3	0	1	-.746	14	-1.795	3	0	1	0	1
	2	max	0	1	.082	14	0	1	1.01	3	.42	14	0	1	0	1

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	0	1	-.197	3	0	1	-.42	14	-1.01	3	0	1	0	1
	3	max	0	1	.055	14	0	1	.449	3	.186	14	0	1	0	1
		min	0	1	-.131	3	0	1	-.186	14	-.449	3	0	1	0	1
	4	max	0	1	.027	14	0	1	.112	3	.047	14	0	1	0	1
		min	0	1	-.066	3	0	1	-.047	14	-.112	3	0	1	0	1
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M107	1	max	6.182	3	.143	14	.936	7	4.688	6	1.08	14	4.742	13	3.92	7
		min	-1.566	14	-.623	6	-.686	13	-1.08	14	-4.688	6	-3.92	7	-4.742	13
	2	max	6.177	3	.143	14	.936	7	3.285	6	.76	14	3.208	13	1.826	7
		min	-1.566	14	-.631	6	-.686	13	-.76	14	-3.285	6	-1.826	7	-3.208	13
	3	max	6.173	3	.143	14	.936	7	1.864	6	.439	14	1.951	3	.728	14
		min	-1.566	14	-.64	6	-.686	13	-.439	14	-1.864	6	-.728	14	-1.951	3
	4	max	6.168	3	.143	14	.936	7	.449	5	.118	14	3.174	3	.826	14
		min	-1.566	14	-.648	6	-.686	13	-.118	14	-.449	5	-.826	14	-3.174	3
	5	max	6.164	3	.143	14	.936	7	.202	14	1.034	6	4.454	7	1.392	13
		min	-1.566	14	-.656	6	-.686	13	-1.034	6	-.202	14	-1.392	13	-4.454	7
M108	1	max	.416	14	.269	3	.369	14	1.444	12	1.24	3	4.503	3	2.381	14
		min	-.695	13	-.231	12	-.682	3	-1.24	3	-1.444	12	-2.381	14	-4.503	3
	2	max	.416	14	.269	3	.369	14	.927	12	.64	3	2.977	3	1.556	14
		min	-.695	13	-.231	12	-.682	3	-.64	3	-.927	12	-1.556	14	-2.977	3
	3	max	.416	14	.269	3	.369	14	.41	12	.049	7	1.451	3	.73	14
		min	-.695	13	-.231	12	-.682	3	-.049	7	-.41	12	-.73	14	-1.451	3
	4	max	.416	14	.269	3	.369	14	.562	3	.107	12	.109	7	.238	13
		min	-.695	13	-.231	12	-.682	3	-.107	12	-.562	3	-.238	13	-.109	7
	5	max	.416	14	.269	3	.369	14	1.163	3	.623	12	.92	14	1.6	3
		min	-.695	13	-.231	12	-.682	3	-.623	12	-1.163	3	-1.6	3	-.92	14
M109	1	max	.829	13	.219	13	.488	12	2.113	7	1.466	14	.419	3	1.528	12
		min	-.598	7	-.167	7	-.15	3	-1.466	14	-2.113	7	-1.528	12	-.419	3
	2	max	.829	13	.219	13	.488	12	2.112	3	1.228	14	.159	13	.59	12
		min	-.598	7	-.157	7	-.15	3	-1.228	14	-2.112	3	-.59	12	-.159	13
	3	max	.829	13	.219	13	.488	12	2.146	3	.991	14	.389	5	.238	7
		min	-.598	7	-.147	7	-.15	3	-.991	14	-2.146	3	-.238	7	-.389	5
	4	max	.829	13	.219	13	.488	12	2.203	3	.753	14	1.286	12	.48	7
		min	-.598	7	-.137	7	-.15	3	-.753	14	-2.203	3	-.48	7	-1.286	12
	5	max	.829	13	.219	13	.488	12	2.282	3	.515	14	2.225	12	.731	3
		min	-.598	7	-.127	7	-.15	3	-.515	14	-2.282	3	-.731	3	-2.225	12
M110	1	max	.002	13	.81	14	.412	14	6.21	3	3.529	14	.457	3	1.242	12
		min	-.003	7	-1.445	3	-.658	3	-3.529	14	-6.21	3	-1.242	12	-.457	3
	2	max	.002	13	.81	14	.412	14	5.961	3	3.389	14	.372	7	1.235	12
		min	-.003	7	-1.444	3	-.658	3	-3.389	14	-5.961	3	-1.235	12	-.372	7
	3	max	.002	13	.81	14	.412	14	5.712	3	3.25	14	.295	7	1.227	12
		min	-.003	7	-1.443	3	-.658	3	-3.25	14	-5.712	3	-1.227	12	-.295	7
	4	max	.002	13	.81	14	.412	14	5.463	3	3.11	14	.218	7	1.22	12
		min	-.003	7	-1.442	3	-.658	3	-3.11	14	-5.463	3	-1.22	12	-.218	7

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	.002	13	.81	14	.412	14	5.214	3	2.97	14	.14	7	1.212	12
		min	-.003	7	-1.441	3	-.658	3	-2.97	14	-5.214	3	-1.212	12	-.14	7
M111	1	max	.489	13	.556	14	.014	14	11.068	3	3.544	14	2.571	6	.203	14
		min	-.423	7	-1.829	3	-.248	12	-3.544	14	-11.068	3	-.203	14	-2.571	6
	2	max	.489	13	.556	14	.014	14	6.962	3	2.293	14	2.105	6	.177	14
		min	-.423	7	-1.819	3	-.238	6	-2.293	14	-6.962	3	-.177	14	-2.105	6
	3	max	.489	13	.556	14	.014	14	2.88	3	1.043	14	1.656	6	.15	14
		min	-.423	7	-1.809	3	-.229	6	-1.043	14	-2.88	3	-.15	14	-1.656	6
	4	max	.489	13	.556	14	.014	14	.74	13	1.469	7	1.225	6	.124	14
		min	-.423	7	-1.799	3	-.22	6	-1.469	7	-.74	13	-.124	14	-1.225	6
	5	max	.489	13	.556	14	.014	14	1.458	14	5.217	3	.812	6	.097	14
		min	-.423	7	-1.789	3	-.21	6	-5.217	3	-1.458	14	-.097	14	-.812	6
M112	1	max	.279	7	.818	13	.575	3	10.449	7	6.398	13	1.7	12	.13	1
		min	-.404	13	-1.823	7	-.365	14	-6.398	13	-10.449	7	-.13	1	-1.7	12
	2	max	.279	7	.818	13	.575	3	10.134	7	6.257	13	1.686	12	.111	1
		min	-.404	13	-1.823	7	-.365	14	-6.257	13	-10.134	7	-.111	1	-1.686	12
	3	max	.279	7	.818	13	.575	3	9.82	7	6.116	13	1.672	12	.092	1
		min	-.404	13	-1.822	7	-.365	14	-6.116	13	-9.82	7	-.092	1	-1.672	12
	4	max	.279	7	.818	13	.575	3	9.506	7	5.975	13	1.658	12	.073	1
		min	-.404	13	-1.821	7	-.365	14	-5.975	13	-9.506	7	-.073	1	-1.658	12
	5	max	.279	7	.818	13	.575	3	9.191	7	5.833	13	1.644	12	.054	1
		min	-.404	13	-1.82	7	-.365	14	-5.833	13	-9.191	7	-.054	1	-1.644	12
M113	1	max	.449	5	.033	1	.07	12	.176	12	.104	14	.43	7	.186	14
		min	-.139	2	-.028	12	-.058	3	-.104	14	-.176	12	-.186	14	-.43	7
	2	max	.449	5	.015	14	.07	12	.105	5	.033	14	.468	5	.136	13
		min	-.139	2	-.028	12	-.058	3	-.033	14	-.105	5	-.136	13	-.468	5
	3	max	.449	5	.015	14	.07	12	.064	1	.093	2	.78	12	.132	3
		min	-.139	2	-.045	6	-.058	3	-.093	2	-.064	1	-.132	3	-.78	12
	4	max	.449	5	.015	14	.07	12	.111	14	.324	6	1.107	12	.4	3
		min	-.139	2	-.067	6	-.058	3	-.324	6	-.111	14	-.4	3	-1.107	12
	5	max	.449	5	.015	14	.07	12	.182	14	.684	6	1.433	12	.669	3
		min	-.139	2	-.088	6	-.058	3	-.684	6	-.182	14	-.669	3	-1.433	12
M114	1	max	.189	14	.605	5	.101	7	.62	3	.447	12	.852	6	.186	14
		min	-.423	6	-.08	14	-.048	13	-.447	12	-.62	3	-.186	14	-.852	6
	2	max	.189	14	.596	5	.101	7	1.105	6	.289	14	.998	6	.254	14
		min	-.423	6	-.08	14	-.048	13	-.289	14	-1.105	6	-.254	14	-.998	6
	3	max	.189	14	.587	5	.101	7	2.091	5	.454	14	1.143	6	.322	14
		min	-.423	6	-.08	14	-.048	13	-.454	14	-2.091	5	-.322	14	-1.143	6
	4	max	.189	14	.581	12	.101	7	3.292	5	.619	14	1.288	6	.389	14
		min	-.423	6	-.08	14	-.048	13	-.619	14	-3.292	5	-.389	14	-1.288	6
	5	max	.189	14	.581	12	.101	7	4.474	5	.785	14	1.433	6	.457	14
		min	-.423	6	-.08	14	-.048	13	-.785	14	-4.474	5	-.457	14	-1.433	6
M115	1	max	8.284	3	.532	5	.26	14	8.134	12	.569	13	7.502	13	7.944	7
		min	-2.295	14	-.039	14	-.504	13	-.569	13	-8.134	12	-7.944	7	-7.502	13
	2	max	8.28	3	.532	5	.26	14	9.161	12	.631	13	6.509	13	7.723	7

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-2.295	14	-.039	14	-.504	13	-.631	13	-9.161	12	-7.723	7	-6.509	13
	3	max	8.276	3	.532	5	.26	14	10.188	12	.693	13	5.516	13	7.502	7
		min	-2.295	14	-.039	14	-.504	13	-.693	13	-10.188	12	-7.502	7	-5.516	13
	4	max	8.272	3	.532	5	.26	14	11.215	12	.755	13	4.523	13	7.282	7
		min	-2.295	14	-.039	14	-.504	13	-.755	13	-11.215	12	-7.282	7	-4.523	13
	5	max	8.268	3	.532	5	.26	14	12.249	5	.817	13	3.529	13	7.061	7
		min	-2.295	14	-.039	14	-.504	13	-.817	13	-12.249	5	-7.061	7	-3.529	13
M116	1	max	1.32	3	.248	14	.254	13	.791	14	2.874	3	.886	7	.737	13
		min	-.361	14	-.881	3	-.195	7	-2.874	3	-.791	14	-.737	13	-.886	7
	2	max	1.32	3	.248	14	.254	13	.959	14	3.473	3	.753	7	.565	13
		min	-.361	14	-.881	3	-.195	7	-3.473	3	-.959	14	-.565	13	-.753	7
	3	max	1.319	3	.248	14	.254	13	1.128	14	4.071	3	.621	7	.393	13
		min	-.361	14	-.881	3	-.195	7	-4.071	3	-1.128	14	-.393	13	-.621	7
	4	max	1.318	3	.248	14	.254	13	1.296	14	4.669	3	.488	7	.221	13
		min	-.361	14	-.881	3	-.195	7	-4.669	3	-1.296	14	-.221	13	-.488	7
	5	max	1.317	3	.248	14	.254	13	1.465	14	5.268	3	.409	3	.117	14
		min	-.361	14	-.881	3	-.195	7	-5.268	3	-1.465	14	-.117	14	-.409	3
M117	1	max	1.313	3	.881	3	.256	13	2.38	2	.629	14	.152	7	.647	13
		min	-.359	14	-.248	14	-.187	7	-.629	14	-2.38	2	-.647	13	-.152	7
	2	max	1.312	3	.881	3	.256	13	2.918	3	.797	14	.121	14	.473	13
		min	-.359	14	-.248	14	-.187	7	-.797	14	-2.918	3	-.473	13	-.121	14
	3	max	1.311	3	.881	3	.256	13	3.516	3	.966	14	.12	14	.418	3
		min	-.359	14	-.248	14	-.187	7	-.966	14	-3.516	3	-.418	3	-.12	14
	4	max	1.311	3	.881	3	.256	13	4.115	3	1.134	14	.118	14	.413	3
		min	-.359	14	-.248	14	-.187	7	-1.134	14	-4.115	3	-.413	3	-.118	14
	5	max	1.31	3	.881	3	.256	13	4.713	3	1.303	14	.117	14	.409	3
		min	-.359	14	-.248	14	-.187	7	-1.303	14	-4.713	3	-.409	3	-.117	14
M118	1	max	.238	14	.085	3	.068	6	.145	12	.304	3	.073	13	.176	7
		min	-.487	3	-.024	12	-.016	14	-.304	3	-.145	12	-.176	7	-.073	13
	2	max	.238	14	.067	3	.068	6	.106	5	.052	2	.129	12	.04	14
		min	-.487	3	-.024	12	-.016	14	-.052	2	-.106	5	-.04	14	-.129	12
	3	max	.238	14	.048	3	.068	6	.248	3	.057	12	.363	6	.096	14
		min	-.487	3	-.024	12	-.016	14	-.057	12	-.248	3	-.096	14	-.363	6
	4	max	.238	14	.04	2	.068	6	.409	3	.158	12	.603	6	.152	14
		min	-.487	3	-.035	5	-.016	14	-.158	12	-.409	3	-.152	14	-.603	6
	5	max	.238	14	.04	2	.068	6	.494	3	.259	12	.842	6	.208	14
		min	-.487	3	-.053	5	-.016	14	-.259	12	-.494	3	-.208	14	-.842	6
M119	1	max	.477	5	.033	1	.058	3	.188	12	.095	14	.178	14	.403	6
		min	-.032	2	-.029	12	-.066	12	-.095	14	-.188	12	-.403	6	-.178	14
	2	max	.477	5	.013	14	.058	3	.11	5	.033	14	.074	14	.459	5
		min	-.032	2	-.029	12	-.066	12	-.033	14	-.11	5	-.459	5	-.074	14
	3	max	.477	5	.013	14	.058	3	.063	1	.085	12	.194	7	.75	12
		min	-.032	2	-.041	6	-.066	12	-.085	12	-.063	1	-.75	12	-.194	7
	4	max	.477	5	.013	14	.058	3	.092	14	.28	6	.417	3	1.055	12
		min	-.032	2	-.062	6	-.066	12	-.28	6	-.092	14	-1.055	12	-.417	3

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	.477	5	.013	14	.058	3	.154	14	.619	6	.685	3	1.36	12
		min	-.032	2	-.084	6	-.066	12	-.619	6	-.154	14	-1.36	12	-.685	3
M120	1	max	.194	14	.648	5	.037	14	.643	3	.478	12	.181	14	.809	6
		min	-.462	6	-.083	14	-.081	3	-.478	12	-.643	3	-.809	6	-.181	14
	2	max	.194	14	.638	5	.037	14	1.16	6	.299	14	.246	14	.941	6
		min	-.462	6	-.083	14	-.081	3	-.299	14	-1.16	6	-.941	6	-.246	14
	3	max	.194	14	.629	5	.037	14	2.232	5	.47	14	.311	14	1.074	6
		min	-.462	6	-.083	14	-.081	3	-.47	14	-2.232	5	-1.074	6	-.311	14
	4	max	.194	14	.622	12	.037	14	3.52	5	.641	14	.376	14	1.207	6
		min	-.462	6	-.083	14	-.081	3	-.641	14	-3.52	5	-1.207	6	-.376	14
	5	max	.194	14	.622	12	.037	14	4.789	5	.812	14	.441	14	1.339	6
		min	-.462	6	-.083	14	-.081	3	-.812	14	-4.789	5	-1.339	6	-.441	14
M121	1	max	8.255	3	.561	5	.614	7	9.067	12	.614	7	7.562	13	3.287	7
		min	-2.281	14	-.036	14	-.507	13	-.614	7	-9.067	12	-3.287	7	-7.562	13
	2	max	8.251	3	.552	5	.614	7	10.144	12	.56	7	6.563	13	2.077	7
		min	-2.281	14	-.036	14	-.507	13	-.56	7	-10.144	12	-2.077	7	-6.563	13
	3	max	8.247	3	.542	5	.614	7	11.201	12	.506	7	5.564	13	1.067	14
		min	-2.281	14	-.036	14	-.507	13	-.506	7	-11.201	12	-1.067	14	-5.564	13
	4	max	8.243	3	.532	5	.614	7	12.239	12	.451	7	4.828	3	1.532	14
		min	-2.281	14	-.036	14	-.507	13	-.451	7	-12.239	12	-1.532	14	-4.828	3
	5	max	8.239	3	.523	5	.614	7	13.258	12	.397	7	5.403	3	1.996	14
		min	-2.281	14	-.036	14	-.507	13	-.397	7	-13.258	12	-1.996	14	-5.403	3
M122	1	max	.243	14	.085	3	.016	14	.163	12	.285	3	.159	3	.082	12
		min	-.506	3	-.027	12	-.061	6	-.285	3	-.163	12	-.082	12	-.159	3
	2	max	.243	14	.067	3	.016	14	.114	5	.05	13	.055	13	.172	12
		min	-.506	3	-.027	12	-.061	6	-.05	13	-.114	5	-.172	12	-.055	13
	3	max	.243	14	.048	3	.016	14	.265	3	.057	12	.092	14	.364	6
		min	-.506	3	-.027	12	-.061	6	-.057	12	-.265	3	-.364	6	-.092	14
	4	max	.243	14	.04	2	.016	14	.425	3	.167	12	.147	14	.579	6
		min	-.506	3	-.037	5	-.061	6	-.167	12	-.425	3	-.579	6	-.147	14
	5	max	.243	14	.04	2	.016	14	.508	3	.278	12	.203	14	.795	6
		min	-.506	3	-.056	5	-.061	6	-.278	12	-.508	3	-.795	6	-.203	14
M123	1	max	8.109	3	.297	5	1.49	7	6.72	5	.106	14	9.816	13	7.615	7
		min	-2.296	14	-.012	7	-1.387	13	-.106	14	-6.72	5	-7.615	7	-9.816	13
	2	max	8.105	3	.297	5	1.49	7	7.306	5	.106	14	7.082	13	4.679	7
		min	-2.296	14	-.012	7	-1.387	13	-.106	14	-7.306	5	-4.679	7	-7.082	13
	3	max	8.101	3	.297	5	1.49	7	7.892	5	.108	7	4.348	13	1.743	7
		min	-2.296	14	-.012	7	-1.387	13	-.108	7	-7.892	5	-1.743	7	-4.348	13
	4	max	8.097	3	.297	5	1.49	7	8.478	5	.131	7	3.074	3	.991	14
		min	-2.296	14	-.012	7	-1.387	13	-.131	7	-8.478	5	-.991	14	-3.074	3
	5	max	8.093	3	.297	5	1.49	7	9.064	5	.154	7	4.187	3	1.515	14
		min	-2.296	14	-.012	7	-1.387	13	-.154	7	-9.064	5	-1.515	14	-4.187	3
M124	1	max	8.099	3	.274	5	.585	7	6.192	5	.244	13	9.707	13	7.076	7
		min	-2.285	14	-.014	13	-1.37	13	-.244	13	-6.192	5	-7.076	7	-9.707	13
	2	max	8.095	3	.274	5	.585	7	6.732	5	.271	13	7.007	13	5.924	7

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-2.285	14	-.014	13	-1.37	13	-.271	13	-6.732	5	-5.924	7	-7.007	13
	3	max	8.091	3	.274	5	.585	7	7.271	5	.298	13	4.307	13	4.772	7
		min	-2.285	14	-.014	13	-1.37	13	-.298	13	-7.271	5	-4.772	7	-4.307	13
	4	max	8.087	3	.274	5	.585	7	7.811	5	.325	13	1.607	13	3.62	7
		min	-2.285	14	-.014	13	-1.37	13	-.325	13	-7.811	5	-3.62	7	-1.607	13
	5	max	8.083	3	.274	5	.585	7	8.35	5	.352	13	1.51	14	4.185	3
		min	-2.285	14	-.014	13	-1.37	13	-.352	13	-8.35	5	-4.185	3	-1.51	14
M125	1	max	11.166	3	.381	3	.254	14	8.202	6	1.468	14	2.892	14	12.558	3
		min	-3.032	14	-.395	12	-1.137	3	-1.468	14	-8.202	6	-12.558	3	-2.892	14
	2	max	11.166	3	.381	3	.254	14	8.202	6	1.474	14	2.904	14	12.61	3
		min	-3.032	14	-.395	12	-1.137	3	-1.474	14	-8.202	6	-12.61	3	-2.904	14
	3	max	11.166	3	.381	3	.254	14	8.202	6	1.479	14	2.915	14	12.662	3
		min	-3.032	14	-.395	12	-1.137	3	-1.479	14	-8.202	6	-12.662	3	-2.915	14
	4	max	11.166	3	.381	3	.254	14	8.202	6	1.485	14	2.927	14	12.714	3
		min	-3.032	14	-.395	12	-1.137	3	-1.485	14	-8.202	6	-12.714	3	-2.927	14
	5	max	11.166	3	.381	3	.254	14	8.203	6	1.49	14	2.939	14	12.766	3
		min	-3.032	14	-.395	12	-1.137	3	-1.49	14	-8.203	6	-12.766	3	-2.939	14
M126	1	max	11.157	3	.383	3	1.14	3	8.515	6	1.479	14	12.651	3	2.906	14
		min	-3.032	14	-.436	12	-.253	14	-1.479	14	-8.515	6	-2.906	14	-12.651	3
	2	max	11.157	3	.383	3	1.14	3	8.513	6	1.484	14	12.703	3	2.917	14
		min	-3.032	14	-.436	12	-.253	14	-1.484	14	-8.513	6	-2.917	14	-12.703	3
	3	max	11.157	3	.383	3	1.14	3	8.512	6	1.49	14	12.755	3	2.929	14
		min	-3.032	14	-.436	12	-.253	14	-1.49	14	-8.512	6	-2.929	14	-12.755	3
	4	max	11.157	3	.383	3	1.14	3	8.511	6	1.495	14	12.807	3	2.941	14
		min	-3.032	14	-.436	12	-.253	14	-1.495	14	-8.511	6	-2.941	14	-12.807	3
	5	max	11.157	3	.383	3	1.14	3	8.51	6	1.501	14	12.86	3	2.952	14
		min	-3.032	14	-.436	12	-.253	14	-1.501	14	-8.51	6	-2.952	14	-12.86	3
M127	1	max	.883	14	.016	14	.04	12	.414	14	1.491	3	1.215	3	.886	12
		min	-4.236	3	-.106	3	-.064	3	-1.491	3	-.414	14	-.886	12	-1.215	3
	2	max	.883	14	.016	14	.04	12	.484	14	1.911	3	.978	3	.738	12
		min	-4.236	3	-.087	3	-.064	3	-1.911	3	-.484	14	-.738	12	-.978	3
	3	max	.883	14	.016	14	.04	12	.554	14	2.246	3	.741	3	.59	12
		min	-4.236	3	-.067	3	-.064	3	-2.246	3	-.554	14	-.59	12	-.741	3
	4	max	.883	14	.016	14	.04	12	.624	14	2.496	3	.505	3	.442	12
		min	-4.236	3	-.058	2	-.064	3	-2.496	3	-.624	14	-.442	12	-.505	3
	5	max	.883	14	.03	1	.04	12	.694	14	2.662	3	.287	7	.294	12
		min	-4.236	3	-.058	2	-.064	3	-2.662	3	-.694	14	-.294	12	-.287	7
M128	1	max	5.935	3	.495	14	.042	7	3.848	3	1.101	14	.087	13	.262	5
		min	-1.346	14	-1.829	3	-.149	12	-1.101	14	-3.848	3	-.262	5	-.087	13
	2	max	5.934	3	.495	14	.042	7	2.04	3	.611	14	.068	13	.387	12
		min	-1.346	14	-1.824	3	-.149	12	-.611	14	-2.04	3	-.387	12	-.068	13
	3	max	5.934	3	.495	14	.042	7	.284	2	.121	14	.049	13	.513	12
		min	-1.346	14	-1.82	3	-.149	12	-.121	14	-.284	2	-.513	12	-.049	13
	4	max	5.934	3	.495	14	.042	7	.369	14	1.564	3	.066	3	.639	12
		min	-1.346	14	-1.815	3	-.149	12	-1.564	3	-.369	14	-.639	12	-.066	3

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	5.934	3	.495	14	.042	7	.858	14	3.359	3	.093	3	.765	12
		min	-1.346	14	-1.811	3	-.149	12	-3.359	3	-.858	14	-.765	12	-.093	3
M129	1	max	.88	14	.058	2	.065	3	.694	14	2.661	3	.248	3	.291	12
		min	-4.23	3	-.03	1	-.041	12	-2.661	3	-.694	14	-.291	12	-.248	3
	2	max	.88	14	.058	2	.065	3	.624	14	2.496	3	.489	3	.443	12
		min	-4.23	3	-.016	14	-.041	12	-2.496	3	-.624	14	-.443	12	-.489	3
	3	max	.88	14	.067	3	.065	3	.555	14	2.247	3	.731	3	.594	12
		min	-4.23	3	-.016	14	-.041	12	-2.247	3	-.555	14	-.594	12	-.731	3
	4	max	.88	14	.087	3	.065	3	.485	14	1.914	3	.972	3	.746	12
		min	-4.23	3	-.016	14	-.041	12	-1.914	3	-.485	14	-.746	12	-.972	3
	5	max	.88	14	.106	3	.065	3	.415	14	1.496	3	1.214	3	.897	12
		min	-4.23	3	-.016	14	-.041	12	-1.496	3	-.415	14	-.897	12	-1.214	3
M130	1	max	4.244	3	.654	14	.208	2	10.028	3	2.842	14	.483	12	.635	3
		min	-.871	14	-2.399	3	-.074	14	-2.842	14	-10.028	3	-.635	3	-.483	12
	2	max	4.243	3	.654	14	.208	2	8.357	3	2.386	14	.485	12	.54	7
		min	-.871	14	-2.396	3	-.074	14	-2.386	14	-8.357	3	-.54	7	-.485	12
	3	max	4.243	3	.654	14	.208	2	6.689	3	1.931	14	.488	12	.45	7
		min	-.871	14	-2.393	3	-.074	14	-1.931	14	-6.689	3	-.45	7	-.488	12
	4	max	4.243	3	.654	14	.208	2	5.023	3	1.475	14	.49	12	.36	7
		min	-.871	14	-2.39	3	-.074	14	-1.475	14	-5.023	3	-.36	7	-.49	12
	5	max	4.243	3	.654	14	.208	2	3.359	3	1.02	14	.492	12	.27	7
		min	-.871	14	-2.386	3	-.074	14	-1.02	14	-3.359	3	-.27	7	-.492	12
M131	1	max	1.048	3	.17	14	.083	3	6.78	3	1.886	14	1.644	12	.983	3
		min	-.526	14	-.663	3	-.136	12	-1.886	14	-6.78	3	-.983	3	-1.644	12
	2	max	1.048	3	.17	14	.083	3	3.979	3	1.157	14	1.148	12	.68	3
		min	-.526	14	-.644	3	-.136	12	-1.157	14	-3.979	3	-.68	3	-1.148	12
	3	max	1.048	3	.17	14	.083	3	1.261	3	.429	14	.652	12	.415	7
		min	-.526	14	-.625	3	-.136	12	-.429	14	-1.261	3	-.415	7	-.652	12
	4	max	1.048	3	.17	14	.083	3	.3	14	1.375	3	.156	12	.154	7
		min	-.526	14	-.606	3	-.136	12	-1.375	3	-.3	14	-.154	7	-.156	12
	5	max	1.048	3	.17	14	.083	3	1.029	14	3.928	3	.232	3	.339	12
		min	-.526	14	-.587	3	-.136	12	-3.928	3	-1.029	14	-.339	12	-.232	3
M132	1	max	4.069	3	.452	14	.066	12	2.447	3	.707	14	.031	14	.387	5
		min	-.826	14	-1.682	3	-.007	7	-.707	14	-2.447	3	-.387	5	-.031	14
	2	max	4.07	3	.452	14	.066	12	1.493	3	.45	14	.032	14	.36	6
		min	-.826	14	-1.679	3	-.007	7	-.45	14	-1.493	3	-.36	6	-.032	14
	3	max	4.07	3	.452	14	.066	12	.539	3	.193	14	.033	14	.337	6
		min	-.826	14	-1.677	3	-.007	7	-.193	14	-.539	3	-.337	6	-.033	14
	4	max	4.07	3	.452	14	.066	12	.064	14	.413	3	.034	14	.315	6
		min	-.826	14	-1.674	3	-.007	7	-.413	3	-.064	14	-.315	6	-.034	14
	5	max	4.07	3	.452	14	.066	12	.321	14	1.363	3	.036	14	.293	6
		min	-.826	14	-1.672	3	-.007	7	-1.363	3	-.321	14	-.293	6	-.036	14
M133	1	max	1.48	7	.586	3	.13	12	1.028	14	3.93	3	.252	7	.323	12
		min	-.856	13	-.169	14	-.083	3	-3.93	3	-1.028	14	-.323	12	-.252	7
	2	max	1.48	7	.605	3	.13	12	.303	14	1.38	3	.15	12	.129	13

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-.856	13	-.169	14	-.083	3	-1.38	3	-.303	14	-.129	13	-.15	12
	3	max	1.48	7	.624	3	.13	12	1.253	3	.423	14	.624	12	.355	3
		min	-.856	13	-.169	14	-.083	3	-.423	14	-1.253	3	-.355	3	-.624	12
	4	max	1.48	7	.644	3	.13	12	3.969	3	1.149	14	1.097	12	.657	3
		min	-.856	13	-.169	14	-.083	3	-1.149	14	-3.969	3	-.657	3	-1.097	12
	5	max	1.48	7	.663	3	.13	12	6.766	3	1.875	14	1.571	12	.959	3
		min	-.856	13	-.169	14	-.083	3	-1.875	14	-6.766	3	-.959	3	-1.571	12
M134	1	max	.711	13	.67	14	.234	12	7.442	3	2.247	14	.34	14	1.068	3
		min	-1.56	7	-2.161	3	-.448	3	-2.247	14	-7.442	3	-1.068	3	-.34	14
	2	max	.711	13	.67	14	.234	12	7.409	3	2.237	14	.342	14	1.073	3
		min	-1.56	7	-2.161	3	-.448	3	-2.237	14	-7.409	3	-1.073	3	-.342	14
	3	max	.711	13	.67	14	.234	12	7.377	3	2.227	14	.344	14	1.079	3
		min	-1.56	7	-2.161	3	-.448	3	-2.227	14	-7.377	3	-1.079	3	-.344	14
	4	max	.711	13	.67	14	.234	12	7.345	3	2.217	14	.346	14	1.085	3
		min	-1.56	7	-2.161	3	-.448	3	-2.217	14	-7.345	3	-1.085	3	-.346	14
	5	max	.711	13	.67	14	.234	12	7.312	3	2.207	14	.348	14	1.091	3
		min	-1.56	7	-2.161	3	-.448	3	-2.207	14	-7.312	3	-1.091	3	-.348	14
M135	1	max	.646	7	.22	13	.148	3	2.792	7	1.349	13	2.101	12	.706	3
		min	-.823	13	-.191	7	-.441	12	-1.349	13	-2.792	7	-.706	3	-2.101	12
	2	max	.646	7	.22	13	.148	3	2.373	7	.855	13	1.253	12	.422	3
		min	-.823	13	-.181	7	-.441	12	-.855	13	-2.373	7	-.422	3	-1.253	12
	3	max	.646	7	.22	13	.148	3	2.186	3	1.012	14	.45	5	.181	13
		min	-.823	13	-.171	7	-.441	12	-1.012	14	-2.186	3	-.181	13	-.45	5
	4	max	.646	7	.22	13	.148	3	2.183	3	1.269	14	.258	7	.442	12
		min	-.823	13	-.161	7	-.441	12	-1.269	14	-2.183	3	-.442	12	-.258	7
	5	max	.646	7	.22	13	.148	3	2.204	3	1.526	14	.472	7	1.29	12
		min	-.823	13	-.151	7	-.441	12	-1.526	14	-2.204	3	-1.29	12	-.472	7
M136	1	max	2.425	14	.014	14	.068	3	.523	14	1.869	3	.411	14	2.214	6
		min	-9.505	3	-.1	3	-.018	14	-1.869	3	-.523	14	-2.214	6	-.411	14
	2	max	2.425	14	.014	14	.071	6	.585	14	2.26	3	.343	14	1.983	6
		min	-9.505	3	-.08	3	-.018	14	-2.26	3	-.585	14	-1.983	6	-.343	14
	3	max	2.425	14	.014	14	.089	6	.648	14	2.567	3	.275	14	1.685	6
		min	-9.505	3	-.061	3	-.018	14	-2.567	3	-.648	14	-1.685	6	-.275	14
	4	max	2.425	14	.014	14	.107	6	.711	14	2.79	3	.207	14	1.32	6
		min	-9.505	3	-.053	2	-.018	14	-2.79	3	-.711	14	-1.32	6	-.207	14
	5	max	2.425	14	.031	5	.125	6	.773	14	2.928	3	.139	14	.889	6
		min	-9.505	3	-.053	2	-.018	14	-2.928	3	-.773	14	-.889	6	-.139	14
M137	1	max	10.639	3	.473	14	.025	12	2.828	3	.804	14	.087	13	.865	5
		min	-2.715	14	-1.754	3	-.026	3	-.804	14	-2.828	3	-.865	5	-.087	13
	2	max	10.639	3	.473	14	.03	12	1.096	2	.336	14	.07	13	.844	5
		min	-2.715	14	-1.75	3	-.026	3	-.336	14	-1.096	2	-.844	5	-.07	13
	3	max	10.639	3	.473	14	.036	12	.133	14	.638	3	.053	13	.818	5
		min	-2.715	14	-1.746	3	-.026	3	-.638	3	-.133	14	-.818	5	-.053	13
	4	max	10.639	3	.473	14	.041	12	.601	14	2.364	3	.035	13	.788	5
		min	-2.715	14	-1.741	3	-.026	3	-2.364	3	-.601	14	-.788	5	-.035	13

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	10.639	3	.473	14	.047	12	1.069	14	4.086	3	.028	14	.753	5
		min	-2.715	14	-1.737	3	-.026	3	-4.086	3	-1.069	14	-.753	5	-.028	14
M138	1	max	2.428	14	.053	2	.018	14	.776	14	2.933	3	.139	14	.905	6
		min	-9.51	3	-.031	5	-.124	6	-2.933	3	-.776	14	-.905	6	-.139	14
	2	max	2.428	14	.053	2	.018	14	.713	14	2.795	3	.207	14	1.332	6
		min	-9.51	3	-.015	14	-.106	6	-2.795	3	-.713	14	-1.332	6	-.207	14
	3	max	2.428	14	.061	3	.018	14	.65	14	2.571	3	.275	14	1.692	6
		min	-9.51	3	-.015	14	-.088	6	-2.571	3	-.65	14	-1.692	6	-.275	14
	4	max	2.428	14	.081	3	.018	14	.586	14	2.263	3	.343	14	1.986	6
		min	-9.51	3	-.015	14	-.07	6	-2.263	3	-.586	14	-1.986	6	-.343	14
	5	max	2.428	14	.1	3	.018	14	.523	14	1.871	3	.411	14	2.213	6
		min	-9.51	3	-.015	14	-.068	3	-1.871	3	-.523	14	-2.213	6	-.411	14
M139	1	max	9.666	3	.584	14	.062	14	6.466	3	1.793	14	.918	6	.12	14
		min	-2.45	14	-2.162	3	-.347	6	-1.793	14	-6.466	3	-.12	14	-.918	6
	2	max	9.665	3	.584	14	.062	14	4.96	3	1.386	14	.733	12	.083	14
		min	-2.45	14	-2.159	3	-.344	6	-1.386	14	-4.96	3	-.083	14	-.733	12
	3	max	9.665	3	.584	14	.062	14	3.457	3	.979	14	.551	12	.057	7
		min	-2.45	14	-2.156	3	-.341	6	-.979	14	-3.457	3	-.057	7	-.551	12
	4	max	9.665	3	.584	14	.062	14	1.956	3	.572	14	.371	12	.113	7
		min	-2.45	14	-2.153	3	-.338	6	-.572	14	-1.956	3	-.113	7	-.371	12
	5	max	9.665	3	.584	14	.062	14	.457	3	.166	14	.201	5	.17	7
		min	-2.45	14	-2.15	3	-.335	6	-.166	14	-.457	3	-.17	7	-.201	5
M140	1	max	1.179	14	.068	14	.03	14	1.023	3	.213	14	1.688	6	.284	14
		min	-4.763	3	-.313	3	-.221	6	-.213	14	-1.023	3	-.284	14	-1.688	6
	2	max	1.179	14	.068	14	.03	14	.08	14	.276	3	.913	6	.175	14
		min	-4.763	3	-.294	3	-.203	6	-.276	3	-.08	14	-.175	14	-.913	6
	3	max	1.179	14	.068	14	.03	14	.373	14	1.493	3	.297	3	.066	14
		min	-4.763	3	-.274	3	-.185	6	-1.493	3	-.373	14	-.066	14	-.297	3
	4	max	1.179	14	.068	14	.03	14	.666	14	2.627	3	.108	13	.474	5
		min	-4.763	3	-.255	3	-.168	6	-2.627	3	-.666	14	-.474	5	-.108	13
	5	max	1.179	14	.068	14	.03	14	.958	14	3.679	3	.151	14	1.024	6
		min	-4.763	3	-.237	2	-.15	6	-3.679	3	-.958	14	-1.024	6	-.151	14
M141	1	max	9.476	3	.463	14	.165	12	1.701	3	.489	14	.22	7	.618	12
		min	-2.397	14	-1.718	3	-.045	13	-.489	14	-1.701	3	-.618	12	-.22	7
	2	max	9.476	3	.463	14	.168	12	.746	2	.226	14	.225	7	.537	12
		min	-2.397	14	-1.715	3	-.045	13	-.226	14	-.746	2	-.537	12	-.225	7
	3	max	9.476	3	.463	14	.171	12	.056	13	.258	7	.231	7	.455	12
		min	-2.397	14	-1.713	3	-.045	13	-.258	7	-.056	13	-.455	12	-.231	7
	4	max	9.476	3	.463	14	.174	12	.3	14	1.22	3	.237	7	.371	12
		min	-2.397	14	-1.71	3	-.045	13	-1.22	3	-.3	14	-.371	12	-.237	7
	5	max	9.477	3	.463	14	.177	12	.563	14	2.191	3	.242	7	.286	12
		min	-2.397	14	-1.708	3	-.045	13	-2.191	3	-.563	14	-.286	12	-.242	7
M142	1	max	1.168	14	.236	2	.151	6	.956	14	3.676	3	.15	14	1.007	6
		min	-4.744	3	-.068	14	-.03	14	-3.676	3	-.956	14	-1.007	6	-.15	14
	2	max	1.168	14	.254	3	.169	6	.666	14	2.628	3	.041	14	.442	5

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-4.744	3	-.068	14	-.03	14	-2.628	3	-.666	14	-.442	5	-.041	14
	3	max	1.168	14	.274	3	.187	6	.375	14	1.497	3	.328	7	.131	13
		min	-4.744	3	-.068	14	-.03	14	-1.497	3	-.375	14	-.131	13	-.328	7
	4	max	1.168	14	.293	3	.204	6	.085	14	.285	7	.944	6	.178	14
		min	-4.744	3	-.068	14	-.03	14	-.285	7	-.085	14	-.178	14	-.944	6
	5	max	1.168	14	.312	3	.222	6	1.011	3	.206	14	1.724	6	.287	14
		min	-4.744	3	-.068	14	-.03	14	-.206	14	-1.011	3	-.287	14	-1.724	6
M143	1	max	4.152	3	.295	3	.511	6	.511	7	.363	13	2.172	6	.386	14
		min	-.993	14	-.047	14	-.09	14	-.363	13	-.511	7	-.386	14	-2.172	6
	2	max	4.152	3	.295	3	.511	6	.512	7	.361	13	2.179	6	.387	14
		min	-.993	14	-.047	14	-.09	14	-.361	13	-.512	7	-.387	14	-2.179	6
	3	max	4.152	3	.295	3	.512	6	.514	7	.359	13	2.185	6	.388	14
		min	-.993	14	-.047	14	-.09	14	-.359	13	-.514	7	-.388	14	-2.185	6
	4	max	4.152	3	.295	3	.512	6	.515	7	.356	13	2.192	6	.389	14
		min	-.993	14	-.047	14	-.09	14	-.356	13	-.515	7	-.389	14	-2.192	6
	5	max	4.152	3	.295	3	.512	6	.517	7	.354	13	2.198	6	.39	14
		min	-.993	14	-.047	14	-.09	14	-.354	13	-.517	7	-.39	14	-2.198	6
M144	1	max	.319	7	1.919	7	.212	6	1.48	14	5.252	3	.836	6	.127	13
		min	-.489	13	-.671	13	-.024	13	-5.252	3	-1.48	14	-.127	13	-.836	6
	2	max	.319	7	1.929	7	.221	6	.184	14	1.14	3	1.252	6	.173	13
		min	-.489	13	-.671	13	-.024	13	-1.14	3	-.184	14	-.173	13	-1.252	6
	3	max	.319	7	1.939	7	.231	6	4.029	7	2.257	13	1.686	6	.219	13
		min	-.489	13	-.671	13	-.024	13	-2.257	13	-4.029	7	-.219	13	-1.686	6
	4	max	.319	7	1.949	7	.24	6	8.403	7	3.767	13	2.137	6	.266	13
		min	-.489	13	-.671	13	-.024	13	-3.767	13	-8.403	7	-.266	13	-2.137	6
	5	max	.319	7	1.959	7	.249	6	12.8	7	5.277	13	2.607	6	.312	13
		min	-.489	13	-.671	13	-.024	13	-5.277	13	-12.8	7	-.312	13	-2.607	6
M145	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.031	3	0	1	.043	3	.031	14	0	1	0	1
		min	0	1	-.022	14	0	1	-.031	14	-.043	3	0	1	0	1
	3	max	0	1	.062	3	0	1	.173	3	.123	14	0	1	0	1
		min	0	1	-.044	14	0	1	-.123	14	-.173	3	0	1	0	1
	4	max	0	1	.094	3	0	1	.389	3	.276	14	0	1	0	1
		min	0	1	-.066	14	0	1	-.276	14	-.389	3	0	1	0	1
	5	max	0	1	.125	3	0	1	.692	3	.49	14	0	1	0	1
		min	0	1	-.089	14	0	1	-.49	14	-.692	3	0	1	0	1
M146	1	max	.044	14	.293	14	.006	3	4.015	3	2.848	14	.083	14	.226	3
		min	-.135	6	-.422	3	-.001	14	-2.848	14	-4.015	3	-.226	3	-.083	14
	2	max	.044	14	.151	14	.006	3	1.094	14	2.025	6	.066	14	.151	3
		min	-.135	6	-.221	3	-.001	14	-2.025	6	-1.094	14	-.151	3	-.066	14
	3	max	.044	14	.026	12	.006	3	2.514	14	3.855	3	.049	14	.076	3
		min	-.135	6	-.029	7	-.001	14	-3.855	3	-2.514	14	-.076	3	-.049	14
	4	max	.044	14	.179	3	.006	3	1.413	14	2.454	3	.055	13	.043	7
		min	-.135	6	-.133	14	-.001	14	-2.454	3	-1.413	14	-.043	7	-.055	13

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	.044	14	.379	3	.006	3	2.505	3	2.211	14	.111	13	.027	7
		min	-.135	6	-.275	14	-.001	14	-2.211	14	-2.505	3	-.027	7	-.111	13
M147	1	max	0	1	.154	3	0	1	.746	14	1.052	3	0	1	0	1
		min	0	1	-.109	14	0	1	-1.052	3	-.746	14	0	1	0	1
	2	max	0	1	.115	3	0	1	.42	14	.592	3	0	1	0	1
		min	0	1	-.082	14	0	1	-.592	3	-.42	14	0	1	0	1
	3	max	0	1	.077	3	0	1	.186	14	.263	3	0	1	0	1
		min	0	1	-.055	14	0	1	-.263	3	-.186	14	0	1	0	1
	4	max	0	1	.038	3	0	1	.047	14	.066	3	0	1	0	1
		min	0	1	-.027	14	0	1	-.066	3	-.047	14	0	1	0	1
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M148	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.035	3	0	1	.054	3	.038	14	0	1	0	1
		min	0	1	-.025	14	0	1	-.038	14	-.054	3	0	1	0	1
	3	max	0	1	.07	3	0	1	.216	3	.153	14	0	1	0	1
		min	0	1	-.049	14	0	1	-.153	14	-.216	3	0	1	0	1
	4	max	0	1	.105	3	0	1	.485	3	.344	14	0	1	0	1
		min	0	1	-.074	14	0	1	-.344	14	-.485	3	0	1	0	1
	5	max	0	1	.139	3	0	1	.863	3	.611	14	0	1	0	1
		min	0	1	-.099	14	0	1	-.611	14	-.863	3	0	1	0	1
M149	1	max	.048	14	.295	14	.005	13	4.091	3	2.895	14	.263	7	.11	13
		min	-.132	6	-.425	3	-.008	7	-2.895	14	-4.091	3	-.11	13	-.263	7
	2	max	.048	14	.153	14	.005	13	1.086	14	1.946	6	.162	7	.068	14
		min	-.132	6	-.225	3	-.008	7	-1.946	6	-1.086	14	-.068	14	-.162	7
	3	max	.048	14	.023	12	.005	13	2.545	14	3.91	3	.076	3	.049	14
		min	-.132	6	-.025	3	-.008	7	-3.91	3	-2.545	14	-.049	14	-.076	3
	4	max	.048	14	.175	3	.005	13	1.483	14	2.575	3	.054	13	.042	7
		min	-.132	6	-.131	14	-.008	7	-2.575	3	-1.483	14	-.042	7	-.054	13
	5	max	.048	14	.376	3	.005	13	2.318	3	2.102	14	.109	13	.144	7
		min	-.132	6	-.273	14	-.008	7	-2.102	14	-2.318	3	-.144	7	-.109	13
M150	1	max	0	1	.099	14	0	1	.863	3	.611	14	0	1	0	1
		min	0	1	-.139	3	0	1	-.611	14	-.863	3	0	1	0	1
	2	max	0	1	.074	14	0	1	.485	3	.344	14	0	1	0	1
		min	0	1	-.105	3	0	1	-.344	14	-.485	3	0	1	0	1
	3	max	0	1	.049	14	0	1	.216	3	.153	14	0	1	0	1
		min	0	1	-.07	3	0	1	-.153	14	-.216	3	0	1	0	1
	4	max	0	1	.025	14	0	1	.054	3	.038	14	0	1	0	1
		min	0	1	-.035	3	0	1	-.038	14	-.054	3	0	1	0	1
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M151	1	max	.345	6	.283	14	.004	13	4.215	3	3.084	14	.375	6	.096	14
		min	-.181	14	-.399	3	-.008	6	-3.084	14	-4.215	3	-.096	14	-.375	6
	2	max	.345	6	.141	14	.004	13	.687	14	1.427	6	.276	6	.078	14

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-.181	14	-.199	3	-.008	6	-1.427	6	-.687	14	-.078	14	-.276	6
	3	max	.345	6	.032	5	.004	13	1.936	14	2.844	3	.176	6	.061	14
		min	-.181	14	0	13	-.008	6	-2.844	3	-1.936	14	-.061	14	-.176	6
	4	max	.345	6	.202	3	.004	13	.663	14	1.038	3	.077	6	.043	14
		min	-.181	14	-.143	14	-.008	6	-1.038	3	-.663	14	-.043	14	-.077	6
	5	max	.345	6	.402	3	.004	13	4.326	3	3.131	14	.092	13	.084	7
		min	-.181	14	-.285	14	-.008	6	-3.131	14	-4.326	3	-.084	7	-.092	13
M152	1	max	.401	6	.282	14	.007	6	4.213	3	3.087	14	.092	14	.347	6
		min	-.174	14	-.397	3	-.001	14	-3.087	14	-4.213	3	-.347	6	-.092	14
	2	max	.401	6	.14	14	.007	6	.669	14	1.459	6	.075	14	.265	6
		min	-.174	14	-.197	3	-.001	14	-1.459	6	-.669	14	-.265	6	-.075	14
	3	max	.401	6	.036	5	.007	6	1.902	14	2.786	3	.058	14	.183	6
		min	-.174	14	-.002	14	-.001	14	-2.786	3	-1.902	14	-.183	6	-.058	14
	4	max	.401	6	.203	3	.007	6	.614	14	.949	3	.046	13	.101	6
		min	-.174	14	-.143	14	-.001	14	-.949	3	-.614	14	-.101	6	-.046	13
	5	max	.401	6	.404	3	.007	6	4.445	3	3.196	14	.091	13	.051	7
		min	-.174	14	-.285	14	-.001	14	-3.196	14	-4.445	3	-.051	7	-.091	13
M153	1	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
	2	max	0	1	.048	14	.039	13	.147	14	.534	3	.08	13	.06	7
		min	0	1	-.176	3	-.029	7	-.534	3	-.147	14	-.06	7	-.08	13
	3	max	0	1	.097	14	.077	13	.586	14	2.138	3	.319	13	.239	7
		min	0	1	-.353	3	-.058	7	-2.138	3	-.586	14	-.239	7	-.319	13
	4	max	0	1	.145	14	.116	13	1.319	14	4.809	3	.718	13	.539	7
		min	0	1	-.529	3	-.087	7	-4.809	3	-1.319	14	-.539	7	-.718	13
	5	max	0	1	.194	14	.155	13	2.345	14	8.55	3	1.277	13	.957	7
		min	0	1	-.706	3	-.116	7	-8.55	3	-2.345	14	-.957	7	-1.277	13
M154	1	max	0	1	.706	3	.116	7	2.345	14	8.55	3	1.277	13	.957	7
		min	0	1	-.194	14	-.155	13	-8.55	3	-2.345	14	-.957	7	-1.277	13
	2	max	0	1	.529	3	.087	7	1.319	14	4.809	3	.718	13	.539	7
		min	0	1	-.145	14	-.116	13	-4.809	3	-1.319	14	-.539	7	-.718	13
	3	max	0	1	.353	3	.058	7	.586	14	2.138	3	.319	13	.239	7
		min	0	1	-.097	14	-.077	13	-2.138	3	-.586	14	-.239	7	-.319	13
	4	max	0	1	.176	3	.029	7	.147	14	.534	3	.08	13	.06	7
		min	0	1	-.048	14	-.039	13	-.534	3	-.147	14	-.06	7	-.08	13
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M155	1	max	.338	3	1.03	3	.164	7	3.172	14	11.542	3	1.82	13	1.168	7
		min	-.095	14	-.282	14	-.229	13	-11.542	3	-3.172	14	-1.168	7	-1.82	13
	2	max	.338	3	.513	3	.079	7	2.164	3	.585	14	.3	7	.26	13
		min	-.095	14	-.14	14	-.115	13	-.585	14	-2.164	3	-.26	13	-.3	7
	3	max	.338	3	.001	14	.02	12	6.674	3	1.82	14	.739	7	.966	13
		min	-.095	14	-.005	3	-.01	3	-1.82	14	-6.674	3	-.966	13	-.739	7
	4	max	.338	3	.143	14	.112	13	1.988	3	.534	14	.264	12	.3	13
		min	-.095	14	-.523	3	-.091	7	-.534	14	-1.988	3	-.3	13	-.264	12

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	.338	3	.285	14	.225	13	3.274	14	11.894	3	1.74	13	1.472	7
		min	-.095	14	-1.04	3	-.177	7	-11.894	3	-3.274	14	-1.472	7	-1.74	13
M156	1	max	2.138	13	.014	14	.323	7	5.908	5	.286	14	2.182	13	2.488	7
		min	-1.212	7	-.273	5	-.314	13	-.286	14	-5.908	5	-2.488	7	-2.182	13
	2	max	2.138	13	.014	14	.312	7	4.323	5	.206	14	.383	14	.647	7
		min	-1.208	7	-.273	5	-.314	13	-.206	14	-4.323	5	-.647	7	-.383	14
	3	max	2.138	13	.014	14	.3	7	2.738	5	.125	14	1.128	7	1.465	13
		min	-1.204	7	-.273	5	-.314	13	-.125	14	-2.738	5	-1.465	13	-1.128	7
	4	max	2.138	13	.014	14	.289	7	1.154	5	.045	14	2.838	7	3.289	13
		min	-1.2	7	-.273	5	-.314	13	-.045	14	-1.154	5	-3.289	13	-2.838	7
	5	max	2.138	13	.014	14	.278	7	.036	14	.442	12	4.482	7	5.113	13
		min	-1.196	7	-.273	5	-.314	13	-.442	12	-.036	14	-5.113	13	-4.482	7
M157	1	max	4.219	3	.896	3	.28	12	.356	14	1.288	3	.384	3	.091	13
		min	-1.01	14	-.216	14	-.266	3	-1.288	3	-.356	14	-.091	13	-.384	3
	2	max	4.219	3	.902	3	.288	12	.225	13	.195	7	.333	5	.059	13
		min	-1.01	14	-.216	14	-.266	3	-.195	7	-.225	13	-.059	13	-.333	5
	3	max	4.22	3	.909	3	.296	12	1.233	3	.247	14	.649	12	.251	3
		min	-1.01	14	-.216	14	-.266	3	-.247	14	-1.233	3	-.251	3	-.649	12
	4	max	4.22	3	.915	3	.304	12	2.507	3	.548	14	1.006	12	.568	3
		min	-1.01	14	-.216	14	-.266	3	-.548	14	-2.507	3	-.568	3	-1.006	12
	5	max	4.22	3	.921	3	.311	12	3.789	3	.85	14	1.373	12	.885	3
		min	-1.01	14	-.216	14	-.266	3	-.85	14	-3.789	3	-.885	3	-1.373	12
M158	1	max	9.664	3	2.098	3	.345	6	.826	7	.359	13	.276	5	.188	13
		min	-2.448	14	-.572	14	-.065	14	-.359	13	-.826	7	-.188	13	-.276	5
	2	max	9.665	3	2.101	3	.348	6	2.121	3	.623	14	.442	12	.2	13
		min	-2.448	14	-.572	14	-.065	14	-.623	14	-2.121	3	-.2	13	-.442	12
	3	max	9.665	3	2.104	3	.351	6	3.523	3	1.004	14	.618	12	.213	13
		min	-2.448	14	-.572	14	-.065	14	-1.004	14	-3.523	3	-.213	13	-.618	12
	4	max	9.665	3	2.107	3	.353	6	4.927	3	1.385	14	.796	12	.226	13
		min	-2.448	14	-.572	14	-.065	14	-1.385	14	-4.927	3	-.226	13	-.796	12
	5	max	9.665	3	2.11	3	.356	6	6.334	3	1.766	14	.976	12	.238	13
		min	-2.448	14	-.572	14	-.065	14	-1.766	14	-6.334	3	-.238	13	-.976	12
M159	1	max	9.594	3	.947	3	.096	5	1.333	14	5.107	3	.035	7	.1	6
		min	-2.429	14	-.26	14	-.022	13	-5.107	3	-1.333	14	-.1	6	-.035	7
	2	max	9.594	3	.954	3	.104	5	.935	14	3.651	3	.048	7	.125	13
		min	-2.429	14	-.26	14	-.022	13	-3.651	3	-.935	14	-.125	13	-.048	7
	3	max	9.594	3	.961	3	.112	5	.537	14	2.184	3	.183	5	.153	13
		min	-2.429	14	-.26	14	-.022	13	-2.184	3	-.537	14	-.153	13	-.183	5
	4	max	9.594	3	.968	3	.121	5	.139	14	.707	3	.336	5	.182	13
		min	-2.429	14	-.26	14	-.022	13	-.707	3	-.139	14	-.182	13	-.336	5
	5	max	9.595	3	.974	3	.129	5	.995	7	.521	13	.499	5	.211	13
		min	-2.429	14	-.26	14	-.022	13	-.521	13	-.995	7	-.211	13	-.499	5
M160	1	max	9.532	3	.123	14	.12	12	.568	14	2.21	3	.073	3	.533	12
		min	-2.412	14	-.481	3	-.032	13	-2.21	3	-.568	14	-.533	12	-.073	3
	2	max	9.532	3	.123	14	.128	12	.757	14	2.941	3	.079	7	.371	12

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-2.412	14	-.474	3	-.032	13	-2.941	3	-.757	14	-.371	12	-.079	7
	3	max	9.532	3	.123	14	.137	12	.945	14	3.663	3	.085	7	.198	5
		min	-2.412	14	-.467	3	-.032	13	-3.663	3	-.945	14	-.198	5	-.085	7
	4	max	9.533	3	.123	14	.145	12	1.134	14	4.373	3	.092	7	.15	13
		min	-2.412	14	-.46	3	-.032	13	-4.373	3	-1.134	14	-.15	13	-.092	7
	5	max	9.533	3	.123	14	.153	12	1.323	14	5.073	3	.182	12	.192	13
		min	-2.412	14	-.453	3	-.032	13	-5.073	3	-1.323	14	-.192	13	-.182	12
M161	1	max	10.642	3	1.719	3	.057	7	1.03	14	3.936	3	.06	13	.759	5
		min	-2.715	14	-.469	14	-.046	13	-3.936	3	-1.03	14	-.759	5	-.06	13
	2	max	10.643	3	1.724	3	.057	7	.578	14	2.276	3	.023	14	.787	5
		min	-2.715	14	-.469	14	-.046	13	-2.276	3	-.578	14	-.787	5	-.023	14
	3	max	10.643	3	1.728	3	.057	7	.125	14	.613	3	.017	14	.811	5
		min	-2.715	14	-.469	14	-.046	13	-.613	3	-.125	14	-.811	5	-.017	14
	4	max	10.643	3	1.732	3	.057	7	1.067	2	.327	14	.011	14	.83	5
		min	-2.715	14	-.469	14	-.046	13	-.327	14	-1.067	2	-.83	5	-.011	14
	5	max	10.643	3	1.736	3	.057	7	2.727	3	.779	14	.055	7	.845	5
		min	-2.715	14	-.469	14	-.046	13	-.779	14	-2.727	3	-.845	5	-.055	7
M162	1	max	10.575	3	.286	3	.106	7	1.537	14	5.763	3	.131	13	.895	6
		min	-2.697	14	-.083	14	-.059	13	-5.763	3	-1.537	14	-.895	6	-.131	13
	2	max	10.576	3	.293	3	.106	7	1.41	14	5.32	3	.089	14	.792	6
		min	-2.697	14	-.083	14	-.059	13	-5.32	3	-1.41	14	-.792	6	-.089	14
	3	max	10.576	3	.3	3	.106	7	1.282	14	4.866	3	.059	14	.701	5
		min	-2.697	14	-.083	14	-.059	13	-4.866	3	-1.282	14	-.701	5	-.059	14
	4	max	10.576	3	.306	3	.106	7	1.155	14	4.402	3	.03	14	.639	5
		min	-2.697	14	-.083	14	-.059	13	-4.402	3	-1.155	14	-.639	5	-.03	14
	5	max	10.577	3	.313	3	.106	7	1.027	14	3.927	3	.123	7	.566	5
		min	-2.697	14	-.083	14	-.059	13	-3.927	3	-1.027	14	-.566	5	-.123	7
M163	1	max	4.178	3	.381	3	.359	3	.321	14	1.186	3	.317	6	.062	14
		min	-1.005	14	-.133	14	-.119	14	-1.186	3	-.321	14	-.062	14	-.317	6
	2	max	4.178	3	.385	3	.359	3	.21	14	.866	3	.545	3	.147	14
		min	-1.005	14	-.133	14	-.119	14	-.866	3	-.21	14	-.147	14	-.545	3
	3	max	4.178	3	.389	3	.359	3	.166	13	.562	7	.801	3	.232	14
		min	-1.005	14	-.133	14	-.119	14	-.562	7	-.166	13	-.232	14	-.801	3
	4	max	4.178	3	.392	3	.359	3	.262	13	.39	7	1.057	3	.317	14
		min	-1.005	14	-.133	14	-.119	14	-.39	7	-.262	13	-.317	14	-1.057	3
	5	max	4.177	3	.396	3	.359	3	.359	13	.214	7	1.313	3	.403	14
		min	-1.005	14	-.133	14	-.119	14	-.214	7	-.359	13	-.403	14	-1.313	3
M164	1	max	9.6	3	.252	14	.022	7	.517	3	.183	14	.408	5	.239	7
		min	-2.433	14	-.947	3	-.12	5	-.183	14	-.517	3	-.239	7	-.408	5
	2	max	9.599	3	.252	14	.022	7	.367	13	.993	7	.257	5	.211	7
		min	-2.433	14	-.941	3	-.112	5	-.993	7	-.367	13	-.211	7	-.257	5
	3	max	9.599	3	.252	14	.022	7	.589	14	2.366	3	.163	13	.183	7
		min	-2.433	14	-.934	3	-.103	5	-2.366	3	-.589	14	-.183	7	-.163	13
	4	max	9.599	3	.252	14	.022	7	.975	14	3.791	3	.138	13	.154	7
		min	-2.433	14	-.927	3	-.095	5	-3.791	3	-.975	14	-.154	7	-.138	13

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	9.599	3	.252	14	.022	7	1.361	14	5.206	3	.113	13	.136	6
		min	-2.433	14	-.92	3	-.086	5	-5.206	3	-1.361	14	-.136	6	-.113	13
M165	1	max	9.538	3	.484	3	.035	7	1.351	14	5.172	3	.169	13	.18	7
		min	-2.416	14	-.132	14	-.146	12	-5.172	3	-1.351	14	-.18	7	-.169	13
	2	max	9.537	3	.491	3	.035	7	1.15	14	4.426	3	.144	13	.134	7
		min	-2.416	14	-.132	14	-.138	12	-4.426	3	-1.15	14	-.134	7	-.144	13
	3	max	9.537	3	.498	3	.035	7	.948	14	3.67	3	.118	13	.241	5
		min	-2.416	14	-.132	14	-.129	12	-3.67	3	-.948	14	-.241	5	-.118	13
	4	max	9.537	3	.505	3	.035	7	.747	14	2.903	3	.093	13	.402	12
		min	-2.416	14	-.132	14	-.121	12	-2.903	3	-.747	14	-.402	12	-.093	13
	5	max	9.536	3	.512	3	.035	7	.545	14	2.126	3	.07	3	.554	12
		min	-2.416	14	-.132	14	-.112	12	-2.126	3	-.545	14	-.554	12	-.07	3
M166	1	max	9.478	3	1.806	3	.037	7	.54	14	2.107	3	.136	13	.334	12
		min	-2.4	14	-.489	14	-.171	12	-2.107	3	-.54	14	-.334	12	-.136	13
	2	max	9.478	3	1.809	3	.037	7	.275	14	1.128	3	.131	3	.412	12
		min	-2.4	14	-.489	14	-.168	12	-1.128	3	-.275	14	-.412	12	-.131	3
	3	max	9.478	3	1.811	3	.037	7	.01	14	.147	3	.145	3	.489	12
		min	-2.4	14	-.489	14	-.165	12	-.147	3	-.01	14	-.489	12	-.145	3
	4	max	9.478	3	1.814	3	.037	7	.838	2	.255	14	.158	3	.564	12
		min	-2.4	14	-.489	14	-.162	12	-.255	14	-.838	2	-.564	12	-.158	3
	5	max	9.478	3	1.816	3	.037	7	1.819	3	.52	14	.172	3	.638	12
		min	-2.4	14	-.489	14	-.159	12	-.52	14	-1.819	3	-.638	12	-.172	3
M167	1	max	10.575	3	.074	14	.021	14	1.067	14	4.077	3	.094	13	.588	5
		min	-2.697	14	-.281	3	-.095	6	-4.077	3	-1.067	14	-.588	5	-.094	13
	2	max	10.574	3	.074	14	.021	14	1.18	14	4.502	3	.067	13	.653	5
		min	-2.697	14	-.274	3	-.089	6	-4.502	3	-1.18	14	-.653	5	-.067	13
	3	max	10.574	3	.074	14	.021	14	1.294	14	4.916	3	.061	14	.706	5
		min	-2.697	14	-.267	3	-.082	6	-4.916	3	-1.294	14	-.706	5	-.061	14
	4	max	10.574	3	.074	14	.021	14	1.408	14	5.32	3	.089	14	.791	6
		min	-2.697	14	-.26	3	-.079	3	-5.32	3	-1.408	14	-.791	6	-.089	14
	5	max	10.573	3	.074	14	.021	14	1.522	14	5.713	3	.117	14	.886	6
		min	-2.697	14	-.253	3	-.079	3	-5.713	3	-1.522	14	-.886	6	-.117	14
M168	1	max	10.508	3	1.188	3	.075	14	1.521	14	5.711	3	.077	14	.708	6
		min	-2.679	14	-.322	14	-.283	6	-5.711	3	-1.521	14	-.708	6	-.077	14
	2	max	10.508	3	1.195	3	.075	14	1.018	14	3.849	3	.177	14	1.081	6
		min	-2.679	14	-.322	14	-.276	6	-3.849	3	-1.018	14	-1.081	6	-.177	14
	3	max	10.507	3	1.202	3	.075	14	.516	14	1.977	3	.277	14	1.445	6
		min	-2.679	14	-.322	14	-.272	3	-1.977	3	-.516	14	-1.445	6	-.277	14
	4	max	10.507	3	1.209	3	.075	14	.014	14	.094	3	.377	14	1.801	6
		min	-2.679	14	-.322	14	-.272	3	-.094	3	-.014	14	-1.801	6	-.377	14
	5	max	10.507	3	1.216	3	.075	14	1.801	3	.489	14	.477	14	2.148	6
		min	-2.679	14	-.322	14	-.272	3	-.489	14	-1.801	3	-2.148	6	-.477	14
M169	1	max	10.446	3	2.639	3	.105	7	1.801	3	.489	14	.444	14	2.061	6
		min	-2.662	14	-.713	14	-.067	13	-.489	14	-1.801	3	-2.061	6	-.444	14
	2	max	10.446	3	2.64	3	.105	7	2.526	3	.685	14	.439	14	2.059	6

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-2.662	14	-.713	14	-.067	13	-.685	14	-2.526	3	-2.059	6	-.439	14
	3	max	10.446	3	2.642	3	.105	7	3.252	3	.881	14	.434	14	2.057	6
		min	-2.662	14	-.713	14	-.067	13	-.881	14	-3.252	3	-2.057	6	-.434	14
	4	max	10.446	3	2.643	3	.105	7	3.977	3	1.077	14	.43	14	2.055	6
		min	-2.662	14	-.713	14	-.067	13	-1.077	14	-3.977	3	-2.055	6	-.43	14
	5	max	10.446	3	2.644	3	.105	7	4.704	3	1.273	14	.425	14	2.053	6
		min	-2.662	14	-.713	14	-.067	13	-1.273	14	-4.704	3	-2.053	6	-.425	14
M170	1	max	.655	13	.201	14	.447	5	1.519	3	.436	14	.069	12	.169	3
		min	-1.549	7	-.528	3	-.058	13	-.436	14	-1.519	3	-.169	3	-.069	12
	2	max	.655	13	.201	14	.447	5	.786	3	.157	13	.583	12	.115	3
		min	-1.549	7	-.522	3	-.058	13	-.157	13	-.786	3	-.115	3	-.583	12
	3	max	.655	13	.201	14	.447	5	.125	14	.17	5	1.096	12	.18	13
		min	-1.549	7	-.515	3	-.058	13	-.17	5	-.125	14	-.18	13	-1.096	12
	4	max	.655	13	.201	14	.447	5	.406	14	.684	6	1.61	12	.248	13
		min	-1.548	7	-.509	3	-.058	13	-.684	6	-.406	14	-.248	13	-1.61	12
	5	max	.655	13	.201	14	.447	5	.686	14	1.36	3	2.141	5	.317	13
		min	-1.548	7	-.503	3	-.058	13	-1.36	3	-.686	14	-.317	13	-2.141	5
M171	1	max	4.255	3	2.379	3	.075	14	3.612	3	1.086	14	.566	12	.162	13
		min	-.876	14	-.653	14	-.212	2	-1.086	14	-3.612	3	-.162	13	-.566	12
	2	max	4.256	3	2.381	3	.075	14	5.2	3	1.521	14	.57	12	.263	3
		min	-.876	14	-.653	14	-.212	2	-1.521	14	-5.2	3	-.263	3	-.57	12
	3	max	4.256	3	2.384	3	.075	14	6.789	3	1.957	14	.573	12	.376	3
		min	-.876	14	-.653	14	-.212	2	-1.957	14	-6.789	3	-.376	3	-.573	12
	4	max	4.256	3	2.387	3	.075	14	8.38	3	2.393	14	.577	12	.489	3
		min	-.876	14	-.653	14	-.212	2	-2.393	14	-8.38	3	-.489	3	-.577	12
	5	max	4.256	3	2.39	3	.075	14	9.973	3	2.829	14	.581	12	.601	3
		min	-.876	14	-.653	14	-.212	2	-2.829	14	-9.973	3	-.601	3	-.581	12
M172	1	max	4.185	3	1.095	3	.183	12	.789	14	3.242	3	.063	7	.138	5
		min	-.857	14	-.303	14	-.022	3	-3.242	3	-.789	14	-.138	5	-.063	7
	2	max	4.185	3	1.102	3	.183	12	.325	14	1.559	3	.112	12	.152	13
		min	-.857	14	-.303	14	-.022	3	-1.559	3	-.325	14	-.152	13	-.112	12
	3	max	4.186	3	1.109	3	.183	12	.486	7	.481	13	.352	12	.174	13
		min	-.857	14	-.303	14	-.022	3	-.481	13	-.486	7	-.174	13	-.352	12
	4	max	4.186	3	1.116	3	.183	12	1.894	7	.604	14	.591	12	.196	13
		min	-.857	14	-.303	14	-.022	3	-.604	14	-1.894	7	-.196	13	-.591	12
	5	max	4.186	3	1.122	3	.183	12	3.553	3	1.068	14	.83	12	.218	13
		min	-.857	14	-.303	14	-.022	3	-1.068	14	-3.553	3	-.218	13	-.83	12
M173	1	max	4.125	3	.079	14	.123	12	.316	14	1.344	3	.046	7	.502	5
		min	-.841	14	-.329	3	-.006	3	-1.344	3	-.316	14	-.502	5	-.046	7
	2	max	4.125	3	.079	14	.123	12	.436	14	1.843	3	.045	7	.345	5
		min	-.841	14	-.322	3	-.006	3	-1.843	3	-.436	14	-.345	5	-.045	7
	3	max	4.125	3	.079	14	.123	12	.557	14	2.331	3	.044	7	.188	5
		min	-.841	14	-.315	3	-.006	3	-2.331	3	-.557	14	-.188	5	-.044	7
	4	max	4.126	3	.079	14	.123	12	.678	14	2.809	3	.043	7	.138	13
		min	-.841	14	-.308	3	-.006	3	-2.809	3	-.678	14	-.138	13	-.043	7

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	4.126	3	.079	14	.123	12	.799	14	3.276	3	.143	12	.146	13
		min	-.841	14	-.301	3	-.006	3	-3.276	3	-.799	14	-.146	13	-.143	12
M174	1	max	5.939	3	1.821	3	.156	12	.822	14	3.221	3	.139	7	.762	12
		min	-1.347	14	-.499	14	-.032	3	-3.221	3	-.822	14	-.762	12	-.139	7
	2	max	5.939	3	1.825	3	.156	12	.341	14	1.464	3	.117	7	.634	12
		min	-1.347	14	-.499	14	-.032	3	-1.464	3	-.341	14	-.634	12	-.117	7
	3	max	5.939	3	1.829	3	.156	12	.339	2	.14	14	.095	7	.505	12
		min	-1.347	14	-.499	14	-.032	3	-.14	14	-.339	2	-.505	12	-.095	7
	4	max	5.94	3	1.834	3	.156	12	2.063	3	.62	14	.073	7	.376	12
		min	-1.347	14	-.499	14	-.032	3	-.62	14	-2.063	3	-.376	12	-.073	7
	5	max	5.94	3	1.838	3	.156	12	3.833	3	1.101	14	.05	7	.249	5
		min	-1.347	14	-.499	14	-.032	3	-1.101	14	-3.833	3	-.249	5	-.05	7
M175	1	max	5.872	3	.359	3	.064	12	1.464	14	5.512	3	.426	3	.9	12
		min	-1.329	14	-.104	14	-.085	3	-5.512	3	-1.464	14	-.9	12	-.426	3
	2	max	5.872	3	.365	3	.064	12	1.304	14	4.957	3	.316	3	.816	12
		min	-1.329	14	-.104	14	-.085	3	-4.957	3	-1.304	14	-.816	12	-.316	3
	3	max	5.873	3	.372	3	.064	12	1.144	14	4.392	3	.205	3	.731	12
		min	-1.329	14	-.104	14	-.085	3	-4.392	3	-1.144	14	-.731	12	-.205	3
	4	max	5.873	3	.379	3	.064	12	.984	14	3.816	3	.094	3	.647	12
		min	-1.329	14	-.104	14	-.085	3	-3.816	3	-.984	14	-.647	12	-.094	3
	5	max	5.873	3	.386	3	.064	12	.824	14	3.229	3	.004	14	.563	5
		min	-1.329	14	-.104	14	-.085	3	-3.229	3	-.824	14	-.563	5	-.004	14
M176	1	max	.621	14	1.854	3	.056	14	1.588	3	.463	14	.258	12	.246	7
		min	-1.387	3	-.566	14	-.647	12	-.463	14	-1.588	3	-.246	7	-.258	12
	2	max	.621	14	1.858	3	.056	14	3.138	3	.936	14	.085	14	.395	6
		min	-1.387	3	-.566	14	-.647	12	-.936	14	-3.138	3	-.395	6	-.085	14
	3	max	.621	14	1.861	3	.056	14	4.692	3	1.409	14	.125	14	.806	6
		min	-1.388	3	-.566	14	-.647	12	-1.409	14	-4.692	3	-.806	6	-.125	14
	4	max	.621	14	1.865	3	.056	14	6.249	3	1.882	14	.164	14	1.218	6
		min	-1.388	3	-.566	14	-.647	12	-1.882	14	-6.249	3	-1.218	6	-.164	14
	5	max	.621	14	1.869	3	.056	14	7.809	3	2.355	14	.204	14	1.629	6
		min	-1.388	3	-.566	14	-.647	12	-2.355	14	-7.809	3	-1.629	6	-.204	14
M177	1	max	4.179	3	.296	14	.035	7	3.3	3	1.003	14	.743	12	.308	7
		min	-.853	14	-1.096	3	-.175	12	-1.003	14	-3.3	3	-.308	7	-.743	12
	2	max	4.179	3	.296	14	.035	7	1.626	3	.549	14	.514	12	.263	7
		min	-.853	14	-1.089	3	-.175	12	-.549	14	-1.626	3	-.263	7	-.514	12
	3	max	4.178	3	.296	14	.035	7	.45	13	.344	7	.286	12	.217	7
		min	-.853	14	-1.082	3	-.175	12	-.344	7	-.45	13	-.217	7	-.286	12
	4	max	4.178	3	.296	14	.035	7	.363	13	1.689	3	.138	13	.172	7
		min	-.853	14	-1.075	3	-.175	12	-1.689	3	-.363	13	-.172	7	-.138	13
	5	max	4.178	3	.296	14	.035	7	.811	14	3.331	3	.113	13	.184	5
		min	-.853	14	-1.068	3	-.175	12	-3.331	3	-.811	14	-.184	5	-.113	13
M178	1	max	4.119	3	.33	3	.022	7	.821	14	3.365	3	.169	13	.204	7
		min	-.837	14	-.086	14	-.113	12	-3.365	3	-.821	14	-.204	7	-.169	13
	2	max	4.118	3	.337	3	.022	7	.69	14	2.855	3	.143	13	.176	7

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-.837	14	-.086	14	-.113	12	-2.855	3	-.69	14	-.176	7	-.143	13
	3	max	4.118	3	.344	3	.022	7	.558	14	2.335	3	.118	13	.227	5
		min	-.837	14	-.086	14	-.113	12	-2.335	3	-.558	14	-.227	5	-.118	13
	4	max	4.118	3	.35	3	.022	7	.426	14	1.805	3	.093	13	.37	5
		min	-.837	14	-.086	14	-.113	12	-1.805	3	-.426	14	-.37	5	-.093	13
	5	max	4.117	3	.357	3	.022	7	.294	14	1.264	3	.067	13	.513	5
		min	-.837	14	-.086	14	-.113	12	-1.264	3	-.294	14	-.513	5	-.067	13
M179	1	max	4.06	3	1.729	3	.019	7	.3	14	1.283	3	.136	13	.32	6
		min	-.821	14	-.466	14	-.055	12	-1.283	3	-.3	14	-.32	6	-.136	13
	2	max	4.06	3	1.732	3	.019	7	.048	14	.345	3	.127	13	.337	6
		min	-.821	14	-.466	14	-.055	12	-.345	3	-.048	14	-.337	6	-.127	13
	3	max	4.059	3	1.734	3	.019	7	.594	3	.205	14	.118	13	.354	6
		min	-.821	14	-.466	14	-.055	12	-.205	14	-.594	3	-.354	6	-.118	13
	4	max	4.059	3	1.736	3	.019	7	1.535	3	.457	14	.109	13	.371	6
		min	-.821	14	-.466	14	-.055	12	-.457	14	-1.535	3	-.371	6	-.109	13
	5	max	4.059	3	1.739	3	.019	7	2.476	3	.71	14	.1	13	.394	5
		min	-.821	14	-.466	14	-.055	12	-.71	14	-2.476	3	-.394	5	-.1	13
M180	1	max	5.87	3	.094	14	.085	3	.861	14	3.368	3	.087	13	.593	5
		min	-1.328	14	-.348	3	-.056	12	-3.368	3	-.861	14	-.593	5	-.087	13
	2	max	5.87	3	.094	14	.085	3	1.005	14	3.897	3	.093	3	.666	12
		min	-1.328	14	-.342	3	-.056	12	-3.897	3	-1.005	14	-.666	12	-.093	3
	3	max	5.87	3	.094	14	.085	3	1.149	14	4.415	3	.205	3	.74	12
		min	-1.328	14	-.335	3	-.056	12	-4.415	3	-1.149	14	-.74	12	-.205	3
	4	max	5.87	3	.094	14	.085	3	1.293	14	4.923	3	.317	3	.814	12
		min	-1.328	14	-.328	3	-.056	12	-4.923	3	-1.293	14	-.814	12	-.317	3
	5	max	5.869	3	.094	14	.085	3	1.437	14	5.42	3	.429	3	.888	12
		min	-1.328	14	-.321	3	-.056	12	-5.42	3	-1.437	14	-.888	12	-.429	3
M181	1	max	5.804	3	1.147	3	.278	3	1.437	14	5.423	3	.269	3	.791	12
		min	-1.31	14	-.31	14	-.077	14	-5.423	3	-1.437	14	-.791	12	-.269	3
	2	max	5.804	3	1.154	3	.278	3	.954	14	3.626	3	.639	3	.749	12
		min	-1.31	14	-.31	14	-.077	14	-3.626	3	-.954	14	-.749	12	-.639	3
	3	max	5.803	3	1.161	3	.278	3	.47	14	1.818	3	1.01	3	.706	12
		min	-1.31	14	-.31	14	-.077	14	-1.818	3	-.47	14	-.706	12	-1.01	3
	4	max	5.803	3	1.168	3	.278	3	.04	7	.059	13	1.381	3	.663	12
		min	-1.31	14	-.31	14	-.077	14	-.059	13	-.04	7	-.663	12	-1.381	3
	5	max	5.803	3	1.175	3	.278	3	1.831	3	.498	14	1.751	3	.62	12
		min	-1.31	14	-.31	14	-.077	14	-.498	14	-1.831	3	-.62	12	-1.751	3
M182	1	max	5.742	3	2.65	3	.032	12	1.83	3	.497	14	1.634	3	.597	12
		min	-1.294	14	-.717	14	-.068	7	-.497	14	-1.83	3	-.597	12	-1.634	3
	2	max	5.742	3	2.651	3	.032	12	2.558	3	.694	14	1.618	3	.589	12
		min	-1.294	14	-.717	14	-.068	7	-.694	14	-2.558	3	-.589	12	-1.618	3
	3	max	5.742	3	2.652	3	.032	12	3.287	3	.891	14	1.603	3	.582	12
		min	-1.294	14	-.717	14	-.068	7	-.891	14	-3.287	3	-.582	12	-1.603	3
	4	max	5.742	3	2.654	3	.032	12	4.016	3	1.088	14	1.587	3	.574	12
		min	-1.294	14	-.717	14	-.068	7	-1.088	14	-4.016	3	-.574	12	-1.587	3

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	5.742	3	2.655	3	.032	12	4.745	3	1.285	14	1.572	3	.567	12
		min	-1.294	14	-.717	14	-.068	7	-1.285	14	-4.745	3	-.567	12	-1.572	3
M183	1	max	4.16	3	.127	14	.123	14	.236	7	.332	13	1.317	3	.405	14
		min	-.994	14	-.363	3	-.372	3	-.332	13	-.236	7	-.405	14	-1.317	3
	2	max	4.16	3	.127	14	.123	14	.003	14	.282	3	1.048	3	.316	14
		min	-.994	14	-.359	3	-.372	3	-.282	3	-.003	14	-.316	14	-1.048	3
	3	max	4.16	3	.127	14	.123	14	.11	14	.585	3	.779	3	.227	14
		min	-.994	14	-.356	3	-.372	3	-.585	3	-.11	14	-.227	14	-.779	3
	4	max	4.16	3	.127	14	.123	14	.217	14	.884	3	.51	3	.138	14
		min	-.994	14	-.352	3	-.372	3	-.884	3	-.217	14	-.138	14	-.51	3
	5	max	4.16	3	.127	14	.123	14	.324	14	1.18	3	.322	6	.049	14
		min	-.994	14	-.348	3	-.372	3	-1.18	3	-.324	14	-.049	14	-.322	6
M184	1	max	.713	13	.561	14	.631	12	7.651	3	2.306	14	.206	14	1.573	6
		min	-1.633	7	-1.849	3	-.062	14	-2.306	14	-7.651	3	-1.573	6	-.206	14
	2	max	.713	13	.561	14	.631	12	6.086	3	1.831	14	.161	14	1.155	6
		min	-1.633	7	-1.846	3	-.062	14	-1.831	14	-6.086	3	-1.155	6	-.161	14
	3	max	.713	13	.561	14	.631	12	4.525	3	1.355	14	.117	14	.737	6
		min	-1.632	7	-1.842	3	-.062	14	-1.355	14	-4.525	3	-.737	6	-.117	14
	4	max	.713	13	.561	14	.631	12	2.967	3	.88	14	.072	14	.319	6
		min	-1.632	7	-1.838	3	-.062	14	-.88	14	-2.967	3	-.319	6	-.072	14
	5	max	.713	13	.561	14	.631	12	1.462	7	.469	13	.317	12	.164	3
		min	-1.632	7	-1.834	3	-.062	14	-.469	13	-1.462	7	-.164	3	-.317	12
M185	1	max	0	14	1.072	3	.235	3	1.351	3	.983	14	.237	14	.671	6
		min	-.002	3	-.553	14	-.332	12	-.983	14	-1.351	3	-.671	6	-.237	14
	2	max	0	14	1.076	3	.235	3	2.374	3	1.51	14	.121	14	.721	6
		min	-.002	3	-.553	14	-.332	12	-1.51	14	-2.374	3	-.721	6	-.121	14
	3	max	0	14	1.08	3	.235	3	3.401	3	2.038	14	.068	13	.828	12
		min	-.002	3	-.553	14	-.332	12	-2.038	14	-3.401	3	-.828	12	-.068	13
	4	max	0	14	1.085	3	.235	3	4.432	3	2.565	14	.083	1	1.098	12
		min	-.002	3	-.553	14	-.332	12	-2.565	14	-4.432	3	-1.098	12	-.083	1
	5	max	0	14	1.089	3	.235	3	5.467	3	3.092	14	.169	3	1.368	12
		min	-.002	3	-.553	14	-.332	12	-3.092	14	-5.467	3	-1.368	12	-.169	3
M186	1	max	0	14	1.487	3	.68	3	5.39	3	3.066	14	.173	3	1.379	12
		min	-.003	3	-.835	14	-.416	14	-3.066	14	-5.39	3	-1.379	12	-.173	3
	2	max	0	14	1.488	3	.68	3	5.557	3	3.16	14	.239	3	1.375	12
		min	-.003	3	-.835	14	-.416	14	-3.16	14	-5.557	3	-1.375	12	-.239	3
	3	max	0	14	1.488	3	.68	3	5.724	3	3.254	14	.304	3	1.37	12
		min	-.003	3	-.835	14	-.416	14	-3.254	14	-5.724	3	-1.37	12	-.304	3
	4	max	0	14	1.489	3	.68	3	5.892	3	3.348	14	.369	3	1.366	12
		min	-.003	3	-.835	14	-.416	14	-3.348	14	-5.892	3	-1.366	12	-.369	3
	5	max	0	14	1.489	3	.68	3	6.059	3	3.442	14	.434	3	1.362	12
		min	-.003	3	-.835	14	-.416	14	-3.442	14	-6.059	3	-1.362	12	-.434	3
M187	1	max	.406	13	.829	13	.276	6	.073	14	.148	13	.204	12	.313	3
		min	-.316	7	-.254	7	-.115	14	-.148	13	-.073	14	-.313	3	-.204	12
	2	max	.406	13	.829	13	.28	6	.645	13	.211	7	.279	12	.119	7

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-.316	7	-.25	7	-.115	14	-.211	7	-.645	13	-.119	7	-.279	12
	3	max	.406	13	.829	13	.284	6	1.437	13	.448	7	.367	6	.011	14
		min	-.316	7	-.246	7	-.115	14	-.448	7	-1.437	13	-.011	14	-.367	6
	4	max	.406	13	.829	13	.288	6	2.23	13	.681	7	.6	6	.105	14
		min	-.316	7	-.241	7	-.115	14	-.681	7	-2.23	13	-.105	14	-.6	6
	5	max	.406	13	.829	13	.292	6	3.023	13	.91	7	.837	6	.199	14
		min	-.316	7	-.237	7	-.115	14	-.91	7	-3.023	13	-.199	14	-.837	6
M188	1	max	.406	13	1.139	3	.355	12	2.967	13	.809	7	.887	6	.217	14
		min	-.316	7	-.429	14	-.154	3	-.809	7	-2.967	13	-.217	14	-.887	6
	2	max	.406	13	1.144	3	.36	12	3.753	13	.982	14	1.004	6	.138	14
		min	-.316	7	-.429	14	-.154	3	-.982	14	-3.753	13	-.138	14	-1.004	6
	3	max	.406	13	1.148	3	.365	12	4.539	13	1.39	14	1.128	12	.059	14
		min	-.316	7	-.429	14	-.154	3	-1.39	14	-4.539	13	-.059	14	-1.128	12
	4	max	.406	13	1.152	3	.37	12	5.325	13	1.798	14	1.427	12	.042	1
		min	-.316	7	-.429	14	-.154	3	-1.798	14	-5.325	13	-.042	1	-1.427	12
	5	max	.406	13	1.156	3	.376	12	6.183	3	2.206	14	1.73	12	.082	1
		min	-.316	7	-.429	14	-.154	3	-2.206	14	-6.183	3	-.082	1	-1.73	12
M189	1	max	.407	13	1.529	3	.37	14	6.261	3	2.233	14	1.774	12	.074	1
		min	-.316	7	-.694	14	-.598	3	-2.233	14	-6.261	3	-.074	1	-1.774	12
	2	max	.407	13	1.53	3	.37	14	6.434	3	2.311	14	1.774	12	.086	1
		min	-.316	7	-.694	14	-.598	3	-2.311	14	-6.434	3	-.086	1	-1.774	12
	3	max	.407	13	1.53	3	.37	14	6.606	3	2.389	14	1.774	12	.098	1
		min	-.316	7	-.694	14	-.598	3	-2.389	14	-6.606	3	-.098	1	-1.774	12
	4	max	.407	13	1.531	3	.37	14	6.778	3	2.467	14	1.774	12	.111	1
		min	-.316	7	-.694	14	-.598	3	-2.467	14	-6.778	3	-.111	1	-1.774	12
	5	max	.407	13	1.531	3	.37	14	6.95	3	2.545	14	1.774	12	.123	1
		min	-.316	7	-.694	14	-.598	3	-2.545	14	-6.95	3	-.123	1	-1.774	12
M190	1	max	.275	7	.834	13	.047	14	.281	13	.378	7	.211	14	.394	3
		min	-.402	13	-.665	7	-.084	3	-.378	7	-.281	13	-.394	3	-.211	14
	2	max	.275	7	.834	13	.047	14	.368	13	.447	7	.215	14	.401	3
		min	-.402	13	-.664	7	-.084	3	-.447	7	-.368	13	-.401	3	-.215	14
	3	max	.275	7	.834	13	.047	14	.456	13	.517	7	.22	14	.409	3
		min	-.402	13	-.664	7	-.084	3	-.517	7	-.456	13	-.409	3	-.22	14
	4	max	.275	7	.834	13	.047	14	.544	13	.587	7	.224	14	.416	3
		min	-.402	13	-.663	7	-.084	3	-.587	7	-.544	13	-.416	3	-.224	14
	5	max	.275	7	.834	13	.047	14	.631	13	.657	7	.228	14	.423	3
		min	-.402	13	-.663	7	-.084	3	-.657	7	-.631	13	-.423	3	-.228	14
M191	1	max	.277	7	.822	13	.121	14	3.387	7	2.8	13	.799	6	.205	14
		min	-.403	13	-.991	7	-.288	6	-2.8	13	-3.387	7	-.205	14	-.799	6
	2	max	.277	7	.822	13	.121	14	2.442	7	2.014	13	.566	6	.106	14
		min	-.403	13	-.986	7	-.284	6	-2.014	13	-2.442	7	-.106	14	-.566	6
	3	max	.277	7	.822	13	.121	14	1.5	7	1.227	13	.336	6	.055	13
		min	-.403	13	-.982	7	-.283	3	-1.227	13	-1.5	7	-.055	13	-.336	6
	4	max	.277	7	.822	13	.121	14	.563	7	.441	13	.261	12	.109	3
		min	-.403	13	-.978	7	-.283	3	-.441	13	-.563	7	-.109	3	-.261	12

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	.277	7	.822	13	.121	14	.345	13	.37	7	.2	12	.339	3
		min	-.403	13	-.974	7	-.283	3	-.37	7	-.345	13	-.339	3	-.2	12
M192	1	max	.278	7	.818	13	.128	3	9.154	7	5.862	13	1.593	12	.063	1
		min	-.403	13	-1.518	7	-.349	12	-5.862	13	-9.154	7	-.063	1	-1.593	12
	2	max	.278	7	.818	13	.128	3	7.709	7	5.083	13	1.312	12	.033	13
		min	-.403	13	-1.514	7	-.344	12	-5.083	13	-7.709	7	-.033	13	-1.312	12
	3	max	.278	7	.818	13	.128	3	6.269	7	4.303	13	1.094	6	.091	14
		min	-.403	13	-1.51	7	-.338	12	-4.303	13	-6.269	7	-.091	14	-1.094	6
	4	max	.278	7	.818	13	.128	3	4.833	7	3.523	13	.973	6	.157	14
		min	-.403	13	-1.505	7	-.333	12	-3.523	13	-4.833	7	-.157	14	-.973	6
	5	max	.278	7	.818	13	.128	3	3.401	7	2.743	13	.855	6	.224	14
		min	-.403	13	-1.501	7	-.328	12	-2.743	13	-3.401	7	-.224	14	-.855	6
M193	1	max	0	1	0	2	0	1	0	3	0	2	0	1	0	1
		min	0	1	-.002	3	0	1	0	2	0	3	0	1	0	1
	2	max	0	1	0	2	0	1	0	3	0	2	0	1	0	1
		min	0	1	-.001	3	0	1	0	2	0	3	0	1	0	1
	3	max	0	1	0	2	0	1	0	8	0	2	0	1	0	1
		min	0	1	0	3	0	1	0	2	0	8	0	1	0	1
	4	max	0	1	0	2	0	1	0	8	0	2	0	1	0	1
		min	0	1	0	3	0	1	0	2	0	8	0	1	0	1
	5	max	0	1	0	1	0	1	0	1	0	1	0	1	0	1
		min	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M194	1	max	0	13	.265	14	.206	6	1.376	3	.984	14	.246	14	.653	6
		min	-.001	7	-.387	3	-.075	14	-.984	14	-1.376	3	-.653	6	-.246	14
	2	max	0	13	.265	14	.206	6	1.008	3	.73	14	.185	14	.485	6
		min	-.001	7	-.383	3	-.075	14	-.73	14	-1.008	3	-.485	6	-.185	14
	3	max	0	13	.265	14	.206	6	.645	3	.476	14	.124	14	.316	6
		min	-.001	7	-.378	3	-.075	14	-.476	14	-.645	3	-.316	6	-.124	14
	4	max	0	13	.265	14	.206	6	.285	3	.223	14	.063	14	.148	6
		min	-.001	7	-.374	3	-.075	14	-.223	14	-.285	3	-.148	6	-.063	14
	5	max	0	13	.265	14	.206	6	.031	14	.071	3	.034	7	.025	13
		min	-.001	7	-.37	3	-.075	14	-.071	3	-.031	14	-.025	13	-.034	7
M195	1	max	.001	13	.536	14	.306	12	5.29	3	2.996	14	.121	7	1.215	12
		min	-.002	7	-1.055	3	-.211	3	-2.996	14	-5.29	3	-1.215	12	-.121	7
	2	max	.001	13	.536	14	.306	12	4.288	3	2.485	14	.065	1	.966	12
		min	-.002	7	-1.05	3	-.211	3	-2.485	14	-4.288	3	-.966	12	-.065	1
	3	max	.001	13	.536	14	.306	12	3.289	3	1.975	14	.044	14	.739	6
		min	-.002	7	-1.046	3	-.211	3	-1.975	14	-3.289	3	-.739	6	-.044	14
	4	max	.001	13	.536	14	.306	12	2.294	3	1.465	14	.149	14	.689	6
		min	-.002	7	-1.042	3	-.211	3	-1.465	14	-2.294	3	-.689	6	-.149	14
	5	max	.001	13	.536	14	.306	12	1.304	3	.954	14	.253	14	.639	6
		min	-.002	7	-1.038	3	-.211	3	-.954	14	-1.304	3	-.639	6	-.253	14
M196	1	max	0	3	0	12	0	1	No Bending Stress Calculations...							
		min	0	14	0	3	0	1								
	2	max	0	3	0	12	0	1								

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	0	14	0	3	0	1								
	3	max	0	3	0	12	0	1								
		min	0	14	0	3	0	1								
	4	max	0	3	0	12	0	1								
		min	0	14	0	3	0	1								
	5	max	0	3	0	12	0	1								
		min	0	14	0	3	0	1								
M197	1	max	0	3	0	14	0	1	No Bending Stress Calculations...							
		min	0	14	0	6	0	1								
	2	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
	3	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
	4	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
	5	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
M198	1	max	0	3	0	14	0	1	No Bending Stress Calculations...							
		min	0	14	0	6	0	1								
	2	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
	3	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
	4	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
	5	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
M199	1	max	0	3	0	3	0	1	No Bending Stress Calculations...							
		min	0	14	0	12	0	1								
	2	max	0	3	0	3	0	1								
		min	0	14	0	12	0	1								
	3	max	0	3	0	3	0	1								
		min	0	14	0	12	0	1								
	4	max	0	3	0	3	0	1								
		min	0	14	0	12	0	1								
	5	max	0	3	0	3	0	1								
		min	0	14	0	12	0	1								
M200	1	max	0	3	0	6	0	1	No Bending Stress Calculations...							
		min	0	14	0	14	0	1								
	2	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
	3	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
	4	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
M201	1	max	0	3	0	6	0	1	No Bending Stress Calculations...							
		min	0	14	0	14	0	1								
	2	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
	3	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
	4	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
	5	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
M202	1	max	0	3	0	3	0	1	No Bending Stress Calculations...							
		min	0	14	0	12	0	1								
	2	max	0	3	0	3	0	1								
		min	0	14	0	12	0	1								
	3	max	0	3	0	3	0	1								
		min	0	14	0	12	0	1								
	4	max	0	3	0	3	0	1								
		min	0	14	0	12	0	1								
	5	max	0	3	0	3	0	1								
		min	0	14	0	12	0	1								
M203	1	max	0	3	0	14	0	1	No Bending Stress Calculations...							
		min	0	14	0	6	0	1								
	2	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
	3	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
	4	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
	5	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
M204	1	max	0	3	0	14	0	1	No Bending Stress Calculations...							
		min	0	14	0	6	0	1								
	2	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
	3	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
	4	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
	5	max	0	3	0	14	0	1								
		min	0	14	0	6	0	1								
M205	1	max	0	3	0	12	0	1	No Bending Stress Calculations...							
		min	0	14	0	3	0	1								
	2	max	0	3	0	12	0	1								

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	0	14	0	3	0	1								
	3	max	0	3	0	12	0	1								
		min	0	14	0	3	0	1								
	4	max	0	3	0	12	0	1								
		min	0	14	0	3	0	1								
	5	max	0	3	0	12	0	1								
		min	0	14	0	3	0	1								
M206	1	max	0	3	0	6	0	1	No Bending Stress Calculations...							
		min	0	14	0	14	0	1								
	2	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
	3	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
	4	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
	5	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
M207	1	max	0	3	0	12	0	12	No Bending Stress Calculations...							
		min	0	14	0	1	0	3								
	2	max	0	3	0	12	0	12								
		min	0	14	0	1	0	3								
	3	max	0	3	0	12	0	12								
		min	0	14	0	1	0	3								
	4	max	0	3	0	12	0	12								
		min	0	14	0	1	0	3								
	5	max	0	3	0	12	0	12								
		min	0	14	0	1	0	3								
M208	1	max	0	3	0	6	0	12	No Bending Stress Calculations...							
		min	0	14	0	14	0	1								
	2	max	0	3	0	6	0	12								
		min	0	14	0	14	0	1								
	3	max	0	3	0	6	0	12								
		min	0	14	0	14	0	1								
	4	max	0	3	0	6	0	12								
		min	0	14	0	14	0	1								
	5	max	0	3	0	6	0	12								
		min	0	14	0	14	0	1								
M209	1	max	0	3	0	3	0	12	No Bending Stress Calculations...							
		min	0	14	0	12	0	7								
	2	max	0	3	0	3	0	12								
		min	0	14	0	12	0	7								
	3	max	0	3	0	3	0	12								
		min	0	14	0	12	0	7								
	4	max	0	3	0	3	0	12								
		min	0	14	0	12	0	7								

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	0	3	0	3	0	12								
		min	0	14	0	12	0	7								
M210	1	max	0	3	0	1	0	12	No Bending Stress Calculations...							
		min	0	14	0	12	0	7								
	2	max	0	3	0	1	0	12								
		min	0	14	0	12	0	7								
	3	max	0	3	0	1	0	12								
		min	0	14	0	12	0	7								
	4	max	0	3	0	1	0	12								
		min	0	14	0	12	0	7								
	5	max	0	3	0	1	0	12								
		min	0	14	0	12	0	7								
M211	1	max	0	3	0	14	0	12	No Bending Stress Calculations...							
		min	0	14	0	6	0	1								
	2	max	0	3	0	14	0	12								
		min	0	14	0	6	0	1								
	3	max	0	3	0	14	0	12								
		min	0	14	0	6	0	1								
	4	max	0	3	0	14	0	12								
		min	0	14	0	6	0	1								
	5	max	0	3	0	14	0	12								
		min	0	14	0	6	0	1								
M212	1	max	0	3	0	14	0	12	No Bending Stress Calculations...							
		min	0	14	0	6	0	1								
	2	max	0	3	0	14	0	12								
		min	0	14	0	6	0	1								
	3	max	0	3	0	14	0	12								
		min	0	14	0	6	0	1								
	4	max	0	3	0	14	0	12								
		min	0	14	0	6	0	1								
	5	max	0	3	0	14	0	12								
		min	0	14	0	6	0	1								
M213	1	max	0	3	0	3	0	13	No Bending Stress Calculations...							
		min	0	14	0	14	0	1								
	2	max	0	3	0	3	0	13								
		min	0	14	0	14	0	1								
	3	max	0	3	0	3	0	13								
		min	0	14	0	14	0	1								
	4	max	0	3	0	3	0	13								
		min	0	14	0	14	0	1								
	5	max	0	3	0	3	0	13								
		min	0	14	0	14	0	1								
M214	1	max	5.807	3	.294	14	.08	14	1.208	3	.332	14	1.783	3	.651	12
		min	-1.312	14	-1.113	3	-.29	3	-.332	14	-1.208	3	-.651	12	-1.783	3
	2	max	5.807	3	.294	14	.08	14	.117	14	.488	3	1.404	3	.683	12

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	-1.312	14	-1.107	3	-.29	3	-.488	3	-.117	14	-.683	12	-1.404	3
	3	max	5.807	3	.294	14	.08	14	.566	14	2.174	3	1.026	3	.714	12
		min	-1.312	14	-1.1	3	-.29	3	-2.174	3	-.566	14	-.714	12	-1.026	3
	4	max	5.808	3	.294	14	.08	14	1.016	14	3.849	3	.648	3	.745	12
		min	-1.312	14	-1.093	3	-.29	3	-3.849	3	-1.016	14	-.745	12	-.648	3
	5	max	5.808	3	.294	14	.08	14	1.465	14	5.514	3	.27	3	.777	12
		min	-1.312	14	-1.086	3	-.29	3	-5.514	3	-1.465	14	-.777	12	-.27	3
M215	1	max	0	3	0	14	0	13	No Bending Stress Calculations...							
		min	0	14	0	3	0	7								
	2	max	0	3	0	14	0	13								
		min	0	14	0	3	0	7								
	3	max	0	3	0	14	0	13								
		min	0	14	0	3	0	7								
	4	max	0	3	0	14	0	13								
		min	0	14	0	3	0	7								
	5	max	0	3	0	14	0	13								
		min	0	14	0	3	0	7								
M216	1	max	0	3	0	6	0	13	No Bending Stress Calculations...							
		min	0	14	0	14	0	7								
	2	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
	3	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
	4	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
	5	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
M217	1	max	0	3	0	6	0	13	No Bending Stress Calculations...							
		min	0	14	0	14	0	7								
	2	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
	3	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
	4	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
	5	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
M218	1	max	0	3	0	12	0	13	No Bending Stress Calculations...							
		min	0	14	0	13	0	7								
	2	max	0	3	0	12	0	13								
		min	0	14	0	13	0	7								
	3	max	0	3	0	12	0	13								
		min	0	14	0	13	0	7								
	4	max	0	3	0	12	0	13								
		min	0	14	0	13	0	7								

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	0	3	0	12	0	13								
		min	0	14	0	13	0	7								
M219	1	max	0	3	0	12	0	13	No Bending Stress Calculations...							
		min	0	14	0	3	0	7								
	2	max	0	3	0	12	0	13								
		min	0	14	0	3	0	7								
	3	max	0	3	0	12	0	13								
		min	0	14	0	3	0	7								
	4	max	0	3	0	12	0	13								
		min	0	14	0	3	0	7								
	5	max	0	3	0	12	0	13								
		min	0	14	0	3	0	7								
M220	1	max	0	3	0	14	0	13	No Bending Stress Calculations...							
		min	0	14	0	6	0	7								
	2	max	0	3	0	14	0	13								
		min	0	14	0	6	0	7								
	3	max	0	3	0	14	0	13								
		min	0	14	0	6	0	7								
	4	max	0	3	0	14	0	13								
		min	0	14	0	6	0	7								
	5	max	0	3	0	14	0	13								
		min	0	14	0	6	0	7								
M221	1	max	0	3	0	6	0	13	No Bending Stress Calculations...							
		min	0	14	0	1	0	7								
	2	max	0	3	0	6	0	13								
		min	0	14	0	1	0	7								
	3	max	0	3	0	6	0	13								
		min	0	14	0	1	0	7								
	4	max	0	3	0	6	0	13								
		min	0	14	0	1	0	7								
	5	max	0	3	0	6	0	13								
		min	0	14	0	1	0	7								
M222	1	max	0	3	0	1	0	13	No Bending Stress Calculations...							
		min	0	14	0	6	0	7								
	2	max	0	3	0	1	0	13								
		min	0	14	0	6	0	7								
	3	max	0	3	0	1	0	13								
		min	0	14	0	6	0	7								
	4	max	0	3	0	1	0	13								
		min	0	14	0	6	0	7								
	5	max	0	3	0	1	0	13								
		min	0	14	0	6	0	7								
M223	1	max	0	3	0	14	0	13	No Bending Stress Calculations...							
		min	0	14	0	6	0	7								
	2	max	0	3	0	14	0	13								

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	0	14	0	6	0	7								
	3	max	0	3	0	14	0	13								
		min	0	14	0	6	0	7								
	4	max	0	3	0	14	0	13								
		min	0	14	0	6	0	7								
	5	max	0	3	0	14	0	13								
		min	0	14	0	6	0	7								
M224	1	max	0	3	0	12	0	13	No Bending Stress Calculations...							
		min	0	14	0	3	0	7								
	2	max	0	3	0	12	0	13								
		min	0	14	0	3	0	7								
	3	max	0	3	0	12	0	13								
		min	0	14	0	3	0	7								
	4	max	0	3	0	12	0	13								
		min	0	14	0	3	0	7								
	5	max	0	3	0	12	0	13								
		min	0	14	0	3	0	7								
M225	1	max	0	3	0	12	0	13	No Bending Stress Calculations...							
		min	0	14	0	13	0	7								
	2	max	0	3	0	12	0	13								
		min	0	14	0	13	0	7								
	3	max	0	3	0	12	0	13								
		min	0	14	0	13	0	7								
	4	max	0	3	0	12	0	13								
		min	0	14	0	13	0	7								
	5	max	0	3	0	12	0	13								
		min	0	14	0	13	0	7								
M226	1	max	0	3	0	6	0	13	No Bending Stress Calculations...							
		min	0	14	0	14	0	7								
	2	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
	3	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
	4	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
	5	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
M227	1	max	0	3	0	6	0	13	No Bending Stress Calculations...							
		min	0	14	0	14	0	7								
	2	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
	3	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
	4	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	0	3	0	6	0	13								
		min	0	14	0	14	0	7								
M228	1	max	0	3	0	14	0	1	No Bending Stress Calculations...							
		min	0	14	0	3	0	13								
	2	max	0	3	0	14	0	1								
		min	0	14	0	3	0	13								
	3	max	0	3	0	14	0	1								
		min	0	14	0	3	0	13								
	4	max	0	3	0	14	0	1								
		min	0	14	0	3	0	13								
	5	max	0	3	0	14	0	1								
		min	0	14	0	3	0	13								
M229	1	max	0	3	0	6	0	1	No Bending Stress Calculations...							
		min	0	14	0	14	0	12								
	2	max	0	3	0	6	0	1								
		min	0	14	0	14	0	12								
	3	max	0	3	0	6	0	1								
		min	0	14	0	14	0	12								
	4	max	0	3	0	6	0	1								
		min	0	14	0	14	0	12								
	5	max	0	3	0	6	0	1								
		min	0	14	0	14	0	12								
M230	1	max	10.51	3	.302	14	.287	3	1.132	3	.31	14	.489	14	2.183	6
		min	-2.68	14	-1.141	3	-.08	14	-.31	14	-1.132	3	-2.183	6	-.489	14
	2	max	10.51	3	.302	14	.287	3	.152	14	.607	3	.385	14	1.823	6
		min	-2.68	14	-1.134	3	-.08	14	-.607	3	-.152	14	-1.823	6	-.385	14
	3	max	10.51	3	.302	14	.287	3	.613	14	2.335	3	.282	14	1.454	6
		min	-2.68	14	-1.128	3	-.08	14	-2.335	3	-.613	14	-1.454	6	-.282	14
	4	max	10.511	3	.302	14	.292	6	1.075	14	4.053	3	.178	14	1.076	6
		min	-2.68	14	-1.121	3	-.08	14	-4.053	3	-1.075	14	-1.076	6	-.178	14
	5	max	10.511	3	.302	14	.299	6	1.537	14	5.761	3	.074	14	.691	6
		min	-2.68	14	-1.114	3	-.08	14	-5.761	3	-1.537	14	-.691	6	-.074	14
M231	1	max	0	3	0	14	0	13	No Bending Stress Calculations...							
		min	0	14	0	3	0	7								
	2	max	0	3	0	14	0	13								
		min	0	14	0	3	0	7								
	3	max	0	3	0	14	0	13								
		min	0	14	0	3	0	7								
	4	max	0	3	0	14	0	13								
		min	0	14	0	3	0	7								
	5	max	0	3	0	14	0	13								
		min	0	14	0	3	0	7								
M232	1	max	0	3	0	6	0	1	No Bending Stress Calculations...							
		min	0	14	0	14	0	12								
	2	max	0	3	0	6	0	1								

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
		min	0	14	0	14	0	12								
	3	max	0	3	0	6	0	1								
		min	0	14	0	14	0	12								
	4	max	0	3	0	6	0	1								
		min	0	14	0	14	0	12								
	5	max	0	3	0	6	0	1								
		min	0	14	0	14	0	12								
M233	1	max	0	3	0	12	0	7	No Bending Stress Calculations...							
		min	0	14	0	1	0	12								
	2	max	0	3	0	12	0	7								
		min	0	14	0	1	0	12								
	3	max	0	3	0	12	0	7								
		min	0	14	0	1	0	12								
	4	max	0	3	0	12	0	7								
		min	0	14	0	1	0	12								
	5	max	0	3	0	12	0	7								
		min	0	14	0	1	0	12								
M234	1	max	0	3	0	12	0	7	No Bending Stress Calculations...							
		min	0	14	0	3	0	12								
	2	max	0	3	0	12	0	7								
		min	0	14	0	3	0	12								
	3	max	0	3	0	12	0	7								
		min	0	14	0	3	0	12								
	4	max	0	3	0	12	0	7								
		min	0	14	0	3	0	12								
	5	max	0	3	0	12	0	7								
		min	0	14	0	3	0	12								
M235	1	max	0	3	0	14	0	1	No Bending Stress Calculations...							
		min	0	14	0	6	0	12								
	2	max	0	3	0	14	0	1								
		min	0	14	0	6	0	12								
	3	max	0	3	0	14	0	1								
		min	0	14	0	6	0	12								
	4	max	0	3	0	14	0	1								
		min	0	14	0	6	0	12								
	5	max	0	3	0	14	0	1								
		min	0	14	0	6	0	12								
M236	1	max	0	3	0	1	0	3	No Bending Stress Calculations...							
		min	0	14	0	12	0	12								
	2	max	0	3	0	1	0	3								
		min	0	14	0	12	0	12								
	3	max	0	3	0	1	0	3								
		min	0	14	0	12	0	12								
	4	max	0	3	0	1	0	3								
		min	0	14	0	12	0	12								

Envelope Member Stresses, (continued)

Member Label	Section		Axial (ksi)	Lc	Shear y-y (ksi)	Lc	Shear z-z (ksi)	Lc	Bending y-top (ksi)	Lc	Bending y-bot (ksi)	Lc	Bending z-top (ksi)	Lc	Bending z-bot (ksi)	Lc
	5	max	0	3	0	1	0	3								
		min	0	14	0	12	0	12								
M237	1	max	0	3	0	3	0	1	No Bending Stress Calculations...							
		min	0	14	0	14	0	12								
	2	max	0	3	0	3	0	1								
		min	0	14	0	14	0	12								
	3	max	0	3	0	3	0	1								
		min	0	14	0	14	0	12								
	4	max	0	3	0	3	0	1								
		min	0	14	0	14	0	12								
	5	max	0	3	0	3	0	1								
		min	0	14	0	14	0	12								
M238	1	max	0	3	0	14	0	12	No Bending Stress Calculations...							
		min	0	14	0	3	0	1								
	2	max	0	3	0	14	0	12								
		min	0	14	0	3	0	1								
	3	max	0	3	0	14	0	12								
		min	0	14	0	3	0	1								
	4	max	0	3	0	14	0	12								
		min	0	14	0	3	0	1								
	5	max	0	3	0	14	0	12								
		min	0	14	0	3	0	1								
M239	1	max	0	3	0	6	0	1	No Bending Stress Calculations...							
		min	0	14	0	14	0	1								
	2	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
	3	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
	4	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
	5	max	0	3	0	6	0	1								
		min	0	14	0	14	0	1								
M240	1	max	0	14	.384	3	.07	14	.065	13	.104	7	.026	13	.006	7
		min	0	3	-.274	14	-.212	6	-.104	7	-.065	13	-.006	7	-.026	13
	2	max	0	14	.388	3	.07	14	.297	3	.23	14	.06	14	.16	6
		min	0	3	-.274	14	-.212	6	-.23	14	-.297	3	-.16	6	-.06	14
	3	max	0	14	.392	3	.07	14	.669	3	.491	14	.117	14	.332	6
		min	0	3	-.274	14	-.212	6	-.491	14	-.669	3	-.332	6	-.117	14
	4	max	0	14	.397	3	.07	14	1.045	3	.753	14	.173	14	.504	6
		min	0	3	-.274	14	-.212	6	-.753	14	-1.045	3	-.504	6	-.173	14
	5	max	0	14	.401	3	.07	14	1.425	3	1.014	14	.23	14	.676	6
		min	0	3	-.274	14	-.212	6	-1.014	14	-1.425	3	-.676	6	-.23	14

Envelope Member Deflections

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
M1	1	max	.446	7	.109	13	.984	5	8.318e-4	14	NC		NC	
		min	-.661	13	-.098	7	-.056	7	-1.75e-3	6	NC		2215.855	7
	2	max	.446	7	.107	13	.984	5	8.35e-4	14	NC		NC	
		min	-.661	13	-.095	7	-.056	7	-1.747e-3	6	NC		2964.671	7
	3	max	.446	7	.104	13	.984	5	8.382e-4	14	NC		NC	
		min	-.661	13	-.092	7	-.055	7	-1.744e-3	6	NC		4462.108	7
	4	max	.446	7	.102	13	.984	5	8.414e-4	14	NC		NC	
		min	-.661	13	-.09	7	-.055	7	-1.741e-3	6	NC		8954.022	7
	5	max	.446	7	.099	13	.984	5	8.446e-4	14	NC		NC	
		min	-.661	13	-.087	7	-.054	7	-1.738e-3	6	NC		NC	
M2	1	max	0	1	0	1	0	1	2.24e-4	14	NC		NC	
		min	0	1	0	1	0	1	-6.718e-4	6	NC		NC	
	2	max	.002	14	.017	13	.159	7	2.24e-4	14	NC		3481.973	7
		min	-.008	3	-.212	5	-.171	13	-6.718e-4	6	3903.337	5	3723.379	13
	3	max	.004	14	.032	13	.305	7	2.24e-4	14	NC		2176.233	7
		min	-.015	3	-.413	5	-.33	13	-6.718e-4	6	2439.586	5	2327.112	13
	4	max	.007	14	.047	13	.427	7	2.24e-4	14	NC		2487.124	7
		min	-.023	3	-.592	5	-.467	13	-6.718e-4	6	2788.098	5	2659.556	13
	5	max	.009	14	.059	13	.511	7	2.24e-4	14	NC		NC	
		min	-.031	3	-.738	5	-.568	13	-6.718e-4	6	NC		NC	
M3	1	max	0	1	0	1	0	1	6.584e-4	7	NC		NC	
		min	0	1	0	1	0	1	-4.167e-4	13	NC		NC	
	2	max	.002	14	.008	7	.099	7	6.584e-4	7	NC		8659.414	7
		min	-.008	3	-.236	5	-.172	13	-4.167e-4	13	3407.369	5	3693.138	13
	3	max	.004	14	.016	7	.193	7	6.584e-4	7	NC		5412.134	7
		min	-.015	3	-.458	5	-.331	13	-4.167e-4	13	2136.581	5	2308.211	13
	4	max	.007	14	.022	7	.277	7	6.584e-4	7	NC		6185.295	7
		min	-.023	3	-.656	5	-.468	13	-4.167e-4	13	2452.462	5	2637.956	13
	5	max	.009	14	.025	7	.345	7	6.584e-4	7	NC		NC	
		min	-.031	3	-.815	5	-.569	13	-4.167e-4	13	NC		NC	
M4	1	max	.708	3	.029	14	.668	13	1.631e-4	13	NC		NC	
		min	-.183	14	-1.165	5	-.505	7	-1.312e-4	7	NC		NC	
	2	max	.707	3	.056	14	.668	13	1.53e-4	13	9531.768	14	NC	
		min	-.182	14	-1.195	5	-.504	7	-1.226e-4	7	NC		NC	
	3	max	.705	3	.074	14	.667	13	1.428e-4	13	8318.536	14	NC	
		min	-.182	14	-1.228	5	-.504	7	-1.141e-4	7	NC		NC	
	4	max	.703	3	.086	14	.667	13	1.423e-4	12	NC		NC	
		min	-.181	14	-1.259	5	-.503	7	-1.055e-4	7	NC		NC	
	5	max	.702	3	.096	14	.667	13	1.429e-4	12	NC		NC	
		min	-.181	14	-1.285	5	-.504	7	-9.698e-5	7	NC		NC	
M5	1	max	.064	14	.049	13	.554	7	1.964e-4	14	NC		760.335	7
		min	-.25	3	-.967	5	-.663	13	-1.417e-3	6	NC		NC	
	2	max	.065	14	.051	13	.526	7	1.585e-4	14	NC		1085.515	7
		min	-.253	3	-.966	5	-.664	13	-1.254e-3	6	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.066	14	.052	13	.507	7	1.207e-4	14	NC		1545.282	7
		min	-.256	3	-.965	5	-.665	13	-1.091e-3	6	NC		NC	
	4	max	.067	14	.054	13	.488	7	8.284e-5	14	NC		2643.566	7
		min	-.259	3	-.963	5	-.668	13	-9.623e-4	5	NC		NC	
	5	max	.067	14	.055	13	.462	7	1.172e-4	7	NC		NC	
		min	-.262	3	-.96	5	-.67	13	-8.621e-4	5	NC		9964.703	13
M6	1	max	.501	13	.079	13	.445	13	3.941e-4	12	3170.489	13	7883.606	13
		min	-.318	7	-.903	5	-.346	7	-2.033e-4	7	NC		NC	
	2	max	.502	13	.072	13	.442	13	5.093e-4	5	4265.331	13	NC	
		min	-.311	7	-.915	5	-.387	7	-1.577e-4	7	7504.462	5	2306.606	7
	3	max	.502	13	.064	13	.438	13	6.277e-4	5	6528.594	13	NC	
		min	-.304	7	-.93	5	-.424	7	-1.12e-4	7	3494.799	5	1219.492	7
	4	max	.502	13	.056	13	.434	13	7.46e-4	5	NC		NC	
		min	-.297	7	-.947	5	-.462	7	-6.639e-5	7	2176.127	5	822.384	7
	5	max	.502	13	.049	13	.433	13	8.644e-4	5	NC		NC	
		min	-.29	7	-.967	5	-.507	7	-5.302e-5	14	1501.671	5	594.27	7
M7	1	max	.152	14	.074	14	.538	7	2.61e-4	14	NC		1252.568	7
		min	-.591	3	-1.171	5	-.666	13	-1.674e-3	6	NC		NC	
	2	max	.153	14	.067	14	.518	7	2.227e-4	14	NC		1818.734	7
		min	-.595	3	-1.155	5	-.666	13	-1.504e-3	6	NC		NC	
	3	max	.154	14	.058	14	.505	7	1.843e-4	14	NC		2525.873	7
		min	-.599	3	-1.136	5	-.668	13	-1.334e-3	6	NC		NC	
	4	max	.155	14	.046	14	.493	7	1.46e-4	14	NC		4104.903	7
		min	-.602	3	-1.114	5	-.669	13	-1.164e-3	6	NC		NC	
	5	max	.156	14	.029	14	.473	7	1.077e-4	14	NC		NC	
		min	-.606	3	-1.094	5	-.669	13	-9.939e-4	6	NC		NC	
M8	1	max	.6	13	.055	13	.297	13	2.851e-4	12	4239.331	13	NC	
		min	-.321	7	-.96	5	-.386	7	-6.614e-4	3	NC		NC	
	2	max	.599	13	.044	13	.295	13	2.448e-4	12	6155.022	13	NC	
		min	-.309	7	-1.003	5	-.462	7	-6.445e-4	3	3550.636	5	NC	
	3	max	.599	13	.046	14	.294	13	2.044e-4	12	7671.568	14	NC	
		min	-.298	7	-1.058	5	-.533	7	-6.275e-4	3	1568.817	5	9836.147	7
	4	max	.598	13	.06	14	.294	13	1.641e-4	12	4503.349	14	NC	
		min	-.286	7	-1.114	5	-.594	7	-6.106e-4	3	994.63	5	NC	
	5	max	.597	13	.074	14	.295	13	1.525e-4	14	3154.936	14	NC	
		min	-.274	7	-1.171	5	-.648	7	-5.936e-4	3	729.238	5	NC	
M9	1	max	.58	13	.029	14	.333	13	7.187e-4	14	NC		NC	
		min	-.171	7	-1.094	5	-.641	7	-2.622e-3	3	NC		NC	
	2	max	.579	13	.051	14	.334	13	6.236e-4	14	NC		NC	
		min	-.168	7	-1.152	5	-.684	7	-2.282e-3	3	NC		6916.478	7
	3	max	.578	13	.07	14	.334	13	5.284e-4	14	NC		NC	
		min	-.165	7	-1.209	5	-.71	7	-1.941e-3	3	8078.089	5	5647.471	7
	4	max	.578	13	.085	14	.334	13	4.332e-4	14	NC		NC	
		min	-.162	7	-1.255	5	-.72	7	-1.601e-3	3	9095.016	5	8729.95	7
	5	max	.577	13	.096	14	.335	13	3.381e-4	14	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.159	7	-1.285	5	-.722	7	-1.394e-3	6	NC		NC	
M10	1	max	.064	14	.037	14	.448	7	1.245e-3	6	NC		NC	
		min	-.25	3	-1.041	5	-.663	13	-2.886e-4	13	NC		NC	
	2	max	.065	14	.034	14	.476	7	1.083e-3	6	NC		2495.037	7
		min	-.253	3	-1.041	5	-.663	13	-2.974e-4	13	NC		NC	
	3	max	.066	14	.032	14	.497	7	9.206e-4	6	NC		1413.859	7
		min	-.256	3	-1.04	5	-.664	13	-3.062e-4	13	NC		NC	
	4	max	.067	14	.028	14	.519	7	7.584e-4	6	NC		978.919	7
		min	-.259	3	-1.037	5	-.666	13	-3.151e-4	13	NC		NC	
	5	max	.067	14	.025	14	.549	7	6.292e-4	5	NC		691.747	7
		min	-.262	3	-1.035	5	-.668	13	-3.239e-4	13	NC		NC	
M11	1	max	.438	7	.032	7	.444	13	1.77e-4	13	NC		NC	
		min	-.5	13	-.993	5	-.326	7	-2.489e-4	12	NC		NC	
	2	max	.445	7	.027	14	.442	13	1.639e-4	13	NC		NC	
		min	-.5	13	-1.002	5	-.28	7	-3.66e-4	5	NC		NC	
	3	max	.453	7	.029	14	.438	13	1.508e-4	13	NC		NC	
		min	-.5	13	-1.013	5	-.237	7	-4.844e-4	5	4908.766	5	NC	
	4	max	.46	7	.032	14	.435	13	1.377e-4	13	NC		NC	
		min	-.501	13	-1.025	5	-.194	7	-6.029e-4	5	3006.186	5	NC	
	5	max	.467	7	.037	14	.435	13	1.246e-4	13	8438.491	14	NC	
		min	-.501	13	-1.041	5	-.148	7	-7.213e-4	5	2030.242	5	NC	
M12	1	max	.152	14	.074	14	.467	7	1.477e-3	6	NC		NC	
		min	-.592	3	-1.21	5	-.666	13	-2.658e-4	14	NC		NC	
	2	max	.153	14	.067	14	.488	7	1.305e-3	6	NC		NC	
		min	-.595	3	-1.194	5	-.666	13	-2.269e-4	14	NC		NC	
	3	max	.154	14	.057	14	.503	7	1.133e-3	6	NC		NC	
		min	-.599	3	-1.175	5	-.667	13	-1.881e-4	14	NC		NC	
	4	max	.155	14	.045	14	.517	7	9.605e-4	6	NC		NC	
		min	-.603	3	-1.153	5	-.668	13	-1.741e-4	13	NC		NC	
	5	max	.156	14	.029	14	.537	7	7.884e-4	6	NC		NC	
		min	-.606	3	-1.133	5	-.667	13	-1.789e-4	13	NC		NC	
M13	1	max	.583	7	.025	14	.299	13	6.462e-4	3	NC		NC	
		min	-.597	13	-1.035	5	-.064	7	-1.798e-4	14	NC		NC	
	2	max	.594	7	.033	14	.307	3	6.307e-4	3	NC		9576.586	3
		min	-.596	13	-1.07	5	-.078	14	-1.718e-4	14	4399.135	5	NC	
	3	max	.604	7	.045	14	.397	3	6.153e-4	3	7574.299	14	7062.34	3
		min	-.596	13	-1.115	5	-.101	14	-1.638e-4	14	1903.515	5	NC	
	4	max	.615	7	.059	14	.476	3	5.998e-4	3	4458.828	14	9788.169	3
		min	-.595	13	-1.163	5	-.121	14	-1.558e-4	14	1200.105	5	NC	
	5	max	.626	7	.074	14	.546	3	5.843e-4	3	3126.774	14	NC	
		min	-.594	13	-1.21	5	-.14	14	-1.479e-4	14	878.792	5	NC	
M14	1	max	.702	7	.029	14	.499	3	2.607e-3	3	NC		NC	
		min	-.576	13	-1.133	5	-.128	14	-7.136e-4	14	NC		NC	
	2	max	.703	7	.05	14	.554	3	2.268e-3	3	NC		5538.691	3
		min	-.575	13	-1.181	5	-.142	14	-6.191e-4	14	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.705	7	.069	14	.587	3	1.93e-3	3	NC		4484.815	3
		min	-.574	13	-1.229	5	-.15	14	-5.246e-4	14	8029.57	5	NC	
	4	max	.707	7	.085	14	.6	3	1.646e-3	6	NC		6782.48	3
		min	-.573	13	-1.265	5	-.154	14	-4.302e-4	14	9055.682	5	NC	
	5	max	.709	7	.096	14	.602	3	1.498e-3	6	NC		NC	
		min	-.572	13	-1.285	5	-.154	14	-3.357e-4	14	NC		NC	
M15	1	max	.538	7	.093	7	.993	5	1.931e-4	7	NC		NC	
		min	-.666	13	-.057	13	-.032	7	-1.12e-4	13	NC		4865.117	7
	2	max	.536	7	.117	7	.999	5	2.494e-4	7	1878.93	7	8501.848	5
		min	-.666	13	-.057	13	-.029	7	-1.067e-4	13	NC		6906.203	7
	3	max	.535	7	.143	7	1.005	5	3.057e-4	7	911.223	7	3959.617	5
		min	-.666	13	-.058	13	-.027	7	-1.015e-4	13	NC		NC	
	4	max	.533	7	.169	7	1.011	5	3.829e-4	3	595.26	7	2506.878	5
		min	-.665	13	-.059	13	-.025	14	-9.784e-5	14	NC		NC	
	5	max	.532	7	.196	7	1.018	5	4.617e-4	3	441.659	7	1814.932	5
		min	-.665	13	-.06	13	-.025	14	-1.224e-4	14	NC		NC	
M16	1	max	.549	7	.705	3	1.165	5	4.927e-3	3	NC		NC	
		min	-.665	13	-.182	14	-.029	14	-1.347e-3	14	NC		NC	
	2	max	.548	7	.706	3	1.165	5	4.949e-3	3	NC		NC	
		min	-.665	13	-.182	14	-.029	14	-1.354e-3	14	NC		NC	
	3	max	.548	7	.707	3	1.165	5	4.971e-3	3	6459.428	3	NC	
		min	-.665	13	-.182	14	-.03	14	-1.36e-3	14	NC		NC	
	4	max	.547	7	.708	3	1.164	5	4.994e-3	3	4029.532	3	NC	
		min	-.665	13	-.183	14	-.03	14	-1.366e-3	14	NC		NC	
	5	max	.546	7	.709	3	1.164	5	5.016e-3	3	2871.794	3	NC	
		min	-.665	13	-.183	14	-.03	14	-1.372e-3	14	NC		NC	
M17	1	max	.397	7	.083	3	1.001	5	1.219e-3	3	1150.886	3	NC	
		min	-.544	13	-.06	14	-.035	14	-6.716e-4	14	NC		NC	
	2	max	.397	7	.082	3	1.001	5	1.219e-3	3	1534.517	3	NC	
		min	-.544	13	-.059	14	-.035	14	-6.716e-4	14	NC		NC	
	3	max	.397	7	.081	3	1.001	5	1.219e-3	3	2301.778	3	NC	
		min	-.544	13	-.058	14	-.035	14	-6.716e-4	14	NC		NC	
	4	max	.397	7	.08	3	1.001	5	1.219e-3	3	4603.566	3	NC	
		min	-.544	13	-.057	14	-.035	14	-6.716e-4	14	NC		NC	
	5	max	.397	7	.079	3	1.001	5	1.219e-3	3	NC		NC	
		min	-.544	13	-.056	14	-.035	14	-6.716e-4	14	NC		NC	
M18	1	max	.387	3	.034	3	.559	13	1.458e-4	13	NC		NC	
		min	-.097	14	-1.146	12	-.42	7	-1.04e-4	7	NC		NC	
	2	max	.384	3	.081	3	.557	13	1.379e-4	5	3685.719	3	NC	
		min	-.097	14	-1.126	12	-.419	7	-9.737e-5	7	7702.377	12	NC	
	3	max	.381	3	.105	3	.555	13	1.348e-4	5	3408.22	3	NC	
		min	-.096	14	-1.095	12	-.417	7	-9.077e-5	7	6801.993	12	NC	
	4	max	.378	3	.116	3	.553	13	1.317e-4	5	5924.349	3	NC	
		min	-.095	14	-1.057	12	-.416	7	-8.417e-5	7	NC		NC	
	5	max	.376	3	.122	3	.552	13	1.286e-4	5	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.094	14	-1.016	12	-.415	7	-7.757e-5	7	NC		NC	
M19	1	max	.013	14	.047	13	.422	7	5.117e-4	7	NC		NC	
		min	-.046	3	-.884	5	-.546	13	-3.112e-4	13	NC		NC	
	2	max	.014	14	.05	13	.419	7	4.752e-4	7	NC		NC	
		min	-.05	3	-.912	5	-.549	13	-3.141e-4	13	6797.441	5	NC	
	3	max	.015	14	.052	13	.417	7	4.387e-4	7	NC		NC	
		min	-.054	3	-.934	5	-.553	13	-3.818e-4	12	5344.928	5	9981.323	13
	4	max	.016	14	.054	13	.414	7	4.023e-4	7	NC		NC	
		min	-.058	3	-.948	5	-.556	13	-5.205e-4	12	7489.196	5	6616.966	13
	5	max	.017	14	.055	13	.407	7	3.658e-4	7	NC		NC	
		min	-.062	3	-.958	5	-.56	13	-6.592e-4	12	NC		4919.993	13
M20	1	max	.402	13	.079	13	.391	13	3.903e-4	12	3003.214	13	3609.868	13
		min	-.279	7	-.901	5	-.305	7	-3.125e-4	7	NC		NC	
	2	max	.403	13	.071	13	.383	13	6.659e-4	12	4059.627	13	4987.246	13
		min	-.282	7	-.908	5	-.306	7	-2.862e-4	7	8258.009	5	NC	
	3	max	.404	13	.063	13	.376	13	9.415e-4	12	6125.646	13	7950.844	13
		min	-.285	7	-.911	5	-.305	7	-2.599e-4	7	5218.722	5	NC	
	4	max	.406	13	.055	13	.37	13	1.217e-3	12	NC		NC	
		min	-.288	7	-.904	5	-.305	7	-2.336e-4	7	6012.067	5	NC	
	5	max	.407	13	.047	13	.364	13	1.493e-3	12	NC		NC	
		min	-.291	7	-.884	5	-.309	7	-2.072e-4	7	NC		NC	
M21	1	max	.07	14	.064	2	.429	7	7.071e-4	3	NC		3328.151	7
		min	-.282	3	-.953	5	-.55	13	-6.938e-4	12	NC		NC	
	2	max	.071	14	.057	2	.416	7	6.344e-4	3	NC		6956.359	7
		min	-.286	3	-.991	5	-.551	13	-7.134e-4	12	NC		NC	
	3	max	.072	14	.047	2	.416	7	5.616e-4	3	8365.315	2	7310.41	7
		min	-.29	3	-1.025	5	-.555	13	-7.329e-4	12	7594.883	5	NC	
	4	max	.074	14	.032	2	.416	7	5.021e-4	7	NC		7323.311	7
		min	-.294	3	-1.055	5	-.558	13	-7.524e-4	12	8465.889	5	NC	
	5	max	.075	14	.023	13	.405	7	4.524e-4	7	NC		NC	
		min	-.299	3	-1.076	5	-.559	13	-7.72e-4	12	NC		9083.289	13
M22	1	max	.497	13	.055	13	.258	13	7.142e-4	12	4103.828	13	NC	
		min	-.338	7	-.958	5	-.231	7	-2.944e-4	7	NC		NC	
	2	max	.496	13	.043	13	.252	13	1.015e-3	12	5949.111	13	NC	
		min	-.325	7	-.969	5	-.263	7	-2.36e-4	7	NC		4716.62	7
	3	max	.494	13	.033	13	.248	13	1.317e-3	12	9748.232	13	NC	
		min	-.312	7	-.969	5	-.302	7	-1.8e-4	3	NC		2145.964	7
	4	max	.493	13	.035	2	.247	13	1.618e-3	12	2685.694	2	NC	
		min	-.298	7	-.963	5	-.344	7	-1.261e-4	3	NC		1360.777	7
	5	max	.492	13	.064	2	.247	13	1.919e-3	12	1802.475	2	NC	
		min	-.285	7	-.953	5	-.387	7	-7.223e-5	3	NC		985.366	7
M23	1	max	.483	13	.023	13	.282	13	1.414e-3	6	7534.052	13	NC	
		min	-.232	7	-1.076	5	-.403	7	-2.725e-4	14	NC		NC	
	2	max	.481	13	.047	2	.281	13	1.41e-3	6	NC		NC	
		min	-.227	7	-1.077	5	-.438	7	-2.342e-4	14	9241.527	5	8017.879	7

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.48	13	.081	3	.28	13	1.406e-3	6	9429.641	3	NC	
		min	-.222	7	-1.066	12	-.455	7	-1.959e-4	14	7290.745	12	6733.784	7
	4	max	.479	13	.108	3	.278	13	1.438e-3	5	NC		NC	
		min	-.216	7	-1.045	12	-.46	7	-1.576e-4	14	NC		NC	
	5	max	.477	13	.122	3	.278	13	1.58e-3	12	NC		NC	
		min	-.211	7	-1.016	12	-.459	7	-1.192e-4	14	NC		NC	
M24	1	max	.013	14	.019	14	.399	7	1.075e-4	14	NC		NC	
		min	-.047	3	-.954	5	-.546	13	-3.919e-4	6	NC		NC	
	2	max	.014	14	.021	14	.407	7	9.043e-5	14	NC		8715.399	7
		min	-.05	3	-.985	5	-.549	13	-3.159e-4	13	6302.499	5	NC	
	3	max	.015	14	.022	14	.414	7	1.234e-4	12	NC		4719.635	7
		min	-.054	3	-1.007	5	-.552	13	-3.186e-4	13	4967.297	5	NC	
	4	max	.016	14	.023	14	.422	7	2.728e-4	12	NC		3033.825	7
		min	-.058	3	-1.023	5	-.555	13	-3.213e-4	13	6977.985	5	7771.217	13
	5	max	.018	14	.024	14	.434	7	4.222e-4	12	NC		1975.735	7
		min	-.062	3	-1.033	5	-.558	13	-3.239e-4	13	NC		5778.621	13
M25	1	max	.326	7	.032	7	.387	13	2.155e-4	3	5339.616	7	4097.97	13
		min	-.402	13	-.992	5	-.28	7	-2.424e-4	12	NC		NC	
	2	max	.325	7	.025	14	.381	13	2.042e-4	3	NC		5649.819	13
		min	-.403	13	-.995	5	-.269	7	-5.338e-4	12	7589.829	5	NC	
	3	max	.323	7	.024	14	.375	13	1.929e-4	3	NC		9054.226	13
		min	-.404	13	-.993	5	-.26	7	-8.252e-4	12	4805.036	5	NC	
	4	max	.322	7	.022	14	.369	13	1.816e-4	3	NC		NC	
		min	-.406	13	-.981	5	-.251	7	-1.117e-3	12	5542.708	5	NC	
	5	max	.321	7	.019	14	.364	13	1.703e-4	3	NC		NC	
		min	-.407	13	-.954	5	-.239	7	-1.408e-3	12	NC		NC	
M26	1	max	.07	14	.063	2	.398	7	4.41e-4	12	NC		NC	
		min	-.281	3	-.989	5	-.55	13	-7.036e-4	3	NC		NC	
	2	max	.071	14	.056	2	.413	7	4.537e-4	12	NC		NC	
		min	-.286	3	-1.027	5	-.551	13	-6.298e-4	3	NC		NC	
	3	max	.072	14	.046	7	.418	7	4.665e-4	12	NC		NC	
		min	-.29	3	-1.063	5	-.554	13	-5.56e-4	3	7205.689	5	NC	
	4	max	.074	14	.036	7	.422	7	4.793e-4	12	NC		NC	
		min	-.294	3	-1.094	5	-.556	13	-4.822e-4	3	8052.804	5	NC	
	5	max	.075	14	.02	7	.435	7	4.921e-4	12	NC		NC	
		min	-.299	3	-1.115	5	-.557	13	-4.084e-4	3	NC		NC	
M27	1	max	.408	7	.024	14	.257	13	2.892e-4	3	NC		NC	
		min	-.495	13	-1.033	5	-.157	7	-6.238e-4	12	NC		NC	
	2	max	.419	7	.02	14	.252	13	2.354e-4	3	NC		NC	
		min	-.494	13	-1.035	5	-.116	7	-9.341e-4	12	NC		NC	
	3	max	.431	7	.024	7	.25	13	1.815e-4	3	NC		NC	
		min	-.493	13	-1.025	5	-.072	7	-1.244e-3	12	NC		NC	
	4	max	.442	7	.039	7	.249	13	1.277e-4	3	7176.553	7	NC	
		min	-.491	13	-1.008	5	-.05	14	-1.555e-3	12	NC		4300.721	14
	5	max	.454	7	.063	2	.259	3	7.382e-5	3	1845.164	2	721.148	3

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.49	13	-.989	5	-.064	14	-1.865e-3	12	NC		3062.405	14
M28	1	max	.492	7	.02	7	.284	13	2.695e-4	14	NC		NC	
		min	-.479	13	-1.115	5	-.062	14	-1.306e-3	6	NC		NC	
	2	max	.495	7	.047	2	.29	3	2.317e-4	14	NC		6468.156	3
		min	-.478	13	-1.106	5	-.072	14	-1.304e-3	6	9362.322	5	NC	
	3	max	.498	7	.081	3	.315	3	1.939e-4	14	9679.182	3	5380.002	3
		min	-.477	13	-1.085	12	-.078	14	-1.302e-3	6	7469.725	12	NC	
	4	max	.501	7	.107	3	.323	3	1.561e-4	14	NC		8493.898	3
		min	-.475	13	-1.054	12	-.08	14	-1.307e-3	5	NC		NC	
	5	max	.504	7	.122	3	.323	3	1.183e-4	14	NC		NC	
		min	-.474	13	-1.016	12	-.081	14	-1.45e-3	12	NC		NC	
M29	1	max	.427	7	.043	7	.992	5	2.87e-4	7	NC		NC	
		min	-.558	13	-.024	13	-.032	7	-1.154e-4	13	NC		4571.38	7
	2	max	.428	7	.049	7	.996	5	3.145e-4	7	7783.984	7	NC	
		min	-.558	13	-.028	13	-.029	7	-1.116e-4	13	NC		6294.309	7
	3	max	.428	7	.054	7	1.002	5	3.42e-4	7	3966.565	7	4381.518	5
		min	-.557	13	-.031	13	-.027	7	-1.447e-4	12	6897.336	13	9787.839	7
	4	max	.428	7	.06	7	1.009	5	3.701e-4	3	2650.862	7	2641.031	5
		min	-.557	13	-.034	13	-.024	7	-1.864e-4	12	4561.591	13	NC	
	5	max	.428	7	.066	7	1.016	5	4.072e-4	3	1959.626	7	1855.598	5
		min	-.557	13	-.038	13	-.024	14	-2.28e-4	12	3438.968	13	NC	
M30	1	max	.444	7	.386	3	1.146	12	7.543e-4	14	NC		NC	
		min	-.556	13	-.097	14	-.034	3	-2.671e-3	3	NC		NC	
	2	max	.443	7	.386	3	1.146	12	7.593e-4	14	NC		NC	
		min	-.556	13	-.097	14	-.034	3	-2.69e-3	3	NC		NC	
	3	max	.443	7	.387	3	1.145	12	7.644e-4	14	6444.717	3	NC	
		min	-.556	13	-.098	14	-.035	3	-2.708e-3	3	NC		NC	
	4	max	.443	7	.388	3	1.145	12	7.694e-4	14	4016.406	3	NC	
		min	-.556	13	-.098	14	-.035	3	-2.727e-3	3	NC		NC	
	5	max	.442	7	.389	3	1.144	12	7.744e-4	14	2859.545	3	NC	
		min	-.556	13	-.098	14	-.036	3	-2.746e-3	3	NC		NC	
M31	1	max	0	1	0	1	0	1	1.253e-4	14	NC		NC	
		min	0	1	0	1	0	1	-6.755e-4	6	NC		NC	
	2	max	.002	14	.004	14	.121	7	1.253e-4	14	NC		3950.611	7
		min	-.008	3	-.21	5	-.165	13	-6.755e-4	6	4766.994	5	2981.036	13
	3	max	.004	14	.008	14	.232	7	1.253e-4	14	NC		2469.132	7
		min	-.015	3	-.41	5	-.316	13	-6.755e-4	6	2979.371	5	1863.147	13
	4	max	.007	14	.012	14	.32	7	1.253e-4	14	NC		2821.865	7
		min	-.023	3	-.593	5	-.438	13	-6.755e-4	6	3404.996	5	2129.311	13
	5	max	.009	14	.015	14	.376	7	1.253e-4	14	NC		NC	
		min	-.031	3	-.748	5	-.516	13	-6.755e-4	6	NC		NC	
M32	1	max	0	1	0	1	0	1	5.416e-4	7	NC		NC	
		min	0	1	0	1	0	1	-3.297e-4	13	NC		NC	
	2	max	.002	14	.01	13	.127	7	5.416e-4	7	NC		4014.044	7
		min	-.008	3	-.194	5	-.164	13	-3.297e-4	13	5170.958	5	3014.157	13

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.004	14	.019	13	.243	7	5.416e-4	7	NC		2508.777	7
		min	-.015	3	-.38	5	-.315	13	-3.297e-4	13	3231.849	5	1883.848	13
	4	max	.007	14	.028	13	.337	7	5.416e-4	7	NC		2867.174	7
		min	-.023	3	-.549	5	-.436	13	-3.297e-4	13	3693.542	5	2152.969	13
	5	max	.009	14	.036	13	.4	7	5.416e-4	7	NC		NC	
		min	-.031	3	-.692	5	-.514	13	-3.297e-4	13	NC		NC	
M33	1	max	.407	13	.015	14	.212	7	3.681e-3	5	NC		NC	
		min	-.311	7	-.748	5	-.318	13	-1.45e-4	2	NC		NC	
	2	max	.408	13	.019	14	.232	7	2.745e-3	5	NC		7012.524	7
		min	-.312	7	-.83	5	-.346	13	-1.909e-4	2	4214.36	5	4854.416	13
	3	max	.41	13	.022	14	.239	7	1.827e-3	12	NC		6926.682	7
		min	-.314	7	-.904	5	-.354	13	-2.544e-4	3	2555.781	5	5151.788	13
	4	max	.412	13	.025	14	.24	7	9.111e-4	12	NC		NC	
		min	-.315	7	-.96	5	-.353	13	-3.205e-4	3	2860.241	5	NC	
	5	max	.413	13	.026	14	.24	7	1.573e-4	14	NC		NC	
		min	-.317	7	-.988	5	-.354	13	-3.867e-4	3	NC		NC	
M34	1	max	.447	13	.102	13	.499	13	1.481e-3	6	NC		NC	
		min	-.386	7	-.878	5	-.401	7	-7.243e-4	14	NC		NC	
	2	max	.446	13	.093	13	.467	13	1.923e-3	6	NC		NC	
		min	-.386	7	-.86	5	-.391	7	-6.125e-4	14	5230.64	5	NC	
	3	max	.445	13	.083	13	.44	13	2.414e-3	5	NC		7006.361	13
		min	-.385	7	-.83	5	-.387	7	-5.006e-4	14	4003.405	5	5353.728	7
	4	max	.444	13	.071	13	.407	13	3.159e-3	5	NC		5775.731	13
		min	-.384	7	-.789	5	-.373	7	-3.888e-4	14	5520.574	5	4729.331	7
	5	max	.443	13	.059	13	.356	13	3.905e-3	5	NC		NC	
		min	-.384	7	-.738	5	-.339	7	-2.77e-4	14	NC		NC	
M35	1	max	.444	13	.025	7	.198	7	4.104e-3	5	NC		NC	
		min	-.284	7	-.815	5	-.356	13	-2.735e-4	14	NC		NC	
	2	max	.445	13	.039	7	.241	7	3.285e-3	5	NC		NC	
		min	-.285	7	-.876	5	-.407	13	-3.87e-4	14	4971.926	5	5729.793	13
	3	max	.446	13	.051	7	.279	7	2.465e-3	5	8807.21	7	NC	
		min	-.286	7	-.925	5	-.44	13	-5.005e-4	14	3613.122	5	6955.049	13
	4	max	.447	13	.058	7	.315	7	1.907e-3	6	9374.321	7	NC	
		min	-.286	7	-.961	5	-.467	13	-6.139e-4	14	4724.451	5	NC	
	5	max	.448	13	.056	7	.355	7	1.412e-3	6	NC		NC	
		min	-.287	7	-.984	5	-.498	13	-7.274e-4	14	NC		NC	
M36	1	max	.026	14	.017	14	.544	13	2.958e-4	13	NC		NC	
		min	-.988	5	-.031	6	-.397	7	-2.61e-4	14	NC		NC	
	2	max	.026	14	.018	14	.551	13	3.026e-4	13	NC		9941.711	13
		min	-.988	5	-.034	3	-.399	7	-2.181e-4	7	NC		NC	
	3	max	.026	14	.018	14	.557	13	3.093e-4	13	NC		4924.83	13
		min	-.988	5	-.037	3	-.4	7	-3.48e-4	7	NC		NC	
	4	max	.026	14	.018	14	.564	13	3.161e-4	13	NC		3248.124	13
		min	-.988	5	-.039	3	-.402	7	-4.779e-4	7	NC		NC	
	5	max	.026	14	.018	14	.571	13	3.229e-4	13	NC		2406.686	13

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.988	5	-.041	3	-.403	7	-6.078e-4	7	NC		NC	
M37	1	max	.032	7	.029	6	.43	7	2.605e-4	13	NC		NC	
		min	-.992	5	-.016	14	-.558	13	-5.603e-4	7	NC		NC	
	2	max	.032	7	.037	3	.44	7	2.358e-4	13	NC		NC	
		min	-.992	5	-.017	14	-.571	13	-7.283e-4	7	NC		9830.745	13
	3	max	.032	7	.043	3	.453	7	2.11e-4	13	NC		5567.242	7
		min	-.991	5	-.018	14	-.586	13	-9.59e-4	3	NC		4725.612	13
	4	max	.032	7	.046	3	.468	7	2.736e-4	14	NC		3415.586	7
		min	-.991	5	-.018	14	-.601	13	-1.198e-3	3	NC		3070.745	13
	5	max	.032	7	.049	3	.484	7	3.45e-4	14	NC		2423.394	7
		min	-.991	5	-.018	14	-.616	13	-1.437e-3	3	NC		2273.63	13
M38	1	max	.702	12	.031	14	.403	7	5.04e-4	7	NC		NC	
		min	-.028	7	-.698	5	-.571	13	-5.362e-4	13	NC		NC	
	2	max	.702	12	.031	14	.411	7	5.254e-4	7	NC		NC	
		min	-.028	7	-.698	5	-.568	13	-5.156e-4	13	NC		NC	
	3	max	.702	12	.03	14	.418	7	5.467e-4	7	NC		NC	
		min	-.028	7	-.699	5	-.565	13	-4.951e-4	13	NC		NC	
	4	max	.702	12	.029	14	.424	7	5.68e-4	7	NC		NC	
		min	-.027	7	-.7	5	-.561	13	-4.745e-4	13	NC		NC	
	5	max	.702	12	.029	14	.43	7	5.894e-4	7	NC		NC	
		min	-.027	7	-.701	5	-.558	13	-4.54e-4	13	NC		NC	
M39	1	max	.03	14	.043	7	.422	7	2.075e-4	14	NC		NC	
		min	-.722	5	-.676	12	-.632	13	-1.074e-3	3	NC		NC	
	2	max	.03	14	.045	7	.449	7	2.664e-4	14	NC		3311.413	7
		min	-.722	5	-.677	12	-.645	13	-1.251e-3	3	NC		NC	
	3	max	.03	14	.048	7	.478	7	3.254e-4	14	NC		1618.684	7
		min	-.722	5	-.68	12	-.655	13	-1.428e-3	3	NC		NC	
	4	max	.03	14	.051	7	.509	7	3.843e-4	14	NC		1043.86	7
		min	-.721	5	-.684	12	-.662	13	-1.605e-3	3	NC		NC	
	5	max	.03	14	.055	7	.544	7	4.432e-4	14	7644.649	7	750.097	7
		min	-.721	5	-.685	12	-.668	13	-1.781e-3	3	NC		NC	
M40	1	max	.701	12	.03	14	.422	7	1.227e-3	7	NC		NC	
		min	-.043	7	-.698	5	-.632	13	-6.764e-4	13	NC		NC	
	2	max	.702	12	.03	14	.44	7	1.225e-3	7	NC		NC	
		min	-.043	7	-.698	5	-.63	13	-6.146e-4	13	NC		NC	
	3	max	.702	12	.03	14	.456	7	1.224e-3	7	NC		NC	
		min	-.043	7	-.699	5	-.626	13	-5.528e-4	13	NC		NC	
	4	max	.703	12	.03	14	.471	7	1.222e-3	7	NC		NC	
		min	-.043	7	-.7	5	-.621	13	-4.909e-4	13	NC		NC	
	5	max	.704	12	.03	14	.484	7	1.221e-3	7	NC		NC	
		min	-.043	7	-.701	5	-.616	13	-4.291e-4	13	NC		NC	
M41	1	max	.031	14	.028	7	.403	7	5.821e-5	14	NC		NC	
		min	-.723	5	-.676	12	-.571	13	-5.588e-4	6	NC		NC	
	2	max	.031	14	.032	7	.417	7	9.563e-5	14	NC		6639.38	7
		min	-.723	5	-.677	12	-.583	13	-6.438e-4	3	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.031	14	.036	7	.435	7	1.33e-4	14	NC		2840.808	7
		min	-.724	5	-.677	12	-.595	13	-7.313e-4	3	NC		NC	
	4	max	.031	14	.04	7	.458	7	1.705e-4	14	NC		1672.658	7
		min	-.724	5	-.678	12	-.606	13	-8.189e-4	3	NC		NC	
	5	max	.031	14	.043	7	.484	7	2.079e-4	14	NC		1134.052	7
		min	-.725	5	-.679	12	-.616	13	-9.065e-4	3	NC		NC	
M42	1	max	.993	5	.044	13	.697	13	1.889e-3	7	NC		NC	
		min	-.03	7	-.061	7	-.488	7	-1.546e-3	13	NC		NC	
	2	max	.993	5	.044	13	.692	13	1.889e-3	7	NC		NC	
		min	-.03	7	-.053	7	-.483	7	-1.546e-3	13	NC		NC	
	3	max	.993	5	.045	13	.688	13	1.889e-3	7	NC		NC	
		min	-.03	7	-.045	7	-.479	7	-1.546e-3	13	NC		NC	
	4	max	.993	5	.045	13	.684	13	1.889e-3	7	NC		NC	
		min	-.03	7	-.036	7	-.474	7	-1.546e-3	13	NC		NC	
	5	max	.993	5	.045	13	.68	13	1.889e-3	7	NC		NC	
		min	-.03	7	-.027	7	-.469	7	-1.546e-3	13	NC		NC	
M43	1	max	.035	7	.049	14	.525	13	2.609e-4	13	2763.673	14	NC	
		min	-.992	5	-.138	3	-.411	7	-5.605e-4	7	844.801	3	NC	
	2	max	.035	7	.038	14	.534	13	2.609e-4	13	4173.931	14	NC	
		min	-.992	5	-.1	3	-.417	7	-5.605e-4	7	1295.617	3	NC	
	3	max	.035	7	.027	14	.543	13	2.609e-4	13	8039.042	14	NC	
		min	-.992	5	-.065	3	-.423	7	-5.605e-4	7	2592.541	3	7471.106	7
	4	max	.035	7	.019	14	.552	13	2.609e-4	13	NC		NC	
		min	-.992	5	-.038	6	-.429	7	-5.605e-4	7	NC		4980.737	7
	5	max	.035	7	.016	14	.561	13	2.609e-4	13	NC		NC	
		min	-.992	5	-.03	6	-.436	7	-5.605e-4	7	NC		3735.553	7
M44	1	max	.991	5	.033	6	.547	13	3.187e-4	14	NC		2484.206	13
		min	-.025	14	-.018	14	-.398	7	-3.003e-4	13	NC		NC	
	2	max	.991	5	.032	6	.542	13	3.187e-4	14	NC		3312.275	13
		min	-.025	14	-.016	14	-.396	7	-3.003e-4	13	NC		NC	
	3	max	.991	5	.031	6	.537	13	3.187e-4	14	NC		4968.413	13
		min	-.025	14	-.015	14	-.395	7	-3.003e-4	13	NC		NC	
	4	max	.991	5	.031	6	.532	13	3.187e-4	14	NC		9936.826	13
		min	-.025	14	-.014	14	-.394	7	-3.003e-4	13	NC		NC	
	5	max	.991	5	.031	13	.527	13	3.187e-4	14	NC		NC	
		min	-.025	14	-.013	14	-.393	7	-3.003e-4	13	NC		NC	
M45	1	max	.994	5	.028	3	.689	13	1.846e-3	7	NC		2488.615	13
		min	-.027	14	-.027	12	-.49	7	-8.648e-4	13	NC		NC	
	2	max	.994	5	.031	3	.684	13	1.846e-3	7	NC		3318.154	13
		min	-.027	14	-.021	12	-.485	7	-8.648e-4	13	NC		NC	
	3	max	.994	5	.034	3	.68	13	1.846e-3	7	6497.831	3	4977.231	13
		min	-.027	14	-.014	12	-.479	7	-8.648e-4	13	NC		NC	
	4	max	.994	5	.038	3	.676	13	1.846e-3	7	4264.575	3	9954.461	13
		min	-.027	14	-.01	14	-.474	7	-8.648e-4	13	6858.004	14	NC	
	5	max	.994	5	.041	3	.672	13	1.846e-3	7	3104.491	3	NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.027	14	-.012	14	-.469	7	-8.648e-4	13	4971.998	14	NC	
M46	1	max	1.155	5	2.135	3	.69	13	3.39e-5	14	98.732	3	NC	
		min	-.015	14	-.573	14	-.535	7	-1.253e-4	3	360.517	14	NC	
	2	max	1.155	5	1.721	3	.685	13	3.39e-5	14	139.256	3	NC	
		min	-.015	14	-.46	14	-.528	7	-1.253e-4	3	508.527	14	NC	
	3	max	1.155	5	1.319	3	.679	13	3.39e-5	14	231.167	3	NC	
		min	-.015	14	-.35	14	-.52	7	-1.253e-4	3	844.283	14	NC	
	4	max	1.155	5	.964	3	.673	13	3.39e-5	14	555.44	3	NC	
		min	-.015	14	-.253	14	-.513	7	-1.253e-4	3	2029.24	14	NC	
	5	max	1.155	5	.711	3	.668	13	3.39e-5	14	NC		NC	
		min	-.015	14	-.183	14	-.506	7	-1.253e-4	3	NC		NC	
M47	1	max	1.153	5	1.941	3	.688	13	3.597e-4	3	109.011	3	6589.518	13
		min	-.017	14	-.521	14	-.585	7	-9.316e-5	14	398.011	14	2209.284	7
	2	max	1.153	5	1.588	3	.683	13	3.597e-4	3	153.272	3	8786.023	13
		min	-.017	14	-.424	14	-.57	7	-9.316e-5	14	559.649	14	2945.712	7
	3	max	1.153	5	1.244	3	.678	13	3.597e-4	3	252.886	3	NC	
		min	-.017	14	-.33	14	-.554	7	-9.316e-5	14	923.491	14	4418.568	7
	4	max	1.153	5	.939	3	.672	13	3.597e-4	3	600.005	3	NC	
		min	-.017	14	-.246	14	-.539	7	-9.316e-5	14	2191.671	14	8837.136	7
	5	max	1.153	5	.716	3	.667	13	3.597e-4	3	NC		NC	
		min	-.017	14	-.185	14	-.524	7	-9.316e-5	14	NC		NC	
M48	1	max	1.139	5	1.645	3	.688	13	1.545e-3	3	129.289	3	6006.017	13
		min	-.018	14	-.44	14	-.604	7	-4.057e-4	14	471.944	14	2128.908	7
	2	max	1.139	5	1.361	3	.683	13	1.545e-3	3	181.883	3	8008.023	13
		min	-.018	14	-.362	14	-.589	7	-4.057e-4	14	663.965	14	2838.544	7
	3	max	1.139	5	1.087	3	.678	13	1.545e-3	3	300.412	3	NC	
		min	-.018	14	-.287	14	-.574	7	-4.057e-4	14	1096.769	14	4257.816	7
	4	max	1.139	5	.843	3	.672	13	1.545e-3	3	714.326	3	NC	
		min	-.018	14	-.22	14	-.559	7	-4.057e-4	14	2608.487	14	8515.633	7
	5	max	1.139	5	.665	3	.667	13	1.545e-3	3	NC		NC	
		min	-.018	14	-.172	14	-.544	7	-4.057e-4	14	NC		NC	
M49	1	max	1.113	5	1.319	3	.69	13	1.657e-3	3	161.952	3	NC	
		min	-.019	14	-.352	14	-.604	7	-4.273e-4	14	591.033	14	NC	
	2	max	1.113	5	1.104	3	.684	13	1.657e-3	3	228.554	3	NC	
		min	-.019	14	-.293	14	-.591	7	-4.273e-4	14	834.128	14	NC	
	3	max	1.113	5	.896	3	.678	13	1.657e-3	3	379.821	3	NC	
		min	-.019	14	-.236	14	-.578	7	-4.273e-4	14	1386.309	14	NC	
	4	max	1.113	5	.711	3	.673	13	1.657e-3	3	914.737	3	NC	
		min	-.019	14	-.185	14	-.566	7	-4.273e-4	14	3339.293	14	NC	
	5	max	1.113	5	.581	3	.667	13	1.657e-3	3	NC		NC	
		min	-.019	14	-.149	14	-.553	7	-4.273e-4	14	NC		NC	
M50	1	max	1.08	5	1.019	3	.694	13	2.539e-3	3	209.854	3	4263.558	13
		min	-.021	14	-.271	14	-.611	7	-6.558e-4	14	765.96	14	NC	
	2	max	1.08	5	.861	3	.687	13	2.539e-3	3	297.59	3	5684.744	13
		min	-.021	14	-.228	14	-.6	7	-6.558e-4	14	1086.257	14	NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	1.08	5	.708	3	.681	13	2.539e-3	3	499.276	3	8527.116	13
		min	-.021	14	-.186	14	-.589	7	-6.558e-4	14	1822.655	14	NC	
	4	max	1.08	5	.574	3	.674	13	2.539e-3	3	1227.022	3	NC	
		min	-.021	14	-.149	14	-.578	7	-6.558e-4	14	4480.446	14	NC	
	5	max	1.08	5	.482	3	.667	13	2.539e-3	3	NC		NC	
		min	-.021	14	-.124	14	-.567	7	-6.558e-4	14	NC		NC	
M51	1	max	1.047	5	.688	3	.699	13	3.109e-3	3	297.488	3	NC	
		min	-.022	14	-.183	14	-.617	7	-7.98e-4	14	1086.075	14	NC	
	2	max	1.047	5	.581	3	.691	13	3.109e-3	3	426.493	3	NC	
		min	-.022	14	-.154	14	-.606	7	-7.98e-4	14	1557.18	14	NC	
	3	max	1.047	5	.478	3	.684	13	3.109e-3	3	731.459	3	NC	
		min	-.022	14	-.125	14	-.596	7	-7.98e-4	14	2671.114	14	NC	
	4	max	1.047	5	.389	3	.676	13	3.109e-3	3	1888.358	3	NC	
		min	-.022	14	-.101	14	-.585	7	-7.98e-4	14	6898.612	14	NC	
	5	max	1.047	5	.333	3	.668	13	3.109e-3	3	NC		NC	
		min	-.022	14	-.086	14	-.575	7	-7.98e-4	14	NC		NC	
M52	1	max	1.017	5	.412	3	.703	13	2.8e-3	3	444.179	3	2948.412	13
		min	-.027	7	-.11	14	-.597	7	-7.036e-4	14	1631.153	14	NC	
	2	max	1.017	5	.342	3	.694	13	2.8e-3	3	647.375	3	3931.215	13
		min	-.027	7	-.091	14	-.591	7	-7.036e-4	14	2378.9	14	NC	
	3	max	1.017	5	.275	3	.686	13	2.8e-3	3	1149.408	3	5896.823	13
		min	-.027	7	-.073	14	-.584	7	-7.036e-4	14	4229.672	14	NC	
	4	max	1.017	5	.22	3	.677	13	2.8e-3	3	3231.442	3	NC	
		min	-.027	7	-.058	14	-.578	7	-7.036e-4	14	NC		NC	
	5	max	1.017	5	.189	3	.669	13	2.8e-3	3	NC		NC	
		min	-.027	7	-.049	14	-.572	7	-7.036e-4	14	NC		NC	
M53	1	max	.993	5	.206	3	.701	13	2.52e-3	3	629.469	3	NC	
		min	-.034	7	-.055	14	-.593	7	-6.454e-4	14	2392.15	14	NC	
	2	max	.993	5	.159	3	.693	13	2.52e-3	3	929.774	3	NC	
		min	-.034	7	-.042	14	-.586	7	-6.454e-4	14	3549.501	14	NC	
	3	max	.993	5	.114	3	.685	13	2.52e-3	3	1700.14	3	NC	
		min	-.034	7	-.031	14	-.579	7	-6.454e-4	14	6557.753	14	NC	
	4	max	.993	5	.078	3	.677	13	2.52e-3	3	5184.917	3	NC	
		min	-.034	7	-.021	14	-.572	7	-6.454e-4	14	NC		NC	
	5	max	.993	5	.06	3	.668	13	2.52e-3	3	NC		NC	
		min	-.034	7	-.017	14	-.565	7	-6.454e-4	14	NC		NC	
M54	1	max	.894	5	.017	14	.699	13	5.354e-4	7	NC		NC	
		min	-.088	13	-.055	6	-.566	7	-1.594e-3	13	NC		NC	
	2	max	.894	5	.014	7	.694	13	5.354e-4	7	4752.961	7	NC	
		min	-.088	13	-.048	13	-.565	7	-1.594e-3	13	NC		NC	
	3	max	.894	5	.024	7	.69	13	5.354e-4	7	2367.255	7	NC	
		min	-.088	13	-.048	13	-.563	7	-1.594e-3	13	NC		NC	
	4	max	.894	5	.034	7	.685	13	5.354e-4	7	1561.714	7	NC	
		min	-.088	13	-.049	13	-.561	7	-1.594e-3	13	NC		NC	
	5	max	.894	5	.044	7	.68	13	5.354e-4	7	1147.976	7	NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.088	13	-.049	13	-.559	7	-1.594e-3	13	NC		NC	
M55	1	max	.899	5	.049	7	.548	13	5.146e-4	7	4581.019	7	NC	
		min	-.077	13	-.03	13	-.427	7	-3.538e-4	14	NC		1836.586	7
	2	max	.899	5	.046	7	.543	13	5.146e-4	7	6412.39	7	NC	
		min	-.077	13	-.031	13	-.421	7	-3.538e-4	14	NC		2448.781	7
	3	max	.899	5	.043	7	.539	13	5.146e-4	7	9871.175	7	NC	
		min	-.077	13	-.032	13	-.414	7	-3.538e-4	14	NC		3673.172	7
	4	max	.899	5	.041	7	.534	13	5.146e-4	7	NC		NC	
		min	-.077	13	-.033	13	-.408	7	-3.538e-4	14	NC		7346.344	7
	5	max	.899	5	.039	7	.529	13	5.146e-4	7	NC		NC	
		min	-.077	13	-.034	13	-.402	7	-3.538e-4	14	NC		NC	
M56	1	max	.901	5	.023	3	.691	13	2.36e-4	14	NC		NC	
		min	-.077	13	-.028	12	-.552	7	-1.444e-3	3	1767.475	12	NC	
	2	max	.901	5	.027	3	.687	13	2.36e-4	14	NC		NC	
		min	-.077	13	-.022	12	-.551	7	-1.444e-3	3	2356.633	12	NC	
	3	max	.901	5	.031	3	.682	13	2.36e-4	14	6108.883	3	NC	
		min	-.077	13	-.015	12	-.55	7	-1.444e-3	3	3534.949	12	NC	
	4	max	.901	5	.035	3	.678	13	2.36e-4	14	3990.153	3	NC	
		min	-.077	13	-.009	14	-.549	7	-1.444e-3	3	6620.662	14	NC	
	5	max	.901	5	.039	3	.673	13	2.36e-4	14	2879.126	3	NC	
		min	-.077	13	-.012	14	-.548	7	-1.444e-3	3	4745.486	14	NC	
M57	1	max	1.136	5	1.943	3	.909	13	1.016e-4	14	108.904	3	555.822	13
		min	-.017	14	-.521	14	-.619	7	-3.909e-4	3	397.621	14	988.642	7
	2	max	1.136	5	1.589	3	.831	13	1.016e-4	14	153.114	3	821.976	13
		min	-.017	14	-.424	14	-.572	7	-3.909e-4	3	559.07	14	1517.366	7
	3	max	1.136	5	1.245	3	.757	13	1.016e-4	14	252.599	3	1507.093	13
		min	-.017	14	-.33	14	-.528	7	-3.909e-4	3	922.44	14	3042.156	7
	4	max	1.136	5	.939	3	.697	13	1.016e-4	14	599.197	3	4632.8	13
		min	-.017	14	-.246	14	-.494	7	-3.909e-4	3	2188.711	14	NC	
	5	max	1.136	5	.716	3	.668	13	1.016e-4	14	NC		NC	
		min	-.017	14	-.185	14	-.484	7	-3.909e-4	3	NC		NC	
M58	1	max	1.108	5	1.643	3	.867	13	4.113e-4	14	129.277	3	638.304	13
		min	-.018	14	-.439	14	-.569	7	-1.565e-3	3	471.877	14	1200.635	7
	2	max	1.108	5	1.36	3	.803	13	4.113e-4	14	181.866	3	941.699	13
		min	-.018	14	-.362	14	-.532	7	-1.565e-3	3	663.866	14	1852.329	7
	3	max	1.108	5	1.085	3	.742	13	4.113e-4	14	300.38	3	1717.335	13
		min	-.018	14	-.287	14	-.498	7	-1.565e-3	3	1096.588	14	3763.993	7
	4	max	1.108	5	.841	3	.693	13	4.113e-4	14	714.236	3	5196.707	13
		min	-.018	14	-.22	14	-.471	7	-1.565e-3	3	2607.977	14	NC	
	5	max	1.108	5	.664	3	.669	13	4.113e-4	14	NC		NC	
		min	-.018	14	-.171	14	-.464	7	-1.565e-3	3	NC		NC	
M59	1	max	1.068	5	1.318	3	.833	13	4.337e-4	14	161.893	3	728.171	13
		min	-.027	13	-.351	14	-.546	7	-1.679e-3	3	590.755	14	1319.59	7
	2	max	1.068	5	1.102	3	.781	13	4.337e-4	14	228.466	3	1070.042	13
		min	-.027	13	-.292	14	-.515	7	-1.679e-3	3	833.713	14	2012.955	7

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	1.068	5	.894	3	.731	13	4.337e-4	14	379.66	3	1934.274	13
		min	-.027	13	-.235	14	-.485	7	-1.679e-3	3	1385.544	14	3973.631	7
	4	max	1.068	5	.71	3	.69	13	4.337e-4	14	914.27	3	5708.457	13
		min	-.027	13	-.185	14	-.463	7	-1.679e-3	3	3337.075	14	NC	
	5	max	1.068	5	.579	3	.669	13	4.337e-4	14	NC		NC	
		min	-.027	13	-.149	14	-.455	7	-1.679e-3	3	NC		NC	
M60	1	max	1.022	5	1.015	3	.807	13	6.62e-4	14	209.952	3	820.821	13
		min	-.037	13	-.27	14	-.522	7	-2.562e-3	3	766.184	14	1419.903	7
	2	max	1.022	5	.857	3	.764	13	6.62e-4	14	297.738	3	1199.055	13
		min	-.037	13	-.227	14	-.495	7	-2.562e-3	3	1086.594	14	2134.891	7
	3	max	1.022	5	.704	3	.722	13	6.62e-4	14	499.554	3	2139.471	13
		min	-.037	13	-.185	14	-.47	7	-2.562e-3	3	1823.289	14	4067.838	7
	4	max	1.022	5	.57	3	.688	13	6.62e-4	14	1227.861	3	6093.938	13
		min	-.037	13	-.148	14	-.451	7	-2.562e-3	3	4482.361	14	NC	
	5	max	1.022	5	.479	3	.67	13	6.62e-4	14	NC		NC	
		min	-.037	13	-.123	14	-.443	7	-2.562e-3	3	NC		NC	
M61	1	max	.977	5	.684	3	.787	13	7.917e-4	14	297.882	3	907.48	13
		min	-.049	13	-.182	14	-.506	7	-3.088e-3	3	1086.935	14	1512.118	7
	2	max	.977	5	.577	3	.751	13	7.917e-4	14	427.1	3	1314.725	13
		min	-.049	13	-.152	14	-.484	7	-3.088e-3	3	1558.506	14	2239.108	7
	3	max	.977	5	.474	3	.717	13	7.917e-4	14	732.65	3	2304.619	13
		min	-.049	13	-.124	14	-.462	7	-3.088e-3	3	2673.715	14	4117.543	7
	4	max	.977	5	.385	3	.688	13	7.917e-4	14	1892.33	3	6270.838	13
		min	-.049	13	-.1	14	-.445	7	-3.088e-3	3	6907.288	14	NC	
	5	max	.977	5	.329	3	.671	13	7.917e-4	14	NC		NC	
		min	-.049	13	-.085	14	-.436	7	-3.088e-3	3	NC		NC	
M62	1	max	.936	5	.41	3	.77	13	7.003e-4	14	443.255	3	1001.348	13
		min	-.065	13	-.109	14	-.516	7	-2.794e-3	3	1626.238	14	1313.212	7
	2	max	.936	5	.34	3	.74	13	7.003e-4	14	645.903	3	1438.209	13
		min	-.065	13	-.09	14	-.493	7	-2.794e-3	3	2371.06	14	1883.743	7
	3	max	.936	5	.273	3	.712	13	7.003e-4	14	1146.316	3	2475.899	13
		min	-.065	13	-.072	14	-.471	7	-2.794e-3	3	4213.161	14	3234.456	7
	4	max	.936	5	.218	3	.687	13	7.003e-4	14	3219.234	3	6448.185	13
		min	-.065	13	-.057	14	-.453	7	-2.794e-3	3	NC		8372.606	7
	5	max	.936	5	.187	3	.672	13	7.003e-4	14	NC		NC	
		min	-.065	13	-.049	14	-.441	7	-2.794e-3	3	NC		NC	
M63	1	max	1.152	5	2.134	3	.959	13	1.699e-4	3	98.777	3	483.227	13
		min	-.015	14	-.573	14	-.709	7	-4.611e-5	14	360.682	14	682.424	7
	2	max	1.152	5	1.72	3	.864	13	1.699e-4	3	139.302	3	715.597	13
		min	-.015	14	-.46	14	-.641	7	-4.611e-5	14	508.699	14	1017.241	7
	3	max	1.152	5	1.319	3	.775	13	1.699e-4	3	231.188	3	1316.114	13
		min	-.015	14	-.35	14	-.577	7	-4.611e-5	14	844.369	14	1899.302	7
	4	max	1.152	5	.965	3	.702	13	1.699e-4	3	555.216	3	4083.097	13
		min	-.015	14	-.253	14	-.525	7	-4.611e-5	14	2028.44	14	6172.497	7
	5	max	1.152	5	.712	3	.668	13	1.699e-4	3	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.015	14	-.184	14	-.503	7	-4.611e-5	14	NC		NC	
M64	1	max	.024	14	.018	14	.558	13	2.224e-4	14	NC		NC	
		min	-1.033	5	-.062	3	-.435	7	-1.131e-3	3	NC		NC	
	2	max	.024	14	.023	14	.583	13	3.394e-4	14	NC		NC	
		min	-1.033	5	-.098	3	-.453	7	-1.531e-3	3	7487.138	3	NC	
	3	max	.024	14	.036	14	.613	13	4.564e-4	14	NC		NC	
		min	-1.034	5	-.152	3	-.484	7	-1.93e-3	3	2951.342	3	5332.767	7
	4	max	.024	14	.051	14	.643	13	5.735e-4	14	7815.341	14	NC	
		min	-1.034	5	-.208	3	-.519	7	-2.33e-3	3	1809.761	3	3135.845	7
	5	max	.025	14	.067	14	.668	13	6.905e-4	14	5296.113	14	NC	
		min	-1.035	5	-.262	3	-.549	7	-2.729e-3	3	1321.416	3	2309.365	7
M65	1	max	.055	13	.017	14	.56	13	1.108e-3	3	NC		NC	
		min	-.958	5	-.062	3	-.406	7	-2.164e-4	14	NC		NC	
	2	max	.055	13	.023	14	.585	13	1.51e-3	3	NC		NC	
		min	-.958	5	-.097	3	-.427	7	-3.337e-4	14	7578.525	3	NC	
	3	max	.055	13	.035	14	.615	13	1.912e-3	3	NC		4808.21	13
		min	-.959	5	-.15	3	-.442	7	-4.511e-4	14	2979.499	3	NC	
	4	max	.055	13	.051	14	.645	13	2.314e-3	3	7897.818	14	3120.581	13
		min	-.959	5	-.207	3	-.453	7	-5.684e-4	14	1823.38	3	NC	
	5	max	.055	13	.067	14	.67	13	2.717e-3	3	5326.884	14	2403.618	13
		min	-.959	5	-.261	3	-.462	7	-6.857e-4	14	1327.976	3	NC	
M66	1	max	.073	13	.028	13	.544	13	3.284e-4	13	NC		NC	
		min	-.897	5	-.046	7	-.421	7	-3.873e-4	7	NC		NC	
	2	max	.073	13	.026	13	.551	13	3.355e-4	13	NC		9905.847	13
		min	-.897	5	-.047	7	-.43	7	-2.681e-4	7	NC		7380.218	7
	3	max	.073	13	.024	13	.557	13	3.427e-4	13	NC		4905.794	13
		min	-.897	5	-.048	7	-.439	7	-1.488e-4	7	NC		3641.307	7
	4	max	.073	13	.022	13	.564	13	3.498e-4	13	NC		3235.036	13
		min	-.898	5	-.048	7	-.448	7	-2.96e-5	7	NC		2398.551	7
	5	max	.073	13	.021	13	.571	13	4.722e-4	3	NC		2396.813	13
		min	-.898	5	-.048	7	-.458	7	1.752e-5	14	NC		1779.666	7
M67	1	max	.079	13	.043	7	.411	7	4.885e-4	3	NC		NC	
		min	-.901	5	-.027	13	-.56	13	-6.816e-5	12	NC		NC	
	2	max	.079	13	.047	7	.422	7	7.258e-4	3	NC		NC	
		min	-.901	5	-.024	13	-.574	13	-1.339e-4	14	NC		9602.748	13
	3	max	.079	13	.049	7	.431	7	9.631e-4	3	NC		NC	
		min	-.901	5	-.02	13	-.588	13	-2.046e-4	14	NC		4637.707	13
	4	max	.079	13	.05	7	.44	7	1.2e-3	3	NC		NC	
		min	-.901	5	-.018	14	-.604	13	-2.754e-4	14	NC		3025.228	13
	5	max	.079	13	.05	7	.447	7	1.438e-3	3	NC		NC	
		min	-.901	5	-.018	14	-.619	13	-3.461e-4	14	NC		2247.095	13
M68	1	max	.636	12	.066	13	.458	7	3.406e-4	7	NC		1960.376	7
		min	-.038	13	-.635	5	-.571	13	-5.62e-4	13	NC		NC	
	2	max	.636	12	.068	13	.446	7	2.888e-4	7	NC		2643.099	7
		min	-.039	13	-.635	5	-.569	13	-5.445e-4	13	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.636	12	.07	13	.433	7	2.37e-4	7	NC		4203.529	7
		min	-.039	13	-.636	5	-.566	13	-5.27e-4	13	NC		NC	
	4	max	.636	12	.072	13	.421	7	1.852e-4	7	NC		9431.67	7
		min	-.039	13	-.637	5	-.562	13	-5.094e-4	13	NC		NC	
	5	max	.637	12	.074	13	.411	7	1.334e-4	7	NC		NC	
		min	-.039	13	-.638	5	-.56	13	-4.919e-4	13	NC		NC	
M69	1	max	.058	13	.045	13	.533	7	1.07e-3	3	NC		NC	
		min	-.657	5	-.613	12	-.632	13	-2.063e-4	14	NC		NC	
	2	max	.058	13	.047	13	.526	7	1.25e-3	3	NC		9946.483	7
		min	-.657	5	-.614	12	-.646	13	-2.67e-4	14	NC		NC	
	3	max	.058	13	.049	13	.512	7	1.43e-3	3	NC		7896.695	7
		min	-.656	5	-.617	12	-.656	13	-3.277e-4	14	NC		NC	
	4	max	.058	13	.052	13	.492	7	1.61e-3	3	NC		NC	
		min	-.656	5	-.62	12	-.664	13	-3.884e-4	14	NC		NC	
	5	max	.058	13	.054	13	.467	7	1.789e-3	3	NC		NC	
		min	-.656	5	-.621	12	-.67	13	-4.492e-4	14	NC		NC	
M70	1	max	.636	12	.057	13	.533	7	1.72e-4	14	NC		NC	
		min	-.047	13	-.634	5	-.632	13	-9.047e-4	3	NC		NC	
	2	max	.636	12	.059	13	.513	7	1.987e-4	14	NC		NC	
		min	-.047	13	-.635	5	-.631	13	-9.645e-4	3	NC		NC	
	3	max	.637	12	.061	13	.49	7	2.254e-4	14	NC		NC	
		min	-.047	13	-.636	5	-.628	13	-1.024e-3	3	NC		NC	
	4	max	.637	12	.063	13	.468	7	2.521e-4	14	NC		NC	
		min	-.047	13	-.637	5	-.623	13	-1.084e-3	3	NC		NC	
	5	max	.638	12	.065	13	.447	7	2.788e-4	14	NC		NC	
		min	-.047	13	-.638	5	-.619	13	-1.144e-3	3	NC		NC	
M71	1	max	.067	13	.036	13	.458	7	5.68e-4	3	NC		NC	
		min	-.657	5	-.613	12	-.571	13	-6.526e-5	14	NC		NC	
	2	max	.067	13	.038	13	.463	7	6.573e-4	3	NC		NC	
		min	-.658	5	-.613	12	-.584	13	-1.038e-4	14	NC		NC	
	3	max	.067	13	.041	13	.462	7	7.465e-4	3	NC		9202.568	7
		min	-.659	5	-.614	12	-.596	13	-1.423e-4	14	NC		NC	
	4	max	.067	13	.043	13	.457	7	8.357e-4	3	NC		NC	
		min	-.659	5	-.615	12	-.608	13	-1.808e-4	14	NC		NC	
	5	max	.067	13	.045	13	.447	7	9.249e-4	3	NC		NC	
		min	-.66	5	-.616	12	-.619	13	-2.193e-4	14	NC		NC	
M72	1	max	.013	14	.073	13	.553	7	1.217e-4	14	NC		NC	
		min	-.047	3	-.896	5	-.662	13	-5.74e-4	6	NC		NC	
	2	max	.014	14	.075	13	.539	7	1.263e-4	7	NC		8347.888	7
		min	-.05	3	-.903	5	-.67	13	-5.545e-4	6	NC		NC	
	3	max	.015	14	.076	13	.52	7	1.62e-4	7	NC		6461.45	7
		min	-.054	3	-.905	5	-.672	13	-5.697e-4	5	NC		NC	
	4	max	.016	14	.078	13	.496	7	1.977e-4	7	NC		8900.339	7
		min	-.057	3	-.904	5	-.671	13	-5.959e-4	5	NC		NC	
	5	max	.017	14	.079	13	.467	7	2.335e-4	7	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.06	3	-.903	5	-.67	13	-6.257e-4	12	NC		NC	
M73	1	max	.044	7	.079	13	.56	13	4.907e-4	12	NC		NC	
		min	-.027	13	-.901	5	-.411	7	-3.413e-4	7	NC		NC	
	2	max	.044	7	.078	13	.556	13	3.966e-4	13	NC		NC	
		min	-.027	13	-.901	5	-.415	7	-3.893e-4	7	NC		NC	
	3	max	.045	7	.076	13	.552	13	3.982e-4	13	NC		NC	
		min	-.027	13	-.9	5	-.42	7	-4.373e-4	7	NC		NC	
	4	max	.045	7	.075	13	.548	13	3.997e-4	13	NC		NC	
		min	-.028	13	-.899	5	-.423	7	-4.853e-4	7	NC		NC	
	5	max	.046	7	.073	13	.544	13	4.013e-4	13	NC		NC	
		min	-.028	13	-.897	5	-.421	7	-5.333e-4	7	NC		NC	
M74	1	max	1.152	5	.712	3	.668	13	1.699e-4	3	822.695	3	NC	
		min	-.015	14	-.184	14	-.503	7	-4.611e-5	14	3100.116	14	NC	
	2	max	1.152	5	.545	3	.685	13	1.712e-4	3	1716.203	3	5980.727	13
		min	-.015	14	-.138	14	-.52	7	-4.652e-5	14	6657.229	14	7032.276	7
	3	max	1.152	5	.479	3	.681	13	1.726e-4	3	2992.678	3	3907.637	13
		min	-.015	14	-.121	14	-.518	7	-4.693e-5	14	NC		4670.379	7
	4	max	1.152	5	.38	3	.617	13	1.739e-4	3	NC		8403.115	13
		min	-.015	14	-.094	14	-.468	7	-4.734e-5	14	NC		9458.115	7
	5	max	1.152	5	.391	3	.559	13	1.753e-4	3	NC		NC	
		min	-.015	14	-.098	14	-.42	7	-4.774e-5	14	NC		NC	
M75	1	max	.936	5	.187	3	.672	13	7.003e-4	14	NC		NC	
		min	-.065	13	-.049	14	-.441	7	-2.794e-3	3	NC		NC	
	2	max	.936	5	.256	3	.685	13	5.341e-4	14	2529.409	3	6519.748	13
		min	-.065	13	-.068	14	-.458	7	-2.222e-3	3	9548.676	14	NC	
	3	max	.936	5	.299	3	.686	13	3.679e-4	14	1450.213	3	3836.226	13
		min	-.065	13	-.081	14	-.477	7	-1.649e-3	3	5436.467	14	4997.192	7
	4	max	.937	5	.181	3	.628	13	2.017e-4	14	2649.949	3	7144.249	13
		min	-.065	13	-.05	14	-.449	7	-1.076e-3	3	NC		7814.965	7
	5	max	.937	5	.046	3	.564	13	9.42e-5	12	NC		NC	
		min	-.065	13	-.016	14	-.407	7	-5.034e-4	3	NC		NC	
M76	1	max	.977	5	.329	3	.671	13	7.917e-4	14	NC		NC	
		min	-.049	13	-.085	14	-.436	7	-3.088e-3	3	NC		NC	
	2	max	.977	5	.356	3	.685	13	7.006e-4	14	3146.504	3	6327.846	13
		min	-.049	13	-.092	14	-.461	7	-2.776e-3	3	NC		7335.326	7
	3	max	.977	5	.366	3	.685	13	6.095e-4	14	1742.014	3	3831.754	13
		min	-.049	13	-.096	14	-.477	7	-2.463e-3	3	6563.219	14	4224.371	7
	4	max	.977	5	.231	3	.625	13	5.185e-4	14	3550.584	3	7364.988	13
		min	-.049	13	-.06	14	-.441	7	-2.151e-3	3	NC		6872.213	7
	5	max	.978	5	.1	3	.562	13	4.274e-4	14	NC		NC	
		min	-.049	13	-.026	14	-.392	7	-1.839e-3	3	NC		NC	
M77	1	max	1.022	5	.479	3	.67	13	6.62e-4	14	NC		NC	
		min	-.037	13	-.123	14	-.443	7	-2.562e-3	3	NC		NC	
	2	max	1.022	5	.456	3	.685	13	6.118e-4	14	5700.089	3	6141.463	13
		min	-.037	13	-.117	14	-.469	7	-2.39e-3	3	NC		6567.965	7

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	1.022	5	.443	3	.684	13	5.616e-4	14	2578.892	3	3844.623	13
		min	-.037	13	-.114	14	-.482	7	-2.218e-3	3	9776.498	14	4008	7
	4	max	1.022	5	.31	3	.622	13	5.114e-4	14	6915.929	3	7711.812	13
		min	-.037	13	-.079	14	-.442	7	-2.045e-3	3	NC		6722.462	7
	5	max	1.022	5	.202	3	.56	13	4.611e-4	14	NC		NC	
		min	-.037	13	-.051	14	-.389	7	-1.873e-3	3	NC		NC	
M78	1	max	1.068	5	.579	3	.669	13	4.337e-4	14	NC		NC	
		min	-.027	13	-.149	14	-.455	7	-1.679e-3	3	NC		NC	
	2	max	1.068	5	.51	3	.685	13	4.069e-4	14	NC		6024.803	13
		min	-.027	13	-.13	14	-.484	7	-1.587e-3	3	NC		5904.665	7
	3	max	1.068	5	.478	3	.682	13	3.801e-4	14	5271.913	3	3859.479	13
		min	-.027	13	-.122	14	-.494	7	-1.495e-3	3	NC		3778.841	7
	4	max	1.068	5	.352	3	.62	13	3.533e-4	14	NC		7998.942	13
		min	-.027	13	-.088	14	-.449	7	-1.404e-3	3	NC		6478.901	7
	5	max	1.068	5	.278	3	.559	13	3.266e-4	14	NC		NC	
		min	-.027	13	-.07	14	-.393	7	-1.312e-3	3	NC		NC	
M79	1	max	1.108	5	.664	3	.669	13	4.113e-4	14	839.672	3	NC	
		min	-.018	14	-.171	14	-.464	7	-1.565e-3	3	3170.767	14	NC	
	2	max	1.108	5	.547	3	.686	13	3.998e-4	14	1336.829	3	5963.807	13
		min	-.018	14	-.139	14	-.496	7	-1.525e-3	3	5135.071	14	5379.127	7
	3	max	1.108	5	.498	3	.682	13	3.882e-4	14	1780.824	3	3874.133	13
		min	-.018	14	-.126	14	-.503	7	-1.485e-3	3	6877.944	14	3570.42	7
	4	max	1.107	5	.384	3	.619	13	3.766e-4	14	7669.438	3	8206.892	13
		min	-.018	14	-.096	14	-.454	7	-1.445e-3	3	NC		6212.24	7
	5	max	1.107	5	.35	3	.559	13	3.65e-4	14	NC		NC	
		min	-.018	14	-.088	14	-.394	7	-1.406e-3	3	NC		NC	
M80	1	max	1.136	5	.716	3	.668	13	1.016e-4	14	826.786	3	NC	
		min	-.017	14	-.185	14	-.484	7	-3.909e-4	3	3117.206	14	NC	
	2	max	1.136	5	.561	3	.685	13	9.839e-5	14	1615.913	3	5952.792	13
		min	-.017	14	-.143	14	-.514	7	-3.798e-4	3	6253.938	14	5329.064	7
	3	max	1.136	5	.499	3	.682	13	9.515e-5	14	2598.644	3	3890.429	13
		min	-.017	14	-.126	14	-.519	7	-3.688e-4	3	NC		3598.747	7
	4	max	1.136	5	.397	3	.618	13	9.191e-5	14	NC		8339.117	13
		min	-.016	14	-.099	14	-.468	7	-3.577e-4	3	NC		6413.579	7
	5	max	1.136	5	.397	3	.559	13	8.867e-5	14	NC		NC	
		min	-.016	14	-.1	14	-.407	7	-3.467e-4	3	NC		NC	
M81	1	max	.894	5	.044	7	.68	13	5.354e-4	7	NC		NC	
		min	-.088	13	-.049	13	-.559	7	-1.594e-3	13	NC		NC	
	2	max	.895	5	.148	7	.65	13	6.329e-4	7	2744.634	7	NC	
		min	-.088	13	-.073	14	-.539	7	-1.286e-3	13	4675.81	14	NC	
	3	max	.895	5	.228	3	.615	13	7.303e-4	7	1342.153	3	NC	
		min	-.088	13	-.112	14	-.507	7	-9.79e-4	13	2953.546	14	NC	
	4	max	.895	5	.17	3	.579	13	8.278e-4	7	2071.694	3	NC	
		min	-.088	13	-.088	14	-.468	7	-6.718e-4	13	4499.288	14	NC	
	5	max	.895	5	.074	7	.548	13	9.252e-4	7	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.088	13	-.041	13	-.432	7	-6.503e-4	14	NC		NC	
M82	1	max	.993	5	.06	3	.668	13	2.52e-3	3	NC		NC	
		min	-.034	7	-.017	14	-.565	7	-6.454e-4	14	NC		2042.65	7
	2	max	.993	5	.157	3	.643	13	2.01e-3	3	2527.301	3	NC	
		min	-.034	7	-.045	14	-.537	7	-4.989e-4	14	9391.299	14	2612.86	7
	3	max	.993	5	.233	3	.615	13	1.501e-3	3	1403.414	3	NC	
		min	-.034	7	-.067	14	-.499	7	-3.524e-4	14	5182.978	14	4163.227	7
	4	max	.992	5	.146	3	.587	13	9.909e-4	3	2429.973	3	NC	
		min	-.035	7	-.045	14	-.462	7	-2.058e-4	14	8993.826	14	NC	
	5	max	.992	5	.03	6	.561	13	5.605e-4	7	NC		NC	
		min	-.035	7	-.016	14	-.436	7	-2.609e-4	13	NC		NC	
M83	1	max	1.017	5	.189	3	.669	13	2.8e-3	3	NC		2442.034	13
		min	-.027	7	-.049	14	-.572	7	-7.036e-4	14	NC		1985.543	7
	2	max	1.018	5	.259	3	.644	13	2.229e-3	3	2517.95	3	3189.696	13
		min	-.027	7	-.069	14	-.545	7	-5.369e-4	14	9497.732	14	2501.823	7
	3	max	1.018	5	.301	3	.615	13	1.657e-3	3	1446.629	3	4895.036	13
		min	-.027	7	-.081	14	-.504	7	-3.702e-4	14	5420.244	14	4035.301	7
	4	max	1.018	5	.182	3	.586	13	1.085e-3	3	2644.598	3	NC	
		min	-.027	7	-.051	14	-.465	7	-2.231e-4	13	NC		NC	
	5	max	1.018	5	.047	3	.561	13	5.856e-4	7	NC		NC	
		min	-.026	7	-.016	14	-.439	7	-2.641e-4	13	NC		NC	
M84	1	max	1.047	5	.333	3	.668	13	3.109e-3	3	NC		NC	
		min	-.022	14	-.086	14	-.575	7	-7.98e-4	14	NC		2140.516	7
	2	max	1.047	5	.359	3	.644	13	2.798e-3	3	3143.478	3	NC	
		min	-.022	14	-.093	14	-.542	7	-7.071e-4	14	NC		2923.657	7
	3	max	1.048	5	.369	3	.614	13	2.488e-3	3	1740.589	3	NC	
		min	-.022	14	-.096	14	-.503	7	-6.162e-4	14	6551.794	14	5177.51	7
	4	max	1.048	5	.234	3	.584	13	2.177e-3	3	3545.562	3	NC	
		min	-.022	14	-.061	14	-.469	7	-5.253e-4	14	NC		NC	
	5	max	1.048	5	.102	3	.559	13	1.866e-3	3	NC		NC	
		min	-.022	14	-.027	14	-.452	7	-4.344e-4	14	NC		NC	
M85	1	max	1.08	5	.482	3	.667	13	2.539e-3	3	NC		NC	
		min	-.021	14	-.124	14	-.567	7	-6.558e-4	14	NC		2301.522	7
	2	max	1.08	5	.459	3	.644	13	2.369e-3	3	5685.954	3	NC	
		min	-.021	14	-.118	14	-.534	7	-6.062e-4	14	NC		3232.687	7
	3	max	1.08	5	.446	3	.613	13	2.199e-3	3	2574.866	3	NC	
		min	-.021	14	-.115	14	-.495	7	-5.566e-4	14	9750.562	14	6131.493	7
	4	max	1.08	5	.312	3	.581	13	2.029e-3	3	6893.366	3	NC	
		min	-.021	14	-.079	14	-.464	7	-5.071e-4	14	NC		NC	
	5	max	1.08	5	.205	3	.558	13	1.859e-3	3	NC		NC	
		min	-.021	14	-.052	14	-.452	7	-4.575e-4	14	NC		NC	
M86	1	max	1.113	5	.581	3	.667	13	1.657e-3	3	NC		NC	
		min	-.019	14	-.149	14	-.553	7	-4.273e-4	14	NC		2475.748	7
	2	max	1.113	5	.512	3	.645	13	1.567e-3	3	NC		NC	
		min	-.019	14	-.131	14	-.519	7	-4.012e-4	14	NC		3639.213	7

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	1.113	5	.48	3	.612	13	1.477e-3	3	5238.794	3	NC	
		min	-.019	14	-.123	14	-.481	7	-3.752e-4	14	NC		7579.056	7
	4	max	1.113	5	.354	3	.579	13	1.388e-3	3	NC		NC	
		min	-.019	14	-.089	14	-.453	7	-3.491e-4	14	NC		NC	
	5	max	1.113	5	.279	3	.557	13	1.298e-3	3	NC		NC	
		min	-.019	14	-.07	14	-.447	7	-3.231e-4	14	NC		NC	
M87	1	max	1.139	5	.665	3	.667	13	1.545e-3	3	838.29	3	NC	
		min	-.018	14	-.172	14	-.544	7	-4.057e-4	14	3164.339	14	2661.44	7
	2	max	1.139	5	.549	3	.646	13	1.506e-3	3	1333.194	3	NC	
		min	-.018	14	-.14	14	-.509	7	-3.942e-4	14	5117.113	14	4153.667	7
	3	max	1.138	5	.499	3	.612	13	1.466e-3	3	1775.054	3	NC	
		min	-.018	14	-.127	14	-.472	7	-3.826e-4	14	6848.471	14	9784.968	7
	4	max	1.138	5	.385	3	.579	13	1.426e-3	3	7600.118	3	NC	
		min	-.018	14	-.096	14	-.447	7	-3.711e-4	14	NC		NC	
	5	max	1.138	5	.35	3	.558	13	1.386e-3	3	NC		NC	
		min	-.018	14	-.088	14	-.445	7	-3.595e-4	14	NC		NC	
M88	1	max	1.153	5	.716	3	.667	13	3.597e-4	3	825.633	3	NC	
		min	-.017	14	-.185	14	-.524	7	-9.316e-5	14	3112.154	14	2864.529	7
	2	max	1.153	5	.561	3	.647	13	3.501e-4	3	1607.553	3	NC	
		min	-.016	14	-.143	14	-.49	7	-9.038e-5	14	6217.261	14	4531.665	7
	3	max	1.153	5	.499	3	.613	13	3.405e-4	3	2576.023	3	NC	
		min	-.016	14	-.126	14	-.456	7	-8.761e-5	14	NC		NC	
	4	max	1.153	5	.397	3	.579	13	3.309e-4	3	NC		NC	
		min	-.016	14	-.099	14	-.433	7	-8.483e-5	14	NC		NC	
	5	max	1.153	5	.397	3	.558	13	3.213e-4	3	NC		NC	
		min	-.016	14	-.1	14	-.432	7	-8.205e-5	14	NC		NC	
M89	1	max	1.155	5	.711	3	.668	13	3.39e-5	14	822.564	3	2416.28	13
		min	-.015	14	-.183	14	-.506	7	-1.253e-4	3	3099.54	14	3089.874	7
	2	max	1.155	5	.544	3	.647	13	3.384e-5	14	1711.319	3	2995.805	13
		min	-.015	14	-.138	14	-.485	7	-1.251e-4	3	6636.964	14	4074.314	7
	3	max	1.155	5	.478	3	.613	13	3.378e-5	14	2974.895	3	4854.796	13
		min	-.015	14	-.12	14	-.457	7	-1.249e-4	3	NC		7149.966	7
	4	max	1.155	5	.38	3	.579	13	3.372e-5	14	NC		NC	
		min	-.015	14	-.094	14	-.432	7	-1.248e-4	3	NC		NC	
	5	max	1.155	5	.39	3	.559	13	3.366e-5	14	NC		NC	
		min	-.015	14	-.098	14	-.42	7	-1.246e-4	3	NC		NC	
M90	1	max	1.152	5	.391	3	.559	13	1.753e-4	3	NC		NC	
		min	-.015	14	-.098	14	-.42	7	-4.774e-5	14	NC		NC	
	2	max	1.152	5	.564	3	.582	13	1.753e-4	3	812.149	3	5982.954	13
		min	-.015	14	-.147	14	-.434	7	-4.774e-5	14	2915.257	14	9740.502	7
	3	max	1.152	5	.838	3	.644	13	1.753e-4	3	313.885	3	1654.886	13
		min	-.015	14	-.223	14	-.477	7	-4.774e-5	14	1130.731	14	2452.066	7
	4	max	1.152	5	1.159	3	.722	13	1.753e-4	3	182.841	3	859.016	13
		min	-.015	14	-.311	14	-.533	7	-4.774e-5	14	659.675	14	1242.211	7
	5	max	1.152	5	1.493	3	.806	13	1.753e-4	3	127.476	3	568.719	13

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.015	14	-.404	14	-.592	7	-4.774e-5	14	460.266	14	814.343	7
M91	1	max	.937	5	.046	3	.564	13	9.42e-5	12	NC		NC	
		min	-.065	13	-.016	14	-.407	7	-5.034e-4	3	NC		NC	
	2	max	.937	5	.056	3	.562	13	9.42e-5	12	NC		NC	
		min	-.065	13	-.02	14	-.404	7	-5.034e-4	3	NC		NC	
	3	max	.937	5	.09	3	.57	13	9.42e-5	12	2291.032	3	NC	
		min	-.065	13	-.03	14	-.409	7	-5.034e-4	3	7035.229	14	NC	
	4	max	.937	5	.135	3	.582	13	9.42e-5	12	1118.059	3	5296.147	13
		min	-.065	13	-.044	14	-.417	7	-5.034e-4	3	3585.03	14	9561.142	7
	5	max	.937	5	.183	3	.596	13	9.42e-5	12	722.393	3	3092.814	13
		min	-.065	13	-.058	14	-.426	7	-5.034e-4	3	2355.73	14	5177.739	7
M92	1	max	.978	5	.1	3	.562	13	4.274e-4	14	NC		NC	
		min	-.049	13	-.026	14	-.392	7	-1.839e-3	3	NC		NC	
	2	max	.978	5	.12	3	.563	13	4.274e-4	14	5237.388	3	NC	
		min	-.049	13	-.033	14	-.388	7	-1.839e-3	3	NC		NC	
	3	max	.978	5	.173	3	.577	13	4.274e-4	14	1449.528	3	7112.182	13
		min	-.049	13	-.048	14	-.394	7	-1.839e-3	3	4769.776	14	NC	
	4	max	.978	5	.24	3	.596	13	4.274e-4	14	752.542	3	3118.624	13
		min	-.049	13	-.068	14	-.404	7	-1.839e-3	3	2530.984	14	8445.019	7
	5	max	.978	5	.312	3	.616	13	4.274e-4	14	498.261	3	1940.475	13
		min	-.049	13	-.089	14	-.415	7	-1.839e-3	3	1691.181	14	4469.612	7
M93	1	max	1.022	5	.202	3	.56	13	4.611e-4	14	NC		NC	
		min	-.037	13	-.051	14	-.389	7	-1.873e-3	3	NC		NC	
	2	max	1.022	5	.245	3	.566	13	4.611e-4	14	2671.152	3	NC	
		min	-.037	13	-.064	14	-.386	7	-1.873e-3	3	9010.184	14	NC	
	3	max	1.022	5	.329	3	.586	13	4.611e-4	14	891.523	3	4329.063	13
		min	-.037	13	-.088	14	-.396	7	-1.873e-3	3	3084.163	14	NC	
	4	max	1.022	5	.432	3	.614	13	4.611e-4	14	490.557	3	2086.038	13
		min	-.037	13	-.117	14	-.41	7	-1.873e-3	3	1712.407	14	5261.006	7
	5	max	1.022	5	.541	3	.644	13	4.611e-4	14	333.024	3	1341.424	13
		min	-.037	13	-.148	14	-.426	7	-1.873e-3	3	1167.236	14	3001.503	7
M94	1	max	1.068	5	.278	3	.559	13	3.266e-4	14	NC		NC	
		min	-.027	13	-.07	14	-.393	7	-1.312e-3	3	NC		NC	
	2	max	1.068	5	.349	3	.569	13	3.266e-4	14	1665.008	3	NC	
		min	-.027	13	-.09	14	-.391	7	-1.312e-3	3	5807.446	14	NC	
	3	max	1.068	5	.475	3	.598	13	3.266e-4	14	606.946	3	3109.748	13
		min	-.027	13	-.125	14	-.404	7	-1.312e-3	3	2142.262	14	NC	
	4	max	1.068	5	.624	3	.636	13	3.266e-4	14	345.125	3	1559.059	13
		min	-.027	13	-.167	14	-.424	7	-1.312e-3	3	1223.928	14	3797.134	7
	5	max	1.068	5	.781	3	.677	13	3.266e-4	14	237.856	3	1017.85	13
		min	-.027	13	-.211	14	-.446	7	-1.312e-3	3	845.404	14	2239.256	7
M95	1	max	1.107	5	.35	3	.559	13	3.65e-4	14	NC		NC	
		min	-.018	14	-.088	14	-.394	7	-1.406e-3	3	NC		NC	
	2	max	1.107	5	.459	3	.573	13	3.65e-4	14	1157.05	3	9275.158	13
		min	-.018	14	-.119	14	-.393	7	-1.406e-3	3	4107.123	14	NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	1.107	5	.635	3	.611	13	3.65e-4	14	442.976	3	2420.908	13
		min	-.018	14	-.168	14	-.411	7	-1.406e-3	3	1582.278	14	7412.933	7
	4	max	1.107	5	.842	3	.661	13	3.65e-4	14	256.999	3	1237.523	13
		min	-.018	14	-.225	14	-.438	7	-1.406e-3	3	920.43	14	2909.54	7
	5	max	1.107	5	1.058	3	.715	13	3.65e-4	14	178.827	3	814.205	13
		min	-.018	14	-.285	14	-.466	7	-1.406e-3	3	641.29	14	1750.268	7
M96	1	max	1.136	5	.397	3	.559	13	8.867e-5	14	NC		NC	
		min	-.016	14	-.1	14	-.407	7	-3.467e-4	3	NC		NC	
	2	max	1.136	5	.545	3	.577	13	8.867e-5	14	905.503	3	7274.598	13
		min	-.016	14	-.141	14	-.41	7	-3.467e-4	3	3242.029	14	NC	
	3	max	1.136	5	.775	3	.627	13	8.867e-5	14	353.387	3	1973.344	13
		min	-.016	14	-.205	14	-.435	7	-3.467e-4	3	1270.325	14	4793.327	7
	4	max	1.136	5	1.043	3	.69	13	8.867e-5	14	206.72	3	1018.934	13
		min	-.016	14	-.28	14	-.471	7	-3.467e-4	3	744.402	14	2088.117	7
	5	max	1.136	5	1.322	3	.757	13	8.867e-5	14	144.421	3	673.134	13
		min	-.016	14	-.357	14	-.51	7	-3.467e-4	3	520.509	14	1296.502	7
M97	1	max	.895	5	.074	7	.548	13	9.252e-4	7	1369.48	7	NC	
		min	-.088	13	-.041	13	-.432	7	-6.503e-4	14	NC		NC	
	2	max	.895	5	.065	7	.543	13	9.252e-4	7	1870.379	7	NC	
		min	-.088	13	-.041	13	-.426	7	-6.503e-4	14	NC		NC	
	3	max	.895	5	.057	7	.539	13	9.252e-4	7	2841.047	7	NC	
		min	-.088	13	-.041	13	-.42	7	-6.503e-4	14	NC		NC	
	4	max	.895	5	.049	7	.534	13	9.252e-4	7	5708.69	7	NC	
		min	-.088	13	-.041	13	-.414	7	-6.503e-4	14	NC		NC	
	5	max	.895	5	.041	7	.529	13	9.252e-4	7	NC		NC	
		min	-.088	13	-.041	13	-.408	7	-6.503e-4	14	NC		NC	
M98	1	max	1.018	5	.047	3	.561	13	5.856e-4	7	NC		2980.667	13
		min	-.026	7	-.016	14	-.439	7	-2.641e-4	13	NC		NC	
	2	max	1.018	5	.056	3	.553	13	5.856e-4	7	NC		3974.222	13
		min	-.026	7	-.02	14	-.434	7	-2.641e-4	13	NC		NC	
	3	max	1.018	5	.089	3	.544	13	5.856e-4	7	2314.827	3	5961.333	13
		min	-.026	7	-.03	14	-.428	7	-2.641e-4	13	7098.937	14	NC	
	4	max	1.018	5	.134	3	.536	13	5.856e-4	7	1126.536	3	NC	
		min	-.026	7	-.043	14	-.423	7	-2.641e-4	13	3609.792	14	NC	
	5	max	1.018	5	.183	3	.528	13	5.856e-4	7	727.107	3	NC	
		min	-.026	7	-.058	14	-.417	7	-2.641e-4	13	2369.973	14	NC	
M99	1	max	1.048	5	.102	3	.559	13	1.866e-3	3	NC		NC	
		min	-.022	14	-.027	14	-.452	7	-4.344e-4	14	NC		NC	
	2	max	1.048	5	.122	3	.552	13	1.866e-3	3	5294.267	3	NC	
		min	-.022	14	-.033	14	-.45	7	-4.344e-4	14	NC		NC	
	3	max	1.048	5	.174	3	.544	13	1.866e-3	3	1458.2	3	NC	
		min	-.022	14	-.049	14	-.448	7	-4.344e-4	14	4802.463	14	NC	
	4	max	1.048	5	.242	3	.536	13	1.866e-3	3	756.044	3	NC	
		min	-.022	14	-.068	14	-.446	7	-4.344e-4	14	2544.77	14	NC	
	5	max	1.048	5	.313	3	.528	13	1.866e-3	3	500.307	3	NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.022	14	-.089	14	-.444	7	-4.344e-4	14	1699.383	14	NC	
M100	1	max	1.08	5	.205	3	.558	13	1.859e-3	3	NC		4218.559	13
		min	-.021	14	-.052	14	-.452	7	-4.575e-4	14	NC		NC	
	2	max	1.08	5	.247	3	.551	13	1.859e-3	3	2683.837	3	5624.745	13
		min	-.021	14	-.064	14	-.453	7	-4.575e-4	14	9062.403	14	NC	
	3	max	1.08	5	.331	3	.545	13	1.859e-3	3	894.345	3	8437.118	13
		min	-.021	14	-.088	14	-.454	7	-4.575e-4	14	3096.378	14	NC	
	4	max	1.08	5	.434	3	.538	13	1.859e-3	3	491.838	3	NC	
		min	-.021	14	-.117	14	-.455	7	-4.575e-4	14	1718.052	14	NC	
	5	max	1.08	5	.542	3	.531	13	1.859e-3	3	333.811	3	NC	
		min	-.021	14	-.148	14	-.457	7	-4.575e-4	14	1170.731	14	NC	
M101	1	max	1.113	5	.279	3	.557	13	1.298e-3	3	NC		NC	
		min	-.019	14	-.07	14	-.447	7	-3.231e-4	14	NC		NC	
	2	max	1.113	5	.35	3	.551	13	1.298e-3	3	1670.124	3	NC	
		min	-.019	14	-.09	14	-.451	7	-3.231e-4	14	5829.133	14	NC	
	3	max	1.113	5	.475	3	.546	13	1.298e-3	3	608.304	3	NC	
		min	-.019	14	-.126	14	-.455	7	-3.231e-4	14	2148.158	14	NC	
	4	max	1.113	5	.625	3	.54	13	1.298e-3	3	345.784	3	NC	
		min	-.019	14	-.167	14	-.459	7	-3.231e-4	14	1226.814	14	NC	
	5	max	1.113	5	.781	3	.534	13	1.298e-3	3	238.274	3	NC	
		min	-.019	14	-.211	14	-.463	7	-3.231e-4	14	847.24	14	NC	
M102	1	max	1.138	5	.35	3	.558	13	1.386e-3	3	NC		NC	
		min	-.018	14	-.088	14	-.445	7	-3.595e-4	14	NC		NC	
	2	max	1.138	5	.46	3	.552	13	1.386e-3	3	1159.076	3	NC	
		min	-.018	14	-.119	14	-.452	7	-3.595e-4	14	4116.182	14	NC	
	3	max	1.138	5	.636	3	.547	13	1.386e-3	3	443.57	3	NC	
		min	-.018	14	-.168	14	-.459	7	-3.595e-4	14	1584.965	14	NC	
	4	max	1.138	5	.843	3	.541	13	1.386e-3	3	257.298	3	NC	
		min	-.018	14	-.225	14	-.466	7	-3.595e-4	14	921.794	14	NC	
	5	max	1.138	5	1.058	3	.536	13	1.386e-3	3	179.02	3	NC	
		min	-.018	14	-.285	14	-.473	7	-3.595e-4	14	642.172	14	NC	
M103	1	max	1.153	5	.397	3	.558	13	3.213e-4	3	NC		NC	
		min	-.016	14	-.1	14	-.432	7	-8.205e-5	14	NC		NC	
	2	max	1.153	5	.544	3	.553	13	3.213e-4	3	907.822	3	NC	
		min	-.016	14	-.141	14	-.439	7	-8.205e-5	14	3250.846	14	NC	
	3	max	1.153	5	.774	3	.547	13	3.213e-4	3	354.093	3	NC	
		min	-.016	14	-.205	14	-.446	7	-8.205e-5	14	1273.031	14	NC	
	4	max	1.153	5	1.041	3	.542	13	3.213e-4	3	207.082	3	NC	
		min	-.016	14	-.279	14	-.454	7	-8.205e-5	14	745.795	14	NC	
	5	max	1.153	5	1.32	3	.537	13	3.213e-4	3	144.657	3	NC	
		min	-.016	14	-.356	14	-.461	7	-8.205e-5	14	521.417	14	NC	
M104	1	max	1.155	5	.39	3	.559	13	3.366e-5	14	NC		NC	
		min	-.015	14	-.098	14	-.42	7	-1.246e-4	3	NC		NC	
	2	max	1.155	5	.563	3	.553	13	3.366e-5	14	812.364	3	NC	
		min	-.015	14	-.146	14	-.419	7	-1.246e-4	3	2915.983	14	NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	1.155	5	.838	3	.548	13	3.366e-5	14	313.766	3	NC	
		min	-.015	14	-.223	14	-.418	7	-1.246e-4	3	1130.299	14	NC	
	4	max	1.155	5	1.159	3	.543	13	3.366e-5	14	182.722	3	NC	
		min	-.015	14	-.311	14	-.417	7	-1.246e-4	3	659.244	14	NC	
	5	max	1.155	5	1.494	3	.537	13	3.366e-5	14	127.375	3	NC	
		min	-.015	14	-.404	14	-.416	7	-1.246e-4	3	459.904	14	NC	
M105	1	max	.993	5	.045	13	.68	13	1.889e-3	7	NC		NC	
		min	-.03	7	-.027	7	-.469	7	-1.546e-3	13	NC		3479.8	7
	2	max	.994	5	.139	3	.649	13	1.325e-3	7	2194.382	3	NC	
		min	-.031	7	-.071	14	-.441	7	-1.242e-3	13	4758.153	14	5454.032	7
	3	max	.994	5	.223	3	.614	13	7.605e-4	7	1366.65	3	NC	
		min	-.031	7	-.109	14	-.42	7	-9.378e-4	13	3019.64	14	9800.835	7
	4	max	.994	5	.165	3	.579	13	4.498e-4	14	2131.256	3	NC	
		min	-.032	7	-.085	14	-.404	7	-6.336e-4	13	4654.576	14	NC	
	5	max	.994	5	.052	3	.548	13	6.247e-4	14	NC		NC	
		min	-.032	7	-.035	14	-.393	7	-7.679e-4	3	NC		NC	
M106	1	max	.994	5	.052	3	.548	13	6.247e-4	14	1215.713	3	NC	
		min	-.032	7	-.035	14	-.393	7	-7.679e-4	3	2407.704	14	NC	
	2	max	.994	5	.043	6	.543	13	6.247e-4	14	2193.709	6	NC	
		min	-.032	7	-.029	14	-.391	7	-7.679e-4	3	3310.531	14	NC	
	3	max	.994	5	.037	13	.537	13	6.247e-4	14	NC		NC	
		min	-.032	7	-.024	14	-.39	7	-7.679e-4	3	5046.734	14	NC	
	4	max	.994	5	.037	13	.532	13	6.247e-4	14	NC		NC	
		min	-.032	7	-.019	14	-.388	7	-7.679e-4	3	NC		NC	
	5	max	.994	5	.037	13	.527	13	6.247e-4	14	NC		NC	
		min	-.032	7	-.018	7	-.386	7	-7.679e-4	3	NC		NC	
M107	1	max	.013	14	.024	14	.447	7	5.172e-4	7	NC		NC	
		min	-.047	3	-.986	5	-.662	13	-4.011e-4	13	NC		NC	
	2	max	.014	14	.026	14	.472	7	4.64e-4	7	NC		2509.778	7
		min	-.05	3	-.994	5	-.669	13	-3.906e-4	13	NC		NC	
	3	max	.015	14	.026	14	.494	7	4.108e-4	7	NC		1339.006	7
		min	-.053	3	-.996	5	-.671	13	-3.801e-4	13	NC		NC	
	4	max	.016	14	.028	7	.517	7	3.826e-4	5	NC		907.001	7
		min	-.057	3	-.995	5	-.67	13	-3.696e-4	13	NC		NC	
	5	max	.017	14	.032	7	.544	7	4.104e-4	5	7677.67	7	656.613	7
		min	-.06	3	-.993	5	-.668	13	-3.591e-4	13	NC		NC	
M108	1	max	.017	14	.026	14	.397	7	1.226e-4	14	NC		NC	
		min	-.031	6	-.988	5	-.544	13	-4.685e-4	6	NC		NC	
	2	max	.017	14	.025	14	.402	7	1.366e-4	7	NC		NC	
		min	-.031	6	-.99	5	-.548	13	-3.959e-4	13	NC		NC	
	3	max	.016	14	.026	7	.41	7	1.803e-4	7	NC		5172.916	7
		min	-.031	6	-.991	5	-.551	13	-3.918e-4	13	NC		NC	
	4	max	.016	14	.029	7	.42	7	2.24e-4	7	NC		2877.535	7
		min	-.03	6	-.991	5	-.554	13	-3.877e-4	13	NC		NC	
	5	max	.016	14	.032	7	.43	7	2.727e-4	5	NC		1981.347	7

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.03	6	-.992	5	-.558	13	-3.836e-4	13	NC		NC	
M109	1	max	.397	7	.031	6	.988	5	2.86e-4	7	NC		2131.44	5
		min	-.544	13	-.017	14	-.026	14	-2.652e-4	12	NC		NC	
	2	max	.398	7	.03	3	.979	5	2.254e-4	7	NC		2880.205	5
		min	-.544	13	-.013	14	-.024	14	-7.073e-4	12	NC		NC	
	3	max	.398	7	.032	3	.969	5	1.648e-4	7	NC		4752.38	5
		min	-.545	13	-.012	14	-.023	14	-1.149e-3	12	NC		NC	
	4	max	.399	7	.037	3	.96	5	1.042e-4	7	NC		NC	
		min	-.545	13	-.012	14	-.021	14	-1.591e-3	12	NC		NC	
	5	max	.399	7	.047	3	.954	5	6.373e-5	14	4530.716	3	NC	
		min	-.546	13	-.013	14	-.019	14	-2.045e-3	5	NC		NC	
M110	1	max	.421	7	.046	7	.897	5	2.822e-4	3	NC		NC	
		min	-.544	13	-.028	13	-.073	13	-2.482e-4	12	NC		NC	
	2	max	.421	7	.046	7	.897	5	3.213e-4	3	7889.605	7	NC	
		min	-.544	13	-.029	13	-.074	13	-2.385e-4	12	NC		9931.241	13
	3	max	.421	7	.047	7	.898	5	3.603e-4	3	3819.903	7	NC	
		min	-.544	13	-.029	13	-.074	13	-2.287e-4	12	6031.77	13	4960.249	13
	4	max	.421	7	.048	7	.898	5	3.994e-4	3	2470.495	7	NC	
		min	-.544	13	-.03	13	-.075	13	-2.19e-4	12	4010.562	13	3303.303	13
	5	max	.421	7	.049	7	.898	5	4.385e-4	3	1800.553	7	NC	
		min	-.544	13	-.03	13	-.075	13	-2.092e-4	12	3000.056	13	2474.868	13
M111	1	max	.447	7	.047	3	.986	5	1.71e-4	14	NC		NC	
		min	-.662	13	-.013	14	-.024	14	-7.135e-4	5	NC		NC	
	2	max	.447	7	.087	3	.995	5	1.038e-4	14	1772.86	3	8808.092	5
		min	-.662	13	-.022	14	-.027	14	-5.492e-4	5	7776.364	14	NC	
	3	max	.447	7	.139	3	1.007	5	1.501e-4	7	779.725	3	3503.521	5
		min	-.662	13	-.035	14	-.03	14	-3.849e-4	5	3246.477	14	NC	
	4	max	.448	7	.195	3	1.023	5	2.915e-4	3	484.302	3	1990.852	5
		min	-.663	13	-.05	14	-.033	14	-2.239e-4	12	1958.564	14	8202.682	14
	5	max	.448	7	.25	3	1.041	5	4.735e-4	3	354.48	3	1330.684	5
		min	-.663	13	-.064	14	-.037	14	-9.754e-5	14	1411.364	14	5836.995	14
M112	1	max	.553	7	.047	3	.896	5	1.635e-4	14	717.367	3	2039.313	5
		min	-.662	13	-.013	14	-.073	13	-6.733e-4	5	4867.008	14	NC	
	2	max	.553	7	.045	3	.895	5	1.886e-4	14	972.593	3	2761.366	5
		min	-.662	13	-.013	14	-.074	13	-6.736e-4	5	6771.35	14	NC	
	3	max	.553	7	.043	3	.895	5	2.136e-4	14	1483.209	3	4207.618	5
		min	-.662	13	-.013	14	-.074	13	-7.019e-4	6	NC		5028.315	13
	4	max	.553	7	.041	3	.894	5	2.386e-4	14	3015.335	3	8550.892	5
		min	-.662	13	-.012	14	-.075	13	-7.307e-4	6	NC		3350.661	13
	5	max	.553	7	.039	3	.893	5	2.636e-4	14	NC		NC	
		min	-.662	13	-.012	14	-.075	13	-7.595e-4	6	NC		2511.774	13
M113	1	max	.079	13	.018	14	.619	13	1.438e-3	3	NC		NC	
		min	-.901	5	-.05	7	-.447	7	-3.462e-4	14	NC		NC	
	2	max	.079	13	.017	14	.633	13	1.709e-3	3	NC		NC	
		min	-.901	5	-.051	3	-.453	7	-4.211e-4	14	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.079	13	.017	14	.646	13	1.98e-3	3	NC		NC	
		min	-.902	5	-.054	3	-.457	7	-4.961e-4	14	NC		NC	
	4	max	.079	13	.016	14	.659	13	2.251e-3	3	NC		NC	
		min	-.902	5	-.056	3	-.461	7	-5.71e-4	14	NC		9443.096	7
	5	max	.079	13	.017	14	.67	13	2.522e-3	3	NC		NC	
		min	-.903	5	-.06	3	-.467	7	-6.46e-4	14	NC		6567.505	7
M114	1	max	.073	13	.018	14	.632	13	1.372e-3	3	NC		NC	
		min	-.897	5	-.054	3	-.533	7	-2.628e-4	14	NC		NC	
	2	max	.073	13	.017	14	.64	13	1.436e-3	3	NC		NC	
		min	-.897	5	-.054	3	-.54	7	-2.729e-4	14	NC		NC	
	3	max	.073	13	.017	14	.648	13	1.499e-3	3	NC		NC	
		min	-.896	5	-.053	3	-.546	7	-2.831e-4	14	NC		NC	
	4	max	.073	13	.015	14	.655	13	1.562e-3	3	NC		NC	
		min	-.896	5	-.05	3	-.55	7	-2.932e-4	14	NC		NC	
	5	max	.073	13	.013	14	.662	13	1.626e-3	3	NC		NC	
		min	-.896	5	-.047	3	-.553	7	-3.034e-4	14	NC		NC	
M115	1	max	.009	14	.059	13	.511	7	2.24e-4	14	NC		NC	
		min	-.031	3	-.738	5	-.568	13	-6.718e-4	6	NC		NC	
	2	max	.01	14	.064	13	.537	7	1.985e-4	14	NC		3643.014	7
		min	-.035	3	-.798	5	-.603	13	-6.473e-4	6	2815.833	5	4720.6	13
	3	max	.011	14	.068	13	.552	7	1.729e-4	14	NC		2759.061	7
		min	-.039	3	-.845	5	-.63	13	-6.229e-4	6	2039.12	5	3752.931	13
	4	max	.012	14	.071	13	.558	7	1.473e-4	14	NC		3715.191	7
		min	-.043	3	-.878	5	-.649	13	-5.984e-4	6	2628.281	5	5323.392	13
	5	max	.013	14	.073	13	.553	7	1.217e-4	14	NC		NC	
		min	-.047	3	-.896	5	-.662	13	-5.74e-4	6	NC		NC	
M116	1	max	.017	14	.079	13	.467	7	2.335e-4	7	NC		540.423	7
		min	-.06	3	-.903	5	-.67	13	-6.257e-4	12	NC		NC	
	2	max	.017	14	.08	13	.462	7	2.099e-4	7	NC		724.56	7
		min	-.06	3	-.902	5	-.671	13	-6.028e-4	12	NC		NC	
	3	max	.017	14	.08	13	.457	7	1.864e-4	7	NC		1092.093	7
		min	-.061	3	-.902	5	-.671	13	-5.801e-4	5	NC		NC	
	4	max	.017	14	.08	13	.452	7	1.629e-4	7	NC		2193.159	7
		min	-.061	3	-.902	5	-.671	13	-5.591e-4	5	NC		NC	
	5	max	.017	14	.08	13	.448	7	1.393e-4	7	NC		NC	
		min	-.061	3	-.902	5	-.672	13	-5.381e-4	5	NC		8569.527	13
M117	1	max	.027	13	.079	13	.411	7	3.413e-4	7	NC		NC	
		min	-.044	7	-.901	5	-.56	13	-4.907e-4	12	NC		NC	
	2	max	.027	13	.08	13	.411	7	3.509e-4	7	NC		NC	
		min	-.044	7	-.901	5	-.561	13	-4.719e-4	5	NC		NC	
	3	max	.027	13	.08	13	.41	7	3.606e-4	7	NC		NC	
		min	-.044	7	-.901	5	-.562	13	-4.533e-4	5	NC		5853.628	13
	4	max	.027	13	.08	13	.41	7	3.702e-4	7	NC		NC	
		min	-.044	7	-.902	5	-.563	13	-4.695e-4	13	NC		3840.834	13
	5	max	.027	13	.08	13	.41	7	3.798e-4	7	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.044	7	-.902	5	-.564	13	-4.943e-4	13	NC		2850.236	13
M118	1	max	.073	13	.021	13	.571	13	4.722e-4	3	NC		NC	
		min	-.898	5	-.048	7	-.458	7	1.752e-5	14	NC		NC	
	2	max	.073	13	.017	14	.586	13	6.972e-4	3	NC		8938.405	13
		min	-.897	5	-.049	7	-.478	7	-5.256e-5	14	NC		NC	
	3	max	.073	13	.018	14	.601	13	9.222e-4	3	NC		4412.443	13
		min	-.897	5	-.05	7	-.498	7	-1.226e-4	14	NC		NC	
	4	max	.073	13	.018	14	.617	13	1.147e-3	3	NC		2915.579	13
		min	-.897	5	-.053	3	-.516	7	-1.927e-4	14	NC		NC	
	5	max	.073	13	.018	14	.632	13	1.372e-3	3	NC		2175.538	13
		min	-.897	5	-.054	3	-.533	7	-2.628e-4	14	NC		NC	
M119	1	max	.032	7	.018	14	.616	13	3.451e-4	14	NC		NC	
		min	-.991	5	-.049	3	-.484	7	-1.437e-3	3	NC		NC	
	2	max	.032	7	.018	14	.63	13	4.202e-4	14	NC		NC	
		min	-.992	5	-.052	3	-.5	7	-1.708e-3	3	NC		NC	
	3	max	.032	7	.017	14	.644	13	4.953e-4	14	NC		NC	
		min	-.992	5	-.054	3	-.517	7	-1.979e-3	3	NC		NC	
	4	max	.032	7	.016	14	.656	13	5.704e-4	14	NC		NC	
		min	-.993	5	-.057	3	-.532	7	-2.249e-3	3	NC		NC	
	5	max	.032	7	.017	14	.668	13	6.454e-4	14	NC		NC	
		min	-.993	5	-.06	3	-.544	7	-2.52e-3	3	NC		NC	
M120	1	max	.025	14	.018	14	.632	13	4.892e-4	13	NC		NC	
		min	-.987	5	-.055	3	-.422	7	-1.445e-3	7	NC		NC	
	2	max	.025	14	.017	14	.64	13	5.553e-4	13	NC		NC	
		min	-.987	5	-.054	3	-.426	7	-1.548e-3	7	NC		NC	
	3	max	.024	14	.017	14	.647	13	6.214e-4	13	NC		NC	
		min	-.987	5	-.053	3	-.432	7	-1.65e-3	7	NC		6213.152	7
	4	max	.024	14	.015	14	.655	13	6.875e-4	13	NC		NC	
		min	-.987	5	-.05	3	-.439	7	-1.752e-3	7	NC		3788.155	7
	5	max	.024	14	.013	14	.662	13	7.536e-4	13	NC		NC	
		min	-.986	5	-.047	3	-.447	7	-1.854e-3	7	NC		2605.351	7
M121	1	max	.009	14	.025	7	.345	7	6.584e-4	7	NC		NC	
		min	-.031	3	-.815	5	-.569	13	-4.167e-4	13	NC		NC	
	2	max	.01	14	.026	7	.373	7	6.231e-4	7	NC		NC	
		min	-.035	3	-.88	5	-.604	13	-4.128e-4	13	2557.891	5	4680.486	13
	3	max	.011	14	.026	7	.398	7	5.878e-4	7	NC		NC	
		min	-.039	3	-.931	5	-.631	13	-4.089e-4	13	1856.891	5	3720.539	13
	4	max	.012	14	.025	7	.422	7	5.525e-4	7	NC		NC	
		min	-.043	3	-.967	5	-.649	13	-4.05e-4	13	2399.578	5	5276.644	13
	5	max	.013	14	.024	14	.447	7	5.172e-4	7	5511.133	14	NC	
		min	-.047	3	-.986	5	-.662	13	-4.011e-4	13	NC		NC	
M122	1	max	.026	14	.018	14	.571	13	3.229e-4	13	NC		NC	
		min	-.988	5	-.041	3	-.403	7	-6.078e-4	7	NC		NC	
	2	max	.026	14	.018	14	.586	13	3.645e-4	13	NC		8965.863	13
		min	-.988	5	-.045	3	-.406	7	-8.171e-4	7	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.025	14	.018	14	.601	13	4.06e-4	13	NC		4421.337	13
		min	-.988	5	-.05	3	-.409	7	-1.027e-3	7	NC		NC	
	4	max	.025	14	.018	14	.617	13	4.476e-4	13	NC		2918.332	13
		min	-.988	5	-.054	3	-.414	7	-1.236e-3	7	NC		NC	
	5	max	.025	14	.018	14	.632	13	4.892e-4	13	NC		2175.204	13
		min	-.987	5	-.055	3	-.422	7	-1.445e-3	7	NC		7171.222	7
M123	1	max	.009	14	.015	14	.376	7	1.253e-4	14	NC		NC	
		min	-.031	3	-.748	5	-.516	13	-6.755e-4	6	NC		NC	
	2	max	.01	14	.016	14	.387	7	1.209e-4	14	NC		NC	
		min	-.035	3	-.815	5	-.534	13	-6.046e-4	6	3585.96	5	5247.972	13
	3	max	.011	14	.017	14	.392	7	1.164e-4	14	NC		NC	
		min	-.039	3	-.872	5	-.543	13	-5.337e-4	6	2622.886	5	4760.981	13
	4	max	.012	14	.018	14	.395	7	1.12e-4	14	NC		NC	
		min	-.043	3	-.919	5	-.545	13	-4.628e-4	6	3412.693	5	8031.399	13
	5	max	.013	14	.019	14	.399	7	1.075e-4	14	NC		NC	
		min	-.047	3	-.954	5	-.546	13	-3.919e-4	6	NC		NC	
M124	1	max	.009	14	.036	13	.4	7	5.416e-4	7	NC		NC	
		min	-.031	3	-.692	5	-.514	13	-3.297e-4	13	NC		NC	
	2	max	.01	14	.039	13	.416	7	5.342e-4	7	NC		5353.227	7
		min	-.035	3	-.755	5	-.533	13	-3.25e-4	13	3891.922	5	5300.26	13
	3	max	.011	14	.042	13	.424	7	5.267e-4	7	NC		4338.045	7
		min	-.039	3	-.808	5	-.542	13	-3.204e-4	13	2846.767	5	4805.78	13
	4	max	.012	14	.045	13	.426	7	5.192e-4	7	NC		6290.31	7
		min	-.043	3	-.851	5	-.545	13	-3.158e-4	13	3704.101	5	8100.173	13
	5	max	.013	14	.047	13	.422	7	5.117e-4	7	NC		NC	
		min	-.046	3	-.884	5	-.546	13	-3.112e-4	13	NC		NC	
M125	1	max	.017	14	.055	13	.407	7	3.658e-4	7	NC		NC	
		min	-.062	3	-.958	5	-.56	13	-6.592e-4	12	NC		NC	
	2	max	.017	14	.055	13	.407	7	3.639e-4	7	NC		NC	
		min	-.062	3	-.958	5	-.56	13	-6.663e-4	12	NC		NC	
	3	max	.017	14	.055	13	.407	7	3.621e-4	7	NC		NC	
		min	-.062	3	-.958	5	-.56	13	-6.733e-4	12	NC		NC	
	4	max	.017	14	.055	13	.406	7	3.602e-4	7	NC		NC	
		min	-.062	3	-.958	5	-.56	13	-6.804e-4	12	NC		6300.233	13
	5	max	.018	14	.055	13	.406	7	3.584e-4	7	NC		NC	
		min	-.062	3	-.958	5	-.56	13	-6.874e-4	12	NC		4721.288	13
M126	1	max	.018	14	.024	14	.434	7	4.222e-4	12	NC		NC	
		min	-.062	3	-1.033	5	-.558	13	-3.239e-4	13	NC		NC	
	2	max	.018	14	.024	14	.434	7	4.298e-4	12	NC		4688.03	7
		min	-.062	3	-1.033	5	-.558	13	-3.241e-4	13	NC		NC	
	3	max	.018	14	.024	14	.434	7	4.374e-4	12	NC		2316.341	7
		min	-.062	3	-1.033	5	-.558	13	-3.242e-4	13	NC		NC	
	4	max	.018	14	.024	14	.434	7	4.45e-4	12	NC		1526.16	7
		min	-.062	3	-1.033	5	-.558	13	-3.244e-4	13	NC		NC	
	5	max	.018	14	.024	14	.435	7	4.526e-4	12	NC		1131.347	7

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.062	3	-1.033	5	-.558	13	-3.245e-4	13	NC		5567.892	13
M127	1	max	.415	7	.376	3	1.016	12	1.378e-4	14	NC		NC	
		min	-.552	13	-.094	14	-.122	3	-1.759e-3	12	NC		NC	
	2	max	.419	7	.371	3	1.008	12	1.347e-4	14	7374.12	3	NC	
		min	-.551	13	-.093	14	-.117	3	-1.769e-3	12	NC		NC	
	3	max	.422	7	.355	3	.993	12	1.315e-4	14	5269.655	3	NC	
		min	-.551	13	-.089	14	-.104	3	-1.78e-3	5	NC		NC	
	4	max	.426	7	.326	3	.974	12	1.284e-4	14	6750.647	3	NC	
		min	-.551	13	-.081	14	-.085	3	-1.792e-3	5	NC		NC	
	5	max	.429	7	.282	3	.953	5	1.252e-4	14	NC		NC	
		min	-.55	13	-.07	14	-.064	2	-1.804e-3	5	NC		NC	
M128	1	max	.413	7	.299	3	1.115	5	3.878e-4	14	NC		NC	
		min	-.556	13	-.075	14	-.02	7	-1.472e-3	6	NC		NC	
	2	max	.412	7	.312	3	1.119	5	4.261e-4	14	2539.359	3	NC	
		min	-.556	13	-.078	14	-.021	7	-1.566e-3	6	9920.169	14	NC	
	3	max	.411	7	.325	3	1.123	5	4.645e-4	14	1238.393	3	NC	
		min	-.556	13	-.082	14	-.022	7	-1.66e-3	6	4817.699	14	NC	
	4	max	.41	7	.338	3	1.127	5	5.028e-4	14	817.329	3	NC	
		min	-.556	13	-.085	14	-.022	7	-1.755e-3	6	3169.44	14	NC	
	5	max	.408	7	.351	3	1.13	5	5.412e-4	14	615.67	3	NC	
		min	-.556	13	-.088	14	-.023	7	-1.881e-3	3	2381.725	14	9912.198	7
M129	1	max	.398	7	.281	3	.989	5	1.237e-4	14	NC		NC	
		min	-.55	13	-.07	14	-.063	2	-1.871e-3	5	NC		NC	
	2	max	.402	7	.326	3	1.001	12	1.272e-4	14	6747.955	3	NC	
		min	-.55	13	-.081	14	-.084	3	-1.843e-3	5	NC		NC	
	3	max	.407	7	.355	3	1.011	12	1.308e-4	14	5266.316	3	NC	
		min	-.551	13	-.089	14	-.104	3	-1.814e-3	5	NC		NC	
	4	max	.411	7	.371	3	1.017	12	1.343e-4	14	7367.525	3	NC	
		min	-.551	13	-.093	14	-.117	3	-1.786e-3	12	NC		NC	
	5	max	.415	7	.376	3	1.016	12	1.378e-4	14	NC		NC	
		min	-.552	13	-.094	14	-.122	3	-1.759e-3	12	NC		NC	
M130	1	max	.429	7	.085	7	1.033	5	2.774e-4	7	NC		NC	
		min	-.556	13	-.047	13	-.024	14	-4.261e-4	12	NC		NC	
	2	max	.428	7	.092	7	1.036	5	2.599e-4	7	3181.268	7	8185.995	5
		min	-.556	13	-.047	13	-.024	14	-4.09e-4	12	NC		NC	
	3	max	.427	7	.1	7	1.038	5	2.424e-4	7	1494.317	7	4020.444	5
		min	-.556	13	-.048	13	-.023	14	-3.919e-4	12	NC		NC	
	4	max	.427	7	.108	7	1.041	5	2.248e-4	7	946.982	7	2633.961	5
		min	-.556	13	-.049	13	-.023	14	-3.748e-4	12	NC		NC	
	5	max	.426	7	.117	7	1.044	5	2.073e-4	7	682.078	7	1942.154	5
		min	-.556	13	-.05	13	-.023	14	-3.577e-4	12	NC		NC	
M131	1	max	.399	7	.047	3	.954	5	6.373e-5	14	NC		NC	
		min	-.546	13	-.013	14	-.019	14	-2.045e-3	5	NC		NC	
	2	max	.399	7	.086	3	.953	5	7.873e-5	14	3448.368	3	NC	
		min	-.547	13	-.022	14	-.019	7	-2.002e-3	5	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.398	7	.149	3	.962	5	9.372e-5	14	1336.581	3	NC	
		min	-.548	13	-.037	14	-.029	7	-1.958e-3	5	5849.696	14	9431.987	7
	4	max	.398	7	.219	3	.975	5	1.087e-4	14	793.733	3	6636.738	5
		min	-.549	13	-.054	14	-.042	7	-1.915e-3	5	3345.391	14	4913.993	7
	5	max	.398	7	.281	3	.989	5	1.237e-4	14	583.481	3	3945.459	5
		min	-.55	13	-.07	14	-.063	2	-1.871e-3	5	2414.157	14	1719.711	2
M132	1	max	.422	7	.299	3	1.076	5	3.93e-4	14	864.241	3	NC	
		min	-.557	13	-.075	14	-.023	13	-1.462e-3	6	3484.629	14	NC	
	2	max	.421	7	.294	3	1.072	5	3.758e-4	14	1161.959	3	NC	
		min	-.557	13	-.073	14	-.024	13	-1.397e-3	6	4697.186	14	NC	
	3	max	.421	7	.289	3	1.069	5	3.586e-4	14	1746.723	3	NC	
		min	-.557	13	-.072	14	-.024	13	-1.332e-3	6	7075.672	14	NC	
	4	max	.42	7	.284	3	1.065	5	3.414e-4	14	3479.42	3	NC	
		min	-.557	13	-.071	14	-.025	13	-1.267e-3	6	NC		7394.197	13
	5	max	.42	7	.278	3	1.061	5	3.242e-4	14	NC		NC	
		min	-.557	13	-.07	14	-.026	13	-1.202e-3	6	NC		5504.079	13
M133	1	max	.429	7	.282	3	.953	5	1.252e-4	14	583.063	3	1960.232	5
		min	-.55	13	-.07	14	-.064	2	-1.804e-3	5	2409.921	14	1688.838	2
	2	max	.428	7	.219	3	.931	5	1.103e-4	14	792.874	3	2900.052	5
		min	-.549	13	-.054	14	-.041	2	-1.831e-3	5	3336.267	14	2352.693	2
	3	max	.426	7	.149	3	.909	5	1.123e-4	13	1334.283	3	5342.494	5
		min	-.548	13	-.037	14	-.03	13	-1.858e-3	5	5822.154	14	NC	
	4	max	.424	7	.086	3	.892	5	1.299e-4	13	3438.004	3	NC	
		min	-.547	13	-.022	14	-.038	13	-1.885e-3	5	NC		6837.318	13
	5	max	.422	7	.046	3	.884	5	1.474e-4	13	NC		NC	
		min	-.546	13	-.013	14	-.047	13	-1.912e-3	5	NC		4613.858	13
M134	1	max	.406	7	.062	3	.958	5	2.446e-4	3	1083.901	3	NC	
		min	-.56	13	-.018	14	-.055	13	-4.512e-4	12	NC		NC	
	2	max	.406	7	.062	3	.958	5	2.465e-4	3	1448.63	3	NC	
		min	-.56	13	-.017	14	-.055	13	-4.499e-4	12	NC		NC	
	3	max	.406	7	.062	3	.958	5	2.484e-4	3	2178.097	3	NC	
		min	-.56	13	-.017	14	-.055	13	-4.485e-4	12	NC		NC	
	4	max	.406	7	.062	3	.958	5	2.503e-4	3	4366.518	3	NC	
		min	-.56	13	-.017	14	-.055	13	-4.472e-4	12	NC		4142.381	13
	5	max	.406	7	.062	3	.958	5	2.523e-4	3	NC		NC	
		min	-.56	13	-.017	14	-.055	13	-4.458e-4	12	NC		3105.818	13
M135	1	max	.422	7	.046	3	.884	5	1.474e-4	13	4476.711	3	NC	
		min	-.546	13	-.013	14	-.047	13	-1.912e-3	5	NC		NC	
	2	max	.422	7	.037	3	.885	5	1.355e-4	13	NC		NC	
		min	-.545	13	-.012	14	-.053	13	-1.487e-3	12	NC		NC	
	3	max	.421	7	.036	7	.888	5	1.237e-4	13	NC		NC	
		min	-.545	13	-.015	13	-.059	13	-1.074e-3	12	6438.131	13	5926.114	13
	4	max	.421	7	.04	7	.893	5	1.903e-4	3	NC		7537.833	5
		min	-.544	13	-.021	13	-.066	13	-6.61e-4	12	3992.826	13	3819.116	13
	5	max	.421	7	.046	7	.897	5	2.822e-4	3	NC		5298.231	5

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.544	13	-.028	13	-.073	13	-2.482e-4	12	2918.804	13	2777.634	13
M136	1	max	.504	7	.702	3	1.285	5	1.678e-3	6	NC		NC	
		min	-.667	13	-.181	14	-.096	14	-3.91e-4	14	NC		NC	
	2	max	.512	7	.696	3	1.273	5	1.572e-3	6	6376.265	3	8175.474	5
		min	-.666	13	-.179	14	-.094	14	-3.693e-4	14	NC		NC	
	3	max	.521	7	.677	3	1.249	5	1.466e-3	6	4602.706	3	6430.416	5
		min	-.666	13	-.174	14	-.09	14	-3.476e-4	14	NC		NC	
	4	max	.529	7	.642	3	1.215	5	1.361e-3	6	5946.776	3	9122.217	5
		min	-.666	13	-.165	14	-.083	14	-3.259e-4	14	NC		NC	
	5	max	.538	7	.591	3	1.171	5	1.255e-3	6	NC		NC	
		min	-.666	13	-.152	14	-.074	14	-3.042e-4	14	NC		NC	
M137	1	max	.494	7	.608	3	1.133	5	3.285e-3	3	NC		NC	
		min	-.665	13	-.157	14	-.029	14	-8.994e-4	14	NC		NC	
	2	max	.491	7	.623	3	1.138	5	3.469e-3	3	NC		NC	
		min	-.665	13	-.16	14	-.029	14	-9.497e-4	14	NC		NC	
	3	max	.489	7	.638	3	1.142	5	3.653e-3	3	NC		NC	
		min	-.665	13	-.164	14	-.029	14	-1.e-3	14	NC		NC	
	4	max	.487	7	.652	3	1.146	5	3.837e-3	3	NC		NC	
		min	-.665	13	-.168	14	-.03	14	-1.05e-3	14	NC		NC	
	5	max	.485	7	.666	3	1.149	5	4.021e-3	3	NC		NC	
		min	-.665	13	-.172	14	-.03	14	-1.101e-3	14	NC		NC	
M138	1	max	.467	7	.592	3	1.21	5	1.245e-3	6	NC		NC	
		min	-.666	13	-.152	14	-.074	14	-3.014e-4	14	NC		NC	
	2	max	.476	7	.643	3	1.244	5	1.354e-3	6	5936.978	3	9012.033	5
		min	-.666	13	-.165	14	-.082	14	-3.238e-4	14	NC		NC	
	3	max	.485	7	.677	3	1.269	5	1.462e-3	6	4595.418	3	6368.083	5
		min	-.666	13	-.174	14	-.089	14	-3.462e-4	14	NC		NC	
	4	max	.495	7	.696	3	1.283	5	1.57e-3	6	6366.548	3	8112.929	5
		min	-.666	13	-.179	14	-.094	14	-3.686e-4	14	NC		NC	
	5	max	.504	7	.702	3	1.285	5	1.678e-3	6	NC		NC	
		min	-.667	13	-.181	14	-.096	14	-3.91e-4	14	NC		NC	
M139	1	max	.528	7	.267	3	1.035	5	8.284e-4	3	NC		NC	
		min	-.665	13	-.069	14	-.025	14	-2.324e-4	14	NC		NC	
	2	max	.526	7	.283	3	1.038	5	9.188e-4	3	1331.408	3	6128.492	5
		min	-.665	13	-.073	14	-.025	14	-2.557e-4	14	5224.885	14	NC	
	3	max	.525	7	.301	3	1.042	5	1.009e-3	3	650.949	3	3001.801	5
		min	-.665	13	-.077	14	-.025	14	-2.791e-4	14	2549.099	14	NC	
	4	max	.523	7	.319	3	1.046	5	1.1e-3	3	426.424	3	1967.564	5
		min	-.665	13	-.082	14	-.025	14	-3.024e-4	14	1666.89	14	NC	
	5	max	.522	7	.337	3	1.05	5	1.19e-3	3	315.719	3	1455.854	5
		min	-.665	13	-.087	14	-.026	14	-3.257e-4	14	1232.327	14	NC	
M140	1	max	.448	7	.25	3	1.041	5	4.735e-4	3	NC		NC	
		min	-.663	13	-.064	14	-.037	14	-9.754e-5	14	NC		NC	
	2	max	.453	7	.344	3	1.08	5	6.424e-4	3	NC		3457.873	5
		min	-.664	13	-.089	14	-.045	14	-1.485e-4	14	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.458	7	.438	3	1.125	5	8.113e-4	3	8088.282	3	1632.26	5
		min	-.664	13	-.112	14	-.054	14	-1.995e-4	14	NC		7822.529	14
	4	max	.462	7	.522	3	1.169	5	1.007e-3	6	8540.403	3	1067.356	5
		min	-.665	13	-.134	14	-.064	14	-2.505e-4	14	NC		4978.518	14
	5	max	.467	7	.592	3	1.21	5	1.245e-3	6	NC		810.657	5
		min	-.666	13	-.152	14	-.074	14	-3.014e-4	14	NC		3684.843	14
M141	1	max	.508	7	.607	3	1.094	5	3.298e-3	3	NC		NC	
		min	-.666	13	-.156	14	-.029	14	-9.033e-4	14	NC		NC	
	2	max	.507	7	.6	3	1.09	5	3.233e-3	3	NC		NC	
		min	-.666	13	-.154	14	-.029	14	-8.854e-4	14	NC		NC	
	3	max	.506	7	.594	3	1.086	5	3.168e-3	3	NC		NC	
		min	-.666	13	-.153	14	-.029	14	-8.674e-4	14	NC		NC	
	4	max	.505	7	.587	3	1.081	5	3.102e-3	3	NC		NC	
		min	-.666	13	-.151	14	-.029	14	-8.495e-4	14	NC		NC	
	5	max	.504	7	.58	3	1.077	5	3.037e-3	3	NC		NC	
		min	-.666	13	-.149	14	-.029	14	-8.316e-4	14	NC		NC	
M142	1	max	.538	7	.591	3	1.171	5	1.255e-3	6	NC		671.254	5
		min	-.666	13	-.152	14	-.074	14	-3.042e-4	14	NC		3762.531	14
	2	max	.542	7	.522	3	1.121	5	1.02e-3	6	8525.964	3	888.162	5
		min	-.665	13	-.134	14	-.065	14	-2.538e-4	14	NC		5088.977	14
	3	max	.546	7	.437	3	1.067	5	8.191e-4	3	8064.288	3	1357.986	5
		min	-.664	13	-.112	14	-.055	14	-2.034e-4	14	NC		8011.999	14
	4	max	.55	7	.344	3	1.014	5	6.514e-4	3	NC		2858.612	5
		min	-.664	13	-.088	14	-.046	14	-1.531e-4	14	NC		NC	
	5	max	.554	7	.25	3	.967	5	4.837e-4	3	NC		NC	
		min	-.663	13	-.064	14	-.049	13	-1.027e-4	14	NC		4551.201	13
M143	1	max	.462	7	.262	3	.96	5	8.271e-4	3	364.492	3	1110.261	5
		min	-.67	13	-.067	14	-.055	13	-2.324e-4	14	1449.019	14	NC	
	2	max	.462	7	.262	3	.96	5	8.255e-4	3	486.008	3	1481.525	5
		min	-.67	13	-.067	14	-.055	13	-2.32e-4	14	1932.192	14	NC	
	3	max	.462	7	.261	3	.96	5	8.239e-4	3	729.04	3	2224.06	5
		min	-.67	13	-.067	14	-.055	13	-2.316e-4	14	2898.539	14	NC	
	4	max	.462	7	.261	3	.959	5	8.223e-4	3	1458.136	3	4451.68	5
		min	-.67	13	-.067	14	-.055	13	-2.312e-4	14	NC		4127.155	13
	5	max	.462	7	.261	3	.959	5	8.207e-4	3	NC		NC	
		min	-.67	13	-.067	14	-.055	13	-2.309e-4	14	NC		3094.161	13
M144	1	max	.554	7	.25	3	.967	5	4.837e-4	3	355.234	3	1021.466	5
		min	-.663	13	-.064	14	-.049	13	-1.027e-4	14	1418.131	14	NC	
	2	max	.553	7	.195	3	.944	5	3.021e-4	3	486.066	3	1490.006	5
		min	-.663	13	-.05	14	-.054	13	-2.01e-4	12	1975.179	14	NC	
	3	max	.553	7	.139	3	.925	5	1.427e-4	2	784.681	3	2520.139	5
		min	-.662	13	-.035	14	-.06	13	-3.556e-4	5	3296.801	14	6499.583	13
	4	max	.553	7	.087	3	.908	5	1.116e-4	13	1792.421	3	5930.186	5
		min	-.662	13	-.022	14	-.066	13	-5.144e-4	5	8000.543	14	4161.785	13
	5	max	.553	7	.047	3	.896	5	1.635e-4	14	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.662	13	-.013	14	-.073	13	-6.733e-4	5	NC		2985.457	13
M145	1	max	.997	5	.1	13	.699	13	1.957e-3	7	NC		NC	
		min	-.04	7	-.133	7	-.488	7	-1.763e-3	13	NC		NC	
	2	max	.997	5	.1	13	.695	13	1.957e-3	7	NC		NC	
		min	-.04	7	-.122	7	-.483	7	-1.763e-3	13	NC		NC	
	3	max	.997	5	.1	13	.691	13	1.957e-3	7	NC		NC	
		min	-.04	7	-.11	7	-.479	7	-1.763e-3	13	NC		NC	
	4	max	.997	5	.1	13	.686	13	1.957e-3	7	NC		NC	
		min	-.04	7	-.099	7	-.474	7	-1.763e-3	13	NC		NC	
	5	max	.997	5	.099	13	.682	13	1.957e-3	7	NC		NC	
		min	-.04	7	-.087	7	-.469	7	-1.763e-3	13	NC		NC	
M146	1	max	.997	5	.099	13	.682	13	1.956e-3	7	NC		NC	
		min	-.04	7	-.087	7	-.469	7	-1.763e-3	13	NC		3421.281	7
	2	max	.997	5	.109	6	.651	13	1.358e-3	7	2635.824	6	NC	
		min	-.04	7	-.083	14	-.443	7	-1.408e-3	13	4154.231	14	5216.897	7
	3	max	.997	5	.191	3	.615	13	7.589e-4	7	1646.145	3	NC	
		min	-.04	7	-.132	14	-.422	7	-1.053e-3	13	2625.537	14	8887.515	7
	4	max	.997	5	.167	3	.579	13	5.138e-4	14	2344.673	3	NC	
		min	-.039	7	-.112	14	-.406	7	-6.975e-4	13	3863.194	14	NC	
	5	max	.997	5	.079	3	.548	13	6.981e-4	14	NC		NC	
		min	-.039	7	-.056	14	-.392	7	-8.682e-4	3	NC		NC	
M147	1	max	.997	5	.056	14	.392	7	7.e-4	14	1667.273	14	NC	
		min	-.04	7	-.079	3	-.548	13	-8.716e-4	3	894.476	3	NC	
	2	max	.997	5	.048	14	.39	7	7.e-4	14	2270.651	14	NC	
		min	-.04	7	-.064	3	-.542	13	-8.716e-4	3	1211.87	3	NC	
	3	max	.997	5	.04	14	.388	7	7.e-4	14	3443.859	14	NC	
		min	-.04	7	-.052	6	-.537	13	-8.716e-4	3	2219.279	6	NC	
	4	max	.997	5	.033	14	.385	7	7.e-4	14	6916.057	14	NC	
		min	-.04	7	-.045	13	-.532	13	-8.716e-4	3	NC		NC	
	5	max	.997	5	.026	14	.383	7	7.e-4	14	NC		NC	
		min	-.04	7	-.044	13	-.526	13	-8.716e-4	3	NC		NC	
M148	1	max	.891	5	.026	14	.701	13	7.62e-4	7	NC		NC	
		min	-.1	13	-.104	13	-.57	7	-1.779e-3	13	NC		NC	
	2	max	.891	5	.03	7	.697	13	7.62e-4	7	3658.291	7	NC	
		min	-.1	13	-.104	13	-.568	7	-1.779e-3	13	NC		NC	
	3	max	.891	5	.042	7	.692	13	7.62e-4	7	1825.872	7	NC	
		min	-.1	13	-.104	13	-.566	7	-1.779e-3	13	NC		NC	
	4	max	.891	5	.055	7	.687	13	7.62e-4	7	1211.364	7	NC	
		min	-.1	13	-.104	13	-.563	7	-1.779e-3	13	NC		NC	
	5	max	.891	5	.068	7	.682	13	7.62e-4	7	900.05	7	NC	
		min	-.1	13	-.104	13	-.561	7	-1.779e-3	13	NC		NC	
M149	1	max	.891	5	.068	7	.682	13	7.62e-4	7	NC		NC	
		min	-.1	13	-.104	13	-.561	7	-1.779e-3	13	NC		NC	
	2	max	.891	5	.162	7	.651	13	8.245e-4	7	3121.902	7	NC	
		min	-.1	13	-.097	13	-.54	7	-1.428e-3	13	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.891	5	.216	7	.615	13	8.871e-4	7	2039.38	7	NC	
		min	-.1	13	-.137	14	-.506	7	-1.078e-3	13	2577.394	14	NC	
	4	max	.891	5	.185	7	.58	13	9.497e-4	7	2979.837	7	NC	
		min	-.1	13	-.117	14	-.468	7	-7.278e-4	13	3753.708	14	NC	
	5	max	.891	5	.105	7	.548	13	1.012e-3	7	NC		NC	
		min	-.1	13	-.058	14	-.433	7	-7.222e-4	14	NC		NC	
M150	1	max	.891	5	.105	7	.548	13	1.012e-3	7	1004.045	7	2359.429	13
		min	-.1	13	-.058	14	-.433	7	-7.222e-4	14	1485.243	14	2140.788	7
	2	max	.891	5	.093	7	.544	13	1.012e-3	7	1352.8	7	3145.905	13
		min	-.1	13	-.052	13	-.427	7	-7.222e-4	14	NC		2854.383	7
	3	max	.891	5	.082	7	.539	13	1.012e-3	7	2040.213	7	4718.857	13
		min	-.1	13	-.051	13	-.422	7	-7.222e-4	14	NC		4281.575	7
	4	max	.891	5	.071	7	.534	13	1.012e-3	7	4088.603	7	9437.715	13
		min	-.1	13	-.05	13	-.417	7	-7.222e-4	14	NC		8563.15	7
	5	max	.891	5	.059	7	.529	13	1.012e-3	7	NC		NC	
		min	-.1	13	-.05	13	-.411	7	-7.222e-4	14	NC		NC	
M151	1	max	.901	5	.039	3	.673	13	2.36e-4	14	NC		NC	
		min	-.077	13	-.012	14	-.548	7	-1.444e-3	3	NC		NC	
	2	max	.901	5	.099	3	.644	13	8.858e-5	14	4272.48	3	NC	
		min	-.077	13	-.054	14	-.532	7	-1.003e-3	3	6590.132	14	NC	
	3	max	.9	5	.135	3	.611	13	5.413e-5	7	2649.474	3	NC	
		min	-.077	13	-.081	14	-.502	7	-6.414e-4	13	4012.028	14	NC	
	4	max	.9	5	.095	3	.578	13	2.843e-4	7	4331.086	3	NC	
		min	-.077	13	-.057	14	-.465	7	-4.884e-4	13	6649.211	14	NC	
	5	max	.899	5	.049	7	.548	13	5.146e-4	7	NC		NC	
		min	-.077	13	-.03	13	-.427	7	-3.538e-4	14	NC		NC	
M152	1	max	.994	5	.041	3	.672	13	1.846e-3	7	NC		NC	
		min	-.027	14	-.012	14	-.469	7	-8.648e-4	13	NC		3709.639	7
	2	max	.993	5	.099	3	.643	13	1.388e-3	7	4428.52	3	NC	
		min	-.026	14	-.053	14	-.44	7	-7.237e-4	13	6807.48	14	6292.31	7
	3	max	.993	5	.133	3	.61	13	9.29e-4	7	2746.129	3	NC	
		min	-.026	14	-.079	14	-.419	7	-5.825e-4	13	4138.69	14	NC	
	4	max	.992	5	.092	3	.577	13	4.704e-4	7	4561.847	3	NC	
		min	-.025	14	-.055	14	-.406	7	-4.414e-4	13	6954.281	14	NC	
	5	max	.991	5	.033	6	.547	13	3.187e-4	14	NC		NC	
		min	-.025	14	-.018	14	-.398	7	-3.003e-4	13	NC		NC	
M153	1	max	.08	13	.036	14	.564	13	5.397e-4	3	4426.678	14	NC	
		min	-.902	5	-.098	7	-.409	7	-7.784e-5	14	1671.347	7	NC	
	2	max	.08	13	.033	13	.561	13	5.397e-4	3	NC		NC	
		min	-.902	5	-.077	7	-.407	7	-7.784e-5	14	2735.445	7	NC	
	3	max	.08	13	.031	13	.558	13	5.397e-4	3	NC		NC	
		min	-.902	5	-.058	7	-.405	7	-7.784e-5	14	6609.184	7	NC	
	4	max	.08	13	.029	13	.557	13	5.397e-4	3	NC		NC	
		min	-.902	5	-.044	7	-.405	7	-7.784e-5	14	NC		NC	
	5	max	.08	13	.027	13	.564	13	5.397e-4	3	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.902	5	-.044	7	-.41	7	-7.784e-5	14	NC		NC	
M154	1	max	.08	13	.017	14	.672	13	2.47e-3	3	NC		NC	
		min	-.902	5	-.061	3	-.448	7	-6.312e-4	14	NC		NC	
	2	max	.08	13	.018	14	.682	13	2.47e-3	3	NC		8365.462	13
		min	-.902	5	-.067	3	-.454	7	-6.312e-4	14	NC		NC	
	3	max	.08	13	.024	14	.699	13	2.47e-3	3	NC		3225.673	13
		min	-.902	5	-.09	3	-.466	7	-6.312e-4	14	3079.749	3	4906.136	7
	4	max	.08	13	.032	14	.72	13	2.47e-3	3	5907.522	14	1877.125	13
		min	-.902	5	-.121	3	-.48	7	-6.312e-4	14	1496.011	3	2804.873	7
	5	max	.08	13	.041	14	.74	13	2.47e-3	3	3766.566	14	1308.089	13
		min	-.902	5	-.154	3	-.494	7	-6.312e-4	14	964.904	3	1938.025	7
M155	1	max	.08	13	.027	13	.564	13	5.397e-4	3	NC		NC	
		min	-.902	5	-.044	7	-.41	7	-7.784e-5	14	NC		NC	
	2	max	.08	13	.051	14	.634	13	1.022e-3	3	7527.48	14	6045.631	13
		min	-.902	5	-.167	3	-.457	7	-2.162e-4	14	2039.934	3	6982.464	7
	3	max	.08	13	.075	14	.694	13	1.505e-3	3	4484.182	14	3455.125	13
		min	-.902	5	-.262	3	-.488	7	-3.545e-4	14	1217.508	3	4437.063	7
	4	max	.08	13	.051	14	.69	13	1.988e-3	3	7696.89	14	5845.473	13
		min	-.902	5	-.18	3	-.47	7	-4.929e-4	14	2082.476	3	8223.464	7
	5	max	.08	13	.017	14	.672	13	2.47e-3	3	NC		NC	
		min	-.902	5	-.061	3	-.448	7	-6.312e-4	14	NC		NC	
M156	1	max	.412	13	.073	13	.356	13	1.705e-4	14	NC		NC	
		min	-.304	7	-.897	5	-.295	7	-4.42e-4	7	NC		NC	
	2	max	.41	13	.064	13	.354	13	9.892e-4	12	NC		NC	
		min	-.303	7	-.875	5	-.292	7	-3.54e-4	7	3113.627	5	NC	
	3	max	.409	13	.055	13	.354	13	1.842e-3	12	NC		5205.505	13
		min	-.302	7	-.828	5	-.293	7	-2.706e-4	3	2785.717	5	6893.511	7
	4	max	.407	13	.045	13	.345	13	2.696e-3	5	NC		4905.468	13
		min	-.301	7	-.763	5	-.288	7	-2.021e-4	2	4602.098	5	6047.106	7
	5	max	.405	13	.036	13	.317	13	3.57e-3	5	NC		NC	
		min	-.3	7	-.692	5	-.265	7	-1.539e-4	2	NC		NC	
M157	1	max	.474	7	.191	3	.937	5	4.652e-4	3	353.027	3	1306.602	5
		min	-.667	13	-.049	14	-.064	13	-1.235e-4	14	1399.411	14	NC	
	2	max	.473	7	.158	3	.928	5	3.94e-4	3	474.454	3	1789.543	5
		min	-.667	13	-.041	14	-.068	13	-1.009e-4	14	1876.473	14	NC	
	3	max	.472	7	.126	3	.919	5	3.228e-4	3	723.43	3	2787.907	5
		min	-.668	13	-.033	14	-.072	13	-7.842e-5	14	2853.102	14	5932.803	13
	4	max	.471	7	.094	3	.91	5	2.565e-4	6	1483.903	3	5864.14	5
		min	-.668	13	-.025	14	-.076	13	-5.589e-5	14	5831.738	14	3938.127	13
	5	max	.47	7	.064	3	.903	5	1.955e-4	6	NC		NC	
		min	-.668	13	-.018	14	-.079	13	-3.336e-5	14	NC		2948.001	13
M158	1	max	.484	7	.333	3	.979	5	1.185e-3	3	318.419	3	1085.923	5
		min	-.666	13	-.085	14	-.049	13	-3.245e-4	14	1244.539	14	NC	
	2	max	.483	7	.315	3	.974	5	1.099e-3	3	430.057	3	1463.972	5
		min	-.666	13	-.081	14	-.05	13	-3.023e-4	14	1683.524	14	NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.481	7	.298	3	.969	5	1.012e-3	3	656.186	3	2225.627	5
		min	-.666	13	-.076	14	-.052	13	-2.8e-4	14	2573.574	14	6902.812	13
	4	max	.48	7	.282	3	.964	5	9.257e-4	3	1340.854	3	4522.672	5
		min	-.666	13	-.072	14	-.054	13	-2.578e-4	14	5270.571	14	4541.645	13
	5	max	.479	7	.266	3	.96	5	8.392e-4	3	NC		NC	
		min	-.666	13	-.068	14	-.055	13	-2.356e-4	14	NC		3360.473	13
M159	1	max	.494	7	.481	3	1.028	5	2.135e-3	3	NC		1006.691	5
		min	-.667	13	-.124	14	-.036	13	-5.845e-4	14	NC		NC	
	2	max	.491	7	.447	3	1.016	5	1.898e-3	3	NC		1350.225	5
		min	-.667	13	-.115	14	-.039	13	-5.194e-4	14	NC		NC	
	3	max	.488	7	.41	3	1.003	5	1.66e-3	3	NC		2045.91	5
		min	-.667	13	-.105	14	-.042	13	-4.543e-4	14	NC		8292.438	13
	4	max	.485	7	.372	3	.991	5	1.422e-3	3	NC		4152.255	5
		min	-.667	13	-.095	14	-.045	13	-3.893e-4	14	NC		5392.333	13
	5	max	.482	7	.333	3	.979	5	1.184e-3	3	NC		NC	
		min	-.667	13	-.085	14	-.049	13	-3.242e-4	14	NC		3934.583	13
M160	1	max	.507	7	.58	3	1.077	5	3.038e-3	3	NC		NC	
		min	-.666	13	-.149	14	-.029	14	-8.319e-4	14	NC		NC	
	2	max	.504	7	.559	3	1.065	5	2.812e-3	3	NC		NC	
		min	-.666	13	-.144	14	-.029	13	-7.7e-4	14	NC		NC	
	3	max	.501	7	.536	3	1.053	5	2.587e-3	3	9052.156	3	NC	
		min	-.666	13	-.138	14	-.031	13	-7.082e-4	14	NC		NC	
	4	max	.498	7	.51	3	1.041	5	2.361e-3	3	NC		NC	
		min	-.666	13	-.131	14	-.034	13	-6.464e-4	14	NC		6589.712	13
	5	max	.495	7	.481	3	1.028	5	2.136e-3	3	NC		NC	
		min	-.666	13	-.124	14	-.036	13	-5.846e-4	14	NC		4820.078	13
M161	1	max	.521	7	.664	3	1.118	5	4.022e-3	3	NC		NC	
		min	-.666	13	-.171	14	-.03	14	-1.101e-3	14	NC		NC	
	2	max	.519	7	.65	3	1.113	5	3.841e-3	3	NC		NC	
		min	-.666	13	-.167	14	-.03	14	-1.052e-3	14	NC		NC	
	3	max	.517	7	.636	3	1.107	5	3.661e-3	3	NC		NC	
		min	-.666	13	-.164	14	-.03	14	-1.002e-3	14	NC		NC	
	4	max	.515	7	.621	3	1.1	5	3.48e-3	3	NC		NC	
		min	-.666	13	-.16	14	-.03	14	-9.529e-4	14	NC		NC	
	5	max	.512	7	.607	3	1.094	5	3.3e-3	3	NC		NC	
		min	-.666	13	-.156	14	-.029	14	-9.036e-4	14	NC		NC	
M162	1	max	.534	7	.715	3	1.148	5	4.82e-3	3	NC		NC	
		min	-.666	13	-.185	14	-.031	14	-1.319e-3	14	NC		NC	
	2	max	.531	7	.708	3	1.141	5	4.62e-3	3	8806.409	3	NC	
		min	-.666	13	-.183	14	-.031	14	-1.264e-3	14	NC		NC	
	3	max	.527	7	.697	3	1.134	5	4.421e-3	3	6811.424	3	NC	
		min	-.666	13	-.18	14	-.031	14	-1.21e-3	14	NC		NC	
	4	max	.524	7	.682	3	1.127	5	4.221e-3	3	9378.664	3	NC	
		min	-.666	13	-.176	14	-.031	14	-1.155e-3	14	NC		NC	
	5	max	.521	7	.664	3	1.118	5	4.022e-3	3	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.666	13	-.171	14	-.03	14	-1.101e-3	14	NC		NC	
M163	1	max	.532	7	.195	7	1.018	5	4.617e-4	3	NC		NC	
		min	-.665	13	-.059	13	-.025	14	-1.224e-4	14	NC		NC	
	2	max	.532	7	.212	3	1.022	5	5.532e-4	3	NC		6677.749	5
		min	-.665	13	-.06	13	-.025	14	-1.499e-4	14	NC		NC	
	3	max	.531	7	.23	3	1.026	5	6.447e-4	3	NC		3319.557	5
		min	-.665	13	-.061	13	-.025	14	-1.773e-4	14	NC		NC	
	4	max	.53	7	.248	3	1.03	5	7.362e-4	3	NC		2202.231	5
		min	-.665	13	-.064	14	-.024	14	-2.048e-4	14	NC		NC	
	5	max	.529	7	.266	3	1.035	5	8.277e-4	3	NC		1644.975	5
		min	-.665	13	-.069	14	-.025	14	-2.322e-4	14	NC		NC	
M164	1	max	.524	7	.337	3	1.05	5	1.189e-3	3	NC		NC	
		min	-.665	13	-.087	14	-.026	14	-3.255e-4	14	NC		NC	
	2	max	.52	7	.376	3	1.059	5	1.427e-3	3	NC		5554.787	5
		min	-.665	13	-.097	14	-.026	14	-3.905e-4	14	NC		NC	
	3	max	.517	7	.415	3	1.068	5	1.664e-3	3	NC		2736.029	5
		min	-.665	13	-.107	14	-.026	14	-4.554e-4	14	NC		NC	
	4	max	.514	7	.451	3	1.077	5	1.901e-3	3	NC		1806.896	5
		min	-.665	13	-.116	14	-.027	14	-5.204e-4	14	NC		NC	
	5	max	.511	7	.485	3	1.086	5	2.138e-3	3	NC		1349.319	5
		min	-.665	13	-.125	14	-.027	14	-5.854e-4	14	NC		NC	
M165	1	max	.51	7	.485	3	1.086	5	2.139e-3	3	NC		NC	
		min	-.665	13	-.125	14	-.027	14	-5.854e-4	14	NC		NC	
	2	max	.507	7	.514	3	1.095	5	2.363e-3	3	NC		NC	
		min	-.665	13	-.132	14	-.028	14	-6.469e-4	14	NC		NC	
	3	max	.504	7	.539	3	1.105	5	2.588e-3	3	9055.87	3	NC	
		min	-.665	13	-.139	14	-.028	14	-7.084e-4	14	NC		NC	
	4	max	.501	7	.562	3	1.113	5	2.812e-3	3	NC		NC	
		min	-.665	13	-.145	14	-.028	14	-7.699e-4	14	NC		NC	
	5	max	.497	7	.583	3	1.122	5	3.036e-3	3	NC		NC	
		min	-.665	13	-.15	14	-.028	14	-8.314e-4	14	NC		NC	
M166	1	max	.5	7	.583	3	1.122	5	3.036e-3	3	NC		NC	
		min	-.665	13	-.15	14	-.028	14	-8.312e-4	14	NC		NC	
	2	max	.499	7	.589	3	1.125	5	3.098e-3	3	NC		NC	
		min	-.665	13	-.152	14	-.029	14	-8.482e-4	14	NC		NC	
	3	max	.498	7	.595	3	1.128	5	3.16e-3	3	NC		NC	
		min	-.665	13	-.153	14	-.029	14	-8.652e-4	14	NC		NC	
	4	max	.497	7	.602	3	1.13	5	3.222e-3	3	NC		NC	
		min	-.665	13	-.155	14	-.029	14	-8.822e-4	14	NC		NC	
	5	max	.496	7	.608	3	1.133	5	3.284e-3	3	NC		NC	
		min	-.665	13	-.157	14	-.029	14	-8.992e-4	14	NC		NC	
M167	1	max	.484	7	.666	3	1.149	5	4.021e-3	3	NC		NC	
		min	-.665	13	-.172	14	-.03	14	-1.101e-3	14	NC		NC	
	2	max	.481	7	.684	3	1.154	5	4.219e-3	3	9248.237	3	NC	
		min	-.665	13	-.177	14	-.03	14	-1.155e-3	14	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.477	7	.698	3	1.158	5	4.416e-3	3	6742.356	3	NC	
		min	-.665	13	-.18	14	-.031	14	-1.208e-3	14	NC		NC	
	4	max	.474	7	.709	3	1.162	5	4.614e-3	3	8748.46	3	NC	
		min	-.665	13	-.183	14	-.031	14	-1.262e-3	14	NC		NC	
	5	max	.471	7	.716	3	1.164	5	4.811e-3	3	NC		NC	
		min	-.665	13	-.185	14	-.031	14	-1.316e-3	14	NC		NC	
M168	1	max	.472	7	.716	3	1.164	5	4.811e-3	3	NC		NC	
		min	-.665	13	-.185	14	-.031	14	-1.316e-3	14	NC		NC	
	2	max	.468	7	.717	3	1.167	5	4.86e-3	3	NC		NC	
		min	-.666	13	-.185	14	-.031	14	-1.33e-3	14	NC		NC	
	3	max	.465	7	.715	3	1.168	5	4.909e-3	3	NC		NC	
		min	-.666	13	-.185	14	-.031	14	-1.343e-3	14	NC		NC	
	4	max	.461	7	.712	3	1.168	5	4.958e-3	3	NC		NC	
		min	-.666	13	-.184	14	-.031	14	-1.356e-3	14	NC		NC	
	5	max	.458	7	.709	3	1.167	5	5.007e-3	3	NC		NC	
		min	-.666	13	-.183	14	-.03	14	-1.37e-3	14	NC		NC	
M169	1	max	.46	7	.709	3	1.167	5	5.009e-3	3	3309.317	3	NC	
		min	-.666	13	-.183	14	-.03	14	-1.37e-3	14	NC		NC	
	2	max	.46	7	.708	3	1.166	5	4.989e-3	3	4663.85	3	NC	
		min	-.666	13	-.183	14	-.03	14	-1.365e-3	14	NC		NC	
	3	max	.459	7	.707	3	1.166	5	4.969e-3	3	7491.24	3	NC	
		min	-.666	13	-.183	14	-.03	14	-1.359e-3	14	NC		NC	
	4	max	.459	7	.707	3	1.166	5	4.95e-3	3	NC		NC	
		min	-.666	13	-.182	14	-.029	14	-1.354e-3	14	NC		NC	
	5	max	.458	7	.706	3	1.165	5	4.93e-3	3	NC		NC	
		min	-.666	13	-.182	14	-.029	14	-1.348e-3	14	NC		NC	
M170	1	max	.411	7	.048	3	.935	5	3.961e-4	3	2519.795	3	1327.031	5
		min	-.559	13	-.016	14	-.064	13	-1.935e-4	12	NC		NC	
	2	max	.411	7	.043	3	.925	5	3.545e-4	3	3432.525	3	1854.352	5
		min	-.559	13	-.016	14	-.068	13	-1.56e-4	12	NC		NC	
	3	max	.412	7	.039	3	.916	5	3.129e-4	3	5085.522	3	2981.528	5
		min	-.56	13	-.016	14	-.071	13	-1.185e-4	12	NC		6031.94	13
	4	max	.413	7	.035	3	.908	5	2.712e-4	3	9726.805	3	6569.606	5
		min	-.56	13	-.016	14	-.075	13	-8.097e-5	12	NC		3949.233	13
	5	max	.413	7	.03	6	.901	5	2.296e-4	3	NC		NC	
		min	-.56	13	-.016	14	-.079	13	-4.346e-5	12	NC		2894.938	13
M171	1	max	.412	7	.101	3	.974	5	1.592e-4	3	570.957	3	1330.429	5
		min	-.558	13	-.026	14	-.049	13	-3.193e-4	12	2510.047	14	NC	
	2	max	.411	7	.09	3	.97	5	1.766e-4	3	798.786	3	1797.584	5
		min	-.558	13	-.024	14	-.05	13	-3.354e-4	12	3559.41	14	NC	
	3	max	.411	7	.08	3	.966	5	1.94e-4	3	1271.433	3	2733.372	5
		min	-.558	13	-.021	14	-.052	13	-3.514e-4	12	5764.156	14	6833.59	13
	4	max	.41	7	.071	3	.962	5	2.114e-4	3	2734.257	3	5543.854	5
		min	-.558	13	-.019	14	-.053	13	-3.674e-4	12	NC		4505.302	13
	5	max	.409	7	.064	3	.958	5	2.287e-4	3	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.558	13	-.018	14	-.055	13	-3.834e-4	12	NC		3340.701	13
M172	1	max	.416	7	.203	3	1.017	5	1.387e-4	14	478.002	3	1133.69	5
		min	-.558	13	-.051	14	-.036	13	-5.654e-4	6	1965.398	14	NC	
	2	max	.415	7	.178	3	1.006	5	1.033e-4	14	633.43	3	1529.364	5
		min	-.558	13	-.045	14	-.039	13	-4.503e-4	6	2618.194	14	NC	
	3	max	.414	7	.152	3	.995	5	8.029e-5	13	959.826	3	2338.831	5
		min	-.558	13	-.038	14	-.042	13	-3.574e-4	12	3997.05	14	8307.67	13
	4	max	.413	7	.126	3	.984	5	8.537e-5	13	1972.201	3	4807.731	5
		min	-.558	13	-.032	14	-.045	13	-3.424e-4	12	8296.356	14	5380.863	13
	5	max	.411	7	.101	3	.974	5	1.615e-4	3	NC		NC	
		min	-.558	13	-.026	14	-.049	13	-3.274e-4	12	NC		3914.529	13
M173	1	max	.421	7	.278	3	1.061	5	3.249e-4	14	NC		NC	
		min	-.557	13	-.07	14	-.026	13	-1.198e-3	6	NC		NC	
	2	max	.42	7	.262	3	1.05	5	2.784e-4	14	NC		NC	
		min	-.557	13	-.066	14	-.028	13	-1.039e-3	6	NC		NC	
	3	max	.419	7	.244	3	1.04	5	2.319e-4	14	NC		NC	
		min	-.557	13	-.061	14	-.031	13	-8.81e-4	6	NC		NC	
	4	max	.418	7	.225	3	1.028	5	1.853e-4	14	NC		NC	
		min	-.557	13	-.056	14	-.033	13	-7.226e-4	6	NC		6638.238	13
	5	max	.417	7	.203	3	1.017	5	1.388e-4	14	NC		NC	
		min	-.558	13	-.051	14	-.036	13	-5.642e-4	6	NC		4843.966	13
M174	1	max	.428	7	.35	3	1.099	5	5.437e-4	14	611.184	3	NC	
		min	-.557	13	-.088	14	-.018	2	-1.888e-3	3	2361.285	14	NC	
	2	max	.427	7	.337	3	1.094	5	5.063e-4	14	812.193	3	NC	
		min	-.557	13	-.085	14	-.019	13	-1.748e-3	3	3145.467	14	NC	
	3	max	.426	7	.324	3	1.088	5	4.688e-4	14	1230.914	3	NC	
		min	-.557	13	-.081	14	-.02	13	-1.644e-3	6	4782.456	14	NC	
	4	max	.425	7	.311	3	1.082	5	4.314e-4	14	2522.677	3	NC	
		min	-.557	13	-.078	14	-.021	13	-1.551e-3	6	9842.217	14	8105.554	13
	5	max	.424	7	.299	3	1.076	5	3.939e-4	14	NC		NC	
		min	-.557	13	-.075	14	-.023	13	-1.458e-3	6	NC		5999.439	13
M175	1	max	.436	7	.397	3	1.128	5	7.275e-4	14	NC		NC	
		min	-.556	13	-.1	14	-.03	2	-2.571e-3	3	NC		NC	
	2	max	.434	7	.39	3	1.122	5	6.815e-4	14	9648.136	3	NC	
		min	-.557	13	-.098	14	-.028	2	-2.4e-3	3	NC		NC	
	3	max	.432	7	.38	3	1.115	5	6.356e-4	14	7548.29	3	NC	
		min	-.557	13	-.096	14	-.025	2	-2.229e-3	3	NC		NC	
	4	max	.43	7	.366	3	1.108	5	5.896e-4	14	NC		NC	
		min	-.557	13	-.092	14	-.021	2	-2.059e-3	3	NC		NC	
	5	max	.428	7	.35	3	1.099	5	5.436e-4	14	NC		NC	
		min	-.557	13	-.088	14	-.018	2	-1.888e-3	3	NC		NC	
M176	1	max	.429	7	.065	7	1.016	5	4.074e-4	3	NC		NC	
		min	-.557	13	-.037	13	-.024	14	-2.29e-4	12	NC		NC	
	2	max	.429	7	.069	7	1.021	5	3.669e-4	3	8196.935	7	NC	
		min	-.557	13	-.038	13	-.024	14	-2.791e-4	12	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.429	7	.072	7	1.025	5	3.367e-4	7	3831.828	7	NC	
		min	-.557	13	-.04	13	-.024	14	-3.291e-4	12	NC		NC	
	4	max	.429	7	.077	7	1.029	5	3.067e-4	7	2347.028	7	NC	
		min	-.557	13	-.042	13	-.024	14	-3.791e-4	12	NC		NC	
	5	max	.429	7	.082	7	1.033	5	2.766e-4	7	1596.261	7	NC	
		min	-.556	13	-.043	13	-.024	14	-4.292e-4	12	NC		NC	
M177	1	max	.427	7	.115	7	1.044	5	2.07e-4	7	NC		NC	
		min	-.556	13	-.046	13	-.023	14	-3.61e-4	12	NC		NC	
	2	max	.425	7	.135	7	1.052	5	9.954e-5	7	NC		6804.214	5
		min	-.556	13	-.047	13	-.022	14	-3.763e-4	12	NC		NC	
	3	max	.424	7	.156	7	1.059	5	6.456e-5	14	NC		3291.322	5
		min	-.556	13	-.048	13	-.021	14	-3.915e-4	12	NC		NC	
	4	max	.422	7	.181	3	1.067	5	1.001e-4	14	NC		2145.953	5
		min	-.556	13	-.048	13	-.02	14	-4.697e-4	6	NC		NC	
	5	max	.421	7	.206	3	1.075	5	1.356e-4	14	NC		1590.155	5
		min	-.556	13	-.052	14	-.019	14	-5.853e-4	6	1964.668	14	NC	
M178	1	max	.421	7	.206	3	1.075	5	1.358e-4	14	NC		NC	
		min	-.556	13	-.052	14	-.019	14	-5.845e-4	6	NC		NC	
	2	max	.419	7	.227	3	1.083	5	1.824e-4	14	NC		NC	
		min	-.556	13	-.057	14	-.019	14	-7.435e-4	6	NC		NC	
	3	max	.418	7	.246	3	1.091	5	2.289e-4	14	NC		NC	
		min	-.556	13	-.062	14	-.018	14	-9.025e-4	6	NC		NC	
	4	max	.416	7	.264	3	1.098	5	2.755e-4	14	NC		NC	
		min	-.556	13	-.066	14	-.018	7	-1.062e-3	6	NC		NC	
	5	max	.415	7	.28	3	1.106	5	3.22e-4	14	NC		NC	
		min	-.556	13	-.07	14	-.018	7	-1.221e-3	6	NC		NC	
M179	1	max	.416	7	.28	3	1.106	5	3.216e-4	14	NC		NC	
		min	-.556	13	-.07	14	-.018	7	-1.222e-3	6	NC		NC	
	2	max	.416	7	.285	3	1.108	5	3.381e-4	14	3533.292	3	NC	
		min	-.556	13	-.071	14	-.019	7	-1.284e-3	6	NC		NC	
	3	max	.415	7	.289	3	1.11	5	3.545e-4	14	1772.407	3	NC	
		min	-.556	13	-.072	14	-.019	7	-1.347e-3	6	7180.343	14	NC	
	4	max	.415	7	.294	3	1.113	5	3.71e-4	14	1178.467	3	NC	
		min	-.556	13	-.074	14	-.02	7	-1.41e-3	6	4764.851	14	NC	
	5	max	.414	7	.299	3	1.115	5	3.875e-4	14	876.34	3	NC	
		min	-.556	13	-.075	14	-.02	7	-1.472e-3	6	3534.669	14	NC	
M180	1	max	.408	7	.351	3	1.13	5	5.412e-4	14	NC		NC	
		min	-.556	13	-.088	14	-.023	7	-1.881e-3	3	NC		NC	
	2	max	.406	7	.367	3	1.135	5	5.869e-4	14	NC		NC	
		min	-.556	13	-.092	14	-.024	7	-2.051e-3	3	NC		NC	
	3	max	.404	7	.38	3	1.139	5	6.326e-4	14	7507.874	3	NC	
		min	-.556	13	-.096	14	-.026	7	-2.22e-3	3	NC		NC	
	4	max	.403	7	.39	3	1.142	5	6.782e-4	14	9638.817	3	NC	
		min	-.556	13	-.098	14	-.028	2	-2.389e-3	3	NC		NC	
	5	max	.401	7	.396	3	1.145	5	7.239e-4	14	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.556	13	-.1	14	-.03	2	-2.559e-3	3	NC		NC	
M181	1	max	.401	7	.396	3	1.145	5	7.238e-4	14	NC		NC	
		min	-.556	13	-.1	14	-.03	2	-2.559e-3	3	NC		NC	
	2	max	.4	7	.397	3	1.146	5	7.359e-4	14	NC		NC	
		min	-.556	13	-.1	14	-.033	2	-2.603e-3	3	NC		NC	
	3	max	.398	7	.395	3	1.147	5	7.48e-4	14	NC		NC	
		min	-.556	13	-.1	14	-.035	2	-2.648e-3	3	NC		NC	
	4	max	.396	7	.392	3	1.147	12	7.601e-4	14	NC		NC	
		min	-.557	13	-.099	14	-.036	3	-2.693e-3	3	NC		NC	
	5	max	.394	7	.389	3	1.147	12	7.722e-4	14	NC		NC	
		min	-.557	13	-.098	14	-.035	3	-2.738e-3	3	NC		NC	
M182	1	max	.395	7	.389	3	1.147	12	7.723e-4	14	3314.126	3	NC	
		min	-.557	13	-.098	14	-.035	3	-2.738e-3	3	NC		NC	
	2	max	.395	7	.388	3	1.147	12	7.68e-4	14	4674.058	3	NC	
		min	-.557	13	-.098	14	-.035	3	-2.722e-3	3	NC		NC	
	3	max	.395	7	.387	3	1.147	12	7.636e-4	14	7514.352	3	NC	
		min	-.557	13	-.098	14	-.035	3	-2.706e-3	3	NC		NC	
	4	max	.394	7	.387	3	1.146	12	7.592e-4	14	NC		NC	
		min	-.557	13	-.097	14	-.034	3	-2.689e-3	3	NC		NC	
	5	max	.394	7	.386	3	1.146	12	7.548e-4	14	NC		NC	
		min	-.557	13	-.097	14	-.034	3	-2.673e-3	3	NC		NC	
M183	1	max	.477	7	.264	3	.959	5	8.314e-4	3	NC		1200.536	5
		min	-.667	13	-.068	14	-.055	13	-2.337e-4	14	NC		NC	
	2	max	.476	7	.246	3	.954	5	7.399e-4	3	NC		1606.948	5
		min	-.667	13	-.063	14	-.058	13	-2.062e-4	14	NC		NC	
	3	max	.475	7	.228	3	.948	5	6.484e-4	3	NC		2421.759	5
		min	-.667	13	-.059	14	-.06	13	-1.786e-4	14	NC		6205.314	13
	4	max	.475	7	.209	3	.942	5	5.569e-4	3	NC		4870.509	5
		min	-.667	13	-.054	14	-.062	13	-1.511e-4	14	NC		4117.319	13
	5	max	.474	7	.191	3	.937	5	4.654e-4	3	NC		NC	
		min	-.667	13	-.049	14	-.064	13	-1.236e-4	14	NC		3074.551	13
M184	1	max	.409	7	.063	3	.958	5	2.387e-4	3	1751.382	3	NC	
		min	-.559	13	-.018	14	-.055	13	-3.864e-4	12	NC		NC	
	2	max	.41	7	.057	3	.952	5	2.782e-4	3	2739.066	3	NC	
		min	-.559	13	-.017	14	-.057	13	-3.391e-4	12	NC		NC	
	3	max	.41	7	.053	3	.947	5	3.177e-4	3	4762.474	3	NC	
		min	-.559	13	-.016	14	-.06	13	-2.918e-4	12	NC		6358.235	13
	4	max	.41	7	.05	3	.941	5	3.571e-4	3	NC		NC	
		min	-.559	13	-.016	14	-.062	13	-2.445e-4	12	NC		4218.817	13
	5	max	.411	7	.048	3	.935	5	3.966e-4	3	NC		NC	
		min	-.559	13	-.016	14	-.064	13	-1.973e-4	12	NC		3144.672	13
M185	1	max	.397	7	.052	3	.996	5	9.914e-4	3	1513.415	3	NC	
		min	-.544	13	-.035	14	-.031	14	-4.855e-4	14	1825.858	14	NC	
	2	max	.397	7	.046	6	.995	5	8.379e-4	3	2347.68	6	NC	
		min	-.544	13	-.03	14	-.03	14	-4.048e-4	14	2600.389	14	NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.397	7	.041	6	.993	5	6.844e-4	3	3916.99	6	NC	
		min	-.544	13	-.025	14	-.029	14	-3.241e-4	14	4244.453	14	NC	
	4	max	.397	7	.036	6	.991	5	5.309e-4	3	9033.12	6	NC	
		min	-.544	13	-.021	14	-.028	14	-2.433e-4	14	9454.783	14	NC	
	5	max	.397	7	.033	6	.989	5	3.773e-4	3	NC		NC	
		min	-.544	13	-.018	14	-.027	14	-2.4e-4	12	NC		NC	
M186	1	max	.397	7	.033	6	.989	5	3.773e-4	3	2819.419	6	NC	
		min	-.544	13	-.018	14	-.027	14	-2.4e-4	12	2737.435	14	6100.586	14
	2	max	.397	7	.032	6	.989	5	3.528e-4	3	3870.86	6	NC	
		min	-.544	13	-.018	14	-.027	14	-2.463e-4	12	3722.706	14	8178.825	14
	3	max	.397	7	.032	6	.988	5	3.282e-4	3	5987.613	6	NC	
		min	-.544	13	-.017	14	-.027	14	-2.526e-4	12	5699.948	14	NC	
	4	max	.397	7	.032	6	.988	5	3.037e-4	3	NC		NC	
		min	-.544	13	-.017	14	-.026	14	-2.589e-4	12	NC		NC	
	5	max	.397	7	.031	6	.988	5	2.86e-4	7	NC		NC	
		min	-.544	13	-.017	14	-.026	14	-2.652e-4	12	NC		NC	
M187	1	max	.446	7	.099	13	.984	5	8.446e-4	14	565.367	13	NC	
		min	-.661	13	-.087	7	-.054	7	-1.738e-3	6	511.013	7	NC	
	2	max	.446	7	.085	13	.983	5	7.918e-4	14	763.364	13	NC	
		min	-.661	13	-.072	7	-.051	7	-1.658e-3	6	683.775	7	NC	
	3	max	.446	7	.072	13	.983	5	7.39e-4	14	1166.458	13	NC	
		min	-.661	13	-.057	7	-.047	7	-1.578e-3	6	1030.897	7	NC	
	4	max	.446	7	.058	13	.983	5	6.862e-4	14	2391.527	13	NC	
		min	-.661	13	-.042	7	-.044	7	-1.498e-3	6	2075.517	7	NC	
	5	max	.447	7	.045	13	.983	5	6.334e-4	14	NC		NC	
		min	-.661	13	-.027	7	-.041	7	-1.419e-3	6	NC		NC	
M188	1	max	.447	7	.045	13	.983	5	6.334e-4	14	758.225	13	NC	
		min	-.661	13	-.027	7	-.041	7	-1.419e-3	6	NC		NC	
	2	max	.447	7	.033	13	.983	5	5.35e-4	14	1076.482	13	NC	
		min	-.661	13	-.013	7	-.037	7	-1.253e-3	6	NC		NC	
	3	max	.447	7	.023	13	.983	5	4.366e-4	14	1741.403	13	NC	
		min	-.662	13	-.01	14	-.033	7	-1.088e-3	6	NC		NC	
	4	max	.447	7	.031	3	.984	5	3.383e-4	14	1322.795	3	NC	
		min	-.662	13	-.011	14	-.029	7	-9.222e-4	6	NC		NC	
	5	max	.447	7	.041	3	.985	5	2.399e-4	14	917.689	3	NC	
		min	-.662	13	-.012	14	-.025	7	-7.568e-4	6	8307.687	14	NC	
M189	1	max	.447	7	.041	3	.985	5	2.399e-4	14	NC		NC	
		min	-.662	13	-.012	14	-.025	7	-7.568e-4	6	NC		NC	
	2	max	.447	7	.043	3	.986	5	2.227e-4	14	2809.462	3	NC	
		min	-.662	13	-.012	14	-.025	7	-7.383e-4	6	NC		NC	
	3	max	.447	7	.044	3	.986	5	2.054e-4	14	1390.8	3	7153.147	5
		min	-.662	13	-.013	14	-.024	7	-7.198e-4	6	8638.216	14	NC	
	4	max	.447	7	.045	3	.986	5	1.882e-4	14	917.934	3	4681.483	5
		min	-.662	13	-.013	14	-.024	14	-7.121e-4	5	5631.414	14	NC	
	5	max	.447	7	.047	3	.986	5	1.71e-4	14	681.52	3	3448.307	5

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.662	13	-.013	14	-.024	14	-7.135e-4	5	4130.182	14	NC	
M190	1	max	.552	7	.068	7	.878	5	8.473e-4	14	NC		6111.013	5
		min	-.661	13	-.104	13	-.1	13	-1.711e-3	6	NC		NC	
	2	max	.552	7	.069	7	.878	5	8.452e-4	14	NC		8164.55	5
		min	-.661	13	-.106	13	-.101	13	-1.712e-3	6	NC		9510.016	13
	3	max	.552	7	.07	7	.878	5	8.431e-4	14	NC		NC	
		min	-.661	13	-.107	13	-.101	13	-1.714e-3	6	NC		4753.404	13
	4	max	.552	7	.07	7	.878	5	8.411e-4	14	NC		NC	
		min	-.661	13	-.109	13	-.101	13	-1.715e-3	6	NC		3167.854	13
	5	max	.552	7	.071	7	.878	5	8.39e-4	14	NC		NC	
		min	-.661	13	-.111	13	-.102	13	-1.717e-3	6	NC		2375.071	13
M191	1	max	.552	7	.044	7	.884	5	6.434e-4	14	NC		5459.666	5
		min	-.661	13	-.049	13	-.088	13	-1.405e-3	6	NC		NC	
	2	max	.552	7	.05	7	.882	5	6.944e-4	14	5870.782	7	7686.9	5
		min	-.661	13	-.062	13	-.091	13	-1.481e-3	6	2332.218	13	9761.259	13
	3	max	.552	7	.055	7	.881	5	7.453e-4	14	2749.701	7	NC	
		min	-.661	13	-.076	13	-.094	13	-1.558e-3	6	1140.868	13	4866.567	13
	4	max	.552	7	.062	7	.88	5	7.963e-4	14	1750.841	7	NC	
		min	-.661	13	-.09	13	-.097	13	-1.634e-3	6	748.593	13	3233.728	13
	5	max	.552	7	.068	7	.878	5	8.473e-4	14	1275.608	7	NC	
		min	-.661	13	-.104	13	-.1	13	-1.711e-3	6	555.769	13	2416.373	13
M192	1	max	.553	7	.039	3	.893	5	2.636e-4	14	1006.928	3	3289.228	5
		min	-.662	13	-.012	14	-.075	13	-7.595e-4	6	NC		NC	
	2	max	.553	7	.035	7	.89	5	3.586e-4	14	NC		4858.269	5
		min	-.662	13	-.016	13	-.078	13	-9.208e-4	6	3552.343	13	9988.53	13
	3	max	.553	7	.037	7	.888	5	4.535e-4	14	NC		8029.896	5
		min	-.662	13	-.026	13	-.081	13	-1.082e-3	6	1637.451	13	4983.326	13
	4	max	.552	7	.04	7	.886	5	5.484e-4	14	8170.955	7	NC	
		min	-.661	13	-.037	13	-.085	13	-1.243e-3	6	1020.111	13	3313.585	13
	5	max	.552	7	.044	7	.884	5	6.434e-4	14	3678.123	7	NC	
		min	-.661	13	-.049	13	-.088	13	-1.405e-3	6	723.103	13	2477.725	13
M193	1	max	.421	7	.105	7	.895	5	1.309e-3	3	NC		NC	
		min	-.544	13	-.058	14	-.101	13	-7.262e-4	14	NC		NC	
	2	max	.421	7	.106	7	.895	5	1.309e-3	3	3951.252	7	NC	
		min	-.544	13	-.059	14	-.101	13	-7.262e-4	14	NC		NC	
	3	max	.421	7	.107	7	.895	5	1.309e-3	3	1975.625	7	NC	
		min	-.544	13	-.06	14	-.102	13	-7.262e-4	14	NC		NC	
	4	max	.421	7	.108	7	.895	5	1.309e-3	3	1317.083	7	NC	
		min	-.544	13	-.06	14	-.102	13	-7.262e-4	14	NC		NC	
	5	max	.421	7	.109	7	.895	5	1.309e-3	3	987.812	7	NC	
		min	-.544	13	-.061	14	-.102	13	-7.262e-4	14	NC		NC	
M194	1	max	.421	7	.074	7	.897	5	1.077e-3	3	NC		NC	
		min	-.544	13	-.041	13	-.088	13	-5.348e-4	14	NC		NC	
	2	max	.421	7	.082	7	.897	5	1.135e-3	3	4110.646	7	NC	
		min	-.544	13	-.044	13	-.091	13	-5.826e-4	14	NC		9551.903	13

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.421	7	.089	7	.896	5	1.193e-3	3	2021.198	7	NC	
		min	-.544	13	-.047	14	-.094	13	-6.305e-4	14	2837.522	14	4766.729	13
	4	max	.421	7	.097	7	.896	5	1.251e-3	3	1330.393	7	NC	
		min	-.544	13	-.053	14	-.098	13	-6.783e-4	14	1863.728	14	3171.932	13
	5	max	.421	7	.105	7	.895	5	1.309e-3	3	988.909	7	NC	
		min	-.544	13	-.058	14	-.101	13	-7.262e-4	14	1383.518	14	2374.727	13
M195	1	max	.421	7	.049	7	.898	5	4.385e-4	3	NC		NC	
		min	-.544	13	-.03	13	-.075	13	-2.092e-4	12	NC		NC	
	2	max	.421	7	.054	7	.898	5	5.982e-4	3	6013.821	7	NC	
		min	-.544	13	-.033	13	-.079	13	-2.836e-4	14	NC		9837.101	13
	3	max	.421	7	.06	7	.898	5	7.578e-4	3	2734.828	7	NC	
		min	-.544	13	-.035	13	-.082	13	-3.674e-4	14	5801.157	13	4898.455	13
	4	max	.421	7	.067	7	.898	5	9.175e-4	3	1692.997	7	NC	
		min	-.544	13	-.038	13	-.085	13	-4.511e-4	14	3826.03	13	3252.585	13
	5	max	.421	7	.074	7	.897	5	1.077e-3	3	1199.149	7	NC	
		min	-.544	13	-.041	13	-.088	13	-5.348e-4	14	2840.588	13	2429.903	13
M196	1	max	.052	3	.032	7	.548	13	4.169e-4	13	1293.114	7	3036.689	13
		min	-.035	14	-.994	5	-.393	7	-1.308e-4	7	NC		NC	
	2	max	.052	3	.03	7	.547	13	4.169e-4	13	1724.152	7	4048.919	13
		min	-.035	14	-.995	5	-.394	7	-1.308e-4	7	NC		NC	
	3	max	.052	3	.029	14	.546	13	4.169e-4	13	NC		6073.379	13
		min	-.035	14	-.995	5	-.395	7	-1.308e-4	7	NC		5426.43	7
	4	max	.052	3	.03	14	.545	13	4.169e-4	13	NC		NC	
		min	-.035	14	-.996	5	-.396	7	-1.308e-4	7	NC		3617.62	7
	5	max	.052	3	.031	14	.544	13	4.169e-4	13	NC		NC	
		min	-.035	14	-.996	5	-.397	7	-1.308e-4	7	NC		2713.215	7
M197	1	max	.033	6	.025	14	.547	13	4.494e-4	6	NC		3330.403	13
		min	-.018	14	-.991	5	-.398	7	-1.301e-4	14	NC		NC	
	2	max	.033	6	.025	14	.547	13	4.494e-4	6	NC		4440.537	13
		min	-.018	14	-.991	5	-.398	7	-1.301e-4	14	NC		NC	
	3	max	.033	6	.026	14	.546	13	4.494e-4	6	NC		6660.806	13
		min	-.018	14	-.99	5	-.398	7	-1.301e-4	14	NC		NC	
	4	max	.033	6	.026	14	.545	13	4.494e-4	6	NC		NC	
		min	-.018	14	-.99	5	-.398	7	-1.301e-4	14	NC		NC	
	5	max	.033	6	.027	14	.544	13	4.494e-4	6	NC		NC	
		min	-.018	14	-.989	5	-.397	7	-1.301e-4	14	NC		NC	
M198	1	max	.099	13	.04	7	.682	13	4.205e-4	13	NC		NC	
		min	-.087	7	-.997	5	-.469	7	-4.516e-4	7	NC		NC	
	2	max	.099	13	.044	7	.677	13	4.205e-4	13	NC		NC	
		min	-.087	7	-.993	5	-.464	7	-4.516e-4	7	NC		NC	
	3	max	.099	13	.047	7	.671	13	4.205e-4	13	NC		NC	
		min	-.087	7	-.99	5	-.458	7	-4.516e-4	7	NC		NC	
	4	max	.099	13	.05	7	.666	13	4.205e-4	13	NC		NC	
		min	-.087	7	-.987	5	-.452	7	-4.516e-4	7	NC		NC	
	5	max	.099	13	.054	7	.661	13	4.205e-4	13	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.087	7	-.984	5	-.446	7	-4.516e-4	7	NC		NC	
M199	1	max	.045	13	.03	7	.68	13	4.095e-4	13	NC		NC	
		min	-.027	7	-.993	5	-.469	7	-4.64e-4	7	NC		NC	
	2	max	.045	13	.033	7	.675	13	4.095e-4	13	NC		NC	
		min	-.027	7	-.991	5	-.463	7	-4.64e-4	7	NC		NC	
	3	max	.045	13	.036	7	.671	13	4.095e-4	13	NC		NC	
		min	-.027	7	-.988	5	-.458	7	-4.64e-4	7	NC		NC	
	4	max	.045	13	.038	7	.666	13	4.095e-4	13	NC		NC	
		min	-.027	7	-.985	5	-.452	7	-4.64e-4	7	NC		NC	
	5	max	.045	13	.041	7	.661	13	4.095e-4	13	NC		NC	
		min	-.027	7	-.983	5	-.447	7	-4.64e-4	7	NC		NC	
M200	1	max	.041	3	.027	14	.672	13	4.018e-4	13	4168.498	14	NC	
		min	-.012	14	-.994	5	-.469	7	-5.168e-4	7	NC		NC	
	2	max	.041	3	.026	14	.669	13	4.018e-4	13	5557.999	14	NC	
		min	-.012	14	-.992	5	-.463	7	-5.168e-4	7	NC		NC	
	3	max	.041	3	.025	14	.667	13	4.018e-4	13	8337.001	14	NC	
		min	-.012	14	-.99	5	-.458	7	-5.168e-4	7	NC		NC	
	4	max	.041	3	.025	7	.664	13	4.018e-4	13	NC		NC	
		min	-.012	14	-.988	5	-.452	7	-5.168e-4	7	NC		NC	
	5	max	.041	3	.025	7	.662	13	4.018e-4	13	NC		NC	
		min	-.012	14	-.985	5	-.447	7	-5.168e-4	7	NC		NC	
M201	1	max	.039	3	.077	13	.673	13	5.237e-4	6	NC		NC	
		min	-.012	14	-.901	5	-.548	7	-1.266e-4	14	NC		NC	
	2	max	.039	3	.076	13	.67	13	5.237e-4	6	NC		NC	
		min	-.012	14	-.899	5	-.549	7	-1.266e-4	14	NC		9844.974	7
	3	max	.039	3	.076	13	.667	13	5.237e-4	6	NC		NC	
		min	-.012	14	-.897	5	-.55	7	-1.266e-4	14	NC		4922.487	7
	4	max	.039	3	.076	13	.665	13	5.237e-4	6	NC		NC	
		min	-.012	14	-.895	5	-.551	7	-1.266e-4	14	NC		3281.658	7
	5	max	.039	3	.075	13	.662	13	5.237e-4	6	NC		NC	
		min	-.012	14	-.893	5	-.553	7	-1.266e-4	14	NC		2461.243	7
M202	1	max	.044	7	.088	13	.68	13	4.098e-4	13	NC		NC	
		min	-.049	13	-.894	5	-.559	7	-1.678e-4	7	1153.831	5	1867.706	7
	2	max	.044	7	.088	13	.675	13	4.098e-4	13	NC		NC	
		min	-.049	13	-.892	5	-.557	7	-1.678e-4	7	1538.441	5	2490.275	7
	3	max	.044	7	.088	13	.671	13	4.098e-4	13	NC		NC	
		min	-.049	13	-.889	5	-.556	7	-1.678e-4	7	2307.661	5	3735.412	7
	4	max	.044	7	.088	13	.666	13	4.098e-4	13	NC		NC	
		min	-.049	13	-.887	5	-.554	7	-1.678e-4	7	4615.323	5	7470.824	7
	5	max	.044	7	.088	13	.661	13	4.098e-4	13	NC		NC	
		min	-.049	13	-.884	5	-.552	7	-1.678e-4	7	NC		NC	
M203	1	max	.068	7	.1	13	.682	13	4.213e-4	13	NC		NC	
		min	-.104	13	-.891	5	-.561	7	-1.955e-4	7	NC		1312.38	7
	2	max	.068	7	.1	13	.677	13	4.213e-4	13	NC		NC	
		min	-.104	13	-.888	5	-.559	7	-1.955e-4	7	NC		1749.84	7

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.068	7	.1	13	.671	13	4.213e-4	13	NC		NC	
		min	-.104	13	-.885	5	-.557	7	-1.955e-4	7	NC		2624.759	7
	4	max	.068	7	.1	13	.666	13	4.213e-4	13	NC		NC	
		min	-.104	13	-.882	5	-.554	7	-1.955e-4	7	NC		5249.519	7
	5	max	.068	7	.1	13	.661	13	4.213e-4	13	NC		NC	
		min	-.104	13	-.878	5	-.552	7	-1.955e-4	7	NC		NC	
M204	1	max	.049	7	.077	13	.548	13	4.047e-4	13	NC		2981.624	13
		min	-.03	13	-.899	5	-.427	7	-5.445e-4	7	NC		NC	
	2	max	.049	7	.076	13	.547	13	4.047e-4	13	NC		3975.499	13
		min	-.03	13	-.899	5	-.425	7	-5.445e-4	7	NC		NC	
	3	max	.049	7	.076	13	.546	13	4.047e-4	13	NC		5963.249	13
		min	-.03	13	-.899	5	-.424	7	-5.445e-4	7	NC		NC	
	4	max	.049	7	.076	13	.545	13	4.047e-4	13	NC		NC	
		min	-.03	13	-.898	5	-.422	7	-5.445e-4	7	NC		NC	
	5	max	.049	7	.075	13	.544	13	4.047e-4	13	NC		NC	
		min	-.03	13	-.898	5	-.421	7	-5.445e-4	7	NC		NC	
M205	1	max	.074	7	.088	13	.548	13	4.177e-4	13	NC		2743.399	13
		min	-.041	13	-.895	5	-.432	7	-5.118e-4	7	NC		NC	
	2	max	.074	7	.088	13	.547	13	4.177e-4	13	NC		3657.866	13
		min	-.041	13	-.896	5	-.429	7	-5.118e-4	7	NC		NC	
	3	max	.074	7	.088	13	.546	13	4.177e-4	13	NC		5486.799	13
		min	-.041	13	-.896	5	-.426	7	-5.118e-4	7	NC		NC	
	4	max	.074	7	.088	13	.545	13	4.177e-4	13	NC		NC	
		min	-.041	13	-.897	5	-.423	7	-5.118e-4	7	NC		NC	
	5	max	.074	7	.088	13	.544	13	4.177e-4	13	NC		NC	
		min	-.041	13	-.897	5	-.421	7	-5.118e-4	7	NC		NC	
M206	1	max	.105	7	.1	13	.548	13	4.238e-4	13	NC		2648.877	13
		min	-.058	14	-.891	5	-.433	7	-4.671e-4	7	NC		NC	
	2	max	.105	7	.1	13	.547	13	4.238e-4	13	NC		3531.836	13
		min	-.058	14	-.892	5	-.43	7	-4.671e-4	7	NC		NC	
	3	max	.105	7	.101	13	.546	13	4.238e-4	13	NC		5297.753	13
		min	-.058	14	-.893	5	-.427	7	-4.671e-4	7	NC		NC	
	4	max	.105	7	.101	13	.545	13	4.238e-4	13	NC		NC	
		min	-.058	14	-.894	5	-.424	7	-4.671e-4	7	NC		NC	
	5	max	.105	7	.101	13	.544	13	4.238e-4	13	NC		NC	
		min	-.058	14	-.895	5	-.421	7	-4.671e-4	7	NC		NC	
M207	1	max	.047	3	.026	7	.561	13	3.355e-4	13	2636.078	7	NC	
		min	-.016	14	-1.018	5	-.439	7	-5.917e-4	12	NC		1707.795	7
	2	max	.047	3	.025	7	.56	13	3.355e-4	13	3514.771	7	NC	
		min	-.016	14	-1.018	5	-.437	7	-5.917e-4	12	NC		2277.059	7
	3	max	.047	3	.024	7	.56	13	3.355e-4	13	5272.157	7	NC	
		min	-.016	14	-1.017	5	-.436	7	-5.917e-4	12	NC		3415.589	7
	4	max	.047	3	.024	14	.559	13	3.355e-4	13	NC		NC	
		min	-.016	14	-1.017	5	-.434	7	-5.917e-4	12	NC		6831.178	7
	5	max	.047	3	.024	14	.558	13	3.355e-4	13	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.016	14	-1.016	5	-.433	7	-5.917e-4	12	NC		NC	
M208	1	max	.102	3	.022	14	.559	13	2.937e-4	13	NC		NC	
		min	-.027	14	-1.048	5	-.452	7	-5.335e-4	12	NC		660.212	7
	2	max	.102	3	.022	14	.559	13	2.937e-4	13	NC		NC	
		min	-.027	14	-1.047	5	-.448	7	-5.335e-4	12	NC		880.282	7
	3	max	.102	3	.022	14	.559	13	2.937e-4	13	NC		NC	
		min	-.027	14	-1.046	5	-.443	7	-5.335e-4	12	NC		1320.424	7
	4	max	.102	3	.022	14	.558	13	2.937e-4	13	NC		NC	
		min	-.027	14	-1.045	5	-.439	7	-5.335e-4	12	NC		2640.847	7
	5	max	.102	3	.023	14	.558	13	2.937e-4	13	NC		NC	
		min	-.027	14	-1.044	5	-.435	7	-5.335e-4	12	NC		NC	
M209	1	max	.205	3	.021	14	.558	13	2.855e-4	3	NC		NC	
		min	-.052	14	-1.08	5	-.452	7	-6.246e-4	12	NC		697.747	7
	2	max	.205	3	.02	14	.558	13	2.855e-4	3	NC		NC	
		min	-.052	14	-1.079	5	-.448	7	-6.246e-4	12	NC		930.329	7
	3	max	.205	3	.02	14	.558	13	2.855e-4	3	NC		NC	
		min	-.052	14	-1.078	5	-.444	7	-6.246e-4	12	NC		1395.493	7
	4	max	.205	3	.02	14	.558	13	2.855e-4	3	NC		NC	
		min	-.052	14	-1.076	5	-.44	7	-6.246e-4	12	NC		2790.986	7
	5	max	.205	3	.019	14	.558	13	2.855e-4	3	NC		NC	
		min	-.052	14	-1.075	5	-.436	7	-6.246e-4	12	NC		NC	
M210	1	max	.279	3	.019	14	.557	13	3.722e-4	3	3183.506	14	NC	
		min	-.07	14	-1.113	5	-.447	7	-5.393e-4	12	NC		1016.782	7
	2	max	.279	3	.018	14	.557	13	3.722e-4	3	4244.674	14	NC	
		min	-.07	14	-1.111	5	-.444	7	-5.393e-4	12	NC		1355.709	7
	3	max	.279	3	.018	14	.557	13	3.722e-4	3	6367.011	14	NC	
		min	-.07	14	-1.109	5	-.441	7	-5.393e-4	12	NC		2033.564	7
	4	max	.279	3	.017	14	.558	13	3.722e-4	3	NC		NC	
		min	-.07	14	-1.107	5	-.438	7	-5.393e-4	12	NC		4067.128	7
	5	max	.279	3	.018	7	.558	13	3.722e-4	3	NC		NC	
		min	-.07	14	-1.106	5	-.436	7	-5.393e-4	12	NC		NC	
M211	1	max	.35	3	.018	14	.558	13	4.501e-4	3	1878.439	14	NC	
		min	-.088	14	-1.138	5	-.445	7	-3.876e-4	12	NC		944.19	7
	2	max	.35	3	.016	14	.558	13	4.501e-4	3	2504.585	14	NC	
		min	-.088	14	-1.136	5	-.442	7	-3.876e-4	12	NC		1258.921	7
	3	max	.35	3	.016	7	.558	13	4.501e-4	3	NC		NC	
		min	-.088	14	-1.134	5	-.439	7	-3.876e-4	12	NC		1888.381	7
	4	max	.35	3	.019	7	.558	13	4.501e-4	3	NC		NC	
		min	-.088	14	-1.132	5	-.437	7	-3.876e-4	12	NC		3776.762	7
	5	max	.35	3	.023	7	.558	13	4.501e-4	3	NC		NC	
		min	-.088	14	-1.13	5	-.434	7	-3.876e-4	12	NC		NC	
M212	1	max	.397	3	.016	14	.558	13	4.407e-4	3	1396.734	14	NC	
		min	-.1	14	-1.153	5	-.432	7	-1.419e-4	12	NC		4077.686	7
	2	max	.397	3	.014	14	.558	13	4.407e-4	3	1862.312	14	NC	
		min	-.1	14	-1.151	5	-.431	7	-1.419e-4	12	NC		5436.915	7

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.397	3	.017	2	.558	13	4.407e-4	3	NC		NC	
		min	-.1	14	-1.149	5	-.431	7	-1.419e-4	12	NC		8155.373	7
	4	max	.397	3	.024	2	.558	13	4.407e-4	3	NC		NC	
		min	-.1	14	-1.147	5	-.43	7	-1.419e-4	12	NC		NC	
	5	max	.397	3	.03	2	.558	13	4.407e-4	3	NC		NC	
		min	-.1	14	-1.145	5	-.429	7	-1.419e-4	12	NC		NC	
M213	1	max	.39	3	.015	14	.559	13	1.609e-4	6	1294.499	14	NC	
		min	-.098	14	-1.155	5	-.42	7	-3.022e-5	7	NC		NC	
	2	max	.39	3	.014	2	.559	13	1.609e-4	6	NC		NC	
		min	-.098	14	-1.153	5	-.421	7	-3.022e-5	7	NC		NC	
	3	max	.39	3	.021	2	.559	13	1.609e-4	6	NC		NC	
		min	-.098	14	-1.151	5	-.421	7	-3.022e-5	7	NC		NC	
	4	max	.39	3	.028	2	.558	13	1.609e-4	6	NC		NC	
		min	-.098	14	-1.149	5	-.421	7	-3.022e-5	7	NC		NC	
	5	max	.39	3	.035	3	.558	13	1.609e-4	6	NC		NC	
		min	-.098	14	-1.147	12	-.421	7	-3.022e-5	7	NC		NC	
M214	1	max	.442	7	.389	3	1.144	12	7.744e-4	14	NC		NC	
		min	-.556	13	-.098	14	-.036	3	-2.746e-3	3	NC		NC	
	2	max	.44	7	.393	3	1.141	12	7.626e-4	14	NC		NC	
		min	-.556	13	-.099	14	-.036	3	-2.702e-3	3	NC		NC	
	3	max	.438	7	.396	3	1.137	5	7.508e-4	14	NC		NC	
		min	-.557	13	-.1	14	-.035	2	-2.658e-3	3	NC		NC	
	4	max	.437	7	.398	3	1.133	5	7.39e-4	14	NC		NC	
		min	-.557	13	-.1	14	-.033	2	-2.614e-3	3	NC		NC	
	5	max	.435	7	.397	3	1.128	5	7.273e-4	14	NC		NC	
		min	-.557	13	-.1	14	-.03	2	-2.57e-3	3	NC		NC	
M215	1	max	.098	14	.036	3	.418	7	1.939e-4	7	NC		NC	
		min	-.391	3	-1.144	12	-.559	13	-1.863e-4	12	NC		NC	
	2	max	.098	14	.028	2	.419	7	1.939e-4	7	NC		NC	
		min	-.391	3	-1.146	5	-.559	13	-1.863e-4	12	NC		NC	
	3	max	.098	14	.021	2	.419	7	1.939e-4	7	NC		NC	
		min	-.391	3	-1.148	5	-.559	13	-1.863e-4	12	NC		NC	
	4	max	.098	14	.014	2	.419	7	1.939e-4	7	NC		9226.239	7
		min	-.391	3	-1.15	5	-.559	13	-1.863e-4	12	NC		NC	
	5	max	.098	14	.015	14	.42	7	1.939e-4	7	1291.405	14	6919.679	7
		min	-.391	3	-1.152	5	-.559	13	-1.863e-4	12	NC		NC	
M216	1	max	.1	14	.03	2	.41	7	4.503e-4	7	NC		3837.899	7
		min	-.397	3	-1.128	5	-.559	13	-4.287e-4	12	NC		NC	
	2	max	.1	14	.024	2	.41	7	4.503e-4	7	NC		5117.199	7
		min	-.397	3	-1.13	5	-.559	13	-4.287e-4	12	NC		NC	
	3	max	.1	14	.017	2	.409	7	4.503e-4	7	NC		7675.799	7
		min	-.397	3	-1.132	5	-.559	13	-4.287e-4	12	NC		NC	
	4	max	.1	14	.014	14	.408	7	4.503e-4	7	1853.647	14	NC	
		min	-.397	3	-1.134	5	-.559	13	-4.287e-4	12	NC		NC	
	5	max	.1	14	.016	14	.407	7	4.503e-4	7	1390.235	14	NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.397	3	-1.136	5	-.559	13	-4.287e-4	12	NC		NC	
M217	1	max	.088	14	.018	2	.406	7	4.698e-4	7	NC		928.52	7
		min	-.35	3	-1.099	5	-.559	13	-6.718e-4	12	NC		NC	
	2	max	.088	14	.018	13	.403	7	4.698e-4	7	NC		1238.027	7
		min	-.35	3	-1.101	5	-.559	13	-6.718e-4	12	NC		NC	
	3	max	.088	14	.018	13	.4	7	4.698e-4	7	NC		1857.041	7
		min	-.35	3	-1.103	5	-.559	13	-6.718e-4	12	NC		NC	
	4	max	.088	14	.018	13	.397	7	4.698e-4	7	NC		3714.082	7
		min	-.35	3	-1.105	5	-.559	13	-6.718e-4	12	NC		NC	
	5	max	.088	14	.018	14	.394	7	4.698e-4	7	1870.906	14	NC	
		min	-.35	3	-1.107	5	-.559	13	-6.718e-4	12	NC		NC	
M218	1	max	.07	14	.026	13	.404	7	4.329e-4	7	NC		979.91	7
		min	-.278	3	-1.061	5	-.559	13	-8.183e-4	12	NC		NC	
	2	max	.07	14	.026	13	.401	7	4.329e-4	7	NC		1306.547	7
		min	-.278	3	-1.063	5	-.559	13	-8.183e-4	12	NC		NC	
	3	max	.07	14	.026	13	.399	7	4.329e-4	7	NC		1959.821	7
		min	-.278	3	-1.065	5	-.559	13	-8.183e-4	12	NC		NC	
	4	max	.07	14	.026	13	.396	7	4.329e-4	7	NC		3919.642	7
		min	-.278	3	-1.066	5	-.559	13	-8.183e-4	12	NC		NC	
	5	max	.07	14	.027	13	.393	7	4.329e-4	7	NC		NC	
		min	-.278	3	-1.068	5	-.559	13	-8.183e-4	12	NC		NC	
M219	1	max	.051	14	.036	13	.405	7	4.023e-4	7	NC		700.307	7
		min	-.202	3	-1.017	5	-.56	13	-8.909e-4	12	NC		NC	
	2	max	.051	14	.036	13	.401	7	4.023e-4	7	NC		933.742	7
		min	-.202	3	-1.019	5	-.56	13	-8.909e-4	12	NC		NC	
	3	max	.051	14	.036	13	.397	7	4.023e-4	7	NC		1400.614	7
		min	-.202	3	-1.02	5	-.56	13	-8.909e-4	12	NC		NC	
	4	max	.051	14	.037	13	.393	7	4.023e-4	7	NC		2801.227	7
		min	-.202	3	-1.021	5	-.56	13	-8.909e-4	12	NC		NC	
	5	max	.051	14	.037	13	.389	7	4.023e-4	7	NC		NC	
		min	-.202	3	-1.022	5	-.56	13	-8.909e-4	12	NC		NC	
M220	1	max	.026	14	.049	13	.406	7	3.844e-4	7	NC		764.029	7
		min	-.1	3	-.974	5	-.56	13	-7.776e-4	12	NC		NC	
	2	max	.026	14	.049	13	.402	7	3.844e-4	7	NC		1018.705	7
		min	-.1	3	-.975	5	-.561	13	-7.776e-4	12	NC		NC	
	3	max	.026	14	.049	13	.399	7	3.844e-4	7	NC		1528.058	7
		min	-.1	3	-.976	5	-.561	13	-7.776e-4	12	NC		NC	
	4	max	.026	14	.049	13	.395	7	3.844e-4	7	NC		3056.115	7
		min	-.1	3	-.977	5	-.562	13	-7.776e-4	12	NC		9260.631	13
	5	max	.026	14	.049	13	.392	7	3.844e-4	7	NC		NC	
		min	-.1	3	-.978	5	-.562	13	-7.776e-4	12	NC		6945.473	13
M221	1	max	.046	3	.065	13	.564	13	8.14e-4	12	NC		3294.221	13
		min	-.016	14	-.937	5	-.407	7	-3.034e-4	7	NC		NC	
	2	max	.046	3	.065	13	.563	13	8.14e-4	12	NC		4392.295	13
		min	-.016	14	-.936	5	-.407	7	-3.034e-4	7	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.046	3	.064	13	.562	13	8.14e-4	12	NC		6588.442	13
		min	-.016	14	-.936	5	-.408	7	-3.034e-4	7	NC		NC	
	4	max	.046	3	.064	13	.561	13	8.14e-4	12	NC		NC	
		min	-.016	14	-.935	5	-.408	7	-3.034e-4	7	NC		NC	
	5	max	.046	3	.064	13	.56	13	8.14e-4	12	NC		NC	
		min	-.016	14	-.935	5	-.408	7	-3.034e-4	7	NC		NC	
M222	1	max	.187	3	.065	13	.672	13	8.299e-4	12	NC		7188.779	13
		min	-.049	14	-.936	5	-.441	7	-2.65e-4	7	NC		NC	
	2	max	.187	3	.065	13	.671	13	8.299e-4	12	NC		9585.039	13
		min	-.049	14	-.936	5	-.446	7	-2.65e-4	7	NC		1936.637	7
	3	max	.187	3	.065	13	.671	13	8.299e-4	12	NC		NC	
		min	-.049	14	-.936	5	-.452	7	-2.65e-4	7	NC		968.318	7
	4	max	.187	3	.064	13	.671	13	8.299e-4	12	NC		NC	
		min	-.049	14	-.937	5	-.458	7	-2.65e-4	7	NC		645.546	7
	5	max	.187	3	.064	13	.67	13	8.299e-4	12	NC		NC	
		min	-.049	14	-.937	5	-.464	7	-2.65e-4	7	NC		484.159	7
M223	1	max	.329	3	.049	13	.671	13	9.595e-4	5	NC		NC	
		min	-.085	14	-.977	5	-.436	7	-6.086e-5	14	NC		NC	
	2	max	.329	3	.049	13	.671	13	9.595e-4	5	NC		NC	
		min	-.085	14	-.977	5	-.443	7	-6.086e-5	14	NC		1707.548	7
	3	max	.329	3	.049	13	.67	13	9.595e-4	5	NC		NC	
		min	-.085	14	-.978	5	-.449	7	-6.086e-5	14	7980.28	5	853.774	7
	4	max	.329	3	.049	13	.67	13	9.595e-4	5	NC		NC	
		min	-.085	14	-.979	5	-.456	7	-6.086e-5	14	5320.186	5	569.183	7
	5	max	.329	3	.049	13	.67	13	9.595e-4	5	NC		NC	
		min	-.085	14	-.979	5	-.462	7	-6.086e-5	14	3990.14	5	426.887	7
M224	1	max	.479	3	.037	13	.67	13	1.047e-3	5	NC		NC	
		min	-.123	14	-1.022	5	-.443	7	-7.407e-5	14	NC		NC	
	2	max	.479	3	.037	13	.67	13	1.047e-3	5	NC		NC	
		min	-.123	14	-1.024	5	-.448	7	-7.407e-5	14	NC		2002.295	7
	3	max	.479	3	.037	13	.67	13	1.047e-3	5	NC		NC	
		min	-.123	14	-1.025	5	-.454	7	-7.407e-5	14	NC		1001.148	7
	4	max	.479	3	.037	13	.67	13	1.047e-3	5	NC		NC	
		min	-.123	14	-1.027	5	-.459	7	-7.407e-5	14	NC		667.432	7
	5	max	.479	3	.036	13	.67	13	1.047e-3	5	NC		NC	
		min	-.123	14	-1.028	5	-.465	7	-7.407e-5	14	NC		500.574	7
M225	1	max	.579	3	.027	13	.669	13	1.006e-3	5	NC		NC	
		min	-.149	14	-1.068	5	-.455	7	-9.65e-5	14	NC		NC	
	2	max	.579	3	.026	13	.669	13	1.006e-3	5	NC		NC	
		min	-.149	14	-1.071	5	-.459	7	-9.65e-5	14	5130.393	5	3004.745	7
	3	max	.579	3	.026	13	.669	13	1.006e-3	5	NC		NC	
		min	-.149	14	-1.073	5	-.463	7	-9.65e-5	14	2565.196	5	1502.373	7
	4	max	.579	3	.027	14	.669	13	1.006e-3	5	NC		NC	
		min	-.149	14	-1.075	5	-.466	7	-9.65e-5	14	1710.131	5	1001.582	7
	5	max	.579	3	.029	14	.669	13	1.006e-3	5	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.149	14	-1.077	5	-.47	7	-9.65e-5	14	1282.598	5	751.186	7
M226	1	max	.664	3	.018	14	.669	13	9.028e-4	6	NC		NC	
		min	-.171	14	-1.108	5	-.464	7	-1.218e-4	14	NC		NC	
	2	max	.664	3	.021	14	.669	13	9.028e-4	6	NC		NC	
		min	-.171	14	-1.11	5	-.467	7	-1.218e-4	14	4272.624	5	3269.09	7
	3	max	.664	3	.024	14	.669	13	9.028e-4	6	NC		NC	
		min	-.171	14	-1.113	5	-.471	7	-1.218e-4	14	2136.312	5	1634.545	7
	4	max	.664	3	.027	14	.669	13	9.028e-4	6	NC		NC	
		min	-.171	14	-1.116	5	-.474	7	-1.218e-4	14	1424.208	5	1089.697	7
	5	max	.664	3	.03	14	.669	13	9.028e-4	6	NC		NC	
		min	-.171	14	-1.118	5	-.477	7	-1.218e-4	14	1068.156	5	817.272	7
M227	1	max	.716	3	.017	14	.668	13	7.27e-4	6	NC		NC	
		min	-.185	14	-1.136	5	-.484	7	-1.21e-4	14	NC		NC	
	2	max	.716	3	.02	14	.668	13	7.27e-4	6	NC		NC	
		min	-.185	14	-1.139	5	-.485	7	-1.21e-4	14	NC		NC	
	3	max	.716	3	.024	14	.668	13	7.27e-4	6	NC		NC	
		min	-.185	14	-1.142	5	-.486	7	-1.21e-4	14	NC		6324.895	7
	4	max	.716	3	.028	14	.669	13	7.27e-4	6	NC		NC	
		min	-.185	14	-1.145	5	-.487	7	-1.21e-4	14	NC		4216.597	7
	5	max	.716	3	.031	14	.669	13	7.27e-4	6	NC		NC	
		min	-.185	14	-1.148	5	-.488	7	-1.21e-4	14	NC		3162.448	7
M228	1	max	.711	3	.015	14	.668	13	1.592e-4	13	NC		NC	
		min	-.183	14	-1.155	5	-.506	7	-2.059e-4	7	NC		NC	
	2	max	.711	3	.019	14	.668	13	1.592e-4	13	NC		NC	
		min	-.183	14	-1.158	5	-.506	7	-2.059e-4	7	3770.094	5	NC	
	3	max	.711	3	.022	14	.668	13	1.592e-4	13	NC		NC	
		min	-.183	14	-1.161	5	-.506	7	-2.059e-4	7	1885.047	5	NC	
	4	max	.711	3	.026	14	.668	13	1.592e-4	13	NC		NC	
		min	-.183	14	-1.164	5	-.507	7	-2.059e-4	7	1256.698	5	NC	
	5	max	.711	3	.03	14	.668	13	1.592e-4	13	NC		NC	
		min	-.183	14	-1.167	5	-.507	7	-2.059e-4	7	942.523	5	NC	
M229	1	max	.716	3	.017	14	.667	13	1.518e-4	13	NC		NC	
		min	-.185	14	-1.153	5	-.524	7	-5.131e-4	6	NC		NC	
	2	max	.716	3	.02	14	.667	13	1.518e-4	13	NC		NC	
		min	-.185	14	-1.156	5	-.523	7	-5.131e-4	6	NC		NC	
	3	max	.716	3	.024	14	.668	13	1.518e-4	13	NC		NC	
		min	-.185	14	-1.159	5	-.523	7	-5.131e-4	6	NC		NC	
	4	max	.716	3	.027	14	.668	13	1.518e-4	13	NC		NC	
		min	-.185	14	-1.162	5	-.522	7	-5.131e-4	6	NC		NC	
	5	max	.716	3	.031	14	.668	13	1.518e-4	13	NC		NC	
		min	-.185	14	-1.164	5	-.521	7	-5.131e-4	6	NC		NC	
M230	1	max	.546	7	.709	3	1.164	5	5.016e-3	3	NC		NC	
		min	-.665	13	-.183	14	-.03	14	-1.372e-3	14	NC		NC	
	2	max	.543	7	.713	3	1.161	5	4.967e-3	3	NC		NC	
		min	-.666	13	-.184	14	-.031	14	-1.359e-3	14	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.539	7	.716	3	1.158	5	4.918e-3	3	NC		NC	
		min	-.666	13	-.185	14	-.031	14	-1.345e-3	14	NC		NC	
	4	max	.536	7	.717	3	1.153	5	4.869e-3	3	NC		NC	
		min	-.666	13	-.185	14	-.031	14	-1.332e-3	14	NC		NC	
	5	max	.532	7	.715	3	1.148	5	4.82e-3	3	NC		NC	
		min	-.666	13	-.185	14	-.031	14	-1.319e-3	14	NC		NC	
M231	1	max	.712	3	.015	14	.668	13	2.532e-4	6	NC		NC	
		min	-.184	14	-1.152	5	-.503	7	-4.348e-5	7	NC		8465.049	7
	2	max	.712	3	.019	14	.668	13	2.532e-4	6	NC		NC	
		min	-.184	14	-1.155	5	-.502	7	-4.348e-5	7	3781.916	5	NC	
	3	max	.712	3	.023	14	.668	13	2.532e-4	6	NC		NC	
		min	-.184	14	-1.158	5	-.502	7	-4.348e-5	7	1890.958	5	NC	
	4	max	.712	3	.026	14	.668	13	2.532e-4	6	NC		NC	
		min	-.184	14	-1.161	5	-.502	7	-4.348e-5	7	1260.639	5	NC	
	5	max	.712	3	.03	14	.668	13	2.532e-4	6	NC		NC	
		min	-.184	14	-1.164	5	-.501	7	-4.348e-5	7	945.479	5	NC	
M232	1	max	.665	3	.018	14	.667	13	1.665e-4	13	NC		NC	
		min	-.172	14	-1.139	5	-.544	7	-6.918e-4	6	NC		NC	
	2	max	.665	3	.021	14	.667	13	1.665e-4	13	NC		NC	
		min	-.172	14	-1.141	5	-.541	7	-6.918e-4	6	4257.327	5	NC	
	3	max	.665	3	.024	14	.667	13	1.665e-4	13	NC		NC	
		min	-.172	14	-1.144	5	-.538	7	-6.918e-4	6	2128.664	5	NC	
	4	max	.665	3	.027	14	.667	13	1.665e-4	13	NC		NC	
		min	-.172	14	-1.147	5	-.535	7	-6.918e-4	6	1419.109	5	NC	
	5	max	.665	3	.03	14	.668	13	1.665e-4	13	NC		NC	
		min	-.172	14	-1.149	5	-.532	7	-6.918e-4	6	1064.332	5	NC	
M233	1	max	.581	3	.019	14	.667	13	1.934e-4	13	NC		NC	
		min	-.149	14	-1.113	5	-.553	7	-7.988e-4	6	NC		NC	
	2	max	.581	3	.022	14	.667	13	1.934e-4	13	NC		NC	
		min	-.149	14	-1.115	5	-.55	7	-7.988e-4	6	5090.395	5	NC	
	3	max	.581	3	.024	14	.667	13	1.934e-4	13	NC		NC	
		min	-.149	14	-1.117	5	-.546	7	-7.988e-4	6	2545.198	5	NC	
	4	max	.581	3	.026	14	.667	13	1.934e-4	13	NC		NC	
		min	-.149	14	-1.12	5	-.543	7	-7.988e-4	6	1696.798	5	NC	
	5	max	.581	3	.028	14	.668	13	1.934e-4	13	NC		NC	
		min	-.149	14	-1.122	5	-.539	7	-7.988e-4	6	1272.599	5	NC	
M234	1	max	.482	3	.021	14	.667	13	2.345e-4	13	NC		NC	
		min	-.124	14	-1.08	5	-.567	7	-7.862e-4	6	NC		NC	
	2	max	.482	3	.022	14	.667	13	2.345e-4	13	NC		NC	
		min	-.124	14	-1.082	5	-.561	7	-7.862e-4	6	NC		NC	
	3	max	.482	3	.024	14	.668	13	2.345e-4	13	NC		NC	
		min	-.124	14	-1.083	5	-.556	7	-7.862e-4	6	NC		NC	
	4	max	.482	3	.026	14	.668	13	2.345e-4	13	NC		NC	
		min	-.124	14	-1.085	5	-.551	7	-7.862e-4	6	NC		NC	
	5	max	.482	3	.027	14	.668	13	2.345e-4	13	NC		NC	

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
		min	-.124	14	-1.086	5	-.545	7	-7.862e-4	6	NC		NC	
M235	1	max	.333	3	.022	14	.668	13	2.915e-4	13	NC		NC	
		min	-.086	14	-1.047	5	-.575	7	-7.201e-4	5	NC		NC	
	2	max	.333	3	.023	14	.668	13	2.915e-4	13	NC		NC	
		min	-.086	14	-1.048	5	-.568	7	-7.201e-4	5	NC		NC	
	3	max	.333	3	.024	14	.668	13	2.915e-4	13	6233.333	14	NC	
		min	-.086	14	-1.049	5	-.562	7	-7.201e-4	5	7901.882	5	NC	
	4	max	.333	3	.025	14	.668	13	2.915e-4	13	4155.555	14	NC	
		min	-.086	14	-1.049	5	-.555	7	-7.201e-4	5	5267.921	5	NC	
	5	max	.333	3	.026	14	.668	13	2.915e-4	13	3116.666	14	NC	
		min	-.086	14	-1.05	5	-.548	7	-7.201e-4	5	3950.941	5	NC	
M236	1	max	.189	3	.027	7	.669	13	3.392e-4	13	NC		9982.465	13
		min	-.049	14	-1.017	5	-.572	7	-6.06e-4	12	NC		NC	
	2	max	.189	3	.026	7	.669	13	3.392e-4	13	NC		NC	
		min	-.049	14	-1.018	5	-.566	7	-6.06e-4	12	NC		NC	
	3	max	.189	3	.025	7	.669	13	3.392e-4	13	NC		NC	
		min	-.049	14	-1.018	5	-.56	7	-6.06e-4	12	NC		NC	
	4	max	.189	3	.024	14	.668	13	3.392e-4	13	NC		NC	
		min	-.049	14	-1.018	5	-.553	7	-6.06e-4	12	NC		NC	
	5	max	.189	3	.025	14	.668	13	3.392e-4	13	8142.589	14	NC	
		min	-.049	14	-1.018	5	-.547	7	-6.06e-4	12	NC		NC	
M237	1	max	.06	3	.034	7	.668	13	3.591e-4	13	NC		NC	
		min	-.017	14	-.993	5	-.565	7	-4.104e-4	5	NC		NC	
	2	max	.06	3	.033	7	.668	13	3.591e-4	13	NC		NC	
		min	-.017	14	-.993	5	-.56	7	-4.104e-4	5	NC		NC	
	3	max	.06	3	.033	7	.668	13	3.591e-4	13	NC		NC	
		min	-.017	14	-.993	5	-.554	7	-4.104e-4	5	NC		NC	
	4	max	.06	3	.032	7	.668	13	3.591e-4	13	NC		NC	
		min	-.017	14	-.993	5	-.549	7	-4.104e-4	5	NC		NC	
	5	max	.06	3	.032	7	.668	13	3.591e-4	13	NC		NC	
		min	-.017	14	-.993	5	-.544	7	-4.104e-4	5	NC		NC	
M238	1	max	.03	6	.035	7	.561	13	3.836e-4	13	3777.507	7	NC	
		min	-.016	14	-.992	5	-.436	7	-2.727e-4	5	NC		1784.038	7
	2	max	.03	6	.034	7	.56	13	3.836e-4	13	5036.677	7	NC	
		min	-.016	14	-.992	5	-.434	7	-2.727e-4	5	NC		2378.717	7
	3	max	.03	6	.034	7	.559	13	3.836e-4	13	7555.016	7	NC	
		min	-.016	14	-.992	5	-.433	7	-2.727e-4	5	NC		3568.076	7
	4	max	.03	6	.033	7	.559	13	3.836e-4	13	NC		NC	
		min	-.016	14	-.992	5	-.431	7	-2.727e-4	5	NC		7136.151	7
	5	max	.03	6	.032	7	.558	13	3.836e-4	13	NC		NC	
		min	-.016	14	-.992	5	-.43	7	-2.727e-4	5	NC		NC	
M239	1	max	.079	3	.039	7	.548	13	4.232e-4	13	1100.972	7	2920.817	13
		min	-.056	14	-.997	5	-.392	7	-1.826e-4	7	NC		NC	
	2	max	.079	3	.037	7	.547	13	4.232e-4	13	1467.963	7	3894.422	13
		min	-.056	14	-.998	5	-.394	7	-1.826e-4	7	NC		9118.001	7

Envelope Member Deflections, (continued)

Member Label	Section		x-Translate (in)	Lc	y-Translate (in)	Lc	z-Translate (in)	Lc	x-Rotate (radians)	Lc	(n) L/y Ratio	Lc	(n) L/z Ratio	Lc
	3	max	.079	3	.034	7	.546	13	4.232e-4	13	2201.945	7	5841.633	13
		min	-.056	14	-.999	5	-.395	7	-1.826e-4	7	NC		4559.001	7
	4	max	.079	3	.033	14	.545	13	4.232e-4	13	NC		NC	
		min	-.056	14	-1	5	-.396	7	-1.826e-4	7	NC		3039.334	7
	5	max	.079	3	.035	14	.544	13	4.232e-4	13	NC		NC	
		min	-.056	14	-1.001	5	-.397	7	-1.826e-4	7	NC		2279.5	7
M240	1	max	.397	7	.079	3	1.001	5	1.219e-3	3	1146.499	3	NC	
		min	-.544	13	-.056	14	-.035	14	-6.716e-4	14	1430.175	14	NC	
	2	max	.397	7	.072	3	1	5	1.162e-3	3	1546.842	3	NC	
		min	-.544	13	-.051	14	-.034	14	-6.251e-4	14	1927.818	14	NC	
	3	max	.397	7	.065	3	.999	5	1.105e-3	3	2361.114	3	NC	
		min	-.544	13	-.045	14	-.033	14	-5.785e-4	14	2937.842	14	NC	
	4	max	.397	7	.058	3	.997	5	1.048e-3	3	4834.182	3	NC	
		min	-.544	13	-.04	14	-.032	14	-5.32e-4	14	6000.191	14	NC	
	5	max	.397	7	.052	3	.996	5	9.914e-4	3	NC		NC	
		min	-.544	13	-.035	14	-.031	14	-4.855e-4	14	NC		NC	

Envelope Member Section Torsion

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
M1	1	max	1.809	3	.281	3	No Warping Calculations...							
		min	-3.151	12	-.489	12								
	2	max	1.809	3	.281	3								
		min	-3.151	12	-.489	12								
	3	max	1.809	3	.281	3								
		min	-3.151	12	-.489	12								
	4	max	1.809	3	.281	3								
		min	-3.151	12	-.489	12								
	5	max	1.809	3	.281	3								
		min	-3.151	12	-.489	12								
M2	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M3	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M4	1	max	.022	13	.014	13	No Warping Calculations...							
		min	-.019	7	-.012	7								
	2	max	.022	13	.014	13								
		min	-.019	7	-.012	7								
	3	max	.022	13	.014	13								
		min	-.019	7	-.012	7								
	4	max	.022	13	.014	13								
		min	-.019	7	-.012	7								
	5	max	.022	13	.014	13								
		min	-.019	7	-.012	7								
M5	1	max	.545	14	.119	14	No Warping Calculations...							
		min	-2.348	6	-.514	6								
	2	max	.545	14	.119	14								
		min	-2.348	6	-.514	6								
	3	max	.545	14	.119	14								
		min	-2.348	6	-.514	6								
	4	max	.545	14	.119	14								
		min	-2.348	6	-.514	6								
	5	max	.545	14	.119	14								
		min	-2.348	6	-.514	6								
M6	1	max	.033	14	.021	14	No Warping Calculations...							
		min	-.261	6	-.166	6								
	2	max	.033	14	.021	14								
		min	-.261	6	-.166	6								
	3	max	.033	14	.021	14								
		min	-.261	6	-.166	6								
	4	max	.033	14	.021	14								
		min	-.261	6	-.166	6								
	5	max	.033	14	.021	14								
		min	-.261	6	-.166	6								
M7	1	max	.096	14	.061	14	No Warping Calculations...							
		min	-.428	6	-.271	6								
	2	max	.096	14	.061	14								
		min	-.428	6	-.271	6								
	3	max	.096	14	.061	14								
		min	-.428	6	-.271	6								
	4	max	.096	14	.061	14								
		min	-.428	6	-.271	6								
	5	max	.096	14	.061	14								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.428	6	-.271	6								
M8	1	max	.055	5	.035	5	No Warping Calculations...							
		min	-.032	7	-.02	7								
	2	max	.055	5	.035	5								
		min	-.032	7	-.02	7								
	3	max	.055	5	.035	5								
		min	-.032	7	-.02	7								
	4	max	.055	5	.035	5								
		min	-.032	7	-.02	7								
	5	max	.055	5	.035	5								
		min	-.032	7	-.02	7								
M9	1	max	.19	12	.12	12	No Warping Calculations...							
		min	-.435	3	-.275	3								
	2	max	.19	12	.12	12								
		min	-.435	3	-.275	3								
	3	max	.19	12	.12	12								
		min	-.435	3	-.275	3								
	4	max	.19	12	.12	12								
		min	-.435	3	-.275	3								
	5	max	.19	12	.12	12								
		min	-.435	3	-.275	3								
M10	1	max	2.333	6	.511	6	No Warping Calculations...							
		min	-.541	14	-.118	14								
	2	max	2.333	6	.511	6								
		min	-.541	14	-.118	14								
	3	max	2.333	6	.511	6								
		min	-.541	14	-.118	14								
	4	max	2.333	6	.511	6								
		min	-.541	14	-.118	14								
	5	max	2.333	6	.511	6								
		min	-.541	14	-.118	14								
M11	1	max	.254	6	.161	6	No Warping Calculations...							
		min	-.03	14	-.019	14								
	2	max	.254	6	.161	6								
		min	-.03	14	-.019	14								
	3	max	.254	6	.161	6								
		min	-.03	14	-.019	14								
	4	max	.254	6	.161	6								
		min	-.03	14	-.019	14								
	5	max	.254	6	.161	6								
		min	-.03	14	-.019	14								
M12	1	max	.433	6	.274	6	No Warping Calculations...							
		min	-.098	14	-.062	14								
	2	max	.433	6	.274	6								
		min	-.098	14	-.062	14								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	.433	6	.274	6								
		min	-.098	14	-.062	14								
	4	max	.433	6	.274	6								
		min	-.098	14	-.062	14								
	5	max	.433	6	.274	6								
		min	-.098	14	-.062	14								
M13	1	max	.022	2	.014	2	No Warping Calculations...							
		min	-.059	5	-.038	5								
	2	max	.022	2	.014	2								
		min	-.059	5	-.038	5								
	3	max	.022	2	.014	2								
		min	-.059	5	-.038	5								
	4	max	.022	2	.014	2								
		min	-.059	5	-.038	5								
	5	max	.022	2	.014	2								
		min	-.059	5	-.038	5								
M14	1	max	.432	3	.273	3	No Warping Calculations...							
		min	-.19	12	-.12	12								
	2	max	.432	3	.273	3								
		min	-.19	12	-.12	12								
	3	max	.432	3	.273	3								
		min	-.19	12	-.12	12								
	4	max	.432	3	.273	3								
		min	-.19	12	-.12	12								
	5	max	.432	3	.273	3								
		min	-.19	12	-.12	12								
M15	1	max	.894	14	.139	14	No Warping Calculations...							
		min	-2.868	3	-.445	3								
	2	max	.894	14	.139	14								
		min	-2.868	3	-.445	3								
	3	max	.894	14	.139	14								
		min	-2.868	3	-.445	3								
	4	max	.894	14	.139	14								
		min	-2.868	3	-.445	3								
	5	max	.894	14	.139	14								
		min	-2.868	3	-.445	3								
M16	1	max	.943	14	.146	14	No Warping Calculations...							
		min	-3.448	3	-.535	3								
	2	max	.943	14	.146	14								
		min	-3.448	3	-.535	3								
	3	max	.943	14	.146	14								
		min	-3.448	3	-.535	3								
	4	max	.943	14	.146	14								
		min	-3.448	3	-.535	3								
	5	max	.943	14	.146	14								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-3.448	3	-.535	3								
M17	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M18	1	max	.021	13	.014	13	No Warping Calculations...							
		min	-.014	7	-.009	7								
	2	max	.021	13	.014	13								
		min	-.014	7	-.009	7								
	3	max	.021	13	.014	13								
		min	-.014	7	-.009	7								
	4	max	.021	13	.014	13								
		min	-.014	7	-.009	7								
	5	max	.021	13	.014	13								
		min	-.014	7	-.009	7								
M19	1	max	2.075	6	.454	6	No Warping Calculations...							
		min	-.25	14	-.055	14								
	2	max	2.075	6	.454	6								
		min	-.25	14	-.055	14								
	3	max	2.075	6	.454	6								
		min	-.25	14	-.055	14								
	4	max	2.075	6	.454	6								
		min	-.25	14	-.055	14								
	5	max	2.075	6	.454	6								
		min	-.25	14	-.055	14								
M20	1	max	.052	13	.033	13	No Warping Calculations...							
		min	-.604	5	-.382	5								
	2	max	.052	13	.033	13								
		min	-.604	5	-.382	5								
	3	max	.052	13	.033	13								
		min	-.604	5	-.382	5								
	4	max	.052	13	.033	13								
		min	-.604	5	-.382	5								
	5	max	.052	13	.033	13								
		min	-.604	5	-.382	5								
M21	1	max	.183	3	.116	3	No Warping Calculations...							
		min	-.047	14	-.029	14								
	2	max	.183	3	.116	3								
		min	-.047	14	-.029	14								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	.183	3	.116	3								
		min	-.047	14	-.029	14								
	4	max	.183	3	.116	3								
		min	-.047	14	-.029	14								
	5	max	.183	3	.116	3								
		min	-.047	14	-.029	14								
M22	1	max	.026	13	.017	13	No Warping Calculations...							
		min	-.423	5	-.268	5								
	2	max	.026	13	.017	13								
		min	-.423	5	-.268	5								
	3	max	.026	13	.017	13								
		min	-.423	5	-.268	5								
	4	max	.026	13	.017	13								
		min	-.423	5	-.268	5								
	5	max	.026	13	.017	13								
		min	-.423	5	-.268	5								
M23	1	max	.196	3	.124	3	No Warping Calculations...							
		min	-.19	12	-.12	12								
	2	max	.196	3	.124	3								
		min	-.19	12	-.12	12								
	3	max	.196	3	.124	3								
		min	-.19	12	-.12	12								
	4	max	.196	3	.124	3								
		min	-.19	12	-.12	12								
	5	max	.196	3	.124	3								
		min	-.19	12	-.12	12								
M24	1	max	.249	14	.054	14	No Warping Calculations...							
		min	-2.197	5	-.481	5								
	2	max	.249	14	.054	14								
		min	-2.197	5	-.481	5								
	3	max	.249	14	.054	14								
		min	-2.197	5	-.481	5								
	4	max	.249	14	.054	14								
		min	-2.197	5	-.481	5								
	5	max	.249	14	.054	14								
		min	-2.197	5	-.481	5								
M25	1	max	.636	5	.403	5	No Warping Calculations...							
		min	-.015	7	-.01	7								
	2	max	.636	5	.403	5								
		min	-.015	7	-.01	7								
	3	max	.636	5	.403	5								
		min	-.015	7	-.01	7								
	4	max	.636	5	.403	5								
		min	-.015	7	-.01	7								
	5	max	.636	5	.403	5								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.015	7	-.01	7								
M26	1	max	.047	14	.03	14	No Warping Calculations...							
		min	-.186	3	-.118	3								
	2	max	.047	14	.03	14								
		min	-.186	3	-.118	3								
	3	max	.047	14	.03	14								
		min	-.186	3	-.118	3								
	4	max	.047	14	.03	14								
		min	-.186	3	-.118	3								
	5	max	.047	14	.03	14								
		min	-.186	3	-.118	3								
M27	1	max	.435	5	.276	5	No Warping Calculations...							
		min	-.019	14	-.012	14								
	2	max	.435	5	.276	5								
		min	-.019	14	-.012	14								
	3	max	.435	5	.276	5								
		min	-.019	14	-.012	14								
	4	max	.435	5	.276	5								
		min	-.019	14	-.012	14								
	5	max	.435	5	.276	5								
		min	-.019	14	-.012	14								
M28	1	max	.19	12	.12	12	No Warping Calculations...							
		min	-.193	3	-.122	3								
	2	max	.19	12	.12	12								
		min	-.193	3	-.122	3								
	3	max	.19	12	.12	12								
		min	-.193	3	-.122	3								
	4	max	.19	12	.12	12								
		min	-.193	3	-.122	3								
	5	max	.19	12	.12	12								
		min	-.193	3	-.122	3								
M29	1	max	1.516	12	.235	12	No Warping Calculations...							
		min	-1.353	3	-.21	3								
	2	max	1.516	12	.235	12								
		min	-1.353	3	-.21	3								
	3	max	1.516	12	.235	12								
		min	-1.353	3	-.21	3								
	4	max	1.516	12	.235	12								
		min	-1.353	3	-.21	3								
	5	max	1.516	12	.235	12								
		min	-1.353	3	-.21	3								
M30	1	max	2.885	3	.448	3	No Warping Calculations...							
		min	-1.244	12	-.193	12								
	2	max	2.885	3	.448	3								
		min	-1.244	12	-.193	12								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	2.885	3	.448	3								
		min	-1.244	12	-.193	12								
	4	max	2.885	3	.448	3								
		min	-1.244	12	-.193	12								
	5	max	2.885	3	.448	3								
		min	-1.244	12	-.193	12								
M31	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M32	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M33	1	max	2.112	5	1.338	5	No Warping Calculations...							
		min	-.092	14	-.058	14								
	2	max	2.112	5	1.338	5								
		min	-.092	14	-.058	14								
	3	max	2.112	5	1.338	5								
		min	-.092	14	-.058	14								
	4	max	2.112	5	1.338	5								
		min	-.092	14	-.058	14								
	5	max	2.112	5	1.338	5								
		min	-.092	14	-.058	14								
M34	1	max	.434	3	.275	3	No Warping Calculations...							
		min	-1.809	12	-1.145	12								
	2	max	.434	3	.275	3								
		min	-1.809	12	-1.145	12								
	3	max	.434	3	.275	3								
		min	-1.809	12	-1.145	12								
	4	max	.434	3	.275	3								
		min	-1.809	12	-1.145	12								
	5	max	.434	3	.275	3								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-1.809	12	-1.145	12								
M35	1	max	1.977	12	1.252	12	No Warping Calculations...							
		min	-.472	7	-.299	7								
	2	max	1.977	12	1.252	12								
		min	-.472	7	-.299	7								
	3	max	1.977	12	1.252	12								
		min	-.472	7	-.299	7								
	4	max	1.977	12	1.252	12								
		min	-.472	7	-.299	7								
	5	max	1.977	12	1.252	12								
		min	-.472	7	-.299	7								
M36	1	max	4.006	3	.621	3	No Warping Calculations...							
		min	-1.561	14	-.242	14								
	2	max	4.006	3	.621	3								
		min	-1.561	14	-.242	14								
	3	max	4.006	3	.621	3								
		min	-1.561	14	-.242	14								
	4	max	4.006	3	.621	3								
		min	-1.561	14	-.242	14								
	5	max	4.006	3	.621	3								
		min	-1.561	14	-.242	14								
M37	1	max	1.819	3	.398	3	No Warping Calculations...							
		min	-.544	14	-.119	14								
	2	max	1.819	3	.398	3								
		min	-.544	14	-.119	14								
	3	max	1.819	3	.398	3								
		min	-.544	14	-.119	14								
	4	max	1.819	3	.398	3								
		min	-.544	14	-.119	14								
	5	max	1.819	3	.398	3								
		min	-.544	14	-.119	14								
M38	1	max	.059	14	.037	14	No Warping Calculations...							
		min	-.2	6	-.126	6								
	2	max	.059	14	.037	14								
		min	-.2	6	-.126	6								
	3	max	.059	14	.037	14								
		min	-.2	6	-.126	6								
	4	max	.059	14	.037	14								
		min	-.2	6	-.126	6								
	5	max	.059	14	.037	14								
		min	-.2	6	-.126	6								
M39	1	max	.397	3	.251	3	No Warping Calculations...							
		min	-.161	12	-.102	12								
	2	max	.397	3	.251	3								
		min	-.161	12	-.102	12								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	.397	3	.251	3								
		min	-.161	12	-.102	12								
	4	max	.397	3	.251	3								
		min	-.161	12	-.102	12								
	5	max	.397	3	.251	3								
		min	-.161	12	-.102	12								
M40	1	max	.093	12	.059	12	No Warping Calculations...							
		min	-.139	13	-.088	13								
	2	max	.093	12	.059	12								
		min	-.139	13	-.088	13								
	3	max	.093	12	.059	12								
		min	-.139	13	-.088	13								
	4	max	.093	12	.059	12								
		min	-.139	13	-.088	13								
	5	max	.093	12	.059	12								
		min	-.139	13	-.088	13								
M41	1	max	.196	3	.124	3	No Warping Calculations...							
		min	-.084	14	-.053	14								
	2	max	.196	3	.124	3								
		min	-.084	14	-.053	14								
	3	max	.196	3	.124	3								
		min	-.084	14	-.053	14								
	4	max	.196	3	.124	3								
		min	-.084	14	-.053	14								
	5	max	.196	3	.124	3								
		min	-.084	14	-.053	14								
M42	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M43	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi) Lc	z-z Warp Shear (ksi) Lc	z-Bot Warp Bend (ksi) Lc	z-Top Warp Bend (ksi) Lc
		min	0	1	0	1				
M44	1	max	0	1	0	1	No Warping Calculations...			
		min	0	1	0	1				
	2	max	0	1	0	1				
		min	0	1	0	1				
	3	max	0	1	0	1				
		min	0	1	0	1				
	4	max	0	1	0	1				
		min	0	1	0	1				
	5	max	0	1	0	1				
		min	0	1	0	1				
M45	1	max	0	1	0	1	No Warping Calculations...			
		min	0	1	0	1				
	2	max	0	1	0	1				
		min	0	1	0	1				
	3	max	0	1	0	1				
		min	0	1	0	1				
	4	max	0	1	0	1				
		min	0	1	0	1				
	5	max	0	1	0	1				
		min	0	1	0	1				
M46	1	max	0	1	0	1	No Warping Calculations...			
		min	0	1	0	1				
	2	max	0	1	0	1				
		min	0	1	0	1				
	3	max	0	1	0	1				
		min	0	1	0	1				
	4	max	0	1	0	1				
		min	0	1	0	1				
	5	max	0	1	0	1				
		min	0	1	0	1				
M47	1	max	0	1	0	1	No Warping Calculations...			
		min	0	1	0	1				
	2	max	0	1	0	1				
		min	0	1	0	1				
	3	max	0	1	0	1				
		min	0	1	0	1				
	4	max	0	1	0	1				
		min	0	1	0	1				
	5	max	0	1	0	1				
		min	0	1	0	1				
M48	1	max	0	1	0	1	No Warping Calculations...			
		min	0	1	0	1				
	2	max	0	1	0	1				
		min	0	1	0	1				

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M49	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M50	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M51	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M52	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi) Lc	z-z Warp Shear (ksi) Lc	z-Bot Warp Bend (ksi) Lc	z-Top Warp Bend (ksi) Lc
		min	0	1	0	1				
M53	1	max	0	1	0	1	No Warping Calculations...			
		min	0	1	0	1				
	2	max	0	1	0	1				
		min	0	1	0	1				
	3	max	0	1	0	1				
		min	0	1	0	1				
	4	max	0	1	0	1				
		min	0	1	0	1				
	5	max	0	1	0	1				
		min	0	1	0	1				
M54	1	max	0	1	0	1	No Warping Calculations...			
		min	0	1	0	1				
	2	max	0	1	0	1				
		min	0	1	0	1				
	3	max	0	1	0	1				
		min	0	1	0	1				
	4	max	0	1	0	1				
		min	0	1	0	1				
	5	max	0	1	0	1				
		min	0	1	0	1				
M55	1	max	0	1	0	1	No Warping Calculations...			
		min	0	1	0	1				
	2	max	0	1	0	1				
		min	0	1	0	1				
	3	max	0	1	0	1				
		min	0	1	0	1				
	4	max	0	1	0	1				
		min	0	1	0	1				
	5	max	0	1	0	1				
		min	0	1	0	1				
M56	1	max	0	1	0	1	No Warping Calculations...			
		min	0	1	0	1				
	2	max	0	1	0	1				
		min	0	1	0	1				
	3	max	0	1	0	1				
		min	0	1	0	1				
	4	max	0	1	0	1				
		min	0	1	0	1				
	5	max	0	1	0	1				
		min	0	1	0	1				
M57	1	max	0	1	0	1	No Warping Calculations...			
		min	0	1	0	1				
	2	max	0	1	0	1				
		min	0	1	0	1				

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M58	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M59	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M60	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M61	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	0	1	0	1								
M62	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M63	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M64	1	max	1.521	3	.333	3	No Warping Calculations...							
		min	-.446	14	-.098	14								
	2	max	1.521	3	.333	3								
		min	-.446	14	-.098	14								
	3	max	1.521	3	.333	3								
		min	-.446	14	-.098	14								
	4	max	1.521	3	.333	3								
		min	-.446	14	-.098	14								
	5	max	1.521	3	.333	3								
		min	-.446	14	-.098	14								
M65	1	max	.447	14	.098	14	No Warping Calculations...							
		min	-1.531	3	-.335	3								
	2	max	.447	14	.098	14								
		min	-1.531	3	-.335	3								
	3	max	.447	14	.098	14								
		min	-1.531	3	-.335	3								
	4	max	.447	14	.098	14								
		min	-1.531	3	-.335	3								
	5	max	.447	14	.098	14								
		min	-1.531	3	-.335	3								
M66	1	max	1.556	14	.241	14	No Warping Calculations...							
		min	-3.999	3	-.62	3								
	2	max	1.556	14	.241	14								
		min	-3.999	3	-.62	3								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	1.556	14	.241	14								
		min	-3.999	3	-.62	3								
	4	max	1.556	14	.241	14								
		min	-3.999	3	-.62	3								
	5	max	1.556	14	.241	14								
		min	-3.999	3	-.62	3								
M67	1	max	.539	14	.118	14	No Warping Calculations...							
		min	-1.807	3	-.396	3								
	2	max	.539	14	.118	14								
		min	-1.807	3	-.396	3								
	3	max	.539	14	.118	14								
		min	-1.807	3	-.396	3								
	4	max	.539	14	.118	14								
		min	-1.807	3	-.396	3								
	5	max	.539	14	.118	14								
		min	-1.807	3	-.396	3								
M68	1	max	.21	6	.133	6	No Warping Calculations...							
		min	-.062	14	-.039	14								
	2	max	.21	6	.133	6								
		min	-.062	14	-.039	14								
	3	max	.21	6	.133	6								
		min	-.062	14	-.039	14								
	4	max	.21	6	.133	6								
		min	-.062	14	-.039	14								
	5	max	.21	6	.133	6								
		min	-.062	14	-.039	14								
M69	1	max	.179	12	.113	12	No Warping Calculations...							
		min	-.42	7	-.266	7								
	2	max	.179	12	.113	12								
		min	-.42	7	-.266	7								
	3	max	.179	12	.113	12								
		min	-.42	7	-.266	7								
	4	max	.179	12	.113	12								
		min	-.42	7	-.266	7								
	5	max	.179	12	.113	12								
		min	-.42	7	-.266	7								
M70	1	max	.206	7	.13	7	No Warping Calculations...							
		min	-.134	13	-.085	13								
	2	max	.206	7	.13	7								
		min	-.134	13	-.085	13								
	3	max	.206	7	.13	7								
		min	-.134	13	-.085	13								
	4	max	.206	7	.13	7								
		min	-.134	13	-.085	13								
	5	max	.206	7	.13	7								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.134	13	-.085	13								
M71	1	max	.086	14	.055	14	No Warping Calculations...							
		min	-.207	7	-.131	7								
	2	max	.086	14	.055	14								
		min	-.207	7	-.131	7								
	3	max	.086	14	.055	14								
		min	-.207	7	-.131	7								
	4	max	.086	14	.055	14								
		min	-.207	7	-.131	7								
	5	max	.086	14	.055	14								
		min	-.207	7	-.131	7								
M72	1	max	.549	12	.12	12	No Warping Calculations...							
		min	-.934	3	-.205	3								
	2	max	.549	12	.12	12								
		min	-.934	3	-.205	3								
	3	max	.549	12	.12	12								
		min	-.934	3	-.205	3								
	4	max	.549	12	.12	12								
		min	-.934	3	-.205	3								
	5	max	.549	12	.12	12								
		min	-.934	3	-.205	3								
M73	1	max	2.481	6	.543	6	No Warping Calculations...							
		min	-.412	14	-.09	14								
	2	max	2.481	6	.543	6								
		min	-.412	14	-.09	14								
	3	max	2.481	6	.543	6								
		min	-.412	14	-.09	14								
	4	max	2.481	6	.543	6								
		min	-.412	14	-.09	14								
	5	max	2.481	6	.543	6								
		min	-.412	14	-.09	14								
M74	1	max	.006	13	.003	13	No Warping Calculations...							
		min	-.005	7	-.003	7								
	2	max	.006	13	.003	13								
		min	-.005	7	-.003	7								
	3	max	.006	13	.003	13								
		min	-.005	7	-.003	7								
	4	max	.006	13	.003	13								
		min	-.005	7	-.003	7								
	5	max	.006	13	.003	13								
		min	-.005	7	-.003	7								
M75	1	max	.134	14	.077	14	No Warping Calculations...							
		min	-.462	3	-.265	3								
	2	max	.134	14	.077	14								
		min	-.462	3	-.265	3								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	.134	14	.077	14								
		min	-.462	3	-.265	3								
	4	max	.134	14	.077	14								
		min	-.462	3	-.265	3								
	5	max	.134	14	.077	14								
		min	-.462	3	-.265	3								
M76	1	max	.073	14	.042	14	No Warping Calculations...							
		min	-.252	3	-.144	3								
	2	max	.073	14	.042	14								
		min	-.252	3	-.144	3								
	3	max	.073	14	.042	14								
		min	-.252	3	-.144	3								
	4	max	.073	14	.042	14								
		min	-.252	3	-.144	3								
	5	max	.073	14	.042	14								
		min	-.252	3	-.144	3								
M77	1	max	.041	14	.023	14	No Warping Calculations...							
		min	-.139	3	-.08	3								
	2	max	.041	14	.023	14								
		min	-.139	3	-.08	3								
	3	max	.041	14	.023	14								
		min	-.139	3	-.08	3								
	4	max	.041	14	.023	14								
		min	-.139	3	-.08	3								
	5	max	.041	14	.023	14								
		min	-.139	3	-.08	3								
M78	1	max	.022	14	.012	14	No Warping Calculations...							
		min	-.074	3	-.042	3								
	2	max	.022	14	.012	14								
		min	-.074	3	-.042	3								
	3	max	.022	14	.012	14								
		min	-.074	3	-.042	3								
	4	max	.022	14	.012	14								
		min	-.074	3	-.042	3								
	5	max	.022	14	.012	14								
		min	-.074	3	-.042	3								
M79	1	max	.009	14	.005	14	No Warping Calculations...							
		min	-.032	3	-.018	3								
	2	max	.009	14	.005	14								
		min	-.032	3	-.018	3								
	3	max	.009	14	.005	14								
		min	-.032	3	-.018	3								
	4	max	.009	14	.005	14								
		min	-.032	3	-.018	3								
	5	max	.009	14	.005	14								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.032	3	-.018	3								
M80	1	max	.006	13	.003	13	No Warping Calculations...							
		min	-.011	7	-.006	7								
	2	max	.006	13	.003	13								
		min	-.011	7	-.006	7								
	3	max	.006	13	.003	13								
		min	-.011	7	-.006	7								
	4	max	.006	13	.003	13								
		min	-.011	7	-.006	7								
	5	max	.006	13	.003	13								
		min	-.011	7	-.006	7								
M81	1	max	.137	14	.078	14	No Warping Calculations...							
		min	-.337	3	-.193	3								
	2	max	.137	14	.078	14								
		min	-.337	3	-.193	3								
	3	max	.137	14	.078	14								
		min	-.337	3	-.193	3								
	4	max	.137	14	.078	14								
		min	-.337	3	-.193	3								
	5	max	.137	14	.078	14								
		min	-.337	3	-.193	3								
M82	1	max	.411	3	.236	3	No Warping Calculations...							
		min	-.118	14	-.068	14								
	2	max	.411	3	.236	3								
		min	-.118	14	-.068	14								
	3	max	.411	3	.236	3								
		min	-.118	14	-.068	14								
	4	max	.411	3	.236	3								
		min	-.118	14	-.068	14								
	5	max	.411	3	.236	3								
		min	-.118	14	-.068	14								
M83	1	max	.461	3	.264	3	No Warping Calculations...							
		min	-.134	14	-.077	14								
	2	max	.461	3	.264	3								
		min	-.134	14	-.077	14								
	3	max	.461	3	.264	3								
		min	-.134	14	-.077	14								
	4	max	.461	3	.264	3								
		min	-.134	14	-.077	14								
	5	max	.461	3	.264	3								
		min	-.134	14	-.077	14								
M84	1	max	.251	3	.144	3	No Warping Calculations...							
		min	-.073	14	-.042	14								
	2	max	.251	3	.144	3								
		min	-.073	14	-.042	14								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	.251	3	.144	3								
		min	-.073	14	-.042	14								
	4	max	.251	3	.144	3								
		min	-.073	14	-.042	14								
	5	max	.251	3	.144	3								
		min	-.073	14	-.042	14								
M85	1	max	.137	3	.079	3	No Warping Calculations...							
		min	-.04	14	-.023	14								
	2	max	.137	3	.079	3								
		min	-.04	14	-.023	14								
	3	max	.137	3	.079	3								
		min	-.04	14	-.023	14								
	4	max	.137	3	.079	3								
		min	-.04	14	-.023	14								
	5	max	.137	3	.079	3								
		min	-.04	14	-.023	14								
M86	1	max	.072	3	.041	3	No Warping Calculations...							
		min	-.021	14	-.012	14								
	2	max	.072	3	.041	3								
		min	-.021	14	-.012	14								
	3	max	.072	3	.041	3								
		min	-.021	14	-.012	14								
	4	max	.072	3	.041	3								
		min	-.021	14	-.012	14								
	5	max	.072	3	.041	3								
		min	-.021	14	-.012	14								
M87	1	max	.032	3	.018	3	No Warping Calculations...							
		min	-.009	14	-.005	14								
	2	max	.032	3	.018	3								
		min	-.009	14	-.005	14								
	3	max	.032	3	.018	3								
		min	-.009	14	-.005	14								
	4	max	.032	3	.018	3								
		min	-.009	14	-.005	14								
	5	max	.032	3	.018	3								
		min	-.009	14	-.005	14								
M88	1	max	.008	3	.004	3	No Warping Calculations...							
		min	-.002	14	-.001	14								
	2	max	.008	3	.004	3								
		min	-.002	14	-.001	14								
	3	max	.008	3	.004	3								
		min	-.002	14	-.001	14								
	4	max	.008	3	.004	3								
		min	-.002	14	-.001	14								
	5	max	.008	3	.004	3								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.002	14	-.001	14								
M89	1	max	.006	13	.003	13	No Warping Calculations...							
		min	-.005	7	-.003	7								
	2	max	.006	13	.003	13								
		min	-.005	7	-.003	7								
	3	max	.006	13	.003	13								
		min	-.005	7	-.003	7								
	4	max	.006	13	.003	13								
		min	-.005	7	-.003	7								
	5	max	.006	13	.003	13								
		min	-.005	7	-.003	7								
M90	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M91	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M92	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M93	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M94	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M95	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M96	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M97	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	0	1	0	1								
M98	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M99	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M100	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M101	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M102	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M103	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M104	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M105	1	max	.455	7	.261	7	No Warping Calculations...							
		min	-.245	13	-.141	13								
	2	max	.455	7	.261	7								
		min	-.245	13	-.141	13								
	3	max	.455	7	.261	7								
		min	-.245	13	-.141	13								
	4	max	.455	7	.261	7								
		min	-.245	13	-.141	13								
	5	max	.455	7	.261	7								
		min	-.245	13	-.141	13								
M106	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	0	1	0	1								
M107	1	max	.932	3	.204	3	No Warping Calculations...							
		min	-.566	12	-.124	12								
	2	max	.932	3	.204	3								
		min	-.566	12	-.124	12								
	3	max	.932	3	.204	3								
		min	-.566	12	-.124	12								
	4	max	.932	3	.204	3								
		min	-.566	12	-.124	12								
	5	max	.932	3	.204	3								
		min	-.566	12	-.124	12								
M108	1	max	.405	14	.089	14	No Warping Calculations...							
		min	-2.586	5	-.566	5								
	2	max	.405	14	.089	14								
		min	-2.586	5	-.566	5								
	3	max	.405	14	.089	14								
		min	-2.586	5	-.566	5								
	4	max	.405	14	.089	14								
		min	-2.586	5	-.566	5								
	5	max	.405	14	.089	14								
		min	-2.586	5	-.566	5								
M109	1	max	10.517	5	1.631	5	No Warping Calculations...							
		min	-.965	14	-.15	14								
	2	max	10.517	5	1.631	5								
		min	-.965	14	-.15	14								
	3	max	10.517	5	1.631	5								
		min	-.965	14	-.15	14								
	4	max	10.517	5	1.631	5								
		min	-.965	14	-.15	14								
	5	max	10.517	5	1.631	5								
		min	-.965	14	-.15	14								
M110	1	max	6.971	14	1.081	14	No Warping Calculations...							
		min	-11.733	3	-1.82	3								
	2	max	6.971	14	1.081	14								
		min	-11.733	3	-1.82	3								
	3	max	6.971	14	1.081	14								
		min	-11.733	3	-1.82	3								
	4	max	6.971	14	1.081	14								
		min	-11.733	3	-1.82	3								
	5	max	6.971	14	1.081	14								
		min	-11.733	3	-1.82	3								
M111	1	max	1.545	14	.24	14	No Warping Calculations...							
		min	-5.62	6	-.872	6								
	2	max	1.545	14	.24	14								
		min	-5.62	6	-.872	6								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	1.545	14	.24	14								
		min	-5.62	6	-.872	6								
	4	max	1.545	14	.24	14								
		min	-5.62	6	-.872	6								
	5	max	1.545	14	.24	14								
		min	-5.62	6	-.872	6								
M112	1	max	13.463	3	2.088	3	No Warping Calculations...							
		min	-7.511	14	-1.165	14								
	2	max	13.463	3	2.088	3								
		min	-7.511	14	-1.165	14								
	3	max	13.463	3	2.088	3								
		min	-7.511	14	-1.165	14								
	4	max	13.463	3	2.088	3								
		min	-7.511	14	-1.165	14								
	5	max	13.463	3	2.088	3								
		min	-7.511	14	-1.165	14								
M113	1	max	.571	14	.125	14	No Warping Calculations...							
		min	-2.063	3	-.452	3								
	2	max	.571	14	.125	14								
		min	-2.063	3	-.452	3								
	3	max	.571	14	.125	14								
		min	-2.063	3	-.452	3								
	4	max	.571	14	.125	14								
		min	-2.063	3	-.452	3								
	5	max	.571	14	.125	14								
		min	-2.063	3	-.452	3								
M114	1	max	.255	14	.04	14	No Warping Calculations...							
		min	-1.631	13	-.253	13								
	2	max	.255	14	.04	14								
		min	-1.631	13	-.253	13								
	3	max	.255	14	.04	14								
		min	-1.631	13	-.253	13								
	4	max	.255	14	.04	14								
		min	-1.631	13	-.253	13								
	5	max	.255	14	.04	14								
		min	-1.631	13	-.253	13								
M115	1	max	.459	14	.1	14	No Warping Calculations...							
		min	-.756	3	-.166	3								
	2	max	.459	14	.1	14								
		min	-.756	3	-.166	3								
	3	max	.459	14	.1	14								
		min	-.756	3	-.166	3								
	4	max	.459	14	.1	14								
		min	-.756	3	-.166	3								
	5	max	.459	14	.1	14								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.756	3	-.166	3								
M116	1	max	.454	7	.287	7	No Warping Calculations...							
		min	-.44	12	-.279	12								
	2	max	.454	7	.287	7								
		min	-.44	12	-.279	12								
	3	max	.454	7	.287	7								
		min	-.44	12	-.279	12								
	4	max	.454	7	.287	7								
		min	-.44	12	-.279	12								
	5	max	.454	7	.287	7								
		min	-.44	12	-.279	12								
M117	1	max	.478	13	.303	13	No Warping Calculations...							
		min	-.392	12	-.248	12								
	2	max	.478	13	.303	13								
		min	-.392	12	-.248	12								
	3	max	.478	13	.303	13								
		min	-.392	12	-.248	12								
	4	max	.478	13	.303	13								
		min	-.392	12	-.248	12								
	5	max	.478	13	.303	13								
		min	-.392	12	-.248	12								
M118	1	max	.88	14	.136	14	No Warping Calculations...							
		min	-2.825	3	-.438	3								
	2	max	.88	14	.136	14								
		min	-2.825	3	-.438	3								
	3	max	.88	14	.136	14								
		min	-2.825	3	-.438	3								
	4	max	.88	14	.136	14								
		min	-2.825	3	-.438	3								
	5	max	.88	14	.136	14								
		min	-2.825	3	-.438	3								
M119	1	max	2.061	3	.451	3	No Warping Calculations...							
		min	-.572	14	-.125	14								
	2	max	2.061	3	.451	3								
		min	-.572	14	-.125	14								
	3	max	2.061	3	.451	3								
		min	-.572	14	-.125	14								
	4	max	2.061	3	.451	3								
		min	-.572	14	-.125	14								
	5	max	2.061	3	.451	3								
		min	-.572	14	-.125	14								
M120	1	max	2.568	7	.398	7	No Warping Calculations...							
		min	-1.66	13	-.257	13								
	2	max	2.568	7	.398	7								
		min	-1.66	13	-.257	13								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	2.568	7	.398	7								
		min	-1.66	13	-.257	13								
	4	max	2.568	7	.398	7								
		min	-1.66	13	-.257	13								
	5	max	2.568	7	.398	7								
		min	-1.66	13	-.257	13								
M121	1	max	.74	3	.162	3	No Warping Calculations...							
		min	-.452	14	-.099	14								
	2	max	.74	3	.162	3								
		min	-.452	14	-.099	14								
	3	max	.74	3	.162	3								
		min	-.452	14	-.099	14								
	4	max	.74	3	.162	3								
		min	-.452	14	-.099	14								
	5	max	.74	3	.162	3								
		min	-.452	14	-.099	14								
M122	1	max	2.862	3	.444	3	No Warping Calculations...							
		min	-.904	14	-.14	14								
	2	max	2.862	3	.444	3								
		min	-.904	14	-.14	14								
	3	max	2.862	3	.444	3								
		min	-.904	14	-.14	14								
	4	max	2.862	3	.444	3								
		min	-.904	14	-.14	14								
	5	max	2.862	3	.444	3								
		min	-.904	14	-.14	14								
M123	1	max	.08	14	.017	14	No Warping Calculations...							
		min	-1.63	5	-.357	5								
	2	max	.08	14	.017	14								
		min	-1.63	5	-.357	5								
	3	max	.08	14	.017	14								
		min	-1.63	5	-.357	5								
	4	max	.08	14	.017	14								
		min	-1.63	5	-.357	5								
	5	max	.08	14	.017	14								
		min	-1.63	5	-.357	5								
M124	1	max	1.535	5	.336	5	No Warping Calculations...							
		min	-.086	14	-.019	14								
	2	max	1.535	5	.336	5								
		min	-.086	14	-.019	14								
	3	max	1.535	5	.336	5								
		min	-.086	14	-.019	14								
	4	max	1.535	5	.336	5								
		min	-.086	14	-.019	14								
	5	max	1.535	5	.336	5								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.086	14	-.019	14								
M125	1	max	2.075	6	1.314	6	No Warping Calculations...							
		min	-.25	14	-.158	14								
	2	max	2.075	6	1.314	6								
		min	-.25	14	-.158	14								
	3	max	2.075	6	1.314	6								
		min	-.25	14	-.158	14								
	4	max	2.075	6	1.314	6								
		min	-.25	14	-.158	14								
	5	max	2.075	6	1.314	6								
		min	-.25	14	-.158	14								
M126	1	max	.249	14	.158	14	No Warping Calculations...							
		min	-2.197	5	-1.391	5								
	2	max	.249	14	.158	14								
		min	-2.197	5	-1.391	5								
	3	max	.249	14	.158	14								
		min	-2.197	5	-1.391	5								
	4	max	.249	14	.158	14								
		min	-2.197	5	-1.391	5								
	5	max	.249	14	.158	14								
		min	-2.197	5	-1.391	5								
M127	1	max	.142	5	.022	5	No Warping Calculations...							
		min	-.22	13	-.034	13								
	2	max	.142	5	.022	5								
		min	-.22	13	-.034	13								
	3	max	.142	5	.022	5								
		min	-.22	13	-.034	13								
	4	max	.142	5	.022	5								
		min	-.22	13	-.034	13								
	5	max	.142	5	.022	5								
		min	-.22	13	-.034	13								
M128	1	max	7.522	3	1.167	3	No Warping Calculations...							
		min	-2.006	14	-.311	14								
	2	max	7.522	3	1.167	3								
		min	-2.006	14	-.311	14								
	3	max	7.522	3	1.167	3								
		min	-2.006	14	-.311	14								
	4	max	7.522	3	1.167	3								
		min	-2.006	14	-.311	14								
	5	max	7.522	3	1.167	3								
		min	-2.006	14	-.311	14								
M129	1	max	.292	7	.045	7	No Warping Calculations...							
		min	-.343	5	-.053	5								
	2	max	.292	7	.045	7								
		min	-.343	5	-.053	5								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	.292	7	.045	7								
		min	-.343	5	-.053	5								
	4	max	.292	7	.045	7								
		min	-.343	5	-.053	5								
	5	max	.292	7	.045	7								
		min	-.343	5	-.053	5								
M130	1	max	1.393	3	.216	3	No Warping Calculations...							
		min	-1.272	12	-.197	12								
	2	max	1.393	3	.216	3								
		min	-1.272	12	-.197	12								
	3	max	1.393	3	.216	3								
		min	-1.272	12	-.197	12								
	4	max	1.393	3	.216	3								
		min	-1.272	12	-.197	12								
	5	max	1.393	3	.216	3								
		min	-1.272	12	-.197	12								
M131	1	max	.615	2	.095	2	No Warping Calculations...							
		min	-.524	5	-.081	5								
	2	max	.615	2	.095	2								
		min	-.524	5	-.081	5								
	3	max	.615	2	.095	2								
		min	-.524	5	-.081	5								
	4	max	.615	2	.095	2								
		min	-.524	5	-.081	5								
	5	max	.615	2	.095	2								
		min	-.524	5	-.081	5								
M132	1	max	1.57	14	.243	14	No Warping Calculations...							
		min	-5.931	6	-.92	6								
	2	max	1.57	14	.243	14								
		min	-5.931	6	-.92	6								
	3	max	1.57	14	.243	14								
		min	-5.931	6	-.92	6								
	4	max	1.57	14	.243	14								
		min	-5.931	6	-.92	6								
	5	max	1.57	14	.243	14								
		min	-5.931	6	-.92	6								
M133	1	max	.325	5	.05	5	No Warping Calculations...							
		min	-.612	2	-.095	2								
	2	max	.325	5	.05	5								
		min	-.612	2	-.095	2								
	3	max	.325	5	.05	5								
		min	-.612	2	-.095	2								
	4	max	.325	5	.05	5								
		min	-.612	2	-.095	2								
	5	max	.325	5	.05	5								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.612	2	-.095	2								
M134	1	max	1.645	14	.255	14	No Warping Calculations...							
		min	-8.834	6	-1.37	6								
	2	max	1.645	14	.255	14								
		min	-8.834	6	-1.37	6								
	3	max	1.645	14	.255	14								
		min	-8.834	6	-1.37	6								
	4	max	1.645	14	.255	14								
		min	-8.834	6	-1.37	6								
	5	max	1.645	14	.255	14								
		min	-8.834	6	-1.37	6								
M135	1	max	.994	14	.154	14	No Warping Calculations...							
		min	-9.855	5	-1.529	5								
	2	max	.994	14	.154	14								
		min	-9.855	5	-1.529	5								
	3	max	.994	14	.154	14								
		min	-9.855	5	-1.529	5								
	4	max	.994	14	.154	14								
		min	-9.855	5	-1.529	5								
	5	max	.994	14	.154	14								
		min	-9.855	5	-1.529	5								
M136	1	max	1.261	6	.196	6	No Warping Calculations...							
		min	-.259	14	-.04	14								
	2	max	1.261	6	.196	6								
		min	-.259	14	-.04	14								
	3	max	1.261	6	.196	6								
		min	-.259	14	-.04	14								
	4	max	1.261	6	.196	6								
		min	-.259	14	-.04	14								
	5	max	1.261	6	.196	6								
		min	-.259	14	-.04	14								
M137	1	max	2.633	14	.408	14	No Warping Calculations...							
		min	-9.638	3	-1.495	3								
	2	max	2.633	14	.408	14								
		min	-9.638	3	-1.495	3								
	3	max	2.633	14	.408	14								
		min	-9.638	3	-1.495	3								
	4	max	2.633	14	.408	14								
		min	-9.638	3	-1.495	3								
	5	max	2.633	14	.408	14								
		min	-9.638	3	-1.495	3								
M138	1	max	.267	14	.041	14	No Warping Calculations...							
		min	-1.289	6	-.2	6								
	2	max	.267	14	.041	14								
		min	-1.289	6	-.2	6								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	.267	14	.041	14								
		min	-1.289	6	-.2	6								
	4	max	.267	14	.041	14								
		min	-1.289	6	-.2	6								
	5	max	.267	14	.041	14								
		min	-1.289	6	-.2	6								
M139	1	max	1.735	14	.269	14	No Warping Calculations...							
		min	-6.723	3	-1.043	3								
	2	max	1.735	14	.269	14								
		min	-6.723	3	-1.043	3								
	3	max	1.735	14	.269	14								
		min	-6.723	3	-1.043	3								
	4	max	1.735	14	.269	14								
		min	-6.723	3	-1.043	3								
	5	max	1.735	14	.269	14								
		min	-6.723	3	-1.043	3								
M140	1	max	.616	14	.096	14	No Warping Calculations...							
		min	-2.878	6	-.446	6								
	2	max	.616	14	.096	14								
		min	-2.878	6	-.446	6								
	3	max	.616	14	.096	14								
		min	-2.878	6	-.446	6								
	4	max	.616	14	.096	14								
		min	-2.878	6	-.446	6								
	5	max	.616	14	.096	14								
		min	-2.878	6	-.446	6								
M141	1	max	5.961	3	.925	3	No Warping Calculations...							
		min	-1.634	14	-.253	14								
	2	max	5.961	3	.925	3								
		min	-1.634	14	-.253	14								
	3	max	5.961	3	.925	3								
		min	-1.634	14	-.253	14								
	4	max	5.961	3	.925	3								
		min	-1.634	14	-.253	14								
	5	max	5.961	3	.925	3								
		min	-1.634	14	-.253	14								
M142	1	max	2.844	6	.441	6	No Warping Calculations...							
		min	-.609	14	-.094	14								
	2	max	2.844	6	.441	6								
		min	-.609	14	-.094	14								
	3	max	2.844	6	.441	6								
		min	-.609	14	-.094	14								
	4	max	2.844	6	.441	6								
		min	-.609	14	-.094	14								
	5	max	2.844	6	.441	6								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.609	14	-.094	14								
M143	1	max	5.56	3	.862	3	No Warping Calculations...							
		min	-1.292	14	-.2	14								
	2	max	5.56	3	.862	3								
		min	-1.292	14	-.2	14								
	3	max	5.56	3	.862	3								
		min	-1.292	14	-.2	14								
	4	max	5.56	3	.862	3								
		min	-1.292	14	-.2	14								
	5	max	5.56	3	.862	3								
		min	-1.292	14	-.2	14								
M144	1	max	5.517	6	.856	6	No Warping Calculations...							
		min	-1.532	14	-.238	14								
	2	max	5.517	6	.856	6								
		min	-1.532	14	-.238	14								
	3	max	5.517	6	.856	6								
		min	-1.532	14	-.238	14								
	4	max	5.517	6	.856	6								
		min	-1.532	14	-.238	14								
	5	max	5.517	6	.856	6								
		min	-1.532	14	-.238	14								
M145	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M146	1	max	.483	7	.277	7	No Warping Calculations...							
		min	-.286	13	-.164	13								
	2	max	.483	7	.277	7								
		min	-.286	13	-.164	13								
	3	max	.483	7	.277	7								
		min	-.286	13	-.164	13								
	4	max	.483	7	.277	7								
		min	-.286	13	-.164	13								
	5	max	.483	7	.277	7								
		min	-.286	13	-.164	13								
M147	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M148	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M149	1	max	.144	14	.083	14	No Warping Calculations...							
		min	-.334	3	-.192	3								
	2	max	.144	14	.083	14								
		min	-.334	3	-.192	3								
	3	max	.144	14	.083	14								
		min	-.334	3	-.192	3								
	4	max	.144	14	.083	14								
		min	-.334	3	-.192	3								
	5	max	.144	14	.083	14								
		min	-.334	3	-.192	3								
M150	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M151	1	max	.119	14	.068	14	No Warping Calculations...							
		min	-.356	3	-.204	3								
	2	max	.119	14	.068	14								
		min	-.356	3	-.204	3								
	3	max	.119	14	.068	14								
		min	-.356	3	-.204	3								
	4	max	.119	14	.068	14								
		min	-.356	3	-.204	3								
	5	max	.119	14	.068	14								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.356	3	-.204	3								
M152	1	max	.37	7	.212	7	No Warping Calculations...							
		min	-.121	14	-.07	14								
	2	max	.37	7	.212	7								
		min	-.121	14	-.07	14								
	3	max	.37	7	.212	7								
		min	-.121	14	-.07	14								
	4	max	.37	7	.212	7								
		min	-.121	14	-.07	14								
	5	max	.37	7	.212	7								
		min	-.121	14	-.07	14								
M153	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M154	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M155	1	max	.112	14	.064	14	No Warping Calculations...							
		min	-.389	3	-.223	3								
	2	max	.112	14	.064	14								
		min	-.389	3	-.223	3								
	3	max	.112	14	.064	14								
		min	-.389	3	-.223	3								
	4	max	.112	14	.064	14								
		min	-.389	3	-.223	3								
	5	max	.112	14	.064	14								
		min	-.389	3	-.223	3								
M156	1	max	.097	13	.062	13	No Warping Calculations...							
		min	-1.972	5	-1.249	5								
	2	max	.097	13	.062	13								
		min	-1.972	5	-1.249	5								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	.097	13	.062	13								
		min	-1.972	5	-1.249	5								
	4	max	.097	13	.062	13								
		min	-1.972	5	-1.249	5								
	5	max	.097	13	.062	13								
		min	-1.972	5	-1.249	5								
M157	1	max	2.64	3	.409	3	No Warping Calculations...							
		min	-.836	14	-.13	14								
	2	max	2.64	3	.409	3								
		min	-.836	14	-.13	14								
	3	max	2.64	3	.409	3								
		min	-.836	14	-.13	14								
	4	max	2.64	3	.409	3								
		min	-.836	14	-.13	14								
	5	max	2.64	3	.409	3								
		min	-.836	14	-.13	14								
M158	1	max	6.714	3	1.041	3	No Warping Calculations...							
		min	-1.726	14	-.268	14								
	2	max	6.714	3	1.041	3								
		min	-1.726	14	-.268	14								
	3	max	6.714	3	1.041	3								
		min	-1.726	14	-.268	14								
	4	max	6.714	3	1.041	3								
		min	-1.726	14	-.268	14								
	5	max	6.714	3	1.041	3								
		min	-1.726	14	-.268	14								
M159	1	max	8.044	3	1.248	3	No Warping Calculations...							
		min	-2.201	14	-.341	14								
	2	max	8.044	3	1.248	3								
		min	-2.201	14	-.341	14								
	3	max	8.044	3	1.248	3								
		min	-2.201	14	-.341	14								
	4	max	8.044	3	1.248	3								
		min	-2.201	14	-.341	14								
	5	max	8.044	3	1.248	3								
		min	-2.201	14	-.341	14								
M160	1	max	7.625	3	1.183	3	No Warping Calculations...							
		min	-2.09	14	-.324	14								
	2	max	7.625	3	1.183	3								
		min	-2.09	14	-.324	14								
	3	max	7.625	3	1.183	3								
		min	-2.09	14	-.324	14								
	4	max	7.625	3	1.183	3								
		min	-2.09	14	-.324	14								
	5	max	7.625	3	1.183	3								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-2.09	14	-.324	14								
M161	1	max	9.704	3	1.505	3	No Warping Calculations...							
		min	-2.65	14	-.411	14								
	2	max	9.704	3	1.505	3								
		min	-2.65	14	-.411	14								
	3	max	9.704	3	1.505	3								
		min	-2.65	14	-.411	14								
	4	max	9.704	3	1.505	3								
		min	-2.65	14	-.411	14								
	5	max	9.704	3	1.505	3								
		min	-2.65	14	-.411	14								
M162	1	max	6.743	3	1.046	3	No Warping Calculations...							
		min	-1.841	14	-.286	14								
	2	max	6.743	3	1.046	3								
		min	-1.841	14	-.286	14								
	3	max	6.743	3	1.046	3								
		min	-1.841	14	-.286	14								
	4	max	6.743	3	1.046	3								
		min	-1.841	14	-.286	14								
	5	max	6.743	3	1.046	3								
		min	-1.841	14	-.286	14								
M163	1	max	1.702	14	.264	14	No Warping Calculations...							
		min	-5.672	3	-.88	3								
	2	max	1.702	14	.264	14								
		min	-5.672	3	-.88	3								
	3	max	1.702	14	.264	14								
		min	-5.672	3	-.88	3								
	4	max	1.702	14	.264	14								
		min	-5.672	3	-.88	3								
	5	max	1.702	14	.264	14								
		min	-5.672	3	-.88	3								
M164	1	max	2.196	14	.341	14	No Warping Calculations...							
		min	-8.023	3	-1.244	3								
	2	max	2.196	14	.341	14								
		min	-8.023	3	-1.244	3								
	3	max	2.196	14	.341	14								
		min	-8.023	3	-1.244	3								
	4	max	2.196	14	.341	14								
		min	-8.023	3	-1.244	3								
	5	max	2.196	14	.341	14								
		min	-8.023	3	-1.244	3								
M165	1	max	2.084	14	.323	14	No Warping Calculations...							
		min	-7.605	3	-1.179	3								
	2	max	2.084	14	.323	14								
		min	-7.605	3	-1.179	3								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	2.084	14	.323	14								
		min	-7.605	3	-1.179	3								
	4	max	2.084	14	.323	14								
		min	-7.605	3	-1.179	3								
	5	max	2.084	14	.323	14								
		min	-7.605	3	-1.179	3								
M166	1	max	1.625	14	.252	14	No Warping Calculations...							
		min	-5.933	3	-.92	3								
	2	max	1.625	14	.252	14								
		min	-5.933	3	-.92	3								
	3	max	1.625	14	.252	14								
		min	-5.933	3	-.92	3								
	4	max	1.625	14	.252	14								
		min	-5.933	3	-.92	3								
	5	max	1.625	14	.252	14								
		min	-5.933	3	-.92	3								
M167	1	max	1.822	14	.283	14	No Warping Calculations...							
		min	-6.671	3	-1.035	3								
	2	max	1.822	14	.283	14								
		min	-6.671	3	-1.035	3								
	3	max	1.822	14	.283	14								
		min	-6.671	3	-1.035	3								
	4	max	1.822	14	.283	14								
		min	-6.671	3	-1.035	3								
	5	max	1.822	14	.283	14								
		min	-6.671	3	-1.035	3								
M168	1	max	.442	14	.068	14	No Warping Calculations...							
		min	-1.628	3	-.253	3								
	2	max	.442	14	.068	14								
		min	-1.628	3	-.253	3								
	3	max	.442	14	.068	14								
		min	-1.628	3	-.253	3								
	4	max	.442	14	.068	14								
		min	-1.628	3	-.253	3								
	5	max	.442	14	.068	14								
		min	-1.628	3	-.253	3								
M169	1	max	3.702	3	.574	3	No Warping Calculations...							
		min	-1.013	14	-.157	14								
	2	max	3.702	3	.574	3								
		min	-1.013	14	-.157	14								
	3	max	3.702	3	.574	3								
		min	-1.013	14	-.157	14								
	4	max	3.702	3	.574	3								
		min	-1.013	14	-.157	14								
	5	max	3.702	3	.574	3								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-1.013	14	-.157	14								
M170	1	max	1.544	3	.239	3	No Warping Calculations...							
		min	-1.391	12	-.216	12								
	2	max	1.544	3	.239	3								
		min	-1.391	12	-.216	12								
	3	max	1.544	3	.239	3								
		min	-1.391	12	-.216	12								
	4	max	1.544	3	.239	3								
		min	-1.391	12	-.216	12								
	5	max	1.544	3	.239	3								
		min	-1.391	12	-.216	12								
M171	1	max	1.245	12	.193	12	No Warping Calculations...							
		min	-1.35	3	-.209	3								
	2	max	1.245	12	.193	12								
		min	-1.35	3	-.209	3								
	3	max	1.245	12	.193	12								
		min	-1.35	3	-.209	3								
	4	max	1.245	12	.193	12								
		min	-1.35	3	-.209	3								
	5	max	1.245	12	.193	12								
		min	-1.35	3	-.209	3								
M172	1	max	1.197	14	.186	14	No Warping Calculations...							
		min	-4.607	3	-.714	3								
	2	max	1.197	14	.186	14								
		min	-4.607	3	-.714	3								
	3	max	1.197	14	.186	14								
		min	-4.607	3	-.714	3								
	4	max	1.197	14	.186	14								
		min	-4.607	3	-.714	3								
	5	max	1.197	14	.186	14								
		min	-4.607	3	-.714	3								
M173	1	max	1.572	14	.244	14	No Warping Calculations...							
		min	-5.838	3	-.906	3								
	2	max	1.572	14	.244	14								
		min	-5.838	3	-.906	3								
	3	max	1.572	14	.244	14								
		min	-5.838	3	-.906	3								
	4	max	1.572	14	.244	14								
		min	-5.838	3	-.906	3								
	5	max	1.572	14	.244	14								
		min	-5.838	3	-.906	3								
M174	1	max	2.013	14	.312	14	No Warping Calculations...							
		min	-7.558	3	-1.172	3								
	2	max	2.013	14	.312	14								
		min	-7.558	3	-1.172	3								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	2.013	14	.312	14								
		min	-7.558	3	-1.172	3								
	4	max	2.013	14	.312	14								
		min	-7.558	3	-1.172	3								
	5	max	2.013	14	.312	14								
		min	-7.558	3	-1.172	3								
M175	1	max	1.554	14	.241	14	No Warping Calculations...							
		min	-5.774	3	-.895	3								
	2	max	1.554	14	.241	14								
		min	-5.774	3	-.895	3								
	3	max	1.554	14	.241	14								
		min	-5.774	3	-.895	3								
	4	max	1.554	14	.241	14								
		min	-5.774	3	-.895	3								
	5	max	1.554	14	.241	14								
		min	-5.774	3	-.895	3								
M176	1	max	4.116	6	.638	6	No Warping Calculations...							
		min	-.802	14	-.124	14								
	2	max	4.116	6	.638	6								
		min	-.802	14	-.124	14								
	3	max	4.116	6	.638	6								
		min	-.802	14	-.124	14								
	4	max	4.116	6	.638	6								
		min	-.802	14	-.124	14								
	5	max	4.116	6	.638	6								
		min	-.802	14	-.124	14								
M177	1	max	4.62	3	.717	3	No Warping Calculations...							
		min	-1.202	14	-.186	14								
	2	max	4.62	3	.717	3								
		min	-1.202	14	-.186	14								
	3	max	4.62	3	.717	3								
		min	-1.202	14	-.186	14								
	4	max	4.62	3	.717	3								
		min	-1.202	14	-.186	14								
	5	max	4.62	3	.717	3								
		min	-1.202	14	-.186	14								
M178	1	max	5.852	3	.908	3	No Warping Calculations...							
		min	-1.578	14	-.245	14								
	2	max	5.852	3	.908	3								
		min	-1.578	14	-.245	14								
	3	max	5.852	3	.908	3								
		min	-1.578	14	-.245	14								
	4	max	5.852	3	.908	3								
		min	-1.578	14	-.245	14								
	5	max	5.852	3	.908	3								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-1.578	14	-.245	14								
M179	1	max	5.99	6	.929	6	No Warping Calculations...							
		min	-1.574	14	-.244	14								
	2	max	5.99	6	.929	6								
		min	-1.574	14	-.244	14								
	3	max	5.99	6	.929	6								
		min	-1.574	14	-.244	14								
	4	max	5.99	6	.929	6								
		min	-1.574	14	-.244	14								
	5	max	5.99	6	.929	6								
		min	-1.574	14	-.244	14								
M180	1	max	5.729	3	.889	3	No Warping Calculations...							
		min	-1.544	14	-.239	14								
	2	max	5.729	3	.889	3								
		min	-1.544	14	-.239	14								
	3	max	5.729	3	.889	3								
		min	-1.544	14	-.239	14								
	4	max	5.729	3	.889	3								
		min	-1.544	14	-.239	14								
	5	max	5.729	3	.889	3								
		min	-1.544	14	-.239	14								
M181	1	max	1.486	3	.23	3	No Warping Calculations...							
		min	-.401	14	-.062	14								
	2	max	1.486	3	.23	3								
		min	-.401	14	-.062	14								
	3	max	1.486	3	.23	3								
		min	-.401	14	-.062	14								
	4	max	1.486	3	.23	3								
		min	-.401	14	-.062	14								
	5	max	1.486	3	.23	3								
		min	-.401	14	-.062	14								
M182	1	max	1.264	12	.196	12	No Warping Calculations...							
		min	-3.089	3	-.479	3								
	2	max	1.264	12	.196	12								
		min	-3.089	3	-.479	3								
	3	max	1.264	12	.196	12								
		min	-3.089	3	-.479	3								
	4	max	1.264	12	.196	12								
		min	-3.089	3	-.479	3								
	5	max	1.264	12	.196	12								
		min	-3.089	3	-.479	3								
M183	1	max	5.597	3	.868	3	No Warping Calculations...							
		min	-1.685	14	-.261	14								
	2	max	5.597	3	.868	3								
		min	-1.685	14	-.261	14								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	5.597	3	.868	3								
		min	-1.685	14	-.261	14								
	4	max	5.597	3	.868	3								
		min	-1.685	14	-.261	14								
	5	max	5.597	3	.868	3								
		min	-1.685	14	-.261	14								
M184	1	max	.781	14	.121	14	No Warping Calculations...							
		min	-3.891	6	-.603	6								
	2	max	.781	14	.121	14								
		min	-3.891	6	-.603	6								
	3	max	.781	14	.121	14								
		min	-3.891	6	-.603	6								
	4	max	.781	14	.121	14								
		min	-3.891	6	-.603	6								
	5	max	.781	14	.121	14								
		min	-3.891	6	-.603	6								
M185	1	max	8.802	6	1.365	6	No Warping Calculations...							
		min	-4.389	14	-.681	14								
	2	max	8.802	6	1.365	6								
		min	-4.389	14	-.681	14								
	3	max	8.802	6	1.365	6								
		min	-4.389	14	-.681	14								
	4	max	8.802	6	1.365	6								
		min	-4.389	14	-.681	14								
	5	max	8.802	6	1.365	6								
		min	-4.389	14	-.681	14								
M186	1	max	11.306	3	1.754	3	No Warping Calculations...							
		min	-6.755	14	-1.048	14								
	2	max	11.306	3	1.754	3								
		min	-6.755	14	-1.048	14								
	3	max	11.306	3	1.754	3								
		min	-6.755	14	-1.048	14								
	4	max	11.306	3	1.754	3								
		min	-6.755	14	-1.048	14								
	5	max	11.306	3	1.754	3								
		min	-6.755	14	-1.048	14								
M187	1	max	2.861	14	.444	14	No Warping Calculations...							
		min	-4.327	6	-.671	6								
	2	max	2.861	14	.444	14								
		min	-4.327	6	-.671	6								
	3	max	2.861	14	.444	14								
		min	-4.327	6	-.671	6								
	4	max	2.861	14	.444	14								
		min	-4.327	6	-.671	6								
	5	max	2.861	14	.444	14								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-4.327	6	-.671	6								
M188	1	max	5.349	14	.83	14	No Warping Calculations...							
		min	-10.905	3	-1.691	3								
	2	max	5.349	14	.83	14								
		min	-10.905	3	-1.691	3								
	3	max	5.349	14	.83	14								
		min	-10.905	3	-1.691	3								
	4	max	5.349	14	.83	14								
		min	-10.905	3	-1.691	3								
	5	max	5.349	14	.83	14								
		min	-10.905	3	-1.691	3								
M189	1	max	7.935	14	1.231	14	No Warping Calculations...							
		min	-14.055	3	-2.18	3								
	2	max	7.935	14	1.231	14								
		min	-14.055	3	-2.18	3								
	3	max	7.935	14	1.231	14								
		min	-14.055	3	-2.18	3								
	4	max	7.935	14	1.231	14								
		min	-14.055	3	-2.18	3								
	5	max	7.935	14	1.231	14								
		min	-14.055	3	-2.18	3								
M190	1	max	2.895	12	.449	12	No Warping Calculations...							
		min	-1.84	3	-.285	3								
	2	max	2.895	12	.449	12								
		min	-1.84	3	-.285	3								
	3	max	2.895	12	.449	12								
		min	-1.84	3	-.285	3								
	4	max	2.895	12	.449	12								
		min	-1.84	3	-.285	3								
	5	max	2.895	12	.449	12								
		min	-1.84	3	-.285	3								
M191	1	max	4.148	6	.643	6	No Warping Calculations...							
		min	-2.761	14	-.428	14								
	2	max	4.148	6	.643	6								
		min	-2.761	14	-.428	14								
	3	max	4.148	6	.643	6								
		min	-2.761	14	-.428	14								
	4	max	4.148	6	.643	6								
		min	-2.761	14	-.428	14								
	5	max	4.148	6	.643	6								
		min	-2.761	14	-.428	14								
M192	1	max	10.579	3	1.641	3	No Warping Calculations...							
		min	-5.163	14	-.801	14								
	2	max	10.579	3	1.641	3								
		min	-5.163	14	-.801	14								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	10.579	3	1.641	3								
		min	-5.163	14	-.801	14								
	4	max	10.579	3	1.641	3								
		min	-5.163	14	-.801	14								
	5	max	10.579	3	1.641	3								
		min	-5.163	14	-.801	14								
M193	1	max	0	1	0	1	No Warping Calculations...							
		min	0	1	0	1								
	2	max	0	1	0	1								
		min	0	1	0	1								
	3	max	0	1	0	1								
		min	0	1	0	1								
	4	max	0	1	0	1								
		min	0	1	0	1								
	5	max	0	1	0	1								
		min	0	1	0	1								
M194	1	max	2.592	14	.402	14	No Warping Calculations...							
		min	-3.152	6	-.489	6								
	2	max	2.592	14	.402	14								
		min	-3.152	6	-.489	6								
	3	max	2.592	14	.402	14								
		min	-3.152	6	-.489	6								
	4	max	2.592	14	.402	14								
		min	-3.152	6	-.489	6								
	5	max	2.592	14	.402	14								
		min	-3.152	6	-.489	6								
M195	1	max	4.552	14	.706	14	No Warping Calculations...							
		min	-8.776	6	-1.361	6								
	2	max	4.552	14	.706	14								
		min	-8.776	6	-1.361	6								
	3	max	4.552	14	.706	14								
		min	-8.776	6	-1.361	6								
	4	max	4.552	14	.706	14								
		min	-8.776	6	-1.361	6								
	5	max	4.552	14	.706	14								
		min	-8.776	6	-1.361	6								
M196	1	max	.098	13	0	1	No Warping Calculations...							
		min	-.053	7	0	1								
	2	max	.098	13	0	1								
		min	-.053	7	0	1								
	3	max	.098	13	0	1								
		min	-.053	7	0	1								
	4	max	.098	13	0	1								
		min	-.053	7	0	1								
	5	max	.098	13	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.053	7	0	1								
M197	1	max	.08	13	0	1	No Warping Calculations...							
		min	-.045	7	0	1								
	2	max	.08	13	0	1								
		min	-.045	7	0	1								
	3	max	.08	13	0	1								
		min	-.045	7	0	1								
	4	max	.08	13	0	1								
		min	-.045	7	0	1								
	5	max	.08	13	0	1								
		min	-.045	7	0	1								
M198	1	max	.199	3	0	1	No Warping Calculations...							
		min	-.073	14	0	1								
	2	max	.199	3	0	1								
		min	-.073	14	0	1								
	3	max	.199	3	0	1								
		min	-.073	14	0	1								
	4	max	.199	3	0	1								
		min	-.073	14	0	1								
	5	max	.199	3	0	1								
		min	-.073	14	0	1								
M199	1	max	.196	3	0	1	No Warping Calculations...							
		min	-.067	14	0	1								
	2	max	.196	3	0	1								
		min	-.067	14	0	1								
	3	max	.196	3	0	1								
		min	-.067	14	0	1								
	4	max	.196	3	0	1								
		min	-.067	14	0	1								
	5	max	.196	3	0	1								
		min	-.067	14	0	1								
M200	1	max	.306	6	0	1	No Warping Calculations...							
		min	-.081	14	0	1								
	2	max	.306	6	0	1								
		min	-.081	14	0	1								
	3	max	.306	6	0	1								
		min	-.081	14	0	1								
	4	max	.306	6	0	1								
		min	-.081	14	0	1								
	5	max	.306	6	0	1								
		min	-.081	14	0	1								
M201	1	max	.085	14	0	1	No Warping Calculations...							
		min	-.33	6	0	1								
	2	max	.085	14	0	1								
		min	-.33	6	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	.085	14	0	1								
		min	-.33	6	0	1								
	4	max	.085	14	0	1								
		min	-.33	6	0	1								
	5	max	.085	14	0	1								
		min	-.33	6	0	1								
M202	1	max	.101	13	0	1	No Warping Calculations...							
		min	-.23	7	0	1								
	2	max	.101	13	0	1								
		min	-.23	7	0	1								
	3	max	.101	13	0	1								
		min	-.23	7	0	1								
	4	max	.101	13	0	1								
		min	-.23	7	0	1								
	5	max	.101	13	0	1								
		min	-.23	7	0	1								
M203	1	max	.097	13	0	1	No Warping Calculations...							
		min	-.232	7	0	1								
	2	max	.097	13	0	1								
		min	-.232	7	0	1								
	3	max	.097	13	0	1								
		min	-.232	7	0	1								
	4	max	.097	13	0	1								
		min	-.232	7	0	1								
	5	max	.097	13	0	1								
		min	-.232	7	0	1								
M204	1	max	.081	13	0	1	No Warping Calculations...							
		min	-.074	7	0	1								
	2	max	.081	13	0	1								
		min	-.074	7	0	1								
	3	max	.081	13	0	1								
		min	-.074	7	0	1								
	4	max	.081	13	0	1								
		min	-.074	7	0	1								
	5	max	.081	13	0	1								
		min	-.074	7	0	1								
M205	1	max	.098	13	0	1	No Warping Calculations...							
		min	-.097	7	0	1								
	2	max	.098	13	0	1								
		min	-.097	7	0	1								
	3	max	.098	13	0	1								
		min	-.097	7	0	1								
	4	max	.098	13	0	1								
		min	-.097	7	0	1								
	5	max	.098	13	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.097	7	0	1								
M206	1	max	.096	13	0	1	No Warping Calculations...							
		min	-.127	7	0	1								
	2	max	.096	13	0	1								
		min	-.127	7	0	1								
	3	max	.096	13	0	1								
		min	-.127	7	0	1								
	4	max	.096	13	0	1								
		min	-.127	7	0	1								
	5	max	.096	13	0	1								
		min	-.127	7	0	1								
M207	1	max	.789	12	0	1	No Warping Calculations...							
		min	-.324	3	0	1								
	2	max	.789	12	0	1								
		min	-.324	3	0	1								
	3	max	.789	12	0	1								
		min	-.324	3	0	1								
	4	max	.789	12	0	1								
		min	-.324	3	0	1								
	5	max	.789	12	0	1								
		min	-.324	3	0	1								
M208	1	max	.784	12	0	1	No Warping Calculations...							
		min	-.335	7	0	1								
	2	max	.784	12	0	1								
		min	-.335	7	0	1								
	3	max	.784	12	0	1								
		min	-.335	7	0	1								
	4	max	.784	12	0	1								
		min	-.335	7	0	1								
	5	max	.784	12	0	1								
		min	-.335	7	0	1								
M209	1	max	.878	12	0	1	No Warping Calculations...							
		min	-.382	7	0	1								
	2	max	.878	12	0	1								
		min	-.382	7	0	1								
	3	max	.878	12	0	1								
		min	-.382	7	0	1								
	4	max	.878	12	0	1								
		min	-.382	7	0	1								
	5	max	.878	12	0	1								
		min	-.382	7	0	1								
M210	1	max	.79	12	0	1	No Warping Calculations...							
		min	-.41	7	0	1								
	2	max	.79	12	0	1								
		min	-.41	7	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	.79	12	0	1								
		min	-.41	7	0	1								
	4	max	.79	12	0	1								
		min	-.41	7	0	1								
	5	max	.79	12	0	1								
		min	-.41	7	0	1								
M211	1	max	.586	12	0	1	No Warping Calculations...							
		min	-.42	7	0	1								
	2	max	.586	12	0	1								
		min	-.42	7	0	1								
	3	max	.586	12	0	1								
		min	-.42	7	0	1								
	4	max	.586	12	0	1								
		min	-.42	7	0	1								
	5	max	.586	12	0	1								
		min	-.42	7	0	1								
M212	1	max	.31	12	0	1	No Warping Calculations...							
		min	-.396	7	0	1								
	2	max	.31	12	0	1								
		min	-.396	7	0	1								
	3	max	.31	12	0	1								
		min	-.396	7	0	1								
	4	max	.31	12	0	1								
		min	-.396	7	0	1								
	5	max	.31	12	0	1								
		min	-.396	7	0	1								
M213	1	max	.3	13	0	1	No Warping Calculations...							
		min	-.272	7	0	1								
	2	max	.3	13	0	1								
		min	-.272	7	0	1								
	3	max	.3	13	0	1								
		min	-.272	7	0	1								
	4	max	.3	13	0	1								
		min	-.272	7	0	1								
	5	max	.3	13	0	1								
		min	-.272	7	0	1								
M214	1	max	.4	14	.062	14	No Warping Calculations...							
		min	-1.488	3	-.231	3								
	2	max	.4	14	.062	14								
		min	-1.488	3	-.231	3								
	3	max	.4	14	.062	14								
		min	-1.488	3	-.231	3								
	4	max	.4	14	.062	14								
		min	-1.488	3	-.231	3								
	5	max	.4	14	.062	14								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi) Lc	z-z Warp Shear (ksi) Lc	z-Bot Warp Bend (ksi) Lc	z-Top Warp Bend (ksi) Lc
		min	-1.488	3	-.231	3				
M215	1	max	.65	7	0	1	No Warping Calculations...			
		min	-.824	13	0	1				
	2	max	.65	7	0	1				
		min	-.824	13	0	1				
	3	max	.65	7	0	1				
		min	-.824	13	0	1				
	4	max	.65	7	0	1				
		min	-.824	13	0	1				
	5	max	.65	7	0	1				
		min	-.824	13	0	1				
M216	1	max	.579	7	0	1	No Warping Calculations...			
		min	-.561	13	0	1				
	2	max	.579	7	0	1				
		min	-.561	13	0	1				
	3	max	.579	7	0	1				
		min	-.561	13	0	1				
	4	max	.579	7	0	1				
		min	-.561	13	0	1				
	5	max	.579	7	0	1				
		min	-.561	13	0	1				
M217	1	max	.436	7	0	1	No Warping Calculations...			
		min	-.686	12	0	1				
	2	max	.436	7	0	1				
		min	-.686	12	0	1				
	3	max	.436	7	0	1				
		min	-.686	12	0	1				
	4	max	.436	7	0	1				
		min	-.686	12	0	1				
	5	max	.436	7	0	1				
		min	-.686	12	0	1				
M218	1	max	.295	7	0	1	No Warping Calculations...			
		min	-.883	12	0	1				
	2	max	.295	7	0	1				
		min	-.883	12	0	1				
	3	max	.295	7	0	1				
		min	-.883	12	0	1				
	4	max	.295	7	0	1				
		min	-.883	12	0	1				
	5	max	.295	7	0	1				
		min	-.883	12	0	1				
M219	1	max	.28	3	0	1	No Warping Calculations...			
		min	-.956	12	0	1				
	2	max	.28	3	0	1				
		min	-.956	12	0	1				

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	.28	3	0	1								
		min	-.956	12	0	1								
	4	max	.28	3	0	1								
		min	-.956	12	0	1								
	5	max	.28	3	0	1								
		min	-.956	12	0	1								
M220	1	max	.289	3	0	1	No Warping Calculations...							
		min	-.836	12	0	1								
	2	max	.289	3	0	1								
		min	-.836	12	0	1								
	3	max	.289	3	0	1								
		min	-.836	12	0	1								
	4	max	.289	3	0	1								
		min	-.836	12	0	1								
	5	max	.289	3	0	1								
		min	-.836	12	0	1								
M221	1	max	.341	13	0	1	No Warping Calculations...							
		min	-.817	12	0	1								
	2	max	.341	13	0	1								
		min	-.817	12	0	1								
	3	max	.341	13	0	1								
		min	-.817	12	0	1								
	4	max	.341	13	0	1								
		min	-.817	12	0	1								
	5	max	.341	13	0	1								
		min	-.817	12	0	1								
M222	1	max	.366	7	0	1	No Warping Calculations...							
		min	-.823	12	0	1								
	2	max	.366	7	0	1								
		min	-.823	12	0	1								
	3	max	.366	7	0	1								
		min	-.823	12	0	1								
	4	max	.366	7	0	1								
		min	-.823	12	0	1								
	5	max	.366	7	0	1								
		min	-.823	12	0	1								
M223	1	max	.121	3	0	1	No Warping Calculations...							
		min	-.901	12	0	1								
	2	max	.121	3	0	1								
		min	-.901	12	0	1								
	3	max	.121	3	0	1								
		min	-.901	12	0	1								
	4	max	.121	3	0	1								
		min	-.901	12	0	1								
	5	max	.121	3	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.901	12	0	1								
M224	1	max	.355	13	0	1	No Warping Calculations...							
		min	-1.007	12	0	1								
	2	max	.355	13	0	1								
		min	-1.007	12	0	1								
	3	max	.355	13	0	1								
		min	-1.007	12	0	1								
	4	max	.355	13	0	1								
		min	-1.007	12	0	1								
	5	max	.355	13	0	1								
		min	-1.007	12	0	1								
M225	1	max	.626	13	0	1	No Warping Calculations...							
		min	-.943	12	0	1								
	2	max	.626	13	0	1								
		min	-.943	12	0	1								
	3	max	.626	13	0	1								
		min	-.943	12	0	1								
	4	max	.626	13	0	1								
		min	-.943	12	0	1								
	5	max	.626	13	0	1								
		min	-.943	12	0	1								
M226	1	max	.893	13	0	1	No Warping Calculations...							
		min	-.745	7	0	1								
	2	max	.893	13	0	1								
		min	-.745	7	0	1								
	3	max	.893	13	0	1								
		min	-.745	7	0	1								
	4	max	.893	13	0	1								
		min	-.745	7	0	1								
	5	max	.893	13	0	1								
		min	-.745	7	0	1								
M227	1	max	1.157	13	0	1	No Warping Calculations...							
		min	-.973	7	0	1								
	2	max	1.157	13	0	1								
		min	-.973	7	0	1								
	3	max	1.157	13	0	1								
		min	-.973	7	0	1								
	4	max	1.157	13	0	1								
		min	-.973	7	0	1								
	5	max	1.157	13	0	1								
		min	-.973	7	0	1								
M228	1	max	.297	13	0	1	No Warping Calculations...							
		min	-.204	7	0	1								
	2	max	.297	13	0	1								
		min	-.204	7	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	.297	13	0	1								
		min	-.204	7	0	1								
	4	max	.297	13	0	1								
		min	-.204	7	0	1								
	5	max	.297	13	0	1								
		min	-.204	7	0	1								
M229	1	max	.353	5	0	1	No Warping Calculations...							
		min	-.137	7	0	1								
	2	max	.353	5	0	1								
		min	-.137	7	0	1								
	3	max	.353	5	0	1								
		min	-.137	7	0	1								
	4	max	.353	5	0	1								
		min	-.137	7	0	1								
	5	max	.353	5	0	1								
		min	-.137	7	0	1								
M230	1	max	1.666	3	.258	3	No Warping Calculations...							
		min	-.452	14	-.07	14								
	2	max	1.666	3	.258	3								
		min	-.452	14	-.07	14								
	3	max	1.666	3	.258	3								
		min	-.452	14	-.07	14								
	4	max	1.666	3	.258	3								
		min	-.452	14	-.07	14								
	5	max	1.666	3	.258	3								
		min	-.452	14	-.07	14								
M231	1	max	1.421	13	0	1	No Warping Calculations...							
		min	-1.102	7	0	1								
	2	max	1.421	13	0	1								
		min	-1.102	7	0	1								
	3	max	1.421	13	0	1								
		min	-1.102	7	0	1								
	4	max	1.421	13	0	1								
		min	-1.102	7	0	1								
	5	max	1.421	13	0	1								
		min	-1.102	7	0	1								
M232	1	max	.616	5	0	1	No Warping Calculations...							
		min	-.155	7	0	1								
	2	max	.616	5	0	1								
		min	-.155	7	0	1								
	3	max	.616	5	0	1								
		min	-.155	7	0	1								
	4	max	.616	5	0	1								
		min	-.155	7	0	1								
	5	max	.616	5	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
		min	-.155	7	0	1								
M233	1	max	.85	12	0	1	No Warping Calculations...							
		min	-.193	7	0	1								
	2	max	.85	12	0	1								
		min	-.193	7	0	1								
	3	max	.85	12	0	1								
		min	-.193	7	0	1								
	4	max	.85	12	0	1								
		min	-.193	7	0	1								
	5	max	.85	12	0	1								
		min	-.193	7	0	1								
M234	1	max	.93	12	0	1	No Warping Calculations...							
		min	-.215	7	0	1								
	2	max	.93	12	0	1								
		min	-.215	7	0	1								
	3	max	.93	12	0	1								
		min	-.215	7	0	1								
	4	max	.93	12	0	1								
		min	-.215	7	0	1								
	5	max	.93	12	0	1								
		min	-.215	7	0	1								
M235	1	max	.85	12	0	1	No Warping Calculations...							
		min	-.21	7	0	1								
	2	max	.85	12	0	1								
		min	-.21	7	0	1								
	3	max	.85	12	0	1								
		min	-.21	7	0	1								
	4	max	.85	12	0	1								
		min	-.21	7	0	1								
	5	max	.85	12	0	1								
		min	-.21	7	0	1								
M236	1	max	.794	12	0	1	No Warping Calculations...							
		min	-.308	3	0	1								
	2	max	.794	12	0	1								
		min	-.308	3	0	1								
	3	max	.794	12	0	1								
		min	-.308	3	0	1								
	4	max	.794	12	0	1								
		min	-.308	3	0	1								
	5	max	.794	12	0	1								
		min	-.308	3	0	1								
M237	1	max	.521	12	0	1	No Warping Calculations...							
		min	-.245	3	0	1								
	2	max	.521	12	0	1								
		min	-.245	3	0	1								

Envelope Member Section Torsion, (continued)

Member Label	Section		Torque (k-ft)	Lc	Torsion Shear (ksi)	Lc	y-y Warp Shear (ksi)	Lc	z-z Warp Shear (ksi)	Lc	z-Bot Warp Bend (ksi)	Lc	z-Top Warp Bend (ksi)	Lc
	3	max	.521	12	0	1								
		min	-.245	3	0	1								
	4	max	.521	12	0	1								
		min	-.245	3	0	1								
	5	max	.521	12	0	1								
		min	-.245	3	0	1								
M238	1	max	.466	12	0	1	No Warping Calculations...							
		min	-.275	3	0	1								
	2	max	.466	12	0	1								
		min	-.275	3	0	1								
	3	max	.466	12	0	1								
		min	-.275	3	0	1								
	4	max	.466	12	0	1								
		min	-.275	3	0	1								
	5	max	.466	12	0	1								
		min	-.275	3	0	1								
M239	1	max	.098	13	0	1	No Warping Calculations...							
		min	-.023	7	0	1								
	2	max	.098	13	0	1								
		min	-.023	7	0	1								
	3	max	.098	13	0	1								
		min	-.023	7	0	1								
	4	max	.098	13	0	1								
		min	-.023	7	0	1								
	5	max	.098	13	0	1								
		min	-.023	7	0	1								
M240	1	max	3.271	6	.507	6	No Warping Calculations...							
		min	-2.53	14	-.392	14								
	2	max	3.271	6	.507	6								
		min	-2.53	14	-.392	14								
	3	max	3.271	6	.507	6								
		min	-2.53	14	-.392	14								
	4	max	3.271	6	.507	6								
		min	-2.53	14	-.392	14								
	5	max	3.271	6	.507	6								
		min	-2.53	14	-.392	14								

Envelope Member AISC ASD 9th Code Checks

Label	Code Chk	Loc (ft)	Lc	Shear Chk	Loc (ft)	Dir	Lc	ASD Eqn.	Message
M1	.041	0	13	.049	0	y	13	H1-2	
M2	.609	9	7	.035	0	z	7	H1-2	
M3	.604	9	6	.037	0	y	12	H1-2	
M4	.286	0	3	.015	0	y	3	H1-2	

Envelope Member AISC ASD 9th Code Checks, (continued)

Label	Code Chk	Loc (ft)	Lc	Shear Chk	Loc (ft)	Dir	Lc	ASD Eqn.	Message
M5	.554	0	3	.125	0	z	3	H1-2	
M6	.491	8.006	3	.016	8.006	z	6	H2-1	
M7	.424	6.82	3	.032	0	z	3	H1-2	
M8	.447	.801	3	.009	0	y	5	H2-1	
M9	.139	5.46	3	.019	13.439	z	3	H2-1	
M10	.552	0	3	.125	0	z	3	H1-2	
M11	.490	8.006	3	.016	8.006	z	6	H2-1	
M12	.421	6.82	3	.032	0	z	3	H1-2	
M13	.447	.668	3	.009	0	y	5	H2-1	
M14	.138	5.74	3	.019	13.439	z	3	H2-1	
M15	.325	0	3	.074	0	y	3	H1-2	
M16	.605	0	3	.175	0	y	3	H1-2	
M17	.000	.45	6	.000	.45	y	3	H1-2	
M18	.304	0	3	.014	0	y	3	H1-2	
M19	.448	5.76	3	.052	0	z	6	H1-2	
M20	.212	8.006	6	.027	0	y	5	H1-2	
M21	.460	6.82	3	.036	0	z	3	H1-2	
M22	.499	0	3	.017	0	z	5	H2-1	
M23	.185	4.62	3	.011	13.439	z	3	H2-1	
M24	.449	5.76	3	.053	0	z	6	H1-2	
M25	.216	8.006	6	.028	0	y	5	H1-2	
M26	.457	6.82	3	.036	0	z	3	H1-2	
M27	.499	0	3	.018	0	z	5	H2-1	
M28	.184	4.9	3	.011	13.439	z	3	H2-1	
M29	.158	0	6	.042	3.794	y	3	H2-1	
M30	.437	0	3	.169	0	y	3	H1-2	
M31	.543	9	7	.041	0	z	13	H1-2	
M32	.566	9	7	.041	0	z	13	H1-2	
M33	.250	0	13	.089	0	y	5	H2-1	
M34	.241	7.47	7	.068	7.47	y	12	H2-1	
M35	.219	0	13	.074	0	y	12	H2-1	
M36	.097	0	12	.044	5.5	y	3	H1-2	
M37	.073	0	5	.025	11	y	3	H2-1	
M38	.076	7.638	6	.012	0	z	6	H2-1	
M39	.071	7.638	6	.015	0	y	3	H2-1	
M40	.048	0	12	.007	0	z	3	H2-1	
M41	.064	0	6	.009	0	z	6	H1-2	
M42	.040	3.43	3	.012	3.43	y	3	H1-2	
M43	.294	7.66	3	.039	7.66	y	3	H1-2	
M44	.035	0	3	.008	0	y	3	H1-2	
M45	.023	3.43	3	.007	3.43	y	3	H1-2	
M46	.688	11.72	3	.060	11.72	y	3	H1-2	
M47	.620	11.13	3	.057	11.13	y	3	H1-2	
M48	.557	10.55	3	.054	10.55	y	3	H1-2	
M49	.498	9.97	3	.051	9.97	y	3	H1-2	

Envelope Member AISC ASD 9th Code Checks, (continued)

Label	Code Chk	Loc (ft)	Lc	Shear Chk	Loc (ft)	Dir	Lc	ASD Eqn.	Message
M50	.441	9.39	3	.048	9.39	y	3	H1-2	
M51	.389	8.81	3	.045	8.81	y	3	H1-2	
M52	.339	8.23	3	.042	8.23	y	3	H1-2	
M53	.294	7.66	3	.039	7.66	y	3	H1-2	
M54	.048	3.83	3	.013	3.83	y	3	H1-2	
M55	.028	0	3	.008	0	y	3	H1-2	
M56	.028	3.83	3	.008	3.83	y	3	H1-2	
M57	.620	11.13	3	.057	11.13	y	3	H1-2	
M58	.557	10.55	3	.054	10.55	y	3	H1-2	
M59	.498	9.97	3	.051	9.97	y	3	H1-2	
M60	.441	9.39	3	.048	9.39	y	3	H1-2	
M61	.389	8.81	3	.045	8.81	y	3	H1-2	
M62	.339	8.23	3	.042	8.23	y	3	H1-2	
M63	.687	11.71	3	.060	11.71	y	3	H1-2	
M64	.127	0	5	.025	0	y	3	H1-2	
M65	.129	0	5	.025	0	y	3	H1-2	
M66	.085	0	12	.045	5.5	y	3	H1-2	
M67	.074	0	5	.024	11	y	3	H2-1	
M68	.073	7.638	6	.012	0	z	6	H2-1	
M69	.072	7.638	6	.016	0	z	7	H2-1	
M70	.044	0	12	.010	0	z	7	H2-1	
M71	.062	0	6	.009	0	y	7	H1-2	
M72	.397	5.3	3	.040	0	z	13	H1-2	
M73	.234	5.3	3	.061	0	z	6	H2-1	
M74	.563	22	3	.057	22	y	3	H2-1	
M75	.431	22	3	.071	22	y	3	H2-1	
M76	.459	22	3	.065	22	y	3	H2-1	
M77	.478	22	3	.061	22	y	3	H2-1	
M78	.505	22	3	.059	22	y	3	H2-1	
M79	.534	22	3	.058	22	y	3	H1-2	
M80	.559	22	3	.057	22	y	3	H1-2	
M81	.255	0	3	.048	0	y	3	H1-2	
M82	.428	0	3	.069	0	y	3	H1-2	
M83	.431	22	3	.071	22	y	3	H2-1	
M84	.459	22	3	.065	22	y	3	H2-1	
M85	.479	22	3	.061	22	y	3	H2-1	
M86	.506	22	3	.059	22	y	3	H2-1	
M87	.535	22	3	.058	22	y	3	H1-2	
M88	.559	22	3	.057	22	y	3	H1-2	
M89	.563	22	3	.057	22	y	3	H2-1	
M90	.687	0	3	.060	0	y	3	H1-2	
M91	.339	0	3	.042	0	y	3	H1-2	
M92	.389	0	3	.045	0	y	3	H1-2	
M93	.441	0	3	.048	0	y	3	H1-2	
M94	.498	0	3	.051	0	y	3	H1-2	

Envelope Member AISC ASD 9th Code Checks, (continued)

Label	Code Chk	Loc (ft)	Lc	Shear Chk	Loc (ft)	Dir	Lc	ASD Eqn.	Message
M95	.557	0	3	.054	0	y	3	H1-2	
M96	.620	0	3	.057	0	y	3	H1-2	
M97	.048	0	3	.013	0	y	3	H1-2	
M98	.339	0	3	.042	0	y	3	H1-2	
M99	.389	0	3	.045	0	y	3	H1-2	
M100	.441	0	3	.048	0	y	3	H1-2	
M101	.498	0	3	.051	0	y	3	H1-2	
M102	.557	0	3	.054	0	y	3	H1-2	
M103	.620	0	3	.057	0	y	3	H1-2	
M104	.688	0	3	.060	0	y	3	H1-2	
M105	.253	0	3	.048	0	y	3	H1-2	
M106	.059	0	3	.014	0	y	3	H1-2	
M107	.406	5.3	3	.061	0	z	7	H1-2	
M108	.232	0	3	.062	0	z	6	H2-1	
M109	.113	6	6	.113	0	z	5	H1-2	
M110	.243	0	3	.177	0	y	3	H2-1	
M111	.448	0	3	.135	0	y	3	H2-1	
M112	.391	0	7	.197	0	y	3	H1-2	
M113	.084	11	5	.029	11	y	3	H1-2	
M114	.212	5.5	6	.036	0	y	6	H2-1	
M115	.723	4.67	6	.031	0	y	12	H1-2	
M116	.235	.89	3	.054	0	y	3	H1-2	
M117	.216	.89	3	.056	0	y	3	H1-2	
M118	.060	11	3	.028	0	y	3	H2-1	
M119	.083	11	5	.028	11	y	3	H1-2	
M120	.219	5.5	6	.038	0	y	6	H2-1	
M121	.745	4.67	6	.041	0	z	7	H1-2	
M122	.060	11	3	.029	0	y	3	H2-1	
M123	.612	4.67	6	.081	0	z	7	H1-2	
M124	.591	4.67	6	.075	0	z	13	H1-2	
M125	.998	.06	3	.116	0	z	6	H1-2	
M126	1.002	.06	3	.120	0	z	6	H1-2	
M127	.262	7.72	3	.007	0	y	3	H2-1	
M128	.355	0	3	.163	0	y	3	H1-2	
M129	.262	4.101	3	.008	11.58	y	7	H2-1	
M130	.540	0	3	.142	0	y	3	H1-2	
M131	.324	0	3	.041	0	y	3	H1-2	
M132	.241	0	3	.139	0	y	3	H1-2	
M133	.323	11.42	3	.041	11.42	y	3	H1-2	
M134	.355	0	3	.173	0	y	3	H2-1	
M135	.141	0	7	.105	0	z	5	H1-2	
M136	.474	6.272	3	.017	11.58	z	6	H2-1	
M137	.538	2.64	3	.177	0	y	3	H1-2	
M138	.474	5.307	3	.018	0	z	6	H2-1	
M139	.596	0	3	.174	0	y	3	H1-2	

Envelope Member AISC ASD 9th Code Checks, (continued)

Label	Code Chk	Loc (ft)	Lc	Shear Chk	Loc (ft)	Dir	Lc	ASD Eqn.	Message
M140	.326	11.42	3	.038	0	y	6	H2-1	
M141	.427	1.515	3	.144	0	y	3	H1-2	
M142	.325	0	3	.038	11.42	y	6	H2-1	
M143	.209	.04	3	.069	.04	z	6	H1-2	
M144	.519	6	7	.136	6	y	3	H1-2	
M145	.023	3.43	3	.007	3.43	y	3	H1-2	
M146	.145	0	3	.034	0	y	7	H2-1	
M147	.035	0	3	.008	0	y	3	H1-2	
M148	.028	3.83	3	.008	3.83	y	3	H1-2	
M149	.148	0	3	.034	0	y	3	H2-1	
M150	.028	0	3	.008	0	y	3	H1-2	
M151	.159	0	3	.033	22	y	3	H1-2	
M152	.159	0	3	.033	22	y	3	H1-2	
M153	.282	7.5	3	.038	7.5	y	3	H1-2	
M154	.282	0	3	.038	0	y	3	H1-2	
M155	.412	22	3	.069	22	y	3	H1-2	
M156	.247	7.603	13	.083	0	y	5	H1-2	
M157	.322	3.725	3	.072	3.725	y	3	H1-2	
M158	.591	1.778	3	.171	1.778	y	3	H1-2	
M159	.534	0	3	.121	4.085	y	3	H1-2	
M160	.531	4.086	3	.090	0	y	3	H1-2	
M161	.532	0	3	.176	2.57	y	3	H1-2	
M162	.608	0	3	.074	4.086	y	3	H1-2	
M163	.205	0	3	.069	2.228	y	3	H1-2	
M164	.538	4.085	3	.119	0	y	3	H1-2	
M165	.535	0	3	.092	4.076	y	3	H1-2	
M166	.424	0	3	.149	1.445	y	3	H1-2	
M167	.606	4.086	3	.071	0	y	3	H1-2	
M168	.598	0	3	.080	4.166	y	3	H1-2	
M169	.605	.732	3	.175	.732	y	3	H1-2	
M170	.157	3.725	6	.042	0	y	3	H2-1	
M171	.537	1.778	3	.141	1.778	y	3	H1-2	
M172	.286	4.085	3	.100	4.085	y	3	H1-2	
M173	.271	4.086	3	.067	0	y	3	H1-2	
M174	.354	2.57	3	.164	2.57	y	3	H1-2	
M175	.428	0	3	.070	4.086	y	3	H1-2	
M176	.355	2.228	3	.123	2.228	y	3	H2-1	
M177	.277	0	3	.098	0	y	3	H1-2	
M178	.275	0	3	.069	4.076	y	3	H1-2	
M179	.242	1.445	3	.143	1.445	y	3	H1-2	
M180	.425	4.086	3	.067	0	y	3	H1-2	
M181	.417	0	3	.076	4.166	y	3	H1-2	
M182	.437	.732	3	.170	.732	y	3	H1-2	
M183	.202	2.258	3	.067	0	z	3	H1-2	
M184	.349	0	3	.121	0	y	3	H2-1	

Envelope Member AISC ASD 9th Code Checks, (continued)

Label	Code Chk	Loc (ft)	Lc	Shear Chk	Loc (ft)	Dir	Lc	ASD Eqn.	Message
M185	.205	2.54	3	.130	2.54	y	3	H2-1	
M186	.237	.3	3	.176	.3	y	3	H2-1	
M187	.126	2.55	13	.061	2.55	y	3	H1-2	
M188	.238	2.54	13	.155	2.54	y	3	H1-2	
M189	.254	.3	3	.202	.3	y	3	H2-1	
M190	.046	.28	7	.048	0	y	13	H1-2	
M191	.152	0	7	.077	0	y	7	H1-2	
M192	.349	0	7	.152	0	y	3	H1-2	
M193	.000	0	3	.000	0	y	3	H1-2	
M194	.075	0	3	.047	0	y	3	H2-1	
M195	.194	0	3	.131	0	y	3	H2-1	
M196	- Steel code ...	-.01							- Steel code check not calculate...
M197	- Steel code ...	-.01							- Steel code check not calculate...
M198	- Steel code ...	-.01							- Steel code check not calculate...
M199	- Steel code ...	-.01							- Steel code check not calculate...
M200	- Steel code ...	-.01							- Steel code check not calculate...
M201	- Steel code ...	-.01							- Steel code check not calculate...
M202	- Steel code ...	-.01							- Steel code check not calculate...
M203	- Steel code ...	-.01							- Steel code check not calculate...
M204	- Steel code ...	-.01							- Steel code check not calculate...
M205	- Steel code ...	-.01							- Steel code check not calculate...
M206	- Steel code ...	-.01							- Steel code check not calculate...
M207	- Steel code ...	-.01							- Steel code check not calculate...
M208	- Steel code ...	-.01							- Steel code check not calculate...
M209	- Steel code ...	-.01							- Steel code check not calculate...
M210	- Steel code ...	-.01							- Steel code check not calculate...
M211	- Steel code ...	-.01							- Steel code check not calculate...
M212	- Steel code ...	-.01							- Steel code check not calculate...
M213	- Steel code ...	-.01							- Steel code check not calculate...
M214	.420	4.075	3	.073	0	y	3	H1-2	
M215	- Steel code ...	-.01							- Steel code check not calculate...
M216	- Steel code ...	-.01							- Steel code check not calculate...
M217	- Steel code ...	-.01							- Steel code check not calculate...
M218	- Steel code ...	-.01							- Steel code check not calculate...
M219	- Steel code ...	-.01							- Steel code check not calculate...
M220	- Steel code ...	-.01							- Steel code check not calculate...
M221	- Steel code ...	-.01							- Steel code check not calculate...
M222	- Steel code ...	-.01							- Steel code check not calculate...
M223	- Steel code ...	-.01							- Steel code check not calculate...
M224	- Steel code ...	-.01							- Steel code check not calculate...
M225	- Steel code ...	-.01							- Steel code check not calculate...
M226	- Steel code ...	-.01							- Steel code check not calculate...
M227	- Steel code ...	-.01							- Steel code check not calculate...
M228	- Steel code ...	-.01							- Steel code check not calculate...
M229	- Steel code ...	-.01							- Steel code check not calculate...

Envelope Member AISC ASD 9th Code Checks, (continued)

Label	Code Chk	Loc (ft)	Lc	Shear Chk	Loc (ft)	Dir	Lc	ASD Eqn.	Message
M230	.600	4.075	3	.076	0	y	3	H1-2	
M231	- Steel code ...	-.01							- Steel code check not calculate...
M232	- Steel code ...	-.01							- Steel code check not calculate...
M233	- Steel code ...	-.01							- Steel code check not calculate...
M234	- Steel code ...	-.01							- Steel code check not calculate...
M235	- Steel code ...	-.01							- Steel code check not calculate...
M236	- Steel code ...	-.01							- Steel code check not calculate...
M237	- Steel code ...	-.009							- Steel code check not calculate...
M238	- Steel code ...	-.009							- Steel code check not calculate...
M239	- Steel code ...	-.01							- Steel code check not calculate...
M240	.075	2.54	3	.048	2.54	y	3	H2-1	

Envelope Member AISC ASD 9th Code Details

Label	Lc	Fa (ksi)	Ft (ksi)	Fb y-y (ksi)	Fb z-z (ksi)	Cb	Cm y-y	Cm z-z
M1	13	26.002	27.6	27.6	27.6	1.619	.959	.652
M2	7	25.394	27.6	27.6	27.6	1.75	.6	.6
M3	6	25.394	27.6	27.6	27.6	1.75	.6	.85
M4	3	23.893	27.6	30.36	30.36	1.75	.414	.6
M5	3	26.32	27.6	27.6	27.6	1.242	.204	.832
M6	3	23.781	27.6	30.36	30.36	1.297	.85	.802
M7	3	24.516	27.6	30.36	30.36	1.458	.214	.722
M8	3	20.285	27.6	30.36	30.36	1.959	.85	.524
M9	3	19.776	27.6	30.36	30.36	1.536	.85	.687
M10	3	26.32	27.6	27.6	27.6	1.242	.207	.832
M11	3	23.781	27.6	30.36	30.36	1.239	.85	.833
M12	3	24.516	27.6	30.36	30.36	1.455	.217	.723
M13	3	20.285	27.6	30.36	30.36	1.952	.85	.527
M14	3	19.776	27.6	30.36	30.36	1.549	.85	.681
M15	3	26.867	27.6	27.6	27.6	2.14	.412	.85
M16	3	27.448	27.6	27.6	27.6	1.515	.975	.85
M17	6	27.525	27.6	27.6	27.6	1.75	.6	.85
M18	3	23.893	27.6	30.36	30.36	1.932	.396	.534
M19	3	26.336	27.6	27.6	27.6	2.089	.363	.481
M20	6	23.781	27.6	30.36	30.36	1.613	.85	.654
M21	3	24.516	27.6	30.36	30.36	1.531	.22	.689
M22	3	20.285	27.6	30.36	30.36	2.021	.85	.503
M23	3	19.776	27.6	30.36	30.36	1.675	.85	.629
M24	3	26.336	27.6	27.6	27.6	2.076	.366	.485
M25	6	23.781	27.6	30.36	30.36	1.599	.85	.66
M26	3	24.516	27.6	30.36	30.36	1.529	.222	.69
M27	3	20.285	27.6	30.36	30.36	2.006	.85	.509
M28	3	19.776	27.6	30.36	30.36	1.703	.85	.618
M29	6	25.399	27.6	27.6	27.6	2.3	.56	.85

Envelope Member AISC ASD 9th Code Details, (continued)

Label	Lc	Fa (ksi)	Ft (ksi)	Fb y-y (ksi)	Fb z-z (ksi)	Cb	Cm y-y	Cm z-z
M30	3	27.448	27.6	27.6	27.6	1.503	.976	.85
M31	7	25.394	27.6	27.6	27.6	1.75	.6	.6
M32	7	25.394	27.6	27.6	27.6	1.75	.6	.6
M33	13	24.036	27.6	30.36	30.36	2.03	.429	.501
M34	7	24.119	27.6	30.36	30.36	2.125	.85	.469
M35	13	24.119	27.6	30.36	30.36	1.627	.37	.648
M36	12	25.033	27.6	27.6	27.6	1.876	.678	.553
M37	5	24.738	27.6	27.6	27.6	2.137	.511	.85
M38	6	24.014	27.6	30.36	30.36	2.3	.441	.85
M39	6	24.014	27.6	30.36	30.36	2.22	.83	.85
M40	12	24.01	27.6	30.36	30.36	2.055	.706	.492
M41	6	24.01	27.6	30.36	30.36	1	.649	.85
M42	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M43	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M44	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M45	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M46	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M47	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M48	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M49	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M50	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M51	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M52	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M53	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M54	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M55	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M56	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M57	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M58	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M59	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M60	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M61	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M62	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M63	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M64	5	20.228	27.6	27.6	27.6	1.627	.239	.85
M65	5	20.228	27.6	27.6	27.6	1.607	.236	.85
M66	12	25.033	27.6	27.6	27.6	1.873	.622	.555
M67	5	24.738	27.6	27.6	27.6	2.109	.518	.85
M68	6	24.014	27.6	30.36	30.36	2.3	.446	.85
M69	6	24.014	27.6	30.36	30.36	2.174	.833	.85
M70	12	24.01	27.6	30.36	30.36	2.054	.711	.492
M71	6	24.01	27.6	30.36	30.36	1	.658	.85
M72	3	26.457	27.6	27.6	27.6	1.957	.576	.525
M73	3	26.457	27.6	27.6	27.6	2.3	.461	.268
M74	3	27.15	27.6	27.6	30.36	1.014	.956	.85

Envelope Member AISC ASD 9th Code Details, (continued)

Label	Lc	Fa (ksi)	Ft (ksi)	Fb y-y (ksi)	Fb z-z (ksi)	Cb	Cm y-y	Cm z-z
M75	3	27.15	27.6	27.6	30.36	1.023	.225	.85
M76	3	27.15	27.6	27.6	30.36	1.045	.433	.85
M77	3	27.15	27.6	27.6	30.36	1.036	.516	.85
M78	3	27.15	27.6	27.6	30.36	1.032	.628	.85
M79	3	27.15	27.6	27.6	30.36	1.023	.761	.85
M80	3	27.15	27.6	27.6	30.36	1.015	.868	.85
M81	3	27.15	27.6	27.6	30.36	1.048	.538	.85
M82	3	27.15	27.6	27.6	30.36	1.021	.243	.85
M83	3	27.15	27.6	27.6	30.36	1.025	.22	.85
M84	3	27.15	27.6	27.6	30.36	1.045	.423	.85
M85	3	27.15	27.6	27.6	30.36	1.036	.5	.85
M86	3	27.15	27.6	27.6	30.36	1.032	.601	.85
M87	3	27.15	27.6	27.6	30.36	1.023	.719	.85
M88	3	27.15	27.6	27.6	30.36	1.015	.806	.85
M89	3	27.15	27.6	27.6	30.36	1.014	.771	.85
M90	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M91	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M92	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M93	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M94	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M95	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M96	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M97	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M98	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M99	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M100	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M101	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M102	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M103	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M104	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M105	3	27.15	27.6	27.6	30.36	1.031	.545	.85
M106	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M107	3	26.457	27.6	27.6	27.6	2.042	.555	.496
M108	3	26.457	27.6	27.6	27.6	2.3	.458	.225
M109	6	24.919	27.6	27.6	27.6	1.087	.312	.85
M110	3	25.999	27.6	27.6	27.6	1.08	.66	.85
M111	3	24.919	27.6	27.6	27.6	2.3	.771	.85
M112	7	25.999	27.6	27.6	27.6	1.058	.53	.85
M113	5	24.738	27.6	27.6	27.6	2.006	.658	.85
M114	6	25.033	27.6	27.6	27.6	1.711	.838	.85
M115	6	26.617	27.6	27.6	27.6	1.209	.809	.851
M116	3	27.322	27.6	30.36	30.36	1.266	.984	.818
M117	3	27.322	27.6	30.36	30.36	1.306	.984	.797
M118	3	23.607	27.6	27.6	27.6	2.3	.502	.85
M119	5	24.738	27.6	27.6	27.6	2.023	.665	.85

Envelope Member AISC ASD 9th Code Details, (continued)

Label	Lc	Fa (ksi)	Ft (ksi)	Fb y-y (ksi)	Fb z-z (ksi)	Cb	Cm y-y	Cm z-z
M120	6	25.033	27.6	27.6	27.6	1.715	.842	.85
M121	6	26.617	27.6	27.6	27.6	1.194	.845	.85
M122	3	23.607	27.6	27.6	27.6	2.3	.494	.85
M123	6	26.617	27.6	27.6	27.6	1.133	.52	.899
M124	6	26.617	27.6	27.6	27.6	1.132	.558	.899
M125	3	27.583	27.6	30.36	30.36	1.006	.993	.995
M126	3	27.583	27.6	30.36	30.36	1.006	.994	.995
M127	3	24.706	27.6	27.6	27.6	1.256	.688	.85
M128	3	27.114	27.6	27.6	27.6	2.3	.529	.85
M129	3	24.706	27.6	27.6	27.6	1.255	.682	.85
M130	3	27.27	27.6	27.6	27.6	1.432	.708	.85
M131	3	23.655	27.6	27.6	27.6	2.3	.506	.85
M132	3	27.335	27.6	27.6	27.6	2.3	.979	.85
M133	3	23.483	27.6	27.6	27.6	2.3	.496	.85
M134	3	27.593	27.6	27.6	27.6	1.008	.992	.85
M135	7	24.919	27.6	27.6	27.6	1.339	.274	.85
M136	3	24.706	27.6	27.6	27.6	1.202	.733	.85
M137	3	27.114	27.6	27.6	27.6	2.3	.683	.85
M138	3	24.706	27.6	27.6	27.6	1.202	.732	.85
M139	3	27.27	27.6	27.6	27.6	1.677	.533	.85
M140	3	24.758	27.6	27.6	27.6	2.065	.409	.85
M141	3	27.335	27.6	27.6	27.6	2.3	.883	.85
M142	3	24.758	27.6	27.6	27.6	2.062	.408	.85
M143	3	27.593	27.6	27.6	27.6	1.023	.996	.85
M144	7	24.919	27.6	27.6	27.6	2.171	.772	.85
M145	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M146	3	27.15	27.6	27.6	30.36	1.212	.469	.85
M147	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M148	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M149	3	27.15	27.6	27.6	30.36	1.251	.46	.85
M150	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M151	3	27.15	27.6	27.6	30.36	1	.6	.85
M152	3	27.15	27.6	27.6	30.36	1	.6	.85
M153	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M154	3	27.15	27.6	27.6	30.36	1.75	.6	.85
M155	3	27.15	27.6	27.6	30.36	1.014	.264	.85
M156	13	24.036	27.6	30.36	30.36	1	.6	.6
M157	3	26.882	27.6	27.6	27.6	2.142	.427	.85
M158	3	27.285	27.6	27.6	27.6	1.634	.529	.85
M159	3	26.801	27.6	27.6	27.6	1.917	.791	.85
M160	3	26.801	27.6	27.6	27.6	1.35	.275	.85
M161	3	27.128	27.6	27.6	27.6	2.3	.667	.85
M162	3	26.801	27.6	27.6	27.6	1.174	.612	.85
M163	3	27.197	27.6	27.6	27.6	1.852	.688	.85
M164	3	26.801	27.6	27.6	27.6	1.857	.798	.85

Envelope Member AISC ASD 9th Code Details, (continued)

Label	Lc	Fa (ksi)	Ft (ksi)	Fb y-y (ksi)	Fb z-z (ksi)	Cb	Cm y-y	Cm z-z
M165	3	26.804	27.6	27.6	27.6	1.369	.204	.85
M166	3	27.348	27.6	27.6	27.6	2.3	.874	.85
M167	3	26.801	27.6	27.6	27.6	1.154	.621	.85
M168	3	26.783	27.6	27.6	27.6	2.111	.666	.85
M169	3	27.477	27.6	27.6	27.6	1.392	.983	.85
M170	6	25.413	27.6	27.6	27.6	2.3	.578	.85
M171	3	27.285	27.6	27.6	27.6	1.409	.7	.85
M172	3	26.801	27.6	27.6	27.6	2.3	.71	.85
M173	3	26.801	27.6	27.6	27.6	1.37	.841	.85
M174	3	27.128	27.6	27.6	27.6	2.3	.556	.85
M175	3	26.801	27.6	27.6	27.6	1.238	.584	.85
M176	3	27.197	27.6	27.6	27.6	1.549	.744	.85
M177	3	26.801	27.6	27.6	27.6	2.3	.716	.85
M178	3	26.804	27.6	27.6	27.6	1.398	.824	.85
M179	3	27.348	27.6	27.6	27.6	2.3	.971	.85
M180	3	26.801	27.6	27.6	27.6	1.213	.583	.85
M181	3	26.783	27.6	27.6	27.6	2.139	.661	.85
M182	3	27.477	27.6	27.6	27.6	1.39	.985	.85
M183	3	27.191	27.6	27.6	27.6	1.771	.673	.85
M184	3	27.191	27.6	27.6	27.6	1.566	.709	.85
M185	3	25.643	27.6	27.6	27.6	1.509	.487	.85
M186	3	26.024	27.6	27.6	27.6	1.053	.76	.85
M187	13	25.641	27.6	27.6	27.6	1.802	.785	.58
M188	13	25.643	27.6	27.6	27.6	1.311	.692	.794
M189	3	26.024	27.6	27.6	27.6	1.048	.515	.85
M190	7	26.027	27.6	27.6	27.6	1.245	.971	.85
M191	7	25.641	27.6	27.6	27.6	1.868	.423	.85
M192	7	25.643	27.6	27.6	27.6	1.401	.726	.85
M193	3	27.554	27.6	27.6	27.6	1.75	.6	.85
M194	3	25.641	27.6	27.6	27.6	1.805	.588	.85
M195	3	25.643	27.6	27.6	27.6	1.509	.558	.85
M196								
M197								
M198								
M199								
M200								
M201								
M202								
M203								
M204								
M205								
M206								
M207								
M208								
M209								

Envelope Member AISC ASD 9th Code Details, (continued)

Label	Lc	Fa (ksi)	Ft (ksi)	Fb y-y (ksi)	Fb z-z (ksi)	Cb	Cm y-y	Cm z-z
M210								
M211								
M212								
M213								
M214	3	26.804	27.6	27.6	27.6	1.994	.661	.85
M215								
M216								
M217								
M218								
M219								
M220								
M221								
M222								
M223								
M224								
M225								
M226								
M227								
M228								
M229								
M230	3	26.804	27.6	27.6	27.6	1.968	.663	.85
M231								
M232								
M233								
M234								
M235								
M236								
M237								
M238								
M239								
M240	3	25.643	27.6	27.6	27.6	1.803	.589	.85