

### **REVISION 1:**

Contech provided a Revision D on 5/19/2021 that increased the original bearing plate from a 0.75" plate to 1.25" plate thereby lowering the bearing seat elevations by 0.5". The bearing pad was also increased by 5" in the transverse direction but that change did not affect the substructure plans or calculations.

The lowering of the bearing seats affected the plans as listed below. The change resulted in Revision 1 of the design substructure plans, dated 05/19/2021.

- All abutment and pier bearing seat elevations were lowered by 0.5".
- 0.5" of height was added to the abutment backwalls.
- 0.5" of height was subtracted from the abutment stem wall heights.
- Pier caissons were shortened by 0.5".
- Bottom of pier caps, top of caisson/bottom of pier columns were lowered by 0.5".

The lowering of the bearing seats caused the following items in the calculation package to differ from the updated plans as listed below. The calculations were not updated to reflect the minor change as it will not affect the design of the substructure.

- The girder bearing seat elevations in the calculation package are 0.5" too high.
- The heights listed for the abutment backwall and abutment stem walls in the calculation package will be 0.5" too low and too high respectively.
- The pier caisson elevations listed in the calculation package will be 0.5" too high.
- The quantity calculation in the calculation package for concrete abutment backwall and abutment stem walls will be 0.5" off due to the change.
- The quantity calculation for reinforcement in the abutment stem walls will be 0.5" too long.
- The quantity calculation for pier excavation and backfill will be 0.5" too tall.
- The quantity calculation for drilled caisson will be 0.5" too long.

***REVISION 2:***

Classic Consulting Engineers & Surveyors provided a revised Hydraulic Report on 6/11/2021 that lowered the originally provided 100yr Water Surface Elevation (W.S.E.) to 7056.89 taken at the North Bridge HCL. The change resulted in Revision 2 of the design substructure plans. The updated elevation is reflected in the design substructure plans dated 6/11/2021 but the calculations have not been updated to reflect the lowering of the W.S.E. since the calculations are conservative based on the originally provided elevation of 7058.49. The revised Hydraulic Report also provided updated riprap quantities that are included in Revision 2.

***REVISION 3:***

Classic Consulting Engineers & Surveyors provided a revised Hydraulic Report on 7/09/2021 that increased the previously provided 100yr Water Surface Elevation (W.S.E.) to 7058.46 taken at the North Bridge HCL. This change also lowered the scour elevation to 7046.78 and lowered the velocity through the bridge section to 5.67 ft/s. The proposed 100yr W.S.E. is 0.03' lower than the elevation used in the calculations (7058.49). The proposed scour elevation is 0.98' lower than used in the calculations (7047.76) but with the decrease in the velocity by over 10%, the load on the piers would be decreased and thereby the calculations are conservative and will remain unchanged. The update of the Hydraulic Report resulted in Revision 3 of the design substructure plans. The updated elevations and flow are reflected in the design substructure plans dated 7/09/2021 but the calculations have not been updated to reflect the changing of the W.S.E., velocity, and scour elevation since the calculations are conservative based on the originally provided velocity was over 10% greater than the updated velocity. The revised Hydraulic Report also provided updated riprap quantities that are included in Revision 3.

Prepared for



4 Inverness Court East, Suite 250  
Englewood, CO 80112

# FOREST LAKES BRIDGES MESA TOP DRIVE SOUTH OVER BEAVER CREEK

## BRIDGE DESIGN CALCULATIONS

Prepared by:



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January 2021

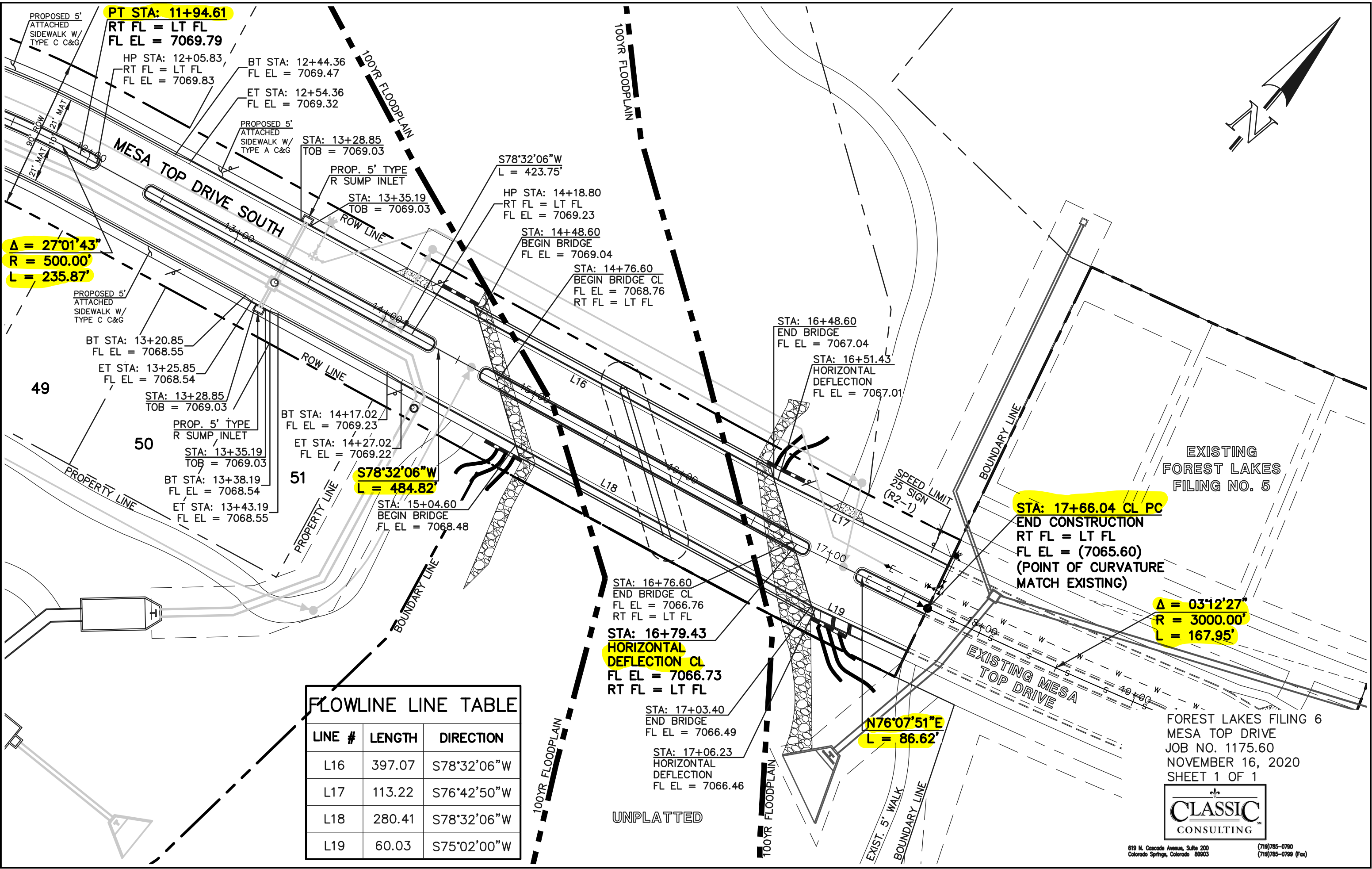
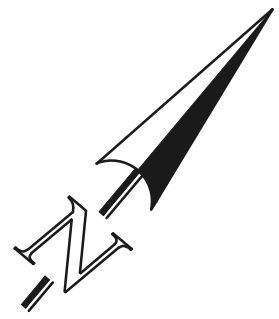


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## **1.0 ALIGNMENT DATA**

***HORIZONTAL ALIGNMENT DATA***  
(PROVIDED BY CLASSIC CONSULTING)



$\Delta = 27^{\circ}01'43''$   
 $R = 500.00'$   
 $L = 235.87'$

$S78^{\circ}32'06''W$   
 $L = 484.82'$

$STA: 17+66.04$  CL PC  
 END CONSTRUCTION  
 RT FL = LT FL  
 FL EL = (7065.60)  
 (POINT OF CURVATURE  
 MATCH EXISTING)

$\Delta = 03^{\circ}12'27''$   
 $R = 3000.00'$   
 $L = 167.95'$

$N76^{\circ}07'51''E$   
 $L = 86.62'$

FLOWLINE LINE TABLE		
LINE #	LENGTH	DIRECTION
L16	397.07	S78°32'06"W
L17	113.22	S76°42'50"W
L18	280.41	S78°32'06"W
L19	60.03	S75°02'00"W

UNPLATTED

EXISTING  
 FOREST LAKES  
 FILING NO. 5

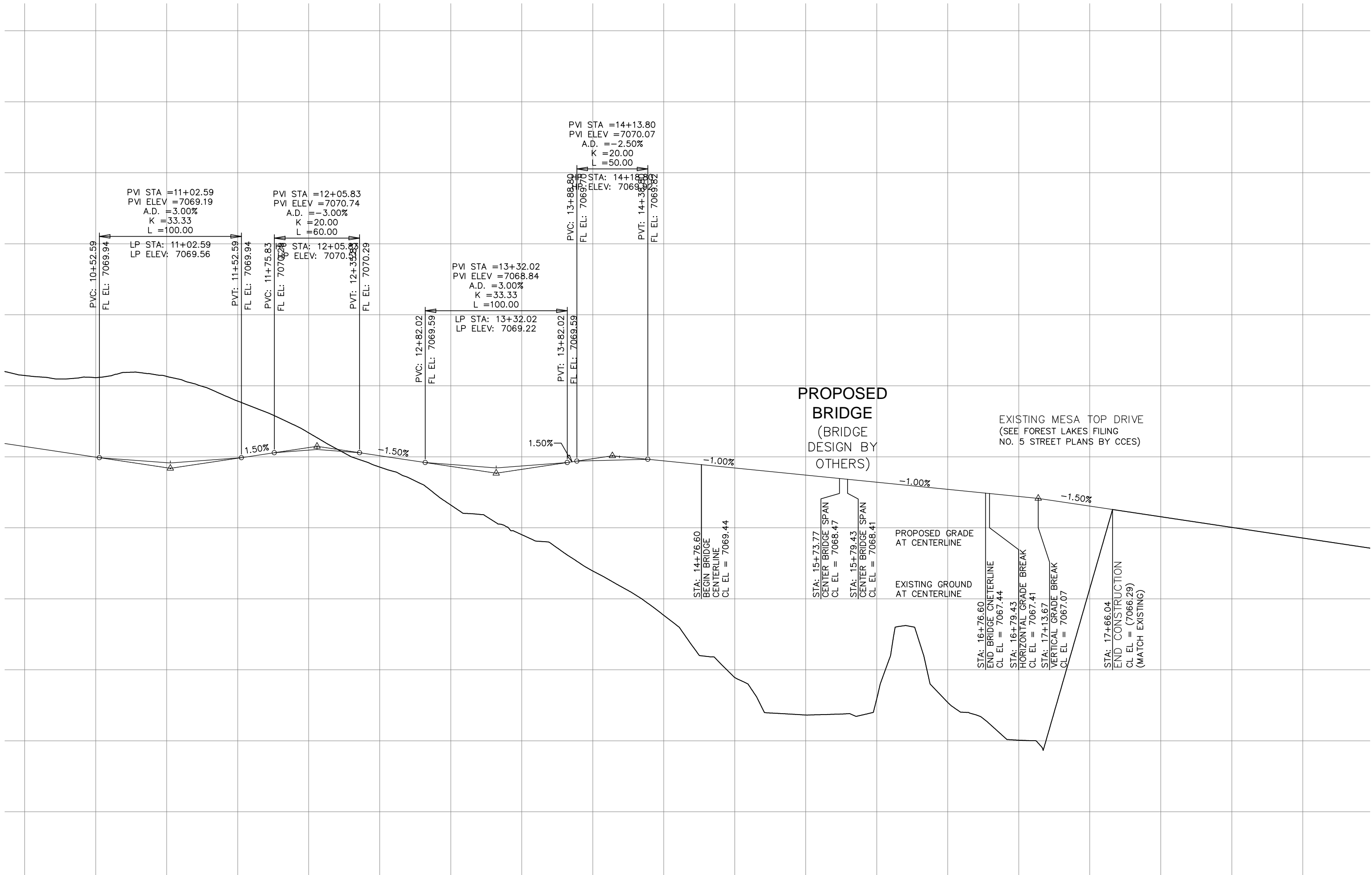
FOREST LAKES FILING 6  
 MESA TOP DRIVE  
 JOB NO. 1175.60  
 NOVEMBER 16, 2020  
 SHEET 1 OF 1



***VERTICAL ALIGNMENT DATA***

(PROVIDED BY CLASSIC CONSULTING)

(DATA WAS SENT IN A CAD FILE ON 11/21/2020 AND PDF WAS MADE FROM THE CAD FILE INFORMATION)



PVI STA = 11+02.59  
 PVI ELEV = 7069.19  
 A.D. = 3.00%  
 K = 33.33  
 L = 100.00

PVI STA = 12+05.83  
 PVI ELEV = 7070.74  
 A.D. = -3.00%  
 K = 20.00  
 L = 60.00

PVI STA = 13+32.02  
 PVI ELEV = 7068.84  
 A.D. = 3.00%  
 K = 33.33  
 L = 100.00

PVI STA = 14+13.80  
 PVI ELEV = 7070.07  
 A.D. = -2.50%  
 K = 20.00  
 L = 50.00

**PROPOSED  
 BRIDGE**  
 (BRIDGE  
 DESIGN BY  
 OTHERS)

EXISTING MESA TOP DRIVE  
 (SEE FOREST LAKES FILING  
 NO. 5 STREET PLANS BY CCES)

STA: 14+76.60  
 BEGIN BRIDGE  
 CENTERLINE  
 CL EL = 7069.44

STA: 15+73.77  
 CENTER BRIDGE SPAN  
 CL EL = 7068.47

STA: 15+79.43  
 CENTER BRIDGE SPAN  
 CL EL = 7068.41

STA: 16+76.60  
 END BRIDGE CENTERLINE  
 CL EL = 7067.44

STA: 16+79.43  
 HORIZONTAL GRADE BREAK  
 CL EL = 7067.41

STA: 17+13.67  
 VERTICAL GRADE BREAK  
 CL EL = 7067.07

STA: 17+66.04  
 END CONSTRUCTION  
 CL EL = (7066.29)  
 (MATCH EXISTING)

PROPOSED GRADE  
 AT CENTERLINE

EXISTING GROUND  
 AT CENTERLINE

1.50%

-1.50%

1.50%

-1.00%

-1.00%

-1.50%

PVC: 10+52.59  
 FL EL: 7069.94

PVT: 11+52.59  
 FL EL: 7069.94

PVC: 11+75.83  
 FL EL: 7070.29

PVT: 12+35.83  
 FL EL: 7070.29

PVC: 12+82.02  
 FL EL: 7069.59

PVT: 13+82.02  
 FL EL: 7069.59

PVC: 13+88.80  
 FL EL: 7069.70

PVT: 14+38.80  
 FL EL: 7069.82

LP STA: 11+02.59  
 LP ELEV: 7069.56

LP STA: 12+05.83  
 LP ELEV: 7070.74

LP STA: 13+32.02  
 LP ELEV: 7069.22

LP STA: 14+13.80  
 LP ELEV: 7069.82

## **2.0 SUPERSTRUCTURE CALCULATIONS**



## ***GIRDER BEARING SEAT ELEVATIONS***



Project: Forest Lakes  
 Client: Structure Inc  
 Subject: Abutment 1 Elevations  
 Date: 1/19/2021

Input \*Negative Offset = Left of HCL  
 Calculation

Offset = Distance from girder to HCL  
 Dist. To CL = Girder distance to CL  
 Brg Seat Elev is at top of brg pad

At Bearing Point	Depth Units= (ft)	S=Slab	H=Haunch	G=Girder	Total	Total w/o H	Pad Depth	Plate Depth
		0.667	0.000	3.092	3.758	3.758	0.188	0.063

Span Point

Location	Station	Offset	PVC	PVC <sub>el</sub>	PVI	PVT	PVT <sub>el</sub>	x	y	Slope	PGL	CONTECH		Difference ft	Difference in	Bearing Seat Step	
											Elevation Final Grade	Bearing Seat at Concrete	Brg Seat at Concrete			ft	in
WW1A, EI B	1422.333	-36.000	1388.80	7069.70	1413.80	1438.80	7069.82	16.47	-6.78	-2.00	7069.20	7065.19	-	-			
WW1A, EI A	1441.008	-36.000	1438.80	7069.82	-	1713.67	7067.07	2.21	-	-2.00	7069.08	7065.07	-	-			
CL Girder AW	1444.175	-32.834	1438.80	7069.82	-	1713.67	7067.07	5.38	-	-2.00	7069.11	7065.10	7065.10	0.002	0.0		
CL Girder BW	1451.350	-25.667	1438.80	7069.82	-	1713.67	7067.07	12.55	-	-2.00	7069.18	7065.17	7065.17	0.004	0.0	0.072	0.859
CL Girder CW	1458.508	-18.501	1438.80	7069.82	-	1713.67	7067.07	19.71	-	-2.00	7069.25	7065.25	7065.24	0.006	0.1	0.072	0.861
CL Girder DW	1465.674	-11.333	1438.80	7069.82	-	1713.67	7067.07	26.87	-	-2.00	7069.33	7065.32	7065.32	-0.003	0.0	0.072	0.860
CL Girder EW	1472.841	-4.167	1438.80	7069.82	-	1713.67	7067.07	34.04	-	-2.00	7069.40	7065.39	7065.39	-0.001	0.0	0.072	0.860
CL Girder AE	1481.175	4.167	1438.80	7069.82	-	1713.67	7067.07	42.38	-	-2.00	7069.31	7065.31	7065.30	0.006	0.1	-0.083	-1.000
CL Girder BE	1488.341	11.333	1438.80	7069.82	-	1713.67	7067.07	49.54	-	-2.00	7069.10	7065.09	7065.09	0.001	0.0	-0.215	-2.580
CL Girder CE	1495.508	18.500	1438.80	7069.82	-	1713.67	7067.07	56.71	-	-2.00	7068.88	7064.88	7064.87	0.006	0.1	-0.215	-2.580
CL Girder DE	1502.674	25.667	1438.80	7069.82	-	1713.67	7067.07	63.87	-	-2.00	7068.67	7064.66	7064.66	0.001	0.0	-0.215	-2.580
CL Girder EE	1509.841	32.833	1438.80	7069.82	-	1713.67	7067.07	71.04	-	-2.00	7068.45	7064.45	7064.44	0.006	0.1	-0.215	-2.580
WW1B, EI A	1513.007	36.000	1438.80	7069.82	-	1713.67	7067.07	74.21	-	-2.00	7068.36	7064.35	-				
WW1b, EI B	1488.008	36.000	1438.80	7069.82	-	1713.67	7067.07	49.21	-	-2.00	7068.61	7064.60	-				

Project: Forest Lakes  
 Client: Structure Inc  
 Subject: Pier 2 Elevations  
 Date: 1/19/2021

Input \*Negative Offset = Left of HCL  
 Calculation

Offset = Distance from girder to HCL  
 Dist. To CL = Girder distance to CL  
 Brg Seat Elev is at top of brg pad

At Bearing Point	Depth Units= (ft)	S=Slab	H=Haunch	G=Girder	Total	Total w/o H	Pad Depth	Plate Depth
		0.667	0.000	3.092	3.758	3.758	0.188	0.063

Span Point

Location	Station	Offset	PVC	PVC <sub>el</sub>	PVI	PVT	PVT <sub>el</sub>	x	y	Slope	PGL	CONTECH		Difference ft	Difference in	Bearing Seat Step	
											Elevation Final Grade	Bearing Seat at Concrete	Brg Seat at Concrete			ft	in
CL Girder AW	1543.766	-32.834	1438.80	7069.82	-	1713.67	7067.07	104.97	-	-2.00	7068.11	7064.11	7064.10	0.006	0.1		
CL Girder BW	1550.932	-25.667	1438.80	7069.82	-	1713.67	7067.07	112.13	-	-2.00	7068.19	7064.18	7064.17	0.008	0.1	0.072	0.860
CL Girder CW	1558.099	-18.501	1438.80	7069.82	-	1713.67	7067.07	119.30	-	-2.00	7068.26	7064.25	7064.24	0.010	0.1	0.072	0.860
CL Girder DW	1565.266	-11.333	1438.80	7069.82	-	1713.67	7067.07	126.47	-	-2.00	7068.33	7064.32	7064.32	0.001	0.0	0.072	0.860
CL Girder EW	1572.432	-4.167	1438.80	7069.82	-	1713.67	7067.07	133.63	-	-2.00	7068.40	7064.39	7064.39	0.003	0.0	0.072	0.860
CL Girder AE	1580.766	4.167	1438.80	7069.82	-	1713.67	7067.07	141.97	-	-2.00	7068.32	7064.31	7064.30	0.010	0.1	-0.083	-1.000
CL Girder BE	1587.932	11.333	1438.80	7069.82	-	1713.67	7067.07	149.13	-	-2.00	7068.10	7064.09	7064.09	0.005	0.1	-0.215	-2.580
CL Girder CE	1595.099	18.500	1438.80	7069.82	-	1713.67	7067.07	156.30	-	-2.00	7067.89	7063.88	7063.87	0.010	0.1	-0.215	-2.580
CL Girder DE	1602.266	25.667	1438.80	7069.82	-	1713.67	7067.07	163.47	-	-2.00	7067.67	7063.66	7063.66	0.005	0.1	-0.215	-2.580
CL Girder EE	1609.433	32.833	1438.80	7069.82	-	1713.67	7067.07	170.63	-	-2.00	7067.46	7063.45	7063.44	0.010	0.1	-0.215	-2.580

Project: Forest Lakes  
 Client: Structure Inc  
 Subject: Abutment 3 Elevations  
 Date: 1/19/2021

Input \*Negative Offset = Left of HCL  
 Calculation

Offset = Distance from girder to HCL  
 Dist. To CL = Girder distance to CL  
 Brg Seat Elev is at top of brg pad

At Bearing Point	Depth Units= (ft)	S=Slab	H=Haunch	G=Girder	Total	Total w/o H	Pad Depth	Plate Depth
		0.667	0.000	3.092	3.758	3.758	0.188	0.063

Span Point

Location	Station	Offset	PVC	PVC <sub>el</sub>	PVI	PVT	PVT <sub>el</sub>	x	y	Slope	PGL	CONTECH		Difference ft	Difference in	Bearing Seat Step	
											Elevation Final Grade	Bearing Seat at Concrete	Brg Seat at Concrete			ft	in
WW3A, EI B	1663.941	-36.000	1438.80	7069.82	-	1713.67	7067.07	225.14	-	-2.00	7066.85	7062.84	-	-			
WW3A, EI A	1640.191	-36.000	1438.80	7069.82	-	1713.67	7067.07	201.39	-	-2.00	7067.09	7063.08	-	-			
CL Girder AW	1643.357	-32.834	1438.80	7069.82	-	1713.67	7067.07	204.56	-	-2.00	7067.12	7063.11	7063.10	0.010	0.1		
CL Girder BW	1650.524	-25.667	1438.80	7069.82	-	1713.67	7067.07	211.72	-	-2.00	7067.19	7063.18	7063.17	0.012	0.1	0.072	0.860
CL Girder CW	1657.690	-18.501	1438.80	7069.82	-	1713.67	7067.07	218.89	-	-2.00	7067.26	7063.25	7063.24	0.014	0.2	0.072	0.860
CL Girder DW	1664.857	-11.333	1438.80	7069.82	-	1713.67	7067.07	226.06	-	-2.00	7067.33	7063.33	7063.32	0.005	0.1	0.072	0.860
CL Girder EW	1672.024	-4.167	1438.80	7069.82	-	1713.67	7067.07	233.22	-	-2.00	7067.41	7063.40	7063.39	0.007	0.1	0.072	0.860
CL Girder AE	1680.181	4.203	1438.80	7069.82	-	1713.67	7067.07	241.38	-	-2.00	7067.32	7063.31	7063.30	0.015	0.2	-0.082	-0.988
CL Girder BE	1687.041	11.664	1438.80	7069.82	-	1713.67	7067.07	248.24	-	-2.00	7067.11	7063.10	7063.09	0.007	0.1	-0.218	-2.614
CL Girder CE	1693.901	19.125	1438.80	7069.82	-	1713.67	7067.07	255.10	-	-2.00	7066.89	7062.88	7062.87	0.009	0.1	-0.218	-2.614
CL Girder DE	1700.760	26.586	1438.80	7069.82	-	1713.67	7067.07	261.96	-	-2.00	7066.67	7062.66	7062.66	0.001	0.0	-0.218	-2.614
CL Girder EE	1707.620	34.047	1438.80	7069.82	-	1713.67	7067.07	268.82	-	-2.00	7066.45	7062.44	7062.44	0.004	0.0	-0.218	-2.614
WW3B, EI A	1710.651	37.344	1438.80	7069.82	-	1713.67	7067.07	271.85	-	-2.00	7066.36	7062.35	-				
WW3b, EI B	1730.633	38.183	1713.67	7067.07	-	1766.04	7066.29	16.96	-	-2.00	7066.05	7062.04	-				

## ***ANCHOR BOLT EMBEDMENT***



Company:	STEAMBOAT STRUCTURES	Date:	1/19/2021
Engineer:	HMR	Page:	1/5
Project:	FOREST LAKES ANCHOR BOLTS		
Address:			
Phone:			
E-mail:			

**1. Project information**

Customer company: STRUCTURES, INC  
Customer contact name: Elliott Van Stelle  
Customer e-mail:  
Comment:

Project description: Design Permanent anchor bolts  
Location: Monument, CO  
Fastening description:

**2. Input Data & Anchor Parameters**

**General**

Design method: ACI 318-14  
Units: Imperial units

**Anchor Information:**

Anchor type: Cast-in-place  
Material: F1554 Grade 55  
Diameter (inch): 1.250  
Effective Embedment depth,  $h_{ef}$  (inch): 5.250  
Anchor category: -  
Anchor ductility: Yes  
 $h_{min}$  (inch): 7.25  
 $C_{min}$  (inch): 7.50  
 $S_{min}$  (inch): 7.50

**Base Material**

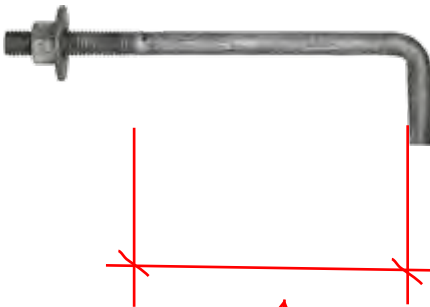
Concrete: Normal-weight  
Concrete thickness,  $h$  (inch): 48.00  
State: Uncracked  
Compressive strength,  $f_c$  (psi): 3500  
 $\Psi_{c,v}$ : 1.4  
Reinforcement condition: A tension, A shear  
Supplemental reinforcement: Yes  
Reinforcement provided at corners: Yes  
Ignore concrete breakout in tension: No  
Ignore concrete breakout in shear: No  
Ignore 6do requirement: No  
Build-up grout pad: No

**Base Plate**

Length x Width x Thickness (inch): 8.00 x 27.75 x 0.75

**Recommended Anchor**

Anchor Name: J- or L-Bolt - 1 1/4"Ø J- or L-Bolt, F1554 Gr. 55



$h_{ef}$  = effective embed length. Length for anchor bolts in bridge need to be greater than or equal to output length.



Company:	STEAMBOAT STRUCTURES	Date:	1/19/2021
Engineer:	HMR	Page:	2/5
Project:	FOREST LAKES ANCHOR BOLTS		
Address:			
Phone:			
E-mail:			

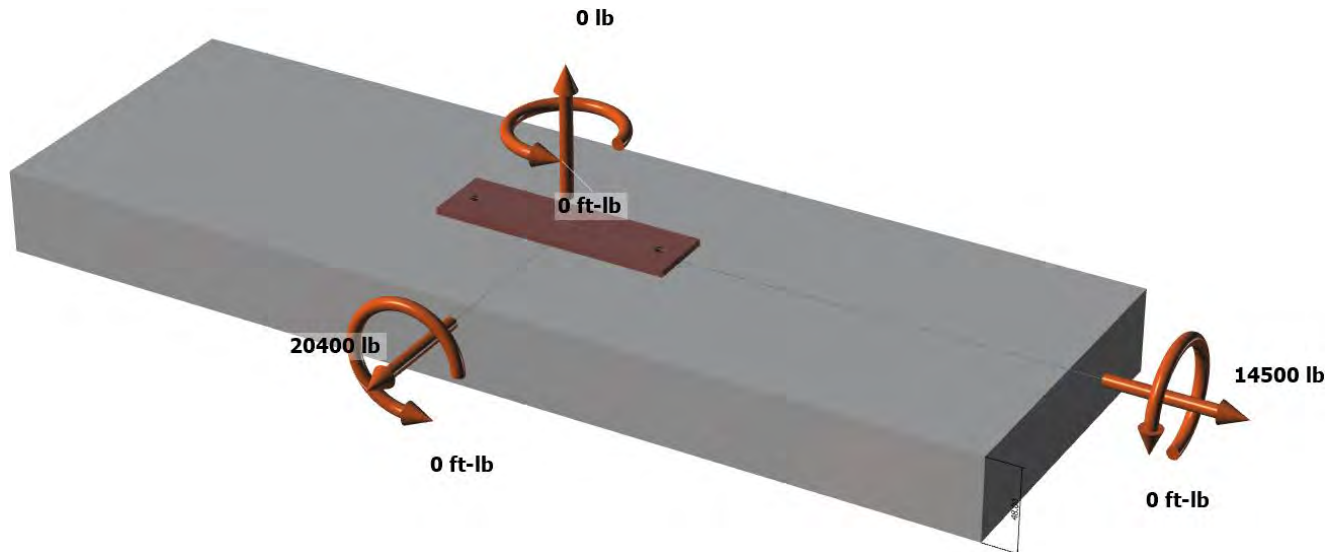
**Load and Geometry**

Load factor source: ACI 318 Section 5.3  
Load combination: not set  
Seismic design: No  
Anchors subjected to sustained tension: Not applicable  
Apply entire shear load at front row: Yes  
Anchors only resisting wind and/or seismic loads: Yes

Strength level loads:

$N_{ua}$  [lb]: 0  
 $V_{uax}$  [lb]: 20400  
 $V_{uay}$  [lb]: 14500  
 $M_{ux}$  [ft-lb]: 0  
 $M_{uy}$  [ft-lb]: 0  
 $M_{uz}$  [ft-lb]: 0

<Figure 1>



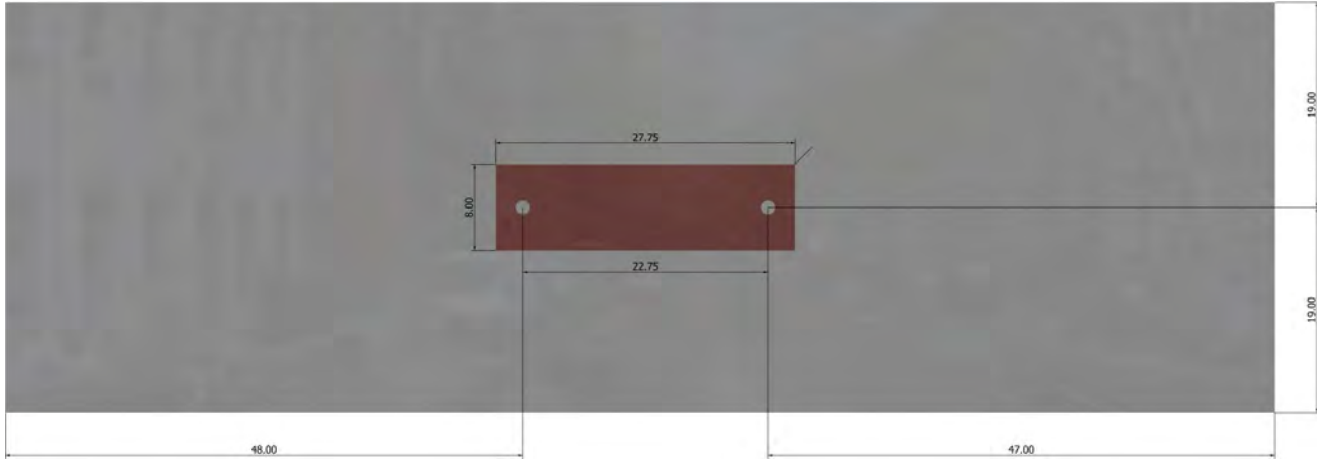
Input data and results must be checked for agreement with the existing circumstances, the standards and guidelines must be checked for plausibility.



Anchor Designer™  
Software  
Version 2.8.7094.1

Company:	STEAMBOAT STRUCTURES	Date:	1/19/2021
Engineer:	HMR	Page:	3/5
Project:	FOREST LAKES ANCHOR BOLTS		
Address:			
Phone:			
E-mail:			

<Figure 2>



Input data and results must be checked for agreement with the existing circumstances, the standards and guidelines must be checked for plausibility.



Company:	STEAMBOAT STRUCTURES	Date:	1/19/2021
Engineer:	HMR	Page:	4/5
Project:	FOREST LAKES ANCHOR BOLTS		
Address:			
Phone:			
E-mail:			

### 3. Resulting Anchor Forces

Anchor	Tension load, N <sub>ua</sub> (lb)	Shear load x, V <sub>uax</sub> (lb)	Shear load y, V <sub>uay</sub> (lb)	Shear load combined, $\sqrt{(V_{uax})^2 + (V_{uay})^2}$ (lb)
1	0.0	10200.0	7250.0	12514.1
2	0.0	10200.0	7250.0	12514.1
Sum	0.0	20400.0	14500.0	25028.2

Maximum concrete compression strain (%): 0.00

Maximum concrete compression stress (psi): 0

Resultant tension force (lb): 0

Resultant compression force (lb): 0

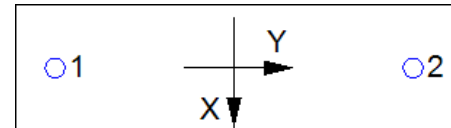
Eccentricity of resultant tension forces in x-axis, e'<sub>Nx</sub> (inch): 0.00

Eccentricity of resultant tension forces in y-axis, e'<sub>Ny</sub> (inch): 0.00

Eccentricity of resultant shear forces in x-axis, e'<sub>Vx</sub> (inch): 0.00

Eccentricity of resultant shear forces in y-axis, e'<sub>Vy</sub> (inch): 0.00

<Figure 3>



### 8. Steel Strength of Anchor in Shear (Sec. 17.5.1)

V <sub>sa</sub> (lb)	$\phi_{grout}$	$\phi$	$\phi_{grout}\phi V_{sa}$ (lb)
43605	1.0	0.65	28343

### 9. Concrete Breakout Strength of Anchor in Shear (Sec. 17.5.2)

#### Shear perpendicular to edge in y-direction:

$$V_{by} = \min[7(l_e / d_a)^{0.2} \sqrt{d_a} \lambda_a \sqrt{f_c} c_{a1}^{1.5}; 9 \lambda_a \sqrt{f_c} c_{a1}^{1.5}] \text{ (Eq. 17.5.2.2a \& Eq. 17.5.2.2b)}$$

l <sub>e</sub> (in)	d <sub>a</sub> (in)	$\lambda_a$	f <sub>c</sub> (psi)	c <sub>a1</sub> (in)	V <sub>by</sub> (lb)
5.25	1.250	1.00	3500	32.00	96383

$$\phi V_{cby} = \phi (A_{Vc} / A_{Vco}) \Psi_{ed,v} \Psi_{c,v} \Psi_{h,v} V_{by} \text{ (Sec. 17.3.1 \& Eq. 17.5.2.1a)}$$

A <sub>Vc</sub> (in <sup>2</sup> )	A <sub>Vco</sub> (in <sup>2</sup> )	$\Psi_{ed,v}$	$\Psi_{c,v}$	$\Psi_{h,v}$	V <sub>by</sub> (lb)	$\phi$	$\phi V_{cby}$ (lb)
1824.00	4608.00	0.819	1.400	1.000	96383	0.75	32799

#### Shear perpendicular to edge in x-direction:

$$V_{bx} = \min[7(l_e / d_a)^{0.2} \sqrt{d_a} \lambda_a \sqrt{f_c} c_{a1}^{1.5}; 9 \lambda_a \sqrt{f_c} c_{a1}^{1.5}] \text{ (Eq. 17.5.2.2a \& Eq. 17.5.2.2b)}$$

l <sub>e</sub> (in)	d <sub>a</sub> (in)	$\lambda_a$	f <sub>c</sub> (psi)	c <sub>a1</sub> (in)	V <sub>bx</sub> (lb)
5.25	1.250	1.00	3500	19.00	44097

$$\phi V_{cbgx} = \phi (A_{Vc} / A_{Vco}) \Psi_{ec,v} \Psi_{ed,v} \Psi_{c,v} \Psi_{h,v} V_{bx} \text{ (Sec. 17.3.1 \& Eq. 17.5.2.1b)}$$

A <sub>Vc</sub> (in <sup>2</sup> )	A <sub>Vco</sub> (in <sup>2</sup> )	$\Psi_{ec,v}$	$\Psi_{ed,v}$	$\Psi_{c,v}$	$\Psi_{h,v}$	V <sub>bx</sub> (lb)	$\phi$	$\phi V_{cbgx}$ (lb)
2272.88	1624.50	1.000	1.000	1.400	1.000	44097	0.75	64782

#### Shear parallel to edge in x-direction:

$$V_{by} = \min[7(l_e / d_a)^{0.2} \sqrt{d_a} \lambda_a \sqrt{f_c} c_{a1}^{1.5}; 9 \lambda_a \sqrt{f_c} c_{a1}^{1.5}] \text{ (Eq. 17.5.2.2a \& Eq. 17.5.2.2b)}$$

l <sub>e</sub> (in)	d <sub>a</sub> (in)	$\lambda_a$	f <sub>c</sub> (psi)	c <sub>a1</sub> (in)	V <sub>by</sub> (lb)
5.25	1.250	1.00	3500	32.00	96383

Input data and results must be checked for agreement with the existing circumstances, the standards and guidelines must be checked for plausibility.





Company:	STEAMBOAT STRUCTURES	Date:	1/19/2021
Engineer:	HMR	Page:	5/5
Project:	FOREST LAKES ANCHOR BOLTS		
Address:			
Phone:			
E-mail:			

$$\phi V_{cbx} = \phi (2)(A_{Vc} / A_{Vco}) \Psi_{ed,V} \Psi_{c,V} \Psi_{h,V} V_{by} \text{ (Sec. 17.3.1, 17.5.2.1(c) \& Eq. 17.5.2.1a)}$$

$A_{Vc}$ (in <sup>2</sup> )	$A_{Vco}$ (in <sup>2</sup> )	$\Psi_{ed,V}$	$\Psi_{c,V}$	$\Psi_{h,V}$	$V_{by}$ (lb)	$\phi$	$\phi V_{cbx}$ (lb)
1824.00	4608.00	1.000	1.400	1.000	96383	0.75	80119

**Shear parallel to edge in y-direction:**

$$V_{bx} = \min[7(l_e / d_a)^{0.2} \sqrt{d_a} \lambda_a \sqrt{f_c} c_{a1}^{1.5}; 9 \lambda_a \sqrt{f_c} c_{a1}^{1.5}] \text{ (Eq. 17.5.2.2a \& Eq. 17.5.2.2b)}$$

$l_e$ (in)	$d_a$ (in)	$\lambda_a$	$f_c$ (psi)	$c_{a1}$ (in)	$V_{bx}$ (lb)
5.25	1.250	1.00	3500	19.00	44097

$$\phi V_{cbgy} = \phi (2)(A_{Vc} / A_{Vco}) \Psi_{ec,V} \Psi_{ed,V} \Psi_{c,V} \Psi_{h,V} V_{bx} \text{ (Sec. 17.3.1, 17.5.2.1(c) \& Eq. 17.5.2.1b)}$$

$A_{Vc}$ (in <sup>2</sup> )	$A_{Vco}$ (in <sup>2</sup> )	$\Psi_{ec,V}$	$\Psi_{ed,V}$	$\Psi_{c,V}$	$\Psi_{h,V}$	$V_{bx}$ (lb)	$\phi$	$\phi V_{cbgy}$ (lb)
2272.88	1624.50	1.000	1.000	1.400	1.000	44097	0.75	129563

**10. Concrete Pryout Strength of Anchor in Shear (Sec. 17.5.3)**

$$\phi V_{cpq} = \phi k_{cp} N_{cbg} = \phi k_{cp} (A_{Nc} / A_{Nco}) \Psi_{ec,N} \Psi_{ed,N} \Psi_{c,N} \Psi_{cp,N} N_b \text{ (Sec. 17.3.1 \& Eq. 17.5.3.1b)}$$

$k_{cp}$	$A_{Nc}$ (in <sup>2</sup> )	$A_{Nco}$ (in <sup>2</sup> )	$\Psi_{ec,N}$	$\Psi_{ed,N}$	$\Psi_{c,N}$	$\Psi_{cp,N}$	$N_b$ (lb)	$\phi$	$\phi V_{cpq}$ (lb)
2.0	496.13	248.06	1.000	1.000	1.250	1.000	17080	0.70	59779

**11. Results**

**11. Interaction of Tensile and Shear Forces (Sec. D.7)?**

Shear	Factored Load, $V_{ua}$ (lb)	Design Strength, $\phi V_n$ (lb)	Ratio	Status
Steel	12514	28343	0.44	Pass
T Concrete breakout y+	14500	32799	0.44	Pass
T Concrete breakout x+	20400	64782	0.31	Pass
Concrete breakout y-	10200	80119	0.13	Pass
Concrete breakout x-	14500	129563	0.11	Pass
<b>Concrete breakout, combined</b>	-	-	<b>0.54</b>	<b>Pass (Governs)</b>
Pryout	25028	59779	0.42	Pass

1 1/4"Ø J- or L-Bolt, F1554 Gr. 55 with hef = 5.250 inch meets the selected design criteria.

16" of embed will be used.

**12. Warnings**

- Designer must exercise own judgement to determine if this design is suitable.

## **3.0 SUBSTRUCTURE CALCULATIONS**

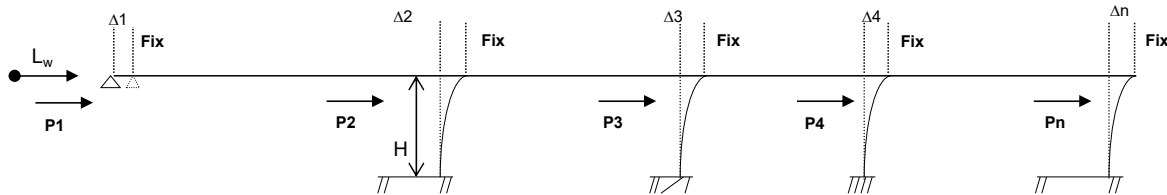
## ***LONGITUDINAL FORCE DISTRIBUTION***

## Longitudinal Force Distribution

~ Distribute Longitudinal Forces acting on bridge per stiffness of the piers.

### Longitudinal Wind Distribution

~ The total longitudinal wind applied to the superstructure of a continuous series causes a small movement which deflects each support by an equal amount. The percentage of longitudinal wind applied to any support can be found by calculating the support deflections in terms of  $P_n$ , and substituting them into the following condition equations:



Eqn 1

$$L_w = P_1 + P_2 + P_3 + P_4 + P_i$$

$L_w$  = Total Longitudinal Wind

$i$  = total number of piers

$P_n$  = Longitudinal Wind to Bent

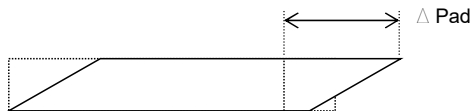
$n$  = Support number

Eqn 2

$$\Delta_1 = \Delta_2 = \Delta_3 = \Delta_4 = \Delta_n$$

$\Delta_n$  = Total Deflection at support  $n$

### Expansion Bearing Pad Deflections



$$\Delta_{Pad} = \frac{P * T}{L * W * G * N}$$

$P$  = Force at Pier (kips)

$L$  = Length of Pad (in)

$W$  = Width of Pads (in)

$T$  = Total thickness of Elastomer Layers (in)

$N$  = Number of Pads at Pier

$G$  = Shear Modulus of Elastomer (psi)

~ The shear modulus  $G$ , varies with durometer, temperature and time. To simulate this variance, the designer should run two sets of calculations, with  $G$  maximum and minimum.



## Longitudinal Force Distribution

~ Distribute Longitudinal Forces acting on bridge per stiffness of the piers.

### Pier Deflections

~ Pier deflections,  $\Delta$  Pier, can be calculated from the following equations:

$$\Delta_{Pier} = \frac{P * H^3}{3 * E * I_r}$$

P = Force (lbs)  
 H = Bent Height (Point of fixity to top of beam \*, in)  
 I<sub>r</sub> = Gross Moment of Inertia of Pier \* in<sup>4</sup>)  
 E = Column Modulus of Elasticity (psi)

\* See Longitudinal Stiffness Output for equivalent heights and stiffnesses due to skew.

$\Delta_n$  = Total Deflection at Pier n =  $\Delta_{pads}$  +  $\Delta$  Pier

~ If there are no Expansion Pads,  $\Delta_{pads}$  = 0. Ie. Fixed supports.

~ If the Pier is nonflexible  $\Delta_{pier}$  = 0. Ie. Semi-Deep Abutments or Non-Integral End Piers.

~ For Pile Cap Intermediate or Integral End Piers, Use Clear height plus .68\*Pile Embedment (not to exceed 12' for .68\*Pile embedment)

### Bridge Input Information

# Spans = 2

(in)	Type (E/F)	Exp Bearing Pad Deflection Input				#	$\Delta_{pad}/P$ (Gmin)	$\Delta_{pad}/P$ (Gmax)
		L	W	T				
Pier 1	E	6.75	15.00	2.25	5	4.6784E-05	3.2922E-05	
Pier 2	F	6.75	15.00	2.25	10	0.0000E+00	0.0000E+00	
Pier 3	E	6.75	15.00	2.25	5	4.6784E-05	3.2922E-05	

~ E = expansion bearings, F = fixed bearings (no input req'd)



Project: Forest Lakes Bridges

Subject: Longitudinal Force Distribution

Client: Structures Inc

By: H. REED

Date: 10/02/2020

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## Longitudinal Force Distribution

~ Distribute Longitudinal Forces acting on bridge per stiffness of the piers.

Gmax = **135** psi (for temp fall)  
 Gmin = **95** psi (for temp rise)

(in), (psi)	Type (F/R)	Pier Deflection Input			$\Delta_{pier/P}$
		H	E	Ir	
Pier 1	R	172.20	4435000	4112231	0.0000E+00
Pier 2	F	228.00	4435000	583561	1.5265E-06
Pier 3	R	147.00	4435000	4112231	0.0000E+00

~ F = flexible pier, R = rigid pier (semideep, non-integral abutment)(no input req'd)

	Total $\Delta$		(Gmin)		(Gmax)		Gcontrol % of $L_w$
	(Gmin)	(Gmax)	a*P1	% of $L_w$	a*P1	% of $L_w$	
Pier 1	4.67836E-05	3.29218E-05	1.000	3.06%	1.000	4.24%	<b>4.24%</b>
Pier 2	1.52652E-06	1.52652E-06	30.6472	93.87%	21.5665	91.51%	<b>93.87%</b>
Pier 3	4.67836E-05	3.29218E-05	1.0000	3.06%	1.0000	4.24%	<b>4.24%</b>

Apply 5% of LF for each abutment and 100% for Pier 2

Total =      32.647                      23.567

~ since  $\Delta_1 = \Delta_2 \dots \Delta_n$ , put in terms of a\*P1 (ie. Ratio of  $\Delta$ )

$$a = \text{Total } \Delta_1 / \text{Total } \Delta_n$$

$$\% \text{ of } L_w = a / \sum a$$



## ***WINGWALL DESIGN***



Project: Forest Lakes

Subject: Wingwall Design

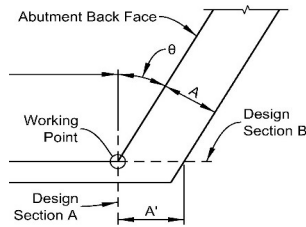
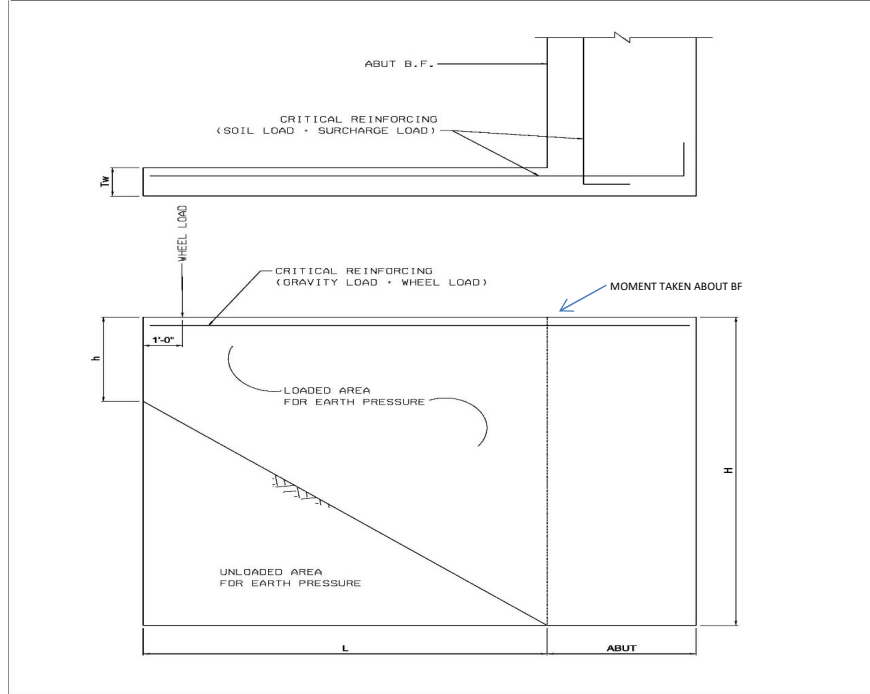
Client: Structures Inc

By: H. REED

Date: 05/21/2021

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## WINGWALL DIMENSIONS



### Wingwall Parameters

Wall Height, H =	13.49	ft	
Assumed End Height, h =	3.00	ft	
Wall Length, L =	23.76	ft	
Wall Thickness, Tw =	1.00	ft	
Abutment Width, A =	3.17	ft	
Wingwall Skew, $\theta$ =	45.00	degrees	
Surcharge Ht, S =	2.00	ft	
Effective Surcharge Ht, $S_{eff}$ =	2.59	ft	LL Surcharge Ht increased to account for load factor difference
Clear Cover (top) =	2.00	in	
Clear Cover (side) =	2.00	in	
Clear Cover (bottom) =	3.00	in	





### Design Parameters

Concrete Strength, $f'_c$ =	4.5	ksi	
Rebar Strength, $f_y$ =	60	ksi	
$\phi$ (flexure) =	0.90		LRFD 5.5.4.2
$\phi$ (shear) =	0.85		LRFD 5.5.4.2
$E_s$ =	29000	ksi	
$E_c$ =	4435	ksi	
$n$ =	6.54		
$\beta_1$ =	0.825		
$\gamma_c$ =	150	pcf	

### Loads Parameters

Backfill Density, $\gamma_B$ =	135	pcf	
Backfill At-Rest Factor, $K_o$ =	0.422		
Backfill Passive Factor, $K_p$ =	0		
Backfill At-Rest Pressure, $\omega_o$ =	57.0	pcf	
Backfill Passive Pressure, $\omega_p$ =	0.0	pcf	
Effective Fluid Weight, $w$ =	57.0	pcf	BDM 11.3.6.2
Live Load Surcharge, $\omega_{LS}$ =	350.0	psf	
Wheel Load, $P$ =	0.00	kip	
Distance from BF, $b$ =	22.76	ft	

### Load Factor Parameters

	Strength I	Service I		LRFD 3.4.1
$\beta_D$ =	1.25	1.00	Dead Load	
$\beta_E$ =	1.35	1.00	Earth and Earth Surcharge (at-rest)	
$\beta_L$ =	1.75	1.00	Live Load	

### Wall Design

Caltrans Bridge Design Aids - July 1989

#### Wall Moments and Shears about BF (Horizontal)

$$\text{Service Moment about BF, } M_{s-BF} = (wL^2 / 24) * [3h^2 + (H + 4S) * (H + 2h)]$$

$$\text{Service Moment about TOW, } M_{s-TOW} = (wL / 12) * [2ShH + (h + H + 2S) * (h^2 + H^2)]$$

$$\text{Total Service Thrust, } P_s = (wL / 6) * [H^2 + (h + H) * (h + 3S)]$$

$$\text{Total Service Moment, } M_{s-BF} = 597.77 \text{ k-ft}$$

$$\text{Total Service Moment, } M_{s-TOW} = 459.91 \text{ k-ft}$$

$$\text{Total Service Thrust, } P_s = 74.58 \text{ kip}$$

$$\text{Centroid in the x-direction, } x_s = 8.02 \text{ ft, from BF of abutment}$$

$$\text{Centroid in the y-direction, } y_s = 6.17 \text{ ft, from top of wall}$$

$$\text{Total Ultimate Moment, } M_{u-BF} = 890.61 \text{ k-ft}$$

$$\text{Total Ultimate Moment, } M_{u-TOW} = 662.67 \text{ k-ft}$$

$$\text{Total Ultimate Thrust, } P_u = 109.61 \text{ kip}$$

$$\text{Centroid in the x-direction, } x_u = 8.13 \text{ ft, from BF of abutment}$$

$$\text{Centroid in the y-direction, } y_u = 6.05 \text{ ft, from top of wall}$$



Project: Forest Lakes

Subject: Wingwall Design

Client: Structures Inc

By: H. REED

Date: 05/21/2021

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### Flexure Design (Fill Face)

Service Moment per foot,  $M_s = 44.31$  k-ft/ft  
 Strength I Moment per foot,  $M_u = 66.02$  k-ft/ft  
 Max Factored Moment,  $M_u = 66.02$  k-ft/ft  
 Cover = 2.00 in  
 Bar Size = 9  
 Spacing,  $s = 6$  in  
 $d = 8.9375$  in

### Maximum Reinforcement Check

**Use #9 Bars @ 6"**

$$A_{s-prov'd} = \frac{A_s * 12}{S_b} \quad A_{s-prov'd} = 2.00 \text{ in}^2/\text{ft}$$

$\alpha_1 = 0.85$  for design compressive strength < 10.0ksi

$$c = \frac{A_s f_y}{\alpha_1 b f'_c \beta_1} \quad c = 3.169 \text{ in} \quad \text{LRFD Eq. 5.6.3.1.1-4}$$

$$a = \beta_1 c \quad a = 2.614 \text{ in} \quad \text{LRFD 5.6.3.2.2}$$

$$\phi M_n = \phi A_s f_y (d_{avg} - a/2) \quad \phi M_n = 68.67 \text{ k-ft/ft} \quad \text{LRFD Eq. 5.6.3.2.2-1}$$

>  
 $M_u = 66.02$  k-ft/ft  
 OK!

### Serviceability Check

Max Service Moment,  $M_s = 44.31$  k-ft/ft LRFD 5.6.7

**Actual Stress**  $A_s = 2.00$  in<sup>2</sup>/ft

$$\rho = \frac{A_s}{bd} \quad \rho = 0.0186$$

$$k = \sqrt{(2np + [(pn)]^2) - np} \quad n = 7$$

$$j = 1 - k/3 \quad k = 0.397$$

$$f_{ss} = \frac{M_s}{A_s j d} \quad f_{ss(actual)} = 34.283 \text{ ksi} \quad j = 0.868$$

### Allowable Spacing

LRFD 5.6.7

$$\beta_s = 1 + \frac{d_c}{0.7(h - d_c)}$$

$$s \leq \frac{700\gamma_e}{\beta_s f_{ss}} - 2d_c$$

$d_c = 2.5625$  in      conc. cover to nearest bar, max of  $2 + r_{bar}$   
 $h = 12.00$  in  
 $\beta_s = 1.388$   
 $\gamma_e = 1.00$       1.0 for Class 1 exposure, 0.75 for Class 2 exposure \*  
 $s \leq 9.587$  in  
 OK!

\* Class 1 exposure condition applies when cracks can be tolerated due to reduced concerns of appearance and/or corrosion. Class 2 exposure condition applies to when there is increased concern of appearance and/or corrosion and transverse design of segmental concrete box girders for any loads applied prior to attaining full nominal concrete strength. Recommended to use Class 2 for decks.



**Shear Design (Fill Face)**

Max Factored Thrust,  $P_u = 109.61$  kip

$$V_c = 0.0316\lambda\beta\sqrt{f'_c}b_wd$$

$V_c = 193.97$  kip

LRFD 5.7.3.3

$\phi V_c = 164.87$  kip

$\frac{\phi V_c}{2} = 82.44$  kip

<

LRFD 5.7.2.3

If  $V_u < \frac{\phi V_c}{2}$ , No Shear reinforcing is required

$V_u = 109.61$  kip

**Shear Reinforcing Req'd**

Non prestressed section w/no axial tension and containing min. transverse per 5.7.2.5

$\beta_s = 2.0$

LRFD 5.7.3.4.1

$\theta = 45.0$  degrees

$V_{n1} = 0.0316\lambda\beta\sqrt{f'_c}b_vd_v + V_s$

$V_{c1} = 193.97$  kip

LRFD 5.7.3.3

$V_{n2} = 0.25f'_cb_vd_v$

$V_{n2} = 2185.38$  kip

$\phi V_n = 174.57$  kip

>

$V_u = 109.61$  kip

OK!

**Therefore concrete shear resistance is adequate without considering reinforcing**

**Flexure Design (Abutment/Wingwall Connection)**

Abut Width along skew,  $A' = 4.48$  ft  $A' = A/\cos(\theta)$

Service Thrust,  $P_s = 74.58$  kip

Service Shear,  $V_s = 48.08$  kip

Eccentricity in the x-direction,  $e_{x-s} = 9.60$  ft, from CL of abutment

Eccentricity in the y-direction,  $e_{y-s} = 0.58$  ft, from H/2

Service Moment about X-axis,  $M_{x-s} = 715.85$  k-ft  $M_{x-s} = P_s e_{x-s}$

Service Moment about Y-axis,  $M_{y-s} = 43.10$  k-ft  $M_{y-s} = P_s e_{y-s}$

Service Torsion about z-axis,  $T_{z-s} = 678.83$  k-ft  $T_{z-s} = V_s \left( \frac{L + A'}{2} \right)$

Strength Thrust,  $P_u = 109.61$  kip

Strength Shear,  $V_u = 60.10$  kip

Eccentricity in the x-direction,  $e_{x-u} = 9.71$  ft, from CL of abutment

Eccentricity in the y-direction,  $e_{y-u} = 0.70$  ft, from H/2

Strength Moment about X-axis,  $M_{x-u} = 1064.16$  k-ft  $M_{x-u} = P_u e_{x-u}$

Strength Moment about Y-axis,  $M_{y-u} = 76.65$  k-ft  $M_{y-u} = P_u e_{y-u}$

Strength Torsion about z-axis,  $T_{z-u} = 848.53$  k-ft  $T_{z-u} = V_u \left( \frac{L + A'}{2} \right)$



### Flexure Design

Strength Moment,  $M_u = 78.89$  k-ft/ft  
 Cover = 2.00 in  
 Bar Size = 6  
 Spacing,  $s = 6$  in  
 $d = 34.375$  in

### Maximum Reinforcement Check

**Use #6 Bars @ 6"**

$$A_{s-prov'd} = \frac{A_s * 12}{S_b}$$

$A_{s-prov'd} = 0.88$  in<sup>2</sup>/ft

$\alpha_1 = 0.85$  for design compressive strength < 10.0ksi

$$c = \frac{A_s f_y}{\alpha_1 b f'_c \beta_1}$$

$c = 1.394$  in

LRFD Eq. 5.6.3.1.1-4

$$a = \beta_1 c$$

$a = 1.150$  in

LRFD 5.7.2.2

$$\phi M_n = \phi A_s f_y (d_{avg} - a/2)$$

$\phi M_n = 133.85$  k-ft/ft

LRFD Eq. 5.6.3.2.2-1

>

$M_u = 78.89$  k-ft/ft

OK!

### Serviceability Check

Max Service Moment,  $M_s = 53.07$  k-ft/ft

LRFD 5.6.7

#### Actual Stress

$A_s = 0.88$  in<sup>2</sup>/ft

$$\rho = \frac{A_s}{bd}$$

$\rho = 0.0021$

$n = 7$

$$k = \sqrt{(2np + [(pn)]^2) - np}$$

$k = 0.159$

$$j = 1 - k/3$$

$j = 0.947$

$$f_{ss} = \frac{M_s}{A_s j d}$$

$f_{ss(actual)} = 22.225$  ksi

LRFD 5.6.7

#### Allowable Spacing

$d_c = 2.375$  in

conc. cover to nearest bar, max of  $2 + r_{bar}$

$h = 53.74$  in

$\beta_s = 1.066$

$$\beta_s = 1 + \frac{d_c}{0.7(h - d_c)}$$

$\gamma_e = 1.00$

1.0 for Class 1 exposure, 0.75 for Class 2 exposure \*

$$s \leq \frac{700 \gamma_e}{\beta_s f_{ss}} - 2d_c$$

$s \leq 24.794$  in

OK!

\* Class 1 exposure condition applies when cracks can be tolerated due to reduced concerns of appearance and/or corrosion. Class 2 exposure condition applies to when there is increased concern of appearance and/or corrosion and transverse design of segmental concrete box girders for any loads applied prior to attaining full nominal concrete strength. Recommended to use Class 2 for decks.



**Shear Design (Fill Face)**

Max Factored Shear,  $V_u = 60.10$  k/ft

$$V_c = 0.0316\beta\lambda\sqrt{f'_c}b_wd$$

$$V_c = 247.67 \text{ k/ft}$$

LRFD 5.7.3.3

$$\phi V_c = 210.52 \text{ k/ft}$$

$$\frac{\phi V_c}{2} = 105.26 \text{ k/ft}$$

$$\frac{\phi V_c}{2} > V_u = 60.10 \text{ k/ft}$$

LRFD 5.7.2.3

If  $V_u < \frac{\phi V_c}{2}$ , No Shear reinforcing is required

**No Shear Reinforcing Req'd**

**Shrinkage and Temperature Reinforcement**

LRFD 5.7.2.5

**#6 Bars @ 6"**

Bar Size = 6

Bar Spacing  $S_b = 6$  in

$$A_v \geq 0.0316\lambda\sqrt{f'_c} \frac{b_v S}{f_y}$$

$$A_v \geq 0.08 \text{ in}^2/\text{ft}$$

$$A_{v\text{-provided}} = \frac{A_s * 12}{S_b} * 2 \text{ legs}$$

$$A_{v\text{-provided}} = 1.76 \text{ in}^2/\text{ft}$$

$$A_{v\text{-provided}} \geq 0.08 \text{ in}^2/\text{ft}$$

OK!

**Wall Moments and Shears Due to Gravity Loads (Vertical)**

Service Wall Weight,  $V_s = 48.08$  kip

Strength I Wall Weight,  $V_u = 60.10$  kip

Service Wall Wt Moment,  $M_{w,s-BF} = 571.17$  k-ft

Ultimate Wall Wt Moment,  $M_{w,u-BF} = 713.96$  k-ft

**Flexure Design**

Max Factored Moment,  $M_u = 713.96$  k-ft

Cover = 2.00 in

Bar Size = 8

Number of Bars = 2

$d = 158.38$  in

Plans use 1 - #9, 1 - #7 = 2 - #8 for calculation purposes

**Maximum Reinforcement Check**

**Use 2 -#8 Bars**

$$A_{s\text{-prov'd}} = A_s * \#$$

$$A_{s\text{-prov'd}} = 1.58 \text{ in}^2$$

$\alpha_1 = 0.85$  for design compressive strength  $< 10.0$ ksi

$$c = \frac{A_s f_y}{\alpha_1 b f'_c \beta_1}$$

$$c = 2.503 \text{ in}$$

LRFD Eq. 5.6.3.1.1-4

$$a = \beta_1 c$$

$$a = 2.065 \text{ in}$$

LRFD 5.7.2.2

$$\phi M_n = \phi A_s f_y (d_{\text{avg}} - a/2)$$

$$\phi M_n = 1118.74 \text{ k-ft}$$

LRFD Eq. 5.6.3.2.2-1

>

$$M_u = 713.96 \text{ k-ft}$$

OK!



**Shear Design**

Max Factored Shear,  $V_u = 60.10$  kip

$$V_c = 0.0316\beta\lambda\sqrt{f'_c}b_wd$$

If  $V_u < \frac{\phi V_c}{2}$ , No Shear reinforcing is required

$$V_c = 191.45 \text{ kip}$$

LRFD 5.7.3.3

$$\phi V_c = 162.73 \text{ kip}$$

$$\frac{\phi V_c}{2} = 81.37 \text{ kip}$$

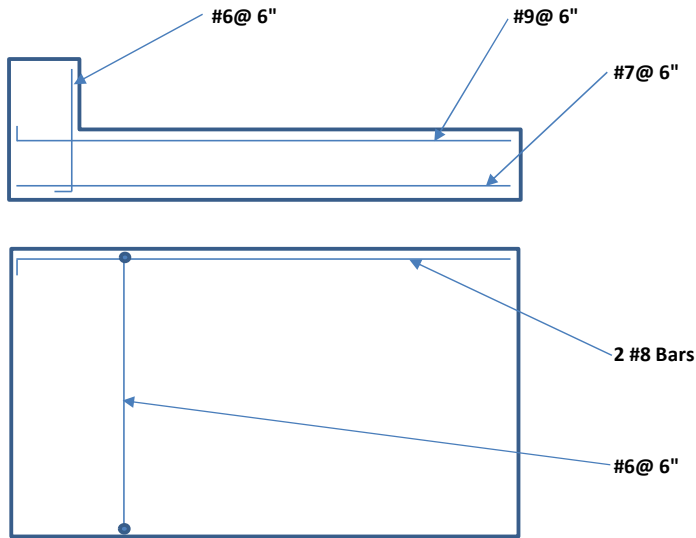
$$>$$

LRFD 5.7.2.3

$$V_u = 60.10 \text{ kip}$$

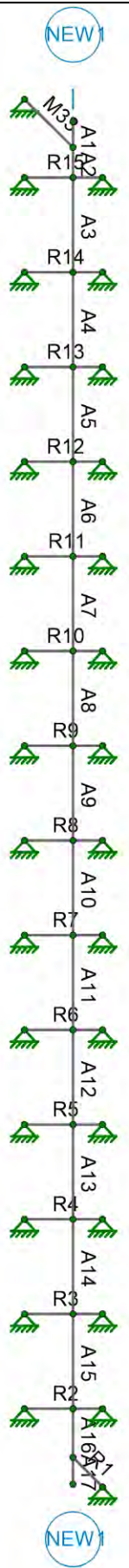
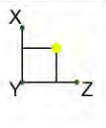
**No Shear Reinforcing Req'd**

**WINGWALL REINFORCING SUMMARY**



Wingwall 1B was modeled as it's the longest wingwall. Wingwall 1A is a little taller but much shorter and it did not control the design. To be conservative, since the fill/grading in front of the wingwall is unknown without more information from the civil team, it was determined to increase the necessary front face reinforcement to be almost equal to that of the fill face. This allows the wingwall to handle earth horizontal forces in both directions. The structure backfill behind the wingwalls is to be wrapped and a 3" expandable polystyrene is to be placed against the back face of the wingwalls. This further decreases the earth horizontal forces ultimately loading the wingwall.

## ***ABUTMENT DESIGN MODELS***



Steamboat Structures LLC
Reed
101.2006

Abutment 1 Pile Cap
---------------------

SK-5
Jan 19, 2021
Abut Pile Cap_HP 12x53 piles.r3d





## ***ABUTMENT DESIGN INPUT***



**Abutment Design:**

**Bridge Properties:**

Bridge Width =	30.000 ft
# of Lanes in one direction =	2.000
Multi-presence Factor, m =	1.000 for 2 lanes
Length of Span Behind =	0.000 ft
Length of Span Ahead =	100.000 ft
Tributary Span Length =	50.000 ft

**Superstructure Properties:**

SMA Thickness =	0.250 ft
Deck Overhang =	0.667 ft
Deck Thickness =	0.667 ft
Barrier Width =	18.00 in
Barrier Height =	42.00 in
Bearing Lines =	1
Bearing Height Back =	3.00 in
Bearing Height Ahead =	0.00 in
Maximum Girder Spacing $S_{max}$ =	7.167 ft
Dist. Between Ext. Girders =	40.542 ft
# of Girders total =	10
# of Girders being analyzed =	10
Type of Girder =	Steel Prefab
Girder Height =	3.000 ft
Girder Web Thickness =	0.87 in
Top Flange Width =	12.10 in

**Pier Properties:**

Skew, $\theta$ =	45.000 degrees	Angle Between Normal to HCL and CL Pier
Pier Cap Length =	107.750 ft	Transverse Dimension
Pier Cap Width =	3.167 ft	Longitudinal Dimension
Pier Cap Height =	8.678 ft	<b>Max A1 Height</b>
Backwall Height =	4.010 ft	
Backwall Width =	1.000 ft	
Column Width =	- ft	
# of Columns =	-	
Pile Cap Length =	53.826 ft	Transverse Dimension
Pile Cap Width =	7.167 ft	Longitudinal Dimension
Pile Cap Height =	2.000 ft	
# of Piles =	8	
Distance Between Piles =	6.750 ft	Transverse Dimension
Distance Between Pile Rows =	4.667 ft	Longitudinal Dimension
Length of Pile to Fixity =	22.000 ft	
% to Pier =	5%	
% of New Pier/Total Pier =	100%	Rounded up, to account for longitudinal forces

**Design Method: Load and Resistance Factored Design LRFD**

- Design References:**
1. AASHTO LRFD Eighth Edition, 2017
  2. CDOT Design Memos



**Load Input Information**

All DC, DW, and LL Reactions from CONTECH

Modulus of Elasticity of concrete $E_c$ .....	$E_c =$	4435 ksi	
Pier Height $H$ .....	$H =$	12.688 ft	
	$H =$	152.255 in	
Weight of Soil Backfill, $\gamma_{BF}$ .....	$\gamma_{BF} =$	135 pcf	
Active Earth Pressure Coefficient, $K_a$ .....	$K_a =$	0.28	
Drag Coefficient, $C_D$ .....	$C_D =$	1.400	LRFD Tbl 3.7.3.1-1
100 yr Storm Velocity $v_{100}$ .....	$v_{100} =$	6.300 ft/s	
100 yr Water Surface $HW_{100}$ .....	$HW_{100} =$	7058.49	
500 yr Storm Velocity $v_{500}$ .....	$v_{500} =$	-	ft/s Not required per El Paso Cnty
500 yr Water Surface $HW_{500}$ .....	$HW_{500} =$	-	Not required per El Paso Cnty
100 yr Scour Elevation Scour <sub>100</sub> .....	Scour <sub>100</sub> =	7047.76	
Horizontal Alignment Radius $R$ .....	$R =$	0.000 ft	

**Loads to Pier**

**Dead Loads (DC & DW)**

LRFD 3.5.1

Service Loads

Ext Gdr	CONTECH		RISA	
Gdr Self Weight	39.77	kips / brg	39.77	kips / brg
Deck + Hnch	0.00	kips /brg	0.00	kips / brg
Diaphragm	0.00	kips /brg	0.00	kips / brg
DL - Prec (DC)	0.00	kips /brg	0.00	kips / brg
DL - Prec (DW)	34.42	kips /brg	34.42	kips / brg
DL - Comp (DC)	0.00	kips / bridge	0.00	kips / gdr
DL - Comp (DW)	0.00	kips / bridge	0.00	kips / gdr
Supplemental	0.00	kips / bridge	0.00	kips / gdr
DL - Supp. (DC)	0.00	kips / bridge	0.00	kips / gdr
DL - Supp. (DW)	0.00	kips / bridge	0.00	kips / gdr
(- Y direction)				
			Total (DC) =	39.77 kips / brg
			Total (DW) =	34.42 kips / brg

Note: Reactions should be in y coord direction, (-) in value. CONTECH Reaction values are per bearing. CONTECH loads include add'l loads due to deck, haunch, sidewalk and rail.

Int Gdr	CONTECH		RISA	
Gdr Self Weight	53.78	kips / brg	53.78	kips / brg
Deck + Hnch	0.00	kips /brg	0.00	kips / brg
Diaphragm	0.00	kips /brg	0.00	kips / brg
DL - Prec (DC)	0.00	kips /brg	0.00	kips / brg
DL - Prec (DW)	13.44	kips /brg	13.44	kips / brg
DL - Comp (DC)	0.00	kips / bridge	0.00	kips / gdr
DL - Comp (DW)	0.00	kips / bridge	0.00	kips / gdr
Supplemental	0.00	kips / bridge	0.00	kips / gdr
DL - Supp. (DC)	0.00	kips / bridge	0.00	kips / gdr
DL - Supp. (DW)	0.00	kips / bridge	0.00	kips / gdr
(- Y direction)				
			Total (DC) =	53.78 kips / brg
			Total (DW) =	13.44 kips / brg



Substructure DC Loads

measured normal to Abutment CL

Abutment Backwall Height .....	4.010 ft	
Abutment Backwall Width .....	1.000 ft	
Approach Slab Height .....	1.000 ft	
Approach Slab Length .....	10.000 ft	
Railing/Pedestrian Rail on AS .....	0.180 klf	
Median on AS.....	12.000 kip @ center of abutment	
Median Railing on AS.....	5 kip @ center of abutment	
SMA on AS.....	1.834 klf	
Hidewall .....	4 kip @ 1' from end	
Wingwall .....	28.772 kip @ WW3A	Half of the WW is loading the abutment, the other half to the support pile
	22.088 kip @ WW3B	

CONTECH Loads from Sht 2 of the 9-25-20 Submittal Plans

	P
DC	240.89 kip/abut
DW	109.14 kip/abut
LL+IM	236.87 kip/abut

DC Load	$w_{DC} = 5.238$ klf	Approach Slab, Railing on Approach Slab + Contech Loads distributed along abut
	$w_{Abut} = 6.027$ klf	Weight of Abutment Height (incl. diaphragm)
DW Load	$w_{DW} = 3.859$ klf	SMA on Approach Slab + Contech Loads distributed along abut
LL Load	$w_{LL} = 4.397$ klf	Contech Loads distributed along abut
	$w_{DC} = 1.841$ klf	Median, Railing, Hidewall dist. along the middle 11.3' of the abutment
	PDC_WW = 28.772 kip/WW3A	Wingwall load as a point load at CL Abut
	PDC_WW = 22.088 kip/WW3B	Wingwall load as a point load at CL Abut

Live Load (LL)

LRFD 3.6.1

$F_{LL-int} = 104.990$ kip/brg	from Contech Plans
$F_{LL-ext} = 79.910$ kip/brg	from Contech Plans

Seismic (EQ)

LRFD 3.10

$F_{EQ-long} = 26.720$ kip/brg	from Contech Plans
$F_{EQ-transverse} = 13.360$ kip/brg	from Contech Plans

$F_{EQ_z} = 26.72$ kip/brg
----------------------------

$F_{EQ\_pier\ x} = 1.24$ k/ft
$F_{EQ\_pier\ z} = 2.48$ k/ft
$M_{EQ\_pier\ x} = 31.46$ k-ft/ft

Applied at the Bearing Surface  
Moment Arm = Abutment Height - Backface Height



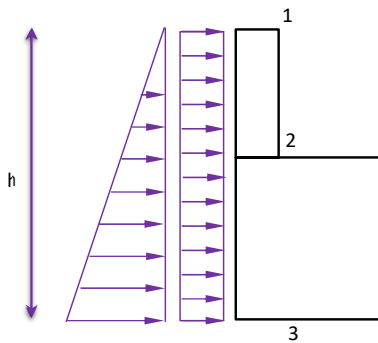
**Earth Horizontal (EH)**

LRFD 3.5.2

Backfill Information:

Type of Backfill .....	Class 1	
Unit Weight .....	$\gamma =$	135.00 pcf
Angle of Internal Friction .....		34.000 deg
Active Earth pressure coe' .....	$K_a =$	0.333
Surcharge Load ( $p_{sur}$ ) .....		250.00 psf
Abutment Length (L) .....		107.750 ft

*Geotechnical report*



Application Height .....	$h_1 =$	0.00 ft
	$h_2 =$	4.01 ft
	$h_3 =$	12.69 ft

*Add girder and deck depth for semi-integral abutments*

Earth Pressure .....	$p_1 = \gamma K_a h_1 =$	0.00 ksf / ft
	$p_2 = \gamma K_a h_2 =$	0.18 ksf / ft
	$p_3 = \gamma K_a h_3 =$	0.57 ksf / ft
	$F_{ZEP}^* =$	3.62 kip / ft

*\*Apply as Line Load on Abutment, 1/3 up from top of pile cap*

Surcharge .....	$F_{sur} =$	1.06 klf
-----------------	-------------	----------

*\*Apply as Line Load on Abutment, 1/2 up from top of pile cap*

$F_{ZEP} =$	-3.62 kip / ft	Applied at 1/3 up of Abutment Height
$F_{Zsur} =$	-1.06 kip / ft	Applied at 1/2 up of Abutment He

$M_{EP\_pier\ x} =$	-15.32 k-ft/ft	Moment Arm = 1/3 of Abutment Height
$M_{SUR\_pier\ x} =$	-6.71 k-ft/ft	Moment Arm = 1/2 of Abutment Height

*Don't have to apply surcharge load if you have an approach slab to distribute the load to the substructure instead of the soil below.*

*Surcharge load was not added due to the wrapped backfill and the 3" styrofoam preventing additional earth horizontal loading on the abutment*



**Braking Force (BR)**

Braking force is the greater of:

- \*25% of design truck axle weight
- \*5% of design truck plus lane load

Truck Weight = 72 kip  
 25% \* (Truck Weight) \* # of Lanes \* m  
 $BR_1 = 36.00 \text{ kip}$       **GREATER VALUE, USE!**

5% \* [(Truck Weight) + (Trib. Span Length) \* 0.64 klf]  
 $BR_2 = 5.20$

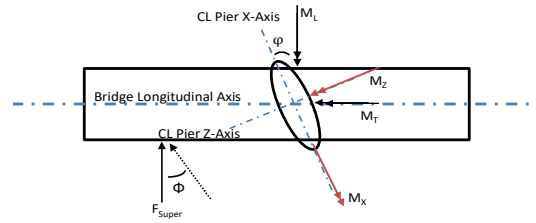
$F_{BR\_Long} = 1.8 \text{ kip}$       Multiply by % to pier  
 Load is applied at the roadway surface

Moment is about CL of Pier Cap:

Arm = 8.26 ft  
 $M_{BR\_Long} = 29.72 \text{ k-ft}$   
 $M_{BR\_pier\ x} = 21.01 \text{ k-ft}$   
 $F_{BR\_y-G1} = 0.26 \text{ kip/brg}$   
 $F_{BR\_y-Gn} = -0.26 \text{ kip/brg}$   
 $F_{BR\_x} = 0.25 \text{ kip/brg}$

$F_{BR\_pier\ x} = 0.02 \text{ k/ft}$   
 $F_{BR\_pier\ z} = 0.02 \text{ k/ft}$   
 $M_{BR\_pier\ x} = 0.30 \text{ k-ft/ft}$

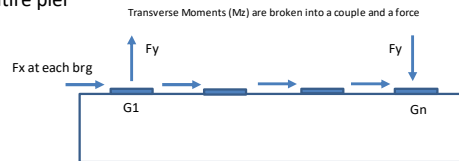
LRFD 3.6.4



**Bridge Plan View**

BDM 3.10

Total BR force for entire pier



Applied at the Finished Grade Surface  
 Applied at the Finished Grade Surface  
 Moment Arm = Abutment Height

**Wind Load (WS)**

**Wind Load from Superstructure(WS)**

Ground Surface Cat. = C  
 Wind Exposure Cat. = C  
 Horizontal Wind Load = 3.00 kip/brg

Per Contech Plans, Cat. C is conservative  
 Match Ground Surface Category  
 Per Contech Plans

LRFD 3.8

LRFD 3.8.1.2.3a

LRFD 3.8.1.1.4

LRFD 3.8.1.1.5

$F_{WS\_x} = 2.12 \text{ kip/brg}$   
 $F_{WS\_z} = 2.12 \text{ kip/brg}$

$F_{WS\_pier\ x} = 0.20 \text{ k/ft}$   
 $F_{WS\_pier\ z} = 0.20 \text{ k/ft}$   
 $M_{WS\_pier\ x} = 1.71 \text{ k-ft/ft}$

Applied at the Bearing Surface  
 Applied at the Bearing Surface  
 Moment Arm = Abutment Height - Backface Height



**Wind Load on Substructure (WS)**

LRFD 3.8.1.2

$V = 115$  mph  
 $K_z = 1.00$  For  $Z < 33'$   
 $G = 1.00$  All other structures  
 $C_D = 1.60$  Bridge Substructure  
 $P_z = 2.56 * 10^{-6} V^2 K_z G C_D$   
 $P_z = 0.054$  ksf  
 Abut Width = 3.167 ft  
 Abut Wind Height = 8.678 ft  
 Wind Area = 27.479 ft<sup>2</sup>  
 $F_{WS\_sub} = 1.489$  kip/abut

$F_{WS\_x} = 1.05$  kip/brg  
 $F_{WS\_z} = 1.05$  kip/brg

$F_{WS\_pier\ x} = 0.10$  k/ft  
 $F_{WS\_pier\ z} = 0.10$  k/ft  
 $M_{WS\_pier\ x} = 0.62$  k-ft/ft

Applied at Center of Abutment Wall  
 Applied at Center of Abutment Wall  
 Moment Arm = 1/2 of Abut Height

**Centrifugal Force (CE)**

LRFD 3.6.3

Centrifugal Force was not considered due to the alignment being tangent

**Temperature (T)**

LRFD 3.12.2.2

Long. Thermal Load = 13.32 kip/brg Per Contech Plans

$F_{TU\_x} = 9.42$  kip/brg  
 $F_{TU\_z} = 9.42$  kip/brg

$F_{TU\_pier\ x} = 0.87$  k/ft  
 $F_{TU\_pier\ z} = 0.87$  k/ft  
 $M_{TU\_pier\ x} = 7.59$  k-ft/ft

Applied at the Bearing Surface  
 Applied at the Bearing Surface  
 Moment Arm = Abutment Height - Backface Height



**Abutment Design:**

**Bridge Properties:**

Bridge Width =	30.000 ft
# of Lanes in one direction =	2.000
Multi-presence Factor, m =	1.000 for 2 lanes
Length of Span Behind =	0.000 ft
Length of Span Ahead =	100.000 ft
Tributary Span Length =	50.000 ft

**Superstructure Properties:**

SMA Thickness =	0.250 ft
Deck Overhang =	0.667 ft
Deck Thickness =	0.667 ft
Barrier Width =	18.00 in
Barrier Height =	42.00 in
Bearing Lines =	1
Bearing Height Back =	3.00 in
Bearing Height Ahead =	0.00 in
Maximum Girder Spacing $S_{max}$ =	7.167 ft
Dist. Between Ext. Girders =	40.542 ft
# of Girders total =	10
# of Girders being analyzed =	10
Type of Girder =	Steel Prefab
Girder Height =	3.000 ft
Girder Web Thickness =	0.87 in
Top Flange Width =	12.10 in

**Pier Properties:**

Skew, $\theta$ =	45.000 degrees	Angle Between Normal to HCL and CL Pier
Pier Cap Length =	107.750 ft	Transverse Dimension
Pier Cap Width =	3.167 ft	Longitudinal Dimension
Pier Cap Height =	10.344 ft	<b>Max A1 Height</b>
Backwall Height =	4.010 ft	
Backwall Width =	1.000 ft	
Column Width =	- ft	
# of Columns =	-	
Pile Cap Length =	107.750 ft	Transverse Dimension
Pile Cap Width =	8.667 ft	Longitudinal Dimension
Pile Cap Height =	2.000 ft	
# of Piles =	8	
Distance Between Piles =	7.470 ft	Transverse Dimension
Distance Between Pile Rows =	6.167 ft	Longitudinal Dimension
Length of Pile to Fixity =	19.000 ft	
% to Pier =	5%	
% of New Pier/Total Pier =	100%	Rounded up, to account for longitudinal forces

**Design Method: Load and Resistance Factored Design LRFD**

- Design References:**
1. AASHTO LRFD Eighth Edition, 2017
  2. CDOT Design Memos





**Load Input Information**

All DC, DW, and LL Reactions from CONTECH

Modulus of Elasticity of concrete $E_c$ .....	$E_c =$	4435 ksi	
Pier Height $H$ .....	$H =$	14.354 ft	
	$H =$	172.253 in	
Weight of Soil Backfill, $\gamma_{BF}$ .....	$\gamma_{BF} =$	135 pcf	
Active Earth Pressure Coefficient, $K_a$ .....	$K_a =$	0.28	
Drag Coefficient, $C_D$ .....	$C_D =$	1.400	LRFD Tbl 3.7.3.1-1
100 yr Storm Velocity $v_{100}$ .....	$v_{100} =$	6.300 ft/s	
100 yr Water Surface $HW_{100}$ .....	$HW_{100} =$	7058.49	
500 yr Storm Velocity $v_{500}$ .....	$v_{500} =$	-	ft/s Not required per El Paso Cnty
500 yr Water Surface $HW_{500}$ .....	$HW_{500} =$	-	Not required per El Paso Cnty
100 yr Scour Elevation $Scour_{100}$ .....	$Scour_{100} =$	7047.76	
Horizontal Alignment Radius $R$ .....	$R =$	0.000 ft	

**Loads to Pier**

**Dead Loads (DC & DW)**

LRFD 3.5.1

Service Loads

Ext Gdr	CONTECH		RISA	
Gdr Self Weight	39.77	kips / brg	39.77	kips / brg
Deck + Hnch	0.00	kips /brg	0.00	kips / brg
Diaphragm	0.00	kips /brg	0.00	kips / brg
DL - Prec (DC)	0.00	kips /brg	0.00	kips / brg
DL - Prec (DW)	34.42	kips /brg	34.42	kips / brg
DL - Comp (DC)	0.00	kips / bridge	0.00	kips / gdr
DL - Comp (DW)	0.00	kips / bridge	0.00	kips / gdr
Supplemental	0.00	kips / bridge	0.00	kips / gdr
DL - Supp. (DC)	0.00	kips / bridge	0.00	kips / gdr
DL - Supp. (DW)	0.00	kips / bridge	0.00	kips / gdr
(- Y direction)				
			Total (DC) =	39.77 kips / brg
			Total (DW) =	34.42 kips / brg

Note: Reactions should be in y coord direction, (-) in value. CONTECH Reaction values are per bearing. CONTECH loads include add'l loads due to deck, haunch, sidewalk and rail.

Int Gdr	CONTECH		RISA	
Gdr Self Weight	53.78	kips / brg	53.78	kips / brg
Deck + Hnch	0.00	kips /brg	0.00	kips / brg
Diaphragm	0.00	kips /brg	0.00	kips / brg
DL - Prec (DC)	0.00	kips /brg	0.00	kips / brg
DL - Prec (DW)	13.44	kips /brg	13.44	kips / brg
DL - Comp (DC)	0.00	kips / bridge	0.00	kips / gdr
DL - Comp (DW)	0.00	kips / bridge	0.00	kips / gdr
Supplemental	0.00	kips / bridge	0.00	kips / gdr
DL - Supp. (DC)	0.00	kips / bridge	0.00	kips / gdr
DL - Supp. (DW)	0.00	kips / bridge	0.00	kips / gdr
(- Y direction)				
			Total (DC) =	53.78 kips / brg
			Total (DW) =	13.44 kips / brg



Substructure DC Loads

measured normal to Abutment CL

Abutment Backwall Height .....	4.010 ft	
Abutment Backwall Width .....	1.000 ft	
Approach Slab Height .....	1.000 ft	
Approach Slab Length .....	10.000 ft	
Railing/Pedestrian Rail on AS .....	0.180 kip	
Median on AS.....	12.000 kip @ center of abutment	
Median Railing on AS.....	5 kip @ center of abutment	
SMA on AS.....	1.834 klf	
Hidewall .....	4 kip @ 1' from end	
Wingwall .....	30.225 kip @ WW1B	Half of the WW is loading the abutment, the other half to the support pile
	20.538 kip @ WW1A	
	28.772 kip @ WW3A	
	22.088 kip @ WW3B	

CONTECH Loads from Sht 2 of the 9-25-20 Submittal Plans

P

DC	240.89 kip/abut
DW	109.14 kip/abut
LL+IM	236.87 kip/abut

DC Load	$w_{DC} = 5.238$ klf	Approach Slab, Railing on Approach Slab + Contech Loads distributed along abut
	$w_{Abut} = 6.818$ klf	Weight of Abutment Height (incl. diaphragm)
DW Load	$w_{DW} = 3.859$ klf	SMA on Approach Slab + Contech Loads distributed along abut
LL Load	$w_{LL} = 4.397$ klf	Contech Loads distributed along abut
	$w_{DC} = 1.841$ klf	Median, Railing, Hidewall dist. along the middle 11.3' of the abutment
	PDC_WW = 20.538 kip/WW1A	Wingwall load as a point load at CL Abut
	PDC_WW = 30.225 kip/WW1B	Wingwall load as a point load at CL Abut

Live Load (LL)

LRFD 3.6.1

$F_{LL-int} = 104.990$ kip/brg	from Contech Plans
$F_{LL-ext} = 79.910$ kip/brg	from Contech Plans

Seismic (EQ)

LRFD 3.10

$F_{EQ-long} = 26.720$ kip/brg	from Contech Plans
$F_{EQ-transverse} = 13.360$ kip/brg	from Contech Plans

$F_{EQ_z} = 26.72$ kip/brg
----------------------------

$F_{EQ\_pier\ x} = 1.24$ k/ft
$F_{EQ\_pier\ z} = 2.48$ k/ft
$M_{EQ\_pier\ x} = 35.60$ k-ft/ft

Applied at the Bearing Surface  
Moment Arm = Abutment Height - Backface Height



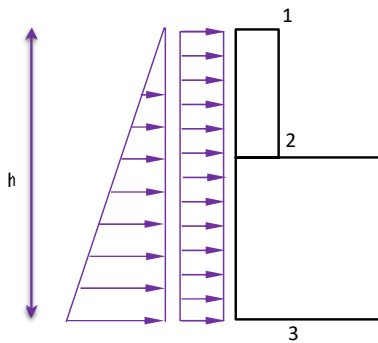
**Earth Horizontal (EH)**

LRFD 3.5.2

Backfill Information:

Type of Backfill .....	Class 1	
Unit Weight .....	$\gamma =$	135.00 pcf
Angle of Internal Friction .....		34.000 deg
Active Earth pressure coe' .....	$K_a =$	0.333
Surcharge Load ( $p_{sur}$ ) .....		250.00 psf
Abutment Length (L) .....		107.750 ft

*Geotechnical report*



Application Height .....	$h_1 =$	0.00 ft
	$h_2 =$	4.01 ft
	$h_3 =$	14.35 ft

*Add girder and deck depth for semi-integral abutments*

Earth Pressure .....	$p_1 = \gamma K_a h_1 =$	0.00 ksf / ft
	$p_2 = \gamma K_a h_2 =$	0.18 ksf / ft
	$p_3 = \gamma K_a h_3 =$	0.65 ksf / ft
	$F_{ZEP}^* =$	4.64 kip / ft

*\*Apply as Line Load on Abutment, 1/3 up from top of pile cap*

Surcharge .....	$F_{sur} =$	1.20 klf
-----------------	-------------	----------

*\*Apply as Line Load on Abutment, 1/2 up from top of pile cap*

$F_{ZEP} =$	-4.64 kip / ft	Applied at 1/3 up of Abutment Height
$F_{Zsur} =$	-1.20 kip / ft	Applied at 1/2 up of Abutment He

$M_{EP\_pier\ x} =$	-22.18 k-ft/ft	Moment Arm = 1/3 of Abutment Height
$M_{SUR\_pier\ x} =$	-8.59 k-ft/ft	Moment Arm = 1/2 of Abutment Height

*Don't have to apply surcharge load if you have an approach slab to distribute the load to the substructure instead of the soil below.*

*Surcharge load was not added due to the wrapped backfill and the 3" styrofoam preventing additional earth horizontal loading on the abutment*



**Braking Force (BR)**

Braking force is the greater of:

- \*25% of design truck axle weight
- \*5% of design truck plus lane load

Truck Weight = 72 kip  
 25% \* (Truck Weight) \* # of Lanes \* m  
 $BR_1 = 36.00 \text{ kip}$  **GREATER VALUE, USE!**

5% \* [(Truck Weight) + (Trib.Span Length) \* 0.64 klf]  
 $BR_2 = 5.20$

$F_{BR\_Long} = 1.8 \text{ kip}$  Multiply by % to pier  
 Load is applied at the roadway surface

Moment is about CL of Pier Cap:

Arm = 9.09 ft  
 $M_{BR\_Long} = 32.72 \text{ k-ft}$   
 $M_{BR\_pier\ x} = 23.14 \text{ k-ft}$   
 $F_{BR\_y-G1} = 0.29 \text{ kip/brg}$   
 $F_{BR\_y-Gn} = -0.29 \text{ kip/brg}$   
 $F_{BR\_x} = 0.25 \text{ kip/brg}$

$F_{BR\_pier\ x} = 0.02 \text{ k/ft}$   
 $F_{BR\_pier\ z} = 0.02 \text{ k/ft}$   
 $M_{BR\_pier\ x} = 0.34 \text{ k-ft/ft}$

**Wind Load (WS)**

**Wind Load from Superstructure(WS)**

Ground Surface Cat. = C  
 Wind Exposure Cat. = C  
 Horizontal Wind Load = 3.00 kip/brg

$F_{WS\_x} = 2.12 \text{ kip/brg}$   
 $F_{WS\_z} = 2.12 \text{ kip/brg}$

$F_{WS\_pier\ x} = 0.20 \text{ k/ft}$   
 $F_{WS\_pier\ z} = 0.20 \text{ k/ft}$   
 $M_{WS\_pier\ x} = 2.04 \text{ k-ft/ft}$

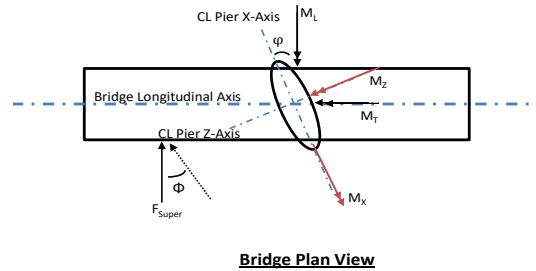
Per Contech Plans, Cat. C is conservative  
 Match Ground Surface Category  
 Per Contech Plans

Total BR force for entire pier

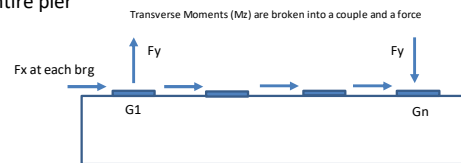
Applied at the Finished Grade Surface  
 Applied at the Finished Grade Surface  
 Moment Arm = Abutment Height

Applied at the Bearing Surface  
 Applied at the Bearing Surface  
 Moment Arm = Abutment Height - Backface Height

LRFD 3.6.4



BDM 3.10



LRFD 3.8

LRFD 3.8.1.2.3a

LRFD 3.8.1.1.4

LRFD 3.8.1.1.5



**Wind Load on Substructure (WS)**

LRFD 3.8.1.2

$V = 115$  mph  
 $K_z = 1.00$  For  $Z < 33'$   
 $G = 1.00$  All other structures  
 $C_D = 1.60$  Bridge Substructure  
 $P_z = 2.56 * 10^{-6} V^2 K_z G C_D$   
 $P_z = 0.054$  ksf  
 Abut Width = 3.167 ft  
 Abut Wind Height = 10.344 ft  
 Wind Area = 32.756 ft<sup>2</sup>  
 $F_{WS\_sub} = 1.774$  kip/abut

$F_{WS\_x} = 1.25$  kip/abut  
 $F_{WS\_z} = 1.25$  kip/abut

$F_{WS\_pier\ x} = 0.12$  k/ft  
 $F_{WS\_pier\ z} = 0.12$  k/ft  
 $M_{WS\_pier\ x} = 0.84$  k-ft/ft

Applied at Center of Abutment Wall  
 Applied at Center of Abutment Wall  
 Moment Arm = 1/2 of Abut Height

**Centrifugal Force (CE)**

LRFD 3.6.3

Centrifugal Force was not considered due to the alignment being tangent

**Temperature (T)**

LRFD 3.12.2.2

Long. Thermal Load = 13.32 kip/brg Per Contech Plans

$F_{WS\_x} = 9.42$  kip/brg  
 $F_{WS\_z} = 9.42$  kip/brg

$F_{TU\_pier\ x} = 0.87$  k/ft  
 $F_{TU\_pier\ z} = 0.87$  k/ft  
 $M_{TU\_pier\ x} = 9.04$  k-ft/ft

Applied at the Bearing Surface  
 Applied at the Bearing Surface  
 Moment Arm = Abutment Height - Backface Height

## ***ABUTMENT MODEL OUTPUTS***



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Project Grid Lines**

	Label	Start [ft]	End [ft]	Start [ft]	End [ft]	Start Bubble	End Bubble
1	NEW1	40	40	0	110	Yes	Yes

**Node Coordinates**

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	N1	107.479167	0	40	
2	N2	0	0	40	
3	RN1B	2.125	0	40	
4	RN1C	-0.208333	0	42.33333	
5	RN2A	5.961667	0	36.166667	
6	RN2B	5.961667	0	40	
7	RN2C	5.961667	0	42.333333	
8	RN3A	13.431667	0	36.166667	
9	RN3B	13.431667	0	40	
10	RN3C	13.431667	0	42.33333	
11	RN4A	20.901667	0	36.16667	
12	RN4B	20.901667	0	40	
13	RN4C	20.901667	0	42.33333	
14	RN5A	28.371667	0	36.16667	
15	RN5B	28.371667	0	40	
16	RN5C	28.371667	0	42.333333	
17	RN6A	35.841667	0	36.166667	
18	RN6B	35.841667	0	40	
19	RN6C	35.841667	0	42.33333	
20	RN7A	43.311667	0	36.166667	
21	RN7B	43.311667	0	40	
22	RN7C	43.316667	0	42.33333	
23	RN8A	50.781667	0	36.166667	
24	RN8B	50.781667	0	40	
25	RN8C	50.781667	0	42.333333	
26	RN9A	58.251667	0	36.166667	
27	RN9B	58.251667	0	40	
28	RN9C	58.251667	0	42.333333	
29	RN10A	65.721667	0	36.166667	
30	RN10B	65.721667	0	40	
31	RN10C	65.721667	0	42.33333	
32	RN11A	73.191667	0	36.16667	
33	RN11B	73.191667	0	40	
34	RN11C	73.191667	0	42.33333	
35	RN12A	80.661667	0	36.16667	
36	RN12B	80.661667	0	40	
37	RN12C	80.661667	0	42.333333	
38	RN13A	88.131667	0	36.166667	
39	RN13B	88.131667	0	40	
40	RN13C	88.131667	0	42.333333	
41	RN14A	95.601667	0	36.166667	
42	RN14B	95.601667	0	40	
43	RN14C	95.601667	0	42.33333	
44	RN15A	103.071667	0	36.166667	
45	RN15B	103.071667	0	40	
46	RN15C	103.071667	0	42.333333	
47	RN16A	109.241667	0	36.166667	
48	RN16B	105.45	0	40	

**Node Boundary Conditions**

	Node Label	X [k/in]	Y [k/in]	Z [k/in]
1	RN2A	Reaction	Reaction	Reaction
2	RN1C	Reaction	Reaction	Reaction

**Node Boundary Conditions (Continued)**

	Node Label	X [k/in]	Y [k/in]	Z [k/in]
3	RN2C	Reaction	Reaction	Reaction
4	RN3A	Reaction	Reaction	Reaction
5	RN3C	Reaction	Reaction	Reaction
6	RN4A	Reaction	Reaction	Reaction
7	RN5C	Reaction	Reaction	Reaction
8	RN6A	Reaction	Reaction	Reaction
9	RN7A	Reaction	Reaction	Reaction
10	RN6C	Reaction	Reaction	Reaction
11	RN8C	Reaction	Reaction	Reaction
12	RN9A	Reaction	Reaction	Reaction
13	RN9C	Reaction	Reaction	Reaction
14	RN10A	Reaction	Reaction	Reaction
15	RN10C	Reaction	Reaction	Reaction
16	RN13A	Reaction	Reaction	Reaction
17	RN11A	Reaction	Reaction	Reaction
18	RN15C	Reaction	Reaction	Reaction
19	RN16A	Reaction	Reaction	Reaction
20	RN14C	Reaction	Reaction	Reaction
21	RN15A	Reaction	Reaction	Reaction
22	RN12C	Reaction	Reaction	Reaction
23	RN4C	Reaction	Reaction	Reaction
24	RN5A	Reaction	Reaction	Reaction
25	RN8A	Reaction	Reaction	Reaction
26	RN7C	Reaction	Reaction	Reaction
27	RN11C	Reaction	Reaction	Reaction
28	RN12A	Reaction	Reaction	Reaction
29	RN13C	Reaction	Reaction	Reaction
30	RN14A	Reaction	Reaction	Reaction

**Concrete Properties**

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e <sup>-6</sup> F <sup>-1</sup> ]	Density [k/ft <sup>3</sup> ]	f <sub>c</sub> [ksi]	Lambda	Flex Steel [ksi]	Shear Steel [ksi]
1	Conc3000NW	3156	1372	0.15	0.6	0.145	3	1	60	60
2	Conc3500NW	3409	1482	0.15	0.6	0.145	3.5	1	60	60
3	Conc4000NW	3644	1584	0.15	0.6	0.145	4	1	60	60
4	Conc3000LW	2085	907	0.15	0.6	0.11	3	0.75	60	60
5	Conc3500LW	2252	979	0.15	0.6	0.11	3.5	0.75	60	60
6	Conc4000LW	2408	1047	0.15	0.6	0.11	4	0.75	60	60
7	CONC4500	4435	1584	0.15	0.6	0.145	4.5	1	60	60

**Concrete Section Sets**

	Label	Shape	Type	Design List	Material	Design Rule	Area [in <sup>2</sup> ]	I <sub>yy</sub> [in <sup>4</sup> ]	I <sub>zz</sub> [in <sup>4</sup> ]	J [in <sup>4</sup> ]
1	CONC1	CRECT24X104	Beam	Rectangular	CONC4500	Typical	2496	2.25e+06	1.198e+05	4.096e+05

**Member Primary Data**

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
1	A1	N1	RN16B	CONC1	Beam	Rectangular	CONC4500	Typical
2	A2	RN16B	RN15B	CONC1	Beam	Rectangular	CONC4500	Typical
3	A3	RN15B	RN14B	CONC1	Beam	Rectangular	CONC4500	Typical
4	A4	RN14B	RN13B	CONC1	Beam	Rectangular	CONC4500	Typical
5	A5	RN13B	RN12B	CONC1	Beam	Rectangular	CONC4500	Typical
6	A6	RN12B	RN11B	CONC1	Beam	Rectangular	CONC4500	Typical
7	A7	RN11B	RN10B	CONC1	Beam	Rectangular	CONC4500	Typical
8	A8	RN10B	RN9B	CONC1	Beam	Rectangular	CONC4500	Typical
9	A9	RN9B	RN8B	CONC1	Beam	Rectangular	CONC4500	Typical
10	A10	RN8B	RN7B	CONC1	Beam	Rectangular	CONC4500	Typical
11	A11	RN7B	RN6B	CONC1	Beam	Rectangular	CONC4500	Typical
12	A12	RN6B	RN5B	CONC1	Beam	Rectangular	CONC4500	Typical



**Member Primary Data (Continued)**

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
13	A13	RN5B	RN4B	CONC1	Beam	Rectangular	CONC4500	Typical
14	A14	RN4B	RN3B	CONC1	Beam	Rectangular	CONC4500	Typical
15	A15	RN3B	RN2B	CONC1	Beam	Rectangular	CONC4500	Typical
16	A16	RN2B	RN1B	CONC1	Beam	Rectangular	CONC4500	Typical
17	A17	RN1B	N2	CONC1	Beam	Rectangular	CONC4500	Typical
18	R1	RN1B	RN1C	RIGID	None	None	RIGID	Typical
19	R2	RN2A	RN2C	RIGID	None	None	RIGID	Typical
20	R3	RN3A	RN3C	RIGID	None	None	RIGID	Typical
21	R4	RN4A	RN4C	RIGID	None	None	RIGID	Typical
22	R5	RN5A	RN5C	RIGID	None	None	RIGID	Typical
23	R6	RN6A	RN6C	RIGID	None	None	RIGID	Typical
24	R7	RN7A	RN7C	RIGID	None	None	RIGID	Typical
25	R8	RN8A	RN8C	RIGID	None	None	RIGID	Typical
26	R9	RN9A	RN9C	RIGID	None	None	RIGID	Typical
27	R10	RN10A	RN10C	RIGID	None	None	RIGID	Typical
28	R11	RN11A	RN11C	RIGID	None	None	RIGID	Typical
29	R12	RN12A	RN12C	RIGID	None	None	RIGID	Typical
30	R13	RN13A	RN13C	RIGID	None	None	RIGID	Typical
31	R14	RN14A	RN14C	RIGID	None	None	RIGID	Typical
32	R15	RN15A	RN15C	RIGID	None	None	RIGID	Typical
33	M33	RN16A	RN16B	RIGID	None	None	RIGID	Typical

**Concrete Beam Design Parameters**

	Label	Shape	Length [ft]	Flexural Rebar Design	Flexural Layout	Shear Rebar Design	Shear Layout
1	A1	CONC1	2.029	Design Rule	Use Design Rule	Design Rule	Use Design Rule
2	A2	CONC1	2.378	Design Rule	Use Design Rule	Design Rule	Use Design Rule
3	A3	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
4	A4	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
5	A5	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
6	A6	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
7	A7	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
8	A8	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
9	A9	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
10	A10	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
11	A11	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
12	A12	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
13	A13	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
14	A14	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
15	A15	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
16	A16	CONC1	3.837	Design Rule	Use Design Rule	Design Rule	Use Design Rule
17	A17	CONC1	2.125	Design Rule	Use Design Rule	Design Rule	Use Design Rule

**Member Point Loads**

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	A17	Y	-30.224	0
2	A1	Y	-20.538	%100

**Member Distributed Loads**

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	Y	-5.238	-5.238	0	%100
2	A3	Y	-5.238	-5.238	0	%100
3	A4	Y	-5.238	-5.238	0	%100
4	A5	Y	-5.238	-5.238	0	%100
5	A6	Y	-5.238	-5.238	0	%100
6	A7	Y	-5.238	-5.238	0	%100
7	A8	Y	-5.238	-5.238	0	%100
8	A9	Y	-5.238	-5.238	0	%100



**Member Distributed Loads (Continued)**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
9	A10	Y	-5.238	-5.238	0	%100
10	A11	Y	-5.238	-5.238	0	%100
11	A12	Y	-5.238	-5.238	0	%100
12	A13	Y	-5.238	-5.238	0	%100
13	A14	Y	-5.238	-5.238	0	%100
14	A15	Y	-5.238	-5.238	0	%100
15	A16	Y	-5.238	-5.238	0	%100
16	A10	Y	-1.841	-1.841	0	2.699
17	A9	Y	-1.841	-1.841	0	%100
18	A8	Y	-1.841	-1.841	6.326	%100

**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	Y	-6.818	-6.818	0	%100
2	A3	Y	-6.818	-6.818	0	%100
3	A4	Y	-6.818	-6.818	0	%100
4	A5	Y	-6.818	-6.818	0	%100
5	A6	Y	-6.818	-6.818	0	%100
6	A7	Y	-6.818	-6.818	0	%100
7	A8	Y	-6.818	-6.818	0	%100
8	A9	Y	-6.818	-6.818	0	%100
9	A10	Y	-6.818	-6.818	0	%100
10	A11	Y	-6.818	-6.818	0	%100
11	A12	Y	-6.818	-6.818	0	%100
12	A13	Y	-6.818	-6.818	0	%100
13	A14	Y	-6.818	-6.818	0	%100
14	A15	Y	-6.818	-6.818	0	%100
15	A16	Y	-6.818	-6.818	0	%100

**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	Y	-3.859	-3.859	0	%100
2	A3	Y	-3.859	-3.859	0	%100
3	A4	Y	-3.859	-3.859	0	%100
4	A5	Y	-3.859	-3.859	0	%100
5	A6	Y	-3.859	-3.859	0	%100
6	A7	Y	-3.859	-3.859	0	%100
7	A8	Y	-3.859	-3.859	0	%100
8	A9	Y	-3.859	-3.859	0	%100
9	A10	Y	-3.859	-3.859	0	%100
10	A11	Y	-3.859	-3.859	0	%100
11	A12	Y	-3.859	-3.859	0	%100
12	A13	Y	-3.859	-3.859	0	%100
13	A14	Y	-3.859	-3.859	0	%100
14	A15	Y	-3.859	-3.859	0	%100
15	A16	Y	-3.859	-3.859	0	%100

**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	Y	-4.397	-4.397	0	%100
2	A3	Y	-4.397	-4.397	0	%100
3	A4	Y	-4.397	-4.397	0	%100
4	A5	Y	-4.397	-4.397	0	%100
5	A6	Y	-4.397	-4.397	0	%100
6	A7	Y	-4.397	-4.397	0	%100
7	A8	Y	-4.397	-4.397	0	%100
8	A9	Y	-4.397	-4.397	0	%100



**Member Distributed Loads (Continued)**

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
9	A10	Y	-4.397	-4.397	0 %100
10	A11	Y	-4.397	-4.397	0 %100
11	A12	Y	-4.397	-4.397	0 %100
12	A13	Y	-4.397	-4.397	0 %100
13	A14	Y	-4.397	-4.397	0 %100
14	A15	Y	-4.397	-4.397	0 %100
15	A16	Y	-4.397	-4.397	0 %100

**Member Distributed Loads**

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	Z	4.726	4.726	0 %100
2	A2	Mx	-22.842	-22.842	0 %100
3	A3	Mx	-22.842	-22.842	0 %100
4	A3	Z	4.726	4.726	0 %100
5	A4	Mx	-22.842	-22.842	0 %100
6	A4	Z	4.726	4.726	0 %100
7	A5	Z	4.726	4.726	0 %100
8	A5	Mx	-22.842	-22.842	0 %100
9	A6	Z	4.726	4.726	0 %100
10	A6	Mx	-22.842	-22.842	0 %100
11	A7	Z	4.726	4.726	0 %100
12	A7	Mx	-22.842	-22.842	0 %100
13	A8	Z	4.726	4.726	0 %100
14	A8	Mx	-22.842	-22.842	0 %100
15	A9	Z	4.726	4.726	0 %100
16	A9	Mx	-22.842	-22.842	0 %100
17	A10	Z	4.726	4.726	0 %100
18	A10	Mx	-22.842	-22.842	0 %100
19	A11	Mx	-22.842	-22.842	0 %100
20	A11	Z	4.726	4.726	0 %100
21	A12	Z	4.726	4.726	0 %100
22	A12	Mx	-22.842	-22.842	0 %100
23	A13	Z	4.726	4.726	0 %100
24	A13	Mx	-22.842	-22.842	0 %100
25	A14	Z	4.726	4.726	0 %100
26	A14	Mx	-22.842	-22.842	0 %100
27	A15	Mx	-22.842	-22.842	0 %100
28	A15	Z	4.726	4.726	0 %100
29	A16	Z	4.726	4.726	0 %100
30	A16	Mx	-22.842	-22.842	0 %100

**Member Distributed Loads**

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	X	0.197	0.197	0 %100
2	A2	Z	0.197	0.197	0 %100
3	A2	Mx	-2.036	-2.036	0 %100
4	A3	Mx	-2.036	-2.036	0 %100
5	A3	X	0.197	0.197	0 %100
6	A3	Z	0.197	0.197	0 %100
7	A4	X	0.197	0.197	0 %100
8	A4	Mx	-2.036	-2.036	0 %100
9	A4	Z	0.197	0.197	0 %100
10	A5	X	0.197	0.197	0 %100
11	A5	Mx	-2.036	-2.036	0 %100
12	A5	Z	0.197	0.197	0 %100
13	A6	Z	0.197	0.197	0 %100
14	A6	X	0.197	0.197	0 %100
15	A6	Mx	-2.036	-2.036	0 %100



**Member Distributed Loads (Continued)**

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
15	A6	Mx	-2.036	-2.036	0 %100
16	A7	X	0.197	0.197	0 %100
17	A7	Mx	-2.036	-2.036	0 %100
18	A7	Z	0.197	0.197	0 %100
19	A8	Z	0.197	0.197	0 %100
20	A8	Mx	-2.036	-2.036	0 %100
21	A8	X	0.197	0.197	0 %100
22	A9	Mx	-2.036	-2.036	0 %100
23	A9	X	0.197	0.197	0 %100
24	A9	Z	0.197	0.197	0 %100
25	A10	Z	0.197	0.197	0 %100
26	A10	X	0.197	0.197	0 %100
27	A10	Mx	-2.036	-2.036	0 %100
28	A11	Mx	-2.036	-2.036	0 %100
29	A11	X	0.197	0.197	0 %100
30	A11	Z	0.197	0.197	0 %100
31	A12	X	0.197	0.197	0 %100
32	A12	Mx	-2.036	-2.036	0 %100
33	A12	Z	0.197	0.197	0 %100
34	A13	Z	0.197	0.197	0 %100
35	A13	Mx	-2.036	-2.036	0 %100
36	A13	X	0.197	0.197	0 %100
37	A14	X	0.197	0.197	0 %100
38	A14	Mx	-2.036	-2.036	0 %100
39	A14	Z	0.197	0.197	0 %100
40	A15	Mx	-2.036	-2.036	0 %100
41	A15	Z	0.197	0.197	0 %100
42	A15	X	0.197	0.197	0 %100
43	A16	X	0.197	0.197	0 %100
44	A16	Mx	-2.036	-2.036	0 %100
45	A16	Z	0.197	0.197	0 %100

**Member Distributed Loads**

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	X	0.116	0.116	0 %100
2	A2	Z	0.116	0.116	0 %100
3	A2	Mx	-0.836	-0.836	0 %100
4	A3	X	0.116	0.116	0 %100
5	A3	Mx	-0.836	-0.836	0 %100
6	A3	Z	0.116	0.116	0 %100
7	A4	X	0.116	0.116	0 %100
8	A4	Mx	-0.836	-0.836	0 %100
9	A4	Z	0.116	0.116	0 %100
10	A5	X	0.116	0.116	0 %100
11	A5	Z	0.116	0.116	0 %100
12	A5	Mx	-0.836	-0.836	0 %100
13	A6	X	0.116	0.116	0 %100
14	A6	Z	0.116	0.116	0 %100
15	A6	Mx	-0.836	-0.836	0 %100
16	A7	X	0.116	0.116	0 %100
17	A7	Mx	-0.836	-0.836	0 %100
18	A7	Z	0.116	0.116	0 %100
19	A8	X	0.116	0.116	0 %100
20	A8	Mx	-0.836	-0.836	0 %100
21	A8	Z	0.116	0.116	0 %100
22	A9	Mx	-0.836	-0.836	0 %100
23	A9	Z	0.116	0.116	0 %100
24	A9	X	0.116	0.116	0 %100



**Member Distributed Loads (Continued)**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
25	A10	Mx	-0.836	-0.836	0	%100
26	A10	X	0.116	0.116	0	%100
27	A10	Z	0.116	0.116	0	%100
28	A11	X	0.116	0.116	0	%100
29	A11	Mx	-0.836	-0.836	0	%100
30	A11	Z	0.116	0.116	0	%100
31	A12	X	0.116	0.116	0	%100
32	A12	Z	0.116	0.116	0	%100
33	A12	Mx	-0.836	-0.836	0	%100
34	A13	X	0.116	0.116	0	%100
35	A13	Mx	-0.836	-0.836	0	%100
36	A13	Z	0.116	0.116	0	%100
37	A14	Z	0.116	0.116	0	%100
38	A14	Mx	-0.836	-0.836	0	%100
39	A14	X	0.116	0.116	0	%100
40	A15	Z	0.116	0.116	0	%100
41	A15	Mx	-0.836	-0.836	0	%100
42	A15	X	0.116	0.116	0	%100
43	A16	X	0.116	0.116	0	%100
44	A16	Mx	-0.836	-0.836	0	%100
45	A16	Z	0.116	0.116	0	%100

**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	X	0.024	0.024	0	%100
2	A2	Mx	-0.339	-0.339	0	%100
3	A2	Z	0.024	0.024	0	%100
4	A3	X	0.024	0.024	0	%100
5	A3	Mx	-0.339	-0.339	0	%100
6	A3	Z	0.024	0.024	0	%100
7	A4	X	0.024	0.024	0	%100
8	A4	Z	0.024	0.024	0	%100
9	A4	Mx	-0.339	-0.339	0	%100
10	A5	X	0.024	0.024	0	%100
11	A5	Mx	-0.339	-0.339	0	%100
12	A5	Z	0.024	0.024	0	%100
13	A6	X	0.024	0.024	0	%100
14	A6	Z	0.024	0.024	0	%100
15	A6	Mx	-0.339	-0.339	0	%100
16	A7	X	0.024	0.024	0	%100
17	A7	Mx	-0.339	-0.339	0	%100
18	A7	Z	0.024	0.024	0	%100
19	A8	Mx	-0.339	-0.339	0	%100
20	A8	Z	0.024	0.024	0	%100
21	A8	X	0.024	0.024	0	%100
22	A9	Z	0.024	0.024	0	%100
23	A9	X	0.024	0.024	0	%100
24	A9	Mx	-0.339	-0.339	0	%100
25	A10	Mx	-0.339	-0.339	0	%100
26	A10	Z	0.024	0.024	0	%100
27	A10	X	0.024	0.024	0	%100
28	A11	X	0.024	0.024	0	%100
29	A11	Z	0.024	0.024	0	%100
30	A11	Mx	-0.339	-0.339	0	%100
31	A12	Z	0.024	0.024	0	%100
32	A12	Mx	-0.339	-0.339	0	%100
33	A12	X	0.024	0.024	0	%100
34	A13	Mx	-0.339	-0.339	0	%100



**Member Distributed Loads (Continued)**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
35	A13	Z	0.024	0.024	0	%100
36	A13	X	0.024	0.024	0	%100
37	A14	X	0.024	0.024	0	%100
38	A14	Z	0.024	0.024	0	%100
39	A14	Mx	-0.339	-0.339	0	%100
40	A15	Z	0.024	0.024	0	%100
41	A15	X	0.024	0.024	0	%100
42	A15	Mx	-0.339	-0.339	0	%100
43	A16	X	0.024	0.024	0	%100
44	A16	Z	0.024	0.024	0	%100
45	A16	Mx	-0.339	-0.339	0	%100

**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	Z	0.874	0.874	0	%100
2	A2	X	0.874	0.874	0	%100
3	A2	Mx	-9.042	-9.042	0	%100
4	A3	X	0.874	0.874	0	%100
5	A3	Mx	-9.042	-9.042	0	%100
6	A3	Z	0.874	0.874	0	%100
7	A4	Mx	-9.042	-9.042	0	%100
8	A4	X	0.874	0.874	0	%100
9	A4	Z	0.874	0.874	0	%100
10	A5	X	0.874	0.874	0	%100
11	A5	Z	0.874	0.874	0	%100
12	A5	Mx	-9.042	-9.042	0	%100
13	A6	X	0.874	0.874	0	%100
14	A6	Z	0.874	0.874	0	%100
15	A6	Mx	-9.042	-9.042	0	%100
16	A7	X	0.874	0.874	0	%100
17	A7	Mx	-9.042	-9.042	0	%100
18	A7	Z	0.874	0.874	0	%100
19	A8	X	0.874	0.874	0	%100
20	A8	Z	0.874	0.874	0	%100
21	A8	Mx	-9.042	-9.042	0	%100
22	A9	Mx	-9.042	-9.042	0	%100
23	A9	X	0.874	0.874	0	%100
24	A9	Z	0.874	0.874	0	%100
25	A10	Z	0.874	0.874	0	%100
26	A10	Mx	-9.042	-9.042	0	%100
27	A10	X	0.874	0.874	0	%100
28	A11	X	0.874	0.874	0	%100
29	A11	Mx	-9.042	-9.042	0	%100
30	A11	Z	0.874	0.874	0	%100
31	A12	X	0.874	0.874	0	%100
32	A12	Mx	-9.042	-9.042	0	%100
33	A12	Z	0.874	0.874	0	%100
34	A13	X	0.874	0.874	0	%100
35	A13	Mx	-9.042	-9.042	0	%100
36	A13	Z	0.874	0.874	0	%100
37	A14	Mx	-9.042	-9.042	0	%100
38	A14	Z	0.874	0.874	0	%100
39	A14	X	0.874	0.874	0	%100
40	A15	Mx	-9.042	-9.042	0	%100
41	A15	X	0.874	0.874	0	%100
42	A15	Z	0.874	0.874	0	%100
43	A16	Z	0.874	0.874	0	%100
44	A16	Mx	-9.042	-9.042	0	%100





**Member Distributed Loads (Continued)**

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
45	A16	X	0.874	0.874	0 %100

**Member Distributed Loads**

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	X	1.24	1.24	0 %100
2	A2	Mx	-35.596	-35.596	0 %100
3	A2	Z	2.48	2.48	0 %100
4	A3	Mx	-35.596	-35.596	0 %100
5	A3	X	1.24	1.24	0 %100
6	A3	Z	2.48	2.48	0 %100
7	A4	Mx	-35.596	-35.596	0 %100
8	A4	X	1.24	1.24	0 %100
9	A4	Z	2.48	2.48	0 %100
10	A5	X	1.24	1.24	0 %100
11	A5	Mx	-35.596	-35.596	0 %100
12	A5	Z	2.48	2.48	0 %100
13	A6	X	1.24	1.24	0 %100
14	A6	Z	2.48	2.48	0 %100
15	A6	Mx	-35.596	-35.596	0 %100
16	A7	X	1.24	1.24	0 %100
17	A7	Mx	-35.596	-35.596	0 %100
18	A7	Z	2.48	2.48	0 %100
19	A8	Mx	-35.596	-35.596	0 %100
20	A8	Z	2.48	2.48	0 %100
21	A8	X	1.24	1.24	0 %100
22	A9	X	1.24	1.24	0 %100
23	A9	Z	2.48	2.48	0 %100
24	A9	Mx	-35.596	-35.596	0 %100
25	A10	Mx	-35.596	-35.596	0 %100
26	A10	X	1.24	1.24	0 %100
27	A10	Z	2.48	2.48	0 %100
28	A11	Z	2.48	2.48	0 %100
29	A11	Mx	-35.596	-35.596	0 %100
30	A11	X	1.24	1.24	0 %100
31	A12	Mx	-35.596	-35.596	0 %100
32	A12	X	1.24	1.24	0 %100
33	A12	Z	2.48	2.48	0 %100
34	A13	Z	2.48	2.48	0 %100
35	A13	Mx	-35.596	-35.596	0 %100
36	A13	X	1.24	1.24	0 %100
37	A14	Mx	-35.596	-35.596	0 %100
38	A14	Z	2.48	2.48	0 %100
39	A14	X	1.24	1.24	0 %100
40	A15	X	1.24	1.24	0 %100
41	A15	Z	2.48	2.48	0 %100
42	A15	Mx	-35.596	-35.596	0 %100
43	A16	Mx	-35.596	-35.596	0 %100
44	A16	Z	2.48	2.48	0 %100
45	A16	X	1.24	1.24	0 %100

**Member Distributed Loads**

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	X	1.24	1.24	0 %100
2	A2	Mx	-35.596	-35.596	0 %100
3	A2	Z	2.48	2.48	0 %100
4	A3	Mx	-35.596	-35.596	0 %100
5	A3	X	1.24	1.24	0 %100
6	A3	Z	2.48	2.48	0 %100



**Member Distributed Loads (Continued)**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
6	A3	Z	2.48	2.48	0	%100
7	A4	Mx	-35.596	-35.596	0	%100
8	A4	X	1.24	1.24	0	%100
9	A4	Z	2.48	2.48	0	%100
10	A5	X	1.24	1.24	0	%100
11	A5	Mx	-35.596	-35.596	0	%100
12	A5	Z	2.48	2.48	0	%100
13	A6	X	1.24	1.24	0	%100
14	A6	Z	2.48	2.48	0	%100
15	A6	Mx	-35.596	-35.596	0	%100
16	A7	X	1.24	1.24	0	%100
17	A7	Mx	-35.596	-35.596	0	%100
18	A7	Z	2.48	2.48	0	%100
19	A8	Mx	-35.596	-35.596	0	%100
20	A8	Z	2.48	2.48	0	%100
21	A8	X	1.24	1.24	0	%100
22	A9	X	1.24	1.24	0	%100
23	A9	Z	2.48	2.48	0	%100
24	A9	Mx	-35.596	-35.596	0	%100
25	A10	Mx	-35.596	-35.596	0	%100
26	A10	X	1.24	1.24	0	%100
27	A10	Z	2.48	2.48	0	%100
28	A11	Z	2.48	2.48	0	%100
29	A11	Mx	-35.596	-35.596	0	%100
30	A11	X	1.24	1.24	0	%100
31	A12	Mx	-35.596	-35.596	0	%100
32	A12	X	1.24	1.24	0	%100
33	A12	Z	2.48	2.48	0	%100
34	A13	Z	2.48	2.48	0	%100
35	A13	Mx	-35.596	-35.596	0	%100
36	A13	X	1.24	1.24	0	%100
37	A14	Mx	-35.596	-35.596	0	%100
38	A14	Z	2.48	2.48	0	%100
39	A14	X	1.24	1.24	0	%100
40	A15	X	1.24	1.24	0	%100
41	A15	Z	2.48	2.48	0	%100
42	A15	Mx	-35.596	-35.596	0	%100
43	A16	Mx	-35.596	-35.596	0	%100
44	A16	Z	2.48	2.48	0	%100
45	A16	X	1.24	1.24	0	%100

**Basic Load Cases**

	BLC Description	Category	Y Gravity	Point	Distributed
1	wDC	DL	-1		18
2	wAbut	DL			15
3	PDC WW	DL		2	
4	DW	OL1			15
5	LL	LL			15
6	Sur	LL			
7	EH	EPL			30
8	WS-super	WL			45
9	WS-sub	WL			45
10	BR	LL			45
11	TU	OL2			45
12	EQ	EL			45
13	EQ Rev	None			45



**Load Combinations**

	Description	Solve	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	Strength I-a	Yes	DL	0.9	4	0.65	LL	1.75	EPL	1.5	11	1.2		
2	Strength I-b	Yes	DL	1.25	4	1.5	LL	1.75	EPL	1.5	11	1.2		
3	Strength IV	Yes	DL	1.5	4	1.5	LL		EPL	1.5	11	1.2		
4	Strength V	Yes	DL	1.25	4	1.5	LL	1.35	EPL	1.5	11	1.2	WL	1
5	Ext Event I	Yes	DL	1	4	1	LL	0.5	EPL	1	11		EL	1
6	Service I	Yes	DL	1	4	1	LL	1	EPL	1	11	1.2	WL	1
7	DL Only		DL	1	4		LL		EPL		11			
8	LL Only		DL		4		LL	1	EPL		11			
9	EH Only		DL		4		LL		EPL	1	11			
10	EQ Only		DL		4		LL		EPL		11		EL	1

**Load Combination Design**

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	Strength I-a					Yes				Yes
2	Strength I-b					Yes				Yes
3	Strength IV					Yes				Yes
4	Strength V					Yes				Yes
5	Ext Event I					Yes				Yes
6	Service I					Yes				Yes
7	DL Only					Yes				Yes
8	LL Only					Yes				Yes
9	EH Only					Yes				Yes
10	EQ Only					Yes				Yes

**Node Reactions**

	LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	RN2A	-10.615	22.337	-19.237	0	0	0
2	1	RN1C	7.673	32.128	-11.088	0	0	0
3	1	RN2C	-5.306	152.888	-31.604	0	0	0
4	1	RN3A	-3.085	11.098	-23.121	0	0	0
5	1	RN3C	-5.075	164.558	-37.985	0	0	0
6	1	RN4A	-3.081	10.395	-23.12	0	0	0
7	1	RN5C	-5.067	163.679	-37.983	0	0	0
8	1	RN6A	-3.081	10.552	-23.12	0	0	0
9	1	RN7A	-3.081	10.485	-23.12	0	0	0
10	1	RN6C	-5.067	163.663	-37.983	0	0	0
11	1	RN8C	-5.067	170.455	-37.983	0	0	0
12	1	RN9A	-3.081	13.738	-23.12	0	0	0
13	1	RN9C	-5.067	168.896	-37.983	0	0	0
14	1	RN10A	-3.081	10.245	-23.12	0	0	0
15	1	RN10C	-5.067	163.158	-37.983	0	0	0
16	1	RN13A	-3.081	10.224	-23.12	0	0	0
17	1	RN11A	-3.081	10.588	-23.12	0	0	0
18	1	RN15C	-13.592	146.595	-26.716	0	0	0
19	1	RN16A	6.031	5.358	-7.028	0	0	0
20	1	RN14C	-5.066	165.709	-37.985	0	0	0
21	1	RN15A	0.891	10.982	-16.262	0	0	0
22	1	RN12C	-5.067	163.732	-37.983	0	0	0
23	1	RN4C	-5.067	163.405	-37.983	0	0	0
24	1	RN5A	-3.081	10.562	-23.12	0	0	0
25	1	RN8A	-3.081	14.686	-23.12	0	0	0
26	1	RN7C	-5.067	163.552	-37.983	0	0	0
27	1	RN11C	-5.067	163.721	-37.983	0	0	0
28	1	RN12A	-3.081	10.594	-23.12	0	0	0
29	1	RN13C	-5.067	163.122	-37.983	0	0	0
30	1	RN14A	-3.081	11.798	-23.121	0	0	0
31	1	Totals:	-112.707	2482.901	-845.178			



**Node Reactions (Continued)**

	LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
32	1	COG (ft):	X: 53.601	Y: 0	Z: 40			
33	2	RN2A	-10.615	51.108	-19.237	0	0	0
34	2	RN1C	7.673	43.729	-11.088	0	0	0
35	2	RN2C	-5.306	188.554	-31.604	0	0	0
36	2	RN3A	-3.085	34.714	-23.121	0	0	0
37	2	RN3C	-5.075	203.355	-37.985	0	0	0
38	2	RN4A	-3.081	34.097	-23.12	0	0	0
39	2	RN5C	-5.067	202.58	-37.983	0	0	0
40	2	RN6A	-3.081	34.244	-23.12	0	0	0
41	2	RN7A	-3.081	34.149	-23.12	0	0	0
42	2	RN6C	-5.067	202.585	-37.983	0	0	0
43	2	RN8C	-5.067	212.025	-37.983	0	0	0
44	2	RN9A	-3.081	38.667	-23.12	0	0	0
45	2	RN9C	-5.067	209.851	-37.983	0	0	0
46	2	RN10A	-3.081	33.818	-23.12	0	0	0
47	2	RN10C	-5.067	201.885	-37.983	0	0	0
48	2	RN13A	-3.081	33.763	-23.12	0	0	0
49	2	RN11A	-3.081	34.291	-23.12	0	0	0
50	2	RN15C	-13.592	183.241	-26.716	0	0	0
51	2	RN16A	6.031	7.845	-7.028	0	0	0
52	2	RN14C	-5.066	205.587	-37.985	0	0	0
53	2	RN15A	0.891	30.8	-16.262	0	0	0
54	2	RN12C	-5.067	202.69	-37.983	0	0	0
55	2	RN4C	-5.067	202.343	-37.983	0	0	0
56	2	RN5A	-3.081	34.241	-23.12	0	0	0
57	2	RN8A	-3.081	39.99	-23.12	0	0	0
58	2	RN7C	-5.067	202.428	-37.983	0	0	0
59	2	RN11C	-5.067	202.662	-37.983	0	0	0
60	2	RN12A	-3.081	34.308	-23.12	0	0	0
61	2	RN13C	-5.067	201.793	-37.983	0	0	0
62	2	RN14A	-3.081	36.071	-23.121	0	0	0
63	2	Totals:	-112.707	3377.415	-845.178			
64	2	COG (ft):	X: 53.597	Y: 0	Z: 40			
65	3	RN2A	-10.471	44.014	-19.133	0	0	0
66	3	RN1C	7.673	46.623	-11.045	0	0	0
67	3	RN2C	-5.131	172.082	-31.433	0	0	0
68	3	RN3A	-2.966	23.449	-23.003	0	0	0
69	3	RN3C	-4.88	182.949	-37.79	0	0	0
70	3	RN4A	-2.962	23.494	-23.001	0	0	0
71	3	RN5C	-4.872	182.988	-37.788	0	0	0
72	3	RN6A	-2.962	23.521	-23.001	0	0	0
73	3	RN7A	-2.962	23.398	-23.001	0	0	0
74	3	RN6C	-4.872	183.069	-37.788	0	0	0
75	3	RN8C	-4.872	194.39	-37.788	0	0	0
76	3	RN9A	-2.962	28.821	-23.001	0	0	0
77	3	RN9C	-4.872	191.777	-37.788	0	0	0
78	3	RN10A	-2.962	22.999	-23.001	0	0	0
79	3	RN10C	-4.872	182.211	-37.788	0	0	0
80	3	RN13A	-2.962	23.191	-23.001	0	0	0
81	3	RN11A	-2.962	23.586	-23.001	0	0	0
82	3	RN15C	-13.394	172.098	-26.572	0	0	0
83	3	RN16A	6.017	10.38	-7.001	0	0	0
84	3	RN14C	-4.871	184.975	-37.79	0	0	0
85	3	RN15A	0.964	22.429	-16.174	0	0	0
86	3	RN12C	-4.872	183.079	-37.788	0	0	0
87	3	RN4C	-4.872	183.024	-37.788	0	0	0
88	3	RN5A	-2.962	23.472	-23.001	0	0	0
89	3	RN8A	-2.962	30.411	-23.001	0	0	0

**Node Reactions (Continued)**

LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
90	3	RN7C	-4.872	182.865	-37.788	0	0	0
91	3	RN11C	-4.872	183.176	-37.788	0	0	0
92	3	RN12A	-2.962	23.527	-23.001	0	0	0
93	3	RN13C	-4.872	182.528	-37.788	0	0	0
94	3	RN14A	-2.962	24.681	-23.002	0	0	0
95	3	Totals:	-108.367	2979.206	-840.838			
96	3	COG (ft):	X: 53.529	Y: 0	Z: 40			
97	4	RN2A	-11.656	42.744	-19.991	0	0	0
98	4	RN1C	7.675	42.868	-11.393	0	0	0
99	4	RN2C	-6.564	184.554	-32.842	0	0	0
100	4	RN3A	-3.942	26.385	-23.979	0	0	0
101	4	RN3C	-6.484	198.431	-39.394	0	0	0
102	4	RN4A	-3.938	25.822	-23.978	0	0	0
103	4	RN5C	-6.477	197.723	-39.392	0	0	0
104	4	RN6A	-3.938	25.959	-23.978	0	0	0
105	4	RN7A	-3.938	25.863	-23.978	0	0	0
106	4	RN6C	-6.477	197.735	-39.392	0	0	0
107	4	RN8C	-6.477	207.172	-39.392	0	0	0
108	4	RN9A	-3.938	30.381	-23.978	0	0	0
109	4	RN9C	-6.477	204.999	-39.392	0	0	0
110	4	RN10A	-3.938	25.531	-23.978	0	0	0
111	4	RN10C	-6.477	197.031	-39.392	0	0	0
112	4	RN13A	-3.938	25.53	-23.978	0	0	0
113	4	RN11A	-3.938	26.009	-23.978	0	0	0
114	4	RN15C	-15.025	179.554	-27.751	0	0	0
115	4	RN16A	6.133	7.922	-7.217	0	0	0
116	4	RN14C	-6.475	200.38	-39.394	0	0	0
117	4	RN15A	0.367	24.116	-16.892	0	0	0
118	4	RN12C	-6.477	197.816	-39.392	0	0	0
119	4	RN4C	-6.477	197.509	-39.392	0	0	0
120	4	RN5A	-3.938	25.952	-23.978	0	0	0
121	4	RN8A	-3.938	31.703	-23.978	0	0	0
122	4	RN7C	-6.477	197.576	-39.392	0	0	0
123	4	RN11C	-6.477	197.816	-39.392	0	0	0
124	4	RN12A	-3.938	26.009	-23.978	0	0	0
125	4	RN13C	-6.477	197.03	-39.392	0	0	0
126	4	RN14A	-3.938	27.569	-23.979	0	0	0
127	4	Totals:	-144.056	3195.687	-876.527			
128	4	COG (ft):	X: 53.586	Y: 0	Z: 40			
129	5	RN2A	-10.08	0.198	-17.019	0	0	0
130	5	RN1C	6.46	33.101	-9.668	0	0	0
131	5	RN2C	-5.85	157.407	-27.96	0	0	0
132	5	RN3A	-3.54	-12.202	-20.403	0	0	0
133	5	RN3C	-5.823	167.58	-33.519	0	0	0
134	5	RN4A	-3.536	-12.813	-20.402	0	0	0
135	5	RN5C	-5.816	166.812	-33.517	0	0	0
136	5	RN6A	-3.536	-12.669	-20.402	0	0	0
137	5	RN7A	-3.536	-12.748	-20.402	0	0	0
138	5	RN6C	-5.816	166.815	-33.517	0	0	0
139	5	RN8C	-5.816	174.352	-33.517	0	0	0
140	5	RN9A	-3.536	-9.132	-20.402	0	0	0
141	5	RN9C	-5.816	172.625	-33.517	0	0	0
142	5	RN10A	-3.536	-13.016	-20.402	0	0	0
143	5	RN10C	-5.816	166.244	-33.517	0	0	0
144	5	RN13A	-3.536	-12.877	-20.402	0	0	0
145	5	RN11A	-3.536	-12.623	-20.402	0	0	0
146	5	RN15C	-13.016	151.424	-23.623	0	0	0
147	5	RN16A	5.188	6.189	-6.123	0	0	0

**Node Reactions (Continued)**

LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
148	5	RN14C	-5.815	168.022	-33.518	0	0	0
149	5	RN15A	0.173	-7.485	-14.379	0	0	0
150	5	RN12C	-5.816	166.82	-33.517	0	0	0
151	5	RN4C	-5.816	166.578	-33.517	0	0	0
152	5	RN5A	-3.536	-12.67	-20.402	0	0	0
153	5	RN8A	-3.536	-8.081	-20.402	0	0	0
154	5	RN7C	-5.816	166.684	-33.517	0	0	0
155	5	RN11C	-5.816	166.89	-33.517	0	0	0
156	5	RN12A	-3.536	-12.666	-20.402	0	0	0
157	5	RN13C	-5.816	166.472	-33.517	0	0	0
158	5	RN14A	-3.536	-11.933	-20.402	0	0	0
159	5	Totals:	-129.363	2213.298	-745.8			
160	5	COG (ft):	X: 53.555	Y: 0	Z: 40			
161	6	RN2A	-9.337	33.313	-14.46	0	0	0
162	6	RN1C	5.12	33.638	-8.055	0	0	0
163	6	RN2C	-6.268	140.843	-23.756	0	0	0
164	6	RN3A	-3.917	20.095	-17.276	0	0	0
165	6	RN3C	-6.443	151.155	-28.382	0	0	0
166	6	RN4A	-3.914	19.744	-17.275	0	0	0
167	6	RN5C	-6.438	150.711	-28.38	0	0	0
168	6	RN6A	-3.914	19.835	-17.275	0	0	0
169	6	RN7A	-3.914	19.757	-17.275	0	0	0
170	6	RN6C	-6.438	150.729	-28.38	0	0	0
171	6	RN8C	-6.438	158.279	-28.38	0	0	0
172	6	RN9A	-3.914	23.371	-17.275	0	0	0
173	6	RN9C	-6.438	156.54	-28.38	0	0	0
174	6	RN10A	-3.914	19.491	-17.275	0	0	0
175	6	RN10C	-6.438	150.165	-28.38	0	0	0
176	6	RN13A	-3.914	19.517	-17.275	0	0	0
177	6	RN11A	-3.914	19.875	-17.275	0	0	0
178	6	RN15C	-12.171	137.674	-20.058	0	0	0
179	6	RN16A	4.242	6.458	-5.096	0	0	0
180	6	RN14C	-6.436	152.675	-28.382	0	0	0
181	6	RN15A	-0.544	18.491	-12.209	0	0	0
182	6	RN12C	-6.438	150.783	-28.38	0	0	0
183	6	RN4C	-6.438	150.58	-28.38	0	0	0
184	6	RN5A	-3.914	19.823	-17.275	0	0	0
185	6	RN8A	-3.914	24.43	-17.275	0	0	0
186	6	RN7C	-6.438	150.6	-28.38	0	0	0
187	6	RN11C	-6.438	150.796	-28.38	0	0	0
188	6	RN12A	-3.914	19.867	-17.275	0	0	0
189	6	RN13C	-6.438	150.206	-28.38	0	0	0
190	6	RN14A	-3.914	21.019	-17.276	0	0	0
191	6	Totals:	-143.188	2440.458	-631.502			
192	6	COG (ft):	X: 53.577	Y: 0	Z: 40			

**Node Displacements**

LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]	
1	1	N1	0	-0.001	0	3.955e-5	4.109e-7	-2.507e-5
2	1	N2	0	0	0	1.083e-5	-1.455e-6	-4.788e-5
3	1	RN1B	0	-0.001	0	1.083e-5	-1.455e-6	-5.068e-5
4	1	RN1C	0	0	0	1.082e-5	-1.457e-6	-5.07e-5
5	1	RN2A	0	0	0	2.907e-8	0	-1.24e-5
6	1	RN2B	0	0	0	0	0	-1.24e-5
7	1	RN2C	0	0	0	-5.449e-8	0	-1.24e-5
8	1	RN3A	0	0	0	2.329e-8	0	3.093e-6
9	1	RN3B	0	0	0	1.155e-8	0	3.093e-6
10	1	RN3C	0	0	0	-5.296e-8	0	3.093e-6

**Node Displacements (Continued)**

LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]	
11	1	RN4A	0	0	0	2.274e-8	0	-7.795e-7
12	1	RN4B	0	0	0	1.174e-8	0	-7.795e-7
13	1	RN4C	0	0	0	-5.231e-8	0	-7.795e-7
14	1	RN5A	0	0	0	2.287e-8	0	2.288e-7
15	1	RN5B	0	0	0	1.17e-8	0	2.288e-7
16	1	RN5C	0	0	0	-5.246e-8	0	2.288e-7
17	1	RN6A	0	0	0	2.286e-8	0	-1.957e-7
18	1	RN6B	0	0	0	1.17e-8	0	-1.957e-7
19	1	RN6C	0	0	0	-5.245e-8	0	-1.957e-7
20	1	RN7A	0	0	0	2.33e-8	0	6.049e-7
21	1	RN7B	0	0	0	1.221e-8	0	6.05e-7
22	1	RN7C	0	0	0	-5.19e-8	0	6.05e-7
23	1	RN8A	0	0	0	2.61e-8	0	-4.945e-6
24	1	RN8B	0	0	0	1.056e-8	0	-4.945e-6
25	1	RN8C	0	0	0	-5.626e-8	0	-4.945e-6
26	1	RN9A	0	0	0	2.536e-8	0	6.785e-6
27	1	RN9B	0	0	0	1.082e-8	0	6.785e-6
28	1	RN9C	0	0	0	-5.539e-8	0	6.785e-6
29	1	RN10A	0	0	0	2.262e-8	0	-1.636e-6
30	1	RN10B	0	0	0	1.179e-8	0	-1.636e-6
31	1	RN10C	0	0	0	-5.217e-8	0	-1.636e-6
32	1	RN11A	0	0	0	2.289e-8	0	5.084e-7
33	1	RN11B	0	0	0	1.169e-8	0	5.084e-7
34	1	RN11C	0	0	0	-5.249e-8	0	5.084e-7
35	1	RN12A	0	0	0	2.29e-8	0	-5.305e-7
36	1	RN12B	0	0	0	1.169e-8	0	-5.305e-7
37	1	RN12C	0	0	0	-5.249e-8	0	-5.305e-7
38	1	RN13A	0	0	0	2.261e-8	0	1.752e-6
39	1	RN13B	0	0	0	1.179e-8	0	1.752e-6
40	1	RN13C	0	0	0	-5.215e-8	0	1.752e-6
41	1	RN14A	0	0	0	2.384e-8	0	-6.937e-6
42	1	RN14B	0	0	0	1.136e-8	0	-6.937e-6
43	1	RN14C	0	0	0	-5.36e-8	0	-6.937e-6
44	1	RN15A	0	0	0	2.143e-8	0	2.781e-5
45	1	RN15B	0	0	0	0	0	2.781e-5
46	1	RN15C	0	0	0	-4.766e-8	0	2.781e-5
47	1	RN16A	0	0	0	3.955e-5	4.123e-7	-2.263e-5
48	1	RN16B	0	0	0	3.955e-5	4.109e-7	-2.263e-5
49	2	N1	0	-0.002	0	4.457e-5	4.109e-7	-2.776e-5
50	2	N2	0	0	0	-1.223e-5	-1.455e-6	-5.39e-5
51	2	RN1B	0	-0.002	0	-1.223e-5	-1.455e-6	-5.779e-5
52	2	RN1C	0	0	0	-1.225e-5	-1.457e-6	-5.782e-5
53	2	RN2A	0	0	0	5.041e-8	0	-1.089e-5
54	2	RN2B	0	0	0	0	0	-1.089e-5
55	2	RN2C	0	0	0	-7.757e-8	0	-1.089e-5
56	2	RN3A	0	0	0	4.176e-8	0	2.717e-6
57	2	RN3B	0	0	0	0	0	2.717e-6
58	2	RN3C	0	0	0	-7.468e-8	0	2.717e-6
59	2	RN4A	0	0	0	4.128e-8	0	-6.878e-7
60	2	RN4B	0	0	0	0	0	-6.878e-7
61	2	RN4C	0	0	0	-7.412e-8	0	-6.878e-7
62	2	RN5A	0	0	0	4.139e-8	0	2.14e-7
63	2	RN5B	0	0	0	0	0	2.14e-7
64	2	RN5C	0	0	0	-7.425e-8	0	2.14e-7
65	2	RN6A	0	0	0	4.139e-8	0	-2.24e-7
66	2	RN6B	0	0	0	0	0	-2.24e-7
67	2	RN6C	0	0	0	-7.425e-8	0	-2.24e-7
68	2	RN7A	0	0	0	4.192e-8	0	7.406e-7

**Node Displacements (Continued)**

	LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]
69	2	RN7B	0	0	0	0	0	7.406e-7
70	2	RN7C	0	0	0	-7.356e-8	0	7.407e-7
71	2	RN8A	0	0	0	4.589e-8	0	-6.843e-6
72	2	RN8B	0	0	0	0	0	-6.843e-6
73	2	RN8C	0	0	0	-7.954e-8	0	-6.843e-6
74	2	RN9A	0	0	0	4.485e-8	0	9.418e-6
75	2	RN9B	0	0	0	0	0	9.418e-6
76	2	RN9C	0	0	0	-7.832e-8	0	9.418e-6
77	2	RN10A	0	0	0	4.106e-8	0	-2.273e-6
78	2	RN10B	0	0	0	0	0	-2.273e-6
79	2	RN10C	0	0	0	-7.386e-8	0	-2.273e-6
80	2	RN11A	0	0	0	4.143e-8	0	7.14e-7
81	2	RN11B	0	0	0	0	0	7.14e-7
82	2	RN11C	0	0	0	-7.429e-8	0	7.14e-7
83	2	RN12A	0	0	0	4.144e-8	0	-7.701e-7
84	2	RN12B	0	0	0	0	0	-7.701e-7
85	2	RN12C	0	0	0	-7.431e-8	0	-7.701e-7
86	2	RN13A	0	0	0	4.102e-8	0	2.568e-6
87	2	RN13B	0	0	0	0	0	2.568e-6
88	2	RN13C	0	0	0	-7.381e-8	0	2.568e-6
89	2	RN14A	0	0	0	4.282e-8	0	-1.017e-5
90	2	RN14B	0	0	0	0	0	-1.017e-5
91	2	RN14C	0	0	0	-7.593e-8	0	-1.017e-5
92	2	RN15A	0	0	0	3.733e-8	0	4.078e-5
93	2	RN15B	0	0	0	0	0	4.078e-5
94	2	RN15C	0	0	0	-6.708e-8	0	4.078e-5
95	2	RN16A	0	0	0	4.459e-5	4.123e-7	-2.436e-5
96	2	RN16B	0	0	0	4.457e-5	4.109e-7	-2.437e-5
97	3	N1	0	-0.002	0	4.933e-5	4.073e-7	-2.897e-5
98	3	N2	0	0	0	-1.895e-5	-1.443e-6	-5.268e-5
99	3	RN1B	0	-0.002	0	-1.895e-5	-1.443e-6	-5.735e-5
100	3	RN1C	0	0	0	-1.897e-5	-1.445e-6	-5.738e-5
101	3	RN2A	0	0	0	4.438e-8	0	7.543e-7
102	3	RN2B	0	0	0	0	0	7.543e-7
103	3	RN2C	0	0	0	-6.964e-8	0	7.543e-7
104	3	RN3A	0	0	0	3.276e-8	0	-1.833e-7
105	3	RN3B	0	0	0	0	0	-1.833e-7
106	3	RN3C	0	0	0	-6.376e-8	0	-1.833e-7
107	3	RN4A	0	0	0	3.28e-8	0	3.37e-8
108	3	RN4B	0	0	0	0	0	3.37e-8
109	3	RN4C	0	0	0	-6.381e-8	0	3.37e-8
110	3	RN5A	0	0	0	3.278e-8	0	3.964e-8
111	3	RN5B	0	0	0	0	0	3.964e-8
112	3	RN5C	0	0	0	-6.379e-8	0	3.964e-8
113	3	RN6A	0	0	0	3.282e-8	0	-2.026e-7
114	3	RN6B	0	0	0	0	0	-2.026e-7
115	3	RN6C	0	0	0	-6.383e-8	0	-2.026e-7
116	3	RN7A	0	0	0	3.339e-8	0	8.238e-7
117	3	RN7B	0	0	0	0	0	8.239e-7
118	3	RN7C	0	0	0	-6.305e-8	0	8.239e-7
119	3	RN8A	0	0	0	3.821e-8	0	-8.194e-6
120	3	RN8B	0	0	0	0	0	-8.194e-6
121	3	RN8C	0	0	0	-7.017e-8	0	-8.194e-6
122	3	RN9A	0	0	0	3.696e-8	0	1.129e-5
123	3	RN9B	0	0	0	0	0	1.129e-5
124	3	RN9C	0	0	0	-6.871e-8	0	1.129e-5
125	3	RN10A	0	0	0	3.241e-8	0	-2.705e-6
126	3	RN10B	0	0	0	0	0	-2.705e-6



**Node Displacements (Continued)**

LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]	
127	3	RN10C	0	0	0	-6.335e-8	0	-2.705e-6
128	3	RN11A	0	0	0	3.287e-8	0	7.696e-7
129	3	RN11B	0	0	0	0	0	7.696e-7
130	3	RN11C	0	0	0	-6.389e-8	0	7.696e-7
131	3	RN12A	0	0	0	3.282e-8	0	-5.749e-7
132	3	RN12B	0	0	0	0	0	-5.749e-7
133	3	RN12C	0	0	0	-6.384e-8	0	-5.749e-7
134	3	RN13A	0	0	0	3.256e-8	0	1.68e-6
135	3	RN13B	0	0	0	0	0	1.68e-6
136	3	RN13C	0	0	0	-6.353e-8	0	1.68e-6
137	3	RN14A	0	0	0	3.372e-8	0	-6.586e-6
138	3	RN14B	0	0	0	0	0	-6.586e-6
139	3	RN14C	0	0	0	-6.49e-8	0	-6.586e-6
140	3	RN15A	0	0	0	3.105e-8	0	2.639e-5
141	3	RN15B	0	0	0	0	0	2.639e-5
142	3	RN15C	0	0	0	-6.015e-8	0	2.639e-5
143	3	RN16A	0	0	0	4.935e-5	4.087e-7	-2.489e-5
144	3	RN16B	0	-0.001	0	4.933e-5	4.073e-7	-2.491e-5
145	4	N1	0	-0.002	0	4.645e-5	4.371e-7	-2.876e-5
146	4	N2	0	0	0	-6.043e-6	-1.542e-6	-5.489e-5
147	4	RN1B	0	-0.002	0	-6.043e-6	-1.542e-6	-5.878e-5
148	4	RN1C	0	0	0	-6.067e-6	-1.544e-6	-5.881e-5
149	4	RN2A	0	0	0	4.484e-8	0	-9.933e-6
150	4	RN2B	0	0	0	0	0	-9.933e-6
151	4	RN2C	0	0	0	-7.272e-8	0	-9.933e-6
152	4	RN3A	0	0	0	3.612e-8	0	2.48e-6
153	4	RN3B	0	0	0	0	0	2.48e-6
154	4	RN3C	0	0	0	-6.958e-8	0	2.48e-6
155	4	RN4A	0	0	0	3.568e-8	0	-6.289e-7
156	4	RN4B	0	0	0	0	0	-6.289e-7
157	4	RN4C	0	0	0	-6.906e-8	0	-6.289e-7
158	4	RN5A	0	0	0	3.578e-8	0	2.001e-7
159	4	RN5B	0	0	0	0	0	2.001e-7
160	4	RN5C	0	0	0	-6.918e-8	0	2.001e-7
161	4	RN6A	0	0	0	3.579e-8	0	-2.239e-7
162	4	RN6B	0	0	0	0	0	-2.239e-7
163	4	RN6C	0	0	0	-6.919e-8	0	-2.239e-7
164	4	RN7A	0	0	0	3.632e-8	0	7.54e-7
165	4	RN7B	0	0	0	0	0	7.54e-7
166	4	RN7C	0	0	0	-6.849e-8	0	7.541e-7
167	4	RN8A	0	0	0	4.028e-8	0	-6.846e-6
168	4	RN8B	0	0	0	0	0	-6.846e-6
169	4	RN8C	0	0	0	-7.447e-8	0	-6.846e-6
170	4	RN9A	0	0	0	3.925e-8	0	9.418e-6
171	4	RN9B	0	0	0	0	0	9.418e-6
172	4	RN9C	0	0	0	-7.326e-8	0	9.418e-6
173	4	RN10A	0	0	0	3.545e-8	0	-2.268e-6
174	4	RN10B	0	0	0	0	0	-2.268e-6
175	4	RN10C	0	0	0	-6.879e-8	0	-2.268e-6
176	4	RN11A	0	0	0	3.583e-8	0	6.958e-7
177	4	RN11B	0	0	0	0	0	6.958e-7
178	4	RN11C	0	0	0	-6.923e-8	0	6.958e-7
179	4	RN12A	0	0	0	3.583e-8	0	-6.966e-7
180	4	RN12B	0	0	0	0	0	-6.966e-7
181	4	RN12C	0	0	0	-6.923e-8	0	-6.966e-7
182	4	RN13A	0	0	0	3.545e-8	0	2.273e-6
183	4	RN13B	0	0	0	0	0	2.273e-6
184	4	RN13C	0	0	0	-6.879e-8	0	2.273e-6

**Node Displacements (Continued)**

	LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]
185	4	RN14A	0	0	0	3.705e-8	0	-8.988e-6
186	4	RN14B	0	0	0	0	0	-8.988e-6
187	4	RN14C	0	0	0	-7.067e-8	0	-8.988e-6
188	4	RN15A	0	0	0	3.283e-8	0	3.603e-5
189	4	RN15B	0	0	0	0	0	3.603e-5
190	4	RN15C	0	0	0	-6.307e-8	0	3.603e-5
191	4	RN16A	0	0	0	4.646e-5	4.386e-7	-2.536e-5
192	4	RN16B	0	0	0	4.645e-5	4.371e-7	-2.537e-5
193	5	N1	0	-0.002	0	4.934e-5	3.746e-7	-3.07e-5
194	5	N2	0	0	0	2.999e-5	-1.32e-6	-5.589e-5
195	5	RN1B	0	0	0	2.999e-5	-1.32e-6	-5.9e-5
196	5	RN1C	0	0	0	2.997e-5	-1.322e-6	-5.902e-5
197	5	RN2A	0	0	0	1.584e-8	0	-1.079e-5
198	5	RN2B	0	0	0	1.563e-8	0	-1.079e-5
199	5	RN2C	0	0	0	-4.607e-8	0	-1.079e-5
200	5	RN3A	0	0	0	0	0	2.693e-6
201	5	RN3B	0	0	0	2.211e-8	0	2.693e-6
202	5	RN3C	0	0	0	-4.359e-8	0	2.693e-6
203	5	RN4A	0	0	0	0	0	-6.815e-7
204	5	RN4B	0	0	0	2.227e-8	0	-6.815e-7
205	5	RN4C	0	0	0	-4.302e-8	0	-6.815e-7
206	5	RN5A	0	0	0	0	0	2.106e-7
207	5	RN5B	0	0	0	2.223e-8	0	2.106e-7
208	5	RN5C	0	0	0	-4.316e-8	0	2.106e-7
209	5	RN6A	0	0	0	0	0	-2.161e-7
210	5	RN6B	0	0	0	2.223e-8	0	-2.161e-7
211	5	RN6C	0	0	0	-4.316e-8	0	-2.161e-7
212	5	RN7A	0	0	0	0	0	7.103e-7
213	5	RN7B	0	0	0	2.283e-8	0	7.103e-7
214	5	RN7C	0	0	0	-4.251e-8	0	7.103e-7
215	5	RN8A	0	0	0	1.242e-8	0	-5.503e-6
216	5	RN8B	0	0	0	2.097e-8	0	-5.503e-6
217	5	RN8C	0	0	0	-4.738e-8	0	-5.503e-6
218	5	RN9A	0	0	0	1.16e-8	0	7.538e-6
219	5	RN9B	0	0	0	2.126e-8	0	7.538e-6
220	5	RN9C	0	0	0	-4.641e-8	0	7.538e-6
221	5	RN10A	0	0	0	0	0	-1.805e-6
222	5	RN10B	0	0	0	2.233e-8	0	-1.805e-6
223	5	RN10C	0	0	0	-4.284e-8	0	-1.805e-6
224	5	RN11A	0	0	0	0	0	5.103e-7
225	5	RN11B	0	0	0	2.222e-8	0	5.103e-7
226	5	RN11C	0	0	0	-4.32e-8	0	5.103e-7
227	5	RN12A	0	0	0	0	0	-3.7e-7
228	5	RN12B	0	0	0	2.223e-8	0	-3.7e-7
229	5	RN12C	0	0	0	-4.316e-8	0	-3.7e-7
230	5	RN13A	0	0	0	0	0	1.066e-6
231	5	RN13B	0	0	0	2.229e-8	0	1.066e-6
232	5	RN13C	0	0	0	-4.297e-8	0	1.066e-6
233	5	RN14A	0	0	0	0	0	-4.174e-6
234	5	RN14B	0	0	0	2.203e-8	0	-4.174e-6
235	5	RN14C	0	0	0	-4.383e-8	0	-4.174e-6
236	5	RN15A	0	0	0	1.05e-8	0	1.672e-5
237	5	RN15B	0	0	0	1.842e-8	0	1.672e-5
238	5	RN15C	0	0	0	-4.094e-8	0	1.672e-5
239	5	RN16A	0	0	0	4.935e-5	3.759e-7	-2.798e-5
240	5	RN16B	0	0	0	4.934e-5	3.746e-7	-2.799e-5
241	6	N1	0	-0.001	0	3.624e-5	3.307e-7	-2.222e-5
242	6	N2	0	0	0	-6.555e-6	-1.159e-6	-4.207e-5



**Node Displacements (Continued)**

	LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]
243	6	RN1B	0	-0.001	0	-6.555e-6	-1.159e-6	-4.518e-5
244	6	RN1C	0	0	0	-6.573e-6	-1.161e-6	-4.52e-5
245	6	RN2A	0	0	0	3.465e-8	0	-6.2e-6
246	6	RN2B	0	0	0	0	0	-6.2e-6
247	6	RN2C	0	0	0	-5.58e-8	0	-6.2e-6
248	6	RN3A	0	0	0	2.751e-8	0	1.549e-6
249	6	RN3B	0	0	0	0	0	1.549e-6
250	6	RN3C	0	0	0	-5.3e-8	0	1.549e-6
251	6	RN4A	0	0	0	2.724e-8	0	-3.945e-7
252	6	RN4B	0	0	0	0	0	-3.945e-7
253	6	RN4C	0	0	0	-5.268e-8	0	-3.945e-7
254	6	RN5A	0	0	0	2.73e-8	0	1.324e-7
255	6	RN5B	0	0	0	0	0	1.324e-7
256	6	RN5C	0	0	0	-5.275e-8	0	1.324e-7
257	6	RN6A	0	0	0	2.731e-8	0	-1.7e-7
258	6	RN6B	0	0	0	0	0	-1.7e-7
259	6	RN6C	0	0	0	-5.276e-8	0	-1.7e-7
260	6	RN7A	0	0	0	2.773e-8	0	5.917e-7
261	6	RN7B	0	0	0	0	0	5.918e-7
262	6	RN7C	0	0	0	-5.221e-8	0	5.918e-7
263	6	RN8A	0	0	0	3.09e-8	0	-5.474e-6
264	6	RN8B	0	0	0	0	0	-5.474e-6
265	6	RN8C	0	0	0	-5.699e-8	0	-5.474e-6
266	6	RN9A	0	0	0	3.008e-8	0	7.533e-6
267	6	RN9B	0	0	0	0	0	7.533e-6
268	6	RN9C	0	0	0	-5.602e-8	0	7.533e-6
269	6	RN10A	0	0	0	2.704e-8	0	-1.812e-6
270	6	RN10B	0	0	0	0	0	-1.812e-6
271	6	RN10C	0	0	0	-5.245e-8	0	-1.812e-6
272	6	RN11A	0	0	0	2.734e-8	0	5.478e-7
273	6	RN11B	0	0	0	0	0	5.478e-7
274	6	RN11C	0	0	0	-5.28e-8	0	5.478e-7
275	6	RN12A	0	0	0	2.733e-8	0	-5.221e-7
276	6	RN12B	0	0	0	0	0	-5.221e-7
277	6	RN12C	0	0	0	-5.279e-8	0	-5.221e-7
278	6	RN13A	0	0	0	2.706e-8	0	1.677e-6
279	6	RN13B	0	0	0	0	0	1.677e-6
280	6	RN13C	0	0	0	-5.247e-8	0	1.677e-6
281	6	RN14A	0	0	0	2.824e-8	0	-6.625e-6
282	6	RN14B	0	0	0	0	0	-6.625e-6
283	6	RN14C	0	0	0	-5.385e-8	0	-6.625e-6
284	6	RN15A	0	0	0	2.518e-8	0	2.656e-5
285	6	RN15B	0	0	0	0	0	2.656e-5
286	6	RN15C	0	0	0	-4.836e-8	0	2.656e-5
287	6	RN16A	0	0	0	3.625e-5	3.319e-7	-1.95e-5
288	6	RN16B	0	0	0	3.624e-5	3.307e-7	-1.951e-5

**Member Section Forces**

	LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1	1	A1	1	0	0	0	0	0	0
2			2	0	-0.242	0	0	0	0.013
3			3	0	-0.483	0	0	0	0.052
4			4	0	-0.725	0	0	0	0.116
5			5	0	-0.966	0	0	0	0.206
6			6	0	-1.208	0	0	0	0.323
7			7	0	-1.449	0	0	0	0.464
8			8	0	-1.691	0	0	0	0.632
9			9	0	-1.933	0	0	0	0.826

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
10		10	0	-2.174	0	0	0	1.045	
11		11	0	-2.416	0	0	0	1.29	
12		12	0	-2.657	0	0	0	1.561	
13		13	0	-2.899	0	0	0	1.858	
14		14	0	-3.141	0	0	0	2.18	
15		15	0	-3.382	0	0	0	2.528	
16		16	0	-3.624	0	0	0	2.903	
17		17	0	-3.865	0	0	0	3.302	
18		18	0	-4.107	0	0	0	3.728	
19		19	0	-4.348	0	0	0	4.18	
20		20	0	-4.59	0	0	0	4.657	
21	1	A2	1	-6.031	-17.717	7.028	-20.537	3.527	-15.657
22		2	-6.168	-20.635	6.004	-26.259	4.343	-13.257	
23		3	-6.304	-23.554	4.98	-31.98	5.03	-10.491	
24		4	-6.441	-26.472	3.956	-37.701	5.589	-7.36	
25		5	-6.577	-29.391	2.932	-43.423	6.02	-3.864	
26		6	-6.714	-32.309	1.908	-49.144	6.323	-0.002	
27		7	-6.85	-35.228	0.884	-54.865	6.498	4.225	
28		8	-6.987	-38.146	-0.14	-60.587	6.545	8.817	
29		9	-7.123	-41.065	-1.164	-66.308	6.463	13.775	
30		10	-7.26	-43.983	-2.188	-72.029	6.253	19.098	
31		11	-7.396	-46.902	-3.212	-77.751	5.915	24.786	
32		12	-7.533	-49.82	-4.235	-83.472	5.449	30.84	
33		13	-7.67	-52.739	-5.259	-89.193	4.855	37.259	
34		14	-7.806	-55.657	-6.283	-94.915	4.132	44.043	
35		15	-7.943	-58.576	-7.307	-100.636	3.282	51.193	
36		16	-8.079	-61.495	-8.331	-106.358	2.303	58.708	
37		17	-8.216	-64.413	-9.355	-112.079	1.196	66.588	
38		18	-8.352	-67.332	-10.379	-117.8	-0.039	74.833	
39		19	-8.489	-70.25	-11.403	-123.522	-1.402	83.444	
40		20	-8.625	-73.169	-12.427	-129.243	-2.894	92.421	
41	1	A3	1	4.075	84.408	30.551	170.715	-38.025	92.421
42		2	3.646	75.242	27.335	152.745	-26.646	61.037	
43		3	3.218	66.075	24.119	134.775	-16.531	33.257	
44		4	2.789	56.908	20.903	116.805	-7.681	9.081	
45		5	2.36	47.742	17.687	98.836	-0.095	-11.491	
46		6	1.931	38.575	14.471	80.866	6.227	-28.459	
47		7	1.502	29.408	11.255	62.896	11.284	-41.823	
48		8	1.073	20.242	8.039	44.926	15.076	-51.583	
49		9	0.644	11.075	4.823	26.956	17.605	-57.74	
50		10	0.216	1.908	1.607	8.986	18.869	-60.292	
51		11	-0.213	-7.258	-1.609	-8.984	18.869	-59.24	
52		12	-0.642	-16.425	-4.825	-26.954	17.604	-54.585	
53		13	-1.071	-25.592	-8.041	-44.924	15.075	-46.325	
54		14	-1.5	-34.758	-11.257	-62.894	11.281	-34.461	
55		15	-1.929	-43.925	-14.473	-80.864	6.223	-18.994	
56		16	-2.358	-53.092	-17.689	-98.834	-0.099	0.078	
57		17	-2.786	-62.258	-20.905	-116.804	-7.686	22.753	
58		18	-3.215	-71.425	-24.121	-134.774	-16.537	49.032	
59		19	-3.644	-80.592	-27.337	-152.743	-26.652	78.916	
60		20	-4.073	-89.758	-30.552	-170.713	-38.032	112.403	
61	1	A4	1	4.074	87.748	30.553	170.715	-38.043	112.403
62		2	3.645	78.581	27.337	152.745	-26.663	79.706	
63		3	3.216	69.415	24.121	134.775	-16.547	50.613	
64		4	2.788	60.248	20.905	116.805	-7.696	25.124	
65		5	2.359	51.081	17.689	98.835	-0.109	3.239	
66		6	1.93	41.915	14.474	80.865	6.213	-15.042	
67		7	1.501	32.748	11.258	62.895	11.272	-29.719	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
68		8	1.072	23.581	8.042	44.925	15.065	-40.792	
69		9	0.643	14.414	4.826	26.955	17.595	-48.261	
70		10	0.214	5.248	1.61	8.985	18.86	-52.126	
71		11	-0.214	-3.919	-1.606	-8.985	18.861	-52.387	
72		12	-0.643	-13.086	-4.822	-26.955	17.597	-49.045	
73		13	-1.072	-22.252	-8.038	-44.925	15.069	-42.098	
74		14	-1.501	-31.419	-11.254	-62.894	11.276	-31.547	
75		15	-1.93	-40.586	-14.47	-80.864	6.22	-17.393	
76		16	-2.359	-49.752	-17.686	-98.834	-0.102	0.366	
77		17	-2.788	-58.919	-20.902	-116.804	-7.687	21.728	
78		18	-3.216	-68.086	-24.118	-134.774	-16.537	46.695	
79		19	-3.645	-77.252	-27.334	-152.744	-26.652	75.265	
80		20	-4.074	-86.419	-30.55	-170.714	-38.03	107.439	
81	1	A5	1	4.074	86.927	30.553	170.714	-38.043	107.439
82		2	3.645	77.76	27.337	152.744	-26.663	75.065	
83		3	3.216	68.593	24.121	134.774	-16.547	46.295	
84		4	2.788	59.427	20.905	116.804	-7.696	21.129	
85		5	2.359	50.26	17.689	98.835	-0.109	-0.433	
86		6	1.93	41.093	14.474	80.865	6.213	-18.391	
87		7	1.501	31.927	11.258	62.895	11.272	-32.745	
88		8	1.072	22.76	8.042	44.925	15.065	-43.496	
89		9	0.643	13.593	4.826	26.955	17.595	-50.642	
90		10	0.214	4.427	1.61	8.985	18.86	-54.184	
91		11	-0.214	-4.74	-1.606	-8.985	18.861	-54.123	
92		12	-0.643	-13.907	-4.822	-26.955	17.597	-50.457	
93		13	-1.072	-23.073	-8.038	-44.925	15.069	-43.188	
94		14	-1.501	-32.24	-11.254	-62.895	11.276	-32.314	
95		15	-1.93	-41.407	-14.47	-80.865	6.22	-17.837	
96		16	-2.359	-50.573	-17.686	-98.835	-0.102	0.244	
97		17	-2.788	-59.74	-20.902	-116.805	-7.687	21.93	
98		18	-3.216	-68.907	-24.118	-134.775	-16.537	47.219	
99		19	-3.645	-78.073	-27.334	-152.744	-26.652	76.112	
100		20	-4.074	-87.24	-30.55	-170.714	-38.03	108.609	
101	1	A6	1	4.074	87.086	30.553	170.714	-38.043	108.609
102		2	3.645	77.92	27.337	152.744	-26.663	76.172	
103		3	3.216	68.753	24.121	134.774	-16.547	47.34	
104		4	2.788	59.586	20.905	116.805	-7.696	22.111	
105		5	2.359	50.42	17.689	98.835	-0.109	0.486	
106		6	1.93	41.253	14.474	80.865	6.213	-17.535	
107		7	1.501	32.086	11.258	62.895	11.272	-31.952	
108		8	1.072	22.92	8.042	44.925	15.065	-42.765	
109		9	0.643	13.753	4.826	26.955	17.595	-49.974	
110		10	0.214	4.586	1.61	8.985	18.86	-53.579	
111		11	-0.214	-4.581	-1.606	-8.985	18.861	-53.58	
112		12	-0.643	-13.747	-4.822	-26.955	17.597	-49.977	
113		13	-1.072	-22.914	-8.038	-44.925	15.069	-42.77	
114		14	-1.501	-32.081	-11.254	-62.895	11.276	-31.96	
115		15	-1.93	-41.247	-14.47	-80.865	6.22	-17.545	
116		16	-2.359	-50.414	-17.686	-98.835	-0.102	0.474	
117		17	-2.788	-59.581	-20.902	-116.805	-7.687	22.096	
118		18	-3.216	-68.747	-24.118	-134.774	-16.537	47.323	
119		19	-3.645	-77.914	-27.334	-152.744	-26.652	76.153	
120		20	-4.074	-87.081	-30.55	-170.714	-38.03	108.588	
121	1	A7	1	4.074	87.228	30.553	170.714	-38.043	108.588
122		2	3.645	78.061	27.337	152.744	-26.663	76.095	
123		3	3.216	68.895	24.121	134.775	-16.547	47.207	
124		4	2.788	59.728	20.905	116.805	-7.696	21.923	
125		5	2.359	50.561	17.689	98.835	-0.109	0.242	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
126		6	1.93	41.395	14.474	80.865	6.213	-17.834	
127		7	1.501	32.228	11.258	62.895	11.272	-32.307	
128		8	1.072	23.061	8.042	44.925	15.065	-43.176	
129		9	0.643	13.895	4.826	26.955	17.595	-50.44	
130		10	0.214	4.728	1.61	8.985	18.86	-54.101	
131		11	-0.214	-4.439	-1.606	-8.985	18.861	-54.158	
132		12	-0.643	-13.605	-4.822	-26.955	17.597	-50.611	
133		13	-1.072	-22.772	-8.038	-44.925	15.069	-43.46	
134		14	-1.501	-31.939	-11.254	-62.895	11.276	-32.705	
135		15	-1.93	-41.106	-14.47	-80.865	6.22	-18.346	
136		16	-2.359	-50.272	-17.686	-98.835	-0.102	-0.383	
137		17	-2.788	-59.439	-20.902	-116.804	-7.687	21.184	
138		18	-3.216	-68.606	-24.118	-134.774	-16.537	46.355	
139		19	-3.645	-77.772	-27.334	-152.744	-26.652	75.13	
140		20	-4.074	-86.939	-30.55	-170.714	-38.03	107.508	
141	1	A8	1	4.074	86.465	30.553	170.714	-38.043	107.508
142		2	3.645	77.298	27.337	152.744	-26.663	75.316	
143		3	3.216	68.131	24.121	134.774	-16.547	46.728	
144		4	2.788	58.965	20.905	116.804	-7.696	21.743	
145		5	2.359	49.798	17.689	98.834	-0.109	0.363	
146		6	1.93	40.631	14.474	80.864	6.213	-17.414	
147		7	1.501	31.465	11.258	62.894	11.272	-31.586	
148		8	1.072	22.298	8.042	44.924	15.065	-42.155	
149		9	0.643	13.131	4.826	26.954	17.595	-49.119	
150		10	0.214	3.965	1.61	8.984	18.86	-52.48	
151		11	-0.214	-5.202	-1.606	-8.986	18.861	-52.237	
152		12	-0.643	-14.369	-4.822	-26.955	17.597	-48.39	
153		13	-1.072	-23.535	-8.038	-44.925	15.069	-40.938	
154		14	-1.501	-32.702	-11.254	-62.895	11.276	-29.883	
155		15	-1.93	-41.869	-14.47	-80.865	6.22	-15.224	
156		16	-2.359	-51.035	-17.686	-98.835	-0.102	3.039	
157		17	-2.788	-60.202	-20.902	-116.805	-7.687	24.906	
158		18	-3.216	-69.361	-24.118	-134.775	-16.537	50.483	
159		19	-3.645	-79.78	-27.334	-152.745	-26.652	79.919	
160		20	-4.074	-89.598	-30.55	-170.715	-38.03	113.215	
161	1	A9	1	4.074	93.036	30.553	170.714	-38.043	113.215
162		2	3.645	83.218	27.337	152.744	-26.663	78.567	
163		3	3.216	73.4	24.121	134.774	-16.547	47.779	
164		4	2.788	63.582	20.905	116.804	-7.696	20.851	
165		5	2.359	53.764	17.689	98.834	-0.109	-2.216	
166		6	1.93	43.946	14.474	80.865	6.213	-21.424	
167		7	1.501	34.127	11.258	62.895	11.272	-36.771	
168		8	1.072	24.309	8.042	44.925	15.065	-48.259	
169		9	0.643	14.491	4.826	26.955	17.595	-55.886	
170		10	0.214	4.673	1.61	8.985	18.86	-59.654	
171		11	-0.214	-5.145	-1.606	-8.985	18.861	-59.561	
172		12	-0.643	-14.963	-4.822	-26.955	17.597	-55.608	
173		13	-1.072	-24.781	-8.038	-44.925	15.069	-47.795	
174		14	-1.501	-34.599	-11.254	-62.895	11.276	-36.122	
175		15	-1.93	-44.417	-14.47	-80.865	6.22	-20.589	
176		16	-2.359	-54.235	-17.686	-98.835	-0.102	-1.196	
177		17	-2.788	-64.053	-20.902	-116.805	-7.687	22.057	
178		18	-3.216	-73.872	-24.118	-134.775	-16.537	49.17	
179		19	-3.645	-83.69	-27.334	-152.745	-26.652	80.143	
180		20	-4.074	-93.508	-30.55	-170.714	-38.03	114.977	
181	1	A10	1	4.074	91.633	30.553	170.715	-38.043	114.977
182		2	3.645	81.815	27.337	152.745	-26.663	80.88	
183		3	3.216	71.997	24.121	134.775	-16.547	50.644	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
184		4	2.788	62.179	20.905	116.806	-7.696	24.268	
185		5	2.359	52.361	17.689	98.836	-0.109	1.752	
186		6	1.93	42.543	14.474	80.866	6.213	-16.904	
187		7	1.501	32.724	11.258	62.896	11.272	-31.7	
188		8	1.072	22.994	8.042	44.926	15.065	-42.638	
189		9	0.643	13.828	4.826	26.956	17.595	-49.877	
190		10	0.214	4.661	1.61	8.986	18.86	-53.511	
191		11	-0.214	-4.506	-1.606	-8.984	18.861	-53.542	
192		12	-0.643	-13.672	-4.822	-26.954	17.597	-49.968	
193		13	-1.072	-22.839	-8.038	-44.924	15.069	-42.791	
194		14	-1.501	-32.006	-11.254	-62.894	11.276	-32.009	
195		15	-1.93	-41.172	-14.47	-80.864	6.22	-17.624	
196		16	-2.359	-50.339	-17.686	-98.834	-0.102	0.365	
197		17	-2.788	-59.506	-20.902	-116.804	-7.687	21.958	
198		18	-3.216	-68.672	-24.118	-134.773	-16.537	47.155	
199		19	-3.645	-77.839	-27.334	-152.743	-26.652	75.956	
200		20	-4.074	-87.006	-30.55	-170.713	-38.03	108.361	
201	1	A11	1	4.074	87.031	30.553	170.714	-38.043	108.084
202		2	3.645	77.864	27.337	152.744	-26.663	75.67	
203		3	3.216	68.698	24.121	134.774	-16.547	46.859	
204		4	2.788	59.531	20.905	116.804	-7.696	21.652	
205		5	2.359	50.364	17.689	98.834	-0.109	0.048	
206		6	1.93	41.198	14.474	80.864	6.213	-17.951	
207		7	1.501	32.031	11.258	62.894	11.272	-32.346	
208		8	1.072	22.864	8.042	44.925	15.065	-43.137	
209		9	0.643	13.698	4.826	26.955	17.595	-50.324	
210		10	0.214	4.531	1.61	8.985	18.86	-53.908	
211		11	-0.214	-4.636	-1.606	-8.985	18.861	-53.887	
212		12	-0.643	-13.802	-4.822	-26.955	17.597	-50.262	
213		13	-1.072	-22.969	-8.038	-44.925	15.069	-43.034	
214		14	-1.501	-32.136	-11.254	-62.895	11.276	-32.201	
215		15	-1.93	-41.302	-14.47	-80.865	6.22	-17.765	
216		16	-2.359	-50.469	-17.686	-98.835	-0.102	0.275	
217		17	-2.788	-59.636	-20.902	-116.805	-7.687	21.92	
218		18	-3.216	-68.803	-24.118	-134.775	-16.537	47.168	
219		19	-3.645	-77.969	-27.334	-152.745	-26.652	76.02	
220		20	-4.074	-87.136	-30.55	-170.715	-38.03	108.476	
221	1	A12	1	4.074	87.079	30.553	170.714	-38.043	108.476
222		2	3.645	77.912	27.337	152.744	-26.663	76.042	
223		3	3.216	68.746	24.121	134.774	-16.547	47.213	
224		4	2.788	59.579	20.905	116.805	-7.696	21.987	
225		5	2.359	50.412	17.689	98.835	-0.109	0.365	
226		6	1.93	41.246	14.474	80.865	6.213	-17.654	
227		7	1.501	32.079	11.258	62.895	11.272	-32.068	
228		8	1.072	22.912	8.042	44.925	15.065	-42.878	
229		9	0.643	13.746	4.826	26.955	17.595	-50.084	
230		10	0.214	4.579	1.61	8.985	18.86	-53.686	
231		11	-0.214	-4.588	-1.606	-8.985	18.861	-53.685	
232		12	-0.643	-13.754	-4.822	-26.955	17.597	-50.079	
233		13	-1.072	-22.921	-8.038	-44.925	15.069	-42.87	
234		14	-1.501	-32.088	-11.254	-62.895	11.276	-32.056	
235		15	-1.93	-41.254	-14.47	-80.865	6.22	-17.639	
236		16	-2.359	-50.421	-17.686	-98.835	-0.102	0.383	
237		17	-2.788	-59.588	-20.902	-116.805	-7.687	22.008	
238		18	-3.216	-68.754	-24.118	-134.774	-16.537	47.238	
239		19	-3.645	-77.921	-27.334	-152.744	-26.652	76.071	
240		20	-4.074	-87.088	-30.55	-170.714	-38.03	108.508	
241	1	A13	1	4.074	87.154	30.553	170.714	-38.043	108.508



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
242		2	3.645	77.987	27.337	152.744	-26.663	76.045	
243		3	3.216	68.821	24.121	134.775	-16.547	47.185	
244		4	2.788	59.654	20.905	116.805	-7.696	21.93	
245		5	2.359	50.487	17.689	98.835	-0.109	0.279	
246		6	1.93	41.321	14.474	80.865	6.213	-17.769	
247		7	1.501	32.154	11.258	62.895	11.272	-32.212	
248		8	1.072	22.987	8.042	44.925	15.065	-43.052	
249		9	0.643	13.821	4.826	26.955	17.595	-50.288	
250		10	0.214	4.654	1.61	8.985	18.86	-53.919	
251		11	-0.214	-4.513	-1.606	-8.985	18.861	-53.947	
252		12	-0.643	-13.679	-4.822	-26.955	17.597	-50.371	
253		13	-1.072	-22.846	-8.038	-44.925	15.069	-43.191	
254		14	-1.501	-32.013	-11.254	-62.895	11.276	-32.407	
255		15	-1.93	-41.179	-14.47	-80.865	6.22	-18.019	
256		16	-2.359	-50.346	-17.686	-98.835	-0.102	-0.027	
257		17	-2.788	-59.513	-20.902	-116.805	-7.687	21.569	
258		18	-3.216	-68.679	-24.118	-134.774	-16.537	46.769	
259		19	-3.645	-77.846	-27.334	-152.744	-26.652	75.573	
260		20	-4.074	-87.013	-30.55	-170.714	-38.03	107.981	
261	1	A14	1	4.074	86.787	30.553	170.714	-38.043	107.981
262		2	3.645	77.62	27.337	152.744	-26.663	75.662	
263		3	3.216	68.454	24.121	134.774	-16.547	46.947	
264		4	2.788	59.287	20.905	116.804	-7.696	21.836	
265		5	2.359	50.12	17.689	98.834	-0.109	0.329	
266		6	1.93	40.954	14.474	80.865	6.213	-17.574	
267		7	1.501	31.787	11.258	62.895	11.272	-31.874	
268		8	1.072	22.62	8.042	44.925	15.065	-42.569	
269		9	0.643	13.454	4.826	26.955	17.595	-49.66	
270		10	0.214	4.287	1.61	8.985	18.86	-53.148	
271		11	-0.214	-4.88	-1.606	-8.985	18.861	-53.031	
272		12	-0.643	-14.046	-4.822	-26.955	17.597	-49.311	
273		13	-1.072	-23.213	-8.038	-44.925	15.069	-41.986	
274		14	-1.501	-32.38	-11.254	-62.895	11.276	-31.058	
275		15	-1.93	-41.547	-14.47	-80.865	6.22	-16.525	
276		16	-2.359	-50.713	-17.686	-98.835	-0.102	1.611	
277		17	-2.788	-59.88	-20.902	-116.805	-7.687	23.351	
278		18	-3.216	-69.047	-24.118	-134.775	-16.537	48.695	
279		19	-3.645	-78.213	-27.334	-152.745	-26.652	77.644	
280		20	-4.074	-87.38	-30.55	-170.714	-38.03	110.196	
281	1	A15	1	4.086	88.276	30.557	170.711	-38.045	110.196
282		2	3.657	79.109	27.341	152.741	-26.664	77.291	
283		3	3.228	69.943	24.125	134.771	-16.547	47.991	
284		4	2.799	60.776	20.909	116.801	-7.694	22.294	
285		5	2.37	51.609	17.693	98.831	-0.106	0.202	
286		6	1.941	42.443	14.477	80.861	6.218	-18.287	
287		7	1.513	33.276	11.261	62.891	11.278	-33.172	
288		8	1.084	24.109	8.045	44.921	15.073	-44.453	
289		9	0.655	14.943	4.829	26.951	17.604	-52.129	
290		10	0.226	5.776	1.613	8.981	18.87	-56.202	
291		11	-0.203	-3.391	-1.603	-8.989	18.872	-56.671	
292		12	-0.632	-12.557	-4.819	-26.959	17.61	-53.536	
293		13	-1.061	-21.724	-8.035	-44.929	15.083	-46.797	
294		14	-1.489	-30.891	-11.251	-62.898	11.292	-36.454	
295		15	-1.918	-40.057	-14.467	-80.868	6.236	-22.507	
296		16	-2.347	-49.224	-17.683	-98.838	-0.084	-4.957	
297		17	-2.776	-58.391	-20.899	-116.808	-7.668	16.198	
298		18	-3.205	-67.557	-24.115	-134.778	-16.517	40.957	
299		19	-3.634	-76.724	-27.331	-152.748	-26.63	69.32	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
300		20	-4.063	-85.891	-30.546	-170.718	-38.007	101.286
301	1 A16	1	11.858	89.334	20.295	100.396	-9.696	101.286
302		2	11.638	84.626	18.644	91.167	-5.765	83.722
303		3	11.418	79.918	16.992	81.937	-2.167	67.109
304		4	11.197	75.21	15.34	72.708	1.098	51.447
305		5	10.977	70.502	13.688	63.478	4.029	36.735
306		6	10.757	65.794	12.037	54.249	6.626	22.974
307		7	10.536	61.086	10.385	45.019	8.89	10.163
308		8	10.316	56.378	8.733	35.79	10.82	-1.696
309		9	10.096	51.67	7.082	26.56	12.417	-12.605
310		10	9.876	46.962	5.43	17.331	13.68	-22.564
311		11	9.655	42.253	3.778	8.101	14.61	-31.571
312		12	9.435	37.545	2.126	-1.128	15.206	-39.628
313		13	9.215	32.837	0.475	-10.358	15.468	-46.734
314		14	8.995	28.129	-1.177	-19.588	15.398	-52.89
315		15	8.774	23.421	-2.829	-28.817	14.993	-58.094
316		16	8.554	18.713	-4.481	-38.047	14.255	-62.348
317		17	8.334	14.005	-6.132	-47.276	13.183	-65.652
318		18	8.114	9.297	-7.784	-56.506	11.778	-68.004
319		19	7.893	4.589	-9.436	-65.735	10.04	-69.406
320		20	7.673	-0.119	-11.088	-74.965	7.968	-69.858
321	1 A17	1	0	4.807	0	0	0	5.107
322		2	0	4.554	0	0	0	4.584
323		3	0	4.301	0	0	0	4.089
324		4	0	4.048	0	0	0	3.622
325		5	0	3.795	0	0	0	3.183
326		6	0	3.542	0	0	0	2.773
327		7	0	3.289	0	0	0	2.391
328		8	0	3.036	0	0	0	2.037
329		9	0	2.783	0	0	0	1.712
330		10	0	2.53	0	0	0	1.415
331		11	0	2.277	0	0	0	1.146
332		12	0	2.024	0	0	0	0.905
333		13	0	1.771	0	0	0	0.693
334		14	0	1.518	0	0	0	0.509
335		15	0	1.265	0	0	0	0.354
336		16	0	1.012	0	0	0	0.226
337		17	0	0.759	0	0	0	0.127
338		18	0	0.506	0	0	0	0.057
339		19	0	0.253	0	0	0	0.014
340		20	0	0	0	0	0	0
341	1 R1	1	13.266	-32.128	-2.415	0	7.968	-106.016
342		2	13.266	-32.128	-2.415	0	7.548	-100.436
343		3	13.266	-32.128	-2.415	0	7.129	-94.857
344		4	13.266	-32.128	-2.415	0	6.71	-89.277
345		5	13.266	-32.128	-2.415	0	6.29	-83.697
346		6	13.266	-32.128	-2.415	0	5.871	-78.117
347		7	13.266	-32.128	-2.415	0	5.452	-72.537
348		8	13.266	-32.128	-2.415	0	5.032	-66.958
349		9	13.266	-32.128	-2.415	0	4.613	-61.378
350		10	13.266	-32.128	-2.415	0	4.193	-55.798
351		11	13.266	-32.128	-2.415	0	3.774	-50.218
352		12	13.266	-32.128	-2.415	0	3.355	-44.638
353		13	13.266	-32.128	-2.415	0	2.935	-39.059
354		14	13.266	-32.128	-2.415	0	2.516	-33.479
355		15	13.266	-32.128	-2.415	0	2.097	-27.899
356		16	13.266	-32.128	-2.415	0	1.677	-22.319
357		17	13.266	-32.128	-2.415	0	1.258	-16.739



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
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 Checked By : CWT

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
358		18	13.266	-32.128	-2.415	0	0.839	-11.16
359		19	13.266	-32.128	-2.415	0	0.419	-5.58
360		20	13.266	-32.128	-2.415	0	0	0
361	1 R2	1	-19.237	22.337	10.615	0	0	0
362		2	-19.237	22.337	10.615	0	3.445	-7.25
363		3	-19.237	22.337	10.615	0	6.89	-14.499
364		4	-19.237	22.337	10.615	0	10.336	-21.749
365		5	-19.237	22.337	10.615	0	13.781	-28.999
366		6	-19.237	22.337	10.615	0	17.226	-36.248
367		7	-19.237	22.337	10.615	0	20.671	-43.498
368		8	-19.237	22.337	10.615	0	24.117	-50.748
369		9	-19.237	22.337	10.615	0	27.562	-57.997
370		10	-19.237	22.337	10.615	0	31.007	-65.247
371		11	-19.237	22.337	10.615	0	34.452	-72.497
372		12	-19.237	22.337	10.615	0	37.897	-79.747
373		13	31.604	-152.888	-5.306	0	12.054	-347.351
374		14	31.604	-152.888	-5.306	0	10.332	-297.73
375		15	31.604	-152.888	-5.306	0	8.61	-248.108
376		16	31.604	-152.888	-5.306	0	6.888	-198.486
377		17	31.604	-152.888	-5.306	0	5.166	-148.865
378		18	31.604	-152.888	-5.306	0	3.444	-99.243
379		19	31.604	-152.888	-5.306	0	1.722	-49.622
380		20	31.604	-152.888	-5.306	0	0	0
381	1 R3	1	-23.121	11.098	3.085	0	0	0
382		2	-23.121	11.098	3.085	0	1.001	-3.602
383		3	-23.121	11.098	3.085	0	2.003	-7.204
384		4	-23.121	11.098	3.085	0	3.004	-10.806
385		5	-23.121	11.098	3.085	0	4.005	-14.408
386		6	-23.121	11.098	3.085	0	5.007	-18.01
387		7	-23.121	11.098	3.085	0	6.008	-21.612
388		8	-23.121	11.098	3.085	0	7.009	-25.214
389		9	-23.121	11.098	3.085	0	8.01	-28.816
390		10	-23.121	11.098	3.085	0	9.012	-32.418
391		11	-23.121	11.098	3.085	0	10.013	-36.02
392		12	-23.121	11.098	3.085	0	11.014	-39.622
393		13	37.985	-164.558	-5.075	0	11.529	-373.864
394		14	37.985	-164.558	-5.075	0	9.882	-320.455
395		15	37.985	-164.558	-5.075	0	8.235	-267.045
396		16	37.985	-164.558	-5.075	0	6.588	-213.636
397		17	37.985	-164.558	-5.075	0	4.941	-160.227
398		18	37.985	-164.558	-5.075	0	3.294	-106.818
399		19	37.985	-164.558	-5.075	0	1.647	-53.409
400		20	37.985	-164.558	-5.075	0	0	0
401	1 R4	1	-23.12	10.395	3.081	0	0	0
402		2	-23.12	10.395	3.081	0	1	-3.374
403		3	-23.12	10.395	3.081	0	2	-6.748
404		4	-23.12	10.395	3.081	0	3	-10.122
405		5	-23.12	10.395	3.081	0	4	-13.495
406		6	-23.12	10.395	3.081	0	5	-16.869
407		7	-23.12	10.395	3.081	0	6	-20.243
408		8	-23.12	10.395	3.081	0	7	-23.617
409		9	-23.12	10.395	3.081	0	8	-26.991
410		10	-23.12	10.395	3.081	0	9	-30.365
411		11	-23.12	10.395	3.081	0	10	-33.739
412		12	-23.12	10.395	3.081	0	11	-37.113
413		13	37.983	-163.405	-5.067	0	11.512	-371.243
414		14	37.983	-163.405	-5.067	0	9.868	-318.208
415		15	37.983	-163.405	-5.067	0	8.223	-265.174



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
416		16	37.983	-163.405	-5.067	0	6.579	-212.139
417		17	37.983	-163.405	-5.067	0	4.934	-159.104
418		18	37.983	-163.405	-5.067	0	3.289	-106.069
419		19	37.983	-163.405	-5.067	0	1.645	-53.035
420		20	37.983	-163.405	-5.067	0	0	0
421	1	R5	1	-23.12	10.562	3.081	0	0
422		2	-23.12	10.562	3.081	0	1	-3.428
423		3	-23.12	10.562	3.081	0	2	-6.856
424		4	-23.12	10.562	3.081	0	3	-10.284
425		5	-23.12	10.562	3.081	0	4	-13.713
426		6	-23.12	10.562	3.081	0	5	-17.141
427		7	-23.12	10.562	3.081	0	6	-20.569
428		8	-23.12	10.562	3.081	0	7	-23.997
429		9	-23.12	10.562	3.081	0	8	-27.425
430		10	-23.12	10.562	3.081	0	9	-30.853
431		11	-23.12	10.562	3.081	0	10	-34.282
432		12	-23.12	10.562	3.081	0	11	-37.71
433		13	37.983	-163.679	-5.067	0	11.512	-371.867
434		14	37.983	-163.679	-5.067	0	9.868	-318.743
435		15	37.983	-163.679	-5.067	0	8.223	-265.62
436		16	37.983	-163.679	-5.067	0	6.579	-212.496
437		17	37.983	-163.679	-5.067	0	4.934	-159.372
438		18	37.983	-163.679	-5.067	0	3.289	-106.248
439		19	37.983	-163.679	-5.067	0	1.645	-53.124
440		20	37.983	-163.679	-5.067	0	0	0
441	1	R6	1	-23.12	10.552	3.081	0	0
442		2	-23.12	10.552	3.081	0	1	-3.425
443		3	-23.12	10.552	3.081	0	2	-6.85
444		4	-23.12	10.552	3.081	0	3	-10.275
445		5	-23.12	10.552	3.081	0	4	-13.699
446		6	-23.12	10.552	3.081	0	5	-17.124
447		7	-23.12	10.552	3.081	0	6	-20.549
448		8	-23.12	10.552	3.081	0	7	-23.974
449		9	-23.12	10.552	3.081	0	8	-27.399
450		10	-23.12	10.552	3.081	0	9	-30.824
451		11	-23.12	10.552	3.081	0	10	-34.248
452		12	-23.12	10.552	3.081	0	11	-37.673
453		13	37.983	-163.663	-5.067	0	11.512	-371.83
454		14	37.983	-163.663	-5.067	0	9.868	-318.711
455		15	37.983	-163.663	-5.067	0	8.223	-265.593
456		16	37.983	-163.663	-5.067	0	6.578	-212.474
457		17	37.983	-163.663	-5.067	0	4.934	-159.356
458		18	37.983	-163.663	-5.067	0	3.289	-106.237
459		19	37.983	-163.663	-5.067	0	1.645	-53.119
460		20	37.983	-163.663	-5.067	0	0	0
461	1	R7	1	-23.123	10.485	3.062	0	0
462		2	-23.123	10.485	3.062	0	0.994	-3.403
463		3	-23.123	10.485	3.062	0	1.988	-6.806
464		4	-23.123	10.485	3.062	0	2.982	-10.209
465		5	-23.123	10.485	3.062	0	3.976	-13.612
466		6	-23.123	10.485	3.062	0	4.97	-17.015
467		7	-23.123	10.485	3.062	0	5.964	-20.418
468		8	-23.123	10.485	3.062	0	6.957	-23.821
469		9	-23.123	10.485	3.062	0	7.951	-27.225
470		10	-23.123	10.485	3.062	0	8.945	-30.628
471		11	-23.123	10.485	3.062	0	9.939	-34.031
472		12	-23.123	10.485	3.062	0	10.933	-37.434
473		13	37.987	-163.552	-5.036	0	11.443	-371.578

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
474		14	37.987	-163.552	-5.036	0	9.808	-318.495
475		15	37.987	-163.552	-5.036	0	8.173	-265.413
476		16	37.987	-163.552	-5.036	0	6.539	-212.331
477		17	37.987	-163.552	-5.036	0	4.904	-159.248
478		18	37.987	-163.552	-5.036	0	3.269	-106.166
479		19	37.987	-163.552	-5.036	0	1.635	-53.083
480		20	37.987	-163.552	-5.036	0	0	0
481	1	R8	1	-23.12	14.686	3.081	0	0
482		2	-23.12	14.686	3.081	0	1	-4.767
483		3	-23.12	14.686	3.081	0	2	-9.533
484		4	-23.12	14.686	3.081	0	3	-14.3
485		5	-23.12	14.686	3.081	0	4	-19.066
486		6	-23.12	14.686	3.081	0	5	-23.833
487		7	-23.12	14.686	3.081	0	6	-28.6
488		8	-23.12	14.686	3.081	0	7	-33.366
489		9	-23.12	14.686	3.081	0	8	-38.133
490		10	-23.12	14.686	3.081	0	9	-42.899
491		11	-23.12	14.686	3.081	0	10	-47.666
492		12	-23.12	14.686	3.081	0	11	-52.433
493		13	37.983	-170.455	-5.067	0	11.512	-387.261
494		14	37.983	-170.455	-5.067	0	9.868	-331.938
495		15	37.983	-170.455	-5.067	0	8.223	-276.615
496		16	37.983	-170.455	-5.067	0	6.578	-221.292
497		17	37.983	-170.455	-5.067	0	4.934	-165.969
498		18	37.983	-170.455	-5.067	0	3.289	-110.646
499		19	37.983	-170.455	-5.067	0	1.645	-55.323
500		20	37.983	-170.455	-5.067	0	0	0
501	1	R9	1	-23.12	13.738	3.081	0	0
502		2	-23.12	13.738	3.081	0	1	-4.459
503		3	-23.12	13.738	3.081	0	2	-8.917
504		4	-23.12	13.738	3.081	0	3	-13.376
505		5	-23.12	13.738	3.081	0	4	-17.835
506		6	-23.12	13.738	3.081	0	5	-22.294
507		7	-23.12	13.738	3.081	0	6	-26.752
508		8	-23.12	13.738	3.081	0	7	-31.211
509		9	-23.12	13.738	3.081	0	8	-35.67
510		10	-23.12	13.738	3.081	0	9	-40.129
511		11	-23.12	13.738	3.081	0	10	-44.587
512		12	-23.12	13.738	3.081	0	11	-49.046
513		13	37.983	-168.896	-5.067	0	11.512	-383.72
514		14	37.983	-168.896	-5.067	0	9.868	-328.903
515		15	37.983	-168.896	-5.067	0	8.223	-274.085
516		16	37.983	-168.896	-5.067	0	6.579	-219.268
517		17	37.983	-168.896	-5.067	0	4.934	-164.451
518		18	37.983	-168.896	-5.067	0	3.289	-109.634
519		19	37.983	-168.896	-5.067	0	1.645	-54.817
520		20	37.983	-168.896	-5.067	0	0	0
521	1	R10	1	-23.12	10.245	3.081	0	0
522		2	-23.12	10.245	3.081	0	1	-3.325
523		3	-23.12	10.245	3.081	0	2	-6.65
524		4	-23.12	10.245	3.081	0	3	-9.976
525		5	-23.12	10.245	3.081	0	4	-13.301
526		6	-23.12	10.245	3.081	0	5	-16.626
527		7	-23.12	10.245	3.081	0	6	-19.951
528		8	-23.12	10.245	3.081	0	7	-23.277
529		9	-23.12	10.245	3.081	0	8	-26.602
530		10	-23.12	10.245	3.081	0	9	-29.927
531		11	-23.12	10.245	3.081	0	10	-33.252

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
532		12	-23.12	10.245	3.081	0	11	-36.578
533		13	37.983	-163.158	-5.067	0	11.512	-370.684
534		14	37.983	-163.158	-5.067	0	9.868	-317.729
535		15	37.983	-163.158	-5.067	0	8.223	-264.774
536		16	37.983	-163.158	-5.067	0	6.579	-211.819
537		17	37.983	-163.158	-5.067	0	4.934	-158.864
538		18	37.983	-163.158	-5.067	0	3.289	-105.91
539		19	37.983	-163.158	-5.067	0	1.645	-52.955
540		20	37.983	-163.158	-5.067	0	0	0
541	1	R11	1	-23.12	10.588	3.081	0	0
542		2	-23.12	10.588	3.081	0	1	-3.436
543		3	-23.12	10.588	3.081	0	2	-6.873
544		4	-23.12	10.588	3.081	0	3	-10.309
545		5	-23.12	10.588	3.081	0	4	-13.745
546		6	-23.12	10.588	3.081	0	5	-17.182
547		7	-23.12	10.588	3.081	0	6	-20.618
548		8	-23.12	10.588	3.081	0	7	-24.054
549		9	-23.12	10.588	3.081	0	8	-27.491
550		10	-23.12	10.588	3.081	0	9	-30.927
551		11	-23.12	10.588	3.081	0	10	-34.363
552		12	-23.12	10.588	3.081	0	11	-37.8
553		13	37.983	-163.721	-5.067	0	11.512	-371.962
554		14	37.983	-163.721	-5.067	0	9.868	-318.824
555		15	37.983	-163.721	-5.067	0	8.223	-265.687
556		16	37.983	-163.721	-5.067	0	6.579	-212.55
557		17	37.983	-163.721	-5.067	0	4.934	-159.412
558		18	37.983	-163.721	-5.067	0	3.289	-106.275
559		19	37.983	-163.721	-5.067	0	1.645	-53.137
560		20	37.983	-163.721	-5.067	0	0	0
561	1	R12	1	-23.12	10.594	3.081	0	0
562		2	-23.12	10.594	3.081	0	1	-3.439
563		3	-23.12	10.594	3.081	0	2	-6.877
564		4	-23.12	10.594	3.081	0	3	-10.316
565		5	-23.12	10.594	3.081	0	4	-13.754
566		6	-23.12	10.594	3.081	0	5	-17.193
567		7	-23.12	10.594	3.081	0	6	-20.631
568		8	-23.12	10.594	3.081	0	7	-24.07
569		9	-23.12	10.594	3.081	0	8	-27.508
570		10	-23.12	10.594	3.081	0	9	-30.947
571		11	-23.12	10.594	3.081	0	10	-34.385
572		12	-23.12	10.594	3.081	0	11	-37.824
573		13	37.983	-163.732	-5.067	0	11.512	-371.987
574		14	37.983	-163.732	-5.067	0	9.868	-318.846
575		15	37.983	-163.732	-5.067	0	8.223	-265.705
576		16	37.983	-163.732	-5.067	0	6.579	-212.564
577		17	37.983	-163.732	-5.067	0	4.934	-159.423
578		18	37.983	-163.732	-5.067	0	3.289	-106.282
579		19	37.983	-163.732	-5.067	0	1.645	-53.141
580		20	37.983	-163.732	-5.067	0	0	0
581	1	R13	1	-23.12	10.224	3.081	0	0
582		2	-23.12	10.224	3.081	0	1	-3.318
583		3	-23.12	10.224	3.081	0	2	-6.636
584		4	-23.12	10.224	3.081	0	3	-9.954
585		5	-23.12	10.224	3.081	0	4	-13.273
586		6	-23.12	10.224	3.081	0	5	-16.591
587		7	-23.12	10.224	3.081	0	6	-19.909
588		8	-23.12	10.224	3.081	0	7	-23.227
589		9	-23.12	10.224	3.081	0	8	-26.545



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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 Checked By : CWT

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
590		10	-23.12	10.224	3.081	0	9	-29.863
591		11	-23.12	10.224	3.081	0	10	-33.182
592		12	-23.12	10.224	3.081	0	11	-36.5
593		13	37.983	-163.122	-5.067	0	11.512	-370.602
594		14	37.983	-163.122	-5.067	0	9.868	-317.659
595		15	37.983	-163.122	-5.067	0	8.223	-264.716
596		16	37.983	-163.122	-5.067	0	6.579	-211.773
597		17	37.983	-163.122	-5.067	0	4.934	-158.83
598		18	37.983	-163.122	-5.067	0	3.289	-105.886
599		19	37.983	-163.122	-5.067	0	1.645	-52.943
600		20	37.983	-163.122	-5.067	0	0	0
601	1	R14	1	-23.121	11.798	3.081	0	0
602		2	-23.121	11.798	3.081	0	1	-3.829
603		3	-23.121	11.798	3.081	0	2	-7.658
604		4	-23.121	11.798	3.081	0	3	-11.487
605		5	-23.121	11.798	3.081	0	4	-15.316
606		6	-23.121	11.798	3.081	0	5	-19.145
607		7	-23.121	11.798	3.081	0	5.999	-22.975
608		8	-23.121	11.798	3.081	0	6.999	-26.804
609		9	-23.121	11.798	3.081	0	7.999	-30.633
610		10	-23.121	11.798	3.081	0	8.999	-34.462
611		11	-23.121	11.798	3.081	0	9.999	-38.291
612		12	-23.121	11.798	3.081	0	10.999	-42.12
613		13	37.985	-165.709	-5.066	0	11.51	-376.478
614		14	37.985	-165.709	-5.066	0	9.866	-322.695
615		15	37.985	-165.709	-5.066	0	8.222	-268.913
616		16	37.985	-165.709	-5.066	0	6.577	-215.13
617		17	37.985	-165.709	-5.066	0	4.933	-161.348
618		18	37.985	-165.709	-5.066	0	3.289	-107.565
619		19	37.985	-165.709	-5.066	0	1.644	-53.783
620		20	37.985	-165.709	-5.066	0	0	0
621	1	R15	1	-16.262	10.982	-0.891	0	0
622		2	-16.262	10.982	-0.891	0	-0.289	-3.564
623		3	-16.262	10.982	-0.891	0	-0.579	-7.129
624		4	-16.262	10.982	-0.891	0	-0.868	-10.693
625		5	-16.262	10.982	-0.891	0	-1.157	-14.257
626		6	-16.262	10.982	-0.891	0	-1.446	-17.821
627		7	-16.262	10.982	-0.891	0	-1.736	-21.386
628		8	-16.262	10.982	-0.891	0	-2.025	-24.95
629		9	-16.262	10.982	-0.891	0	-2.314	-28.514
630		10	-16.262	10.982	-0.891	0	-2.603	-32.079
631		11	-16.262	10.982	-0.891	0	-2.893	-35.643
632		12	-16.262	10.982	-0.891	0	-3.182	-39.207
633		13	26.716	-146.595	-13.592	0	30.88	-333.054
634		14	26.716	-146.595	-13.592	0	26.469	-285.475
635		15	26.716	-146.595	-13.592	0	22.057	-237.896
636		16	26.716	-146.595	-13.592	0	17.646	-190.317
637		17	26.716	-146.595	-13.592	0	13.234	-142.737
638		18	26.716	-146.595	-13.592	0	8.823	-95.158
639		19	26.716	-146.595	-13.592	0	4.411	-47.579
640		20	26.716	-146.595	-13.592	0	0	0
641	1	M33	1	-9.238	5.358	0.654	0	0
642		2	-9.238	5.358	0.654	0	0.186	-1.52
643		3	-9.238	5.358	0.654	0	0.371	-3.041
644		4	-9.238	5.358	0.654	0	0.557	-4.561
645		5	-9.238	5.358	0.654	0	0.743	-6.081
646		6	-9.238	5.358	0.654	0	0.928	-7.602
647		7	-9.238	5.358	0.654	0	1.114	-9.122

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
648		8	-9.238	5.358	0.654	0	1.299	-10.642
649		9	-9.238	5.358	0.654	0	1.485	-12.163
650		10	-9.238	5.358	0.654	0	1.671	-13.683
651		11	-9.238	5.358	0.654	0	1.856	-15.204
652		12	-9.238	5.358	0.654	0	2.042	-16.724
653		13	-9.238	5.358	0.654	0	2.228	-18.244
654		14	-9.238	5.358	0.654	0	2.413	-19.765
655		15	-9.238	5.358	0.654	0	2.599	-21.285
656		16	-9.238	5.358	0.654	0	2.784	-22.805
657		17	-9.238	5.358	0.654	0	2.97	-24.326
658		18	-9.238	5.358	0.654	0	3.156	-25.846
659		19	-9.238	5.358	0.654	0	3.341	-27.366
660		20	-9.238	5.358	0.654	0	3.527	-28.887
661	2	A1	1	0	0	0	0	0
662		2	0	-0.336	0	0	0	0.018
663		3	0	-0.671	0	0	0	0.072
664		4	0	-1.007	0	0	0	0.161
665		5	0	-1.342	0	0	0	0.287
666		6	0	-1.678	0	0	0	0.448
667		7	0	-2.013	0	0	0	0.645
668		8	0	-2.349	0	0	0	0.878
669		9	0	-2.684	0	0	0	1.147
670		10	0	-3.02	0	0	0	1.451
671		11	0	-3.355	0	0	0	1.792
672		12	0	-3.691	0	0	0	2.168
673		13	0	-4.026	0	0	0	2.58
674		14	0	-4.362	0	0	0	3.028
675		15	0	-4.697	0	0	0	3.512
676		16	0	-5.033	0	0	0	4.031
677		17	0	-5.368	0	0	0	4.587
678		18	0	-5.704	0	0	0	5.178
679		19	0	-6.039	0	0	0	5.805
680		20	0	-6.375	0	0	0	6.468
681	2	A2	1	-6.031	-24.202	7.028	-30.074	-23.279
682		2	-6.168	-28.169	6.004	-35.795	4.343	-20.001
683		3	-6.304	-32.137	4.98	-41.517	5.03	-16.227
684		4	-6.441	-36.104	3.956	-47.238	5.589	-11.956
685		5	-6.577	-40.072	2.932	-52.96	6.02	-7.188
686		6	-6.714	-44.039	1.908	-58.681	6.323	-1.924
687		7	-6.85	-48.007	0.884	-64.402	6.498	3.837
688		8	-6.987	-51.974	-0.14	-70.124	6.545	10.094
689		9	-7.123	-55.941	-1.164	-75.845	6.463	16.849
690		10	-7.26	-59.909	-2.188	-81.566	6.253	24.099
691		11	-7.396	-63.876	-3.212	-87.288	5.915	31.847
692		12	-7.533	-67.844	-4.235	-93.009	5.449	40.091
693		13	-7.67	-71.811	-5.259	-98.73	4.855	48.832
694		14	-7.806	-75.779	-6.283	-104.452	4.132	58.069
695		15	-7.943	-79.746	-7.307	-110.173	3.282	67.803
696		16	-8.079	-83.713	-8.331	-115.894	2.303	78.033
697		17	-8.216	-87.681	-9.355	-121.616	1.196	88.761
698		18	-8.352	-91.648	-10.379	-127.337	-0.039	99.984
699		19	-8.489	-95.616	-11.403	-133.058	-1.402	111.705
700		20	-8.625	-99.583	-12.427	-138.78	-2.894	123.922
701	2	A3	1	4.075	114.458	30.551	170.714	-38.025
702		2	3.646	101.996	27.335	152.744	-26.646	81.372
703		3	3.218	89.535	24.119	134.774	-16.531	43.72
704		4	2.789	77.074	20.903	116.804	-7.681	10.969
705		5	2.36	64.613	17.687	98.835	-0.095	-16.884

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
706		6	1.931	52.152	14.471	80.865	6.227	-39.838	
707		7	1.502	39.691	11.255	62.895	11.284	-57.892	
708		8	1.073	27.23	8.039	44.925	15.076	-71.047	
709		9	0.644	14.769	4.823	26.955	17.605	-79.303	
710		10	0.216	2.308	1.607	8.985	18.869	-82.66	
711		11	-0.213	-10.154	-1.609	-8.985	18.869	-81.118	
712		12	-0.642	-22.615	-4.825	-26.955	17.604	-74.676	
713		13	-1.071	-35.076	-8.041	-44.925	15.075	-63.335	
714		14	-1.5	-47.537	-11.257	-62.895	11.281	-47.096	
715		15	-1.929	-59.998	-14.473	-80.865	6.223	-25.956	
716		16	-2.358	-72.459	-17.689	-98.835	-0.099	0.082	
717		17	-2.786	-84.92	-20.905	-116.805	-7.686	31.019	
718		18	-3.215	-97.381	-24.121	-134.775	-16.537	66.856	
719		19	-3.644	-109.842	-27.337	-152.744	-26.652	107.592	
720		20	-4.073	-122.304	-30.552	-170.714	-38.032	153.227	
721	2	A4	1	4.074	119.355	30.553	170.715	-38.043	153.227
722		2	3.645	106.894	27.337	152.745	-26.663	108.751	
723		3	3.216	94.433	24.121	134.775	-16.547	69.174	
724		4	2.788	81.972	20.905	116.805	-7.696	34.497	
725		5	2.359	69.511	17.689	98.835	-0.109	4.718	
726		6	1.93	57.05	14.474	80.865	6.213	-20.161	
727		7	1.501	44.589	11.258	62.895	11.272	-40.141	
728		8	1.072	32.127	8.042	44.925	15.065	-55.221	
729		9	0.643	19.666	4.826	26.955	17.595	-65.403	
730		10	0.214	7.205	1.61	8.985	18.86	-70.685	
731		11	-0.214	-5.256	-1.606	-8.985	18.861	-71.068	
732		12	-0.643	-17.717	-4.822	-26.955	17.597	-66.552	
733		13	-1.072	-30.178	-8.038	-44.924	15.069	-57.137	
734		14	-1.501	-42.639	-11.254	-62.894	11.276	-42.823	
735		15	-1.93	-55.1	-14.47	-80.864	6.22	-23.609	
736		16	-2.359	-67.561	-17.686	-98.834	-0.102	0.503	
737		17	-2.788	-80.023	-20.902	-116.804	-7.687	29.515	
738		18	-3.216	-92.484	-24.118	-134.774	-16.537	63.426	
739		19	-3.645	-104.945	-27.334	-152.744	-26.652	102.237	
740		20	-4.074	-117.406	-30.55	-170.714	-38.03	145.946	
741	2	A5	1	4.074	118.15	30.553	170.714	-38.043	145.946
742		2	3.645	105.689	27.337	152.744	-26.663	101.944	
743		3	3.216	93.228	24.121	134.774	-16.547	62.841	
744		4	2.788	80.767	20.905	116.804	-7.696	28.637	
745		5	2.359	68.306	17.689	98.835	-0.109	-0.667	
746		6	1.93	55.845	14.474	80.865	6.213	-25.072	
747		7	1.501	43.383	11.258	62.895	11.272	-44.579	
748		8	1.072	30.922	8.042	44.925	15.065	-59.185	
749		9	0.643	18.461	4.826	26.955	17.595	-68.893	
750		10	0.214	6	1.61	8.985	18.86	-73.702	
751		11	-0.214	-6.461	-1.606	-8.985	18.861	-73.611	
752		12	-0.643	-18.922	-4.822	-26.955	17.597	-68.622	
753		13	-1.072	-31.383	-8.038	-44.925	15.069	-58.733	
754		14	-1.501	-43.844	-11.254	-62.895	11.276	-43.944	
755		15	-1.93	-56.305	-14.47	-80.865	6.22	-24.257	
756		16	-2.359	-68.766	-17.686	-98.835	-0.102	0.329	
757		17	-2.788	-81.228	-20.902	-116.805	-7.687	29.815	
758		18	-3.216	-93.689	-24.118	-134.775	-16.537	64.2	
759		19	-3.645	-106.15	-27.334	-152.744	-26.652	103.484	
760		20	-4.074	-118.611	-30.55	-170.714	-38.03	147.667	
761	2	A6	1	4.074	118.388	30.553	170.714	-38.043	147.667
762		2	3.645	105.927	27.337	152.744	-26.663	103.572	
763		3	3.216	93.465	24.121	134.774	-16.547	64.375	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
764		4	2.788	81.004	20.905	116.805	-7.696	30.078	
765		5	2.359	68.543	17.689	98.835	-0.109	0.68	
766		6	1.93	56.082	14.474	80.865	6.213	-23.818	
767		7	1.501	43.621	11.258	62.895	11.272	-43.418	
768		8	1.072	31.16	8.042	44.925	15.065	-58.118	
769		9	0.643	18.699	4.826	26.955	17.595	-67.919	
770		10	0.214	6.238	1.61	8.985	18.86	-72.821	
771		11	-0.214	-6.223	-1.606	-8.985	18.861	-72.824	
772		12	-0.643	-18.684	-4.822	-26.955	17.597	-67.928	
773		13	-1.072	-31.146	-8.038	-44.925	15.069	-58.132	
774		14	-1.501	-43.607	-11.254	-62.895	11.276	-43.438	
775		15	-1.93	-56.068	-14.47	-80.865	6.22	-23.844	
776		16	-2.359	-68.529	-17.686	-98.835	-0.102	0.649	
777		17	-2.788	-80.99	-20.902	-116.805	-7.687	30.042	
778		18	-3.216	-93.451	-24.118	-134.774	-16.537	64.333	
779		19	-3.645	-105.912	-27.334	-152.744	-26.652	103.524	
780		20	-4.074	-118.373	-30.55	-170.714	-38.03	147.613	
781	2	A7	1	4.074	118.58	30.553	170.714	-38.043	147.613
782		2	3.645	106.119	27.337	152.744	-26.663	103.442	
783		3	3.216	93.658	24.121	134.775	-16.547	64.17	
784		4	2.788	81.197	20.905	116.805	-7.696	29.797	
785		5	2.359	68.736	17.689	98.835	-0.109	0.324	
786		6	1.93	56.275	14.474	80.865	6.213	-24.251	
787		7	1.501	43.814	11.258	62.895	11.272	-43.926	
788		8	1.072	31.353	8.042	44.925	15.065	-58.702	
789		9	0.643	18.891	4.826	26.955	17.595	-68.579	
790		10	0.214	6.43	1.61	8.985	18.86	-73.557	
791		11	-0.214	-6.031	-1.606	-8.985	18.861	-73.635	
792		12	-0.643	-18.492	-4.822	-26.955	17.597	-68.814	
793		13	-1.072	-30.953	-8.038	-44.925	15.069	-59.095	
794		14	-1.501	-43.414	-11.254	-62.895	11.276	-44.476	
795		15	-1.93	-55.875	-14.47	-80.865	6.22	-24.957	
796		16	-2.359	-68.336	-17.686	-98.835	-0.102	-0.54	
797		17	-2.788	-80.797	-20.902	-116.804	-7.687	28.776	
798		18	-3.216	-93.259	-24.118	-134.774	-16.537	62.992	
799		19	-3.645	-105.72	-27.334	-152.744	-26.652	102.107	
800		20	-4.074	-118.181	-30.55	-170.714	-38.03	146.121	
801	2	A8	1	4.074	117.522	30.553	170.714	-38.043	146.121
802		2	3.645	105.061	27.337	152.744	-26.663	102.366	
803		3	3.216	92.6	24.121	134.774	-16.547	63.51	
804		4	2.788	80.139	20.905	116.804	-7.696	29.554	
805		5	2.359	67.677	17.689	98.834	-0.109	0.496	
806		6	1.93	55.216	14.474	80.864	6.213	-23.662	
807		7	1.501	42.755	11.258	62.894	11.272	-42.922	
808		8	1.072	30.294	8.042	44.924	15.065	-57.281	
809		9	0.643	17.833	4.826	26.954	17.595	-66.742	
810		10	0.214	5.372	1.61	8.984	18.86	-71.304	
811		11	-0.214	-7.089	-1.606	-8.986	18.861	-70.966	
812		12	-0.643	-19.55	-4.822	-26.956	17.597	-65.73	
813		13	-1.072	-32.011	-8.038	-44.926	15.069	-55.594	
814		14	-1.501	-44.472	-11.254	-62.896	11.276	-40.559	
815		15	-1.93	-56.934	-14.47	-80.865	6.22	-20.624	
816		16	-2.359	-69.395	-17.686	-98.835	-0.102	4.209	
817		17	-2.788	-81.856	-20.902	-116.805	-7.687	33.942	
818		18	-3.216	-95.14	-24.118	-134.775	-16.537	68.721	
819		19	-3.645	-108.506	-27.334	-152.745	-26.652	108.753	
820		20	-4.074	-121.872	-30.55	-170.715	-38.03	154.041	
821	2	A9	1	4.074	126.646	30.553	170.714	-38.043	154.041

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
822		2	3.645	113.28	27.337	152.744	-26.663	106.876	
823		3	3.216	99.914	24.121	134.774	-16.547	64.967	
824		4	2.788	86.548	20.905	116.804	-7.696	28.313	
825		5	2.359	73.182	17.689	98.834	-0.109	-3.087	
826		6	1.93	59.816	14.474	80.864	6.213	-29.232	
827		7	1.501	46.45	11.258	62.895	11.272	-50.122	
828		8	1.072	33.085	8.042	44.925	15.065	-65.757	
829		9	0.643	19.719	4.826	26.955	17.595	-76.137	
830		10	0.214	6.353	1.61	8.985	18.86	-81.262	
831		11	-0.214	-7.013	-1.606	-8.985	18.861	-81.132	
832		12	-0.643	-20.379	-4.822	-26.955	17.597	-75.747	
833		13	-1.072	-33.745	-8.038	-44.925	15.069	-65.108	
834		14	-1.501	-47.111	-11.254	-62.895	11.276	-49.213	
835		15	-1.93	-60.476	-14.47	-80.865	6.22	-28.064	
836		16	-2.359	-73.842	-17.686	-98.835	-0.102	-1.66	
837		17	-2.788	-87.208	-20.902	-116.805	-7.687	29.999	
838		18	-3.216	-100.574	-24.118	-134.775	-16.537	66.913	
839		19	-3.645	-113.94	-27.334	-152.745	-26.652	109.082	
840		20	-4.074	-127.306	-30.55	-170.715	-38.03	156.506	
841	2	A10	1	4.074	124.709	30.553	170.716	-38.043	156.506
842		2	3.645	111.343	27.337	152.746	-26.663	110.103	
843		3	3.216	97.977	24.121	134.776	-16.547	68.955	
844		4	2.788	84.611	20.905	116.806	-7.696	33.062	
845		5	2.359	71.246	17.689	98.836	-0.109	2.424	
846		6	1.93	57.88	14.474	80.866	6.213	-22.96	
847		7	1.501	44.514	11.258	62.896	11.272	-43.088	
848		8	1.072	31.27	8.042	44.926	15.065	-57.965	
849		9	0.643	18.809	4.826	26.956	17.595	-67.809	
850		10	0.214	6.348	1.61	8.986	18.86	-72.755	
851		11	-0.214	-6.113	-1.606	-8.984	18.861	-72.801	
852		12	-0.643	-18.574	-4.822	-26.954	17.597	-67.948	
853		13	-1.072	-31.035	-8.038	-44.923	15.069	-58.196	
854		14	-1.501	-43.496	-11.254	-62.893	11.276	-43.544	
855		15	-1.93	-55.957	-14.47	-80.863	6.22	-23.994	
856		16	-2.359	-68.419	-17.686	-98.833	-0.102	0.456	
857		17	-2.788	-80.88	-20.902	-116.803	-7.687	29.805	
858		18	-3.216	-93.341	-24.118	-134.773	-16.537	64.053	
859		19	-3.645	-105.802	-27.334	-152.743	-26.652	103.2	
860		20	-4.074	-118.263	-30.55	-170.713	-38.03	147.247	
861	2	A11	1	4.074	118.314	30.553	170.714	-38.043	146.97
862		2	3.645	105.853	27.337	152.744	-26.663	102.903	
863		3	3.216	93.392	24.121	134.774	-16.547	63.736	
864		4	2.788	80.931	20.905	116.804	-7.696	29.467	
865		5	2.359	68.47	17.689	98.834	-0.109	0.098	
866		6	1.93	56.009	14.474	80.864	6.213	-24.372	
867		7	1.501	43.548	11.258	62.894	11.272	-43.942	
868		8	1.072	31.087	8.042	44.924	15.065	-58.614	
869		9	0.643	18.625	4.826	26.955	17.595	-68.386	
870		10	0.214	6.164	1.61	8.985	18.86	-73.259	
871		11	-0.214	-6.297	-1.606	-8.985	18.861	-73.233	
872		12	-0.643	-18.758	-4.822	-26.955	17.597	-68.308	
873		13	-1.072	-31.219	-8.038	-44.925	15.069	-58.484	
874		14	-1.501	-43.68	-11.254	-62.895	11.276	-43.76	
875		15	-1.93	-56.141	-14.47	-80.865	6.22	-24.137	
876		16	-2.359	-68.602	-17.686	-98.835	-0.102	0.385	
877		17	-2.788	-81.063	-20.902	-116.805	-7.687	29.806	
878		18	-3.216	-93.525	-24.118	-134.775	-16.537	64.126	
879		19	-3.645	-105.986	-27.334	-152.745	-26.652	103.346	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
880		20	-4.074	-118.447	-30.55	-170.715	-38.03	147.464
881	2	1	4.074	118.382	30.553	170.714	-38.043	147.464
882		2	3.645	105.921	27.337	152.744	-26.663	103.371
883		3	3.216	93.46	24.121	134.774	-16.547	64.177
884		4	2.788	80.998	20.905	116.805	-7.696	29.882
885		5	2.359	68.537	17.689	98.835	-0.109	0.487
886		6	1.93	56.076	14.474	80.865	6.213	-24.01
887		7	1.501	43.615	11.258	62.895	11.272	-43.607
888		8	1.072	31.154	8.042	44.925	15.065	-58.305
889		9	0.643	18.693	4.826	26.955	17.595	-68.104
890		10	0.214	6.232	1.61	8.985	18.86	-73.003
891		11	-0.214	-6.229	-1.606	-8.985	18.861	-73.004
892		12	-0.643	-18.69	-4.822	-26.955	17.597	-68.105
893		13	-1.072	-31.151	-8.038	-44.925	15.069	-58.307
894		14	-1.501	-43.613	-11.254	-62.895	11.276	-43.61
895		15	-1.93	-56.074	-14.47	-80.865	6.22	-24.014
896		16	-2.359	-68.535	-17.686	-98.835	-0.102	0.481
897		17	-2.788	-80.996	-20.902	-116.805	-7.687	29.876
898		18	-3.216	-93.457	-24.118	-134.774	-16.537	64.17
899		19	-3.645	-105.918	-27.334	-152.744	-26.652	103.363
900		20	-4.074	-118.379	-30.55	-170.714	-38.03	147.455
901	2	1	4.074	118.441	30.553	170.714	-38.043	147.455
902		2	3.645	105.98	27.337	152.744	-26.663	103.338
903		3	3.216	93.519	24.121	134.775	-16.547	64.121
904		4	2.788	81.058	20.905	116.805	-7.696	29.803
905		5	2.359	68.597	17.689	98.835	-0.109	0.384
906		6	1.93	56.136	14.474	80.865	6.213	-24.136
907		7	1.501	43.675	11.258	62.895	11.272	-43.757
908		8	1.072	31.213	8.042	44.925	15.065	-58.478
909		9	0.643	18.752	4.826	26.955	17.595	-68.3
910		10	0.214	6.291	1.61	8.985	18.86	-73.223
911		11	-0.214	-6.17	-1.606	-8.985	18.861	-73.247
912		12	-0.643	-18.631	-4.822	-26.955	17.597	-68.372
913		13	-1.072	-31.092	-8.038	-44.925	15.069	-58.598
914		14	-1.501	-43.553	-11.254	-62.895	11.276	-43.924
915		15	-1.93	-56.014	-14.47	-80.865	6.22	-24.351
916		16	-2.359	-68.475	-17.686	-98.835	-0.102	0.121
917		17	-2.788	-80.936	-20.902	-116.805	-7.687	29.492
918		18	-3.216	-93.398	-24.118	-134.774	-16.537	63.763
919		19	-3.645	-105.859	-27.334	-152.744	-26.652	102.932
920		20	-4.074	-118.32	-30.55	-170.714	-38.03	147.001
921	2	1	4.074	118.12	30.553	170.714	-38.043	147.001
922		2	3.645	105.659	27.337	152.744	-26.663	103.011
923		3	3.216	93.198	24.121	134.774	-16.547	63.919
924		4	2.788	80.737	20.905	116.804	-7.696	29.727
925		5	2.359	68.276	17.689	98.835	-0.109	0.435
926		6	1.93	55.815	14.474	80.865	6.213	-23.959
927		7	1.501	43.354	11.258	62.895	11.272	-43.454
928		8	1.072	30.893	8.042	44.925	15.065	-58.049
929		9	0.643	18.432	4.826	26.955	17.595	-67.745
930		10	0.214	5.97	1.61	8.985	18.86	-72.542
931		11	-0.214	-6.491	-1.606	-8.985	18.861	-72.44
932		12	-0.643	-18.952	-4.822	-26.955	17.597	-67.438
933		13	-1.072	-31.413	-8.038	-44.925	15.069	-57.538
934		14	-1.501	-43.874	-11.254	-62.895	11.276	-42.738
935		15	-1.93	-56.335	-14.47	-80.865	6.22	-23.039
936		16	-2.359	-68.796	-17.686	-98.835	-0.102	1.559
937		17	-2.788	-81.257	-20.902	-116.805	-7.687	31.057

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
938		18	-3.216	-93.718	-24.118	-134.775	-16.537	65.453	
939		19	-3.645	-106.179	-27.334	-152.745	-26.652	104.749	
940		20	-4.074	-118.641	-30.55	-170.714	-38.03	148.944	
941	2	A15	1	4.086	119.428	30.557	170.709	-38.045	148.944
942		2	3.657	106.967	27.341	152.739	-26.664	104.439	
943		3	3.228	94.506	24.125	134.769	-16.547	64.834	
944		4	2.799	82.045	20.909	116.799	-7.694	30.128	
945		5	2.37	69.583	17.693	98.829	-0.106	0.321	
946		6	1.941	57.122	14.477	80.859	6.218	-24.586	
947		7	1.513	44.661	11.261	62.89	11.278	-44.595	
948		8	1.084	32.2	8.045	44.92	15.073	-59.704	
949		9	0.655	19.739	4.829	26.95	17.604	-69.914	
950		10	0.226	7.278	1.613	8.98	18.87	-75.225	
951		11	-0.203	-5.183	-1.603	-8.99	18.872	-75.637	
952		12	-0.632	-17.644	-4.819	-26.96	17.61	-71.15	
953		13	-1.061	-30.105	-8.035	-44.93	15.083	-61.763	
954		14	-1.489	-42.567	-11.251	-62.9	11.292	-47.477	
955		15	-1.918	-55.028	-14.467	-80.87	6.236	-28.292	
956		16	-2.347	-67.489	-17.683	-98.84	-0.084	-4.208	
957		17	-2.776	-79.95	-20.899	-116.81	-7.668	24.775	
958		18	-3.205	-92.411	-24.115	-134.78	-16.517	58.658	
959		19	-3.634	-104.872	-27.331	-152.75	-26.63	97.439	
960		20	-4.063	-117.333	-30.546	-170.72	-38.007	141.12	
961	2	A16	1	11.858	122.329	20.295	73.326	-9.696	141.12
962		2	11.638	115.929	18.644	64.096	-5.765	117.064	
963		3	11.418	109.529	16.992	54.867	-2.167	94.301	
964		4	11.197	103.129	15.34	45.637	1.098	72.83	
965		5	10.977	96.729	13.688	36.408	4.029	52.651	
966		6	10.757	90.329	12.037	27.178	6.626	33.765	
967		7	10.536	83.928	10.385	17.949	8.89	16.171	
968		8	10.316	77.528	8.733	8.719	10.82	-0.13	
969		9	10.096	71.128	7.082	-0.51	12.417	-15.139	
970		10	9.876	64.728	5.43	-9.74	13.68	-28.856	
971		11	9.655	58.328	3.778	-18.969	14.61	-41.28	
972		12	9.435	51.928	2.126	-28.199	15.206	-52.412	
973		13	9.215	45.528	0.475	-37.429	15.468	-62.252	
974		14	8.995	39.127	-1.177	-46.658	15.398	-70.799	
975		15	8.774	32.727	-2.829	-55.888	14.993	-78.054	
976		16	8.554	26.327	-4.481	-65.117	14.255	-84.016	
977		17	8.334	19.927	-6.132	-74.347	13.183	-88.686	
978		18	8.114	13.527	-7.784	-83.576	11.778	-92.064	
979		19	7.893	7.127	-9.436	-92.806	10.04	-94.149	
980		20	7.673	0.727	-11.088	-102.035	7.968	-94.942	
981	2	A17	1	0	6.676	0	0	0	7.093
982		2	0	6.325	0	0	0	0	6.366
983		3	0	5.973	0	0	0	0	5.679
984		4	0	5.622	0	0	0	0	5.03
985		5	0	5.271	0	0	0	0	4.421
986		6	0	4.919	0	0	0	0	3.851
987		7	0	4.568	0	0	0	0	3.321
988		8	0	4.216	0	0	0	0	2.829
989		9	0	3.865	0	0	0	0	2.378
990		10	0	3.514	0	0	0	0	1.965
991		11	0	3.162	0	0	0	0	1.592
992		12	0	2.811	0	0	0	0	1.258
993		13	0	2.46	0	0	0	0	0.963
994		14	0	2.108	0	0	0	0	0.707
995		15	0	1.757	0	0	0	0	0.491

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
996		16	0	1.405	0	0	0	0.314	
997		17	0	1.054	0	0	0	0.177	
998		18	0	0.703	0	0	0	0.079	
999		19	0	0.351	0	0	0	0.02	
1000		20	0	0	0	0	0	0	
1001	2	R1	1	13.266	-43.729	-2.415	0	7.968	-144.3
1002		2	13.266	-43.729	-2.415	0	7.548	-136.705	
1003		3	13.266	-43.729	-2.415	0	7.129	-129.11	
1004		4	13.266	-43.729	-2.415	0	6.71	-121.516	
1005		5	13.266	-43.729	-2.415	0	6.29	-113.921	
1006		6	13.266	-43.729	-2.415	0	5.871	-106.326	
1007		7	13.266	-43.729	-2.415	0	5.452	-98.731	
1008		8	13.266	-43.729	-2.415	0	5.032	-91.137	
1009		9	13.266	-43.729	-2.415	0	4.613	-83.542	
1010		10	13.266	-43.729	-2.415	0	4.193	-75.947	
1011		11	13.266	-43.729	-2.415	0	3.774	-68.353	
1012		12	13.266	-43.729	-2.415	0	3.355	-60.758	
1013		13	13.266	-43.729	-2.415	0	2.935	-53.163	
1014		14	13.266	-43.729	-2.415	0	2.516	-45.568	
1015		15	13.266	-43.729	-2.415	0	2.097	-37.974	
1016		16	13.266	-43.729	-2.415	0	1.677	-30.379	
1017		17	13.266	-43.729	-2.415	0	1.258	-22.784	
1018		18	13.266	-43.729	-2.415	0	0.839	-15.189	
1019		19	13.266	-43.729	-2.415	0	0.419	-7.595	
1020		20	13.266	-43.729	-2.415	0	0	0	
1021	2	R2	1	-19.237	51.108	10.615	0	0	0
1022		2	-19.237	51.108	10.615	0	3.445	-16.588	
1023		3	-19.237	51.108	10.615	0	6.89	-33.175	
1024		4	-19.237	51.108	10.615	0	10.336	-49.763	
1025		5	-19.237	51.108	10.615	0	13.781	-66.351	
1026		6	-19.237	51.108	10.615	0	17.226	-82.939	
1027		7	-19.237	51.108	10.615	0	20.671	-99.526	
1028		8	-19.237	51.108	10.615	0	24.117	-116.114	
1029		9	-19.237	51.108	10.615	0	27.562	-132.702	
1030		10	-19.237	51.108	10.615	0	31.007	-149.29	
1031		11	-19.237	51.108	10.615	0	34.452	-165.877	
1032		12	-19.237	51.108	10.615	0	37.897	-182.465	
1033		13	31.604	-188.554	-5.306	0	12.054	-428.382	
1034		14	31.604	-188.554	-5.306	0	10.332	-367.185	
1035		15	31.604	-188.554	-5.306	0	8.61	-305.987	
1036		16	31.604	-188.554	-5.306	0	6.888	-244.79	
1037		17	31.604	-188.554	-5.306	0	5.166	-183.592	
1038		18	31.604	-188.554	-5.306	0	3.444	-122.395	
1039		19	31.604	-188.554	-5.306	0	1.722	-61.197	
1040		20	31.604	-188.554	-5.306	0	0	0	
1041	2	R3	1	-23.121	34.714	3.085	0	0	0
1042		2	-23.121	34.714	3.085	0	1.001	-11.267	
1043		3	-23.121	34.714	3.085	0	2.003	-22.534	
1044		4	-23.121	34.714	3.085	0	3.004	-33.8	
1045		5	-23.121	34.714	3.085	0	4.005	-45.067	
1046		6	-23.121	34.714	3.085	0	5.007	-56.334	
1047		7	-23.121	34.714	3.085	0	6.008	-67.601	
1048		8	-23.121	34.714	3.085	0	7.009	-78.867	
1049		9	-23.121	34.714	3.085	0	8.01	-90.134	
1050		10	-23.121	34.714	3.085	0	9.012	-101.401	
1051		11	-23.121	34.714	3.085	0	10.013	-112.668	
1052		12	-23.121	34.714	3.085	0	11.014	-123.935	
1053		13	37.985	-203.355	-5.075	0	11.529	-462.007	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1054		14	37.985	-203.355	-5.075	0	9.882	-396.006
1055		15	37.985	-203.355	-5.075	0	8.235	-330.005
1056		16	37.985	-203.355	-5.075	0	6.588	-264.004
1057		17	37.985	-203.355	-5.075	0	4.941	-198.003
1058		18	37.985	-203.355	-5.075	0	3.294	-132.002
1059		19	37.985	-203.355	-5.075	0	1.647	-66.001
1060		20	37.985	-203.355	-5.075	0	0	0
1061	2	R4	1	-23.12	34.097	3.081	0	0
1062		2	-23.12	34.097	3.081	0	1	-11.067
1063		3	-23.12	34.097	3.081	0	2	-22.133
1064		4	-23.12	34.097	3.081	0	3	-33.2
1065		5	-23.12	34.097	3.081	0	4	-44.266
1066		6	-23.12	34.097	3.081	0	5	-55.333
1067		7	-23.12	34.097	3.081	0	6	-66.399
1068		8	-23.12	34.097	3.081	0	7	-77.466
1069		9	-23.12	34.097	3.081	0	8	-88.532
1070		10	-23.12	34.097	3.081	0	9	-99.599
1071		11	-23.12	34.097	3.081	0	10	-110.666
1072		12	-23.12	34.097	3.081	0	11	-121.732
1073		13	37.983	-202.343	-5.067	0	11.512	-459.709
1074		14	37.983	-202.343	-5.067	0	9.868	-394.036
1075		15	37.983	-202.343	-5.067	0	8.223	-328.364
1076		16	37.983	-202.343	-5.067	0	6.579	-262.691
1077		17	37.983	-202.343	-5.067	0	4.934	-197.018
1078		18	37.983	-202.343	-5.067	0	3.289	-131.345
1079		19	37.983	-202.343	-5.067	0	1.645	-65.673
1080		20	37.983	-202.343	-5.067	0	0	0
1081	2	R5	1	-23.12	34.241	3.081	0	0
1082		2	-23.12	34.241	3.081	0	1	-11.113
1083		3	-23.12	34.241	3.081	0	2	-22.227
1084		4	-23.12	34.241	3.081	0	3	-33.34
1085		5	-23.12	34.241	3.081	0	4	-44.453
1086		6	-23.12	34.241	3.081	0	5	-55.566
1087		7	-23.12	34.241	3.081	0	6	-66.68
1088		8	-23.12	34.241	3.081	0	7	-77.793
1089		9	-23.12	34.241	3.081	0	8	-88.906
1090		10	-23.12	34.241	3.081	0	9	-100.02
1091		11	-23.12	34.241	3.081	0	10	-111.133
1092		12	-23.12	34.241	3.081	0	11	-122.246
1093		13	37.983	-202.58	-5.067	0	11.512	-460.246
1094		14	37.983	-202.58	-5.067	0	9.868	-394.497
1095		15	37.983	-202.58	-5.067	0	8.223	-328.747
1096		16	37.983	-202.58	-5.067	0	6.579	-262.998
1097		17	37.983	-202.58	-5.067	0	4.934	-197.248
1098		18	37.983	-202.58	-5.067	0	3.289	-131.499
1099		19	37.983	-202.58	-5.067	0	1.645	-65.749
1100		20	37.983	-202.58	-5.067	0	0	0
1101	2	R6	1	-23.12	34.244	3.081	0	0
1102		2	-23.12	34.244	3.081	0	1	-11.114
1103		3	-23.12	34.244	3.081	0	2	-22.228
1104		4	-23.12	34.244	3.081	0	3	-33.343
1105		5	-23.12	34.244	3.081	0	4	-44.457
1106		6	-23.12	34.244	3.081	0	5	-55.571
1107		7	-23.12	34.244	3.081	0	6	-66.685
1108		8	-23.12	34.244	3.081	0	7	-77.799
1109		9	-23.12	34.244	3.081	0	8	-88.914
1110		10	-23.12	34.244	3.081	0	9	-100.028
1111		11	-23.12	34.244	3.081	0	10	-111.142

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1112		12	-23.12	34.244	3.081	0	11	-122.256
1113		13	37.983	-202.585	-5.067	0	11.512	-460.258
1114		14	37.983	-202.585	-5.067	0	9.868	-394.507
1115		15	37.983	-202.585	-5.067	0	8.223	-328.756
1116		16	37.983	-202.585	-5.067	0	6.578	-263.005
1117		17	37.983	-202.585	-5.067	0	4.934	-197.253
1118		18	37.983	-202.585	-5.067	0	3.289	-131.502
1119		19	37.983	-202.585	-5.067	0	1.645	-65.751
1120		20	37.983	-202.585	-5.067	0	0	0
1121	2	R7	1	-23.123	34.149	3.062	0	0
1122		2	-23.123	34.149	3.062	0	0.994	-11.084
1123		3	-23.123	34.149	3.062	0	1.988	-22.167
1124		4	-23.123	34.149	3.062	0	2.982	-33.251
1125		5	-23.123	34.149	3.062	0	3.976	-44.334
1126		6	-23.123	34.149	3.062	0	4.97	-55.418
1127		7	-23.123	34.149	3.062	0	5.964	-66.501
1128		8	-23.123	34.149	3.062	0	6.957	-77.585
1129		9	-23.123	34.149	3.062	0	7.951	-88.668
1130		10	-23.123	34.149	3.062	0	8.945	-99.752
1131		11	-23.123	34.149	3.062	0	9.939	-110.835
1132		12	-23.123	34.149	3.062	0	10.933	-121.919
1133		13	37.987	-202.428	-5.036	0	11.443	-459.903
1134		14	37.987	-202.428	-5.036	0	9.808	-394.203
1135		15	37.987	-202.428	-5.036	0	8.173	-328.502
1136		16	37.987	-202.428	-5.036	0	6.539	-262.802
1137		17	37.987	-202.428	-5.036	0	4.904	-197.102
1138		18	37.987	-202.428	-5.036	0	3.269	-131.401
1139		19	37.987	-202.428	-5.036	0	1.635	-65.701
1140		20	37.987	-202.428	-5.036	0	0	0
1141	2	R8	1	-23.12	39.99	3.081	0	0
1142		2	-23.12	39.99	3.081	0	1	-12.979
1143		3	-23.12	39.99	3.081	0	2	-25.958
1144		4	-23.12	39.99	3.081	0	3	-38.938
1145		5	-23.12	39.99	3.081	0	4	-51.917
1146		6	-23.12	39.99	3.081	0	5	-64.896
1147		7	-23.12	39.99	3.081	0	6	-77.875
1148		8	-23.12	39.99	3.081	0	7	-90.854
1149		9	-23.12	39.99	3.081	0	8	-103.833
1150		10	-23.12	39.99	3.081	0	9	-116.813
1151		11	-23.12	39.99	3.081	0	10	-129.792
1152		12	-23.12	39.99	3.081	0	11	-142.771
1153		13	37.983	-212.025	-5.067	0	11.512	-481.706
1154		14	37.983	-212.025	-5.067	0	9.868	-412.891
1155		15	37.983	-212.025	-5.067	0	8.223	-344.075
1156		16	37.983	-212.025	-5.067	0	6.578	-275.26
1157		17	37.983	-212.025	-5.067	0	4.934	-206.445
1158		18	37.983	-212.025	-5.067	0	3.289	-137.63
1159		19	37.983	-212.025	-5.067	0	1.645	-68.815
1160		20	37.983	-212.025	-5.067	0	0	0
1161	2	R9	1	-23.12	38.667	3.081	0	0
1162		2	-23.12	38.667	3.081	0	1	-12.55
1163		3	-23.12	38.667	3.081	0	2	-25.099
1164		4	-23.12	38.667	3.081	0	3	-37.649
1165		5	-23.12	38.667	3.081	0	4	-50.199
1166		6	-23.12	38.667	3.081	0	5	-62.749
1167		7	-23.12	38.667	3.081	0	6	-75.298
1168		8	-23.12	38.667	3.081	0	7	-87.848
1169		9	-23.12	38.667	3.081	0	8	-100.398

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1170		10	-23.12	38.667	3.081	0	9	-112.947
1171		11	-23.12	38.667	3.081	0	10	-125.497
1172		12	-23.12	38.667	3.081	0	11	-138.047
1173		13	37.983	-209.851	-5.067	0	11.512	-476.766
1174		14	37.983	-209.851	-5.067	0	9.868	-408.657
1175		15	37.983	-209.851	-5.067	0	8.223	-340.547
1176		16	37.983	-209.851	-5.067	0	6.579	-272.438
1177		17	37.983	-209.851	-5.067	0	4.934	-204.328
1178		18	37.983	-209.851	-5.067	0	3.289	-136.219
1179		19	37.983	-209.851	-5.067	0	1.645	-68.109
1180		20	37.983	-209.851	-5.067	0	0	0
1181	2	R10	1	-23.12	33.818	3.081	0	0
1182		2	-23.12	33.818	3.081	0	1	-10.976
1183		3	-23.12	33.818	3.081	0	2	-21.952
1184		4	-23.12	33.818	3.081	0	3	-32.928
1185		5	-23.12	33.818	3.081	0	4	-43.904
1186		6	-23.12	33.818	3.081	0	5	-54.88
1187		7	-23.12	33.818	3.081	0	6	-65.856
1188		8	-23.12	33.818	3.081	0	7	-76.832
1189		9	-23.12	33.818	3.081	0	8	-87.808
1190		10	-23.12	33.818	3.081	0	9	-98.784
1191		11	-23.12	33.818	3.081	0	10	-109.76
1192		12	-23.12	33.818	3.081	0	11	-120.736
1193		13	37.983	-201.885	-5.067	0	11.512	-458.667
1194		14	37.983	-201.885	-5.067	0	9.868	-393.144
1195		15	37.983	-201.885	-5.067	0	8.223	-327.62
1196		16	37.983	-201.885	-5.067	0	6.579	-262.096
1197		17	37.983	-201.885	-5.067	0	4.934	-196.572
1198		18	37.983	-201.885	-5.067	0	3.289	-131.048
1199		19	37.983	-201.885	-5.067	0	1.645	-65.524
1200		20	37.983	-201.885	-5.067	0	0	0
1201	2	R11	1	-23.12	34.291	3.081	0	0
1202		2	-23.12	34.291	3.081	0	1	-11.13
1203		3	-23.12	34.291	3.081	0	2	-22.259
1204		4	-23.12	34.291	3.081	0	3	-33.389
1205		5	-23.12	34.291	3.081	0	4	-44.518
1206		6	-23.12	34.291	3.081	0	5	-55.648
1207		7	-23.12	34.291	3.081	0	6	-66.778
1208		8	-23.12	34.291	3.081	0	7	-77.907
1209		9	-23.12	34.291	3.081	0	8	-89.037
1210		10	-23.12	34.291	3.081	0	9	-100.166
1211		11	-23.12	34.291	3.081	0	10	-111.296
1212		12	-23.12	34.291	3.081	0	11	-122.425
1213		13	37.983	-202.662	-5.067	0	11.512	-460.434
1214		14	37.983	-202.662	-5.067	0	9.868	-394.658
1215		15	37.983	-202.662	-5.067	0	8.223	-328.882
1216		16	37.983	-202.662	-5.067	0	6.579	-263.105
1217		17	37.983	-202.662	-5.067	0	4.934	-197.329
1218		18	37.983	-202.662	-5.067	0	3.289	-131.553
1219		19	37.983	-202.662	-5.067	0	1.645	-65.776
1220		20	37.983	-202.662	-5.067	0	0	0
1221	2	R12	1	-23.12	34.308	3.081	0	0
1222		2	-23.12	34.308	3.081	0	1	-11.135
1223		3	-23.12	34.308	3.081	0	2	-22.27
1224		4	-23.12	34.308	3.081	0	3	-33.405
1225		5	-23.12	34.308	3.081	0	4	-44.541
1226		6	-23.12	34.308	3.081	0	5	-55.676
1227		7	-23.12	34.308	3.081	0	6	-66.811



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1228		8	-23.12	34.308	3.081	0	7	-77.946
1229		9	-23.12	34.308	3.081	0	8	-89.081
1230		10	-23.12	34.308	3.081	0	9	-100.216
1231		11	-23.12	34.308	3.081	0	10	-111.352
1232		12	-23.12	34.308	3.081	0	11	-122.487
1233		13	37.983	-202.69	-5.067	0	11.512	-460.498
1234		14	37.983	-202.69	-5.067	0	9.868	-394.712
1235		15	37.983	-202.69	-5.067	0	8.223	-328.927
1236		16	37.983	-202.69	-5.067	0	6.579	-263.142
1237		17	37.983	-202.69	-5.067	0	4.934	-197.356
1238		18	37.983	-202.69	-5.067	0	3.289	-131.571
1239		19	37.983	-202.69	-5.067	0	1.645	-65.785
1240		20	37.983	-202.69	-5.067	0	0	0
1241	2	R13	1	-23.12	33.763	3.081	0	0
1242		2	-23.12	33.763	3.081	0	1	-10.958
1243		3	-23.12	33.763	3.081	0	2	-21.916
1244		4	-23.12	33.763	3.081	0	3	-32.874
1245		5	-23.12	33.763	3.081	0	4	-43.832
1246		6	-23.12	33.763	3.081	0	5	-54.79
1247		7	-23.12	33.763	3.081	0	6	-65.748
1248		8	-23.12	33.763	3.081	0	7	-76.706
1249		9	-23.12	33.763	3.081	0	8	-87.664
1250		10	-23.12	33.763	3.081	0	9	-98.622
1251		11	-23.12	33.763	3.081	0	10	-109.58
1252		12	-23.12	33.763	3.081	0	11	-120.538
1253		13	37.983	-201.793	-5.067	0	11.512	-458.46
1254		14	37.983	-201.793	-5.067	0	9.868	-392.966
1255		15	37.983	-201.793	-5.067	0	8.223	-327.472
1256		16	37.983	-201.793	-5.067	0	6.579	-261.977
1257		17	37.983	-201.793	-5.067	0	4.934	-196.483
1258		18	37.983	-201.793	-5.067	0	3.289	-130.989
1259		19	37.983	-201.793	-5.067	0	1.645	-65.494
1260		20	37.983	-201.793	-5.067	0	0	0
1261	2	R14	1	-23.121	36.071	3.081	0	0
1262		2	-23.121	36.071	3.081	0	1	-11.707
1263		3	-23.121	36.071	3.081	0	2	-23.415
1264		4	-23.121	36.071	3.081	0	3	-35.122
1265		5	-23.121	36.071	3.081	0	4	-46.83
1266		6	-23.121	36.071	3.081	0	5	-58.537
1267		7	-23.121	36.071	3.081	0	5.999	-70.244
1268		8	-23.121	36.071	3.081	0	6.999	-81.952
1269		9	-23.121	36.071	3.081	0	7.999	-93.659
1270		10	-23.121	36.071	3.081	0	8.999	-105.366
1271		11	-23.121	36.071	3.081	0	9.999	-117.074
1272		12	-23.121	36.071	3.081	0	10.999	-128.781
1273		13	37.985	-205.587	-5.066	0	11.51	-467.08
1274		14	37.985	-205.587	-5.066	0	9.866	-400.354
1275		15	37.985	-205.587	-5.066	0	8.222	-333.628
1276		16	37.985	-205.587	-5.066	0	6.577	-266.903
1277		17	37.985	-205.587	-5.066	0	4.933	-200.177
1278		18	37.985	-205.587	-5.066	0	3.289	-133.451
1279		19	37.985	-205.587	-5.066	0	1.644	-66.726
1280		20	37.985	-205.587	-5.066	0	0	0
1281	2	R15	1	-16.262	30.8	-0.891	0	0
1282		2	-16.262	30.8	-0.891	0	-0.289	-9.997
1283		3	-16.262	30.8	-0.891	0	-0.579	-19.993
1284		4	-16.262	30.8	-0.891	0	-0.868	-29.99
1285		5	-16.262	30.8	-0.891	0	-1.157	-39.986

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1286		6	-16.262	30.8	-0.891	0	-1.446	-49.983
1287		7	-16.262	30.8	-0.891	0	-1.736	-59.979
1288		8	-16.262	30.8	-0.891	0	-2.025	-69.976
1289		9	-16.262	30.8	-0.891	0	-2.314	-79.972
1290		10	-16.262	30.8	-0.891	0	-2.603	-89.969
1291		11	-16.262	30.8	-0.891	0	-2.893	-99.965
1292		12	-16.262	30.8	-0.891	0	-3.182	-109.962
1293		13	26.716	-183.241	-13.592	0	30.88	-416.31
1294		14	26.716	-183.241	-13.592	0	26.469	-356.837
1295		15	26.716	-183.241	-13.592	0	22.057	-297.364
1296		16	26.716	-183.241	-13.592	0	17.646	-237.891
1297		17	26.716	-183.241	-13.592	0	13.234	-178.418
1298		18	26.716	-183.241	-13.592	0	8.823	-118.946
1299		19	26.716	-183.241	-13.592	0	4.411	-59.473
1300		20	26.716	-183.241	-13.592	0	0	0
1301	2	M33	1	-9.238	7.845	0.654	0	0
1302		2	-9.238	7.845	0.654	0	0.186	-2.226
1303		3	-9.238	7.845	0.654	0	0.371	-4.453
1304		4	-9.238	7.845	0.654	0	0.557	-6.679
1305		5	-9.238	7.845	0.654	0	0.743	-8.905
1306		6	-9.238	7.845	0.654	0	0.928	-11.132
1307		7	-9.238	7.845	0.654	0	1.114	-13.358
1308		8	-9.238	7.845	0.654	0	1.299	-15.584
1309		9	-9.238	7.845	0.654	0	1.485	-17.811
1310		10	-9.238	7.845	0.654	0	1.671	-20.037
1311		11	-9.238	7.845	0.654	0	1.856	-22.264
1312		12	-9.238	7.845	0.654	0	2.042	-24.49
1313		13	-9.238	7.845	0.654	0	2.228	-26.716
1314		14	-9.238	7.845	0.654	0	2.413	-28.943
1315		15	-9.238	7.845	0.654	0	2.599	-31.169
1316		16	-9.238	7.845	0.654	0	2.784	-33.395
1317		17	-9.238	7.845	0.654	0	2.97	-35.622
1318		18	-9.238	7.845	0.654	0	3.156	-37.848
1319		19	-9.238	7.845	0.654	0	3.341	-40.074
1320		20	-9.238	7.845	0.654	0	3.527	-42.301
1321	3	A1	1	0	0	0	0	0
1322		2	0	-0.403	0	0	0	0.022
1323		3	0	-0.805	0	0	0	0.086
1324		4	0	-1.208	0	0	0	0.194
1325		5	0	-1.611	0	0	0	0.344
1326		6	0	-2.013	0	0	0	0.538
1327		7	0	-2.416	0	0	0	0.774
1328		8	0	-2.818	0	0	0	1.054
1329		9	0	-3.221	0	0	0	1.376
1330		10	0	-3.624	0	0	0	1.742
1331		11	0	-4.026	0	0	0	2.15
1332		12	0	-4.429	0	0	0	2.602
1333		13	0	-4.832	0	0	0	3.096
1334		14	0	-5.234	0	0	0	3.634
1335		15	0	-5.637	0	0	0	4.214
1336		16	0	-6.039	0	0	0	4.838
1337		17	0	-6.442	0	0	0	5.504
1338		18	0	-6.845	0	0	0	6.214
1339		19	0	-7.247	0	0	0	6.966
1340		20	0	-7.65	0	0	0	7.762
1341	3	A2	1	-6.017	-28.077	7.001	-39.789	-31.595
1342		2	-6.148	-31.537	5.983	-45.436	4.294	-27.864
1343		3	-6.28	-34.997	4.964	-51.084	4.979	-23.7





Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
1344		4	-6.411	-38.458	3.945	-56.731	5.537	-19.103	
1345		5	-6.542	-41.918	2.927	-62.378	5.967	-14.072	
1346		6	-6.673	-45.378	1.908	-68.025	6.27	-8.608	
1347		7	-6.805	-48.838	0.889	-73.672	6.445	-2.712	
1348		8	-6.936	-52.298	-0.129	-79.319	6.492	3.618	
1349		9	-7.067	-55.758	-1.148	-84.966	6.412	10.381	
1350		10	-7.199	-59.219	-2.167	-90.613	6.205	17.577	
1351		11	-7.33	-62.679	-3.185	-96.26	5.87	25.207	
1352		12	-7.461	-66.139	-4.204	-101.907	5.407	33.269	
1353		13	-7.592	-69.599	-5.223	-107.554	4.818	41.765	
1354		14	-7.724	-73.059	-6.241	-113.202	4.1	50.693	
1355		15	-7.855	-76.519	-7.26	-118.849	3.255	60.055	
1356		16	-7.986	-79.98	-8.278	-124.496	2.283	69.85	
1357		17	-8.118	-83.44	-9.297	-130.143	1.183	80.078	
1358		18	-8.249	-86.9	-10.316	-135.79	-0.045	90.739	
1359		19	-8.38	-90.36	-11.334	-141.437	-1.4	101.833	
1360		20	-8.511	-93.82	-12.353	-147.084	-2.883	113.361	
1361	3	A3	1	3.918	100.707	30.394	168.499	-37.829	113.361
1362		2	3.506	89.839	27.194	150.762	-26.509	75.903	
1363		3	3.094	78.971	23.995	133.025	-16.446	42.719	
1364		4	2.681	68.103	20.795	115.289	-7.641	13.807	
1365		5	2.269	57.236	17.596	97.552	-0.094	-10.832	
1366		6	1.857	46.368	14.397	79.815	6.195	-31.198	
1367		7	1.444	35.5	11.197	62.079	11.226	-47.292	
1368		8	1.032	24.632	7.998	44.342	14.999	-59.112	
1369		9	0.62	13.764	4.798	26.605	17.515	-66.66	
1370		10	0.207	2.896	1.599	8.869	18.772	-69.935	
1371		11	-0.205	-7.972	-1.601	-8.868	18.772	-68.938	
1372		12	-0.617	-18.839	-4.8	-26.605	17.513	-63.667	
1373		13	-1.03	-29.707	-8	-44.342	14.997	-54.124	
1374		14	-1.442	-40.575	-11.199	-62.078	11.223	-40.308	
1375		15	-1.854	-51.443	-14.398	-79.815	6.191	-22.219	
1376		16	-2.267	-62.311	-17.598	-97.552	-0.099	0.143	
1377		17	-2.679	-73.179	-20.797	-115.288	-7.646	26.777	
1378		18	-3.091	-84.047	-23.997	-133.025	-16.452	57.685	
1379		19	-3.504	-94.915	-27.196	-150.762	-26.515	92.865	
1380		20	-3.916	-105.782	-30.396	-168.498	-37.837	132.317	
1381	3	A4	1	3.917	103.873	30.396	168.499	-37.848	132.317
1382		2	3.505	93.006	27.197	150.762	-26.526	93.615	
1383		3	3.093	82.138	23.997	133.025	-16.462	59.186	
1384		4	2.68	71.27	20.798	115.289	-7.656	29.029	
1385		5	2.268	60.402	17.599	97.552	-0.108	3.145	
1386		6	1.856	49.534	14.399	79.815	6.182	-18.466	
1387		7	1.443	38.666	11.2	62.079	11.214	-35.805	
1388		8	1.031	27.798	8	44.342	14.988	-48.87	
1389		9	0.619	16.931	4.801	26.605	17.505	-57.663	
1390		10	0.206	6.063	1.601	8.869	18.763	-62.183	
1391		11	-0.206	-4.805	-1.598	-8.868	18.764	-62.43	
1392		12	-0.619	-15.673	-4.797	-26.605	17.507	-58.405	
1393		13	-1.031	-26.541	-7.997	-44.341	14.991	-50.106	
1394		14	-1.443	-37.409	-11.196	-62.078	11.218	-37.535	
1395		15	-1.856	-48.277	-14.396	-79.815	6.188	-20.691	
1396		16	-2.268	-59.145	-17.595	-97.552	-0.101	0.426	
1397		17	-2.68	-70.012	-20.795	-115.288	-7.648	25.815	
1398		18	-3.093	-80.88	-23.994	-133.025	-16.452	55.478	
1399		19	-3.505	-91.748	-27.194	-150.762	-26.515	89.413	
1400		20	-3.917	-102.616	-30.393	-168.498	-37.835	127.621	
1401	3	A5	1	3.917	103.103	30.396	168.498	-37.848	127.621

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
1402		2	3.505	92.235	27.197	150.762	-26.526	89.221	
1403		3	3.093	81.367	23.997	133.025	-16.462	55.095	
1404		4	2.68	70.499	20.798	115.288	-7.656	25.241	
1405		5	2.268	59.632	17.599	97.552	-0.108	-0.34	
1406		6	1.856	48.764	14.399	79.815	6.182	-21.648	
1407		7	1.443	37.896	11.2	62.078	11.214	-38.684	
1408		8	1.031	27.028	8	44.342	14.988	-51.447	
1409		9	0.619	16.16	4.801	26.605	17.505	-59.936	
1410		10	0.206	5.292	1.601	8.868	18.763	-64.154	
1411		11	-0.206	-5.576	-1.598	-8.868	18.764	-64.098	
1412		12	-0.619	-16.443	-4.797	-26.605	17.507	-59.769	
1413		13	-1.031	-27.311	-7.997	-44.342	14.991	-51.168	
1414		14	-1.443	-38.179	-11.196	-62.078	11.218	-38.294	
1415		15	-1.856	-49.047	-14.396	-79.815	6.188	-21.147	
1416		16	-2.268	-59.915	-17.595	-97.552	-0.101	0.273	
1417		17	-2.68	-70.783	-20.795	-115.289	-7.648	25.965	
1418		18	-3.093	-81.651	-23.994	-133.025	-16.452	55.93	
1419		19	-3.505	-92.519	-27.194	-150.762	-26.515	90.168	
1420		20	-3.917	-103.386	-30.393	-168.499	-37.835	128.679	
1421	3	A6	1	3.917	103.22	30.396	168.499	-37.848	128.679
1422		2	3.505	92.352	27.197	150.762	-26.526	90.234	
1423		3	3.093	81.484	23.997	133.025	-16.462	56.061	
1424		4	2.68	70.616	20.798	115.288	-7.656	26.161	
1425		5	2.268	59.748	17.599	97.552	-0.108	0.535	
1426		6	1.856	48.88	14.399	79.815	6.182	-20.82	
1427		7	1.443	38.013	11.2	62.078	11.214	-37.901	
1428		8	1.031	27.145	8	44.342	14.988	-50.709	
1429		9	0.619	16.277	4.801	26.605	17.505	-59.245	
1430		10	0.206	5.409	1.601	8.868	18.763	-63.508	
1431		11	-0.206	-5.459	-1.598	-8.868	18.764	-63.498	
1432		12	-0.619	-16.327	-4.797	-26.605	17.507	-59.216	
1433		13	-1.031	-27.195	-7.997	-44.342	14.991	-50.66	
1434		14	-1.443	-38.062	-11.196	-62.078	11.218	-37.832	
1435		15	-1.856	-48.93	-14.396	-79.815	6.188	-20.731	
1436		16	-2.268	-59.798	-17.595	-97.552	-0.101	0.642	
1437		17	-2.68	-70.666	-20.795	-115.288	-7.648	26.289	
1438		18	-3.093	-81.534	-23.994	-133.025	-16.452	56.208	
1439		19	-3.505	-92.402	-27.194	-150.762	-26.515	90.4	
1440		20	-3.917	-103.27	-30.393	-168.499	-37.835	128.865	
1441	3	A7	1	3.917	103.493	30.396	168.499	-37.848	128.865
1442		2	3.505	92.625	27.197	150.762	-26.526	90.313	
1443		3	3.093	81.757	23.997	133.025	-16.462	56.033	
1444		4	2.68	70.889	20.798	115.289	-7.656	26.026	
1445		5	2.268	60.021	17.599	97.552	-0.108	0.292	
1446		6	1.856	49.153	14.399	79.815	6.182	-21.17	
1447		7	1.443	38.286	11.2	62.079	11.214	-38.358	
1448		8	1.031	27.418	8	44.342	14.988	-51.274	
1449		9	0.619	16.55	4.801	26.605	17.505	-59.917	
1450		10	0.206	5.682	1.601	8.868	18.763	-64.288	
1451		11	-0.206	-5.186	-1.598	-8.868	18.764	-64.385	
1452		12	-0.619	-16.054	-4.797	-26.605	17.507	-60.21	
1453		13	-1.031	-26.922	-7.997	-44.342	14.991	-51.762	
1454		14	-1.443	-37.79	-11.196	-62.078	11.218	-39.041	
1455		15	-1.856	-48.657	-14.396	-79.815	6.188	-22.047	
1456		16	-2.268	-59.525	-17.595	-97.552	-0.101	-0.781	
1457		17	-2.68	-70.393	-20.795	-115.288	-7.648	24.758	
1458		18	-3.093	-81.261	-23.994	-133.025	-16.452	54.57	
1459		19	-3.505	-92.129	-27.194	-150.762	-26.515	88.655	



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1460		20	-3.917	-102.997	-30.393	-168.498	-37.835	127.013
1461	3 A8	1	3.917	102.213	30.396	168.498	-37.848	127.013
1462		2	3.505	91.345	27.197	150.761	-26.526	88.963
1463		3	3.093	80.477	23.997	133.024	-16.462	55.187
1464		4	2.68	69.609	20.798	115.288	-7.656	25.683
1465		5	2.268	58.741	17.599	97.551	-0.108	0.452
1466		6	1.856	47.873	14.399	79.814	6.182	-20.506
1467		7	1.443	37.006	11.2	62.077	11.214	-37.191
1468		8	1.031	26.138	8	44.341	14.988	-49.604
1469		9	0.619	15.27	4.801	26.604	17.505	-57.744
1470		10	0.206	4.402	1.601	8.867	18.763	-61.611
1471		11	-0.206	-6.466	-1.598	-8.869	18.764	-61.205
1472		12	-0.619	-17.334	-4.797	-26.606	17.507	-56.527
1473		13	-1.031	-28.202	-7.997	-44.343	14.991	-47.575
1474		14	-1.443	-39.07	-11.196	-62.079	11.218	-34.351
1475		15	-1.856	-49.937	-14.396	-79.816	6.188	-16.854
1476		16	-2.268	-60.805	-17.595	-97.553	-0.101	4.915
1477		17	-2.68	-71.673	-20.795	-115.289	-7.648	30.958
1478		18	-3.093	-83.529	-23.994	-133.026	-16.452	61.45
1479		19	-3.505	-95.482	-27.194	-150.763	-26.515	96.639
1480		20	-3.917	-107.436	-30.393	-168.5	-37.835	136.529
1481	3 A9	1	3.917	113.162	30.396	168.498	-37.848	136.529
1482		2	3.505	101.208	27.197	150.762	-26.526	94.388
1483		3	3.093	89.255	23.997	133.025	-16.462	56.947
1484		4	2.68	77.301	20.798	115.288	-7.656	24.206
1485		5	2.268	65.348	17.599	97.552	-0.108	-3.836
1486		6	1.856	53.394	14.399	79.815	6.182	-27.178
1487		7	1.443	41.44	11.2	62.078	11.214	-45.82
1488		8	1.031	29.487	8	44.341	14.988	-59.763
1489		9	0.619	17.533	4.801	26.605	17.505	-69.006
1490		10	0.206	5.58	1.601	8.868	18.763	-73.55
1491		11	-0.206	-6.374	-1.598	-8.869	18.764	-73.394
1492		12	-0.619	-18.327	-4.797	-26.605	17.507	-68.538
1493		13	-1.031	-30.281	-7.997	-44.342	14.991	-58.983
1494		14	-1.443	-42.235	-11.196	-62.079	11.218	-44.728
1495		15	-1.856	-54.188	-14.396	-79.815	6.188	-25.773
1496		16	-2.268	-66.142	-17.595	-97.552	-0.101	-2.119
1497		17	-2.68	-78.095	-20.795	-115.289	-7.648	26.235
1498		18	-3.093	-90.049	-23.994	-133.025	-16.452	59.289
1499		19	-3.505	-102.002	-27.194	-150.762	-26.515	97.042
1500		20	-3.917	-113.956	-30.393	-168.499	-37.835	139.495
1501	3 A10	1	3.917	110.845	30.396	168.5	-37.848	139.495
1502		2	3.505	98.892	27.197	150.763	-26.526	98.265
1503		3	3.093	86.938	23.997	133.027	-16.462	61.735
1504		4	2.68	74.984	20.798	115.29	-7.656	29.904
1505		5	2.268	63.031	17.599	97.553	-0.108	2.774
1506		6	1.856	51.077	14.399	79.817	6.182	-19.658
1507		7	1.443	39.124	11.2	62.08	11.214	-37.389
1508		8	1.031	27.317	8	44.343	14.988	-50.425
1509		9	0.618	16.449	4.801	26.607	17.505	-59.029
1510		10	0.206	5.581	1.601	8.87	18.763	-63.359
1511		11	-0.206	-5.287	-1.598	-8.867	18.764	-63.417
1512		12	-0.619	-16.155	-4.798	-26.603	17.507	-59.202
1513		13	-1.031	-27.023	-7.997	-44.34	14.991	-50.714
1514		14	-1.443	-37.89	-11.196	-62.077	11.218	-37.954
1515		15	-1.856	-48.758	-14.396	-79.814	6.188	-20.92
1516		16	-2.268	-59.626	-17.595	-97.55	-0.101	0.386
1517		17	-2.68	-70.494	-20.795	-115.287	-7.648	25.965

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1518		18	-3.093	-81.362	-23.994	-133.024	-16.452	55.816
1519		19	-3.505	-92.23	-27.194	-150.76	-26.515	89.941
1520		20	-3.917	-103.098	-30.393	-168.497	-37.835	128.338
1521	3 A11	1	3.917	103.165	30.396	168.498	-37.848	128.065
1522		2	3.505	92.297	27.197	150.761	-26.526	89.641
1523		3	3.093	81.429	23.997	133.025	-16.462	55.49
1524		4	2.68	70.562	20.798	115.288	-7.656	25.612
1525		5	2.268	59.694	17.599	97.551	-0.108	0.006
1526		6	1.856	48.826	14.399	79.815	6.182	-21.326
1527		7	1.443	37.958	11.2	62.078	11.214	-38.386
1528		8	1.031	27.09	8	44.341	14.988	-51.173
1529		9	0.619	16.222	4.801	26.605	17.505	-59.687
1530		10	0.206	5.354	1.601	8.868	18.763	-63.929
1531		11	-0.206	-5.514	-1.598	-8.869	18.764	-63.898
1532		12	-0.618	-16.381	-4.798	-26.605	17.507	-59.593
1533		13	-1.031	-27.249	-7.997	-44.342	14.991	-51.017
1534		14	-1.443	-38.117	-11.196	-62.079	11.218	-38.167
1535		15	-1.856	-48.985	-14.396	-79.816	6.188	-21.044
1536		16	-2.268	-59.853	-17.595	-97.552	-0.101	0.351
1537		17	-2.68	-70.721	-20.795	-115.289	-7.648	26.019
1538		18	-3.093	-81.589	-23.994	-133.026	-16.452	55.96
1539		19	-3.505	-92.456	-27.194	-150.762	-26.515	90.173
1540		20	-3.917	-103.324	-30.393	-168.499	-37.835	128.66
1541	3 A12	1	3.917	103.266	30.396	168.499	-37.848	128.66
1542		2	3.505	92.398	27.197	150.762	-26.526	90.196
1543		3	3.093	81.53	23.997	133.025	-16.462	56.006
1544		4	2.68	70.662	20.798	115.288	-7.656	26.088
1545		5	2.268	59.794	17.599	97.552	-0.108	0.443
1546		6	1.856	48.926	14.399	79.815	6.182	-20.929
1547		7	1.443	38.058	11.2	62.078	11.214	-38.028
1548		8	1.031	27.191	8	44.342	14.988	-50.855
1549		9	0.619	16.323	4.801	26.605	17.505	-59.409
1550		10	0.206	5.455	1.601	8.868	18.763	-63.69
1551		11	-0.206	-5.413	-1.598	-8.868	18.764	-63.698
1552		12	-0.619	-16.281	-4.797	-26.605	17.507	-59.433
1553		13	-1.031	-27.149	-7.997	-44.342	14.991	-50.896
1554		14	-1.443	-38.017	-11.196	-62.078	11.218	-38.086
1555		15	-1.856	-48.885	-14.396	-79.815	6.188	-21.003
1556		16	-2.268	-59.752	-17.595	-97.552	-0.101	0.353
1557		17	-2.68	-70.62	-20.795	-115.288	-7.648	25.981
1558		18	-3.093	-81.488	-23.994	-133.025	-16.452	55.883
1559		19	-3.505	-92.356	-27.194	-150.762	-26.515	90.057
1560		20	-3.917	-103.224	-30.393	-168.499	-37.835	128.504
1561	3 A13	1	3.917	103.235	30.396	168.499	-37.848	128.504
1562		2	3.505	92.367	27.197	150.762	-26.526	90.052
1563		3	3.093	81.5	23.997	133.025	-16.462	55.874
1564		4	2.68	70.632	20.798	115.288	-7.656	25.968
1565		5	2.268	59.764	17.599	97.552	-0.108	0.335
1566		6	1.856	48.896	14.399	79.815	6.182	-21.026
1567		7	1.443	38.028	11.2	62.078	11.214	-38.113
1568		8	1.031	27.16	8	44.342	14.988	-50.928
1569		9	0.619	16.292	4.801	26.605	17.505	-59.47
1570		10	0.206	5.425	1.601	8.868	18.763	-63.739
1571		11	-0.206	-5.443	-1.598	-8.868	18.764	-63.735
1572		12	-0.619	-16.311	-4.797	-26.605	17.507	-59.458
1573		13	-1.031	-27.179	-7.997	-44.342	14.991	-50.909
1574		14	-1.443	-38.047	-11.196	-62.078	11.218	-38.087
1575		15	-1.856	-48.915	-14.396	-79.815	6.188	-20.992

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
1576		16	-2.268	-59.783	-17.595	-97.552	-0.101	0.375	
1577		17	-2.68	-70.651	-20.795	-115.288	-7.648	26.016	
1578		18	-3.093	-81.518	-23.994	-133.025	-16.452	55.929	
1579		19	-3.505	-92.386	-27.194	-150.762	-26.515	90.115	
1580		20	-3.917	-103.254	-30.393	-168.499	-37.835	128.574	
1581	3	A14	1	3.917	103.264	30.396	168.499	-37.848	128.574
1582		2	3.505	92.396	27.197	150.762	-26.526	90.111	
1583		3	3.093	81.528	23.997	133.025	-16.462	55.921	
1584		4	2.68	70.66	20.798	115.288	-7.656	26.004	
1585		5	2.268	59.792	17.599	97.552	-0.108	0.36	
1586		6	1.856	48.925	14.399	79.815	6.182	-21.011	
1587		7	1.443	38.057	11.2	62.078	11.214	-38.11	
1588		8	1.031	27.189	8	44.342	14.988	-50.936	
1589		9	0.619	16.321	4.801	26.605	17.505	-59.489	
1590		10	0.206	5.453	1.601	8.868	18.763	-63.769	
1591		11	-0.206	-5.415	-1.598	-8.868	18.764	-63.777	
1592		12	-0.619	-16.283	-4.797	-26.605	17.507	-59.512	
1593		13	-1.031	-27.15	-7.997	-44.342	14.991	-50.974	
1594		14	-1.443	-38.018	-11.196	-62.078	11.218	-38.163	
1595		15	-1.856	-48.886	-14.396	-79.815	6.188	-21.079	
1596		16	-2.268	-59.754	-17.595	-97.552	-0.101	0.277	
1597		17	-2.68	-70.622	-20.795	-115.288	-7.648	25.906	
1598		18	-3.093	-81.49	-23.994	-133.025	-16.452	55.808	
1599		19	-3.505	-92.358	-27.194	-150.762	-26.515	89.983	
1600		20	-3.917	-103.226	-30.393	-168.499	-37.835	128.431	
1601	3	A15	1	3.929	103.172	30.4	168.492	-37.849	128.431
1602		2	3.516	92.304	27.2	150.756	-26.526	90.004	
1603		3	3.104	81.436	24.001	133.019	-16.461	55.85	
1604		4	2.692	70.569	20.801	115.282	-7.654	25.969	
1605		5	2.279	59.701	17.602	97.546	-0.105	0.361	
1606		6	1.867	48.833	14.402	79.809	6.186	-20.974	
1607		7	1.455	37.965	11.203	62.072	11.22	-38.037	
1608		8	1.042	27.097	8.004	44.336	14.996	-50.827	
1609		9	0.63	16.229	4.804	26.599	17.513	-59.344	
1610		10	0.218	5.361	1.605	8.862	18.773	-63.588	
1611		11	-0.195	-5.507	-1.595	-8.874	18.775	-63.559	
1612		12	-0.607	-16.374	-4.794	-26.611	17.519	-59.258	
1613		13	-1.019	-27.242	-7.994	-44.348	15.005	-50.684	
1614		14	-1.432	-38.11	-11.193	-62.085	11.234	-37.837	
1615		15	-1.844	-48.978	-14.392	-79.821	6.204	-20.717	
1616		16	-2.256	-59.846	-17.592	-97.558	-0.083	0.675	
1617		17	-2.669	-70.714	-20.791	-115.295	-7.629	26.34	
1618		18	-3.081	-81.582	-23.991	-133.031	-16.432	56.278	
1619		19	-3.493	-92.449	-27.19	-150.768	-26.493	90.489	
1620		20	-3.906	-103.317	-30.39	-168.505	-37.812	128.973	
1621	3	A16	1	11.697	112.779	20.177	64.298	-9.647	128.973
1622		2	11.485	107.198	18.533	55.189	-5.739	106.763	
1623		3	11.273	101.616	16.89	46.079	-2.162	85.68	
1624		4	11.061	96.034	15.247	36.969	1.082	65.725	
1625		5	10.849	90.452	13.604	27.859	3.995	46.896	
1626		6	10.638	84.87	11.96	18.75	6.576	29.195	
1627		7	10.426	79.288	10.317	9.64	8.826	12.62	
1628		8	10.214	73.706	8.674	0.53	10.743	-2.827	
1629		9	10.002	68.125	7.031	-8.58	12.329	-17.147	
1630		10	9.791	62.543	5.387	-17.689	13.582	-30.339	
1631		11	9.579	56.961	3.744	-26.799	14.504	-42.405	
1632		12	9.367	51.379	2.101	-35.909	15.094	-53.344	
1633		13	9.155	45.797	0.457	-45.019	15.353	-63.155	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1634		14	8.943	40.215	-1.186	-54.128	15.279	-71.839
1635		15	8.732	34.634	-2.829	-63.238	14.874	-79.396
1636		16	8.52	29.052	-4.472	-72.348	14.137	-85.826
1637		17	8.308	23.47	-6.116	-81.458	13.068	-91.129
1638		18	8.096	17.888	-7.759	-90.567	11.667	-95.305
1639		19	7.885	12.306	-9.402	-99.677	9.934	-98.354
1640		20	7.673	6.724	-11.045	-108.787	7.87	-100.275
1641	3	A17	1	0	8.011	0	0	8.512
1642		2	0	7.59	0	0	0	7.64
1643		3	0	7.168	0	0	0	6.814
1644		4	0	6.746	0	0	0	6.036
1645		5	0	6.325	0	0	0	5.305
1646		6	0	5.903	0	0	0	4.621
1647		7	0	5.481	0	0	0	3.985
1648		8	0	5.06	0	0	0	3.395
1649		9	0	4.638	0	0	0	2.853
1650		10	0	4.216	0	0	0	2.358
1651		11	0	3.795	0	0	0	1.91
1652		12	0	3.373	0	0	0	1.509
1653		13	0	2.952	0	0	0	1.155
1654		14	0	2.53	0	0	0	0.849
1655		15	0	2.108	0	0	0	0.589
1656		16	0	1.687	0	0	0	0.377
1657		17	0	1.265	0	0	0	0.212
1658		18	0	0.843	0	0	0	0.094
1659		19	0	0.422	0	0	0	0.024
1660		20	0	0	0	0	0	0
1661	3	R1	1	13.236	-46.623	-2.385	0	-153.848
1662		2	13.236	-46.623	-2.385	0	7.455	-145.751
1663		3	13.236	-46.623	-2.385	0	7.041	-137.653
1664		4	13.236	-46.623	-2.385	0	6.627	-129.556
1665		5	13.236	-46.623	-2.385	0	6.213	-121.459
1666		6	13.236	-46.623	-2.385	0	5.799	-113.362
1667		7	13.236	-46.623	-2.385	0	5.384	-105.264
1668		8	13.236	-46.623	-2.385	0	4.97	-97.167
1669		9	13.236	-46.623	-2.385	0	4.556	-89.07
1670		10	13.236	-46.623	-2.385	0	4.142	-80.973
1671		11	13.236	-46.623	-2.385	0	3.728	-72.875
1672		12	13.236	-46.623	-2.385	0	3.314	-64.778
1673		13	13.236	-46.623	-2.385	0	2.899	-56.681
1674		14	13.236	-46.623	-2.385	0	2.485	-48.584
1675		15	13.236	-46.623	-2.385	0	2.071	-40.486
1676		16	13.236	-46.623	-2.385	0	1.657	-32.389
1677		17	13.236	-46.623	-2.385	0	1.243	-24.292
1678		18	13.236	-46.623	-2.385	0	0.828	-16.195
1679		19	13.236	-46.623	-2.385	0	0.414	-8.097
1680		20	13.236	-46.623	-2.385	0	0	0
1681	3	R2	1	-19.133	44.014	10.471	0	0
1682		2	-19.133	44.014	10.471	0	3.398	-14.285
1683		3	-19.133	44.014	10.471	0	6.797	-28.571
1684		4	-19.133	44.014	10.471	0	10.195	-42.856
1685		5	-19.133	44.014	10.471	0	13.594	-57.142
1686		6	-19.133	44.014	10.471	0	16.992	-71.427
1687		7	-19.133	44.014	10.471	0	20.391	-85.712
1688		8	-19.133	44.014	10.471	0	23.789	-99.998
1689		9	-19.133	44.014	10.471	0	27.188	-114.283
1690		10	-19.133	44.014	10.471	0	30.586	-128.569
1691		11	-19.133	44.014	10.471	0	33.984	-142.854

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1692		12	-19.133	44.014	10.471	0	37.383	-157.139
1693		13	31.433	-172.082	-5.131	0	11.658	-390.959
1694		14	31.433	-172.082	-5.131	0	9.993	-335.107
1695		15	31.433	-172.082	-5.131	0	8.327	-279.256
1696		16	31.433	-172.082	-5.131	0	6.662	-223.405
1697		17	31.433	-172.082	-5.131	0	4.996	-167.554
1698		18	31.433	-172.082	-5.131	0	3.331	-111.702
1699		19	31.433	-172.082	-5.131	0	1.665	-55.851
1700		20	31.433	-172.082	-5.131	0	0	0
1701	3	R3	1	-23.003	23.449	2.966	0	0
1702		2	-23.003	23.449	2.966	0	0.963	-7.611
1703		3	-23.003	23.449	2.966	0	1.926	-15.221
1704		4	-23.003	23.449	2.966	0	2.888	-22.832
1705		5	-23.003	23.449	2.966	0	3.851	-30.443
1706		6	-23.003	23.449	2.966	0	4.814	-38.053
1707		7	-23.003	23.449	2.966	0	5.777	-45.664
1708		8	-23.003	23.449	2.966	0	6.74	-53.275
1709		9	-23.003	23.449	2.966	0	7.702	-60.885
1710		10	-23.003	23.449	2.966	0	8.665	-68.496
1711		11	-23.003	23.449	2.966	0	9.628	-76.107
1712		12	-23.003	23.449	2.966	0	10.591	-83.718
1713		13	37.79	-182.949	-4.88	0	11.086	-415.646
1714		14	37.79	-182.949	-4.88	0	9.502	-356.268
1715		15	37.79	-182.949	-4.88	0	7.919	-296.89
1716		16	37.79	-182.949	-4.88	0	6.335	-237.512
1717		17	37.79	-182.949	-4.88	0	4.751	-178.134
1718		18	37.79	-182.949	-4.88	0	3.167	-118.756
1719		19	37.79	-182.949	-4.88	0	1.584	-59.378
1720		20	37.79	-182.949	-4.88	0	0	0
1721	3	R4	1	-23.001	23.494	2.962	0	0
1722		2	-23.001	23.494	2.962	0	0.961	-7.625
1723		3	-23.001	23.494	2.962	0	1.923	-15.25
1724		4	-23.001	23.494	2.962	0	2.884	-22.875
1725		5	-23.001	23.494	2.962	0	3.846	-30.501
1726		6	-23.001	23.494	2.962	0	4.807	-38.126
1727		7	-23.001	23.494	2.962	0	5.769	-45.751
1728		8	-23.001	23.494	2.962	0	6.73	-53.376
1729		9	-23.001	23.494	2.962	0	7.692	-61.001
1730		10	-23.001	23.494	2.962	0	8.653	-68.626
1731		11	-23.001	23.494	2.962	0	9.615	-76.251
1732		12	-23.001	23.494	2.962	0	10.576	-83.877
1733		13	37.788	-183.024	-4.872	0	11.069	-415.818
1734		14	37.788	-183.024	-4.872	0	9.488	-356.415
1735		15	37.788	-183.024	-4.872	0	7.907	-297.013
1736		16	37.788	-183.024	-4.872	0	6.325	-237.61
1737		17	37.788	-183.024	-4.872	0	4.744	-178.208
1738		18	37.788	-183.024	-4.872	0	3.163	-118.805
1739		19	37.788	-183.024	-4.872	0	1.581	-59.403
1740		20	37.788	-183.024	-4.872	0	0	0
1741	3	R5	1	-23.001	23.472	2.962	0	0
1742		2	-23.001	23.472	2.962	0	0.961	-7.618
1743		3	-23.001	23.472	2.962	0	1.923	-15.236
1744		4	-23.001	23.472	2.962	0	2.884	-22.854
1745		5	-23.001	23.472	2.962	0	3.846	-30.472
1746		6	-23.001	23.472	2.962	0	4.807	-38.09
1747		7	-23.001	23.472	2.962	0	5.769	-45.708
1748		8	-23.001	23.472	2.962	0	6.73	-53.326
1749		9	-23.001	23.472	2.962	0	7.692	-60.944

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1750		10	-23.001	23.472	2.962	0	8.653	-68.561
1751		11	-23.001	23.472	2.962	0	9.615	-76.179
1752		12	-23.001	23.472	2.962	0	10.576	-83.797
1753		13	37.788	-182.988	-4.872	0	11.069	-415.735
1754		14	37.788	-182.988	-4.872	0	9.488	-356.344
1755		15	37.788	-182.988	-4.872	0	7.907	-296.953
1756		16	37.788	-182.988	-4.872	0	6.325	-237.563
1757		17	37.788	-182.988	-4.872	0	4.744	-178.172
1758		18	37.788	-182.988	-4.872	0	3.163	-118.781
1759		19	37.788	-182.988	-4.872	0	1.581	-59.391
1760		20	37.788	-182.988	-4.872	0	0	0
1761	3	R6	1	-23.001	23.521	2.962	0	0
1762		2	-23.001	23.521	2.962	0	0.961	-7.634
1763		3	-23.001	23.521	2.962	0	1.923	-15.268
1764		4	-23.001	23.521	2.962	0	2.884	-22.902
1765		5	-23.001	23.521	2.962	0	3.846	-30.536
1766		6	-23.001	23.521	2.962	0	4.807	-38.17
1767		7	-23.001	23.521	2.962	0	5.769	-45.804
1768		8	-23.001	23.521	2.962	0	6.73	-53.438
1769		9	-23.001	23.521	2.962	0	7.692	-61.072
1770		10	-23.001	23.521	2.962	0	8.653	-68.706
1771		11	-23.001	23.521	2.962	0	9.615	-76.34
1772		12	-23.001	23.521	2.962	0	10.576	-83.973
1773		13	37.788	-183.069	-4.872	0	11.069	-415.92
1774		14	37.788	-183.069	-4.872	0	9.488	-356.503
1775		15	37.788	-183.069	-4.872	0	7.906	-297.086
1776		16	37.788	-183.069	-4.872	0	6.325	-237.669
1777		17	37.788	-183.069	-4.872	0	4.744	-178.251
1778		18	37.788	-183.069	-4.872	0	3.163	-118.834
1779		19	37.788	-183.069	-4.872	0	1.581	-59.417
1780		20	37.788	-183.069	-4.872	0	0	0
1781	3	R7	1	-23.004	23.398	2.944	0	0
1782		2	-23.004	23.398	2.944	0	0.955	-7.594
1783		3	-23.004	23.398	2.944	0	1.911	-15.188
1784		4	-23.004	23.398	2.944	0	2.866	-22.782
1785		5	-23.004	23.398	2.944	0	3.822	-30.376
1786		6	-23.004	23.398	2.944	0	4.777	-37.97
1787		7	-23.004	23.398	2.944	0	5.733	-45.564
1788		8	-23.004	23.398	2.944	0	6.688	-53.158
1789		9	-23.004	23.398	2.944	0	7.644	-60.752
1790		10	-23.004	23.398	2.944	0	8.599	-68.346
1791		11	-23.004	23.398	2.944	0	9.554	-75.939
1792		12	-23.004	23.398	2.944	0	10.51	-83.533
1793		13	37.792	-182.865	-4.842	0	11	-415.457
1794		14	37.792	-182.865	-4.842	0	9.428	-356.106
1795		15	37.792	-182.865	-4.842	0	7.857	-296.755
1796		16	37.792	-182.865	-4.842	0	6.286	-237.405
1797		17	37.792	-182.865	-4.842	0	4.714	-178.054
1798		18	37.792	-182.865	-4.842	0	3.143	-118.703
1799		19	37.792	-182.865	-4.842	0	1.571	-59.352
1800		20	37.792	-182.865	-4.842	0	0	0
1801	3	R8	1	-23.001	30.411	2.962	0	0
1802		2	-23.001	30.411	2.962	0	0.961	-9.87
1803		3	-23.001	30.411	2.962	0	1.923	-19.741
1804		4	-23.001	30.411	2.962	0	2.884	-29.611
1805		5	-23.001	30.411	2.962	0	3.846	-39.481
1806		6	-23.001	30.411	2.962	0	4.807	-49.352
1807		7	-23.001	30.411	2.962	0	5.769	-59.222



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1808		8	-23.001	30.411	2.962	0	6.73	-69.093
1809		9	-23.001	30.411	2.962	0	7.692	-78.963
1810		10	-23.001	30.411	2.962	0	8.653	-88.833
1811		11	-23.001	30.411	2.962	0	9.615	-98.704
1812		12	-23.001	30.411	2.962	0	10.576	-108.574
1813		13	37.788	-194.39	-4.872	0	11.069	-441.64
1814		14	37.788	-194.39	-4.872	0	9.488	-378.548
1815		15	37.788	-194.39	-4.872	0	7.906	-315.457
1816		16	37.788	-194.39	-4.872	0	6.325	-252.366
1817		17	37.788	-194.39	-4.872	0	4.744	-189.274
1818		18	37.788	-194.39	-4.872	0	3.163	-126.183
1819		19	37.788	-194.39	-4.872	0	1.581	-63.091
1820		20	37.788	-194.39	-4.872	0	0	0
1821	3	R9	1	-23.001	28.821	2.962	0	0
1822		2	-23.001	28.821	2.962	0	0.961	-9.354
1823		3	-23.001	28.821	2.962	0	1.923	-18.708
1824		4	-23.001	28.821	2.962	0	2.884	-28.063
1825		5	-23.001	28.821	2.962	0	3.846	-37.417
1826		6	-23.001	28.821	2.962	0	4.807	-46.771
1827		7	-23.001	28.821	2.962	0	5.769	-56.125
1828		8	-23.001	28.821	2.962	0	6.73	-65.48
1829		9	-23.001	28.821	2.962	0	7.692	-74.834
1830		10	-23.001	28.821	2.962	0	8.653	-84.188
1831		11	-23.001	28.821	2.962	0	9.615	-93.542
1832		12	-23.001	28.821	2.962	0	10.576	-102.896
1833		13	37.788	-191.777	-4.872	0	11.069	-435.703
1834		14	37.788	-191.777	-4.872	0	9.488	-373.46
1835		15	37.788	-191.777	-4.872	0	7.907	-311.216
1836		16	37.788	-191.777	-4.872	0	6.325	-248.973
1837		17	37.788	-191.777	-4.872	0	4.744	-186.73
1838		18	37.788	-191.777	-4.872	0	3.163	-124.487
1839		19	37.788	-191.777	-4.872	0	1.581	-62.243
1840		20	37.788	-191.777	-4.872	0	0	0
1841	3	R10	1	-23.001	22.999	2.962	0	0
1842		2	-23.001	22.999	2.962	0	0.961	-7.464
1843		3	-23.001	22.999	2.962	0	1.923	-14.929
1844		4	-23.001	22.999	2.962	0	2.884	-22.393
1845		5	-23.001	22.999	2.962	0	3.846	-29.858
1846		6	-23.001	22.999	2.962	0	4.807	-37.322
1847		7	-23.001	22.999	2.962	0	5.769	-44.787
1848		8	-23.001	22.999	2.962	0	6.73	-52.251
1849		9	-23.001	22.999	2.962	0	7.692	-59.716
1850		10	-23.001	22.999	2.962	0	8.653	-67.18
1851		11	-23.001	22.999	2.962	0	9.615	-74.645
1852		12	-23.001	22.999	2.962	0	10.576	-82.109
1853		13	37.788	-182.211	-4.872	0	11.069	-413.97
1854		14	37.788	-182.211	-4.872	0	9.488	-354.831
1855		15	37.788	-182.211	-4.872	0	7.907	-295.693
1856		16	37.788	-182.211	-4.872	0	6.325	-236.554
1857		17	37.788	-182.211	-4.872	0	4.744	-177.416
1858		18	37.788	-182.211	-4.872	0	3.163	-118.277
1859		19	37.788	-182.211	-4.872	0	1.581	-59.139
1860		20	37.788	-182.211	-4.872	0	0	0
1861	3	R11	1	-23.001	23.586	2.962	0	0
1862		2	-23.001	23.586	2.962	0	0.961	-7.655
1863		3	-23.001	23.586	2.962	0	1.923	-15.31
1864		4	-23.001	23.586	2.962	0	2.884	-22.965
1865		5	-23.001	23.586	2.962	0	3.846	-30.621



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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 Checked By : CWT

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1866		6	-23.001	23.586	2.962	0	4.807	-38.276
1867		7	-23.001	23.586	2.962	0	5.769	-45.931
1868		8	-23.001	23.586	2.962	0	6.73	-53.586
1869		9	-23.001	23.586	2.962	0	7.692	-61.241
1870		10	-23.001	23.586	2.962	0	8.653	-68.896
1871		11	-23.001	23.586	2.962	0	9.615	-76.551
1872		12	-23.001	23.586	2.962	0	10.576	-84.207
1873		13	37.788	-183.176	-4.872	0	11.069	-416.163
1874		14	37.788	-183.176	-4.872	0	9.488	-356.711
1875		15	37.788	-183.176	-4.872	0	7.907	-297.259
1876		16	37.788	-183.176	-4.872	0	6.325	-237.808
1877		17	37.788	-183.176	-4.872	0	4.744	-178.356
1878		18	37.788	-183.176	-4.872	0	3.163	-118.904
1879		19	37.788	-183.176	-4.872	0	1.581	-59.452
1880		20	37.788	-183.176	-4.872	0	0	0
1881	3	R12	1	-23.001	23.527	2.962	0	0
1882		2	-23.001	23.527	2.962	0	0.961	-7.636
1883		3	-23.001	23.527	2.962	0	1.923	-15.272
1884		4	-23.001	23.527	2.962	0	2.884	-22.908
1885		5	-23.001	23.527	2.962	0	3.846	-30.544
1886		6	-23.001	23.527	2.962	0	4.807	-38.18
1887		7	-23.001	23.527	2.962	0	5.769	-45.816
1888		8	-23.001	23.527	2.962	0	6.73	-53.452
1889		9	-23.001	23.527	2.962	0	7.692	-61.088
1890		10	-23.001	23.527	2.962	0	8.653	-68.724
1891		11	-23.001	23.527	2.962	0	9.615	-76.36
1892		12	-23.001	23.527	2.962	0	10.576	-83.996
1893		13	37.788	-183.079	-4.872	0	11.069	-415.943
1894		14	37.788	-183.079	-4.872	0	9.488	-356.522
1895		15	37.788	-183.079	-4.872	0	7.907	-297.102
1896		16	37.788	-183.079	-4.872	0	6.325	-237.681
1897		17	37.788	-183.079	-4.872	0	4.744	-178.261
1898		18	37.788	-183.079	-4.872	0	3.163	-118.841
1899		19	37.788	-183.079	-4.872	0	1.581	-59.42
1900		20	37.788	-183.079	-4.872	0	0	0
1901	3	R13	1	-23.001	23.191	2.962	0	0
1902		2	-23.001	23.191	2.962	0	0.961	-7.527
1903		3	-23.001	23.191	2.962	0	1.923	-15.054
1904		4	-23.001	23.191	2.962	0	2.884	-22.581
1905		5	-23.001	23.191	2.962	0	3.846	-30.108
1906		6	-23.001	23.191	2.962	0	4.807	-37.635
1907		7	-23.001	23.191	2.962	0	5.769	-45.162
1908		8	-23.001	23.191	2.962	0	6.73	-52.689
1909		9	-23.001	23.191	2.962	0	7.692	-60.217
1910		10	-23.001	23.191	2.962	0	8.653	-67.744
1911		11	-23.001	23.191	2.962	0	9.615	-75.271
1912		12	-23.001	23.191	2.962	0	10.576	-82.798
1913		13	37.788	-182.528	-4.872	0	11.069	-414.69
1914		14	37.788	-182.528	-4.872	0	9.488	-355.448
1915		15	37.788	-182.528	-4.872	0	7.907	-296.207
1916		16	37.788	-182.528	-4.872	0	6.325	-236.966
1917		17	37.788	-182.528	-4.872	0	4.744	-177.724
1918		18	37.788	-182.528	-4.872	0	3.163	-118.483
1919		19	37.788	-182.528	-4.872	0	1.581	-59.241
1920		20	37.788	-182.528	-4.872	0	0	0
1921	3	R14	1	-23.002	24.681	2.962	0	0
1922		2	-23.002	24.681	2.962	0	0.961	-8.01
1923		3	-23.002	24.681	2.962	0	1.923	-16.021



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1924		4	-23.002	24.681	2.962	0	2.884	-24.031
1925		5	-23.002	24.681	2.962	0	3.846	-32.042
1926		6	-23.002	24.681	2.962	0	4.807	-40.052
1927		7	-23.002	24.681	2.962	0	5.768	-48.063
1928		8	-23.002	24.681	2.962	0	6.73	-56.073
1929		9	-23.002	24.681	2.962	0	7.691	-64.084
1930		10	-23.002	24.681	2.962	0	8.653	-72.094
1931		11	-23.002	24.681	2.962	0	9.614	-80.105
1932		12	-23.002	24.681	2.962	0	10.576	-88.115
1933		13	37.79	-184.975	-4.871	0	11.067	-420.25
1934		14	37.79	-184.975	-4.871	0	9.486	-360.214
1935		15	37.79	-184.975	-4.871	0	7.905	-300.178
1936		16	37.79	-184.975	-4.871	0	6.324	-240.143
1937		17	37.79	-184.975	-4.871	0	4.743	-180.107
1938		18	37.79	-184.975	-4.871	0	3.162	-120.071
1939		19	37.79	-184.975	-4.871	0	1.581	-60.036
1940		20	37.79	-184.975	-4.871	0	0	0
1941	3	R15	1	-16.174	22.429	-0.964	0	0
1942		2	-16.174	22.429	-0.964	0	-0.313	-7.28
1943		3	-16.174	22.429	-0.964	0	-0.626	-14.559
1944		4	-16.174	22.429	-0.964	0	-0.939	-21.839
1945		5	-16.174	22.429	-0.964	0	-1.251	-29.119
1946		6	-16.174	22.429	-0.964	0	-1.564	-36.398
1947		7	-16.174	22.429	-0.964	0	-1.877	-43.678
1948		8	-16.174	22.429	-0.964	0	-2.19	-50.958
1949		9	-16.174	22.429	-0.964	0	-2.503	-58.238
1950		10	-16.174	22.429	-0.964	0	-2.816	-65.517
1951		11	-16.174	22.429	-0.964	0	-3.128	-72.797
1952		12	-16.174	22.429	-0.964	0	-3.441	-80.077
1953		13	26.572	-172.098	-13.394	0	30.43	-390.994
1954		14	26.572	-172.098	-13.394	0	26.082	-335.138
1955		15	26.572	-172.098	-13.394	0	21.735	-279.282
1956		16	26.572	-172.098	-13.394	0	17.388	-223.425
1957		17	26.572	-172.098	-13.394	0	13.041	-167.569
1958		18	26.572	-172.098	-13.394	0	8.694	-111.713
1959		19	26.572	-172.098	-13.394	0	4.347	-55.856
1960		20	26.572	-172.098	-13.394	0	0	0
1961	3	M33	1	-9.209	10.38	0.646	0	0
1962		2	-9.209	10.38	0.646	0	0.183	-2.946
1963		3	-9.209	10.38	0.646	0	0.366	-5.891
1964		4	-9.209	10.38	0.646	0	0.55	-8.837
1965		5	-9.209	10.38	0.646	0	0.733	-11.782
1966		6	-9.209	10.38	0.646	0	0.916	-14.728
1967		7	-9.209	10.38	0.646	0	1.099	-17.673
1968		8	-9.209	10.38	0.646	0	1.283	-20.619
1969		9	-9.209	10.38	0.646	0	1.466	-23.564
1970		10	-9.209	10.38	0.646	0	1.649	-26.51
1971		11	-9.209	10.38	0.646	0	1.832	-29.456
1972		12	-9.209	10.38	0.646	0	2.016	-32.401
1973		13	-9.209	10.38	0.646	0	2.199	-35.347
1974		14	-9.209	10.38	0.646	0	2.382	-38.292
1975		15	-9.209	10.38	0.646	0	2.565	-41.238
1976		16	-9.209	10.38	0.646	0	2.749	-44.183
1977		17	-9.209	10.38	0.646	0	2.932	-47.129
1978		18	-9.209	10.38	0.646	0	3.115	-50.075
1979		19	-9.209	10.38	0.646	0	3.298	-53.02
1980		20	-9.209	10.38	0.646	0	3.482	-55.966
1981	4	A1	1	0	0	0	0	0

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
1982		2	0	-0.336	0	0	0	0.018	
1983		3	0	-0.671	0	0	0	0.072	
1984		4	0	-1.007	0	0	0	0.161	
1985		5	0	-1.342	0	0	0	0.287	
1986		6	0	-1.678	0	0	0	0.448	
1987		7	0	-2.013	0	0	0	0.645	
1988		8	0	-2.349	0	0	0	0.878	
1989		9	0	-2.684	0	0	0	1.147	
1990		10	0	-3.02	0	0	0	1.451	
1991		11	0	-3.355	0	0	0	1.792	
1992		12	0	-3.691	0	0	0	2.168	
1993		13	0	-4.026	0	0	0	2.58	
1994		14	0	-4.362	0	0	0	3.028	
1995		15	0	-4.697	0	0	0	3.512	
1996		16	0	-5.033	0	0	0	4.031	
1997		17	0	-5.368	0	0	0	4.587	
1998		18	0	-5.704	0	0	0	5.178	
1999		19	0	-6.039	0	0	0	5.805	
2000		20	0	-6.375	0	0	0	6.468	
2001	4	A2	1	-6.133	-24.126	7.217	-30.366	3.855	-23.568
2002		2	-6.307	-27.873	6.155	-36.43	4.692	-20.314	
2003		3	-6.482	-31.62	5.093	-42.494	5.396	-16.59	
2004		4	-6.656	-35.368	4.031	-48.558	5.967	-12.398	
2005		5	-6.831	-39.115	2.969	-54.622	6.405	-7.736	
2006		6	-7.005	-42.862	1.907	-60.686	6.71	-2.605	
2007		7	-7.18	-46.609	0.846	-66.75	6.883	2.995	
2008		8	-7.354	-50.357	-0.216	-72.814	6.922	9.063	
2009		9	-7.529	-54.104	-1.278	-78.877	6.829	15.601	
2010		10	-7.703	-57.851	-2.34	-84.941	6.602	22.608	
2011		11	-7.878	-61.598	-3.402	-91.005	6.243	30.084	
2012		12	-8.053	-65.346	-4.464	-97.069	5.75	38.03	
2013		13	-8.227	-69.093	-5.526	-103.133	5.125	46.444	
2014		14	-8.402	-72.84	-6.588	-109.197	4.367	55.327	
2015		15	-8.576	-76.588	-7.65	-115.261	3.476	64.679	
2016		16	-8.751	-80.335	-8.711	-121.325	2.452	74.501	
2017		17	-8.925	-84.082	-9.773	-127.388	1.295	84.791	
2018		18	-9.1	-87.829	-10.835	-133.452	0.005	95.551	
2019		19	-9.274	-91.577	-11.897	-139.516	-1.418	106.779	
2020		20	-9.449	-95.324	-12.959	-145.58	-2.973	118.477	
2021	4	A3	1	5.209	108.346	31.684	180.935	-39.436	118.477
2022		2	4.661	96.576	28.349	161.889	-27.635	78.194	
2023		3	4.113	84.806	25.014	142.844	-17.145	42.538	
2024		4	3.565	73.037	21.678	123.798	-7.967	11.509	
2025		5	3.016	61.267	18.343	104.752	-0.099	-14.892	
2026		6	2.468	49.497	15.008	85.706	6.457	-36.666	
2027		7	1.92	37.728	11.673	66.661	11.702	-53.813	
2028		8	1.372	25.958	8.338	47.615	15.636	-66.332	
2029		9	0.824	14.189	5.002	28.569	18.258	-74.224	
2030		10	0.276	2.419	1.667	9.523	19.569	-77.489	
2031		11	-0.272	-9.351	-1.668	-9.523	19.569	-76.126	
2032		12	-0.821	-21.12	-5.003	-28.568	18.257	-70.136	
2033		13	-1.369	-32.89	-8.339	-47.614	15.634	-59.519	
2034		14	-1.917	-44.659	-11.674	-66.66	11.7	-44.274	
2035		15	-2.465	-56.429	-15.009	-85.706	6.455	-24.402	
2036		16	-3.013	-68.199	-18.344	-104.751	-0.102	0.097	
2037		17	-3.561	-79.968	-21.68	-123.797	-7.969	29.223	
2038		18	-4.109	-91.738	-25.015	-142.843	-17.149	62.977	
2039		19	-4.657	-103.508	-28.35	-161.889	-27.639	101.358	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2040		20	-5.206	-115.277	-31.685	-180.934	-39.441	144.367
2041	4	1	5.207	112.672	31.687	180.935	-39.456	144.367
2042		2	4.659	100.902	28.352	161.889	-27.653	102.383
2043		3	4.111	89.133	25.016	142.844	-17.162	65.026
2044		4	3.563	77.363	21.681	123.798	-7.983	32.296
2045		5	3.015	65.594	18.346	104.752	-0.114	4.194
2046		6	2.467	53.824	15.011	85.706	6.443	-19.281
2047		7	1.918	42.054	11.676	66.661	11.689	-38.129
2048		8	1.37	30.285	8.34	47.615	15.624	-52.349
2049		9	0.822	18.515	5.005	28.569	18.247	-61.942
2050		10	0.274	6.746	1.67	9.523	19.559	-66.908
2051		11	-0.274	-5.024	-1.665	-9.523	19.56	-67.246
2052		12	-0.822	-16.794	-5.001	-28.568	18.25	-62.958
2053		13	-1.37	-28.563	-8.336	-47.614	15.628	-54.041
2054		14	-1.918	-40.333	-11.671	-66.66	11.695	-40.498
2055		15	-2.467	-52.103	-15.006	-85.706	6.451	-22.327
2056		16	-3.015	-63.872	-18.342	-104.751	-0.104	0.471
2057		17	-3.563	-75.642	-21.677	-123.797	-7.971	27.897
2058		18	-4.111	-87.411	-25.012	-142.843	-17.149	59.95
2059		19	-4.659	-99.181	-28.347	-161.889	-27.639	96.63
2060		20	-5.207	-110.951	-31.683	-180.934	-39.439	137.937
2061	4	1	5.207	111.609	31.687	180.935	-39.456	137.937
2062		2	4.659	99.84	28.352	161.889	-27.653	96.371
2063		3	4.111	88.07	25.016	142.843	-17.162	59.432
2064		4	3.563	76.301	21.681	123.797	-7.983	27.12
2065		5	3.015	64.531	18.346	104.752	-0.114	-0.565
2066		6	2.467	52.761	15.011	85.706	6.443	-23.622
2067		7	1.918	40.992	11.676	66.66	11.689	-42.052
2068		8	1.37	29.222	8.34	47.614	15.624	-55.854
2069		9	0.822	17.452	5.005	28.569	18.247	-65.029
2070		10	0.274	5.683	1.67	9.523	19.559	-69.577
2071		11	-0.274	-6.087	-1.665	-9.523	19.56	-69.498
2072		12	-0.822	-17.856	-5.001	-28.569	18.25	-64.791
2073		13	-1.37	-29.626	-8.336	-47.614	15.628	-55.457
2074		14	-1.918	-41.396	-11.671	-66.66	11.695	-41.496
2075		15	-2.467	-53.165	-15.006	-85.706	6.451	-22.907
2076		16	-3.015	-64.935	-18.342	-104.752	-0.104	0.309
2077		17	-3.563	-76.705	-21.677	-123.798	-7.971	28.152
2078		18	-4.111	-88.474	-25.012	-142.843	-17.149	60.623
2079		19	-4.659	-100.244	-28.347	-161.889	-27.639	97.721
2080		20	-5.207	-112.013	-31.683	-180.935	-39.439	139.446
2081	4	1	5.207	111.812	31.687	180.935	-39.456	139.446
2082		2	4.659	100.042	28.352	161.889	-27.653	97.8
2083		3	4.111	88.272	25.016	142.843	-17.162	60.782
2084		4	3.563	76.503	21.681	123.797	-7.983	28.391
2085		5	3.015	64.733	18.346	104.752	-0.114	0.627
2086		6	2.467	52.963	15.011	85.706	6.443	-22.51
2087		7	1.918	41.194	11.676	66.66	11.689	-41.019
2088		8	1.37	29.424	8.34	47.614	15.624	-54.901
2089		9	0.822	17.655	5.005	28.569	18.247	-64.156
2090		10	0.274	5.885	1.67	9.523	19.559	-68.783
2091		11	-0.274	-5.885	-1.665	-9.523	19.56	-68.783
2092		12	-0.822	-17.654	-5.001	-28.569	18.25	-64.156
2093		13	-1.37	-29.424	-8.336	-47.614	15.628	-54.902
2094		14	-1.918	-41.194	-11.671	-66.66	11.695	-41.02
2095		15	-2.467	-52.963	-15.006	-85.706	6.451	-22.51
2096		16	-3.015	-64.733	-18.342	-104.752	-0.104	0.626
2097		17	-3.563	-76.502	-21.677	-123.797	-7.971	28.39



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2098		18	-4.111	-88.272	-25.012	-142.843	-17.149	60.781	
2099		19	-4.659	-100.042	-28.347	-161.889	-27.639	97.8	
2100		20	-5.207	-111.811	-31.683	-180.935	-39.439	139.446	
2101	4	A7	1	5.207	112.013	31.687	180.935	-39.456	139.446
2102		2	4.659	100.243	28.352	161.889	-27.653	97.72	
2103		3	4.111	88.474	25.016	142.843	-17.162	60.623	
2104		4	3.563	76.704	21.681	123.798	-7.983	28.152	
2105		5	3.015	64.934	18.346	104.752	-0.114	0.309	
2106		6	2.467	53.165	15.011	85.706	6.443	-22.907	
2107		7	1.918	41.395	11.676	66.66	11.689	-41.495	
2108		8	1.37	29.626	8.34	47.614	15.624	-55.457	
2109		9	0.822	17.856	5.005	28.569	18.247	-64.79	
2110		10	0.274	6.086	1.67	9.523	19.559	-69.497	
2111		11	-0.274	-5.683	-1.665	-9.523	19.56	-69.576	
2112		12	-0.822	-17.453	-5.001	-28.569	18.25	-65.028	
2113		13	-1.37	-29.223	-8.336	-47.614	15.628	-55.853	
2114		14	-1.918	-40.992	-11.671	-66.66	11.695	-42.05	
2115		15	-2.467	-52.762	-15.006	-85.706	6.451	-23.62	
2116		16	-3.015	-64.531	-18.342	-104.752	-0.104	-0.563	
2117		17	-3.563	-76.301	-21.677	-123.797	-7.971	27.122	
2118		18	-4.111	-88.071	-25.012	-142.843	-17.149	59.434	
2119		19	-4.659	-99.84	-28.347	-161.889	-27.639	96.373	
2120		20	-5.207	-111.61	-31.683	-180.935	-39.439	137.94	
2121	4	A8	1	5.207	110.952	31.687	180.934	-39.456	137.94
2122		2	4.659	99.183	28.352	161.888	-27.653	96.632	
2123		3	4.111	87.413	25.016	142.842	-17.162	59.951	
2124		4	3.563	75.643	21.681	123.797	-7.983	27.898	
2125		5	3.015	63.874	18.346	104.751	-0.114	0.471	
2126		6	2.467	52.104	15.011	85.705	6.443	-22.327	
2127		7	1.918	40.335	11.676	66.659	11.689	-40.499	
2128		8	1.37	28.565	8.34	47.614	15.624	-54.043	
2129		9	0.822	16.795	5.005	28.568	18.247	-62.96	
2130		10	0.274	5.026	1.67	9.522	19.559	-67.25	
2131		11	-0.274	-6.744	-1.665	-9.524	19.56	-66.912	
2132		12	-0.822	-18.514	-5.001	-28.569	18.25	-61.947	
2133		13	-1.37	-30.283	-8.336	-47.615	15.628	-52.354	
2134		14	-1.918	-42.053	-11.671	-66.661	11.695	-38.135	
2135		15	-2.467	-53.822	-15.006	-85.707	6.451	-19.288	
2136		16	-3.015	-65.592	-18.342	-104.753	-0.104	4.187	
2137		17	-3.563	-77.362	-21.677	-123.798	-7.971	32.289	
2138		18	-4.111	-89.954	-25.012	-142.844	-17.149	65.165	
2139		19	-4.659	-102.629	-28.347	-161.89	-27.639	103.023	
2140		20	-5.207	-115.303	-31.683	-180.936	-39.439	145.863	
2141	4	A9	1	5.207	120.077	31.687	180.935	-39.456	145.863
2142		2	4.659	107.403	28.352	161.889	-27.653	101.146	
2143		3	4.111	94.728	25.016	142.843	-17.162	61.411	
2144		4	3.563	82.054	21.681	123.797	-7.983	26.659	
2145		5	3.015	69.379	18.346	104.752	-0.114	-3.109	
2146		6	2.467	56.705	15.011	85.706	6.443	-27.895	
2147		7	1.918	44.031	11.676	66.66	11.689	-47.697	
2148		8	1.37	31.356	8.34	47.614	15.624	-62.517	
2149		9	0.822	18.682	5.005	28.568	18.247	-72.353	
2150		10	0.274	6.008	1.67	9.523	19.559	-77.207	
2151		11	-0.274	-6.667	-1.665	-9.523	19.56	-77.077	
2152		12	-0.822	-19.341	-5.001	-28.569	18.25	-71.965	
2153		13	-1.37	-32.016	-8.336	-47.615	15.628	-61.869	
2154		14	-1.918	-44.69	-11.671	-66.66	11.695	-46.79	
2155		15	-2.467	-57.364	-15.006	-85.706	6.451	-26.729	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2156		16	-3.015	-70.039	-18.342	-104.752	-0.104	-1.684	
2157		17	-3.563	-82.713	-21.677	-123.798	-7.971	28.344	
2158		18	-4.111	-95.387	-25.012	-142.843	-17.149	63.355	
2159		19	-4.659	-108.062	-28.347	-161.889	-27.639	103.349	
2160		20	-5.207	-120.736	-31.683	-180.935	-39.439	148.325	
2161	4	A10	1	5.207	118.139	31.687	180.936	-39.456	148.325
2162		2	4.659	105.464	28.352	161.89	-27.653	104.37	
2163		3	4.111	92.79	25.016	142.845	-17.162	65.397	
2164		4	3.563	80.116	21.681	123.799	-7.983	31.408	
2165		5	3.015	67.441	18.346	104.753	-0.114	2.401	
2166		6	2.467	54.767	15.011	85.707	6.443	-21.622	
2167		7	1.918	42.092	11.676	66.662	11.689	-40.663	
2168		8	1.37	29.54	8.34	47.616	15.624	-54.724	
2169		9	0.822	17.771	5.005	28.57	18.247	-64.024	
2170		10	0.274	6.001	1.67	9.524	19.559	-68.697	
2171		11	-0.274	-5.769	-1.665	-9.522	19.56	-68.743	
2172		12	-0.822	-17.538	-5.001	-28.567	18.25	-64.161	
2173		13	-1.37	-29.308	-8.336	-47.613	15.628	-54.952	
2174		14	-1.919	-41.078	-11.671	-66.659	11.695	-41.116	
2175		15	-2.467	-52.847	-15.006	-85.705	6.451	-22.652	
2176		16	-3.015	-64.617	-18.342	-104.75	-0.105	0.439	
2177		17	-3.563	-76.386	-21.677	-123.796	-7.971	28.157	
2178		18	-4.111	-88.156	-25.012	-142.842	-17.149	60.503	
2179		19	-4.659	-99.926	-28.347	-161.888	-27.639	97.476	
2180		20	-5.207	-111.695	-31.683	-180.933	-39.439	139.076	
2181	4	A11	1	5.207	111.743	31.687	180.934	-39.456	138.782
2182		2	4.659	99.974	28.352	161.889	-27.653	97.163	
2183		3	4.111	88.204	25.016	142.843	-17.162	60.171	
2184		4	3.563	76.435	21.681	123.797	-7.983	27.807	
2185		5	3.015	64.665	18.346	104.751	-0.114	0.07	
2186		6	2.467	52.895	15.011	85.706	6.443	-23.04	
2187		7	1.919	41.126	11.676	66.66	11.689	-41.523	
2188		8	1.37	29.356	8.34	47.614	15.624	-55.378	
2189		9	0.822	17.586	5.005	28.568	18.247	-64.606	
2190		10	0.274	5.817	1.67	9.522	19.559	-69.207	
2191		11	-0.274	-5.953	-1.665	-9.523	19.56	-69.18	
2192		12	-0.822	-17.722	-5.001	-28.569	18.25	-64.526	
2193		13	-1.37	-29.492	-8.336	-47.615	15.628	-55.245	
2194		14	-1.918	-41.262	-11.671	-66.661	11.695	-41.336	
2195		15	-2.467	-53.031	-15.006	-85.706	6.451	-22.8	
2196		16	-3.015	-64.801	-18.342	-104.752	-0.104	0.363	
2197		17	-3.563	-76.57	-21.677	-123.798	-7.971	28.154	
2198		18	-4.111	-88.34	-25.012	-142.844	-17.149	60.572	
2199		19	-4.659	-100.11	-28.347	-161.889	-27.639	97.617	
2200		20	-5.207	-111.879	-31.683	-180.935	-39.439	139.29	
2201	4	A12	1	5.207	111.814	31.687	180.935	-39.456	139.29
2202		2	4.659	100.045	28.352	161.889	-27.653	97.643	
2203		3	4.111	88.275	25.016	142.843	-17.162	60.623	
2204		4	3.563	76.506	21.681	123.797	-7.983	28.231	
2205		5	3.015	64.736	18.346	104.752	-0.114	0.466	
2206		6	2.467	52.966	15.011	85.706	6.443	-22.672	
2207		7	1.918	41.197	11.676	66.66	11.689	-41.183	
2208		8	1.37	29.427	8.34	47.614	15.624	-55.066	
2209		9	0.822	17.657	5.005	28.569	18.247	-64.322	
2210		10	0.274	5.888	1.67	9.523	19.559	-68.95	
2211		11	-0.274	-5.882	-1.665	-9.523	19.56	-68.951	
2212		12	-0.822	-17.651	-5.001	-28.569	18.25	-64.325	
2213		13	-1.37	-29.421	-8.336	-47.614	15.628	-55.072	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2214		14	-1.918	-41.191	-11.671	-66.66	11.695	-41.191	
2215		15	-2.467	-52.96	-15.006	-85.706	6.451	-22.683	
2216		16	-3.015	-64.73	-18.342	-104.752	-0.104	0.452	
2217		17	-3.563	-76.499	-21.677	-123.797	-7.971	28.215	
2218		18	-4.111	-88.269	-25.012	-142.843	-17.149	60.605	
2219		19	-4.659	-100.039	-28.347	-161.889	-27.639	97.622	
2220		20	-5.207	-111.808	-31.683	-180.935	-39.439	139.267	
2221	4	A13	1	5.207	111.866	31.687	180.935	-39.456	139.267
2222		2	4.659	100.097	28.352	161.889	-27.653	97.6	
2223		3	4.111	88.327	25.016	142.843	-17.162	60.559	
2224		4	3.563	76.557	21.681	123.798	-7.983	28.147	
2225		5	3.015	64.788	18.346	104.752	-0.114	0.361	
2226		6	2.467	53.018	15.011	85.706	6.443	-22.797	
2227		7	1.918	41.249	11.676	66.66	11.689	-41.328	
2228		8	1.37	29.479	8.34	47.614	15.624	-55.232	
2229		9	0.822	17.709	5.005	28.569	18.247	-64.508	
2230		10	0.274	5.94	1.67	9.523	19.559	-69.157	
2231		11	-0.274	-5.83	-1.665	-9.523	19.56	-69.178	
2232		12	-0.822	-17.599	-5.001	-28.569	18.25	-64.573	
2233		13	-1.37	-29.369	-8.336	-47.614	15.628	-55.34	
2234		14	-1.918	-41.139	-11.671	-66.66	11.695	-41.479	
2235		15	-2.467	-52.908	-15.006	-85.706	6.451	-22.992	
2236		16	-3.015	-64.678	-18.342	-104.752	-0.104	0.123	
2237		17	-3.563	-76.448	-21.677	-123.797	-7.971	27.866	
2238		18	-4.111	-88.217	-25.012	-142.843	-17.149	60.235	
2239		19	-4.659	-99.987	-28.347	-161.889	-27.639	97.232	
2240		20	-5.207	-111.756	-31.683	-180.935	-39.439	138.857	
2241	4	A14	1	5.207	111.574	31.687	180.935	-39.456	138.857
2242		2	4.659	99.805	28.352	161.889	-27.653	97.304	
2243		3	4.111	88.035	25.016	142.843	-17.162	60.379	
2244		4	3.563	76.265	21.681	123.797	-7.983	28.081	
2245		5	3.015	64.496	18.346	104.752	-0.114	0.41	
2246		6	2.467	52.726	15.011	85.706	6.443	-22.633	
2247		7	1.919	40.956	11.676	66.66	11.689	-41.049	
2248		8	1.37	29.187	8.34	47.614	15.624	-54.838	
2249		9	0.822	17.417	5.005	28.569	18.247	-63.999	
2250		10	0.274	5.648	1.67	9.523	19.559	-68.533	
2251		11	-0.274	-6.122	-1.665	-9.523	19.56	-68.44	
2252		12	-0.822	-17.892	-5.001	-28.569	18.25	-63.719	
2253		13	-1.37	-29.661	-8.336	-47.615	15.628	-54.372	
2254		14	-1.918	-41.431	-11.671	-66.66	11.695	-40.396	
2255		15	-2.467	-53.201	-15.006	-85.706	6.451	-21.794	
2256		16	-3.015	-64.97	-18.342	-104.752	-0.104	1.436	
2257		17	-3.563	-76.74	-21.677	-123.798	-7.971	29.293	
2258		18	-4.111	-88.509	-25.012	-142.843	-17.149	61.778	
2259		19	-4.659	-100.279	-28.347	-161.889	-27.639	98.89	
2260		20	-5.207	-112.049	-31.683	-180.935	-39.439	140.629	
2261	4	A15	1	5.219	112.767	31.69	180.93	-39.458	140.629
2262		2	4.671	100.997	28.355	161.884	-27.654	98.607	
2263		3	4.123	89.228	25.02	142.838	-17.162	61.213	
2264		4	3.575	77.458	21.685	123.792	-7.98	28.446	
2265		5	3.027	65.689	18.349	104.747	-0.11	0.306	
2266		6	2.478	53.919	15.014	85.701	6.448	-23.206	
2267		7	1.93	42.149	11.679	66.655	11.695	-42.091	
2268		8	1.382	30.38	8.344	47.609	15.631	-56.349	
2269		9	0.834	18.61	5.009	28.563	18.256	-65.979	
2270		10	0.286	6.841	1.673	9.518	19.57	-70.982	
2271		11	-0.262	-4.929	-1.662	-9.528	19.572	-71.358	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2272		12	-0.81	-16.699	-4.997	-28.574	18.263	-67.107	
2273		13	-1.359	-28.468	-8.332	-47.62	15.643	-58.228	
2274		14	-1.907	-40.238	-11.668	-66.665	11.711	-44.721	
2275		15	-2.455	-52.008	-15.003	-85.711	6.468	-26.588	
2276		16	-3.003	-63.777	-18.338	-104.757	-0.086	-3.827	
2277		17	-3.551	-75.547	-21.673	-123.803	-7.951	23.561	
2278		18	-4.099	-87.316	-25.009	-142.848	-17.128	55.577	
2279		19	-4.647	-99.086	-28.344	-161.894	-27.616	92.219	
2280		20	-5.196	-110.856	-31.679	-180.94	-39.415	133.49	
2281	4	A16	1	13.024	116.443	21.154	85.834	-10.049	133.49
2282		2	12.743	110.398	19.441	76.052	-5.95	110.587	
2283		3	12.461	104.353	17.728	66.27	-2.197	88.904	
2284		4	12.18	98.308	16.015	56.488	1.209	68.443	
2285		5	11.898	92.263	14.302	46.706	4.27	49.202	
2286		6	11.617	86.218	12.589	36.924	6.985	31.182	
2287		7	11.335	80.173	10.876	27.142	9.355	14.382	
2288		8	11.053	74.128	9.163	17.36	11.378	-1.197	
2289		9	10.772	68.083	7.45	7.577	13.055	-15.555	
2290		10	10.49	62.038	5.737	-2.205	14.387	-28.693	
2291		11	10.209	55.993	4.024	-11.987	15.372	-40.61	
2292		12	9.927	49.948	2.311	-21.769	16.012	-51.306	
2293		13	9.646	43.903	0.598	-31.551	16.305	-60.782	
2294		14	9.364	37.858	-1.115	-41.333	16.253	-69.037	
2295		15	9.083	31.813	-2.828	-51.115	15.855	-76.071	
2296		16	8.801	25.768	-4.541	-60.897	15.111	-81.885	
2297		17	8.52	19.723	-6.254	-70.679	14.021	-86.478	
2298		18	8.238	13.678	-7.967	-80.461	12.585	-89.85	
2299		19	7.957	7.633	-9.68	-90.244	10.803	-92.002	
2300		20	7.675	1.588	-11.393	-100.026	8.676	-92.932	
2301	4	A17	1	0	6.676	0	0	7.093	
2302		2	0	6.325	0	0	0	6.366	
2303		3	0	5.973	0	0	0	5.679	
2304		4	0	5.622	0	0	0	5.03	
2305		5	0	5.271	0	0	0	4.421	
2306		6	0	4.919	0	0	0	3.851	
2307		7	0	4.568	0	0	0	3.321	
2308		8	0	4.216	0	0	0	2.829	
2309		9	0	3.865	0	0	0	2.378	
2310		10	0	3.514	0	0	0	1.965	
2311		11	0	3.162	0	0	0	1.592	
2312		12	0	2.811	0	0	0	1.258	
2313		13	0	2.46	0	0	0	0.963	
2314		14	0	2.108	0	0	0	0.707	
2315		15	0	1.757	0	0	0	0.491	
2316		16	0	1.405	0	0	0	0.314	
2317		17	0	1.054	0	0	0	0.177	
2318		18	0	0.703	0	0	0	0.079	
2319		19	0	0.351	0	0	0	0.02	
2320		20	0	0	0	0	0	0	
2321	4	R1	1	13.483	-42.868	-2.629	0	8.676	-141.458
2322		2	13.483	-42.868	-2.629	0	8.219	-134.013	
2323		3	13.483	-42.868	-2.629	0	7.762	-126.567	
2324		4	13.483	-42.868	-2.629	0	7.306	-119.122	
2325		5	13.483	-42.868	-2.629	0	6.849	-111.677	
2326		6	13.483	-42.868	-2.629	0	6.393	-104.232	
2327		7	13.483	-42.868	-2.629	0	5.936	-96.787	
2328		8	13.483	-42.868	-2.629	0	5.479	-89.342	
2329		9	13.483	-42.868	-2.629	0	5.023	-81.897	



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2330		10	13.483	-42.868	-2.629	0	4.566	-74.451
2331		11	13.483	-42.868	-2.629	0	4.11	-67.006
2332		12	13.483	-42.868	-2.629	0	3.653	-59.561
2333		13	13.483	-42.868	-2.629	0	3.196	-52.116
2334		14	13.483	-42.868	-2.629	0	2.74	-44.671
2335		15	13.483	-42.868	-2.629	0	2.283	-37.226
2336		16	13.483	-42.868	-2.629	0	1.826	-29.781
2337		17	13.483	-42.868	-2.629	0	1.37	-22.335
2338		18	13.483	-42.868	-2.629	0	0.913	-14.89
2339		19	13.483	-42.868	-2.629	0	0.457	-7.445
2340		20	13.483	-42.868	-2.629	0	0	0
2341	4	R2	1	-19.991	42.744	11.656	0	0
2342		2	-19.991	42.744	11.656	0	3.783	-13.873
2343		3	-19.991	42.744	11.656	0	7.566	-27.746
2344		4	-19.991	42.744	11.656	0	11.349	-41.619
2345		5	-19.991	42.744	11.656	0	15.132	-55.492
2346		6	-19.991	42.744	11.656	0	18.916	-69.365
2347		7	-19.991	42.744	11.656	0	22.699	-83.239
2348		8	-19.991	42.744	11.656	0	26.482	-97.112
2349		9	-19.991	42.744	11.656	0	30.265	-110.985
2350		10	-19.991	42.744	11.656	0	34.048	-124.858
2351		11	-19.991	42.744	11.656	0	37.831	-138.731
2352		12	-19.991	42.744	11.656	0	41.614	-152.604
2353		13	32.842	-184.554	-6.564	0	14.912	-419.294
2354		14	32.842	-184.554	-6.564	0	12.782	-359.395
2355		15	32.842	-184.554	-6.564	0	10.651	-299.496
2356		16	32.842	-184.554	-6.564	0	8.521	-239.597
2357		17	32.842	-184.554	-6.564	0	6.391	-179.698
2358		18	32.842	-184.554	-6.564	0	4.261	-119.798
2359		19	32.842	-184.554	-6.564	0	2.13	-59.899
2360		20	32.842	-184.554	-6.564	0	0	0
2361	4	R3	1	-23.979	26.385	3.942	0	0
2362		2	-23.979	26.385	3.942	0	1.279	-8.563
2363		3	-23.979	26.385	3.942	0	2.559	-17.127
2364		4	-23.979	26.385	3.942	0	3.838	-25.69
2365		5	-23.979	26.385	3.942	0	5.118	-34.254
2366		6	-23.979	26.385	3.942	0	6.397	-42.817
2367		7	-23.979	26.385	3.942	0	7.677	-51.38
2368		8	-23.979	26.385	3.942	0	8.956	-59.944
2369		9	-23.979	26.385	3.942	0	10.236	-68.507
2370		10	-23.979	26.385	3.942	0	11.515	-77.071
2371		11	-23.979	26.385	3.942	0	12.795	-85.634
2372		12	-23.979	26.385	3.942	0	14.074	-94.198
2373		13	39.394	-198.431	-6.484	0	14.732	-450.821
2374		14	39.394	-198.431	-6.484	0	12.627	-386.418
2375		15	39.394	-198.431	-6.484	0	10.523	-322.015
2376		16	39.394	-198.431	-6.484	0	8.418	-257.612
2377		17	39.394	-198.431	-6.484	0	6.314	-193.209
2378		18	39.394	-198.431	-6.484	0	4.209	-128.806
2379		19	39.394	-198.431	-6.484	0	2.105	-64.403
2380		20	39.394	-198.431	-6.484	0	0	0
2381	4	R4	1	-23.978	25.822	3.938	0	0
2382		2	-23.978	25.822	3.938	0	1.278	-8.381
2383		3	-23.978	25.822	3.938	0	2.556	-16.762
2384		4	-23.978	25.822	3.938	0	3.834	-25.142
2385		5	-23.978	25.822	3.938	0	5.113	-33.523
2386		6	-23.978	25.822	3.938	0	6.391	-41.904
2387		7	-23.978	25.822	3.938	0	7.669	-50.285



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2388		8	-23.978	25.822	3.938	0	8.947	-58.665
2389		9	-23.978	25.822	3.938	0	10.225	-67.046
2390		10	-23.978	25.822	3.938	0	11.503	-75.427
2391		11	-23.978	25.822	3.938	0	12.781	-83.808
2392		12	-23.978	25.822	3.938	0	14.059	-92.188
2393		13	39.392	-197.509	-6.477	0	14.715	-448.726
2394		14	39.392	-197.509	-6.477	0	12.612	-384.622
2395		15	39.392	-197.509	-6.477	0	10.51	-320.518
2396		16	39.392	-197.509	-6.477	0	8.408	-256.415
2397		17	39.392	-197.509	-6.477	0	6.306	-192.311
2398		18	39.392	-197.509	-6.477	0	4.204	-128.207
2399		19	39.392	-197.509	-6.477	0	2.102	-64.104
2400		20	39.392	-197.509	-6.477	0	0	0
2401	4	R5	1	-23.978	25.952	3.938	0	0
2402		2	-23.978	25.952	3.938	0	1.278	-8.423
2403		3	-23.978	25.952	3.938	0	2.556	-16.846
2404		4	-23.978	25.952	3.938	0	3.834	-25.269
2405		5	-23.978	25.952	3.938	0	5.113	-33.692
2406		6	-23.978	25.952	3.938	0	6.391	-42.115
2407		7	-23.978	25.952	3.938	0	7.669	-50.538
2408		8	-23.978	25.952	3.938	0	8.947	-58.961
2409		9	-23.978	25.952	3.938	0	10.225	-67.384
2410		10	-23.978	25.952	3.938	0	11.503	-75.807
2411		11	-23.978	25.952	3.938	0	12.781	-84.23
2412		12	-23.978	25.952	3.938	0	14.059	-92.654
2413		13	39.392	-197.723	-6.477	0	14.715	-449.212
2414		14	39.392	-197.723	-6.477	0	12.612	-385.038
2415		15	39.392	-197.723	-6.477	0	10.51	-320.865
2416		16	39.392	-197.723	-6.477	0	8.408	-256.692
2417		17	39.392	-197.723	-6.477	0	6.306	-192.519
2418		18	39.392	-197.723	-6.477	0	4.204	-128.346
2419		19	39.392	-197.723	-6.477	0	2.102	-64.173
2420		20	39.392	-197.723	-6.477	0	0	0
2421	4	R6	1	-23.978	25.959	3.938	0	0
2422		2	-23.978	25.959	3.938	0	1.278	-8.425
2423		3	-23.978	25.959	3.938	0	2.556	-16.851
2424		4	-23.978	25.959	3.938	0	3.834	-25.276
2425		5	-23.978	25.959	3.938	0	5.112	-33.701
2426		6	-23.978	25.959	3.938	0	6.391	-42.127
2427		7	-23.978	25.959	3.938	0	7.669	-50.552
2428		8	-23.978	25.959	3.938	0	8.947	-58.977
2429		9	-23.978	25.959	3.938	0	10.225	-67.403
2430		10	-23.978	25.959	3.938	0	11.503	-75.828
2431		11	-23.978	25.959	3.938	0	12.781	-84.253
2432		12	-23.978	25.959	3.938	0	14.059	-92.679
2433		13	39.392	-197.735	-6.477	0	14.714	-449.239
2434		14	39.392	-197.735	-6.477	0	12.612	-385.062
2435		15	39.392	-197.735	-6.477	0	10.51	-320.885
2436		16	39.392	-197.735	-6.477	0	8.408	-256.708
2437		17	39.392	-197.735	-6.477	0	6.306	-192.531
2438		18	39.392	-197.735	-6.477	0	4.204	-128.354
2439		19	39.392	-197.735	-6.477	0	2.102	-64.177
2440		20	39.392	-197.735	-6.477	0	0	0
2441	4	R7	1	-23.981	25.863	3.919	0	0
2442		2	-23.981	25.863	3.919	0	1.272	-8.394
2443		3	-23.981	25.863	3.919	0	2.544	-16.788
2444		4	-23.981	25.863	3.919	0	3.815	-25.183
2445		5	-23.981	25.863	3.919	0	5.087	-33.577



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2446		6	-23.981	25.863	3.919	0	6.359	-41.971
2447		7	-23.981	25.863	3.919	0	7.631	-50.365
2448		8	-23.981	25.863	3.919	0	8.903	-58.759
2449		9	-23.981	25.863	3.919	0	10.175	-67.153
2450		10	-23.981	25.863	3.919	0	11.446	-75.548
2451		11	-23.981	25.863	3.919	0	12.718	-83.942
2452		12	-23.981	25.863	3.919	0	13.99	-92.336
2453		13	39.397	-197.576	-6.445	0	14.642	-448.878
2454		14	39.397	-197.576	-6.445	0	12.55	-384.753
2455		15	39.397	-197.576	-6.445	0	10.459	-320.628
2456		16	39.397	-197.576	-6.445	0	8.367	-256.502
2457		17	39.397	-197.576	-6.445	0	6.275	-192.377
2458		18	39.397	-197.576	-6.445	0	4.183	-128.251
2459		19	39.397	-197.576	-6.445	0	2.092	-64.126
2460		20	39.397	-197.576	-6.445	0	0	0
2461	4	R8	1	-23.978	31.703	3.938	0	0
2462		2	-23.978	31.703	3.938	0	1.278	-10.29
2463		3	-23.978	31.703	3.938	0	2.556	-20.579
2464		4	-23.978	31.703	3.938	0	3.834	-30.869
2465		5	-23.978	31.703	3.938	0	5.112	-41.159
2466		6	-23.978	31.703	3.938	0	6.391	-51.448
2467		7	-23.978	31.703	3.938	0	7.669	-61.738
2468		8	-23.978	31.703	3.938	0	8.947	-72.028
2469		9	-23.978	31.703	3.938	0	10.225	-82.317
2470		10	-23.978	31.703	3.938	0	11.503	-92.607
2471		11	-23.978	31.703	3.938	0	12.781	-102.896
2472		12	-23.978	31.703	3.938	0	14.059	-113.186
2473		13	39.392	-207.172	-6.477	0	14.714	-470.679
2474		14	39.392	-207.172	-6.477	0	12.612	-403.439
2475		15	39.392	-207.172	-6.477	0	10.51	-336.199
2476		16	39.392	-207.172	-6.477	0	8.408	-268.96
2477		17	39.392	-207.172	-6.477	0	6.306	-201.72
2478		18	39.392	-207.172	-6.477	0	4.204	-134.48
2479		19	39.392	-207.172	-6.477	0	2.102	-67.24
2480		20	39.392	-207.172	-6.477	0	0	0
2481	4	R9	1	-23.978	30.381	3.938	0	0
2482		2	-23.978	30.381	3.938	0	1.278	-9.861
2483		3	-23.978	30.381	3.938	0	2.556	-19.721
2484		4	-23.978	30.381	3.938	0	3.834	-29.582
2485		5	-23.978	30.381	3.938	0	5.113	-39.442
2486		6	-23.978	30.381	3.938	0	6.391	-49.303
2487		7	-23.978	30.381	3.938	0	7.669	-59.163
2488		8	-23.978	30.381	3.938	0	8.947	-69.024
2489		9	-23.978	30.381	3.938	0	10.225	-78.884
2490		10	-23.978	30.381	3.938	0	11.503	-88.745
2491		11	-23.978	30.381	3.938	0	12.781	-98.605
2492		12	-23.978	30.381	3.938	0	14.059	-108.466
2493		13	39.392	-204.999	-6.477	0	14.715	-465.743
2494		14	39.392	-204.999	-6.477	0	12.612	-399.209
2495		15	39.392	-204.999	-6.477	0	10.51	-332.674
2496		16	39.392	-204.999	-6.477	0	8.408	-266.139
2497		17	39.392	-204.999	-6.477	0	6.306	-199.604
2498		18	39.392	-204.999	-6.477	0	4.204	-133.07
2499		19	39.392	-204.999	-6.477	0	2.102	-66.535
2500		20	39.392	-204.999	-6.477	0	0	0
2501	4	R10	1	-23.978	25.531	3.938	0	0
2502		2	-23.978	25.531	3.938	0	1.278	-8.286
2503		3	-23.978	25.531	3.938	0	2.556	-16.573



Company : Steamboat Structures LLC  
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 Job Number : 101.2006  
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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2504		4	-23.978	25.531	3.938	0	3.834	-24.859
2505		5	-23.978	25.531	3.938	0	5.113	-33.146
2506		6	-23.978	25.531	3.938	0	6.391	-41.432
2507		7	-23.978	25.531	3.938	0	7.669	-49.719
2508		8	-23.978	25.531	3.938	0	8.947	-58.005
2509		9	-23.978	25.531	3.938	0	10.225	-66.291
2510		10	-23.978	25.531	3.938	0	11.503	-74.578
2511		11	-23.978	25.531	3.938	0	12.781	-82.864
2512		12	-23.978	25.531	3.938	0	14.059	-91.151
2513		13	39.392	-197.031	-6.477	0	14.715	-447.64
2514		14	39.392	-197.031	-6.477	0	12.612	-383.692
2515		15	39.392	-197.031	-6.477	0	10.51	-319.743
2516		16	39.392	-197.031	-6.477	0	8.408	-255.794
2517		17	39.392	-197.031	-6.477	0	6.306	-191.846
2518		18	39.392	-197.031	-6.477	0	4.204	-127.897
2519		19	39.392	-197.031	-6.477	0	2.102	-63.949
2520		20	39.392	-197.031	-6.477	0	0	0
2521	4	R11	1	-23.978	26.009	3.938	0	0
2522			2	-23.978	26.009	3.938	0	1.278
2523			3	-23.978	26.009	3.938	0	2.556
2524			4	-23.978	26.009	3.938	0	3.834
2525			5	-23.978	26.009	3.938	0	5.113
2526			6	-23.978	26.009	3.938	0	6.391
2527			7	-23.978	26.009	3.938	0	7.669
2528			8	-23.978	26.009	3.938	0	8.947
2529			9	-23.978	26.009	3.938	0	10.225
2530			10	-23.978	26.009	3.938	0	11.503
2531			11	-23.978	26.009	3.938	0	12.781
2532			12	-23.978	26.009	3.938	0	14.059
2533			13	39.392	-197.816	-6.477	0	14.715
2534			14	39.392	-197.816	-6.477	0	12.612
2535			15	39.392	-197.816	-6.477	0	10.51
2536			16	39.392	-197.816	-6.477	0	8.408
2537			17	39.392	-197.816	-6.477	0	6.306
2538			18	39.392	-197.816	-6.477	0	4.204
2539			19	39.392	-197.816	-6.477	0	2.102
2540			20	39.392	-197.816	-6.477	0	0
2541	4	R12	1	-23.978	26.009	3.938	0	0
2542			2	-23.978	26.009	3.938	0	1.278
2543			3	-23.978	26.009	3.938	0	2.556
2544			4	-23.978	26.009	3.938	0	3.834
2545			5	-23.978	26.009	3.938	0	5.113
2546			6	-23.978	26.009	3.938	0	6.391
2547			7	-23.978	26.009	3.938	0	7.669
2548			8	-23.978	26.009	3.938	0	8.947
2549			9	-23.978	26.009	3.938	0	10.225
2550			10	-23.978	26.009	3.938	0	11.503
2551			11	-23.978	26.009	3.938	0	12.781
2552			12	-23.978	26.009	3.938	0	14.059
2553			13	39.392	-197.816	-6.477	0	14.715
2554			14	39.392	-197.816	-6.477	0	12.612
2555			15	39.392	-197.816	-6.477	0	10.51
2556			16	39.392	-197.816	-6.477	0	8.408
2557			17	39.392	-197.816	-6.477	0	6.306
2558			18	39.392	-197.816	-6.477	0	4.204
2559			19	39.392	-197.816	-6.477	0	2.102
2560			20	39.392	-197.816	-6.477	0	0
2561	4	R13	1	-23.978	25.53	3.938	0	0





**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2562		2	-23.978	25.53	3.938	0	1.278	-8.286
2563		3	-23.978	25.53	3.938	0	2.556	-16.572
2564		4	-23.978	25.53	3.938	0	3.834	-24.859
2565		5	-23.978	25.53	3.938	0	5.113	-33.145
2566		6	-23.978	25.53	3.938	0	6.391	-41.431
2567		7	-23.978	25.53	3.938	0	7.669	-49.717
2568		8	-23.978	25.53	3.938	0	8.947	-58.003
2569		9	-23.978	25.53	3.938	0	10.225	-66.29
2570		10	-23.978	25.53	3.938	0	11.503	-74.576
2571		11	-23.978	25.53	3.938	0	12.781	-82.862
2572		12	-23.978	25.53	3.938	0	14.059	-91.148
2573		13	39.392	-197.03	-6.477	0	14.715	-447.638
2574		14	39.392	-197.03	-6.477	0	12.612	-383.689
2575		15	39.392	-197.03	-6.477	0	10.51	-319.741
2576		16	39.392	-197.03	-6.477	0	8.408	-255.793
2577		17	39.392	-197.03	-6.477	0	6.306	-191.845
2578		18	39.392	-197.03	-6.477	0	4.204	-127.896
2579		19	39.392	-197.03	-6.477	0	2.102	-63.948
2580		20	39.392	-197.03	-6.477	0	0	0
2581	4	R14	1	-23.979	27.569	3.938	0	0
2582		2	-23.979	27.569	3.938	0	1.278	-8.948
2583		3	-23.979	27.569	3.938	0	2.556	-17.896
2584		4	-23.979	27.569	3.938	0	3.834	-26.844
2585		5	-23.979	27.569	3.938	0	5.112	-35.792
2586		6	-23.979	27.569	3.938	0	6.39	-44.74
2587		7	-23.979	27.569	3.938	0	7.668	-53.688
2588		8	-23.979	27.569	3.938	0	8.946	-62.636
2589		9	-23.979	27.569	3.938	0	10.224	-71.584
2590		10	-23.979	27.569	3.938	0	11.502	-80.532
2591		11	-23.979	27.569	3.938	0	12.78	-89.48
2592		12	-23.979	27.569	3.938	0	14.058	-98.428
2593		13	39.394	-200.38	-6.475	0	14.712	-455.249
2594		14	39.394	-200.38	-6.475	0	12.61	-390.213
2595		15	39.394	-200.38	-6.475	0	10.508	-325.178
2596		16	39.394	-200.38	-6.475	0	8.407	-260.142
2597		17	39.394	-200.38	-6.475	0	6.305	-195.107
2598		18	39.394	-200.38	-6.475	0	4.203	-130.071
2599		19	39.394	-200.38	-6.475	0	2.102	-65.036
2600		20	39.394	-200.38	-6.475	0	0	0
2601	4	R15	1	-16.892	24.116	-0.367	0	0
2602		2	-16.892	24.116	-0.367	0	-0.119	-7.827
2603		3	-16.892	24.116	-0.367	0	-0.238	-15.654
2604		4	-16.892	24.116	-0.367	0	-0.357	-23.481
2605		5	-16.892	24.116	-0.367	0	-0.476	-31.308
2606		6	-16.892	24.116	-0.367	0	-0.595	-39.135
2607		7	-16.892	24.116	-0.367	0	-0.714	-46.962
2608		8	-16.892	24.116	-0.367	0	-0.833	-54.789
2609		9	-16.892	24.116	-0.367	0	-0.952	-62.616
2610		10	-16.892	24.116	-0.367	0	-1.071	-70.443
2611		11	-16.892	24.116	-0.367	0	-1.19	-78.27
2612		12	-16.892	24.116	-0.367	0	-1.31	-86.097
2613		13	27.751	-179.554	-15.025	0	34.135	-407.933
2614		14	27.751	-179.554	-15.025	0	29.258	-349.657
2615		15	27.751	-179.554	-15.025	0	24.382	-291.381
2616		16	27.751	-179.554	-15.025	0	19.505	-233.105
2617		17	27.751	-179.554	-15.025	0	14.629	-174.829
2618		18	27.751	-179.554	-15.025	0	9.753	-116.552
2619		19	27.751	-179.554	-15.025	0	4.876	-58.276



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2620		20	27.751	-179.554	-15.025	0	0	0
2621	4	1	-9.444	7.922	0.715	0	0	0
2622		2	-9.444	7.922	0.715	0	0.203	-2.248
2623		3	-9.444	7.922	0.715	0	0.406	-4.496
2624		4	-9.444	7.922	0.715	0	0.609	-6.744
2625		5	-9.444	7.922	0.715	0	0.812	-8.992
2626		6	-9.444	7.922	0.715	0	1.014	-11.24
2627		7	-9.444	7.922	0.715	0	1.217	-13.488
2628		8	-9.444	7.922	0.715	0	1.42	-15.736
2629		9	-9.444	7.922	0.715	0	1.623	-17.984
2630		10	-9.444	7.922	0.715	0	1.826	-20.232
2631		11	-9.444	7.922	0.715	0	2.029	-22.48
2632		12	-9.444	7.922	0.715	0	2.232	-24.728
2633		13	-9.444	7.922	0.715	0	2.435	-26.976
2634		14	-9.444	7.922	0.715	0	2.638	-29.224
2635		15	-9.444	7.922	0.715	0	2.841	-31.472
2636		16	-9.444	7.922	0.715	0	3.043	-33.72
2637		17	-9.444	7.922	0.715	0	3.246	-35.968
2638		18	-9.444	7.922	0.715	0	3.449	-38.216
2639		19	-9.444	7.922	0.715	0	3.652	-40.464
2640		20	-9.444	7.922	0.715	0	3.855	-42.712
2641	5	1	0	0	0	0	0	0
2642		2	0	-0.268	0	0	0	0.014
2643		3	0	-0.537	0	0	0	0.057
2644		4	0	-0.805	0	0	0	0.129
2645		5	0	-1.074	0	0	0	0.229
2646		6	0	-1.342	0	0	0	0.358
2647		7	0	-1.611	0	0	0	0.516
2648		8	0	-1.879	0	0	0	0.702
2649		9	0	-2.147	0	0	0	0.917
2650		10	0	-2.416	0	0	0	1.161
2651		11	0	-2.684	0	0	0	1.433
2652		12	0	-2.953	0	0	0	1.734
2653		13	0	-3.221	0	0	0	2.064
2654		14	0	-3.489	0	0	0	2.422
2655		15	0	-3.758	0	0	0	2.809
2656		16	0	-4.026	0	0	0	3.225
2657		17	0	-4.295	0	0	0	3.669
2658		18	0	-4.563	0	0	0	4.142
2659		19	0	-4.832	0	0	0	4.644
2660		20	0	-5.1	0	0	0	5.174
2661	5	1	-5.188	-19.448	6.123	-23.726	3.329	-18.294
2662		2	-5.344	-22.03	5.219	-31.063	4.039	-15.698
2663		3	-5.501	-24.612	4.316	-38.399	4.636	-12.779
2664		4	-5.658	-27.194	3.412	-45.735	5.12	-9.536
2665		5	-5.815	-29.776	2.509	-53.071	5.49	-5.971
2666		6	-5.971	-32.358	1.605	-60.407	5.748	-2.082
2667		7	-6.128	-34.94	0.702	-67.744	5.892	2.13
2668		8	-6.285	-37.522	-0.202	-75.08	5.923	6.666
2669		9	-6.441	-40.104	-1.105	-82.416	5.842	11.524
2670		10	-6.598	-42.686	-2.009	-89.752	5.647	16.706
2671		11	-6.755	-45.268	-2.912	-97.089	5.339	22.211
2672		12	-6.912	-47.85	-3.816	-104.425	4.918	28.039
2673		13	-7.068	-50.432	-4.719	-111.761	4.383	34.19
2674		14	-7.225	-53.014	-5.623	-119.097	3.736	40.664
2675		15	-7.382	-55.596	-6.526	-126.433	2.976	47.462
2676		16	-7.538	-58.178	-7.43	-133.77	2.102	54.583
2677		17	-7.695	-60.76	-8.334	-141.106	1.116	62.027

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2678		18	-7.852	-63.342	-9.237	-148.442	0.016	69.794	
2679		19	-8.009	-65.924	-10.141	-155.778	-1.197	77.885	
2680		20	-8.165	-68.506	-11.044	-163.115	-2.523	86.298	
2681	5	A3	1	4.678	75.433	26.959	218.901	-33.555	86.298
2682		2	4.186	67.324	24.121	195.859	-23.514	58.235	
2683		3	3.693	59.214	21.283	172.817	-14.588	33.361	
2684		4	3.201	51.104	18.445	149.775	-6.779	11.674	
2685		5	2.709	42.995	15.608	126.733	-0.084	-6.824	
2686		6	2.217	34.885	12.77	103.691	5.494	-22.133	
2687		7	1.724	26.776	9.932	80.649	9.957	-34.254	
2688		8	1.232	18.666	7.094	57.607	13.304	-43.187	
2689		9	0.74	10.556	4.256	34.565	15.535	-48.932	
2690		10	0.248	2.447	1.419	11.523	16.65	-51.488	
2691		11	-0.245	-5.663	-1.419	-11.519	16.65	-50.856	
2692		12	-0.737	-13.772	-4.257	-34.561	15.534	-47.035	
2693		13	-1.229	-21.882	-7.095	-57.603	13.303	-40.026	
2694		14	-1.721	-29.992	-9.933	-80.645	9.955	-29.829	
2695		15	-2.213	-38.101	-12.771	-103.687	5.492	-16.443	
2696		16	-2.706	-46.211	-15.608	-126.729	-0.086	0.131	
2697		17	-3.198	-54.32	-18.446	-149.771	-6.781	19.893	
2698		18	-3.69	-62.43	-21.284	-172.813	-14.591	42.844	
2699		19	-4.182	-70.54	-24.122	-195.855	-23.517	68.983	
2700		20	-4.675	-78.649	-26.96	-218.897	-33.558	98.31	
2701	5	A4	1	4.676	77.44	26.961	218.899	-33.572	98.31
2702		2	4.184	69.33	24.123	195.857	-23.529	69.458	
2703		3	3.692	61.22	21.286	172.815	-14.603	43.795	
2704		4	3.2	53.111	18.448	149.773	-6.792	21.32	
2705		5	2.707	45.001	15.61	126.731	-0.097	2.033	
2706		6	2.215	36.891	12.772	103.689	5.482	-14.065	
2707		7	1.723	28.782	9.934	80.647	9.946	-26.975	
2708		8	1.231	20.672	7.097	57.605	13.294	-36.697	
2709		9	0.738	12.563	4.259	34.563	15.526	-43.23	
2710		10	0.246	4.453	1.421	11.521	16.642	-46.575	
2711		11	-0.246	-3.657	-1.417	-11.521	16.643	-46.732	
2712		12	-0.738	-11.766	-4.255	-34.563	15.528	-43.7	
2713		13	-1.231	-19.876	-7.093	-57.605	13.297	-37.48	
2714		14	-1.723	-27.985	-9.93	-80.647	9.951	-28.072	
2715		15	-2.215	-36.095	-12.768	-103.689	5.489	-15.475	
2716		16	-2.707	-44.205	-15.606	-126.731	-0.089	0.31	
2717		17	-3.2	-52.314	-18.444	-149.773	-6.782	19.284	
2718		18	-3.692	-60.424	-21.282	-172.815	-14.591	41.446	
2719		19	-4.184	-68.533	-24.119	-195.857	-23.516	66.796	
2720		20	-4.676	-76.643	-26.957	-218.899	-33.557	95.335	
2721	5	A5	1	4.676	76.952	26.961	218.899	-33.572	95.335
2722		2	4.184	68.842	24.123	195.857	-23.529	66.675	
2723		3	3.692	60.733	21.286	172.815	-14.603	41.203	
2724		4	3.2	52.623	18.448	149.773	-6.792	18.919	
2725		5	2.707	44.514	15.61	126.731	-0.097	-0.176	
2726		6	2.215	36.404	12.772	103.689	5.482	-16.082	
2727		7	1.723	28.294	9.934	80.647	9.946	-28.801	
2728		8	1.231	20.185	7.097	57.605	13.294	-38.331	
2729		9	0.738	12.075	4.259	34.563	15.526	-44.672	
2730		10	0.246	3.966	1.421	11.521	16.642	-47.825	
2731		11	-0.246	-4.144	-1.417	-11.521	16.643	-47.79	
2732		12	-0.738	-12.254	-4.255	-34.563	15.528	-44.567	
2733		13	-1.231	-20.363	-7.093	-57.605	13.297	-38.155	
2734		14	-1.723	-28.473	-9.93	-80.647	9.951	-28.555	
2735		15	-2.215	-36.582	-12.768	-103.689	5.489	-15.766	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2736		16	-2.707	-44.692	-15.606	-126.731	-0.089	0.21	
2737		17	-3.2	-52.802	-18.444	-149.773	-6.782	19.376	
2738		18	-3.692	-60.911	-21.282	-172.815	-14.591	41.729	
2739		19	-4.184	-69.021	-24.119	-195.857	-23.516	67.271	
2740		20	-4.676	-77.13	-26.957	-218.899	-33.557	96.001	
2741	5	A6	1	4.676	77.023	26.961	218.899	-33.572	96.001
2742		2	4.184	68.914	24.123	195.857	-23.529	67.313	
2743		3	3.692	60.804	21.286	172.815	-14.603	41.813	
2744		4	3.2	52.694	18.448	149.773	-6.792	19.502	
2745		5	2.707	44.585	15.61	126.731	-0.097	0.379	
2746		6	2.215	36.475	12.772	103.689	5.482	-15.556	
2747		7	1.723	28.366	9.934	80.647	9.946	-28.302	
2748		8	1.231	20.256	7.097	57.605	13.294	-37.86	
2749		9	0.738	12.146	4.259	34.563	15.526	-44.23	
2750		10	0.246	4.037	1.421	11.521	16.642	-47.411	
2751		11	-0.246	-4.073	-1.417	-11.521	16.643	-47.404	
2752		12	-0.738	-12.182	-4.255	-34.563	15.528	-44.208	
2753		13	-1.231	-20.292	-7.093	-57.605	13.297	-37.825	
2754		14	-1.723	-28.402	-9.93	-80.647	9.951	-28.253	
2755		15	-2.215	-36.511	-12.768	-103.689	5.489	-15.492	
2756		16	-2.707	-44.621	-15.606	-126.731	-0.089	0.457	
2757		17	-3.2	-52.73	-18.444	-149.773	-6.782	19.594	
2758		18	-3.692	-60.84	-21.282	-172.815	-14.591	41.92	
2759		19	-4.184	-68.95	-24.119	-195.857	-23.516	67.433	
2760		20	-4.676	-77.059	-26.957	-218.899	-33.557	96.136	
2761	5	A7	1	4.676	77.207	26.961	218.899	-33.572	96.136
2762		2	4.184	69.098	24.123	195.857	-23.529	67.375	
2763		3	3.692	60.988	21.286	172.815	-14.603	41.803	
2764		4	3.2	52.878	18.448	149.773	-6.792	19.42	
2765		5	2.707	44.769	15.61	126.731	-0.097	0.224	
2766		6	2.215	36.659	12.772	103.689	5.482	-15.783	
2767		7	1.723	28.55	9.934	80.647	9.946	-28.601	
2768		8	1.231	20.44	7.097	57.605	13.294	-38.232	
2769		9	0.738	12.33	4.259	34.563	15.526	-44.674	
2770		10	0.246	4.221	1.421	11.521	16.642	-47.927	
2771		11	-0.246	-3.889	-1.417	-11.521	16.643	-47.992	
2772		12	-0.738	-11.999	-4.255	-34.563	15.528	-44.869	
2773		13	-1.231	-20.108	-7.093	-57.605	13.297	-38.558	
2774		14	-1.723	-28.218	-9.93	-80.647	9.951	-29.058	
2775		15	-2.215	-36.327	-12.768	-103.689	5.489	-16.37	
2776		16	-2.707	-44.437	-15.606	-126.731	-0.089	-0.493	
2777		17	-3.2	-52.547	-18.444	-149.773	-6.782	18.572	
2778		18	-3.692	-60.656	-21.282	-172.815	-14.591	40.825	
2779		19	-4.184	-68.766	-24.119	-195.857	-23.516	66.267	
2780		20	-4.676	-76.875	-26.957	-218.899	-33.557	94.896	
2781	5	A8	1	4.676	76.352	26.961	218.898	-33.572	94.896
2782		2	4.184	68.243	24.123	195.856	-23.529	66.472	
2783		3	3.692	60.133	21.286	172.814	-14.603	41.236	
2784		4	3.2	52.023	18.448	149.772	-6.792	19.189	
2785		5	2.707	43.914	15.61	126.73	-0.097	0.329	
2786		6	2.215	35.804	12.772	103.688	5.482	-15.341	
2787		7	1.723	27.695	9.934	80.646	9.946	-27.824	
2788		8	1.231	19.585	7.097	57.604	13.294	-37.118	
2789		9	0.738	11.475	4.259	34.562	15.526	-43.224	
2790		10	0.246	3.366	1.421	11.52	16.642	-46.141	
2791		11	-0.246	-4.744	-1.417	-11.522	16.643	-45.87	
2792		12	-0.738	-12.853	-4.255	-34.564	15.528	-42.411	
2793		13	-1.231	-20.963	-7.093	-57.606	13.297	-35.764	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2794		14	-1.723	-29.073	-9.93	-80.648	9.951	-25.928	
2795		15	-2.215	-37.182	-12.768	-103.69	5.489	-12.903	
2796		16	-2.707	-45.292	-15.606	-126.732	-0.089	3.309	
2797		17	-3.2	-53.401	-18.444	-149.774	-6.782	22.71	
2798		18	-3.692	-62.17	-21.282	-172.816	-14.591	45.418	
2799		19	-4.184	-71.003	-24.119	-195.858	-23.516	71.597	
2800		20	-4.676	-79.836	-26.957	-218.9	-33.557	101.248	
2801	5	A9	1	4.676	83.657	26.961	218.899	-33.572	101.248
2802		2	4.184	74.823	24.123	195.857	-23.529	70.095	
2803		3	3.692	65.99	21.286	172.815	-14.603	42.414	
2804		4	3.2	57.156	18.448	149.773	-6.792	18.206	
2805		5	2.707	48.323	15.61	126.731	-0.097	-2.529	
2806		6	2.215	39.49	12.772	103.689	5.482	-19.791	
2807		7	1.723	30.656	9.934	80.647	9.946	-33.58	
2808		8	1.231	21.823	7.097	57.605	13.294	-43.897	
2809		9	0.738	12.989	4.259	34.563	15.526	-50.74	
2810		10	0.246	4.156	1.421	11.521	16.642	-54.11	
2811		11	-0.246	-4.678	-1.417	-11.521	16.643	-54.008	
2812		12	-0.738	-13.511	-4.255	-34.563	15.528	-50.432	
2813		13	-1.231	-22.344	-7.093	-57.605	13.297	-43.384	
2814		14	-1.723	-31.178	-9.93	-80.647	9.951	-32.863	
2815		15	-2.215	-40.011	-12.768	-103.689	5.489	-18.868	
2816		16	-2.707	-48.845	-15.606	-126.731	-0.089	-1.401	
2817		17	-3.2	-57.678	-18.444	-149.773	-6.782	19.539	
2818		18	-3.692	-66.511	-21.282	-172.815	-14.591	43.952	
2819		19	-4.184	-75.345	-24.119	-195.857	-23.516	71.838	
2820		20	-4.676	-84.178	-26.957	-218.899	-33.557	103.197	
2821	5	A10	1	4.676	82.093	26.961	218.9	-33.572	103.197
2822		2	4.184	73.259	24.123	195.858	-23.529	72.658	
2823		3	3.692	64.426	21.286	172.816	-14.603	45.592	
2824		4	3.199	55.592	18.448	149.774	-6.792	21.999	
2825		5	2.707	46.759	15.61	126.732	-0.097	1.879	
2826		6	2.215	37.926	12.772	103.69	5.482	-14.769	
2827		7	1.723	29.092	9.934	80.648	9.946	-27.943	
2828		8	1.231	20.357	7.097	57.606	13.294	-37.647	
2829		9	0.738	12.247	4.259	34.564	15.526	-44.056	
2830		10	0.246	4.137	1.421	11.522	16.642	-47.277	
2831		11	-0.246	-3.972	-1.417	-11.52	16.643	-47.309	
2832		12	-0.738	-12.082	-4.255	-34.562	15.528	-44.153	
2833		13	-1.231	-20.191	-7.093	-57.604	13.297	-37.809	
2834		14	-1.723	-28.301	-9.93	-80.646	9.951	-28.277	
2835		15	-2.215	-36.411	-12.768	-103.688	5.489	-15.556	
2836		16	-2.707	-44.52	-15.606	-126.73	-0.089	0.354	
2837		17	-3.2	-52.63	-18.444	-149.772	-6.782	19.451	
2838		18	-3.692	-60.739	-21.282	-172.814	-14.591	41.737	
2839		19	-4.184	-68.849	-24.119	-195.856	-23.516	67.212	
2840		20	-4.676	-76.959	-26.957	-218.898	-33.557	95.875	
2841	5	A11	1	4.676	76.978	26.961	218.899	-33.572	95.52
2842		2	4.184	68.868	24.123	195.857	-23.529	66.849	
2843		3	3.692	60.759	21.286	172.815	-14.603	41.367	
2844		4	3.2	52.649	18.448	149.773	-6.792	19.074	
2845		5	2.707	44.539	15.61	126.731	-0.097	-0.031	
2846		6	2.215	36.43	12.772	103.689	5.482	-15.948	
2847		7	1.723	28.32	9.934	80.647	9.946	-28.677	
2848		8	1.231	20.211	7.097	57.605	13.294	-38.217	
2849		9	0.738	12.101	4.259	34.563	15.526	-44.569	
2850		10	0.246	3.991	1.421	11.521	16.642	-47.732	
2851		11	-0.246	-4.118	-1.417	-11.521	16.643	-47.707	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2852		12	-0.738	-12.228	-4.255	-34.563	15.528	-44.494	
2853		13	-1.231	-20.337	-7.093	-57.605	13.297	-38.092	
2854		14	-1.723	-28.447	-9.93	-80.647	9.951	-28.502	
2855		15	-2.215	-36.557	-12.768	-103.689	5.489	-15.724	
2856		16	-2.707	-44.666	-15.606	-126.731	-0.089	0.242	
2857		17	-3.199	-52.776	-18.444	-149.773	-6.782	19.398	
2858		18	-3.692	-60.885	-21.282	-172.815	-14.591	41.741	
2859		19	-4.184	-68.995	-24.119	-195.857	-23.516	67.273	
2860		20	-4.676	-77.105	-26.957	-218.899	-33.557	95.993	
2861	5	A12	1	4.676	77.042	26.961	218.899	-33.572	95.993
2862		2	4.184	68.932	24.123	195.857	-23.529	67.297	
2863		3	3.692	60.823	21.286	172.815	-14.603	41.79	
2864		4	3.2	52.713	18.448	149.773	-6.792	19.471	
2865		5	2.707	44.604	15.61	126.731	-0.097	0.341	
2866		6	2.215	36.494	12.772	103.689	5.482	-15.601	
2867		7	1.723	28.384	9.934	80.647	9.946	-28.355	
2868		8	1.231	20.275	7.097	57.605	13.294	-37.92	
2869		9	0.738	12.165	4.259	34.563	15.526	-44.297	
2870		10	0.246	4.056	1.421	11.521	16.642	-47.486	
2871		11	-0.246	-4.054	-1.417	-11.521	16.643	-47.486	
2872		12	-0.738	-12.164	-4.255	-34.563	15.528	-44.298	
2873		13	-1.231	-20.273	-7.093	-57.605	13.297	-37.921	
2874		14	-1.723	-28.383	-9.93	-80.647	9.951	-28.357	
2875		15	-2.215	-36.493	-12.768	-103.689	5.489	-15.604	
2876		16	-2.707	-44.602	-15.606	-126.731	-0.089	0.338	
2877		17	-3.2	-52.712	-18.444	-149.773	-6.782	19.468	
2878		18	-3.692	-60.821	-21.282	-172.815	-14.591	41.786	
2879		19	-4.184	-68.931	-24.119	-195.857	-23.516	67.293	
2880		20	-4.676	-77.041	-26.957	-218.899	-33.557	95.987	
2881	5	A13	1	4.676	77.102	26.961	218.899	-33.572	95.987
2882		2	4.184	68.992	24.123	195.857	-23.529	67.269	
2883		3	3.692	60.882	21.286	172.815	-14.603	41.738	
2884		4	3.2	52.773	18.448	149.773	-6.792	19.396	
2885		5	2.707	44.663	15.61	126.731	-0.097	0.242	
2886		6	2.215	36.554	12.772	103.689	5.482	-15.724	
2887		7	1.723	28.444	9.934	80.647	9.946	-28.501	
2888		8	1.231	20.334	7.097	57.605	13.294	-38.089	
2889		9	0.738	12.225	4.259	34.563	15.526	-44.49	
2890		10	0.246	4.115	1.421	11.521	16.642	-47.702	
2891		11	-0.246	-3.994	-1.417	-11.521	16.643	-47.726	
2892		12	-0.738	-12.104	-4.255	-34.563	15.528	-44.561	
2893		13	-1.231	-20.214	-7.093	-57.605	13.297	-38.208	
2894		14	-1.723	-28.323	-9.93	-80.647	9.951	-28.667	
2895		15	-2.215	-36.433	-12.768	-103.689	5.489	-15.937	
2896		16	-2.707	-44.542	-15.606	-126.731	-0.089	-0.019	
2897		17	-3.2	-52.652	-18.444	-149.773	-6.782	19.087	
2898		18	-3.692	-60.762	-21.282	-172.815	-14.591	41.382	
2899		19	-4.184	-68.871	-24.119	-195.857	-23.516	66.865	
2900		20	-4.676	-76.981	-26.957	-218.899	-33.557	95.537	
2901	5	A14	1	4.676	76.783	26.961	218.899	-33.572	95.537
2902		2	4.184	68.674	24.123	195.857	-23.529	66.943	
2903		3	3.692	60.564	21.286	172.815	-14.603	41.537	
2904		4	3.2	52.455	18.448	149.773	-6.792	19.32	
2905		5	2.707	44.345	15.61	126.731	-0.097	0.292	
2906		6	2.215	36.235	12.772	103.689	5.482	-15.549	
2907		7	1.723	28.126	9.934	80.647	9.946	-28.201	
2908		8	1.231	20.016	7.097	57.605	13.294	-37.665	
2909		9	0.738	11.907	4.259	34.563	15.526	-43.94	



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2910		10	0.246	3.797	1.421	11.521	16.642	-47.027	
2911		11	-0.246	-4.313	-1.417	-11.521	16.643	-46.925	
2912		12	-0.738	-12.422	-4.255	-34.563	15.528	-43.636	
2913		13	-1.231	-20.532	-7.093	-57.605	13.297	-37.158	
2914		14	-1.723	-28.641	-9.93	-80.647	9.951	-27.491	
2915		15	-2.215	-36.751	-12.768	-103.689	5.489	-14.636	
2916		16	-2.707	-44.861	-15.606	-126.731	-0.089	1.407	
2917		17	-3.2	-52.97	-18.444	-149.773	-6.782	20.638	
2918		18	-3.692	-61.08	-21.282	-172.815	-14.591	43.058	
2919		19	-4.184	-69.189	-24.119	-195.857	-33.516	68.666	
2920		20	-4.676	-77.299	-26.957	-218.899	-23.557	97.463	
2921	5	A15	1	4.686	78.079	26.964	218.895	-33.573	97.463
2922		2	4.194	69.97	24.126	195.853	-23.53	68.359	
2923		3	3.702	61.86	21.289	172.811	-14.602	42.444	
2924		4	3.209	53.751	18.451	149.769	-6.79	19.718	
2925		5	2.717	45.641	15.613	126.727	-0.094	0.179	
2926		6	2.225	37.531	12.775	103.685	5.486	-16.17	
2927		7	1.733	29.422	9.937	80.643	9.951	-29.332	
2928		8	1.241	21.312	7.099	57.601	13.3	-39.305	
2929		9	0.748	13.203	4.262	34.559	15.533	-46.09	
2930		10	0.256	5.093	1.424	11.517	16.651	-49.687	
2931		11	-0.236	-3.017	-1.414	-11.525	16.653	-50.095	
2932		12	-0.728	-11.126	-4.252	-34.567	15.539	-47.315	
2933		13	-1.221	-19.236	-7.09	-57.609	13.31	-41.346	
2934		14	-1.713	-27.345	-9.927	-80.651	9.964	-32.189	
2935		15	-2.205	-35.455	-12.765	-103.693	5.504	-19.844	
2936		16	-2.697	-43.565	-15.603	-126.735	-0.073	-4.311	
2937		17	-3.19	-51.674	-18.441	-149.777	-6.765	14.411	
2938		18	-3.682	-59.784	-21.279	-172.819	-14.573	36.322	
2939		19	-4.174	-67.893	-24.117	-195.861	-23.497	61.42	
2940		20	-4.666	-76.003	-26.954	-218.903	-33.537	89.707	
2941	5	A16	1	11.263	81.602	18.025	147.623	-8.548	89.707
2942		2	11.01	77.437	16.568	135.788	-5.056	73.65	
2943		3	10.758	73.272	15.11	123.953	-1.857	58.433	
2944		4	10.505	69.107	13.653	112.119	1.047	44.058	
2945		5	10.252	64.942	12.195	100.284	3.657	30.524	
2946		6	9.999	60.777	10.738	88.45	5.972	17.831	
2947		7	9.746	56.611	9.28	76.615	7.993	5.979	
2948		8	9.494	52.446	7.823	64.78	9.72	-5.032	
2949		9	9.241	48.281	6.365	52.946	11.152	-15.202	
2950		10	8.988	44.116	4.908	41.111	12.291	-24.531	
2951		11	8.735	39.951	3.45	29.276	13.135	-33.019	
2952		12	8.482	35.785	1.993	17.442	13.684	-40.665	
2953		13	8.23	31.62	0.535	5.607	13.939	-47.471	
2954		14	7.977	27.455	-0.922	-6.227	13.9	-53.436	
2955		15	7.724	23.29	-2.38	-18.062	13.567	-58.559	
2956		16	7.471	19.125	-3.837	-29.897	12.939	-62.842	
2957		17	7.218	14.96	-5.295	-41.731	12.017	-66.283	
2958		18	6.965	10.794	-6.753	-53.566	10.801	-68.883	
2959		19	6.713	6.629	-8.21	-65.4	9.29	-70.642	
2960		20	6.46	2.464	-9.668	-77.235	7.485	-71.56	
2961	5	A17	1	0	5.341	0	0	5.675	
2962		2	0	5.06	0	0	0	5.093	
2963		3	0	4.779	0	0	0	4.543	
2964		4	0	4.498	0	0	0	4.024	
2965		5	0	4.216	0	0	0	3.537	
2966		6	0	3.935	0	0	0	3.081	
2967		7	0	3.654	0	0	0	2.657	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2968		8	0	3.373	0	0	0	2.264	
2969		9	0	3.092	0	0	0	1.902	
2970		10	0	2.811	0	0	0	1.572	
2971		11	0	2.53	0	0	0	1.273	
2972		12	0	2.249	0	0	0	1.006	
2973		13	0	1.968	0	0	0	0.77	
2974		14	0	1.687	0	0	0	0.566	
2975		15	0	1.405	0	0	0	0.393	
2976		16	0	1.124	0	0	0	0.252	
2977		17	0	0.843	0	0	0	0.141	
2978		18	0	0.562	0	0	0	0.063	
2979		19	0	0.281	0	0	0	0.016	
2980		20	0	0	0	0	0	0	
2981	5	R1	1	11.404	-33.101	-2.268	0	7.485	-109.227
2982		2	11.404	-33.101	-2.268	0	7.091	-103.478	
2983		3	11.404	-33.101	-2.268	0	6.697	-97.729	
2984		4	11.404	-33.101	-2.268	0	6.303	-91.98	
2985		5	11.404	-33.101	-2.268	0	5.909	-86.232	
2986		6	11.404	-33.101	-2.268	0	5.515	-80.483	
2987		7	11.404	-33.101	-2.268	0	5.121	-74.734	
2988		8	11.404	-33.101	-2.268	0	4.727	-68.985	
2989		9	11.404	-33.101	-2.268	0	4.333	-63.237	
2990		10	11.404	-33.101	-2.268	0	3.939	-57.488	
2991		11	11.404	-33.101	-2.268	0	3.545	-51.739	
2992		12	11.404	-33.101	-2.268	0	3.152	-45.99	
2993		13	11.404	-33.101	-2.268	0	2.758	-40.241	
2994		14	11.404	-33.101	-2.268	0	2.364	-34.493	
2995		15	11.404	-33.101	-2.268	0	1.97	-28.744	
2996		16	11.404	-33.101	-2.268	0	1.576	-22.995	
2997		17	11.404	-33.101	-2.268	0	1.182	-17.246	
2998		18	11.404	-33.101	-2.268	0	0.788	-11.498	
2999		19	11.404	-33.101	-2.268	0	0.394	-5.749	
3000		20	11.404	-33.101	-2.268	0	0	0	
3001	5	R2	1	-17.019	0.198	10.08	0	0	0
3002		2	-17.019	0.198	10.08	0	3.271	-0.064	
3003		3	-17.019	0.198	10.08	0	6.543	-0.128	
3004		4	-17.019	0.198	10.08	0	9.814	-0.193	
3005		5	-17.019	0.198	10.08	0	13.086	-0.257	
3006		6	-17.019	0.198	10.08	0	16.357	-0.321	
3007		7	-17.019	0.198	10.08	0	19.629	-0.385	
3008		8	-17.019	0.198	10.08	0	22.9	-0.45	
3009		9	-17.019	0.198	10.08	0	26.171	-0.514	
3010		10	-17.019	0.198	10.08	0	29.443	-0.578	
3011		11	-17.019	0.198	10.08	0	32.714	-0.642	
3012		12	-17.019	0.198	10.08	0	35.986	-0.707	
3013		13	27.96	-157.407	-5.85	0	13.291	-357.619	
3014		14	27.96	-157.407	-5.85	0	11.392	-306.53	
3015		15	27.96	-157.407	-5.85	0	9.493	-255.442	
3016		16	27.96	-157.407	-5.85	0	7.595	-204.354	
3017		17	27.96	-157.407	-5.85	0	5.696	-153.265	
3018		18	27.96	-157.407	-5.85	0	3.797	-102.177	
3019		19	27.96	-157.407	-5.85	0	1.899	-51.088	
3020		20	27.96	-157.407	-5.85	0	0	0	
3021	5	R3	1	-20.403	-12.202	3.54	0	0	0
3022		2	-20.403	-12.202	3.54	0	1.149	3.96	
3023		3	-20.403	-12.202	3.54	0	2.298	7.921	
3024		4	-20.403	-12.202	3.54	0	3.447	11.881	
3025		5	-20.403	-12.202	3.54	0	4.596	15.841	





Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3026		6	-20.403	-12.202	3.54	0	5.745	19.801
3027		7	-20.403	-12.202	3.54	0	6.893	23.762
3028		8	-20.403	-12.202	3.54	0	8.042	27.722
3029		9	-20.403	-12.202	3.54	0	9.191	31.682
3030		10	-20.403	-12.202	3.54	0	10.34	35.642
3031		11	-20.403	-12.202	3.54	0	11.489	39.603
3032		12	-20.403	-12.202	3.54	0	12.638	43.563
3033		13	33.519	-167.58	-5.823	0	13.228	-380.731
3034		14	33.519	-167.58	-5.823	0	11.339	-326.341
3035		15	33.519	-167.58	-5.823	0	9.449	-271.951
3036		16	33.519	-167.58	-5.823	0	7.559	-217.56
3037		17	33.519	-167.58	-5.823	0	5.669	-163.17
3038		18	33.519	-167.58	-5.823	0	3.78	-108.78
3039		19	33.519	-167.58	-5.823	0	1.89	-54.39
3040		20	33.519	-167.58	-5.823	0	0	0
3041	5	R4	1	-20.402	-12.813	3.536	0	0
3042		2	-20.402	-12.813	3.536	0	1.148	4.159
3043		3	-20.402	-12.813	3.536	0	2.296	8.317
3044		4	-20.402	-12.813	3.536	0	3.443	12.476
3045		5	-20.402	-12.813	3.536	0	4.591	16.635
3046		6	-20.402	-12.813	3.536	0	5.739	20.793
3047		7	-20.402	-12.813	3.536	0	6.887	24.952
3048		8	-20.402	-12.813	3.536	0	8.034	29.111
3049		9	-20.402	-12.813	3.536	0	9.182	33.27
3050		10	-20.402	-12.813	3.536	0	10.33	37.428
3051		11	-20.402	-12.813	3.536	0	11.478	41.587
3052		12	-20.402	-12.813	3.536	0	12.625	45.746
3053		13	33.517	-166.578	-5.816	0	13.214	-378.452
3054		14	33.517	-166.578	-5.816	0	11.326	-324.387
3055		15	33.517	-166.578	-5.816	0	9.438	-270.323
3056		16	33.517	-166.578	-5.816	0	7.551	-216.258
3057		17	33.517	-166.578	-5.816	0	5.663	-162.194
3058		18	33.517	-166.578	-5.816	0	3.775	-108.129
3059		19	33.517	-166.578	-5.816	0	1.888	-54.065
3060		20	33.517	-166.578	-5.816	0	0	0
3061	5	R5	1	-20.402	-12.67	3.536	0	0
3062		2	-20.402	-12.67	3.536	0	1.148	4.112
3063		3	-20.402	-12.67	3.536	0	2.296	8.225
3064		4	-20.402	-12.67	3.536	0	3.443	12.337
3065		5	-20.402	-12.67	3.536	0	4.591	16.449
3066		6	-20.402	-12.67	3.536	0	5.739	20.561
3067		7	-20.402	-12.67	3.536	0	6.887	24.674
3068		8	-20.402	-12.67	3.536	0	8.034	28.786
3069		9	-20.402	-12.67	3.536	0	9.182	32.898
3070		10	-20.402	-12.67	3.536	0	10.33	37.01
3071		11	-20.402	-12.67	3.536	0	11.478	41.123
3072		12	-20.402	-12.67	3.536	0	12.625	45.235
3073		13	33.517	-166.812	-5.816	0	13.214	-378.986
3074		14	33.517	-166.812	-5.816	0	11.326	-324.845
3075		15	33.517	-166.812	-5.816	0	9.438	-270.704
3076		16	33.517	-166.812	-5.816	0	7.551	-216.563
3077		17	33.517	-166.812	-5.816	0	5.663	-162.422
3078		18	33.517	-166.812	-5.816	0	3.775	-108.282
3079		19	33.517	-166.812	-5.816	0	1.888	-54.141
3080		20	33.517	-166.812	-5.816	0	0	0
3081	5	R6	1	-20.402	-12.669	3.536	0	0
3082		2	-20.402	-12.669	3.536	0	1.148	4.112
3083		3	-20.402	-12.669	3.536	0	2.296	8.224



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3084		4	-20.402	-12.669	3.536	0	3.443	12.335
3085		5	-20.402	-12.669	3.536	0	4.591	16.447
3086		6	-20.402	-12.669	3.536	0	5.739	20.559
3087		7	-20.402	-12.669	3.536	0	6.887	24.671
3088		8	-20.402	-12.669	3.536	0	8.034	28.782
3089		9	-20.402	-12.669	3.536	0	9.182	32.894
3090		10	-20.402	-12.669	3.536	0	10.33	37.006
3091		11	-20.402	-12.669	3.536	0	11.478	41.118
3092		12	-20.402	-12.669	3.536	0	12.625	45.23
3093		13	33.517	-166.815	-5.816	0	13.214	-378.992
3094		14	33.517	-166.815	-5.816	0	11.326	-324.85
3095		15	33.517	-166.815	-5.816	0	9.438	-270.709
3096		16	33.517	-166.815	-5.816	0	7.551	-216.567
3097		17	33.517	-166.815	-5.816	0	5.663	-162.425
3098		18	33.517	-166.815	-5.816	0	3.775	-108.283
3099		19	33.517	-166.815	-5.816	0	1.888	-54.142
3100		20	33.517	-166.815	-5.816	0	0	0
3101	5	R7	1	-20.404	-12.748	3.52	0	0
3102			2	-20.404	-12.748	3.52	0	1.142
3103			3	-20.404	-12.748	3.52	0	2.285
3104			4	-20.404	-12.748	3.52	0	3.427
3105			5	-20.404	-12.748	3.52	0	4.57
3106			6	-20.404	-12.748	3.52	0	5.712
3107			7	-20.404	-12.748	3.52	0	6.854
3108			8	-20.404	-12.748	3.52	0	7.997
3109			9	-20.404	-12.748	3.52	0	9.139
3110			10	-20.404	-12.748	3.52	0	10.282
3111			11	-20.404	-12.748	3.52	0	11.424
3112			12	-20.404	-12.748	3.52	0	12.567
3113			13	33.522	-166.684	-5.789	0	13.152
3114			14	33.522	-166.684	-5.789	0	11.273
3115			15	33.522	-166.684	-5.789	0	9.394
3116			16	33.522	-166.684	-5.789	0	7.515
3117			17	33.522	-166.684	-5.789	0	5.637
3118			18	33.522	-166.684	-5.789	0	3.758
3119			19	33.522	-166.684	-5.789	0	1.879
3120			20	33.522	-166.684	-5.789	0	0
3121	5	R8	1	-20.402	-8.081	3.536	0	0
3122			2	-20.402	-8.081	3.536	0	1.148
3123			3	-20.402	-8.081	3.536	0	2.296
3124			4	-20.402	-8.081	3.536	0	3.443
3125			5	-20.402	-8.081	3.536	0	4.591
3126			6	-20.402	-8.081	3.536	0	5.739
3127			7	-20.402	-8.081	3.536	0	6.887
3128			8	-20.402	-8.081	3.536	0	8.034
3129			9	-20.402	-8.081	3.536	0	9.182
3130			10	-20.402	-8.081	3.536	0	10.33
3131			11	-20.402	-8.081	3.536	0	11.478
3132			12	-20.402	-8.081	3.536	0	12.625
3133			13	33.517	-174.352	-5.816	0	13.214
3134			14	33.517	-174.352	-5.816	0	11.326
3135			15	33.517	-174.352	-5.816	0	9.438
3136			16	33.517	-174.352	-5.816	0	7.551
3137			17	33.517	-174.352	-5.816	0	5.663
3138			18	33.517	-174.352	-5.816	0	3.775
3139			19	33.517	-174.352	-5.816	0	1.888
3140			20	33.517	-174.352	-5.816	0	0
3141	5	R9	1	-20.402	-9.132	3.536	0	0



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3142		2	-20.402	-9.132	3.536	0	1.148	2.964
3143		3	-20.402	-9.132	3.536	0	2.296	5.928
3144		4	-20.402	-9.132	3.536	0	3.443	8.892
3145		5	-20.402	-9.132	3.536	0	4.591	11.856
3146		6	-20.402	-9.132	3.536	0	5.739	14.82
3147		7	-20.402	-9.132	3.536	0	6.887	17.784
3148		8	-20.402	-9.132	3.536	0	8.034	20.748
3149		9	-20.402	-9.132	3.536	0	9.182	23.712
3150		10	-20.402	-9.132	3.536	0	10.33	26.676
3151		11	-20.402	-9.132	3.536	0	11.478	29.64
3152		12	-20.402	-9.132	3.536	0	12.625	32.603
3153		13	33.517	-172.625	-5.816	0	13.214	-392.192
3154		14	33.517	-172.625	-5.816	0	11.326	-336.165
3155		15	33.517	-172.625	-5.816	0	9.438	-280.137
3156		16	33.517	-172.625	-5.816	0	7.551	-224.11
3157		17	33.517	-172.625	-5.816	0	5.663	-168.082
3158		18	33.517	-172.625	-5.816	0	3.775	-112.055
3159		19	33.517	-172.625	-5.816	0	1.888	-56.027
3160		20	33.517	-172.625	-5.816	0	0	0
3161	5	R10	1	-20.402	-13.016	3.536	0	0
3162		2	-20.402	-13.016	3.536	0	1.148	4.225
3163		3	-20.402	-13.016	3.536	0	2.296	8.449
3164		4	-20.402	-13.016	3.536	0	3.443	12.674
3165		5	-20.402	-13.016	3.536	0	4.591	16.898
3166		6	-20.402	-13.016	3.536	0	5.739	21.123
3167		7	-20.402	-13.016	3.536	0	6.887	25.347
3168		8	-20.402	-13.016	3.536	0	8.034	29.572
3169		9	-20.402	-13.016	3.536	0	9.182	33.797
3170		10	-20.402	-13.016	3.536	0	10.33	38.021
3171		11	-20.402	-13.016	3.536	0	11.478	42.246
3172		12	-20.402	-13.016	3.536	0	12.625	46.47
3173		13	33.517	-166.244	-5.816	0	13.214	-377.694
3174		14	33.517	-166.244	-5.816	0	11.326	-323.738
3175		15	33.517	-166.244	-5.816	0	9.438	-269.781
3176		16	33.517	-166.244	-5.816	0	7.551	-215.825
3177		17	33.517	-166.244	-5.816	0	5.663	-161.869
3178		18	33.517	-166.244	-5.816	0	3.775	-107.913
3179		19	33.517	-166.244	-5.816	0	1.888	-53.956
3180		20	33.517	-166.244	-5.816	0	0	0
3181	5	R11	1	-20.402	-12.623	3.536	0	0
3182		2	-20.402	-12.623	3.536	0	1.148	4.097
3183		3	-20.402	-12.623	3.536	0	2.296	8.194
3184		4	-20.402	-12.623	3.536	0	3.443	12.291
3185		5	-20.402	-12.623	3.536	0	4.591	16.388
3186		6	-20.402	-12.623	3.536	0	5.739	20.485
3187		7	-20.402	-12.623	3.536	0	6.887	24.582
3188		8	-20.402	-12.623	3.536	0	8.034	28.679
3189		9	-20.402	-12.623	3.536	0	9.182	32.776
3190		10	-20.402	-12.623	3.536	0	10.33	36.873
3191		11	-20.402	-12.623	3.536	0	11.478	40.97
3192		12	-20.402	-12.623	3.536	0	12.625	45.067
3193		13	33.517	-166.89	-5.816	0	13.214	-379.161
3194		14	33.517	-166.89	-5.816	0	11.326	-324.995
3195		15	33.517	-166.89	-5.816	0	9.438	-270.829
3196		16	33.517	-166.89	-5.816	0	7.551	-216.664
3197		17	33.517	-166.89	-5.816	0	5.663	-162.498
3198		18	33.517	-166.89	-5.816	0	3.775	-108.332
3199		19	33.517	-166.89	-5.816	0	1.888	-54.166





Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3200		20	33.517	-166.89	-5.816	0	0	0
3201	5 R12	1	-20.402	-12.666	3.536	0	0	0
3202		2	-20.402	-12.666	3.536	0	1.148	4.111
3203		3	-20.402	-12.666	3.536	0	2.296	8.222
3204		4	-20.402	-12.666	3.536	0	3.443	12.333
3205		5	-20.402	-12.666	3.536	0	4.591	16.443
3206		6	-20.402	-12.666	3.536	0	5.739	20.554
3207		7	-20.402	-12.666	3.536	0	6.887	24.665
3208		8	-20.402	-12.666	3.536	0	8.034	28.776
3209		9	-20.402	-12.666	3.536	0	9.182	32.887
3210		10	-20.402	-12.666	3.536	0	10.33	36.998
3211		11	-20.402	-12.666	3.536	0	11.478	41.108
3212		12	-20.402	-12.666	3.536	0	12.625	45.219
3213		13	33.517	-166.82	-5.816	0	13.214	-379.002
3214		14	33.517	-166.82	-5.816	0	11.326	-324.859
3215		15	33.517	-166.82	-5.816	0	9.438	-270.716
3216		16	33.517	-166.82	-5.816	0	7.551	-216.573
3217		17	33.517	-166.82	-5.816	0	5.663	-162.429
3218		18	33.517	-166.82	-5.816	0	3.775	-108.286
3219		19	33.517	-166.82	-5.816	0	1.888	-54.143
3220		20	33.517	-166.82	-5.816	0	0	0
3221	5 R13	1	-20.402	-12.877	3.536	0	0	0
3222		2	-20.402	-12.877	3.536	0	1.148	4.179
3223		3	-20.402	-12.877	3.536	0	2.296	8.359
3224		4	-20.402	-12.877	3.536	0	3.443	12.538
3225		5	-20.402	-12.877	3.536	0	4.591	16.718
3226		6	-20.402	-12.877	3.536	0	5.739	20.897
3227		7	-20.402	-12.877	3.536	0	6.887	25.077
3228		8	-20.402	-12.877	3.536	0	8.034	29.256
3229		9	-20.402	-12.877	3.536	0	9.182	33.436
3230		10	-20.402	-12.877	3.536	0	10.33	37.615
3231		11	-20.402	-12.877	3.536	0	11.478	41.795
3232		12	-20.402	-12.877	3.536	0	12.625	45.974
3233		13	33.517	-166.472	-5.816	0	13.214	-378.213
3234		14	33.517	-166.472	-5.816	0	11.326	-324.183
3235		15	33.517	-166.472	-5.816	0	9.438	-270.152
3236		16	33.517	-166.472	-5.816	0	7.551	-216.122
3237		17	33.517	-166.472	-5.816	0	5.663	-162.091
3238		18	33.517	-166.472	-5.816	0	3.775	-108.061
3239		19	33.517	-166.472	-5.816	0	1.888	-54.03
3240		20	33.517	-166.472	-5.816	0	0	0
3241	5 R14	1	-20.402	-11.933	3.536	0	0	0
3242		2	-20.402	-11.933	3.536	0	1.148	3.873
3243		3	-20.402	-11.933	3.536	0	2.295	7.746
3244		4	-20.402	-11.933	3.536	0	3.443	11.619
3245		5	-20.402	-11.933	3.536	0	4.591	15.493
3246		6	-20.402	-11.933	3.536	0	5.738	19.366
3247		7	-20.402	-11.933	3.536	0	6.886	23.239
3248		8	-20.402	-11.933	3.536	0	8.033	27.112
3249		9	-20.402	-11.933	3.536	0	9.181	30.985
3250		10	-20.402	-11.933	3.536	0	10.329	34.858
3251		11	-20.402	-11.933	3.536	0	11.476	38.731
3252		12	-20.402	-11.933	3.536	0	12.624	42.604
3253		13	33.518	-168.022	-5.815	0	13.211	-381.734
3254		14	33.518	-168.022	-5.815	0	11.324	-327.201
3255		15	33.518	-168.022	-5.815	0	9.436	-272.667
3256		16	33.518	-168.022	-5.815	0	7.549	-218.134
3257		17	33.518	-168.022	-5.815	0	5.662	-163.6



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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3258		18	33.518	-168.022	-5.815	0	3.775	-109.067
3259		19	33.518	-168.022	-5.815	0	1.887	-54.533
3260		20	33.518	-168.022	-5.815	0	0	0
3261	5 R15	1	-14.379	-7.485	-0.173	0	0	0
3262		2	-14.379	-7.485	-0.173	0	-0.056	2.429
3263		3	-14.379	-7.485	-0.173	0	-0.112	4.859
3264		4	-14.379	-7.485	-0.173	0	-0.168	7.288
3265		5	-14.379	-7.485	-0.173	0	-0.224	9.717
3266		6	-14.379	-7.485	-0.173	0	-0.28	12.147
3267		7	-14.379	-7.485	-0.173	0	-0.336	14.576
3268		8	-14.379	-7.485	-0.173	0	-0.392	17.005
3269		9	-14.379	-7.485	-0.173	0	-0.448	19.435
3270		10	-14.379	-7.485	-0.173	0	-0.504	21.864
3271		11	-14.379	-7.485	-0.173	0	-0.561	24.293
3272		12	-14.379	-7.485	-0.173	0	-0.617	26.723
3273		13	23.623	-151.424	-13.016	0	29.571	-344.025
3274		14	23.623	-151.424	-13.016	0	25.347	-294.879
3275		15	23.623	-151.424	-13.016	0	21.122	-245.732
3276		16	23.623	-151.424	-13.016	0	16.898	-196.586
3277		17	23.623	-151.424	-13.016	0	12.673	-147.439
3278		18	23.623	-151.424	-13.016	0	8.449	-98.293
3279		19	23.623	-151.424	-13.016	0	4.224	-49.146
3280		20	23.623	-151.424	-13.016	0	0	0
3281	5 M33	1	-8.001	6.189	0.617	0	0	0
3282		2	-8.001	6.189	0.617	0	0.175	-1.756
3283		3	-8.001	6.189	0.617	0	0.35	-3.513
3284		4	-8.001	6.189	0.617	0	0.526	-5.269
3285		5	-8.001	6.189	0.617	0	0.701	-7.026
3286		6	-8.001	6.189	0.617	0	0.876	-8.782
3287		7	-8.001	6.189	0.617	0	1.051	-10.539
3288		8	-8.001	6.189	0.617	0	1.227	-12.295
3289		9	-8.001	6.189	0.617	0	1.402	-14.051
3290		10	-8.001	6.189	0.617	0	1.577	-15.808
3291		11	-8.001	6.189	0.617	0	1.752	-17.564
3292		12	-8.001	6.189	0.617	0	1.928	-19.321
3293		13	-8.001	6.189	0.617	0	2.103	-21.077
3294		14	-8.001	6.189	0.617	0	2.278	-22.834
3295		15	-8.001	6.189	0.617	0	2.453	-24.59
3296		16	-8.001	6.189	0.617	0	2.628	-26.347
3297		17	-8.001	6.189	0.617	0	2.804	-28.103
3298		18	-8.001	6.189	0.617	0	2.979	-29.859
3299		19	-8.001	6.189	0.617	0	3.154	-31.616
3300		20	-8.001	6.189	0.617	0	3.329	-33.372
3301	6 A1	1	0	0	0	0	0	0
3302		2	0	-0.268	0	0	0	0.014
3303		3	0	-0.537	0	0	0	0.057
3304		4	0	-0.805	0	0	0	0.129
3305		5	0	-1.074	0	0	0	0.229
3306		6	0	-1.342	0	0	0	0.358
3307		7	0	-1.611	0	0	0	0.516
3308		8	0	-1.879	0	0	0	0.702
3309		9	0	-2.147	0	0	0	0.917
3310		10	0	-2.416	0	0	0	1.161
3311		11	0	-2.684	0	0	0	1.433
3312		12	0	-2.953	0	0	0	1.734
3313		13	0	-3.221	0	0	0	2.064
3314		14	0	-3.489	0	0	0	2.422
3315		15	0	-3.758	0	0	0	2.809

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
3316		16	0	-4.026	0	0	0	3.225	
3317		17	0	-4.295	0	0	0	3.669	
3318		18	0	-4.563	0	0	0	4.142	
3319		19	0	-4.832	0	0	0	4.644	
3320		20	0	-5.1	0	0	0	5.174	
3321	6	A2	1	-4.242	-19.18	5.096	-24.754	3.063	-19.311
3322		2	-4.415	-22.038	4.331	-29.373	3.654	-16.731	
3323		3	-4.588	-24.895	3.566	-33.993	4.148	-13.794	
3324		4	-4.762	-27.752	2.801	-38.612	4.546	-10.499	
3325		5	-4.935	-30.609	2.036	-43.232	4.849	-6.846	
3326		6	-5.109	-33.466	1.271	-47.851	5.056	-2.836	
3327		7	-5.282	-36.323	0.506	-52.47	5.167	1.532	
3328		8	-5.456	-39.181	-0.259	-57.09	5.183	6.258	
3329		9	-5.629	-42.038	-1.024	-61.709	5.102	11.341	
3330		10	-5.803	-44.895	-1.789	-66.329	4.926	16.782	
3331		11	-5.976	-47.752	-2.554	-70.948	4.654	22.581	
3332		12	-6.15	-50.609	-3.319	-75.567	4.287	28.737	
3333		13	-6.323	-53.466	-4.084	-80.187	3.823	35.251	
3334		14	-6.497	-56.324	-4.85	-84.806	3.264	42.122	
3335		15	-6.67	-59.181	-5.615	-89.426	2.609	49.352	
3336		16	-6.844	-62.038	-6.38	-94.045	1.858	56.938	
3337		17	-7.017	-64.895	-7.145	-98.664	1.012	64.883	
3338		18	-7.19	-67.752	-7.91	-103.284	0.07	73.185	
3339		19	-7.364	-70.609	-8.675	-107.903	-0.968	81.845	
3340		20	-7.537	-73.467	-9.44	-112.523	-2.102	90.862	
3341	6	A3	1	5.178	82.698	22.828	137.834	-28.414	90.862
3342		2	4.633	73.724	20.425	123.326	-19.912	60.113	
3343		3	4.088	64.75	18.022	108.817	-12.354	32.892	
3344		4	3.543	55.776	15.619	94.308	-5.741	9.199	
3345		5	2.998	46.802	13.216	79.799	-0.072	-10.966	
3346		6	2.454	37.828	10.813	65.29	4.651	-27.603	
3347		7	1.909	28.854	8.41	50.781	8.43	-40.711	
3348		8	1.364	19.88	6.007	36.272	11.264	-50.292	
3349		9	0.819	10.907	3.604	21.764	13.154	-56.344	
3350		10	0.274	1.933	1.202	7.255	14.099	-58.868	
3351		11	-0.271	-7.041	-1.201	-7.254	14.099	-57.863	
3352		12	-0.815	-16.015	-3.604	-21.763	13.154	-53.331	
3353		13	-1.36	-24.989	-6.007	-36.272	11.265	-45.27	
3354		14	-1.905	-33.963	-8.41	-50.781	8.431	-33.681	
3355		15	-2.45	-42.937	-10.813	-65.29	4.652	-18.564	
3356		16	-2.995	-51.911	-13.216	-79.799	-0.072	0.081	
3357		17	-3.54	-60.885	-15.619	-94.307	-5.74	22.254	
3358		18	-4.084	-69.859	-18.022	-108.816	-12.353	47.956	
3359		19	-4.629	-78.833	-20.425	-123.325	-19.911	77.186	
3360		20	-5.174	-87.807	-22.827	-137.834	-28.413	109.944	
3361	6	A4	1	5.176	85.887	22.83	137.834	-28.429	109.944
3362		2	4.631	76.913	20.427	123.326	-19.925	77.941	
3363		3	4.086	67.939	18.024	108.817	-12.367	49.466	
3364		4	3.541	58.965	15.621	94.308	-5.753	24.519	
3365		5	2.997	49.991	13.218	79.799	-0.083	3.101	
3366		6	2.452	41.017	10.815	65.29	4.641	-14.79	
3367		7	1.907	32.043	8.412	50.781	8.421	-29.152	
3368		8	1.362	23.069	6.009	36.272	11.256	-39.985	
3369		9	0.817	14.095	3.607	21.764	13.146	-47.291	
3370		10	0.272	5.121	1.204	7.255	14.092	-51.069	
3371		11	-0.272	-3.853	-1.199	-7.254	14.093	-51.318	
3372		12	-0.817	-12.827	-3.602	-21.763	13.149	-48.039	
3373		13	-1.362	-21.801	-6.005	-36.272	11.26	-41.232	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
3374		14	-1.907	-30.775	-8.408	-50.781	8.427	-30.897	
3375		15	-2.452	-39.749	-10.811	-65.29	4.649	-17.033	
3376		16	-2.997	-48.723	-13.214	-79.798	-0.074	0.358	
3377		17	-3.541	-57.697	-15.617	-94.307	-5.741	21.278	
3378		18	-4.086	-66.671	-18.02	-108.816	-12.354	45.726	
3379		19	-4.631	-75.644	-20.422	-123.325	-19.911	73.702	
3380		20	-5.176	-84.618	-22.825	-137.834	-28.412	105.206	
3381	6	A5	1	5.176	85.105	22.83	137.834	-28.429	105.206
3382		2	4.631	76.131	20.427	123.325	-19.925	73.511	
3383		3	4.086	67.157	18.024	108.816	-12.367	45.344	
3384		4	3.541	58.183	15.621	94.308	-5.753	20.705	
3385		5	2.997	49.209	13.218	79.799	-0.083	-0.406	
3386		6	2.452	40.235	10.815	65.29	4.641	-17.989	
3387		7	1.907	31.261	8.412	50.781	8.421	-32.044	
3388		8	1.362	22.287	6.009	36.272	11.256	-42.57	
3389		9	0.817	13.313	3.607	21.763	13.146	-49.568	
3390		10	0.272	4.339	1.204	7.254	14.092	-53.038	
3391		11	-0.272	-4.635	-1.199	-7.254	14.093	-52.98	
3392		12	-0.817	-13.609	-3.602	-21.763	13.149	-49.393	
3393		13	-1.362	-22.583	-6.005	-36.272	11.26	-42.279	
3394		14	-1.907	-31.557	-8.408	-50.781	8.427	-31.636	
3395		15	-2.452	-40.531	-10.811	-65.29	4.649	-17.465	
3396		16	-2.997	-49.505	-13.214	-79.799	-0.074	0.234	
3397		17	-3.541	-58.479	-15.617	-94.308	-5.741	21.461	
3398		18	-4.086	-67.453	-18.02	-108.817	-12.354	46.217	
3399		19	-4.631	-76.427	-20.422	-123.325	-19.911	74.5	
3400		20	-5.176	-85.401	-22.825	-137.834	-28.412	106.312	
3401	6	A6	1	5.176	85.249	22.83	137.834	-28.429	106.312
3402		2	4.631	76.275	20.427	123.325	-19.925	74.56	
3403		3	4.086	67.301	18.024	108.816	-12.367	46.336	
3404		4	3.541	58.327	15.621	94.308	-5.753	21.64	
3405		5	2.997	49.353	13.218	79.799	-0.083	0.472	
3406		6	2.452	40.38	10.815	65.29	4.641	-17.168	
3407		7	1.907	31.406	8.412	50.781	8.421	-31.279	
3408		8	1.362	22.432	6.009	36.272	11.256	-41.862	
3409		9	0.817	13.458	3.607	21.763	13.146	-48.918	
3410		10	0.272	4.484	1.204	7.254	14.092	-52.444	
3411		11	-0.272	-4.49	-1.199	-7.254	14.093	-52.443	
3412		12	-0.817	-13.464	-3.602	-21.763	13.149	-48.914	
3413		13	-1.362	-22.438	-6.005	-36.272	11.26	-41.856	
3414		14	-1.907	-31.412	-8.408	-50.781	8.427	-31.27	
3415		15	-2.452	-40.386	-10.811	-65.29	4.649	-17.156	
3416		16	-2.997	-49.36	-13.214	-79.799	-0.074	0.486	
3417		17	-3.541	-58.334	-15.617	-94.308	-5.741	21.657	
3418		18	-4.086	-67.308	-18.02	-108.816	-12.354	46.355	
3419		19	-4.631	-76.282	-20.422	-123.325	-19.911	74.582	
3420		20	-5.176	-85.256	-22.825	-137.834	-28.412	106.337	
3421	6	A7	1	5.176	85.415	22.83	137.834	-28.429	106.337
3422		2	4.631	76.441	20.427	123.325	-19.925	74.519	
3423		3	4.086	67.467	18.024	108.817	-12.367	46.23	
3424		4	3.541	58.493	15.621	94.308	-5.753	21.469	
3425		5	2.997	49.519	13.218	79.799	-0.083	0.236	
3426		6	2.452	40.545	10.815	65.29	4.641	-17.468	
3427		7	1.907	31.571	8.412	50.781	8.421	-31.645	
3428		8	1.362	22.597	6.009	36.272	11.256	-42.293	
3429		9	0.817	13.623	3.607	21.763	13.146	-49.413	
3430		10	0.272	4.649	1.204	7.254	14.092	-53.005	
3431		11	-0.272	-4.325	-1.199	-7.254	14.093	-53.069	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
3432		12	-0.817	-13.299	-3.602	-21.763	13.149	-49.604	
3433		13	-1.362	-22.273	-6.005	-36.272	11.26	-42.612	
3434		14	-1.907	-31.247	-8.408	-50.781	8.427	-32.091	
3435		15	-2.452	-40.221	-10.811	-65.29	4.649	-18.042	
3436		16	-2.997	-49.195	-13.214	-79.799	-0.074	-0.464	
3437		17	-3.541	-58.169	-15.617	-94.308	-5.741	20.641	
3438		18	-4.086	-67.143	-18.02	-108.816	-12.354	45.274	
3439		19	-4.631	-76.117	-20.422	-123.325	-19.911	73.436	
3440		20	-5.176	-85.091	-22.825	-137.834	-28.412	105.126	
3441	6	A8	1	5.176	84.565	22.83	137.834	-28.429	105.126
3442		2	4.631	75.591	20.427	123.325	-19.925	73.643	
3443		3	4.086	66.617	18.024	108.816	-12.367	45.688	
3444		4	3.541	57.643	15.621	94.307	-5.753	21.261	
3445		5	2.997	48.669	13.218	79.798	-0.083	0.362	
3446		6	2.452	39.695	10.815	65.289	4.641	-17.009	
3447		7	1.907	30.721	8.412	50.78	8.421	-30.851	
3448		8	1.362	21.747	6.009	36.272	11.256	-41.166	
3449		9	0.817	12.774	3.607	21.763	13.146	-47.952	
3450		10	0.272	3.8	1.204	7.254	14.092	-51.21	
3451		11	-0.272	-5.174	-1.199	-7.255	14.093	-50.939	
3452		12	-0.817	-14.148	-3.602	-21.764	13.149	-47.141	
3453		13	-1.362	-23.122	-6.005	-36.273	11.26	-39.814	
3454		14	-1.907	-32.096	-8.408	-50.782	8.427	-28.959	
3455		15	-2.452	-41.07	-10.811	-65.291	4.649	-14.576	
3456		16	-2.997	-50.044	-13.214	-79.799	-0.074	3.335	
3457		17	-3.541	-59.018	-15.617	-94.308	-5.741	24.774	
3458		18	-4.086	-68.651	-18.02	-108.817	-12.354	49.859	
3459		19	-4.631	-78.348	-20.422	-123.326	-19.911	78.756	
3460		20	-5.176	-88.046	-22.825	-137.835	-28.412	111.466	
3461	6	A9	1	5.176	91.865	22.83	137.834	-28.429	111.466
3462		2	4.631	82.167	20.427	123.325	-19.925	77.255	
3463		3	4.086	72.469	18.024	108.816	-12.367	46.857	
3464		4	3.541	62.772	15.621	94.307	-5.753	20.271	
3465		5	2.997	53.074	13.218	79.799	-0.083	-2.502	
3466		6	2.452	43.376	10.815	65.29	4.641	-21.462	
3467		7	1.907	33.678	8.412	50.781	8.421	-36.609	
3468		8	1.362	23.981	6.009	36.272	11.256	-47.943	
3469		9	0.817	14.283	3.607	21.763	13.146	-55.465	
3470		10	0.272	4.585	1.204	7.254	14.092	-59.174	
3471		11	-0.272	-5.113	-1.199	-7.255	14.093	-59.07	
3472		12	-0.817	-14.811	-3.602	-21.763	13.149	-55.154	
3473		13	-1.362	-24.508	-6.005	-36.272	11.26	-47.425	
3474		14	-1.907	-34.206	-8.408	-50.781	8.427	-35.883	
3475		15	-2.452	-43.904	-10.811	-65.29	4.649	-20.528	
3476		16	-2.997	-53.602	-13.214	-79.799	-0.074	-1.36	
3477		17	-3.541	-63.299	-15.617	-94.308	-5.741	21.62	
3478		18	-4.086	-72.997	-18.02	-108.817	-12.354	48.413	
3479		19	-4.631	-82.695	-20.422	-123.326	-19.911	79.019	
3480		20	-5.176	-92.393	-22.825	-137.834	-28.412	113.437	
3481	6	A10	1	5.176	90.315	22.83	137.835	-28.429	113.437
3482		2	4.631	80.618	20.427	123.326	-19.925	79.835	
3483		3	4.086	70.92	18.024	108.818	-12.367	50.046	
3484		4	3.541	61.222	15.621	94.309	-5.753	24.07	
3485		5	2.997	51.524	13.218	79.8	-0.083	1.906	
3486		6	2.452	41.827	10.815	65.291	4.641	-16.445	
3487		7	1.907	32.129	8.412	50.782	8.421	-30.983	
3488		8	1.362	22.529	6.009	36.273	11.256	-41.711	
3489		9	0.817	13.555	3.607	21.764	13.146	-48.804	





Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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 Checked By : CWT

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
3490		10	0.272	4.581	1.204	7.255	14.092	-52.369	
3491		11	-0.272	-4.393	-1.199	-7.253	14.092	-52.406	
3492		12	-0.817	-13.367	-3.602	-21.762	13.149	-48.915	
3493		13	-1.362	-22.341	-6.005	-36.271	11.26	-41.896	
3494		14	-1.907	-31.315	-8.408	-50.78	8.427	-31.348	
3495		15	-2.452	-40.289	-10.811	-65.289	4.649	-17.272	
3496		16	-2.997	-49.263	-13.214	-79.798	-0.074	0.332	
3497		17	-3.541	-58.237	-15.617	-94.307	-5.741	21.464	
3498		18	-4.086	-67.211	-18.02	-108.815	-12.354	46.124	
3499		19	-4.631	-76.185	-20.422	-123.324	-19.911	74.313	
3500		20	-5.176	-85.159	-22.825	-137.833	-28.412	106.029	
3501	6	A11	1	5.176	85.199	22.83	137.834	-28.429	105.806
3502		2	4.631	76.225	20.427	123.325	-19.925	74.074	
3503		3	4.086	67.251	18.024	108.816	-12.367	45.869	
3504		4	3.541	58.277	15.621	94.307	-5.753	21.193	
3505		5	2.997	49.303	13.218	79.798	-0.083	0.045	
3506		6	2.452	40.329	10.815	65.29	4.641	-17.574	
3507		7	1.907	31.355	8.412	50.781	8.421	-31.666	
3508		8	1.362	22.381	6.009	36.272	11.256	-42.229	
3509		9	0.817	13.407	3.607	21.763	13.146	-49.264	
3510		10	0.272	4.433	1.204	7.254	14.092	-52.771	
3511		11	-0.272	-4.541	-1.199	-7.255	14.093	-52.75	
3512		12	-0.817	-13.515	-3.602	-21.764	13.149	-49.2	
3513		13	-1.362	-22.489	-6.005	-36.272	11.26	-42.123	
3514		14	-1.907	-31.463	-8.408	-50.781	8.427	-31.517	
3515		15	-2.452	-40.437	-10.811	-65.29	4.649	-17.383	
3516		16	-2.997	-49.411	-13.214	-79.799	-0.074	0.279	
3517		17	-3.541	-58.385	-15.617	-94.308	-5.741	21.47	
3518		18	-4.086	-67.359	-18.02	-108.817	-12.354	46.188	
3519		19	-4.631	-76.333	-20.422	-123.326	-19.911	74.435	
3520		20	-5.176	-85.307	-22.825	-137.835	-28.412	106.21	
3521	6	A12	1	5.176	85.257	22.83	137.834	-28.429	106.21
3522		2	4.631	76.283	20.427	123.325	-19.925	74.454	
3523		3	4.086	67.31	18.024	108.816	-12.367	46.227	
3524		4	3.541	58.336	15.621	94.308	-5.753	21.528	
3525		5	2.997	49.362	13.218	79.799	-0.083	0.357	
3526		6	2.452	40.388	10.815	65.29	4.641	-17.286	
3527		7	1.907	31.414	8.412	50.781	8.421	-31.401	
3528		8	1.362	22.44	6.009	36.272	11.256	-41.987	
3529		9	0.817	13.466	3.607	21.763	13.146	-49.045	
3530		10	0.272	4.492	1.204	7.254	14.092	-52.576	
3531		11	-0.272	-4.482	-1.199	-7.254	14.093	-52.577	
3532		12	-0.817	-13.456	-3.602	-21.763	13.149	-49.051	
3533		13	-1.362	-22.43	-6.005	-36.272	11.26	-41.997	
3534		14	-1.907	-31.404	-8.408	-50.781	8.427	-31.414	
3535		15	-2.452	-40.378	-10.811	-65.29	4.649	-17.303	
3536		16	-2.997	-49.352	-13.214	-79.799	-0.074	0.336	
3537		17	-3.541	-58.326	-15.617	-94.308	-5.741	21.503	
3538		18	-4.086	-67.3	-18.02	-108.816	-12.354	46.199	
3539		19	-4.631	-76.274	-20.422	-123.325	-19.911	74.422	
3540		20	-5.176	-85.248	-22.825	-137.834	-28.412	106.174	
3541	6	A13	1	5.176	85.286	22.83	137.834	-28.429	106.174
3542		2	4.631	76.312	20.427	123.325	-19.925	74.407	
3543		3	4.086	67.338	18.024	108.816	-12.367	46.168	
3544		4	3.541	58.364	15.621	94.308	-5.753	21.458	
3545		5	2.997	49.39	13.218	79.799	-0.083	0.276	
3546		6	2.452	40.416	10.815	65.29	4.641	-17.379	
3547		7	1.907	31.442	8.412	50.781	8.421	-31.505	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
3548		8	1.362	22.468	6.009	36.272	11.256	-42.102	
3549		9	0.817	13.495	3.607	21.763	13.146	-49.172	
3550		10	0.272	4.521	1.204	7.254	14.092	-52.713	
3551		11	-0.272	-4.453	-1.199	-7.254	14.093	-52.726	
3552		12	-0.817	-13.427	-3.602	-21.763	13.149	-49.211	
3553		13	-1.362	-22.401	-6.005	-36.272	11.26	-42.168	
3554		14	-1.907	-31.375	-8.408	-50.781	8.427	-31.597	
3555		15	-2.452	-40.349	-10.811	-65.29	4.649	-17.497	
3556		16	-2.997	-49.323	-13.214	-79.799	-0.074	0.13	
3557		17	-3.541	-58.297	-15.617	-94.308	-5.741	21.286	
3558		18	-4.086	-67.271	-18.02	-108.816	-12.354	45.97	
3559		19	-4.631	-76.245	-20.422	-123.325	-19.911	74.183	
3560		20	-5.176	-85.219	-22.825	-137.834	-28.412	105.923	
3561	6	A14	1	5.176	85.105	22.83	137.834	-28.429	105.923
3562		2	4.631	76.131	20.427	123.325	-19.925	74.227	
3563		3	4.086	67.157	18.024	108.816	-12.367	46.06	
3564		4	3.541	58.183	15.621	94.308	-5.753	21.421	
3565		5	2.997	49.209	13.218	79.799	-0.083	0.31	
3566		6	2.452	40.235	10.815	65.29	4.641	-17.273	
3567		7	1.907	31.261	8.412	50.781	8.421	-31.327	
3568		8	1.362	22.287	6.009	36.272	11.256	-41.854	
3569		9	0.817	13.313	3.607	21.763	13.146	-48.852	
3570		10	0.272	4.339	1.204	7.254	14.092	-52.322	
3571		11	-0.272	-4.635	-1.199	-7.254	14.093	-52.264	
3572		12	-0.817	-13.609	-3.602	-21.763	13.149	-48.677	
3573		13	-1.362	-22.583	-6.005	-36.272	11.26	-41.563	
3574		14	-1.907	-31.557	-8.408	-50.781	8.427	-30.92	
3575		15	-2.452	-40.531	-10.811	-65.29	4.649	-16.749	
3576		16	-2.997	-49.505	-13.214	-79.799	-0.074	0.95	
3577		17	-3.541	-58.479	-15.617	-94.308	-5.741	22.177	
3578		18	-4.086	-67.453	-18.02	-108.817	-12.354	46.933	
3579		19	-4.631	-76.427	-20.422	-123.325	-19.911	75.216	
3580		20	-5.176	-85.401	-22.825	-137.834	-28.412	107.028	
3581	6	A15	1	5.184	85.849	22.832	137.83	-28.43	107.028
3582		2	4.639	76.875	20.429	123.321	-19.926	75.04	
3583		3	4.094	67.901	18.026	108.812	-12.366	46.58	
3584		4	3.55	58.927	15.624	94.303	-5.751	21.648	
3585		5	3.005	49.953	13.221	79.795	-0.081	0.244	
3586		6	2.46	40.979	10.818	65.286	4.644	-17.631	
3587		7	1.915	32.005	8.415	50.777	8.425	-31.978	
3588		8	1.37	23.031	6.012	36.268	11.261	-42.797	
3589		9	0.825	14.057	3.609	21.759	13.152	-50.088	
3590		10	0.281	5.084	1.206	7.25	14.099	-53.851	
3591		11	-0.264	-3.89	-1.197	-7.259	14.101	-54.086	
3592		12	-0.809	-12.864	-3.6	-21.767	13.158	-50.792	
3593		13	-1.354	-21.838	-6.003	-36.276	11.27	-43.97	
3594		14	-1.899	-30.812	-8.406	-50.785	8.438	-33.62	
3595		15	-2.444	-39.786	-10.808	-65.294	4.661	-19.742	
3596		16	-2.988	-48.76	-13.211	-79.803	-0.061	-2.336	
3597		17	-3.533	-57.734	-15.614	-94.312	-5.727	18.599	
3598		18	-4.078	-66.708	-18.017	-108.821	-12.339	43.062	
3599		19	-4.623	-75.682	-20.42	-123.329	-19.895	71.053	
3600		20	-5.168	-84.656	-22.823	-137.838	-28.395	102.572	
3601	6	A16	1	10.437	89.5	15.394	63.097	-7.23	102.572
3602		2	10.157	84.891	14.16	55.645	-4.246	84.964	
3603		3	9.877	80.282	12.926	48.193	-1.511	68.288	
3604		4	9.597	75.672	11.691	40.741	0.974	52.542	
3605		5	9.317	71.063	10.457	33.289	3.21	37.727	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3606		6	9.038	66.454	9.223	25.837	5.198	23.842
3607		7	8.758	61.845	7.989	18.386	6.935	10.889
3608		8	8.478	57.236	6.755	10.934	8.424	-1.134
3609		9	8.198	52.627	5.521	3.482	9.663	-12.227
3610		10	7.918	48.018	4.287	-3.97	10.654	-22.388
3611		11	7.638	43.409	3.052	-11.422	11.394	-31.619
3612		12	7.359	38.8	1.818	-18.874	11.886	-39.919
3613		13	7.079	34.19	0.584	-26.326	12.129	-47.289
3614		14	6.799	29.581	-0.65	-33.778	12.122	-53.727
3615		15	6.519	24.972	-1.884	-41.23	11.866	-59.235
3616		16	6.239	20.363	-3.118	-48.681	11.361	-63.813
3617		17	5.959	15.754	-4.353	-56.133	10.607	-67.459
3618		18	5.68	11.145	-5.587	-63.585	9.603	-70.175
3619		19	5.4	6.536	-6.821	-71.037	8.351	-71.96
3620		20	5.12	1.927	-8.055	-78.489	6.849	-72.815
3621	6	A17	1	0	5.341	0	0	5.675
3622			2	0	5.06	0	0	5.093
3623			3	0	4.779	0	0	4.543
3624			4	0	4.498	0	0	4.024
3625			5	0	4.216	0	0	3.537
3626			6	0	3.935	0	0	3.081
3627			7	0	3.654	0	0	2.657
3628			8	0	3.373	0	0	2.264
3629			9	0	3.092	0	0	1.902
3630			10	0	2.811	0	0	1.572
3631			11	0	2.53	0	0	1.273
3632			12	0	2.249	0	0	1.006
3633			13	0	1.968	0	0	0.77
3634			14	0	1.687	0	0	0.566
3635			15	0	1.405	0	0	0.393
3636			16	0	1.124	0	0	0.252
3637			17	0	0.843	0	0	0.141
3638			18	0	0.562	0	0	0.063
3639			19	0	0.281	0	0	0.016
3640			20	0	0	0	0	0
3641	6	R1	1	9.316	-33.638	-2.075	0	-111
3642			2	9.316	-33.638	-2.075	0	-105.158
3643			3	9.316	-33.638	-2.075	0	-99.316
3644			4	9.316	-33.638	-2.075	0	-93.474
3645			5	9.316	-33.638	-2.075	0	-87.632
3646			6	9.316	-33.638	-2.075	0	-81.79
3647			7	9.316	-33.638	-2.075	0	-75.948
3648			8	9.316	-33.638	-2.075	0	-70.106
3649			9	9.316	-33.638	-2.075	0	-64.263
3650			10	9.316	-33.638	-2.075	0	-58.421
3651			11	9.316	-33.638	-2.075	0	-52.579
3652			12	9.316	-33.638	-2.075	0	-46.737
3653			13	9.316	-33.638	-2.075	0	-40.895
3654			14	9.316	-33.638	-2.075	0	-35.053
3655			15	9.316	-33.638	-2.075	0	-29.211
3656			16	9.316	-33.638	-2.075	0	-23.369
3657			17	9.316	-33.638	-2.075	0	-17.526
3658			18	9.316	-33.638	-2.075	0	-11.684
3659			19	9.316	-33.638	-2.075	0	-5.842
3660			20	9.316	-33.638	-2.075	0	0
3661	6	R2	1	-14.46	33.313	9.337	0	0
3662			2	-14.46	33.313	9.337	0	-10.812
3663			3	-14.46	33.313	9.337	0	-21.624





**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3664		4	-14.46	33.313	9.337	0	9.091	-32.436
3665		5	-14.46	33.313	9.337	0	12.121	-43.248
3666		6	-14.46	33.313	9.337	0	15.152	-54.06
3667		7	-14.46	33.313	9.337	0	18.182	-64.872
3668		8	-14.46	33.313	9.337	0	21.212	-75.684
3669		9	-14.46	33.313	9.337	0	24.243	-86.496
3670		10	-14.46	33.313	9.337	0	27.273	-97.308
3671		11	-14.46	33.313	9.337	0	30.303	-108.12
3672		12	-14.46	33.313	9.337	0	33.333	-118.932
3673		13	23.756	-140.843	-6.268	0	14.24	-319.986
3674		14	23.756	-140.843	-6.268	0	12.206	-274.274
3675		15	23.756	-140.843	-6.268	0	10.172	-228.561
3676		16	23.756	-140.843	-6.268	0	8.137	-182.849
3677		17	23.756	-140.843	-6.268	0	6.103	-137.137
3678		18	23.756	-140.843	-6.268	0	4.069	-91.425
3679		19	23.756	-140.843	-6.268	0	2.034	-45.712
3680		20	23.756	-140.843	-6.268	0	0	0
3681	6	R3	1	-17.276	20.095	3.917	0	0
3682		2	-17.276	20.095	3.917	0	1.271	-6.522
3683		3	-17.276	20.095	3.917	0	2.543	-13.044
3684		4	-17.276	20.095	3.917	0	3.814	-19.566
3685		5	-17.276	20.095	3.917	0	5.085	-26.088
3686		6	-17.276	20.095	3.917	0	6.357	-32.61
3687		7	-17.276	20.095	3.917	0	7.628	-39.132
3688		8	-17.276	20.095	3.917	0	8.899	-45.654
3689		9	-17.276	20.095	3.917	0	10.171	-52.176
3690		10	-17.276	20.095	3.917	0	11.442	-58.698
3691		11	-17.276	20.095	3.917	0	12.714	-65.22
3692		12	-17.276	20.095	3.917	0	13.985	-71.742
3693		13	28.382	-151.155	-6.443	0	14.638	-343.413
3694		14	28.382	-151.155	-6.443	0	12.547	-294.354
3695		15	28.382	-151.155	-6.443	0	10.456	-245.295
3696		16	28.382	-151.155	-6.443	0	8.364	-196.236
3697		17	28.382	-151.155	-6.443	0	6.273	-147.177
3698		18	28.382	-151.155	-6.443	0	4.182	-98.118
3699		19	28.382	-151.155	-6.443	0	2.091	-49.059
3700		20	28.382	-151.155	-6.443	0	0	0
3701	6	R4	1	-17.275	19.744	3.914	0	0
3702		2	-17.275	19.744	3.914	0	1.27	-6.408
3703		3	-17.275	19.744	3.914	0	2.541	-12.816
3704		4	-17.275	19.744	3.914	0	3.811	-19.224
3705		5	-17.275	19.744	3.914	0	5.082	-25.632
3706		6	-17.275	19.744	3.914	0	6.352	-32.04
3707		7	-17.275	19.744	3.914	0	7.623	-38.448
3708		8	-17.275	19.744	3.914	0	8.893	-44.856
3709		9	-17.275	19.744	3.914	0	10.163	-51.264
3710		10	-17.275	19.744	3.914	0	11.434	-57.673
3711		11	-17.275	19.744	3.914	0	12.704	-64.081
3712		12	-17.275	19.744	3.914	0	13.975	-70.489
3713		13	28.38	-150.58	-6.438	0	14.626	-342.107
3714		14	28.38	-150.58	-6.438	0	12.536	-293.234
3715		15	28.38	-150.58	-6.438	0	10.447	-244.362
3716		16	28.38	-150.58	-6.438	0	8.358	-195.49
3717		17	28.38	-150.58	-6.438	0	6.268	-146.617
3718		18	28.38	-150.58	-6.438	0	4.179	-97.745
3719		19	28.38	-150.58	-6.438	0	2.089	-48.872
3720		20	28.38	-150.58	-6.438	0	0	0
3721	6	R5	1	-17.275	19.823	3.914	0	0



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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 Checked By : CWT

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
3722		2	-17.275	19.823	3.914	0	1.27	-6.434	
3723		3	-17.275	19.823	3.914	0	2.541	-12.868	
3724		4	-17.275	19.823	3.914	0	3.811	-19.302	
3725		5	-17.275	19.823	3.914	0	5.082	-25.736	
3726		6	-17.275	19.823	3.914	0	6.352	-32.17	
3727		7	-17.275	19.823	3.914	0	7.623	-38.603	
3728		8	-17.275	19.823	3.914	0	8.893	-45.037	
3729		9	-17.275	19.823	3.914	0	10.163	-51.471	
3730		10	-17.275	19.823	3.914	0	11.434	-57.905	
3731		11	-17.275	19.823	3.914	0	12.704	-64.339	
3732		12	-17.275	19.823	3.914	0	13.975	-70.773	
3733		13	28.38	-150.711	-6.438	0	14.626	-342.404	
3734		14	28.38	-150.711	-6.438	0	12.536	-293.489	
3735		15	28.38	-150.711	-6.438	0	10.447	-244.574	
3736		16	28.38	-150.711	-6.438	0	8.358	-195.659	
3737		17	28.38	-150.711	-6.438	0	6.268	-146.744	
3738		18	28.38	-150.711	-6.438	0	4.179	-97.83	
3739		19	28.38	-150.711	-6.438	0	2.089	-48.915	
3740		20	28.38	-150.711	-6.438	0	0	0	
3741	6	R6	1	-17.275	19.835	3.914	0	0	0
3742		2	-17.275	19.835	3.914	0	1.27	-6.438	
3743		3	-17.275	19.835	3.914	0	2.541	-12.875	
3744		4	-17.275	19.835	3.914	0	3.811	-19.313	
3745		5	-17.275	19.835	3.914	0	5.082	-25.75	
3746		6	-17.275	19.835	3.914	0	6.352	-32.188	
3747		7	-17.275	19.835	3.914	0	7.623	-38.625	
3748		8	-17.275	19.835	3.914	0	8.893	-45.063	
3749		9	-17.275	19.835	3.914	0	10.163	-51.5	
3750		10	-17.275	19.835	3.914	0	11.434	-57.938	
3751		11	-17.275	19.835	3.914	0	12.704	-64.376	
3752		12	-17.275	19.835	3.914	0	13.975	-70.813	
3753		13	28.38	-150.729	-6.438	0	14.626	-342.447	
3754		14	28.38	-150.729	-6.438	0	12.536	-293.526	
3755		15	28.38	-150.729	-6.438	0	10.447	-244.605	
3756		16	28.38	-150.729	-6.438	0	8.358	-195.684	
3757		17	28.38	-150.729	-6.438	0	6.268	-146.763	
3758		18	28.38	-150.729	-6.438	0	4.179	-97.842	
3759		19	28.38	-150.729	-6.438	0	2.089	-48.921	
3760		20	28.38	-150.729	-6.438	0	0	0	
3761	6	R7	1	-17.278	19.757	3.9	0	0	0
3762		2	-17.278	19.757	3.9	0	1.266	-6.412	
3763		3	-17.278	19.757	3.9	0	2.532	-12.825	
3764		4	-17.278	19.757	3.9	0	3.798	-19.237	
3765		5	-17.278	19.757	3.9	0	5.064	-25.649	
3766		6	-17.278	19.757	3.9	0	6.329	-32.061	
3767		7	-17.278	19.757	3.9	0	7.595	-38.474	
3768		8	-17.278	19.757	3.9	0	8.861	-44.886	
3769		9	-17.278	19.757	3.9	0	10.127	-51.298	
3770		10	-17.278	19.757	3.9	0	11.393	-57.71	
3771		11	-17.278	19.757	3.9	0	12.659	-64.123	
3772		12	-17.278	19.757	3.9	0	13.925	-70.535	
3773		13	28.385	-150.6	-6.415	0	14.574	-342.154	
3774		14	28.385	-150.6	-6.415	0	12.492	-293.275	
3775		15	28.385	-150.6	-6.415	0	10.41	-244.396	
3776		16	28.385	-150.6	-6.415	0	8.328	-195.517	
3777		17	28.385	-150.6	-6.415	0	6.246	-146.638	
3778		18	28.385	-150.6	-6.415	0	4.164	-97.759	
3779		19	28.385	-150.6	-6.415	0	2.082	-48.88	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3780		20	28.385	-150.6	-6.415	0	0	0
3781	6	1	-17.275	24.43	3.914	0	0	0
3782		2	-17.275	24.43	3.914	0	1.27	-7.929
3783		3	-17.275	24.43	3.914	0	2.541	-15.858
3784		4	-17.275	24.43	3.914	0	3.811	-23.787
3785		5	-17.275	24.43	3.914	0	5.082	-31.716
3786		6	-17.275	24.43	3.914	0	6.352	-39.645
3787		7	-17.275	24.43	3.914	0	7.623	-47.573
3788		8	-17.275	24.43	3.914	0	8.893	-55.502
3789		9	-17.275	24.43	3.914	0	10.163	-63.431
3790		10	-17.275	24.43	3.914	0	11.434	-71.36
3791		11	-17.275	24.43	3.914	0	12.704	-79.289
3792		12	-17.275	24.43	3.914	0	13.975	-87.218
3793		13	28.38	-158.279	-6.438	0	14.626	-359.598
3794		14	28.38	-158.279	-6.438	0	12.536	-308.227
3795		15	28.38	-158.279	-6.438	0	10.447	-256.855
3796		16	28.38	-158.279	-6.438	0	8.358	-205.484
3797		17	28.38	-158.279	-6.438	0	6.268	-154.113
3798		18	28.38	-158.279	-6.438	0	4.179	-102.742
3799		19	28.38	-158.279	-6.438	0	2.089	-51.371
3800		20	28.38	-158.279	-6.438	0	0	0
3801	6	1	-17.275	23.371	3.914	0	0	0
3802		2	-17.275	23.371	3.914	0	1.27	-7.585
3803		3	-17.275	23.371	3.914	0	2.541	-15.171
3804		4	-17.275	23.371	3.914	0	3.811	-22.756
3805		5	-17.275	23.371	3.914	0	5.082	-30.342
3806		6	-17.275	23.371	3.914	0	6.352	-37.927
3807		7	-17.275	23.371	3.914	0	7.623	-45.513
3808		8	-17.275	23.371	3.914	0	8.893	-53.098
3809		9	-17.275	23.371	3.914	0	10.163	-60.684
3810		10	-17.275	23.371	3.914	0	11.434	-68.269
3811		11	-17.275	23.371	3.914	0	12.704	-75.854
3812		12	-17.275	23.371	3.914	0	13.975	-83.44
3813		13	28.38	-156.54	-6.438	0	14.626	-355.647
3814		14	28.38	-156.54	-6.438	0	12.536	-304.84
3815		15	28.38	-156.54	-6.438	0	10.447	-254.034
3816		16	28.38	-156.54	-6.438	0	8.358	-203.227
3817		17	28.38	-156.54	-6.438	0	6.268	-152.42
3818		18	28.38	-156.54	-6.438	0	4.179	-101.613
3819		19	28.38	-156.54	-6.438	0	2.089	-50.807
3820		20	28.38	-156.54	-6.438	0	0	0
3821	6	1	-17.275	19.491	3.914	0	0	0
3822		2	-17.275	19.491	3.914	0	1.27	-6.326
3823		3	-17.275	19.491	3.914	0	2.541	-12.652
3824		4	-17.275	19.491	3.914	0	3.811	-18.978
3825		5	-17.275	19.491	3.914	0	5.082	-25.304
3826		6	-17.275	19.491	3.914	0	6.352	-31.63
3827		7	-17.275	19.491	3.914	0	7.623	-37.956
3828		8	-17.275	19.491	3.914	0	8.893	-44.282
3829		9	-17.275	19.491	3.914	0	10.163	-50.608
3830		10	-17.275	19.491	3.914	0	11.434	-56.935
3831		11	-17.275	19.491	3.914	0	12.704	-63.261
3832		12	-17.275	19.491	3.914	0	13.975	-69.587
3833		13	28.38	-150.165	-6.438	0	14.626	-341.163
3834		14	28.38	-150.165	-6.438	0	12.536	-292.426
3835		15	28.38	-150.165	-6.438	0	10.447	-243.688
3836		16	28.38	-150.165	-6.438	0	8.358	-194.95
3837		17	28.38	-150.165	-6.438	0	6.268	-146.213

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3838		18	28.38	-150.165	-6.438	0	4.179	-97.475
3839		19	28.38	-150.165	-6.438	0	2.089	-48.738
3840		20	28.38	-150.165	-6.438	0	0	0
3841	6	R11	1	-17.275	19.875	3.914	0	0
3842		2	-17.275	19.875	3.914	0	1.27	-6.451
3843		3	-17.275	19.875	3.914	0	2.541	-12.901
3844		4	-17.275	19.875	3.914	0	3.811	-19.352
3845		5	-17.275	19.875	3.914	0	5.082	-25.803
3846		6	-17.275	19.875	3.914	0	6.352	-32.253
3847		7	-17.275	19.875	3.914	0	7.623	-38.704
3848		8	-17.275	19.875	3.914	0	8.893	-45.155
3849		9	-17.275	19.875	3.914	0	10.163	-51.605
3850		10	-17.275	19.875	3.914	0	11.434	-58.056
3851		11	-17.275	19.875	3.914	0	12.704	-64.507
3852		12	-17.275	19.875	3.914	0	13.975	-70.957
3853		13	28.38	-150.796	-6.438	0	14.626	-342.597
3854		14	28.38	-150.796	-6.438	0	12.536	-293.654
3855		15	28.38	-150.796	-6.438	0	10.447	-244.712
3856		16	28.38	-150.796	-6.438	0	8.358	-195.77
3857		17	28.38	-150.796	-6.438	0	6.268	-146.827
3858		18	28.38	-150.796	-6.438	0	4.179	-97.885
3859		19	28.38	-150.796	-6.438	0	2.089	-48.942
3860		20	28.38	-150.796	-6.438	0	0	0
3861	6	R12	1	-17.275	19.867	3.914	0	0
3862		2	-17.275	19.867	3.914	0	1.27	-6.448
3863		3	-17.275	19.867	3.914	0	2.541	-12.896
3864		4	-17.275	19.867	3.914	0	3.811	-19.344
3865		5	-17.275	19.867	3.914	0	5.082	-25.793
3866		6	-17.275	19.867	3.914	0	6.352	-32.241
3867		7	-17.275	19.867	3.914	0	7.623	-38.689
3868		8	-17.275	19.867	3.914	0	8.893	-45.137
3869		9	-17.275	19.867	3.914	0	10.163	-51.585
3870		10	-17.275	19.867	3.914	0	11.434	-58.033
3871		11	-17.275	19.867	3.914	0	12.704	-64.481
3872		12	-17.275	19.867	3.914	0	13.975	-70.93
3873		13	28.38	-150.783	-6.438	0	14.626	-342.568
3874		14	28.38	-150.783	-6.438	0	12.536	-293.629
3875		15	28.38	-150.783	-6.438	0	10.447	-244.691
3876		16	28.38	-150.783	-6.438	0	8.358	-195.753
3877		17	28.38	-150.783	-6.438	0	6.268	-146.815
3878		18	28.38	-150.783	-6.438	0	4.179	-97.876
3879		19	28.38	-150.783	-6.438	0	2.089	-48.938
3880		20	28.38	-150.783	-6.438	0	0	0
3881	6	R13	1	-17.275	19.517	3.914	0	0
3882		2	-17.275	19.517	3.914	0	1.27	-6.334
3883		3	-17.275	19.517	3.914	0	2.541	-12.669
3884		4	-17.275	19.517	3.914	0	3.811	-19.003
3885		5	-17.275	19.517	3.914	0	5.082	-25.337
3886		6	-17.275	19.517	3.914	0	6.352	-31.672
3887		7	-17.275	19.517	3.914	0	7.623	-38.006
3888		8	-17.275	19.517	3.914	0	8.893	-44.34
3889		9	-17.275	19.517	3.914	0	10.163	-50.675
3890		10	-17.275	19.517	3.914	0	11.434	-57.009
3891		11	-17.275	19.517	3.914	0	12.704	-63.343
3892		12	-17.275	19.517	3.914	0	13.975	-69.678
3893		13	28.38	-150.206	-6.438	0	14.626	-341.258
3894		14	28.38	-150.206	-6.438	0	12.536	-292.507
3895		15	28.38	-150.206	-6.438	0	10.447	-243.756



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3896		16	28.38	-150.206	-6.438	0	8.358	-195.005
3897		17	28.38	-150.206	-6.438	0	6.268	-146.254
3898		18	28.38	-150.206	-6.438	0	4.179	-97.502
3899		19	28.38	-150.206	-6.438	0	2.089	-48.751
3900		20	28.38	-150.206	-6.438	0	0	0
3901	6	R14	1	-17.276	21.019	3.914	0	0
3902		2	-17.276	21.019	3.914	0	1.27	-6.822
3903		3	-17.276	21.019	3.914	0	2.541	-13.644
3904		4	-17.276	21.019	3.914	0	3.811	-20.466
3905		5	-17.276	21.019	3.914	0	5.081	-27.288
3906		6	-17.276	21.019	3.914	0	6.351	-34.11
3907		7	-17.276	21.019	3.914	0	7.622	-40.932
3908		8	-17.276	21.019	3.914	0	8.892	-47.753
3909		9	-17.276	21.019	3.914	0	10.162	-54.575
3910		10	-17.276	21.019	3.914	0	11.432	-61.397
3911		11	-17.276	21.019	3.914	0	12.703	-68.219
3912		12	-17.276	21.019	3.914	0	13.973	-75.041
3913		13	28.382	-152.675	-6.436	0	14.623	-346.866
3914		14	28.382	-152.675	-6.436	0	12.534	-297.314
3915		15	28.382	-152.675	-6.436	0	10.445	-247.762
3916		16	28.382	-152.675	-6.436	0	8.356	-198.209
3917		17	28.382	-152.675	-6.436	0	6.267	-148.657
3918		18	28.382	-152.675	-6.436	0	4.178	-99.105
3919		19	28.382	-152.675	-6.436	0	2.089	-49.552
3920		20	28.382	-152.675	-6.436	0	0	0
3921	6	R15	1	-12.209	18.491	0.544	0	0
3922		2	-12.209	18.491	0.544	0	0.177	-6.001
3923		3	-12.209	18.491	0.544	0	0.353	-12.003
3924		4	-12.209	18.491	0.544	0	0.53	-18.004
3925		5	-12.209	18.491	0.544	0	0.707	-24.006
3926		6	-12.209	18.491	0.544	0	0.883	-30.007
3927		7	-12.209	18.491	0.544	0	1.06	-36.009
3928		8	-12.209	18.491	0.544	0	1.237	-42.01
3929		9	-12.209	18.491	0.544	0	1.413	-48.012
3930		10	-12.209	18.491	0.544	0	1.59	-54.013
3931		11	-12.209	18.491	0.544	0	1.767	-60.014
3932		12	-12.209	18.491	0.544	0	1.943	-66.016
3933		13	20.058	-137.674	-12.171	0	27.651	-312.785
3934		14	20.058	-137.674	-12.171	0	23.701	-268.102
3935		15	20.058	-137.674	-12.171	0	19.751	-223.418
3936		16	20.058	-137.674	-12.171	0	15.801	-178.735
3937		17	20.058	-137.674	-12.171	0	11.851	-134.051
3938		18	20.058	-137.674	-12.171	0	7.9	-89.367
3939		19	20.058	-137.674	-12.171	0	3.95	-44.684
3940		20	20.058	-137.674	-12.171	0	0	0
3941	6	M33	1	-6.606	6.458	0.568	0	0
3942		2	-6.606	6.458	0.568	0	0.161	-1.833
3943		3	-6.606	6.458	0.568	0	0.322	-3.665
3944		4	-6.606	6.458	0.568	0	0.484	-5.498
3945		5	-6.606	6.458	0.568	0	0.645	-7.33
3946		6	-6.606	6.458	0.568	0	0.806	-9.163
3947		7	-6.606	6.458	0.568	0	0.967	-10.995
3948		8	-6.606	6.458	0.568	0	1.129	-12.828
3949		9	-6.606	6.458	0.568	0	1.29	-14.66
3950		10	-6.606	6.458	0.568	0	1.451	-16.493
3951		11	-6.606	6.458	0.568	0	1.612	-18.325
3952		12	-6.606	6.458	0.568	0	1.774	-20.158
3953		13	-6.606	6.458	0.568	0	1.935	-21.99





**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3954		14	-6.606	6.458	0.568	0	2.096	-23.823
3955		15	-6.606	6.458	0.568	0	2.257	-25.655
3956		16	-6.606	6.458	0.568	0	2.419	-27.488
3957		17	-6.606	6.458	0.568	0	2.58	-29.32
3958		18	-6.606	6.458	0.568	0	2.741	-31.153
3959		19	-6.606	6.458	0.568	0	2.902	-32.985
3960		20	-6.606	6.458	0.568	0	3.063	-34.818

**Maximum Member Section Forces**

LC	Member Label	Axial[k]	Loc[ft]	y Shear[k]	Loc[ft]	z Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]		
1	1	A1	max	0	2.029	0	0	0	2.029	0	2.029	0	2.029	4.657	2.029
2			min	0	0	-4.59	2.029	0	0	0	0	0	0	0	0
3	1	A2	max	-6.031	0	-17.717	0	7.028	0	-20.537	0	6.545	0.851	92.421	2.378
4			min	-8.625	2.378	-73.169	2.378	-12.427	2.378	-129.243	2.378	-2.894	2.378	-15.657	0
5	1	A3	max	4.075	0	84.408	0	30.551	0	170.715	0	19.02	3.696	112.403	7.47
6			min	-4.073	7.47	-89.758	7.47	-30.552	7.47	-170.713	7.47	-38.032	7.47	-60.37	3.617
7	1	A4	max	4.074	0	87.748	0	30.553	0	170.715	0	19.012	3.774	112.403	0
8			min	-4.074	7.47	-86.419	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-52.715	3.774
9	1	A5	max	4.074	0	86.927	0	30.553	0	170.714	0	19.012	3.774	108.609	7.47
10			min	-4.074	7.47	-87.24	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-54.592	3.696
11	1	A6	max	4.074	0	87.086	0	30.553	0	170.714	0	19.012	3.774	108.609	0
12			min	-4.074	7.47	-87.081	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-54.012	3.774
13	1	A7	max	4.074	0	87.228	0	30.553	0	170.714	0	19.012	3.774	108.588	0
14			min	-4.074	7.47	-86.939	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-54.568	3.774
15	1	A8	max	4.074	0	86.465	0	30.553	0	170.714	0	19.012	3.774	113.215	7.47
16			min	-4.074	7.47	-89.598	7.47	-30.55	7.47	-170.715	7.47	-38.043	0	-52.815	3.696
17	1	A9	max	4.074	0	93.036	0	30.553	0	170.714	0	19.012	3.774	114.977	7.47
18			min	-4.074	7.47	-93.508	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-60.08	3.696
19	1	A10	max	4.074	0	91.633	0	30.553	0	170.715	0	19.012	3.774	114.977	0
20			min	-4.074	7.47	-87.006	7.47	-30.55	7.47	-170.713	7.47	-38.043	0	-53.962	3.774
21	1	A11	max	4.074	0	87.031	0	30.553	0	170.714	0	19.012	3.774	108.476	7.47
22			min	-4.074	7.47	-87.136	7.47	-30.55	7.47	-170.715	7.47	-38.043	0	-54.332	3.696
23	1	A12	max	4.074	0	87.079	0	30.553	0	170.714	0	19.012	3.774	108.508	7.47
24			min	-4.074	7.47	-87.088	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-54.118	3.696
25	1	A13	max	4.074	0	87.154	0	30.553	0	170.714	0	19.012	3.774	108.508	0
26			min	-4.074	7.47	-87.013	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-54.368	3.774
27	1	A14	max	4.074	0	86.787	0	30.553	0	170.714	0	19.012	3.774	110.196	7.47
28			min	-4.074	7.47	-87.38	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-53.534	3.696
29	1	A15	max	4.086	0	88.276	0	30.557	0	170.711	0	19.023	3.774	110.196	0
30			min	-4.063	7.47	-85.891	7.47	-30.546	7.47	-170.718	7.47	-38.045	0	-56.916	3.774
31	1	A16	max	11.858	0	89.334	0	20.295	0	100.396	0	15.481	2.464	101.286	0
32			min	7.673	3.837	-0.119	3.837	-11.088	3.837	-74.965	3.837	-9.696	0	-69.858	3.837
33	1	A17	max	0	2.125	4.807	0	0	2.125	0	2.125	0	2.125	5.107	0
34			min	0	0	0	2.125	0	0	0	0	0	0	0	2.125
35	1	R1	max	13.266	3.3	-32.128	3.3	-2.415	3.3	0	3.3	7.968	0	0	3.3
36			min	13.266	0	-32.128	0	-2.415	0	0	0	0	3.3	-106.016	0
37	1	R2	max	31.604	6.167	22.337	3.83	10.615	3.83	0	6.167	40.654	3.83	0	6.167
38			min	-19.237	0	-152.888	3.895	-5.306	3.895	0	0	0	0	-347.351	3.895
39	1	R3	max	37.985	6.167	11.098	3.83	3.085	3.83	0	6.167	11.815	3.83	0	6.167
40			min	-23.121	0	-164.558	3.895	-5.075	3.895	0	0	0	0	-373.864	3.895
41	1	R4	max	37.983	6.167	10.395	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167
42			min	-23.12	0	-163.405	3.895	-5.067	3.895	0	0	0	0	-371.243	3.895
43	1	R5	max	37.983	6.167	10.562	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167
44			min	-23.12	0	-163.679	3.895	-5.067	3.895	0	0	0	0	-371.867	3.895
45	1	R6	max	37.983	6.167	10.552	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167
46			min	-23.12	0	-163.663	3.895	-5.067	3.895	0	0	0	0	-371.83	3.895
47	1	R7	max	37.987	6.167	10.485	3.83	3.062	3.83	0	6.167	11.728	3.83	0	6.167
48			min	-23.123	0	-163.552	3.895	-5.036	3.895	0	0	0	0	-371.578	3.895



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Maximum Member Section Forces (Continued)**

LC	Member Label	Axial[k]	Loc[ft]	y Shear[k]	Loc[ft]	z Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]		
49	1	R8	max	37.983	6.167	14.686	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167
50			min	-23.12	0	-170.455	3.895	-5.067	3.895	0	0	0	0	-387.261	3.895
51	1	R9	max	37.983	6.167	13.738	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167
52			min	-23.12	0	-168.896	3.895	-5.067	3.895	0	0	0	0	-383.72	3.895
53	1	R10	max	37.983	6.167	10.245	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167
54			min	-23.12	0	-163.158	3.895	-5.067	3.895	0	0	0	0	-370.684	3.895
55	1	R11	max	37.983	6.167	10.588	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167
56			min	-23.12	0	-163.721	3.895	-5.067	3.895	0	0	0	0	-371.962	3.895
57	1	R12	max	37.983	6.167	10.594	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167
58			min	-23.12	0	-163.732	3.895	-5.067	3.895	0	0	0	0	-371.987	3.895
59	1	R13	max	37.983	6.167	10.224	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167
60			min	-23.12	0	-163.122	3.895	-5.067	3.895	0	0	0	0	-370.602	3.895
61	1	R14	max	37.985	6.167	11.798	3.83	3.081	3.83	0	6.167	11.799	3.83	0	6.167
62			min	-23.121	0	-165.709	3.895	-5.066	3.895	0	0	0	0	-376.478	3.895
63	1	R15	max	26.716	6.167	10.982	3.83	-0.891	3.83	0	6.167	30.88	3.895	0	6.167
64			min	-16.262	0	-146.595	3.895	-13.592	3.895	0	0	-3.413	3.83	-333.054	3.895
65	1	M33	max	-9.238	5.392	5.358	5.392	0.654	5.392	0	5.392	3.527	5.392	0	0
66			min	-9.238	0	5.358	0	0.654	0	0	0	0	0	-28.887	5.392
67	2	A1	max	0	2.029	0	0	0	2.029	0	2.029	0	2.029	6.468	2.029
68			min	0	0	-6.375	2.029	0	0	0	0	0	0	0	0
69	2	A2	max	-6.031	0	-24.202	0	7.028	0	-30.074	0	6.545	0.851	123.922	2.378
70			min	-8.625	2.378	-99.583	2.378	-12.427	2.378	-138.78	2.378	-2.894	2.378	-23.279	0
71	2	A3	max	4.075	0	114.458	0	30.551	0	170.714	0	19.02	3.696	153.227	7.47
72			min	-4.073	7.47	-122.304	7.47	-30.552	7.47	-170.714	7.47	-38.032	7.47	-82.744	3.617
73	2	A4	max	4.074	0	119.355	0	30.553	0	170.715	0	19.012	3.774	153.227	0
74			min	-4.074	7.47	-117.406	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-71.503	3.774
75	2	A5	max	4.074	0	118.15	0	30.553	0	170.714	0	19.012	3.774	147.667	7.47
76			min	-4.074	7.47	-118.611	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-74.254	3.696
77	2	A6	max	4.074	0	118.388	0	30.553	0	170.714	0	19.012	3.774	147.667	0
78			min	-4.074	7.47	-118.373	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-73.411	3.774
79	2	A7	max	4.074	0	118.58	0	30.553	0	170.714	0	19.012	3.774	147.613	0
80			min	-4.074	7.47	-118.181	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-74.192	3.774
81	2	A8	max	4.074	0	117.522	0	30.553	0	170.714	0	19.012	3.774	154.041	7.47
82			min	-4.074	7.47	-121.872	7.47	-30.55	7.47	-170.715	7.47	-38.043	0	-71.757	3.696
83	2	A9	max	4.074	0	126.646	0	30.553	0	170.714	0	19.012	3.774	156.506	7.47
84			min	-4.074	7.47	-127.306	7.47	-30.55	7.47	-170.715	7.47	-38.043	0	-81.84	3.696
85	2	A10	max	4.074	0	124.709	0	30.553	0	170.716	0	19.012	3.774	156.506	0
86			min	-4.074	7.47	-118.263	7.47	-30.55	7.47	-170.713	7.47	-38.043	0	-73.37	3.774
87	2	A11	max	4.074	0	118.314	0	30.553	0	170.714	0	19.012	3.774	147.464	7.47
88			min	-4.074	7.47	-118.447	7.47	-30.55	7.47	-170.715	7.47	-38.043	0	-73.837	3.696
89	2	A12	max	4.074	0	118.382	0	30.553	0	170.714	0	19.012	3.774	147.464	0
90			min	-4.074	7.47	-118.379	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-73.592	3.774
91	2	A13	max	4.074	0	118.441	0	30.553	0	170.714	0	19.012	3.774	147.455	0
92			min	-4.074	7.47	-118.32	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-73.826	3.774
93	2	A14	max	4.074	0	118.12	0	30.553	0	170.714	0	19.012	3.774	148.944	7.47
94			min	-4.074	7.47	-118.641	7.47	-30.55	7.47	-170.714	7.47	-38.043	0	-73.089	3.696
95	2	A15	max	4.086	0	119.428	0	30.557	0	170.709	0	19.023	3.774	148.944	0
96			min	-4.063	7.47	-117.333	7.47	-30.546	7.47	-170.72	7.47	-38.045	0	-76.06	3.774
97	2	A16	max	11.858	0	122.329	0	20.295	0	73.326	0	15.481	2.464	141.12	0
98			min	7.673	3.837	0.727	3.837	-11.088	3.837	-102.035	3.837	-9.696	0	-94.942	3.837
99	2	A17	max	0	2.125	6.676	0	0	2.125	0	2.125	0	2.125	7.093	0
100			min	0	0	0	2.125	0	0	0	0	0	0	0	2.125
101	2	R1	max	13.266	3.3	-43.729	3.3	-2.415	3.3	0	3.3	7.968	0	0	3.3
102			min	13.266	0	-43.729	0	-2.415	0	0	0	0	3.3	-144.3	0
103	2	R2	max	31.604	6.167	51.108	3.83	10.615	3.83	0	6.167	40.654	3.83	0	6.167
104			min	-19.237	0	-188.554	3.895	-5.306	3.895	0	0	0	0	-428.382	3.895
105	2	R3	max	37.985	6.167	34.714	3.83	3.085	3.83	0	6.167	11.815	3.83	0	6.167
106			min	-23.121	0	-203.355	3.895	-5.075	3.895	0	0	0	0	-462.007	3.895





Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Maximum Member Section Forces (Continued)**

LC	Member Label		Axial[k]	Loc[ft]	y	Shear[k]	Loc[ft]	z	Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]
107	2	R4	max	37.983	6.167	34.097	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
108			min	-23.12	0	-202.343	3.895	-5.067	3.895	0	0	0	0	-459.709	3.895	
109	2	R5	max	37.983	6.167	34.241	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
110			min	-23.12	0	-202.58	3.895	-5.067	3.895	0	0	0	0	-460.246	3.895	
111	2	R6	max	37.983	6.167	34.244	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
112			min	-23.12	0	-202.585	3.895	-5.067	3.895	0	0	0	0	-460.258	3.895	
113	2	R7	max	37.987	6.167	34.149	3.83	3.062	3.83	0	6.167	11.728	3.83	0	6.167	
114			min	-23.123	0	-202.428	3.895	-5.036	3.895	0	0	0	0	-459.903	3.895	
115	2	R8	max	37.983	6.167	39.99	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
116			min	-23.12	0	-212.025	3.895	-5.067	3.895	0	0	0	0	-481.706	3.895	
117	2	R9	max	37.983	6.167	38.667	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
118			min	-23.12	0	-209.851	3.895	-5.067	3.895	0	0	0	0	-476.766	3.895	
119	2	R10	max	37.983	6.167	33.818	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
120			min	-23.12	0	-201.885	3.895	-5.067	3.895	0	0	0	0	-458.667	3.895	
121	2	R11	max	37.983	6.167	34.291	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
122			min	-23.12	0	-202.662	3.895	-5.067	3.895	0	0	0	0	-460.434	3.895	
123	2	R12	max	37.983	6.167	34.308	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
124			min	-23.12	0	-202.69	3.895	-5.067	3.895	0	0	0	0	-460.498	3.895	
125	2	R13	max	37.983	6.167	33.763	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
126			min	-23.12	0	-201.793	3.895	-5.067	3.895	0	0	0	0	-458.46	3.895	
127	2	R14	max	37.985	6.167	36.071	3.83	3.081	3.83	0	6.167	11.799	3.83	0	6.167	
128			min	-23.121	0	-205.587	3.895	-5.066	3.895	0	0	0	0	-467.08	3.895	
129	2	R15	max	26.716	6.167	30.8	3.83	-0.891	3.83	0	6.167	30.88	3.895	0	6.167	
130			min	-16.262	0	-183.241	3.895	-13.592	3.895	0	0	-3.413	3.83	-416.31	3.895	
131	2	M33	max	-9.238	5.392	7.845	5.392	0.654	5.392	0	5.392	3.527	5.392	0	0	
132			min	-9.238	0	7.845	0	0.654	0	0	0	0	0	-42.301	5.392	
133	3	A1	max	0	2.029	0	0	0	2.029	0	2.029	0	2.029	7.762	2.029	
134			min	0	0	-7.65	2.029	0	0	0	0	0	0	0	0	
135	3	A2	max	-6.017	0	-28.077	0	7.001	0	-39.789	0	6.493	0.851	113.361	2.378	
136			min	-8.511	2.378	-93.82	2.378	-12.353	2.378	-147.084	2.378	-2.883	2.378	-31.595	0	
137	3	A3	max	3.918	0	100.707	0	30.394	0	168.499	0	18.923	3.696	132.317	7.47	
138			min	-3.916	7.47	-105.782	7.47	-30.396	7.47	-168.498	7.47	-37.837	7.47	-70.077	3.617	
139	3	A4	max	3.917	0	103.873	0	30.396	0	168.499	0	18.914	3.774	132.317	0	
140			min	-3.917	7.47	-102.616	7.47	-30.393	7.47	-168.498	7.47	-37.848	0	-62.844	3.774	
141	3	A5	max	3.917	0	103.103	0	30.396	0	168.498	0	18.914	3.774	128.679	7.47	
142			min	-3.917	7.47	-103.386	7.47	-30.393	7.47	-168.499	7.47	-37.848	0	-64.644	3.696	
143	3	A6	max	3.917	0	103.22	0	30.396	0	168.499	0	18.914	3.774	128.865	7.47	
144			min	-3.917	7.47	-103.27	7.47	-30.393	7.47	-168.499	7.47	-37.848	0	-64.017	3.696	
145	3	A7	max	3.917	0	103.493	0	30.396	0	168.499	0	18.914	3.774	128.865	0	
146			min	-3.917	7.47	-102.997	7.47	-30.393	7.47	-168.498	7.47	-37.848	0	-64.859	3.774	
147	3	A8	max	3.917	0	102.213	0	30.396	0	168.498	0	18.914	3.774	136.529	7.47	
148			min	-3.917	7.47	-107.436	7.47	-30.393	7.47	-168.5	7.47	-37.848	0	-61.961	3.696	
149	3	A9	max	3.917	0	113.162	0	30.396	0	168.498	0	18.914	3.774	139.495	7.47	
150			min	-3.917	7.47	-113.956	7.47	-30.393	7.47	-168.499	7.47	-37.848	0	-74.052	3.696	
151	3	A10	max	3.917	0	110.845	0	30.396	0	168.5	0	18.914	3.774	139.495	0	
152			min	-3.917	7.47	-103.098	7.47	-30.393	7.47	-168.497	7.47	-37.848	0	-63.907	3.774	
153	3	A11	max	3.917	0	103.165	0	30.396	0	168.498	0	18.914	3.774	128.66	7.47	
154			min	-3.917	7.47	-103.324	7.47	-30.393	7.47	-168.499	7.47	-37.848	0	-64.429	3.696	
155	3	A12	max	3.917	0	103.266	0	30.396	0	168.499	0	18.914	3.774	128.66	0	
156			min	-3.917	7.47	-103.224	7.47	-30.393	7.47	-168.499	7.47	-37.848	0	-64.207	3.774	
157	3	A13	max	3.917	0	103.235	0	30.396	0	168.499	0	18.914	3.774	128.574	7.47	
158			min	-3.917	7.47	-103.254	7.47	-30.393	7.47	-168.499	7.47	-37.848	0	-64.25	3.696	
159	3	A14	max	3.917	0	103.264	0	30.396	0	168.499	0	18.914	3.774	128.574	0	
160			min	-3.917	7.47	-103.226	7.47	-30.393	7.47	-168.499	7.47	-37.848	0	-64.287	3.774	
161	3	A15	max	3.929	0	103.172	0	30.4	0	168.492	0	18.925	3.774	128.973	7.47	
162			min	-3.906	7.47	-103.317	7.47	-30.39	7.47	-168.505	7.47	-37.849	0	-64.089	3.696	
163	3	A16	max	11.697	0	112.779	0	20.177	0	64.298	0	15.364	2.464	128.973	0	
164			min	7.673	3.837	6.724	3.837	-11.045	3.837	-108.787	3.837	-9.647	0	-100.275	3.837	



**Maximum Member Section Forces (Continued)**

LC	Member Label	Axial[k]	Loc[ft]	y Shear[k]	Loc[ft]	z Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]		
165	3	A17	max	0	2.125	8.011	0	2.125	0	2.125	0	2.125	8.512	0	
166			min	0	0	0	2.125	0	0	0	0	0	0	2.125	
167	3	R1	max	13.236	3.3	-46.623	3.3	-2.385	3.3	0	3.3	7.87	0	3.3	
168			min	13.236	0	-46.623	0	-2.385	0	0	0	3.3	-153.848	0	
169	3	R2	max	31.433	6.167	44.014	3.83	10.471	3.83	0	6.167	40.102	3.83	6.167	
170			min	-19.133	0	-172.082	3.895	-5.131	3.895	0	0	0	0	-390.959	3.895
171	3	R3	max	37.79	6.167	23.449	3.83	2.966	3.83	0	6.167	11.361	3.83	6.167	
172			min	-23.003	0	-182.949	3.895	-4.88	3.895	0	0	0	0	-415.646	3.895
173	3	R4	max	37.788	6.167	23.494	3.83	2.962	3.83	0	6.167	11.345	3.83	6.167	
174			min	-23.001	0	-183.024	3.895	-4.872	3.895	0	0	0	0	-415.818	3.895
175	3	R5	max	37.788	6.167	23.472	3.83	2.962	3.83	0	6.167	11.345	3.83	6.167	
176			min	-23.001	0	-182.988	3.895	-4.872	3.895	0	0	0	0	-415.735	3.895
177	3	R6	max	37.788	6.167	23.521	3.83	2.962	3.83	0	6.167	11.345	3.83	6.167	
178			min	-23.001	0	-183.069	3.895	-4.872	3.895	0	0	0	0	-415.92	3.895
179	3	R7	max	37.792	6.167	23.398	3.83	2.944	3.83	0	6.167	11.274	3.83	6.167	
180			min	-23.004	0	-182.865	3.895	-4.842	3.895	0	0	0	0	-415.457	3.895
181	3	R8	max	37.788	6.167	30.411	3.83	2.962	3.83	0	6.167	11.345	3.83	6.167	
182			min	-23.001	0	-194.39	3.895	-4.872	3.895	0	0	0	0	-441.64	3.895
183	3	R9	max	37.788	6.167	28.821	3.83	2.962	3.83	0	6.167	11.345	3.83	6.167	
184			min	-23.001	0	-191.777	3.895	-4.872	3.895	0	0	0	0	-435.703	3.895
185	3	R10	max	37.788	6.167	22.999	3.83	2.962	3.83	0	6.167	11.345	3.83	6.167	
186			min	-23.001	0	-182.211	3.895	-4.872	3.895	0	0	0	0	-413.97	3.895
187	3	R11	max	37.788	6.167	23.586	3.83	2.962	3.83	0	6.167	11.345	3.83	6.167	
188			min	-23.001	0	-183.176	3.895	-4.872	3.895	0	0	0	0	-416.163	3.895
189	3	R12	max	37.788	6.167	23.527	3.83	2.962	3.83	0	6.167	11.345	3.83	6.167	
190			min	-23.001	0	-183.079	3.895	-4.872	3.895	0	0	0	0	-415.943	3.895
191	3	R13	max	37.788	6.167	23.191	3.83	2.962	3.83	0	6.167	11.345	3.83	6.167	
192			min	-23.001	0	-182.528	3.895	-4.872	3.895	0	0	0	0	-414.69	3.895
193	3	R14	max	37.79	6.167	24.681	3.83	2.962	3.83	0	6.167	11.345	3.83	6.167	
194			min	-23.002	0	-184.975	3.895	-4.871	3.895	0	0	0	0	-420.25	3.895
195	3	R15	max	26.572	6.167	22.429	3.83	-0.964	3.83	0	6.167	30.43	3.895	6.167	
196			min	-16.174	0	-172.098	3.895	-13.394	3.895	0	0	-3.692	3.83	-390.994	3.895
197	3	M33	max	-9.209	5.392	10.38	5.392	0.646	5.392	0	5.392	3.482	5.392	0	0
198			min	-9.209	0	10.38	0	0.646	0	0	0	0	0	-55.966	5.392
199	4	A1	max	0	2.029	0	0	0	2.029	0	2.029	0	2.029	6.468	2.029
200			min	0	0	-6.375	2.029	0	0	0	0	0	0	0	0
201	4	A2	max	-6.133	0	-24.126	0	7.217	0	-30.366	0	6.925	0.851	118.477	2.378
202			min	-9.449	2.378	-95.324	2.378	-12.959	2.378	-145.58	2.378	-2.973	2.378	-23.568	0
203	4	A3	max	5.209	0	108.346	0	31.684	0	180.935	0	19.726	3.696	144.367	7.47
204			min	-5.206	7.47	-115.277	7.47	-31.685	7.47	-180.934	7.47	-39.441	7.47	-77.586	3.617
205	4	A4	max	5.207	0	112.672	0	31.687	0	180.935	0	19.717	3.774	144.367	0
206			min	-5.207	7.47	-110.951	7.47	-31.683	7.47	-180.934	7.47	-39.456	0	-67.666	3.774
207	4	A5	max	5.207	0	111.609	0	31.687	0	180.935	0	19.717	3.774	139.446	7.47
208			min	-5.207	7.47	-112.013	7.47	-31.683	7.47	-180.935	7.47	-39.456	0	-70.101	3.696
209	4	A6	max	5.207	0	111.812	0	31.687	0	180.935	0	19.717	3.774	139.446	0
210			min	-5.207	7.47	-111.811	7.47	-31.683	7.47	-180.935	7.47	-39.456	0	-69.339	3.774
211	4	A7	max	5.207	0	112.013	0	31.687	0	180.935	0	19.717	3.774	139.446	0
212			min	-5.207	7.47	-111.61	7.47	-31.683	7.47	-180.935	7.47	-39.456	0	-70.1	3.774
213	4	A8	max	5.207	0	110.952	0	31.687	0	180.934	0	19.717	3.774	145.863	7.47
214			min	-5.207	7.47	-115.303	7.47	-31.683	7.47	-180.936	7.47	-39.456	0	-67.67	3.696
215	4	A9	max	5.207	0	120.077	0	31.687	0	180.935	0	19.717	3.774	148.325	7.47
216			min	-5.207	7.47	-120.736	7.47	-31.683	7.47	-180.935	7.47	-39.456	0	-77.753	3.696
217	4	A10	max	5.207	0	118.139	0	31.687	0	180.936	0	19.717	3.774	148.325	0
218			min	-5.207	7.47	-111.695	7.47	-31.683	7.47	-180.933	7.47	-39.456	0	-69.28	3.774
219	4	A11	max	5.207	0	111.743	0	31.687	0	180.934	0	19.717	3.774	139.29	7.47
220			min	-5.207	7.47	-111.879	7.47	-31.683	7.47	-180.935	7.47	-39.456	0	-69.751	3.696
221	4	A12	max	5.207	0	111.814	0	31.687	0	180.935	0	19.717	3.774	139.29	0
222			min	-5.207	7.47	-111.808	7.47	-31.683	7.47	-180.935	7.47	-39.456	0	-69.506	3.774



**Maximum Member Section Forces (Continued)**

LC	Member Label		Axial[k]	Loc[ft]	y Shear[k]	Loc[ft]	z Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]	
223	4	A13	max	5.207	0	111.866	0	31.687	0	180.935	0	19.717	3.774	139.267	0
224			min	-5.207	7.47	-111.756	7.47	-31.683	7.47	-180.935	7.47	-39.456	0	-69.725	3.774
225	4	A14	max	5.207	0	111.574	0	31.687	0	180.935	0	19.717	3.774	140.629	7.47
226			min	-5.207	7.47	-112.049	7.47	-31.683	7.47	-180.935	7.47	-39.456	0	-69.051	3.696
227	4	A15	max	5.219	0	112.767	0	31.69	0	180.93	0	19.728	3.774	140.629	0
228			min	-5.196	7.47	-110.856	7.47	-31.679	7.47	-180.94	7.47	-39.458	0	-71.763	3.774
229	4	A16	max	13.024	0	116.443	0	21.154	0	85.834	0	16.326	2.504	133.49	0
230			min	7.675	3.837	1.588	3.837	-11.393	3.837	-100.026	3.837	-10.049	0	-92.932	3.837
231	4	A17	max	0	2.125	6.676	0	0	2.125	0	2.125	0	2.125	7.093	0
232			min	0	0	0	2.125	0	0	0	0	0	0	0	2.125
233	4	R1	max	13.483	3.3	-42.868	3.3	-2.629	3.3	0	3.3	8.676	0	0	3.3
234			min	13.483	0	-42.868	0	-2.629	0	0	0	0	3.3	-141.458	0
235	4	R2	max	32.842	6.167	42.744	3.83	11.656	3.83	0	6.167	44.641	3.83	0	6.167
236			min	-19.991	0	-184.554	3.895	-6.564	3.895	0	0	0	0	-419.294	3.895
237	4	R3	max	39.394	6.167	26.385	3.83	3.942	3.83	0	6.167	15.098	3.83	0	6.167
238			min	-23.979	0	-198.431	3.895	-6.484	3.895	0	0	0	0	-450.821	3.895
239	4	R4	max	39.392	6.167	25.822	3.83	3.938	3.83	0	6.167	15.082	3.83	0	6.167
240			min	-23.978	0	-197.509	3.895	-6.477	3.895	0	0	0	0	-448.726	3.895
241	4	R5	max	39.392	6.167	25.952	3.83	3.938	3.83	0	6.167	15.082	3.83	0	6.167
242			min	-23.978	0	-197.723	3.895	-6.477	3.895	0	0	0	0	-449.212	3.895
243	4	R6	max	39.392	6.167	25.959	3.83	3.938	3.83	0	6.167	15.082	3.83	0	6.167
244			min	-23.978	0	-197.735	3.895	-6.477	3.895	0	0	0	0	-449.239	3.895
245	4	R7	max	39.397	6.167	25.863	3.83	3.919	3.83	0	6.167	15.008	3.83	0	6.167
246			min	-23.981	0	-197.576	3.895	-6.445	3.895	0	0	0	0	-448.878	3.895
247	4	R8	max	39.392	6.167	31.703	3.83	3.938	3.83	0	6.167	15.082	3.83	0	6.167
248			min	-23.978	0	-207.172	3.895	-6.477	3.895	0	0	0	0	-470.679	3.895
249	4	R9	max	39.392	6.167	30.381	3.83	3.938	3.83	0	6.167	15.082	3.83	0	6.167
250			min	-23.978	0	-204.999	3.895	-6.477	3.895	0	0	0	0	-465.743	3.895
251	4	R10	max	39.392	6.167	25.531	3.83	3.938	3.83	0	6.167	15.082	3.83	0	6.167
252			min	-23.978	0	-197.031	3.895	-6.477	3.895	0	0	0	0	-447.64	3.895
253	4	R11	max	39.392	6.167	26.009	3.83	3.938	3.83	0	6.167	15.082	3.83	0	6.167
254			min	-23.978	0	-197.816	3.895	-6.477	3.895	0	0	0	0	-449.423	3.895
255	4	R12	max	39.392	6.167	26.009	3.83	3.938	3.83	0	6.167	15.082	3.83	0	6.167
256			min	-23.978	0	-197.816	3.895	-6.477	3.895	0	0	0	0	-449.424	3.895
257	4	R13	max	39.392	6.167	25.53	3.83	3.938	3.83	0	6.167	15.082	3.83	0	6.167
258			min	-23.978	0	-197.03	3.895	-6.477	3.895	0	0	0	0	-447.638	3.895
259	4	R14	max	39.394	6.167	27.569	3.83	3.938	3.83	0	6.167	15.08	3.83	0	6.167
260			min	-23.979	0	-200.38	3.895	-6.475	3.895	0	0	0	0	-455.249	3.895
261	4	R15	max	27.751	6.167	24.116	3.83	-0.367	3.83	0	6.167	34.135	3.895	0	6.167
262			min	-16.892	0	-179.554	3.895	-15.025	3.895	0	0	-1.405	3.83	-407.933	3.895
263	4	M33	max	-9.444	5.392	7.922	5.392	0.715	5.392	0	5.392	3.855	5.392	0	0
264			min	-9.444	0	7.922	0	0.715	0	0	0	0	0	-42.712	5.392
265	5	A1	max	0	2.029	0	0	0	2.029	0	2.029	0	2.029	5.174	2.029
266			min	0	0	-5.1	2.029	0	0	0	0	0	0	0	0
267	5	A2	max	-5.188	0	-19.448	0	6.123	0	-23.726	0	5.926	0.851	86.298	2.378
268			min	-8.165	2.378	-68.506	2.378	-11.044	2.378	-163.115	2.378	-2.523	2.378	-18.294	0
269	5	A3	max	4.678	0	75.433	0	26.959	0	218.901	0	16.784	3.696	98.31	7.47
270			min	-4.675	7.47	-78.649	7.47	-26.96	7.47	-218.897	7.47	-33.558	7.47	-51.618	3.696
271	5	A4	max	4.676	0	77.44	0	26.961	0	218.899	0	16.777	3.774	98.31	0
272			min	-4.676	7.47	-76.643	7.47	-26.957	7.47	-218.899	7.47	-33.572	0	-47.052	3.774
273	5	A5	max	4.676	0	76.952	0	26.961	0	218.899	0	16.777	3.774	96.001	7.47
274			min	-4.676	7.47	-77.13	7.47	-26.957	7.47	-218.899	7.47	-33.572	0	-48.194	3.696
275	5	A6	max	4.676	0	77.023	0	26.961	0	218.899	0	16.777	3.774	96.136	7.47
276			min	-4.676	7.47	-77.059	7.47	-26.957	7.47	-218.899	7.47	-33.572	0	-47.791	3.696
277	5	A7	max	4.676	0	77.207	0	26.961	0	218.899	0	16.777	3.774	96.136	0
278			min	-4.676	7.47	-76.875	7.47	-26.957	7.47	-218.899	7.47	-33.572	0	-48.349	3.774
279	5	A8	max	4.676	0	76.352	0	26.961	0	218.898	0	16.777	3.774	101.248	7.47
280			min	-4.676	7.47	-79.836	7.47	-26.957	7.47	-218.9	7.47	-33.572	0	-46.416	3.696



**Maximum Member Section Forces (Continued)**

LC	Member Label		Axial[k]	Loc[ft]	y Shear[k]	Loc[ft]	z Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]	
281	5	A9	max	4.676	0	83.657	0	26.961	0	218.899	0	16.777	3.774	103.197	7.47
282			min	-4.676	7.47	-84.178	7.47	-26.957	7.47	-218.899	7.47	-33.572	0	-54.486	3.696
283	5	A10	max	4.676	0	82.093	0	26.961	0	218.9	0	16.777	3.774	103.197	0
284			min	-4.676	7.47	-76.959	7.47	-26.957	7.47	-218.898	7.47	-33.572	0	-47.679	3.774
285	5	A11	max	4.676	0	76.978	0	26.961	0	218.899	0	16.777	3.774	95.993	7.47
286			min	-4.676	7.47	-77.105	7.47	-26.957	7.47	-218.899	7.47	-33.572	0	-48.105	3.696
287	5	A12	max	4.676	0	77.042	0	26.961	0	218.899	0	16.777	3.774	95.993	0
288			min	-4.676	7.47	-77.041	7.47	-26.957	7.47	-218.899	7.47	-33.572	0	-47.868	3.774
289	5	A13	max	4.676	0	77.102	0	26.961	0	218.899	0	16.777	3.774	95.987	0
290			min	-4.676	7.47	-76.981	7.47	-26.957	7.47	-218.899	7.47	-33.572	0	-48.099	3.774
291	5	A14	max	4.676	0	76.783	0	26.961	0	218.899	0	16.777	3.774	97.463	7.47
292			min	-4.676	7.47	-77.299	7.47	-26.957	7.47	-218.899	7.47	-33.572	0	-47.369	3.696
293	5	A15	max	4.686	0	78.079	0	26.964	0	218.895	0	16.786	3.774	97.463	0
294			min	-4.666	7.47	-76.003	7.47	-26.954	7.47	-218.903	7.47	-33.573	0	-50.314	3.774
295	5	A16	max	11.263	0	81.602	0	18.025	0	147.623	0	13.959	2.504	89.707	0
296			min	6.46	3.837	2.464	3.837	-9.668	3.837	-77.235	3.837	-8.548	0	-71.56	3.837
297	5	A17	max	0	2.125	5.341	0	0	2.125	0	2.125	0	2.125	5.675	0
298			min	0	0	0	2.125	0	0	0	0	0	0	0	2.125
299	5	R1	max	11.404	3.3	-33.101	3.3	-2.268	3.3	0	3.3	7.485	0	0	3.3
300			min	11.404	0	-33.101	0	-2.268	0	0	0	0	3.3	-109.227	0
301	5	R2	max	27.96	6.167	0.198	3.83	10.08	3.83	0	6.167	38.603	3.83	0	6.167
302			min	-17.019	0	-157.407	3.895	-5.85	3.895	0	0	0	0	-357.619	3.895
303	5	R3	max	33.519	6.167	-12.202	3.83	3.54	3.83	0	6.167	13.557	3.83	46.731	3.83
304			min	-20.403	0	-167.58	3.895	-5.823	3.895	0	0	0	0	-380.731	3.895
305	5	R4	max	33.517	6.167	-12.813	3.83	3.536	3.83	0	6.167	13.544	3.83	49.073	3.83
306			min	-20.402	0	-166.578	3.895	-5.816	3.895	0	0	0	0	-378.452	3.895
307	5	R5	max	33.517	6.167	-12.67	3.83	3.536	3.83	0	6.167	13.544	3.83	48.525	3.83
308			min	-20.402	0	-166.812	3.895	-5.816	3.895	0	0	0	0	-378.986	3.895
309	5	R6	max	33.517	6.167	-12.669	3.83	3.536	3.83	0	6.167	13.544	3.83	48.519	3.83
310			min	-20.402	0	-166.815	3.895	-5.816	3.895	0	0	0	0	-378.992	3.895
311	5	R7	max	33.522	6.167	-12.748	3.83	3.52	3.83	0	6.167	13.48	3.83	48.822	3.83
312			min	-20.404	0	-166.684	3.895	-5.789	3.895	0	0	0	0	-378.695	3.895
313	5	R8	max	33.517	6.167	-8.081	3.83	3.536	3.83	0	6.167	13.544	3.83	30.95	3.83
314			min	-20.402	0	-174.352	3.895	-5.816	3.895	0	0	0	0	-396.116	3.895
315	5	R9	max	33.517	6.167	-9.132	3.83	3.536	3.83	0	6.167	13.544	3.83	34.975	3.83
316			min	-20.402	0	-172.625	3.895	-5.816	3.895	0	0	0	0	-392.192	3.895
317	5	R10	max	33.517	6.167	-13.016	3.83	3.536	3.83	0	6.167	13.544	3.83	49.85	3.83
318			min	-20.402	0	-166.244	3.895	-5.816	3.895	0	0	0	0	-377.694	3.895
319	5	R11	max	33.517	6.167	-12.623	3.83	3.536	3.83	0	6.167	13.544	3.83	48.345	3.83
320			min	-20.402	0	-166.89	3.895	-5.816	3.895	0	0	0	0	-379.161	3.895
321	5	R12	max	33.517	6.167	-12.666	3.83	3.536	3.83	0	6.167	13.544	3.83	48.508	3.83
322			min	-20.402	0	-166.82	3.895	-5.816	3.895	0	0	0	0	-379.002	3.895
323	5	R13	max	33.517	6.167	-12.877	3.83	3.536	3.83	0	6.167	13.544	3.83	49.318	3.83
324			min	-20.402	0	-166.472	3.895	-5.816	3.895	0	0	0	0	-378.213	3.895
325	5	R14	max	33.518	6.167	-11.933	3.83	3.536	3.83	0	6.167	13.542	3.83	45.703	3.83
326			min	-20.402	0	-168.022	3.895	-5.815	3.895	0	0	0	0	-381.734	3.895
327	5	R15	max	23.623	6.167	-7.485	3.83	-0.173	3.83	0	6.167	29.571	3.895	28.666	3.83
328			min	-14.379	0	-151.424	3.895	-13.016	3.895	0	0	-0.661	3.83	-344.025	3.895
329	5	M33	max	-8.001	5.392	6.189	5.392	0.617	5.392	0	5.392	3.329	5.392	0	0
330			min	-8.001	0	6.189	0	0.617	0	0	0	0	0	-33.372	5.392
331	6	A1	max	0	2.029	0	0	0	2.029	0	2.029	0	2.029	5.174	2.029
332			min	0	0	-5.1	2.029	0	0	0	0	0	0	0	0
333	6	A2	max	-4.242	0	-19.18	0	5.096	0	-24.754	0	5.188	0.826	90.862	2.378
334			min	-7.537	2.378	-73.467	2.378	-9.44	2.378	-112.523	2.378	-2.102	2.378	-19.311	0
335	6	A3	max	5.178	0	82.698	0	22.828	0	137.834	0	14.212	3.774	109.944	7.47
336			min	-5.174	7.47	-87.807	7.47	-22.827	7.47	-137.834	7.47	-28.414	0	-58.949	3.617
337	6	A4	max	5.176	0	85.887	0	22.83	0	137.834	0	14.206	3.774	109.944	0
338			min	-5.176	7.47	-84.618	7.47	-22.825	7.47	-137.834	7.47	-28.429	0	-51.642	3.774



**Maximum Member Section Forces (Continued)**

LC	Member Label		Axial[k]	Loc[ft]	y	Shear[k]	Loc[ft]	z	Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]
339	6	A5	max	5.176	0	85.105	0	22.83	0	137.834	0	14.206	3.774	106.312	7.47	
340			min	-5.176	7.47	-85.401	7.47	-22.825	7.47	-137.834	7.47	-28.429	0	-53.438	3.696	
341	6	A6	max	5.176	0	85.249	0	22.83	0	137.834	0	14.206	3.774	106.337	7.47	
342			min	-5.176	7.47	-85.256	7.47	-22.825	7.47	-137.834	7.47	-28.429	0	-52.867	3.696	
343	6	A7	max	5.176	0	85.415	0	22.83	0	137.834	0	14.206	3.774	106.337	0	
344			min	-5.176	7.47	-85.091	7.47	-22.825	7.47	-137.834	7.47	-28.429	0	-53.467	3.774	
345	6	A8	max	5.176	0	84.565	0	22.83	0	137.834	0	14.206	3.774	111.466	7.47	
346			min	-5.176	7.47	-88.046	7.47	-22.825	7.47	-137.835	7.47	-28.429	0	-51.525	3.696	
347	6	A9	max	5.176	0	91.865	0	22.83	0	137.834	0	14.206	3.774	113.437	7.47	
348			min	-5.176	7.47	-92.393	7.47	-22.825	7.47	-137.834	7.47	-28.429	0	-59.59	3.696	
349	6	A10	max	5.176	0	90.315	0	22.83	0	137.835	0	14.206	3.774	113.437	0	
350			min	-5.176	7.47	-85.159	7.47	-22.825	7.47	-137.833	7.47	-28.429	0	-52.815	3.774	
351	6	A11	max	5.176	0	85.199	0	22.83	0	137.834	0	14.206	3.774	106.21	7.47	
352			min	-5.176	7.47	-85.307	7.47	-22.825	7.47	-137.835	7.47	-28.429	0	-53.186	3.696	
353	6	A12	max	5.176	0	85.257	0	22.83	0	137.834	0	14.206	3.774	106.21	0	
354			min	-5.176	7.47	-85.248	7.47	-22.825	7.47	-137.834	7.47	-28.429	0	-53	3.774	
355	6	A13	max	5.176	0	85.286	0	22.83	0	137.834	0	14.206	3.774	106.174	0	
356			min	-5.176	7.47	-85.219	7.47	-22.825	7.47	-137.834	7.47	-28.429	0	-53.145	3.774	
357	6	A14	max	5.176	0	85.105	0	22.83	0	137.834	0	14.206	3.774	107.028	7.47	
358			min	-5.176	7.47	-85.401	7.47	-22.825	7.47	-137.834	7.47	-28.429	0	-52.722	3.696	
359	6	A15	max	5.184	0	85.849	0	22.832	0	137.83	0	14.213	3.774	107.028	0	
360			min	-5.168	7.47	-84.656	7.47	-22.823	7.47	-137.838	7.47	-28.43	0	-54.415	3.774	
361	6	A16	max	10.437	0	89.5	0	15.394	0	63.097	0	12.156	2.504	102.572	0	
362			min	5.12	3.837	1.927	3.837	-8.055	3.837	-78.489	3.837	-7.23	0	-72.815	3.837	
363	6	A17	max	0	2.125	5.341	0	0	2.125	0	2.125	0	2.125	0	5.675	0
364			min	0	0	0	2.125	0	0	0	0	0	0	0	2.125	0
365	6	R1	max	9.316	3.3	-33.638	3.3	-2.075	3.3	0	3.3	6.849	0	0	3.3	
366			min	9.316	0	-33.638	0	-2.075	0	0	0	0	3.3	-111	0	
367	6	R2	max	23.756	6.167	33.313	3.83	9.337	3.83	0	6.167	35.758	3.83	0	6.167	
368			min	-14.46	0	-140.843	3.895	-6.268	3.895	0	0	0	0	-319.986	3.895	
369	6	R3	max	28.382	6.167	20.095	3.83	3.917	3.83	0	6.167	15.002	3.83	0	6.167	
370			min	-17.276	0	-151.155	3.895	-6.443	3.895	0	0	0	0	-343.413	3.895	
371	6	R4	max	28.38	6.167	19.744	3.83	3.914	3.83	0	6.167	14.991	3.83	0	6.167	
372			min	-17.275	0	-150.58	3.895	-6.438	3.895	0	0	0	0	-342.107	3.895	
373	6	R5	max	28.38	6.167	19.823	3.83	3.914	3.83	0	6.167	14.991	3.83	0	6.167	
374			min	-17.275	0	-150.711	3.895	-6.438	3.895	0	0	0	0	-342.404	3.895	
375	6	R6	max	28.38	6.167	19.835	3.83	3.914	3.83	0	6.167	14.991	3.83	0	6.167	
376			min	-17.275	0	-150.729	3.895	-6.438	3.895	0	0	0	0	-342.447	3.895	
377	6	R7	max	28.385	6.167	19.757	3.83	3.9	3.83	0	6.167	14.938	3.83	0	6.167	
378			min	-17.278	0	-150.6	3.895	-6.415	3.895	0	0	0	0	-342.154	3.895	
379	6	R8	max	28.38	6.167	24.43	3.83	3.914	3.83	0	6.167	14.991	3.83	0	6.167	
380			min	-17.275	0	-158.279	3.895	-6.438	3.895	0	0	0	0	-359.598	3.895	
381	6	R9	max	28.38	6.167	23.371	3.83	3.914	3.83	0	6.167	14.991	3.83	0	6.167	
382			min	-17.275	0	-156.54	3.895	-6.438	3.895	0	0	0	0	-355.647	3.895	
383	6	R10	max	28.38	6.167	19.491	3.83	3.914	3.83	0	6.167	14.991	3.83	0	6.167	
384			min	-17.275	0	-150.165	3.895	-6.438	3.895	0	0	0	0	-341.163	3.895	
385	6	R11	max	28.38	6.167	19.875	3.83	3.914	3.83	0	6.167	14.991	3.83	0	6.167	
386			min	-17.275	0	-150.796	3.895	-6.438	3.895	0	0	0	0	-342.597	3.895	
387	6	R12	max	28.38	6.167	19.867	3.83	3.914	3.83	0	6.167	14.991	3.83	0	6.167	
388			min	-17.275	0	-150.783	3.895	-6.438	3.895	0	0	0	0	-342.568	3.895	
389	6	R13	max	28.38	6.167	19.517	3.83	3.914	3.83	0	6.167	14.991	3.83	0	6.167	
390			min	-17.275	0	-150.206	3.895	-6.438	3.895	0	0	0	0	-341.258	3.895	
391	6	R14	max	28.382	6.167	21.019	3.83	3.914	3.83	0	6.167	14.989	3.83	0	6.167	
392			min	-17.276	0	-152.675	3.895	-6.436	3.895	0	0	0	0	-346.866	3.895	
393	6	R15	max	20.058	6.167	18.491	3.83	0.544	3.83	0	6.167	27.651	3.895	0	6.167	
394			min	-12.209	0	-137.674	3.895	-12.171	3.895	0	0	0	0	-312.785	3.895	
395	6	M33	max	-6.606	5.392	6.458	5.392	0.568	5.392	0	5.392	3.063	5.392	0	0	
396			min	-6.606	0	6.458	0	0.568	0	0	0	0	0	-34.818	5.392	



Company : Steamboat Structures LLC  
Designer : Reed  
Job Number : 101.2006  
Model Name : Abutment 1 Pile Cap

1/19/2021  
10:23:49 PM  
Checked By : CWT

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**Maximum Member Section Forces (Continued)**

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LC Member Label	Axial[k]Loc[ft]y	Shear[k]Loc[ft]z	Shear[k]Loc[ft]	Torque[k-ft]Loc[ft]y-y	Moment[k-ft]Loc[ft]z-z	Moment[k-ft]Loc[ft]
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**Member End Reactions**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1	1	A1	I	0	0	0	0	0
2			J	0	-4.59	0	0	4.657
3	1	A2	I	-6.031	-17.717	7.028	-20.537	3.527
4			J	-8.625	-73.169	-12.427	-129.243	-2.894
5	1	A3	I	4.075	84.408	30.551	170.715	-38.025
6			J	-4.073	-89.758	-30.552	-170.713	-38.032
7	1	A4	I	4.074	87.748	30.553	170.715	-38.043
8			J	-4.074	-86.419	-30.55	-170.714	-38.03
9	1	A5	I	4.074	86.927	30.553	170.714	-38.043
10			J	-4.074	-87.24	-30.55	-170.714	-38.03
11	1	A6	I	4.074	87.086	30.553	170.714	-38.043
12			J	-4.074	-87.081	-30.55	-170.714	-38.03
13	1	A7	I	4.074	87.228	30.553	170.714	-38.043
14			J	-4.074	-86.939	-30.55	-170.714	-38.03
15	1	A8	I	4.074	86.465	30.553	170.714	-38.043
16			J	-4.074	-89.598	-30.55	-170.715	-38.03
17	1	A9	I	4.074	93.036	30.553	170.714	-38.043
18			J	-4.074	-93.508	-30.55	-170.714	-38.03
19	1	A10	I	4.074	91.633	30.553	170.715	-38.043
20			J	-4.074	-87.006	-30.55	-170.713	-38.03
21	1	A11	I	4.074	87.031	30.553	170.714	-38.043
22			J	-4.074	-87.136	-30.55	-170.715	-38.03
23	1	A12	I	4.074	87.079	30.553	170.714	-38.043
24			J	-4.074	-87.088	-30.55	-170.714	-38.03
25	1	A13	I	4.074	87.154	30.553	170.714	-38.043
26			J	-4.074	-87.013	-30.55	-170.714	-38.03
27	1	A14	I	4.074	86.787	30.553	170.714	-38.043
28			J	-4.074	-87.38	-30.55	-170.714	-38.03
29	1	A15	I	4.086	88.276	30.557	170.711	-38.045
30			J	-4.063	-85.891	-30.546	-170.718	-38.007
31	1	A16	I	11.858	89.334	20.295	100.396	-9.696
32			J	7.673	-0.119	-11.088	-74.965	7.968
33	1	A17	I	0	4.807	0	0	0
34			J	0	0	0	0	0
35	1	R1	I	13.266	-32.128	-2.415	0	7.968
36			J	13.266	-32.128	-2.415	0	0
37	1	R2	I	-19.237	22.337	10.615	0	0
38			J	31.604	-152.888	-5.306	0	0
39	1	R3	I	-23.121	11.098	3.085	0	0
40			J	37.985	-164.558	-5.075	0	0
41	1	R4	I	-23.12	10.395	3.081	0	0
42			J	37.983	-163.405	-5.067	0	0
43	1	R5	I	-23.12	10.562	3.081	0	0
44			J	37.983	-163.679	-5.067	0	0
45	1	R6	I	-23.12	10.552	3.081	0	0
46			J	37.983	-163.663	-5.067	0	0
47	1	R7	I	-23.123	10.485	3.062	0	0
48			J	37.987	-163.552	-5.036	0	0
49	1	R8	I	-23.12	14.686	3.081	0	0
50			J	37.983	-170.455	-5.067	0	0
51	1	R9	I	-23.12	13.738	3.081	0	0
52			J	37.983	-168.896	-5.067	0	0
53	1	R10	I	-23.12	10.245	3.081	0	0
54			J	37.983	-163.158	-5.067	0	0
55	1	R11	I	-23.12	10.588	3.081	0	0
56			J	37.983	-163.721	-5.067	0	0
57	1	R12	I	-23.12	10.594	3.081	0	0
58			J	37.983	-163.732	-5.067	0	0



**Member End Reactions (Continued)**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
59	1	R13	I	-23.12	10.224	3.081	0	0
60			J	37.983	-163.122	-5.067	0	0
61	1	R14	I	-23.121	11.798	3.081	0	0
62			J	37.985	-165.709	-5.066	0	0
63	1	R15	I	-16.262	10.982	-0.891	0	0
64			J	26.716	-146.595	-13.592	0	0
65	1	M33	I	-9.238	5.358	0.654	0	0
66			J	-9.238	5.358	0.654	0	3.527
67	2	A1	I	0	0	0	0	-28.887
68			J	0	-6.375	0	0	0
69	2	A2	I	-6.031	-24.202	7.028	-30.074	3.527
70			J	-8.625	-99.583	-12.427	-138.78	-2.894
71	2	A3	I	4.075	114.458	30.551	170.714	-38.025
72			J	-4.073	-122.304	-30.552	-170.714	-38.032
73	2	A4	I	4.074	119.355	30.553	170.715	-38.043
74			J	-4.074	-117.406	-30.55	-170.714	-38.03
75	2	A5	I	4.074	118.15	30.553	170.714	-38.043
76			J	-4.074	-118.611	-30.55	-170.714	-38.03
77	2	A6	I	4.074	118.388	30.553	170.714	-38.043
78			J	-4.074	-118.373	-30.55	-170.714	-38.03
79	2	A7	I	4.074	118.58	30.553	170.714	-38.043
80			J	-4.074	-118.181	-30.55	-170.714	-38.03
81	2	A8	I	4.074	117.522	30.553	170.714	-38.043
82			J	-4.074	-121.872	-30.55	-170.715	-38.03
83	2	A9	I	4.074	126.646	30.553	170.714	-38.043
84			J	-4.074	-127.306	-30.55	-170.715	-38.03
85	2	A10	I	4.074	124.709	30.553	170.716	-38.043
86			J	-4.074	-118.263	-30.55	-170.713	-38.03
87	2	A11	I	4.074	118.314	30.553	170.714	-38.043
88			J	-4.074	-118.447	-30.55	-170.715	-38.03
89	2	A12	I	4.074	118.382	30.553	170.714	-38.043
90			J	-4.074	-118.379	-30.55	-170.714	-38.03
91	2	A13	I	4.074	118.441	30.553	170.714	-38.043
92			J	-4.074	-118.32	-30.55	-170.714	-38.03
93	2	A14	I	4.074	118.12	30.553	170.714	-38.043
94			J	-4.074	-118.641	-30.55	-170.714	-38.03
95	2	A15	I	4.086	119.428	30.557	170.709	-38.045
96			J	-4.063	-117.333	-30.546	-170.72	-38.007
97	2	A16	I	11.858	122.329	20.295	73.326	-9.696
98			J	7.673	0.727	-11.088	-102.035	7.968
99	2	A17	I	0	6.676	0	0	0
100			J	0	0	0	0	7.093
101	2	R1	I	13.266	-43.729	-2.415	0	7.968
102			J	13.266	-43.729	-2.415	0	-144.3
103	2	R2	I	-19.237	51.108	10.615	0	0
104			J	31.604	-188.554	-5.306	0	0
105	2	R3	I	-23.121	34.714	3.085	0	0
106			J	37.985	-203.355	-5.075	0	0
107	2	R4	I	-23.12	34.097	3.081	0	0
108			J	37.983	-202.343	-5.067	0	0
109	2	R5	I	-23.12	34.241	3.081	0	0
110			J	37.983	-202.58	-5.067	0	0
111	2	R6	I	-23.12	34.244	3.081	0	0
112			J	37.983	-202.585	-5.067	0	0
113	2	R7	I	-23.123	34.149	3.062	0	0
114			J	37.987	-202.428	-5.036	0	0
115	2	R8	I	-23.12	39.99	3.081	0	0
116			J	37.983	-212.025	-5.067	0	0

**Member End Reactions (Continued)**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
117	2	R9	I	-23.12	38.667	3.081	0	0
118			J	37.983	-209.851	-5.067	0	0
119	2	R10	I	-23.12	33.818	3.081	0	0
120			J	37.983	-201.885	-5.067	0	0
121	2	R11	I	-23.12	34.291	3.081	0	0
122			J	37.983	-202.662	-5.067	0	0
123	2	R12	I	-23.12	34.308	3.081	0	0
124			J	37.983	-202.69	-5.067	0	0
125	2	R13	I	-23.12	33.763	3.081	0	0
126			J	37.983	-201.793	-5.067	0	0
127	2	R14	I	-23.121	36.071	3.081	0	0
128			J	37.985	-205.587	-5.066	0	0
129	2	R15	I	-16.262	30.8	-0.891	0	0
130			J	26.716	-183.241	-13.592	0	0
131	2	M33	I	-9.238	7.845	0.654	0	0
132			J	-9.238	7.845	0.654	0	0
133	3	A1	I	0	0	0	3.527	-42.301
134			J	0	-7.65	0	0	0
135	3	A2	I	-6.017	-28.077	7.001	-39.789	3.482
136			J	-8.511	-93.82	-12.353	-147.084	-2.883
137	3	A3	I	3.918	100.707	30.394	168.499	-37.829
138			J	-3.916	-105.782	-30.396	-168.498	-37.837
139	3	A4	I	3.917	103.873	30.396	168.499	-37.848
140			J	-3.917	-102.616	-30.393	-168.498	-37.835
141	3	A5	I	3.917	103.103	30.396	168.498	-37.848
142			J	-3.917	-103.386	-30.393	-168.499	-37.835
143	3	A6	I	3.917	103.22	30.396	168.499	-37.848
144			J	-3.917	-103.27	-30.393	-168.499	-37.835
145	3	A7	I	3.917	103.493	30.396	168.499	-37.848
146			J	-3.917	-102.997	-30.393	-168.498	-37.835
147	3	A8	I	3.917	102.213	30.396	168.498	-37.848
148			J	-3.917	-107.436	-30.393	-168.5	-37.835
149	3	A9	I	3.917	113.162	30.396	168.498	-37.848
150			J	-3.917	-113.956	-30.393	-168.499	-37.835
151	3	A10	I	3.917	110.845	30.396	168.5	-37.848
152			J	-3.917	-103.098	-30.393	-168.497	-37.835
153	3	A11	I	3.917	103.165	30.396	168.498	-37.848
154			J	-3.917	-103.324	-30.393	-168.499	-37.835
155	3	A12	I	3.917	103.266	30.396	168.499	-37.848
156			J	-3.917	-103.224	-30.393	-168.499	-37.835
157	3	A13	I	3.917	103.235	30.396	168.499	-37.848
158			J	-3.917	-103.254	-30.393	-168.499	-37.835
159	3	A14	I	3.917	103.264	30.396	168.499	-37.848
160			J	-3.917	-103.226	-30.393	-168.499	-37.835
161	3	A15	I	3.929	103.172	30.4	168.492	-37.849
162			J	-3.906	-103.317	-30.39	-168.505	-37.812
163	3	A16	I	11.697	112.779	20.177	64.298	-9.647
164			J	7.673	6.724	-11.045	-108.787	7.87
165	3	A17	I	0	8.011	0	0	0
166			J	0	0	0	0	0
167	3	R1	I	13.236	-46.623	-2.385	0	7.87
168			J	13.236	-46.623	-2.385	0	0
169	3	R2	I	-19.133	44.014	10.471	0	0
170			J	31.433	-172.082	-5.131	0	0
171	3	R3	I	-23.003	23.449	2.966	0	0
172			J	37.79	-182.949	-4.88	0	0
173	3	R4	I	-23.001	23.494	2.962	0	0
174			J	37.788	-183.024	-4.872	0	0

**Member End Reactions (Continued)**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
175	3	R5	I	-23.001	23.472	2.962	0	0
176			J	37.788	-182.988	-4.872	0	0
177	3	R6	I	-23.001	23.521	2.962	0	0
178			J	37.788	-183.069	-4.872	0	0
179	3	R7	I	-23.004	23.398	2.944	0	0
180			J	37.792	-182.865	-4.842	0	0
181	3	R8	I	-23.001	30.411	2.962	0	0
182			J	37.788	-194.39	-4.872	0	0
183	3	R9	I	-23.001	28.821	2.962	0	0
184			J	37.788	-191.777	-4.872	0	0
185	3	R10	I	-23.001	22.999	2.962	0	0
186			J	37.788	-182.211	-4.872	0	0
187	3	R11	I	-23.001	23.586	2.962	0	0
188			J	37.788	-183.176	-4.872	0	0
189	3	R12	I	-23.001	23.527	2.962	0	0
190			J	37.788	-183.079	-4.872	0	0
191	3	R13	I	-23.001	23.191	2.962	0	0
192			J	37.788	-182.528	-4.872	0	0
193	3	R14	I	-23.002	24.681	2.962	0	0
194			J	37.79	-184.975	-4.871	0	0
195	3	R15	I	-16.174	22.429	-0.964	0	0
196			J	26.572	-172.098	-13.394	0	0
197	3	M33	I	-9.209	10.38	0.646	0	0
198			J	-9.209	10.38	0.646	0	3.482
199	4	A1	I	0	0	0	0	0
200			J	0	-6.375	0	0	6.468
201	4	A2	I	-6.133	-24.126	7.217	-30.366	3.855
202			J	-9.449	-95.324	-12.959	-145.58	-2.973
203	4	A3	I	5.209	108.346	31.684	180.935	-39.436
204			J	-5.206	-115.277	-31.685	-180.934	-39.441
205	4	A4	I	5.207	112.672	31.687	180.935	-39.456
206			J	-5.207	-110.951	-31.683	-180.934	-39.439
207	4	A5	I	5.207	111.609	31.687	180.935	-39.456
208			J	-5.207	-112.013	-31.683	-180.935	-39.439
209	4	A6	I	5.207	111.812	31.687	180.935	-39.456
210			J	-5.207	-111.811	-31.683	-180.935	-39.439
211	4	A7	I	5.207	112.013	31.687	180.935	-39.456
212			J	-5.207	-111.61	-31.683	-180.935	-39.439
213	4	A8	I	5.207	110.952	31.687	180.934	-39.456
214			J	-5.207	-115.303	-31.683	-180.936	-39.439
215	4	A9	I	5.207	120.077	31.687	180.935	-39.456
216			J	-5.207	-120.736	-31.683	-180.935	-39.439
217	4	A10	I	5.207	118.139	31.687	180.936	-39.456
218			J	-5.207	-111.695	-31.683	-180.933	-39.439
219	4	A11	I	5.207	111.743	31.687	180.934	-39.456
220			J	-5.207	-111.879	-31.683	-180.935	-39.439
221	4	A12	I	5.207	111.814	31.687	180.935	-39.456
222			J	-5.207	-111.808	-31.683	-180.935	-39.439
223	4	A13	I	5.207	111.866	31.687	180.935	-39.456
224			J	-5.207	-111.756	-31.683	-180.935	-39.439
225	4	A14	I	5.207	111.574	31.687	180.935	-39.456
226			J	-5.207	-112.049	-31.683	-180.935	-39.439
227	4	A15	I	5.219	112.767	31.69	180.93	-39.458
228			J	-5.196	-110.856	-31.679	-180.94	-39.415
229	4	A16	I	13.024	116.443	21.154	85.834	-10.049
230			J	7.675	1.588	-11.393	-100.026	8.676
231	4	A17	I	0	6.676	0	0	0
232			J	0	0	0	0	0



**Member End Reactions (Continued)**

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
233	4	R1	I	13.483	-42.868	-2.629	0	8.676	-141.458
234			J	13.483	-42.868	-2.629	0	0	0
235	4	R2	I	-19.991	42.744	11.656	0	0	0
236			J	32.842	-184.554	-6.564	0	0	0
237	4	R3	I	-23.979	26.385	3.942	0	0	0
238			J	39.394	-198.431	-6.484	0	0	0
239	4	R4	I	-23.978	25.822	3.938	0	0	0
240			J	39.392	-197.509	-6.477	0	0	0
241	4	R5	I	-23.978	25.952	3.938	0	0	0
242			J	39.392	-197.723	-6.477	0	0	0
243	4	R6	I	-23.978	25.959	3.938	0	0	0
244			J	39.392	-197.735	-6.477	0	0	0
245	4	R7	I	-23.981	25.863	3.919	0	0	0
246			J	39.397	-197.576	-6.445	0	0	0
247	4	R8	I	-23.978	31.703	3.938	0	0	0
248			J	39.392	-207.172	-6.477	0	0	0
249	4	R9	I	-23.978	30.381	3.938	0	0	0
250			J	39.392	-204.999	-6.477	0	0	0
251	4	R10	I	-23.978	25.531	3.938	0	0	0
252			J	39.392	-197.031	-6.477	0	0	0
253	4	R11	I	-23.978	26.009	3.938	0	0	0
254			J	39.392	-197.816	-6.477	0	0	0
255	4	R12	I	-23.978	26.009	3.938	0	0	0
256			J	39.392	-197.816	-6.477	0	0	0
257	4	R13	I	-23.978	25.53	3.938	0	0	0
258			J	39.392	-197.03	-6.477	0	0	0
259	4	R14	I	-23.979	27.569	3.938	0	0	0
260			J	39.394	-200.38	-6.475	0	0	0
261	4	R15	I	-16.892	24.116	-0.367	0	0	0
262			J	27.751	-179.554	-15.025	0	0	0
263	4	M33	I	-9.444	7.922	0.715	0	0	0
264			J	-9.444	7.922	0.715	0	3.855	-42.712
265	5	A1	I	0	0	0	0	0	0
266			J	0	-5.1	0	0	0	5.174
267	5	A2	I	-5.188	-19.448	6.123	-23.726	3.329	-18.294
268			J	-8.165	-68.506	-11.044	-163.115	-2.523	86.298
269	5	A3	I	4.678	75.433	26.959	218.901	-33.555	86.298
270			J	-4.675	-78.649	-26.96	-218.897	-33.558	98.31
271	5	A4	I	4.676	77.44	26.961	218.899	-33.572	98.31
272			J	-4.676	-76.643	-26.957	-218.899	-33.557	95.335
273	5	A5	I	4.676	76.952	26.961	218.899	-33.572	95.335
274			J	-4.676	-77.13	-26.957	-218.899	-33.557	96.001
275	5	A6	I	4.676	77.023	26.961	218.899	-33.572	96.001
276			J	-4.676	-77.059	-26.957	-218.899	-33.557	96.136
277	5	A7	I	4.676	77.207	26.961	218.899	-33.572	96.136
278			J	-4.676	-76.875	-26.957	-218.899	-33.557	94.896
279	5	A8	I	4.676	76.352	26.961	218.898	-33.572	94.896
280			J	-4.676	-79.836	-26.957	-218.9	-33.557	101.248
281	5	A9	I	4.676	83.657	26.961	218.899	-33.572	101.248
282			J	-4.676	-84.178	-26.957	-218.899	-33.557	103.197
283	5	A10	I	4.676	82.093	26.961	218.9	-33.572	103.197
284			J	-4.676	-76.959	-26.957	-218.898	-33.557	95.875
285	5	A11	I	4.676	76.978	26.961	218.899	-33.572	95.52
286			J	-4.676	-77.105	-26.957	-218.899	-33.557	95.993
287	5	A12	I	4.676	77.042	26.961	218.899	-33.572	95.993
288			J	-4.676	-77.041	-26.957	-218.899	-33.557	95.987
289	5	A13	I	4.676	77.102	26.961	218.899	-33.572	95.987
290			J	-4.676	-76.981	-26.957	-218.899	-33.557	95.537

**Member End Reactions (Continued)**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
291	5	A14	I	4.676	76.783	26.961	218.899	-33.572	95.537
292			J	-4.676	-77.299	-26.957	-218.899	-33.557	97.463
293	5	A15	I	4.686	78.079	26.964	218.895	-33.573	97.463
294			J	-4.666	-76.003	-26.954	-218.903	-33.537	89.707
295	5	A16	I	11.263	81.602	18.025	147.623	-8.548	89.707
296			J	6.46	2.464	-9.668	-77.235	7.485	-71.56
297	5	A17	I	0	5.341	0	0	0	5.675
298			J	0	0	0	0	0	0
299	5	R1	I	11.404	-33.101	-2.268	0	7.485	-109.227
300			J	11.404	-33.101	-2.268	0	0	0
301	5	R2	I	-17.019	0.198	10.08	0	0	0
302			J	27.96	-157.407	-5.85	0	0	0
303	5	R3	I	-20.403	-12.202	3.54	0	0	0
304			J	33.519	-167.58	-5.823	0	0	0
305	5	R4	I	-20.402	-12.813	3.536	0	0	0
306			J	33.517	-166.578	-5.816	0	0	0
307	5	R5	I	-20.402	-12.67	3.536	0	0	0
308			J	33.517	-166.812	-5.816	0	0	0
309	5	R6	I	-20.402	-12.669	3.536	0	0	0
310			J	33.517	-166.815	-5.816	0	0	0
311	5	R7	I	-20.404	-12.748	3.52	0	0	0
312			J	33.522	-166.684	-5.789	0	0	0
313	5	R8	I	-20.402	-8.081	3.536	0	0	0
314			J	33.517	-174.352	-5.816	0	0	0
315	5	R9	I	-20.402	-9.132	3.536	0	0	0
316			J	33.517	-172.625	-5.816	0	0	0
317	5	R10	I	-20.402	-13.016	3.536	0	0	0
318			J	33.517	-166.244	-5.816	0	0	0
319	5	R11	I	-20.402	-12.623	3.536	0	0	0
320			J	33.517	-166.89	-5.816	0	0	0
321	5	R12	I	-20.402	-12.666	3.536	0	0	0
322			J	33.517	-166.82	-5.816	0	0	0
323	5	R13	I	-20.402	-12.877	3.536	0	0	0
324			J	33.517	-166.472	-5.816	0	0	0
325	5	R14	I	-20.402	-11.933	3.536	0	0	0
326			J	33.518	-168.022	-5.815	0	0	0
327	5	R15	I	-14.379	-7.485	-0.173	0	0	0
328			J	23.623	-151.424	-13.016	0	0	0
329	5	M33	I	-8.001	6.189	0.617	0	0	0
330			J	-8.001	6.189	0.617	0	3.329	-33.372
331	6	A1	I	0	0	0	0	0	0
332			J	0	-5.1	0	0	0	5.174
333	6	A2	I	-4.242	-19.18	5.096	-24.754	3.063	-19.311
334			J	-7.537	-73.467	-9.44	-112.523	-2.102	90.862
335	6	A3	I	5.178	82.698	22.828	137.834	-28.414	90.862
336			J	-5.174	-87.807	-22.827	-137.834	-28.413	109.944
337	6	A4	I	5.176	85.887	22.83	137.834	-28.429	109.944
338			J	-5.176	-84.618	-22.825	-137.834	-28.412	105.206
339	6	A5	I	5.176	85.105	22.83	137.834	-28.429	105.206
340			J	-5.176	-85.401	-22.825	-137.834	-28.412	106.312
341	6	A6	I	5.176	85.249	22.83	137.834	-28.429	106.312
342			J	-5.176	-85.256	-22.825	-137.834	-28.412	106.337
343	6	A7	I	5.176	85.415	22.83	137.834	-28.429	106.337
344			J	-5.176	-85.091	-22.825	-137.834	-28.412	105.126
345	6	A8	I	5.176	84.565	22.83	137.834	-28.429	105.126
346			J	-5.176	-88.046	-22.825	-137.835	-28.412	111.466
347	6	A9	I	5.176	91.865	22.83	137.834	-28.429	111.466
348			J	-5.176	-92.393	-22.825	-137.834	-28.412	113.437

**Member End Reactions (Continued)**

	LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
349	6	A10	I	5.176	90.315	22.83	137.835	-28.429	113.437
350			J	-5.176	-85.159	-22.825	-137.833	-28.412	106.029
351	6	A11	I	5.176	85.199	22.83	137.834	-28.429	105.806
352			J	-5.176	-85.307	-22.825	-137.835	-28.412	106.21
353	6	A12	I	5.176	85.257	22.83	137.834	-28.429	106.21
354			J	-5.176	-85.248	-22.825	-137.834	-28.412	106.174
355	6	A13	I	5.176	85.286	22.83	137.834	-28.429	106.174
356			J	-5.176	-85.219	-22.825	-137.834	-28.412	105.923
357	6	A14	I	5.176	85.105	22.83	137.834	-28.429	105.923
358			J	-5.176	-85.401	-22.825	-137.834	-28.412	107.028
359	6	A15	I	5.184	85.849	22.832	137.83	-28.43	107.028
360			J	-5.168	-84.656	-22.823	-137.838	-28.395	102.572
361	6	A16	I	10.437	89.5	15.394	63.097	-7.23	102.572
362			J	5.12	1.927	-8.055	-78.489	6.849	-72.815
363	6	A17	I	0	5.341	0	0	0	5.675
364			J	0	0	0	0	0	0
365	6	R1	I	9.316	-33.638	-2.075	0	6.849	-111
366			J	9.316	-33.638	-2.075	0	0	0
367	6	R2	I	-14.46	33.313	9.337	0	0	0
368			J	23.756	-140.843	-6.268	0	0	0
369	6	R3	I	-17.276	20.095	3.917	0	0	0
370			J	28.382	-151.155	-6.443	0	0	0
371	6	R4	I	-17.275	19.744	3.914	0	0	0
372			J	28.38	-150.58	-6.438	0	0	0
373	6	R5	I	-17.275	19.823	3.914	0	0	0
374			J	28.38	-150.711	-6.438	0	0	0
375	6	R6	I	-17.275	19.835	3.914	0	0	0
376			J	28.38	-150.729	-6.438	0	0	0
377	6	R7	I	-17.278	19.757	3.9	0	0	0
378			J	28.385	-150.6	-6.415	0	0	0
379	6	R8	I	-17.275	24.43	3.914	0	0	0
380			J	28.38	-158.279	-6.438	0	0	0
381	6	R9	I	-17.275	23.371	3.914	0	0	0
382			J	28.38	-156.54	-6.438	0	0	0
383	6	R10	I	-17.275	19.491	3.914	0	0	0
384			J	28.38	-150.165	-6.438	0	0	0
385	6	R11	I	-17.275	19.875	3.914	0	0	0
386			J	28.38	-150.796	-6.438	0	0	0
387	6	R12	I	-17.275	19.867	3.914	0	0	0
388			J	28.38	-150.783	-6.438	0	0	0
389	6	R13	I	-17.275	19.517	3.914	0	0	0
390			J	28.38	-150.206	-6.438	0	0	0
391	6	R14	I	-17.276	21.019	3.914	0	0	0
392			J	28.382	-152.675	-6.436	0	0	0
393	6	R15	I	-12.209	18.491	0.544	0	0	0
394			J	20.058	-137.674	-12.171	0	0	0
395	6	M33	I	-6.606	6.458	0.568	0	0	0
396			J	-6.606	6.458	0.568	0	3.063	-34.818

**Member Torsion Stresses**

	LC	Member Label	Sec	Torque[k-ft]	Shear[k]	y Warp Shear[k]	z Warp Shear[k]	z-Bot Warp Bend[k]	z-Top Warp Bend[k]
1	1	A1	1	0	0	NC	NC	NC	NC
2			2	0	0	NC	NC	NC	NC
3			3	0	0	NC	NC	NC	NC
4			4	0	0	NC	NC	NC	NC
5			5	0	0	NC	NC	NC	NC
6			6	0	0	NC	NC	NC	NC
7			7	0	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
8		8	0	0	NC	NC	NC	NC
9		9	0	0	NC	NC	NC	NC
10		10	0	0	NC	NC	NC	NC
11		11	0	0	NC	NC	NC	NC
12		12	0	0	NC	NC	NC	NC
13		13	0	0	NC	NC	NC	NC
14		14	0	0	NC	NC	NC	NC
15		15	0	0	NC	NC	NC	NC
16		16	0	0	NC	NC	NC	NC
17		17	0	0	NC	NC	NC	NC
18		18	0	0	NC	NC	NC	NC
19		19	0	0	NC	NC	NC	NC
20		20	0	0	NC	NC	NC	NC
21	1	A2	1	-20.537	0	NC	NC	NC
22		2	-26.259	0	NC	NC	NC	NC
23		3	-31.98	0	NC	NC	NC	NC
24		4	-37.701	0	NC	NC	NC	NC
25		5	-43.423	0	NC	NC	NC	NC
26		6	-49.144	0	NC	NC	NC	NC
27		7	-54.865	0	NC	NC	NC	NC
28		8	-60.587	0	NC	NC	NC	NC
29		9	-66.308	0	NC	NC	NC	NC
30		10	-72.029	0	NC	NC	NC	NC
31		11	-77.751	0	NC	NC	NC	NC
32		12	-83.472	0	NC	NC	NC	NC
33		13	-89.193	0	NC	NC	NC	NC
34		14	-94.915	0	NC	NC	NC	NC
35		15	-100.636	0	NC	NC	NC	NC
36		16	-106.358	0	NC	NC	NC	NC
37		17	-112.079	0	NC	NC	NC	NC
38		18	-117.8	0	NC	NC	NC	NC
39		19	-123.522	0	NC	NC	NC	NC
40		20	-129.243	0	NC	NC	NC	NC
41	1	A3	1	170.715	0	NC	NC	NC
42		2	152.745	0	NC	NC	NC	NC
43		3	134.775	0	NC	NC	NC	NC
44		4	116.805	0	NC	NC	NC	NC
45		5	98.836	0	NC	NC	NC	NC
46		6	80.866	0	NC	NC	NC	NC
47		7	62.896	0	NC	NC	NC	NC
48		8	44.926	0	NC	NC	NC	NC
49		9	26.956	0	NC	NC	NC	NC
50		10	8.986	0	NC	NC	NC	NC
51		11	-8.984	0	NC	NC	NC	NC
52		12	-26.954	0	NC	NC	NC	NC
53		13	-44.924	0	NC	NC	NC	NC
54		14	-62.894	0	NC	NC	NC	NC
55		15	-80.864	0	NC	NC	NC	NC
56		16	-98.834	0	NC	NC	NC	NC
57		17	-116.804	0	NC	NC	NC	NC
58		18	-134.774	0	NC	NC	NC	NC
59		19	-152.743	0	NC	NC	NC	NC
60		20	-170.713	0	NC	NC	NC	NC
61	1	A4	1	170.715	0	NC	NC	NC
62		2	152.745	0	NC	NC	NC	NC
63		3	134.775	0	NC	NC	NC	NC
64		4	116.805	0	NC	NC	NC	NC
65		5	98.835	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
66		6	80.865	0	NC	NC	NC	NC
67		7	62.895	0	NC	NC	NC	NC
68		8	44.925	0	NC	NC	NC	NC
69		9	26.955	0	NC	NC	NC	NC
70		10	8.985	0	NC	NC	NC	NC
71		11	-8.985	0	NC	NC	NC	NC
72		12	-26.955	0	NC	NC	NC	NC
73		13	-44.925	0	NC	NC	NC	NC
74		14	-62.894	0	NC	NC	NC	NC
75		15	-80.864	0	NC	NC	NC	NC
76		16	-98.834	0	NC	NC	NC	NC
77		17	-116.804	0	NC	NC	NC	NC
78		18	-134.774	0	NC	NC	NC	NC
79		19	-152.744	0	NC	NC	NC	NC
80		20	-170.714	0	NC	NC	NC	NC
81	1	A5	1	170.714	0	NC	NC	NC
82		2	152.744	0	NC	NC	NC	NC
83		3	134.774	0	NC	NC	NC	NC
84		4	116.804	0	NC	NC	NC	NC
85		5	98.835	0	NC	NC	NC	NC
86		6	80.865	0	NC	NC	NC	NC
87		7	62.895	0	NC	NC	NC	NC
88		8	44.925	0	NC	NC	NC	NC
89		9	26.955	0	NC	NC	NC	NC
90		10	8.985	0	NC	NC	NC	NC
91		11	-8.985	0	NC	NC	NC	NC
92		12	-26.955	0	NC	NC	NC	NC
93		13	-44.925	0	NC	NC	NC	NC
94		14	-62.895	0	NC	NC	NC	NC
95		15	-80.865	0	NC	NC	NC	NC
96		16	-98.835	0	NC	NC	NC	NC
97		17	-116.805	0	NC	NC	NC	NC
98		18	-134.775	0	NC	NC	NC	NC
99		19	-152.744	0	NC	NC	NC	NC
100		20	-170.714	0	NC	NC	NC	NC
101	1	A6	1	170.714	0	NC	NC	NC
102		2	152.744	0	NC	NC	NC	NC
103		3	134.774	0	NC	NC	NC	NC
104		4	116.805	0	NC	NC	NC	NC
105		5	98.835	0	NC	NC	NC	NC
106		6	80.865	0	NC	NC	NC	NC
107		7	62.895	0	NC	NC	NC	NC
108		8	44.925	0	NC	NC	NC	NC
109		9	26.955	0	NC	NC	NC	NC
110		10	8.985	0	NC	NC	NC	NC
111		11	-8.985	0	NC	NC	NC	NC
112		12	-26.955	0	NC	NC	NC	NC
113		13	-44.925	0	NC	NC	NC	NC
114		14	-62.895	0	NC	NC	NC	NC
115		15	-80.865	0	NC	NC	NC	NC
116		16	-98.835	0	NC	NC	NC	NC
117		17	-116.805	0	NC	NC	NC	NC
118		18	-134.774	0	NC	NC	NC	NC
119		19	-152.744	0	NC	NC	NC	NC
120		20	-170.714	0	NC	NC	NC	NC
121	1	A7	1	170.714	0	NC	NC	NC
122		2	152.744	0	NC	NC	NC	NC
123		3	134.775	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
124		4	116.805	0	NC	NC	NC	NC
125		5	98.835	0	NC	NC	NC	NC
126		6	80.865	0	NC	NC	NC	NC
127		7	62.895	0	NC	NC	NC	NC
128		8	44.925	0	NC	NC	NC	NC
129		9	26.955	0	NC	NC	NC	NC
130		10	8.985	0	NC	NC	NC	NC
131		11	-8.985	0	NC	NC	NC	NC
132		12	-26.955	0	NC	NC	NC	NC
133		13	-44.925	0	NC	NC	NC	NC
134		14	-62.895	0	NC	NC	NC	NC
135		15	-80.865	0	NC	NC	NC	NC
136		16	-98.835	0	NC	NC	NC	NC
137		17	-116.804	0	NC	NC	NC	NC
138		18	-134.774	0	NC	NC	NC	NC
139		19	-152.744	0	NC	NC	NC	NC
140		20	-170.714	0	NC	NC	NC	NC
141	1	A8	1	170.714	0	NC	NC	NC
142		2	152.744	0	NC	NC	NC	NC
143		3	134.774	0	NC	NC	NC	NC
144		4	116.804	0	NC	NC	NC	NC
145		5	98.834	0	NC	NC	NC	NC
146		6	80.864	0	NC	NC	NC	NC
147		7	62.894	0	NC	NC	NC	NC
148		8	44.924	0	NC	NC	NC	NC
149		9	26.954	0	NC	NC	NC	NC
150		10	8.984	0	NC	NC	NC	NC
151		11	-8.986	0	NC	NC	NC	NC
152		12	-26.955	0	NC	NC	NC	NC
153		13	-44.925	0	NC	NC	NC	NC
154		14	-62.895	0	NC	NC	NC	NC
155		15	-80.865	0	NC	NC	NC	NC
156		16	-98.835	0	NC	NC	NC	NC
157		17	-116.805	0	NC	NC	NC	NC
158		18	-134.775	0	NC	NC	NC	NC
159		19	-152.745	0	NC	NC	NC	NC
160		20	-170.715	0	NC	NC	NC	NC
161	1	A9	1	170.714	0	NC	NC	NC
162		2	152.744	0	NC	NC	NC	NC
163		3	134.774	0	NC	NC	NC	NC
164		4	116.804	0	NC	NC	NC	NC
165		5	98.834	0	NC	NC	NC	NC
166		6	80.865	0	NC	NC	NC	NC
167		7	62.895	0	NC	NC	NC	NC
168		8	44.925	0	NC	NC	NC	NC
169		9	26.955	0	NC	NC	NC	NC
170		10	8.985	0	NC	NC	NC	NC
171		11	-8.985	0	NC	NC	NC	NC
172		12	-26.955	0	NC	NC	NC	NC
173		13	-44.925	0	NC	NC	NC	NC
174		14	-62.895	0	NC	NC	NC	NC
175		15	-80.865	0	NC	NC	NC	NC
176		16	-98.835	0	NC	NC	NC	NC
177		17	-116.805	0	NC	NC	NC	NC
178		18	-134.775	0	NC	NC	NC	NC
179		19	-152.745	0	NC	NC	NC	NC
180		20	-170.714	0	NC	NC	NC	NC
181	1	A10	1	170.715	0	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
182		2	152.745	0	NC	NC	NC	NC
183		3	134.775	0	NC	NC	NC	NC
184		4	116.806	0	NC	NC	NC	NC
185		5	98.836	0	NC	NC	NC	NC
186		6	80.866	0	NC	NC	NC	NC
187		7	62.896	0	NC	NC	NC	NC
188		8	44.926	0	NC	NC	NC	NC
189		9	26.956	0	NC	NC	NC	NC
190		10	8.986	0	NC	NC	NC	NC
191		11	-8.984	0	NC	NC	NC	NC
192		12	-26.954	0	NC	NC	NC	NC
193		13	-44.924	0	NC	NC	NC	NC
194		14	-62.894	0	NC	NC	NC	NC
195		15	-80.864	0	NC	NC	NC	NC
196		16	-98.834	0	NC	NC	NC	NC
197		17	-116.804	0	NC	NC	NC	NC
198		18	-134.773	0	NC	NC	NC	NC
199		19	-152.743	0	NC	NC	NC	NC
200		20	-170.713	0	NC	NC	NC	NC
201	1	A11	1	170.714	0	NC	NC	NC
202		2	152.744	0	NC	NC	NC	NC
203		3	134.774	0	NC	NC	NC	NC
204		4	116.804	0	NC	NC	NC	NC
205		5	98.834	0	NC	NC	NC	NC
206		6	80.864	0	NC	NC	NC	NC
207		7	62.894	0	NC	NC	NC	NC
208		8	44.925	0	NC	NC	NC	NC
209		9	26.955	0	NC	NC	NC	NC
210		10	8.985	0	NC	NC	NC	NC
211		11	-8.985	0	NC	NC	NC	NC
212		12	-26.955	0	NC	NC	NC	NC
213		13	-44.925	0	NC	NC	NC	NC
214		14	-62.895	0	NC	NC	NC	NC
215		15	-80.865	0	NC	NC	NC	NC
216		16	-98.835	0	NC	NC	NC	NC
217		17	-116.805	0	NC	NC	NC	NC
218		18	-134.775	0	NC	NC	NC	NC
219		19	-152.745	0	NC	NC	NC	NC
220		20	-170.715	0	NC	NC	NC	NC
221	1	A12	1	170.714	0	NC	NC	NC
222		2	152.744	0	NC	NC	NC	NC
223		3	134.774	0	NC	NC	NC	NC
224		4	116.805	0	NC	NC	NC	NC
225		5	98.835	0	NC	NC	NC	NC
226		6	80.865	0	NC	NC	NC	NC
227		7	62.895	0	NC	NC	NC	NC
228		8	44.925	0	NC	NC	NC	NC
229		9	26.955	0	NC	NC	NC	NC
230		10	8.985	0	NC	NC	NC	NC
231		11	-8.985	0	NC	NC	NC	NC
232		12	-26.955	0	NC	NC	NC	NC
233		13	-44.925	0	NC	NC	NC	NC
234		14	-62.895	0	NC	NC	NC	NC
235		15	-80.865	0	NC	NC	NC	NC
236		16	-98.835	0	NC	NC	NC	NC
237		17	-116.805	0	NC	NC	NC	NC
238		18	-134.774	0	NC	NC	NC	NC
239		19	-152.744	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
240		20	-170.714	0	NC	NC	NC	NC
241	1 A13	1	170.714	0	NC	NC	NC	NC
242		2	152.744	0	NC	NC	NC	NC
243		3	134.775	0	NC	NC	NC	NC
244		4	116.805	0	NC	NC	NC	NC
245		5	98.835	0	NC	NC	NC	NC
246		6	80.865	0	NC	NC	NC	NC
247		7	62.895	0	NC	NC	NC	NC
248		8	44.925	0	NC	NC	NC	NC
249		9	26.955	0	NC	NC	NC	NC
250		10	8.985	0	NC	NC	NC	NC
251		11	-8.985	0	NC	NC	NC	NC
252		12	-26.955	0	NC	NC	NC	NC
253		13	-44.925	0	NC	NC	NC	NC
254		14	-62.895	0	NC	NC	NC	NC
255		15	-80.865	0	NC	NC	NC	NC
256		16	-98.835	0	NC	NC	NC	NC
257		17	-116.805	0	NC	NC	NC	NC
258		18	-134.774	0	NC	NC	NC	NC
259		19	-152.744	0	NC	NC	NC	NC
260		20	-170.714	0	NC	NC	NC	NC
261	1 A14	1	170.714	0	NC	NC	NC	NC
262		2	152.744	0	NC	NC	NC	NC
263		3	134.774	0	NC	NC	NC	NC
264		4	116.804	0	NC	NC	NC	NC
265		5	98.834	0	NC	NC	NC	NC
266		6	80.865	0	NC	NC	NC	NC
267		7	62.895	0	NC	NC	NC	NC
268		8	44.925	0	NC	NC	NC	NC
269		9	26.955	0	NC	NC	NC	NC
270		10	8.985	0	NC	NC	NC	NC
271		11	-8.985	0	NC	NC	NC	NC
272		12	-26.955	0	NC	NC	NC	NC
273		13	-44.925	0	NC	NC	NC	NC
274		14	-62.895	0	NC	NC	NC	NC
275		15	-80.865	0	NC	NC	NC	NC
276		16	-98.835	0	NC	NC	NC	NC
277		17	-116.805	0	NC	NC	NC	NC
278		18	-134.775	0	NC	NC	NC	NC
279		19	-152.745	0	NC	NC	NC	NC
280		20	-170.714	0	NC	NC	NC	NC
281	1 A15	1	170.711	0	NC	NC	NC	NC
282		2	152.741	0	NC	NC	NC	NC
283		3	134.771	0	NC	NC	NC	NC
284		4	116.801	0	NC	NC	NC	NC
285		5	98.831	0	NC	NC	NC	NC
286		6	80.861	0	NC	NC	NC	NC
287		7	62.891	0	NC	NC	NC	NC
288		8	44.921	0	NC	NC	NC	NC
289		9	26.951	0	NC	NC	NC	NC
290		10	8.981	0	NC	NC	NC	NC
291		11	-8.989	0	NC	NC	NC	NC
292		12	-26.959	0	NC	NC	NC	NC
293		13	-44.929	0	NC	NC	NC	NC
294		14	-62.898	0	NC	NC	NC	NC
295		15	-80.868	0	NC	NC	NC	NC
296		16	-98.838	0	NC	NC	NC	NC
297		17	-116.808	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
298		18	-134.778	0	NC	NC	NC	NC
299		19	-152.748	0	NC	NC	NC	NC
300		20	-170.718	0	NC	NC	NC	NC
301	1 A16	1	100.396	0	NC	NC	NC	NC
302		2	91.167	0	NC	NC	NC	NC
303		3	81.937	0	NC	NC	NC	NC
304		4	72.708	0	NC	NC	NC	NC
305		5	63.478	0	NC	NC	NC	NC
306		6	54.249	0	NC	NC	NC	NC
307		7	45.019	0	NC	NC	NC	NC
308		8	35.79	0	NC	NC	NC	NC
309		9	26.56	0	NC	NC	NC	NC
310		10	17.331	0	NC	NC	NC	NC
311		11	8.101	0	NC	NC	NC	NC
312		12	-1.128	0	NC	NC	NC	NC
313		13	-10.358	0	NC	NC	NC	NC
314		14	-19.588	0	NC	NC	NC	NC
315		15	-28.817	0	NC	NC	NC	NC
316		16	-38.047	0	NC	NC	NC	NC
317		17	-47.276	0	NC	NC	NC	NC
318		18	-56.506	0	NC	NC	NC	NC
319		19	-65.735	0	NC	NC	NC	NC
320		20	-74.965	0	NC	NC	NC	NC
321	1 A17	1	0	0	NC	NC	NC	NC
322		2	0	0	NC	NC	NC	NC
323		3	0	0	NC	NC	NC	NC
324		4	0	0	NC	NC	NC	NC
325		5	0	0	NC	NC	NC	NC
326		6	0	0	NC	NC	NC	NC
327		7	0	0	NC	NC	NC	NC
328		8	0	0	NC	NC	NC	NC
329		9	0	0	NC	NC	NC	NC
330		10	0	0	NC	NC	NC	NC
331		11	0	0	NC	NC	NC	NC
332		12	0	0	NC	NC	NC	NC
333		13	0	0	NC	NC	NC	NC
334		14	0	0	NC	NC	NC	NC
335		15	0	0	NC	NC	NC	NC
336		16	0	0	NC	NC	NC	NC
337		17	0	0	NC	NC	NC	NC
338		18	0	0	NC	NC	NC	NC
339		19	0	0	NC	NC	NC	NC
340		20	0	0	NC	NC	NC	NC
341	1 R1	1	0	0	NC	NC	NC	NC
342		2	0	0	NC	NC	NC	NC
343		3	0	0	NC	NC	NC	NC
344		4	0	0	NC	NC	NC	NC
345		5	0	0	NC	NC	NC	NC
346		6	0	0	NC	NC	NC	NC
347		7	0	0	NC	NC	NC	NC
348		8	0	0	NC	NC	NC	NC
349		9	0	0	NC	NC	NC	NC
350		10	0	0	NC	NC	NC	NC
351		11	0	0	NC	NC	NC	NC
352		12	0	0	NC	NC	NC	NC
353		13	0	0	NC	NC	NC	NC
354		14	0	0	NC	NC	NC	NC
355		15	0	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
356		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
357		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
358		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
359		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
360		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
361	1	R2	1	0	0	NC	NC	NC	NC	NC	NC	NC
362		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
363		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
364		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
365		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
366		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
367		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
368		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
369		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
370		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
371		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
372		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
373		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
374		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
375		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
376		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
377		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
378		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
379		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
380		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
381	1	R3	1	0	0	NC	NC	NC	NC	NC	NC	NC
382		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
383		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
384		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
385		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
386		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
387		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
388		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
389		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
390		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
391		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
392		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
393		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
394		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
395		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
396		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
397		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
398		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
399		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
400		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
401	1	R4	1	0	0	NC	NC	NC	NC	NC	NC	NC
402		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
403		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
404		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
405		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
406		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
407		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
408		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
409		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
410		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
411		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
412		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
413		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
414		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
415		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
416		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
417		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
418		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
419		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
420		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
421	1	R5	1	0	0	NC	NC	NC	NC	NC	NC	NC
422		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
423		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
424		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
425		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
426		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
427		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
428		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
429		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
430		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
431		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
432		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
433		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
434		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
435		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
436		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
437		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
438		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
439		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
440		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
441	1	R6	1	0	0	NC	NC	NC	NC	NC	NC	NC
442		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
443		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
444		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
445		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
446		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
447		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
448		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
449		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
450		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
451		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
452		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
453		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
454		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
455		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
456		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
457		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
458		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
459		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
460		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
461	1	R7	1	0	0	NC	NC	NC	NC	NC	NC	NC
462		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
463		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
464		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
465		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
466		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
467		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
468		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
469		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
470		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
471		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
472		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
473		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
474		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
475		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
476		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
477		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
478		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
479		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
480		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
481	1	R8	1	0	0	NC	NC	NC	NC	NC	NC	NC
482		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
483		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
484		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
485		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
486		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
487		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
488		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
489		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
490		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
491		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
492		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
493		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
494		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
495		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
496		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
497		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
498		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
499		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
500		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
501	1	R9	1	0	0	NC	NC	NC	NC	NC	NC	NC
502		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
503		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
504		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
505		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
506		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
507		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
508		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
509		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
510		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
511		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
512		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
513		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
514		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
515		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
516		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
517		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
518		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
519		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
520		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
521	1	R10	1	0	0	NC	NC	NC	NC	NC	NC	NC
522		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
523		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
524		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
525		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
526		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
527		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
528		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
529		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
530		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
531		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
532		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
533		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
534		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
535		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
536		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
537		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
538		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
539		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
540		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
541	1	R11	1	0	0	NC	NC	NC	NC	NC	NC	NC
542		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
543		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
544		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
545		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
546		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
547		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
548		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
549		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
550		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
551		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
552		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
553		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
554		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
555		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
556		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
557		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
558		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
559		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
560		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
561	1	R12	1	0	0	NC	NC	NC	NC	NC	NC	NC
562		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
563		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
564		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
565		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
566		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
567		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
568		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
569		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
570		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
571		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
572		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
573		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
574		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
575		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
576		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
577		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
578		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
579		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
580		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
581	1	R13	1	0	0	NC	NC	NC	NC	NC	NC	NC
582		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
583		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
584		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
585		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
586		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
587		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
588		8	0	0	NC	NC	NC	NC
589		9	0	0	NC	NC	NC	NC
590		10	0	0	NC	NC	NC	NC
591		11	0	0	NC	NC	NC	NC
592		12	0	0	NC	NC	NC	NC
593		13	0	0	NC	NC	NC	NC
594		14	0	0	NC	NC	NC	NC
595		15	0	0	NC	NC	NC	NC
596		16	0	0	NC	NC	NC	NC
597		17	0	0	NC	NC	NC	NC
598		18	0	0	NC	NC	NC	NC
599		19	0	0	NC	NC	NC	NC
600		20	0	0	NC	NC	NC	NC
601	1	R14	1	0	0	NC	NC	NC
602		2	0	0	NC	NC	NC	NC
603		3	0	0	NC	NC	NC	NC
604		4	0	0	NC	NC	NC	NC
605		5	0	0	NC	NC	NC	NC
606		6	0	0	NC	NC	NC	NC
607		7	0	0	NC	NC	NC	NC
608		8	0	0	NC	NC	NC	NC
609		9	0	0	NC	NC	NC	NC
610		10	0	0	NC	NC	NC	NC
611		11	0	0	NC	NC	NC	NC
612		12	0	0	NC	NC	NC	NC
613		13	0	0	NC	NC	NC	NC
614		14	0	0	NC	NC	NC	NC
615		15	0	0	NC	NC	NC	NC
616		16	0	0	NC	NC	NC	NC
617		17	0	0	NC	NC	NC	NC
618		18	0	0	NC	NC	NC	NC
619		19	0	0	NC	NC	NC	NC
620		20	0	0	NC	NC	NC	NC
621	1	R15	1	0	0	NC	NC	NC
622		2	0	0	NC	NC	NC	NC
623		3	0	0	NC	NC	NC	NC
624		4	0	0	NC	NC	NC	NC
625		5	0	0	NC	NC	NC	NC
626		6	0	0	NC	NC	NC	NC
627		7	0	0	NC	NC	NC	NC
628		8	0	0	NC	NC	NC	NC
629		9	0	0	NC	NC	NC	NC
630		10	0	0	NC	NC	NC	NC
631		11	0	0	NC	NC	NC	NC
632		12	0	0	NC	NC	NC	NC
633		13	0	0	NC	NC	NC	NC
634		14	0	0	NC	NC	NC	NC
635		15	0	0	NC	NC	NC	NC
636		16	0	0	NC	NC	NC	NC
637		17	0	0	NC	NC	NC	NC
638		18	0	0	NC	NC	NC	NC
639		19	0	0	NC	NC	NC	NC
640		20	0	0	NC	NC	NC	NC
641	1	M33	1	0	0	NC	NC	NC
642		2	0	0	NC	NC	NC	NC
643		3	0	0	NC	NC	NC	NC
644		4	0	0	NC	NC	NC	NC
645		5	0	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
646		6	0	0	NC	NC	NC	NC
647		7	0	0	NC	NC	NC	NC
648		8	0	0	NC	NC	NC	NC
649		9	0	0	NC	NC	NC	NC
650		10	0	0	NC	NC	NC	NC
651		11	0	0	NC	NC	NC	NC
652		12	0	0	NC	NC	NC	NC
653		13	0	0	NC	NC	NC	NC
654		14	0	0	NC	NC	NC	NC
655		15	0	0	NC	NC	NC	NC
656		16	0	0	NC	NC	NC	NC
657		17	0	0	NC	NC	NC	NC
658		18	0	0	NC	NC	NC	NC
659		19	0	0	NC	NC	NC	NC
660		20	0	0	NC	NC	NC	NC
661	2	A1	1	0	0	NC	NC	NC
662		2	0	0	NC	NC	NC	NC
663		3	0	0	NC	NC	NC	NC
664		4	0	0	NC	NC	NC	NC
665		5	0	0	NC	NC	NC	NC
666		6	0	0	NC	NC	NC	NC
667		7	0	0	NC	NC	NC	NC
668		8	0	0	NC	NC	NC	NC
669		9	0	0	NC	NC	NC	NC
670		10	0	0	NC	NC	NC	NC
671		11	0	0	NC	NC	NC	NC
672		12	0	0	NC	NC	NC	NC
673		13	0	0	NC	NC	NC	NC
674		14	0	0	NC	NC	NC	NC
675		15	0	0	NC	NC	NC	NC
676		16	0	0	NC	NC	NC	NC
677		17	0	0	NC	NC	NC	NC
678		18	0	0	NC	NC	NC	NC
679		19	0	0	NC	NC	NC	NC
680		20	0	0	NC	NC	NC	NC
681	2	A2	1	-30.074	0	NC	NC	NC
682		2	-35.795	0	NC	NC	NC	NC
683		3	-41.517	0	NC	NC	NC	NC
684		4	-47.238	0	NC	NC	NC	NC
685		5	-52.96	0	NC	NC	NC	NC
686		6	-58.681	0	NC	NC	NC	NC
687		7	-64.402	0	NC	NC	NC	NC
688		8	-70.124	0	NC	NC	NC	NC
689		9	-75.845	0	NC	NC	NC	NC
690		10	-81.566	0	NC	NC	NC	NC
691		11	-87.288	0	NC	NC	NC	NC
692		12	-93.009	0	NC	NC	NC	NC
693		13	-98.73	0	NC	NC	NC	NC
694		14	-104.452	0	NC	NC	NC	NC
695		15	-110.173	0	NC	NC	NC	NC
696		16	-115.894	0	NC	NC	NC	NC
697		17	-121.616	0	NC	NC	NC	NC
698		18	-127.337	0	NC	NC	NC	NC
699		19	-133.058	0	NC	NC	NC	NC
700		20	-138.78	0	NC	NC	NC	NC
701	2	A3	1	170.714	0	NC	NC	NC
702		2	152.744	0	NC	NC	NC	NC
703		3	134.774	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
704		4	116.804	0	NC	NC	NC	NC
705		5	98.835	0	NC	NC	NC	NC
706		6	80.865	0	NC	NC	NC	NC
707		7	62.895	0	NC	NC	NC	NC
708		8	44.925	0	NC	NC	NC	NC
709		9	26.955	0	NC	NC	NC	NC
710		10	8.985	0	NC	NC	NC	NC
711		11	-8.985	0	NC	NC	NC	NC
712		12	-26.955	0	NC	NC	NC	NC
713		13	-44.925	0	NC	NC	NC	NC
714		14	-62.895	0	NC	NC	NC	NC
715		15	-80.865	0	NC	NC	NC	NC
716		16	-98.835	0	NC	NC	NC	NC
717		17	-116.805	0	NC	NC	NC	NC
718		18	-134.775	0	NC	NC	NC	NC
719		19	-152.744	0	NC	NC	NC	NC
720		20	-170.714	0	NC	NC	NC	NC
721	2	A4	1	170.715	0	NC	NC	NC
722			2	152.745	0	NC	NC	NC
723			3	134.775	0	NC	NC	NC
724			4	116.805	0	NC	NC	NC
725			5	98.835	0	NC	NC	NC
726			6	80.865	0	NC	NC	NC
727			7	62.895	0	NC	NC	NC
728			8	44.925	0	NC	NC	NC
729			9	26.955	0	NC	NC	NC
730			10	8.985	0	NC	NC	NC
731			11	-8.985	0	NC	NC	NC
732			12	-26.955	0	NC	NC	NC
733			13	-44.924	0	NC	NC	NC
734			14	-62.894	0	NC	NC	NC
735			15	-80.864	0	NC	NC	NC
736			16	-98.834	0	NC	NC	NC
737			17	-116.804	0	NC	NC	NC
738			18	-134.774	0	NC	NC	NC
739			19	-152.744	0	NC	NC	NC
740			20	-170.714	0	NC	NC	NC
741	2	A5	1	170.714	0	NC	NC	NC
742			2	152.744	0	NC	NC	NC
743			3	134.774	0	NC	NC	NC
744			4	116.804	0	NC	NC	NC
745			5	98.835	0	NC	NC	NC
746			6	80.865	0	NC	NC	NC
747			7	62.895	0	NC	NC	NC
748			8	44.925	0	NC	NC	NC
749			9	26.955	0	NC	NC	NC
750			10	8.985	0	NC	NC	NC
751			11	-8.985	0	NC	NC	NC
752			12	-26.955	0	NC	NC	NC
753			13	-44.925	0	NC	NC	NC
754			14	-62.895	0	NC	NC	NC
755			15	-80.865	0	NC	NC	NC
756			16	-98.835	0	NC	NC	NC
757			17	-116.805	0	NC	NC	NC
758			18	-134.775	0	NC	NC	NC
759			19	-152.744	0	NC	NC	NC
760			20	-170.714	0	NC	NC	NC
761	2	A6	1	170.714	0	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
762		2	152.744	0	NC	NC	NC	NC
763		3	134.774	0	NC	NC	NC	NC
764		4	116.805	0	NC	NC	NC	NC
765		5	98.835	0	NC	NC	NC	NC
766		6	80.865	0	NC	NC	NC	NC
767		7	62.895	0	NC	NC	NC	NC
768		8	44.925	0	NC	NC	NC	NC
769		9	26.955	0	NC	NC	NC	NC
770		10	8.985	0	NC	NC	NC	NC
771		11	-8.985	0	NC	NC	NC	NC
772		12	-26.955	0	NC	NC	NC	NC
773		13	-44.925	0	NC	NC	NC	NC
774		14	-62.895	0	NC	NC	NC	NC
775		15	-80.865	0	NC	NC	NC	NC
776		16	-98.835	0	NC	NC	NC	NC
777		17	-116.805	0	NC	NC	NC	NC
778		18	-134.774	0	NC	NC	NC	NC
779		19	-152.744	0	NC	NC	NC	NC
780		20	-170.714	0	NC	NC	NC	NC
781	2	A7	1	170.714	0	NC	NC	NC
782		2	152.744	0	NC	NC	NC	NC
783		3	134.775	0	NC	NC	NC	NC
784		4	116.805	0	NC	NC	NC	NC
785		5	98.835	0	NC	NC	NC	NC
786		6	80.865	0	NC	NC	NC	NC
787		7	62.895	0	NC	NC	NC	NC
788		8	44.925	0	NC	NC	NC	NC
789		9	26.955	0	NC	NC	NC	NC
790		10	8.985	0	NC	NC	NC	NC
791		11	-8.985	0	NC	NC	NC	NC
792		12	-26.955	0	NC	NC	NC	NC
793		13	-44.925	0	NC	NC	NC	NC
794		14	-62.895	0	NC	NC	NC	NC
795		15	-80.865	0	NC	NC	NC	NC
796		16	-98.835	0	NC	NC	NC	NC
797		17	-116.804	0	NC	NC	NC	NC
798		18	-134.774	0	NC	NC	NC	NC
799		19	-152.744	0	NC	NC	NC	NC
800		20	-170.714	0	NC	NC	NC	NC
801	2	A8	1	170.714	0	NC	NC	NC
802		2	152.744	0	NC	NC	NC	NC
803		3	134.774	0	NC	NC	NC	NC
804		4	116.804	0	NC	NC	NC	NC
805		5	98.834	0	NC	NC	NC	NC
806		6	80.864	0	NC	NC	NC	NC
807		7	62.894	0	NC	NC	NC	NC
808		8	44.924	0	NC	NC	NC	NC
809		9	26.954	0	NC	NC	NC	NC
810		10	8.984	0	NC	NC	NC	NC
811		11	-8.986	0	NC	NC	NC	NC
812		12	-26.956	0	NC	NC	NC	NC
813		13	-44.926	0	NC	NC	NC	NC
814		14	-62.896	0	NC	NC	NC	NC
815		15	-80.865	0	NC	NC	NC	NC
816		16	-98.835	0	NC	NC	NC	NC
817		17	-116.805	0	NC	NC	NC	NC
818		18	-134.775	0	NC	NC	NC	NC
819		19	-152.745	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
820		20	-170.715	0	NC	NC	NC	NC
821	2 A9	1	170.714	0	NC	NC	NC	NC
822		2	152.744	0	NC	NC	NC	NC
823		3	134.774	0	NC	NC	NC	NC
824		4	116.804	0	NC	NC	NC	NC
825		5	98.834	0	NC	NC	NC	NC
826		6	80.864	0	NC	NC	NC	NC
827		7	62.895	0	NC	NC	NC	NC
828		8	44.925	0	NC	NC	NC	NC
829		9	26.955	0	NC	NC	NC	NC
830		10	8.985	0	NC	NC	NC	NC
831		11	-8.985	0	NC	NC	NC	NC
832		12	-26.955	0	NC	NC	NC	NC
833		13	-44.925	0	NC	NC	NC	NC
834		14	-62.895	0	NC	NC	NC	NC
835		15	-80.865	0	NC	NC	NC	NC
836		16	-98.835	0	NC	NC	NC	NC
837		17	-116.805	0	NC	NC	NC	NC
838		18	-134.775	0	NC	NC	NC	NC
839		19	-152.745	0	NC	NC	NC	NC
840		20	-170.715	0	NC	NC	NC	NC
841	2 A10	1	170.716	0	NC	NC	NC	NC
842		2	152.746	0	NC	NC	NC	NC
843		3	134.776	0	NC	NC	NC	NC
844		4	116.806	0	NC	NC	NC	NC
845		5	98.836	0	NC	NC	NC	NC
846		6	80.866	0	NC	NC	NC	NC
847		7	62.896	0	NC	NC	NC	NC
848		8	44.926	0	NC	NC	NC	NC
849		9	26.956	0	NC	NC	NC	NC
850		10	8.986	0	NC	NC	NC	NC
851		11	-8.984	0	NC	NC	NC	NC
852		12	-26.954	0	NC	NC	NC	NC
853		13	-44.923	0	NC	NC	NC	NC
854		14	-62.893	0	NC	NC	NC	NC
855		15	-80.863	0	NC	NC	NC	NC
856		16	-98.833	0	NC	NC	NC	NC
857		17	-116.803	0	NC	NC	NC	NC
858		18	-134.773	0	NC	NC	NC	NC
859		19	-152.743	0	NC	NC	NC	NC
860		20	-170.713	0	NC	NC	NC	NC
861	2 A11	1	170.714	0	NC	NC	NC	NC
862		2	152.744	0	NC	NC	NC	NC
863		3	134.774	0	NC	NC	NC	NC
864		4	116.804	0	NC	NC	NC	NC
865		5	98.834	0	NC	NC	NC	NC
866		6	80.864	0	NC	NC	NC	NC
867		7	62.894	0	NC	NC	NC	NC
868		8	44.924	0	NC	NC	NC	NC
869		9	26.955	0	NC	NC	NC	NC
870		10	8.985	0	NC	NC	NC	NC
871		11	-8.985	0	NC	NC	NC	NC
872		12	-26.955	0	NC	NC	NC	NC
873		13	-44.925	0	NC	NC	NC	NC
874		14	-62.895	0	NC	NC	NC	NC
875		15	-80.865	0	NC	NC	NC	NC
876		16	-98.835	0	NC	NC	NC	NC
877		17	-116.805	0	NC	NC	NC	NC





Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
878		18	-134.775	0	NC	NC	NC	NC
879		19	-152.745	0	NC	NC	NC	NC
880		20	-170.715	0	NC	NC	NC	NC
881	2	A12	1	170.714	0	NC	NC	NC
882		2	152.744	0	NC	NC	NC	NC
883		3	134.774	0	NC	NC	NC	NC
884		4	116.805	0	NC	NC	NC	NC
885		5	98.835	0	NC	NC	NC	NC
886		6	80.865	0	NC	NC	NC	NC
887		7	62.895	0	NC	NC	NC	NC
888		8	44.925	0	NC	NC	NC	NC
889		9	26.955	0	NC	NC	NC	NC
890		10	8.985	0	NC	NC	NC	NC
891		11	-8.985	0	NC	NC	NC	NC
892		12	-26.955	0	NC	NC	NC	NC
893		13	-44.925	0	NC	NC	NC	NC
894		14	-62.895	0	NC	NC	NC	NC
895		15	-80.865	0	NC	NC	NC	NC
896		16	-98.835	0	NC	NC	NC	NC
897		17	-116.805	0	NC	NC	NC	NC
898		18	-134.774	0	NC	NC	NC	NC
899		19	-152.744	0	NC	NC	NC	NC
900		20	-170.714	0	NC	NC	NC	NC
901	2	A13	1	170.714	0	NC	NC	NC
902		2	152.744	0	NC	NC	NC	NC
903		3	134.775	0	NC	NC	NC	NC
904		4	116.805	0	NC	NC	NC	NC
905		5	98.835	0	NC	NC	NC	NC
906		6	80.865	0	NC	NC	NC	NC
907		7	62.895	0	NC	NC	NC	NC
908		8	44.925	0	NC	NC	NC	NC
909		9	26.955	0	NC	NC	NC	NC
910		10	8.985	0	NC	NC	NC	NC
911		11	-8.985	0	NC	NC	NC	NC
912		12	-26.955	0	NC	NC	NC	NC
913		13	-44.925	0	NC	NC	NC	NC
914		14	-62.895	0	NC	NC	NC	NC
915		15	-80.865	0	NC	NC	NC	NC
916		16	-98.835	0	NC	NC	NC	NC
917		17	-116.805	0	NC	NC	NC	NC
918		18	-134.774	0	NC	NC	NC	NC
919		19	-152.744	0	NC	NC	NC	NC
920		20	-170.714	0	NC	NC	NC	NC
921	2	A14	1	170.714	0	NC	NC	NC
922		2	152.744	0	NC	NC	NC	NC
923		3	134.774	0	NC	NC	NC	NC
924		4	116.804	0	NC	NC	NC	NC
925		5	98.835	0	NC	NC	NC	NC
926		6	80.865	0	NC	NC	NC	NC
927		7	62.895	0	NC	NC	NC	NC
928		8	44.925	0	NC	NC	NC	NC
929		9	26.955	0	NC	NC	NC	NC
930		10	8.985	0	NC	NC	NC	NC
931		11	-8.985	0	NC	NC	NC	NC
932		12	-26.955	0	NC	NC	NC	NC
933		13	-44.925	0	NC	NC	NC	NC
934		14	-62.895	0	NC	NC	NC	NC
935		15	-80.865	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
936		16	-98.835	0	NC	NC	NC	NC
937		17	-116.805	0	NC	NC	NC	NC
938		18	-134.775	0	NC	NC	NC	NC
939		19	-152.745	0	NC	NC	NC	NC
940		20	-170.714	0	NC	NC	NC	NC
941	2	A15	1	170.709	0	NC	NC	NC
942		2	152.739	0	NC	NC	NC	NC
943		3	134.769	0	NC	NC	NC	NC
944		4	116.799	0	NC	NC	NC	NC
945		5	98.829	0	NC	NC	NC	NC
946		6	80.859	0	NC	NC	NC	NC
947		7	62.89	0	NC	NC	NC	NC
948		8	44.92	0	NC	NC	NC	NC
949		9	26.95	0	NC	NC	NC	NC
950		10	8.98	0	NC	NC	NC	NC
951		11	-8.99	0	NC	NC	NC	NC
952		12	-26.96	0	NC	NC	NC	NC
953		13	-44.93	0	NC	NC	NC	NC
954		14	-62.9	0	NC	NC	NC	NC
955		15	-80.87	0	NC	NC	NC	NC
956		16	-98.84	0	NC	NC	NC	NC
957		17	-116.81	0	NC	NC	NC	NC
958		18	-134.78	0	NC	NC	NC	NC
959		19	-152.75	0	NC	NC	NC	NC
960		20	-170.72	0	NC	NC	NC	NC
961	2	A16	1	73.326	0	NC	NC	NC
962		2	64.096	0	NC	NC	NC	NC
963		3	54.867	0	NC	NC	NC	NC
964		4	45.637	0	NC	NC	NC	NC
965		5	36.408	0	NC	NC	NC	NC
966		6	27.178	0	NC	NC	NC	NC
967		7	17.949	0	NC	NC	NC	NC
968		8	8.719	0	NC	NC	NC	NC
969		9	-0.51	0	NC	NC	NC	NC
970		10	-9.74	0	NC	NC	NC	NC
971		11	-18.969	0	NC	NC	NC	NC
972		12	-28.199	0	NC	NC	NC	NC
973		13	-37.429	0	NC	NC	NC	NC
974		14	-46.658	0	NC	NC	NC	NC
975		15	-55.888	0	NC	NC	NC	NC
976		16	-65.117	0	NC	NC	NC	NC
977		17	-74.347	0	NC	NC	NC	NC
978		18	-83.576	0	NC	NC	NC	NC
979		19	-92.806	0	NC	NC	NC	NC
980		20	-102.035	0	NC	NC	NC	NC
981	2	A17	1	0	0	NC	NC	NC
982		2	0	0	NC	NC	NC	NC
983		3	0	0	NC	NC	NC	NC
984		4	0	0	NC	NC	NC	NC
985		5	0	0	NC	NC	NC	NC
986		6	0	0	NC	NC	NC	NC
987		7	0	0	NC	NC	NC	NC
988		8	0	0	NC	NC	NC	NC
989		9	0	0	NC	NC	NC	NC
990		10	0	0	NC	NC	NC	NC
991		11	0	0	NC	NC	NC	NC
992		12	0	0	NC	NC	NC	NC
993		13	0	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
994		14	0	0	NC	NC	NC	NC
995		15	0	0	NC	NC	NC	NC
996		16	0	0	NC	NC	NC	NC
997		17	0	0	NC	NC	NC	NC
998		18	0	0	NC	NC	NC	NC
999		19	0	0	NC	NC	NC	NC
1000		20	0	0	NC	NC	NC	NC
1001	2	R1	1	0	0	NC	NC	NC
1002		2	0	0	NC	NC	NC	NC
1003		3	0	0	NC	NC	NC	NC
1004		4	0	0	NC	NC	NC	NC
1005		5	0	0	NC	NC	NC	NC
1006		6	0	0	NC	NC	NC	NC
1007		7	0	0	NC	NC	NC	NC
1008		8	0	0	NC	NC	NC	NC
1009		9	0	0	NC	NC	NC	NC
1010		10	0	0	NC	NC	NC	NC
1011		11	0	0	NC	NC	NC	NC
1012		12	0	0	NC	NC	NC	NC
1013		13	0	0	NC	NC	NC	NC
1014		14	0	0	NC	NC	NC	NC
1015		15	0	0	NC	NC	NC	NC
1016		16	0	0	NC	NC	NC	NC
1017		17	0	0	NC	NC	NC	NC
1018		18	0	0	NC	NC	NC	NC
1019		19	0	0	NC	NC	NC	NC
1020		20	0	0	NC	NC	NC	NC
1021	2	R2	1	0	0	NC	NC	NC
1022		2	0	0	NC	NC	NC	NC
1023		3	0	0	NC	NC	NC	NC
1024		4	0	0	NC	NC	NC	NC
1025		5	0	0	NC	NC	NC	NC
1026		6	0	0	NC	NC	NC	NC
1027		7	0	0	NC	NC	NC	NC
1028		8	0	0	NC	NC	NC	NC
1029		9	0	0	NC	NC	NC	NC
1030		10	0	0	NC	NC	NC	NC
1031		11	0	0	NC	NC	NC	NC
1032		12	0	0	NC	NC	NC	NC
1033		13	0	0	NC	NC	NC	NC
1034		14	0	0	NC	NC	NC	NC
1035		15	0	0	NC	NC	NC	NC
1036		16	0	0	NC	NC	NC	NC
1037		17	0	0	NC	NC	NC	NC
1038		18	0	0	NC	NC	NC	NC
1039		19	0	0	NC	NC	NC	NC
1040		20	0	0	NC	NC	NC	NC
1041	2	R3	1	0	0	NC	NC	NC
1042		2	0	0	NC	NC	NC	NC
1043		3	0	0	NC	NC	NC	NC
1044		4	0	0	NC	NC	NC	NC
1045		5	0	0	NC	NC	NC	NC
1046		6	0	0	NC	NC	NC	NC
1047		7	0	0	NC	NC	NC	NC
1048		8	0	0	NC	NC	NC	NC
1049		9	0	0	NC	NC	NC	NC
1050		10	0	0	NC	NC	NC	NC
1051		11	0	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1052		12	0	0	NC	NC	NC	NC
1053		13	0	0	NC	NC	NC	NC
1054		14	0	0	NC	NC	NC	NC
1055		15	0	0	NC	NC	NC	NC
1056		16	0	0	NC	NC	NC	NC
1057		17	0	0	NC	NC	NC	NC
1058		18	0	0	NC	NC	NC	NC
1059		19	0	0	NC	NC	NC	NC
1060		20	0	0	NC	NC	NC	NC
1061	2	R4	1	0	0	NC	NC	NC
1062		2	0	0	NC	NC	NC	NC
1063		3	0	0	NC	NC	NC	NC
1064		4	0	0	NC	NC	NC	NC
1065		5	0	0	NC	NC	NC	NC
1066		6	0	0	NC	NC	NC	NC
1067		7	0	0	NC	NC	NC	NC
1068		8	0	0	NC	NC	NC	NC
1069		9	0	0	NC	NC	NC	NC
1070		10	0	0	NC	NC	NC	NC
1071		11	0	0	NC	NC	NC	NC
1072		12	0	0	NC	NC	NC	NC
1073		13	0	0	NC	NC	NC	NC
1074		14	0	0	NC	NC	NC	NC
1075		15	0	0	NC	NC	NC	NC
1076		16	0	0	NC	NC	NC	NC
1077		17	0	0	NC	NC	NC	NC
1078		18	0	0	NC	NC	NC	NC
1079		19	0	0	NC	NC	NC	NC
1080		20	0	0	NC	NC	NC	NC
1081	2	R5	1	0	0	NC	NC	NC
1082		2	0	0	NC	NC	NC	NC
1083		3	0	0	NC	NC	NC	NC
1084		4	0	0	NC	NC	NC	NC
1085		5	0	0	NC	NC	NC	NC
1086		6	0	0	NC	NC	NC	NC
1087		7	0	0	NC	NC	NC	NC
1088		8	0	0	NC	NC	NC	NC
1089		9	0	0	NC	NC	NC	NC
1090		10	0	0	NC	NC	NC	NC
1091		11	0	0	NC	NC	NC	NC
1092		12	0	0	NC	NC	NC	NC
1093		13	0	0	NC	NC	NC	NC
1094		14	0	0	NC	NC	NC	NC
1095		15	0	0	NC	NC	NC	NC
1096		16	0	0	NC	NC	NC	NC
1097		17	0	0	NC	NC	NC	NC
1098		18	0	0	NC	NC	NC	NC
1099		19	0	0	NC	NC	NC	NC
1100		20	0	0	NC	NC	NC	NC
1101	2	R6	1	0	0	NC	NC	NC
1102		2	0	0	NC	NC	NC	NC
1103		3	0	0	NC	NC	NC	NC
1104		4	0	0	NC	NC	NC	NC
1105		5	0	0	NC	NC	NC	NC
1106		6	0	0	NC	NC	NC	NC
1107		7	0	0	NC	NC	NC	NC
1108		8	0	0	NC	NC	NC	NC
1109		9	0	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1110		10	0	0	NC	NC	NC	NC
1111		11	0	0	NC	NC	NC	NC
1112		12	0	0	NC	NC	NC	NC
1113		13	0	0	NC	NC	NC	NC
1114		14	0	0	NC	NC	NC	NC
1115		15	0	0	NC	NC	NC	NC
1116		16	0	0	NC	NC	NC	NC
1117		17	0	0	NC	NC	NC	NC
1118		18	0	0	NC	NC	NC	NC
1119		19	0	0	NC	NC	NC	NC
1120		20	0	0	NC	NC	NC	NC
1121	2	R7	1	0	0	NC	NC	NC
1122		2	0	0	NC	NC	NC	NC
1123		3	0	0	NC	NC	NC	NC
1124		4	0	0	NC	NC	NC	NC
1125		5	0	0	NC	NC	NC	NC
1126		6	0	0	NC	NC	NC	NC
1127		7	0	0	NC	NC	NC	NC
1128		8	0	0	NC	NC	NC	NC
1129		9	0	0	NC	NC	NC	NC
1130		10	0	0	NC	NC	NC	NC
1131		11	0	0	NC	NC	NC	NC
1132		12	0	0	NC	NC	NC	NC
1133		13	0	0	NC	NC	NC	NC
1134		14	0	0	NC	NC	NC	NC
1135		15	0	0	NC	NC	NC	NC
1136		16	0	0	NC	NC	NC	NC
1137		17	0	0	NC	NC	NC	NC
1138		18	0	0	NC	NC	NC	NC
1139		19	0	0	NC	NC	NC	NC
1140		20	0	0	NC	NC	NC	NC
1141	2	R8	1	0	0	NC	NC	NC
1142		2	0	0	NC	NC	NC	NC
1143		3	0	0	NC	NC	NC	NC
1144		4	0	0	NC	NC	NC	NC
1145		5	0	0	NC	NC	NC	NC
1146		6	0	0	NC	NC	NC	NC
1147		7	0	0	NC	NC	NC	NC
1148		8	0	0	NC	NC	NC	NC
1149		9	0	0	NC	NC	NC	NC
1150		10	0	0	NC	NC	NC	NC
1151		11	0	0	NC	NC	NC	NC
1152		12	0	0	NC	NC	NC	NC
1153		13	0	0	NC	NC	NC	NC
1154		14	0	0	NC	NC	NC	NC
1155		15	0	0	NC	NC	NC	NC
1156		16	0	0	NC	NC	NC	NC
1157		17	0	0	NC	NC	NC	NC
1158		18	0	0	NC	NC	NC	NC
1159		19	0	0	NC	NC	NC	NC
1160		20	0	0	NC	NC	NC	NC
1161	2	R9	1	0	0	NC	NC	NC
1162		2	0	0	NC	NC	NC	NC
1163		3	0	0	NC	NC	NC	NC
1164		4	0	0	NC	NC	NC	NC
1165		5	0	0	NC	NC	NC	NC
1166		6	0	0	NC	NC	NC	NC
1167		7	0	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1168		8	0	0	NC	NC	NC	NC
1169		9	0	0	NC	NC	NC	NC
1170		10	0	0	NC	NC	NC	NC
1171		11	0	0	NC	NC	NC	NC
1172		12	0	0	NC	NC	NC	NC
1173		13	0	0	NC	NC	NC	NC
1174		14	0	0	NC	NC	NC	NC
1175		15	0	0	NC	NC	NC	NC
1176		16	0	0	NC	NC	NC	NC
1177		17	0	0	NC	NC	NC	NC
1178		18	0	0	NC	NC	NC	NC
1179		19	0	0	NC	NC	NC	NC
1180		20	0	0	NC	NC	NC	NC
1181	2	R10	1	0	0	NC	NC	NC
1182		2	0	0	NC	NC	NC	NC
1183		3	0	0	NC	NC	NC	NC
1184		4	0	0	NC	NC	NC	NC
1185		5	0	0	NC	NC	NC	NC
1186		6	0	0	NC	NC	NC	NC
1187		7	0	0	NC	NC	NC	NC
1188		8	0	0	NC	NC	NC	NC
1189		9	0	0	NC	NC	NC	NC
1190		10	0	0	NC	NC	NC	NC
1191		11	0	0	NC	NC	NC	NC
1192		12	0	0	NC	NC	NC	NC
1193		13	0	0	NC	NC	NC	NC
1194		14	0	0	NC	NC	NC	NC
1195		15	0	0	NC	NC	NC	NC
1196		16	0	0	NC	NC	NC	NC
1197		17	0	0	NC	NC	NC	NC
1198		18	0	0	NC	NC	NC	NC
1199		19	0	0	NC	NC	NC	NC
1200		20	0	0	NC	NC	NC	NC
1201	2	R11	1	0	0	NC	NC	NC
1202		2	0	0	NC	NC	NC	NC
1203		3	0	0	NC	NC	NC	NC
1204		4	0	0	NC	NC	NC	NC
1205		5	0	0	NC	NC	NC	NC
1206		6	0	0	NC	NC	NC	NC
1207		7	0	0	NC	NC	NC	NC
1208		8	0	0	NC	NC	NC	NC
1209		9	0	0	NC	NC	NC	NC
1210		10	0	0	NC	NC	NC	NC
1211		11	0	0	NC	NC	NC	NC
1212		12	0	0	NC	NC	NC	NC
1213		13	0	0	NC	NC	NC	NC
1214		14	0	0	NC	NC	NC	NC
1215		15	0	0	NC	NC	NC	NC
1216		16	0	0	NC	NC	NC	NC
1217		17	0	0	NC	NC	NC	NC
1218		18	0	0	NC	NC	NC	NC
1219		19	0	0	NC	NC	NC	NC
1220		20	0	0	NC	NC	NC	NC
1221	2	R12	1	0	0	NC	NC	NC
1222		2	0	0	NC	NC	NC	NC
1223		3	0	0	NC	NC	NC	NC
1224		4	0	0	NC	NC	NC	NC
1225		5	0	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1226		6	0	0	NC	NC	NC	NC
1227		7	0	0	NC	NC	NC	NC
1228		8	0	0	NC	NC	NC	NC
1229		9	0	0	NC	NC	NC	NC
1230		10	0	0	NC	NC	NC	NC
1231		11	0	0	NC	NC	NC	NC
1232		12	0	0	NC	NC	NC	NC
1233		13	0	0	NC	NC	NC	NC
1234		14	0	0	NC	NC	NC	NC
1235		15	0	0	NC	NC	NC	NC
1236		16	0	0	NC	NC	NC	NC
1237		17	0	0	NC	NC	NC	NC
1238		18	0	0	NC	NC	NC	NC
1239		19	0	0	NC	NC	NC	NC
1240		20	0	0	NC	NC	NC	NC
1241	2	R13	1	0	0	NC	NC	NC
1242			2	0	0	NC	NC	NC
1243			3	0	0	NC	NC	NC
1244			4	0	0	NC	NC	NC
1245			5	0	0	NC	NC	NC
1246			6	0	0	NC	NC	NC
1247			7	0	0	NC	NC	NC
1248			8	0	0	NC	NC	NC
1249			9	0	0	NC	NC	NC
1250			10	0	0	NC	NC	NC
1251			11	0	0	NC	NC	NC
1252			12	0	0	NC	NC	NC
1253			13	0	0	NC	NC	NC
1254			14	0	0	NC	NC	NC
1255			15	0	0	NC	NC	NC
1256			16	0	0	NC	NC	NC
1257			17	0	0	NC	NC	NC
1258			18	0	0	NC	NC	NC
1259			19	0	0	NC	NC	NC
1260			20	0	0	NC	NC	NC
1261	2	R14	1	0	0	NC	NC	NC
1262			2	0	0	NC	NC	NC
1263			3	0	0	NC	NC	NC
1264			4	0	0	NC	NC	NC
1265			5	0	0	NC	NC	NC
1266			6	0	0	NC	NC	NC
1267			7	0	0	NC	NC	NC
1268			8	0	0	NC	NC	NC
1269			9	0	0	NC	NC	NC
1270			10	0	0	NC	NC	NC
1271			11	0	0	NC	NC	NC
1272			12	0	0	NC	NC	NC
1273			13	0	0	NC	NC	NC
1274			14	0	0	NC	NC	NC
1275			15	0	0	NC	NC	NC
1276			16	0	0	NC	NC	NC
1277			17	0	0	NC	NC	NC
1278			18	0	0	NC	NC	NC
1279			19	0	0	NC	NC	NC
1280			20	0	0	NC	NC	NC
1281	2	R15	1	0	0	NC	NC	NC
1282			2	0	0	NC	NC	NC
1283			3	0	0	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1284		4	0	0	NC	NC	NC	NC
1285		5	0	0	NC	NC	NC	NC
1286		6	0	0	NC	NC	NC	NC
1287		7	0	0	NC	NC	NC	NC
1288		8	0	0	NC	NC	NC	NC
1289		9	0	0	NC	NC	NC	NC
1290		10	0	0	NC	NC	NC	NC
1291		11	0	0	NC	NC	NC	NC
1292		12	0	0	NC	NC	NC	NC
1293		13	0	0	NC	NC	NC	NC
1294		14	0	0	NC	NC	NC	NC
1295		15	0	0	NC	NC	NC	NC
1296		16	0	0	NC	NC	NC	NC
1297		17	0	0	NC	NC	NC	NC
1298		18	0	0	NC	NC	NC	NC
1299		19	0	0	NC	NC	NC	NC
1300		20	0	0	NC	NC	NC	NC
1301	2	M33	1	0	0	NC	NC	NC
1302			2	0	0	NC	NC	NC
1303			3	0	0	NC	NC	NC
1304			4	0	0	NC	NC	NC
1305			5	0	0	NC	NC	NC
1306			6	0	0	NC	NC	NC
1307			7	0	0	NC	NC	NC
1308			8	0	0	NC	NC	NC
1309			9	0	0	NC	NC	NC
1310			10	0	0	NC	NC	NC
1311			11	0	0	NC	NC	NC
1312			12	0	0	NC	NC	NC
1313			13	0	0	NC	NC	NC
1314			14	0	0	NC	NC	NC
1315			15	0	0	NC	NC	NC
1316			16	0	0	NC	NC	NC
1317			17	0	0	NC	NC	NC
1318			18	0	0	NC	NC	NC
1319			19	0	0	NC	NC	NC
1320			20	0	0	NC	NC	NC
1321	3	A1	1	0	0	NC	NC	NC
1322			2	0	0	NC	NC	NC
1323			3	0	0	NC	NC	NC
1324			4	0	0	NC	NC	NC
1325			5	0	0	NC	NC	NC
1326			6	0	0	NC	NC	NC
1327			7	0	0	NC	NC	NC
1328			8	0	0	NC	NC	NC
1329			9	0	0	NC	NC	NC
1330			10	0	0	NC	NC	NC
1331			11	0	0	NC	NC	NC
1332			12	0	0	NC	NC	NC
1333			13	0	0	NC	NC	NC
1334			14	0	0	NC	NC	NC
1335			15	0	0	NC	NC	NC
1336			16	0	0	NC	NC	NC
1337			17	0	0	NC	NC	NC
1338			18	0	0	NC	NC	NC
1339			19	0	0	NC	NC	NC
1340			20	0	0	NC	NC	NC
1341	3	A2	1	-39.789	0	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1342		2	-45.436	0	NC	NC	NC	NC
1343		3	-51.084	0	NC	NC	NC	NC
1344		4	-56.731	0	NC	NC	NC	NC
1345		5	-62.378	0	NC	NC	NC	NC
1346		6	-68.025	0	NC	NC	NC	NC
1347		7	-73.672	0	NC	NC	NC	NC
1348		8	-79.319	0	NC	NC	NC	NC
1349		9	-84.966	0	NC	NC	NC	NC
1350		10	-90.613	0	NC	NC	NC	NC
1351		11	-96.26	0	NC	NC	NC	NC
1352		12	-101.907	0	NC	NC	NC	NC
1353		13	-107.554	0	NC	NC	NC	NC
1354		14	-113.202	0	NC	NC	NC	NC
1355		15	-118.849	0	NC	NC	NC	NC
1356		16	-124.496	0	NC	NC	NC	NC
1357		17	-130.143	0	NC	NC	NC	NC
1358		18	-135.79	0	NC	NC	NC	NC
1359		19	-141.437	0	NC	NC	NC	NC
1360		20	-147.084	0	NC	NC	NC	NC
1361	3	A3	1	168.499	0	NC	NC	NC
1362		2	150.762	0	NC	NC	NC	NC
1363		3	133.025	0	NC	NC	NC	NC
1364		4	115.289	0	NC	NC	NC	NC
1365		5	97.552	0	NC	NC	NC	NC
1366		6	79.815	0	NC	NC	NC	NC
1367		7	62.079	0	NC	NC	NC	NC
1368		8	44.342	0	NC	NC	NC	NC
1369		9	26.605	0	NC	NC	NC	NC
1370		10	8.869	0	NC	NC	NC	NC
1371		11	-8.868	0	NC	NC	NC	NC
1372		12	-26.605	0	NC	NC	NC	NC
1373		13	-44.342	0	NC	NC	NC	NC
1374		14	-62.078	0	NC	NC	NC	NC
1375		15	-79.815	0	NC	NC	NC	NC
1376		16	-97.552	0	NC	NC	NC	NC
1377		17	-115.288	0	NC	NC	NC	NC
1378		18	-133.025	0	NC	NC	NC	NC
1379		19	-150.762	0	NC	NC	NC	NC
1380		20	-168.498	0	NC	NC	NC	NC
1381	3	A4	1	168.499	0	NC	NC	NC
1382		2	150.762	0	NC	NC	NC	NC
1383		3	133.025	0	NC	NC	NC	NC
1384		4	115.289	0	NC	NC	NC	NC
1385		5	97.552	0	NC	NC	NC	NC
1386		6	79.815	0	NC	NC	NC	NC
1387		7	62.079	0	NC	NC	NC	NC
1388		8	44.342	0	NC	NC	NC	NC
1389		9	26.605	0	NC	NC	NC	NC
1390		10	8.869	0	NC	NC	NC	NC
1391		11	-8.868	0	NC	NC	NC	NC
1392		12	-26.605	0	NC	NC	NC	NC
1393		13	-44.341	0	NC	NC	NC	NC
1394		14	-62.078	0	NC	NC	NC	NC
1395		15	-79.815	0	NC	NC	NC	NC
1396		16	-97.552	0	NC	NC	NC	NC
1397		17	-115.288	0	NC	NC	NC	NC
1398		18	-133.025	0	NC	NC	NC	NC
1399		19	-150.762	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1400		20	-168.498	0	NC	NC	NC	NC
1401	3 A5	1	168.498	0	NC	NC	NC	NC
1402		2	150.762	0	NC	NC	NC	NC
1403		3	133.025	0	NC	NC	NC	NC
1404		4	115.288	0	NC	NC	NC	NC
1405		5	97.552	0	NC	NC	NC	NC
1406		6	79.815	0	NC	NC	NC	NC
1407		7	62.078	0	NC	NC	NC	NC
1408		8	44.342	0	NC	NC	NC	NC
1409		9	26.605	0	NC	NC	NC	NC
1410		10	8.868	0	NC	NC	NC	NC
1411		11	-8.868	0	NC	NC	NC	NC
1412		12	-26.605	0	NC	NC	NC	NC
1413		13	-44.342	0	NC	NC	NC	NC
1414		14	-62.078	0	NC	NC	NC	NC
1415		15	-79.815	0	NC	NC	NC	NC
1416		16	-97.552	0	NC	NC	NC	NC
1417		17	-115.289	0	NC	NC	NC	NC
1418		18	-133.025	0	NC	NC	NC	NC
1419		19	-150.762	0	NC	NC	NC	NC
1420		20	-168.499	0	NC	NC	NC	NC
1421	3 A6	1	168.499	0	NC	NC	NC	NC
1422		2	150.762	0	NC	NC	NC	NC
1423		3	133.025	0	NC	NC	NC	NC
1424		4	115.288	0	NC	NC	NC	NC
1425		5	97.552	0	NC	NC	NC	NC
1426		6	79.815	0	NC	NC	NC	NC
1427		7	62.078	0	NC	NC	NC	NC
1428		8	44.342	0	NC	NC	NC	NC
1429		9	26.605	0	NC	NC	NC	NC
1430		10	8.868	0	NC	NC	NC	NC
1431		11	-8.868	0	NC	NC	NC	NC
1432		12	-26.605	0	NC	NC	NC	NC
1433		13	-44.342	0	NC	NC	NC	NC
1434		14	-62.078	0	NC	NC	NC	NC
1435		15	-79.815	0	NC	NC	NC	NC
1436		16	-97.552	0	NC	NC	NC	NC
1437		17	-115.288	0	NC	NC	NC	NC
1438		18	-133.025	0	NC	NC	NC	NC
1439		19	-150.762	0	NC	NC	NC	NC
1440		20	-168.499	0	NC	NC	NC	NC
1441	3 A7	1	168.499	0	NC	NC	NC	NC
1442		2	150.762	0	NC	NC	NC	NC
1443		3	133.025	0	NC	NC	NC	NC
1444		4	115.289	0	NC	NC	NC	NC
1445		5	97.552	0	NC	NC	NC	NC
1446		6	79.815	0	NC	NC	NC	NC
1447		7	62.079	0	NC	NC	NC	NC
1448		8	44.342	0	NC	NC	NC	NC
1449		9	26.605	0	NC	NC	NC	NC
1450		10	8.868	0	NC	NC	NC	NC
1451		11	-8.868	0	NC	NC	NC	NC
1452		12	-26.605	0	NC	NC	NC	NC
1453		13	-44.342	0	NC	NC	NC	NC
1454		14	-62.078	0	NC	NC	NC	NC
1455		15	-79.815	0	NC	NC	NC	NC
1456		16	-97.552	0	NC	NC	NC	NC
1457		17	-115.288	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1458		18	-133.025	0	NC	NC	NC	NC
1459		19	-150.762	0	NC	NC	NC	NC
1460		20	-168.498	0	NC	NC	NC	NC
1461	3 A8	1	168.498	0	NC	NC	NC	NC
1462		2	150.761	0	NC	NC	NC	NC
1463		3	133.024	0	NC	NC	NC	NC
1464		4	115.288	0	NC	NC	NC	NC
1465		5	97.551	0	NC	NC	NC	NC
1466		6	79.814	0	NC	NC	NC	NC
1467		7	62.077	0	NC	NC	NC	NC
1468		8	44.341	0	NC	NC	NC	NC
1469		9	26.604	0	NC	NC	NC	NC
1470		10	8.867	0	NC	NC	NC	NC
1471		11	-8.869	0	NC	NC	NC	NC
1472		12	-26.606	0	NC	NC	NC	NC
1473		13	-44.343	0	NC	NC	NC	NC
1474		14	-62.079	0	NC	NC	NC	NC
1475		15	-79.816	0	NC	NC	NC	NC
1476		16	-97.553	0	NC	NC	NC	NC
1477		17	-115.289	0	NC	NC	NC	NC
1478		18	-133.026	0	NC	NC	NC	NC
1479		19	-150.763	0	NC	NC	NC	NC
1480		20	-168.5	0	NC	NC	NC	NC
1481	3 A9	1	168.498	0	NC	NC	NC	NC
1482		2	150.762	0	NC	NC	NC	NC
1483		3	133.025	0	NC	NC	NC	NC
1484		4	115.288	0	NC	NC	NC	NC
1485		5	97.552	0	NC	NC	NC	NC
1486		6	79.815	0	NC	NC	NC	NC
1487		7	62.078	0	NC	NC	NC	NC
1488		8	44.341	0	NC	NC	NC	NC
1489		9	26.605	0	NC	NC	NC	NC
1490		10	8.868	0	NC	NC	NC	NC
1491		11	-8.869	0	NC	NC	NC	NC
1492		12	-26.605	0	NC	NC	NC	NC
1493		13	-44.342	0	NC	NC	NC	NC
1494		14	-62.079	0	NC	NC	NC	NC
1495		15	-79.815	0	NC	NC	NC	NC
1496		16	-97.552	0	NC	NC	NC	NC
1497		17	-115.289	0	NC	NC	NC	NC
1498		18	-133.025	0	NC	NC	NC	NC
1499		19	-150.762	0	NC	NC	NC	NC
1500		20	-168.499	0	NC	NC	NC	NC
1501	3 A10	1	168.5	0	NC	NC	NC	NC
1502		2	150.763	0	NC	NC	NC	NC
1503		3	133.027	0	NC	NC	NC	NC
1504		4	115.29	0	NC	NC	NC	NC
1505		5	97.553	0	NC	NC	NC	NC
1506		6	79.817	0	NC	NC	NC	NC
1507		7	62.08	0	NC	NC	NC	NC
1508		8	44.343	0	NC	NC	NC	NC
1509		9	26.607	0	NC	NC	NC	NC
1510		10	8.87	0	NC	NC	NC	NC
1511		11	-8.867	0	NC	NC	NC	NC
1512		12	-26.603	0	NC	NC	NC	NC
1513		13	-44.34	0	NC	NC	NC	NC
1514		14	-62.077	0	NC	NC	NC	NC
1515		15	-79.814	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1516		16	-97.55	0	NC	NC	NC	NC
1517		17	-115.287	0	NC	NC	NC	NC
1518		18	-133.024	0	NC	NC	NC	NC
1519		19	-150.76	0	NC	NC	NC	NC
1520		20	-168.497	0	NC	NC	NC	NC
1521	3	A11	1	168.498	0	NC	NC	NC
1522		2	150.761	0	NC	NC	NC	NC
1523		3	133.025	0	NC	NC	NC	NC
1524		4	115.288	0	NC	NC	NC	NC
1525		5	97.551	0	NC	NC	NC	NC
1526		6	79.815	0	NC	NC	NC	NC
1527		7	62.078	0	NC	NC	NC	NC
1528		8	44.341	0	NC	NC	NC	NC
1529		9	26.605	0	NC	NC	NC	NC
1530		10	8.868	0	NC	NC	NC	NC
1531		11	-8.869	0	NC	NC	NC	NC
1532		12	-26.605	0	NC	NC	NC	NC
1533		13	-44.342	0	NC	NC	NC	NC
1534		14	-62.079	0	NC	NC	NC	NC
1535		15	-79.816	0	NC	NC	NC	NC
1536		16	-97.552	0	NC	NC	NC	NC
1537		17	-115.289	0	NC	NC	NC	NC
1538		18	-133.026	0	NC	NC	NC	NC
1539		19	-150.762	0	NC	NC	NC	NC
1540		20	-168.499	0	NC	NC	NC	NC
1541	3	A12	1	168.499	0	NC	NC	NC
1542		2	150.762	0	NC	NC	NC	NC
1543		3	133.025	0	NC	NC	NC	NC
1544		4	115.288	0	NC	NC	NC	NC
1545		5	97.552	0	NC	NC	NC	NC
1546		6	79.815	0	NC	NC	NC	NC
1547		7	62.078	0	NC	NC	NC	NC
1548		8	44.342	0	NC	NC	NC	NC
1549		9	26.605	0	NC	NC	NC	NC
1550		10	8.868	0	NC	NC	NC	NC
1551		11	-8.868	0	NC	NC	NC	NC
1552		12	-26.605	0	NC	NC	NC	NC
1553		13	-44.342	0	NC	NC	NC	NC
1554		14	-62.078	0	NC	NC	NC	NC
1555		15	-79.815	0	NC	NC	NC	NC
1556		16	-97.552	0	NC	NC	NC	NC
1557		17	-115.288	0	NC	NC	NC	NC
1558		18	-133.025	0	NC	NC	NC	NC
1559		19	-150.762	0	NC	NC	NC	NC
1560		20	-168.499	0	NC	NC	NC	NC
1561	3	A13	1	168.499	0	NC	NC	NC
1562		2	150.762	0	NC	NC	NC	NC
1563		3	133.025	0	NC	NC	NC	NC
1564		4	115.288	0	NC	NC	NC	NC
1565		5	97.552	0	NC	NC	NC	NC
1566		6	79.815	0	NC	NC	NC	NC
1567		7	62.078	0	NC	NC	NC	NC
1568		8	44.342	0	NC	NC	NC	NC
1569		9	26.605	0	NC	NC	NC	NC
1570		10	8.868	0	NC	NC	NC	NC
1571		11	-8.868	0	NC	NC	NC	NC
1572		12	-26.605	0	NC	NC	NC	NC
1573		13	-44.342	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1574		14	-62.078	0	NC	NC	NC	NC
1575		15	-79.815	0	NC	NC	NC	NC
1576		16	-97.552	0	NC	NC	NC	NC
1577		17	-115.288	0	NC	NC	NC	NC
1578		18	-133.025	0	NC	NC	NC	NC
1579		19	-150.762	0	NC	NC	NC	NC
1580		20	-168.499	0	NC	NC	NC	NC
1581	3 A14	1	168.499	0	NC	NC	NC	NC
1582		2	150.762	0	NC	NC	NC	NC
1583		3	133.025	0	NC	NC	NC	NC
1584		4	115.288	0	NC	NC	NC	NC
1585		5	97.552	0	NC	NC	NC	NC
1586		6	79.815	0	NC	NC	NC	NC
1587		7	62.078	0	NC	NC	NC	NC
1588		8	44.342	0	NC	NC	NC	NC
1589		9	26.605	0	NC	NC	NC	NC
1590		10	8.868	0	NC	NC	NC	NC
1591		11	-8.868	0	NC	NC	NC	NC
1592		12	-26.605	0	NC	NC	NC	NC
1593		13	-44.342	0	NC	NC	NC	NC
1594		14	-62.078	0	NC	NC	NC	NC
1595		15	-79.815	0	NC	NC	NC	NC
1596		16	-97.552	0	NC	NC	NC	NC
1597		17	-115.288	0	NC	NC	NC	NC
1598		18	-133.025	0	NC	NC	NC	NC
1599		19	-150.762	0	NC	NC	NC	NC
1600		20	-168.499	0	NC	NC	NC	NC
1601	3 A15	1	168.492	0	NC	NC	NC	NC
1602		2	150.756	0	NC	NC	NC	NC
1603		3	133.019	0	NC	NC	NC	NC
1604		4	115.282	0	NC	NC	NC	NC
1605		5	97.546	0	NC	NC	NC	NC
1606		6	79.809	0	NC	NC	NC	NC
1607		7	62.072	0	NC	NC	NC	NC
1608		8	44.336	0	NC	NC	NC	NC
1609		9	26.599	0	NC	NC	NC	NC
1610		10	8.862	0	NC	NC	NC	NC
1611		11	-8.874	0	NC	NC	NC	NC
1612		12	-26.611	0	NC	NC	NC	NC
1613		13	-44.348	0	NC	NC	NC	NC
1614		14	-62.085	0	NC	NC	NC	NC
1615		15	-79.821	0	NC	NC	NC	NC
1616		16	-97.558	0	NC	NC	NC	NC
1617		17	-115.295	0	NC	NC	NC	NC
1618		18	-133.031	0	NC	NC	NC	NC
1619		19	-150.768	0	NC	NC	NC	NC
1620		20	-168.505	0	NC	NC	NC	NC
1621	3 A16	1	64.298	0	NC	NC	NC	NC
1622		2	55.189	0	NC	NC	NC	NC
1623		3	46.079	0	NC	NC	NC	NC
1624		4	36.969	0	NC	NC	NC	NC
1625		5	27.859	0	NC	NC	NC	NC
1626		6	18.75	0	NC	NC	NC	NC
1627		7	9.64	0	NC	NC	NC	NC
1628		8	0.53	0	NC	NC	NC	NC
1629		9	-8.58	0	NC	NC	NC	NC
1630		10	-17.689	0	NC	NC	NC	NC
1631		11	-26.799	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y Warp	Shear[ksi] z Warp	Shear[ksi] z-Bot	Warp Bend[ksi] z-Top	Warp Bend[ksi]
1632		12	-35.909	0	NC	NC	NC	NC
1633		13	-45.019	0	NC	NC	NC	NC
1634		14	-54.128	0	NC	NC	NC	NC
1635		15	-63.238	0	NC	NC	NC	NC
1636		16	-72.348	0	NC	NC	NC	NC
1637		17	-81.458	0	NC	NC	NC	NC
1638		18	-90.567	0	NC	NC	NC	NC
1639		19	-99.677	0	NC	NC	NC	NC
1640		20	-108.787	0	NC	NC	NC	NC
1641	3	A17	1	0	0	NC	NC	NC
1642		2	0	0	NC	NC	NC	NC
1643		3	0	0	NC	NC	NC	NC
1644		4	0	0	NC	NC	NC	NC
1645		5	0	0	NC	NC	NC	NC
1646		6	0	0	NC	NC	NC	NC
1647		7	0	0	NC	NC	NC	NC
1648		8	0	0	NC	NC	NC	NC
1649		9	0	0	NC	NC	NC	NC
1650		10	0	0	NC	NC	NC	NC
1651		11	0	0	NC	NC	NC	NC
1652		12	0	0	NC	NC	NC	NC
1653		13	0	0	NC	NC	NC	NC
1654		14	0	0	NC	NC	NC	NC
1655		15	0	0	NC	NC	NC	NC
1656		16	0	0	NC	NC	NC	NC
1657		17	0	0	NC	NC	NC	NC
1658		18	0	0	NC	NC	NC	NC
1659		19	0	0	NC	NC	NC	NC
1660		20	0	0	NC	NC	NC	NC
1661	3	R1	1	0	0	NC	NC	NC
1662		2	0	0	NC	NC	NC	NC
1663		3	0	0	NC	NC	NC	NC
1664		4	0	0	NC	NC	NC	NC
1665		5	0	0	NC	NC	NC	NC
1666		6	0	0	NC	NC	NC	NC
1667		7	0	0	NC	NC	NC	NC
1668		8	0	0	NC	NC	NC	NC
1669		9	0	0	NC	NC	NC	NC
1670		10	0	0	NC	NC	NC	NC
1671		11	0	0	NC	NC	NC	NC
1672		12	0	0	NC	NC	NC	NC
1673		13	0	0	NC	NC	NC	NC
1674		14	0	0	NC	NC	NC	NC
1675		15	0	0	NC	NC	NC	NC
1676		16	0	0	NC	NC	NC	NC
1677		17	0	0	NC	NC	NC	NC
1678		18	0	0	NC	NC	NC	NC
1679		19	0	0	NC	NC	NC	NC
1680		20	0	0	NC	NC	NC	NC
1681	3	R2	1	0	0	NC	NC	NC
1682		2	0	0	NC	NC	NC	NC
1683		3	0	0	NC	NC	NC	NC
1684		4	0	0	NC	NC	NC	NC
1685		5	0	0	NC	NC	NC	NC
1686		6	0	0	NC	NC	NC	NC
1687		7	0	0	NC	NC	NC	NC
1688		8	0	0	NC	NC	NC	NC
1689		9	0	0	NC	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1690		10	0	0	NC	NC	NC	NC
1691		11	0	0	NC	NC	NC	NC
1692		12	0	0	NC	NC	NC	NC
1693		13	0	0	NC	NC	NC	NC
1694		14	0	0	NC	NC	NC	NC
1695		15	0	0	NC	NC	NC	NC
1696		16	0	0	NC	NC	NC	NC
1697		17	0	0	NC	NC	NC	NC
1698		18	0	0	NC	NC	NC	NC
1699		19	0	0	NC	NC	NC	NC
1700		20	0	0	NC	NC	NC	NC
1701	3	R3	1	0	0	NC	NC	NC
1702		2	0	0	NC	NC	NC	NC
1703		3	0	0	NC	NC	NC	NC
1704		4	0	0	NC	NC	NC	NC
1705		5	0	0	NC	NC	NC	NC
1706		6	0	0	NC	NC	NC	NC
1707		7	0	0	NC	NC	NC	NC
1708		8	0	0	NC	NC	NC	NC
1709		9	0	0	NC	NC	NC	NC
1710		10	0	0	NC	NC	NC	NC
1711		11	0	0	NC	NC	NC	NC
1712		12	0	0	NC	NC	NC	NC
1713		13	0	0	NC	NC	NC	NC
1714		14	0	0	NC	NC	NC	NC
1715		15	0	0	NC	NC	NC	NC
1716		16	0	0	NC	NC	NC	NC
1717		17	0	0	NC	NC	NC	NC
1718		18	0	0	NC	NC	NC	NC
1719		19	0	0	NC	NC	NC	NC
1720		20	0	0	NC	NC	NC	NC
1721	3	R4	1	0	0	NC	NC	NC
1722		2	0	0	NC	NC	NC	NC
1723		3	0	0	NC	NC	NC	NC
1724		4	0	0	NC	NC	NC	NC
1725		5	0	0	NC	NC	NC	NC
1726		6	0	0	NC	NC	NC	NC
1727		7	0	0	NC	NC	NC	NC
1728		8	0	0	NC	NC	NC	NC
1729		9	0	0	NC	NC	NC	NC
1730		10	0	0	NC	NC	NC	NC
1731		11	0	0	NC	NC	NC	NC
1732		12	0	0	NC	NC	NC	NC
1733		13	0	0	NC	NC	NC	NC
1734		14	0	0	NC	NC	NC	NC
1735		15	0	0	NC	NC	NC	NC
1736		16	0	0	NC	NC	NC	NC
1737		17	0	0	NC	NC	NC	NC
1738		18	0	0	NC	NC	NC	NC
1739		19	0	0	NC	NC	NC	NC
1740		20	0	0	NC	NC	NC	NC
1741	3	R5	1	0	0	NC	NC	NC
1742		2	0	0	NC	NC	NC	NC
1743		3	0	0	NC	NC	NC	NC
1744		4	0	0	NC	NC	NC	NC
1745		5	0	0	NC	NC	NC	NC
1746		6	0	0	NC	NC	NC	NC
1747		7	0	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
1748		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1749		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1750		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1751		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1752		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1753		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1754		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1755		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1756		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1757		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1758		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1759		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1760		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1761	3	R6	1	0	0	NC	NC	NC	NC	NC	NC	NC
1762		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1763		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1764		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1765		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1766		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1767		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1768		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1769		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1770		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1771		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1772		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1773		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1774		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1775		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1776		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1777		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1778		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1779		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1780		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1781	3	R7	1	0	0	NC	NC	NC	NC	NC	NC	NC
1782		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1783		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1784		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1785		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1786		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1787		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1788		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1789		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1790		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1791		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1792		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1793		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1794		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1795		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1796		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1797		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1798		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1799		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1800		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1801	3	R8	1	0	0	NC	NC	NC	NC	NC	NC	NC
1802		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1803		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1804		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1805		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
1806		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1807		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1808		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1809		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1810		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1811		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1812		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1813		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1814		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1815		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1816		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1817		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1818		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1819		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1820		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1821	3	R9	1	0	0	NC	NC	NC	NC	NC	NC	NC
1822		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1823		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1824		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1825		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1826		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1827		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1828		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1829		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1830		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1831		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1832		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1833		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1834		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1835		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1836		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1837		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1838		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1839		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1840		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1841	3	R10	1	0	0	NC	NC	NC	NC	NC	NC	NC
1842		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1843		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1844		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1845		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1846		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1847		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1848		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1849		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1850		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1851		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1852		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1853		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1854		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1855		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1856		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1857		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1858		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1859		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1860		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1861	3	R11	1	0	0	NC	NC	NC	NC	NC	NC	NC
1862		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1863		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
1864		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1865		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1866		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1867		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1868		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1869		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1870		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1871		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1872		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1873		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1874		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1875		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1876		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1877		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1878		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1879		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1880		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1881	3	R12	1	0	0	NC	NC	NC	NC	NC	NC	NC
1882			2	0	0	NC	NC	NC	NC	NC	NC	NC
1883			3	0	0	NC	NC	NC	NC	NC	NC	NC
1884			4	0	0	NC	NC	NC	NC	NC	NC	NC
1885			5	0	0	NC	NC	NC	NC	NC	NC	NC
1886			6	0	0	NC	NC	NC	NC	NC	NC	NC
1887			7	0	0	NC	NC	NC	NC	NC	NC	NC
1888			8	0	0	NC	NC	NC	NC	NC	NC	NC
1889			9	0	0	NC	NC	NC	NC	NC	NC	NC
1890			10	0	0	NC	NC	NC	NC	NC	NC	NC
1891			11	0	0	NC	NC	NC	NC	NC	NC	NC
1892			12	0	0	NC	NC	NC	NC	NC	NC	NC
1893			13	0	0	NC	NC	NC	NC	NC	NC	NC
1894			14	0	0	NC	NC	NC	NC	NC	NC	NC
1895			15	0	0	NC	NC	NC	NC	NC	NC	NC
1896			16	0	0	NC	NC	NC	NC	NC	NC	NC
1897			17	0	0	NC	NC	NC	NC	NC	NC	NC
1898			18	0	0	NC	NC	NC	NC	NC	NC	NC
1899			19	0	0	NC	NC	NC	NC	NC	NC	NC
1900			20	0	0	NC	NC	NC	NC	NC	NC	NC
1901	3	R13	1	0	0	NC	NC	NC	NC	NC	NC	NC
1902			2	0	0	NC	NC	NC	NC	NC	NC	NC
1903			3	0	0	NC	NC	NC	NC	NC	NC	NC
1904			4	0	0	NC	NC	NC	NC	NC	NC	NC
1905			5	0	0	NC	NC	NC	NC	NC	NC	NC
1906			6	0	0	NC	NC	NC	NC	NC	NC	NC
1907			7	0	0	NC	NC	NC	NC	NC	NC	NC
1908			8	0	0	NC	NC	NC	NC	NC	NC	NC
1909			9	0	0	NC	NC	NC	NC	NC	NC	NC
1910			10	0	0	NC	NC	NC	NC	NC	NC	NC
1911			11	0	0	NC	NC	NC	NC	NC	NC	NC
1912			12	0	0	NC	NC	NC	NC	NC	NC	NC
1913			13	0	0	NC	NC	NC	NC	NC	NC	NC
1914			14	0	0	NC	NC	NC	NC	NC	NC	NC
1915			15	0	0	NC	NC	NC	NC	NC	NC	NC
1916			16	0	0	NC	NC	NC	NC	NC	NC	NC
1917			17	0	0	NC	NC	NC	NC	NC	NC	NC
1918			18	0	0	NC	NC	NC	NC	NC	NC	NC
1919			19	0	0	NC	NC	NC	NC	NC	NC	NC
1920			20	0	0	NC	NC	NC	NC	NC	NC	NC
1921	3	R14	1	0	0	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1922		2	0	0	NC	NC	NC	NC
1923		3	0	0	NC	NC	NC	NC
1924		4	0	0	NC	NC	NC	NC
1925		5	0	0	NC	NC	NC	NC
1926		6	0	0	NC	NC	NC	NC
1927		7	0	0	NC	NC	NC	NC
1928		8	0	0	NC	NC	NC	NC
1929		9	0	0	NC	NC	NC	NC
1930		10	0	0	NC	NC	NC	NC
1931		11	0	0	NC	NC	NC	NC
1932		12	0	0	NC	NC	NC	NC
1933		13	0	0	NC	NC	NC	NC
1934		14	0	0	NC	NC	NC	NC
1935		15	0	0	NC	NC	NC	NC
1936		16	0	0	NC	NC	NC	NC
1937		17	0	0	NC	NC	NC	NC
1938		18	0	0	NC	NC	NC	NC
1939		19	0	0	NC	NC	NC	NC
1940		20	0	0	NC	NC	NC	NC
1941	3	R15	1	0	0	NC	NC	NC
1942		2	0	0	NC	NC	NC	NC
1943		3	0	0	NC	NC	NC	NC
1944		4	0	0	NC	NC	NC	NC
1945		5	0	0	NC	NC	NC	NC
1946		6	0	0	NC	NC	NC	NC
1947		7	0	0	NC	NC	NC	NC
1948		8	0	0	NC	NC	NC	NC
1949		9	0	0	NC	NC	NC	NC
1950		10	0	0	NC	NC	NC	NC
1951		11	0	0	NC	NC	NC	NC
1952		12	0	0	NC	NC	NC	NC
1953		13	0	0	NC	NC	NC	NC
1954		14	0	0	NC	NC	NC	NC
1955		15	0	0	NC	NC	NC	NC
1956		16	0	0	NC	NC	NC	NC
1957		17	0	0	NC	NC	NC	NC
1958		18	0	0	NC	NC	NC	NC
1959		19	0	0	NC	NC	NC	NC
1960		20	0	0	NC	NC	NC	NC
1961	3	M33	1	0	0	NC	NC	NC
1962		2	0	0	NC	NC	NC	NC
1963		3	0	0	NC	NC	NC	NC
1964		4	0	0	NC	NC	NC	NC
1965		5	0	0	NC	NC	NC	NC
1966		6	0	0	NC	NC	NC	NC
1967		7	0	0	NC	NC	NC	NC
1968		8	0	0	NC	NC	NC	NC
1969		9	0	0	NC	NC	NC	NC
1970		10	0	0	NC	NC	NC	NC
1971		11	0	0	NC	NC	NC	NC
1972		12	0	0	NC	NC	NC	NC
1973		13	0	0	NC	NC	NC	NC
1974		14	0	0	NC	NC	NC	NC
1975		15	0	0	NC	NC	NC	NC
1976		16	0	0	NC	NC	NC	NC
1977		17	0	0	NC	NC	NC	NC
1978		18	0	0	NC	NC	NC	NC
1979		19	0	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1980		20	0	0	NC	NC	NC	NC
1981	4	A1	1	0	0	NC	NC	NC
1982		2	0	0	NC	NC	NC	NC
1983		3	0	0	NC	NC	NC	NC
1984		4	0	0	NC	NC	NC	NC
1985		5	0	0	NC	NC	NC	NC
1986		6	0	0	NC	NC	NC	NC
1987		7	0	0	NC	NC	NC	NC
1988		8	0	0	NC	NC	NC	NC
1989		9	0	0	NC	NC	NC	NC
1990		10	0	0	NC	NC	NC	NC
1991		11	0	0	NC	NC	NC	NC
1992		12	0	0	NC	NC	NC	NC
1993		13	0	0	NC	NC	NC	NC
1994		14	0	0	NC	NC	NC	NC
1995		15	0	0	NC	NC	NC	NC
1996		16	0	0	NC	NC	NC	NC
1997		17	0	0	NC	NC	NC	NC
1998		18	0	0	NC	NC	NC	NC
1999		19	0	0	NC	NC	NC	NC
2000		20	0	0	NC	NC	NC	NC
2001	4	A2	1	-30.366	0	NC	NC	NC
2002		2	-36.43	0	NC	NC	NC	NC
2003		3	-42.494	0	NC	NC	NC	NC
2004		4	-48.558	0	NC	NC	NC	NC
2005		5	-54.622	0	NC	NC	NC	NC
2006		6	-60.686	0	NC	NC	NC	NC
2007		7	-66.75	0	NC	NC	NC	NC
2008		8	-72.814	0	NC	NC	NC	NC
2009		9	-78.877	0	NC	NC	NC	NC
2010		10	-84.941	0	NC	NC	NC	NC
2011		11	-91.005	0	NC	NC	NC	NC
2012		12	-97.069	0	NC	NC	NC	NC
2013		13	-103.133	0	NC	NC	NC	NC
2014		14	-109.197	0	NC	NC	NC	NC
2015		15	-115.261	0	NC	NC	NC	NC
2016		16	-121.325	0	NC	NC	NC	NC
2017		17	-127.388	0	NC	NC	NC	NC
2018		18	-133.452	0	NC	NC	NC	NC
2019		19	-139.516	0	NC	NC	NC	NC
2020		20	-145.58	0	NC	NC	NC	NC
2021	4	A3	1	180.935	0	NC	NC	NC
2022		2	161.889	0	NC	NC	NC	NC
2023		3	142.844	0	NC	NC	NC	NC
2024		4	123.798	0	NC	NC	NC	NC
2025		5	104.752	0	NC	NC	NC	NC
2026		6	85.706	0	NC	NC	NC	NC
2027		7	66.661	0	NC	NC	NC	NC
2028		8	47.615	0	NC	NC	NC	NC
2029		9	28.569	0	NC	NC	NC	NC
2030		10	9.523	0	NC	NC	NC	NC
2031		11	-9.523	0	NC	NC	NC	NC
2032		12	-28.568	0	NC	NC	NC	NC
2033		13	-47.614	0	NC	NC	NC	NC
2034		14	-66.66	0	NC	NC	NC	NC
2035		15	-85.706	0	NC	NC	NC	NC
2036		16	-104.751	0	NC	NC	NC	NC
2037		17	-123.797	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
2038		18	-142.843	0	NC	NC	NC	NC	NC	NC	NC	NC
2039		19	-161.889	0	NC	NC	NC	NC	NC	NC	NC	NC
2040		20	-180.934	0	NC	NC	NC	NC	NC	NC	NC	NC
2041	4	A4	1	180.935	0	NC	NC	NC	NC	NC	NC	NC
2042		2	161.889	0	NC	NC	NC	NC	NC	NC	NC	NC
2043		3	142.844	0	NC	NC	NC	NC	NC	NC	NC	NC
2044		4	123.798	0	NC	NC	NC	NC	NC	NC	NC	NC
2045		5	104.752	0	NC	NC	NC	NC	NC	NC	NC	NC
2046		6	85.706	0	NC	NC	NC	NC	NC	NC	NC	NC
2047		7	66.661	0	NC	NC	NC	NC	NC	NC	NC	NC
2048		8	47.615	0	NC	NC	NC	NC	NC	NC	NC	NC
2049		9	28.569	0	NC	NC	NC	NC	NC	NC	NC	NC
2050		10	9.523	0	NC	NC	NC	NC	NC	NC	NC	NC
2051		11	-9.523	0	NC	NC	NC	NC	NC	NC	NC	NC
2052		12	-28.568	0	NC	NC	NC	NC	NC	NC	NC	NC
2053		13	-47.614	0	NC	NC	NC	NC	NC	NC	NC	NC
2054		14	-66.66	0	NC	NC	NC	NC	NC	NC	NC	NC
2055		15	-85.706	0	NC	NC	NC	NC	NC	NC	NC	NC
2056		16	-104.751	0	NC	NC	NC	NC	NC	NC	NC	NC
2057		17	-123.797	0	NC	NC	NC	NC	NC	NC	NC	NC
2058		18	-142.843	0	NC	NC	NC	NC	NC	NC	NC	NC
2059		19	-161.889	0	NC	NC	NC	NC	NC	NC	NC	NC
2060		20	-180.934	0	NC	NC	NC	NC	NC	NC	NC	NC
2061	4	A5	1	180.935	0	NC	NC	NC	NC	NC	NC	NC
2062		2	161.889	0	NC	NC	NC	NC	NC	NC	NC	NC
2063		3	142.843	0	NC	NC	NC	NC	NC	NC	NC	NC
2064		4	123.797	0	NC	NC	NC	NC	NC	NC	NC	NC
2065		5	104.752	0	NC	NC	NC	NC	NC	NC	NC	NC
2066		6	85.706	0	NC	NC	NC	NC	NC	NC	NC	NC
2067		7	66.66	0	NC	NC	NC	NC	NC	NC	NC	NC
2068		8	47.614	0	NC	NC	NC	NC	NC	NC	NC	NC
2069		9	28.569	0	NC	NC	NC	NC	NC	NC	NC	NC
2070		10	9.523	0	NC	NC	NC	NC	NC	NC	NC	NC
2071		11	-9.523	0	NC	NC	NC	NC	NC	NC	NC	NC
2072		12	-28.569	0	NC	NC	NC	NC	NC	NC	NC	NC
2073		13	-47.614	0	NC	NC	NC	NC	NC	NC	NC	NC
2074		14	-66.66	0	NC	NC	NC	NC	NC	NC	NC	NC
2075		15	-85.706	0	NC	NC	NC	NC	NC	NC	NC	NC
2076		16	-104.752	0	NC	NC	NC	NC	NC	NC	NC	NC
2077		17	-123.798	0	NC	NC	NC	NC	NC	NC	NC	NC
2078		18	-142.843	0	NC	NC	NC	NC	NC	NC	NC	NC
2079		19	-161.889	0	NC	NC	NC	NC	NC	NC	NC	NC
2080		20	-180.935	0	NC	NC	NC	NC	NC	NC	NC	NC
2081	4	A6	1	180.935	0	NC	NC	NC	NC	NC	NC	NC
2082		2	161.889	0	NC	NC	NC	NC	NC	NC	NC	NC
2083		3	142.843	0	NC	NC	NC	NC	NC	NC	NC	NC
2084		4	123.797	0	NC	NC	NC	NC	NC	NC	NC	NC
2085		5	104.752	0	NC	NC	NC	NC	NC	NC	NC	NC
2086		6	85.706	0	NC	NC	NC	NC	NC	NC	NC	NC
2087		7	66.66	0	NC	NC	NC	NC	NC	NC	NC	NC
2088		8	47.614	0	NC	NC	NC	NC	NC	NC	NC	NC
2089		9	28.569	0	NC	NC	NC	NC	NC	NC	NC	NC
2090		10	9.523	0	NC	NC	NC	NC	NC	NC	NC	NC
2091		11	-9.523	0	NC	NC	NC	NC	NC	NC	NC	NC
2092		12	-28.569	0	NC	NC	NC	NC	NC	NC	NC	NC
2093		13	-47.614	0	NC	NC	NC	NC	NC	NC	NC	NC
2094		14	-66.66	0	NC	NC	NC	NC	NC	NC	NC	NC
2095		15	-85.706	0	NC	NC	NC	NC	NC	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2096		16	-104.752	0	NC	NC	NC	NC
2097		17	-123.797	0	NC	NC	NC	NC
2098		18	-142.843	0	NC	NC	NC	NC
2099		19	-161.889	0	NC	NC	NC	NC
2100		20	-180.935	0	NC	NC	NC	NC
2101	4	A7	1	180.935	0	NC	NC	NC
2102		2	161.889	0	NC	NC	NC	NC
2103		3	142.843	0	NC	NC	NC	NC
2104		4	123.798	0	NC	NC	NC	NC
2105		5	104.752	0	NC	NC	NC	NC
2106		6	85.706	0	NC	NC	NC	NC
2107		7	66.66	0	NC	NC	NC	NC
2108		8	47.614	0	NC	NC	NC	NC
2109		9	28.569	0	NC	NC	NC	NC
2110		10	9.523	0	NC	NC	NC	NC
2111		11	-9.523	0	NC	NC	NC	NC
2112		12	-28.569	0	NC	NC	NC	NC
2113		13	-47.614	0	NC	NC	NC	NC
2114		14	-66.66	0	NC	NC	NC	NC
2115		15	-85.706	0	NC	NC	NC	NC
2116		16	-104.752	0	NC	NC	NC	NC
2117		17	-123.797	0	NC	NC	NC	NC
2118		18	-142.843	0	NC	NC	NC	NC
2119		19	-161.889	0	NC	NC	NC	NC
2120		20	-180.935	0	NC	NC	NC	NC
2121	4	A8	1	180.934	0	NC	NC	NC
2122		2	161.888	0	NC	NC	NC	NC
2123		3	142.842	0	NC	NC	NC	NC
2124		4	123.797	0	NC	NC	NC	NC
2125		5	104.751	0	NC	NC	NC	NC
2126		6	85.705	0	NC	NC	NC	NC
2127		7	66.659	0	NC	NC	NC	NC
2128		8	47.614	0	NC	NC	NC	NC
2129		9	28.568	0	NC	NC	NC	NC
2130		10	9.522	0	NC	NC	NC	NC
2131		11	-9.524	0	NC	NC	NC	NC
2132		12	-28.569	0	NC	NC	NC	NC
2133		13	-47.615	0	NC	NC	NC	NC
2134		14	-66.661	0	NC	NC	NC	NC
2135		15	-85.707	0	NC	NC	NC	NC
2136		16	-104.753	0	NC	NC	NC	NC
2137		17	-123.798	0	NC	NC	NC	NC
2138		18	-142.844	0	NC	NC	NC	NC
2139		19	-161.89	0	NC	NC	NC	NC
2140		20	-180.936	0	NC	NC	NC	NC
2141	4	A9	1	180.935	0	NC	NC	NC
2142		2	161.889	0	NC	NC	NC	NC
2143		3	142.843	0	NC	NC	NC	NC
2144		4	123.797	0	NC	NC	NC	NC
2145		5	104.752	0	NC	NC	NC	NC
2146		6	85.706	0	NC	NC	NC	NC
2147		7	66.66	0	NC	NC	NC	NC
2148		8	47.614	0	NC	NC	NC	NC
2149		9	28.568	0	NC	NC	NC	NC
2150		10	9.523	0	NC	NC	NC	NC
2151		11	-9.523	0	NC	NC	NC	NC
2152		12	-28.569	0	NC	NC	NC	NC
2153		13	-47.615	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2154		14	-66.66	0	NC	NC	NC	NC
2155		15	-85.706	0	NC	NC	NC	NC
2156		16	-104.752	0	NC	NC	NC	NC
2157		17	-123.798	0	NC	NC	NC	NC
2158		18	-142.843	0	NC	NC	NC	NC
2159		19	-161.889	0	NC	NC	NC	NC
2160		20	-180.935	0	NC	NC	NC	NC
2161	4	A10	1	180.936	0	NC	NC	NC
2162		2	161.89	0	NC	NC	NC	NC
2163		3	142.845	0	NC	NC	NC	NC
2164		4	123.799	0	NC	NC	NC	NC
2165		5	104.753	0	NC	NC	NC	NC
2166		6	85.707	0	NC	NC	NC	NC
2167		7	66.662	0	NC	NC	NC	NC
2168		8	47.616	0	NC	NC	NC	NC
2169		9	28.57	0	NC	NC	NC	NC
2170		10	9.524	0	NC	NC	NC	NC
2171		11	-9.522	0	NC	NC	NC	NC
2172		12	-28.567	0	NC	NC	NC	NC
2173		13	-47.613	0	NC	NC	NC	NC
2174		14	-66.659	0	NC	NC	NC	NC
2175		15	-85.705	0	NC	NC	NC	NC
2176		16	-104.75	0	NC	NC	NC	NC
2177		17	-123.796	0	NC	NC	NC	NC
2178		18	-142.842	0	NC	NC	NC	NC
2179		19	-161.888	0	NC	NC	NC	NC
2180		20	-180.933	0	NC	NC	NC	NC
2181	4	A11	1	180.934	0	NC	NC	NC
2182		2	161.889	0	NC	NC	NC	NC
2183		3	142.843	0	NC	NC	NC	NC
2184		4	123.797	0	NC	NC	NC	NC
2185		5	104.751	0	NC	NC	NC	NC
2186		6	85.706	0	NC	NC	NC	NC
2187		7	66.66	0	NC	NC	NC	NC
2188		8	47.614	0	NC	NC	NC	NC
2189		9	28.568	0	NC	NC	NC	NC
2190		10	9.522	0	NC	NC	NC	NC
2191		11	-9.523	0	NC	NC	NC	NC
2192		12	-28.569	0	NC	NC	NC	NC
2193		13	-47.615	0	NC	NC	NC	NC
2194		14	-66.661	0	NC	NC	NC	NC
2195		15	-85.706	0	NC	NC	NC	NC
2196		16	-104.752	0	NC	NC	NC	NC
2197		17	-123.798	0	NC	NC	NC	NC
2198		18	-142.844	0	NC	NC	NC	NC
2199		19	-161.889	0	NC	NC	NC	NC
2200		20	-180.935	0	NC	NC	NC	NC
2201	4	A12	1	180.935	0	NC	NC	NC
2202		2	161.889	0	NC	NC	NC	NC
2203		3	142.843	0	NC	NC	NC	NC
2204		4	123.797	0	NC	NC	NC	NC
2205		5	104.752	0	NC	NC	NC	NC
2206		6	85.706	0	NC	NC	NC	NC
2207		7	66.66	0	NC	NC	NC	NC
2208		8	47.614	0	NC	NC	NC	NC
2209		9	28.569	0	NC	NC	NC	NC
2210		10	9.523	0	NC	NC	NC	NC
2211		11	-9.523	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2212		12	-28.569	0	NC	NC	NC	NC
2213		13	-47.614	0	NC	NC	NC	NC
2214		14	-66.66	0	NC	NC	NC	NC
2215		15	-85.706	0	NC	NC	NC	NC
2216		16	-104.752	0	NC	NC	NC	NC
2217		17	-123.797	0	NC	NC	NC	NC
2218		18	-142.843	0	NC	NC	NC	NC
2219		19	-161.889	0	NC	NC	NC	NC
2220		20	-180.935	0	NC	NC	NC	NC
2221	4	A13	1	180.935	0	NC	NC	NC
2222		2	161.889	0	NC	NC	NC	NC
2223		3	142.843	0	NC	NC	NC	NC
2224		4	123.798	0	NC	NC	NC	NC
2225		5	104.752	0	NC	NC	NC	NC
2226		6	85.706	0	NC	NC	NC	NC
2227		7	66.66	0	NC	NC	NC	NC
2228		8	47.614	0	NC	NC	NC	NC
2229		9	28.569	0	NC	NC	NC	NC
2230		10	9.523	0	NC	NC	NC	NC
2231		11	-9.523	0	NC	NC	NC	NC
2232		12	-28.569	0	NC	NC	NC	NC
2233		13	-47.614	0	NC	NC	NC	NC
2234		14	-66.66	0	NC	NC	NC	NC
2235		15	-85.706	0	NC	NC	NC	NC
2236		16	-104.752	0	NC	NC	NC	NC
2237		17	-123.797	0	NC	NC	NC	NC
2238		18	-142.843	0	NC	NC	NC	NC
2239		19	-161.889	0	NC	NC	NC	NC
2240		20	-180.935	0	NC	NC	NC	NC
2241	4	A14	1	180.935	0	NC	NC	NC
2242		2	161.889	0	NC	NC	NC	NC
2243		3	142.843	0	NC	NC	NC	NC
2244		4	123.797	0	NC	NC	NC	NC
2245		5	104.752	0	NC	NC	NC	NC
2246		6	85.706	0	NC	NC	NC	NC
2247		7	66.66	0	NC	NC	NC	NC
2248		8	47.614	0	NC	NC	NC	NC
2249		9	28.569	0	NC	NC	NC	NC
2250		10	9.523	0	NC	NC	NC	NC
2251		11	-9.523	0	NC	NC	NC	NC
2252		12	-28.569	0	NC	NC	NC	NC
2253		13	-47.615	0	NC	NC	NC	NC
2254		14	-66.66	0	NC	NC	NC	NC
2255		15	-85.706	0	NC	NC	NC	NC
2256		16	-104.752	0	NC	NC	NC	NC
2257		17	-123.798	0	NC	NC	NC	NC
2258		18	-142.843	0	NC	NC	NC	NC
2259		19	-161.889	0	NC	NC	NC	NC
2260		20	-180.935	0	NC	NC	NC	NC
2261	4	A15	1	180.93	0	NC	NC	NC
2262		2	161.884	0	NC	NC	NC	NC
2263		3	142.838	0	NC	NC	NC	NC
2264		4	123.792	0	NC	NC	NC	NC
2265		5	104.747	0	NC	NC	NC	NC
2266		6	85.701	0	NC	NC	NC	NC
2267		7	66.655	0	NC	NC	NC	NC
2268		8	47.609	0	NC	NC	NC	NC
2269		9	28.563	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
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**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
2270		10	9.518	0	NC	NC	NC	NC	NC	NC	NC	NC
2271		11	-9.528	0	NC	NC	NC	NC	NC	NC	NC	NC
2272		12	-28.574	0	NC	NC	NC	NC	NC	NC	NC	NC
2273		13	-47.62	0	NC	NC	NC	NC	NC	NC	NC	NC
2274		14	-66.665	0	NC	NC	NC	NC	NC	NC	NC	NC
2275		15	-85.711	0	NC	NC	NC	NC	NC	NC	NC	NC
2276		16	-104.757	0	NC	NC	NC	NC	NC	NC	NC	NC
2277		17	-123.803	0	NC	NC	NC	NC	NC	NC	NC	NC
2278		18	-142.848	0	NC	NC	NC	NC	NC	NC	NC	NC
2279		19	-161.894	0	NC	NC	NC	NC	NC	NC	NC	NC
2280		20	-180.94	0	NC	NC	NC	NC	NC	NC	NC	NC
2281	4	A16	1	85.834	0	NC	NC	NC	NC	NC	NC	NC
2282		2	76.052	0	NC	NC	NC	NC	NC	NC	NC	NC
2283		3	66.27	0	NC	NC	NC	NC	NC	NC	NC	NC
2284		4	56.488	0	NC	NC	NC	NC	NC	NC	NC	NC
2285		5	46.706	0	NC	NC	NC	NC	NC	NC	NC	NC
2286		6	36.924	0	NC	NC	NC	NC	NC	NC	NC	NC
2287		7	27.142	0	NC	NC	NC	NC	NC	NC	NC	NC
2288		8	17.36	0	NC	NC	NC	NC	NC	NC	NC	NC
2289		9	7.577	0	NC	NC	NC	NC	NC	NC	NC	NC
2290		10	-2.205	0	NC	NC	NC	NC	NC	NC	NC	NC
2291		11	-11.987	0	NC	NC	NC	NC	NC	NC	NC	NC
2292		12	-21.769	0	NC	NC	NC	NC	NC	NC	NC	NC
2293		13	-31.551	0	NC	NC	NC	NC	NC	NC	NC	NC
2294		14	-41.333	0	NC	NC	NC	NC	NC	NC	NC	NC
2295		15	-51.115	0	NC	NC	NC	NC	NC	NC	NC	NC
2296		16	-60.897	0	NC	NC	NC	NC	NC	NC	NC	NC
2297		17	-70.679	0	NC	NC	NC	NC	NC	NC	NC	NC
2298		18	-80.461	0	NC	NC	NC	NC	NC	NC	NC	NC
2299		19	-90.244	0	NC	NC	NC	NC	NC	NC	NC	NC
2300		20	-100.026	0	NC	NC	NC	NC	NC	NC	NC	NC
2301	4	A17	1	0	0	NC	NC	NC	NC	NC	NC	NC
2302		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2303		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2304		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2305		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2306		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2307		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2308		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2309		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2310		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2311		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2312		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2313		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2314		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2315		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2316		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2317		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2318		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2319		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2320		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2321	4	R1	1	0	0	NC	NC	NC	NC	NC	NC	NC
2322		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2323		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2324		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2325		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2326		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2327		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2328		8	0	0	NC	NC	NC	NC
2329		9	0	0	NC	NC	NC	NC
2330		10	0	0	NC	NC	NC	NC
2331		11	0	0	NC	NC	NC	NC
2332		12	0	0	NC	NC	NC	NC
2333		13	0	0	NC	NC	NC	NC
2334		14	0	0	NC	NC	NC	NC
2335		15	0	0	NC	NC	NC	NC
2336		16	0	0	NC	NC	NC	NC
2337		17	0	0	NC	NC	NC	NC
2338		18	0	0	NC	NC	NC	NC
2339		19	0	0	NC	NC	NC	NC
2340		20	0	0	NC	NC	NC	NC
2341	4	R2	1	0	0	NC	NC	NC
2342		2	0	0	NC	NC	NC	NC
2343		3	0	0	NC	NC	NC	NC
2344		4	0	0	NC	NC	NC	NC
2345		5	0	0	NC	NC	NC	NC
2346		6	0	0	NC	NC	NC	NC
2347		7	0	0	NC	NC	NC	NC
2348		8	0	0	NC	NC	NC	NC
2349		9	0	0	NC	NC	NC	NC
2350		10	0	0	NC	NC	NC	NC
2351		11	0	0	NC	NC	NC	NC
2352		12	0	0	NC	NC	NC	NC
2353		13	0	0	NC	NC	NC	NC
2354		14	0	0	NC	NC	NC	NC
2355		15	0	0	NC	NC	NC	NC
2356		16	0	0	NC	NC	NC	NC
2357		17	0	0	NC	NC	NC	NC
2358		18	0	0	NC	NC	NC	NC
2359		19	0	0	NC	NC	NC	NC
2360		20	0	0	NC	NC	NC	NC
2361	4	R3	1	0	0	NC	NC	NC
2362		2	0	0	NC	NC	NC	NC
2363		3	0	0	NC	NC	NC	NC
2364		4	0	0	NC	NC	NC	NC
2365		5	0	0	NC	NC	NC	NC
2366		6	0	0	NC	NC	NC	NC
2367		7	0	0	NC	NC	NC	NC
2368		8	0	0	NC	NC	NC	NC
2369		9	0	0	NC	NC	NC	NC
2370		10	0	0	NC	NC	NC	NC
2371		11	0	0	NC	NC	NC	NC
2372		12	0	0	NC	NC	NC	NC
2373		13	0	0	NC	NC	NC	NC
2374		14	0	0	NC	NC	NC	NC
2375		15	0	0	NC	NC	NC	NC
2376		16	0	0	NC	NC	NC	NC
2377		17	0	0	NC	NC	NC	NC
2378		18	0	0	NC	NC	NC	NC
2379		19	0	0	NC	NC	NC	NC
2380		20	0	0	NC	NC	NC	NC
2381	4	R4	1	0	0	NC	NC	NC
2382		2	0	0	NC	NC	NC	NC
2383		3	0	0	NC	NC	NC	NC
2384		4	0	0	NC	NC	NC	NC
2385		5	0	0	NC	NC	NC	NC



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**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
2386		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2387		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2388		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2389		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2390		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2391		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2392		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2393		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2394		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2395		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2396		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2397		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2398		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2399		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2400		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2401	4	R5	1	0	0	NC	NC	NC	NC	NC	NC	NC
2402		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2403		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2404		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2405		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2406		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2407		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2408		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2409		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2410		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2411		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2412		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2413		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2414		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2415		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2416		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2417		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2418		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2419		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2420		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2421	4	R6	1	0	0	NC	NC	NC	NC	NC	NC	NC
2422		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2423		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2424		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2425		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2426		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2427		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2428		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2429		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2430		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2431		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2432		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2433		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2434		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2435		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2436		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2437		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2438		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2439		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2440		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2441	4	R7	1	0	0	NC	NC	NC	NC	NC	NC	NC
2442		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2443		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
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**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
2444		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2445		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2446		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2447		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2448		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2449		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2450		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2451		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2452		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2453		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2454		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2455		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2456		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2457		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2458		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2459		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2460		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2461	4	R8	1	0	0	NC	NC	NC	NC	NC	NC	NC
2462		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2463		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2464		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2465		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2466		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2467		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2468		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2469		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2470		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2471		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2472		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2473		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2474		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2475		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2476		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2477		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2478		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2479		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2480		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2481	4	R9	1	0	0	NC	NC	NC	NC	NC	NC	NC
2482		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2483		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2484		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2485		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2486		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2487		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2488		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2489		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2490		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2491		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2492		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2493		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2494		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2495		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2496		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2497		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2498		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2499		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2500		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2501	4	R10	1	0	0	NC	NC	NC	NC	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2502		2	0	0	NC	NC	NC	NC
2503		3	0	0	NC	NC	NC	NC
2504		4	0	0	NC	NC	NC	NC
2505		5	0	0	NC	NC	NC	NC
2506		6	0	0	NC	NC	NC	NC
2507		7	0	0	NC	NC	NC	NC
2508		8	0	0	NC	NC	NC	NC
2509		9	0	0	NC	NC	NC	NC
2510		10	0	0	NC	NC	NC	NC
2511		11	0	0	NC	NC	NC	NC
2512		12	0	0	NC	NC	NC	NC
2513		13	0	0	NC	NC	NC	NC
2514		14	0	0	NC	NC	NC	NC
2515		15	0	0	NC	NC	NC	NC
2516		16	0	0	NC	NC	NC	NC
2517		17	0	0	NC	NC	NC	NC
2518		18	0	0	NC	NC	NC	NC
2519		19	0	0	NC	NC	NC	NC
2520		20	0	0	NC	NC	NC	NC
2521	4	R11	1	0	0	NC	NC	NC
2522		2	0	0	NC	NC	NC	NC
2523		3	0	0	NC	NC	NC	NC
2524		4	0	0	NC	NC	NC	NC
2525		5	0	0	NC	NC	NC	NC
2526		6	0	0	NC	NC	NC	NC
2527		7	0	0	NC	NC	NC	NC
2528		8	0	0	NC	NC	NC	NC
2529		9	0	0	NC	NC	NC	NC
2530		10	0	0	NC	NC	NC	NC
2531		11	0	0	NC	NC	NC	NC
2532		12	0	0	NC	NC	NC	NC
2533		13	0	0	NC	NC	NC	NC
2534		14	0	0	NC	NC	NC	NC
2535		15	0	0	NC	NC	NC	NC
2536		16	0	0	NC	NC	NC	NC
2537		17	0	0	NC	NC	NC	NC
2538		18	0	0	NC	NC	NC	NC
2539		19	0	0	NC	NC	NC	NC
2540		20	0	0	NC	NC	NC	NC
2541	4	R12	1	0	0	NC	NC	NC
2542		2	0	0	NC	NC	NC	NC
2543		3	0	0	NC	NC	NC	NC
2544		4	0	0	NC	NC	NC	NC
2545		5	0	0	NC	NC	NC	NC
2546		6	0	0	NC	NC	NC	NC
2547		7	0	0	NC	NC	NC	NC
2548		8	0	0	NC	NC	NC	NC
2549		9	0	0	NC	NC	NC	NC
2550		10	0	0	NC	NC	NC	NC
2551		11	0	0	NC	NC	NC	NC
2552		12	0	0	NC	NC	NC	NC
2553		13	0	0	NC	NC	NC	NC
2554		14	0	0	NC	NC	NC	NC
2555		15	0	0	NC	NC	NC	NC
2556		16	0	0	NC	NC	NC	NC
2557		17	0	0	NC	NC	NC	NC
2558		18	0	0	NC	NC	NC	NC
2559		19	0	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2560		20	0	0	NC	NC	NC	NC
2561	4 R13	1	0	0	NC	NC	NC	NC
2562		2	0	0	NC	NC	NC	NC
2563		3	0	0	NC	NC	NC	NC
2564		4	0	0	NC	NC	NC	NC
2565		5	0	0	NC	NC	NC	NC
2566		6	0	0	NC	NC	NC	NC
2567		7	0	0	NC	NC	NC	NC
2568		8	0	0	NC	NC	NC	NC
2569		9	0	0	NC	NC	NC	NC
2570		10	0	0	NC	NC	NC	NC
2571		11	0	0	NC	NC	NC	NC
2572		12	0	0	NC	NC	NC	NC
2573		13	0	0	NC	NC	NC	NC
2574		14	0	0	NC	NC	NC	NC
2575		15	0	0	NC	NC	NC	NC
2576		16	0	0	NC	NC	NC	NC
2577		17	0	0	NC	NC	NC	NC
2578		18	0	0	NC	NC	NC	NC
2579		19	0	0	NC	NC	NC	NC
2580		20	0	0	NC	NC	NC	NC
2581	4 R14	1	0	0	NC	NC	NC	NC
2582		2	0	0	NC	NC	NC	NC
2583		3	0	0	NC	NC	NC	NC
2584		4	0	0	NC	NC	NC	NC
2585		5	0	0	NC	NC	NC	NC
2586		6	0	0	NC	NC	NC	NC
2587		7	0	0	NC	NC	NC	NC
2588		8	0	0	NC	NC	NC	NC
2589		9	0	0	NC	NC	NC	NC
2590		10	0	0	NC	NC	NC	NC
2591		11	0	0	NC	NC	NC	NC
2592		12	0	0	NC	NC	NC	NC
2593		13	0	0	NC	NC	NC	NC
2594		14	0	0	NC	NC	NC	NC
2595		15	0	0	NC	NC	NC	NC
2596		16	0	0	NC	NC	NC	NC
2597		17	0	0	NC	NC	NC	NC
2598		18	0	0	NC	NC	NC	NC
2599		19	0	0	NC	NC	NC	NC
2600		20	0	0	NC	NC	NC	NC
2601	4 R15	1	0	0	NC	NC	NC	NC
2602		2	0	0	NC	NC	NC	NC
2603		3	0	0	NC	NC	NC	NC
2604		4	0	0	NC	NC	NC	NC
2605		5	0	0	NC	NC	NC	NC
2606		6	0	0	NC	NC	NC	NC
2607		7	0	0	NC	NC	NC	NC
2608		8	0	0	NC	NC	NC	NC
2609		9	0	0	NC	NC	NC	NC
2610		10	0	0	NC	NC	NC	NC
2611		11	0	0	NC	NC	NC	NC
2612		12	0	0	NC	NC	NC	NC
2613		13	0	0	NC	NC	NC	NC
2614		14	0	0	NC	NC	NC	NC
2615		15	0	0	NC	NC	NC	NC
2616		16	0	0	NC	NC	NC	NC
2617		17	0	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2618		18	0	0	NC	NC	NC	NC
2619		19	0	0	NC	NC	NC	NC
2620		20	0	0	NC	NC	NC	NC
2621	4	M33	1	0	0	NC	NC	NC
2622		2	0	0	NC	NC	NC	NC
2623		3	0	0	NC	NC	NC	NC
2624		4	0	0	NC	NC	NC	NC
2625		5	0	0	NC	NC	NC	NC
2626		6	0	0	NC	NC	NC	NC
2627		7	0	0	NC	NC	NC	NC
2628		8	0	0	NC	NC	NC	NC
2629		9	0	0	NC	NC	NC	NC
2630		10	0	0	NC	NC	NC	NC
2631		11	0	0	NC	NC	NC	NC
2632		12	0	0	NC	NC	NC	NC
2633		13	0	0	NC	NC	NC	NC
2634		14	0	0	NC	NC	NC	NC
2635		15	0	0	NC	NC	NC	NC
2636		16	0	0	NC	NC	NC	NC
2637		17	0	0	NC	NC	NC	NC
2638		18	0	0	NC	NC	NC	NC
2639		19	0	0	NC	NC	NC	NC
2640		20	0	0	NC	NC	NC	NC
2641	5	A1	1	0	0	NC	NC	NC
2642		2	0	0	NC	NC	NC	NC
2643		3	0	0	NC	NC	NC	NC
2644		4	0	0	NC	NC	NC	NC
2645		5	0	0	NC	NC	NC	NC
2646		6	0	0	NC	NC	NC	NC
2647		7	0	0	NC	NC	NC	NC
2648		8	0	0	NC	NC	NC	NC
2649		9	0	0	NC	NC	NC	NC
2650		10	0	0	NC	NC	NC	NC
2651		11	0	0	NC	NC	NC	NC
2652		12	0	0	NC	NC	NC	NC
2653		13	0	0	NC	NC	NC	NC
2654		14	0	0	NC	NC	NC	NC
2655		15	0	0	NC	NC	NC	NC
2656		16	0	0	NC	NC	NC	NC
2657		17	0	0	NC	NC	NC	NC
2658		18	0	0	NC	NC	NC	NC
2659		19	0	0	NC	NC	NC	NC
2660		20	0	0	NC	NC	NC	NC
2661	5	A2	1	-23.726	0	NC	NC	NC
2662		2	-31.063	0	NC	NC	NC	NC
2663		3	-38.399	0	NC	NC	NC	NC
2664		4	-45.735	0	NC	NC	NC	NC
2665		5	-53.071	0	NC	NC	NC	NC
2666		6	-60.407	0	NC	NC	NC	NC
2667		7	-67.744	0	NC	NC	NC	NC
2668		8	-75.08	0	NC	NC	NC	NC
2669		9	-82.416	0	NC	NC	NC	NC
2670		10	-89.752	0	NC	NC	NC	NC
2671		11	-97.089	0	NC	NC	NC	NC
2672		12	-104.425	0	NC	NC	NC	NC
2673		13	-111.761	0	NC	NC	NC	NC
2674		14	-119.097	0	NC	NC	NC	NC
2675		15	-126.433	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2676		16	-133.77	0	NC	NC	NC	NC
2677		17	-141.106	0	NC	NC	NC	NC
2678		18	-148.442	0	NC	NC	NC	NC
2679		19	-155.778	0	NC	NC	NC	NC
2680		20	-163.115	0	NC	NC	NC	NC
2681	5	A3	1	218.901	0	NC	NC	NC
2682		2	195.859	0	NC	NC	NC	NC
2683		3	172.817	0	NC	NC	NC	NC
2684		4	149.775	0	NC	NC	NC	NC
2685		5	126.733	0	NC	NC	NC	NC
2686		6	103.691	0	NC	NC	NC	NC
2687		7	80.649	0	NC	NC	NC	NC
2688		8	57.607	0	NC	NC	NC	NC
2689		9	34.565	0	NC	NC	NC	NC
2690		10	11.523	0	NC	NC	NC	NC
2691		11	-11.519	0	NC	NC	NC	NC
2692		12	-34.561	0	NC	NC	NC	NC
2693		13	-57.603	0	NC	NC	NC	NC
2694		14	-80.645	0	NC	NC	NC	NC
2695		15	-103.687	0	NC	NC	NC	NC
2696		16	-126.729	0	NC	NC	NC	NC
2697		17	-149.771	0	NC	NC	NC	NC
2698		18	-172.813	0	NC	NC	NC	NC
2699		19	-195.855	0	NC	NC	NC	NC
2700		20	-218.897	0	NC	NC	NC	NC
2701	5	A4	1	218.899	0	NC	NC	NC
2702		2	195.857	0	NC	NC	NC	NC
2703		3	172.815	0	NC	NC	NC	NC
2704		4	149.773	0	NC	NC	NC	NC
2705		5	126.731	0	NC	NC	NC	NC
2706		6	103.689	0	NC	NC	NC	NC
2707		7	80.647	0	NC	NC	NC	NC
2708		8	57.605	0	NC	NC	NC	NC
2709		9	34.563	0	NC	NC	NC	NC
2710		10	11.521	0	NC	NC	NC	NC
2711		11	-11.521	0	NC	NC	NC	NC
2712		12	-34.563	0	NC	NC	NC	NC
2713		13	-57.605	0	NC	NC	NC	NC
2714		14	-80.647	0	NC	NC	NC	NC
2715		15	-103.689	0	NC	NC	NC	NC
2716		16	-126.731	0	NC	NC	NC	NC
2717		17	-149.773	0	NC	NC	NC	NC
2718		18	-172.815	0	NC	NC	NC	NC
2719		19	-195.857	0	NC	NC	NC	NC
2720		20	-218.899	0	NC	NC	NC	NC
2721	5	A5	1	218.899	0	NC	NC	NC
2722		2	195.857	0	NC	NC	NC	NC
2723		3	172.815	0	NC	NC	NC	NC
2724		4	149.773	0	NC	NC	NC	NC
2725		5	126.731	0	NC	NC	NC	NC
2726		6	103.689	0	NC	NC	NC	NC
2727		7	80.647	0	NC	NC	NC	NC
2728		8	57.605	0	NC	NC	NC	NC
2729		9	34.563	0	NC	NC	NC	NC
2730		10	11.521	0	NC	NC	NC	NC
2731		11	-11.521	0	NC	NC	NC	NC
2732		12	-34.563	0	NC	NC	NC	NC
2733		13	-57.605	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2734		14	-80.647	0	NC	NC	NC	NC
2735		15	-103.689	0	NC	NC	NC	NC
2736		16	-126.731	0	NC	NC	NC	NC
2737		17	-149.773	0	NC	NC	NC	NC
2738		18	-172.815	0	NC	NC	NC	NC
2739		19	-195.857	0	NC	NC	NC	NC
2740		20	-218.899	0	NC	NC	NC	NC
2741	5	A6	1	218.899	0	NC	NC	NC
2742		2	195.857	0	NC	NC	NC	NC
2743		3	172.815	0	NC	NC	NC	NC
2744		4	149.773	0	NC	NC	NC	NC
2745		5	126.731	0	NC	NC	NC	NC
2746		6	103.689	0	NC	NC	NC	NC
2747		7	80.647	0	NC	NC	NC	NC
2748		8	57.605	0	NC	NC	NC	NC
2749		9	34.563	0	NC	NC	NC	NC
2750		10	11.521	0	NC	NC	NC	NC
2751		11	-11.521	0	NC	NC	NC	NC
2752		12	-34.563	0	NC	NC	NC	NC
2753		13	-57.605	0	NC	NC	NC	NC
2754		14	-80.647	0	NC	NC	NC	NC
2755		15	-103.689	0	NC	NC	NC	NC
2756		16	-126.731	0	NC	NC	NC	NC
2757		17	-149.773	0	NC	NC	NC	NC
2758		18	-172.815	0	NC	NC	NC	NC
2759		19	-195.857	0	NC	NC	NC	NC
2760		20	-218.899	0	NC	NC	NC	NC
2761	5	A7	1	218.899	0	NC	NC	NC
2762		2	195.857	0	NC	NC	NC	NC
2763		3	172.815	0	NC	NC	NC	NC
2764		4	149.773	0	NC	NC	NC	NC
2765		5	126.731	0	NC	NC	NC	NC
2766		6	103.689	0	NC	NC	NC	NC
2767		7	80.647	0	NC	NC	NC	NC
2768		8	57.605	0	NC	NC	NC	NC
2769		9	34.563	0	NC	NC	NC	NC
2770		10	11.521	0	NC	NC	NC	NC
2771		11	-11.521	0	NC	NC	NC	NC
2772		12	-34.563	0	NC	NC	NC	NC
2773		13	-57.605	0	NC	NC	NC	NC
2774		14	-80.647	0	NC	NC	NC	NC
2775		15	-103.689	0	NC	NC	NC	NC
2776		16	-126.731	0	NC	NC	NC	NC
2777		17	-149.773	0	NC	NC	NC	NC
2778		18	-172.815	0	NC	NC	NC	NC
2779		19	-195.857	0	NC	NC	NC	NC
2780		20	-218.899	0	NC	NC	NC	NC
2781	5	A8	1	218.898	0	NC	NC	NC
2782		2	195.856	0	NC	NC	NC	NC
2783		3	172.814	0	NC	NC	NC	NC
2784		4	149.772	0	NC	NC	NC	NC
2785		5	126.73	0	NC	NC	NC	NC
2786		6	103.688	0	NC	NC	NC	NC
2787		7	80.646	0	NC	NC	NC	NC
2788		8	57.604	0	NC	NC	NC	NC
2789		9	34.562	0	NC	NC	NC	NC
2790		10	11.52	0	NC	NC	NC	NC
2791		11	-11.522	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2792		12	-34.564	0	NC	NC	NC	NC
2793		13	-57.606	0	NC	NC	NC	NC
2794		14	-80.648	0	NC	NC	NC	NC
2795		15	-103.69	0	NC	NC	NC	NC
2796		16	-126.732	0	NC	NC	NC	NC
2797		17	-149.774	0	NC	NC	NC	NC
2798		18	-172.816	0	NC	NC	NC	NC
2799		19	-195.858	0	NC	NC	NC	NC
2800		20	-218.9	0	NC	NC	NC	NC
2801	5	A9	1	218.899	0	NC	NC	NC
2802		2	195.857	0	NC	NC	NC	NC
2803		3	172.815	0	NC	NC	NC	NC
2804		4	149.773	0	NC	NC	NC	NC
2805		5	126.731	0	NC	NC	NC	NC
2806		6	103.689	0	NC	NC	NC	NC
2807		7	80.647	0	NC	NC	NC	NC
2808		8	57.605	0	NC	NC	NC	NC
2809		9	34.563	0	NC	NC	NC	NC
2810		10	11.521	0	NC	NC	NC	NC
2811		11	-11.521	0	NC	NC	NC	NC
2812		12	-34.563	0	NC	NC	NC	NC
2813		13	-57.605	0	NC	NC	NC	NC
2814		14	-80.647	0	NC	NC	NC	NC
2815		15	-103.689	0	NC	NC	NC	NC
2816		16	-126.731	0	NC	NC	NC	NC
2817		17	-149.773	0	NC	NC	NC	NC
2818		18	-172.815	0	NC	NC	NC	NC
2819		19	-195.857	0	NC	NC	NC	NC
2820		20	-218.899	0	NC	NC	NC	NC
2821	5	A10	1	218.9	0	NC	NC	NC
2822		2	195.858	0	NC	NC	NC	NC
2823		3	172.816	0	NC	NC	NC	NC
2824		4	149.774	0	NC	NC	NC	NC
2825		5	126.732	0	NC	NC	NC	NC
2826		6	103.69	0	NC	NC	NC	NC
2827		7	80.648	0	NC	NC	NC	NC
2828		8	57.606	0	NC	NC	NC	NC
2829		9	34.564	0	NC	NC	NC	NC
2830		10	11.522	0	NC	NC	NC	NC
2831		11	-11.52	0	NC	NC	NC	NC
2832		12	-34.562	0	NC	NC	NC	NC
2833		13	-57.604	0	NC	NC	NC	NC
2834		14	-80.646	0	NC	NC	NC	NC
2835		15	-103.688	0	NC	NC	NC	NC
2836		16	-126.73	0	NC	NC	NC	NC
2837		17	-149.772	0	NC	NC	NC	NC
2838		18	-172.814	0	NC	NC	NC	NC
2839		19	-195.856	0	NC	NC	NC	NC
2840		20	-218.898	0	NC	NC	NC	NC
2841	5	A11	1	218.899	0	NC	NC	NC
2842		2	195.857	0	NC	NC	NC	NC
2843		3	172.815	0	NC	NC	NC	NC
2844		4	149.773	0	NC	NC	NC	NC
2845		5	126.731	0	NC	NC	NC	NC
2846		6	103.689	0	NC	NC	NC	NC
2847		7	80.647	0	NC	NC	NC	NC
2848		8	57.605	0	NC	NC	NC	NC
2849		9	34.563	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2850		10	11.521	0	NC	NC	NC	NC
2851		11	-11.521	0	NC	NC	NC	NC
2852		12	-34.563	0	NC	NC	NC	NC
2853		13	-57.605	0	NC	NC	NC	NC
2854		14	-80.647	0	NC	NC	NC	NC
2855		15	-103.689	0	NC	NC	NC	NC
2856		16	-126.731	0	NC	NC	NC	NC
2857		17	-149.773	0	NC	NC	NC	NC
2858		18	-172.815	0	NC	NC	NC	NC
2859		19	-195.857	0	NC	NC	NC	NC
2860		20	-218.899	0	NC	NC	NC	NC
2861	5	A12	1	218.899	0	NC	NC	NC
2862		2	195.857	0	NC	NC	NC	NC
2863		3	172.815	0	NC	NC	NC	NC
2864		4	149.773	0	NC	NC	NC	NC
2865		5	126.731	0	NC	NC	NC	NC
2866		6	103.689	0	NC	NC	NC	NC
2867		7	80.647	0	NC	NC	NC	NC
2868		8	57.605	0	NC	NC	NC	NC
2869		9	34.563	0	NC	NC	NC	NC
2870		10	11.521	0	NC	NC	NC	NC
2871		11	-11.521	0	NC	NC	NC	NC
2872		12	-34.563	0	NC	NC	NC	NC
2873		13	-57.605	0	NC	NC	NC	NC
2874		14	-80.647	0	NC	NC	NC	NC
2875		15	-103.689	0	NC	NC	NC	NC
2876		16	-126.731	0	NC	NC	NC	NC
2877		17	-149.773	0	NC	NC	NC	NC
2878		18	-172.815	0	NC	NC	NC	NC
2879		19	-195.857	0	NC	NC	NC	NC
2880		20	-218.899	0	NC	NC	NC	NC
2881	5	A13	1	218.899	0	NC	NC	NC
2882		2	195.857	0	NC	NC	NC	NC
2883		3	172.815	0	NC	NC	NC	NC
2884		4	149.773	0	NC	NC	NC	NC
2885		5	126.731	0	NC	NC	NC	NC
2886		6	103.689	0	NC	NC	NC	NC
2887		7	80.647	0	NC	NC	NC	NC
2888		8	57.605	0	NC	NC	NC	NC
2889		9	34.563	0	NC	NC	NC	NC
2890		10	11.521	0	NC	NC	NC	NC
2891		11	-11.521	0	NC	NC	NC	NC
2892		12	-34.563	0	NC	NC	NC	NC
2893		13	-57.605	0	NC	NC	NC	NC
2894		14	-80.647	0	NC	NC	NC	NC
2895		15	-103.689	0	NC	NC	NC	NC
2896		16	-126.731	0	NC	NC	NC	NC
2897		17	-149.773	0	NC	NC	NC	NC
2898		18	-172.815	0	NC	NC	NC	NC
2899		19	-195.857	0	NC	NC	NC	NC
2900		20	-218.899	0	NC	NC	NC	NC
2901	5	A14	1	218.899	0	NC	NC	NC
2902		2	195.857	0	NC	NC	NC	NC
2903		3	172.815	0	NC	NC	NC	NC
2904		4	149.773	0	NC	NC	NC	NC
2905		5	126.731	0	NC	NC	NC	NC
2906		6	103.689	0	NC	NC	NC	NC
2907		7	80.647	0	NC	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2908		8	57.605	0	NC	NC	NC	NC
2909		9	34.563	0	NC	NC	NC	NC
2910		10	11.521	0	NC	NC	NC	NC
2911		11	-11.521	0	NC	NC	NC	NC
2912		12	-34.563	0	NC	NC	NC	NC
2913		13	-57.605	0	NC	NC	NC	NC
2914		14	-80.647	0	NC	NC	NC	NC
2915		15	-103.689	0	NC	NC	NC	NC
2916		16	-126.731	0	NC	NC	NC	NC
2917		17	-149.773	0	NC	NC	NC	NC
2918		18	-172.815	0	NC	NC	NC	NC
2919		19	-195.857	0	NC	NC	NC	NC
2920		20	-218.899	0	NC	NC	NC	NC
2921	5	A15	1	218.895	0	NC	NC	NC
2922		2	195.853	0	NC	NC	NC	NC
2923		3	172.811	0	NC	NC	NC	NC
2924		4	149.769	0	NC	NC	NC	NC
2925		5	126.727	0	NC	NC	NC	NC
2926		6	103.685	0	NC	NC	NC	NC
2927		7	80.643	0	NC	NC	NC	NC
2928		8	57.601	0	NC	NC	NC	NC
2929		9	34.559	0	NC	NC	NC	NC
2930		10	11.517	0	NC	NC	NC	NC
2931		11	-11.525	0	NC	NC	NC	NC
2932		12	-34.567	0	NC	NC	NC	NC
2933		13	-57.609	0	NC	NC	NC	NC
2934		14	-80.651	0	NC	NC	NC	NC
2935		15	-103.693	0	NC	NC	NC	NC
2936		16	-126.735	0	NC	NC	NC	NC
2937		17	-149.777	0	NC	NC	NC	NC
2938		18	-172.819	0	NC	NC	NC	NC
2939		19	-195.861	0	NC	NC	NC	NC
2940		20	-218.903	0	NC	NC	NC	NC
2941	5	A16	1	147.623	0	NC	NC	NC
2942		2	135.788	0	NC	NC	NC	NC
2943		3	123.953	0	NC	NC	NC	NC
2944		4	112.119	0	NC	NC	NC	NC
2945		5	100.284	0	NC	NC	NC	NC
2946		6	88.45	0	NC	NC	NC	NC
2947		7	76.615	0	NC	NC	NC	NC
2948		8	64.78	0	NC	NC	NC	NC
2949		9	52.946	0	NC	NC	NC	NC
2950		10	41.111	0	NC	NC	NC	NC
2951		11	29.276	0	NC	NC	NC	NC
2952		12	17.442	0	NC	NC	NC	NC
2953		13	5.607	0	NC	NC	NC	NC
2954		14	-6.227	0	NC	NC	NC	NC
2955		15	-18.062	0	NC	NC	NC	NC
2956		16	-29.897	0	NC	NC	NC	NC
2957		17	-41.731	0	NC	NC	NC	NC
2958		18	-53.566	0	NC	NC	NC	NC
2959		19	-65.4	0	NC	NC	NC	NC
2960		20	-77.235	0	NC	NC	NC	NC
2961	5	A17	1	0	0	NC	NC	NC
2962		2	0	0	NC	NC	NC	NC
2963		3	0	0	NC	NC	NC	NC
2964		4	0	0	NC	NC	NC	NC
2965		5	0	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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 Checked By : CWT

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
2966		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2967		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2968		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2969		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2970		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2971		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2972		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2973		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2974		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2975		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2976		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2977		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2978		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2979		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2980		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2981	5	R1	1	0	0	NC	NC	NC	NC	NC	NC	NC
2982		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2983		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2984		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2985		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2986		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2987		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2988		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2989		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2990		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2991		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2992		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2993		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2994		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2995		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2996		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2997		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2998		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2999		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3000		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3001	5	R2	1	0	0	NC	NC	NC	NC	NC	NC	NC
3002		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3003		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3004		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3005		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3006		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3007		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3008		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3009		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3010		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3011		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3012		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3013		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3014		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3015		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3016		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3017		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3018		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3019		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3020		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3021	5	R3	1	0	0	NC	NC	NC	NC	NC	NC	NC
3022		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3023		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
3024		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3025		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3026		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3027		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3028		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3029		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3030		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3031		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3032		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3033		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3034		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3035		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3036		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3037		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3038		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3039		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3040		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3041	5	R4	1	0	0	NC	NC	NC	NC	NC	NC	NC
3042		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3043		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3044		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3045		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3046		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3047		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3048		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3049		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3050		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3051		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3052		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3053		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3054		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3055		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3056		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3057		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3058		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3059		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3060		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3061	5	R5	1	0	0	NC	NC	NC	NC	NC	NC	NC
3062		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3063		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3064		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3065		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3066		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3067		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3068		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3069		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3070		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3071		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3072		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3073		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3074		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3075		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3076		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3077		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3078		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3079		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3080		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3081	5	R6	1	0	0	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3082		2	0	0	NC	NC	NC	NC
3083		3	0	0	NC	NC	NC	NC
3084		4	0	0	NC	NC	NC	NC
3085		5	0	0	NC	NC	NC	NC
3086		6	0	0	NC	NC	NC	NC
3087		7	0	0	NC	NC	NC	NC
3088		8	0	0	NC	NC	NC	NC
3089		9	0	0	NC	NC	NC	NC
3090		10	0	0	NC	NC	NC	NC
3091		11	0	0	NC	NC	NC	NC
3092		12	0	0	NC	NC	NC	NC
3093		13	0	0	NC	NC	NC	NC
3094		14	0	0	NC	NC	NC	NC
3095		15	0	0	NC	NC	NC	NC
3096		16	0	0	NC	NC	NC	NC
3097		17	0	0	NC	NC	NC	NC
3098		18	0	0	NC	NC	NC	NC
3099		19	0	0	NC	NC	NC	NC
3100		20	0	0	NC	NC	NC	NC
3101	5	R7	1	0	0	NC	NC	NC
3102		2	0	0	NC	NC	NC	NC
3103		3	0	0	NC	NC	NC	NC
3104		4	0	0	NC	NC	NC	NC
3105		5	0	0	NC	NC	NC	NC
3106		6	0	0	NC	NC	NC	NC
3107		7	0	0	NC	NC	NC	NC
3108		8	0	0	NC	NC	NC	NC
3109		9	0	0	NC	NC	NC	NC
3110		10	0	0	NC	NC	NC	NC
3111		11	0	0	NC	NC	NC	NC
3112		12	0	0	NC	NC	NC	NC
3113		13	0	0	NC	NC	NC	NC
3114		14	0	0	NC	NC	NC	NC
3115		15	0	0	NC	NC	NC	NC
3116		16	0	0	NC	NC	NC	NC
3117		17	0	0	NC	NC	NC	NC
3118		18	0	0	NC	NC	NC	NC
3119		19	0	0	NC	NC	NC	NC
3120		20	0	0	NC	NC	NC	NC
3121	5	R8	1	0	0	NC	NC	NC
3122		2	0	0	NC	NC	NC	NC
3123		3	0	0	NC	NC	NC	NC
3124		4	0	0	NC	NC	NC	NC
3125		5	0	0	NC	NC	NC	NC
3126		6	0	0	NC	NC	NC	NC
3127		7	0	0	NC	NC	NC	NC
3128		8	0	0	NC	NC	NC	NC
3129		9	0	0	NC	NC	NC	NC
3130		10	0	0	NC	NC	NC	NC
3131		11	0	0	NC	NC	NC	NC
3132		12	0	0	NC	NC	NC	NC
3133		13	0	0	NC	NC	NC	NC
3134		14	0	0	NC	NC	NC	NC
3135		15	0	0	NC	NC	NC	NC
3136		16	0	0	NC	NC	NC	NC
3137		17	0	0	NC	NC	NC	NC
3138		18	0	0	NC	NC	NC	NC
3139		19	0	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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 10:23:49 PM  
 Checked By : CWT

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
3140		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3141	5 R9	1	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3142		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3143		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3144		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3145		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3146		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3147		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3148		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3149		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3150		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3151		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3152		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3153		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3154		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3155		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3156		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3157		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3158		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3159		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3160		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3161	5 R10	1	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3162		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3163		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3164		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3165		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3166		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3167		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3168		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3169		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3170		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3171		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3172		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3173		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3174		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3175		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3176		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3177		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3178		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3179		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3180		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3181	5 R11	1	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3182		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3183		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3184		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3185		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3186		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3187		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3188		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3189		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3190		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3191		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3192		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3193		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3194		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3195		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3196		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3197		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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 Checked By : CWT

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3198		18	0	0	NC	NC	NC	NC
3199		19	0	0	NC	NC	NC	NC
3200		20	0	0	NC	NC	NC	NC
3201	5 R12	1	0	0	NC	NC	NC	NC
3202		2	0	0	NC	NC	NC	NC
3203		3	0	0	NC	NC	NC	NC
3204		4	0	0	NC	NC	NC	NC
3205		5	0	0	NC	NC	NC	NC
3206		6	0	0	NC	NC	NC	NC
3207		7	0	0	NC	NC	NC	NC
3208		8	0	0	NC	NC	NC	NC
3209		9	0	0	NC	NC	NC	NC
3210		10	0	0	NC	NC	NC	NC
3211		11	0	0	NC	NC	NC	NC
3212		12	0	0	NC	NC	NC	NC
3213		13	0	0	NC	NC	NC	NC
3214		14	0	0	NC	NC	NC	NC
3215		15	0	0	NC	NC	NC	NC
3216		16	0	0	NC	NC	NC	NC
3217		17	0	0	NC	NC	NC	NC
3218		18	0	0	NC	NC	NC	NC
3219		19	0	0	NC	NC	NC	NC
3220		20	0	0	NC	NC	NC	NC
3221	5 R13	1	0	0	NC	NC	NC	NC
3222		2	0	0	NC	NC	NC	NC
3223		3	0	0	NC	NC	NC	NC
3224		4	0	0	NC	NC	NC	NC
3225		5	0	0	NC	NC	NC	NC
3226		6	0	0	NC	NC	NC	NC
3227		7	0	0	NC	NC	NC	NC
3228		8	0	0	NC	NC	NC	NC
3229		9	0	0	NC	NC	NC	NC
3230		10	0	0	NC	NC	NC	NC
3231		11	0	0	NC	NC	NC	NC
3232		12	0	0	NC	NC	NC	NC
3233		13	0	0	NC	NC	NC	NC
3234		14	0	0	NC	NC	NC	NC
3235		15	0	0	NC	NC	NC	NC
3236		16	0	0	NC	NC	NC	NC
3237		17	0	0	NC	NC	NC	NC
3238		18	0	0	NC	NC	NC	NC
3239		19	0	0	NC	NC	NC	NC
3240		20	0	0	NC	NC	NC	NC
3241	5 R14	1	0	0	NC	NC	NC	NC
3242		2	0	0	NC	NC	NC	NC
3243		3	0	0	NC	NC	NC	NC
3244		4	0	0	NC	NC	NC	NC
3245		5	0	0	NC	NC	NC	NC
3246		6	0	0	NC	NC	NC	NC
3247		7	0	0	NC	NC	NC	NC
3248		8	0	0	NC	NC	NC	NC
3249		9	0	0	NC	NC	NC	NC
3250		10	0	0	NC	NC	NC	NC
3251		11	0	0	NC	NC	NC	NC
3252		12	0	0	NC	NC	NC	NC
3253		13	0	0	NC	NC	NC	NC
3254		14	0	0	NC	NC	NC	NC
3255		15	0	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
3256		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3257		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3258		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3259		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3260		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3261	5	R15	1	0	0	NC	NC	NC	NC	NC	NC	NC
3262		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3263		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3264		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3265		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3266		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3267		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3268		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3269		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3270		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3271		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3272		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3273		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3274		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3275		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3276		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3277		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3278		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3279		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3280		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3281	5	M33	1	0	0	NC	NC	NC	NC	NC	NC	NC
3282		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3283		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3284		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3285		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3286		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3287		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3288		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3289		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3290		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3291		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3292		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3293		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3294		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3295		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3296		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3297		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3298		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3299		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3300		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3301	6	A1	1	0	0	NC	NC	NC	NC	NC	NC	NC
3302		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3303		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3304		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3305		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3306		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3307		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3308		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3309		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3310		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3311		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3312		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3313		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3314		14	0	0	NC	NC	NC	NC
3315		15	0	0	NC	NC	NC	NC
3316		16	0	0	NC	NC	NC	NC
3317		17	0	0	NC	NC	NC	NC
3318		18	0	0	NC	NC	NC	NC
3319		19	0	0	NC	NC	NC	NC
3320		20	0	0	NC	NC	NC	NC
3321	6	A2	1	-24.754	0	NC	NC	NC
3322		2	-29.373	0	NC	NC	NC	NC
3323		3	-33.993	0	NC	NC	NC	NC
3324		4	-38.612	0	NC	NC	NC	NC
3325		5	-43.232	0	NC	NC	NC	NC
3326		6	-47.851	0	NC	NC	NC	NC
3327		7	-52.47	0	NC	NC	NC	NC
3328		8	-57.09	0	NC	NC	NC	NC
3329		9	-61.709	0	NC	NC	NC	NC
3330		10	-66.329	0	NC	NC	NC	NC
3331		11	-70.948	0	NC	NC	NC	NC
3332		12	-75.567	0	NC	NC	NC	NC
3333		13	-80.187	0	NC	NC	NC	NC
3334		14	-84.806	0	NC	NC	NC	NC
3335		15	-89.426	0	NC	NC	NC	NC
3336		16	-94.045	0	NC	NC	NC	NC
3337		17	-98.664	0	NC	NC	NC	NC
3338		18	-103.284	0	NC	NC	NC	NC
3339		19	-107.903	0	NC	NC	NC	NC
3340		20	-112.523	0	NC	NC	NC	NC
3341	6	A3	1	137.834	0	NC	NC	NC
3342		2	123.326	0	NC	NC	NC	NC
3343		3	108.817	0	NC	NC	NC	NC
3344		4	94.308	0	NC	NC	NC	NC
3345		5	79.799	0	NC	NC	NC	NC
3346		6	65.29	0	NC	NC	NC	NC
3347		7	50.781	0	NC	NC	NC	NC
3348		8	36.272	0	NC	NC	NC	NC
3349		9	21.764	0	NC	NC	NC	NC
3350		10	7.255	0	NC	NC	NC	NC
3351		11	-7.254	0	NC	NC	NC	NC
3352		12	-21.763	0	NC	NC	NC	NC
3353		13	-36.272	0	NC	NC	NC	NC
3354		14	-50.781	0	NC	NC	NC	NC
3355		15	-65.29	0	NC	NC	NC	NC
3356		16	-79.799	0	NC	NC	NC	NC
3357		17	-94.307	0	NC	NC	NC	NC
3358		18	-108.816	0	NC	NC	NC	NC
3359		19	-123.325	0	NC	NC	NC	NC
3360		20	-137.834	0	NC	NC	NC	NC
3361	6	A4	1	137.834	0	NC	NC	NC
3362		2	123.326	0	NC	NC	NC	NC
3363		3	108.817	0	NC	NC	NC	NC
3364		4	94.308	0	NC	NC	NC	NC
3365		5	79.799	0	NC	NC	NC	NC
3366		6	65.29	0	NC	NC	NC	NC
3367		7	50.781	0	NC	NC	NC	NC
3368		8	36.272	0	NC	NC	NC	NC
3369		9	21.764	0	NC	NC	NC	NC
3370		10	7.255	0	NC	NC	NC	NC
3371		11	-7.254	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3372		12	-21.763	0	NC	NC	NC	NC
3373		13	-36.272	0	NC	NC	NC	NC
3374		14	-50.781	0	NC	NC	NC	NC
3375		15	-65.29	0	NC	NC	NC	NC
3376		16	-79.798	0	NC	NC	NC	NC
3377		17	-94.307	0	NC	NC	NC	NC
3378		18	-108.816	0	NC	NC	NC	NC
3379		19	-123.325	0	NC	NC	NC	NC
3380		20	-137.834	0	NC	NC	NC	NC
3381	6	A5	1	137.834	0	NC	NC	NC
3382		2	123.325	0	NC	NC	NC	NC
3383		3	108.816	0	NC	NC	NC	NC
3384		4	94.308	0	NC	NC	NC	NC
3385		5	79.799	0	NC	NC	NC	NC
3386		6	65.29	0	NC	NC	NC	NC
3387		7	50.781	0	NC	NC	NC	NC
3388		8	36.272	0	NC	NC	NC	NC
3389		9	21.763	0	NC	NC	NC	NC
3390		10	7.254	0	NC	NC	NC	NC
3391		11	-7.254	0	NC	NC	NC	NC
3392		12	-21.763	0	NC	NC	NC	NC
3393		13	-36.272	0	NC	NC	NC	NC
3394		14	-50.781	0	NC	NC	NC	NC
3395		15	-65.29	0	NC	NC	NC	NC
3396		16	-79.799	0	NC	NC	NC	NC
3397		17	-94.308	0	NC	NC	NC	NC
3398		18	-108.817	0	NC	NC	NC	NC
3399		19	-123.325	0	NC	NC	NC	NC
3400		20	-137.834	0	NC	NC	NC	NC
3401	6	A6	1	137.834	0	NC	NC	NC
3402		2	123.325	0	NC	NC	NC	NC
3403		3	108.816	0	NC	NC	NC	NC
3404		4	94.308	0	NC	NC	NC	NC
3405		5	79.799	0	NC	NC	NC	NC
3406		6	65.29	0	NC	NC	NC	NC
3407		7	50.781	0	NC	NC	NC	NC
3408		8	36.272	0	NC	NC	NC	NC
3409		9	21.763	0	NC	NC	NC	NC
3410		10	7.254	0	NC	NC	NC	NC
3411		11	-7.254	0	NC	NC	NC	NC
3412		12	-21.763	0	NC	NC	NC	NC
3413		13	-36.272	0	NC	NC	NC	NC
3414		14	-50.781	0	NC	NC	NC	NC
3415		15	-65.29	0	NC	NC	NC	NC
3416		16	-79.799	0	NC	NC	NC	NC
3417		17	-94.308	0	NC	NC	NC	NC
3418		18	-108.816	0	NC	NC	NC	NC
3419		19	-123.325	0	NC	NC	NC	NC
3420		20	-137.834	0	NC	NC	NC	NC
3421	6	A7	1	137.834	0	NC	NC	NC
3422		2	123.325	0	NC	NC	NC	NC
3423		3	108.817	0	NC	NC	NC	NC
3424		4	94.308	0	NC	NC	NC	NC
3425		5	79.799	0	NC	NC	NC	NC
3426		6	65.29	0	NC	NC	NC	NC
3427		7	50.781	0	NC	NC	NC	NC
3428		8	36.272	0	NC	NC	NC	NC
3429		9	21.763	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

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 Checked By : CWT

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3430		10	7.254	0	NC	NC	NC	NC
3431		11	-7.254	0	NC	NC	NC	NC
3432		12	-21.763	0	NC	NC	NC	NC
3433		13	-36.272	0	NC	NC	NC	NC
3434		14	-50.781	0	NC	NC	NC	NC
3435		15	-65.29	0	NC	NC	NC	NC
3436		16	-79.799	0	NC	NC	NC	NC
3437		17	-94.308	0	NC	NC	NC	NC
3438		18	-108.816	0	NC	NC	NC	NC
3439		19	-123.325	0	NC	NC	NC	NC
3440		20	-137.834	0	NC	NC	NC	NC
3441	6	A8	1	137.834	0	NC	NC	NC
3442		2	123.325	0	NC	NC	NC	NC
3443		3	108.816	0	NC	NC	NC	NC
3444		4	94.307	0	NC	NC	NC	NC
3445		5	79.798	0	NC	NC	NC	NC
3446		6	65.289	0	NC	NC	NC	NC
3447		7	50.78	0	NC	NC	NC	NC
3448		8	36.272	0	NC	NC	NC	NC
3449		9	21.763	0	NC	NC	NC	NC
3450		10	7.254	0	NC	NC	NC	NC
3451		11	-7.255	0	NC	NC	NC	NC
3452		12	-21.764	0	NC	NC	NC	NC
3453		13	-36.273	0	NC	NC	NC	NC
3454		14	-50.782	0	NC	NC	NC	NC
3455		15	-65.291	0	NC	NC	NC	NC
3456		16	-79.799	0	NC	NC	NC	NC
3457		17	-94.308	0	NC	NC	NC	NC
3458		18	-108.817	0	NC	NC	NC	NC
3459		19	-123.326	0	NC	NC	NC	NC
3460		20	-137.835	0	NC	NC	NC	NC
3461	6	A9	1	137.834	0	NC	NC	NC
3462		2	123.325	0	NC	NC	NC	NC
3463		3	108.816	0	NC	NC	NC	NC
3464		4	94.307	0	NC	NC	NC	NC
3465		5	79.799	0	NC	NC	NC	NC
3466		6	65.29	0	NC	NC	NC	NC
3467		7	50.781	0	NC	NC	NC	NC
3468		8	36.272	0	NC	NC	NC	NC
3469		9	21.763	0	NC	NC	NC	NC
3470		10	7.254	0	NC	NC	NC	NC
3471		11	-7.255	0	NC	NC	NC	NC
3472		12	-21.763	0	NC	NC	NC	NC
3473		13	-36.272	0	NC	NC	NC	NC
3474		14	-50.781	0	NC	NC	NC	NC
3475		15	-65.29	0	NC	NC	NC	NC
3476		16	-79.799	0	NC	NC	NC	NC
3477		17	-94.308	0	NC	NC	NC	NC
3478		18	-108.817	0	NC	NC	NC	NC
3479		19	-123.326	0	NC	NC	NC	NC
3480		20	-137.834	0	NC	NC	NC	NC
3481	6	A10	1	137.835	0	NC	NC	NC
3482		2	123.326	0	NC	NC	NC	NC
3483		3	108.818	0	NC	NC	NC	NC
3484		4	94.309	0	NC	NC	NC	NC
3485		5	79.8	0	NC	NC	NC	NC
3486		6	65.291	0	NC	NC	NC	NC
3487		7	50.782	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3488		8	36.273	0	NC	NC	NC	NC
3489		9	21.764	0	NC	NC	NC	NC
3490		10	7.255	0	NC	NC	NC	NC
3491		11	-7.253	0	NC	NC	NC	NC
3492		12	-21.762	0	NC	NC	NC	NC
3493		13	-36.271	0	NC	NC	NC	NC
3494		14	-50.78	0	NC	NC	NC	NC
3495		15	-65.289	0	NC	NC	NC	NC
3496		16	-79.798	0	NC	NC	NC	NC
3497		17	-94.307	0	NC	NC	NC	NC
3498		18	-108.815	0	NC	NC	NC	NC
3499		19	-123.324	0	NC	NC	NC	NC
3500		20	-137.833	0	NC	NC	NC	NC
3501	6	A11	1	137.834	0	NC	NC	NC
3502		2	123.325	0	NC	NC	NC	NC
3503		3	108.816	0	NC	NC	NC	NC
3504		4	94.307	0	NC	NC	NC	NC
3505		5	79.798	0	NC	NC	NC	NC
3506		6	65.29	0	NC	NC	NC	NC
3507		7	50.781	0	NC	NC	NC	NC
3508		8	36.272	0	NC	NC	NC	NC
3509		9	21.763	0	NC	NC	NC	NC
3510		10	7.254	0	NC	NC	NC	NC
3511		11	-7.255	0	NC	NC	NC	NC
3512		12	-21.764	0	NC	NC	NC	NC
3513		13	-36.272	0	NC	NC	NC	NC
3514		14	-50.781	0	NC	NC	NC	NC
3515		15	-65.29	0	NC	NC	NC	NC
3516		16	-79.799	0	NC	NC	NC	NC
3517		17	-94.308	0	NC	NC	NC	NC
3518		18	-108.817	0	NC	NC	NC	NC
3519		19	-123.326	0	NC	NC	NC	NC
3520		20	-137.835	0	NC	NC	NC	NC
3521	6	A12	1	137.834	0	NC	NC	NC
3522		2	123.325	0	NC	NC	NC	NC
3523		3	108.816	0	NC	NC	NC	NC
3524		4	94.308	0	NC	NC	NC	NC
3525		5	79.799	0	NC	NC	NC	NC
3526		6	65.29	0	NC	NC	NC	NC
3527		7	50.781	0	NC	NC	NC	NC
3528		8	36.272	0	NC	NC	NC	NC
3529		9	21.763	0	NC	NC	NC	NC
3530		10	7.254	0	NC	NC	NC	NC
3531		11	-7.254	0	NC	NC	NC	NC
3532		12	-21.763	0	NC	NC	NC	NC
3533		13	-36.272	0	NC	NC	NC	NC
3534		14	-50.781	0	NC	NC	NC	NC
3535		15	-65.29	0	NC	NC	NC	NC
3536		16	-79.799	0	NC	NC	NC	NC
3537		17	-94.308	0	NC	NC	NC	NC
3538		18	-108.816	0	NC	NC	NC	NC
3539		19	-123.325	0	NC	NC	NC	NC
3540		20	-137.834	0	NC	NC	NC	NC
3541	6	A13	1	137.834	0	NC	NC	NC
3542		2	123.325	0	NC	NC	NC	NC
3543		3	108.816	0	NC	NC	NC	NC
3544		4	94.308	0	NC	NC	NC	NC
3545		5	79.799	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3546		6	65.29	0	NC	NC	NC	NC
3547		7	50.781	0	NC	NC	NC	NC
3548		8	36.272	0	NC	NC	NC	NC
3549		9	21.763	0	NC	NC	NC	NC
3550		10	7.254	0	NC	NC	NC	NC
3551		11	-7.254	0	NC	NC	NC	NC
3552		12	-21.763	0	NC	NC	NC	NC
3553		13	-36.272	0	NC	NC	NC	NC
3554		14	-50.781	0	NC	NC	NC	NC
3555		15	-65.29	0	NC	NC	NC	NC
3556		16	-79.799	0	NC	NC	NC	NC
3557		17	-94.308	0	NC	NC	NC	NC
3558		18	-108.816	0	NC	NC	NC	NC
3559		19	-123.325	0	NC	NC	NC	NC
3560		20	-137.834	0	NC	NC	NC	NC
3561	6	A14	1	137.834	0	NC	NC	NC
3562		2	123.325	0	NC	NC	NC	NC
3563		3	108.816	0	NC	NC	NC	NC
3564		4	94.308	0	NC	NC	NC	NC
3565		5	79.799	0	NC	NC	NC	NC
3566		6	65.29	0	NC	NC	NC	NC
3567		7	50.781	0	NC	NC	NC	NC
3568		8	36.272	0	NC	NC	NC	NC
3569		9	21.763	0	NC	NC	NC	NC
3570		10	7.254	0	NC	NC	NC	NC
3571		11	-7.254	0	NC	NC	NC	NC
3572		12	-21.763	0	NC	NC	NC	NC
3573		13	-36.272	0	NC	NC	NC	NC
3574		14	-50.781	0	NC	NC	NC	NC
3575		15	-65.29	0	NC	NC	NC	NC
3576		16	-79.799	0	NC	NC	NC	NC
3577		17	-94.308	0	NC	NC	NC	NC
3578		18	-108.817	0	NC	NC	NC	NC
3579		19	-123.325	0	NC	NC	NC	NC
3580		20	-137.834	0	NC	NC	NC	NC
3581	6	A15	1	137.83	0	NC	NC	NC
3582		2	123.321	0	NC	NC	NC	NC
3583		3	108.812	0	NC	NC	NC	NC
3584		4	94.303	0	NC	NC	NC	NC
3585		5	79.795	0	NC	NC	NC	NC
3586		6	65.286	0	NC	NC	NC	NC
3587		7	50.777	0	NC	NC	NC	NC
3588		8	36.268	0	NC	NC	NC	NC
3589		9	21.759	0	NC	NC	NC	NC
3590		10	7.25	0	NC	NC	NC	NC
3591		11	-7.259	0	NC	NC	NC	NC
3592		12	-21.767	0	NC	NC	NC	NC
3593		13	-36.276	0	NC	NC	NC	NC
3594		14	-50.785	0	NC	NC	NC	NC
3595		15	-65.294	0	NC	NC	NC	NC
3596		16	-79.803	0	NC	NC	NC	NC
3597		17	-94.312	0	NC	NC	NC	NC
3598		18	-108.821	0	NC	NC	NC	NC
3599		19	-123.329	0	NC	NC	NC	NC
3600		20	-137.838	0	NC	NC	NC	NC
3601	6	A16	1	63.097	0	NC	NC	NC
3602		2	55.645	0	NC	NC	NC	NC
3603		3	48.193	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3604		4	40.741	0	NC	NC	NC	NC
3605		5	33.289	0	NC	NC	NC	NC
3606		6	25.837	0	NC	NC	NC	NC
3607		7	18.386	0	NC	NC	NC	NC
3608		8	10.934	0	NC	NC	NC	NC
3609		9	3.482	0	NC	NC	NC	NC
3610		10	-3.97	0	NC	NC	NC	NC
3611		11	-11.422	0	NC	NC	NC	NC
3612		12	-18.874	0	NC	NC	NC	NC
3613		13	-26.326	0	NC	NC	NC	NC
3614		14	-33.778	0	NC	NC	NC	NC
3615		15	-41.23	0	NC	NC	NC	NC
3616		16	-48.681	0	NC	NC	NC	NC
3617		17	-56.133	0	NC	NC	NC	NC
3618		18	-63.585	0	NC	NC	NC	NC
3619		19	-71.037	0	NC	NC	NC	NC
3620		20	-78.489	0	NC	NC	NC	NC
3621	6	A17	1	0	NC	NC	NC	NC
3622			2	0	NC	NC	NC	NC
3623			3	0	NC	NC	NC	NC
3624			4	0	NC	NC	NC	NC
3625			5	0	NC	NC	NC	NC
3626			6	0	NC	NC	NC	NC
3627			7	0	NC	NC	NC	NC
3628			8	0	NC	NC	NC	NC
3629			9	0	NC	NC	NC	NC
3630			10	0	NC	NC	NC	NC
3631			11	0	NC	NC	NC	NC
3632			12	0	NC	NC	NC	NC
3633			13	0	NC	NC	NC	NC
3634			14	0	NC	NC	NC	NC
3635			15	0	NC	NC	NC	NC
3636			16	0	NC	NC	NC	NC
3637			17	0	NC	NC	NC	NC
3638			18	0	NC	NC	NC	NC
3639			19	0	NC	NC	NC	NC
3640			20	0	NC	NC	NC	NC
3641	6	R1	1	0	NC	NC	NC	NC
3642			2	0	NC	NC	NC	NC
3643			3	0	NC	NC	NC	NC
3644			4	0	NC	NC	NC	NC
3645			5	0	NC	NC	NC	NC
3646			6	0	NC	NC	NC	NC
3647			7	0	NC	NC	NC	NC
3648			8	0	NC	NC	NC	NC
3649			9	0	NC	NC	NC	NC
3650			10	0	NC	NC	NC	NC
3651			11	0	NC	NC	NC	NC
3652			12	0	NC	NC	NC	NC
3653			13	0	NC	NC	NC	NC
3654			14	0	NC	NC	NC	NC
3655			15	0	NC	NC	NC	NC
3656			16	0	NC	NC	NC	NC
3657			17	0	NC	NC	NC	NC
3658			18	0	NC	NC	NC	NC
3659			19	0	NC	NC	NC	NC
3660			20	0	NC	NC	NC	NC
3661	6	R2	1	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3662		2	0	0	NC	NC	NC	NC
3663		3	0	0	NC	NC	NC	NC
3664		4	0	0	NC	NC	NC	NC
3665		5	0	0	NC	NC	NC	NC
3666		6	0	0	NC	NC	NC	NC
3667		7	0	0	NC	NC	NC	NC
3668		8	0	0	NC	NC	NC	NC
3669		9	0	0	NC	NC	NC	NC
3670		10	0	0	NC	NC	NC	NC
3671		11	0	0	NC	NC	NC	NC
3672		12	0	0	NC	NC	NC	NC
3673		13	0	0	NC	NC	NC	NC
3674		14	0	0	NC	NC	NC	NC
3675		15	0	0	NC	NC	NC	NC
3676		16	0	0	NC	NC	NC	NC
3677		17	0	0	NC	NC	NC	NC
3678		18	0	0	NC	NC	NC	NC
3679		19	0	0	NC	NC	NC	NC
3680		20	0	0	NC	NC	NC	NC
3681	6	R3	1	0	0	NC	NC	NC
3682		2	0	0	NC	NC	NC	NC
3683		3	0	0	NC	NC	NC	NC
3684		4	0	0	NC	NC	NC	NC
3685		5	0	0	NC	NC	NC	NC
3686		6	0	0	NC	NC	NC	NC
3687		7	0	0	NC	NC	NC	NC
3688		8	0	0	NC	NC	NC	NC
3689		9	0	0	NC	NC	NC	NC
3690		10	0	0	NC	NC	NC	NC
3691		11	0	0	NC	NC	NC	NC
3692		12	0	0	NC	NC	NC	NC
3693		13	0	0	NC	NC	NC	NC
3694		14	0	0	NC	NC	NC	NC
3695		15	0	0	NC	NC	NC	NC
3696		16	0	0	NC	NC	NC	NC
3697		17	0	0	NC	NC	NC	NC
3698		18	0	0	NC	NC	NC	NC
3699		19	0	0	NC	NC	NC	NC
3700		20	0	0	NC	NC	NC	NC
3701	6	R4	1	0	0	NC	NC	NC
3702		2	0	0	NC	NC	NC	NC
3703		3	0	0	NC	NC	NC	NC
3704		4	0	0	NC	NC	NC	NC
3705		5	0	0	NC	NC	NC	NC
3706		6	0	0	NC	NC	NC	NC
3707		7	0	0	NC	NC	NC	NC
3708		8	0	0	NC	NC	NC	NC
3709		9	0	0	NC	NC	NC	NC
3710		10	0	0	NC	NC	NC	NC
3711		11	0	0	NC	NC	NC	NC
3712		12	0	0	NC	NC	NC	NC
3713		13	0	0	NC	NC	NC	NC
3714		14	0	0	NC	NC	NC	NC
3715		15	0	0	NC	NC	NC	NC
3716		16	0	0	NC	NC	NC	NC
3717		17	0	0	NC	NC	NC	NC
3718		18	0	0	NC	NC	NC	NC
3719		19	0	0	NC	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3720		20	0	0	NC	NC	NC	NC
3721	6 R5	1	0	0	NC	NC	NC	NC
3722		2	0	0	NC	NC	NC	NC
3723		3	0	0	NC	NC	NC	NC
3724		4	0	0	NC	NC	NC	NC
3725		5	0	0	NC	NC	NC	NC
3726		6	0	0	NC	NC	NC	NC
3727		7	0	0	NC	NC	NC	NC
3728		8	0	0	NC	NC	NC	NC
3729		9	0	0	NC	NC	NC	NC
3730		10	0	0	NC	NC	NC	NC
3731		11	0	0	NC	NC	NC	NC
3732		12	0	0	NC	NC	NC	NC
3733		13	0	0	NC	NC	NC	NC
3734		14	0	0	NC	NC	NC	NC
3735		15	0	0	NC	NC	NC	NC
3736		16	0	0	NC	NC	NC	NC
3737		17	0	0	NC	NC	NC	NC
3738		18	0	0	NC	NC	NC	NC
3739		19	0	0	NC	NC	NC	NC
3740		20	0	0	NC	NC	NC	NC
3741	6 R6	1	0	0	NC	NC	NC	NC
3742		2	0	0	NC	NC	NC	NC
3743		3	0	0	NC	NC	NC	NC
3744		4	0	0	NC	NC	NC	NC
3745		5	0	0	NC	NC	NC	NC
3746		6	0	0	NC	NC	NC	NC
3747		7	0	0	NC	NC	NC	NC
3748		8	0	0	NC	NC	NC	NC
3749		9	0	0	NC	NC	NC	NC
3750		10	0	0	NC	NC	NC	NC
3751		11	0	0	NC	NC	NC	NC
3752		12	0	0	NC	NC	NC	NC
3753		13	0	0	NC	NC	NC	NC
3754		14	0	0	NC	NC	NC	NC
3755		15	0	0	NC	NC	NC	NC
3756		16	0	0	NC	NC	NC	NC
3757		17	0	0	NC	NC	NC	NC
3758		18	0	0	NC	NC	NC	NC
3759		19	0	0	NC	NC	NC	NC
3760		20	0	0	NC	NC	NC	NC
3761	6 R7	1	0	0	NC	NC	NC	NC
3762		2	0	0	NC	NC	NC	NC
3763		3	0	0	NC	NC	NC	NC
3764		4	0	0	NC	NC	NC	NC
3765		5	0	0	NC	NC	NC	NC
3766		6	0	0	NC	NC	NC	NC
3767		7	0	0	NC	NC	NC	NC
3768		8	0	0	NC	NC	NC	NC
3769		9	0	0	NC	NC	NC	NC
3770		10	0	0	NC	NC	NC	NC
3771		11	0	0	NC	NC	NC	NC
3772		12	0	0	NC	NC	NC	NC
3773		13	0	0	NC	NC	NC	NC
3774		14	0	0	NC	NC	NC	NC
3775		15	0	0	NC	NC	NC	NC
3776		16	0	0	NC	NC	NC	NC
3777		17	0	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3778		18	0	0	NC	NC	NC	NC
3779		19	0	0	NC	NC	NC	NC
3780		20	0	0	NC	NC	NC	NC
3781	6 R8	1	0	0	NC	NC	NC	NC
3782		2	0	0	NC	NC	NC	NC
3783		3	0	0	NC	NC	NC	NC
3784		4	0	0	NC	NC	NC	NC
3785		5	0	0	NC	NC	NC	NC
3786		6	0	0	NC	NC	NC	NC
3787		7	0	0	NC	NC	NC	NC
3788		8	0	0	NC	NC	NC	NC
3789		9	0	0	NC	NC	NC	NC
3790		10	0	0	NC	NC	NC	NC
3791		11	0	0	NC	NC	NC	NC
3792		12	0	0	NC	NC	NC	NC
3793		13	0	0	NC	NC	NC	NC
3794		14	0	0	NC	NC	NC	NC
3795		15	0	0	NC	NC	NC	NC
3796		16	0	0	NC	NC	NC	NC
3797		17	0	0	NC	NC	NC	NC
3798		18	0	0	NC	NC	NC	NC
3799		19	0	0	NC	NC	NC	NC
3800		20	0	0	NC	NC	NC	NC
3801	6 R9	1	0	0	NC	NC	NC	NC
3802		2	0	0	NC	NC	NC	NC
3803		3	0	0	NC	NC	NC	NC
3804		4	0	0	NC	NC	NC	NC
3805		5	0	0	NC	NC	NC	NC
3806		6	0	0	NC	NC	NC	NC
3807		7	0	0	NC	NC	NC	NC
3808		8	0	0	NC	NC	NC	NC
3809		9	0	0	NC	NC	NC	NC
3810		10	0	0	NC	NC	NC	NC
3811		11	0	0	NC	NC	NC	NC
3812		12	0	0	NC	NC	NC	NC
3813		13	0	0	NC	NC	NC	NC
3814		14	0	0	NC	NC	NC	NC
3815		15	0	0	NC	NC	NC	NC
3816		16	0	0	NC	NC	NC	NC
3817		17	0	0	NC	NC	NC	NC
3818		18	0	0	NC	NC	NC	NC
3819		19	0	0	NC	NC	NC	NC
3820		20	0	0	NC	NC	NC	NC
3821	6 R10	1	0	0	NC	NC	NC	NC
3822		2	0	0	NC	NC	NC	NC
3823		3	0	0	NC	NC	NC	NC
3824		4	0	0	NC	NC	NC	NC
3825		5	0	0	NC	NC	NC	NC
3826		6	0	0	NC	NC	NC	NC
3827		7	0	0	NC	NC	NC	NC
3828		8	0	0	NC	NC	NC	NC
3829		9	0	0	NC	NC	NC	NC
3830		10	0	0	NC	NC	NC	NC
3831		11	0	0	NC	NC	NC	NC
3832		12	0	0	NC	NC	NC	NC
3833		13	0	0	NC	NC	NC	NC
3834		14	0	0	NC	NC	NC	NC
3835		15	0	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
3836		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3837		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3838		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3839		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3840		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3841	6	R11	1	0	0	NC	NC	NC	NC	NC	NC	NC
3842		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3843		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3844		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3845		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3846		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3847		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3848		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3849		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3850		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3851		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3852		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3853		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3854		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3855		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3856		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3857		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3858		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3859		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3860		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3861	6	R12	1	0	0	NC	NC	NC	NC	NC	NC	NC
3862		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3863		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3864		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3865		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3866		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3867		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3868		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3869		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3870		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3871		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3872		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3873		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3874		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3875		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3876		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3877		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3878		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3879		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3880		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3881	6	R13	1	0	0	NC	NC	NC	NC	NC	NC	NC
3882		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3883		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3884		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3885		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3886		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3887		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3888		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3889		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3890		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3891		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3892		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3893		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
3894		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3895		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3896		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3897		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3898		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3899		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3900		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3901	6	R14	1	0	0	NC	NC	NC	NC	NC	NC	NC
3902		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3903		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3904		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3905		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3906		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3907		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3908		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3909		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3910		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3911		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3912		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3913		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3914		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3915		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3916		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3917		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3918		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3919		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3920		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3921	6	R15	1	0	0	NC	NC	NC	NC	NC	NC	NC
3922		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3923		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3924		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3925		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3926		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3927		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3928		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3929		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3930		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3931		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3932		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3933		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3934		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3935		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3936		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3937		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3938		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3939		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3940		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3941	6	M33	1	0	0	NC	NC	NC	NC	NC	NC	NC
3942		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3943		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3944		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3945		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3946		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3947		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3948		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3949		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3950		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3951		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3952		12	0	0	NC	NC	NC	NC
3953		13	0	0	NC	NC	NC	NC
3954		14	0	0	NC	NC	NC	NC
3955		15	0	0	NC	NC	NC	NC
3956		16	0	0	NC	NC	NC	NC
3957		17	0	0	NC	NC	NC	NC
3958		18	0	0	NC	NC	NC	NC
3959		19	0	0	NC	NC	NC	NC
3960		20	0	0	NC	NC	NC	NC

**Member Section Stresses**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1	1	A1	1	0	0	0	0	0	0
2			2	0	0	0	0	0	0
3			3	0	0	0	0	0	0
4			4	0	0	0	0	0	0
5			5	0	0	0	0	0	0
6			6	0	0	0	-0.001	0.001	0
7			7	0	0	0	-0.002	0.002	0
8			8	0	-0.001	0	-0.002	0.002	0
9			9	0	-0.001	0	-0.003	0.003	0
10			10	0	-0.001	0	-0.004	0.004	0
11			11	0	-0.001	0	-0.004	0.004	0
12			12	0	-0.002	0	-0.005	0.005	0
13			13	0	-0.002	0	-0.006	0.006	0
14			14	0	-0.002	0	-0.007	0.007	0
15			15	0	-0.002	0	-0.009	0.009	0
16			16	0	-0.002	0	-0.01	0.01	0
17			17	0	-0.002	0	-0.011	0.011	0
18			18	0	-0.002	0	-0.013	0.013	0
19			19	0	-0.003	0	-0.014	0.014	0
20			20	0	-0.003	0	-0.016	0.016	0
21	1	A2	1	-0.002	-0.011	0.004	0.054	-0.054	0.003
22			2	-0.002	-0.012	0.004	0.046	-0.046	0.003
23			3	-0.003	-0.014	0.003	0.036	-0.036	0.004
24			4	-0.003	-0.016	0.002	0.025	-0.025	0.004
25			5	-0.003	-0.018	0.002	0.013	-0.013	0.005
26			6	-0.003	-0.019	0.001	0	0	0.005
27			7	-0.003	-0.021	0	-0.015	0.015	0.005
28			8	-0.003	-0.023	0	-0.03	0.03	0.005
29			9	-0.003	-0.025	0	-0.047	0.047	0.005
30			10	-0.003	-0.026	-0.001	-0.066	0.066	0.005
31			11	-0.003	-0.028	-0.002	-0.085	0.085	0.005
32			12	-0.003	-0.03	-0.003	-0.106	0.106	0.004
33			13	-0.003	-0.032	-0.003	-0.128	0.128	0.004
34			14	-0.003	-0.033	-0.004	-0.151	0.151	0.003
35			15	-0.003	-0.035	-0.004	-0.176	0.176	0.003
36			16	-0.003	-0.037	-0.005	-0.202	0.202	0.002
37			17	-0.003	-0.039	-0.006	-0.229	0.229	0
38			18	-0.003	-0.04	-0.006	-0.257	0.257	0
39			19	-0.003	-0.042	-0.007	-0.287	0.287	-0.001
40			20	-0.003	-0.044	-0.007	-0.317	0.317	-0.002
41	1	A3	1	0.002	0.051	0.018	-0.317	0.317	-0.03
42			2	0.001	0.045	0.016	-0.21	0.21	-0.021
43			3	0.001	0.04	0.014	-0.114	0.114	-0.013
44			4	0.001	0.034	0.013	-0.031	0.031	-0.006
45			5	0	0.029	0.011	0.039	-0.039	0
46			6	0	0.023	0.009	0.098	-0.098	0.005

**Member Section Stresses (Continued)**

LC	Member	Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
47			7	0	0.018	0.007	0.144	-0.144	0.009	-0.009
48			8	0	0.012	0.005	0.177	-0.177	0.012	-0.012
49			9	0	0.007	0.003	0.198	-0.198	0.014	-0.014
50			10	0	0.001	0	0.207	-0.207	0.015	-0.015
51			11	0	-0.004	0	0.203	-0.203	0.015	-0.015
52			12	0	-0.01	-0.003	0.187	-0.187	0.014	-0.014
53			13	0	-0.015	-0.005	0.159	-0.159	0.012	-0.012
54			14	0	-0.021	-0.007	0.118	-0.118	0.009	-0.009
55			15	0	-0.026	-0.009	0.065	-0.065	0.005	-0.005
56			16	0	-0.032	-0.011	0	0	0	0
57			17	-0.001	-0.037	-0.013	-0.078	0.078	-0.006	0.006
58			18	-0.001	-0.043	-0.014	-0.168	0.168	-0.013	0.013
59			19	-0.001	-0.048	-0.016	-0.271	0.271	-0.021	0.021
60			20	-0.002	-0.054	-0.018	-0.386	0.386	-0.03	0.03
61	1	A4	1	0.002	0.053	0.018	-0.386	0.386	-0.03	0.03
62			2	0.001	0.047	0.016	-0.274	0.274	-0.021	0.021
63			3	0.001	0.042	0.014	-0.174	0.174	-0.013	0.013
64			4	0.001	0.036	0.013	-0.086	0.086	-0.006	0.006
65			5	0	0.031	0.011	-0.011	0.011	0	0
66			6	0	0.025	0.009	0.052	-0.052	0.005	-0.005
67			7	0	0.02	0.007	0.102	-0.102	0.009	-0.009
68			8	0	0.014	0.005	0.14	-0.14	0.012	-0.012
69			9	0	0.009	0.003	0.166	-0.166	0.014	-0.014
70			10	0	0.003	0	0.179	-0.179	0.015	-0.015
71			11	0	-0.002	0	0.18	-0.18	0.015	-0.015
72			12	0	-0.008	-0.003	0.168	-0.168	0.014	-0.014
73			13	0	-0.013	-0.005	0.145	-0.145	0.012	-0.012
74			14	0	-0.019	-0.007	0.108	-0.108	0.009	-0.009
75			15	0	-0.024	-0.009	0.06	-0.06	0.005	-0.005
76			16	0	-0.03	-0.011	-0.001	0.001	0	0
77			17	-0.001	-0.035	-0.013	-0.075	0.075	-0.006	0.006
78			18	-0.001	-0.041	-0.014	-0.16	0.16	-0.013	0.013
79			19	-0.001	-0.046	-0.016	-0.258	0.258	-0.021	0.021
80			20	-0.002	-0.052	-0.018	-0.369	0.369	-0.03	0.03
81	1	A5	1	0.002	0.052	0.018	-0.369	0.369	-0.03	0.03
82			2	0.001	0.047	0.016	-0.258	0.258	-0.021	0.021
83			3	0.001	0.041	0.014	-0.159	0.159	-0.013	0.013
84			4	0.001	0.036	0.013	-0.073	0.073	-0.006	0.006
85			5	0	0.03	0.011	0.001	-0.001	0	0
86			6	0	0.025	0.009	0.063	-0.063	0.005	-0.005
87			7	0	0.019	0.007	0.112	-0.112	0.009	-0.009
88			8	0	0.014	0.005	0.149	-0.149	0.012	-0.012
89			9	0	0.008	0.003	0.174	-0.174	0.014	-0.014
90			10	0	0.003	0	0.186	-0.186	0.015	-0.015
91			11	0	-0.003	0	0.186	-0.186	0.015	-0.015
92			12	0	-0.008	-0.003	0.173	-0.173	0.014	-0.014
93			13	0	-0.014	-0.005	0.148	-0.148	0.012	-0.012
94			14	0	-0.019	-0.007	0.111	-0.111	0.009	-0.009
95			15	0	-0.025	-0.009	0.061	-0.061	0.005	-0.005
96			16	0	-0.03	-0.011	0	0	0	0
97			17	-0.001	-0.036	-0.013	-0.075	0.075	-0.006	0.006
98			18	-0.001	-0.041	-0.014	-0.162	0.162	-0.013	0.013
99			19	-0.001	-0.047	-0.016	-0.261	0.261	-0.021	0.021
100			20	-0.002	-0.052	-0.018	-0.373	0.373	-0.03	0.03
101	1	A6	1	0.002	0.052	0.018	-0.373	0.373	-0.03	0.03
102			2	0.001	0.047	0.016	-0.262	0.262	-0.021	0.021
103			3	0.001	0.041	0.014	-0.163	0.163	-0.013	0.013
104			4	0.001	0.036	0.013	-0.076	0.076	-0.006	0.006



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
105		5	0	0.03	0.011	-0.002	0.002	0	0	
106		6	0	0.025	0.009	0.06	-0.06	0.005	-0.005	
107		7	0	0.019	0.007	0.11	-0.11	0.009	-0.009	
108		8	0	0.014	0.005	0.147	-0.147	0.012	-0.012	
109		9	0	0.008	0.003	0.172	-0.172	0.014	-0.014	
110		10	0	0.003	0	0.184	-0.184	0.015	-0.015	
111		11	0	-0.003	0	0.184	-0.184	0.015	-0.015	
112		12	0	-0.008	-0.003	0.172	-0.172	0.014	-0.014	
113		13	0	-0.014	-0.005	0.147	-0.147	0.012	-0.012	
114		14	0	-0.019	-0.007	0.11	-0.11	0.009	-0.009	
115		15	0	-0.025	-0.009	0.06	-0.06	0.005	-0.005	
116		16	0	-0.03	-0.011	-0.002	0.002	0	0	
117		17	-0.001	-0.036	-0.013	-0.076	0.076	-0.006	0.006	
118		18	-0.001	-0.041	-0.014	-0.163	0.163	-0.013	0.013	
119		19	-0.001	-0.047	-0.016	-0.262	0.262	-0.021	0.021	
120		20	-0.002	-0.052	-0.018	-0.373	0.373	-0.03	0.03	
121	1	A7	1	0.002	0.052	0.018	-0.373	0.373	-0.03	0.03
122		2	0.001	0.047	0.016	-0.261	0.261	-0.021	0.021	
123		3	0.001	0.041	0.014	-0.162	0.162	-0.013	0.013	
124		4	0.001	0.036	0.013	-0.075	0.075	-0.006	0.006	
125		5	0	0.03	0.011	0	0	0	0	
126		6	0	0.025	0.009	0.061	-0.061	0.005	-0.005	
127		7	0	0.019	0.007	0.111	-0.111	0.009	-0.009	
128		8	0	0.014	0.005	0.148	-0.148	0.012	-0.012	
129		9	0	0.008	0.003	0.173	-0.173	0.014	-0.014	
130		10	0	0.003	0	0.186	-0.186	0.015	-0.015	
131		11	0	-0.003	0	0.186	-0.186	0.015	-0.015	
132		12	0	-0.008	-0.003	0.174	-0.174	0.014	-0.014	
133		13	0	-0.014	-0.005	0.149	-0.149	0.012	-0.012	
134		14	0	-0.019	-0.007	0.112	-0.112	0.009	-0.009	
135		15	0	-0.025	-0.009	0.063	-0.063	0.005	-0.005	
136		16	0	-0.03	-0.011	0.001	-0.001	0	0	
137		17	-0.001	-0.036	-0.013	-0.073	0.073	-0.006	0.006	
138		18	-0.001	-0.041	-0.014	-0.159	0.159	-0.013	0.013	
139		19	-0.001	-0.047	-0.016	-0.258	0.258	-0.021	0.021	
140		20	-0.002	-0.052	-0.018	-0.369	0.369	-0.03	0.03	
141	1	A8	1	0.002	0.052	0.018	-0.369	0.369	-0.03	0.03
142		2	0.001	0.046	0.016	-0.259	0.259	-0.021	0.021	
143		3	0.001	0.041	0.014	-0.16	0.16	-0.013	0.013	
144		4	0.001	0.035	0.013	-0.075	0.075	-0.006	0.006	
145		5	0	0.03	0.011	-0.001	0.001	0	0	
146		6	0	0.024	0.009	0.06	-0.06	0.005	-0.005	
147		7	0	0.019	0.007	0.108	-0.108	0.009	-0.009	
148		8	0	0.013	0.005	0.145	-0.145	0.012	-0.012	
149		9	0	0.008	0.003	0.169	-0.169	0.014	-0.014	
150		10	0	0.002	0	0.18	-0.18	0.015	-0.015	
151		11	0	-0.003	0	0.179	-0.179	0.015	-0.015	
152		12	0	-0.009	-0.003	0.166	-0.166	0.014	-0.014	
153		13	0	-0.014	-0.005	0.141	-0.141	0.012	-0.012	
154		14	0	-0.02	-0.007	0.103	-0.103	0.009	-0.009	
155		15	0	-0.025	-0.009	0.052	-0.052	0.005	-0.005	
156		16	0	-0.031	-0.011	-0.01	0.01	0	0	
157		17	-0.001	-0.036	-0.013	-0.086	0.086	-0.006	0.006	
158		18	-0.001	-0.042	-0.014	-0.173	0.173	-0.013	0.013	
159		19	-0.001	-0.048	-0.016	-0.274	0.274	-0.021	0.021	
160		20	-0.002	-0.054	-0.018	-0.389	0.389	-0.03	0.03	
161	1	A9	1	0.002	0.056	0.018	-0.389	0.389	-0.03	0.03
162		2	0.001	0.05	0.016	-0.27	0.27	-0.021	0.021	





**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
163		3	0.001	0.044	0.014	-0.164	0.164	-0.013	0.013	
164		4	0.001	0.038	0.013	-0.072	0.072	-0.006	0.006	
165		5	0	0.032	0.011	0.008	-0.008	0	0	
166		6	0	0.026	0.009	0.074	-0.074	0.005	-0.005	
167		7	0	0.021	0.007	0.126	-0.126	0.009	-0.009	
168		8	0	0.015	0.005	0.166	-0.166	0.012	-0.012	
169		9	0	0.009	0.003	0.192	-0.192	0.014	-0.014	
170		10	0	0.003	0	0.205	-0.205	0.015	-0.015	
171		11	0	-0.003	0	0.205	-0.205	0.015	-0.015	
172		12	0	-0.009	-0.003	0.191	-0.191	0.014	-0.014	
173		13	0	-0.015	-0.005	0.164	-0.164	0.012	-0.012	
174		14	0	-0.021	-0.007	0.124	-0.124	0.009	-0.009	
175		15	0	-0.027	-0.009	0.071	-0.071	0.005	-0.005	
176		16	0	-0.033	-0.011	0.004	-0.004	0	0	
177		17	-0.001	-0.038	-0.013	-0.076	0.076	-0.006	0.006	
178		18	-0.001	-0.044	-0.014	-0.169	0.169	-0.013	0.013	
179		19	-0.001	-0.05	-0.016	-0.275	0.275	-0.021	0.021	
180		20	-0.002	-0.056	-0.018	-0.395	0.395	-0.03	0.03	
181	1	A10	1	0.002	0.055	0.018	-0.395	0.395	-0.03	0.03
182		2	0.001	0.049	0.016	-0.278	0.278	-0.021	0.021	
183		3	0.001	0.043	0.014	-0.174	0.174	-0.013	0.013	
184		4	0.001	0.037	0.013	-0.083	0.083	-0.006	0.006	
185		5	0	0.031	0.011	-0.006	0.006	0	0	
186		6	0	0.026	0.009	0.058	-0.058	0.005	-0.005	
187		7	0	0.02	0.007	0.109	-0.109	0.009	-0.009	
188		8	0	0.014	0.005	0.146	-0.146	0.012	-0.012	
189		9	0	0.008	0.003	0.171	-0.171	0.014	-0.014	
190		10	0	0.003	0	0.184	-0.184	0.015	-0.015	
191		11	0	-0.003	0	0.184	-0.184	0.015	-0.015	
192		12	0	-0.008	-0.003	0.172	-0.172	0.014	-0.014	
193		13	0	-0.014	-0.005	0.147	-0.147	0.012	-0.012	
194		14	0	-0.019	-0.007	0.11	-0.11	0.009	-0.009	
195		15	0	-0.025	-0.009	0.061	-0.061	0.005	-0.005	
196		16	0	-0.03	-0.011	-0.001	0.001	0	0	
197		17	-0.001	-0.036	-0.013	-0.075	0.075	-0.006	0.006	
198		18	-0.001	-0.041	-0.014	-0.162	0.162	-0.013	0.013	
199		19	-0.001	-0.047	-0.016	-0.261	0.261	-0.021	0.021	
200		20	-0.002	-0.052	-0.018	-0.372	0.372	-0.03	0.03	
201	1	A11	1	0.002	0.052	0.018	-0.371	0.371	-0.03	0.03
202		2	0.001	0.047	0.016	-0.26	0.26	-0.021	0.021	
203		3	0.001	0.041	0.014	-0.161	0.161	-0.013	0.013	
204		4	0.001	0.036	0.013	-0.074	0.074	-0.006	0.006	
205		5	0	0.03	0.011	0	0	0	0	
206		6	0	0.025	0.009	0.062	-0.062	0.005	-0.005	
207		7	0	0.019	0.007	0.111	-0.111	0.009	-0.009	
208		8	0	0.014	0.005	0.148	-0.148	0.012	-0.012	
209		9	0	0.008	0.003	0.173	-0.173	0.014	-0.014	
210		10	0	0.003	0	0.185	-0.185	0.015	-0.015	
211		11	0	-0.003	0	0.185	-0.185	0.015	-0.015	
212		12	0	-0.008	-0.003	0.173	-0.173	0.014	-0.014	
213		13	0	-0.014	-0.005	0.148	-0.148	0.012	-0.012	
214		14	0	-0.019	-0.007	0.111	-0.111	0.009	-0.009	
215		15	0	-0.025	-0.009	0.061	-0.061	0.005	-0.005	
216		16	0	-0.03	-0.011	0	0	0	0	
217		17	-0.001	-0.036	-0.013	-0.075	0.075	-0.006	0.006	
218		18	-0.001	-0.041	-0.014	-0.162	0.162	-0.013	0.013	
219		19	-0.001	-0.047	-0.016	-0.261	0.261	-0.021	0.021	
220		20	-0.002	-0.052	-0.018	-0.373	0.373	-0.03	0.03	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
221	1	A12	1	0.002	0.052	0.018	-0.373	0.373	-0.03	0.03
222			2	0.001	0.047	0.016	-0.261	0.261	-0.021	0.021
223			3	0.001	0.041	0.014	-0.162	0.162	-0.013	0.013
224			4	0.001	0.036	0.013	-0.076	0.076	-0.006	0.006
225			5	0	0.03	0.011	-0.001	0.001	0	0
226			6	0	0.025	0.009	0.061	-0.061	0.005	-0.005
227			7	0	0.019	0.007	0.11	-0.11	0.009	-0.009
228			8	0	0.014	0.005	0.147	-0.147	0.012	-0.012
229			9	0	0.008	0.003	0.172	-0.172	0.014	-0.014
230			10	0	0.003	0	0.184	-0.184	0.015	-0.015
231			11	0	-0.003	0	0.184	-0.184	0.015	-0.015
232			12	0	-0.008	-0.003	0.172	-0.172	0.014	-0.014
233			13	0	-0.014	-0.005	0.147	-0.147	0.012	-0.012
234			14	0	-0.019	-0.007	0.11	-0.11	0.009	-0.009
235			15	0	-0.025	-0.009	0.061	-0.061	0.005	-0.005
236			16	0	-0.03	-0.011	-0.001	0.001	0	0
237			17	-0.001	-0.036	-0.013	-0.076	0.076	-0.006	0.006
238			18	-0.001	-0.041	-0.014	-0.162	0.162	-0.013	0.013
239			19	-0.001	-0.047	-0.016	-0.261	0.261	-0.021	0.021
240			20	-0.002	-0.052	-0.018	-0.373	0.373	-0.03	0.03
241	1	A13	1	0.002	0.052	0.018	-0.373	0.373	-0.03	0.03
242			2	0.001	0.047	0.016	-0.261	0.261	-0.021	0.021
243			3	0.001	0.041	0.014	-0.162	0.162	-0.013	0.013
244			4	0.001	0.036	0.013	-0.075	0.075	-0.006	0.006
245			5	0	0.03	0.011	0	0	0	0
246			6	0	0.025	0.009	0.061	-0.061	0.005	-0.005
247			7	0	0.019	0.007	0.111	-0.111	0.009	-0.009
248			8	0	0.014	0.005	0.148	-0.148	0.012	-0.012
249			9	0	0.008	0.003	0.173	-0.173	0.014	-0.014
250			10	0	0.003	0	0.185	-0.185	0.015	-0.015
251			11	0	-0.003	0	0.185	-0.185	0.015	-0.015
252			12	0	-0.008	-0.003	0.173	-0.173	0.014	-0.014
253			13	0	-0.014	-0.005	0.148	-0.148	0.012	-0.012
254			14	0	-0.019	-0.007	0.111	-0.111	0.009	-0.009
255			15	0	-0.025	-0.009	0.062	-0.062	0.005	-0.005
256			16	0	-0.03	-0.011	0	0	0	0
257			17	-0.001	-0.036	-0.013	-0.074	0.074	-0.006	0.006
258			18	-0.001	-0.041	-0.014	-0.161	0.161	-0.013	0.013
259			19	-0.001	-0.047	-0.016	-0.26	0.26	-0.021	0.021
260			20	-0.002	-0.052	-0.018	-0.371	0.371	-0.03	0.03
261	1	A14	1	0.002	0.052	0.018	-0.371	0.371	-0.03	0.03
262			2	0.001	0.047	0.016	-0.26	0.26	-0.021	0.021
263			3	0.001	0.041	0.014	-0.161	0.161	-0.013	0.013
264			4	0.001	0.036	0.013	-0.075	0.075	-0.006	0.006
265			5	0	0.03	0.011	-0.001	0.001	0	0
266			6	0	0.025	0.009	0.06	-0.06	0.005	-0.005
267			7	0	0.019	0.007	0.109	-0.109	0.009	-0.009
268			8	0	0.014	0.005	0.146	-0.146	0.012	-0.012
269			9	0	0.008	0.003	0.171	-0.171	0.014	-0.014
270			10	0	0.003	0	0.183	-0.183	0.015	-0.015
271			11	0	-0.003	0	0.182	-0.182	0.015	-0.015
272			12	0	-0.008	-0.003	0.169	-0.169	0.014	-0.014
273			13	0	-0.014	-0.005	0.144	-0.144	0.012	-0.012
274			14	0	-0.019	-0.007	0.107	-0.107	0.009	-0.009
275			15	0	-0.025	-0.009	0.057	-0.057	0.005	-0.005
276			16	0	-0.03	-0.011	-0.006	0.006	0	0
277			17	-0.001	-0.036	-0.013	-0.08	0.08	-0.006	0.006
278			18	-0.001	-0.041	-0.014	-0.167	0.167	-0.013	0.013



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
279		19	-0.001	-0.047	-0.016	-0.267	0.267	-0.021	0.021	
280		20	-0.002	-0.053	-0.018	-0.378	0.378	-0.03	0.03	
281	1	A15	1	0.002	0.053	0.018	-0.378	0.378	-0.03	0.03
282		2	0.001	0.048	0.016	-0.265	0.265	-0.021	0.021	
283		3	0.001	0.042	0.014	-0.165	0.165	-0.013	0.013	
284		4	0.001	0.037	0.013	-0.077	0.077	-0.006	0.006	
285		5	0	0.031	0.011	0	0	0	0	
286		6	0	0.026	0.009	0.063	-0.063	0.005	-0.005	
287		7	0	0.02	0.007	0.114	-0.114	0.009	-0.009	
288		8	0	0.014	0.005	0.153	-0.153	0.012	-0.012	
289		9	0	0.009	0.003	0.179	-0.179	0.014	-0.014	
290		10	0	0.003	0	0.193	-0.193	0.015	-0.015	
291		11	0	-0.002	0	0.195	-0.195	0.015	-0.015	
292		12	0	-0.008	-0.003	0.184	-0.184	0.014	-0.014	
293		13	0	-0.013	-0.005	0.161	-0.161	0.012	-0.012	
294		14	0	-0.019	-0.007	0.125	-0.125	0.009	-0.009	
295		15	0	-0.024	-0.009	0.077	-0.077	0.005	-0.005	
296		16	0	-0.03	-0.011	0.017	-0.017	0	0	
297		17	-0.001	-0.035	-0.013	-0.056	0.056	-0.006	0.006	
298		18	-0.001	-0.041	-0.014	-0.141	0.141	-0.013	0.013	
299		19	-0.001	-0.046	-0.016	-0.238	0.238	-0.021	0.021	
300		20	-0.002	-0.052	-0.018	-0.348	0.348	-0.03	0.03	
301	1	A16	1	0.005	0.054	0.012	-0.348	0.348	-0.008	0.008
302		2	0.005	0.051	0.011	-0.288	0.288	-0.005	0.005	
303		3	0.005	0.048	0.01	-0.23	0.23	-0.002	0.002	
304		4	0.004	0.045	0.009	-0.177	0.177	0	0	
305		5	0.004	0.042	0.008	-0.126	0.126	0.003	-0.003	
306		6	0.004	0.04	0.007	-0.079	0.079	0.005	-0.005	
307		7	0.004	0.037	0.006	-0.035	0.035	0.007	-0.007	
308		8	0.004	0.034	0.005	0.006	-0.006	0.009	-0.009	
309		9	0.004	0.031	0.004	0.043	-0.043	0.01	-0.01	
310		10	0.004	0.028	0.003	0.077	-0.077	0.011	-0.011	
311		11	0.004	0.025	0.002	0.108	-0.108	0.012	-0.012	
312		12	0.004	0.023	0.001	0.136	-0.136	0.012	-0.012	
313		13	0.004	0.02	0	0.16	-0.16	0.012	-0.012	
314		14	0.004	0.017	0	0.182	-0.182	0.012	-0.012	
315		15	0.004	0.014	-0.002	0.2	-0.2	0.012	-0.012	
316		16	0.003	0.011	-0.003	0.214	-0.214	0.011	-0.011	
317		17	0.003	0.008	-0.004	0.225	-0.225	0.01	-0.01	
318		18	0.003	0.006	-0.005	0.234	-0.234	0.009	-0.009	
319		19	0.003	0.003	-0.006	0.238	-0.238	0.008	-0.008	
320		20	0.003	0	-0.007	0.24	-0.24	0.006	-0.006	
321	1	A17	1	0	0.003	0	-0.018	0.018	0	0
322		2	0	0.003	0	-0.016	0.016	0	0	
323		3	0	0.003	0	-0.014	0.014	0	0	
324		4	0	0.002	0	-0.012	0.012	0	0	
325		5	0	0.002	0	-0.011	0.011	0	0	
326		6	0	0.002	0	-0.01	0.01	0	0	
327		7	0	0.002	0	-0.008	0.008	0	0	
328		8	0	0.002	0	-0.007	0.007	0	0	
329		9	0	0.002	0	-0.006	0.006	0	0	
330		10	0	0.002	0	-0.005	0.005	0	0	
331		11	0	0.001	0	-0.004	0.004	0	0	
332		12	0	0.001	0	-0.003	0.003	0	0	
333		13	0	0.001	0	-0.002	0.002	0	0	
334		14	0	0	0	-0.002	0.002	0	0	
335		15	0	0	0	-0.001	0.001	0	0	
336		16	0	0	0	0	0	0	0	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
337		17	0	0	0	0	0	0	0
338		18	0	0	0	0	0	0	0
339		19	0	0	0	0	0	0	0
340		20	0	0	0	0	0	0	0
341	1	R1	1	0	0	0	0	0	0
342		2	0	0	0	0	0	0	0
343		3	0	0	0	0	0	0	0
344		4	0	0	0	0	0	0	0
345		5	0	0	0	0	0	0	0
346		6	0	0	0	0	0	0	0
347		7	0	0	0	0	0	0	0
348		8	0	0	0	0	0	0	0
349		9	0	0	0	0	0	0	0
350		10	0	0	0	0	0	0	0
351		11	0	0	0	0	0	0	0
352		12	0	0	0	0	0	0	0
353		13	0	0	0	0	0	0	0
354		14	0	0	0	0	0	0	0
355		15	0	0	0	0	0	0	0
356		16	0	0	0	0	0	0	0
357		17	0	0	0	0	0	0	0
358		18	0	0	0	0	0	0	0
359		19	0	0	0	0	0	0	0
360		20	0	0	0	0	0	0	0
361	1	R2	1	0	0	0	0	0	0
362		2	0	0	0	0	0	0	0
363		3	0	0	0	0	0	0	0
364		4	0	0	0	0	0	0	0
365		5	0	0	0	0	0	0	0
366		6	0	0	0	0	0	0	0
367		7	0	0	0	0	0	0	0
368		8	0	0	0	0	0	0	0
369		9	0	0	0	0	0	0	0
370		10	0	0	0	0	0	0	0
371		11	0	0	0	0	0	0	0
372		12	0	0	0	0	0	0	0
373		13	0	0	0	0	0	0	0
374		14	0	0	0	0	0	0	0
375		15	0	0	0	0	0	0	0
376		16	0	0	0	0	0	0	0
377		17	0	0	0	0	0	0	0
378		18	0	0	0	0	0	0	0
379		19	0	0	0	0	0	0	0
380		20	0	0	0	0	0	0	0
381	1	R3	1	0	0	0	0	0	0
382		2	0	0	0	0	0	0	0
383		3	0	0	0	0	0	0	0
384		4	0	0	0	0	0	0	0
385		5	0	0	0	0	0	0	0
386		6	0	0	0	0	0	0	0
387		7	0	0	0	0	0	0	0
388		8	0	0	0	0	0	0	0
389		9	0	0	0	0	0	0	0
390		10	0	0	0	0	0	0	0
391		11	0	0	0	0	0	0	0
392		12	0	0	0	0	0	0	0
393		13	0	0	0	0	0	0	0
394		14	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
395		15	0	0	0	0	0	0	0
396		16	0	0	0	0	0	0	0
397		17	0	0	0	0	0	0	0
398		18	0	0	0	0	0	0	0
399		19	0	0	0	0	0	0	0
400		20	0	0	0	0	0	0	0
401	1	R4	1	0	0	0	0	0	0
402		2	0	0	0	0	0	0	0
403		3	0	0	0	0	0	0	0
404		4	0	0	0	0	0	0	0
405		5	0	0	0	0	0	0	0
406		6	0	0	0	0	0	0	0
407		7	0	0	0	0	0	0	0
408		8	0	0	0	0	0	0	0
409		9	0	0	0	0	0	0	0
410		10	0	0	0	0	0	0	0
411		11	0	0	0	0	0	0	0
412		12	0	0	0	0	0	0	0
413		13	0	0	0	0	0	0	0
414		14	0	0	0	0	0	0	0
415		15	0	0	0	0	0	0	0
416		16	0	0	0	0	0	0	0
417		17	0	0	0	0	0	0	0
418		18	0	0	0	0	0	0	0
419		19	0	0	0	0	0	0	0
420		20	0	0	0	0	0	0	0
421	1	R5	1	0	0	0	0	0	0
422		2	0	0	0	0	0	0	0
423		3	0	0	0	0	0	0	0
424		4	0	0	0	0	0	0	0
425		5	0	0	0	0	0	0	0
426		6	0	0	0	0	0	0	0
427		7	0	0	0	0	0	0	0
428		8	0	0	0	0	0	0	0
429		9	0	0	0	0	0	0	0
430		10	0	0	0	0	0	0	0
431		11	0	0	0	0	0	0	0
432		12	0	0	0	0	0	0	0
433		13	0	0	0	0	0	0	0
434		14	0	0	0	0	0	0	0
435		15	0	0	0	0	0	0	0
436		16	0	0	0	0	0	0	0
437		17	0	0	0	0	0	0	0
438		18	0	0	0	0	0	0	0
439		19	0	0	0	0	0	0	0
440		20	0	0	0	0	0	0	0
441	1	R6	1	0	0	0	0	0	0
442		2	0	0	0	0	0	0	0
443		3	0	0	0	0	0	0	0
444		4	0	0	0	0	0	0	0
445		5	0	0	0	0	0	0	0
446		6	0	0	0	0	0	0	0
447		7	0	0	0	0	0	0	0
448		8	0	0	0	0	0	0	0
449		9	0	0	0	0	0	0	0
450		10	0	0	0	0	0	0	0
451		11	0	0	0	0	0	0	0
452		12	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
453		13	0	0	0	0	0	0	0
454		14	0	0	0	0	0	0	0
455		15	0	0	0	0	0	0	0
456		16	0	0	0	0	0	0	0
457		17	0	0	0	0	0	0	0
458		18	0	0	0	0	0	0	0
459		19	0	0	0	0	0	0	0
460		20	0	0	0	0	0	0	0
461	1	R7	1	0	0	0	0	0	0
462		2	0	0	0	0	0	0	0
463		3	0	0	0	0	0	0	0
464		4	0	0	0	0	0	0	0
465		5	0	0	0	0	0	0	0
466		6	0	0	0	0	0	0	0
467		7	0	0	0	0	0	0	0
468		8	0	0	0	0	0	0	0
469		9	0	0	0	0	0	0	0
470		10	0	0	0	0	0	0	0
471		11	0	0	0	0	0	0	0
472		12	0	0	0	0	0	0	0
473		13	0	0	0	0	0	0	0
474		14	0	0	0	0	0	0	0
475		15	0	0	0	0	0	0	0
476		16	0	0	0	0	0	0	0
477		17	0	0	0	0	0	0	0
478		18	0	0	0	0	0	0	0
479		19	0	0	0	0	0	0	0
480		20	0	0	0	0	0	0	0
481	1	R8	1	0	0	0	0	0	0
482		2	0	0	0	0	0	0	0
483		3	0	0	0	0	0	0	0
484		4	0	0	0	0	0	0	0
485		5	0	0	0	0	0	0	0
486		6	0	0	0	0	0	0	0
487		7	0	0	0	0	0	0	0
488		8	0	0	0	0	0	0	0
489		9	0	0	0	0	0	0	0
490		10	0	0	0	0	0	0	0
491		11	0	0	0	0	0	0	0
492		12	0	0	0	0	0	0	0
493		13	0	0	0	0	0	0	0
494		14	0	0	0	0	0	0	0
495		15	0	0	0	0	0	0	0
496		16	0	0	0	0	0	0	0
497		17	0	0	0	0	0	0	0
498		18	0	0	0	0	0	0	0
499		19	0	0	0	0	0	0	0
500		20	0	0	0	0	0	0	0
501	1	R9	1	0	0	0	0	0	0
502		2	0	0	0	0	0	0	0
503		3	0	0	0	0	0	0	0
504		4	0	0	0	0	0	0	0
505		5	0	0	0	0	0	0	0
506		6	0	0	0	0	0	0	0
507		7	0	0	0	0	0	0	0
508		8	0	0	0	0	0	0	0
509		9	0	0	0	0	0	0	0
510		10	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
511		11	0	0	0	0	0	0	0
512		12	0	0	0	0	0	0	0
513		13	0	0	0	0	0	0	0
514		14	0	0	0	0	0	0	0
515		15	0	0	0	0	0	0	0
516		16	0	0	0	0	0	0	0
517		17	0	0	0	0	0	0	0
518		18	0	0	0	0	0	0	0
519		19	0	0	0	0	0	0	0
520		20	0	0	0	0	0	0	0
521	1	R10	1	0	0	0	0	0	0
522		2	0	0	0	0	0	0	0
523		3	0	0	0	0	0	0	0
524		4	0	0	0	0	0	0	0
525		5	0	0	0	0	0	0	0
526		6	0	0	0	0	0	0	0
527		7	0	0	0	0	0	0	0
528		8	0	0	0	0	0	0	0
529		9	0	0	0	0	0	0	0
530		10	0	0	0	0	0	0	0
531		11	0	0	0	0	0	0	0
532		12	0	0	0	0	0	0	0
533		13	0	0	0	0	0	0	0
534		14	0	0	0	0	0	0	0
535		15	0	0	0	0	0	0	0
536		16	0	0	0	0	0	0	0
537		17	0	0	0	0	0	0	0
538		18	0	0	0	0	0	0	0
539		19	0	0	0	0	0	0	0
540		20	0	0	0	0	0	0	0
541	1	R11	1	0	0	0	0	0	0
542		2	0	0	0	0	0	0	0
543		3	0	0	0	0	0	0	0
544		4	0	0	0	0	0	0	0
545		5	0	0	0	0	0	0	0
546		6	0	0	0	0	0	0	0
547		7	0	0	0	0	0	0	0
548		8	0	0	0	0	0	0	0
549		9	0	0	0	0	0	0	0
550		10	0	0	0	0	0	0	0
551		11	0	0	0	0	0	0	0
552		12	0	0	0	0	0	0	0
553		13	0	0	0	0	0	0	0
554		14	0	0	0	0	0	0	0
555		15	0	0	0	0	0	0	0
556		16	0	0	0	0	0	0	0
557		17	0	0	0	0	0	0	0
558		18	0	0	0	0	0	0	0
559		19	0	0	0	0	0	0	0
560		20	0	0	0	0	0	0	0
561	1	R12	1	0	0	0	0	0	0
562		2	0	0	0	0	0	0	0
563		3	0	0	0	0	0	0	0
564		4	0	0	0	0	0	0	0
565		5	0	0	0	0	0	0	0
566		6	0	0	0	0	0	0	0
567		7	0	0	0	0	0	0	0
568		8	0	0	0	0	0	0	0





**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
569		9	0	0	0	0	0	0	0
570		10	0	0	0	0	0	0	0
571		11	0	0	0	0	0	0	0
572		12	0	0	0	0	0	0	0
573		13	0	0	0	0	0	0	0
574		14	0	0	0	0	0	0	0
575		15	0	0	0	0	0	0	0
576		16	0	0	0	0	0	0	0
577		17	0	0	0	0	0	0	0
578		18	0	0	0	0	0	0	0
579		19	0	0	0	0	0	0	0
580		20	0	0	0	0	0	0	0
581	1	R13	1	0	0	0	0	0	0
582		2	0	0	0	0	0	0	0
583		3	0	0	0	0	0	0	0
584		4	0	0	0	0	0	0	0
585		5	0	0	0	0	0	0	0
586		6	0	0	0	0	0	0	0
587		7	0	0	0	0	0	0	0
588		8	0	0	0	0	0	0	0
589		9	0	0	0	0	0	0	0
590		10	0	0	0	0	0	0	0
591		11	0	0	0	0	0	0	0
592		12	0	0	0	0	0	0	0
593		13	0	0	0	0	0	0	0
594		14	0	0	0	0	0	0	0
595		15	0	0	0	0	0	0	0
596		16	0	0	0	0	0	0	0
597		17	0	0	0	0	0	0	0
598		18	0	0	0	0	0	0	0
599		19	0	0	0	0	0	0	0
600		20	0	0	0	0	0	0	0
601	1	R14	1	0	0	0	0	0	0
602		2	0	0	0	0	0	0	0
603		3	0	0	0	0	0	0	0
604		4	0	0	0	0	0	0	0
605		5	0	0	0	0	0	0	0
606		6	0	0	0	0	0	0	0
607		7	0	0	0	0	0	0	0
608		8	0	0	0	0	0	0	0
609		9	0	0	0	0	0	0	0
610		10	0	0	0	0	0	0	0
611		11	0	0	0	0	0	0	0
612		12	0	0	0	0	0	0	0
613		13	0	0	0	0	0	0	0
614		14	0	0	0	0	0	0	0
615		15	0	0	0	0	0	0	0
616		16	0	0	0	0	0	0	0
617		17	0	0	0	0	0	0	0
618		18	0	0	0	0	0	0	0
619		19	0	0	0	0	0	0	0
620		20	0	0	0	0	0	0	0
621	1	R15	1	0	0	0	0	0	0
622		2	0	0	0	0	0	0	0
623		3	0	0	0	0	0	0	0
624		4	0	0	0	0	0	0	0
625		5	0	0	0	0	0	0	0
626		6	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
627		7	0	0	0	0	0	0	0	
628		8	0	0	0	0	0	0	0	
629		9	0	0	0	0	0	0	0	
630		10	0	0	0	0	0	0	0	
631		11	0	0	0	0	0	0	0	
632		12	0	0	0	0	0	0	0	
633		13	0	0	0	0	0	0	0	
634		14	0	0	0	0	0	0	0	
635		15	0	0	0	0	0	0	0	
636		16	0	0	0	0	0	0	0	
637		17	0	0	0	0	0	0	0	
638		18	0	0	0	0	0	0	0	
639		19	0	0	0	0	0	0	0	
640		20	0	0	0	0	0	0	0	
641	1	M33	1	0	0	0	0	0	0	
642		2	0	0	0	0	0	0	0	
643		3	0	0	0	0	0	0	0	
644		4	0	0	0	0	0	0	0	
645		5	0	0	0	0	0	0	0	
646		6	0	0	0	0	0	0	0	
647		7	0	0	0	0	0	0	0	
648		8	0	0	0	0	0	0	0	
649		9	0	0	0	0	0	0	0	
650		10	0	0	0	0	0	0	0	
651		11	0	0	0	0	0	0	0	
652		12	0	0	0	0	0	0	0	
653		13	0	0	0	0	0	0	0	
654		14	0	0	0	0	0	0	0	
655		15	0	0	0	0	0	0	0	
656		16	0	0	0	0	0	0	0	
657		17	0	0	0	0	0	0	0	
658		18	0	0	0	0	0	0	0	
659		19	0	0	0	0	0	0	0	
660		20	0	0	0	0	0	0	0	
661	2	A1	1	0	0	0	0	0	0	
662		2	0	0	0	0	0	0	0	
663		3	0	0	0	0	0	0	0	
664		4	0	0	0	0	0	0	0	
665		5	0	0	0	0	0	0	0	
666		6	0	-0.001	0	-0.002	0.002	0	0	
667		7	0	-0.001	0	-0.002	0.002	0	0	
668		8	0	-0.001	0	-0.003	0.003	0	0	
669		9	0	-0.002	0	-0.004	0.004	0	0	
670		10	0	-0.002	0	-0.005	0.005	0	0	
671		11	0	-0.002	0	-0.006	0.006	0	0	
672		12	0	-0.002	0	-0.007	0.007	0	0	
673		13	0	-0.002	0	-0.009	0.009	0	0	
674		14	0	-0.003	0	-0.01	0.01	0	0	
675		15	0	-0.003	0	-0.012	0.012	0	0	
676		16	0	-0.003	0	-0.014	0.014	0	0	
677		17	0	-0.003	0	-0.016	0.016	0	0	
678		18	0	-0.003	0	-0.018	0.018	0	0	
679		19	0	-0.004	0	-0.02	0.02	0	0	
680		20	0	-0.004	0	-0.022	0.022	0	0	
681	2	A2	1	-0.002	-0.015	0.004	0.08	-0.08	0.003	-0.003
682		2	-0.002	-0.017	0.004	0.069	-0.069	0.003	-0.003	
683		3	-0.003	-0.019	0.003	0.056	-0.056	0.004	-0.004	
684		4	-0.003	-0.022	0.002	0.041	-0.041	0.004	-0.004	

**Member Section Stresses (Continued)**

LC	Member	Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
685			5	-0.003	-0.024	0.002	0.025	-0.025	0.005	-0.005
686			6	-0.003	-0.026	0.001	0.007	-0.007	0.005	-0.005
687			7	-0.003	-0.029	0	-0.013	0.013	0.005	-0.005
688			8	-0.003	-0.031	0	-0.035	0.035	0.005	-0.005
689			9	-0.003	-0.034	0	-0.058	0.058	0.005	-0.005
690			10	-0.003	-0.036	-0.001	-0.083	0.083	0.005	-0.005
691			11	-0.003	-0.038	-0.002	-0.109	0.109	0.005	-0.005
692			12	-0.003	-0.041	-0.003	-0.138	0.138	0.004	-0.004
693			13	-0.003	-0.043	-0.003	-0.168	0.168	0.004	-0.004
694			14	-0.003	-0.046	-0.004	-0.199	0.199	0.003	-0.003
695			15	-0.003	-0.048	-0.004	-0.233	0.233	0.003	-0.003
696			16	-0.003	-0.05	-0.005	-0.268	0.268	0.002	-0.002
697			17	-0.003	-0.053	-0.006	-0.305	0.305	0	0
698			18	-0.003	-0.055	-0.006	-0.343	0.343	0	0
699			19	-0.003	-0.057	-0.007	-0.384	0.384	-0.001	0.001
700			20	-0.003	-0.06	-0.007	-0.426	0.426	-0.002	0.002
701	2	A3	1	0.002	0.069	0.018	-0.426	0.426	-0.03	0.03
702			2	0.001	0.061	0.016	-0.279	0.279	-0.021	0.021
703			3	0.001	0.054	0.014	-0.15	0.15	-0.013	0.013
704			4	0.001	0.046	0.013	-0.038	0.038	-0.006	0.006
705			5	0	0.039	0.011	0.058	-0.058	0	0
706			6	0	0.031	0.009	0.137	-0.137	0.005	-0.005
707			7	0	0.024	0.007	0.199	-0.199	0.009	-0.009
708			8	0	0.016	0.005	0.244	-0.244	0.012	-0.012
709			9	0	0.009	0.003	0.272	-0.272	0.014	-0.014
710			10	0	0.001	0	0.284	-0.284	0.015	-0.015
711			11	0	-0.006	0	0.279	-0.279	0.015	-0.015
712			12	0	-0.014	-0.003	0.256	-0.256	0.014	-0.014
713			13	0	-0.021	-0.005	0.217	-0.217	0.012	-0.012
714			14	0	-0.029	-0.007	0.162	-0.162	0.009	-0.009
715			15	0	-0.036	-0.009	0.089	-0.089	0.005	-0.005
716			16	0	-0.044	-0.011	0	0	0	0
717			17	-0.001	-0.051	-0.013	-0.107	0.107	-0.006	0.006
718			18	-0.001	-0.059	-0.014	-0.23	0.23	-0.013	0.013
719			19	-0.001	-0.066	-0.016	-0.369	0.369	-0.021	0.021
720			20	-0.002	-0.073	-0.018	-0.526	0.526	-0.03	0.03
721	2	A4	1	0.002	0.072	0.018	-0.526	0.526	-0.03	0.03
722			2	0.001	0.064	0.016	-0.373	0.373	-0.021	0.021
723			3	0.001	0.057	0.014	-0.238	0.238	-0.013	0.013
724			4	0.001	0.049	0.013	-0.118	0.118	-0.006	0.006
725			5	0	0.042	0.011	-0.016	0.016	0	0
726			6	0	0.034	0.009	0.069	-0.069	0.005	-0.005
727			7	0	0.027	0.007	0.138	-0.138	0.009	-0.009
728			8	0	0.019	0.005	0.19	-0.19	0.012	-0.012
729			9	0	0.012	0.003	0.225	-0.225	0.014	-0.014
730			10	0	0.004	0	0.243	-0.243	0.015	-0.015
731			11	0	-0.003	0	0.244	-0.244	0.015	-0.015
732			12	0	-0.011	-0.003	0.229	-0.229	0.014	-0.014
733			13	0	-0.018	-0.005	0.196	-0.196	0.012	-0.012
734			14	0	-0.026	-0.007	0.147	-0.147	0.009	-0.009
735			15	0	-0.033	-0.009	0.081	-0.081	0.005	-0.005
736			16	0	-0.041	-0.011	-0.002	0.002	0	0
737			17	-0.001	-0.048	-0.013	-0.101	0.101	-0.006	0.006
738			18	-0.001	-0.056	-0.014	-0.218	0.218	-0.013	0.013
739			19	-0.001	-0.063	-0.016	-0.351	0.351	-0.021	0.021
740			20	-0.002	-0.071	-0.018	-0.501	0.501	-0.03	0.03
741	2	A5	1	0.002	0.071	0.018	-0.501	0.501	-0.03	0.03
742			2	0.001	0.064	0.016	-0.35	0.35	-0.021	0.021



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
743		3	0.001	0.056	0.014	-0.216	0.216	-0.013	0.013	
744		4	0.001	0.049	0.013	-0.098	0.098	-0.006	0.006	
745		5	0	0.041	0.011	0.002	-0.002	0	0	
746		6	0	0.034	0.009	0.086	-0.086	0.005	-0.005	
747		7	0	0.026	0.007	0.153	-0.153	0.009	-0.009	
748		8	0	0.019	0.005	0.203	-0.203	0.012	-0.012	
749		9	0	0.011	0.003	0.237	-0.237	0.014	-0.014	
750		10	0	0.004	0	0.253	-0.253	0.015	-0.015	
751		11	0	-0.004	0	0.253	-0.253	0.015	-0.015	
752		12	0	-0.011	-0.003	0.236	-0.236	0.014	-0.014	
753		13	0	-0.019	-0.005	0.202	-0.202	0.012	-0.012	
754		14	0	-0.026	-0.007	0.151	-0.151	0.009	-0.009	
755		15	0	-0.034	-0.009	0.083	-0.083	0.005	-0.005	
756		16	0	-0.041	-0.011	-0.001	0.001	0	0	
757		17	-0.001	-0.049	-0.013	-0.102	0.102	-0.006	0.006	
758		18	-0.001	-0.056	-0.014	-0.22	0.22	-0.013	0.013	
759		19	-0.001	-0.064	-0.016	-0.355	0.355	-0.021	0.021	
760		20	-0.002	-0.071	-0.018	-0.507	0.507	-0.03	0.03	
761	2	A6	1	0.002	0.071	0.018	-0.507	0.507	-0.03	0.03
762		2	0.001	0.064	0.016	-0.356	0.356	-0.021	0.021	
763		3	0.001	0.056	0.014	-0.221	0.221	-0.013	0.013	
764		4	0.001	0.049	0.013	-0.103	0.103	-0.006	0.006	
765		5	0	0.041	0.011	-0.002	0.002	0	0	
766		6	0	0.034	0.009	0.082	-0.082	0.005	-0.005	
767		7	0	0.026	0.007	0.149	-0.149	0.009	-0.009	
768		8	0	0.019	0.005	0.2	-0.2	0.012	-0.012	
769		9	0	0.011	0.003	0.233	-0.233	0.014	-0.014	
770		10	0	0.004	0	0.25	-0.25	0.015	-0.015	
771		11	0	-0.004	0	0.25	-0.25	0.015	-0.015	
772		12	0	-0.011	-0.003	0.233	-0.233	0.014	-0.014	
773		13	0	-0.019	-0.005	0.2	-0.2	0.012	-0.012	
774		14	0	-0.026	-0.007	0.149	-0.149	0.009	-0.009	
775		15	0	-0.034	-0.009	0.082	-0.082	0.005	-0.005	
776		16	0	-0.041	-0.011	-0.002	0.002	0	0	
777		17	-0.001	-0.049	-0.013	-0.103	0.103	-0.006	0.006	
778		18	-0.001	-0.056	-0.014	-0.221	0.221	-0.013	0.013	
779		19	-0.001	-0.064	-0.016	-0.356	0.356	-0.021	0.021	
780		20	-0.002	-0.071	-0.018	-0.507	0.507	-0.03	0.03	
781	2	A7	1	0.002	0.071	0.018	-0.507	0.507	-0.03	0.03
782		2	0.001	0.064	0.016	-0.355	0.355	-0.021	0.021	
783		3	0.001	0.056	0.014	-0.22	0.22	-0.013	0.013	
784		4	0.001	0.049	0.013	-0.102	0.102	-0.006	0.006	
785		5	0	0.041	0.011	-0.001	0.001	0	0	
786		6	0	0.034	0.009	0.083	-0.083	0.005	-0.005	
787		7	0	0.026	0.007	0.151	-0.151	0.009	-0.009	
788		8	0	0.019	0.005	0.202	-0.202	0.012	-0.012	
789		9	0	0.011	0.003	0.236	-0.236	0.014	-0.014	
790		10	0	0.004	0	0.253	-0.253	0.015	-0.015	
791		11	0	-0.004	0	0.253	-0.253	0.015	-0.015	
792		12	0	-0.011	-0.003	0.236	-0.236	0.014	-0.014	
793		13	0	-0.019	-0.005	0.203	-0.203	0.012	-0.012	
794		14	0	-0.026	-0.007	0.153	-0.153	0.009	-0.009	
795		15	0	-0.034	-0.009	0.086	-0.086	0.005	-0.005	
796		16	0	-0.041	-0.011	0.002	-0.002	0	0	
797		17	-0.001	-0.049	-0.013	-0.099	0.099	-0.006	0.006	
798		18	-0.001	-0.056	-0.014	-0.216	0.216	-0.013	0.013	
799		19	-0.001	-0.064	-0.016	-0.351	0.351	-0.021	0.021	
800		20	-0.002	-0.071	-0.018	-0.502	0.502	-0.03	0.03	

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
801	2	A8	1	0.002	0.071	0.018	-0.502	0.502	-0.03	0.03
802			2	0.001	0.063	0.016	-0.352	0.352	-0.021	0.021
803			3	0.001	0.056	0.014	-0.218	0.218	-0.013	0.013
804			4	0.001	0.048	0.013	-0.101	0.101	-0.006	0.006
805			5	0	0.041	0.011	-0.002	0.002	0	0
806			6	0	0.033	0.009	0.081	-0.081	0.005	-0.005
807			7	0	0.026	0.007	0.147	-0.147	0.009	-0.009
808			8	0	0.018	0.005	0.197	-0.197	0.012	-0.012
809			9	0	0.011	0.003	0.229	-0.229	0.014	-0.014
810			10	0	0.003	0	0.245	-0.245	0.015	-0.015
811			11	0	-0.004	0	0.244	-0.244	0.015	-0.015
812			12	0	-0.012	-0.003	0.226	-0.226	0.014	-0.014
813			13	0	-0.019	-0.005	0.191	-0.191	0.012	-0.012
814			14	0	-0.027	-0.007	0.139	-0.139	0.009	-0.009
815			15	0	-0.034	-0.009	0.071	-0.071	0.005	-0.005
816			16	0	-0.042	-0.011	-0.014	0.014	0	0
817			17	-0.001	-0.049	-0.013	-0.117	0.117	-0.006	0.006
818			18	-0.001	-0.057	-0.014	-0.236	0.236	-0.013	0.013
819			19	-0.001	-0.065	-0.016	-0.373	0.373	-0.021	0.021
820			20	-0.002	-0.073	-0.018	-0.529	0.529	-0.03	0.03
821	2	A9	1	0.002	0.076	0.018	-0.529	0.529	-0.03	0.03
822			2	0.001	0.068	0.016	-0.367	0.367	-0.021	0.021
823			3	0.001	0.06	0.014	-0.223	0.223	-0.013	0.013
824			4	0.001	0.052	0.013	-0.097	0.097	-0.006	0.006
825			5	0	0.044	0.011	0.011	-0.011	0	0
826			6	0	0.036	0.009	0.1	-0.1	0.005	-0.005
827			7	0	0.028	0.007	0.172	-0.172	0.009	-0.009
828			8	0	0.02	0.005	0.226	-0.226	0.012	-0.012
829			9	0	0.012	0.003	0.261	-0.261	0.014	-0.014
830			10	0	0.004	0	0.279	-0.279	0.015	-0.015
831			11	0	-0.004	0	0.279	-0.279	0.015	-0.015
832			12	0	-0.012	-0.003	0.26	-0.26	0.014	-0.014
833			13	0	-0.02	-0.005	0.224	-0.224	0.012	-0.012
834			14	0	-0.028	-0.007	0.169	-0.169	0.009	-0.009
835			15	0	-0.036	-0.009	0.096	-0.096	0.005	-0.005
836			16	0	-0.044	-0.011	0.006	-0.006	0	0
837			17	-0.001	-0.052	-0.013	-0.103	0.103	-0.006	0.006
838			18	-0.001	-0.06	-0.014	-0.23	0.23	-0.013	0.013
839			19	-0.001	-0.068	-0.016	-0.375	0.375	-0.021	0.021
840			20	-0.002	-0.077	-0.018	-0.537	0.537	-0.03	0.03
841	2	A10	1	0.002	0.075	0.018	-0.537	0.537	-0.03	0.03
842			2	0.001	0.067	0.016	-0.378	0.378	-0.021	0.021
843			3	0.001	0.059	0.014	-0.237	0.237	-0.013	0.013
844			4	0.001	0.051	0.013	-0.114	0.114	-0.006	0.006
845			5	0	0.043	0.011	-0.008	0.008	0	0
846			6	0	0.035	0.009	0.079	-0.079	0.005	-0.005
847			7	0	0.027	0.007	0.148	-0.148	0.009	-0.009
848			8	0	0.019	0.005	0.199	-0.199	0.012	-0.012
849			9	0	0.011	0.003	0.233	-0.233	0.014	-0.014
850			10	0	0.004	0	0.25	-0.25	0.015	-0.015
851			11	0	-0.004	0	0.25	-0.25	0.015	-0.015
852			12	0	-0.011	-0.003	0.233	-0.233	0.014	-0.014
853			13	0	-0.019	-0.005	0.2	-0.2	0.012	-0.012
854			14	0	-0.026	-0.007	0.15	-0.15	0.009	-0.009
855			15	0	-0.034	-0.009	0.082	-0.082	0.005	-0.005
856			16	0	-0.041	-0.011	-0.002	0.002	0	0
857			17	-0.001	-0.049	-0.013	-0.102	0.102	-0.006	0.006
858			18	-0.001	-0.056	-0.014	-0.22	0.22	-0.013	0.013



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
859		19	-0.001	-0.064	-0.016	-0.354	0.354	-0.021	0.021	
860		20	-0.002	-0.071	-0.018	-0.506	0.506	-0.03	0.03	
861	2	A11	1	0.002	0.071	0.018	-0.505	0.505	-0.03	0.03
862		2	0.001	0.064	0.016	-0.353	0.353	-0.021	0.021	
863		3	0.001	0.056	0.014	-0.219	0.219	-0.013	0.013	
864		4	0.001	0.049	0.013	-0.101	0.101	-0.006	0.006	
865		5	0	0.041	0.011	0	0	0	0	
866		6	0	0.034	0.009	0.084	-0.084	0.005	-0.005	
867		7	0	0.026	0.007	0.151	-0.151	0.009	-0.009	
868		8	0	0.019	0.005	0.201	-0.201	0.012	-0.012	
869		9	0	0.011	0.003	0.235	-0.235	0.014	-0.014	
870		10	0	0.004	0	0.252	-0.252	0.015	-0.015	
871		11	0	-0.004	0	0.251	-0.251	0.015	-0.015	
872		12	0	-0.011	-0.003	0.235	-0.235	0.014	-0.014	
873		13	0	-0.019	-0.005	0.201	-0.201	0.012	-0.012	
874		14	0	-0.026	-0.007	0.15	-0.15	0.009	-0.009	
875		15	0	-0.034	-0.009	0.083	-0.083	0.005	-0.005	
876		16	0	-0.041	-0.011	-0.001	0.001	0	0	
877		17	-0.001	-0.049	-0.013	-0.102	0.102	-0.006	0.006	
878		18	-0.001	-0.056	-0.014	-0.22	0.22	-0.013	0.013	
879		19	-0.001	-0.064	-0.016	-0.355	0.355	-0.021	0.021	
880		20	-0.002	-0.071	-0.018	-0.506	0.506	-0.03	0.03	
881	2	A12	1	0.002	0.071	0.018	-0.506	0.506	-0.03	0.03
882		2	0.001	0.064	0.016	-0.355	0.355	-0.021	0.021	
883		3	0.001	0.056	0.014	-0.22	0.22	-0.013	0.013	
884		4	0.001	0.049	0.013	-0.103	0.103	-0.006	0.006	
885		5	0	0.041	0.011	-0.002	0.002	0	0	
886		6	0	0.034	0.009	0.082	-0.082	0.005	-0.005	
887		7	0	0.026	0.007	0.15	-0.15	0.009	-0.009	
888		8	0	0.019	0.005	0.2	-0.2	0.012	-0.012	
889		9	0	0.011	0.003	0.234	-0.234	0.014	-0.014	
890		10	0	0.004	0	0.251	-0.251	0.015	-0.015	
891		11	0	-0.004	0	0.251	-0.251	0.015	-0.015	
892		12	0	-0.011	-0.003	0.234	-0.234	0.014	-0.014	
893		13	0	-0.019	-0.005	0.2	-0.2	0.012	-0.012	
894		14	0	-0.026	-0.007	0.15	-0.15	0.009	-0.009	
895		15	0	-0.034	-0.009	0.082	-0.082	0.005	-0.005	
896		16	0	-0.041	-0.011	-0.002	0.002	0	0	
897		17	-0.001	-0.049	-0.013	-0.103	0.103	-0.006	0.006	
898		18	-0.001	-0.056	-0.014	-0.22	0.22	-0.013	0.013	
899		19	-0.001	-0.064	-0.016	-0.355	0.355	-0.021	0.021	
900		20	-0.002	-0.071	-0.018	-0.506	0.506	-0.03	0.03	
901	2	A13	1	0.002	0.071	0.018	-0.506	0.506	-0.03	0.03
902		2	0.001	0.064	0.016	-0.355	0.355	-0.021	0.021	
903		3	0.001	0.056	0.014	-0.22	0.22	-0.013	0.013	
904		4	0.001	0.049	0.013	-0.102	0.102	-0.006	0.006	
905		5	0	0.041	0.011	-0.001	0.001	0	0	
906		6	0	0.034	0.009	0.083	-0.083	0.005	-0.005	
907		7	0	0.026	0.007	0.15	-0.15	0.009	-0.009	
908		8	0	0.019	0.005	0.201	-0.201	0.012	-0.012	
909		9	0	0.011	0.003	0.235	-0.235	0.014	-0.014	
910		10	0	0.004	0	0.251	-0.251	0.015	-0.015	
911		11	0	-0.004	0	0.252	-0.252	0.015	-0.015	
912		12	0	-0.011	-0.003	0.235	-0.235	0.014	-0.014	
913		13	0	-0.019	-0.005	0.201	-0.201	0.012	-0.012	
914		14	0	-0.026	-0.007	0.151	-0.151	0.009	-0.009	
915		15	0	-0.034	-0.009	0.084	-0.084	0.005	-0.005	
916		16	0	-0.041	-0.011	0	0	0	0	



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
917		17	-0.001	-0.049	-0.013	-0.101	0.101	-0.006	0.006	
918		18	-0.001	-0.056	-0.014	-0.219	0.219	-0.013	0.013	
919		19	-0.001	-0.064	-0.016	-0.353	0.353	-0.021	0.021	
920		20	-0.002	-0.071	-0.018	-0.505	0.505	-0.03	0.03	
921	2	A14	1	0.002	0.071	0.018	-0.505	0.505	-0.03	0.03
922		2	0.001	0.063	0.016	-0.354	0.354	-0.021	0.021	
923		3	0.001	0.056	0.014	-0.22	0.22	-0.013	0.013	
924		4	0.001	0.049	0.013	-0.102	0.102	-0.006	0.006	
925		5	0	0.041	0.011	-0.001	0.001	0	0	
926		6	0	0.034	0.009	0.082	-0.082	0.005	-0.005	
927		7	0	0.026	0.007	0.149	-0.149	0.009	-0.009	
928		8	0	0.019	0.005	0.199	-0.199	0.012	-0.012	
929		9	0	0.011	0.003	0.233	-0.233	0.014	-0.014	
930		10	0	0.004	0	0.249	-0.249	0.015	-0.015	
931		11	0	-0.004	0	0.249	-0.249	0.015	-0.015	
932		12	0	-0.011	-0.003	0.232	-0.232	0.014	-0.014	
933		13	0	-0.019	-0.005	0.198	-0.198	0.012	-0.012	
934		14	0	-0.026	-0.007	0.147	-0.147	0.009	-0.009	
935		15	0	-0.034	-0.009	0.079	-0.079	0.005	-0.005	
936		16	0	-0.041	-0.011	-0.005	0.005	0	0	
937		17	-0.001	-0.049	-0.013	-0.107	0.107	-0.006	0.006	
938		18	-0.001	-0.056	-0.014	-0.225	0.225	-0.013	0.013	
939		19	-0.001	-0.064	-0.016	-0.36	0.36	-0.021	0.021	
940		20	-0.002	-0.071	-0.018	-0.511	0.511	-0.03	0.03	
941	2	A15	1	0.002	0.072	0.018	-0.511	0.511	-0.03	0.03
942		2	0.001	0.064	0.016	-0.359	0.359	-0.021	0.021	
943		3	0.001	0.057	0.014	-0.223	0.223	-0.013	0.013	
944		4	0.001	0.049	0.013	-0.103	0.103	-0.006	0.006	
945		5	0	0.042	0.011	-0.001	0.001	0	0	
946		6	0	0.034	0.009	0.084	-0.084	0.005	-0.005	
947		7	0	0.027	0.007	0.153	-0.153	0.009	-0.009	
948		8	0	0.019	0.005	0.205	-0.205	0.012	-0.012	
949		9	0	0.012	0.003	0.24	-0.24	0.014	-0.014	
950		10	0	0.004	0	0.258	-0.258	0.015	-0.015	
951		11	0	-0.003	0	0.26	-0.26	0.015	-0.015	
952		12	0	-0.011	-0.003	0.244	-0.244	0.014	-0.014	
953		13	0	-0.018	-0.005	0.212	-0.212	0.012	-0.012	
954		14	0	-0.026	-0.007	0.163	-0.163	0.009	-0.009	
955		15	0	-0.033	-0.009	0.097	-0.097	0.005	-0.005	
956		16	0	-0.041	-0.011	0.014	-0.014	0	0	
957		17	-0.001	-0.048	-0.013	-0.085	0.085	-0.006	0.006	
958		18	-0.001	-0.056	-0.014	-0.201	0.201	-0.013	0.013	
959		19	-0.001	-0.063	-0.016	-0.335	0.335	-0.021	0.021	
960		20	-0.002	-0.071	-0.018	-0.485	0.485	-0.03	0.03	
961	2	A16	1	0.005	0.074	0.012	-0.485	0.485	-0.008	0.008
962		2	0.005	0.07	0.011	-0.402	0.402	-0.005	0.005	
963		3	0.005	0.066	0.01	-0.324	0.324	-0.002	0.002	
964		4	0.004	0.062	0.009	-0.25	0.25	0	0	
965		5	0.004	0.058	0.008	-0.181	0.181	0.003	-0.003	
966		6	0.004	0.054	0.007	-0.116	0.116	0.005	-0.005	
967		7	0.004	0.05	0.006	-0.056	0.056	0.007	-0.007	
968		8	0.004	0.047	0.005	0	0	0.009	-0.009	
969		9	0.004	0.043	0.004	0.052	-0.052	0.01	-0.01	
970		10	0.004	0.039	0.003	0.099	-0.099	0.011	-0.011	
971		11	0.004	0.035	0.002	0.142	-0.142	0.012	-0.012	
972		12	0.004	0.031	0.001	0.18	-0.18	0.012	-0.012	
973		13	0.004	0.027	0	0.214	-0.214	0.012	-0.012	
974		14	0.004	0.024	0	0.243	-0.243	0.012	-0.012	





**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
975		15	0.004	0.02	-0.002	0.268	-0.268	0.012	-0.012	
976		16	0.003	0.016	-0.003	0.289	-0.289	0.011	-0.011	
977		17	0.003	0.012	-0.004	0.305	-0.305	0.01	-0.01	
978		18	0.003	0.008	-0.005	0.316	-0.316	0.009	-0.009	
979		19	0.003	0.004	-0.006	0.323	-0.323	0.008	-0.008	
980		20	0.003	0	-0.007	0.326	-0.326	0.006	-0.006	
981	2	A17	1	0	0.004	0	-0.024	0.024	0	0
982			2	0	0.004	0	-0.022	0.022	0	0
983			3	0	0.004	0	-0.02	0.02	0	0
984			4	0	0.003	0	-0.017	0.017	0	0
985			5	0	0.003	0	-0.015	0.015	0	0
986			6	0	0.003	0	-0.013	0.013	0	0
987			7	0	0.003	0	-0.011	0.011	0	0
988			8	0	0.003	0	-0.01	0.01	0	0
989			9	0	0.002	0	-0.008	0.008	0	0
990			10	0	0.002	0	-0.007	0.007	0	0
991			11	0	0.002	0	-0.005	0.005	0	0
992			12	0	0.002	0	-0.004	0.004	0	0
993			13	0	0.001	0	-0.003	0.003	0	0
994			14	0	0.001	0	-0.002	0.002	0	0
995			15	0	0.001	0	-0.002	0.002	0	0
996			16	0	0	0	-0.001	0.001	0	0
997			17	0	0	0	0	0	0	0
998			18	0	0	0	0	0	0	0
999			19	0	0	0	0	0	0	0
1000			20	0	0	0	0	0	0	0
1001	2	R1	1	0	0	0	0	0	0	0
1002			2	0	0	0	0	0	0	0
1003			3	0	0	0	0	0	0	0
1004			4	0	0	0	0	0	0	0
1005			5	0	0	0	0	0	0	0
1006			6	0	0	0	0	0	0	0
1007			7	0	0	0	0	0	0	0
1008			8	0	0	0	0	0	0	0
1009			9	0	0	0	0	0	0	0
1010			10	0	0	0	0	0	0	0
1011			11	0	0	0	0	0	0	0
1012			12	0	0	0	0	0	0	0
1013			13	0	0	0	0	0	0	0
1014			14	0	0	0	0	0	0	0
1015			15	0	0	0	0	0	0	0
1016			16	0	0	0	0	0	0	0
1017			17	0	0	0	0	0	0	0
1018			18	0	0	0	0	0	0	0
1019			19	0	0	0	0	0	0	0
1020			20	0	0	0	0	0	0	0
1021	2	R2	1	0	0	0	0	0	0	0
1022			2	0	0	0	0	0	0	0
1023			3	0	0	0	0	0	0	0
1024			4	0	0	0	0	0	0	0
1025			5	0	0	0	0	0	0	0
1026			6	0	0	0	0	0	0	0
1027			7	0	0	0	0	0	0	0
1028			8	0	0	0	0	0	0	0
1029			9	0	0	0	0	0	0	0
1030			10	0	0	0	0	0	0	0
1031			11	0	0	0	0	0	0	0
1032			12	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1033		13	0	0	0	0	0	0	0
1034		14	0	0	0	0	0	0	0
1035		15	0	0	0	0	0	0	0
1036		16	0	0	0	0	0	0	0
1037		17	0	0	0	0	0	0	0
1038		18	0	0	0	0	0	0	0
1039		19	0	0	0	0	0	0	0
1040		20	0	0	0	0	0	0	0
1041	2	R3	1	0	0	0	0	0	0
1042		2	0	0	0	0	0	0	0
1043		3	0	0	0	0	0	0	0
1044		4	0	0	0	0	0	0	0
1045		5	0	0	0	0	0	0	0
1046		6	0	0	0	0	0	0	0
1047		7	0	0	0	0	0	0	0
1048		8	0	0	0	0	0	0	0
1049		9	0	0	0	0	0	0	0
1050		10	0	0	0	0	0	0	0
1051		11	0	0	0	0	0	0	0
1052		12	0	0	0	0	0	0	0
1053		13	0	0	0	0	0	0	0
1054		14	0	0	0	0	0	0	0
1055		15	0	0	0	0	0	0	0
1056		16	0	0	0	0	0	0	0
1057		17	0	0	0	0	0	0	0
1058		18	0	0	0	0	0	0	0
1059		19	0	0	0	0	0	0	0
1060		20	0	0	0	0	0	0	0
1061	2	R4	1	0	0	0	0	0	0
1062		2	0	0	0	0	0	0	0
1063		3	0	0	0	0	0	0	0
1064		4	0	0	0	0	0	0	0
1065		5	0	0	0	0	0	0	0
1066		6	0	0	0	0	0	0	0
1067		7	0	0	0	0	0	0	0
1068		8	0	0	0	0	0	0	0
1069		9	0	0	0	0	0	0	0
1070		10	0	0	0	0	0	0	0
1071		11	0	0	0	0	0	0	0
1072		12	0	0	0	0	0	0	0
1073		13	0	0	0	0	0	0	0
1074		14	0	0	0	0	0	0	0
1075		15	0	0	0	0	0	0	0
1076		16	0	0	0	0	0	0	0
1077		17	0	0	0	0	0	0	0
1078		18	0	0	0	0	0	0	0
1079		19	0	0	0	0	0	0	0
1080		20	0	0	0	0	0	0	0
1081	2	R5	1	0	0	0	0	0	0
1082		2	0	0	0	0	0	0	0
1083		3	0	0	0	0	0	0	0
1084		4	0	0	0	0	0	0	0
1085		5	0	0	0	0	0	0	0
1086		6	0	0	0	0	0	0	0
1087		7	0	0	0	0	0	0	0
1088		8	0	0	0	0	0	0	0
1089		9	0	0	0	0	0	0	0
1090		10	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1091		11	0	0	0	0	0	0	0
1092		12	0	0	0	0	0	0	0
1093		13	0	0	0	0	0	0	0
1094		14	0	0	0	0	0	0	0
1095		15	0	0	0	0	0	0	0
1096		16	0	0	0	0	0	0	0
1097		17	0	0	0	0	0	0	0
1098		18	0	0	0	0	0	0	0
1099		19	0	0	0	0	0	0	0
1100		20	0	0	0	0	0	0	0
1101	2	R6	1	0	0	0	0	0	0
1102		2	0	0	0	0	0	0	0
1103		3	0	0	0	0	0	0	0
1104		4	0	0	0	0	0	0	0
1105		5	0	0	0	0	0	0	0
1106		6	0	0	0	0	0	0	0
1107		7	0	0	0	0	0	0	0
1108		8	0	0	0	0	0	0	0
1109		9	0	0	0	0	0	0	0
1110		10	0	0	0	0	0	0	0
1111		11	0	0	0	0	0	0	0
1112		12	0	0	0	0	0	0	0
1113		13	0	0	0	0	0	0	0
1114		14	0	0	0	0	0	0	0
1115		15	0	0	0	0	0	0	0
1116		16	0	0	0	0	0	0	0
1117		17	0	0	0	0	0	0	0
1118		18	0	0	0	0	0	0	0
1119		19	0	0	0	0	0	0	0
1120		20	0	0	0	0	0	0	0
1121	2	R7	1	0	0	0	0	0	0
1122		2	0	0	0	0	0	0	0
1123		3	0	0	0	0	0	0	0
1124		4	0	0	0	0	0	0	0
1125		5	0	0	0	0	0	0	0
1126		6	0	0	0	0	0	0	0
1127		7	0	0	0	0	0	0	0
1128		8	0	0	0	0	0	0	0
1129		9	0	0	0	0	0	0	0
1130		10	0	0	0	0	0	0	0
1131		11	0	0	0	0	0	0	0
1132		12	0	0	0	0	0	0	0
1133		13	0	0	0	0	0	0	0
1134		14	0	0	0	0	0	0	0
1135		15	0	0	0	0	0	0	0
1136		16	0	0	0	0	0	0	0
1137		17	0	0	0	0	0	0	0
1138		18	0	0	0	0	0	0	0
1139		19	0	0	0	0	0	0	0
1140		20	0	0	0	0	0	0	0
1141	2	R8	1	0	0	0	0	0	0
1142		2	0	0	0	0	0	0	0
1143		3	0	0	0	0	0	0	0
1144		4	0	0	0	0	0	0	0
1145		5	0	0	0	0	0	0	0
1146		6	0	0	0	0	0	0	0
1147		7	0	0	0	0	0	0	0
1148		8	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1149		9	0	0	0	0	0	0	0
1150		10	0	0	0	0	0	0	0
1151		11	0	0	0	0	0	0	0
1152		12	0	0	0	0	0	0	0
1153		13	0	0	0	0	0	0	0
1154		14	0	0	0	0	0	0	0
1155		15	0	0	0	0	0	0	0
1156		16	0	0	0	0	0	0	0
1157		17	0	0	0	0	0	0	0
1158		18	0	0	0	0	0	0	0
1159		19	0	0	0	0	0	0	0
1160		20	0	0	0	0	0	0	0
1161	2	R9	1	0	0	0	0	0	0
1162		2	0	0	0	0	0	0	0
1163		3	0	0	0	0	0	0	0
1164		4	0	0	0	0	0	0	0
1165		5	0	0	0	0	0	0	0
1166		6	0	0	0	0	0	0	0
1167		7	0	0	0	0	0	0	0
1168		8	0	0	0	0	0	0	0
1169		9	0	0	0	0	0	0	0
1170		10	0	0	0	0	0	0	0
1171		11	0	0	0	0	0	0	0
1172		12	0	0	0	0	0	0	0
1173		13	0	0	0	0	0	0	0
1174		14	0	0	0	0	0	0	0
1175		15	0	0	0	0	0	0	0
1176		16	0	0	0	0	0	0	0
1177		17	0	0	0	0	0	0	0
1178		18	0	0	0	0	0	0	0
1179		19	0	0	0	0	0	0	0
1180		20	0	0	0	0	0	0	0
1181	2	R10	1	0	0	0	0	0	0
1182		2	0	0	0	0	0	0	0
1183		3	0	0	0	0	0	0	0
1184		4	0	0	0	0	0	0	0
1185		5	0	0	0	0	0	0	0
1186		6	0	0	0	0	0	0	0
1187		7	0	0	0	0	0	0	0
1188		8	0	0	0	0	0	0	0
1189		9	0	0	0	0	0	0	0
1190		10	0	0	0	0	0	0	0
1191		11	0	0	0	0	0	0	0
1192		12	0	0	0	0	0	0	0
1193		13	0	0	0	0	0	0	0
1194		14	0	0	0	0	0	0	0
1195		15	0	0	0	0	0	0	0
1196		16	0	0	0	0	0	0	0
1197		17	0	0	0	0	0	0	0
1198		18	0	0	0	0	0	0	0
1199		19	0	0	0	0	0	0	0
1200		20	0	0	0	0	0	0	0
1201	2	R11	1	0	0	0	0	0	0
1202		2	0	0	0	0	0	0	0
1203		3	0	0	0	0	0	0	0
1204		4	0	0	0	0	0	0	0
1205		5	0	0	0	0	0	0	0
1206		6	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1207		7	0	0	0	0	0	0	0
1208		8	0	0	0	0	0	0	0
1209		9	0	0	0	0	0	0	0
1210		10	0	0	0	0	0	0	0
1211		11	0	0	0	0	0	0	0
1212		12	0	0	0	0	0	0	0
1213		13	0	0	0	0	0	0	0
1214		14	0	0	0	0	0	0	0
1215		15	0	0	0	0	0	0	0
1216		16	0	0	0	0	0	0	0
1217		17	0	0	0	0	0	0	0
1218		18	0	0	0	0	0	0	0
1219		19	0	0	0	0	0	0	0
1220		20	0	0	0	0	0	0	0
1221	2	R12	1	0	0	0	0	0	0
1222		2	0	0	0	0	0	0	0
1223		3	0	0	0	0	0	0	0
1224		4	0	0	0	0	0	0	0
1225		5	0	0	0	0	0	0	0
1226		6	0	0	0	0	0	0	0
1227		7	0	0	0	0	0	0	0
1228		8	0	0	0	0	0	0	0
1229		9	0	0	0	0	0	0	0
1230		10	0	0	0	0	0	0	0
1231		11	0	0	0	0	0	0	0
1232		12	0	0	0	0	0	0	0
1233		13	0	0	0	0	0	0	0
1234		14	0	0	0	0	0	0	0
1235		15	0	0	0	0	0	0	0
1236		16	0	0	0	0	0	0	0
1237		17	0	0	0	0	0	0	0
1238		18	0	0	0	0	0	0	0
1239		19	0	0	0	0	0	0	0
1240		20	0	0	0	0	0	0	0
1241	2	R13	1	0	0	0	0	0	0
1242		2	0	0	0	0	0	0	0
1243		3	0	0	0	0	0	0	0
1244		4	0	0	0	0	0	0	0
1245		5	0	0	0	0	0	0	0
1246		6	0	0	0	0	0	0	0
1247		7	0	0	0	0	0	0	0
1248		8	0	0	0	0	0	0	0
1249		9	0	0	0	0	0	0	0
1250		10	0	0	0	0	0	0	0
1251		11	0	0	0	0	0	0	0
1252		12	0	0	0	0	0	0	0
1253		13	0	0	0	0	0	0	0
1254		14	0	0	0	0	0	0	0
1255		15	0	0	0	0	0	0	0
1256		16	0	0	0	0	0	0	0
1257		17	0	0	0	0	0	0	0
1258		18	0	0	0	0	0	0	0
1259		19	0	0	0	0	0	0	0
1260		20	0	0	0	0	0	0	0
1261	2	R14	1	0	0	0	0	0	0
1262		2	0	0	0	0	0	0	0
1263		3	0	0	0	0	0	0	0
1264		4	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1265		5	0	0	0	0	0	0	0
1266		6	0	0	0	0	0	0	0
1267		7	0	0	0	0	0	0	0
1268		8	0	0	0	0	0	0	0
1269		9	0	0	0	0	0	0	0
1270		10	0	0	0	0	0	0	0
1271		11	0	0	0	0	0	0	0
1272		12	0	0	0	0	0	0	0
1273		13	0	0	0	0	0	0	0
1274		14	0	0	0	0	0	0	0
1275		15	0	0	0	0	0	0	0
1276		16	0	0	0	0	0	0	0
1277		17	0	0	0	0	0	0	0
1278		18	0	0	0	0	0	0	0
1279		19	0	0	0	0	0	0	0
1280		20	0	0	0	0	0	0	0
1281	2	R15	1	0	0	0	0	0	0
1282		2	0	0	0	0	0	0	0
1283		3	0	0	0	0	0	0	0
1284		4	0	0	0	0	0	0	0
1285		5	0	0	0	0	0	0	0
1286		6	0	0	0	0	0	0	0
1287		7	0	0	0	0	0	0	0
1288		8	0	0	0	0	0	0	0
1289		9	0	0	0	0	0	0	0
1290		10	0	0	0	0	0	0	0
1291		11	0	0	0	0	0	0	0
1292		12	0	0	0	0	0	0	0
1293		13	0	0	0	0	0	0	0
1294		14	0	0	0	0	0	0	0
1295		15	0	0	0	0	0	0	0
1296		16	0	0	0	0	0	0	0
1297		17	0	0	0	0	0	0	0
1298		18	0	0	0	0	0	0	0
1299		19	0	0	0	0	0	0	0
1300		20	0	0	0	0	0	0	0
1301	2	M33	1	0	0	0	0	0	0
1302		2	0	0	0	0	0	0	0
1303		3	0	0	0	0	0	0	0
1304		4	0	0	0	0	0	0	0
1305		5	0	0	0	0	0	0	0
1306		6	0	0	0	0	0	0	0
1307		7	0	0	0	0	0	0	0
1308		8	0	0	0	0	0	0	0
1309		9	0	0	0	0	0	0	0
1310		10	0	0	0	0	0	0	0
1311		11	0	0	0	0	0	0	0
1312		12	0	0	0	0	0	0	0
1313		13	0	0	0	0	0	0	0
1314		14	0	0	0	0	0	0	0
1315		15	0	0	0	0	0	0	0
1316		16	0	0	0	0	0	0	0
1317		17	0	0	0	0	0	0	0
1318		18	0	0	0	0	0	0	0
1319		19	0	0	0	0	0	0	0
1320		20	0	0	0	0	0	0	0
1321	3	A1	1	0	0	0	0	0	0
1322		2	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
1323		3	0	0	0	0	0	0	0	
1324		4	0	0	0	0	0	0	0	
1325		5	0	0	0	-0.001	0.001	0	0	
1326		6	0	-0.001	0	-0.002	0.002	0	0	
1327		7	0	-0.001	0	-0.003	0.003	0	0	
1328		8	0	-0.002	0	-0.004	0.004	0	0	
1329		9	0	-0.002	0	-0.005	0.005	0	0	
1330		10	0	-0.002	0	-0.006	0.006	0	0	
1331		11	0	-0.002	0	-0.007	0.007	0	0	
1332		12	0	-0.003	0	-0.009	0.009	0	0	
1333		13	0	-0.003	0	-0.011	0.011	0	0	
1334		14	0	-0.003	0	-0.012	0.012	0	0	
1335		15	0	-0.003	0	-0.014	0.014	0	0	
1336		16	0	-0.004	0	-0.017	0.017	0	0	
1337		17	0	-0.004	0	-0.019	0.019	0	0	
1338		18	0	-0.004	0	-0.021	0.021	0	0	
1339		19	0	-0.004	0	-0.024	0.024	0	0	
1340		20	0	-0.005	0	-0.027	0.027	0	0	
1341	3	A2	1	-0.002	-0.017	0.004	0.109	-0.109	0.003	-0.003
1342		2	-0.002	-0.019	0.004	0.096	-0.096	0.003	-0.003	
1343		3	-0.003	-0.021	0.003	0.081	-0.081	0.004	-0.004	
1344		4	-0.003	-0.023	0.002	0.066	-0.066	0.004	-0.004	
1345		5	-0.003	-0.025	0.002	0.048	-0.048	0.005	-0.005	
1346		6	-0.003	-0.027	0.001	0.03	-0.03	0.005	-0.005	
1347		7	-0.003	-0.029	0	0.009	-0.009	0.005	-0.005	
1348		8	-0.003	-0.031	0	-0.012	0.012	0.005	-0.005	
1349		9	-0.003	-0.034	0	-0.036	0.036	0.005	-0.005	
1350		10	-0.003	-0.036	-0.001	-0.06	0.06	0.005	-0.005	
1351		11	-0.003	-0.038	-0.002	-0.087	0.087	0.005	-0.005	
1352		12	-0.003	-0.04	-0.003	-0.114	0.114	0.004	-0.004	
1353		13	-0.003	-0.042	-0.003	-0.143	0.143	0.004	-0.004	
1354		14	-0.003	-0.044	-0.004	-0.174	0.174	0.003	-0.003	
1355		15	-0.003	-0.046	-0.004	-0.206	0.206	0.003	-0.003	
1356		16	-0.003	-0.048	-0.005	-0.24	0.24	0.002	-0.002	
1357		17	-0.003	-0.05	-0.006	-0.275	0.275	0	0	
1358		18	-0.003	-0.052	-0.006	-0.312	0.312	0	0	
1359		19	-0.003	-0.054	-0.007	-0.35	0.35	-0.001	0.001	
1360		20	-0.003	-0.056	-0.007	-0.389	0.389	-0.002	0.002	
1361	3	A3	1	0.002	0.061	0.018	-0.389	0.389	-0.03	0.03
1362		2	0.001	0.054	0.016	-0.261	0.261	-0.021	0.021	
1363		3	0.001	0.047	0.014	-0.147	0.147	-0.013	0.013	
1364		4	0.001	0.041	0.012	-0.047	0.047	-0.006	0.006	
1365		5	0	0.034	0.011	0.037	-0.037	0	0	
1366		6	0	0.028	0.009	0.107	-0.107	0.005	-0.005	
1367		7	0	0.021	0.007	0.162	-0.162	0.009	-0.009	
1368		8	0	0.015	0.005	0.203	-0.203	0.012	-0.012	
1369		9	0	0.008	0.003	0.229	-0.229	0.014	-0.014	
1370		10	0	0.002	0	0.24	-0.24	0.015	-0.015	
1371		11	0	-0.005	0	0.237	-0.237	0.015	-0.015	
1372		12	0	-0.011	-0.003	0.219	-0.219	0.014	-0.014	
1373		13	0	-0.018	-0.005	0.186	-0.186	0.012	-0.012	
1374		14	0	-0.024	-0.007	0.138	-0.138	0.009	-0.009	
1375		15	0	-0.031	-0.009	0.076	-0.076	0.005	-0.005	
1376		16	0	-0.037	-0.011	0	0	0	0	
1377		17	-0.001	-0.044	-0.012	-0.092	0.092	-0.006	0.006	
1378		18	-0.001	-0.051	-0.014	-0.198	0.198	-0.013	0.013	
1379		19	-0.001	-0.057	-0.016	-0.319	0.319	-0.021	0.021	
1380		20	-0.002	-0.064	-0.018	-0.454	0.454	-0.03	0.03	





**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
1381	3	A4	1	0.002	0.062	0.018	-0.454	0.454	-0.03	0.03
1382			2	0.001	0.056	0.016	-0.321	0.321	-0.021	0.021
1383			3	0.001	0.049	0.014	-0.203	0.203	-0.013	0.013
1384			4	0.001	0.043	0.012	-0.1	0.1	-0.006	0.006
1385			5	0	0.036	0.011	-0.011	0.011	0	0
1386			6	0	0.03	0.009	0.063	-0.063	0.005	-0.005
1387			7	0	0.023	0.007	0.123	-0.123	0.009	-0.009
1388			8	0	0.017	0.005	0.168	-0.168	0.012	-0.012
1389			9	0	0.01	0.003	0.198	-0.198	0.014	-0.014
1390			10	0	0.004	0	0.214	-0.214	0.015	-0.015
1391			11	0	-0.003	0	0.214	-0.214	0.015	-0.015
1392			12	0	-0.009	-0.003	0.201	-0.201	0.014	-0.014
1393			13	0	-0.016	-0.005	0.172	-0.172	0.012	-0.012
1394			14	0	-0.022	-0.007	0.129	-0.129	0.009	-0.009
1395			15	0	-0.029	-0.009	0.071	-0.071	0.005	-0.005
1396			16	0	-0.036	-0.011	-0.001	0.001	0	0
1397			17	-0.001	-0.042	-0.012	-0.089	0.089	-0.006	0.006
1398			18	-0.001	-0.049	-0.014	-0.191	0.191	-0.013	0.013
1399			19	-0.001	-0.055	-0.016	-0.307	0.307	-0.021	0.021
1400			20	-0.002	-0.062	-0.018	-0.438	0.438	-0.03	0.03
1401	3	A5	1	0.002	0.062	0.018	-0.438	0.438	-0.03	0.03
1402			2	0.001	0.055	0.016	-0.306	0.306	-0.021	0.021
1403			3	0.001	0.049	0.014	-0.189	0.189	-0.013	0.013
1404			4	0.001	0.042	0.012	-0.087	0.087	-0.006	0.006
1405			5	0	0.036	0.011	0.001	-0.001	0	0
1406			6	0	0.029	0.009	0.074	-0.074	0.005	-0.005
1407			7	0	0.023	0.007	0.133	-0.133	0.009	-0.009
1408			8	0	0.016	0.005	0.177	-0.177	0.012	-0.012
1409			9	0	0.01	0.003	0.206	-0.206	0.014	-0.014
1410			10	0	0.003	0	0.22	-0.22	0.015	-0.015
1411			11	0	-0.003	0	0.22	-0.22	0.015	-0.015
1412			12	0	-0.01	-0.003	0.205	-0.205	0.014	-0.014
1413			13	0	-0.016	-0.005	0.176	-0.176	0.012	-0.012
1414			14	0	-0.023	-0.007	0.132	-0.132	0.009	-0.009
1415			15	0	-0.029	-0.009	0.073	-0.073	0.005	-0.005
1416			16	0	-0.036	-0.011	0	0	0	0
1417			17	-0.001	-0.043	-0.012	-0.089	0.089	-0.006	0.006
1418			18	-0.001	-0.049	-0.014	-0.192	0.192	-0.013	0.013
1419			19	-0.001	-0.056	-0.016	-0.31	0.31	-0.021	0.021
1420			20	-0.002	-0.062	-0.018	-0.442	0.442	-0.03	0.03
1421	3	A6	1	0.002	0.062	0.018	-0.442	0.442	-0.03	0.03
1422			2	0.001	0.055	0.016	-0.31	0.31	-0.021	0.021
1423			3	0.001	0.049	0.014	-0.193	0.193	-0.013	0.013
1424			4	0.001	0.042	0.012	-0.09	0.09	-0.006	0.006
1425			5	0	0.036	0.011	-0.002	0.002	0	0
1426			6	0	0.029	0.009	0.071	-0.071	0.005	-0.005
1427			7	0	0.023	0.007	0.13	-0.13	0.009	-0.009
1428			8	0	0.016	0.005	0.174	-0.174	0.012	-0.012
1429			9	0	0.01	0.003	0.203	-0.203	0.014	-0.014
1430			10	0	0.003	0	0.218	-0.218	0.015	-0.015
1431			11	0	-0.003	0	0.218	-0.218	0.015	-0.015
1432			12	0	-0.01	-0.003	0.203	-0.203	0.014	-0.014
1433			13	0	-0.016	-0.005	0.174	-0.174	0.012	-0.012
1434			14	0	-0.023	-0.007	0.13	-0.13	0.009	-0.009
1435			15	0	-0.029	-0.009	0.071	-0.071	0.005	-0.005
1436			16	0	-0.036	-0.011	-0.002	0.002	0	0
1437			17	-0.001	-0.042	-0.012	-0.09	0.09	-0.006	0.006
1438			18	-0.001	-0.049	-0.014	-0.193	0.193	-0.013	0.013



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
1439		19	-0.001	-0.056	-0.016	-0.31	0.31	-0.021	0.021	
1440		20	-0.002	-0.062	-0.018	-0.443	0.443	-0.03	0.03	
1441	3	A7	1	0.002	0.062	0.018	-0.443	0.443	-0.03	0.03
1442		2	0.001	0.056	0.016	-0.31	0.31	-0.021	0.021	
1443		3	0.001	0.049	0.014	-0.192	0.192	-0.013	0.013	
1444		4	0.001	0.043	0.012	-0.089	0.089	-0.006	0.006	
1445		5	0	0.036	0.011	-0.001	0.001	0	0	
1446		6	0	0.03	0.009	0.073	-0.073	0.005	-0.005	
1447		7	0	0.023	0.007	0.132	-0.132	0.009	-0.009	
1448		8	0	0.016	0.005	0.176	-0.176	0.012	-0.012	
1449		9	0	0.01	0.003	0.206	-0.206	0.014	-0.014	
1450		10	0	0.003	0	0.221	-0.221	0.015	-0.015	
1451		11	0	-0.003	0	0.221	-0.221	0.015	-0.015	
1452		12	0	-0.01	-0.003	0.207	-0.207	0.014	-0.014	
1453		13	0	-0.016	-0.005	0.178	-0.178	0.012	-0.012	
1454		14	0	-0.023	-0.007	0.134	-0.134	0.009	-0.009	
1455		15	0	-0.029	-0.009	0.076	-0.076	0.005	-0.005	
1456		16	0	-0.036	-0.011	0.003	-0.003	0	0	
1457		17	-0.001	-0.042	-0.012	-0.085	0.085	-0.006	0.006	
1458		18	-0.001	-0.049	-0.014	-0.187	0.187	-0.013	0.013	
1459		19	-0.001	-0.055	-0.016	-0.304	0.304	-0.021	0.021	
1460		20	-0.002	-0.062	-0.018	-0.436	0.436	-0.03	0.03	
1461	3	A8	1	0.002	0.061	0.018	-0.436	0.436	-0.03	0.03
1462		2	0.001	0.055	0.016	-0.306	0.306	-0.021	0.021	
1463		3	0.001	0.048	0.014	-0.19	0.19	-0.013	0.013	
1464		4	0.001	0.042	0.012	-0.088	0.088	-0.006	0.006	
1465		5	0	0.035	0.011	-0.002	0.002	0	0	
1466		6	0	0.029	0.009	0.07	-0.07	0.005	-0.005	
1467		7	0	0.022	0.007	0.128	-0.128	0.009	-0.009	
1468		8	0	0.016	0.005	0.17	-0.17	0.012	-0.012	
1469		9	0	0.009	0.003	0.198	-0.198	0.014	-0.014	
1470		10	0	0.003	0	0.212	-0.212	0.015	-0.015	
1471		11	0	-0.004	0	0.21	-0.21	0.015	-0.015	
1472		12	0	-0.01	-0.003	0.194	-0.194	0.014	-0.014	
1473		13	0	-0.017	-0.005	0.163	-0.163	0.012	-0.012	
1474		14	0	-0.023	-0.007	0.118	-0.118	0.009	-0.009	
1475		15	0	-0.03	-0.009	0.058	-0.058	0.005	-0.005	
1476		16	0	-0.037	-0.011	-0.017	0.017	0	0	
1477		17	-0.001	-0.043	-0.012	-0.106	0.106	-0.006	0.006	
1478		18	-0.001	-0.05	-0.014	-0.211	0.211	-0.013	0.013	
1479		19	-0.001	-0.057	-0.016	-0.332	0.332	-0.021	0.021	
1480		20	-0.002	-0.065	-0.018	-0.469	0.469	-0.03	0.03	
1481	3	A9	1	0.002	0.068	0.018	-0.469	0.469	-0.03	0.03
1482		2	0.001	0.061	0.016	-0.324	0.324	-0.021	0.021	
1483		3	0.001	0.054	0.014	-0.196	0.196	-0.013	0.013	
1484		4	0.001	0.046	0.012	-0.083	0.083	-0.006	0.006	
1485		5	0	0.039	0.011	0.013	-0.013	0	0	
1486		6	0	0.032	0.009	0.093	-0.093	0.005	-0.005	
1487		7	0	0.025	0.007	0.157	-0.157	0.009	-0.009	
1488		8	0	0.018	0.005	0.205	-0.205	0.012	-0.012	
1489		9	0	0.011	0.003	0.237	-0.237	0.014	-0.014	
1490		10	0	0.003	0	0.253	-0.253	0.015	-0.015	
1491		11	0	-0.004	0	0.252	-0.252	0.015	-0.015	
1492		12	0	-0.011	-0.003	0.235	-0.235	0.014	-0.014	
1493		13	0	-0.018	-0.005	0.203	-0.203	0.012	-0.012	
1494		14	0	-0.025	-0.007	0.154	-0.154	0.009	-0.009	
1495		15	0	-0.033	-0.009	0.089	-0.089	0.005	-0.005	
1496		16	0	-0.04	-0.011	0.007	-0.007	0	0	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
1497		17	-0.001	-0.047	-0.012	-0.09	0.09	-0.006	0.006	
1498		18	-0.001	-0.054	-0.014	-0.204	0.204	-0.013	0.013	
1499		19	-0.001	-0.061	-0.016	-0.333	0.333	-0.021	0.021	
1500		20	-0.002	-0.068	-0.018	-0.479	0.479	-0.03	0.03	
1501	3	A10	1	0.002	0.067	0.018	-0.479	0.479	-0.03	0.03
1502		2	0.001	0.059	0.016	-0.337	0.337	-0.021	0.021	
1503		3	0.001	0.052	0.014	-0.212	0.212	-0.013	0.013	
1504		4	0.001	0.045	0.012	-0.103	0.103	-0.006	0.006	
1505		5	0	0.038	0.011	-0.01	0.01	0	0	
1506		6	0	0.031	0.009	0.068	-0.068	0.005	-0.005	
1507		7	0	0.024	0.007	0.128	-0.128	0.009	-0.009	
1508		8	0	0.016	0.005	0.173	-0.173	0.012	-0.012	
1509		9	0	0.01	0.003	0.203	-0.203	0.014	-0.014	
1510		10	0	0.003	0	0.218	-0.218	0.015	-0.015	
1511		11	0	-0.003	0	0.218	-0.218	0.015	-0.015	
1512		12	0	-0.01	-0.003	0.203	-0.203	0.014	-0.014	
1513		13	0	-0.016	-0.005	0.174	-0.174	0.012	-0.012	
1514		14	0	-0.023	-0.007	0.13	-0.13	0.009	-0.009	
1515		15	0	-0.029	-0.009	0.072	-0.072	0.005	-0.005	
1516		16	0	-0.036	-0.011	-0.001	0.001	0	0	
1517		17	-0.001	-0.042	-0.012	-0.089	0.089	-0.006	0.006	
1518		18	-0.001	-0.049	-0.014	-0.192	0.192	-0.013	0.013	
1519		19	-0.001	-0.055	-0.016	-0.309	0.309	-0.021	0.021	
1520		20	-0.002	-0.062	-0.018	-0.441	0.441	-0.03	0.03	
1521	3	A11	1	0.002	0.062	0.018	-0.44	0.44	-0.03	0.03
1522		2	0.001	0.055	0.016	-0.308	0.308	-0.021	0.021	
1523		3	0.001	0.049	0.014	-0.191	0.191	-0.013	0.013	
1524		4	0.001	0.042	0.012	-0.088	0.088	-0.006	0.006	
1525		5	0	0.036	0.011	0	0	0	0	
1526		6	0	0.029	0.009	0.073	-0.073	0.005	-0.005	
1527		7	0	0.023	0.007	0.132	-0.132	0.009	-0.009	
1528		8	0	0.016	0.005	0.176	-0.176	0.012	-0.012	
1529		9	0	0.01	0.003	0.205	-0.205	0.014	-0.014	
1530		10	0	0.003	0	0.22	-0.22	0.015	-0.015	
1531		11	0	-0.003	0	0.219	-0.219	0.015	-0.015	
1532		12	0	-0.01	-0.003	0.205	-0.205	0.014	-0.014	
1533		13	0	-0.016	-0.005	0.175	-0.175	0.012	-0.012	
1534		14	0	-0.023	-0.007	0.131	-0.131	0.009	-0.009	
1535		15	0	-0.029	-0.009	0.072	-0.072	0.005	-0.005	
1536		16	0	-0.036	-0.011	-0.001	0.001	0	0	
1537		17	-0.001	-0.043	-0.012	-0.089	0.089	-0.006	0.006	
1538		18	-0.001	-0.049	-0.014	-0.192	0.192	-0.013	0.013	
1539		19	-0.001	-0.056	-0.016	-0.31	0.31	-0.021	0.021	
1540		20	-0.002	-0.062	-0.018	-0.442	0.442	-0.03	0.03	
1541	3	A12	1	0.002	0.062	0.018	-0.442	0.442	-0.03	0.03
1542		2	0.001	0.056	0.016	-0.31	0.31	-0.021	0.021	
1543		3	0.001	0.049	0.014	-0.192	0.192	-0.013	0.013	
1544		4	0.001	0.042	0.012	-0.09	0.09	-0.006	0.006	
1545		5	0	0.036	0.011	-0.002	0.002	0	0	
1546		6	0	0.029	0.009	0.072	-0.072	0.005	-0.005	
1547		7	0	0.023	0.007	0.131	-0.131	0.009	-0.009	
1548		8	0	0.016	0.005	0.175	-0.175	0.012	-0.012	
1549		9	0	0.01	0.003	0.204	-0.204	0.014	-0.014	
1550		10	0	0.003	0	0.219	-0.219	0.015	-0.015	
1551		11	0	-0.003	0	0.219	-0.219	0.015	-0.015	
1552		12	0	-0.01	-0.003	0.204	-0.204	0.014	-0.014	
1553		13	0	-0.016	-0.005	0.175	-0.175	0.012	-0.012	
1554		14	0	-0.023	-0.007	0.131	-0.131	0.009	-0.009	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
1555		15	0	-0.029	-0.009	0.072	-0.072	0.005	-0.005	
1556		16	0	-0.036	-0.011	-0.001	0.001	0	0	
1557		17	-0.001	-0.042	-0.012	-0.089	0.089	-0.006	0.006	
1558		18	-0.001	-0.049	-0.014	-0.192	0.192	-0.013	0.013	
1559		19	-0.001	-0.056	-0.016	-0.309	0.309	-0.021	0.021	
1560		20	-0.002	-0.062	-0.018	-0.441	0.441	-0.03	0.03	
1561	3	A13	1	0.002	0.062	0.018	-0.441	0.441	-0.03	0.03
1562		2	0.001	0.056	0.016	-0.309	0.309	-0.021	0.021	
1563		3	0.001	0.049	0.014	-0.192	0.192	-0.013	0.013	
1564		4	0.001	0.042	0.012	-0.089	0.089	-0.006	0.006	
1565		5	0	0.036	0.011	-0.001	0.001	0	0	
1566		6	0	0.029	0.009	0.072	-0.072	0.005	-0.005	
1567		7	0	0.023	0.007	0.131	-0.131	0.009	-0.009	
1568		8	0	0.016	0.005	0.175	-0.175	0.012	-0.012	
1569		9	0	0.01	0.003	0.204	-0.204	0.014	-0.014	
1570		10	0	0.003	0	0.219	-0.219	0.015	-0.015	
1571		11	0	-0.003	0	0.219	-0.219	0.015	-0.015	
1572		12	0	-0.01	-0.003	0.204	-0.204	0.014	-0.014	
1573		13	0	-0.016	-0.005	0.175	-0.175	0.012	-0.012	
1574		14	0	-0.023	-0.007	0.131	-0.131	0.009	-0.009	
1575		15	0	-0.029	-0.009	0.072	-0.072	0.005	-0.005	
1576		16	0	-0.036	-0.011	-0.001	0.001	0	0	
1577		17	-0.001	-0.042	-0.012	-0.089	0.089	-0.006	0.006	
1578		18	-0.001	-0.049	-0.014	-0.192	0.192	-0.013	0.013	
1579		19	-0.001	-0.056	-0.016	-0.309	0.309	-0.021	0.021	
1580		20	-0.002	-0.062	-0.018	-0.442	0.442	-0.03	0.03	
1581	3	A14	1	0.002	0.062	0.018	-0.442	0.442	-0.03	0.03
1582		2	0.001	0.056	0.016	-0.309	0.309	-0.021	0.021	
1583		3	0.001	0.049	0.014	-0.192	0.192	-0.013	0.013	
1584		4	0.001	0.042	0.012	-0.089	0.089	-0.006	0.006	
1585		5	0	0.036	0.011	-0.001	0.001	0	0	
1586		6	0	0.029	0.009	0.072	-0.072	0.005	-0.005	
1587		7	0	0.023	0.007	0.131	-0.131	0.009	-0.009	
1588		8	0	0.016	0.005	0.175	-0.175	0.012	-0.012	
1589		9	0	0.01	0.003	0.204	-0.204	0.014	-0.014	
1590		10	0	0.003	0	0.219	-0.219	0.015	-0.015	
1591		11	0	-0.003	0	0.219	-0.219	0.015	-0.015	
1592		12	0	-0.01	-0.003	0.204	-0.204	0.014	-0.014	
1593		13	0	-0.016	-0.005	0.175	-0.175	0.012	-0.012	
1594		14	0	-0.023	-0.007	0.131	-0.131	0.009	-0.009	
1595		15	0	-0.029	-0.009	0.072	-0.072	0.005	-0.005	
1596		16	0	-0.036	-0.011	0	0	0	0	
1597		17	-0.001	-0.042	-0.012	-0.089	0.089	-0.006	0.006	
1598		18	-0.001	-0.049	-0.014	-0.192	0.192	-0.013	0.013	
1599		19	-0.001	-0.056	-0.016	-0.309	0.309	-0.021	0.021	
1600		20	-0.002	-0.062	-0.018	-0.441	0.441	-0.03	0.03	
1601	3	A15	1	0.002	0.062	0.018	-0.441	0.441	-0.03	0.03
1602		2	0.001	0.055	0.016	-0.309	0.309	-0.021	0.021	
1603		3	0.001	0.049	0.014	-0.192	0.192	-0.013	0.013	
1604		4	0.001	0.042	0.013	-0.089	0.089	-0.006	0.006	
1605		5	0	0.036	0.011	-0.001	0.001	0	0	
1606		6	0	0.029	0.009	0.072	-0.072	0.005	-0.005	
1607		7	0	0.023	0.007	0.131	-0.131	0.009	-0.009	
1608		8	0	0.016	0.005	0.175	-0.175	0.012	-0.012	
1609		9	0	0.01	0.003	0.204	-0.204	0.014	-0.014	
1610		10	0	0.003	0	0.218	-0.218	0.015	-0.015	
1611		11	0	-0.003	0	0.218	-0.218	0.015	-0.015	
1612		12	0	-0.01	-0.003	0.203	-0.203	0.014	-0.014	



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
1613		13	0	-0.016	-0.005	0.174	-0.174	0.012	-0.012	
1614		14	0	-0.023	-0.007	0.13	-0.13	0.009	-0.009	
1615		15	0	-0.029	-0.009	0.071	-0.071	0.005	-0.005	
1616		16	0	-0.036	-0.011	-0.002	0.002	0	0	
1617		17	-0.001	-0.042	-0.012	-0.09	0.09	-0.006	0.006	
1618		18	-0.001	-0.049	-0.014	-0.193	0.193	-0.013	0.013	
1619		19	-0.001	-0.056	-0.016	-0.311	0.311	-0.021	0.021	
1620		20	-0.002	-0.062	-0.018	-0.443	0.443	-0.03	0.03	
1621	3	A16	1	0.005	0.068	0.012	-0.443	0.443	-0.008	0.008
1622		2	0.005	0.064	0.011	-0.367	0.367	-0.005	0.005	
1623		3	0.005	0.061	0.01	-0.294	0.294	-0.002	0.002	
1624		4	0.004	0.058	0.009	-0.226	0.226	0	0	
1625		5	0.004	0.054	0.008	-0.161	0.161	0.003	-0.003	
1626		6	0.004	0.051	0.007	-0.1	0.1	0.005	-0.005	
1627		7	0.004	0.048	0.006	-0.043	0.043	0.007	-0.007	
1628		8	0.004	0.044	0.005	0.01	-0.01	0.009	-0.009	
1629		9	0.004	0.041	0.004	0.059	-0.059	0.01	-0.01	
1630		10	0.004	0.038	0.003	0.104	-0.104	0.011	-0.011	
1631		11	0.004	0.034	0.002	0.146	-0.146	0.011	-0.011	
1632		12	0.004	0.031	0.001	0.183	-0.183	0.012	-0.012	
1633		13	0.004	0.028	0	0.217	-0.217	0.012	-0.012	
1634		14	0.004	0.024	0	0.247	-0.247	0.012	-0.012	
1635		15	0.003	0.021	-0.002	0.273	-0.273	0.012	-0.012	
1636		16	0.003	0.017	-0.003	0.295	-0.295	0.011	-0.011	
1637		17	0.003	0.014	-0.004	0.313	-0.313	0.01	-0.01	
1638		18	0.003	0.011	-0.005	0.327	-0.327	0.009	-0.009	
1639		19	0.003	0.007	-0.006	0.338	-0.338	0.008	-0.008	
1640		20	0.003	0.004	-0.007	0.344	-0.344	0.006	-0.006	
1641	3	A17	1	0	0.005	0	-0.029	0.029	0	0
1642		2	0	0.005	0	-0.026	0.026	0	0	
1643		3	0	0.004	0	-0.023	0.023	0	0	
1644		4	0	0.004	0	-0.021	0.021	0	0	
1645		5	0	0.004	0	-0.018	0.018	0	0	
1646		6	0	0.004	0	-0.016	0.016	0	0	
1647		7	0	0.003	0	-0.014	0.014	0	0	
1648		8	0	0.003	0	-0.012	0.012	0	0	
1649		9	0	0.003	0	-0.01	0.01	0	0	
1650		10	0	0.003	0	-0.008	0.008	0	0	
1651		11	0	0.002	0	-0.007	0.007	0	0	
1652		12	0	0.002	0	-0.005	0.005	0	0	
1653		13	0	0.002	0	-0.004	0.004	0	0	
1654		14	0	0.002	0	-0.003	0.003	0	0	
1655		15	0	0.001	0	-0.002	0.002	0	0	
1656		16	0	0.001	0	-0.001	0.001	0	0	
1657		17	0	0	0	0	0	0	0	
1658		18	0	0	0	0	0	0	0	
1659		19	0	0	0	0	0	0	0	
1660		20	0	0	0	0	0	0	0	
1661	3	R1	1	0	0	0	0	0	0	
1662		2	0	0	0	0	0	0	0	
1663		3	0	0	0	0	0	0	0	
1664		4	0	0	0	0	0	0	0	
1665		5	0	0	0	0	0	0	0	
1666		6	0	0	0	0	0	0	0	
1667		7	0	0	0	0	0	0	0	
1668		8	0	0	0	0	0	0	0	
1669		9	0	0	0	0	0	0	0	
1670		10	0	0	0	0	0	0	0	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1671		11	0	0	0	0	0	0	0
1672		12	0	0	0	0	0	0	0
1673		13	0	0	0	0	0	0	0
1674		14	0	0	0	0	0	0	0
1675		15	0	0	0	0	0	0	0
1676		16	0	0	0	0	0	0	0
1677		17	0	0	0	0	0	0	0
1678		18	0	0	0	0	0	0	0
1679		19	0	0	0	0	0	0	0
1680		20	0	0	0	0	0	0	0
1681	3	R2	1	0	0	0	0	0	0
1682		2	0	0	0	0	0	0	0
1683		3	0	0	0	0	0	0	0
1684		4	0	0	0	0	0	0	0
1685		5	0	0	0	0	0	0	0
1686		6	0	0	0	0	0	0	0
1687		7	0	0	0	0	0	0	0
1688		8	0	0	0	0	0	0	0
1689		9	0	0	0	0	0	0	0
1690		10	0	0	0	0	0	0	0
1691		11	0	0	0	0	0	0	0
1692		12	0	0	0	0	0	0	0
1693		13	0	0	0	0	0	0	0
1694		14	0	0	0	0	0	0	0
1695		15	0	0	0	0	0	0	0
1696		16	0	0	0	0	0	0	0
1697		17	0	0	0	0	0	0	0
1698		18	0	0	0	0	0	0	0
1699		19	0	0	0	0	0	0	0
1700		20	0	0	0	0	0	0	0
1701	3	R3	1	0	0	0	0	0	0
1702		2	0	0	0	0	0	0	0
1703		3	0	0	0	0	0	0	0
1704		4	0	0	0	0	0	0	0
1705		5	0	0	0	0	0	0	0
1706		6	0	0	0	0	0	0	0
1707		7	0	0	0	0	0	0	0
1708		8	0	0	0	0	0	0	0
1709		9	0	0	0	0	0	0	0
1710		10	0	0	0	0	0	0	0
1711		11	0	0	0	0	0	0	0
1712		12	0	0	0	0	0	0	0
1713		13	0	0	0	0	0	0	0
1714		14	0	0	0	0	0	0	0
1715		15	0	0	0	0	0	0	0
1716		16	0	0	0	0	0	0	0
1717		17	0	0	0	0	0	0	0
1718		18	0	0	0	0	0	0	0
1719		19	0	0	0	0	0	0	0
1720		20	0	0	0	0	0	0	0
1721	3	R4	1	0	0	0	0	0	0
1722		2	0	0	0	0	0	0	0
1723		3	0	0	0	0	0	0	0
1724		4	0	0	0	0	0	0	0
1725		5	0	0	0	0	0	0	0
1726		6	0	0	0	0	0	0	0
1727		7	0	0	0	0	0	0	0
1728		8	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1729		9	0	0	0	0	0	0	0
1730		10	0	0	0	0	0	0	0
1731		11	0	0	0	0	0	0	0
1732		12	0	0	0	0	0	0	0
1733		13	0	0	0	0	0	0	0
1734		14	0	0	0	0	0	0	0
1735		15	0	0	0	0	0	0	0
1736		16	0	0	0	0	0	0	0
1737		17	0	0	0	0	0	0	0
1738		18	0	0	0	0	0	0	0
1739		19	0	0	0	0	0	0	0
1740		20	0	0	0	0	0	0	0
1741	3	R5	1	0	0	0	0	0	0
1742		2	0	0	0	0	0	0	0
1743		3	0	0	0	0	0	0	0
1744		4	0	0	0	0	0	0	0
1745		5	0	0	0	0	0	0	0
1746		6	0	0	0	0	0	0	0
1747		7	0	0	0	0	0	0	0
1748		8	0	0	0	0	0	0	0
1749		9	0	0	0	0	0	0	0
1750		10	0	0	0	0	0	0	0
1751		11	0	0	0	0	0	0	0
1752		12	0	0	0	0	0	0	0
1753		13	0	0	0	0	0	0	0
1754		14	0	0	0	0	0	0	0
1755		15	0	0	0	0	0	0	0
1756		16	0	0	0	0	0	0	0
1757		17	0	0	0	0	0	0	0
1758		18	0	0	0	0	0	0	0
1759		19	0	0	0	0	0	0	0
1760		20	0	0	0	0	0	0	0
1761	3	R6	1	0	0	0	0	0	0
1762		2	0	0	0	0	0	0	0
1763		3	0	0	0	0	0	0	0
1764		4	0	0	0	0	0	0	0
1765		5	0	0	0	0	0	0	0
1766		6	0	0	0	0	0	0	0
1767		7	0	0	0	0	0	0	0
1768		8	0	0	0	0	0	0	0
1769		9	0	0	0	0	0	0	0
1770		10	0	0	0	0	0	0	0
1771		11	0	0	0	0	0	0	0
1772		12	0	0	0	0	0	0	0
1773		13	0	0	0	0	0	0	0
1774		14	0	0	0	0	0	0	0
1775		15	0	0	0	0	0	0	0
1776		16	0	0	0	0	0	0	0
1777		17	0	0	0	0	0	0	0
1778		18	0	0	0	0	0	0	0
1779		19	0	0	0	0	0	0	0
1780		20	0	0	0	0	0	0	0
1781	3	R7	1	0	0	0	0	0	0
1782		2	0	0	0	0	0	0	0
1783		3	0	0	0	0	0	0	0
1784		4	0	0	0	0	0	0	0
1785		5	0	0	0	0	0	0	0
1786		6	0	0	0	0	0	0	0





Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1787		7	0	0	0	0	0	0	0
1788		8	0	0	0	0	0	0	0
1789		9	0	0	0	0	0	0	0
1790		10	0	0	0	0	0	0	0
1791		11	0	0	0	0	0	0	0
1792		12	0	0	0	0	0	0	0
1793		13	0	0	0	0	0	0	0
1794		14	0	0	0	0	0	0	0
1795		15	0	0	0	0	0	0	0
1796		16	0	0	0	0	0	0	0
1797		17	0	0	0	0	0	0	0
1798		18	0	0	0	0	0	0	0
1799		19	0	0	0	0	0	0	0
1800		20	0	0	0	0	0	0	0
1801	3	R8	1	0	0	0	0	0	0
1802		2	0	0	0	0	0	0	0
1803		3	0	0	0	0	0	0	0
1804		4	0	0	0	0	0	0	0
1805		5	0	0	0	0	0	0	0
1806		6	0	0	0	0	0	0	0
1807		7	0	0	0	0	0	0	0
1808		8	0	0	0	0	0	0	0
1809		9	0	0	0	0	0	0	0
1810		10	0	0	0	0	0	0	0
1811		11	0	0	0	0	0	0	0
1812		12	0	0	0	0	0	0	0
1813		13	0	0	0	0	0	0	0
1814		14	0	0	0	0	0	0	0
1815		15	0	0	0	0	0	0	0
1816		16	0	0	0	0	0	0	0
1817		17	0	0	0	0	0	0	0
1818		18	0	0	0	0	0	0	0
1819		19	0	0	0	0	0	0	0
1820		20	0	0	0	0	0	0	0
1821	3	R9	1	0	0	0	0	0	0
1822		2	0	0	0	0	0	0	0
1823		3	0	0	0	0	0	0	0
1824		4	0	0	0	0	0	0	0
1825		5	0	0	0	0	0	0	0
1826		6	0	0	0	0	0	0	0
1827		7	0	0	0	0	0	0	0
1828		8	0	0	0	0	0	0	0
1829		9	0	0	0	0	0	0	0
1830		10	0	0	0	0	0	0	0
1831		11	0	0	0	0	0	0	0
1832		12	0	0	0	0	0	0	0
1833		13	0	0	0	0	0	0	0
1834		14	0	0	0	0	0	0	0
1835		15	0	0	0	0	0	0	0
1836		16	0	0	0	0	0	0	0
1837		17	0	0	0	0	0	0	0
1838		18	0	0	0	0	0	0	0
1839		19	0	0	0	0	0	0	0
1840		20	0	0	0	0	0	0	0
1841	3	R10	1	0	0	0	0	0	0
1842		2	0	0	0	0	0	0	0
1843		3	0	0	0	0	0	0	0
1844		4	0	0	0	0	0	0	0



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1845		5	0	0	0	0	0	0	0
1846		6	0	0	0	0	0	0	0
1847		7	0	0	0	0	0	0	0
1848		8	0	0	0	0	0	0	0
1849		9	0	0	0	0	0	0	0
1850		10	0	0	0	0	0	0	0
1851		11	0	0	0	0	0	0	0
1852		12	0	0	0	0	0	0	0
1853		13	0	0	0	0	0	0	0
1854		14	0	0	0	0	0	0	0
1855		15	0	0	0	0	0	0	0
1856		16	0	0	0	0	0	0	0
1857		17	0	0	0	0	0	0	0
1858		18	0	0	0	0	0	0	0
1859		19	0	0	0	0	0	0	0
1860		20	0	0	0	0	0	0	0
1861	3	R11	1	0	0	0	0	0	0
1862		2	0	0	0	0	0	0	0
1863		3	0	0	0	0	0	0	0
1864		4	0	0	0	0	0	0	0
1865		5	0	0	0	0	0	0	0
1866		6	0	0	0	0	0	0	0
1867		7	0	0	0	0	0	0	0
1868		8	0	0	0	0	0	0	0
1869		9	0	0	0	0	0	0	0
1870		10	0	0	0	0	0	0	0
1871		11	0	0	0	0	0	0	0
1872		12	0	0	0	0	0	0	0
1873		13	0	0	0	0	0	0	0
1874		14	0	0	0	0	0	0	0
1875		15	0	0	0	0	0	0	0
1876		16	0	0	0	0	0	0	0
1877		17	0	0	0	0	0	0	0
1878		18	0	0	0	0	0	0	0
1879		19	0	0	0	0	0	0	0
1880		20	0	0	0	0	0	0	0
1881	3	R12	1	0	0	0	0	0	0
1882		2	0	0	0	0	0	0	0
1883		3	0	0	0	0	0	0	0
1884		4	0	0	0	0	0	0	0
1885		5	0	0	0	0	0	0	0
1886		6	0	0	0	0	0	0	0
1887		7	0	0	0	0	0	0	0
1888		8	0	0	0	0	0	0	0
1889		9	0	0	0	0	0	0	0
1890		10	0	0	0	0	0	0	0
1891		11	0	0	0	0	0	0	0
1892		12	0	0	0	0	0	0	0
1893		13	0	0	0	0	0	0	0
1894		14	0	0	0	0	0	0	0
1895		15	0	0	0	0	0	0	0
1896		16	0	0	0	0	0	0	0
1897		17	0	0	0	0	0	0	0
1898		18	0	0	0	0	0	0	0
1899		19	0	0	0	0	0	0	0
1900		20	0	0	0	0	0	0	0
1901	3	R13	1	0	0	0	0	0	0
1902		2	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1903		3	0	0	0	0	0	0	0
1904		4	0	0	0	0	0	0	0
1905		5	0	0	0	0	0	0	0
1906		6	0	0	0	0	0	0	0
1907		7	0	0	0	0	0	0	0
1908		8	0	0	0	0	0	0	0
1909		9	0	0	0	0	0	0	0
1910		10	0	0	0	0	0	0	0
1911		11	0	0	0	0	0	0	0
1912		12	0	0	0	0	0	0	0
1913		13	0	0	0	0	0	0	0
1914		14	0	0	0	0	0	0	0
1915		15	0	0	0	0	0	0	0
1916		16	0	0	0	0	0	0	0
1917		17	0	0	0	0	0	0	0
1918		18	0	0	0	0	0	0	0
1919		19	0	0	0	0	0	0	0
1920		20	0	0	0	0	0	0	0
1921	3	R14	1	0	0	0	0	0	0
1922		2	0	0	0	0	0	0	0
1923		3	0	0	0	0	0	0	0
1924		4	0	0	0	0	0	0	0
1925		5	0	0	0	0	0	0	0
1926		6	0	0	0	0	0	0	0
1927		7	0	0	0	0	0	0	0
1928		8	0	0	0	0	0	0	0
1929		9	0	0	0	0	0	0	0
1930		10	0	0	0	0	0	0	0
1931		11	0	0	0	0	0	0	0
1932		12	0	0	0	0	0	0	0
1933		13	0	0	0	0	0	0	0
1934		14	0	0	0	0	0	0	0
1935		15	0	0	0	0	0	0	0
1936		16	0	0	0	0	0	0	0
1937		17	0	0	0	0	0	0	0
1938		18	0	0	0	0	0	0	0
1939		19	0	0	0	0	0	0	0
1940		20	0	0	0	0	0	0	0
1941	3	R15	1	0	0	0	0	0	0
1942		2	0	0	0	0	0	0	0
1943		3	0	0	0	0	0	0	0
1944		4	0	0	0	0	0	0	0
1945		5	0	0	0	0	0	0	0
1946		6	0	0	0	0	0	0	0
1947		7	0	0	0	0	0	0	0
1948		8	0	0	0	0	0	0	0
1949		9	0	0	0	0	0	0	0
1950		10	0	0	0	0	0	0	0
1951		11	0	0	0	0	0	0	0
1952		12	0	0	0	0	0	0	0
1953		13	0	0	0	0	0	0	0
1954		14	0	0	0	0	0	0	0
1955		15	0	0	0	0	0	0	0
1956		16	0	0	0	0	0	0	0
1957		17	0	0	0	0	0	0	0
1958		18	0	0	0	0	0	0	0
1959		19	0	0	0	0	0	0	0
1960		20	0	0	0	0	0	0	0

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1961	3	M33	1	0	0	0	0	0	0
1962			2	0	0	0	0	0	0
1963			3	0	0	0	0	0	0
1964			4	0	0	0	0	0	0
1965			5	0	0	0	0	0	0
1966			6	0	0	0	0	0	0
1967			7	0	0	0	0	0	0
1968			8	0	0	0	0	0	0
1969			9	0	0	0	0	0	0
1970			10	0	0	0	0	0	0
1971			11	0	0	0	0	0	0
1972			12	0	0	0	0	0	0
1973			13	0	0	0	0	0	0
1974			14	0	0	0	0	0	0
1975			15	0	0	0	0	0	0
1976			16	0	0	0	0	0	0
1977			17	0	0	0	0	0	0
1978			18	0	0	0	0	0	0
1979			19	0	0	0	0	0	0
1980			20	0	0	0	0	0	0
1981	4	A1	1	0	0	0	0	0	0
1982			2	0	0	0	0	0	0
1983			3	0	0	0	0	0	0
1984			4	0	0	0	0	0	0
1985			5	0	0	0	0	0	0
1986			6	0	-0.001	0	-0.002	0.002	0
1987			7	0	-0.001	0	-0.002	0.002	0
1988			8	0	-0.001	0	-0.003	0.003	0
1989			9	0	-0.002	0	-0.004	0.004	0
1990			10	0	-0.002	0	-0.005	0.005	0
1991			11	0	-0.002	0	-0.006	0.006	0
1992			12	0	-0.002	0	-0.007	0.007	0
1993			13	0	-0.002	0	-0.009	0.009	0
1994			14	0	-0.003	0	-0.01	0.01	0
1995			15	0	-0.003	0	-0.012	0.012	0
1996			16	0	-0.003	0	-0.014	0.014	0
1997			17	0	-0.003	0	-0.016	0.016	0
1998			18	0	-0.003	0	-0.018	0.018	0
1999			19	0	-0.004	0	-0.02	0.02	0
2000			20	0	-0.004	0	-0.022	0.022	0
2001	4	A2	1	-0.002	-0.014	0.004	0.081	-0.081	0.003
2002			2	-0.003	-0.017	0.004	0.07	-0.07	0.004
2003			3	-0.003	-0.019	0.003	0.057	-0.057	0.004
2004			4	-0.003	-0.021	0.002	0.043	-0.043	0.005
2005			5	-0.003	-0.024	0.002	0.027	-0.027	0.005
2006			6	-0.003	-0.026	0.001	0.009	-0.009	0.005
2007			7	-0.003	-0.028	0	-0.01	0.01	0.005
2008			8	-0.003	-0.03	0	-0.031	0.031	0.005
2009			9	-0.003	-0.033	0	-0.054	0.054	0.005
2010			10	-0.003	-0.035	-0.001	-0.078	0.078	0.005
2011			11	-0.003	-0.037	-0.002	-0.103	0.103	0.005
2012			12	-0.003	-0.039	-0.003	-0.131	0.131	0.005
2013			13	-0.003	-0.042	-0.003	-0.159	0.159	0.004
2014			14	-0.003	-0.044	-0.004	-0.19	0.19	0.003
2015			15	-0.003	-0.046	-0.005	-0.222	0.222	0.003
2016			16	-0.004	-0.048	-0.005	-0.256	0.256	0.002
2017			17	-0.004	-0.051	-0.006	-0.291	0.291	0.001
2018			18	-0.004	-0.053	-0.007	-0.328	0.328	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2019		19	-0.004	-0.055	-0.007	-0.367	0.367	-0.001	0.001	
2020		20	-0.004	-0.057	-0.008	-0.407	0.407	-0.002	0.002	
2021	4	A3	1	0.002	0.065	0.019	-0.407	0.407	-0.031	0.031
2022		2	0.002	0.058	0.017	-0.269	0.269	-0.022	0.022	
2023		3	0.002	0.051	0.015	-0.146	0.146	-0.014	0.014	
2024		4	0.001	0.044	0.013	-0.04	0.04	-0.006	0.006	
2025		5	0.001	0.037	0.011	0.051	-0.051	0	0	
2026		6	0	0.03	0.009	0.126	-0.126	0.005	-0.005	
2027		7	0	0.023	0.007	0.185	-0.185	0.009	-0.009	
2028		8	0	0.016	0.005	0.228	-0.228	0.012	-0.012	
2029		9	0	0.009	0.003	0.255	-0.255	0.014	-0.014	
2030		10	0	0.001	0.001	0.266	-0.266	0.016	-0.016	
2031		11	0	-0.006	-0.001	0.261	-0.261	0.016	-0.016	
2032		12	0	-0.013	-0.003	0.241	-0.241	0.014	-0.014	
2033		13	0	-0.02	-0.005	0.204	-0.204	0.012	-0.012	
2034		14	0	-0.027	-0.007	0.152	-0.152	0.009	-0.009	
2035		15	0	-0.034	-0.009	0.084	-0.084	0.005	-0.005	
2036		16	-0.001	-0.041	-0.011	0	0	0	0	
2037		17	-0.001	-0.048	-0.013	-0.1	0.1	-0.006	0.006	
2038		18	-0.002	-0.055	-0.015	-0.216	0.216	-0.014	0.014	
2039		19	-0.002	-0.062	-0.017	-0.348	0.348	-0.022	0.022	
2040		20	-0.002	-0.069	-0.019	-0.496	0.496	-0.031	0.031	
2041	4	A4	1	0.002	0.068	0.019	-0.496	0.496	-0.031	0.031
2042		2	0.002	0.061	0.017	-0.352	0.352	-0.022	0.022	
2043		3	0.002	0.054	0.015	-0.223	0.223	-0.014	0.014	
2044		4	0.001	0.046	0.013	-0.111	0.111	-0.006	0.006	
2045		5	0.001	0.039	0.011	-0.014	0.014	0	0	
2046		6	0	0.032	0.009	0.066	-0.066	0.005	-0.005	
2047		7	0	0.025	0.007	0.131	-0.131	0.009	-0.009	
2048		8	0	0.018	0.005	0.18	-0.18	0.012	-0.012	
2049		9	0	0.011	0.003	0.213	-0.213	0.014	-0.014	
2050		10	0	0.004	0.001	0.23	-0.23	0.016	-0.016	
2051		11	0	-0.003	-0.001	0.231	-0.231	0.016	-0.016	
2052		12	0	-0.01	-0.003	0.216	-0.216	0.014	-0.014	
2053		13	0	-0.017	-0.005	0.186	-0.186	0.012	-0.012	
2054		14	0	-0.024	-0.007	0.139	-0.139	0.009	-0.009	
2055		15	0	-0.031	-0.009	0.077	-0.077	0.005	-0.005	
2056		16	-0.001	-0.038	-0.011	-0.002	0.002	0	0	
2057		17	-0.001	-0.045	-0.013	-0.096	0.096	-0.006	0.006	
2058		18	-0.002	-0.053	-0.015	-0.206	0.206	-0.014	0.014	
2059		19	-0.002	-0.06	-0.017	-0.332	0.332	-0.022	0.022	
2060		20	-0.002	-0.067	-0.019	-0.474	0.474	-0.031	0.031	
2061	4	A5	1	0.002	0.067	0.019	-0.474	0.474	-0.031	0.031
2062		2	0.002	0.06	0.017	-0.331	0.331	-0.022	0.022	
2063		3	0.002	0.053	0.015	-0.204	0.204	-0.014	0.014	
2064		4	0.001	0.046	0.013	-0.093	0.093	-0.006	0.006	
2065		5	0.001	0.039	0.011	0.002	-0.002	0	0	
2066		6	0	0.032	0.009	0.081	-0.081	0.005	-0.005	
2067		7	0	0.025	0.007	0.144	-0.144	0.009	-0.009	
2068		8	0	0.018	0.005	0.192	-0.192	0.012	-0.012	
2069		9	0	0.01	0.003	0.223	-0.223	0.014	-0.014	
2070		10	0	0.003	0.001	0.239	-0.239	0.016	-0.016	
2071		11	0	-0.004	-0.001	0.239	-0.239	0.016	-0.016	
2072		12	0	-0.011	-0.003	0.222	-0.222	0.014	-0.014	
2073		13	0	-0.018	-0.005	0.19	-0.19	0.012	-0.012	
2074		14	0	-0.025	-0.007	0.142	-0.142	0.009	-0.009	
2075		15	0	-0.032	-0.009	0.079	-0.079	0.005	-0.005	
2076		16	-0.001	-0.039	-0.011	-0.001	0.001	0	0	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2077		17	-0.001	-0.046	-0.013	-0.097	0.097	-0.006	0.006	
2078		18	-0.002	-0.053	-0.015	-0.208	0.208	-0.014	0.014	
2079		19	-0.002	-0.06	-0.017	-0.336	0.336	-0.022	0.022	
2080		20	-0.002	-0.067	-0.019	-0.479	0.479	-0.031	0.031	
2081	4	A6	1	0.002	0.067	0.019	-0.479	0.479	-0.031	0.031
2082		2	0.002	0.06	0.017	-0.336	0.336	-0.022	0.022	
2083		3	0.002	0.053	0.015	-0.209	0.209	-0.014	0.014	
2084		4	0.001	0.046	0.013	-0.097	0.097	-0.006	0.006	
2085		5	0.001	0.039	0.011	-0.002	0.002	0	0	
2086		6	0	0.032	0.009	0.077	-0.077	0.005	-0.005	
2087		7	0	0.025	0.007	0.141	-0.141	0.009	-0.009	
2088		8	0	0.018	0.005	0.189	-0.189	0.012	-0.012	
2089		9	0	0.011	0.003	0.22	-0.22	0.014	-0.014	
2090		10	0	0.004	0.001	0.236	-0.236	0.016	-0.016	
2091		11	0	-0.004	-0.001	0.236	-0.236	0.016	-0.016	
2092		12	0	-0.011	-0.003	0.22	-0.22	0.014	-0.014	
2093		13	0	-0.018	-0.005	0.189	-0.189	0.012	-0.012	
2094		14	0	-0.025	-0.007	0.141	-0.141	0.009	-0.009	
2095		15	0	-0.032	-0.009	0.077	-0.077	0.005	-0.005	
2096		16	-0.001	-0.039	-0.011	-0.002	0.002	0	0	
2097		17	-0.001	-0.046	-0.013	-0.097	0.097	-0.006	0.006	
2098		18	-0.002	-0.053	-0.015	-0.209	0.209	-0.014	0.014	
2099		19	-0.002	-0.06	-0.017	-0.336	0.336	-0.022	0.022	
2100		20	-0.002	-0.067	-0.019	-0.479	0.479	-0.031	0.031	
2101	4	A7	1	0.002	0.067	0.019	-0.479	0.479	-0.031	0.031
2102		2	0.002	0.06	0.017	-0.336	0.336	-0.022	0.022	
2103		3	0.002	0.053	0.015	-0.208	0.208	-0.014	0.014	
2104		4	0.001	0.046	0.013	-0.097	0.097	-0.006	0.006	
2105		5	0.001	0.039	0.011	-0.001	0.001	0	0	
2106		6	0	0.032	0.009	0.079	-0.079	0.005	-0.005	
2107		7	0	0.025	0.007	0.142	-0.142	0.009	-0.009	
2108		8	0	0.018	0.005	0.19	-0.19	0.012	-0.012	
2109		9	0	0.011	0.003	0.222	-0.222	0.014	-0.014	
2110		10	0	0.004	0.001	0.239	-0.239	0.016	-0.016	
2111		11	0	-0.003	-0.001	0.239	-0.239	0.016	-0.016	
2112		12	0	-0.01	-0.003	0.223	-0.223	0.014	-0.014	
2113		13	0	-0.018	-0.005	0.192	-0.192	0.012	-0.012	
2114		14	0	-0.025	-0.007	0.144	-0.144	0.009	-0.009	
2115		15	0	-0.032	-0.009	0.081	-0.081	0.005	-0.005	
2116		16	-0.001	-0.039	-0.011	0.002	-0.002	0	0	
2117		17	-0.001	-0.046	-0.013	-0.093	0.093	-0.006	0.006	
2118		18	-0.002	-0.053	-0.015	-0.204	0.204	-0.014	0.014	
2119		19	-0.002	-0.06	-0.017	-0.331	0.331	-0.022	0.022	
2120		20	-0.002	-0.067	-0.019	-0.474	0.474	-0.031	0.031	
2121	4	A8	1	0.002	0.067	0.019	-0.474	0.474	-0.031	0.031
2122		2	0.002	0.06	0.017	-0.332	0.332	-0.022	0.022	
2123		3	0.002	0.053	0.015	-0.206	0.206	-0.014	0.014	
2124		4	0.001	0.045	0.013	-0.096	0.096	-0.006	0.006	
2125		5	0.001	0.038	0.011	-0.002	0.002	0	0	
2126		6	0	0.031	0.009	0.077	-0.077	0.005	-0.005	
2127		7	0	0.024	0.007	0.139	-0.139	0.009	-0.009	
2128		8	0	0.017	0.005	0.186	-0.186	0.012	-0.012	
2129		9	0	0.01	0.003	0.216	-0.216	0.014	-0.014	
2130		10	0	0.003	0.001	0.231	-0.231	0.016	-0.016	
2131		11	0	-0.004	-0.001	0.23	-0.23	0.016	-0.016	
2132		12	0	-0.011	-0.003	0.213	-0.213	0.014	-0.014	
2133		13	0	-0.018	-0.005	0.18	-0.18	0.012	-0.012	
2134		14	0	-0.025	-0.007	0.131	-0.131	0.009	-0.009	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2135		15	0	-0.032	-0.009	0.066	-0.066	0.005	-0.005	
2136		16	-0.001	-0.039	-0.011	-0.014	0.014	0	0	
2137		17	-0.001	-0.046	-0.013	-0.111	0.111	-0.006	0.006	
2138		18	-0.002	-0.054	-0.015	-0.224	0.224	-0.014	0.014	
2139		19	-0.002	-0.062	-0.017	-0.354	0.354	-0.022	0.022	
2140		20	-0.002	-0.069	-0.019	-0.501	0.501	-0.031	0.031	
2141	4	A9	1	0.002	0.072	0.019	-0.501	0.501	-0.031	0.031
2142		2	0.002	0.065	0.017	-0.347	0.347	-0.022	0.022	
2143		3	0.002	0.057	0.015	-0.211	0.211	-0.014	0.014	
2144		4	0.001	0.049	0.013	-0.092	0.092	-0.006	0.006	
2145		5	0.001	0.042	0.011	0.011	-0.011	0	0	
2146		6	0	0.034	0.009	0.096	-0.096	0.005	-0.005	
2147		7	0	0.026	0.007	0.164	-0.164	0.009	-0.009	
2148		8	0	0.019	0.005	0.215	-0.215	0.012	-0.012	
2149		9	0	0.011	0.003	0.248	-0.248	0.014	-0.014	
2150		10	0	0.004	0.001	0.265	-0.265	0.016	-0.016	
2151		11	0	-0.004	-0.001	0.265	-0.265	0.016	-0.016	
2152		12	0	-0.012	-0.003	0.247	-0.247	0.014	-0.014	
2153		13	0	-0.019	-0.005	0.212	-0.212	0.012	-0.012	
2154		14	0	-0.027	-0.007	0.161	-0.161	0.009	-0.009	
2155		15	0	-0.034	-0.009	0.092	-0.092	0.005	-0.005	
2156		16	-0.001	-0.042	-0.011	0.006	-0.006	0	0	
2157		17	-0.001	-0.05	-0.013	-0.097	0.097	-0.006	0.006	
2158		18	-0.002	-0.057	-0.015	-0.218	0.218	-0.014	0.014	
2159		19	-0.002	-0.065	-0.017	-0.355	0.355	-0.022	0.022	
2160		20	-0.002	-0.073	-0.019	-0.509	0.509	-0.031	0.031	
2161	4	A10	1	0.002	0.071	0.019	-0.509	0.509	-0.031	0.031
2162		2	0.002	0.063	0.017	-0.358	0.358	-0.022	0.022	
2163		3	0.002	0.056	0.015	-0.225	0.225	-0.014	0.014	
2164		4	0.001	0.048	0.013	-0.108	0.108	-0.006	0.006	
2165		5	0.001	0.041	0.011	-0.008	0.008	0	0	
2166		6	0	0.033	0.009	0.074	-0.074	0.005	-0.005	
2167		7	0	0.025	0.007	0.14	-0.14	0.009	-0.009	
2168		8	0	0.018	0.005	0.188	-0.188	0.012	-0.012	
2169		9	0	0.011	0.003	0.22	-0.22	0.014	-0.014	
2170		10	0	0.004	0.001	0.236	-0.236	0.016	-0.016	
2171		11	0	-0.003	-0.001	0.236	-0.236	0.016	-0.016	
2172		12	0	-0.011	-0.003	0.22	-0.22	0.014	-0.014	
2173		13	0	-0.018	-0.005	0.189	-0.189	0.012	-0.012	
2174		14	0	-0.025	-0.007	0.141	-0.141	0.009	-0.009	
2175		15	0	-0.032	-0.009	0.078	-0.078	0.005	-0.005	
2176		16	-0.001	-0.039	-0.011	-0.002	0.002	0	0	
2177		17	-0.001	-0.046	-0.013	-0.097	0.097	-0.006	0.006	
2178		18	-0.002	-0.053	-0.015	-0.208	0.208	-0.014	0.014	
2179		19	-0.002	-0.06	-0.017	-0.335	0.335	-0.022	0.022	
2180		20	-0.002	-0.067	-0.019	-0.478	0.478	-0.031	0.031	
2181	4	A11	1	0.002	0.067	0.019	-0.477	0.477	-0.031	0.031
2182		2	0.002	0.06	0.017	-0.334	0.334	-0.022	0.022	
2183		3	0.002	0.053	0.015	-0.207	0.207	-0.014	0.014	
2184		4	0.001	0.046	0.013	-0.095	0.095	-0.006	0.006	
2185		5	0.001	0.039	0.011	0	0	0	0	
2186		6	0	0.032	0.009	0.079	-0.079	0.005	-0.005	
2187		7	0	0.025	0.007	0.143	-0.143	0.009	-0.009	
2188		8	0	0.018	0.005	0.19	-0.19	0.012	-0.012	
2189		9	0	0.011	0.003	0.222	-0.222	0.014	-0.014	
2190		10	0	0.003	0.001	0.238	-0.238	0.016	-0.016	
2191		11	0	-0.004	-0.001	0.238	-0.238	0.016	-0.016	
2192		12	0	-0.011	-0.003	0.222	-0.222	0.014	-0.014	





**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2193		13	0	-0.018	-0.005	0.19	-0.19	0.012	-0.012	
2194		14	0	-0.025	-0.007	0.142	-0.142	0.009	-0.009	
2195		15	0	-0.032	-0.009	0.078	-0.078	0.005	-0.005	
2196		16	-0.001	-0.039	-0.011	-0.001	0.001	0	0	
2197		17	-0.001	-0.046	-0.013	-0.097	0.097	-0.006	0.006	
2198		18	-0.002	-0.053	-0.015	-0.208	0.208	-0.014	0.014	
2199		19	-0.002	-0.06	-0.017	-0.335	0.335	-0.022	0.022	
2200		20	-0.002	-0.067	-0.019	-0.478	0.478	-0.031	0.031	
2201	4	A12	1	0.002	0.067	0.019	-0.478	0.478	-0.031	0.031
2202		2	0.002	0.06	0.017	-0.335	0.335	-0.022	0.022	
2203		3	0.002	0.053	0.015	-0.208	0.208	-0.014	0.014	
2204		4	0.001	0.046	0.013	-0.097	0.097	-0.006	0.006	
2205		5	0.001	0.039	0.011	-0.002	0.002	0	0	
2206		6	0	0.032	0.009	0.078	-0.078	0.005	-0.005	
2207		7	0	0.025	0.007	0.141	-0.141	0.009	-0.009	
2208		8	0	0.018	0.005	0.189	-0.189	0.012	-0.012	
2209		9	0	0.011	0.003	0.221	-0.221	0.014	-0.014	
2210		10	0	0.004	0.001	0.237	-0.237	0.016	-0.016	
2211		11	0	-0.004	-0.001	0.237	-0.237	0.016	-0.016	
2212		12	0	-0.011	-0.003	0.221	-0.221	0.014	-0.014	
2213		13	0	-0.018	-0.005	0.189	-0.189	0.012	-0.012	
2214		14	0	-0.025	-0.007	0.141	-0.141	0.009	-0.009	
2215		15	0	-0.032	-0.009	0.078	-0.078	0.005	-0.005	
2216		16	-0.001	-0.039	-0.011	-0.002	0.002	0	0	
2217		17	-0.001	-0.046	-0.013	-0.097	0.097	-0.006	0.006	
2218		18	-0.002	-0.053	-0.015	-0.208	0.208	-0.014	0.014	
2219		19	-0.002	-0.06	-0.017	-0.335	0.335	-0.022	0.022	
2220		20	-0.002	-0.067	-0.019	-0.478	0.478	-0.031	0.031	
2221	4	A13	1	0.002	0.067	0.019	-0.478	0.478	-0.031	0.031
2222		2	0.002	0.06	0.017	-0.335	0.335	-0.022	0.022	
2223		3	0.002	0.053	0.015	-0.208	0.208	-0.014	0.014	
2224		4	0.001	0.046	0.013	-0.097	0.097	-0.006	0.006	
2225		5	0.001	0.039	0.011	-0.001	0.001	0	0	
2226		6	0	0.032	0.009	0.078	-0.078	0.005	-0.005	
2227		7	0	0.025	0.007	0.142	-0.142	0.009	-0.009	
2228		8	0	0.018	0.005	0.19	-0.19	0.012	-0.012	
2229		9	0	0.011	0.003	0.222	-0.222	0.014	-0.014	
2230		10	0	0.004	0.001	0.237	-0.237	0.016	-0.016	
2231		11	0	-0.004	-0.001	0.238	-0.238	0.016	-0.016	
2232		12	0	-0.011	-0.003	0.222	-0.222	0.014	-0.014	
2233		13	0	-0.018	-0.005	0.19	-0.19	0.012	-0.012	
2234		14	0	-0.025	-0.007	0.142	-0.142	0.009	-0.009	
2235		15	0	-0.032	-0.009	0.079	-0.079	0.005	-0.005	
2236		16	-0.001	-0.039	-0.011	0	0	0	0	
2237		17	-0.001	-0.046	-0.013	-0.096	0.096	-0.006	0.006	
2238		18	-0.002	-0.053	-0.015	-0.207	0.207	-0.014	0.014	
2239		19	-0.002	-0.06	-0.017	-0.334	0.334	-0.022	0.022	
2240		20	-0.002	-0.067	-0.019	-0.477	0.477	-0.031	0.031	
2241	4	A14	1	0.002	0.067	0.019	-0.477	0.477	-0.031	0.031
2242		2	0.002	0.06	0.017	-0.334	0.334	-0.022	0.022	
2243		3	0.002	0.053	0.015	-0.207	0.207	-0.014	0.014	
2244		4	0.001	0.046	0.013	-0.096	0.096	-0.006	0.006	
2245		5	0.001	0.039	0.011	-0.001	0.001	0	0	
2246		6	0	0.032	0.009	0.078	-0.078	0.005	-0.005	
2247		7	0	0.025	0.007	0.141	-0.141	0.009	-0.009	
2248		8	0	0.018	0.005	0.188	-0.188	0.012	-0.012	
2249		9	0	0.01	0.003	0.22	-0.22	0.014	-0.014	
2250		10	0	0.003	0.001	0.235	-0.235	0.016	-0.016	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2251		11	0	-0.004	-0.001	0.235	-0.235	0.016	-0.016	
2252		12	0	-0.011	-0.003	0.219	-0.219	0.014	-0.014	
2253		13	0	-0.018	-0.005	0.187	-0.187	0.012	-0.012	
2254		14	0	-0.025	-0.007	0.139	-0.139	0.009	-0.009	
2255		15	0	-0.032	-0.009	0.075	-0.075	0.005	-0.005	
2256		16	-0.001	-0.039	-0.011	-0.005	0.005	0	0	
2257		17	-0.001	-0.046	-0.013	-0.101	0.101	-0.006	0.006	
2258		18	-0.002	-0.053	-0.015	-0.212	0.212	-0.014	0.014	
2259		19	-0.002	-0.06	-0.017	-0.34	0.34	-0.022	0.022	
2260		20	-0.002	-0.067	-0.019	-0.483	0.483	-0.031	0.031	
2261	4	A15	1	0.002	0.068	0.019	-0.483	0.483	-0.031	0.031
2262		2	0.002	0.061	0.017	-0.339	0.339	-0.022	0.022	
2263		3	0.002	0.054	0.015	-0.21	0.21	-0.014	0.014	
2264		4	0.001	0.047	0.013	-0.098	0.098	-0.006	0.006	
2265		5	0.001	0.039	0.011	-0.001	0.001	0	0	
2266		6	0	0.032	0.009	0.08	-0.08	0.005	-0.005	
2267		7	0	0.025	0.007	0.145	-0.145	0.009	-0.009	
2268		8	0	0.018	0.005	0.194	-0.194	0.012	-0.012	
2269		9	0	0.011	0.003	0.227	-0.227	0.014	-0.014	
2270		10	0	0.004	0.001	0.244	-0.244	0.016	-0.016	
2271		11	0	-0.003	0	0.245	-0.245	0.016	-0.016	
2272		12	0	-0.01	-0.003	0.23	-0.23	0.014	-0.014	
2273		13	0	-0.017	-0.005	0.2	-0.2	0.012	-0.012	
2274		14	0	-0.024	-0.007	0.154	-0.154	0.009	-0.009	
2275		15	0	-0.031	-0.009	0.091	-0.091	0.005	-0.005	
2276		16	-0.001	-0.038	-0.011	0.013	-0.013	0	0	
2277		17	-0.001	-0.045	-0.013	-0.081	0.081	-0.006	0.006	
2278		18	-0.002	-0.052	-0.015	-0.191	0.191	-0.014	0.014	
2279		19	-0.002	-0.06	-0.017	-0.317	0.317	-0.022	0.022	
2280		20	-0.002	-0.067	-0.019	-0.458	0.458	-0.031	0.031	
2281	4	A16	1	0.005	0.07	0.013	-0.458	0.458	-0.008	0.008
2282		2	0.005	0.066	0.012	-0.38	0.38	-0.005	0.005	
2283		3	0.005	0.063	0.011	-0.305	0.305	-0.002	0.002	
2284		4	0.005	0.059	0.01	-0.235	0.235	0	0	
2285		5	0.005	0.055	0.009	-0.169	0.169	0.003	-0.003	
2286		6	0.005	0.052	0.008	-0.107	0.107	0.006	-0.006	
2287		7	0.005	0.048	0.007	-0.049	0.049	0.007	-0.007	
2288		8	0.004	0.045	0.006	0.004	-0.004	0.009	-0.009	
2289		9	0.004	0.041	0.004	0.053	-0.053	0.01	-0.01	
2290		10	0.004	0.037	0.003	0.099	-0.099	0.011	-0.011	
2291		11	0.004	0.034	0.002	0.139	-0.139	0.012	-0.012	
2292		12	0.004	0.03	0.001	0.176	-0.176	0.013	-0.013	
2293		13	0.004	0.026	0	0.209	-0.209	0.013	-0.013	
2294		14	0.004	0.023	0	0.237	-0.237	0.013	-0.013	
2295		15	0.004	0.019	-0.002	0.261	-0.261	0.013	-0.013	
2296		16	0.004	0.015	-0.003	0.281	-0.281	0.012	-0.012	
2297		17	0.003	0.012	-0.004	0.297	-0.297	0.011	-0.011	
2298		18	0.003	0.008	-0.005	0.309	-0.309	0.01	-0.01	
2299		19	0.003	0.005	-0.006	0.316	-0.316	0.009	-0.009	
2300		20	0.003	0	-0.007	0.319	-0.319	0.007	-0.007	
2301	4	A17	1	0	0.004	0	-0.024	0.024	0	0
2302		2	0	0.004	0	-0.022	0.022	0	0	
2303		3	0	0.004	0	-0.02	0.02	0	0	
2304		4	0	0.003	0	-0.017	0.017	0	0	
2305		5	0	0.003	0	-0.015	0.015	0	0	
2306		6	0	0.003	0	-0.013	0.013	0	0	
2307		7	0	0.003	0	-0.011	0.011	0	0	
2308		8	0	0.003	0	-0.01	0.01	0	0	

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2309		9	0	0.002	0	-0.008	0.008	0	0
2310		10	0	0.002	0	-0.007	0.007	0	0
2311		11	0	0.002	0	-0.005	0.005	0	0
2312		12	0	0.002	0	-0.004	0.004	0	0
2313		13	0	0.001	0	-0.003	0.003	0	0
2314		14	0	0.001	0	-0.002	0.002	0	0
2315		15	0	0.001	0	-0.002	0.002	0	0
2316		16	0	0	0	-0.001	0.001	0	0
2317		17	0	0	0	0	0	0	0
2318		18	0	0	0	0	0	0	0
2319		19	0	0	0	0	0	0	0
2320		20	0	0	0	0	0	0	0
2321	4	R1	1	0	0	0	0	0	0
2322		2	0	0	0	0	0	0	0
2323		3	0	0	0	0	0	0	0
2324		4	0	0	0	0	0	0	0
2325		5	0	0	0	0	0	0	0
2326		6	0	0	0	0	0	0	0
2327		7	0	0	0	0	0	0	0
2328		8	0	0	0	0	0	0	0
2329		9	0	0	0	0	0	0	0
2330		10	0	0	0	0	0	0	0
2331		11	0	0	0	0	0	0	0
2332		12	0	0	0	0	0	0	0
2333		13	0	0	0	0	0	0	0
2334		14	0	0	0	0	0	0	0
2335		15	0	0	0	0	0	0	0
2336		16	0	0	0	0	0	0	0
2337		17	0	0	0	0	0	0	0
2338		18	0	0	0	0	0	0	0
2339		19	0	0	0	0	0	0	0
2340		20	0	0	0	0	0	0	0
2341	4	R2	1	0	0	0	0	0	0
2342		2	0	0	0	0	0	0	0
2343		3	0	0	0	0	0	0	0
2344		4	0	0	0	0	0	0	0
2345		5	0	0	0	0	0	0	0
2346		6	0	0	0	0	0	0	0
2347		7	0	0	0	0	0	0	0
2348		8	0	0	0	0	0	0	0
2349		9	0	0	0	0	0	0	0
2350		10	0	0	0	0	0	0	0
2351		11	0	0	0	0	0	0	0
2352		12	0	0	0	0	0	0	0
2353		13	0	0	0	0	0	0	0
2354		14	0	0	0	0	0	0	0
2355		15	0	0	0	0	0	0	0
2356		16	0	0	0	0	0	0	0
2357		17	0	0	0	0	0	0	0
2358		18	0	0	0	0	0	0	0
2359		19	0	0	0	0	0	0	0
2360		20	0	0	0	0	0	0	0
2361	4	R3	1	0	0	0	0	0	0
2362		2	0	0	0	0	0	0	0
2363		3	0	0	0	0	0	0	0
2364		4	0	0	0	0	0	0	0
2365		5	0	0	0	0	0	0	0
2366		6	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2367		7	0	0	0	0	0	0	0
2368		8	0	0	0	0	0	0	0
2369		9	0	0	0	0	0	0	0
2370		10	0	0	0	0	0	0	0
2371		11	0	0	0	0	0	0	0
2372		12	0	0	0	0	0	0	0
2373		13	0	0	0	0	0	0	0
2374		14	0	0	0	0	0	0	0
2375		15	0	0	0	0	0	0	0
2376		16	0	0	0	0	0	0	0
2377		17	0	0	0	0	0	0	0
2378		18	0	0	0	0	0	0	0
2379		19	0	0	0	0	0	0	0
2380		20	0	0	0	0	0	0	0
2381	4	R4	1	0	0	0	0	0	0
2382		2	0	0	0	0	0	0	0
2383		3	0	0	0	0	0	0	0
2384		4	0	0	0	0	0	0	0
2385		5	0	0	0	0	0	0	0
2386		6	0	0	0	0	0	0	0
2387		7	0	0	0	0	0	0	0
2388		8	0	0	0	0	0	0	0
2389		9	0	0	0	0	0	0	0
2390		10	0	0	0	0	0	0	0
2391		11	0	0	0	0	0	0	0
2392		12	0	0	0	0	0	0	0
2393		13	0	0	0	0	0	0	0
2394		14	0	0	0	0	0	0	0
2395		15	0	0	0	0	0	0	0
2396		16	0	0	0	0	0	0	0
2397		17	0	0	0	0	0	0	0
2398		18	0	0	0	0	0	0	0
2399		19	0	0	0	0	0	0	0
2400		20	0	0	0	0	0	0	0
2401	4	R5	1	0	0	0	0	0	0
2402		2	0	0	0	0	0	0	0
2403		3	0	0	0	0	0	0	0
2404		4	0	0	0	0	0	0	0
2405		5	0	0	0	0	0	0	0
2406		6	0	0	0	0	0	0	0
2407		7	0	0	0	0	0	0	0
2408		8	0	0	0	0	0	0	0
2409		9	0	0	0	0	0	0	0
2410		10	0	0	0	0	0	0	0
2411		11	0	0	0	0	0	0	0
2412		12	0	0	0	0	0	0	0
2413		13	0	0	0	0	0	0	0
2414		14	0	0	0	0	0	0	0
2415		15	0	0	0	0	0	0	0
2416		16	0	0	0	0	0	0	0
2417		17	0	0	0	0	0	0	0
2418		18	0	0	0	0	0	0	0
2419		19	0	0	0	0	0	0	0
2420		20	0	0	0	0	0	0	0
2421	4	R6	1	0	0	0	0	0	0
2422		2	0	0	0	0	0	0	0
2423		3	0	0	0	0	0	0	0
2424		4	0	0	0	0	0	0	0



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2425		5	0	0	0	0	0	0	0
2426		6	0	0	0	0	0	0	0
2427		7	0	0	0	0	0	0	0
2428		8	0	0	0	0	0	0	0
2429		9	0	0	0	0	0	0	0
2430		10	0	0	0	0	0	0	0
2431		11	0	0	0	0	0	0	0
2432		12	0	0	0	0	0	0	0
2433		13	0	0	0	0	0	0	0
2434		14	0	0	0	0	0	0	0
2435		15	0	0	0	0	0	0	0
2436		16	0	0	0	0	0	0	0
2437		17	0	0	0	0	0	0	0
2438		18	0	0	0	0	0	0	0
2439		19	0	0	0	0	0	0	0
2440		20	0	0	0	0	0	0	0
2441	4	R7	1	0	0	0	0	0	0
2442		2	0	0	0	0	0	0	0
2443		3	0	0	0	0	0	0	0
2444		4	0	0	0	0	0	0	0
2445		5	0	0	0	0	0	0	0
2446		6	0	0	0	0	0	0	0
2447		7	0	0	0	0	0	0	0
2448		8	0	0	0	0	0	0	0
2449		9	0	0	0	0	0	0	0
2450		10	0	0	0	0	0	0	0
2451		11	0	0	0	0	0	0	0
2452		12	0	0	0	0	0	0	0
2453		13	0	0	0	0	0	0	0
2454		14	0	0	0	0	0	0	0
2455		15	0	0	0	0	0	0	0
2456		16	0	0	0	0	0	0	0
2457		17	0	0	0	0	0	0	0
2458		18	0	0	0	0	0	0	0
2459		19	0	0	0	0	0	0	0
2460		20	0	0	0	0	0	0	0
2461	4	R8	1	0	0	0	0	0	0
2462		2	0	0	0	0	0	0	0
2463		3	0	0	0	0	0	0	0
2464		4	0	0	0	0	0	0	0
2465		5	0	0	0	0	0	0	0
2466		6	0	0	0	0	0	0	0
2467		7	0	0	0	0	0	0	0
2468		8	0	0	0	0	0	0	0
2469		9	0	0	0	0	0	0	0
2470		10	0	0	0	0	0	0	0
2471		11	0	0	0	0	0	0	0
2472		12	0	0	0	0	0	0	0
2473		13	0	0	0	0	0	0	0
2474		14	0	0	0	0	0	0	0
2475		15	0	0	0	0	0	0	0
2476		16	0	0	0	0	0	0	0
2477		17	0	0	0	0	0	0	0
2478		18	0	0	0	0	0	0	0
2479		19	0	0	0	0	0	0	0
2480		20	0	0	0	0	0	0	0
2481	4	R9	1	0	0	0	0	0	0
2482		2	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2483		3	0	0	0	0	0	0	0
2484		4	0	0	0	0	0	0	0
2485		5	0	0	0	0	0	0	0
2486		6	0	0	0	0	0	0	0
2487		7	0	0	0	0	0	0	0
2488		8	0	0	0	0	0	0	0
2489		9	0	0	0	0	0	0	0
2490		10	0	0	0	0	0	0	0
2491		11	0	0	0	0	0	0	0
2492		12	0	0	0	0	0	0	0
2493		13	0	0	0	0	0	0	0
2494		14	0	0	0	0	0	0	0
2495		15	0	0	0	0	0	0	0
2496		16	0	0	0	0	0	0	0
2497		17	0	0	0	0	0	0	0
2498		18	0	0	0	0	0	0	0
2499		19	0	0	0	0	0	0	0
2500		20	0	0	0	0	0	0	0
2501	4	R10	1	0	0	0	0	0	0
2502		2	0	0	0	0	0	0	0
2503		3	0	0	0	0	0	0	0
2504		4	0	0	0	0	0	0	0
2505		5	0	0	0	0	0	0	0
2506		6	0	0	0	0	0	0	0
2507		7	0	0	0	0	0	0	0
2508		8	0	0	0	0	0	0	0
2509		9	0	0	0	0	0	0	0
2510		10	0	0	0	0	0	0	0
2511		11	0	0	0	0	0	0	0
2512		12	0	0	0	0	0	0	0
2513		13	0	0	0	0	0	0	0
2514		14	0	0	0	0	0	0	0
2515		15	0	0	0	0	0	0	0
2516		16	0	0	0	0	0	0	0
2517		17	0	0	0	0	0	0	0
2518		18	0	0	0	0	0	0	0
2519		19	0	0	0	0	0	0	0
2520		20	0	0	0	0	0	0	0
2521	4	R11	1	0	0	0	0	0	0
2522		2	0	0	0	0	0	0	0
2523		3	0	0	0	0	0	0	0
2524		4	0	0	0	0	0	0	0
2525		5	0	0	0	0	0	0	0
2526		6	0	0	0	0	0	0	0
2527		7	0	0	0	0	0	0	0
2528		8	0	0	0	0	0	0	0
2529		9	0	0	0	0	0	0	0
2530		10	0	0	0	0	0	0	0
2531		11	0	0	0	0	0	0	0
2532		12	0	0	0	0	0	0	0
2533		13	0	0	0	0	0	0	0
2534		14	0	0	0	0	0	0	0
2535		15	0	0	0	0	0	0	0
2536		16	0	0	0	0	0	0	0
2537		17	0	0	0	0	0	0	0
2538		18	0	0	0	0	0	0	0
2539		19	0	0	0	0	0	0	0
2540		20	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2541	4	R12	1	0	0	0	0	0	0
2542			2	0	0	0	0	0	0
2543			3	0	0	0	0	0	0
2544			4	0	0	0	0	0	0
2545			5	0	0	0	0	0	0
2546			6	0	0	0	0	0	0
2547			7	0	0	0	0	0	0
2548			8	0	0	0	0	0	0
2549			9	0	0	0	0	0	0
2550			10	0	0	0	0	0	0
2551			11	0	0	0	0	0	0
2552			12	0	0	0	0	0	0
2553			13	0	0	0	0	0	0
2554			14	0	0	0	0	0	0
2555			15	0	0	0	0	0	0
2556			16	0	0	0	0	0	0
2557			17	0	0	0	0	0	0
2558			18	0	0	0	0	0	0
2559			19	0	0	0	0	0	0
2560			20	0	0	0	0	0	0
2561	4	R13	1	0	0	0	0	0	0
2562			2	0	0	0	0	0	0
2563			3	0	0	0	0	0	0
2564			4	0	0	0	0	0	0
2565			5	0	0	0	0	0	0
2566			6	0	0	0	0	0	0
2567			7	0	0	0	0	0	0
2568			8	0	0	0	0	0	0
2569			9	0	0	0	0	0	0
2570			10	0	0	0	0	0	0
2571			11	0	0	0	0	0	0
2572			12	0	0	0	0	0	0
2573			13	0	0	0	0	0	0
2574			14	0	0	0	0	0	0
2575			15	0	0	0	0	0	0
2576			16	0	0	0	0	0	0
2577			17	0	0	0	0	0	0
2578			18	0	0	0	0	0	0
2579			19	0	0	0	0	0	0
2580			20	0	0	0	0	0	0
2581	4	R14	1	0	0	0	0	0	0
2582			2	0	0	0	0	0	0
2583			3	0	0	0	0	0	0
2584			4	0	0	0	0	0	0
2585			5	0	0	0	0	0	0
2586			6	0	0	0	0	0	0
2587			7	0	0	0	0	0	0
2588			8	0	0	0	0	0	0
2589			9	0	0	0	0	0	0
2590			10	0	0	0	0	0	0
2591			11	0	0	0	0	0	0
2592			12	0	0	0	0	0	0
2593			13	0	0	0	0	0	0
2594			14	0	0	0	0	0	0
2595			15	0	0	0	0	0	0
2596			16	0	0	0	0	0	0
2597			17	0	0	0	0	0	0
2598			18	0	0	0	0	0	0





**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2599		19	0	0	0	0	0	0	0
2600		20	0	0	0	0	0	0	0
2601	4	R15	1	0	0	0	0	0	0
2602		2	0	0	0	0	0	0	0
2603		3	0	0	0	0	0	0	0
2604		4	0	0	0	0	0	0	0
2605		5	0	0	0	0	0	0	0
2606		6	0	0	0	0	0	0	0
2607		7	0	0	0	0	0	0	0
2608		8	0	0	0	0	0	0	0
2609		9	0	0	0	0	0	0	0
2610		10	0	0	0	0	0	0	0
2611		11	0	0	0	0	0	0	0
2612		12	0	0	0	0	0	0	0
2613		13	0	0	0	0	0	0	0
2614		14	0	0	0	0	0	0	0
2615		15	0	0	0	0	0	0	0
2616		16	0	0	0	0	0	0	0
2617		17	0	0	0	0	0	0	0
2618		18	0	0	0	0	0	0	0
2619		19	0	0	0	0	0	0	0
2620		20	0	0	0	0	0	0	0
2621	4	M33	1	0	0	0	0	0	0
2622		2	0	0	0	0	0	0	0
2623		3	0	0	0	0	0	0	0
2624		4	0	0	0	0	0	0	0
2625		5	0	0	0	0	0	0	0
2626		6	0	0	0	0	0	0	0
2627		7	0	0	0	0	0	0	0
2628		8	0	0	0	0	0	0	0
2629		9	0	0	0	0	0	0	0
2630		10	0	0	0	0	0	0	0
2631		11	0	0	0	0	0	0	0
2632		12	0	0	0	0	0	0	0
2633		13	0	0	0	0	0	0	0
2634		14	0	0	0	0	0	0	0
2635		15	0	0	0	0	0	0	0
2636		16	0	0	0	0	0	0	0
2637		17	0	0	0	0	0	0	0
2638		18	0	0	0	0	0	0	0
2639		19	0	0	0	0	0	0	0
2640		20	0	0	0	0	0	0	0
2641	5	A1	1	0	0	0	0	0	0
2642		2	0	0	0	0	0	0	0
2643		3	0	0	0	0	0	0	0
2644		4	0	0	0	0	0	0	0
2645		5	0	0	0	0	0	0	0
2646		6	0	0	0	-0.001	0.001	0	0
2647		7	0	0	0	-0.002	0.002	0	0
2648		8	0	-0.001	0	-0.002	0.002	0	0
2649		9	0	-0.001	0	-0.003	0.003	0	0
2650		10	0	-0.001	0	-0.004	0.004	0	0
2651		11	0	-0.002	0	-0.005	0.005	0	0
2652		12	0	-0.002	0	-0.006	0.006	0	0
2653		13	0	-0.002	0	-0.007	0.007	0	0
2654		14	0	-0.002	0	-0.008	0.008	0	0
2655		15	0	-0.002	0	-0.01	0.01	0	0
2656		16	0	-0.002	0	-0.011	0.011	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2657		17	0	-0.003	0	-0.013	0.013	0	0
2658		18	0	-0.003	0	-0.014	0.014	0	0
2659		19	0	-0.003	0	-0.016	0.016	0	0
2660		20	0	-0.003	0	-0.018	0.018	0	0
2661	5	A2	1	-0.002	-0.012	0.004	0.063	-0.063	0.003
2662		2	-0.002	-0.013	0.003	0.054	-0.054	0.003	-0.003
2663		3	-0.002	-0.015	0.003	0.044	-0.044	0.004	-0.004
2664		4	-0.002	-0.016	0.002	0.033	-0.033	0.004	-0.004
2665		5	-0.002	-0.018	0.002	0.021	-0.021	0.004	-0.004
2666		6	-0.002	-0.019	0	0.007	-0.007	0.005	-0.005
2667		7	-0.002	-0.021	0	-0.007	0.007	0.005	-0.005
2668		8	-0.003	-0.023	0	-0.023	0.023	0.005	-0.005
2669		9	-0.003	-0.024	0	-0.04	0.04	0.005	-0.005
2670		10	-0.003	-0.026	-0.001	-0.057	0.057	0.004	-0.004
2671		11	-0.003	-0.027	-0.002	-0.076	0.076	0.004	-0.004
2672		12	-0.003	-0.029	-0.002	-0.096	0.096	0.004	-0.004
2673		13	-0.003	-0.03	-0.003	-0.117	0.117	0.003	-0.003
2674		14	-0.003	-0.032	-0.003	-0.14	0.14	0.003	-0.003
2675		15	-0.003	-0.033	-0.004	-0.163	0.163	0.002	-0.002
2676		16	-0.003	-0.035	-0.004	-0.187	0.187	0.002	-0.002
2677		17	-0.003	-0.037	-0.005	-0.213	0.213	0	0
2678		18	-0.003	-0.038	-0.006	-0.24	0.24	0	0
2679		19	-0.003	-0.04	-0.006	-0.267	0.267	0	0
2680		20	-0.003	-0.041	-0.007	-0.296	0.296	-0.002	0.002
2681	5	A3	1	0.002	0.045	0.016	-0.296	0.296	-0.027
2682		2	0.002	0.04	0.014	-0.2	0.2	-0.019	0.019
2683		3	0.001	0.036	0.013	-0.115	0.115	-0.012	0.012
2684		4	0.001	0.031	0.011	-0.04	0.04	-0.005	0.005
2685		5	0.001	0.026	0.009	0.023	-0.023	0	0
2686		6	0	0.021	0.008	0.076	-0.076	0.004	-0.004
2687		7	0	0.016	0.006	0.118	-0.118	0.008	-0.008
2688		8	0	0.011	0.004	0.148	-0.148	0.011	-0.011
2689		9	0	0.006	0.003	0.168	-0.168	0.012	-0.012
2690		10	0	0.001	0	0.177	-0.177	0.013	-0.013
2691		11	0	-0.003	0	0.175	-0.175	0.013	-0.013
2692		12	0	-0.008	-0.003	0.162	-0.162	0.012	-0.012
2693		13	0	-0.013	-0.004	0.137	-0.137	0.011	-0.011
2694		14	0	-0.018	-0.006	0.102	-0.102	0.008	-0.008
2695		15	0	-0.023	-0.008	0.056	-0.056	0.004	-0.004
2696		16	-0.001	-0.028	-0.009	0	0	0	0
2697		17	-0.001	-0.033	-0.011	-0.068	0.068	-0.005	0.005
2698		18	-0.001	-0.038	-0.013	-0.147	0.147	-0.012	0.012
2699		19	-0.002	-0.042	-0.014	-0.237	0.237	-0.019	0.019
2700		20	-0.002	-0.047	-0.016	-0.338	0.338	-0.027	0.027
2701	5	A4	1	0.002	0.047	0.016	-0.338	0.338	-0.027
2702		2	0.002	0.042	0.014	-0.239	0.239	-0.019	0.019
2703		3	0.001	0.037	0.013	-0.15	0.15	-0.012	0.012
2704		4	0.001	0.032	0.011	-0.073	0.073	-0.005	0.005
2705		5	0.001	0.027	0.009	-0.007	0.007	0	0
2706		6	0	0.022	0.008	0.048	-0.048	0.004	-0.004
2707		7	0	0.017	0.006	0.093	-0.093	0.008	-0.008
2708		8	0	0.012	0.004	0.126	-0.126	0.011	-0.011
2709		9	0	0.008	0.003	0.148	-0.148	0.012	-0.012
2710		10	0	0.003	0	0.16	-0.16	0.013	-0.013
2711		11	0	-0.002	0	0.16	-0.16	0.013	-0.013
2712		12	0	-0.007	-0.003	0.15	-0.15	0.012	-0.012
2713		13	0	-0.012	-0.004	0.129	-0.129	0.011	-0.011
2714		14	0	-0.017	-0.006	0.096	-0.096	0.008	-0.008



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2715		15	0	-0.022	-0.008	0.053	-0.053	0.004	-0.004	
2716		16	-0.001	-0.027	-0.009	-0.001	0.001	0	0	
2717		17	-0.001	-0.031	-0.011	-0.066	0.066	-0.005	0.005	
2718		18	-0.001	-0.036	-0.013	-0.142	0.142	-0.012	0.012	
2719		19	-0.002	-0.041	-0.014	-0.229	0.229	-0.019	0.019	
2720		20	-0.002	-0.046	-0.016	-0.327	0.327	-0.027	0.027	
2721	5	A5	1	0.002	0.046	0.016	-0.327	0.327	-0.027	0.027
2722		2	0.002	0.041	0.014	-0.229	0.229	-0.019	0.019	
2723		3	0.001	0.036	0.013	-0.141	0.141	-0.012	0.012	
2724		4	0.001	0.032	0.011	-0.065	0.065	-0.005	0.005	
2725		5	0.001	0.027	0.009	0	0	0	0	
2726		6	0	0.022	0.008	0.055	-0.055	0.004	-0.004	
2727		7	0	0.017	0.006	0.099	-0.099	0.008	-0.008	
2728		8	0	0.012	0.004	0.132	-0.132	0.011	-0.011	
2729		9	0	0.007	0.003	0.153	-0.153	0.012	-0.012	
2730		10	0	0.002	0	0.164	-0.164	0.013	-0.013	
2731		11	0	-0.002	0	0.164	-0.164	0.013	-0.013	
2732		12	0	-0.007	-0.003	0.153	-0.153	0.012	-0.012	
2733		13	0	-0.012	-0.004	0.131	-0.131	0.011	-0.011	
2734		14	0	-0.017	-0.006	0.098	-0.098	0.008	-0.008	
2735		15	0	-0.022	-0.008	0.054	-0.054	0.004	-0.004	
2736		16	-0.001	-0.027	-0.009	0	0	0	0	
2737		17	-0.001	-0.032	-0.011	-0.067	0.067	-0.005	0.005	
2738		18	-0.001	-0.037	-0.013	-0.143	0.143	-0.012	0.012	
2739		19	-0.002	-0.041	-0.014	-0.231	0.231	-0.019	0.019	
2740		20	-0.002	-0.046	-0.016	-0.33	0.33	-0.027	0.027	
2741	5	A6	1	0.002	0.046	0.016	-0.33	0.33	-0.027	0.027
2742		2	0.002	0.041	0.014	-0.231	0.231	-0.019	0.019	
2743		3	0.001	0.037	0.013	-0.144	0.144	-0.012	0.012	
2744		4	0.001	0.032	0.011	-0.067	0.067	-0.005	0.005	
2745		5	0.001	0.027	0.009	-0.001	0.001	0	0	
2746		6	0	0.022	0.008	0.053	-0.053	0.004	-0.004	
2747		7	0	0.017	0.006	0.097	-0.097	0.008	-0.008	
2748		8	0	0.012	0.004	0.13	-0.13	0.011	-0.011	
2749		9	0	0.007	0.003	0.152	-0.152	0.012	-0.012	
2750		10	0	0.002	0	0.163	-0.163	0.013	-0.013	
2751		11	0	-0.002	0	0.163	-0.163	0.013	-0.013	
2752		12	0	-0.007	-0.003	0.152	-0.152	0.012	-0.012	
2753		13	0	-0.012	-0.004	0.13	-0.13	0.011	-0.011	
2754		14	0	-0.017	-0.006	0.097	-0.097	0.008	-0.008	
2755		15	0	-0.022	-0.008	0.053	-0.053	0.004	-0.004	
2756		16	-0.001	-0.027	-0.009	-0.002	0.002	0	0	
2757		17	-0.001	-0.032	-0.011	-0.067	0.067	-0.005	0.005	
2758		18	-0.001	-0.037	-0.013	-0.144	0.144	-0.012	0.012	
2759		19	-0.002	-0.041	-0.014	-0.232	0.232	-0.019	0.019	
2760		20	-0.002	-0.046	-0.016	-0.33	0.33	-0.027	0.027	
2761	5	A7	1	0.002	0.046	0.016	-0.33	0.33	-0.027	0.027
2762		2	0.002	0.042	0.014	-0.231	0.231	-0.019	0.019	
2763		3	0.001	0.037	0.013	-0.144	0.144	-0.012	0.012	
2764		4	0.001	0.032	0.011	-0.067	0.067	-0.005	0.005	
2765		5	0.001	0.027	0.009	0	0	0	0	
2766		6	0	0.022	0.008	0.054	-0.054	0.004	-0.004	
2767		7	0	0.017	0.006	0.098	-0.098	0.008	-0.008	
2768		8	0	0.012	0.004	0.131	-0.131	0.011	-0.011	
2769		9	0	0.007	0.003	0.153	-0.153	0.012	-0.012	
2770		10	0	0.003	0	0.165	-0.165	0.013	-0.013	
2771		11	0	-0.002	0	0.165	-0.165	0.013	-0.013	
2772		12	0	-0.007	-0.003	0.154	-0.154	0.012	-0.012	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2773		13	0	-0.012	-0.004	0.132	-0.132	0.011	-0.011	
2774		14	0	-0.017	-0.006	0.1	-0.1	0.008	-0.008	
2775		15	0	-0.022	-0.008	0.056	-0.056	0.004	-0.004	
2776		16	-0.001	-0.027	-0.009	0.002	-0.002	0	0	
2777		17	-0.001	-0.032	-0.011	-0.064	0.064	-0.005	0.005	
2778		18	-0.001	-0.036	-0.013	-0.14	0.14	-0.012	0.012	
2779		19	-0.002	-0.041	-0.014	-0.228	0.228	-0.019	0.019	
2780		20	-0.002	-0.046	-0.016	-0.326	0.326	-0.027	0.027	
2781	5	A8	1	0.002	0.046	0.016	-0.326	0.326	-0.027	0.027
2782		2	0.002	0.041	0.014	-0.228	0.228	-0.019	0.019	
2783		3	0.001	0.036	0.013	-0.142	0.142	-0.012	0.012	
2784		4	0.001	0.031	0.011	-0.066	0.066	-0.005	0.005	
2785		5	0.001	0.026	0.009	-0.001	0.001	0	0	
2786		6	0	0.022	0.008	0.053	-0.053	0.004	-0.004	
2787		7	0	0.017	0.006	0.096	-0.096	0.008	-0.008	
2788		8	0	0.012	0.004	0.127	-0.127	0.011	-0.011	
2789		9	0	0.007	0.003	0.148	-0.148	0.012	-0.012	
2790		10	0	0.002	0	0.158	-0.158	0.013	-0.013	
2791		11	0	-0.003	0	0.158	-0.158	0.013	-0.013	
2792		12	0	-0.008	-0.003	0.146	-0.146	0.012	-0.012	
2793		13	0	-0.013	-0.004	0.123	-0.123	0.011	-0.011	
2794		14	0	-0.017	-0.006	0.089	-0.089	0.008	-0.008	
2795		15	0	-0.022	-0.008	0.044	-0.044	0.004	-0.004	
2796		16	-0.001	-0.027	-0.009	-0.011	0.011	0	0	
2797		17	-0.001	-0.032	-0.011	-0.078	0.078	-0.005	0.005	
2798		18	-0.001	-0.037	-0.013	-0.156	0.156	-0.012	0.012	
2799		19	-0.002	-0.043	-0.014	-0.246	0.246	-0.019	0.019	
2800		20	-0.002	-0.048	-0.016	-0.348	0.348	-0.027	0.027	
2801	5	A9	1	0.002	0.05	0.016	-0.348	0.348	-0.027	0.027
2802		2	0.002	0.045	0.014	-0.241	0.241	-0.019	0.019	
2803		3	0.001	0.04	0.013	-0.146	0.146	-0.012	0.012	
2804		4	0.001	0.034	0.011	-0.063	0.063	-0.005	0.005	
2805		5	0.001	0.029	0.009	0.009	-0.009	0	0	
2806		6	0	0.024	0.008	0.068	-0.068	0.004	-0.004	
2807		7	0	0.018	0.006	0.115	-0.115	0.008	-0.008	
2808		8	0	0.013	0.004	0.151	-0.151	0.011	-0.011	
2809		9	0	0.008	0.003	0.174	-0.174	0.012	-0.012	
2810		10	0	0.002	0	0.186	-0.186	0.013	-0.013	
2811		11	0	-0.003	0	0.185	-0.185	0.013	-0.013	
2812		12	0	-0.008	-0.003	0.173	-0.173	0.012	-0.012	
2813		13	0	-0.013	-0.004	0.149	-0.149	0.011	-0.011	
2814		14	0	-0.019	-0.006	0.113	-0.113	0.008	-0.008	
2815		15	0	-0.024	-0.008	0.065	-0.065	0.004	-0.004	
2816		16	-0.001	-0.029	-0.009	0.005	-0.005	0	0	
2817		17	-0.001	-0.035	-0.011	-0.067	0.067	-0.005	0.005	
2818		18	-0.001	-0.04	-0.013	-0.151	0.151	-0.012	0.012	
2819		19	-0.002	-0.045	-0.014	-0.247	0.247	-0.019	0.019	
2820		20	-0.002	-0.051	-0.016	-0.354	0.354	-0.027	0.027	
2821	5	A10	1	0.002	0.049	0.016	-0.354	0.354	-0.027	0.027
2822		2	0.002	0.044	0.014	-0.25	0.25	-0.019	0.019	
2823		3	0.001	0.039	0.013	-0.157	0.157	-0.012	0.012	
2824		4	0.001	0.033	0.011	-0.076	0.076	-0.005	0.005	
2825		5	0.001	0.028	0.009	-0.006	0.006	0	0	
2826		6	0	0.023	0.008	0.051	-0.051	0.004	-0.004	
2827		7	0	0.017	0.006	0.096	-0.096	0.008	-0.008	
2828		8	0	0.012	0.004	0.129	-0.129	0.011	-0.011	
2829		9	0	0.007	0.003	0.151	-0.151	0.012	-0.012	
2830		10	0	0.002	0	0.162	-0.162	0.013	-0.013	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2831		11	0	-0.002	0	0.162	-0.162	0.013	-0.013	
2832		12	0	-0.007	-0.003	0.152	-0.152	0.012	-0.012	
2833		13	0	-0.012	-0.004	0.13	-0.13	0.011	-0.011	
2834		14	0	-0.017	-0.006	0.097	-0.097	0.008	-0.008	
2835		15	0	-0.022	-0.008	0.053	-0.053	0.004	-0.004	
2836		16	-0.001	-0.027	-0.009	-0.001	0.001	0	0	
2837		17	-0.001	-0.032	-0.011	-0.067	0.067	-0.005	0.005	
2838		18	-0.001	-0.037	-0.013	-0.143	0.143	-0.012	0.012	
2839		19	-0.002	-0.041	-0.014	-0.231	0.231	-0.019	0.019	
2840		20	-0.002	-0.046	-0.016	-0.329	0.329	-0.027	0.027	
2841	5	A11	1	0.002	0.046	0.016	-0.328	0.328	-0.027	0.027
2842		2	0.002	0.041	0.014	-0.23	0.23	-0.019	0.019	
2843		3	0.001	0.037	0.013	-0.142	0.142	-0.012	0.012	
2844		4	0.001	0.032	0.011	-0.066	0.066	-0.005	0.005	
2845		5	0.001	0.027	0.009	0	0	0	0	
2846		6	0	0.022	0.008	0.055	-0.055	0.004	-0.004	
2847		7	0	0.017	0.006	0.098	-0.098	0.008	-0.008	
2848		8	0	0.012	0.004	0.131	-0.131	0.011	-0.011	
2849		9	0	0.007	0.003	0.153	-0.153	0.012	-0.012	
2850		10	0	0.002	0	0.164	-0.164	0.013	-0.013	
2851		11	0	-0.002	0	0.164	-0.164	0.013	-0.013	
2852		12	0	-0.007	-0.003	0.153	-0.153	0.012	-0.012	
2853		13	0	-0.012	-0.004	0.131	-0.131	0.011	-0.011	
2854		14	0	-0.017	-0.006	0.098	-0.098	0.008	-0.008	
2855		15	0	-0.022	-0.008	0.054	-0.054	0.004	-0.004	
2856		16	-0.001	-0.027	-0.009	0	0	0	0	
2857		17	-0.001	-0.032	-0.011	-0.067	0.067	-0.005	0.005	
2858		18	-0.001	-0.037	-0.013	-0.143	0.143	-0.012	0.012	
2859		19	-0.002	-0.041	-0.014	-0.231	0.231	-0.019	0.019	
2860		20	-0.002	-0.046	-0.016	-0.33	0.33	-0.027	0.027	
2861	5	A12	1	0.002	0.046	0.016	-0.33	0.33	-0.027	0.027
2862		2	0.002	0.041	0.014	-0.231	0.231	-0.019	0.019	
2863		3	0.001	0.037	0.013	-0.144	0.144	-0.012	0.012	
2864		4	0.001	0.032	0.011	-0.067	0.067	-0.005	0.005	
2865		5	0.001	0.027	0.009	-0.001	0.001	0	0	
2866		6	0	0.022	0.008	0.054	-0.054	0.004	-0.004	
2867		7	0	0.017	0.006	0.097	-0.097	0.008	-0.008	
2868		8	0	0.012	0.004	0.13	-0.13	0.011	-0.011	
2869		9	0	0.007	0.003	0.152	-0.152	0.012	-0.012	
2870		10	0	0.002	0	0.163	-0.163	0.013	-0.013	
2871		11	0	-0.002	0	0.163	-0.163	0.013	-0.013	
2872		12	0	-0.007	-0.003	0.152	-0.152	0.012	-0.012	
2873		13	0	-0.012	-0.004	0.13	-0.13	0.011	-0.011	
2874		14	0	-0.017	-0.006	0.097	-0.097	0.008	-0.008	
2875		15	0	-0.022	-0.008	0.054	-0.054	0.004	-0.004	
2876		16	-0.001	-0.027	-0.009	-0.001	0.001	0	0	
2877		17	-0.001	-0.032	-0.011	-0.067	0.067	-0.005	0.005	
2878		18	-0.001	-0.037	-0.013	-0.143	0.143	-0.012	0.012	
2879		19	-0.002	-0.041	-0.014	-0.231	0.231	-0.019	0.019	
2880		20	-0.002	-0.046	-0.016	-0.33	0.33	-0.027	0.027	
2881	5	A13	1	0.002	0.046	0.016	-0.33	0.33	-0.027	0.027
2882		2	0.002	0.041	0.014	-0.231	0.231	-0.019	0.019	
2883		3	0.001	0.037	0.013	-0.143	0.143	-0.012	0.012	
2884		4	0.001	0.032	0.011	-0.067	0.067	-0.005	0.005	
2885		5	0.001	0.027	0.009	0	0	0	0	
2886		6	0	0.022	0.008	0.054	-0.054	0.004	-0.004	
2887		7	0	0.017	0.006	0.098	-0.098	0.008	-0.008	
2888		8	0	0.012	0.004	0.131	-0.131	0.011	-0.011	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2889		9	0	0.007	0.003	0.153	-0.153	0.012	-0.012	
2890		10	0	0.002	0	0.164	-0.164	0.013	-0.013	
2891		11	0	-0.002	0	0.164	-0.164	0.013	-0.013	
2892		12	0	-0.007	-0.003	0.153	-0.153	0.012	-0.012	
2893		13	0	-0.012	-0.004	0.131	-0.131	0.011	-0.011	
2894		14	0	-0.017	-0.006	0.098	-0.098	0.008	-0.008	
2895		15	0	-0.022	-0.008	0.055	-0.055	0.004	-0.004	
2896		16	-0.001	-0.027	-0.009	0	0	0	0	
2897		17	-0.001	-0.032	-0.011	-0.066	0.066	-0.005	0.005	
2898		18	-0.001	-0.037	-0.013	-0.142	0.142	-0.012	0.012	
2899		19	-0.002	-0.041	-0.014	-0.23	0.23	-0.019	0.019	
2900		20	-0.002	-0.046	-0.016	-0.328	0.328	-0.027	0.027	
2901	5	A14	1	0.002	0.046	0.016	-0.328	0.328	-0.027	0.027
2902		2	0.002	0.041	0.014	-0.23	0.23	-0.019	0.019	
2903		3	0.001	0.036	0.013	-0.143	0.143	-0.012	0.012	
2904		4	0.001	0.032	0.011	-0.066	0.066	-0.005	0.005	
2905		5	0.001	0.027	0.009	-0.001	0.001	0	0	
2906		6	0	0.022	0.008	0.053	-0.053	0.004	-0.004	
2907		7	0	0.017	0.006	0.097	-0.097	0.008	-0.008	
2908		8	0	0.012	0.004	0.129	-0.129	0.011	-0.011	
2909		9	0	0.007	0.003	0.151	-0.151	0.012	-0.012	
2910		10	0	0.002	0	0.161	-0.161	0.013	-0.013	
2911		11	0	-0.003	0	0.161	-0.161	0.013	-0.013	
2912		12	0	-0.007	-0.003	0.15	-0.15	0.012	-0.012	
2913		13	0	-0.012	-0.004	0.128	-0.128	0.011	-0.011	
2914		14	0	-0.017	-0.006	0.094	-0.094	0.008	-0.008	
2915		15	0	-0.022	-0.008	0.05	-0.05	0.004	-0.004	
2916		16	-0.001	-0.027	-0.009	-0.005	0.005	0	0	
2917		17	-0.001	-0.032	-0.011	-0.071	0.071	-0.005	0.005	
2918		18	-0.001	-0.037	-0.013	-0.148	0.148	-0.012	0.012	
2919		19	-0.002	-0.042	-0.014	-0.236	0.236	-0.019	0.019	
2920		20	-0.002	-0.046	-0.016	-0.335	0.335	-0.027	0.027	
2921	5	A15	1	0.002	0.047	0.016	-0.335	0.335	-0.027	0.027
2922		2	0.002	0.042	0.014	-0.235	0.235	-0.019	0.019	
2923		3	0.001	0.037	0.013	-0.146	0.146	-0.012	0.012	
2924		4	0.001	0.032	0.011	-0.068	0.068	-0.005	0.005	
2925		5	0.001	0.027	0.009	0	0	0	0	
2926		6	0	0.023	0.008	0.056	-0.056	0.004	-0.004	
2927		7	0	0.018	0.006	0.101	-0.101	0.008	-0.008	
2928		8	0	0.013	0.004	0.135	-0.135	0.011	-0.011	
2929		9	0	0.008	0.003	0.158	-0.158	0.012	-0.012	
2930		10	0	0.003	0	0.171	-0.171	0.013	-0.013	
2931		11	0	-0.002	0	0.172	-0.172	0.013	-0.013	
2932		12	0	-0.007	-0.003	0.162	-0.162	0.012	-0.012	
2933		13	0	-0.012	-0.004	0.142	-0.142	0.011	-0.011	
2934		14	0	-0.016	-0.006	0.111	-0.111	0.008	-0.008	
2935		15	0	-0.021	-0.008	0.068	-0.068	0.004	-0.004	
2936		16	-0.001	-0.026	-0.009	0.015	-0.015	0	0	
2937		17	-0.001	-0.031	-0.011	-0.049	0.049	-0.005	0.005	
2938		18	-0.001	-0.036	-0.013	-0.125	0.125	-0.012	0.012	
2939		19	-0.002	-0.041	-0.014	-0.211	0.211	-0.019	0.019	
2940		20	-0.002	-0.046	-0.016	-0.308	0.308	-0.027	0.027	
2941	5	A16	1	0.005	0.049	0.011	-0.308	0.308	-0.027	0.027
2942		2	0.004	0.047	0.01	-0.253	0.253	-0.004	0.004	
2943		3	0.004	0.044	0.009	-0.201	0.201	-0.001	0.001	
2944		4	0.004	0.042	0.008	-0.151	0.151	0	0	
2945		5	0.004	0.039	0.007	-0.105	0.105	0.003	-0.003	
2946		6	0.004	0.037	0.006	-0.061	0.061	0.005	-0.005	



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member	Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2947			7	0.004	0.034	0.006	-0.021	0.021	0.006	-0.006
2948			8	0.004	0.032	0.005	0.017	-0.017	0.008	-0.008
2949			9	0.004	0.029	0.004	0.052	-0.052	0.009	-0.009
2950			10	0.004	0.027	0.003	0.084	-0.084	0.01	-0.01
2951			11	0.003	0.024	0.002	0.113	-0.113	0.01	-0.01
2952			12	0.003	0.022	0.001	0.14	-0.14	0.011	-0.011
2953			13	0.003	0.019	0	0.163	-0.163	0.011	-0.011
2954			14	0.003	0.016	0	0.184	-0.184	0.011	-0.011
2955			15	0.003	0.014	-0.001	0.201	-0.201	0.011	-0.011
2956			16	0.003	0.011	-0.002	0.216	-0.216	0.01	-0.01
2957			17	0.003	0.009	-0.003	0.228	-0.228	0.01	-0.01
2958			18	0.003	0.006	-0.004	0.237	-0.237	0.009	-0.009
2959			19	0.003	0.004	-0.005	0.243	-0.243	0.007	-0.007
2960			20	0.003	0.001	-0.006	0.246	-0.246	0.006	-0.006
2961	5	A17	1	0	0.003	0	-0.019	0.019	0	0
2962			2	0	0.003	0	-0.017	0.017	0	0
2963			3	0	0.003	0	-0.016	0.016	0	0
2964			4	0	0.003	0	-0.014	0.014	0	0
2965			5	0	0.003	0	-0.012	0.012	0	0
2966			6	0	0.002	0	-0.011	0.011	0	0
2967			7	0	0.002	0	-0.009	0.009	0	0
2968			8	0	0.002	0	-0.008	0.008	0	0
2969			9	0	0.002	0	-0.007	0.007	0	0
2970			10	0	0.002	0	-0.005	0.005	0	0
2971			11	0	0.002	0	-0.004	0.004	0	0
2972			12	0	0.001	0	-0.003	0.003	0	0
2973			13	0	0.001	0	-0.003	0.003	0	0
2974			14	0	0.001	0	-0.002	0.002	0	0
2975			15	0	0	0	-0.001	0.001	0	0
2976			16	0	0	0	0	0	0	0
2977			17	0	0	0	0	0	0	0
2978			18	0	0	0	0	0	0	0
2979			19	0	0	0	0	0	0	0
2980			20	0	0	0	0	0	0	0
2981	5	R1	1	0	0	0	0	0	0	0
2982			2	0	0	0	0	0	0	0
2983			3	0	0	0	0	0	0	0
2984			4	0	0	0	0	0	0	0
2985			5	0	0	0	0	0	0	0
2986			6	0	0	0	0	0	0	0
2987			7	0	0	0	0	0	0	0
2988			8	0	0	0	0	0	0	0
2989			9	0	0	0	0	0	0	0
2990			10	0	0	0	0	0	0	0
2991			11	0	0	0	0	0	0	0
2992			12	0	0	0	0	0	0	0
2993			13	0	0	0	0	0	0	0
2994			14	0	0	0	0	0	0	0
2995			15	0	0	0	0	0	0	0
2996			16	0	0	0	0	0	0	0
2997			17	0	0	0	0	0	0	0
2998			18	0	0	0	0	0	0	0
2999			19	0	0	0	0	0	0	0
3000			20	0	0	0	0	0	0	0
3001	5	R2	1	0	0	0	0	0	0	0
3002			2	0	0	0	0	0	0	0
3003			3	0	0	0	0	0	0	0
3004			4	0	0	0	0	0	0	0





**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3005		5	0	0	0	0	0	0	0
3006		6	0	0	0	0	0	0	0
3007		7	0	0	0	0	0	0	0
3008		8	0	0	0	0	0	0	0
3009		9	0	0	0	0	0	0	0
3010		10	0	0	0	0	0	0	0
3011		11	0	0	0	0	0	0	0
3012		12	0	0	0	0	0	0	0
3013		13	0	0	0	0	0	0	0
3014		14	0	0	0	0	0	0	0
3015		15	0	0	0	0	0	0	0
3016		16	0	0	0	0	0	0	0
3017		17	0	0	0	0	0	0	0
3018		18	0	0	0	0	0	0	0
3019		19	0	0	0	0	0	0	0
3020		20	0	0	0	0	0	0	0
3021	5	R3	1	0	0	0	0	0	0
3022		2	0	0	0	0	0	0	0
3023		3	0	0	0	0	0	0	0
3024		4	0	0	0	0	0	0	0
3025		5	0	0	0	0	0	0	0
3026		6	0	0	0	0	0	0	0
3027		7	0	0	0	0	0	0	0
3028		8	0	0	0	0	0	0	0
3029		9	0	0	0	0	0	0	0
3030		10	0	0	0	0	0	0	0
3031		11	0	0	0	0	0	0	0
3032		12	0	0	0	0	0	0	0
3033		13	0	0	0	0	0	0	0
3034		14	0	0	0	0	0	0	0
3035		15	0	0	0	0	0	0	0
3036		16	0	0	0	0	0	0	0
3037		17	0	0	0	0	0	0	0
3038		18	0	0	0	0	0	0	0
3039		19	0	0	0	0	0	0	0
3040		20	0	0	0	0	0	0	0
3041	5	R4	1	0	0	0	0	0	0
3042		2	0	0	0	0	0	0	0
3043		3	0	0	0	0	0	0	0
3044		4	0	0	0	0	0	0	0
3045		5	0	0	0	0	0	0	0
3046		6	0	0	0	0	0	0	0
3047		7	0	0	0	0	0	0	0
3048		8	0	0	0	0	0	0	0
3049		9	0	0	0	0	0	0	0
3050		10	0	0	0	0	0	0	0
3051		11	0	0	0	0	0	0	0
3052		12	0	0	0	0	0	0	0
3053		13	0	0	0	0	0	0	0
3054		14	0	0	0	0	0	0	0
3055		15	0	0	0	0	0	0	0
3056		16	0	0	0	0	0	0	0
3057		17	0	0	0	0	0	0	0
3058		18	0	0	0	0	0	0	0
3059		19	0	0	0	0	0	0	0
3060		20	0	0	0	0	0	0	0
3061	5	R5	1	0	0	0	0	0	0
3062		2	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3063		3	0	0	0	0	0	0	0
3064		4	0	0	0	0	0	0	0
3065		5	0	0	0	0	0	0	0
3066		6	0	0	0	0	0	0	0
3067		7	0	0	0	0	0	0	0
3068		8	0	0	0	0	0	0	0
3069		9	0	0	0	0	0	0	0
3070		10	0	0	0	0	0	0	0
3071		11	0	0	0	0	0	0	0
3072		12	0	0	0	0	0	0	0
3073		13	0	0	0	0	0	0	0
3074		14	0	0	0	0	0	0	0
3075		15	0	0	0	0	0	0	0
3076		16	0	0	0	0	0	0	0
3077		17	0	0	0	0	0	0	0
3078		18	0	0	0	0	0	0	0
3079		19	0	0	0	0	0	0	0
3080		20	0	0	0	0	0	0	0
3081	5	R6	1	0	0	0	0	0	0
3082		2	0	0	0	0	0	0	0
3083		3	0	0	0	0	0	0	0
3084		4	0	0	0	0	0	0	0
3085		5	0	0	0	0	0	0	0
3086		6	0	0	0	0	0	0	0
3087		7	0	0	0	0	0	0	0
3088		8	0	0	0	0	0	0	0
3089		9	0	0	0	0	0	0	0
3090		10	0	0	0	0	0	0	0
3091		11	0	0	0	0	0	0	0
3092		12	0	0	0	0	0	0	0
3093		13	0	0	0	0	0	0	0
3094		14	0	0	0	0	0	0	0
3095		15	0	0	0	0	0	0	0
3096		16	0	0	0	0	0	0	0
3097		17	0	0	0	0	0	0	0
3098		18	0	0	0	0	0	0	0
3099		19	0	0	0	0	0	0	0
3100		20	0	0	0	0	0	0	0
3101	5	R7	1	0	0	0	0	0	0
3102		2	0	0	0	0	0	0	0
3103		3	0	0	0	0	0	0	0
3104		4	0	0	0	0	0	0	0
3105		5	0	0	0	0	0	0	0
3106		6	0	0	0	0	0	0	0
3107		7	0	0	0	0	0	0	0
3108		8	0	0	0	0	0	0	0
3109		9	0	0	0	0	0	0	0
3110		10	0	0	0	0	0	0	0
3111		11	0	0	0	0	0	0	0
3112		12	0	0	0	0	0	0	0
3113		13	0	0	0	0	0	0	0
3114		14	0	0	0	0	0	0	0
3115		15	0	0	0	0	0	0	0
3116		16	0	0	0	0	0	0	0
3117		17	0	0	0	0	0	0	0
3118		18	0	0	0	0	0	0	0
3119		19	0	0	0	0	0	0	0
3120		20	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3121	5	R8	1	0	0	0	0	0	0
3122			2	0	0	0	0	0	0
3123			3	0	0	0	0	0	0
3124			4	0	0	0	0	0	0
3125			5	0	0	0	0	0	0
3126			6	0	0	0	0	0	0
3127			7	0	0	0	0	0	0
3128			8	0	0	0	0	0	0
3129			9	0	0	0	0	0	0
3130			10	0	0	0	0	0	0
3131			11	0	0	0	0	0	0
3132			12	0	0	0	0	0	0
3133			13	0	0	0	0	0	0
3134			14	0	0	0	0	0	0
3135			15	0	0	0	0	0	0
3136			16	0	0	0	0	0	0
3137			17	0	0	0	0	0	0
3138			18	0	0	0	0	0	0
3139			19	0	0	0	0	0	0
3140			20	0	0	0	0	0	0
3141	5	R9	1	0	0	0	0	0	0
3142			2	0	0	0	0	0	0
3143			3	0	0	0	0	0	0
3144			4	0	0	0	0	0	0
3145			5	0	0	0	0	0	0
3146			6	0	0	0	0	0	0
3147			7	0	0	0	0	0	0
3148			8	0	0	0	0	0	0
3149			9	0	0	0	0	0	0
3150			10	0	0	0	0	0	0
3151			11	0	0	0	0	0	0
3152			12	0	0	0	0	0	0
3153			13	0	0	0	0	0	0
3154			14	0	0	0	0	0	0
3155			15	0	0	0	0	0	0
3156			16	0	0	0	0	0	0
3157			17	0	0	0	0	0	0
3158			18	0	0	0	0	0	0
3159			19	0	0	0	0	0	0
3160			20	0	0	0	0	0	0
3161	5	R10	1	0	0	0	0	0	0
3162			2	0	0	0	0	0	0
3163			3	0	0	0	0	0	0
3164			4	0	0	0	0	0	0
3165			5	0	0	0	0	0	0
3166			6	0	0	0	0	0	0
3167			7	0	0	0	0	0	0
3168			8	0	0	0	0	0	0
3169			9	0	0	0	0	0	0
3170			10	0	0	0	0	0	0
3171			11	0	0	0	0	0	0
3172			12	0	0	0	0	0	0
3173			13	0	0	0	0	0	0
3174			14	0	0	0	0	0	0
3175			15	0	0	0	0	0	0
3176			16	0	0	0	0	0	0
3177			17	0	0	0	0	0	0
3178			18	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3179		19	0	0	0	0	0	0	0
3180		20	0	0	0	0	0	0	0
3181	5 R11	1	0	0	0	0	0	0	0
3182		2	0	0	0	0	0	0	0
3183		3	0	0	0	0	0	0	0
3184		4	0	0	0	0	0	0	0
3185		5	0	0	0	0	0	0	0
3186		6	0	0	0	0	0	0	0
3187		7	0	0	0	0	0	0	0
3188		8	0	0	0	0	0	0	0
3189		9	0	0	0	0	0	0	0
3190		10	0	0	0	0	0	0	0
3191		11	0	0	0	0	0	0	0
3192		12	0	0	0	0	0	0	0
3193		13	0	0	0	0	0	0	0
3194		14	0	0	0	0	0	0	0
3195		15	0	0	0	0	0	0	0
3196		16	0	0	0	0	0	0	0
3197		17	0	0	0	0	0	0	0
3198		18	0	0	0	0	0	0	0
3199		19	0	0	0	0	0	0	0
3200		20	0	0	0	0	0	0	0
3201	5 R12	1	0	0	0	0	0	0	0
3202		2	0	0	0	0	0	0	0
3203		3	0	0	0	0	0	0	0
3204		4	0	0	0	0	0	0	0
3205		5	0	0	0	0	0	0	0
3206		6	0	0	0	0	0	0	0
3207		7	0	0	0	0	0	0	0
3208		8	0	0	0	0	0	0	0
3209		9	0	0	0	0	0	0	0
3210		10	0	0	0	0	0	0	0
3211		11	0	0	0	0	0	0	0
3212		12	0	0	0	0	0	0	0
3213		13	0	0	0	0	0	0	0
3214		14	0	0	0	0	0	0	0
3215		15	0	0	0	0	0	0	0
3216		16	0	0	0	0	0	0	0
3217		17	0	0	0	0	0	0	0
3218		18	0	0	0	0	0	0	0
3219		19	0	0	0	0	0	0	0
3220		20	0	0	0	0	0	0	0
3221	5 R13	1	0	0	0	0	0	0	0
3222		2	0	0	0	0	0	0	0
3223		3	0	0	0	0	0	0	0
3224		4	0	0	0	0	0	0	0
3225		5	0	0	0	0	0	0	0
3226		6	0	0	0	0	0	0	0
3227		7	0	0	0	0	0	0	0
3228		8	0	0	0	0	0	0	0
3229		9	0	0	0	0	0	0	0
3230		10	0	0	0	0	0	0	0
3231		11	0	0	0	0	0	0	0
3232		12	0	0	0	0	0	0	0
3233		13	0	0	0	0	0	0	0
3234		14	0	0	0	0	0	0	0
3235		15	0	0	0	0	0	0	0
3236		16	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3237		17	0	0	0	0	0	0	0
3238		18	0	0	0	0	0	0	0
3239		19	0	0	0	0	0	0	0
3240		20	0	0	0	0	0	0	0
3241	5 R14	1	0	0	0	0	0	0	0
3242		2	0	0	0	0	0	0	0
3243		3	0	0	0	0	0	0	0
3244		4	0	0	0	0	0	0	0
3245		5	0	0	0	0	0	0	0
3246		6	0	0	0	0	0	0	0
3247		7	0	0	0	0	0	0	0
3248		8	0	0	0	0	0	0	0
3249		9	0	0	0	0	0	0	0
3250		10	0	0	0	0	0	0	0
3251		11	0	0	0	0	0	0	0
3252		12	0	0	0	0	0	0	0
3253		13	0	0	0	0	0	0	0
3254		14	0	0	0	0	0	0	0
3255		15	0	0	0	0	0	0	0
3256		16	0	0	0	0	0	0	0
3257		17	0	0	0	0	0	0	0
3258		18	0	0	0	0	0	0	0
3259		19	0	0	0	0	0	0	0
3260		20	0	0	0	0	0	0	0
3261	5 R15	1	0	0	0	0	0	0	0
3262		2	0	0	0	0	0	0	0
3263		3	0	0	0	0	0	0	0
3264		4	0	0	0	0	0	0	0
3265		5	0	0	0	0	0	0	0
3266		6	0	0	0	0	0	0	0
3267		7	0	0	0	0	0	0	0
3268		8	0	0	0	0	0	0	0
3269		9	0	0	0	0	0	0	0
3270		10	0	0	0	0	0	0	0
3271		11	0	0	0	0	0	0	0
3272		12	0	0	0	0	0	0	0
3273		13	0	0	0	0	0	0	0
3274		14	0	0	0	0	0	0	0
3275		15	0	0	0	0	0	0	0
3276		16	0	0	0	0	0	0	0
3277		17	0	0	0	0	0	0	0
3278		18	0	0	0	0	0	0	0
3279		19	0	0	0	0	0	0	0
3280		20	0	0	0	0	0	0	0
3281	5 M33	1	0	0	0	0	0	0	0
3282		2	0	0	0	0	0	0	0
3283		3	0	0	0	0	0	0	0
3284		4	0	0	0	0	0	0	0
3285		5	0	0	0	0	0	0	0
3286		6	0	0	0	0	0	0	0
3287		7	0	0	0	0	0	0	0
3288		8	0	0	0	0	0	0	0
3289		9	0	0	0	0	0	0	0
3290		10	0	0	0	0	0	0	0
3291		11	0	0	0	0	0	0	0
3292		12	0	0	0	0	0	0	0
3293		13	0	0	0	0	0	0	0
3294		14	0	0	0	0	0	0	0

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
3295		15	0	0	0	0	0	0	0	
3296		16	0	0	0	0	0	0	0	
3297		17	0	0	0	0	0	0	0	
3298		18	0	0	0	0	0	0	0	
3299		19	0	0	0	0	0	0	0	
3300		20	0	0	0	0	0	0	0	
3301	6	A1	1	0	0	0	0	0	0	
3302		2	0	0	0	0	0	0	0	
3303		3	0	0	0	0	0	0	0	
3304		4	0	0	0	0	0	0	0	
3305		5	0	0	0	0	0	0	0	
3306		6	0	0	0	-0.001	0.001	0	0	
3307		7	0	0	0	-0.002	0.002	0	0	
3308		8	0	-0.001	0	-0.002	0.002	0	0	
3309		9	0	-0.001	0	-0.003	0.003	0	0	
3310		10	0	-0.001	0	-0.004	0.004	0	0	
3311		11	0	-0.002	0	-0.005	0.005	0	0	
3312		12	0	-0.002	0	-0.006	0.006	0	0	
3313		13	0	-0.002	0	-0.007	0.007	0	0	
3314		14	0	-0.002	0	-0.008	0.008	0	0	
3315		15	0	-0.002	0	-0.01	0.01	0	0	
3316		16	0	-0.002	0	-0.011	0.011	0	0	
3317		17	0	-0.003	0	-0.013	0.013	0	0	
3318		18	0	-0.003	0	-0.014	0.014	0	0	
3319		19	0	-0.003	0	-0.016	0.016	0	0	
3320		20	0	-0.003	0	-0.018	0.018	0	0	
3321	6	A2	1	-0.002	-0.012	0.003	0.066	-0.066	0.002	-0.002
3322		2	-0.002	-0.013	0.003	0.057	-0.057	0.003	-0.003	
3323		3	-0.002	-0.015	0.002	0.047	-0.047	0.003	-0.003	
3324		4	-0.002	-0.017	0.002	0.036	-0.036	0.004	-0.004	
3325		5	-0.002	-0.018	0.001	0.024	-0.024	0.004	-0.004	
3326		6	-0.002	-0.02	0	0.01	-0.01	0.004	-0.004	
3327		7	-0.002	-0.022	0	-0.005	0.005	0.004	-0.004	
3328		8	-0.002	-0.024	0	-0.021	0.021	0.004	-0.004	
3329		9	-0.002	-0.025	0	-0.039	0.039	0.004	-0.004	
3330		10	-0.002	-0.027	-0.001	-0.058	0.058	0.004	-0.004	
3331		11	-0.002	-0.029	-0.002	-0.078	0.078	0.004	-0.004	
3332		12	-0.002	-0.03	-0.002	-0.099	0.099	0.003	-0.003	
3333		13	-0.003	-0.032	-0.002	-0.121	0.121	0.003	-0.003	
3334		14	-0.003	-0.034	-0.003	-0.145	0.145	0.003	-0.003	
3335		15	-0.003	-0.036	-0.003	-0.169	0.169	0.002	-0.002	
3336		16	-0.003	-0.037	-0.004	-0.196	0.196	0.001	-0.001	
3337		17	-0.003	-0.039	-0.004	-0.223	0.223	0	0	
3338		18	-0.003	-0.041	-0.005	-0.251	0.251	0	0	
3339		19	-0.003	-0.042	-0.005	-0.281	0.281	0	0	
3340		20	-0.003	-0.044	-0.006	-0.312	0.312	-0.002	0.002	
3341	6	A3	1	0.002	0.05	0.014	-0.312	0.312	-0.023	0.023
3342		2	0.002	0.044	0.012	-0.206	0.206	-0.016	0.016	
3343		3	0.002	0.039	0.011	-0.113	0.113	-0.01	0.01	
3344		4	0.001	0.034	0.009	-0.032	0.032	-0.005	0.005	
3345		5	0.001	0.028	0.008	0.038	-0.038	0	0	
3346		6	0	0.023	0.006	0.095	-0.095	0.004	-0.004	
3347		7	0	0.017	0.005	0.14	-0.14	0.007	-0.007	
3348		8	0	0.012	0.004	0.173	-0.173	0.009	-0.009	
3349		9	0	0.007	0.002	0.193	-0.193	0.01	-0.01	
3350		10	0	0.001	0	0.202	-0.202	0.011	-0.011	
3351		11	0	-0.004	0	0.199	-0.199	0.011	-0.011	
3352		12	0	-0.01	-0.002	0.183	-0.183	0.01	-0.01	

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
3353		13	0	-0.015	-0.004	0.155	-0.155	0.009	-0.009	
3354		14	0	-0.02	-0.005	0.116	-0.116	0.007	-0.007	
3355		15	0	-0.026	-0.006	0.064	-0.064	0.004	-0.004	
3356		16	-0.001	-0.031	-0.008	0	0	0	0	
3357		17	-0.001	-0.037	-0.009	-0.076	0.076	-0.005	0.005	
3358		18	-0.002	-0.042	-0.011	-0.165	0.165	-0.01	0.01	
3359		19	-0.002	-0.047	-0.012	-0.265	0.265	-0.016	0.016	
3360		20	-0.002	-0.053	-0.014	-0.378	0.378	-0.023	0.023	
3361	6	A4	1	0.002	0.052	0.014	-0.378	0.378	-0.023	0.023
3362		2	0.002	0.046	0.012	-0.268	0.268	-0.016	0.016	
3363		3	0.002	0.041	0.011	-0.17	0.17	-0.01	0.01	
3364		4	0.001	0.035	0.009	-0.084	0.084	-0.005	0.005	
3365		5	0.001	0.03	0.008	-0.011	0.011	0	0	
3366		6	0	0.025	0.006	0.051	-0.051	0.004	-0.004	
3367		7	0	0.019	0.005	0.1	-0.1	0.007	-0.007	
3368		8	0	0.014	0.004	0.137	-0.137	0.009	-0.009	
3369		9	0	0.008	0.002	0.162	-0.162	0.01	-0.01	
3370		10	0	0.003	0	0.175	-0.175	0.011	-0.011	
3371		11	0	-0.002	0	0.176	-0.176	0.011	-0.011	
3372		12	0	-0.008	-0.002	0.165	-0.165	0.01	-0.01	
3373		13	0	-0.013	-0.004	0.142	-0.142	0.009	-0.009	
3374		14	0	-0.018	-0.005	0.106	-0.106	0.007	-0.007	
3375		15	0	-0.024	-0.006	0.058	-0.058	0.004	-0.004	
3376		16	-0.001	-0.029	-0.008	-0.001	0.001	0	0	
3377		17	-0.001	-0.035	-0.009	-0.073	0.073	-0.005	0.005	
3378		18	-0.002	-0.04	-0.011	-0.157	0.157	-0.01	0.01	
3379		19	-0.002	-0.045	-0.012	-0.253	0.253	-0.016	0.016	
3380		20	-0.002	-0.051	-0.014	-0.361	0.361	-0.023	0.023	
3381	6	A5	1	0.002	0.051	0.014	-0.361	0.361	-0.023	0.023
3382		2	0.002	0.046	0.012	-0.252	0.252	-0.016	0.016	
3383		3	0.002	0.04	0.011	-0.156	0.156	-0.01	0.01	
3384		4	0.001	0.035	0.009	-0.071	0.071	-0.005	0.005	
3385		5	0.001	0.03	0.008	0.001	-0.001	0	0	
3386		6	0	0.024	0.006	0.062	-0.062	0.004	-0.004	
3387		7	0	0.019	0.005	0.11	-0.11	0.007	-0.007	
3388		8	0	0.013	0.004	0.146	-0.146	0.009	-0.009	
3389		9	0	0.008	0.002	0.17	-0.17	0.01	-0.01	
3390		10	0	0.003	0	0.182	-0.182	0.011	-0.011	
3391		11	0	-0.003	0	0.182	-0.182	0.011	-0.011	
3392		12	0	-0.008	-0.002	0.17	-0.17	0.01	-0.01	
3393		13	0	-0.014	-0.004	0.145	-0.145	0.009	-0.009	
3394		14	0	-0.019	-0.005	0.109	-0.109	0.007	-0.007	
3395		15	0	-0.024	-0.006	0.06	-0.06	0.004	-0.004	
3396		16	-0.001	-0.03	-0.008	0	0	0	0	
3397		17	-0.001	-0.035	-0.009	-0.074	0.074	-0.005	0.005	
3398		18	-0.002	-0.041	-0.011	-0.159	0.159	-0.01	0.01	
3399		19	-0.002	-0.046	-0.012	-0.256	0.256	-0.016	0.016	
3400		20	-0.002	-0.051	-0.014	-0.365	0.365	-0.023	0.023	
3401	6	A6	1	0.002	0.051	0.014	-0.365	0.365	-0.023	0.023
3402		2	0.002	0.046	0.012	-0.256	0.256	-0.016	0.016	
3403		3	0.002	0.04	0.011	-0.159	0.159	-0.01	0.01	
3404		4	0.001	0.035	0.009	-0.074	0.074	-0.005	0.005	
3405		5	0.001	0.03	0.008	-0.002	0.002	0	0	
3406		6	0	0.024	0.006	0.059	-0.059	0.004	-0.004	
3407		7	0	0.019	0.005	0.107	-0.107	0.007	-0.007	
3408		8	0	0.013	0.004	0.144	-0.144	0.009	-0.009	
3409		9	0	0.008	0.002	0.168	-0.168	0.01	-0.01	
3410		10	0	0.003	0	0.18	-0.18	0.011	-0.011	





**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
3411		11	0	-0.003	0	0.18	-0.18	0.011	-0.011	
3412		12	0	-0.008	-0.002	0.168	-0.168	0.01	-0.01	
3413		13	0	-0.013	-0.004	0.144	-0.144	0.009	-0.009	
3414		14	0	-0.019	-0.005	0.107	-0.107	0.007	-0.007	
3415		15	0	-0.024	-0.006	0.059	-0.059	0.004	-0.004	
3416		16	-0.001	-0.03	-0.008	-0.002	0.002	0	0	
3417		17	-0.001	-0.035	-0.009	-0.074	0.074	-0.005	0.005	
3418		18	-0.002	-0.04	-0.011	-0.159	0.159	-0.01	0.01	
3419		19	-0.002	-0.046	-0.012	-0.256	0.256	-0.016	0.016	
3420		20	-0.002	-0.051	-0.014	-0.365	0.365	-0.023	0.023	
3421	6	A7	1	0.002	0.051	0.014	-0.365	0.365	-0.023	0.023
3422		2	0.002	0.046	0.012	-0.256	0.256	-0.016	0.016	
3423		3	0.002	0.041	0.011	-0.159	0.159	-0.01	0.01	
3424		4	0.001	0.035	0.009	-0.074	0.074	-0.005	0.005	
3425		5	0.001	0.03	0.008	0	0	0	0	
3426		6	0	0.024	0.006	0.06	-0.06	0.004	-0.004	
3427		7	0	0.019	0.005	0.109	-0.109	0.007	-0.007	
3428		8	0	0.014	0.004	0.145	-0.145	0.009	-0.009	
3429		9	0	0.008	0.002	0.17	-0.17	0.01	-0.01	
3430		10	0	0.003	0	0.182	-0.182	0.011	-0.011	
3431		11	0	-0.003	0	0.182	-0.182	0.011	-0.011	
3432		12	0	-0.008	-0.002	0.17	-0.17	0.01	-0.01	
3433		13	0	-0.013	-0.004	0.146	-0.146	0.009	-0.009	
3434		14	0	-0.019	-0.005	0.11	-0.11	0.007	-0.007	
3435		15	0	-0.024	-0.006	0.062	-0.062	0.004	-0.004	
3436		16	-0.001	-0.03	-0.008	0.002	-0.002	0	0	
3437		17	-0.001	-0.035	-0.009	-0.071	0.071	-0.005	0.005	
3438		18	-0.002	-0.04	-0.011	-0.155	0.155	-0.01	0.01	
3439		19	-0.002	-0.046	-0.012	-0.252	0.252	-0.016	0.016	
3440		20	-0.002	-0.051	-0.014	-0.361	0.361	-0.023	0.023	
3441	6	A8	1	0.002	0.051	0.014	-0.361	0.361	-0.023	0.023
3442		2	0.002	0.045	0.012	-0.253	0.253	-0.016	0.016	
3443		3	0.002	0.04	0.011	-0.157	0.157	-0.01	0.01	
3444		4	0.001	0.035	0.009	-0.073	0.073	-0.005	0.005	
3445		5	0.001	0.029	0.008	-0.001	0.001	0	0	
3446		6	0	0.024	0.006	0.058	-0.058	0.004	-0.004	
3447		7	0	0.018	0.005	0.106	-0.106	0.007	-0.007	
3448		8	0	0.013	0.004	0.141	-0.141	0.009	-0.009	
3449		9	0	0.008	0.002	0.165	-0.165	0.01	-0.01	
3450		10	0	0.002	0	0.176	-0.176	0.011	-0.011	
3451		11	0	-0.003	0	0.175	-0.175	0.011	-0.011	
3452		12	0	-0.009	-0.002	0.162	-0.162	0.01	-0.01	
3453		13	0	-0.014	-0.004	0.137	-0.137	0.009	-0.009	
3454		14	0	-0.019	-0.005	0.099	-0.099	0.007	-0.007	
3455		15	0	-0.025	-0.006	0.05	-0.05	0.004	-0.004	
3456		16	-0.001	-0.03	-0.008	-0.011	0.011	0	0	
3457		17	-0.001	-0.035	-0.009	-0.085	0.085	-0.005	0.005	
3458		18	-0.002	-0.041	-0.011	-0.171	0.171	-0.01	0.01	
3459		19	-0.002	-0.047	-0.012	-0.27	0.27	-0.016	0.016	
3460		20	-0.002	-0.053	-0.014	-0.383	0.383	-0.023	0.023	
3461	6	A9	1	0.002	0.055	0.014	-0.383	0.383	-0.023	0.023
3462		2	0.002	0.049	0.012	-0.265	0.265	-0.016	0.016	
3463		3	0.002	0.044	0.011	-0.161	0.161	-0.01	0.01	
3464		4	0.001	0.038	0.009	-0.07	0.07	-0.005	0.005	
3465		5	0.001	0.032	0.008	0.009	-0.009	0	0	
3466		6	0	0.026	0.006	0.074	-0.074	0.004	-0.004	
3467		7	0	0.02	0.005	0.126	-0.126	0.007	-0.007	
3468		8	0	0.014	0.004	0.165	-0.165	0.009	-0.009	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
3469		9	0	0.009	0.002	0.19	-0.19	0.01	-0.01	
3470		10	0	0.003	0	0.203	-0.203	0.011	-0.011	
3471		11	0	-0.003	0	0.203	-0.203	0.011	-0.011	
3472		12	0	-0.009	-0.002	0.189	-0.189	0.01	-0.01	
3473		13	0	-0.015	-0.004	0.163	-0.163	0.009	-0.009	
3474		14	0	-0.021	-0.005	0.123	-0.123	0.007	-0.007	
3475		15	0	-0.026	-0.006	0.07	-0.07	0.004	-0.004	
3476		16	-0.001	-0.032	-0.008	0.005	-0.005	0	0	
3477		17	-0.001	-0.038	-0.009	-0.074	0.074	-0.005	0.005	
3478		18	-0.002	-0.044	-0.011	-0.166	0.166	-0.01	0.01	
3479		19	-0.002	-0.05	-0.012	-0.271	0.271	-0.016	0.016	
3480		20	-0.002	-0.056	-0.014	-0.39	0.39	-0.023	0.023	
3481	6	A10	1	0.002	0.054	0.014	-0.39	0.39	-0.023	0.023
3482		2	0.002	0.048	0.012	-0.274	0.274	-0.016	0.016	
3483		3	0.002	0.043	0.011	-0.172	0.172	-0.01	0.01	
3484		4	0.001	0.037	0.009	-0.083	0.083	-0.005	0.005	
3485		5	0.001	0.031	0.008	-0.007	0.007	0	0	
3486		6	0	0.025	0.006	0.056	-0.056	0.004	-0.004	
3487		7	0	0.019	0.005	0.106	-0.106	0.007	-0.007	
3488		8	0	0.014	0.004	0.143	-0.143	0.009	-0.009	
3489		9	0	0.008	0.002	0.168	-0.168	0.01	-0.01	
3490		10	0	0.003	0	0.18	-0.18	0.011	-0.011	
3491		11	0	-0.003	0	0.18	-0.18	0.011	-0.011	
3492		12	0	-0.008	-0.002	0.168	-0.168	0.01	-0.01	
3493		13	0	-0.013	-0.004	0.144	-0.144	0.009	-0.009	
3494		14	0	-0.019	-0.005	0.108	-0.108	0.007	-0.007	
3495		15	0	-0.024	-0.006	0.059	-0.059	0.004	-0.004	
3496		16	-0.001	-0.03	-0.008	-0.001	0.001	0	0	
3497		17	-0.001	-0.035	-0.009	-0.074	0.074	-0.005	0.005	
3498		18	-0.002	-0.04	-0.011	-0.158	0.158	-0.01	0.01	
3499		19	-0.002	-0.046	-0.012	-0.255	0.255	-0.016	0.016	
3500		20	-0.002	-0.051	-0.014	-0.364	0.364	-0.023	0.023	
3501	6	A11	1	0.002	0.051	0.014	-0.363	0.363	-0.023	0.023
3502		2	0.002	0.046	0.012	-0.254	0.254	-0.016	0.016	
3503		3	0.002	0.04	0.011	-0.158	0.158	-0.01	0.01	
3504		4	0.001	0.035	0.009	-0.073	0.073	-0.005	0.005	
3505		5	0.001	0.03	0.008	0	0	0	0	
3506		6	0	0.024	0.006	0.06	-0.06	0.004	-0.004	
3507		7	0	0.019	0.005	0.109	-0.109	0.007	-0.007	
3508		8	0	0.013	0.004	0.145	-0.145	0.009	-0.009	
3509		9	0	0.008	0.002	0.169	-0.169	0.01	-0.01	
3510		10	0	0.003	0	0.181	-0.181	0.011	-0.011	
3511		11	0	-0.003	0	0.181	-0.181	0.011	-0.011	
3512		12	0	-0.008	-0.002	0.169	-0.169	0.01	-0.01	
3513		13	0	-0.014	-0.004	0.145	-0.145	0.009	-0.009	
3514		14	0	-0.019	-0.005	0.108	-0.108	0.007	-0.007	
3515		15	0	-0.024	-0.006	0.06	-0.06	0.004	-0.004	
3516		16	-0.001	-0.03	-0.008	0	0	0	0	
3517		17	-0.001	-0.035	-0.009	-0.074	0.074	-0.005	0.005	
3518		18	-0.002	-0.04	-0.011	-0.159	0.159	-0.01	0.01	
3519		19	-0.002	-0.046	-0.012	-0.256	0.256	-0.016	0.016	
3520		20	-0.002	-0.051	-0.014	-0.365	0.365	-0.023	0.023	
3521	6	A12	1	0.002	0.051	0.014	-0.365	0.365	-0.023	0.023
3522		2	0.002	0.046	0.012	-0.256	0.256	-0.016	0.016	
3523		3	0.002	0.04	0.011	-0.159	0.159	-0.01	0.01	
3524		4	0.001	0.035	0.009	-0.074	0.074	-0.005	0.005	
3525		5	0.001	0.03	0.008	-0.001	0.001	0	0	
3526		6	0	0.024	0.006	0.059	-0.059	0.004	-0.004	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
3527		7	0	0.019	0.005	0.108	-0.108	0.007	-0.007	
3528		8	0	0.013	0.004	0.144	-0.144	0.009	-0.009	
3529		9	0	0.008	0.002	0.168	-0.168	0.01	-0.01	
3530		10	0	0.003	0	0.181	-0.181	0.011	-0.011	
3531		11	0	-0.003	0	0.181	-0.181	0.011	-0.011	
3532		12	0	-0.008	-0.002	0.168	-0.168	0.01	-0.01	
3533		13	0	-0.013	-0.004	0.144	-0.144	0.009	-0.009	
3534		14	0	-0.019	-0.005	0.108	-0.108	0.007	-0.007	
3535		15	0	-0.024	-0.006	0.059	-0.059	0.004	-0.004	
3536		16	-0.001	-0.03	-0.008	-0.001	0.001	0	0	
3537		17	-0.001	-0.035	-0.009	-0.074	0.074	-0.005	0.005	
3538		18	-0.002	-0.04	-0.011	-0.159	0.159	-0.01	0.01	
3539		19	-0.002	-0.046	-0.012	-0.256	0.256	-0.016	0.016	
3540		20	-0.002	-0.051	-0.014	-0.365	0.365	-0.023	0.023	
3541	6	A13	1	0.002	0.051	0.014	-0.365	0.365	-0.023	0.023
3542		2	0.002	0.046	0.012	-0.256	0.256	-0.016	0.016	
3543		3	0.002	0.04	0.011	-0.159	0.159	-0.01	0.01	
3544		4	0.001	0.035	0.009	-0.074	0.074	-0.005	0.005	
3545		5	0.001	0.03	0.008	0	0	0	0	
3546		6	0	0.024	0.006	0.06	-0.06	0.004	-0.004	
3547		7	0	0.019	0.005	0.108	-0.108	0.007	-0.007	
3548		8	0	0.014	0.004	0.145	-0.145	0.009	-0.009	
3549		9	0	0.008	0.002	0.169	-0.169	0.01	-0.01	
3550		10	0	0.003	0	0.181	-0.181	0.011	-0.011	
3551		11	0	-0.003	0	0.181	-0.181	0.011	-0.011	
3552		12	0	-0.008	-0.002	0.169	-0.169	0.01	-0.01	
3553		13	0	-0.013	-0.004	0.145	-0.145	0.009	-0.009	
3554		14	0	-0.019	-0.005	0.109	-0.109	0.007	-0.007	
3555		15	0	-0.024	-0.006	0.06	-0.06	0.004	-0.004	
3556		16	-0.001	-0.03	-0.008	0	0	0	0	
3557		17	-0.001	-0.035	-0.009	-0.073	0.073	-0.005	0.005	
3558		18	-0.002	-0.04	-0.011	-0.158	0.158	-0.01	0.01	
3559		19	-0.002	-0.046	-0.012	-0.255	0.255	-0.016	0.016	
3560		20	-0.002	-0.051	-0.014	-0.364	0.364	-0.023	0.023	
3561	6	A14	1	0.002	0.051	0.014	-0.364	0.364	-0.023	0.023
3562		2	0.002	0.046	0.012	-0.255	0.255	-0.016	0.016	
3563		3	0.002	0.04	0.011	-0.158	0.158	-0.01	0.01	
3564		4	0.001	0.035	0.009	-0.074	0.074	-0.005	0.005	
3565		5	0.001	0.03	0.008	-0.001	0.001	0	0	
3566		6	0	0.024	0.006	0.059	-0.059	0.004	-0.004	
3567		7	0	0.019	0.005	0.108	-0.108	0.007	-0.007	
3568		8	0	0.013	0.004	0.144	-0.144	0.009	-0.009	
3569		9	0	0.008	0.002	0.168	-0.168	0.01	-0.01	
3570		10	0	0.003	0	0.18	-0.18	0.011	-0.011	
3571		11	0	-0.003	0	0.179	-0.179	0.011	-0.011	
3572		12	0	-0.008	-0.002	0.167	-0.167	0.01	-0.01	
3573		13	0	-0.014	-0.004	0.143	-0.143	0.009	-0.009	
3574		14	0	-0.019	-0.005	0.106	-0.106	0.007	-0.007	
3575		15	0	-0.024	-0.006	0.058	-0.058	0.004	-0.004	
3576		16	-0.001	-0.03	-0.008	-0.003	0.003	0	0	
3577		17	-0.001	-0.035	-0.009	-0.076	0.076	-0.005	0.005	
3578		18	-0.002	-0.041	-0.011	-0.161	0.161	-0.01	0.01	
3579		19	-0.002	-0.046	-0.012	-0.258	0.258	-0.016	0.016	
3580		20	-0.002	-0.051	-0.014	-0.368	0.368	-0.023	0.023	
3581	6	A15	1	0.002	0.052	0.014	-0.368	0.368	-0.023	0.023
3582		2	0.002	0.046	0.012	-0.258	0.258	-0.016	0.016	
3583		3	0.002	0.041	0.011	-0.16	0.16	-0.01	0.01	
3584		4	0.001	0.035	0.009	-0.074	0.074	-0.005	0.005	



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
3585		5	0.001	0.03	0.008	0	0	0	0	
3586		6	0	0.025	0.007	0.061	-0.061	0.004	-0.004	
3587		7	0	0.019	0.005	0.11	-0.11	0.007	-0.007	
3588		8	0	0.014	0.004	0.147	-0.147	0.009	-0.009	
3589		9	0	0.008	0.002	0.172	-0.172	0.01	-0.01	
3590		10	0	0.003	0	0.185	-0.185	0.011	-0.011	
3591		11	0	-0.002	0	0.186	-0.186	0.011	-0.011	
3592		12	0	-0.008	-0.002	0.174	-0.174	0.01	-0.01	
3593		13	0	-0.013	-0.004	0.151	-0.151	0.009	-0.009	
3594		14	0	-0.019	-0.005	0.115	-0.115	0.007	-0.007	
3595		15	0	-0.024	-0.006	0.068	-0.068	0.004	-0.004	
3596		16	-0.001	-0.029	-0.008	0.008	-0.008	0	0	
3597		17	-0.001	-0.035	-0.009	-0.064	0.064	-0.005	0.005	
3598		18	-0.002	-0.04	-0.011	-0.148	0.148	-0.01	0.01	
3599		19	-0.002	-0.045	-0.012	-0.244	0.244	-0.016	0.016	
3600		20	-0.002	-0.051	-0.014	-0.352	0.352	-0.023	0.023	
3601	6	A16	1	0.004	0.054	0.009	-0.352	0.352	-0.006	0.006
3602		2	0.004	0.051	0.009	-0.292	0.292	-0.003	0.003	
3603		3	0.004	0.048	0.008	-0.235	0.235	-0.001	0.001	
3604		4	0.004	0.045	0.007	-0.18	0.18	0	0	
3605		5	0.004	0.043	0.006	-0.13	0.13	0.003	-0.003	
3606		6	0.004	0.04	0.006	-0.082	0.082	0.004	-0.004	
3607		7	0.004	0.037	0.005	-0.037	0.037	0.005	-0.005	
3608		8	0.003	0.034	0.004	0.004	-0.004	0.007	-0.007	
3609		9	0.003	0.032	0.003	0.042	-0.042	0.008	-0.008	
3610		10	0.003	0.029	0.003	0.077	-0.077	0.008	-0.008	
3611		11	0.003	0.026	0.002	0.109	-0.109	0.009	-0.009	
3612		12	0.003	0.023	0.001	0.137	-0.137	0.009	-0.009	
3613		13	0.003	0.021	0	0.162	-0.162	0.01	-0.01	
3614		14	0.003	0.018	0	0.185	-0.185	0.01	-0.01	
3615		15	0.003	0.015	-0.001	0.203	-0.203	0.009	-0.009	
3616		16	0.002	0.012	-0.002	0.219	-0.219	0.009	-0.009	
3617		17	0.002	0.009	-0.003	0.232	-0.232	0.008	-0.008	
3618		18	0.002	0.007	-0.003	0.241	-0.241	0.008	-0.008	
3619		19	0.002	0.004	-0.004	0.247	-0.247	0.007	-0.007	
3620		20	0.002	0.001	-0.005	0.25	-0.25	0.005	-0.005	
3621	6	A17	1	0	0.003	0	-0.019	0.019	0	0
3622		2	0	0.003	0	-0.017	0.017	0	0	
3623		3	0	0.003	0	-0.016	0.016	0	0	
3624		4	0	0.003	0	-0.014	0.014	0	0	
3625		5	0	0.003	0	-0.012	0.012	0	0	
3626		6	0	0.002	0	-0.011	0.011	0	0	
3627		7	0	0.002	0	-0.009	0.009	0	0	
3628		8	0	0.002	0	-0.008	0.008	0	0	
3629		9	0	0.002	0	-0.007	0.007	0	0	
3630		10	0	0.002	0	-0.005	0.005	0	0	
3631		11	0	0.002	0	-0.004	0.004	0	0	
3632		12	0	0.001	0	-0.003	0.003	0	0	
3633		13	0	0.001	0	-0.003	0.003	0	0	
3634		14	0	0.001	0	-0.002	0.002	0	0	
3635		15	0	0	0	-0.001	0.001	0	0	
3636		16	0	0	0	0	0	0	0	
3637		17	0	0	0	0	0	0	0	
3638		18	0	0	0	0	0	0	0	
3639		19	0	0	0	0	0	0	0	
3640		20	0	0	0	0	0	0	0	
3641	6	R1	1	0	0	0	0	0	0	
3642		2	0	0	0	0	0	0	0	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3643		3	0	0	0	0	0	0	0
3644		4	0	0	0	0	0	0	0
3645		5	0	0	0	0	0	0	0
3646		6	0	0	0	0	0	0	0
3647		7	0	0	0	0	0	0	0
3648		8	0	0	0	0	0	0	0
3649		9	0	0	0	0	0	0	0
3650		10	0	0	0	0	0	0	0
3651		11	0	0	0	0	0	0	0
3652		12	0	0	0	0	0	0	0
3653		13	0	0	0	0	0	0	0
3654		14	0	0	0	0	0	0	0
3655		15	0	0	0	0	0	0	0
3656		16	0	0	0	0	0	0	0
3657		17	0	0	0	0	0	0	0
3658		18	0	0	0	0	0	0	0
3659		19	0	0	0	0	0	0	0
3660		20	0	0	0	0	0	0	0
3661	6	R2	1	0	0	0	0	0	0
3662		2	0	0	0	0	0	0	0
3663		3	0	0	0	0	0	0	0
3664		4	0	0	0	0	0	0	0
3665		5	0	0	0	0	0	0	0
3666		6	0	0	0	0	0	0	0
3667		7	0	0	0	0	0	0	0
3668		8	0	0	0	0	0	0	0
3669		9	0	0	0	0	0	0	0
3670		10	0	0	0	0	0	0	0
3671		11	0	0	0	0	0	0	0
3672		12	0	0	0	0	0	0	0
3673		13	0	0	0	0	0	0	0
3674		14	0	0	0	0	0	0	0
3675		15	0	0	0	0	0	0	0
3676		16	0	0	0	0	0	0	0
3677		17	0	0	0	0	0	0	0
3678		18	0	0	0	0	0	0	0
3679		19	0	0	0	0	0	0	0
3680		20	0	0	0	0	0	0	0
3681	6	R3	1	0	0	0	0	0	0
3682		2	0	0	0	0	0	0	0
3683		3	0	0	0	0	0	0	0
3684		4	0	0	0	0	0	0	0
3685		5	0	0	0	0	0	0	0
3686		6	0	0	0	0	0	0	0
3687		7	0	0	0	0	0	0	0
3688		8	0	0	0	0	0	0	0
3689		9	0	0	0	0	0	0	0
3690		10	0	0	0	0	0	0	0
3691		11	0	0	0	0	0	0	0
3692		12	0	0	0	0	0	0	0
3693		13	0	0	0	0	0	0	0
3694		14	0	0	0	0	0	0	0
3695		15	0	0	0	0	0	0	0
3696		16	0	0	0	0	0	0	0
3697		17	0	0	0	0	0	0	0
3698		18	0	0	0	0	0	0	0
3699		19	0	0	0	0	0	0	0
3700		20	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3701	6	R4	1	0	0	0	0	0	0
3702			2	0	0	0	0	0	0
3703			3	0	0	0	0	0	0
3704			4	0	0	0	0	0	0
3705			5	0	0	0	0	0	0
3706			6	0	0	0	0	0	0
3707			7	0	0	0	0	0	0
3708			8	0	0	0	0	0	0
3709			9	0	0	0	0	0	0
3710			10	0	0	0	0	0	0
3711			11	0	0	0	0	0	0
3712			12	0	0	0	0	0	0
3713			13	0	0	0	0	0	0
3714			14	0	0	0	0	0	0
3715			15	0	0	0	0	0	0
3716			16	0	0	0	0	0	0
3717			17	0	0	0	0	0	0
3718			18	0	0	0	0	0	0
3719			19	0	0	0	0	0	0
3720			20	0	0	0	0	0	0
3721	6	R5	1	0	0	0	0	0	0
3722			2	0	0	0	0	0	0
3723			3	0	0	0	0	0	0
3724			4	0	0	0	0	0	0
3725			5	0	0	0	0	0	0
3726			6	0	0	0	0	0	0
3727			7	0	0	0	0	0	0
3728			8	0	0	0	0	0	0
3729			9	0	0	0	0	0	0
3730			10	0	0	0	0	0	0
3731			11	0	0	0	0	0	0
3732			12	0	0	0	0	0	0
3733			13	0	0	0	0	0	0
3734			14	0	0	0	0	0	0
3735			15	0	0	0	0	0	0
3736			16	0	0	0	0	0	0
3737			17	0	0	0	0	0	0
3738			18	0	0	0	0	0	0
3739			19	0	0	0	0	0	0
3740			20	0	0	0	0	0	0
3741	6	R6	1	0	0	0	0	0	0
3742			2	0	0	0	0	0	0
3743			3	0	0	0	0	0	0
3744			4	0	0	0	0	0	0
3745			5	0	0	0	0	0	0
3746			6	0	0	0	0	0	0
3747			7	0	0	0	0	0	0
3748			8	0	0	0	0	0	0
3749			9	0	0	0	0	0	0
3750			10	0	0	0	0	0	0
3751			11	0	0	0	0	0	0
3752			12	0	0	0	0	0	0
3753			13	0	0	0	0	0	0
3754			14	0	0	0	0	0	0
3755			15	0	0	0	0	0	0
3756			16	0	0	0	0	0	0
3757			17	0	0	0	0	0	0
3758			18	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3759		19	0	0	0	0	0	0	0
3760		20	0	0	0	0	0	0	0
3761	6	R7	1	0	0	0	0	0	0
3762		2	0	0	0	0	0	0	0
3763		3	0	0	0	0	0	0	0
3764		4	0	0	0	0	0	0	0
3765		5	0	0	0	0	0	0	0
3766		6	0	0	0	0	0	0	0
3767		7	0	0	0	0	0	0	0
3768		8	0	0	0	0	0	0	0
3769		9	0	0	0	0	0	0	0
3770		10	0	0	0	0	0	0	0
3771		11	0	0	0	0	0	0	0
3772		12	0	0	0	0	0	0	0
3773		13	0	0	0	0	0	0	0
3774		14	0	0	0	0	0	0	0
3775		15	0	0	0	0	0	0	0
3776		16	0	0	0	0	0	0	0
3777		17	0	0	0	0	0	0	0
3778		18	0	0	0	0	0	0	0
3779		19	0	0	0	0	0	0	0
3780		20	0	0	0	0	0	0	0
3781	6	R8	1	0	0	0	0	0	0
3782		2	0	0	0	0	0	0	0
3783		3	0	0	0	0	0	0	0
3784		4	0	0	0	0	0	0	0
3785		5	0	0	0	0	0	0	0
3786		6	0	0	0	0	0	0	0
3787		7	0	0	0	0	0	0	0
3788		8	0	0	0	0	0	0	0
3789		9	0	0	0	0	0	0	0
3790		10	0	0	0	0	0	0	0
3791		11	0	0	0	0	0	0	0
3792		12	0	0	0	0	0	0	0
3793		13	0	0	0	0	0	0	0
3794		14	0	0	0	0	0	0	0
3795		15	0	0	0	0	0	0	0
3796		16	0	0	0	0	0	0	0
3797		17	0	0	0	0	0	0	0
3798		18	0	0	0	0	0	0	0
3799		19	0	0	0	0	0	0	0
3800		20	0	0	0	0	0	0	0
3801	6	R9	1	0	0	0	0	0	0
3802		2	0	0	0	0	0	0	0
3803		3	0	0	0	0	0	0	0
3804		4	0	0	0	0	0	0	0
3805		5	0	0	0	0	0	0	0
3806		6	0	0	0	0	0	0	0
3807		7	0	0	0	0	0	0	0
3808		8	0	0	0	0	0	0	0
3809		9	0	0	0	0	0	0	0
3810		10	0	0	0	0	0	0	0
3811		11	0	0	0	0	0	0	0
3812		12	0	0	0	0	0	0	0
3813		13	0	0	0	0	0	0	0
3814		14	0	0	0	0	0	0	0
3815		15	0	0	0	0	0	0	0
3816		16	0	0	0	0	0	0	0





Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 1 Pile Cap

1/19/2021  
 10:23:49 PM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3817		17	0	0	0	0	0	0	0
3818		18	0	0	0	0	0	0	0
3819		19	0	0	0	0	0	0	0
3820		20	0	0	0	0	0	0	0
3821	6	R10	1	0	0	0	0	0	0
3822		2	0	0	0	0	0	0	0
3823		3	0	0	0	0	0	0	0
3824		4	0	0	0	0	0	0	0
3825		5	0	0	0	0	0	0	0
3826		6	0	0	0	0	0	0	0
3827		7	0	0	0	0	0	0	0
3828		8	0	0	0	0	0	0	0
3829		9	0	0	0	0	0	0	0
3830		10	0	0	0	0	0	0	0
3831		11	0	0	0	0	0	0	0
3832		12	0	0	0	0	0	0	0
3833		13	0	0	0	0	0	0	0
3834		14	0	0	0	0	0	0	0
3835		15	0	0	0	0	0	0	0
3836		16	0	0	0	0	0	0	0
3837		17	0	0	0	0	0	0	0
3838		18	0	0	0	0	0	0	0
3839		19	0	0	0	0	0	0	0
3840		20	0	0	0	0	0	0	0
3841	6	R11	1	0	0	0	0	0	0
3842		2	0	0	0	0	0	0	0
3843		3	0	0	0	0	0	0	0
3844		4	0	0	0	0	0	0	0
3845		5	0	0	0	0	0	0	0
3846		6	0	0	0	0	0	0	0
3847		7	0	0	0	0	0	0	0
3848		8	0	0	0	0	0	0	0
3849		9	0	0	0	0	0	0	0
3850		10	0	0	0	0	0	0	0
3851		11	0	0	0	0	0	0	0
3852		12	0	0	0	0	0	0	0
3853		13	0	0	0	0	0	0	0
3854		14	0	0	0	0	0	0	0
3855		15	0	0	0	0	0	0	0
3856		16	0	0	0	0	0	0	0
3857		17	0	0	0	0	0	0	0
3858		18	0	0	0	0	0	0	0
3859		19	0	0	0	0	0	0	0
3860		20	0	0	0	0	0	0	0
3861	6	R12	1	0	0	0	0	0	0
3862		2	0	0	0	0	0	0	0
3863		3	0	0	0	0	0	0	0
3864		4	0	0	0	0	0	0	0
3865		5	0	0	0	0	0	0	0
3866		6	0	0	0	0	0	0	0
3867		7	0	0	0	0	0	0	0
3868		8	0	0	0	0	0	0	0
3869		9	0	0	0	0	0	0	0
3870		10	0	0	0	0	0	0	0
3871		11	0	0	0	0	0	0	0
3872		12	0	0	0	0	0	0	0
3873		13	0	0	0	0	0	0	0
3874		14	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3875		15	0	0	0	0	0	0	0
3876		16	0	0	0	0	0	0	0
3877		17	0	0	0	0	0	0	0
3878		18	0	0	0	0	0	0	0
3879		19	0	0	0	0	0	0	0
3880		20	0	0	0	0	0	0	0
3881	6	R13	1	0	0	0	0	0	0
3882		2	0	0	0	0	0	0	0
3883		3	0	0	0	0	0	0	0
3884		4	0	0	0	0	0	0	0
3885		5	0	0	0	0	0	0	0
3886		6	0	0	0	0	0	0	0
3887		7	0	0	0	0	0	0	0
3888		8	0	0	0	0	0	0	0
3889		9	0	0	0	0	0	0	0
3890		10	0	0	0	0	0	0	0
3891		11	0	0	0	0	0	0	0
3892		12	0	0	0	0	0	0	0
3893		13	0	0	0	0	0	0	0
3894		14	0	0	0	0	0	0	0
3895		15	0	0	0	0	0	0	0
3896		16	0	0	0	0	0	0	0
3897		17	0	0	0	0	0	0	0
3898		18	0	0	0	0	0	0	0
3899		19	0	0	0	0	0	0	0
3900		20	0	0	0	0	0	0	0
3901	6	R14	1	0	0	0	0	0	0
3902		2	0	0	0	0	0	0	0
3903		3	0	0	0	0	0	0	0
3904		4	0	0	0	0	0	0	0
3905		5	0	0	0	0	0	0	0
3906		6	0	0	0	0	0	0	0
3907		7	0	0	0	0	0	0	0
3908		8	0	0	0	0	0	0	0
3909		9	0	0	0	0	0	0	0
3910		10	0	0	0	0	0	0	0
3911		11	0	0	0	0	0	0	0
3912		12	0	0	0	0	0	0	0
3913		13	0	0	0	0	0	0	0
3914		14	0	0	0	0	0	0	0
3915		15	0	0	0	0	0	0	0
3916		16	0	0	0	0	0	0	0
3917		17	0	0	0	0	0	0	0
3918		18	0	0	0	0	0	0	0
3919		19	0	0	0	0	0	0	0
3920		20	0	0	0	0	0	0	0
3921	6	R15	1	0	0	0	0	0	0
3922		2	0	0	0	0	0	0	0
3923		3	0	0	0	0	0	0	0
3924		4	0	0	0	0	0	0	0
3925		5	0	0	0	0	0	0	0
3926		6	0	0	0	0	0	0	0
3927		7	0	0	0	0	0	0	0
3928		8	0	0	0	0	0	0	0
3929		9	0	0	0	0	0	0	0
3930		10	0	0	0	0	0	0	0
3931		11	0	0	0	0	0	0	0
3932		12	0	0	0	0	0	0	0

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3933		13	0	0	0	0	0	0	0
3934		14	0	0	0	0	0	0	0
3935		15	0	0	0	0	0	0	0
3936		16	0	0	0	0	0	0	0
3937		17	0	0	0	0	0	0	0
3938		18	0	0	0	0	0	0	0
3939		19	0	0	0	0	0	0	0
3940		20	0	0	0	0	0	0	0
3941	6	M33	1	0	0	0	0	0	0
3942		2	0	0	0	0	0	0	0
3943		3	0	0	0	0	0	0	0
3944		4	0	0	0	0	0	0	0
3945		5	0	0	0	0	0	0	0
3946		6	0	0	0	0	0	0	0
3947		7	0	0	0	0	0	0	0
3948		8	0	0	0	0	0	0	0
3949		9	0	0	0	0	0	0	0
3950		10	0	0	0	0	0	0	0
3951		11	0	0	0	0	0	0	0
3952		12	0	0	0	0	0	0	0
3953		13	0	0	0	0	0	0	0
3954		14	0	0	0	0	0	0	0
3955		15	0	0	0	0	0	0	0
3956		16	0	0	0	0	0	0	0
3957		17	0	0	0	0	0	0	0
3958		18	0	0	0	0	0	0	0
3959		19	0	0	0	0	0	0	0
3960		20	0	0	0	0	0	0	0

**Envelope Node Reactions**

Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC	
1	RN2A	max	-9.337	6	51.108	2	-14.46	6	0	6	0	6	0	6
2		min	-11.656	4	0.198	5	-19.991	4	0	1	0	1	0	1
3	RN1C	max	7.675	4	46.623	3	-8.055	6	0	6	0	6	0	6
4		min	5.12	6	32.128	1	-11.393	4	0	1	0	1	0	1
5	RN2C	max	-5.131	3	188.554	2	-23.756	6	0	6	0	6	0	6
6		min	-6.564	4	140.843	6	-32.842	4	0	1	0	1	0	1
7	RN3A	max	-2.966	3	34.714	2	-17.276	6	0	6	0	6	0	6
8		min	-3.942	4	-12.202	5	-23.979	4	0	1	0	1	0	1
9	RN3C	max	-4.88	3	203.355	2	-28.382	6	0	6	0	6	0	6
10		min	-6.484	4	151.155	6	-39.394	4	0	1	0	1	0	1
11	RN4A	max	-2.962	3	34.097	2	-17.275	6	0	6	0	6	0	6
12		min	-3.938	4	-12.813	5	-23.978	4	0	1	0	1	0	1
13	RN5C	max	-4.872	3	202.58	2	-28.38	6	0	6	0	6	0	6
14		min	-6.477	4	150.711	6	-39.392	4	0	1	0	1	0	1
15	RN6A	max	-2.962	3	34.244	2	-17.275	6	0	6	0	6	0	6
16		min	-3.938	4	-12.669	5	-23.978	4	0	1	0	1	0	1
17	RN7A	max	-2.962	3	34.149	2	-17.275	6	0	6	0	6	0	6
18		min	-3.938	4	-12.748	5	-23.978	4	0	1	0	1	0	1
19	RN6C	max	-4.872	3	202.585	2	-28.38	6	0	6	0	6	0	6
20		min	-6.477	4	150.729	6	-39.392	4	0	1	0	1	0	1
21	RN8C	max	-4.872	3	212.025	2	-28.38	6	0	6	0	6	0	6
22		min	-6.477	4	158.279	6	-39.392	4	0	1	0	1	0	1
23	RN9A	max	-2.962	3	38.667	2	-17.275	6	0	6	0	6	0	6
24		min	-3.938	4	-9.132	5	-23.978	4	0	1	0	1	0	1
25	RN9C	max	-4.872	3	209.851	2	-28.38	6	0	6	0	6	0	6
26		min	-6.477	4	156.54	6	-39.392	4	0	1	0	1	0	1
27	RN10A	max	-2.962	3	33.818	2	-17.275	6	0	6	0	6	0	6

**Envelope Node Reactions (Continued)**

Node Label			X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
28		min	-3.938	4	-13.016	5	-23.978	4	0	1	0	1	0	1
29	RN10C	max	-4.872	3	201.885	2	-28.38	6	0	6	0	6	0	6
30		min	-6.477	4	150.165	6	-39.392	4	0	1	0	1	0	1
31	RN13A	max	-2.962	3	33.763	2	-17.275	6	0	6	0	6	0	6
32		min	-3.938	4	-12.877	5	-23.978	4	0	1	0	1	0	1
33	RN11A	max	-2.962	3	34.291	2	-17.275	6	0	6	0	6	0	6
34		min	-3.938	4	-12.623	5	-23.978	4	0	1	0	1	0	1
35	RN15C	max	-12.171	6	183.241	2	-20.058	6	0	6	0	6	0	6
36		min	-15.025	4	137.674	6	-27.751	4	0	1	0	1	0	1
37	RN16A	max	6.133	4	10.38	3	-5.096	6	0	6	0	6	0	6
38		min	4.242	6	5.358	1	-7.217	4	0	1	0	1	0	1
39	RN14C	max	-4.871	3	205.587	2	-28.382	6	0	6	0	6	0	6
40		min	-6.475	4	152.675	6	-39.394	4	0	1	0	1	0	1
41	RN15A	max	0.964	3	30.8	2	-12.209	6	0	6	0	6	0	6
42		min	-0.544	6	-7.485	5	-16.892	4	0	1	0	1	0	1
43	RN12C	max	-4.872	3	202.69	2	-28.38	6	0	6	0	6	0	6
44		min	-6.477	4	150.783	6	-39.392	4	0	1	0	1	0	1
45	RN4C	max	-4.872	3	202.343	2	-28.38	6	0	6	0	6	0	6
46		min	-6.477	4	150.58	6	-39.392	4	0	1	0	1	0	1
47	RN5A	max	-2.962	3	34.241	2	-17.275	6	0	6	0	6	0	6
48		min	-3.938	4	-12.67	5	-23.978	4	0	1	0	1	0	1
49	RN8A	max	-2.962	3	39.99	2	-17.275	6	0	6	0	6	0	6
50		min	-3.938	4	-8.081	5	-23.978	4	0	1	0	1	0	1
51	RN7C	max	-4.872	3	202.428	2	-28.38	6	0	6	0	6	0	6
52		min	-6.477	4	150.6	6	-39.392	4	0	1	0	1	0	1
53	RN11C	max	-4.872	3	202.662	2	-28.38	6	0	6	0	6	0	6
54		min	-6.477	4	150.796	6	-39.392	4	0	1	0	1	0	1
55	RN12A	max	-2.962	3	34.308	2	-17.275	6	0	6	0	6	0	6
56		min	-3.938	4	-12.666	5	-23.978	4	0	1	0	1	0	1
57	RN13C	max	-4.872	3	201.793	2	-28.38	6	0	6	0	6	0	6
58		min	-6.477	4	150.206	6	-39.392	4	0	1	0	1	0	1
59	RN14A	max	-2.962	3	36.071	2	-17.276	6	0	6	0	6	0	6
60		min	-3.938	4	-11.933	5	-23.979	4	0	1	0	1	0	1
61	Totals:	max	-108.367	3	3377.415	2	-631.502	6						
62		min	-144.056	4	2213.298	5	-876.527	4						

**Envelope Node Displacements**

Node Label			X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1	N1	max	0	4	-0.001	6	0	4	4.934e-5	5	4.371e-7	4	-2.222e-5	6
2		min	0	6	-0.002	3	0	6	3.624e-5	6	3.307e-7	6	-3.07e-5	5
3	N2	max	0	4	0	5	0	4	2.999e-5	5	-1.159e-6	6	-4.207e-5	6
4		min	0	6	0	3	0	6	-1.895e-5	3	-1.542e-6	4	-5.589e-5	5
5	RN1B	max	0	4	0	5	0	4	2.999e-5	5	-1.159e-6	6	-4.518e-5	6
6		min	0	6	-0.002	3	0	6	-1.895e-5	3	-1.542e-6	4	-5.9e-5	5
7	RN1C	max	0	6	0	1	0	4	2.997e-5	5	-1.161e-6	6	-4.52e-5	6
8		min	0	4	0	3	0	6	-1.897e-5	3	-1.544e-6	4	-5.902e-5	5
9	RN2A	max	0	4	0	5	0	4	5.041e-8	2	0	4	7.543e-7	3
10		min	0	6	0	2	0	6	1.584e-8	5	0	6	-1.24e-5	1
11	RN2B	max	0	4	0	5	0	4	1.563e-8	5	0	6	7.543e-7	3
12		min	0	6	0	2	0	6	0	2	0	4	-1.24e-5	1
13	RN2C	max	0	4	0	6	0	4	-4.607e-8	5	0	6	7.543e-7	3
14		min	0	3	0	2	0	6	-7.757e-8	2	0	4	-1.24e-5	1
15	RN3A	max	0	4	0	5	0	4	4.176e-8	2	0	4	3.093e-6	1
16		min	0	3	0	2	0	6	0	5	0	3	-1.833e-7	3
17	RN3B	max	0	4	0	5	0	4	2.211e-8	5	0	3	3.093e-6	1
18		min	0	3	0	2	0	6	0	2	0	4	-1.833e-7	3
19	RN3C	max	0	4	0	6	0	4	-4.359e-8	5	0	3	3.093e-6	1
20		min	0	3	0	2	0	6	-7.468e-8	2	0	4	-1.833e-7	3

**Envelope Node Displacements (Continued)**

Node Label	X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC		
21	RN4A	max	0	4	0	5	0	4	4.128e-8	2	0	4	3.37e-8	3
22		min	0	3	0	2	0	6	0	5	0	3	-7.795e-7	1
23	RN4B	max	0	4	0	5	0	4	2.227e-8	5	0	3	3.37e-8	3
24		min	0	3	0	2	0	6	0	2	0	4	-7.795e-7	1
25	RN4C	max	0	4	0	6	0	4	-4.302e-8	5	0	3	3.37e-8	3
26		min	0	3	0	2	0	6	-7.412e-8	2	0	4	-7.795e-7	1
27	RN5A	max	0	4	0	5	0	4	4.139e-8	2	0	4	2.288e-7	1
28		min	0	3	0	2	0	6	0	5	0	3	3.964e-8	3
29	RN5B	max	0	4	0	5	0	4	2.223e-8	5	0	3	2.288e-7	1
30		min	0	3	0	2	0	6	0	2	0	4	3.964e-8	3
31	RN5C	max	0	4	0	6	0	4	-4.316e-8	5	0	3	2.288e-7	1
32		min	0	3	0	2	0	6	-7.425e-8	2	0	4	3.964e-8	3
33	RN6A	max	0	4	0	5	0	4	4.139e-8	2	0	4	-1.7e-7	6
34		min	0	3	0	2	0	6	0	5	0	3	-2.24e-7	2
35	RN6B	max	0	4	0	5	0	4	2.223e-8	5	0	3	-1.7e-7	6
36		min	0	3	0	2	0	6	0	2	0	4	-2.24e-7	2
37	RN6C	max	0	4	0	6	0	4	-4.316e-8	5	0	3	-1.7e-7	6
38		min	0	3	0	2	0	6	-7.425e-8	2	0	4	-2.24e-7	2
39	RN7A	max	0	4	0	5	0	4	4.192e-8	2	0	4	8.238e-7	3
40		min	0	3	0	2	0	6	0	5	0	3	5.917e-7	6
41	RN7B	max	0	4	0	5	0	4	2.283e-8	5	0	3	8.239e-7	3
42		min	0	3	0	2	0	6	0	2	0	4	5.918e-7	6
43	RN7C	max	0	4	0	6	0	4	-4.251e-8	5	0	3	8.239e-7	3
44		min	0	3	0	2	0	6	-7.356e-8	2	0	4	5.918e-7	6
45	RN8A	max	0	4	0	5	0	4	4.589e-8	2	0	4	-4.945e-6	1
46		min	0	3	0	2	0	6	1.242e-8	5	0	3	-8.194e-6	3
47	RN8B	max	0	4	0	5	0	4	2.097e-8	5	0	3	-4.945e-6	1
48		min	0	3	0	2	0	6	0	2	0	4	-8.194e-6	3
49	RN8C	max	0	4	0	6	0	4	-4.738e-8	5	0	3	-4.945e-6	1
50		min	0	3	0	2	0	6	-7.954e-8	2	0	4	-8.194e-6	3
51	RN9A	max	0	4	0	5	0	4	4.485e-8	2	0	4	1.129e-5	3
52		min	0	3	0	2	0	6	1.16e-8	5	0	3	6.785e-6	1
53	RN9B	max	0	4	0	5	0	4	2.126e-8	5	0	3	1.129e-5	3
54		min	0	3	0	2	0	6	0	2	0	4	6.785e-6	1
55	RN9C	max	0	4	0	6	0	4	-4.641e-8	5	0	3	1.129e-5	3
56		min	0	3	0	2	0	6	-7.832e-8	2	0	4	6.785e-6	1
57	RN10A	max	0	4	0	5	0	4	4.106e-8	2	0	4	-1.636e-6	1
58		min	0	3	0	2	0	6	0	5	0	3	-2.705e-6	3
59	RN10B	max	0	4	0	5	0	4	2.233e-8	5	0	3	-1.636e-6	1
60		min	0	3	0	2	0	6	0	2	0	4	-2.705e-6	3
61	RN10C	max	0	4	0	6	0	4	-4.284e-8	5	0	3	-1.636e-6	1
62		min	0	3	0	2	0	6	-7.386e-8	2	0	4	-2.705e-6	3
63	RN11A	max	0	4	0	5	0	4	4.143e-8	2	0	4	7.696e-7	3
64		min	0	3	0	2	0	6	0	5	0	3	5.084e-7	1
65	RN11B	max	0	4	0	5	0	4	2.222e-8	5	0	3	7.696e-7	3
66		min	0	3	0	2	0	6	0	2	0	4	5.084e-7	1
67	RN11C	max	0	4	0	6	0	4	-4.32e-8	5	0	3	7.696e-7	3
68		min	0	3	0	2	0	6	-7.429e-8	2	0	4	5.084e-7	1
69	RN12A	max	0	4	0	5	0	4	4.144e-8	2	0	4	-3.7e-7	5
70		min	0	3	0	2	0	6	0	5	0	3	-7.701e-7	2
71	RN12B	max	0	4	0	5	0	4	2.223e-8	5	0	3	-3.7e-7	5
72		min	0	3	0	2	0	6	0	2	0	4	-7.701e-7	2
73	RN12C	max	0	4	0	6	0	4	-4.316e-8	5	0	3	-3.7e-7	5
74		min	0	3	0	2	0	6	-7.431e-8	2	0	4	-7.701e-7	2
75	RN13A	max	0	4	0	5	0	4	4.102e-8	2	0	4	2.568e-6	2
76		min	0	3	0	2	0	6	0	5	0	3	1.066e-6	5
77	RN13B	max	0	4	0	5	0	4	2.229e-8	5	0	3	2.568e-6	2
78		min	0	3	0	2	0	6	0	2	0	4	1.066e-6	5

**Envelope Node Displacements (Continued)**

Node Label	X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC		
79	RN13C	max	0	4	0	6	0	4	-4.297e-8	5	0	3	2.568e-6	2
80		min	0	3	0	2	0	6	-7.381e-8	2	0	4	1.066e-6	5
81	RN14A	max	0	4	0	5	0	4	4.282e-8	2	0	4	-4.174e-6	5
82		min	0	3	0	2	0	6	0	5	0	3	-1.017e-5	2
83	RN14B	max	0	4	0	5	0	4	2.203e-8	5	0	3	-4.174e-6	5
84		min	0	3	0	2	0	6	0	2	0	4	-1.017e-5	2
85	RN14C	max	0	4	0	6	0	4	-4.383e-8	5	0	3	-4.174e-6	5
86		min	0	3	0	2	0	6	-7.593e-8	2	0	4	-1.017e-5	2
87	RN15A	max	0	6	0	5	0	4	3.733e-8	2	0	6	4.078e-5	2
88		min	0	3	0	2	0	6	1.05e-8	5	0	3	1.672e-5	5
89	RN15B	max	0	4	0	5	0	4	1.842e-8	5	0	3	4.078e-5	2
90		min	0	3	0	2	0	6	0	2	0	6	1.672e-5	5
91	RN15C	max	0	4	0	6	0	4	-4.094e-8	5	0	3	4.078e-5	2
92		min	0	6	0	2	0	6	-6.708e-8	2	0	4	1.672e-5	5
93	RN16A	max	0	6	0	1	0	4	4.935e-5	3	4.386e-7	4	-1.95e-5	6
94		min	0	4	0	3	0	6	3.625e-5	6	3.319e-7	6	-2.798e-5	5
95	RN16B	max	0	4	0	6	0	4	4.934e-5	5	4.371e-7	4	-1.951e-5	6
96		min	0	6	-0.001	3	0	6	3.624e-5	6	3.307e-7	6	-2.799e-5	5

**Envelope Member Section Forces**

Member	Sec	Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1	A1	1	max	0	6	0	6	0	6	0	6	0	6
2			min	0	1	0	1	0	1	0	1	0	1
3		2	max	0	6	-0.242	1	0	6	0	6	0.022	3
4			min	0	1	-0.403	3	0	1	0	1	0.013	1
5		3	max	0	6	-0.483	1	0	6	0	6	0.086	3
6			min	0	1	-0.805	3	0	1	0	1	0.052	1
7		4	max	0	6	-0.725	1	0	6	0	6	0.194	3
8			min	0	1	-1.208	3	0	1	0	1	0.116	1
9		5	max	0	6	-0.966	1	0	6	0	6	0.344	3
10			min	0	1	-1.611	3	0	1	0	1	0.206	1
11		6	max	0	6	-1.208	1	0	6	0	6	0.538	3
12			min	0	1	-2.013	3	0	1	0	1	0.323	1
13		7	max	0	6	-1.449	1	0	6	0	6	0.774	3
14			min	0	1	-2.416	3	0	1	0	1	0.464	1
15		8	max	0	6	-1.691	1	0	6	0	6	1.054	3
16			min	0	1	-2.818	3	0	1	0	1	0.632	1
17		9	max	0	6	-1.933	1	0	6	0	6	1.376	3
18			min	0	1	-3.221	3	0	1	0	1	0.826	1
19		10	max	0	6	-2.174	1	0	6	0	6	1.742	3
20			min	0	1	-3.624	3	0	1	0	1	1.045	1
21		11	max	0	6	-2.416	1	0	6	0	6	2.15	3
22			min	0	1	-4.026	3	0	1	0	1	1.29	1
23		12	max	0	6	-2.657	1	0	6	0	6	2.602	3
24			min	0	1	-4.429	3	0	1	0	1	1.561	1
25		13	max	0	6	-2.899	1	0	6	0	6	3.096	3
26			min	0	1	-4.832	3	0	1	0	1	1.858	1
27		14	max	0	6	-3.141	1	0	6	0	6	3.634	3
28			min	0	1	-5.234	3	0	1	0	1	2.18	1
29		15	max	0	6	-3.382	1	0	6	0	6	4.214	3
30			min	0	1	-5.637	3	0	1	0	1	2.528	1
31		16	max	0	6	-3.624	1	0	6	0	6	4.838	3
32			min	0	1	-6.039	3	0	1	0	1	2.903	1
33		17	max	0	6	-3.865	1	0	6	0	6	5.504	3
34			min	0	1	-6.442	3	0	1	0	1	3.302	1
35		18	max	0	6	-4.107	1	0	6	0	6	6.214	3
36			min	0	1	-6.845	3	0	1	0	1	3.728	1
37		19	max	0	6	-4.348	1	0	6	0	6	6.966	3



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
38		min	0	1	-7.247	3	0	1	0	1	0	1	4.18	1
39		20 max	0	6	-4.59	1	0	6	0	6	0	6	7.762	3
40		min	0	1	-7.65	3	0	1	0	1	0	1	4.657	1
41	A2	1 max	-4.242	6	-17.717	1	7.217	4	-20.537	1	3.855	4	-15.657	1
42		min	-6.133	4	-28.077	3	5.096	6	-39.789	3	3.063	6	-31.595	3
43		2 max	-4.415	6	-20.635	1	6.155	4	-26.259	1	4.692	4	-13.257	1
44		min	-6.307	4	-31.537	3	4.331	6	-45.436	3	3.654	6	-27.864	3
45		3 max	-4.588	6	-23.554	1	5.093	4	-31.98	1	5.396	4	-10.491	1
46		min	-6.482	4	-34.997	3	3.566	6	-51.084	3	4.148	6	-23.7	3
47		4 max	-4.762	6	-26.472	1	4.031	4	-37.701	1	5.967	4	-7.36	1
48		min	-6.656	4	-38.458	3	2.801	6	-56.731	3	4.546	6	-19.103	3
49		5 max	-4.935	6	-29.391	1	2.969	4	-43.232	6	6.405	4	-3.864	1
50		min	-6.831	4	-41.918	3	2.036	6	-62.378	3	4.849	6	-14.072	3
51		6 max	-5.109	6	-32.309	1	1.908	3	-47.851	6	6.71	4	-0.002	1
52		min	-7.005	4	-45.378	3	1.271	6	-68.025	3	5.056	6	-8.608	3
53		7 max	-5.282	6	-34.94	5	0.889	3	-52.47	6	6.883	4	4.225	1
54		min	-7.18	4	-48.838	3	0.506	6	-73.672	3	5.167	6	-2.712	3
55		8 max	-5.456	6	-37.522	5	-0.129	3	-57.09	6	6.922	4	10.094	2
56		min	-7.354	4	-52.298	3	-0.259	6	-79.319	3	5.183	6	3.618	3
57		9 max	-5.629	6	-40.104	5	-1.024	6	-61.709	6	6.829	4	16.849	2
58		min	-7.529	4	-55.941	2	-1.278	4	-84.966	3	5.102	6	10.381	3
59		10 max	-5.803	6	-42.686	5	-1.789	6	-66.329	6	6.602	4	24.099	2
60		min	-7.703	4	-59.909	2	-2.34	4	-90.613	3	4.926	6	16.706	5
61		11 max	-5.976	6	-45.268	5	-2.554	6	-70.948	6	6.243	4	31.847	2
62		min	-7.878	4	-63.876	2	-3.402	4	-97.089	5	4.654	6	22.211	5
63		12 max	-6.15	6	-47.85	5	-3.319	6	-75.567	6	5.75	4	40.091	2
64		min	-8.053	4	-67.844	2	-4.464	4	-104.425	5	4.287	6	28.039	5
65		13 max	-6.323	6	-50.432	5	-4.084	6	-80.187	6	5.125	4	48.832	2
66		min	-8.227	4	-71.811	2	-5.526	4	-111.761	5	3.823	6	34.19	5
67		14 max	-6.497	6	-53.014	5	-4.85	6	-84.806	6	4.367	4	58.069	2
68		min	-8.402	4	-75.779	2	-6.588	4	-119.097	5	3.264	6	40.664	5
69		15 max	-6.67	6	-55.596	5	-5.615	6	-89.426	6	3.476	4	67.803	2
70		min	-8.576	4	-79.746	2	-7.65	4	-126.433	5	2.609	6	47.462	5
71		16 max	-6.844	6	-58.178	5	-6.38	6	-94.045	6	2.452	4	78.033	2
72		min	-8.751	4	-83.713	2	-8.711	4	-133.77	5	1.858	6	54.583	5
73		17 max	-7.017	6	-60.76	5	-7.145	6	-98.664	6	1.295	4	88.761	2
74		min	-8.925	4	-87.681	2	-9.773	4	-141.106	5	1.012	6	62.027	5
75		18 max	-7.19	6	-63.342	5	-7.91	6	-103.284	6	0.07	6	99.984	2
76		min	-9.1	4	-91.648	2	-10.835	4	-148.442	5	-0.045	3	69.794	5
77		19 max	-7.364	6	-65.924	5	-8.675	6	-107.903	6	-0.968	6	111.705	2
78		min	-9.274	4	-95.616	2	-11.897	4	-155.778	5	-1.418	4	77.885	5
79		20 max	-7.537	6	-68.506	5	-9.44	6	-112.523	6	-2.102	6	123.922	2
80		min	-9.449	4	-99.583	2	-12.959	4	-163.115	5	-2.973	4	86.298	5
81	A3	1 max	5.209	4	114.458	2	31.684	4	218.901	5	-28.414	6	123.922	2
82		min	3.918	3	75.433	5	22.828	6	137.834	6	-39.436	4	86.298	5
83		2 max	4.661	4	101.996	2	28.349	4	195.859	5	-19.912	6	81.372	2
84		min	3.506	3	67.324	5	20.425	6	123.326	6	-27.635	4	58.235	5
85		3 max	4.113	4	89.535	2	25.014	4	172.817	5	-12.354	6	43.72	2
86		min	3.094	3	59.214	5	18.022	6	108.817	6	-17.145	4	32.892	6
87		4 max	3.565	4	77.074	2	21.678	4	149.775	5	-5.741	6	13.807	3
88		min	2.681	3	51.104	5	15.619	6	94.308	6	-7.967	4	9.081	1
89		5 max	3.016	4	64.613	2	18.343	4	126.733	5	-0.072	6	-6.824	5
90		min	2.269	3	42.995	5	13.216	6	79.799	6	-0.099	4	-16.884	2
91		6 max	2.468	4	52.152	2	15.008	4	103.691	5	6.457	4	-22.133	5
92		min	1.857	3	34.885	5	10.813	6	65.29	6	4.651	6	-39.838	2
93		7 max	1.92	4	39.691	2	11.673	4	80.649	5	11.702	4	-34.254	5
94		min	1.444	3	26.776	5	8.41	6	50.781	6	8.43	6	-57.892	2
95		8 max	1.372	4	27.23	2	8.338	4	57.607	5	15.636	4	-43.187	5



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
96		min	1.032	3	18.666	5	6.007	6	36.272	6	11.264	6	-71.047	2	
97	9	max	0.824	4	14.769	2	5.002	4	34.565	5	18.258	4	-48.932	5	
98		min	0.62	3	10.556	5	3.604	6	21.764	6	13.154	6	-79.303	2	
99	10	max	0.276	4	2.896	3	1.667	4	11.523	5	19.569	4	-51.488	5	
100		min	0.207	3	1.908	1	1.202	6	7.255	6	14.099	6	-82.66	2	
101	11	max	-0.205	3	-5.663	5	-1.201	6	-7.254	6	19.569	4	-50.856	5	
102		min	-0.272	4	-10.154	2	-1.668	4	-11.519	5	14.099	6	-81.118	2	
103	12	max	-0.617	3	-13.772	5	-3.604	6	-21.763	6	18.257	4	-47.035	5	
104		min	-0.821	4	-22.615	2	-5.003	4	-34.561	5	13.154	6	-74.676	2	
105	13	max	-1.03	3	-21.882	5	-6.007	6	-36.272	6	15.634	4	-40.026	5	
106		min	-1.369	4	-35.076	2	-8.339	4	-57.603	5	11.265	6	-63.335	2	
107	14	max	-1.442	3	-29.992	5	-8.41	6	-50.781	6	11.7	4	-29.829	5	
108		min	-1.917	4	-47.537	2	-11.674	4	-80.645	5	8.431	6	-47.096	2	
109	15	max	-1.854	3	-38.101	5	-10.813	6	-65.29	6	6.455	4	-16.443	5	
110		min	-2.465	4	-59.998	2	-15.009	4	-103.687	5	4.652	6	-25.956	2	
111	16	max	-2.267	3	-46.211	5	-13.216	6	-79.799	6	-0.072	6	0.143	3	
112		min	-3.013	4	-72.459	2	-18.344	4	-126.729	5	-0.102	4	0.078	1	
113	17	max	-2.679	3	-54.32	5	-15.619	6	-94.307	6	-5.74	6	31.019	2	
114		min	-3.561	4	-84.92	2	-21.68	4	-149.771	5	-7.969	4	19.893	5	
115	18	max	-3.091	3	-62.43	5	-18.022	6	-108.816	6	-12.353	6	66.856	2	
116		min	-4.109	4	-97.381	2	-25.015	4	-172.813	5	-17.149	4	42.844	5	
117	19	max	-3.504	3	-70.54	5	-20.425	6	-123.325	6	-19.911	6	107.592	2	
118		min	-4.657	4	-109.842	2	-28.35	4	-195.855	5	-27.639	4	68.983	5	
119	20	max	-3.916	3	-78.649	5	-22.827	6	-137.834	6	-28.413	6	153.227	2	
120		min	-5.206	4	-122.304	2	-31.685	4	-218.897	5	-39.441	4	98.31	5	
121	A4	1	max	5.207	4	119.355	2	31.687	4	218.899	5	-28.429	6	153.227	2
122		min	3.917	3	77.44	5	22.83	6	137.834	6	-39.456	4	98.31	5	
123	2	max	4.659	4	106.894	2	28.352	4	195.857	5	-19.925	6	108.751	2	
124		min	3.505	3	69.33	5	20.427	6	123.326	6	-27.653	4	69.458	5	
125	3	max	4.111	4	94.433	2	25.016	4	172.815	5	-12.367	6	69.174	2	
126		min	3.093	3	61.22	5	18.024	6	108.817	6	-17.162	4	43.795	5	
127	4	max	3.563	4	81.972	2	21.681	4	149.773	5	-5.753	6	34.497	2	
128		min	2.68	3	53.111	5	15.621	6	94.308	6	-7.983	4	21.32	5	
129	5	max	3.015	4	69.511	2	18.346	4	126.731	5	-0.083	6	4.718	2	
130		min	2.268	3	45.001	5	13.218	6	79.799	6	-0.114	4	2.033	5	
131	6	max	2.467	4	57.05	2	15.011	4	103.689	5	6.443	4	-14.065	5	
132		min	1.856	3	36.891	5	10.815	6	65.29	6	4.641	6	-20.161	2	
133	7	max	1.918	4	44.589	2	11.676	4	80.647	5	11.689	4	-26.975	5	
134		min	1.443	3	28.782	5	8.412	6	50.781	6	8.421	6	-40.141	2	
135	8	max	1.37	4	32.127	2	8.34	4	57.605	5	15.624	4	-36.697	5	
136		min	1.031	3	20.672	5	6.009	6	36.272	6	11.256	6	-55.221	2	
137	9	max	0.822	4	19.666	2	5.005	4	34.563	5	18.247	4	-43.23	5	
138		min	0.619	3	12.563	5	3.607	6	21.764	6	13.146	6	-65.403	2	
139	10	max	0.274	4	7.205	2	1.67	4	11.521	5	19.559	4	-46.575	5	
140		min	0.206	3	4.453	5	1.204	6	7.255	6	14.092	6	-70.685	2	
141	11	max	-0.206	3	-3.657	5	-1.199	6	-7.254	6	19.56	4	-46.732	5	
142		min	-0.274	4	-5.256	2	-1.665	4	-11.521	5	14.093	6	-71.068	2	
143	12	max	-0.619	3	-11.766	5	-3.602	6	-21.763	6	18.25	4	-43.7	5	
144		min	-0.822	4	-17.717	2	-5.001	4	-34.563	5	13.149	6	-66.552	2	
145	13	max	-1.031	3	-19.876	5	-6.005	6	-36.272	6	15.628	4	-37.48	5	
146		min	-1.37	4	-30.178	2	-8.336	4	-57.605	5	11.26	6	-57.137	2	
147	14	max	-1.443	3	-27.985	5	-8.408	6	-50.781	6	11.695	4	-28.072	5	
148		min	-1.918	4	-42.639	2	-11.671	4	-80.647	5	8.427	6	-42.823	2	
149	15	max	-1.856	3	-36.095	5	-10.811	6	-65.29	6	6.451	4	-15.475	5	
150		min	-2.467	4	-55.1	2	-15.006	4	-103.689	5	4.649	6	-23.609	2	
151	16	max	-2.268	3	-44.205	5	-13.214	6	-79.798	6	-0.074	6	0.503	2	
152		min	-3.015	4	-67.561	2	-18.342	4	-126.731	5	-0.104	4	0.31	5	
153	17	max	-2.68	3	-52.314	5	-15.617	6	-94.307	6	-5.741	6	29.515	2	

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
154		min	-3.563	4	-80.023	2	-21.677	4	-149.773	5	-7.971	4	19.284	5	
155	18	max	-3.093	3	-60.424	5	-18.02	6	-108.816	6	-12.354	6	63.426	2	
156		min	-4.111	4	-92.484	2	-25.012	4	-172.815	5	-17.149	4	41.446	5	
157	19	max	-3.505	3	-68.533	5	-20.422	6	-123.325	6	-19.911	6	102.237	2	
158		min	-4.659	4	-104.945	2	-28.347	4	-195.857	5	-27.639	4	66.796	5	
159	20	max	-3.917	3	-76.643	5	-22.825	6	-137.834	6	-28.412	6	145.946	2	
160		min	-5.207	4	-117.406	2	-31.683	4	-218.899	5	-39.439	4	95.335	5	
161	A5	1	max	5.207	4	118.15	2	31.687	4	218.899	5	-28.429	6	145.946	2
162		min	3.917	3	76.952	5	22.83	6	137.834	6	-39.456	4	95.335	5	
163	2	max	4.659	4	105.689	2	28.352	4	195.857	5	-19.925	6	101.944	2	
164		min	3.505	3	68.842	5	20.427	6	123.325	6	-27.653	4	66.675	5	
165	3	max	4.111	4	93.228	2	25.016	4	172.815	5	-12.367	6	62.841	2	
166		min	3.093	3	60.733	5	18.024	6	108.816	6	-17.162	4	41.203	5	
167	4	max	3.563	4	80.767	2	21.681	4	149.773	5	-5.753	6	28.637	2	
168		min	2.68	3	52.623	5	15.621	6	94.308	6	-7.983	4	18.919	5	
169	5	max	3.015	4	68.306	2	18.346	4	126.731	5	-0.083	6	-0.176	5	
170		min	2.268	3	44.514	5	13.218	6	79.799	6	-0.114	4	-0.667	2	
171	6	max	2.467	4	55.845	2	15.011	4	103.689	5	6.443	4	-16.082	5	
172		min	1.856	3	36.404	5	10.815	6	65.29	6	4.641	6	-25.072	2	
173	7	max	1.918	4	43.383	2	11.676	4	80.647	5	11.689	4	-28.801	5	
174		min	1.443	3	28.294	5	8.412	6	50.781	6	8.421	6	-44.579	2	
175	8	max	1.37	4	30.922	2	8.34	4	57.605	5	15.624	4	-38.331	5	
176		min	1.031	3	20.185	5	6.009	6	36.272	6	11.256	6	-59.185	2	
177	9	max	0.822	4	18.461	2	5.005	4	34.563	5	18.247	4	-44.672	5	
178		min	0.619	3	12.075	5	3.607	6	21.763	6	13.146	6	-68.893	2	
179	10	max	0.274	4	6	2	1.67	4	11.521	5	19.559	4	-47.825	5	
180		min	0.206	3	3.966	5	1.204	6	7.254	6	14.092	6	-73.702	2	
181	11	max	-0.206	3	-4.144	5	-1.199	6	-7.254	6	19.56	4	-47.79	5	
182		min	-0.274	4	-6.461	2	-1.665	4	-11.521	5	14.093	6	-73.611	2	
183	12	max	-0.619	3	-12.254	5	-3.602	6	-21.763	6	18.25	4	-44.567	5	
184		min	-0.822	4	-18.922	2	-5.001	4	-34.563	5	13.149	6	-68.622	2	
185	13	max	-1.031	3	-20.363	5	-6.005	6	-36.272	6	15.628	4	-38.155	5	
186		min	-1.37	4	-31.383	2	-8.336	4	-57.605	5	11.26	6	-58.733	2	
187	14	max	-1.443	3	-28.473	5	-8.408	6	-50.781	6	11.695	4	-28.555	5	
188		min	-1.918	4	-43.844	2	-11.671	4	-80.647	5	8.427	6	-43.944	2	
189	15	max	-1.856	3	-36.582	5	-10.811	6	-65.29	6	6.451	4	-15.766	5	
190		min	-2.467	4	-56.305	2	-15.006	4	-103.689	5	4.649	6	-24.257	2	
191	16	max	-2.268	3	-44.692	5	-13.214	6	-79.799	6	-0.074	6	0.329	2	
192		min	-3.015	4	-68.766	2	-18.342	4	-126.731	5	-0.104	4	0.21	5	
193	17	max	-2.68	3	-52.802	5	-15.617	6	-94.308	6	-5.741	6	29.815	2	
194		min	-3.563	4	-81.228	2	-21.677	4	-149.773	5	-7.971	4	19.376	5	
195	18	max	-3.093	3	-60.911	5	-18.02	6	-108.817	6	-12.354	6	64.2	2	
196		min	-4.111	4	-93.689	2	-25.012	4	-172.815	5	-17.149	4	41.729	5	
197	19	max	-3.505	3	-69.021	5	-20.422	6	-123.325	6	-19.911	6	103.484	2	
198		min	-4.659	4	-106.15	2	-28.347	4	-195.857	5	-27.639	4	67.271	5	
199	20	max	-3.917	3	-77.13	5	-22.825	6	-137.834	6	-28.412	6	147.667	2	
200		min	-5.207	4	-118.611	2	-31.683	4	-218.899	5	-39.439	4	96.001	5	
201	A6	1	max	5.207	4	118.388	2	31.687	4	218.899	5	-28.429	6	147.667	2
202		min	3.917	3	77.023	5	22.83	6	137.834	6	-39.456	4	96.001	5	
203	2	max	4.659	4	105.927	2	28.352	4	195.857	5	-19.925	6	103.572	2	
204		min	3.505	3	68.914	5	20.427	6	123.325	6	-27.653	4	67.313	5	
205	3	max	4.111	4	93.465	2	25.016	4	172.815	5	-12.367	6	64.375	2	
206		min	3.093	3	60.804	5	18.024	6	108.816	6	-17.162	4	41.813	5	
207	4	max	3.563	4	81.004	2	21.681	4	149.773	5	-5.753	6	30.078	2	
208		min	2.68	3	52.694	5	15.621	6	94.308	6	-7.983	4	19.502	5	
209	5	max	3.015	4	68.543	2	18.346	4	126.731	5	-0.083	6	0.68	2	
210		min	2.268	3	44.585	5	13.218	6	79.799	6	-0.114	4	0.379	5	
211	6	max	2.467	4	56.082	2	15.011	4	103.689	5	6.443	4	-15.556	5	

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
212		min	1.856	3	36.475	5	10.815	6	65.29	6	4.641	6	-23.818	2	
213	7	max	1.918	4	43.621	2	11.676	4	80.647	5	11.689	4	-28.302	5	
214		min	1.443	3	28.366	5	8.412	6	50.781	6	8.421	6	-43.418	2	
215	8	max	1.37	4	31.16	2	8.34	4	57.605	5	15.624	4	-37.86	5	
216		min	1.031	3	20.256	5	6.009	6	36.272	6	11.256	6	-58.118	2	
217	9	max	0.822	4	18.699	2	5.005	4	34.563	5	18.247	4	-44.23	5	
218		min	0.619	3	12.146	5	3.607	6	21.763	6	13.146	6	-67.919	2	
219	10	max	0.274	4	6.238	2	1.67	4	11.521	5	19.559	4	-47.411	5	
220		min	0.206	3	4.037	5	1.204	6	7.254	6	14.092	6	-72.821	2	
221	11	max	-0.206	3	-4.073	5	-1.199	6	-7.254	6	19.56	4	-47.404	5	
222		min	-0.274	4	-6.223	2	-1.665	4	-11.521	5	14.093	6	-72.824	2	
223	12	max	-0.619	3	-12.182	5	-3.602	6	-21.763	6	18.25	4	-44.208	5	
224		min	-0.822	4	-18.684	2	-5.001	4	-34.563	5	13.149	6	-67.928	2	
225	13	max	-1.031	3	-20.292	5	-6.005	6	-36.272	6	15.628	4	-37.825	5	
226		min	-1.37	4	-31.146	2	-8.336	4	-57.605	5	11.26	6	-58.132	2	
227	14	max	-1.443	3	-28.402	5	-8.408	6	-50.781	6	11.695	4	-28.253	5	
228		min	-1.918	4	-43.607	2	-11.671	4	-80.647	5	8.427	6	-43.438	2	
229	15	max	-1.856	3	-36.511	5	-10.811	6	-65.29	6	6.451	4	-15.492	5	
230		min	-2.467	4	-56.068	2	-15.006	4	-103.689	5	4.649	6	-23.844	2	
231	16	max	-2.268	3	-44.621	5	-13.214	6	-79.799	6	-0.074	6	0.649	2	
232		min	-3.015	4	-68.529	2	-18.342	4	-126.731	5	-0.104	4	0.457	5	
233	17	max	-2.68	3	-52.73	5	-15.617	6	-94.308	6	-5.741	6	30.042	2	
234		min	-3.563	4	-80.99	2	-21.677	4	-149.773	5	-7.971	4	19.594	5	
235	18	max	-3.093	3	-60.84	5	-18.02	6	-108.816	6	-12.354	6	64.333	2	
236		min	-4.111	4	-93.451	2	-25.012	4	-172.815	5	-17.149	4	41.92	5	
237	19	max	-3.505	3	-68.95	5	-20.422	6	-123.325	6	-19.911	6	103.524	2	
238		min	-4.659	4	-105.912	2	-28.347	4	-195.857	5	-27.639	4	67.433	5	
239	20	max	-3.917	3	-77.059	5	-22.825	6	-137.834	6	-28.412	6	147.613	2	
240		min	-5.207	4	-118.373	2	-31.683	4	-218.899	5	-39.439	4	96.136	5	
241	A7	1	max	5.207	4	118.58	2	31.687	4	218.899	5	-28.429	6	147.613	2
242		min	3.917	3	77.207	5	22.83	6	137.834	6	-39.456	4	96.136	5	
243	2	max	4.659	4	106.119	2	28.352	4	195.857	5	-19.925	6	103.442	2	
244		min	3.505	3	69.098	5	20.427	6	123.325	6	-27.653	4	67.375	5	
245	3	max	4.111	4	93.658	2	25.016	4	172.815	5	-12.367	6	64.17	2	
246		min	3.093	3	60.988	5	18.024	6	108.817	6	-17.162	4	41.803	5	
247	4	max	3.563	4	81.197	2	21.681	4	149.773	5	-5.753	6	29.797	2	
248		min	2.68	3	52.878	5	15.621	6	94.308	6	-7.983	4	19.42	5	
249	5	max	3.015	4	68.736	2	18.346	4	126.731	5	-0.083	6	0.324	2	
250		min	2.268	3	44.769	5	13.218	6	79.799	6	-0.114	4	0.224	5	
251	6	max	2.467	4	56.275	2	15.011	4	103.689	5	6.443	4	-15.783	5	
252		min	1.856	3	36.659	5	10.815	6	65.29	6	4.641	6	-24.251	2	
253	7	max	1.918	4	43.814	2	11.676	4	80.647	5	11.689	4	-28.601	5	
254		min	1.443	3	28.55	5	8.412	6	50.781	6	8.421	6	-43.926	2	
255	8	max	1.37	4	31.353	2	8.34	4	57.605	5	15.624	4	-38.232	5	
256		min	1.031	3	20.44	5	6.009	6	36.272	6	11.256	6	-58.702	2	
257	9	max	0.822	4	18.891	2	5.005	4	34.563	5	18.247	4	-44.674	5	
258		min	0.619	3	12.33	5	3.607	6	21.763	6	13.146	6	-68.579	2	
259	10	max	0.274	4	6.43	2	1.67	4	11.521	5	19.559	4	-47.927	5	
260		min	0.206	3	4.221	5	1.204	6	7.254	6	14.092	6	-73.557	2	
261	11	max	-0.206	3	-3.889	5	-1.199	6	-7.254	6	19.56	4	-47.992	5	
262		min	-0.274	4	-6.031	2	-1.665	4	-11.521	5	14.093	6	-73.635	2	
263	12	max	-0.619	3	-11.999	5	-3.602	6	-21.763	6	18.25	4	-44.869	5	
264		min	-0.822	4	-18.492	2	-5.001	4	-34.563	5	13.149	6	-68.814	2	
265	13	max	-1.031	3	-20.108	5	-6.005	6	-36.272	6	15.628	4	-38.558	5	
266		min	-1.37	4	-30.953	2	-8.336	4	-57.605	5	11.26	6	-59.095	2	
267	14	max	-1.443	3	-28.218	5	-8.408	6	-50.781	6	11.695	4	-29.058	5	
268		min	-1.918	4	-43.414	2	-11.671	4	-80.647	5	8.427	6	-44.476	2	
269	15	max	-1.856	3	-36.327	5	-10.811	6	-65.29	6	6.451	4	-16.37	5	

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
270		min	-2.467	4	-55.875	2	-15.006	4	-103.689	5	4.649	6	-24.957	2	
271	16	max	-2.268	3	-44.437	5	-13.214	6	-79.799	6	-0.074	6	-0.383	1	
272		min	-3.015	4	-68.336	2	-18.342	4	-126.731	5	-0.104	4	-0.781	3	
273	17	max	-2.68	3	-52.547	5	-15.617	6	-94.308	6	-5.741	6	28.776	2	
274		min	-3.563	4	-80.797	2	-21.677	4	-149.773	5	-7.971	4	18.572	5	
275	18	max	-3.093	3	-60.656	5	-18.02	6	-108.816	6	-12.354	6	62.992	2	
276		min	-4.111	4	-93.259	2	-25.012	4	-172.815	5	-17.149	4	40.825	5	
277	19	max	-3.505	3	-68.766	5	-20.422	6	-123.325	6	-19.911	6	102.107	2	
278		min	-4.659	4	-105.72	2	-28.347	4	-195.857	5	-27.639	4	66.267	5	
279	20	max	-3.917	3	-76.875	5	-22.825	6	-137.834	6	-28.412	6	146.121	2	
280		min	-5.207	4	-118.181	2	-31.683	4	-218.899	5	-39.439	4	94.896	5	
281	A8	1	max	5.207	4	117.522	2	31.687	4	218.898	5	-28.429	6	146.121	2
282		min	3.917	3	76.352	5	22.83	6	137.834	6	-39.456	4	94.896	5	
283	2	max	4.659	4	105.061	2	28.352	4	195.856	5	-19.925	6	102.366	2	
284		min	3.505	3	68.243	5	20.427	6	123.325	6	-27.653	4	66.472	5	
285	3	max	4.111	4	92.6	2	25.016	4	172.814	5	-12.367	6	63.51	2	
286		min	3.093	3	60.133	5	18.024	6	108.816	6	-17.162	4	41.236	5	
287	4	max	3.563	4	80.139	2	21.681	4	149.772	5	-5.753	6	29.554	2	
288		min	2.68	3	52.023	5	15.621	6	94.307	6	-7.983	4	19.189	5	
289	5	max	3.015	4	67.677	2	18.346	4	126.73	5	-0.083	6	0.496	2	
290		min	2.268	3	43.914	5	13.218	6	79.798	6	-0.114	4	0.329	5	
291	6	max	2.467	4	55.216	2	15.011	4	103.688	5	6.443	4	-15.341	5	
292		min	1.856	3	35.804	5	10.815	6	65.289	6	4.641	6	-23.662	2	
293	7	max	1.918	4	42.755	2	11.676	4	80.646	5	11.689	4	-27.824	5	
294		min	1.443	3	27.695	5	8.412	6	50.78	6	8.421	6	-42.922	2	
295	8	max	1.37	4	30.294	2	8.34	4	57.604	5	15.624	4	-37.118	5	
296		min	1.031	3	19.585	5	6.009	6	36.272	6	11.256	6	-57.281	2	
297	9	max	0.822	4	17.833	2	5.005	4	34.562	5	18.247	4	-43.224	5	
298		min	0.619	3	11.475	5	3.607	6	21.763	6	13.146	6	-66.742	2	
299	10	max	0.274	4	5.372	2	1.67	4	11.52	5	19.559	4	-46.141	5	
300		min	0.206	3	3.366	5	1.204	6	7.254	6	14.092	6	-71.304	2	
301	11	max	-0.206	3	-4.744	5	-1.199	6	-7.255	6	19.56	4	-45.87	5	
302		min	-0.274	4	-7.089	2	-1.665	4	-11.522	5	14.093	6	-70.966	2	
303	12	max	-0.619	3	-12.853	5	-3.602	6	-21.764	6	18.25	4	-42.411	5	
304		min	-0.822	4	-19.55	2	-5.001	4	-34.564	5	13.149	6	-65.73	2	
305	13	max	-1.031	3	-20.963	5	-6.005	6	-36.273	6	15.628	4	-35.764	5	
306		min	-1.37	4	-32.011	2	-8.336	4	-57.606	5	11.26	6	-55.594	2	
307	14	max	-1.443	3	-29.073	5	-8.408	6	-50.782	6	11.695	4	-25.928	5	
308		min	-1.918	4	-44.472	2	-11.671	4	-80.648	5	8.427	6	-40.559	2	
309	15	max	-1.856	3	-37.182	5	-10.811	6	-65.291	6	6.451	4	-12.903	5	
310		min	-2.467	4	-56.934	2	-15.006	4	-103.69	5	4.649	6	-20.624	2	
311	16	max	-2.268	3	-45.292	5	-13.214	6	-79.799	6	-0.074	6	4.915	3	
312		min	-3.015	4	-69.395	2	-18.342	4	-126.732	5	-0.104	4	3.039	1	
313	17	max	-2.68	3	-53.401	5	-15.617	6	-94.308	6	-5.741	6	33.942	2	
314		min	-3.563	4	-81.856	2	-21.677	4	-149.774	5	-7.971	4	22.71	5	
315	18	max	-3.093	3	-62.17	5	-18.02	6	-108.817	6	-12.354	6	68.721	2	
316		min	-4.111	4	-95.14	2	-25.012	4	-172.816	5	-17.149	4	45.418	5	
317	19	max	-3.505	3	-71.003	5	-20.422	6	-123.326	6	-19.911	6	108.753	2	
318		min	-4.659	4	-108.506	2	-28.347	4	-195.858	5	-27.639	4	71.597	5	
319	20	max	-3.917	3	-79.836	5	-22.825	6	-137.835	6	-28.412	6	154.041	2	
320		min	-5.207	4	-121.872	2	-31.683	4	-218.9	5	-39.439	4	101.248	5	
321	A9	1	max	5.207	4	126.646	2	31.687	4	218.899	5	-28.429	6	154.041	2
322		min	3.917	3	83.657	5	22.83	6	137.834	6	-39.456	4	101.248	5	
323	2	max	4.659	4	113.28	2	28.352	4	195.857	5	-19.925	6	106.876	2	
324		min	3.505	3	74.823	5	20.427	6	123.325	6	-27.653	4	70.095	5	
325	3	max	4.111	4	99.914	2	25.016	4	172.815	5	-12.367	6	64.967	2	
326		min	3.093	3	65.99	5	18.024	6	108.816	6	-17.162	4	42.414	5	
327	4	max	3.563	4	86.548	2	21.681	4	149.773	5	-5.753	6	28.313	2	



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
328		min	2.68	3	57.156	5	15.621	6	94.307	6	-7.983	4	18.206	5	
329	5	max	3.015	4	73.182	2	18.346	4	126.731	5	-0.083	6	-2.216	1	
330		min	2.268	3	48.323	5	13.218	6	79.799	6	-0.114	4	-3.836	3	
331	6	max	2.467	4	59.816	2	15.011	4	103.689	5	6.443	4	-19.791	5	
332		min	1.856	3	39.49	5	10.815	6	65.29	6	4.641	6	-29.232	2	
333	7	max	1.918	4	46.45	2	11.676	4	80.647	5	11.689	4	-33.58	5	
334		min	1.443	3	30.656	5	8.412	6	50.781	6	8.421	6	-50.122	2	
335	8	max	1.37	4	33.085	2	8.34	4	57.605	5	15.624	4	-43.897	5	
336		min	1.031	3	21.823	5	6.009	6	36.272	6	11.256	6	-65.757	2	
337	9	max	0.822	4	19.719	2	5.005	4	34.563	5	18.247	4	-50.74	5	
338		min	0.619	3	12.989	5	3.607	6	21.763	6	13.146	6	-76.137	2	
339	10	max	0.274	4	6.353	2	1.67	4	11.521	5	19.559	4	-54.11	5	
340		min	0.206	3	4.156	5	1.204	6	7.254	6	14.092	6	-81.262	2	
341	11	max	-0.206	3	-4.678	5	-1.199	6	-7.255	6	19.56	4	-54.008	5	
342		min	-0.274	4	-7.013	2	-1.665	4	-11.521	5	14.093	6	-81.132	2	
343	12	max	-0.619	3	-13.511	5	-3.602	6	-21.763	6	18.25	4	-50.432	5	
344		min	-0.822	4	-20.379	2	-5.001	4	-34.563	5	13.149	6	-75.747	2	
345	13	max	-1.031	3	-22.344	5	-6.005	6	-36.272	6	15.628	4	-43.384	5	
346		min	-1.37	4	-33.745	2	-8.336	4	-57.605	5	11.26	6	-65.108	2	
347	14	max	-1.443	3	-31.178	5	-8.408	6	-50.781	6	11.695	4	-32.863	5	
348		min	-1.918	4	-47.111	2	-11.671	4	-80.647	5	8.427	6	-49.213	2	
349	15	max	-1.856	3	-40.011	5	-10.811	6	-65.29	6	6.451	4	-18.868	5	
350		min	-2.467	4	-60.476	2	-15.006	4	-103.689	5	4.649	6	-28.064	2	
351	16	max	-2.268	3	-48.845	5	-13.214	6	-79.799	6	-0.074	6	-1.196	1	
352		min	-3.015	4	-73.842	2	-18.342	4	-126.731	5	-0.104	4	-2.119	3	
353	17	max	-2.68	3	-57.678	5	-15.617	6	-94.308	6	-5.741	6	29.999	2	
354		min	-3.563	4	-87.208	2	-21.677	4	-149.773	5	-7.971	4	19.539	5	
355	18	max	-3.093	3	-66.511	5	-18.02	6	-108.817	6	-12.354	6	66.913	2	
356		min	-4.111	4	-100.574	2	-25.012	4	-172.815	5	-17.149	4	43.952	5	
357	19	max	-3.505	3	-75.345	5	-20.422	6	-123.326	6	-19.911	6	109.082	2	
358		min	-4.659	4	-113.94	2	-28.347	4	-195.857	5	-27.639	4	71.838	5	
359	20	max	-3.917	3	-84.178	5	-22.825	6	-137.834	6	-28.412	6	156.506	2	
360		min	-5.207	4	-127.306	2	-31.683	4	-218.899	5	-39.439	4	103.197	5	
361	A10	1	max	5.207	4	124.709	2	31.687	4	218.9	5	-28.429	6	156.506	2
362		min	3.917	3	82.093	5	22.83	6	137.835	6	-39.456	4	103.197	5	
363	2	max	4.659	4	111.343	2	28.352	4	195.858	5	-19.925	6	110.103	2	
364		min	3.505	3	73.259	5	20.427	6	123.326	6	-27.653	4	72.658	5	
365	3	max	4.111	4	97.977	2	25.016	4	172.816	5	-12.367	6	68.955	2	
366		min	3.093	3	64.426	5	18.024	6	108.818	6	-17.162	4	45.592	5	
367	4	max	3.563	4	84.611	2	21.681	4	149.774	5	-5.753	6	33.062	2	
368		min	2.68	3	55.592	5	15.621	6	94.309	6	-7.983	4	21.999	5	
369	5	max	3.015	4	71.246	2	18.346	4	126.732	5	-0.083	6	2.774	3	
370		min	2.268	3	46.759	5	13.218	6	79.8	6	-0.114	4	1.752	1	
371	6	max	2.467	4	57.88	2	15.011	4	103.69	5	6.443	4	-14.769	5	
372		min	1.856	3	37.926	5	10.815	6	65.291	6	4.641	6	-22.96	2	
373	7	max	1.918	4	44.514	2	11.676	4	80.648	5	11.689	4	-27.943	5	
374		min	1.443	3	29.092	5	8.412	6	50.782	6	8.421	6	-43.088	2	
375	8	max	1.37	4	31.27	2	8.34	4	57.606	5	15.624	4	-37.647	5	
376		min	1.031	3	20.357	5	6.009	6	36.273	6	11.256	6	-57.965	2	
377	9	max	0.822	4	18.809	2	5.005	4	34.564	5	18.247	4	-44.056	5	
378		min	0.618	3	12.247	5	3.607	6	21.764	6	13.146	6	-67.809	2	
379	10	max	0.274	4	6.348	2	1.67	4	11.522	5	19.559	4	-47.277	5	
380		min	0.206	3	4.137	5	1.204	6	7.255	6	14.092	6	-72.755	2	
381	11	max	-0.206	3	-3.972	5	-1.199	6	-7.253	6	19.56	4	-47.309	5	
382		min	-0.274	4	-6.113	2	-1.665	4	-11.52	5	14.092	6	-72.801	2	
383	12	max	-0.619	3	-12.082	5	-3.602	6	-21.762	6	18.25	4	-44.153	5	
384		min	-0.822	4	-18.574	2	-5.001	4	-34.562	5	13.149	6	-67.948	2	
385	13	max	-1.031	3	-20.191	5	-6.005	6	-36.271	6	15.628	4	-37.809	5	

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
386		min	-1.37	4	-31.035	2	-8.336	4	-57.604	5	11.26	6	-58.196	2	
387	14	max	-1.443	3	-28.301	5	-8.408	6	-50.78	6	11.695	4	-28.277	5	
388		min	-1.919	4	-43.496	2	-11.671	4	-80.646	5	8.427	6	-43.544	2	
389	15	max	-1.856	3	-36.411	5	-10.811	6	-65.289	6	6.451	4	-15.556	5	
390		min	-2.467	4	-55.957	2	-15.006	4	-103.688	5	4.649	6	-23.994	2	
391	16	max	-2.268	3	-44.52	5	-13.214	6	-79.798	6	-0.074	6	0.456	2	
392		min	-3.015	4	-68.419	2	-18.342	4	-126.73	5	-0.105	4	0.332	6	
393	17	max	-2.68	3	-52.63	5	-15.617	6	-94.307	6	-5.741	6	29.805	2	
394		min	-3.563	4	-80.88	2	-21.677	4	-149.772	5	-7.971	4	19.451	5	
395	18	max	-3.093	3	-60.739	5	-18.02	6	-108.815	6	-12.354	6	64.053	2	
396		min	-4.111	4	-93.341	2	-25.012	4	-172.814	5	-17.149	4	41.737	5	
397	19	max	-3.505	3	-68.849	5	-20.422	6	-123.324	6	-19.911	6	103.2	2	
398		min	-4.659	4	-105.802	2	-28.347	4	-195.856	5	-27.639	4	67.212	5	
399	20	max	-3.917	3	-76.959	5	-22.825	6	-137.833	6	-28.412	6	147.247	2	
400		min	-5.207	4	-118.263	2	-31.683	4	-218.898	5	-39.439	4	95.875	5	
401	A11	1	max	5.207	4	118.314	2	31.687	4	218.899	5	-28.429	6	146.97	2
402		min	3.917	3	76.978	5	22.83	6	137.834	6	-39.456	4	95.52	5	
403	2	max	4.659	4	105.853	2	28.352	4	195.857	5	-19.925	6	102.903	2	
404		min	3.505	3	68.868	5	20.427	6	123.325	6	-27.653	4	66.849	5	
405	3	max	4.111	4	93.392	2	25.016	4	172.815	5	-12.367	6	63.736	2	
406		min	3.093	3	60.759	5	18.024	6	108.816	6	-17.162	4	41.367	5	
407	4	max	3.563	4	80.931	2	21.681	4	149.773	5	-5.753	6	29.467	2	
408		min	2.68	3	52.649	5	15.621	6	94.307	6	-7.983	4	19.074	5	
409	5	max	3.015	4	68.47	2	18.346	4	126.731	5	-0.083	6	0.098	2	
410		min	2.268	3	44.539	5	13.218	6	79.798	6	-0.114	4	-0.031	5	
411	6	max	2.467	4	56.009	2	15.011	4	103.689	5	6.443	4	-15.948	5	
412		min	1.856	3	36.43	5	10.815	6	65.29	6	4.641	6	-24.372	2	
413	7	max	1.919	4	43.548	2	11.676	4	80.647	5	11.689	4	-28.677	5	
414		min	1.443	3	28.32	5	8.412	6	50.781	6	8.421	6	-43.942	2	
415	8	max	1.37	4	31.087	2	8.34	4	57.605	5	15.624	4	-38.217	5	
416		min	1.031	3	20.211	5	6.009	6	36.272	6	11.256	6	-58.614	2	
417	9	max	0.822	4	18.625	2	5.005	4	34.563	5	18.247	4	-44.569	5	
418		min	0.619	3	12.101	5	3.607	6	21.763	6	13.146	6	-68.386	2	
419	10	max	0.274	4	6.164	2	1.67	4	11.521	5	19.559	4	-47.732	5	
420		min	0.206	3	3.991	5	1.204	6	7.254	6	14.092	6	-73.259	2	
421	11	max	-0.206	3	-4.118	5	-1.199	6	-7.255	6	19.56	4	-47.707	5	
422		min	-0.274	4	-6.297	2	-1.665	4	-11.521	5	14.093	6	-73.233	2	
423	12	max	-0.618	3	-12.228	5	-3.602	6	-21.764	6	18.25	4	-44.494	5	
424		min	-0.822	4	-18.758	2	-5.001	4	-34.563	5	13.149	6	-68.308	2	
425	13	max	-1.031	3	-20.337	5	-6.005	6	-36.272	6	15.628	4	-38.092	5	
426		min	-1.37	4	-31.219	2	-8.336	4	-57.605	5	11.26	6	-58.484	2	
427	14	max	-1.443	3	-28.447	5	-8.408	6	-50.781	6	11.695	4	-28.502	5	
428		min	-1.918	4	-43.68	2	-11.671	4	-80.647	5	8.427	6	-43.76	2	
429	15	max	-1.856	3	-36.557	5	-10.811	6	-65.29	6	6.451	4	-15.724	5	
430		min	-2.467	4	-56.141	2	-15.006	4	-103.689	5	4.649	6	-24.137	2	
431	16	max	-2.268	3	-44.666	5	-13.214	6	-79.799	6	-0.074	6	0.385	2	
432		min	-3.015	4	-68.602	2	-18.342	4	-126.731	5	-0.104	4	0.242	5	
433	17	max	-2.68	3	-52.776	5	-15.617	6	-94.308	6	-5.741	6	29.806	2	
434		min	-3.563	4	-81.063	2	-21.677	4	-149.773	5	-7.971	4	19.398	5	
435	18	max	-3.093	3	-60.885	5	-18.02	6	-108.817	6	-12.354	6	64.126	2	
436		min	-4.111	4	-93.525	2	-25.012	4	-172.815	5	-17.149	4	41.741	5	
437	19	max	-3.505	3	-68.995	5	-20.422	6	-123.326	6	-19.911	6	103.346	2	
438		min	-4.659	4	-105.986	2	-28.347	4	-195.857	5	-27.639	4	67.273	5	
439	20	max	-3.917	3	-77.105	5	-22.825	6	-137.835	6	-28.412	6	147.464	2	
440		min	-5.207	4	-118.447	2	-31.683	4	-218.899	5	-39.439	4	95.993	5	
441	A12	1	max	5.207	4	118.382	2	31.687	4	218.899	5	-28.429	6	147.464	2
442		min	3.917	3	77.042	5	22.83	6	137.834	6	-39.456	4	95.993	5	
443	2	max	4.659	4	105.921	2	28.352	4	195.857	5	-19.925	6	103.371	2	

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
444		min	3.505	3	68.932	5	20.427	6	123.325	6	-27.653	4	67.297	5	
445	3	max	4.111	4	93.46	2	25.016	4	172.815	5	-12.367	6	64.177	2	
446		min	3.093	3	60.823	5	18.024	6	108.816	6	-17.162	4	41.79	5	
447	4	max	3.563	4	80.998	2	21.681	4	149.773	5	-5.753	6	29.882	2	
448		min	2.68	3	52.713	5	15.621	6	94.308	6	-7.983	4	19.471	5	
449	5	max	3.015	4	68.537	2	18.346	4	126.731	5	-0.083	6	0.487	2	
450		min	2.268	3	44.604	5	13.218	6	79.799	6	-0.114	4	0.341	5	
451	6	max	2.467	4	56.076	2	15.011	4	103.689	5	6.443	4	-15.601	5	
452		min	1.856	3	36.494	5	10.815	6	65.29	6	4.641	6	-24.01	2	
453	7	max	1.918	4	43.615	2	11.676	4	80.647	5	11.689	4	-28.355	5	
454		min	1.443	3	28.384	5	8.412	6	50.781	6	8.421	6	-43.607	2	
455	8	max	1.37	4	31.154	2	8.34	4	57.605	5	15.624	4	-37.92	5	
456		min	1.031	3	20.275	5	6.009	6	36.272	6	11.256	6	-58.305	2	
457	9	max	0.822	4	18.693	2	5.005	4	34.563	5	18.247	4	-44.297	5	
458		min	0.619	3	12.165	5	3.607	6	21.763	6	13.146	6	-68.104	2	
459	10	max	0.274	4	6.232	2	1.67	4	11.521	5	19.559	4	-47.486	5	
460		min	0.206	3	4.056	5	1.204	6	7.254	6	14.092	6	-73.003	2	
461	11	max	-0.206	3	-4.054	5	-1.199	6	-7.254	6	19.56	4	-47.486	5	
462		min	-0.274	4	-6.229	2	-1.665	4	-11.521	5	14.093	6	-73.004	2	
463	12	max	-0.619	3	-12.164	5	-3.602	6	-21.763	6	18.25	4	-44.298	5	
464		min	-0.822	4	-18.69	2	-5.001	4	-34.563	5	13.149	6	-68.105	2	
465	13	max	-1.031	3	-20.273	5	-6.005	6	-36.272	6	15.628	4	-37.921	5	
466		min	-1.37	4	-31.151	2	-8.336	4	-57.605	5	11.26	6	-58.307	2	
467	14	max	-1.443	3	-28.383	5	-8.408	6	-50.781	6	11.695	4	-28.357	5	
468		min	-1.918	4	-43.613	2	-11.671	4	-80.647	5	8.427	6	-43.61	2	
469	15	max	-1.856	3	-36.493	5	-10.811	6	-65.29	6	6.451	4	-15.604	5	
470		min	-2.467	4	-56.074	2	-15.006	4	-103.689	5	4.649	6	-24.014	2	
471	16	max	-2.268	3	-44.602	5	-13.214	6	-79.799	6	-0.074	6	0.481	2	
472		min	-3.015	4	-68.535	2	-18.342	4	-126.731	5	-0.104	4	0.336	6	
473	17	max	-2.68	3	-52.712	5	-15.617	6	-94.308	6	-5.741	6	29.876	2	
474		min	-3.563	4	-80.996	2	-21.677	4	-149.773	5	-7.971	4	19.468	5	
475	18	max	-3.093	3	-60.821	5	-18.02	6	-108.816	6	-12.354	6	64.17	2	
476		min	-4.111	4	-93.457	2	-25.012	4	-172.815	5	-17.149	4	41.786	5	
477	19	max	-3.505	3	-68.931	5	-20.422	6	-123.325	6	-19.911	6	103.363	2	
478		min	-4.659	4	-105.918	2	-28.347	4	-195.857	5	-27.639	4	67.293	5	
479	20	max	-3.917	3	-77.041	5	-22.825	6	-137.834	6	-28.412	6	147.455	2	
480		min	-5.207	4	-118.379	2	-31.683	4	-218.899	5	-39.439	4	95.987	5	
481	A13	1	max	5.207	4	118.441	2	31.687	4	218.899	5	-28.429	6	147.455	2
482		min	3.917	3	77.102	5	22.83	6	137.834	6	-39.456	4	95.987	5	
483	2	max	4.659	4	105.98	2	28.352	4	195.857	5	-19.925	6	103.338	2	
484		min	3.505	3	68.992	5	20.427	6	123.325	6	-27.653	4	67.269	5	
485	3	max	4.111	4	93.519	2	25.016	4	172.815	5	-12.367	6	64.121	2	
486		min	3.093	3	60.882	5	18.024	6	108.816	6	-17.162	4	41.738	5	
487	4	max	3.563	4	81.058	2	21.681	4	149.773	5	-5.753	6	29.803	2	
488		min	2.68	3	52.773	5	15.621	6	94.308	6	-7.983	4	19.396	5	
489	5	max	3.015	4	68.597	2	18.346	4	126.731	5	-0.083	6	0.384	2	
490		min	2.268	3	44.663	5	13.218	6	79.799	6	-0.114	4	0.242	5	
491	6	max	2.467	4	56.136	2	15.011	4	103.689	5	6.443	4	-15.724	5	
492		min	1.856	3	36.554	5	10.815	6	65.29	6	4.641	6	-24.136	2	
493	7	max	1.918	4	43.675	2	11.676	4	80.647	5	11.689	4	-28.501	5	
494		min	1.443	3	28.444	5	8.412	6	50.781	6	8.421	6	-43.757	2	
495	8	max	1.37	4	31.213	2	8.34	4	57.605	5	15.624	4	-38.089	5	
496		min	1.031	3	20.334	5	6.009	6	36.272	6	11.256	6	-58.478	2	
497	9	max	0.822	4	18.752	2	5.005	4	34.563	5	18.247	4	-44.49	5	
498		min	0.619	3	12.225	5	3.607	6	21.763	6	13.146	6	-68.3	2	
499	10	max	0.274	4	6.291	2	1.67	4	11.521	5	19.559	4	-47.702	5	
500		min	0.206	3	4.115	5	1.204	6	7.254	6	14.092	6	-73.223	2	
501	11	max	-0.206	3	-3.994	5	-1.199	6	-7.254	6	19.56	4	-47.726	5	



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
502		min	-0.274	4	-6.17	2	-1.665	4	-11.521	5	14.093	6	-73.247	2	
503	12	max	-0.619	3	-12.104	5	-3.602	6	-21.763	6	18.25	4	-44.561	5	
504		min	-0.822	4	-18.631	2	-5.001	4	-34.563	5	13.149	6	-68.372	2	
505	13	max	-1.031	3	-20.214	5	-6.005	6	-36.272	6	15.628	4	-38.208	5	
506		min	-1.37	4	-31.092	2	-8.336	4	-57.605	5	11.26	6	-58.598	2	
507	14	max	-1.443	3	-28.323	5	-8.408	6	-50.781	6	11.695	4	-28.667	5	
508		min	-1.918	4	-43.553	2	-11.671	4	-80.647	5	8.427	6	-43.924	2	
509	15	max	-1.856	3	-36.433	5	-10.811	6	-65.29	6	6.451	4	-15.937	5	
510		min	-2.467	4	-56.014	2	-15.006	4	-103.689	5	4.649	6	-24.351	2	
511	16	max	-2.268	3	-44.542	5	-13.214	6	-79.799	6	-0.074	6	0.375	3	
512		min	-3.015	4	-68.475	2	-18.342	4	-126.731	5	-0.104	4	-0.027	1	
513	17	max	-2.68	3	-52.652	5	-15.617	6	-94.308	6	-5.741	6	29.492	2	
514		min	-3.563	4	-80.936	2	-21.677	4	-149.773	5	-7.971	4	19.087	5	
515	18	max	-3.093	3	-60.762	5	-18.02	6	-108.816	6	-12.354	6	63.763	2	
516		min	-4.111	4	-93.398	2	-25.012	4	-172.815	5	-17.149	4	41.382	5	
517	19	max	-3.505	3	-68.871	5	-20.422	6	-123.325	6	-19.911	6	102.932	2	
518		min	-4.659	4	-105.859	2	-28.347	4	-195.857	5	-27.639	4	66.865	5	
519	20	max	-3.917	3	-76.981	5	-22.825	6	-137.834	6	-28.412	6	147.001	2	
520		min	-5.207	4	-118.32	2	-31.683	4	-218.899	5	-39.439	4	95.537	5	
521	A14	1	max	5.207	4	118.12	2	31.687	4	218.899	5	-28.429	6	147.001	2
522		min	3.917	3	76.783	5	22.83	6	137.834	6	-39.456	4	95.537	5	
523	2	max	4.659	4	105.659	2	28.352	4	195.857	5	-19.925	6	103.011	2	
524		min	3.505	3	68.674	5	20.427	6	123.325	6	-27.653	4	66.943	5	
525	3	max	4.111	4	93.198	2	25.016	4	172.815	5	-12.367	6	63.919	2	
526		min	3.093	3	60.564	5	18.024	6	108.816	6	-17.162	4	41.537	5	
527	4	max	3.563	4	80.737	2	21.681	4	149.773	5	-5.753	6	29.727	2	
528		min	2.68	3	52.455	5	15.621	6	94.308	6	-7.983	4	19.32	5	
529	5	max	3.015	4	68.276	2	18.346	4	126.731	5	-0.083	6	0.435	2	
530		min	2.268	3	44.345	5	13.218	6	79.799	6	-0.114	4	0.292	5	
531	6	max	2.467	4	55.815	2	15.011	4	103.689	5	6.443	4	-15.549	5	
532		min	1.856	3	36.235	5	10.815	6	65.29	6	4.641	6	-23.959	2	
533	7	max	1.919	4	43.354	2	11.676	4	80.647	5	11.689	4	-28.201	5	
534		min	1.443	3	28.126	5	8.412	6	50.781	6	8.421	6	-43.454	2	
535	8	max	1.37	4	30.893	2	8.34	4	57.605	5	15.624	4	-37.665	5	
536		min	1.031	3	20.016	5	6.009	6	36.272	6	11.256	6	-58.049	2	
537	9	max	0.822	4	18.432	2	5.005	4	34.563	5	18.247	4	-43.94	5	
538		min	0.619	3	11.907	5	3.607	6	21.763	6	13.146	6	-67.745	2	
539	10	max	0.274	4	5.97	2	1.67	4	11.521	5	19.559	4	-47.027	5	
540		min	0.206	3	3.797	5	1.204	6	7.254	6	14.092	6	-72.542	2	
541	11	max	-0.206	3	-4.313	5	-1.199	6	-7.254	6	19.56	4	-46.925	5	
542		min	-0.274	4	-6.491	2	-1.665	4	-11.521	5	14.093	6	-72.44	2	
543	12	max	-0.619	3	-12.422	5	-3.602	6	-21.763	6	18.25	4	-43.636	5	
544		min	-0.822	4	-18.952	2	-5.001	4	-34.563	5	13.149	6	-67.438	2	
545	13	max	-1.031	3	-20.532	5	-6.005	6	-36.272	6	15.628	4	-37.158	5	
546		min	-1.37	4	-31.413	2	-8.336	4	-57.605	5	11.26	6	-57.538	2	
547	14	max	-1.443	3	-28.641	5	-8.408	6	-50.781	6	11.695	4	-27.491	5	
548		min	-1.918	4	-43.874	2	-11.671	4	-80.647	5	8.427	6	-42.738	2	
549	15	max	-1.856	3	-36.751	5	-10.811	6	-65.29	6	6.451	4	-14.636	5	
550		min	-2.467	4	-56.335	2	-15.006	4	-103.689	5	4.649	6	-23.039	2	
551	16	max	-2.268	3	-44.861	5	-13.214	6	-79.799	6	-0.074	6	1.611	1	
552		min	-3.015	4	-68.796	2	-18.342	4	-126.731	5	-0.104	4	0.277	3	
553	17	max	-2.68	3	-52.97	5	-15.617	6	-94.308	6	-5.741	6	31.057	2	
554		min	-3.563	4	-81.257	2	-21.677	4	-149.773	5	-7.971	4	20.638	5	
555	18	max	-3.093	3	-61.08	5	-18.02	6	-108.816	6	-12.354	6	65.453	2	
556		min	-4.111	4	-93.718	2	-25.012	4	-172.815	5	-17.149	4	43.058	5	
557	19	max	-3.505	3	-69.189	5	-20.422	6	-123.325	6	-19.911	6	104.749	2	
558		min	-4.659	4	-106.179	2	-28.347	4	-195.857	5	-27.639	4	68.666	5	
559	20	max	-3.917	3	-77.299	5	-22.825	6	-137.834	6	-28.412	6	148.944	2	

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
560		min	-5.207	4	-118.641	2	-31.683	4	-218.899	5	-39.439	4	97.463	5	
561	A15	1	max	5.219	4	119.428	2	31.69	4	218.895	5	-28.43	6	148.944	2
562		min	3.929	3	78.079	5	22.832	6	137.83	6	-39.458	4	97.463	5	
563		2	max	4.671	4	106.967	2	28.355	4	195.853	5	-19.926	6	104.439	2
564		min	3.516	3	69.97	5	20.429	6	123.321	6	-27.654	4	68.359	5	
565		3	max	4.123	4	94.506	2	25.02	4	172.811	5	-12.366	6	64.834	2
566		min	3.104	3	61.86	5	18.026	6	108.812	6	-17.162	4	42.444	5	
567		4	max	3.575	4	82.045	2	21.685	4	149.769	5	-5.751	6	30.128	2
568		min	2.692	3	53.751	5	15.624	6	94.303	6	-7.98	4	19.718	5	
569		5	max	3.027	4	69.583	2	18.349	4	126.727	5	-0.081	6	0.361	3
570		min	2.279	3	45.641	5	13.221	6	79.795	6	-0.11	4	0.179	5	
571		6	max	2.478	4	57.122	2	15.014	4	103.685	5	6.448	4	-16.17	5
572		min	1.867	3	37.531	5	10.818	6	65.286	6	4.644	6	-24.586	2	
573		7	max	1.93	4	44.661	2	11.679	4	80.643	5	11.695	4	-29.332	5
574		min	1.455	3	29.422	5	8.415	6	50.777	6	8.425	6	-44.595	2	
575		8	max	1.382	4	32.2	2	8.344	4	57.601	5	15.631	4	-39.305	5
576		min	1.042	3	21.312	5	6.012	6	36.268	6	11.261	6	-59.704	2	
577		9	max	0.834	4	19.739	2	5.009	4	34.559	5	18.256	4	-46.09	5
578		min	0.63	3	13.203	5	3.609	6	21.759	6	13.152	6	-69.914	2	
579		10	max	0.286	4	7.278	2	1.673	4	11.517	5	19.57	4	-49.687	5
580		min	0.218	3	5.084	6	1.206	6	7.25	6	14.099	6	-75.225	2	
581		11	max	-0.195	3	-3.017	5	-1.197	6	-7.259	6	19.572	4	-50.095	5
582		min	-0.264	6	-5.507	3	-1.662	4	-11.525	5	14.101	6	-75.637	2	
583		12	max	-0.607	3	-11.126	5	-3.6	6	-21.767	6	18.263	4	-47.315	5
584		min	-0.81	4	-17.644	2	-4.997	4	-34.567	5	13.158	6	-71.15	2	
585		13	max	-1.019	3	-19.236	5	-6.003	6	-36.276	6	15.643	4	-41.346	5
586		min	-1.359	4	-30.105	2	-8.332	4	-57.609	5	11.27	6	-61.763	2	
587		14	max	-1.432	3	-27.345	5	-8.406	6	-50.785	6	11.711	4	-32.189	5
588		min	-1.907	4	-42.567	2	-11.668	4	-80.651	5	8.438	6	-47.477	2	
589		15	max	-1.844	3	-35.455	5	-10.808	6	-65.294	6	6.468	4	-19.742	6
590		min	-2.455	4	-55.028	2	-15.003	4	-103.693	5	4.661	6	-28.292	2	
591		16	max	-2.256	3	-43.565	5	-13.211	6	-79.803	6	-0.061	6	0.675	3
592		min	-3.003	4	-67.489	2	-18.338	4	-126.735	5	-0.086	4	-4.957	1	
593		17	max	-2.669	3	-51.674	5	-15.614	6	-94.312	6	-5.727	6	26.34	3
594		min	-3.551	4	-79.95	2	-21.673	4	-149.777	5	-7.951	4	14.411	5	
595		18	max	-3.081	3	-59.784	5	-18.017	6	-108.821	6	-12.339	6	58.658	2
596		min	-4.099	4	-92.411	2	-25.009	4	-172.819	5	-17.128	4	36.322	5	
597		19	max	-3.493	3	-67.893	5	-20.42	6	-123.329	6	-19.895	6	97.439	2
598		min	-4.647	4	-104.872	2	-28.344	4	-195.861	5	-27.616	4	61.42	5	
599		20	max	-3.906	3	-76.003	5	-22.823	6	-137.838	6	-28.395	6	141.12	2
600		min	-5.196	4	-117.333	2	-31.679	4	-218.903	5	-39.415	4	89.707	5	
601	A16	1	max	13.024	4	122.329	2	21.154	4	147.623	5	-7.23	6	141.12	2
602		min	10.437	6	81.602	5	15.394	6	63.097	6	-10.049	4	89.707	5	
603		2	max	12.743	4	115.929	2	19.441	4	135.788	5	-4.246	6	117.064	2
604		min	10.157	6	77.437	5	14.16	6	55.189	3	-5.95	4	73.65	5	
605		3	max	12.461	4	109.529	2	17.728	4	123.953	5	-1.511	6	94.301	2
606		min	9.877	6	73.272	5	12.926	6	46.079	3	-2.197	4	58.433	5	
607		4	max	12.18	4	103.129	2	16.015	4	112.119	5	1.209	4	72.83	2
608		min	9.597	6	69.107	5	11.691	6	36.969	3	0.974	6	44.058	5	
609		5	max	11.898	4	96.729	2	14.302	4	100.284	5	4.27	4	52.651	2
610		min	9.317	6	64.942	5	10.457	6	27.859	3	3.21	6	30.524	5	
611		6	max	11.617	4	90.329	2	12.589	4	88.45	5	6.985	4	33.765	2
612		min	9.038	6	60.777	5	9.223	6	18.75	3	5.198	6	17.831	5	
613		7	max	11.335	4	83.928	2	10.876	4	76.615	5	9.355	4	16.171	2
614		min	8.758	6	56.611	5	7.989	6	9.64	3	6.935	6	5.979	5	
615		8	max	11.053	4	77.528	2	9.163	4	64.78	5	11.378	4	-0.13	2
616		min	8.478	6	52.446	5	6.755	6	0.53	3	8.424	6	-5.032	5	
617		9	max	10.772	4	71.128	2	7.45	4	52.946	5	13.055	4	-12.227	6

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
618		min	8.198	6	48.281	5	5.521	6	-8.58	3	9.663	6	-17.147	3
619	10	max	10.49	4	64.728	2	5.737	4	41.111	5	14.387	4	-22.388	6
620		min	7.918	6	44.116	5	4.287	6	-17.689	3	10.654	6	-30.339	3
621	11	max	10.209	4	58.328	2	4.024	4	29.276	5	15.372	4	-31.571	1
622		min	7.638	6	39.951	5	3.052	6	-26.799	3	11.394	6	-42.405	3
623	12	max	9.927	4	51.928	2	2.311	4	17.442	5	16.012	4	-39.628	1
624		min	7.359	6	35.785	5	1.818	6	-35.909	3	11.886	6	-53.344	3
625	13	max	9.646	4	45.797	3	0.598	4	5.607	5	16.305	4	-46.734	1
626		min	7.079	6	31.62	5	0.457	3	-45.019	3	12.129	6	-63.155	3
627	14	max	9.364	4	40.215	3	-0.65	6	-6.227	5	16.253	4	-52.89	1
628		min	6.799	6	27.455	5	-1.186	3	-54.128	3	12.122	6	-71.839	3
629	15	max	9.083	4	34.634	3	-1.884	6	-18.062	5	15.855	4	-58.094	1
630		min	6.519	6	23.29	5	-2.829	3	-63.238	3	11.866	6	-79.396	3
631	16	max	8.801	4	29.052	3	-3.118	6	-29.897	5	15.111	4	-62.348	1
632		min	6.239	6	18.713	1	-4.541	4	-72.348	3	11.361	6	-85.826	3
633	17	max	8.52	4	23.47	3	-4.353	6	-41.731	5	14.021	4	-65.652	1
634		min	5.959	6	14.005	1	-6.254	4	-81.458	3	10.607	6	-91.129	3
635	18	max	8.238	4	17.888	3	-5.587	6	-53.566	5	12.585	4	-68.004	1
636		min	5.68	6	9.297	1	-7.967	4	-90.567	3	9.603	6	-95.305	3
637	19	max	7.957	4	12.306	3	-6.821	6	-65.4	5	10.803	4	-69.406	1
638		min	5.4	6	4.589	1	-9.68	4	-99.677	3	8.351	6	-98.354	3
639	20	max	7.675	4	6.724	3	-8.055	6	-74.965	1	8.676	4	-69.858	1
640		min	5.12	6	-0.119	1	-11.393	4	-108.787	3	6.849	6	-100.275	3
641	A17	1	max	0	6	8.011	3	0	6	0	6	0	8.512	3
642		min	0	1	4.807	1	0	1	0	1	0	1	5.107	1
643	2	max	0	6	7.59	3	0	6	0	6	0	6	7.64	3
644		min	0	1	4.554	1	0	1	0	1	0	1	4.584	1
645	3	max	0	6	7.168	3	0	6	0	6	0	6	6.814	3
646		min	0	1	4.301	1	0	1	0	1	0	1	4.089	1
647	4	max	0	6	6.746	3	0	6	0	6	0	6	6.036	3
648		min	0	1	4.048	1	0	1	0	1	0	1	3.622	1
649	5	max	0	6	6.325	3	0	6	0	6	0	6	5.305	3
650		min	0	1	3.795	1	0	1	0	1	0	1	3.183	1
651	6	max	0	6	5.903	3	0	6	0	6	0	6	4.621	3
652		min	0	1	3.542	1	0	1	0	1	0	1	2.773	1
653	7	max	0	6	5.481	3	0	6	0	6	0	6	3.985	3
654		min	0	1	3.289	1	0	1	0	1	0	1	2.391	1
655	8	max	0	6	5.06	3	0	6	0	6	0	6	3.395	3
656		min	0	1	3.036	1	0	1	0	1	0	1	2.037	1
657	9	max	0	6	4.638	3	0	6	0	6	0	6	2.853	3
658		min	0	1	2.783	1	0	1	0	1	0	1	1.712	1
659	10	max	0	6	4.216	3	0	6	0	6	0	6	2.358	3
660		min	0	1	2.53	1	0	1	0	1	0	1	1.415	1
661	11	max	0	6	3.795	3	0	6	0	6	0	6	1.91	3
662		min	0	1	2.277	1	0	1	0	1	0	1	1.146	1
663	12	max	0	6	3.373	3	0	6	0	6	0	6	1.509	3
664		min	0	1	2.024	1	0	1	0	1	0	1	0.905	1
665	13	max	0	6	2.952	3	0	6	0	6	0	6	1.155	3
666		min	0	1	1.771	1	0	1	0	1	0	1	0.693	1
667	14	max	0	6	2.53	3	0	6	0	6	0	6	0.849	3
668		min	0	1	1.518	1	0	1	0	1	0	1	0.509	1
669	15	max	0	6	2.108	3	0	6	0	6	0	6	0.589	3
670		min	0	1	1.265	1	0	1	0	1	0	1	0.354	1
671	16	max	0	6	1.687	3	0	6	0	6	0	6	0.377	3
672		min	0	1	1.012	1	0	1	0	1	0	1	0.226	1
673	17	max	0	6	1.265	3	0	6	0	6	0	6	0.212	3
674		min	0	1	0.759	1	0	1	0	1	0	1	0.127	1
675	18	max	0	6	0.843	3	0	6	0	6	0	6	0.094	3

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
676		min	0	1	0.506	1	0	1	0	1	0.057	1			
677	19	max	0	6	0.422	3	0	6	0	6	0.024	3			
678		min	0	1	0.253	1	0	1	0	1	0.014	1			
679	20	max	0	6	0	6	0	6	0	6	0	6			
680		min	0	1	0	1	0	1	0	1	0	1			
681	R1	1	max	13.483	4	-32.128	1	-2.075	6	0	6	8.676	4	-106.016	1
682		min	9.316	6	-46.623	3	-2.629	4	0	1	6.849	6	-153.848	3	
683	2	max	13.483	4	-32.128	1	-2.075	6	0	6	8.219	4	-100.436	1	
684		min	9.316	6	-46.623	3	-2.629	4	0	1	6.488	6	-145.751	3	
685	3	max	13.483	4	-32.128	1	-2.075	6	0	6	7.762	4	-94.857	1	
686		min	9.316	6	-46.623	3	-2.629	4	0	1	6.128	6	-137.653	3	
687	4	max	13.483	4	-32.128	1	-2.075	6	0	6	7.306	4	-89.277	1	
688		min	9.316	6	-46.623	3	-2.629	4	0	1	5.767	6	-129.556	3	
689	5	max	13.483	4	-32.128	1	-2.075	6	0	6	6.849	4	-83.697	1	
690		min	9.316	6	-46.623	3	-2.629	4	0	1	5.407	6	-121.459	3	
691	6	max	13.483	4	-32.128	1	-2.075	6	0	6	6.393	4	-78.117	1	
692		min	9.316	6	-46.623	3	-2.629	4	0	1	5.046	6	-113.362	3	
693	7	max	13.483	4	-32.128	1	-2.075	6	0	6	5.936	4	-72.537	1	
694		min	9.316	6	-46.623	3	-2.629	4	0	1	4.686	6	-105.264	3	
695	8	max	13.483	4	-32.128	1	-2.075	6	0	6	5.479	4	-66.958	1	
696		min	9.316	6	-46.623	3	-2.629	4	0	1	4.325	6	-97.167	3	
697	9	max	13.483	4	-32.128	1	-2.075	6	0	6	5.023	4	-61.378	1	
698		min	9.316	6	-46.623	3	-2.629	4	0	1	3.965	6	-89.07	3	
699	10	max	13.483	4	-32.128	1	-2.075	6	0	6	4.566	4	-55.798	1	
700		min	9.316	6	-46.623	3	-2.629	4	0	1	3.605	6	-80.973	3	
701	11	max	13.483	4	-32.128	1	-2.075	6	0	6	4.11	4	-50.218	1	
702		min	9.316	6	-46.623	3	-2.629	4	0	1	3.244	6	-72.875	3	
703	12	max	13.483	4	-32.128	1	-2.075	6	0	6	3.653	4	-44.638	1	
704		min	9.316	6	-46.623	3	-2.629	4	0	1	2.884	6	-64.778	3	
705	13	max	13.483	4	-32.128	1	-2.075	6	0	6	3.196	4	-39.059	1	
706		min	9.316	6	-46.623	3	-2.629	4	0	1	2.523	6	-56.681	3	
707	14	max	13.483	4	-32.128	1	-2.075	6	0	6	2.74	4	-33.479	1	
708		min	9.316	6	-46.623	3	-2.629	4	0	1	2.163	6	-48.584	3	
709	15	max	13.483	4	-32.128	1	-2.075	6	0	6	2.283	4	-27.899	1	
710		min	9.316	6	-46.623	3	-2.629	4	0	1	1.802	6	-40.486	3	
711	16	max	13.483	4	-32.128	1	-2.075	6	0	6	1.826	4	-22.319	1	
712		min	9.316	6	-46.623	3	-2.629	4	0	1	1.442	6	-32.389	3	
713	17	max	13.483	4	-32.128	1	-2.075	6	0	6	1.37	4	-16.739	1	
714		min	9.316	6	-46.623	3	-2.629	4	0	1	1.081	6	-24.292	3	
715	18	max	13.483	4	-32.128	1	-2.075	6	0	6	0.913	4	-11.16	1	
716		min	9.316	6	-46.623	3	-2.629	4	0	1	0.721	6	-16.195	3	
717	19	max	13.483	4	-32.128	1	-2.075	6	0	6	0.457	4	-5.58	1	
718		min	9.316	6	-46.623	3	-2.629	4	0	1	0.36	6	-8.097	3	
719	20	max	13.483	4	-32.128	1	-2.075	6	0	6	0	6	0	6	
720		min	9.316	6	-46.623	3	-2.629	4	0	1	0	1	0	1	
721	R2	1	max	-14.46	6	51.108	2	11.656	4	0	6	0	6	0	6
722		min	-19.991	4	0.198	5	9.337	6	0	1	0	1	0	1	
723	2	max	-14.46	6	51.108	2	11.656	4	0	6	3.783	4	-0.064	5	
724		min	-19.991	4	0.198	5	9.337	6	0	1	3.03	6	-16.588	2	
725	3	max	-14.46	6	51.108	2	11.656	4	0	6	7.566	4	-0.128	5	
726		min	-19.991	4	0.198	5	9.337	6	0	1	6.061	6	-33.175	2	
727	4	max	-14.46	6	51.108	2	11.656	4	0	6	11.349	4	-0.193	5	
728		min	-19.991	4	0.198	5	9.337	6	0	1	9.091	6	-49.763	2	
729	5	max	-14.46	6	51.108	2	11.656	4	0	6	15.132	4	-0.257	5	
730		min	-19.991	4	0.198	5	9.337	6	0	1	12.121	6	-66.351	2	
731	6	max	-14.46	6	51.108	2	11.656	4	0	6	18.916	4	-0.321	5	
732		min	-19.991	4	0.198	5	9.337	6	0	1	15.152	6	-82.939	2	
733	7	max	-14.46	6	51.108	2	11.656	4	0	6	22.699	4	-0.385	5	

**Envelope Member Section Forces (Continued)**

Member	Sec	Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
734		min -19.991	4	0.198	5	9.337	6	0	1	18.182	6	-99.526	2
735	8	max -14.46	6	51.108	2	11.656	4	0	6	26.482	4	-0.45	5
736		min -19.991	4	0.198	5	9.337	6	0	1	21.212	6	-116.114	2
737	9	max -14.46	6	51.108	2	11.656	4	0	6	30.265	4	-0.514	5
738		min -19.991	4	0.198	5	9.337	6	0	1	24.243	6	-132.702	2
739	10	max -14.46	6	51.108	2	11.656	4	0	6	34.048	4	-0.578	5
740		min -19.991	4	0.198	5	9.337	6	0	1	27.273	6	-149.29	2
741	11	max -14.46	6	51.108	2	11.656	4	0	6	37.831	4	-0.642	5
742		min -19.991	4	0.198	5	9.337	6	0	1	30.303	6	-165.877	2
743	12	max -14.46	6	51.108	2	11.656	4	0	6	41.614	4	-0.707	5
744		min -19.991	4	0.198	5	9.337	6	0	1	33.333	6	-182.465	2
745	13	max 32.842	4	-140.843	6	-5.131	3	0	6	14.912	4	-319.986	6
746		min 23.756	6	-188.554	2	-6.564	4	0	1	11.658	3	-428.382	2
747	14	max 32.842	4	-140.843	6	-5.131	3	0	6	12.782	4	-274.274	6
748		min 23.756	6	-188.554	2	-6.564	4	0	1	9.993	3	-367.185	2
749	15	max 32.842	4	-140.843	6	-5.131	3	0	6	10.651	4	-228.561	6
750		min 23.756	6	-188.554	2	-6.564	4	0	1	8.327	3	-305.987	2
751	16	max 32.842	4	-140.843	6	-5.131	3	0	6	8.521	4	-182.849	6
752		min 23.756	6	-188.554	2	-6.564	4	0	1	6.662	3	-244.79	2
753	17	max 32.842	4	-140.843	6	-5.131	3	0	6	6.391	4	-137.137	6
754		min 23.756	6	-188.554	2	-6.564	4	0	1	4.996	3	-183.592	2
755	18	max 32.842	4	-140.843	6	-5.131	3	0	6	4.261	4	-91.425	6
756		min 23.756	6	-188.554	2	-6.564	4	0	1	3.331	3	-122.395	2
757	19	max 32.842	4	-140.843	6	-5.131	3	0	6	2.13	4	-45.712	6
758		min 23.756	6	-188.554	2	-6.564	4	0	1	1.665	3	-61.197	2
759	20	max 32.842	4	-140.843	6	-5.131	3	0	6	0	6	0	6
760		min 23.756	6	-188.554	2	-6.564	4	0	1	0	1	0	1
761	R3	max -17.276	6	34.714	2	3.942	4	0	6	0	6	0	6
762		min -23.979	4	-12.202	5	2.966	3	0	1	0	1	0	1
763	2	max -17.276	6	34.714	2	3.942	4	0	6	1.279	4	3.96	5
764		min -23.979	4	-12.202	5	2.966	3	0	1	0.963	3	-11.267	2
765	3	max -17.276	6	34.714	2	3.942	4	0	6	2.559	4	7.921	5
766		min -23.979	4	-12.202	5	2.966	3	0	1	1.926	3	-22.534	2
767	4	max -17.276	6	34.714	2	3.942	4	0	6	3.838	4	11.881	5
768		min -23.979	4	-12.202	5	2.966	3	0	1	2.888	3	-33.8	2
769	5	max -17.276	6	34.714	2	3.942	4	0	6	5.118	4	15.841	5
770		min -23.979	4	-12.202	5	2.966	3	0	1	3.851	3	-45.067	2
771	6	max -17.276	6	34.714	2	3.942	4	0	6	6.397	4	19.801	5
772		min -23.979	4	-12.202	5	2.966	3	0	1	4.814	3	-56.334	2
773	7	max -17.276	6	34.714	2	3.942	4	0	6	7.677	4	23.762	5
774		min -23.979	4	-12.202	5	2.966	3	0	1	5.777	3	-67.601	2
775	8	max -17.276	6	34.714	2	3.942	4	0	6	8.956	4	27.722	5
776		min -23.979	4	-12.202	5	2.966	3	0	1	6.74	3	-78.867	2
777	9	max -17.276	6	34.714	2	3.942	4	0	6	10.236	4	31.682	5
778		min -23.979	4	-12.202	5	2.966	3	0	1	7.702	3	-90.134	2
779	10	max -17.276	6	34.714	2	3.942	4	0	6	11.515	4	35.642	5
780		min -23.979	4	-12.202	5	2.966	3	0	1	8.665	3	-101.401	2
781	11	max -17.276	6	34.714	2	3.942	4	0	6	12.795	4	39.603	5
782		min -23.979	4	-12.202	5	2.966	3	0	1	9.628	3	-112.668	2
783	12	max -17.276	6	34.714	2	3.942	4	0	6	14.074	4	43.563	5
784		min -23.979	4	-12.202	5	2.966	3	0	1	10.591	3	-123.935	2
785	13	max 39.394	4	-151.155	6	-4.88	3	0	6	14.732	4	-343.413	6
786		min 28.382	6	-203.355	2	-6.484	4	0	1	11.086	3	-462.007	2
787	14	max 39.394	4	-151.155	6	-4.88	3	0	6	12.627	4	-294.354	6
788		min 28.382	6	-203.355	2	-6.484	4	0	1	9.502	3	-396.006	2
789	15	max 39.394	4	-151.155	6	-4.88	3	0	6	10.523	4	-245.295	6
790		min 28.382	6	-203.355	2	-6.484	4	0	1	7.919	3	-330.005	2
791	16	max 39.394	4	-151.155	6	-4.88	3	0	6	8.418	4	-196.236	6



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
792		min	28.382	6	-203.355	2	-6.484	4	0	1	6.335	3	-264.004	2	
793	17	max	39.394	4	-151.155	6	-4.88	3	0	6	6.314	4	-147.177	6	
794		min	28.382	6	-203.355	2	-6.484	4	0	1	4.751	3	-198.003	2	
795	18	max	39.394	4	-151.155	6	-4.88	3	0	6	4.209	4	-98.118	6	
796		min	28.382	6	-203.355	2	-6.484	4	0	1	3.167	3	-132.002	2	
797	19	max	39.394	4	-151.155	6	-4.88	3	0	6	2.105	4	-49.059	6	
798		min	28.382	6	-203.355	2	-6.484	4	0	1	1.584	3	-66.001	2	
799	20	max	39.394	4	-151.155	6	-4.88	3	0	6	0	6	0	6	
800		min	28.382	6	-203.355	2	-6.484	4	0	1	0	1	0	1	
801	R4	1	max	-17.275	6	34.097	2	3.938	4	0	6	0	6	0	6
802		min	-23.978	4	-12.813	5	2.962	3	0	1	0	1	0	1	
803	2	max	-17.275	6	34.097	2	3.938	4	0	6	1.278	4	4.159	5	
804		min	-23.978	4	-12.813	5	2.962	3	0	1	0.961	3	-11.067	2	
805	3	max	-17.275	6	34.097	2	3.938	4	0	6	2.556	4	8.317	5	
806		min	-23.978	4	-12.813	5	2.962	3	0	1	1.923	3	-22.133	2	
807	4	max	-17.275	6	34.097	2	3.938	4	0	6	3.834	4	12.476	5	
808		min	-23.978	4	-12.813	5	2.962	3	0	1	2.884	3	-33.2	2	
809	5	max	-17.275	6	34.097	2	3.938	4	0	6	5.113	4	16.635	5	
810		min	-23.978	4	-12.813	5	2.962	3	0	1	3.846	3	-44.266	2	
811	6	max	-17.275	6	34.097	2	3.938	4	0	6	6.391	4	20.793	5	
812		min	-23.978	4	-12.813	5	2.962	3	0	1	4.807	3	-55.333	2	
813	7	max	-17.275	6	34.097	2	3.938	4	0	6	7.669	4	24.952	5	
814		min	-23.978	4	-12.813	5	2.962	3	0	1	5.769	3	-66.399	2	
815	8	max	-17.275	6	34.097	2	3.938	4	0	6	8.947	4	29.111	5	
816		min	-23.978	4	-12.813	5	2.962	3	0	1	6.73	3	-77.466	2	
817	9	max	-17.275	6	34.097	2	3.938	4	0	6	10.225	4	33.27	5	
818		min	-23.978	4	-12.813	5	2.962	3	0	1	7.692	3	-88.532	2	
819	10	max	-17.275	6	34.097	2	3.938	4	0	6	11.503	4	37.428	5	
820		min	-23.978	4	-12.813	5	2.962	3	0	1	8.653	3	-99.599	2	
821	11	max	-17.275	6	34.097	2	3.938	4	0	6	12.781	4	41.587	5	
822		min	-23.978	4	-12.813	5	2.962	3	0	1	9.615	3	-110.666	2	
823	12	max	-17.275	6	34.097	2	3.938	4	0	6	14.059	4	45.746	5	
824		min	-23.978	4	-12.813	5	2.962	3	0	1	10.576	3	-121.732	2	
825	13	max	39.392	4	-150.58	6	-4.872	3	0	6	14.715	4	-342.107	6	
826		min	28.38	6	-202.343	2	-6.477	4	0	1	11.069	3	-459.709	2	
827	14	max	39.392	4	-150.58	6	-4.872	3	0	6	12.612	4	-293.234	6	
828		min	28.38	6	-202.343	2	-6.477	4	0	1	9.488	3	-394.036	2	
829	15	max	39.392	4	-150.58	6	-4.872	3	0	6	10.51	4	-244.362	6	
830		min	28.38	6	-202.343	2	-6.477	4	0	1	7.907	3	-328.364	2	
831	16	max	39.392	4	-150.58	6	-4.872	3	0	6	8.408	4	-195.49	6	
832		min	28.38	6	-202.343	2	-6.477	4	0	1	6.325	3	-262.691	2	
833	17	max	39.392	4	-150.58	6	-4.872	3	0	6	6.306	4	-146.617	6	
834		min	28.38	6	-202.343	2	-6.477	4	0	1	4.744	3	-197.018	2	
835	18	max	39.392	4	-150.58	6	-4.872	3	0	6	4.204	4	-97.745	6	
836		min	28.38	6	-202.343	2	-6.477	4	0	1	3.163	3	-131.345	2	
837	19	max	39.392	4	-150.58	6	-4.872	3	0	6	2.102	4	-48.872	6	
838		min	28.38	6	-202.343	2	-6.477	4	0	1	1.581	3	-65.673	2	
839	20	max	39.392	4	-150.58	6	-4.872	3	0	6	0	6	0	6	
840		min	28.38	6	-202.343	2	-6.477	4	0	1	0	1	0	1	
841	R5	1	max	-17.275	6	34.241	2	3.938	4	0	6	0	6	0	6
842		min	-23.978	4	-12.67	5	2.962	3	0	1	0	1	0	1	
843	2	max	-17.275	6	34.241	2	3.938	4	0	6	1.278	4	4.112	5	
844		min	-23.978	4	-12.67	5	2.962	3	0	1	0.961	3	-11.113	2	
845	3	max	-17.275	6	34.241	2	3.938	4	0	6	2.556	4	8.225	5	
846		min	-23.978	4	-12.67	5	2.962	3	0	1	1.923	3	-22.227	2	
847	4	max	-17.275	6	34.241	2	3.938	4	0	6	3.834	4	12.337	5	
848		min	-23.978	4	-12.67	5	2.962	3	0	1	2.884	3	-33.34	2	
849	5	max	-17.275	6	34.241	2	3.938	4	0	6	5.113	4	16.449	5	

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
850		min	-23.978	4	-12.67	5	2.962	3	0	1	3.846	3	-44.453	2	
851		6	max	-17.275	6	34.241	2	3.938	4	0	6	6.391	4	20.561	5
852			min	-23.978	4	-12.67	5	2.962	3	0	1	4.807	3	-55.566	2
853		7	max	-17.275	6	34.241	2	3.938	4	0	6	7.669	4	24.674	5
854			min	-23.978	4	-12.67	5	2.962	3	0	1	5.769	3	-66.68	2
855		8	max	-17.275	6	34.241	2	3.938	4	0	6	8.947	4	28.786	5
856			min	-23.978	4	-12.67	5	2.962	3	0	1	6.73	3	-77.793	2
857		9	max	-17.275	6	34.241	2	3.938	4	0	6	10.225	4	32.898	5
858			min	-23.978	4	-12.67	5	2.962	3	0	1	7.692	3	-88.906	2
859		10	max	-17.275	6	34.241	2	3.938	4	0	6	11.503	4	37.01	5
860			min	-23.978	4	-12.67	5	2.962	3	0	1	8.653	3	-100.02	2
861		11	max	-17.275	6	34.241	2	3.938	4	0	6	12.781	4	41.123	5
862			min	-23.978	4	-12.67	5	2.962	3	0	1	9.615	3	-111.133	2
863		12	max	-17.275	6	34.241	2	3.938	4	0	6	14.059	4	45.235	5
864			min	-23.978	4	-12.67	5	2.962	3	0	1	10.576	3	-122.246	2
865		13	max	39.392	4	-150.711	6	-4.872	3	0	6	14.715	4	-342.404	6
866			min	28.38	6	-202.58	2	-6.477	4	0	1	11.069	3	-460.246	2
867		14	max	39.392	4	-150.711	6	-4.872	3	0	6	12.612	4	-293.489	6
868			min	28.38	6	-202.58	2	-6.477	4	0	1	9.488	3	-394.497	2
869		15	max	39.392	4	-150.711	6	-4.872	3	0	6	10.51	4	-244.574	6
870			min	28.38	6	-202.58	2	-6.477	4	0	1	7.907	3	-328.747	2
871		16	max	39.392	4	-150.711	6	-4.872	3	0	6	8.408	4	-195.659	6
872			min	28.38	6	-202.58	2	-6.477	4	0	1	6.325	3	-262.998	2
873		17	max	39.392	4	-150.711	6	-4.872	3	0	6	6.306	4	-146.744	6
874			min	28.38	6	-202.58	2	-6.477	4	0	1	4.744	3	-197.248	2
875		18	max	39.392	4	-150.711	6	-4.872	3	0	6	4.204	4	-97.83	6
876			min	28.38	6	-202.58	2	-6.477	4	0	1	3.163	3	-131.499	2
877		19	max	39.392	4	-150.711	6	-4.872	3	0	6	2.102	4	-48.915	6
878			min	28.38	6	-202.58	2	-6.477	4	0	1	1.581	3	-65.749	2
879		20	max	39.392	4	-150.711	6	-4.872	3	0	6	0	6	0	6
880			min	28.38	6	-202.58	2	-6.477	4	0	1	0	1	0	1
881	R6	1	max	-17.275	6	34.244	2	3.938	4	0	6	0	6	0	6
882			min	-23.978	4	-12.669	5	2.962	3	0	1	0	1	0	1
883		2	max	-17.275	6	34.244	2	3.938	4	0	6	1.278	4	4.112	5
884			min	-23.978	4	-12.669	5	2.962	3	0	1	0.961	3	-11.114	2
885		3	max	-17.275	6	34.244	2	3.938	4	0	6	2.556	4	8.224	5
886			min	-23.978	4	-12.669	5	2.962	3	0	1	1.923	3	-22.228	2
887		4	max	-17.275	6	34.244	2	3.938	4	0	6	3.834	4	12.335	5
888			min	-23.978	4	-12.669	5	2.962	3	0	1	2.884	3	-33.343	2
889		5	max	-17.275	6	34.244	2	3.938	4	0	6	5.112	4	16.447	5
890			min	-23.978	4	-12.669	5	2.962	3	0	1	3.846	3	-44.457	2
891		6	max	-17.275	6	34.244	2	3.938	4	0	6	6.391	4	20.559	5
892			min	-23.978	4	-12.669	5	2.962	3	0	1	4.807	3	-55.571	2
893		7	max	-17.275	6	34.244	2	3.938	4	0	6	7.669	4	24.671	5
894			min	-23.978	4	-12.669	5	2.962	3	0	1	5.769	3	-66.685	2
895		8	max	-17.275	6	34.244	2	3.938	4	0	6	8.947	4	28.782	5
896			min	-23.978	4	-12.669	5	2.962	3	0	1	6.73	3	-77.799	2
897		9	max	-17.275	6	34.244	2	3.938	4	0	6	10.225	4	32.894	5
898			min	-23.978	4	-12.669	5	2.962	3	0	1	7.692	3	-88.914	2
899		10	max	-17.275	6	34.244	2	3.938	4	0	6	11.503	4	37.006	5
900			min	-23.978	4	-12.669	5	2.962	3	0	1	8.653	3	-100.028	2
901		11	max	-17.275	6	34.244	2	3.938	4	0	6	12.781	4	41.118	5
902			min	-23.978	4	-12.669	5	2.962	3	0	1	9.615	3	-111.142	2
903		12	max	-17.275	6	34.244	2	3.938	4	0	6	14.059	4	45.23	5
904			min	-23.978	4	-12.669	5	2.962	3	0	1	10.576	3	-122.256	2
905		13	max	39.392	4	-150.729	6	-4.872	3	0	6	14.714	4	-342.447	6
906			min	28.38	6	-202.585	2	-6.477	4	0	1	11.069	3	-460.258	2
907		14	max	39.392	4	-150.729	6	-4.872	3	0	6	12.612	4	-293.526	6



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
908		min	28.38	6	-202.585	2	-6.477	4	0	1	9.488	3	-394.507	2
909	15	max	39.392	4	-150.729	6	-4.872	3	0	6	10.51	4	-244.605	6
910		min	28.38	6	-202.585	2	-6.477	4	0	1	7.906	3	-328.756	2
911	16	max	39.392	4	-150.729	6	-4.872	3	0	6	8.408	4	-195.684	6
912		min	28.38	6	-202.585	2	-6.477	4	0	1	6.325	3	-263.005	2
913	17	max	39.392	4	-150.729	6	-4.872	3	0	6	6.306	4	-146.763	6
914		min	28.38	6	-202.585	2	-6.477	4	0	1	4.744	3	-197.253	2
915	18	max	39.392	4	-150.729	6	-4.872	3	0	6	4.204	4	-97.842	6
916		min	28.38	6	-202.585	2	-6.477	4	0	1	3.163	3	-131.502	2
917	19	max	39.392	4	-150.729	6	-4.872	3	0	6	2.102	4	-48.921	6
918		min	28.38	6	-202.585	2	-6.477	4	0	1	1.581	3	-65.751	2
919	20	max	39.392	4	-150.729	6	-4.872	3	0	6	0	6	0	6
920		min	28.38	6	-202.585	2	-6.477	4	0	1	0	1	0	1
921	R7	1	max	-17.278	6	34.149	2	3.919	4	0	6	0	6	6
922		min	-23.981	4	-12.748	5	2.944	3	0	1	0	1	0	1
923	2	max	-17.278	6	34.149	2	3.919	4	0	6	1.272	4	4.137	5
924		min	-23.981	4	-12.748	5	2.944	3	0	1	0.955	3	-11.084	2
925	3	max	-17.278	6	34.149	2	3.919	4	0	6	2.544	4	8.275	5
926		min	-23.981	4	-12.748	5	2.944	3	0	1	1.911	3	-22.167	2
927	4	max	-17.278	6	34.149	2	3.919	4	0	6	3.815	4	12.412	5
928		min	-23.981	4	-12.748	5	2.944	3	0	1	2.866	3	-33.251	2
929	5	max	-17.278	6	34.149	2	3.919	4	0	6	5.087	4	16.55	5
930		min	-23.981	4	-12.748	5	2.944	3	0	1	3.822	3	-44.334	2
931	6	max	-17.278	6	34.149	2	3.919	4	0	6	6.359	4	20.687	5
932		min	-23.981	4	-12.748	5	2.944	3	0	1	4.777	3	-55.418	2
933	7	max	-17.278	6	34.149	2	3.919	4	0	6	7.631	4	24.825	5
934		min	-23.981	4	-12.748	5	2.944	3	0	1	5.733	3	-66.501	2
935	8	max	-17.278	6	34.149	2	3.919	4	0	6	8.903	4	28.962	5
936		min	-23.981	4	-12.748	5	2.944	3	0	1	6.688	3	-77.585	2
937	9	max	-17.278	6	34.149	2	3.919	4	0	6	10.175	4	33.099	5
938		min	-23.981	4	-12.748	5	2.944	3	0	1	7.644	3	-88.668	2
939	10	max	-17.278	6	34.149	2	3.919	4	0	6	11.446	4	37.237	5
940		min	-23.981	4	-12.748	5	2.944	3	0	1	8.599	3	-99.752	2
941	11	max	-17.278	6	34.149	2	3.919	4	0	6	12.718	4	41.374	5
942		min	-23.981	4	-12.748	5	2.944	3	0	1	9.554	3	-110.835	2
943	12	max	-17.278	6	34.149	2	3.919	4	0	6	13.99	4	45.512	5
944		min	-23.981	4	-12.748	5	2.944	3	0	1	10.51	3	-121.919	2
945	13	max	39.397	4	-150.6	6	-4.842	3	0	6	14.642	4	-342.154	6
946		min	28.385	6	-202.428	2	-6.445	4	0	1	11	3	-459.903	2
947	14	max	39.397	4	-150.6	6	-4.842	3	0	6	12.55	4	-293.275	6
948		min	28.385	6	-202.428	2	-6.445	4	0	1	9.428	3	-394.203	2
949	15	max	39.397	4	-150.6	6	-4.842	3	0	6	10.459	4	-244.396	6
950		min	28.385	6	-202.428	2	-6.445	4	0	1	7.857	3	-328.502	2
951	16	max	39.397	4	-150.6	6	-4.842	3	0	6	8.367	4	-195.517	6
952		min	28.385	6	-202.428	2	-6.445	4	0	1	6.286	3	-262.802	2
953	17	max	39.397	4	-150.6	6	-4.842	3	0	6	6.275	4	-146.638	6
954		min	28.385	6	-202.428	2	-6.445	4	0	1	4.714	3	-197.102	2
955	18	max	39.397	4	-150.6	6	-4.842	3	0	6	4.183	4	-97.759	6
956		min	28.385	6	-202.428	2	-6.445	4	0	1	3.143	3	-131.401	2
957	19	max	39.397	4	-150.6	6	-4.842	3	0	6	2.092	4	-48.88	6
958		min	28.385	6	-202.428	2	-6.445	4	0	1	1.571	3	-65.701	2
959	20	max	39.397	4	-150.6	6	-4.842	3	0	6	0	6	0	6
960		min	28.385	6	-202.428	2	-6.445	4	0	1	0	1	0	1
961	R8	1	max	-17.275	6	39.99	2	3.938	4	0	6	0	6	6
962		min	-23.978	4	-8.081	5	2.962	3	0	1	0	1	0	1
963	2	max	-17.275	6	39.99	2	3.938	4	0	6	1.278	4	2.623	5
964		min	-23.978	4	-8.081	5	2.962	3	0	1	0.961	3	-12.979	2
965	3	max	-17.275	6	39.99	2	3.938	4	0	6	2.556	4	5.246	5

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
966		min	-23.978	4	-8.081	5	2.962	3	0	1	1.923	3	-25.958	2	
967	4	max	-17.275	6	39.99	2	3.938	4	0	6	3.834	4	7.869	5	
968		min	-23.978	4	-8.081	5	2.962	3	0	1	2.884	3	-38.938	2	
969	5	max	-17.275	6	39.99	2	3.938	4	0	6	5.112	4	10.491	5	
970		min	-23.978	4	-8.081	5	2.962	3	0	1	3.846	3	-51.917	2	
971	6	max	-17.275	6	39.99	2	3.938	4	0	6	6.391	4	13.114	5	
972		min	-23.978	4	-8.081	5	2.962	3	0	1	4.807	3	-64.896	2	
973	7	max	-17.275	6	39.99	2	3.938	4	0	6	7.669	4	15.737	5	
974		min	-23.978	4	-8.081	5	2.962	3	0	1	5.769	3	-77.875	2	
975	8	max	-17.275	6	39.99	2	3.938	4	0	6	8.947	4	18.36	5	
976		min	-23.978	4	-8.081	5	2.962	3	0	1	6.73	3	-90.854	2	
977	9	max	-17.275	6	39.99	2	3.938	4	0	6	10.225	4	20.983	5	
978		min	-23.978	4	-8.081	5	2.962	3	0	1	7.692	3	-103.833	2	
979	10	max	-17.275	6	39.99	2	3.938	4	0	6	11.503	4	23.606	5	
980		min	-23.978	4	-8.081	5	2.962	3	0	1	8.653	3	-116.813	2	
981	11	max	-17.275	6	39.99	2	3.938	4	0	6	12.781	4	26.229	5	
982		min	-23.978	4	-8.081	5	2.962	3	0	1	9.615	3	-129.792	2	
983	12	max	-17.275	6	39.99	2	3.938	4	0	6	14.059	4	28.851	5	
984		min	-23.978	4	-8.081	5	2.962	3	0	1	10.576	3	-142.771	2	
985	13	max	39.392	4	-158.279	6	-4.872	3	0	6	14.714	4	-359.598	6	
986		min	28.38	6	-212.025	2	-6.477	4	0	1	11.069	3	-481.706	2	
987	14	max	39.392	4	-158.279	6	-4.872	3	0	6	12.612	4	-308.227	6	
988		min	28.38	6	-212.025	2	-6.477	4	0	1	9.488	3	-412.891	2	
989	15	max	39.392	4	-158.279	6	-4.872	3	0	6	10.51	4	-256.855	6	
990		min	28.38	6	-212.025	2	-6.477	4	0	1	7.906	3	-344.075	2	
991	16	max	39.392	4	-158.279	6	-4.872	3	0	6	8.408	4	-205.484	6	
992		min	28.38	6	-212.025	2	-6.477	4	0	1	6.325	3	-275.26	2	
993	17	max	39.392	4	-158.279	6	-4.872	3	0	6	6.306	4	-154.113	6	
994		min	28.38	6	-212.025	2	-6.477	4	0	1	4.744	3	-206.445	2	
995	18	max	39.392	4	-158.279	6	-4.872	3	0	6	4.204	4	-102.742	6	
996		min	28.38	6	-212.025	2	-6.477	4	0	1	3.163	3	-137.63	2	
997	19	max	39.392	4	-158.279	6	-4.872	3	0	6	2.102	4	-51.371	6	
998		min	28.38	6	-212.025	2	-6.477	4	0	1	1.581	3	-68.815	2	
999	20	max	39.392	4	-158.279	6	-4.872	3	0	6	0	6	0	6	
1000		min	28.38	6	-212.025	2	-6.477	4	0	1	0	1	0	1	
1001	R9	1	max	-17.275	6	38.667	2	3.938	4	0	6	0	6	0	6
1002		min	-23.978	4	-9.132	5	2.962	3	0	1	0	1	0	1	
1003	2	max	-17.275	6	38.667	2	3.938	4	0	6	1.278	4	2.964	5	
1004		min	-23.978	4	-9.132	5	2.962	3	0	1	0.961	3	-12.55	2	
1005	3	max	-17.275	6	38.667	2	3.938	4	0	6	2.556	4	5.928	5	
1006		min	-23.978	4	-9.132	5	2.962	3	0	1	1.923	3	-25.099	2	
1007	4	max	-17.275	6	38.667	2	3.938	4	0	6	3.834	4	8.892	5	
1008		min	-23.978	4	-9.132	5	2.962	3	0	1	2.884	3	-37.649	2	
1009	5	max	-17.275	6	38.667	2	3.938	4	0	6	5.113	4	11.856	5	
1010		min	-23.978	4	-9.132	5	2.962	3	0	1	3.846	3	-50.199	2	
1011	6	max	-17.275	6	38.667	2	3.938	4	0	6	6.391	4	14.82	5	
1012		min	-23.978	4	-9.132	5	2.962	3	0	1	4.807	3	-62.749	2	
1013	7	max	-17.275	6	38.667	2	3.938	4	0	6	7.669	4	17.784	5	
1014		min	-23.978	4	-9.132	5	2.962	3	0	1	5.769	3	-75.298	2	
1015	8	max	-17.275	6	38.667	2	3.938	4	0	6	8.947	4	20.748	5	
1016		min	-23.978	4	-9.132	5	2.962	3	0	1	6.73	3	-87.848	2	
1017	9	max	-17.275	6	38.667	2	3.938	4	0	6	10.225	4	23.712	5	
1018		min	-23.978	4	-9.132	5	2.962	3	0	1	7.692	3	-100.398	2	
1019	10	max	-17.275	6	38.667	2	3.938	4	0	6	11.503	4	26.676	5	
1020		min	-23.978	4	-9.132	5	2.962	3	0	1	8.653	3	-112.947	2	
1021	11	max	-17.275	6	38.667	2	3.938	4	0	6	12.781	4	29.64	5	
1022		min	-23.978	4	-9.132	5	2.962	3	0	1	9.615	3	-125.497	2	
1023	12	max	-17.275	6	38.667	2	3.938	4	0	6	14.059	4	32.603	5	

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
1024		min	-23.978	4	-9.132	5	2.962	3	0	1	10.576	3	-138.047	2	
1025	13	max	39.392	4	-156.54	6	-4.872	3	0	6	14.715	4	-355.647	6	
1026		min	28.38	6	-209.851	2	-6.477	4	0	1	11.069	3	-476.766	2	
1027	14	max	39.392	4	-156.54	6	-4.872	3	0	6	12.612	4	-304.84	6	
1028		min	28.38	6	-209.851	2	-6.477	4	0	1	9.488	3	-408.657	2	
1029	15	max	39.392	4	-156.54	6	-4.872	3	0	6	10.51	4	-254.034	6	
1030		min	28.38	6	-209.851	2	-6.477	4	0	1	7.907	3	-340.547	2	
1031	16	max	39.392	4	-156.54	6	-4.872	3	0	6	8.408	4	-203.227	6	
1032		min	28.38	6	-209.851	2	-6.477	4	0	1	6.325	3	-272.438	2	
1033	17	max	39.392	4	-156.54	6	-4.872	3	0	6	6.306	4	-152.42	6	
1034		min	28.38	6	-209.851	2	-6.477	4	0	1	4.744	3	-204.328	2	
1035	18	max	39.392	4	-156.54	6	-4.872	3	0	6	4.204	4	-101.613	6	
1036		min	28.38	6	-209.851	2	-6.477	4	0	1	3.163	3	-136.219	2	
1037	19	max	39.392	4	-156.54	6	-4.872	3	0	6	2.102	4	-50.807	6	
1038		min	28.38	6	-209.851	2	-6.477	4	0	1	1.581	3	-68.109	2	
1039	20	max	39.392	4	-156.54	6	-4.872	3	0	6	0	6	0	6	
1040		min	28.38	6	-209.851	2	-6.477	4	0	1	0	1	0	1	
1041	R10	1	max	-17.275	6	33.818	2	3.938	4	0	6	0	6	0	6
1042		min	-23.978	4	-13.016	5	2.962	3	0	1	0	1	0	1	
1043	2	max	-17.275	6	33.818	2	3.938	4	0	6	1.278	4	4.225	5	
1044		min	-23.978	4	-13.016	5	2.962	3	0	1	0.961	3	-10.976	2	
1045	3	max	-17.275	6	33.818	2	3.938	4	0	6	2.556	4	8.449	5	
1046		min	-23.978	4	-13.016	5	2.962	3	0	1	1.923	3	-21.952	2	
1047	4	max	-17.275	6	33.818	2	3.938	4	0	6	3.834	4	12.674	5	
1048		min	-23.978	4	-13.016	5	2.962	3	0	1	2.884	3	-32.928	2	
1049	5	max	-17.275	6	33.818	2	3.938	4	0	6	5.113	4	16.898	5	
1050		min	-23.978	4	-13.016	5	2.962	3	0	1	3.846	3	-43.904	2	
1051	6	max	-17.275	6	33.818	2	3.938	4	0	6	6.391	4	21.123	5	
1052		min	-23.978	4	-13.016	5	2.962	3	0	1	4.807	3	-54.88	2	
1053	7	max	-17.275	6	33.818	2	3.938	4	0	6	7.669	4	25.347	5	
1054		min	-23.978	4	-13.016	5	2.962	3	0	1	5.769	3	-65.856	2	
1055	8	max	-17.275	6	33.818	2	3.938	4	0	6	8.947	4	29.572	5	
1056		min	-23.978	4	-13.016	5	2.962	3	0	1	6.73	3	-76.832	2	
1057	9	max	-17.275	6	33.818	2	3.938	4	0	6	10.225	4	33.797	5	
1058		min	-23.978	4	-13.016	5	2.962	3	0	1	7.692	3	-87.808	2	
1059	10	max	-17.275	6	33.818	2	3.938	4	0	6	11.503	4	38.021	5	
1060		min	-23.978	4	-13.016	5	2.962	3	0	1	8.653	3	-98.784	2	
1061	11	max	-17.275	6	33.818	2	3.938	4	0	6	12.781	4	42.246	5	
1062		min	-23.978	4	-13.016	5	2.962	3	0	1	9.615	3	-109.76	2	
1063	12	max	-17.275	6	33.818	2	3.938	4	0	6	14.059	4	46.47	5	
1064		min	-23.978	4	-13.016	5	2.962	3	0	1	10.576	3	-120.736	2	
1065	13	max	39.392	4	-150.165	6	-4.872	3	0	6	14.715	4	-341.163	6	
1066		min	28.38	6	-201.885	2	-6.477	4	0	1	11.069	3	-458.667	2	
1067	14	max	39.392	4	-150.165	6	-4.872	3	0	6	12.612	4	-292.426	6	
1068		min	28.38	6	-201.885	2	-6.477	4	0	1	9.488	3	-393.144	2	
1069	15	max	39.392	4	-150.165	6	-4.872	3	0	6	10.51	4	-243.688	6	
1070		min	28.38	6	-201.885	2	-6.477	4	0	1	7.907	3	-327.62	2	
1071	16	max	39.392	4	-150.165	6	-4.872	3	0	6	8.408	4	-194.95	6	
1072		min	28.38	6	-201.885	2	-6.477	4	0	1	6.325	3	-262.096	2	
1073	17	max	39.392	4	-150.165	6	-4.872	3	0	6	6.306	4	-146.213	6	
1074		min	28.38	6	-201.885	2	-6.477	4	0	1	4.744	3	-196.572	2	
1075	18	max	39.392	4	-150.165	6	-4.872	3	0	6	4.204	4	-97.475	6	
1076		min	28.38	6	-201.885	2	-6.477	4	0	1	3.163	3	-131.048	2	
1077	19	max	39.392	4	-150.165	6	-4.872	3	0	6	2.102	4	-48.738	6	
1078		min	28.38	6	-201.885	2	-6.477	4	0	1	1.581	3	-65.524	2	
1079	20	max	39.392	4	-150.165	6	-4.872	3	0	6	0	6	0	6	
1080		min	28.38	6	-201.885	2	-6.477	4	0	1	0	1	0	1	
1081	R11	1	max	-17.275	6	34.291	2	3.938	4	0	6	0	6	0	6

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
1082		min	-23.978	4	-12.623	5	2.962	3	0	1	0	1	0	1
1083		2 max	-17.275	6	34.291	2	3.938	4	0	6	1.278	4	4.097	5
1084		min	-23.978	4	-12.623	5	2.962	3	0	1	0.961	3	-11.13	2
1085		3 max	-17.275	6	34.291	2	3.938	4	0	6	2.556	4	8.194	5
1086		min	-23.978	4	-12.623	5	2.962	3	0	1	1.923	3	-22.259	2
1087		4 max	-17.275	6	34.291	2	3.938	4	0	6	3.834	4	12.291	5
1088		min	-23.978	4	-12.623	5	2.962	3	0	1	2.884	3	-33.389	2
1089		5 max	-17.275	6	34.291	2	3.938	4	0	6	5.113	4	16.388	5
1090		min	-23.978	4	-12.623	5	2.962	3	0	1	3.846	3	-44.518	2
1091		6 max	-17.275	6	34.291	2	3.938	4	0	6	6.391	4	20.485	5
1092		min	-23.978	4	-12.623	5	2.962	3	0	1	4.807	3	-55.648	2
1093		7 max	-17.275	6	34.291	2	3.938	4	0	6	7.669	4	24.582	5
1094		min	-23.978	4	-12.623	5	2.962	3	0	1	5.769	3	-66.778	2
1095		8 max	-17.275	6	34.291	2	3.938	4	0	6	8.947	4	28.679	5
1096		min	-23.978	4	-12.623	5	2.962	3	0	1	6.73	3	-77.907	2
1097		9 max	-17.275	6	34.291	2	3.938	4	0	6	10.225	4	32.776	5
1098		min	-23.978	4	-12.623	5	2.962	3	0	1	7.692	3	-89.037	2
1099		10 max	-17.275	6	34.291	2	3.938	4	0	6	11.503	4	36.873	5
1100		min	-23.978	4	-12.623	5	2.962	3	0	1	8.653	3	-100.166	2
1101		11 max	-17.275	6	34.291	2	3.938	4	0	6	12.781	4	40.97	5
1102		min	-23.978	4	-12.623	5	2.962	3	0	1	9.615	3	-111.296	2
1103		12 max	-17.275	6	34.291	2	3.938	4	0	6	14.059	4	45.067	5
1104		min	-23.978	4	-12.623	5	2.962	3	0	1	10.576	3	-122.425	2
1105		13 max	39.392	4	-150.796	6	-4.872	3	0	6	14.715	4	-342.597	6
1106		min	28.38	6	-202.662	2	-6.477	4	0	1	11.069	3	-460.434	2
1107		14 max	39.392	4	-150.796	6	-4.872	3	0	6	12.612	4	-293.654	6
1108		min	28.38	6	-202.662	2	-6.477	4	0	1	9.488	3	-394.658	2
1109		15 max	39.392	4	-150.796	6	-4.872	3	0	6	10.51	4	-244.712	6
1110		min	28.38	6	-202.662	2	-6.477	4	0	1	7.907	3	-328.882	2
1111		16 max	39.392	4	-150.796	6	-4.872	3	0	6	8.408	4	-195.77	6
1112		min	28.38	6	-202.662	2	-6.477	4	0	1	6.325	3	-263.105	2
1113		17 max	39.392	4	-150.796	6	-4.872	3	0	6	6.306	4	-146.827	6
1114		min	28.38	6	-202.662	2	-6.477	4	0	1	4.744	3	-197.329	2
1115		18 max	39.392	4	-150.796	6	-4.872	3	0	6	4.204	4	-97.885	6
1116		min	28.38	6	-202.662	2	-6.477	4	0	1	3.163	3	-131.553	2
1117		19 max	39.392	4	-150.796	6	-4.872	3	0	6	2.102	4	-48.942	6
1118		min	28.38	6	-202.662	2	-6.477	4	0	1	1.581	3	-65.776	2
1119		20 max	39.392	4	-150.796	6	-4.872	3	0	6	0	6	0	6
1120		min	28.38	6	-202.662	2	-6.477	4	0	1	0	1	0	1
1121	R12	1 max	-17.275	6	34.308	2	3.938	4	0	6	0	6	0	6
1122		min	-23.978	4	-12.666	5	2.962	3	0	1	0	1	0	1
1123		2 max	-17.275	6	34.308	2	3.938	4	0	6	1.278	4	4.111	5
1124		min	-23.978	4	-12.666	5	2.962	3	0	1	0.961	3	-11.135	2
1125		3 max	-17.275	6	34.308	2	3.938	4	0	6	2.556	4	8.222	5
1126		min	-23.978	4	-12.666	5	2.962	3	0	1	1.923	3	-22.27	2
1127		4 max	-17.275	6	34.308	2	3.938	4	0	6	3.834	4	12.333	5
1128		min	-23.978	4	-12.666	5	2.962	3	0	1	2.884	3	-33.405	2
1129		5 max	-17.275	6	34.308	2	3.938	4	0	6	5.113	4	16.443	5
1130		min	-23.978	4	-12.666	5	2.962	3	0	1	3.846	3	-44.541	2
1131		6 max	-17.275	6	34.308	2	3.938	4	0	6	6.391	4	20.554	5
1132		min	-23.978	4	-12.666	5	2.962	3	0	1	4.807	3	-55.676	2
1133		7 max	-17.275	6	34.308	2	3.938	4	0	6	7.669	4	24.665	5
1134		min	-23.978	4	-12.666	5	2.962	3	0	1	5.769	3	-66.811	2
1135		8 max	-17.275	6	34.308	2	3.938	4	0	6	8.947	4	28.776	5
1136		min	-23.978	4	-12.666	5	2.962	3	0	1	6.73	3	-77.946	2
1137		9 max	-17.275	6	34.308	2	3.938	4	0	6	10.225	4	32.887	5
1138		min	-23.978	4	-12.666	5	2.962	3	0	1	7.692	3	-89.081	2
1139		10 max	-17.275	6	34.308	2	3.938	4	0	6	11.503	4	36.998	5



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
1140		min	-23.978	4	-12.666	5	2.962	3	0	1	8.653	3	-100.216	2
1141		max	-17.275	6	34.308	2	3.938	4	0	6	12.781	4	41.108	5
1142		min	-23.978	4	-12.666	5	2.962	3	0	1	9.615	3	-111.352	2
1143		max	-17.275	6	34.308	2	3.938	4	0	6	14.059	4	45.219	5
1144		min	-23.978	4	-12.666	5	2.962	3	0	1	10.576	3	-122.487	2
1145		max	39.392	4	-150.783	6	-4.872	3	0	6	14.715	4	-342.568	6
1146		min	28.38	6	-202.69	2	-6.477	4	0	1	11.069	3	-460.498	2
1147		max	39.392	4	-150.783	6	-4.872	3	0	6	12.612	4	-293.629	6
1148		min	28.38	6	-202.69	2	-6.477	4	0	1	9.488	3	-394.712	2
1149		max	39.392	4	-150.783	6	-4.872	3	0	6	10.51	4	-244.691	6
1150		min	28.38	6	-202.69	2	-6.477	4	0	1	7.907	3	-328.927	2
1151		max	39.392	4	-150.783	6	-4.872	3	0	6	8.408	4	-195.753	6
1152		min	28.38	6	-202.69	2	-6.477	4	0	1	6.325	3	-263.142	2
1153		max	39.392	4	-150.783	6	-4.872	3	0	6	6.306	4	-146.815	6
1154		min	28.38	6	-202.69	2	-6.477	4	0	1	4.744	3	-197.356	2
1155		max	39.392	4	-150.783	6	-4.872	3	0	6	4.204	4	-97.876	6
1156		min	28.38	6	-202.69	2	-6.477	4	0	1	3.163	3	-131.571	2
1157		max	39.392	4	-150.783	6	-4.872	3	0	6	2.102	4	-48.938	6
1158		min	28.38	6	-202.69	2	-6.477	4	0	1	1.581	3	-65.785	2
1159		max	39.392	4	-150.783	6	-4.872	3	0	6	0	6	0	6
1160		min	28.38	6	-202.69	2	-6.477	4	0	1	0	1	0	1
1161	R13	max	-17.275	6	33.763	2	3.938	4	0	6	0	6	0	6
1162		min	-23.978	4	-12.877	5	2.962	3	0	1	0	1	0	1
1163		max	-17.275	6	33.763	2	3.938	4	0	6	1.278	4	4.179	5
1164		min	-23.978	4	-12.877	5	2.962	3	0	1	0.961	3	-10.958	2
1165		max	-17.275	6	33.763	2	3.938	4	0	6	2.556	4	8.359	5
1166		min	-23.978	4	-12.877	5	2.962	3	0	1	1.923	3	-21.916	2
1167		max	-17.275	6	33.763	2	3.938	4	0	6	3.834	4	12.538	5
1168		min	-23.978	4	-12.877	5	2.962	3	0	1	2.884	3	-32.874	2
1169		max	-17.275	6	33.763	2	3.938	4	0	6	5.113	4	16.718	5
1170		min	-23.978	4	-12.877	5	2.962	3	0	1	3.846	3	-43.832	2
1171		max	-17.275	6	33.763	2	3.938	4	0	6	6.391	4	20.897	5
1172		min	-23.978	4	-12.877	5	2.962	3	0	1	4.807	3	-54.79	2
1173		max	-17.275	6	33.763	2	3.938	4	0	6	7.669	4	25.077	5
1174		min	-23.978	4	-12.877	5	2.962	3	0	1	5.769	3	-65.748	2
1175		max	-17.275	6	33.763	2	3.938	4	0	6	8.947	4	29.256	5
1176		min	-23.978	4	-12.877	5	2.962	3	0	1	6.73	3	-76.706	2
1177		max	-17.275	6	33.763	2	3.938	4	0	6	10.225	4	33.436	5
1178		min	-23.978	4	-12.877	5	2.962	3	0	1	7.692	3	-87.664	2
1179		max	-17.275	6	33.763	2	3.938	4	0	6	11.503	4	37.615	5
1180		min	-23.978	4	-12.877	5	2.962	3	0	1	8.653	3	-98.622	2
1181		max	-17.275	6	33.763	2	3.938	4	0	6	12.781	4	41.795	5
1182		min	-23.978	4	-12.877	5	2.962	3	0	1	9.615	3	-109.58	2
1183		max	-17.275	6	33.763	2	3.938	4	0	6	14.059	4	45.974	5
1184		min	-23.978	4	-12.877	5	2.962	3	0	1	10.576	3	-120.538	2
1185		max	39.392	4	-150.206	6	-4.872	3	0	6	14.715	4	-341.258	6
1186		min	28.38	6	-201.793	2	-6.477	4	0	1	11.069	3	-458.46	2
1187		max	39.392	4	-150.206	6	-4.872	3	0	6	12.612	4	-292.507	6
1188		min	28.38	6	-201.793	2	-6.477	4	0	1	9.488	3	-392.966	2
1189		max	39.392	4	-150.206	6	-4.872	3	0	6	10.51	4	-243.756	6
1190		min	28.38	6	-201.793	2	-6.477	4	0	1	7.907	3	-327.472	2
1191		max	39.392	4	-150.206	6	-4.872	3	0	6	8.408	4	-195.005	6
1192		min	28.38	6	-201.793	2	-6.477	4	0	1	6.325	3	-261.977	2
1193		max	39.392	4	-150.206	6	-4.872	3	0	6	6.306	4	-146.254	6
1194		min	28.38	6	-201.793	2	-6.477	4	0	1	4.744	3	-196.483	2
1195		max	39.392	4	-150.206	6	-4.872	3	0	6	4.204	4	-97.502	6
1196		min	28.38	6	-201.793	2	-6.477	4	0	1	3.163	3	-130.989	2
1197		max	39.392	4	-150.206	6	-4.872	3	0	6	2.102	4	-48.751	6

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
1198		min	28.38	6	-201.793	2	-6.477	4	0	1	1.581	3	-65.494	2
1199		max	39.392	4	-150.206	6	-4.872	3	0	6	0	6	0	6
1200		min	28.38	6	-201.793	2	-6.477	4	0	1	0	1	0	1
1201	R14	max	-17.276	6	36.071	2	3.938	4	0	6	0	6	0	6
1202		min	-23.979	4	-11.933	5	2.962	3	0	1	0	1	0	1
1203		max	-17.276	6	36.071	2	3.938	4	0	6	1.278	4	3.873	5
1204		min	-23.979	4	-11.933	5	2.962	3	0	1	0.961	3	-11.707	2
1205		max	-17.276	6	36.071	2	3.938	4	0	6	2.556	4	7.746	5
1206		min	-23.979	4	-11.933	5	2.962	3	0	1	1.923	3	-23.415	2
1207		max	-17.276	6	36.071	2	3.938	4	0	6	3.834	4	11.619	5
1208		min	-23.979	4	-11.933	5	2.962	3	0	1	2.884	3	-35.122	2
1209		max	-17.276	6	36.071	2	3.938	4	0	6	5.112	4	15.493	5
1210		min	-23.979	4	-11.933	5	2.962	3	0	1	3.846	3	-46.83	2
1211		max	-17.276	6	36.071	2	3.938	4	0	6	6.39	4	19.366	5
1212		min	-23.979	4	-11.933	5	2.962	3	0	1	4.807	3	-58.537	2
1213		max	-17.276	6	36.071	2	3.938	4	0	6	7.668	4	23.239	5
1214		min	-23.979	4	-11.933	5	2.962	3	0	1	5.768	3	-70.244	2
1215		max	-17.276	6	36.071	2	3.938	4	0	6	8.946	4	27.112	5
1216		min	-23.979	4	-11.933	5	2.962	3	0	1	6.73	3	-81.952	2
1217		max	-17.276	6	36.071	2	3.938	4	0	6	10.224	4	30.985	5
1218		min	-23.979	4	-11.933	5	2.962	3	0	1	7.691	3	-93.659	2
1219		max	-17.276	6	36.071	2	3.938	4	0	6	11.502	4	34.858	5
1220		min	-23.979	4	-11.933	5	2.962	3	0	1	8.653	3	-105.366	2
1221		max	-17.276	6	36.071	2	3.938	4	0	6	12.78	4	38.731	5
1222		min	-23.979	4	-11.933	5	2.962	3	0	1	9.614	3	-117.074	2
1223		max	-17.276	6	36.071	2	3.938	4	0	6	14.058	4	42.604	5
1224		min	-23.979	4	-11.933	5	2.962	3	0	1	10.576	3	-128.781	2
1225		max	39.394	4	-152.675	6	-4.871	3	0	6	14.712	4	-346.866	6
1226		min	28.382	6	-205.587	2	-6.475	4	0	1	11.067	3	-467.08	2
1227		max	39.394	4	-152.675	6	-4.871	3	0	6	12.61	4	-297.314	6
1228		min	28.382	6	-205.587	2	-6.475	4	0	1	9.486	3	-400.354	2
1229		max	39.394	4	-152.675	6	-4.871	3	0	6	10.508	4	-247.762	6
1230		min	28.382	6	-205.587	2	-6.475	4	0	1	7.905	3	-333.628	2
1231		max	39.394	4	-152.675	6	-4.871	3	0	6	8.407	4	-198.209	6
1232		min	28.382	6	-205.587	2	-6.475	4	0	1	6.324	3	-266.903	2
1233		max	39.394	4	-152.675	6	-4.871	3	0	6	6.305	4	-148.657	6
1234		min	28.382	6	-205.587	2	-6.475	4	0	1	4.743	3	-200.177	2
1235		max	39.394	4	-152.675	6	-4.871	3	0	6	4.203	4	-99.105	6
1236		min	28.382	6	-205.587	2	-6.475	4	0	1	3.162	3	-133.451	2
1237		max	39.394	4	-152.675	6	-4.871	3	0	6	2.102	4	-49.552	6
1238		min	28.382	6	-205.587	2	-6.475	4	0	1	1.581	3	-66.726	2
1239		max	39.394	4	-152.675	6	-4.871	3	0	6	0	6	0	6
1240		min	28.382	6	-205.587	2	-6.475	4	0	1	0	1	0	1
1241	R15	max	-12.209	6	30.8	2	0.544	6	0	6	0	6	0	6
1242		min	-16.892	4	-7.485	5	-0.964	3	0	1	0	1	0	1
1243		max	-12.209	6	30.8	2	0.544	6	0	6	0.177	6	2.429	5
1244		min	-16.892	4	-7.485	5	-0.964	3	0	1	-0.313	3	-9.997	2
1245		max	-12.209	6	30.8	2	0.544	6	0	6	0.353	6	4.859	5
1246		min	-16.892	4	-7.485	5	-0.964	3	0	1	-0.626	3	-19.993	2
1247		max	-12.209	6	30.8	2	0.544	6	0	6	0.53	6	7.288	5
1248		min	-16.892	4	-7.485	5	-0.964	3	0	1	-0.939	3	-29.99	2
1249		max	-12.209	6	30.8	2	0.544	6	0	6	0.707	6	9.717	5
1250		min	-16.892	4	-7.485	5	-0.964	3	0	1	-1.251	3	-39.986	2
1251		max	-12.209	6	30.8	2	0.544	6	0	6	0.883	6	12.147	5
1252		min	-16.892	4	-7.485	5	-0.964	3	0	1	-1.564	3	-49.983	2
1253		max	-12.209	6	30.8	2	0.544	6	0	6	1.06	6	14.576	5
1254		min	-16.892	4	-7.485	5	-0.964	3	0	1	-1.877	3	-59.979	2
1255		max	-12.209	6	30.8	2	0.544	6	0	6	1.237	6	17.005	5

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
1256		min	-16.892	4	-7.485	5	-0.964	3	0	1	-2.19	3	-69.976	2	
1257	9	max	-12.209	6	30.8	2	0.544	6	0	6	1.413	6	19.435	5	
1258		min	-16.892	4	-7.485	5	-0.964	3	0	1	-2.503	3	-79.972	2	
1259	10	max	-12.209	6	30.8	2	0.544	6	0	6	1.59	6	21.864	5	
1260		min	-16.892	4	-7.485	5	-0.964	3	0	1	-2.816	3	-89.969	2	
1261	11	max	-12.209	6	30.8	2	0.544	6	0	6	1.767	6	24.293	5	
1262		min	-16.892	4	-7.485	5	-0.964	3	0	1	-3.128	3	-99.965	2	
1263	12	max	-12.209	6	30.8	2	0.544	6	0	6	1.943	6	26.723	5	
1264		min	-16.892	4	-7.485	5	-0.964	3	0	1	-3.441	3	-109.962	2	
1265	13	max	27.751	4	-137.674	6	-12.171	6	0	6	34.135	4	-312.785	6	
1266		min	20.058	6	-183.241	2	-15.025	4	0	1	27.651	6	-416.31	2	
1267	14	max	27.751	4	-137.674	6	-12.171	6	0	6	29.258	4	-268.102	6	
1268		min	20.058	6	-183.241	2	-15.025	4	0	1	23.701	6	-356.837	2	
1269	15	max	27.751	4	-137.674	6	-12.171	6	0	6	24.382	4	-223.418	6	
1270		min	20.058	6	-183.241	2	-15.025	4	0	1	19.751	6	-297.364	2	
1271	16	max	27.751	4	-137.674	6	-12.171	6	0	6	19.505	4	-178.735	6	
1272		min	20.058	6	-183.241	2	-15.025	4	0	1	15.801	6	-237.891	2	
1273	17	max	27.751	4	-137.674	6	-12.171	6	0	6	14.629	4	-134.051	6	
1274		min	20.058	6	-183.241	2	-15.025	4	0	1	11.851	6	-178.418	2	
1275	18	max	27.751	4	-137.674	6	-12.171	6	0	6	9.753	4	-89.367	6	
1276		min	20.058	6	-183.241	2	-15.025	4	0	1	7.9	6	-118.946	2	
1277	19	max	27.751	4	-137.674	6	-12.171	6	0	6	4.876	4	-44.684	6	
1278		min	20.058	6	-183.241	2	-15.025	4	0	1	3.95	6	-59.473	2	
1279	20	max	27.751	4	-137.674	6	-12.171	6	0	6	0	6	0	6	
1280		min	20.058	6	-183.241	2	-15.025	4	0	1	0	1	0	1	
1281	M33	1	max	-6.606	6	10.38	3	0.715	4	0	6	0	6	0	6
1282		min	-9.444	4	5.358	1	0.568	6	0	1	0	1	0	1	
1283	2	max	-6.606	6	10.38	3	0.715	4	0	6	0.203	4	-1.52	1	
1284		min	-9.444	4	5.358	1	0.568	6	0	1	0.161	6	-2.946	3	
1285	3	max	-6.606	6	10.38	3	0.715	4	0	6	0.406	4	-3.041	1	
1286		min	-9.444	4	5.358	1	0.568	6	0	1	0.322	6	-5.891	3	
1287	4	max	-6.606	6	10.38	3	0.715	4	0	6	0.609	4	-4.561	1	
1288		min	-9.444	4	5.358	1	0.568	6	0	1	0.484	6	-8.837	3	
1289	5	max	-6.606	6	10.38	3	0.715	4	0	6	0.812	4	-6.081	1	
1290		min	-9.444	4	5.358	1	0.568	6	0	1	0.645	6	-11.782	3	
1291	6	max	-6.606	6	10.38	3	0.715	4	0	6	1.014	4	-7.602	1	
1292		min	-9.444	4	5.358	1	0.568	6	0	1	0.806	6	-14.728	3	
1293	7	max	-6.606	6	10.38	3	0.715	4	0	6	1.217	4	-9.122	1	
1294		min	-9.444	4	5.358	1	0.568	6	0	1	0.967	6	-17.673	3	
1295	8	max	-6.606	6	10.38	3	0.715	4	0	6	1.42	4	-10.642	1	
1296		min	-9.444	4	5.358	1	0.568	6	0	1	1.129	6	-20.619	3	
1297	9	max	-6.606	6	10.38	3	0.715	4	0	6	1.623	4	-12.163	1	
1298		min	-9.444	4	5.358	1	0.568	6	0	1	1.29	6	-23.564	3	
1299	10	max	-6.606	6	10.38	3	0.715	4	0	6	1.826	4	-13.683	1	
1300		min	-9.444	4	5.358	1	0.568	6	0	1	1.451	6	-26.51	3	
1301	11	max	-6.606	6	10.38	3	0.715	4	0	6	2.029	4	-15.204	1	
1302		min	-9.444	4	5.358	1	0.568	6	0	1	1.612	6	-29.456	3	
1303	12	max	-6.606	6	10.38	3	0.715	4	0	6	2.232	4	-16.724	1	
1304		min	-9.444	4	5.358	1	0.568	6	0	1	1.774	6	-32.401	3	
1305	13	max	-6.606	6	10.38	3	0.715	4	0	6	2.435	4	-18.244	1	
1306		min	-9.444	4	5.358	1	0.568	6	0	1	1.935	6	-35.347	3	
1307	14	max	-6.606	6	10.38	3	0.715	4	0	6	2.638	4	-19.765	1	
1308		min	-9.444	4	5.358	1	0.568	6	0	1	2.096	6	-38.292	3	
1309	15	max	-6.606	6	10.38	3	0.715	4	0	6	2.841	4	-21.285	1	
1310		min	-9.444	4	5.358	1	0.568	6	0	1	2.257	6	-41.238	3	
1311	16	max	-6.606	6	10.38	3	0.715	4	0	6	3.043	4	-22.805	1	
1312		min	-9.444	4	5.358	1	0.568	6	0	1	2.419	6	-44.183	3	
1313	17	max	-6.606	6	10.38	3	0.715	4	0	6	3.246	4	-24.326	1	





**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
1314		min	-9.444	4	5.358	1	0.568	6	0	1	2.58	6	-47.129	3
1315	18	max	-6.606	6	10.38	3	0.715	4	0	6	3.449	4	-25.846	1
1316		min	-9.444	4	5.358	1	0.568	6	0	1	2.741	6	-50.075	3
1317	19	max	-6.606	6	10.38	3	0.715	4	0	6	3.652	4	-27.366	1
1318		min	-9.444	4	5.358	1	0.568	6	0	1	2.902	6	-53.02	3
1319	20	max	-6.606	6	10.38	3	0.715	4	0	6	3.855	4	-28.887	1
1320		min	-9.444	4	5.358	1	0.568	6	0	1	3.063	6	-55.966	3

**Envelope Maximum Member Section Forces**

Member	Axial[k]	Loc[ft]	LCy	Shear[k]	Loc[ft]	LCz	Shear[k]	Loc[ft]	LC Torque[k-ft]	Loc[ft]	LCy-y Moment[k-ft]	Loc[ft]	LCz-z Moment[k-ft]	Loc[ft]	LC		
1	A1	max	0	2.029	6	0	0	6	0	2.029	6	0	2.029	6	7.762	2.029	3
2		min	0	0	1	-7.65	2.029	3	0	0	1	0	0	1	0	0	1
3	A2	max	-4.242	0	6	-17.717	0	1	7.217	0	4	-20.537	0	1	6.925	0.851	4
4		min	-9.449	2.378	4	-99.583	2.378	2	-12.959	2.378	4	-163.115	2.378	5	-2.973	2.378	4
5	A3	max	5.209	0	4	114.458	0	2	31.684	0	4	218.901	0	5	19.726	3.696	4
6		min	-5.206	7.47	4	-122.304	7.47	2	-31.685	7.47	4	-218.897	7.47	5	-39.441	7.47	4
7	A4	max	5.207	0	4	119.355	0	2	31.687	0	4	218.899	0	5	19.717	3.774	4
8		min	-5.207	7.47	4	-117.406	7.47	2	-31.683	7.47	4	-218.899	7.47	5	-39.456	0	4
9	A5	max	5.207	0	4	118.15	0	2	31.687	0	4	218.899	0	5	19.717	3.774	4
10		min	-5.207	7.47	4	-118.611	7.47	2	-31.683	7.47	4	-218.899	7.47	5	-39.456	0	4
11	A6	max	5.207	0	4	118.388	0	2	31.687	0	4	218.899	0	5	19.717	3.774	4
12		min	-5.207	7.47	4	-118.373	7.47	2	-31.683	7.47	4	-218.899	7.47	5	-39.456	0	4
13	A7	max	5.207	0	4	118.58	0	2	31.687	0	4	218.899	0	5	19.717	3.774	4
14		min	-5.207	7.47	4	-118.181	7.47	2	-31.683	7.47	4	-218.899	7.47	5	-39.456	0	4
15	A8	max	5.207	0	4	117.522	0	2	31.687	0	4	218.898	0	5	19.717	3.774	4
16		min	-5.207	7.47	4	-121.872	7.47	2	-31.683	7.47	4	-218.9	7.47	5	-39.456	0	4
17	A9	max	5.207	0	4	126.646	0	2	31.687	0	4	218.899	0	5	19.717	3.774	4
18		min	-5.207	7.47	4	-127.306	7.47	2	-31.683	7.47	4	-218.899	7.47	5	-39.456	0	4
19	A10	max	5.207	0	4	124.709	0	2	31.687	0	4	218.9	0	5	19.717	3.774	4
20		min	-5.207	7.47	4	-118.263	7.47	2	-31.683	7.47	4	-218.898	7.47	5	-39.456	0	4
21	A11	max	5.207	0	4	118.314	0	2	31.687	0	4	218.899	0	5	19.717	3.774	4
22		min	-5.207	7.47	4	-118.447	7.47	2	-31.683	7.47	4	-218.899	7.47	5	-39.456	0	4
23	A12	max	5.207	0	4	118.382	0	2	31.687	0	4	218.899	0	5	19.717	3.774	4
24		min	-5.207	7.47	4	-118.379	7.47	2	-31.683	7.47	4	-218.899	7.47	5	-39.456	0	4
25	A13	max	5.207	0	4	118.441	0	2	31.687	0	4	218.899	0	5	19.717	3.774	4
26		min	-5.207	7.47	4	-118.32	7.47	2	-31.683	7.47	4	-218.899	7.47	5	-39.456	0	4
27	A14	max	5.207	0	4	118.12	0	2	31.687	0	4	218.899	0	5	19.717	3.774	4
28		min	-5.207	7.47	4	-118.641	7.47	2	-31.683	7.47	4	-218.899	7.47	5	-39.456	0	4
29	A15	max	5.219	0	4	119.428	0	2	31.69	0	4	218.895	0	5	19.728	3.774	4
30		min	-5.196	7.47	4	-117.333	7.47	2	-31.679	7.47	4	-218.903	7.47	5	-39.458	0	4
31	A16	max	13.024	0	4	122.329	0	2	21.154	0	4	147.623	0	5	16.326	2.504	4
32		min	5.12	3.837	6	-0.119	3.837	1	-11.393	3.837	4	-108.787	3.837	3	-10.049	0	4
33	A17	max	0	2.125	6	8.011	0	3	0	2.125	6	0	2.125	6	8.512	0	3
34		min	0	0	1	0	2.125	1	0	0	1	0	0	1	0	2.125	1
35	R1	max	13.483	3.3	4	-32.128	3.3	1	-2.075	3.3	6	0	3.3	6	8.676	0	4
36		min	9.316	0	6	-46.623	0	3	-2.629	0	4	0	0	1	0	3.3	1
37	R2	max	32.842	6.167	4	51.108	3.83	2	11.656	3.83	4	0	6.167	6	44.641	3.83	4
38		min	-19.991	0	4	-188.554	3.895	2	-6.564	3.895	4	0	0	1	0	0	1
39	R3	max	39.394	6.167	4	34.714	3.83	2	3.942	3.83	4	0	6.167	6	15.098	3.83	4
40		min	-23.979	0	4	-203.355	3.895	2	-6.484	3.895	4	0	0	1	0	0	1
41	R4	max	39.392	6.167	4	34.097	3.83	2	3.938	3.83	4	0	6.167	6	15.082	3.83	4
42		min	-23.978	0	4	-202.343	3.895	2	-6.477	3.895	4	0	0	1	0	0	1
43	R5	max	39.392	6.167	4	34.241	3.83	2	3.938	3.83	4	0	6.167	6	15.082	3.83	4
44		min	-23.978	0	4	-202.58	3.895	2	-6.477	3.895	4	0	0	1	0	0	1
45	R6	max	39.392	6.167	4	34.244	3.83	2	3.938	3.83	4	0	6.167	6	15.082	3.83	4
46		min	-23.978	0	4	-202.585	3.895	2	-6.477	3.895	4	0	0	1	0	0	1
47	R7	max	39.397	6.167	4	34.149	3.83	2	3.919	3.83	4	0	6.167	6	15.008	3.83	4
48		min	-23.981	0	4	-202.428	3.895	2	-6.445	3.895	4	0	0	1	0	0	1



**Envelope Maximum Member Section Forces (Continued)**

Member	Axial[k]	Loc[ft]	LCy	Shear[k]	Loc[ft]	LCz	Shear[k]	Loc[ft]	LC	Torque[k-ft]	Loc[ft]	LCy-y	Moment[k-ft]	Loc[ft]	LCz-z	Moment[k-ft]	Loc[ft]	LC		
49	R8	max	39.392	6.167	4	39.99	3.83	2	3.938	3.83	4	0	6.167	6	15.082	3.83	4	30.95	3.83	5
50		min	-23.978	0	4	-212.025	3.895	2	-6.477	3.895	4	0	0	1	0	0	1	-481.706	3.895	2
51	R9	max	39.392	6.167	4	38.667	3.83	2	3.938	3.83	4	0	6.167	6	15.082	3.83	4	34.975	3.83	5
52		min	-23.978	0	4	-209.851	3.895	2	-6.477	3.895	4	0	0	1	0	0	1	-476.766	3.895	2
53	R10	max	39.392	6.167	4	33.818	3.83	2	3.938	3.83	4	0	6.167	6	15.082	3.83	4	49.85	3.83	5
54		min	-23.978	0	4	-201.885	3.895	2	-6.477	3.895	4	0	0	1	0	0	1	-458.667	3.895	2
55	R11	max	39.392	6.167	4	34.291	3.83	2	3.938	3.83	4	0	6.167	6	15.082	3.83	4	48.345	3.83	5
56		min	-23.978	0	4	-202.662	3.895	2	-6.477	3.895	4	0	0	1	0	0	1	-460.434	3.895	2
57	R12	max	39.392	6.167	4	34.308	3.83	2	3.938	3.83	4	0	6.167	6	15.082	3.83	4	48.508	3.83	5
58		min	-23.978	0	4	-202.69	3.895	2	-6.477	3.895	4	0	0	1	0	0	1	-460.498	3.895	2
59	R13	max	39.392	6.167	4	33.763	3.83	2	3.938	3.83	4	0	6.167	6	15.082	3.83	4	49.318	3.83	5
60		min	-23.978	0	4	-201.793	3.895	2	-6.477	3.895	4	0	0	1	0	0	1	-458.46	3.895	2
61	R14	max	39.394	6.167	4	36.071	3.83	2	3.938	3.83	4	0	6.167	6	15.08	3.83	4	45.703	3.83	5
62		min	-23.979	0	4	-205.587	3.895	2	-6.475	3.895	4	0	0	1	0	0	1	-467.08	3.895	2
63	R15	max	27.751	6.167	4	30.8	3.83	2	0.544	3.83	6	0	6.167	6	34.135	3.895	4	28.666	3.83	5
64		min	-16.892	0	4	-183.241	3.895	2	-15.025	3.895	4	0	0	1	-3.692	3.83	3	-416.31	3.895	2
65	M33	max	-6.606	5.392	6	10.38	5.392	3	0.715	5.392	4	0	5.392	6	3.855	5.392	4	0	0	6
66		min	-9.444	0	4	5.358	0	1	0.568	0	6	0	0	1	0	0	1	-55.966	5.392	3

**Envelope Member End Reactions**

Member	Member End	Axial[k]	LC	y	Shear[k]	LC	z	Shear[k]	LC	Torque[k-ft]	LC	y-y	Moment[k-ft]	LC	z-z	Moment[k-ft]	LC
1	A1	I	max	0	6	0	6	0	6	0	6	0	0	6	0	6	6
2			min	0	1	0	1	0	1	0	1	0	0	1	0	1	1
3		J	max	0	6	-4.59	1	0	6	0	6	0	0	6	7.762	3	
4			min	0	1	-7.65	3	0	1	0	1	0	0	1	4.657	1	
5	A2	I	max	-4.242	6	-17.717	1	7.217	4	-20.537	1	3.855	4	-15.657	1	1	
6			min	-6.133	4	-28.077	3	5.096	6	-39.789	3	3.063	6	-31.595	3	3	
7		J	max	-7.537	6	-68.506	5	-9.44	6	-112.523	6	-2.102	6	123.922	2	2	
8			min	-9.449	4	-99.583	2	-12.959	4	-163.115	5	-2.973	4	86.298	5	5	
9	A3	I	max	5.209	4	114.458	2	31.684	4	218.901	5	-28.414	6	123.922	2	2	
10			min	3.918	3	75.433	5	22.828	6	137.834	6	-39.436	4	86.298	5	5	
11		J	max	-3.916	3	-78.649	5	-22.827	6	-137.834	6	-28.413	6	153.227	2	2	
12			min	-5.206	4	-122.304	2	-31.685	4	-218.897	5	-39.441	4	98.31	5	5	
13	A4	I	max	5.207	4	119.355	2	31.687	4	218.899	5	-28.429	6	153.227	2	2	
14			min	3.917	3	77.44	5	22.83	6	137.834	6	-39.456	4	98.31	5	5	
15		J	max	-3.917	3	-76.643	5	-22.825	6	-137.834	6	-28.412	6	145.946	2	2	
16			min	-5.207	4	-117.406	2	-31.683	4	-218.899	5	-39.439	4	95.335	5	5	
17	A5	I	max	5.207	4	118.15	2	31.687	4	218.899	5	-28.429	6	145.946	2	2	
18			min	3.917	3	76.952	5	22.83	6	137.834	6	-39.456	4	95.335	5	5	
19		J	max	-3.917	3	-77.13	5	-22.825	6	-137.834	6	-28.412	6	147.667	2	2	
20			min	-5.207	4	-118.611	2	-31.683	4	-218.899	5	-39.439	4	96.001	5	5	
21	A6	I	max	5.207	4	118.388	2	31.687	4	218.899	5	-28.429	6	147.667	2	2	
22			min	3.917	3	77.023	5	22.83	6	137.834	6	-39.456	4	96.001	5	5	
23		J	max	-3.917	3	-77.059	5	-22.825	6	-137.834	6	-28.412	6	147.613	2	2	
24			min	-5.207	4	-118.373	2	-31.683	4	-218.899	5	-39.439	4	96.136	5	5	
25	A7	I	max	5.207	4	118.58	2	31.687	4	218.899	5	-28.429	6	147.613	2	2	
26			min	3.917	3	77.207	5	22.83	6	137.834	6	-39.456	4	96.136	5	5	
27		J	max	-3.917	3	-76.875	5	-22.825	6	-137.834	6	-28.412	6	146.121	2	2	
28			min	-5.207	4	-118.181	2	-31.683	4	-218.899	5	-39.439	4	94.896	5	5	
29	A8	I	max	5.207	4	117.522	2	31.687	4	218.898	5	-28.429	6	146.121	2	2	
30			min	3.917	3	76.352	5	22.83	6	137.834	6	-39.456	4	94.896	5	5	
31		J	max	-3.917	3	-79.836	5	-22.825	6	-137.835	6	-28.412	6	154.041	2	2	
32			min	-5.207	4	-121.872	2	-31.683	4	-218.9	5	-39.439	4	101.248	5	5	
33	A9	I	max	5.207	4	126.646	2	31.687	4	218.899	5	-28.429	6	154.041	2	2	
34			min	3.917	3	83.657	5	22.83	6	137.834	6	-39.456	4	101.248	5	5	
35		J	max	-3.917	3	-84.178	5	-22.825	6	-137.834	6	-28.412	6	156.506	2	2	
36			min	-5.207	4	-127.306	2	-31.683	4	-218.899	5	-39.439	4	103.197	5	5	
37	A10	I	max	5.207	4	124.709	2	31.687	4	218.9	5	-28.429	6	156.506	2	2	

**Envelope Member End Reactions (Continued)**

Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
38		min	3.917	3	82.093	5	22.83	6	137.835	6	-39.456	4	103.197	5
39		max	-3.917	3	-76.959	5	-22.825	6	-137.833	6	-28.412	6	147.247	2
40		min	-5.207	4	-118.263	2	-31.683	4	-218.898	5	-39.439	4	95.875	5
41	A11	max	5.207	4	118.314	2	31.687	4	218.899	5	-28.429	6	146.97	2
42		min	3.917	3	76.978	5	22.83	6	137.834	6	-39.456	4	95.52	5
43		max	-3.917	3	-77.105	5	-22.825	6	-137.835	6	-28.412	6	147.464	2
44		min	-5.207	4	-118.447	2	-31.683	4	-218.899	5	-39.439	4	95.993	5
45	A12	max	5.207	4	118.382	2	31.687	4	218.899	5	-28.429	6	147.464	2
46		min	3.917	3	77.042	5	22.83	6	137.834	6	-39.456	4	95.993	5
47		max	-3.917	3	-77.041	5	-22.825	6	-137.834	6	-28.412	6	147.455	2
48		min	-5.207	4	-118.379	2	-31.683	4	-218.899	5	-39.439	4	95.987	5
49	A13	max	5.207	4	118.441	2	31.687	4	218.899	5	-28.429	6	147.455	2
50		min	3.917	3	77.102	5	22.83	6	137.834	6	-39.456	4	95.987	5
51		max	-3.917	3	-76.981	5	-22.825	6	-137.834	6	-28.412	6	147.001	2
52		min	-5.207	4	-118.32	2	-31.683	4	-218.899	5	-39.439	4	95.537	5
53	A14	max	5.207	4	118.12	2	31.687	4	218.899	5	-28.429	6	147.001	2
54		min	3.917	3	76.783	5	22.83	6	137.834	6	-39.456	4	95.537	5
55		max	-3.917	3	-77.299	5	-22.825	6	-137.834	6	-28.412	6	148.944	2
56		min	-5.207	4	-118.641	2	-31.683	4	-218.899	5	-39.439	4	97.463	5
57	A15	max	5.219	4	119.428	2	31.69	4	218.895	5	-28.43	6	148.944	2
58		min	3.929	3	78.079	5	22.832	6	137.83	6	-39.458	4	97.463	5
59		max	-3.906	3	-76.003	5	-22.823	6	-137.838	6	-28.395	6	141.12	2
60		min	-5.196	4	-117.333	2	-31.679	4	-218.903	5	-39.415	4	89.707	5
61	A16	max	13.024	4	122.329	2	21.154	4	147.623	5	-7.23	6	141.12	2
62		min	10.437	6	81.602	5	15.394	6	63.097	6	-10.049	4	89.707	5
63		max	7.675	4	6.724	3	-8.055	6	-74.965	1	8.676	4	-69.858	1
64		min	5.12	6	-0.119	1	-11.393	4	-108.787	3	6.849	6	-100.275	3
65	A17	max	0	6	8.011	3	0	6	0	6	0	6	8.512	3
66		min	0	1	4.807	1	0	1	0	1	0	1	5.107	1
67		max	0	6	0	6	0	6	0	6	0	6	0	6
68		min	0	1	0	1	0	1	0	1	0	1	0	1
69	R1	max	13.483	4	-32.128	1	-2.075	6	0	6	8.676	4	-106.016	1
70		min	9.316	6	-46.623	3	-2.629	4	0	1	6.849	6	-153.848	3
71		max	13.483	4	-32.128	1	-2.075	6	0	6	0	6	0	6
72		min	9.316	6	-46.623	3	-2.629	4	0	1	0	1	0	1
73	R2	max	-14.46	6	51.108	2	11.656	4	0	6	0	6	0	6
74		min	-19.991	4	0.198	5	9.337	6	0	1	0	1	0	1
75		max	32.842	4	-140.843	6	-5.131	3	0	6	0	6	0	6
76		min	23.756	6	-188.554	2	-6.564	4	0	1	0	1	0	1
77	R3	max	-17.276	6	34.714	2	3.942	4	0	6	0	6	0	6
78		min	-23.979	4	-12.202	5	2.966	3	0	1	0	1	0	1
79		max	39.394	4	-151.155	6	-4.88	3	0	6	0	6	0	6
80		min	28.382	6	-203.355	2	-6.484	4	0	1	0	1	0	1
81	R4	max	-17.275	6	34.097	2	3.938	4	0	6	0	6	0	6
82		min	-23.978	4	-12.813	5	2.962	3	0	1	0	1	0	1
83		max	39.392	4	-150.58	6	-4.872	3	0	6	0	6	0	6
84		min	28.38	6	-202.343	2	-6.477	4	0	1	0	1	0	1
85	R5	max	-17.275	6	34.241	2	3.938	4	0	6	0	6	0	6
86		min	-23.978	4	-12.67	5	2.962	3	0	1	0	1	0	1
87		max	39.392	4	-150.711	6	-4.872	3	0	6	0	6	0	6
88		min	28.38	6	-202.58	2	-6.477	4	0	1	0	1	0	1
89	R6	max	-17.275	6	34.244	2	3.938	4	0	6	0	6	0	6
90		min	-23.978	4	-12.669	5	2.962	3	0	1	0	1	0	1
91		max	39.392	4	-150.729	6	-4.872	3	0	6	0	6	0	6
92		min	28.38	6	-202.585	2	-6.477	4	0	1	0	1	0	1
93	R7	max	-17.278	6	34.149	2	3.919	4	0	6	0	6	0	6
94		min	-23.981	4	-12.748	5	2.944	3	0	1	0	1	0	1
95		max	39.397	4	-150.6	6	-4.842	3	0	6	0	6	0	6

**Envelope Member End Reactions (Continued)**

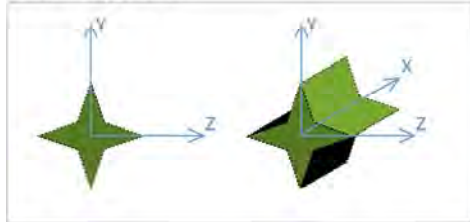
Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
96		min	28.385	6	-202.428	2	-6.445	4	0	1	0	1	0	1
97	R8	max	-17.275	6	39.99	2	3.938	4	0	6	0	6	0	6
98		min	-23.978	4	-8.081	5	2.962	3	0	1	0	1	0	1
99		max	39.392	4	-158.279	6	-4.872	3	0	6	0	6	0	6
100		min	28.38	6	-212.025	2	-6.477	4	0	1	0	1	0	1
101	R9	max	-17.275	6	38.667	2	3.938	4	0	6	0	6	0	6
102		min	-23.978	4	-9.132	5	2.962	3	0	1	0	1	0	1
103		max	39.392	4	-156.54	6	-4.872	3	0	6	0	6	0	6
104		min	28.38	6	-209.851	2	-6.477	4	0	1	0	1	0	1
105	R10	max	-17.275	6	33.818	2	3.938	4	0	6	0	6	0	6
106		min	-23.978	4	-13.016	5	2.962	3	0	1	0	1	0	1
107		max	39.392	4	-150.165	6	-4.872	3	0	6	0	6	0	6
108		min	28.38	6	-201.885	2	-6.477	4	0	1	0	1	0	1
109	R11	max	-17.275	6	34.291	2	3.938	4	0	6	0	6	0	6
110		min	-23.978	4	-12.623	5	2.962	3	0	1	0	1	0	1
111		max	39.392	4	-150.796	6	-4.872	3	0	6	0	6	0	6
112		min	28.38	6	-202.662	2	-6.477	4	0	1	0	1	0	1
113	R12	max	-17.275	6	34.308	2	3.938	4	0	6	0	6	0	6
114		min	-23.978	4	-12.666	5	2.962	3	0	1	0	1	0	1
115		max	39.392	4	-150.783	6	-4.872	3	0	6	0	6	0	6
116		min	28.38	6	-202.69	2	-6.477	4	0	1	0	1	0	1
117	R13	max	-17.275	6	33.763	2	3.938	4	0	6	0	6	0	6
118		min	-23.978	4	-12.877	5	2.962	3	0	1	0	1	0	1
119		max	39.392	4	-150.206	6	-4.872	3	0	6	0	6	0	6
120		min	28.38	6	-201.793	2	-6.477	4	0	1	0	1	0	1
121	R14	max	-17.276	6	36.071	2	3.938	4	0	6	0	6	0	6
122		min	-23.979	4	-11.933	5	2.962	3	0	1	0	1	0	1
123		max	39.394	4	-152.675	6	-4.871	3	0	6	0	6	0	6
124		min	28.382	6	-205.587	2	-6.475	4	0	1	0	1	0	1
125	R15	max	-12.209	6	30.8	2	0.544	6	0	6	0	6	0	6
126		min	-16.892	4	-7.485	5	-0.964	3	0	1	0	1	0	1
127		max	27.751	4	-137.674	6	-12.171	6	0	6	0	6	0	6
128		min	20.058	6	-183.241	2	-15.025	4	0	1	0	1	0	1
129	M33	max	-6.606	6	10.38	3	0.715	4	0	6	0	6	0	6
130		min	-9.444	4	5.358	1	0.568	6	0	1	0	1	0	1
131		max	-6.606	6	10.38	3	0.715	4	0	6	3.855	4	-28.887	1
132		min	-9.444	4	5.358	1	0.568	6	0	1	3.063	6	-55.966	3



**Detail Report: R1**

**Unity Check:** No Calc

**Load Combination:** Envelope

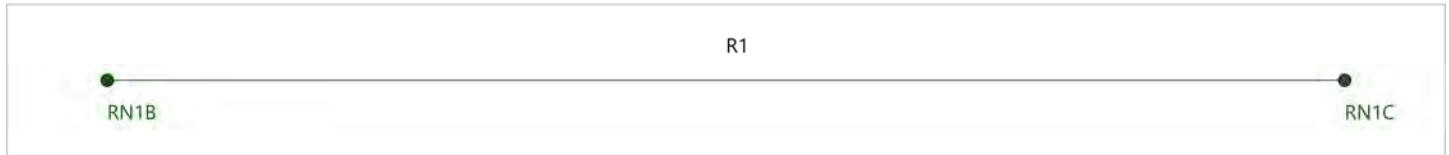


**Input Data:**

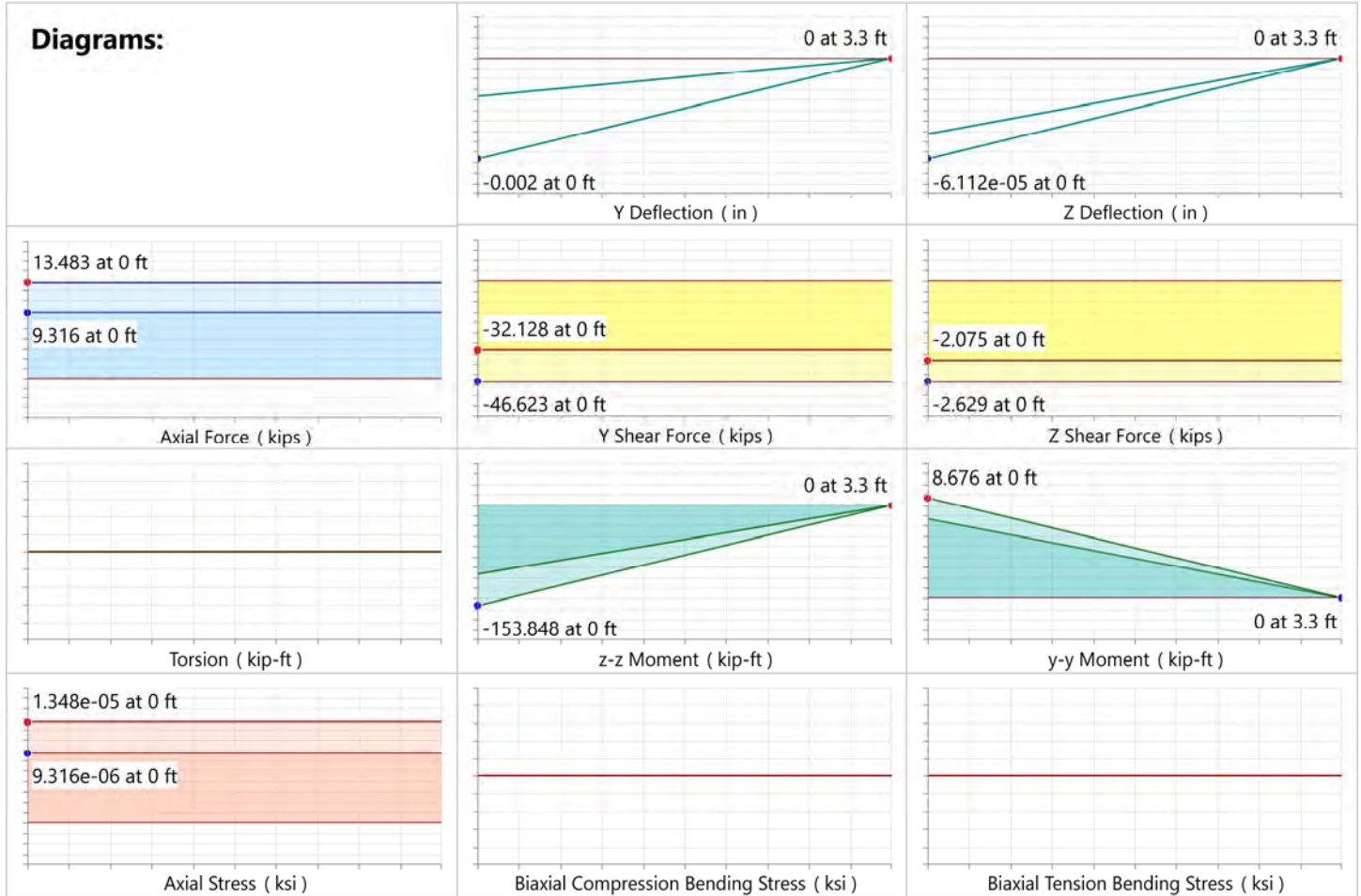
Shape:		I Node:	RN1B
Member Type:	None	J Node:	RN1C
Length (ft):	3.3	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



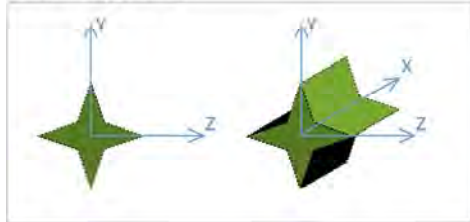
**Diagrams:**



**Detail Report: R2**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

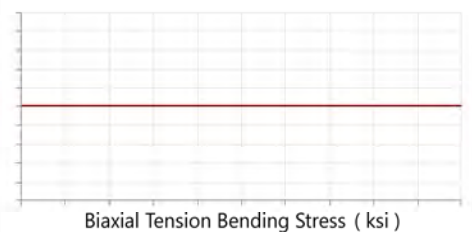
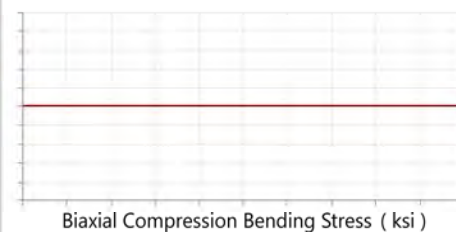
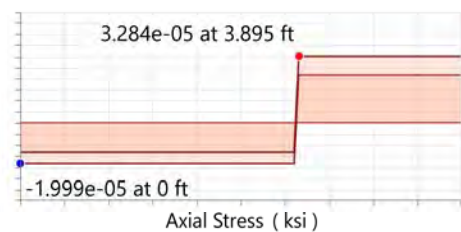
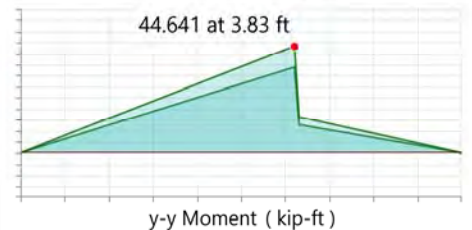
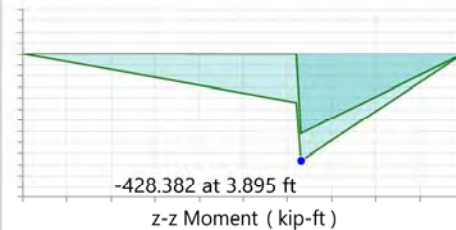
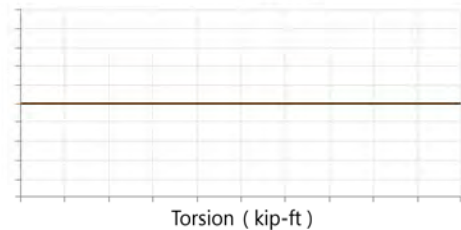
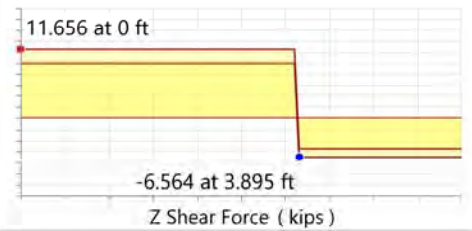
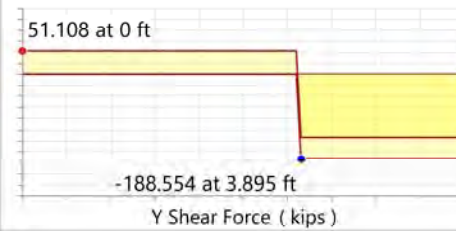
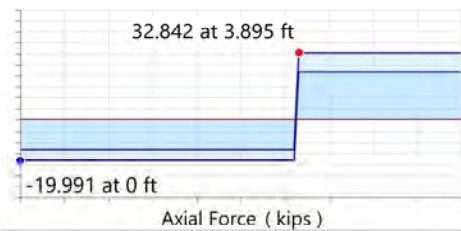
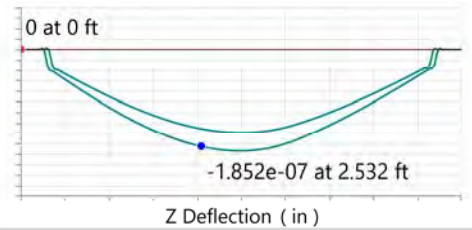
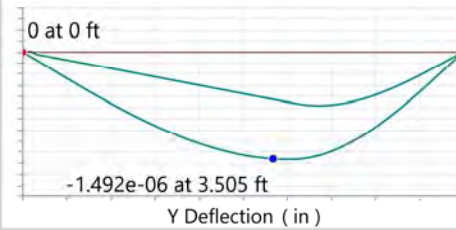
Shape:		I Node:	RN2A
Member Type:	None	J Node:	RN2C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



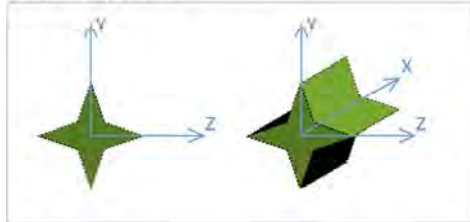
**Diagrams:**



**Detail Report: R3**

**Unity Check: No Calc**

**Load Combination: Envelope**

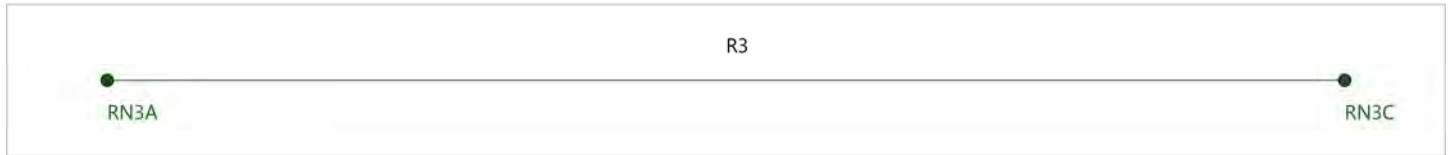


**Input Data:**

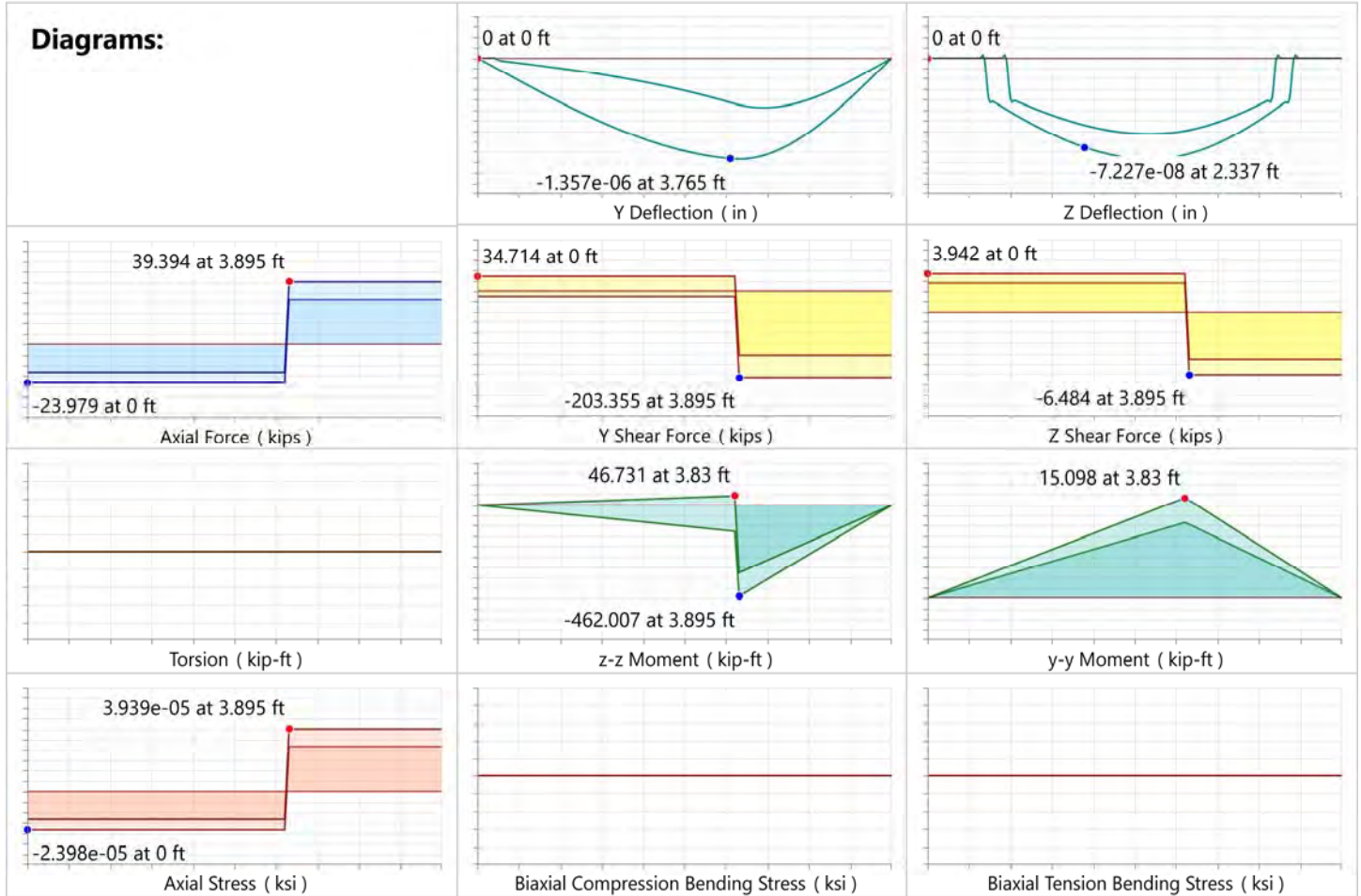
Shape:		I Node:	RN3A
Member Type:	None	J Node:	RN3C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



**Diagrams:**

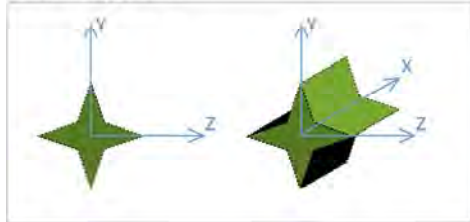




**Detail Report: R4**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

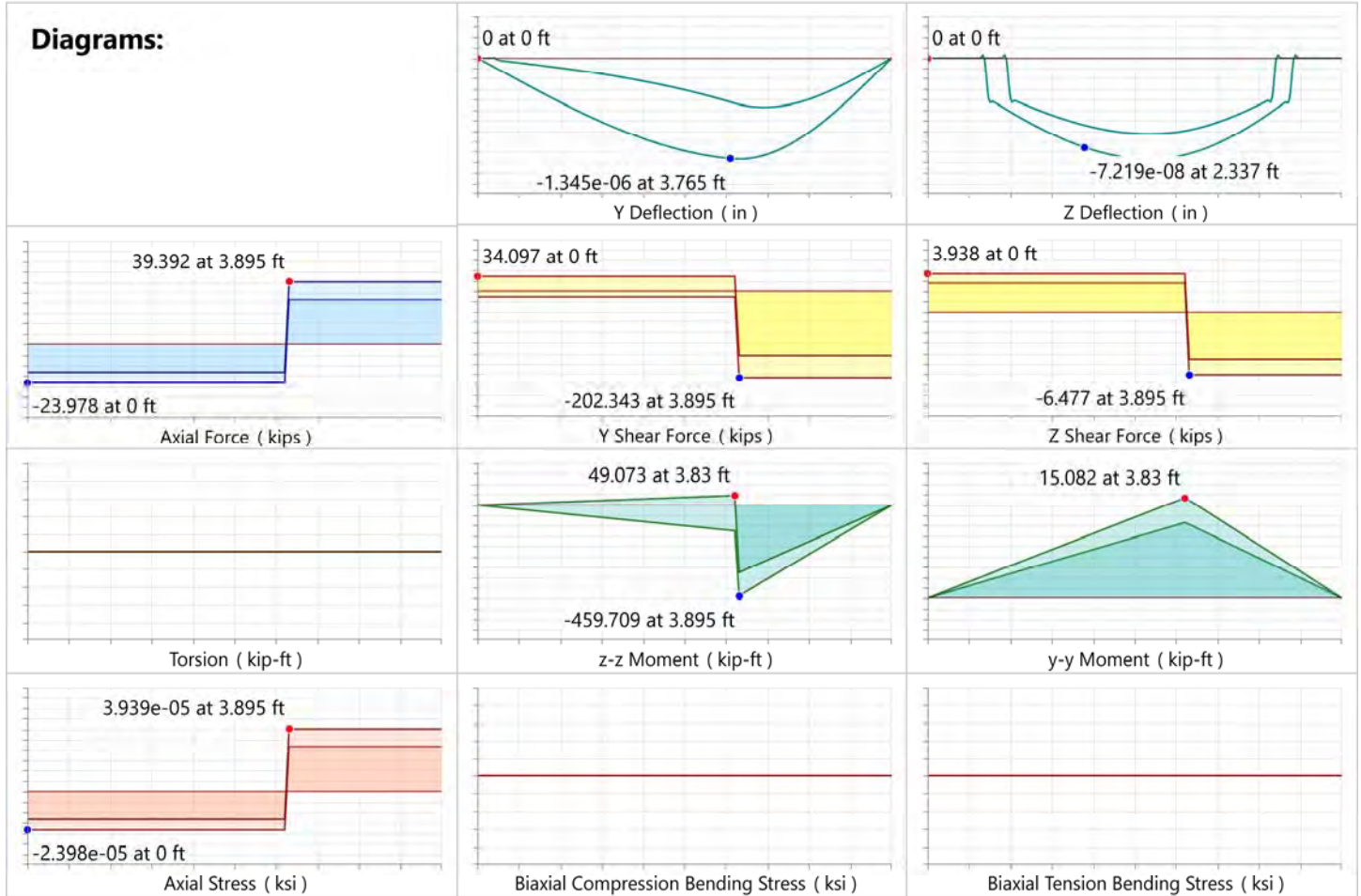
Shape:		I Node:	RN4A
Member Type:	None	J Node:	RN4C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



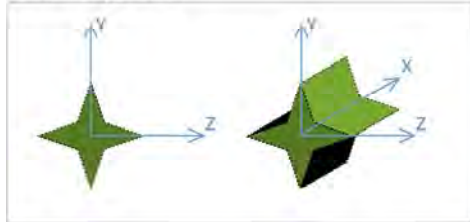
**Diagrams:**



**Detail Report: R5**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

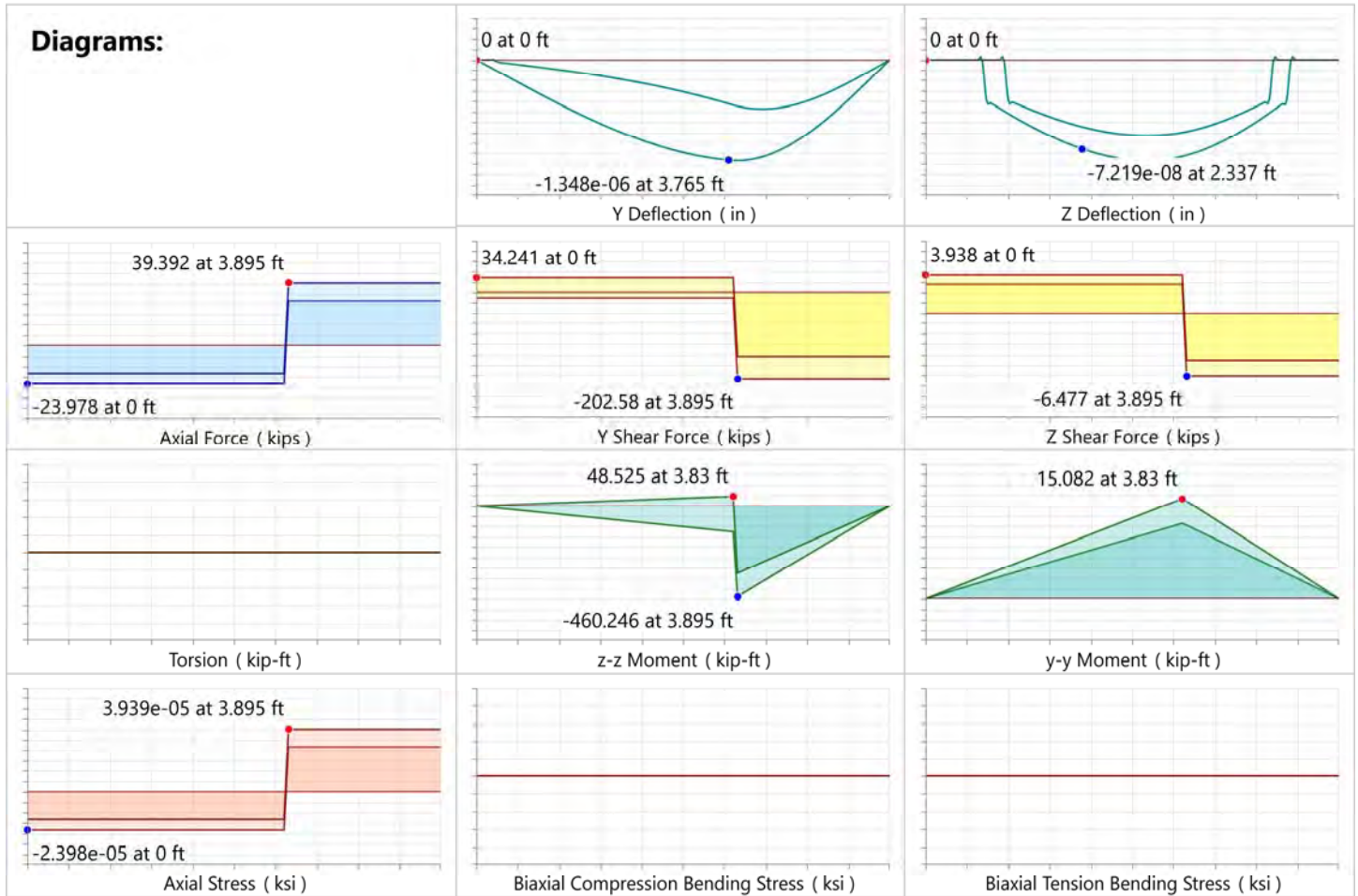
Shape:		I Node:	RN5A
Member Type:	None	J Node:	RN5C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



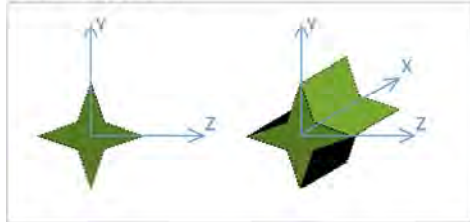
**Diagrams:**



**Detail Report: R6**

**Unity Check: No Calc**

**Load Combination: Envelope**



**Input Data:**

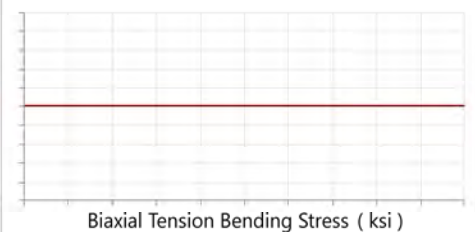
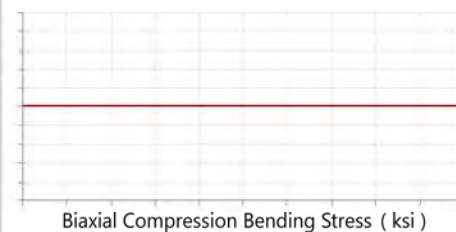
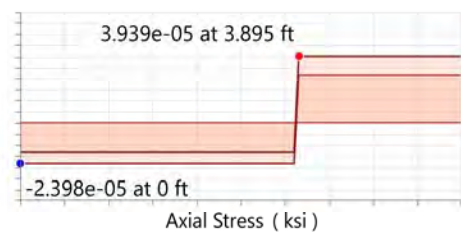
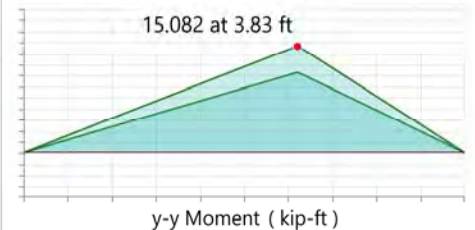
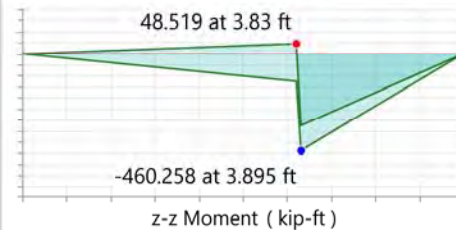
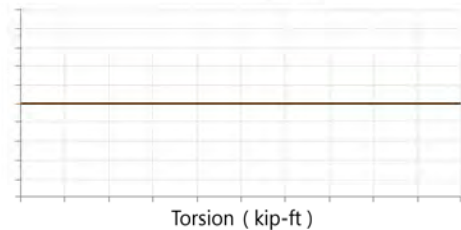
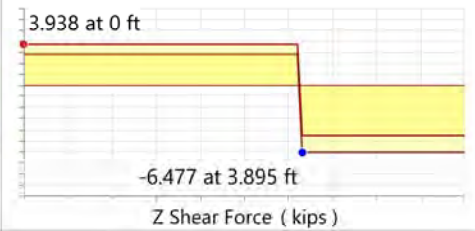
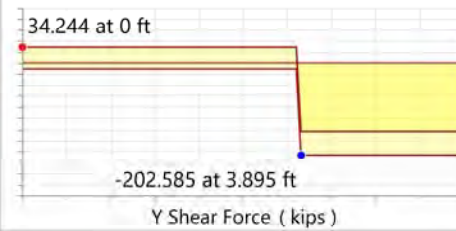
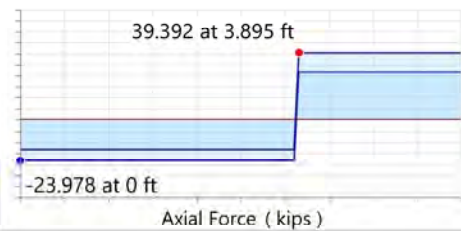
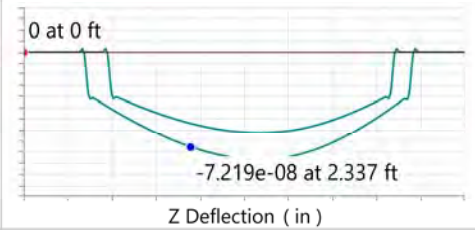
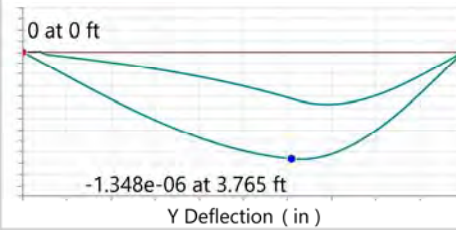
Shape:		I Node:	RN6A
Member Type:	None	J Node:	RN6C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



**Diagrams:**

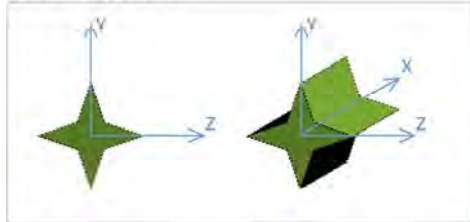




**Detail Report: R7**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

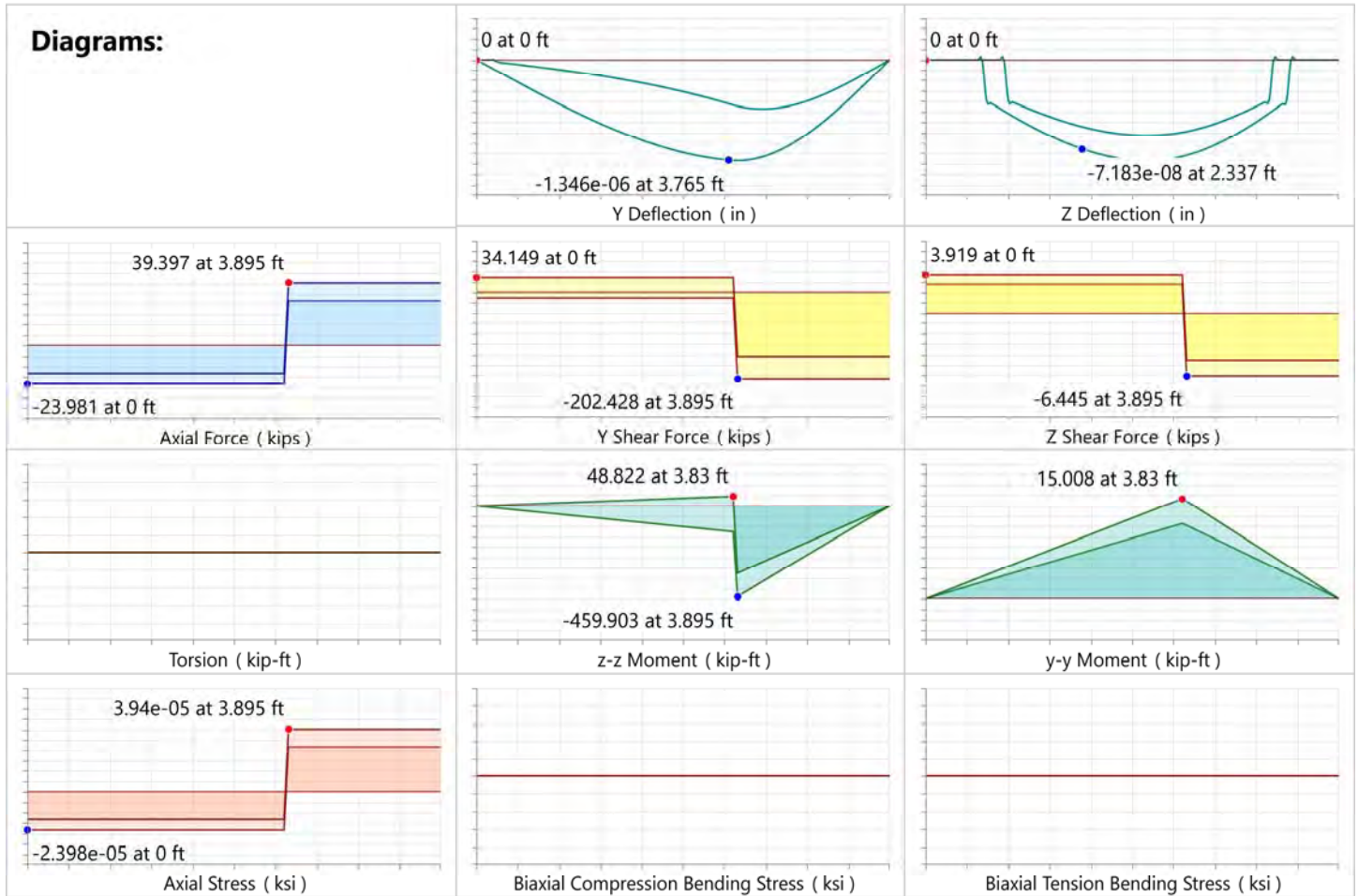
Shape:		I Node:	RN7A
Member Type:	None	J Node:	RN7C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



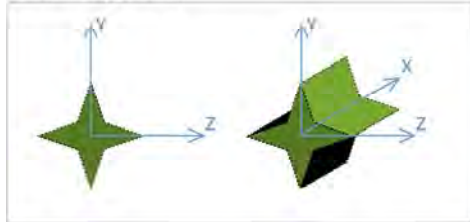
**Diagrams:**



**Detail Report: R8**

**Unity Check: No Calc**

**Load Combination: Envelope**



**Input Data:**

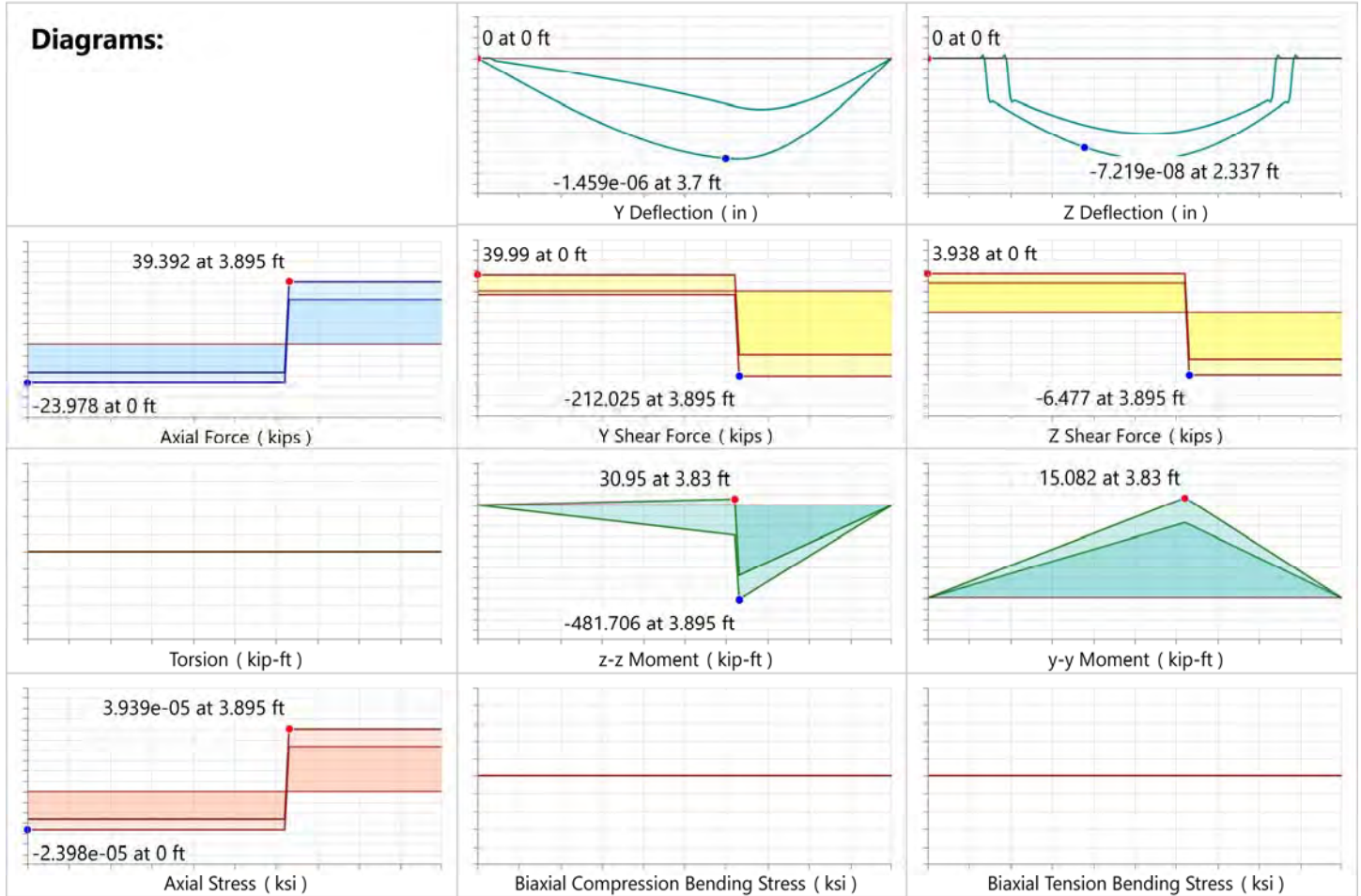
Shape:		I Node:	RN8A
Member Type:	None	J Node:	RN8C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



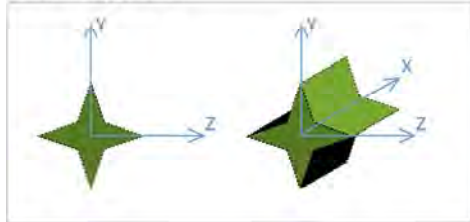
**Diagrams:**



**Detail Report: R9**

**Unity Check: No Calc**

**Load Combination: Envelope**

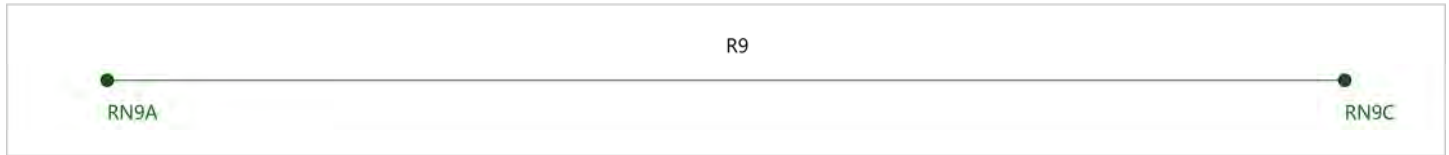


**Input Data:**

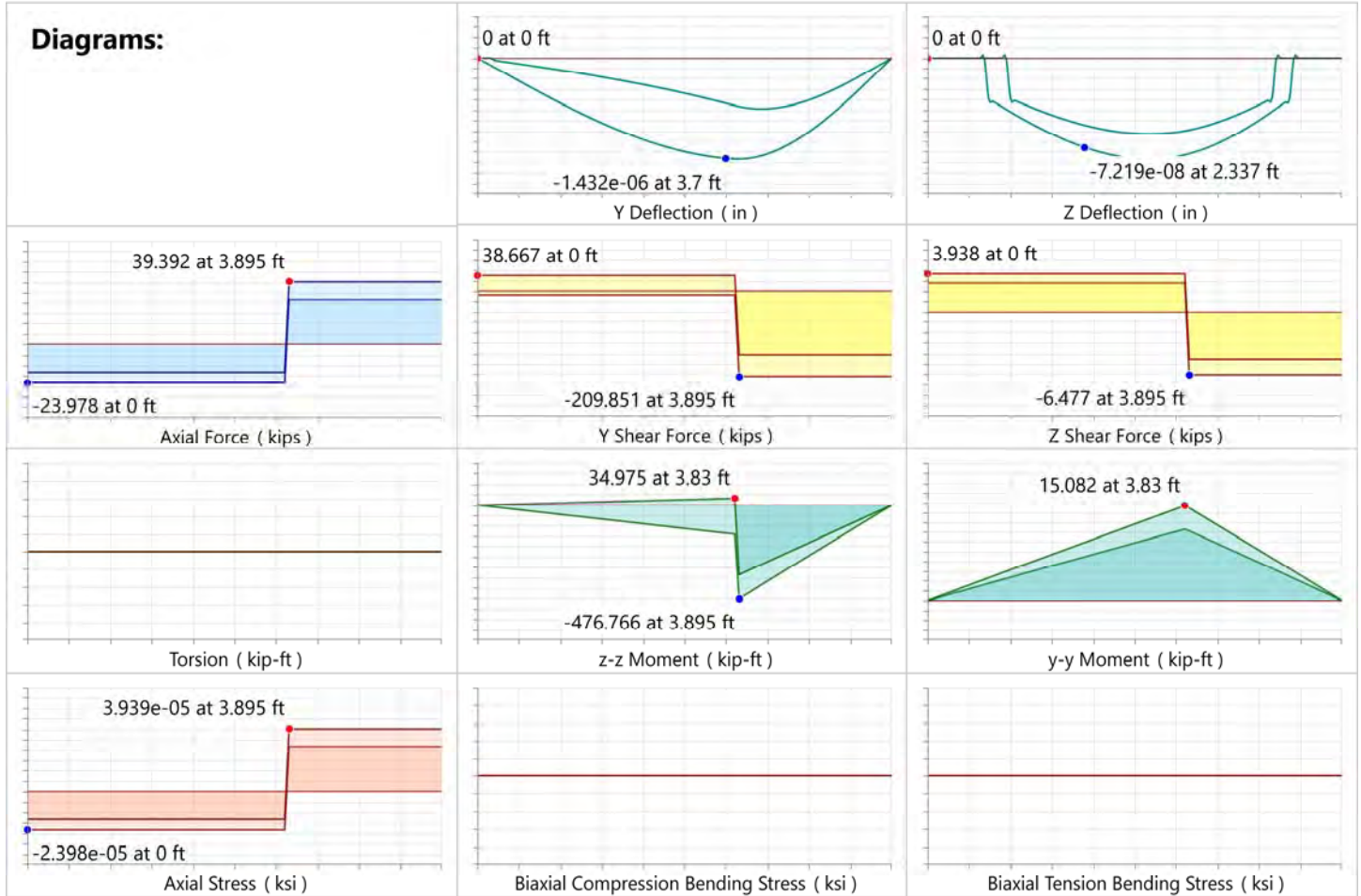
Shape:		I Node:	RN9A
Member Type:	None	J Node:	RN9C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



**Diagrams:**

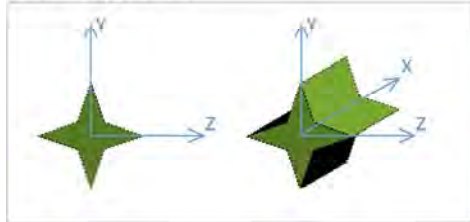




**Detail Report: R10**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

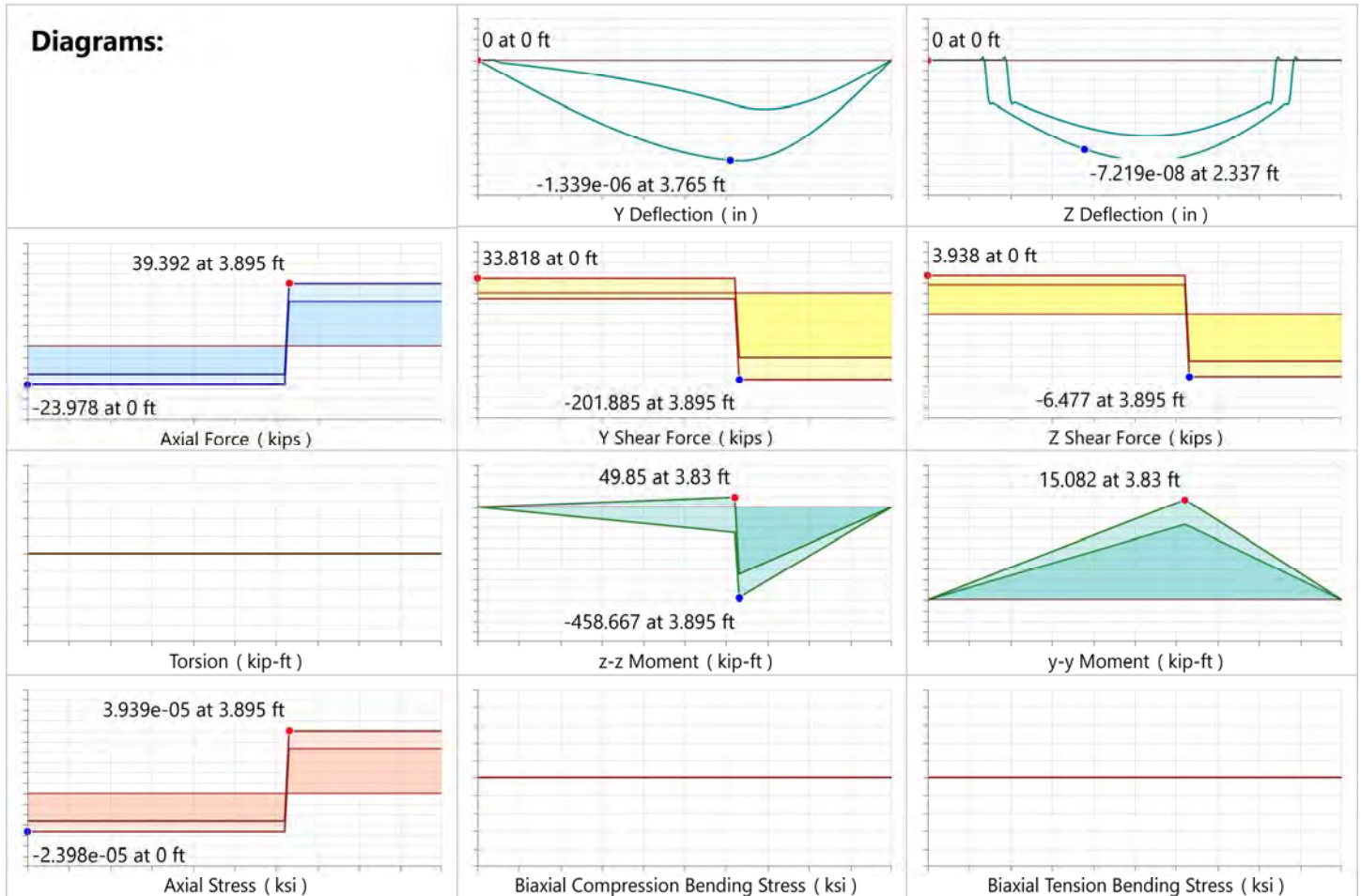
Shape:		I Node:	RN10A
Member Type:	None	J Node:	RN10C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



**Diagrams:**

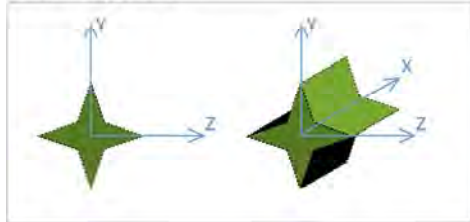




**Detail Report: R11**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

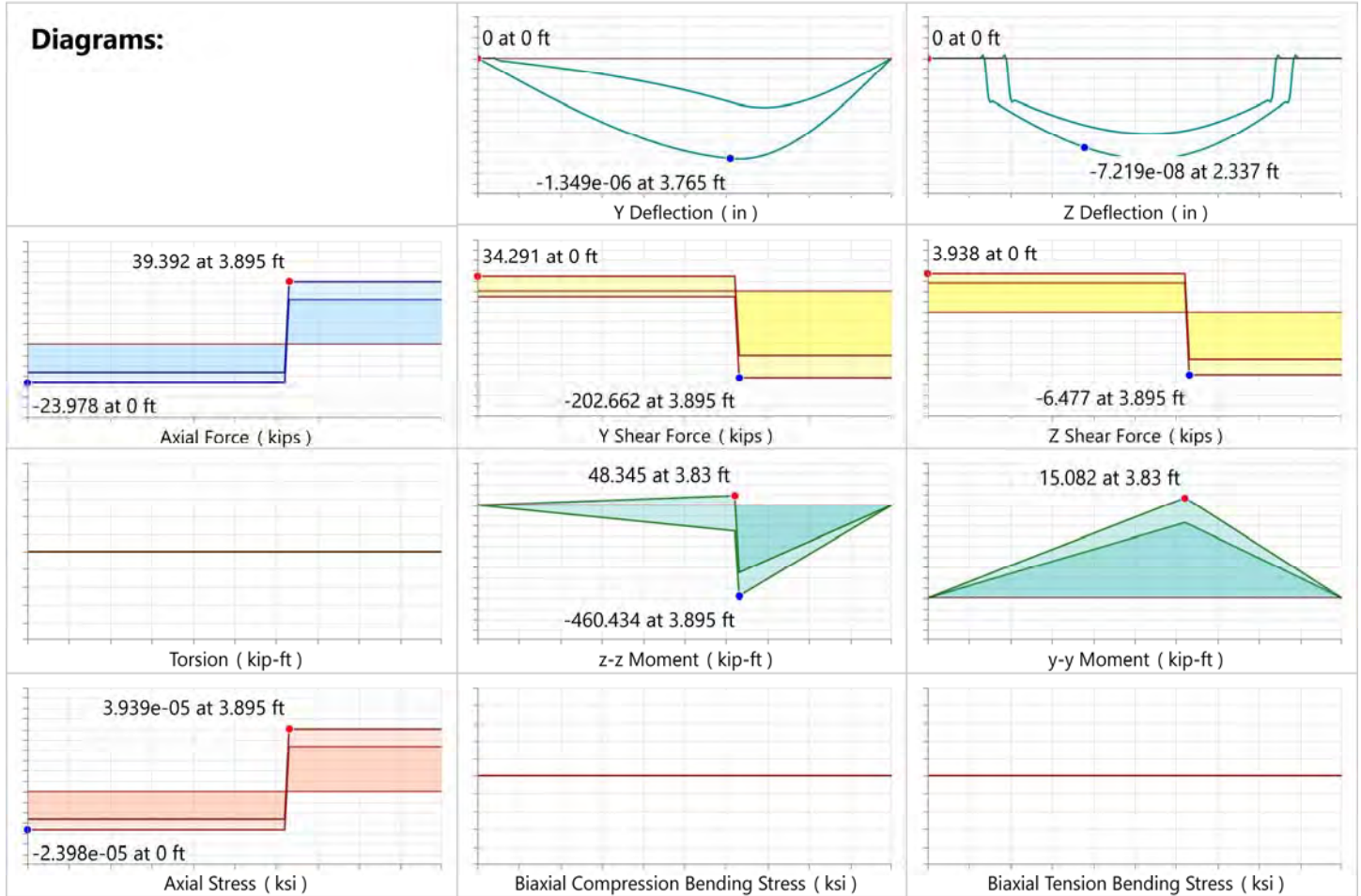
Shape:		I Node:	RN11A
Member Type:	None	J Node:	RN11C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



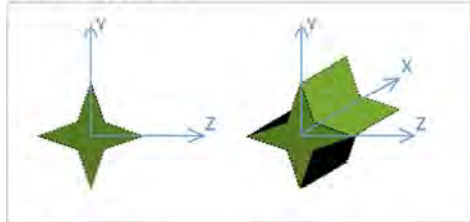
**Diagrams:**



**Detail Report: R12**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

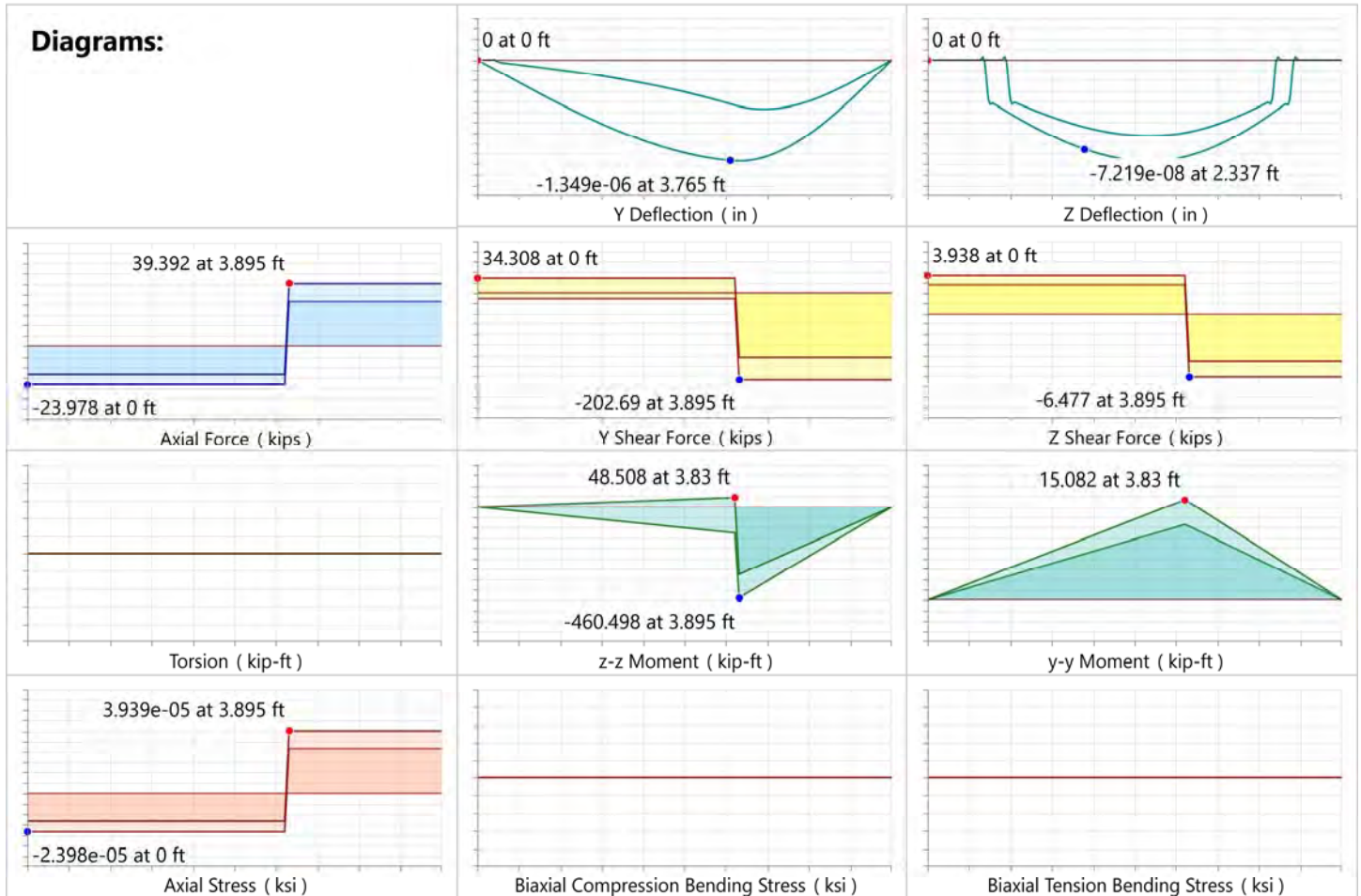
Shape:		I Node:	RN12A
Member Type:	None	J Node:	RN12C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



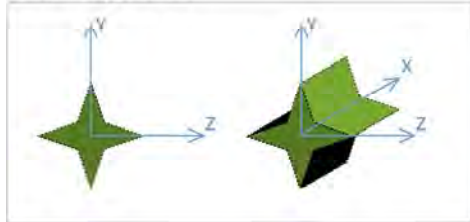
**Diagrams:**



**Detail Report: R13**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

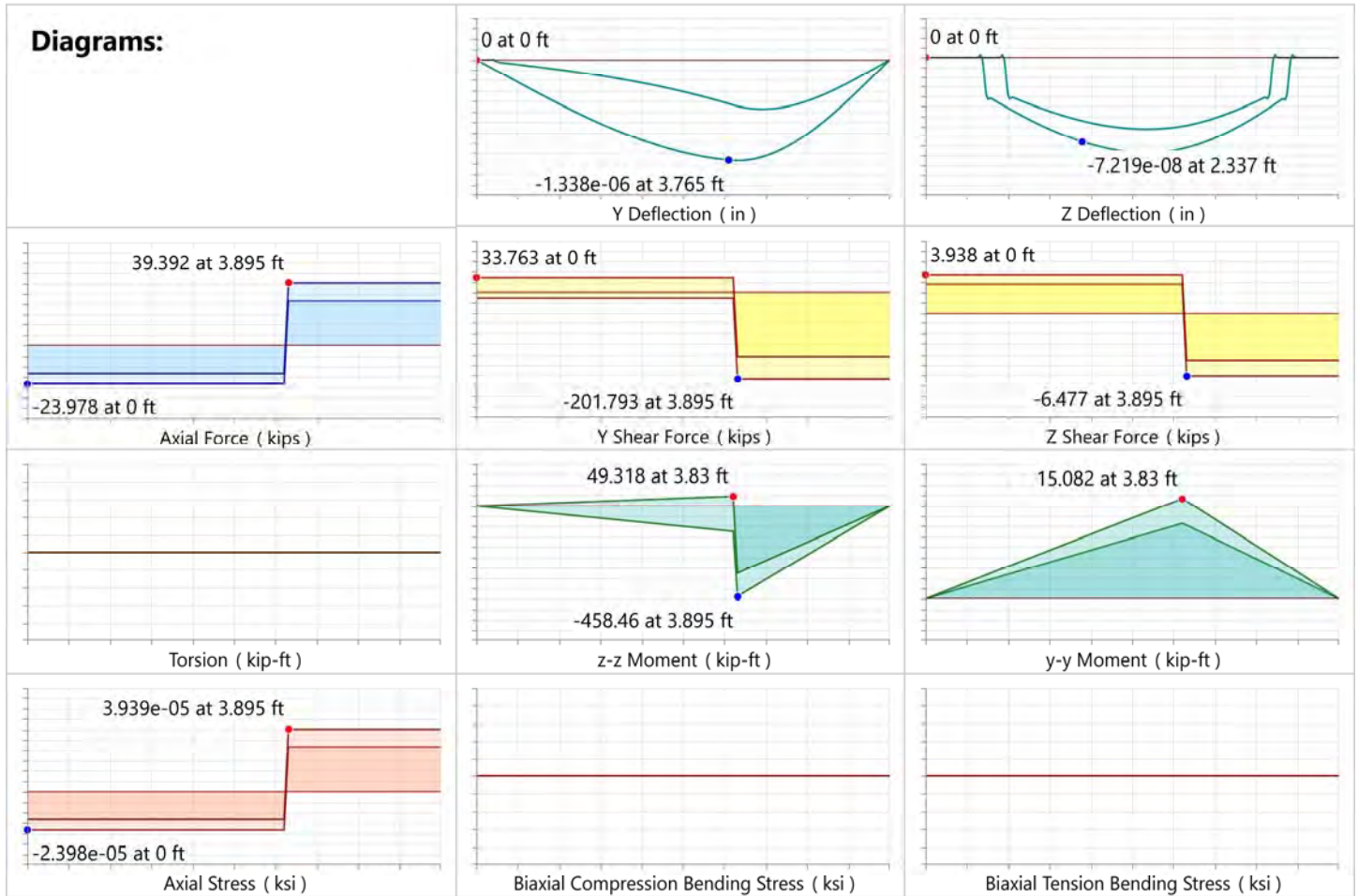
Shape:		I Node:	RN13A
Member Type:	None	J Node:	RN13C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



**Diagrams:**

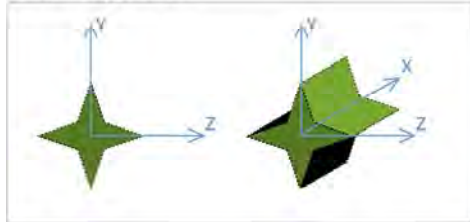




**Detail Report: R14**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

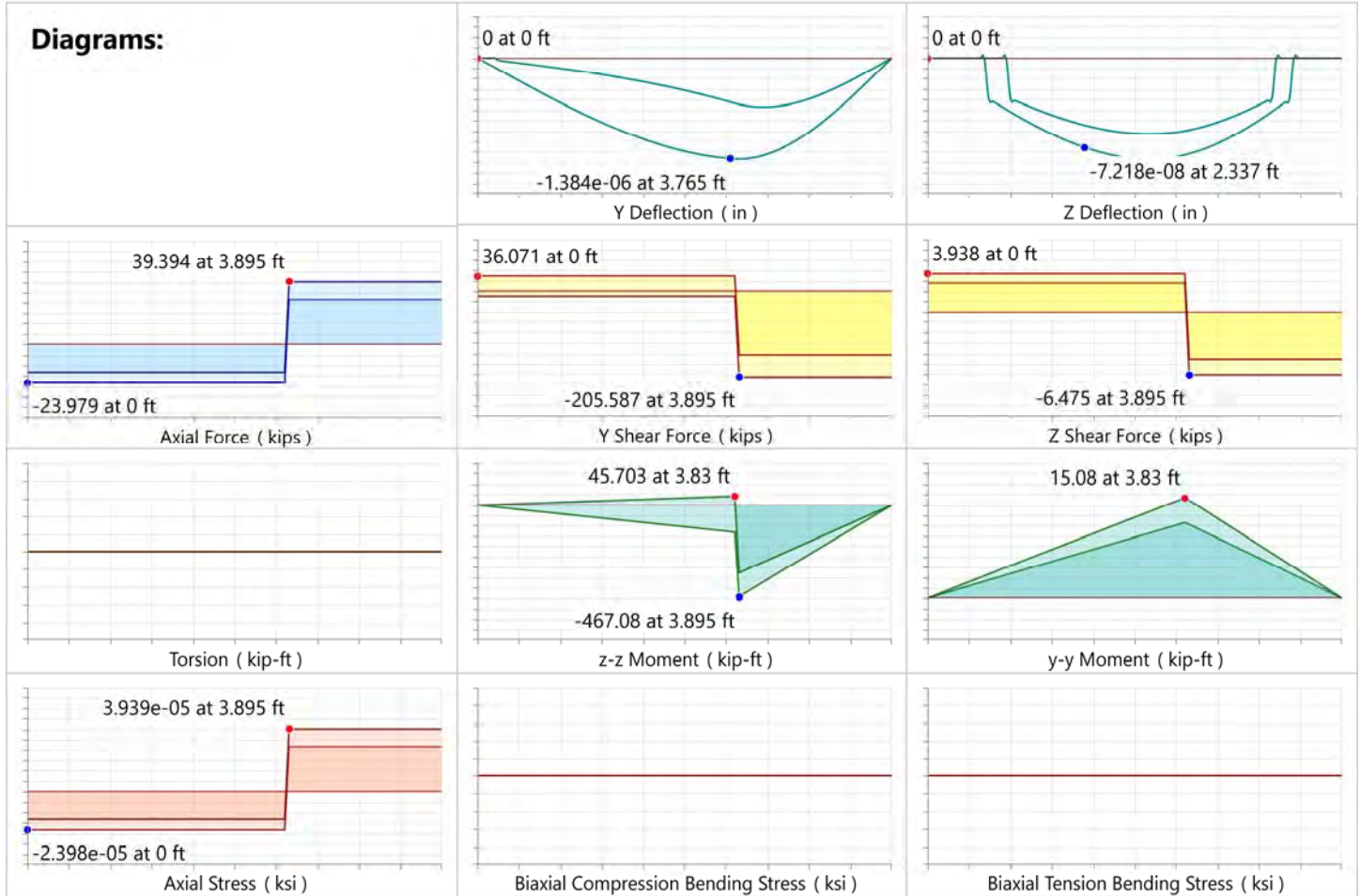
Shape:		I Node:	RN14A
Member Type:	None	J Node:	RN14C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



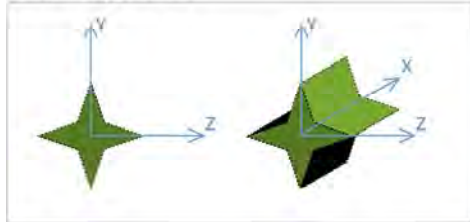
**Diagrams:**



**Detail Report: R15**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

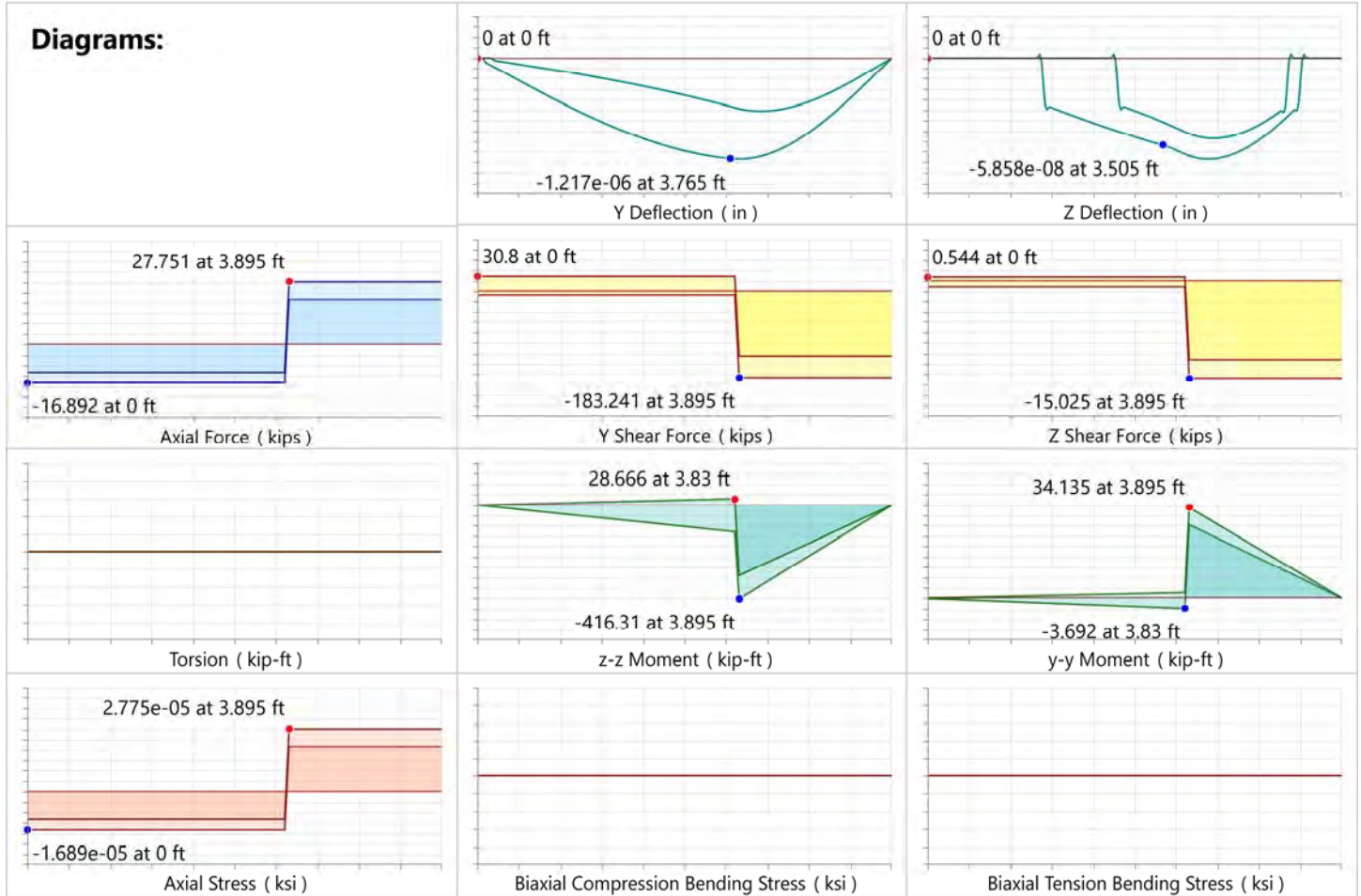
Shape:		I Node:	RN15A
Member Type:	None	J Node:	RN15C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>-5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



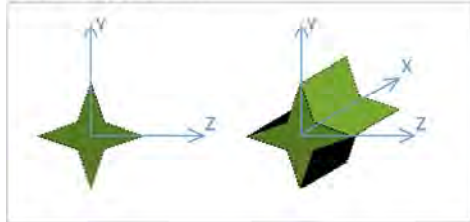
**Diagrams:**



**Detail Report: M33**

**Unity Check: No Calc**

**Load Combination: Envelope**

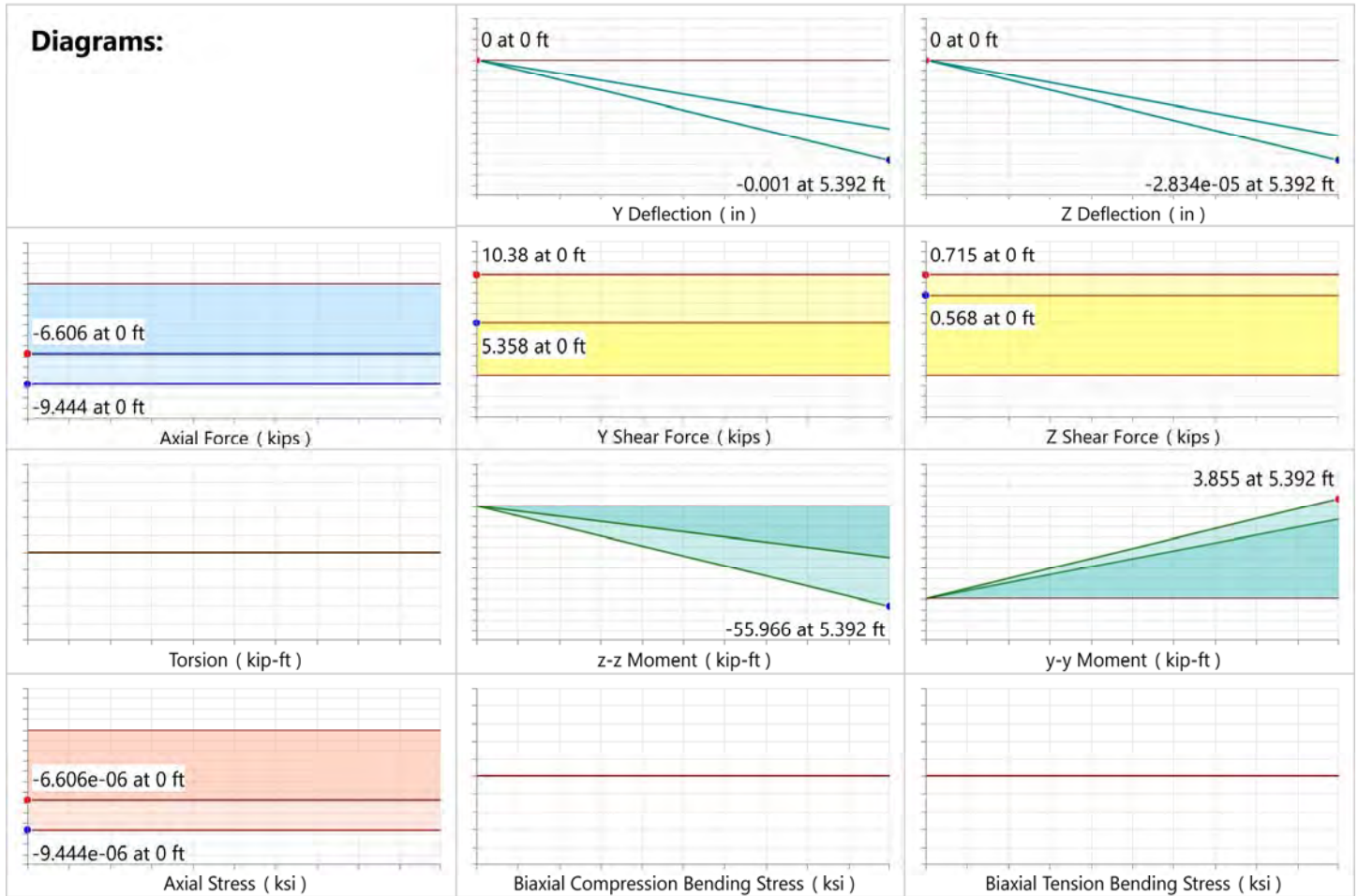


**Input Data:**

Shape:		I Node:	RN16A
Member Type:	None	J Node:	RN16B
Length (ft):	5.392	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0

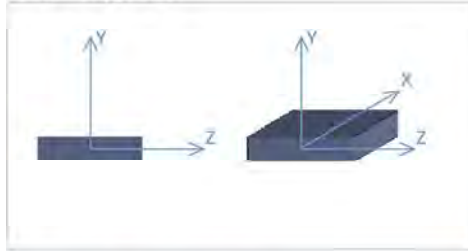




**Detail Report: A1**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	N1
Member Type:	Beam	J Node:	RN16B
Length (ft):	2.029	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

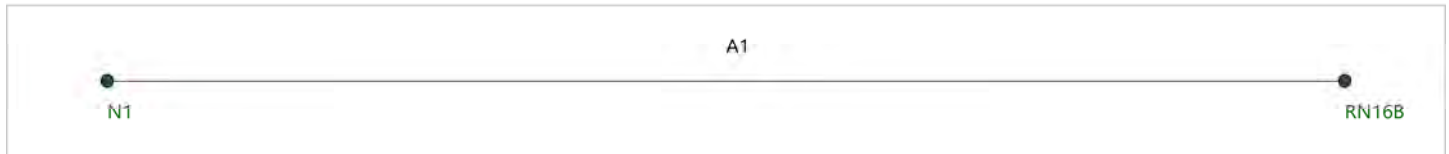
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> /°F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

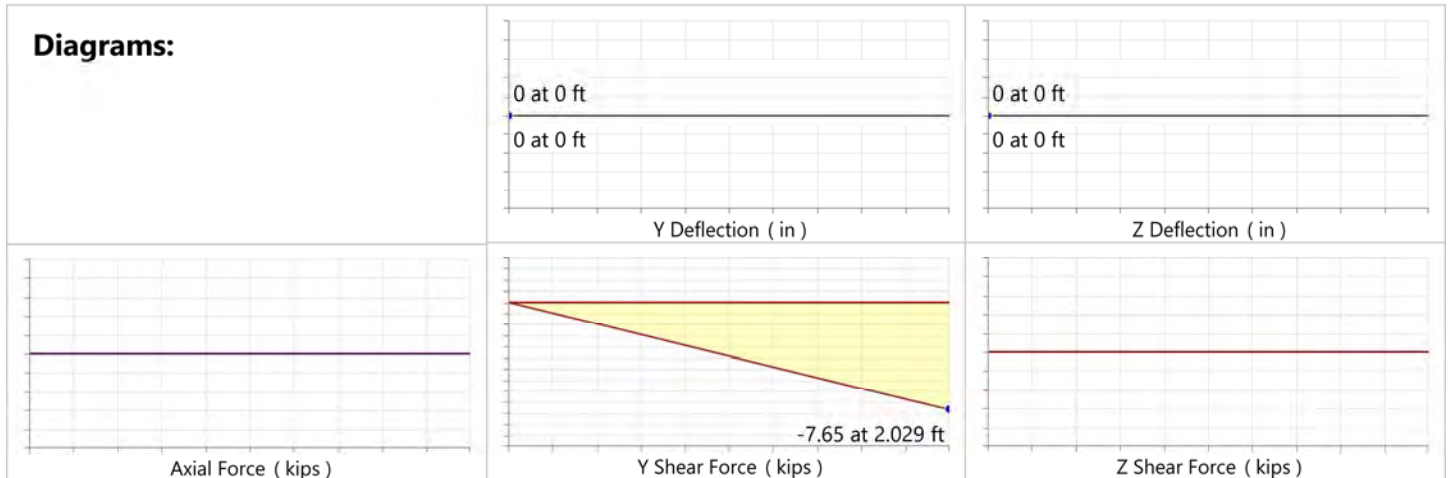
D (in):	24	W (in):	104
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**Design Properties:**

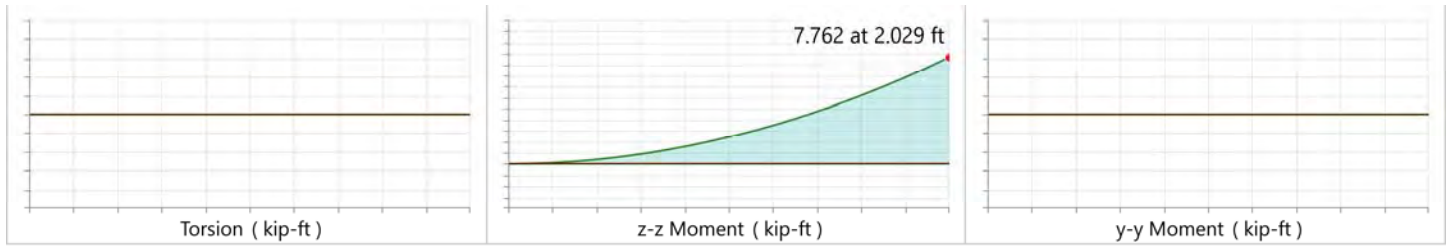
B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**







### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

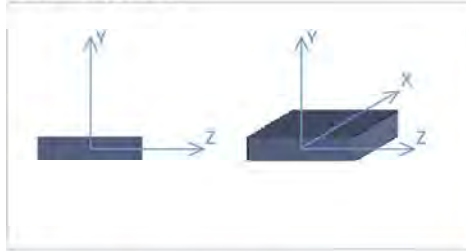
P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display

**Detail Report: A2**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN16B
Member Type:	Beam	J Node:	RN15B
Length (ft):	2.378	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

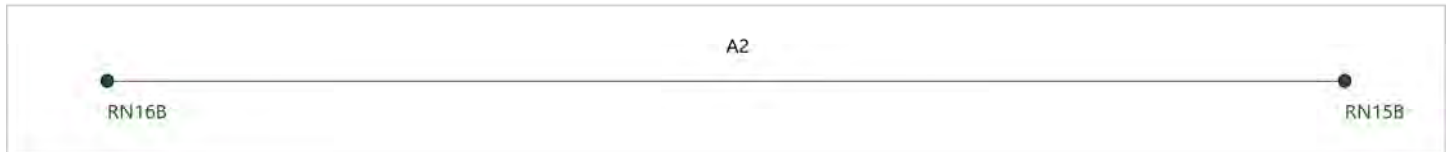
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

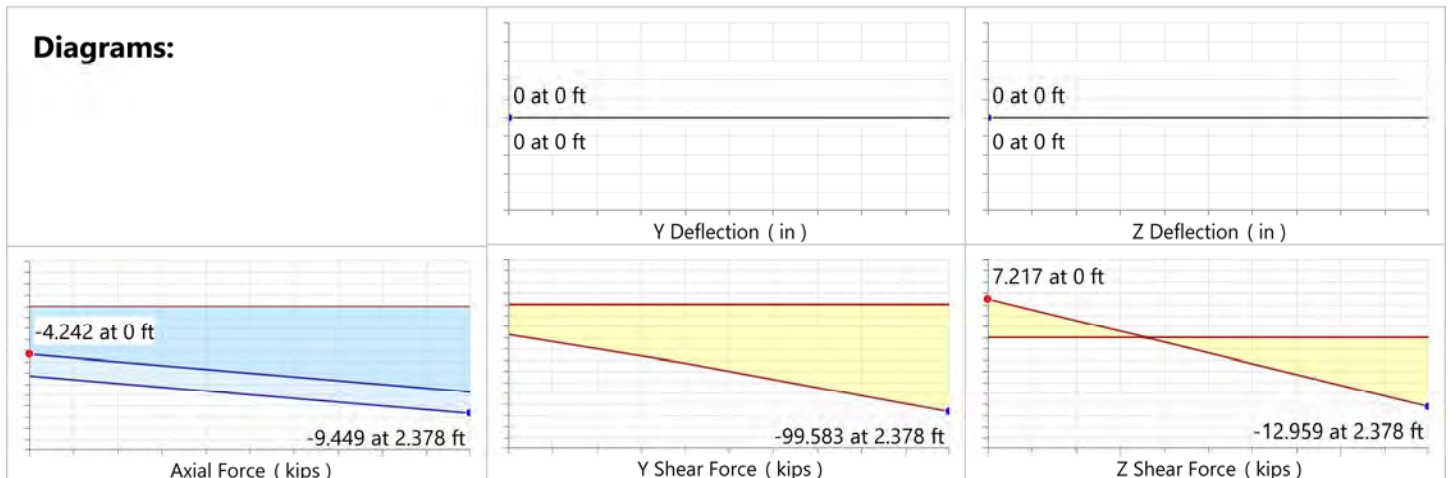
D (in):	24	W (in):	104
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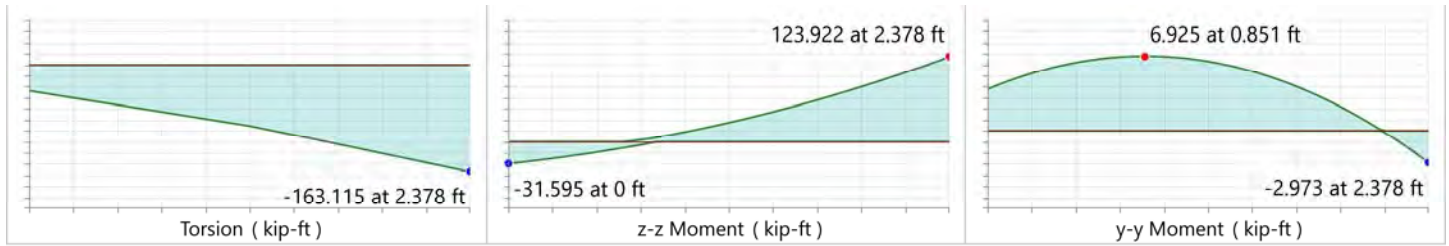
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





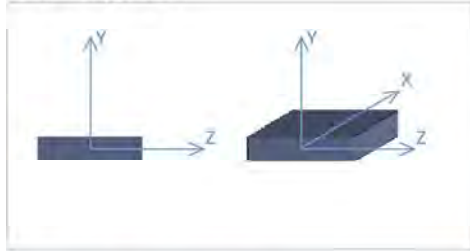
**ACI 318-14 Code Check**

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display

**Detail Report: A3**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN15B
Member Type:	Beam	J Node:	RN14B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

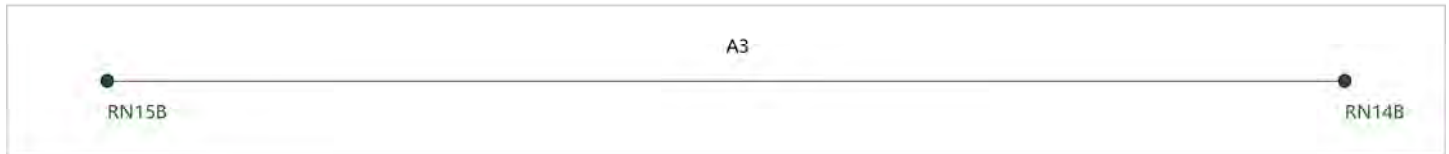
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

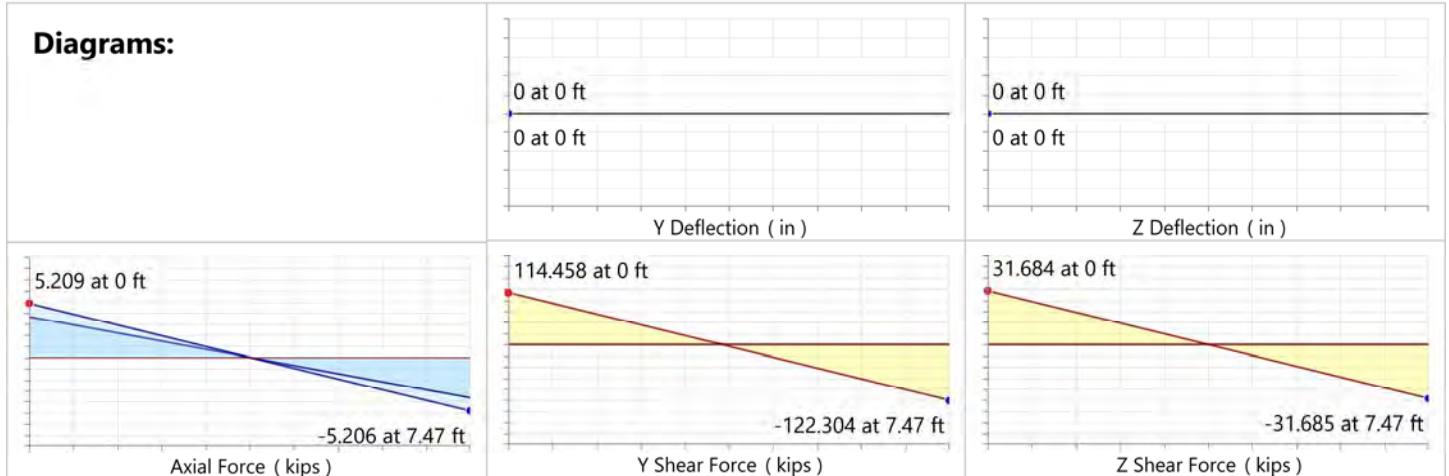
D (in):	24	W (in):	104
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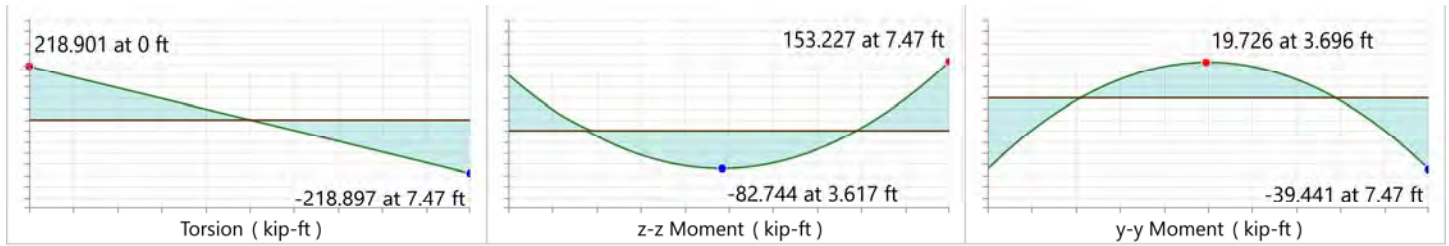
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

P-Delta Analysis required for all ACI 318-14 load combinations

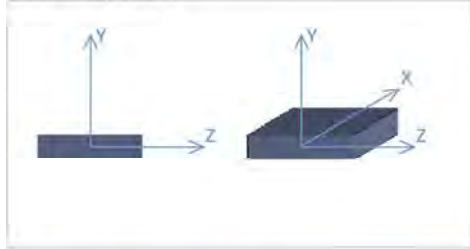
No Results to Display



**Detail Report: A4**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN14B
Member Type:	Beam	J Node:	RN13B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

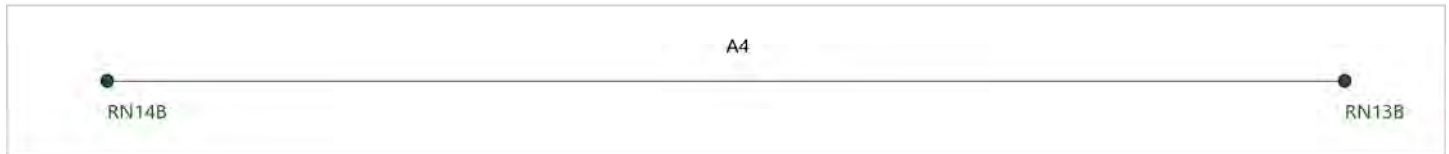
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

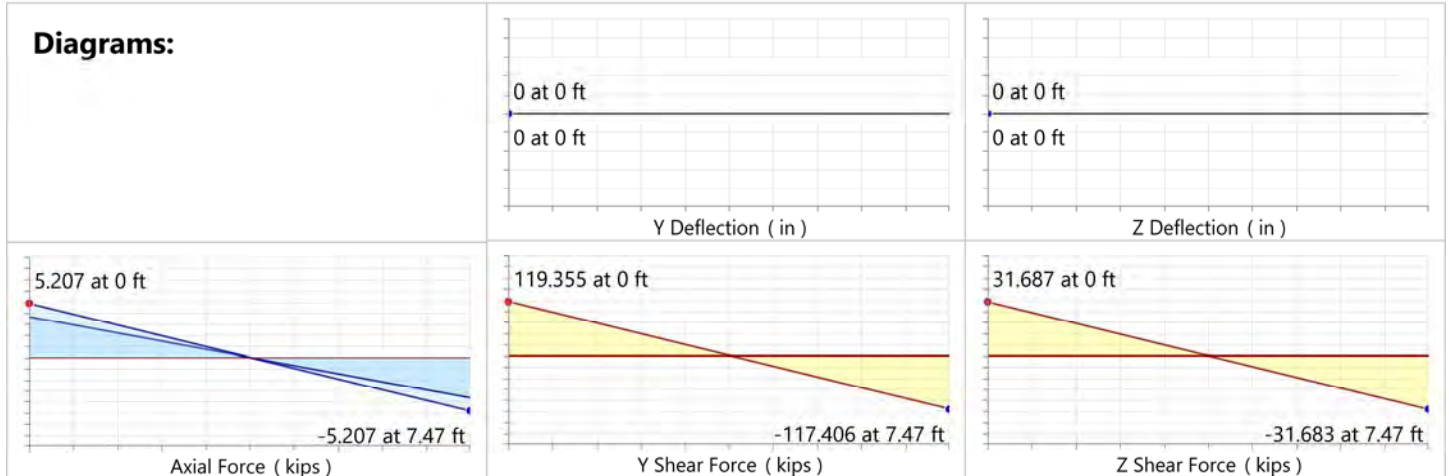
D (in):	24	W (in):	104
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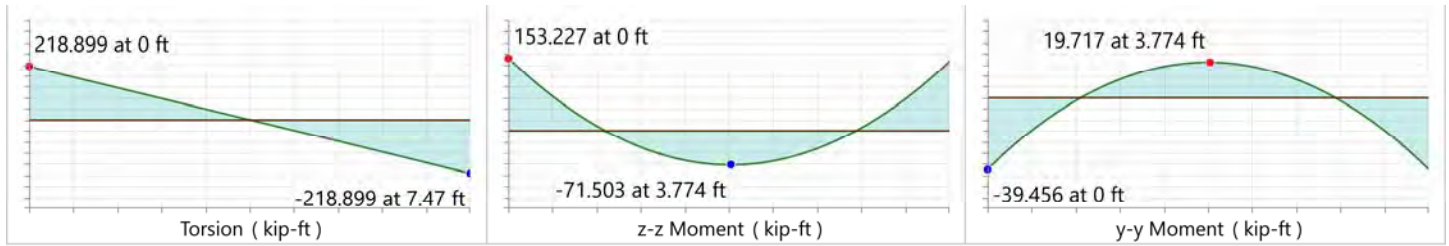
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

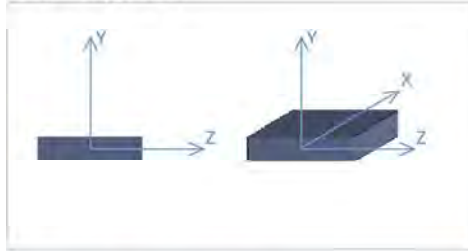
Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display



**Detail Report: A5**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN13B
Member Type:	Beam	J Node:	RN12B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

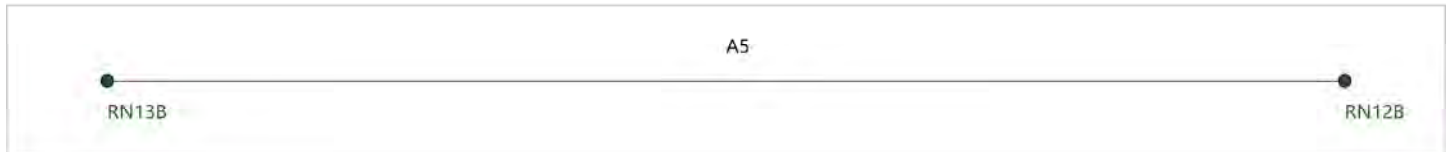
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

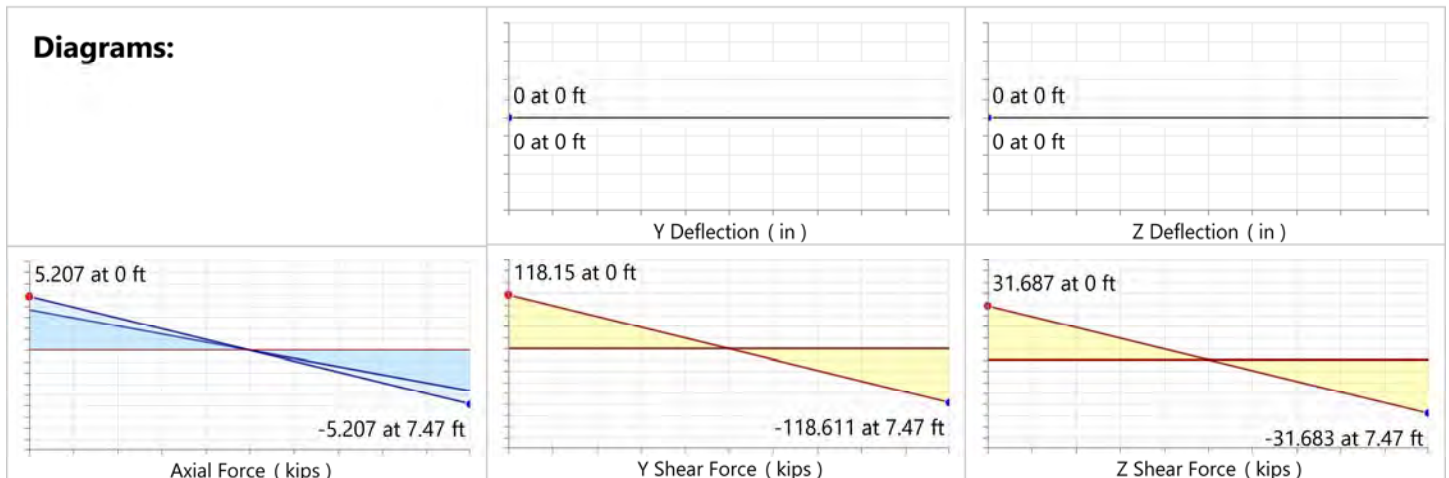
D (in):	24	W (in):	104
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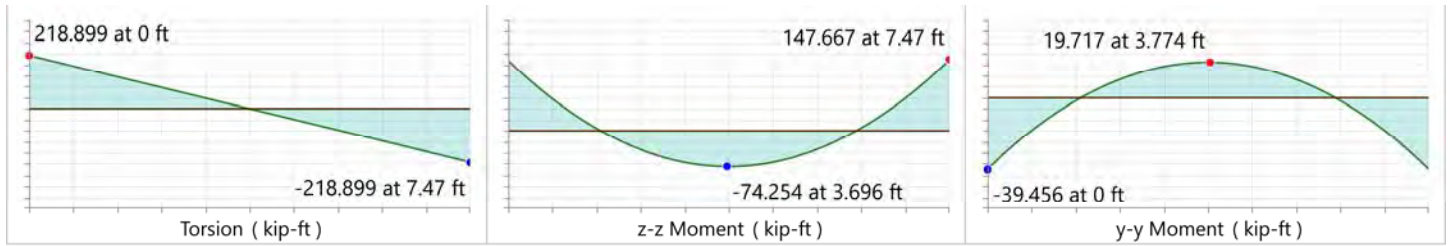
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

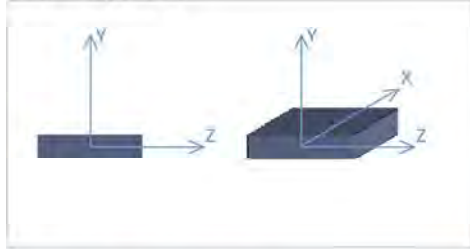
P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display

**Detail Report: A6**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN12B
Member Type:	Beam	J Node:	RN11B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

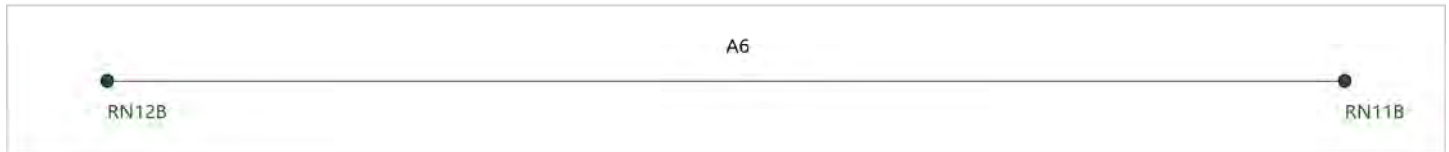
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

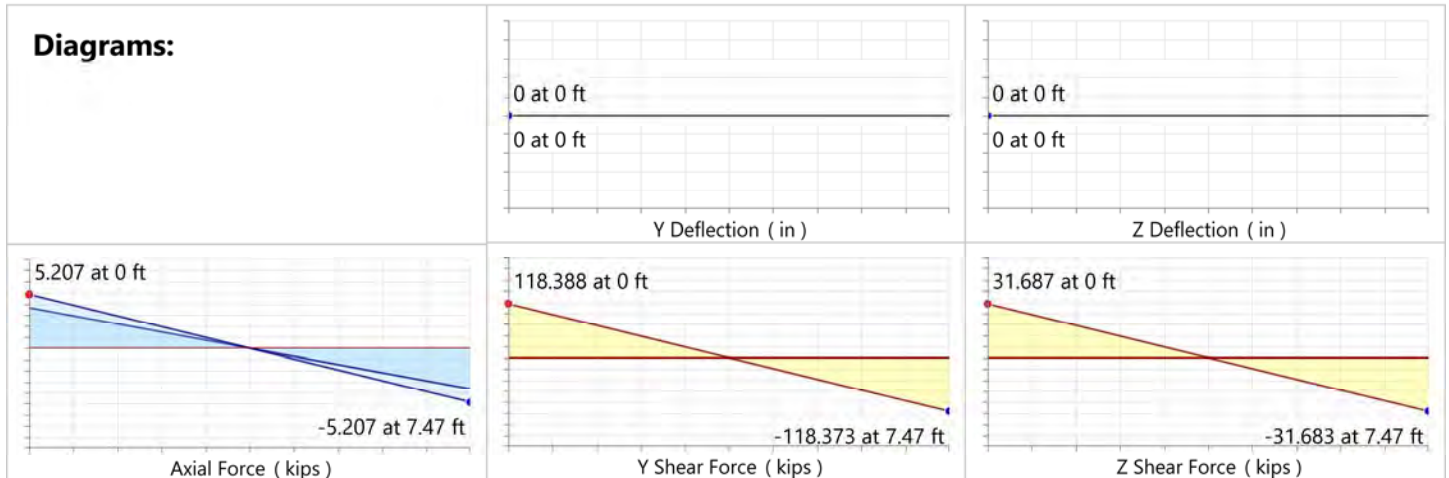
D (in):	24	W (in):	104
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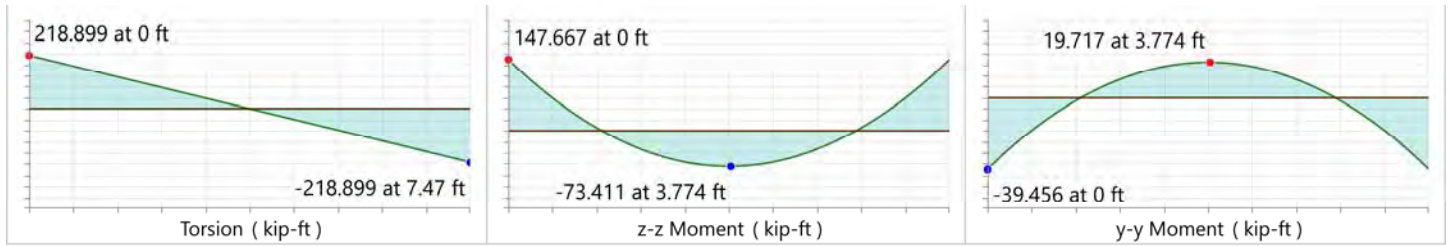
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

P-Delta Analysis required for all ACI 318-14 load combinations

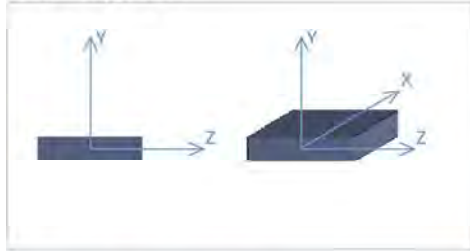
No Results to Display



**Detail Report: A7**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN11B
Member Type:	Beam	J Node:	RN10B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

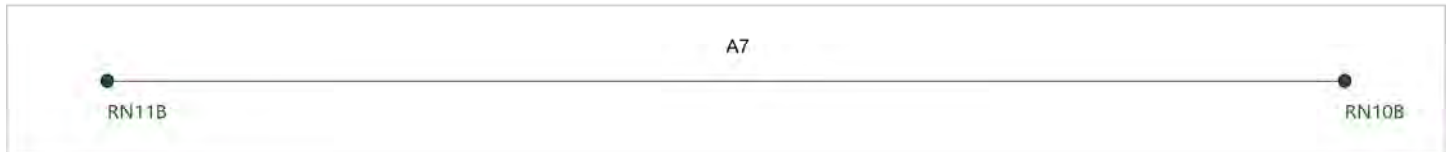
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> /°F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

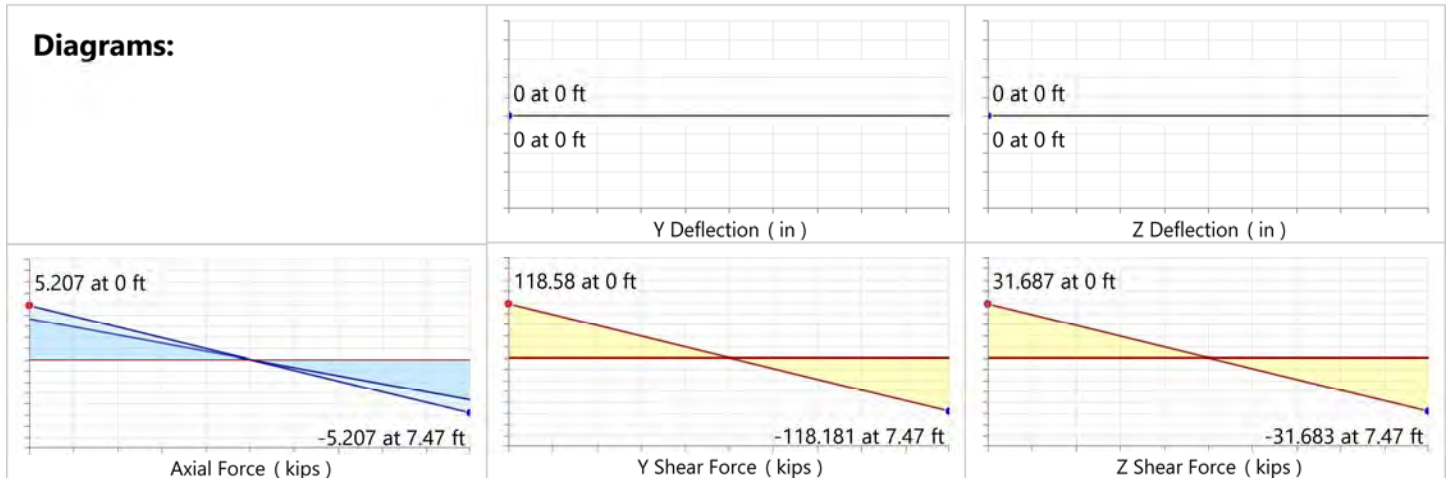
D (in):	24	W (in):	104
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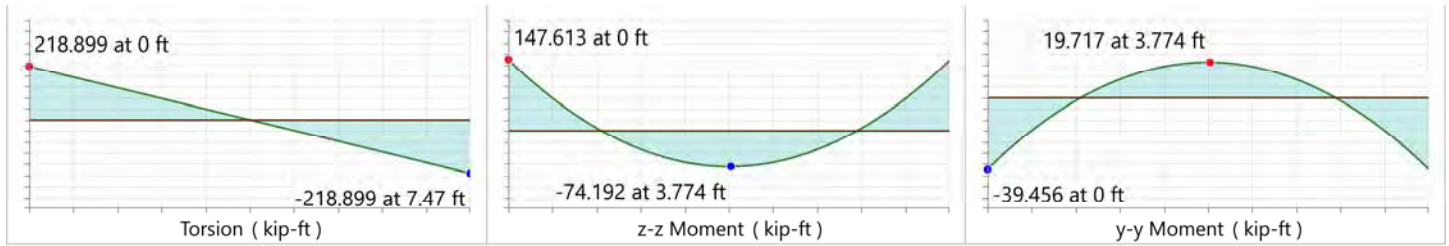
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

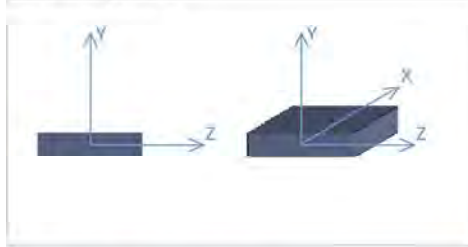
P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display

**Detail Report: A8**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN10B
Member Type:	Beam	J Node:	RN9B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

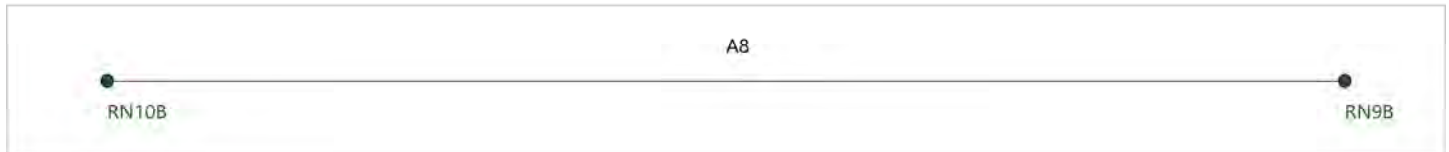
Material:	CONC4500	Therm. Coeff. (1e <sup>5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

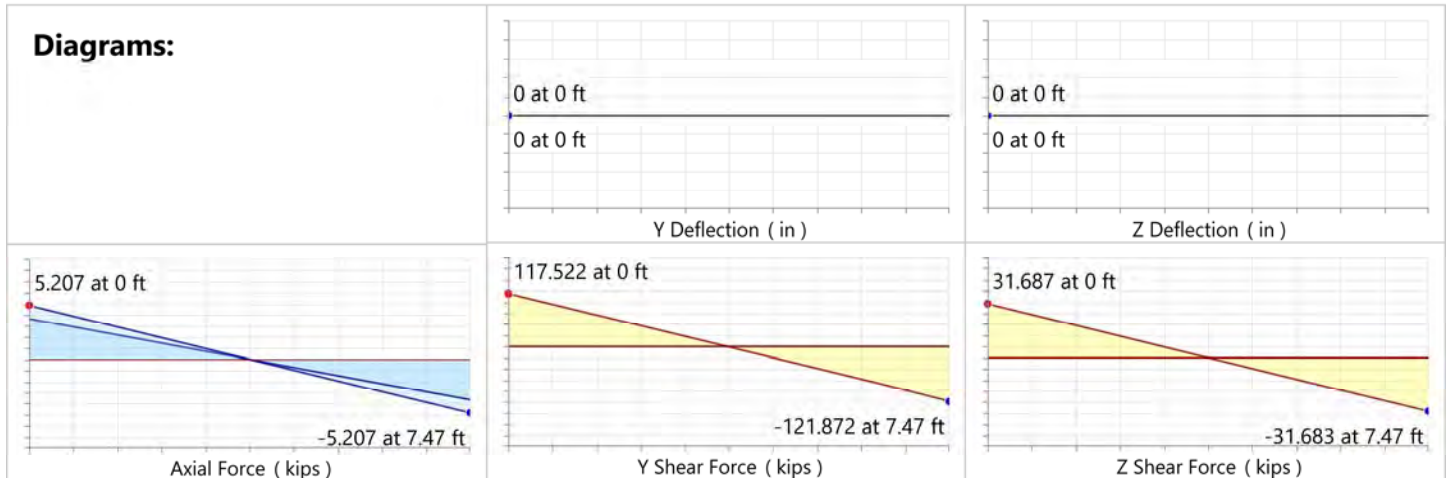
D (in):	24	W (in):	104
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**Design Properties:**

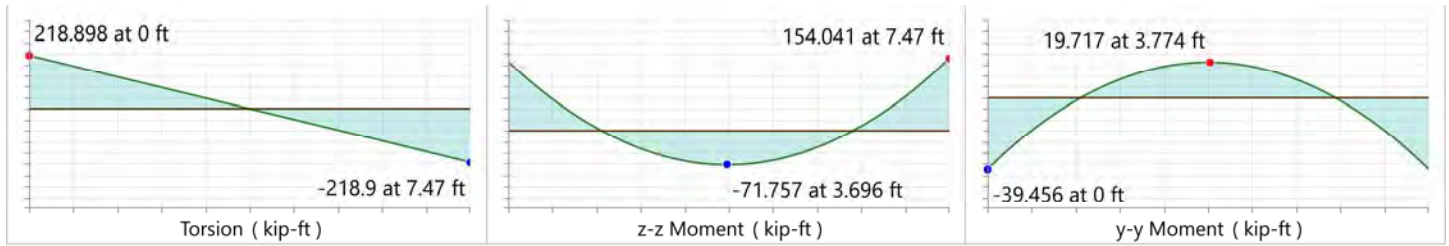
B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**







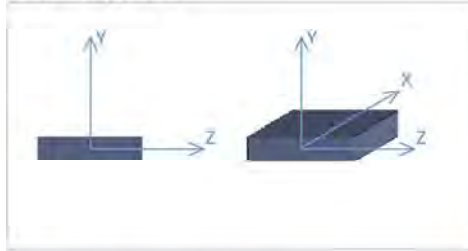
**ACI 318-14 Code Check**

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display

**Detail Report: A9**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN9B
Member Type:	Beam	J Node:	RN8B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

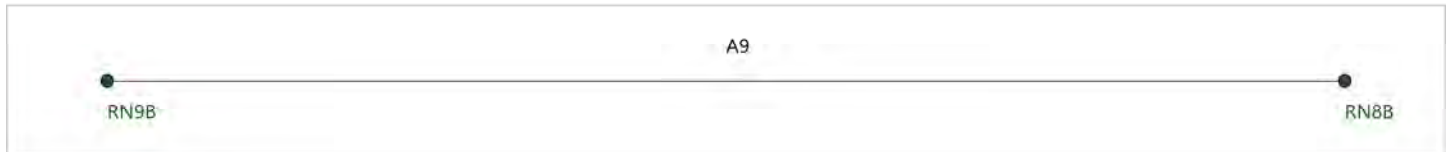
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

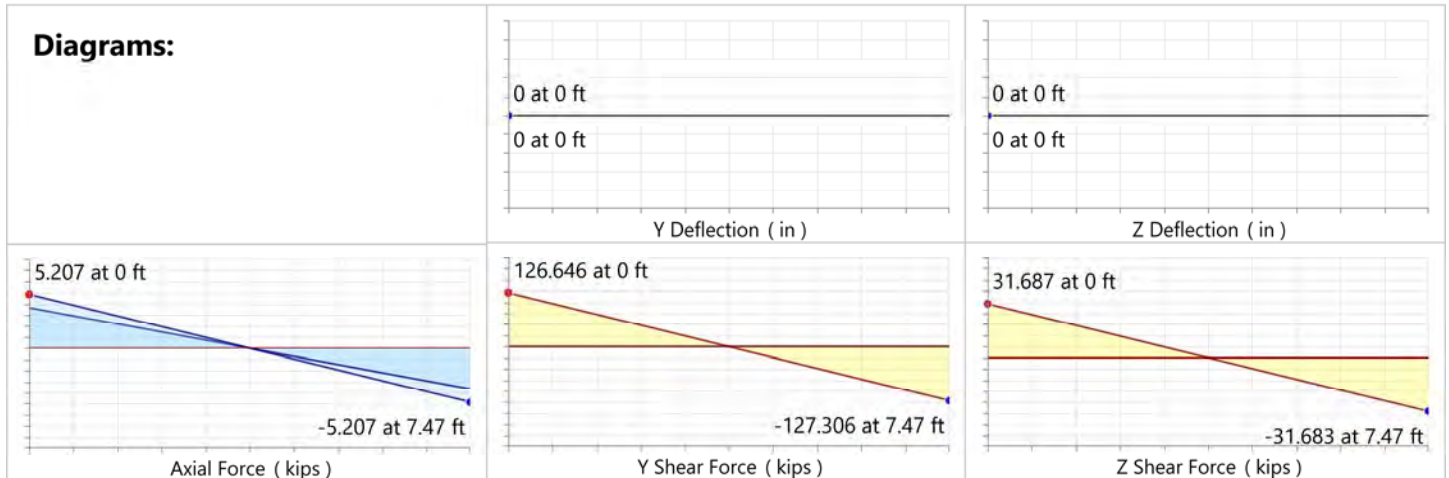
D (in):	24	W (in):	104
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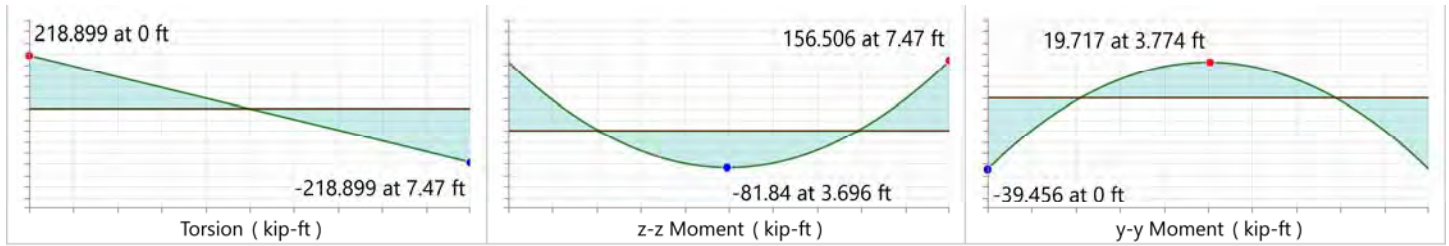
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





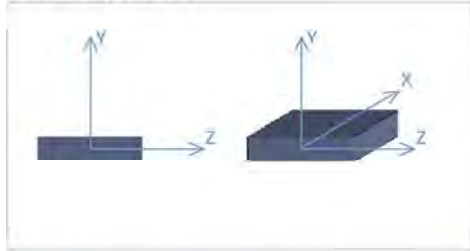
**ACI 318-14 Code Check**

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display

**Detail Report: A10**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN8B
Member Type:	Beam	J Node:	RN7B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

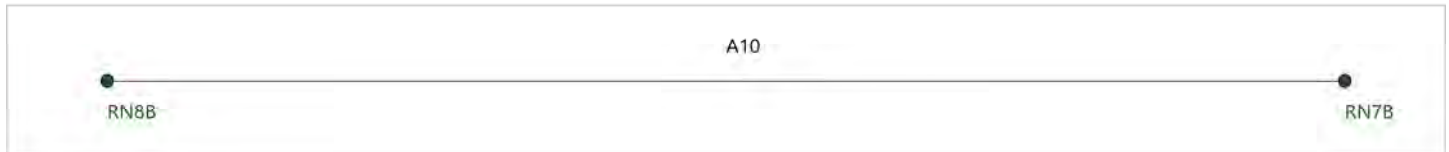
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

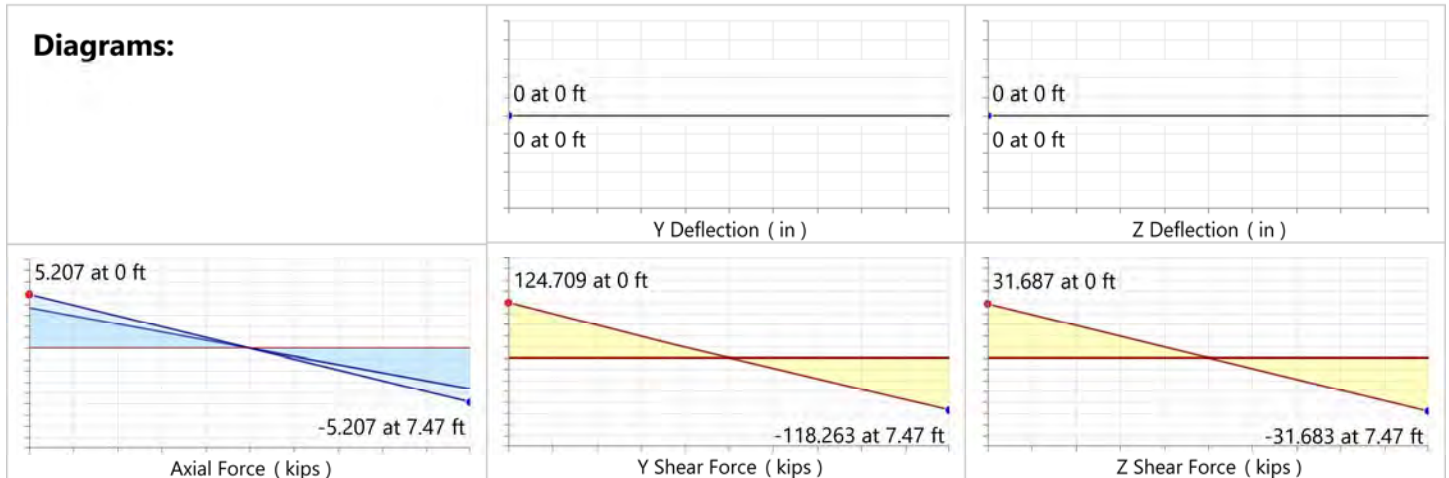
D (in):	24	W (in):	104
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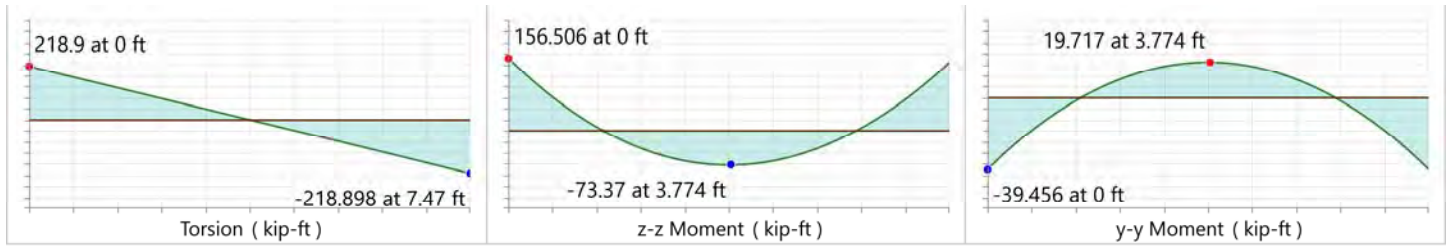
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

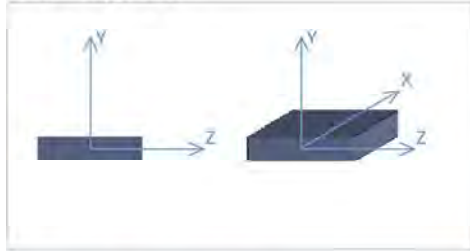
Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display



**Detail Report: A11**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN7B
Member Type:	Beam	J Node:	RN6B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

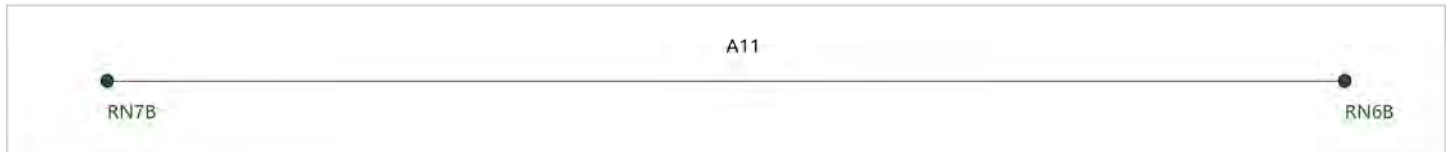
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

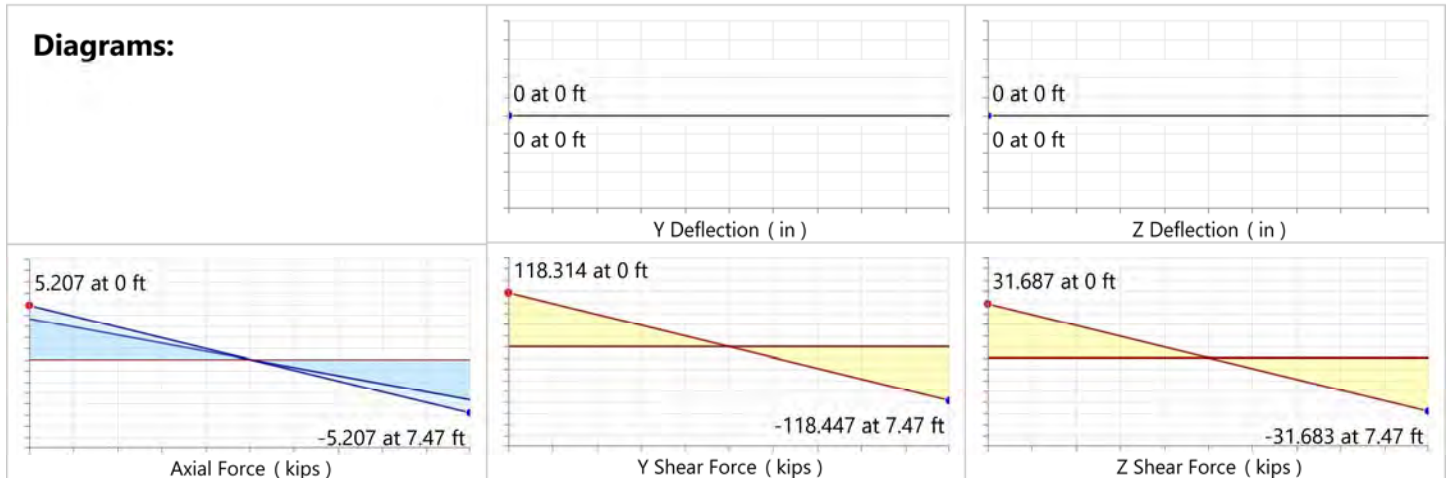
D (in):	24	W (in):	104
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**Design Properties:**

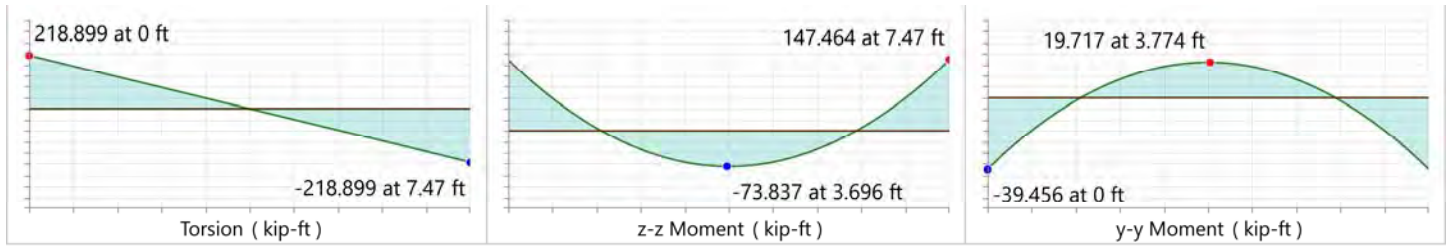
B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**







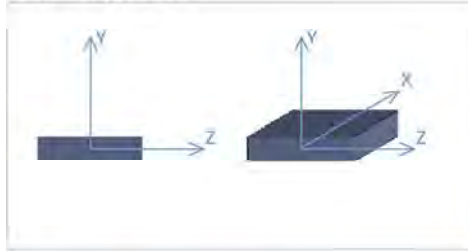
**ACI 318-14 Code Check**

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display

**Detail Report: A12**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN6B
Member Type:	Beam	J Node:	RN5B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

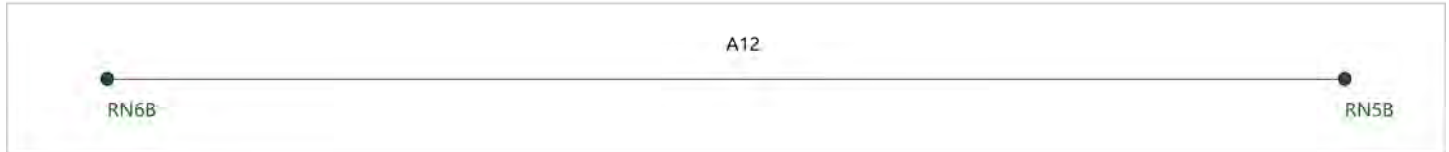
Material:	CONC4500	Therm. Coeff. (1e <sup>5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

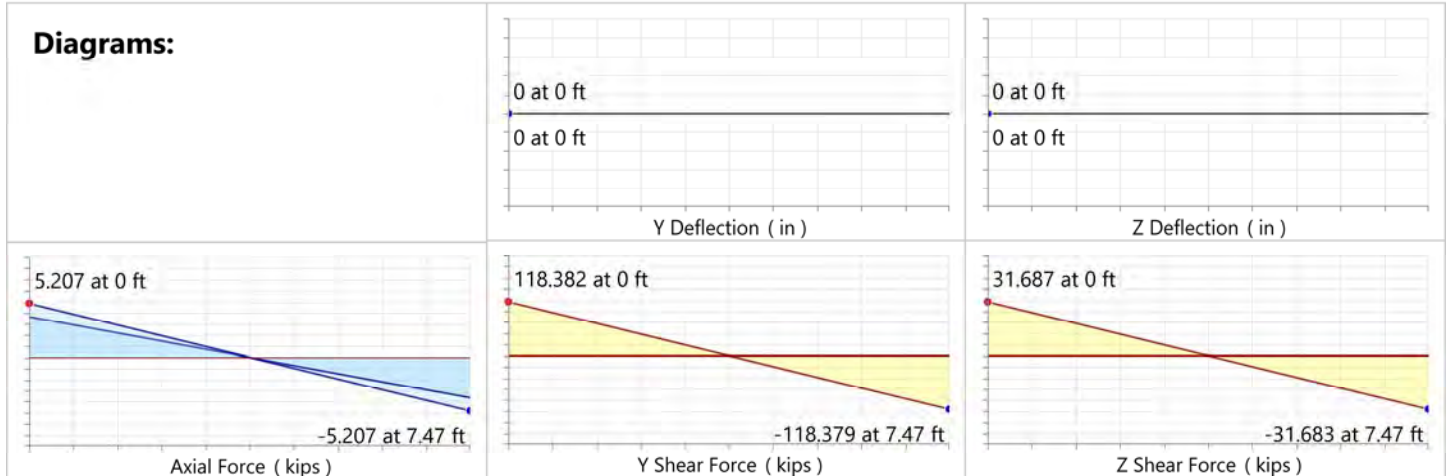
D (in):	24	W (in):	104
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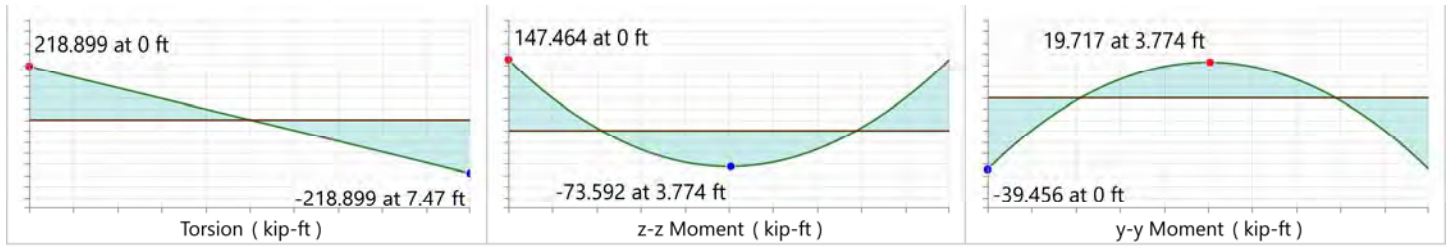
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





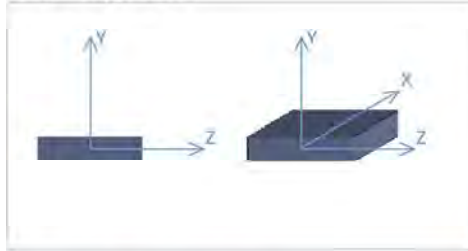
**ACI 318-14 Code Check**

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display

**Detail Report: A13**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN5B
Member Type:	Beam	J Node:	RN4B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

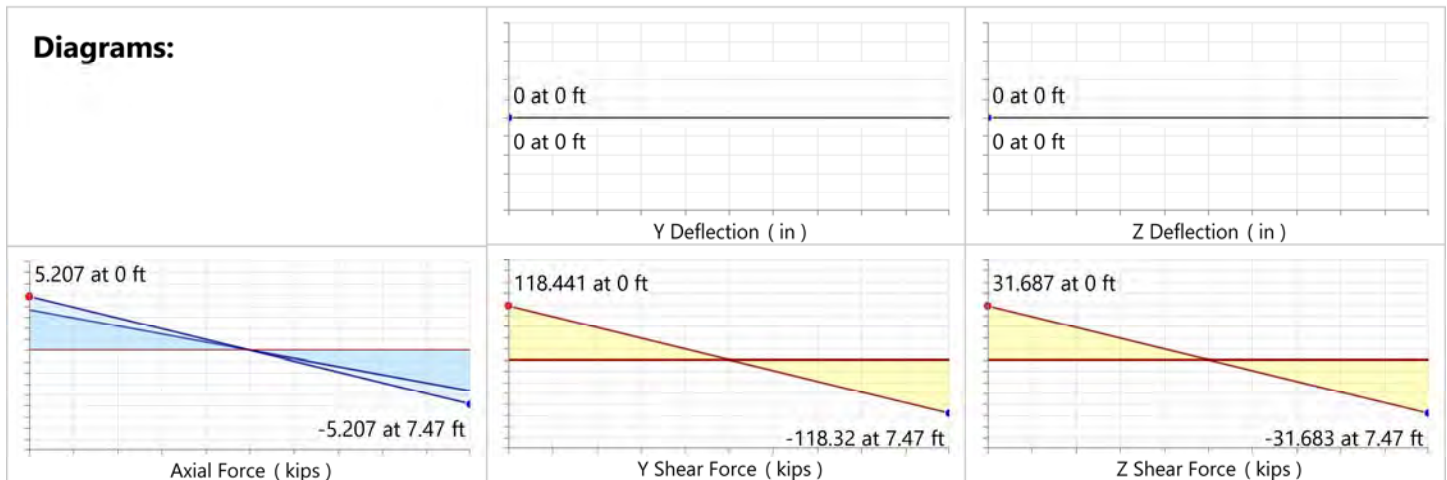
D (in):	24	W (in):	104
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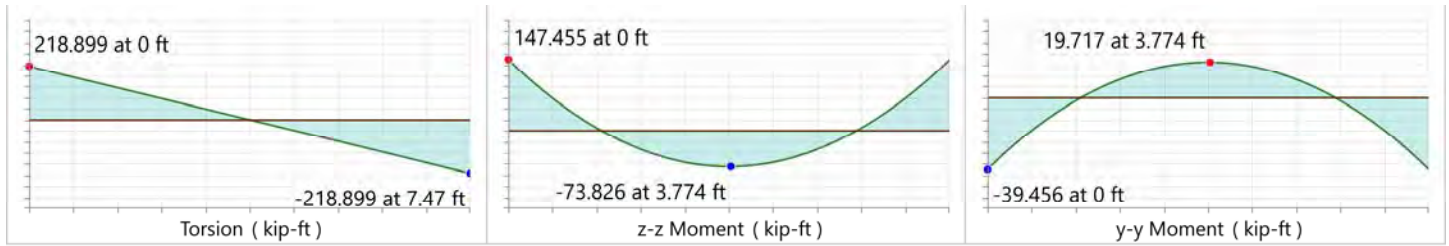
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

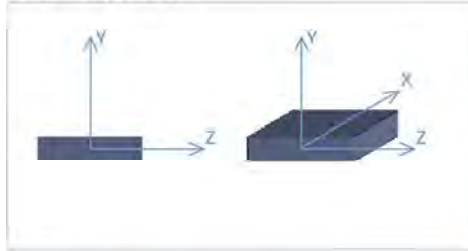
Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display



**Detail Report: A14**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN4B
Member Type:	Beam	J Node:	RN3B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

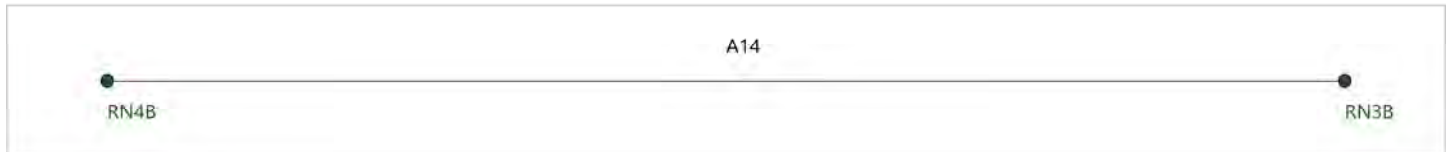
Material:	CONC4500	Therm. Coeff. (1e <sup>5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

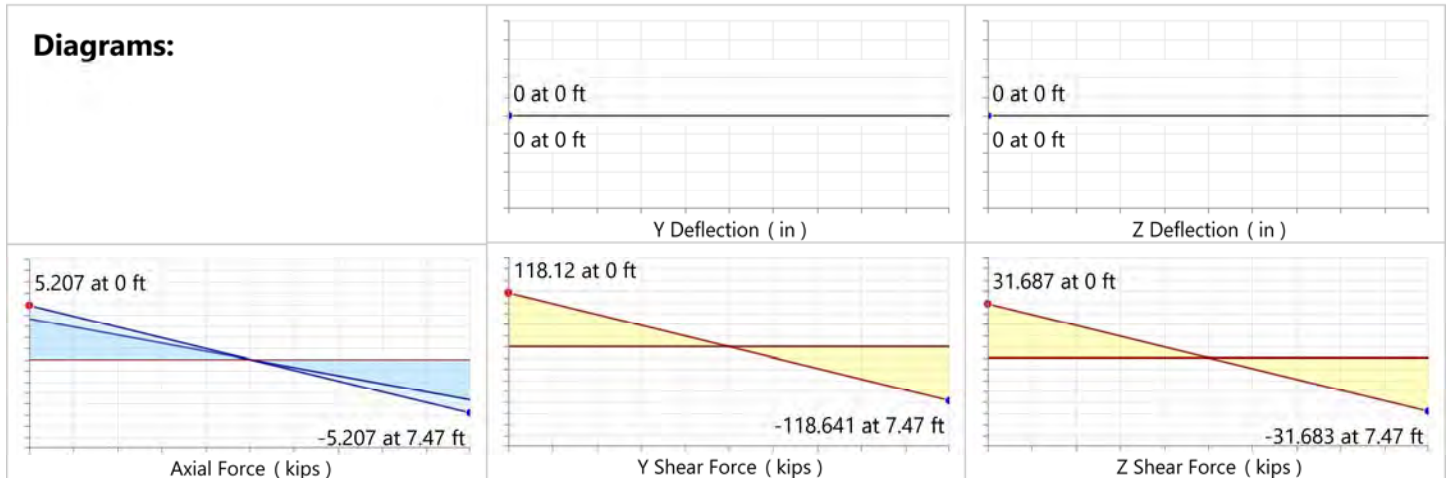
D (in):	24	W (in):	104
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**Design Properties:**

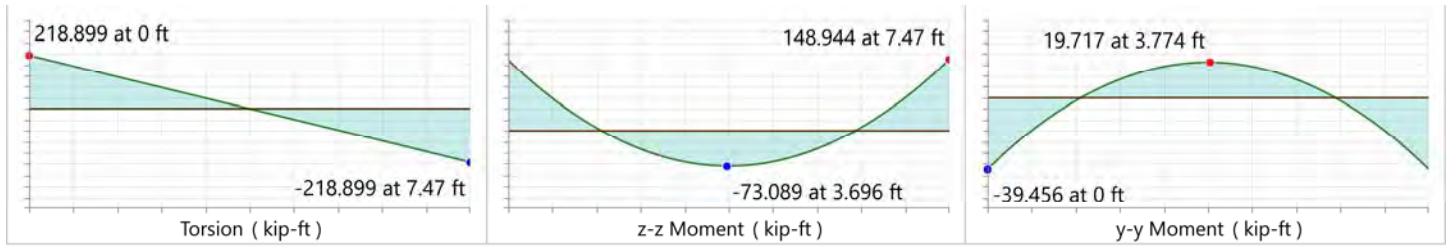
B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**







### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

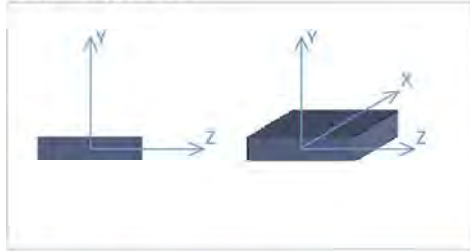
P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display

**Detail Report: A15**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN3B
Member Type:	Beam	J Node:	RN2B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

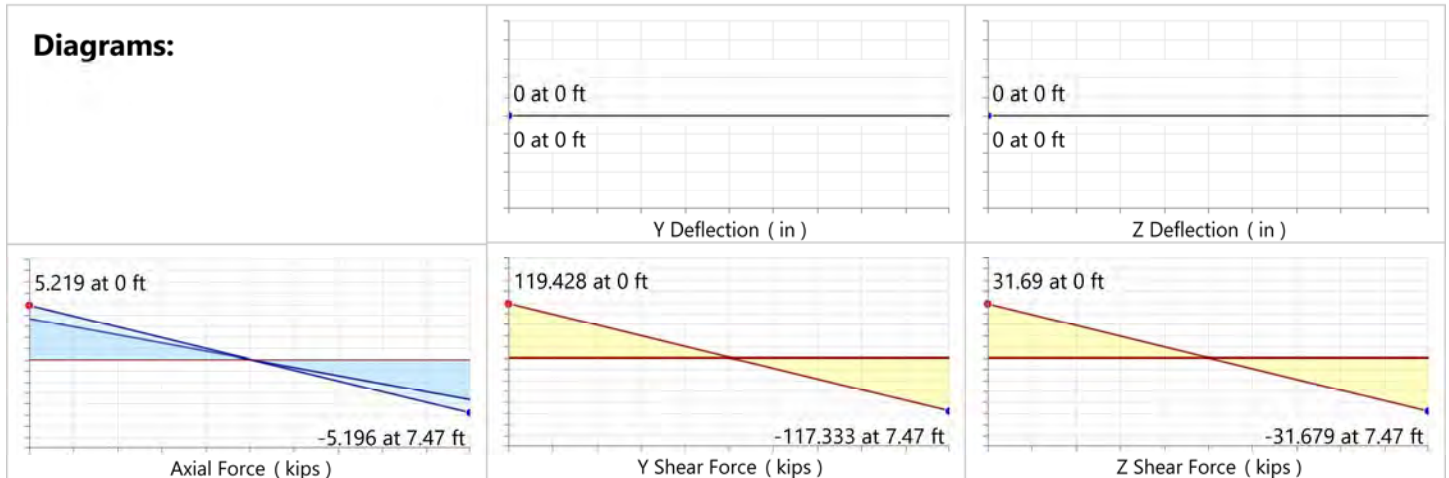
D (in):	24	W (in):	104
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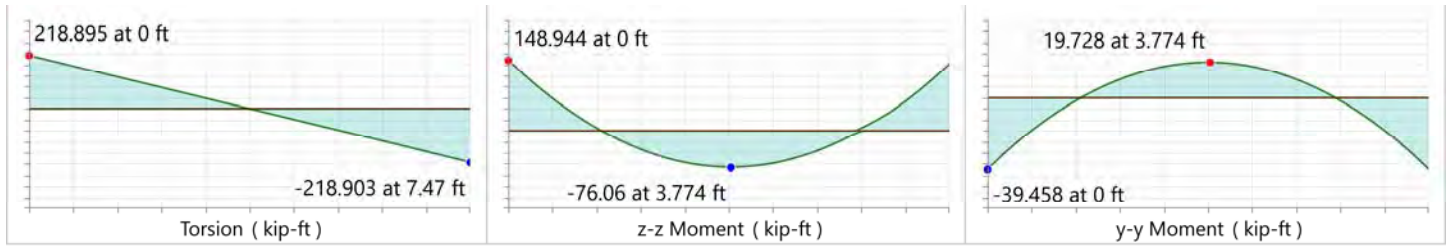
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





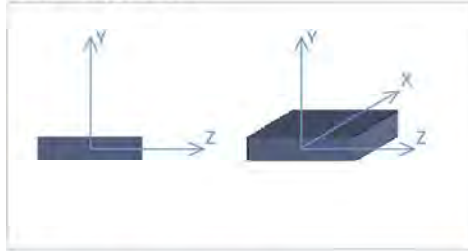
**ACI 318-14 Code Check**

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display

**Detail Report: A16**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN2B
Member Type:	Beam	J Node:	RN1B
Length (ft):	3.837	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

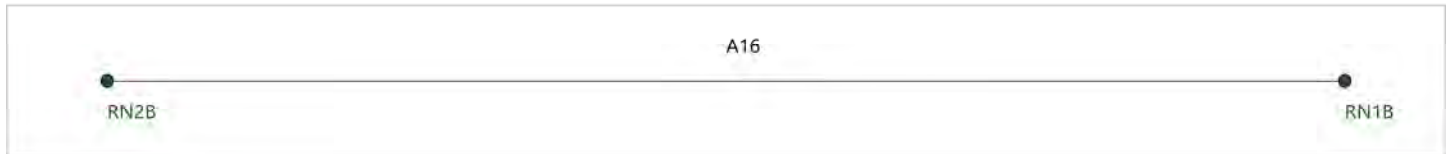
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

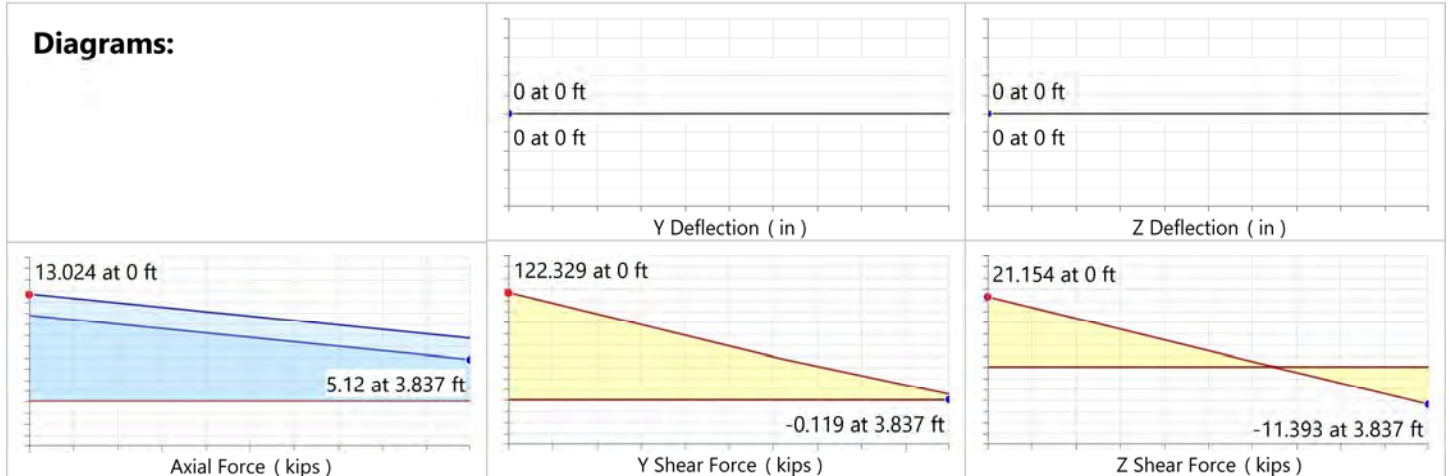
D (in):	24	W (in):	104
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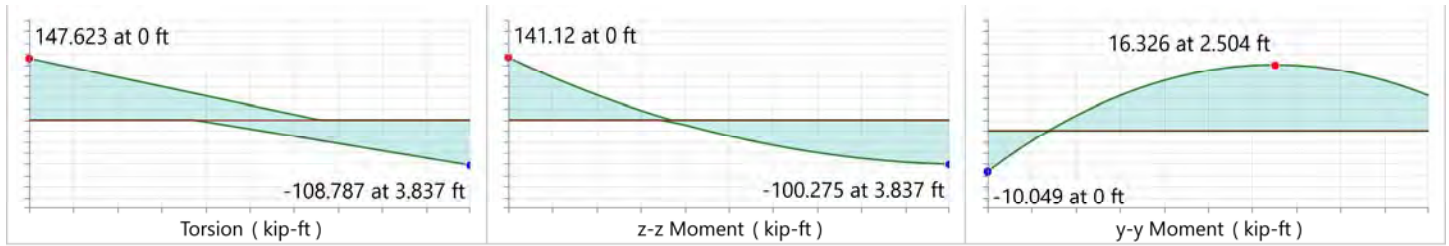
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





**ACI 318-14 Code Check**

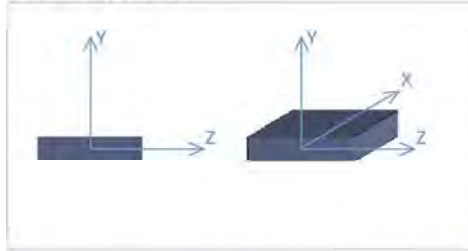
Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display



**Detail Report: A17**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN1B
Member Type:	Beam	J Node:	N2
Length (ft):	2.125	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

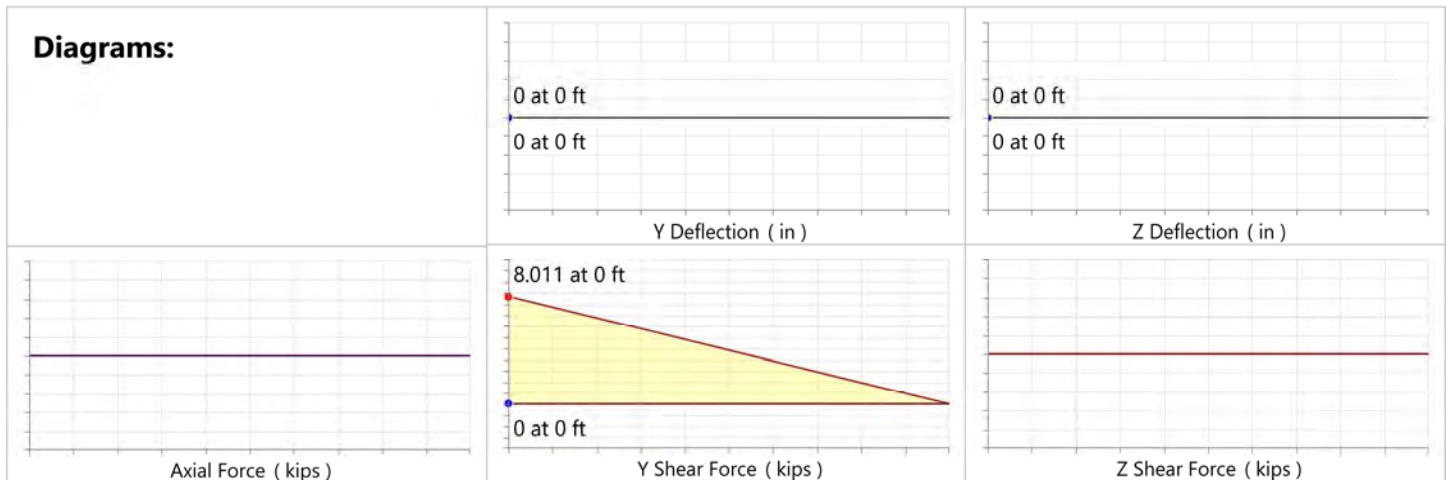
D (in):	24	W (in):	104
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**Design Properties:**

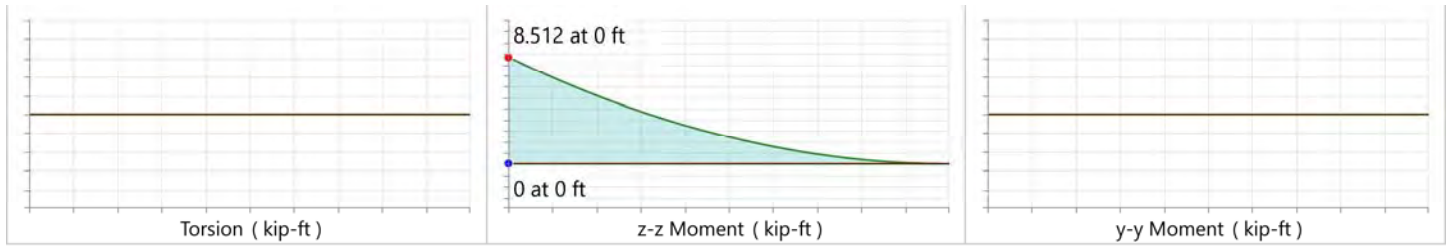
B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**







### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Project Grid Lines**

	Label	Start [ft]	End [ft]	Start [ft]	End [ft]	Start Bubble	End Bubble
1	NEW1	40	40	0	110	Yes	Yes

**Node Coordinates**

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	N1	107.479167	0	40	
2	N2	0	0	40	
3	RN1B	2.125	0	40	
4	RN1C	-0.208333	0	42.33333	
5	RN2A	5.961667	0	36.166667	
6	RN2B	5.961667	0	40	
7	RN2C	5.961667	0	42.333333	
8	RN3A	13.431667	0	36.166667	
9	RN3B	13.431667	0	40	
10	RN3C	13.431667	0	42.33333	
11	RN4A	20.901667	0	36.16667	
12	RN4B	20.901667	0	40	
13	RN4C	20.901667	0	42.33333	
14	RN5A	28.371667	0	36.16667	
15	RN5B	28.371667	0	40	
16	RN5C	28.371667	0	42.333333	
17	RN6A	35.841667	0	36.166667	
18	RN6B	35.841667	0	40	
19	RN6C	35.841667	0	42.33333	
20	RN7A	43.311667	0	36.166667	
21	RN7B	43.311667	0	40	
22	RN7C	43.316667	0	42.33333	
23	RN8A	50.781667	0	36.166667	
24	RN8B	50.781667	0	40	
25	RN8C	50.781667	0	42.333333	
26	RN9A	58.251667	0	36.166667	
27	RN9B	58.251667	0	40	
28	RN9C	58.251667	0	42.333333	
29	RN10A	65.721667	0	36.166667	
30	RN10B	65.721667	0	40	
31	RN10C	65.721667	0	42.33333	
32	RN11A	73.191667	0	36.16667	
33	RN11B	73.191667	0	40	
34	RN11C	73.191667	0	42.33333	
35	RN12A	80.661667	0	36.16667	
36	RN12B	80.661667	0	40	
37	RN12C	80.661667	0	42.333333	
38	RN13A	88.131667	0	36.166667	
39	RN13B	88.131667	0	40	
40	RN13C	88.131667	0	42.333333	
41	RN14A	95.601667	0	36.166667	
42	RN14B	95.601667	0	40	
43	RN14C	95.601667	0	42.33333	
44	RN15A	103.071667	0	36.166667	
45	RN15B	103.071667	0	40	
46	RN15C	103.071667	0	42.333333	
47	RN16A	109.241667	0	36.166667	
48	RN16B	105.45	0	40	

**Node Boundary Conditions**

	Node Label	X [k/in]	Y [k/in]	Z [k/in]
1	RN2A	Reaction	Reaction	Reaction
2	RN1C	Reaction	Reaction	Reaction

**Node Boundary Conditions (Continued)**

	Node Label	X [k/in]	Y [k/in]	Z [k/in]
3	RN2C	Reaction	Reaction	Reaction
4	RN3A	Reaction	Reaction	Reaction
5	RN3C	Reaction	Reaction	Reaction
6	RN4A	Reaction	Reaction	Reaction
7	RN5C	Reaction	Reaction	Reaction
8	RN6A	Reaction	Reaction	Reaction
9	RN7A	Reaction	Reaction	Reaction
10	RN6C	Reaction	Reaction	Reaction
11	RN8C	Reaction	Reaction	Reaction
12	RN9A	Reaction	Reaction	Reaction
13	RN9C	Reaction	Reaction	Reaction
14	RN10A	Reaction	Reaction	Reaction
15	RN10C	Reaction	Reaction	Reaction
16	RN13A	Reaction	Reaction	Reaction
17	RN11A	Reaction	Reaction	Reaction
18	RN15C	Reaction	Reaction	Reaction
19	RN16A	Reaction	Reaction	Reaction
20	RN14C	Reaction	Reaction	Reaction
21	RN15A	Reaction	Reaction	Reaction
22	RN12C	Reaction	Reaction	Reaction
23	RN4C	Reaction	Reaction	Reaction
24	RN5A	Reaction	Reaction	Reaction
25	RN8A	Reaction	Reaction	Reaction
26	RN7C	Reaction	Reaction	Reaction
27	RN11C	Reaction	Reaction	Reaction
28	RN12A	Reaction	Reaction	Reaction
29	RN13C	Reaction	Reaction	Reaction
30	RN14A	Reaction	Reaction	Reaction

**Concrete Properties**

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e <sup>-6</sup> F <sup>-1</sup> ]	Density [k/ft <sup>3</sup> ]	f <sub>c</sub> [ksi]	Lambda	Flex Steel [ksi]	Shear Steel [ksi]
1	Conc3000NW	3156	1372	0.15	0.6	0.145	3	1	60	60
2	Conc3500NW	3409	1482	0.15	0.6	0.145	3.5	1	60	60
3	Conc4000NW	3644	1584	0.15	0.6	0.145	4	1	60	60
4	Conc3000LW	2085	907	0.15	0.6	0.11	3	0.75	60	60
5	Conc3500LW	2252	979	0.15	0.6	0.11	3.5	0.75	60	60
6	Conc4000LW	2408	1047	0.15	0.6	0.11	4	0.75	60	60
7	CONC4500	4435	1584	0.15	0.6	0.145	4.5	1	60	60

**Concrete Section Sets**

	Label	Shape	Type	Design List	Material	Design Rule	Area [in <sup>2</sup> ]	I <sub>yy</sub> [in <sup>4</sup> ]	I <sub>zz</sub> [in <sup>4</sup> ]	J [in <sup>4</sup> ]
1	CONC1	CRECT24X104	Beam	Rectangular	CONC4500	Typical	2496	2.25e+06	1.198e+05	4.096e+05

**Member Primary Data**

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
1	A1	N1	RN16B	CONC1	Beam	Rectangular	CONC4500	Typical
2	A2	RN16B	RN15B	CONC1	Beam	Rectangular	CONC4500	Typical
3	A3	RN15B	RN14B	CONC1	Beam	Rectangular	CONC4500	Typical
4	A4	RN14B	RN13B	CONC1	Beam	Rectangular	CONC4500	Typical
5	A5	RN13B	RN12B	CONC1	Beam	Rectangular	CONC4500	Typical
6	A6	RN12B	RN11B	CONC1	Beam	Rectangular	CONC4500	Typical
7	A7	RN11B	RN10B	CONC1	Beam	Rectangular	CONC4500	Typical
8	A8	RN10B	RN9B	CONC1	Beam	Rectangular	CONC4500	Typical
9	A9	RN9B	RN8B	CONC1	Beam	Rectangular	CONC4500	Typical
10	A10	RN8B	RN7B	CONC1	Beam	Rectangular	CONC4500	Typical
11	A11	RN7B	RN6B	CONC1	Beam	Rectangular	CONC4500	Typical
12	A12	RN6B	RN5B	CONC1	Beam	Rectangular	CONC4500	Typical

**Member Primary Data (Continued)**

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
13	A13	RN5B	RN4B	CONC1	Beam	Rectangular	CONC4500	Typical
14	A14	RN4B	RN3B	CONC1	Beam	Rectangular	CONC4500	Typical
15	A15	RN3B	RN2B	CONC1	Beam	Rectangular	CONC4500	Typical
16	A16	RN2B	RN1B	CONC1	Beam	Rectangular	CONC4500	Typical
17	A17	RN1B	N2	CONC1	Beam	Rectangular	CONC4500	Typical
18	R1	RN1B	RN1C	RIGID	None	None	RIGID	Typical
19	R2	RN2A	RN2C	RIGID	None	None	RIGID	Typical
20	R3	RN3A	RN3C	RIGID	None	None	RIGID	Typical
21	R4	RN4A	RN4C	RIGID	None	None	RIGID	Typical
22	R5	RN5A	RN5C	RIGID	None	None	RIGID	Typical
23	R6	RN6A	RN6C	RIGID	None	None	RIGID	Typical
24	R7	RN7A	RN7C	RIGID	None	None	RIGID	Typical
25	R8	RN8A	RN8C	RIGID	None	None	RIGID	Typical
26	R9	RN9A	RN9C	RIGID	None	None	RIGID	Typical
27	R10	RN10A	RN10C	RIGID	None	None	RIGID	Typical
28	R11	RN11A	RN11C	RIGID	None	None	RIGID	Typical
29	R12	RN12A	RN12C	RIGID	None	None	RIGID	Typical
30	R13	RN13A	RN13C	RIGID	None	None	RIGID	Typical
31	R14	RN14A	RN14C	RIGID	None	None	RIGID	Typical
32	R15	RN15A	RN15C	RIGID	None	None	RIGID	Typical
33	M33	RN16A	RN16B	RIGID	None	None	RIGID	Typical

**Concrete Beam Design Parameters**

	Label	Shape	Length [ft]	Flexural Rebar Design	Flexural Layout	Shear Rebar Design	Shear Layout
1	A1	CONC1	2.029	Design Rule	Use Design Rule	Design Rule	Use Design Rule
2	A2	CONC1	2.378	Design Rule	Use Design Rule	Design Rule	Use Design Rule
3	A3	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
4	A4	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
5	A5	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
6	A6	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
7	A7	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
8	A8	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
9	A9	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
10	A10	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
11	A11	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
12	A12	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
13	A13	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
14	A14	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
15	A15	CONC1	7.47	Design Rule	Use Design Rule	Design Rule	Use Design Rule
16	A16	CONC1	3.837	Design Rule	Use Design Rule	Design Rule	Use Design Rule
17	A17	CONC1	2.125	Design Rule	Use Design Rule	Design Rule	Use Design Rule

**Member Point Loads**

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	A17	Y	-28.772	0
2	A1	Y	-22.088	%100

**Member Distributed Loads**

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	Y	-5.238	-5.238	0	%100
2	A3	Y	-5.238	-5.238	0	%100
3	A4	Y	-5.238	-5.238	0	%100
4	A5	Y	-5.238	-5.238	0	%100
5	A6	Y	-5.238	-5.238	0	%100
6	A7	Y	-5.238	-5.238	0	%100
7	A8	Y	-5.238	-5.238	0	%100
8	A9	Y	-5.238	-5.238	0	%100



**Member Distributed Loads (Continued)**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
9	A10	Y	-5.238	-5.238	0	%100
10	A11	Y	-5.238	-5.238	0	%100
11	A12	Y	-5.238	-5.238	0	%100
12	A13	Y	-5.238	-5.238	0	%100
13	A14	Y	-5.238	-5.238	0	%100
14	A15	Y	-5.238	-5.238	0	%100
15	A16	Y	-5.238	-5.238	0	%100
16	A10	Y	-1.841	-1.841	0	2.699
17	A9	Y	-1.841	-1.841	0	%100
18	A8	Y	-1.841	-1.841	6.326	%100

**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	Y	-6.027	-6.027	0	%100
2	A3	Y	-6.027	-6.027	0	%100
3	A4	Y	-6.027	-6.027	0	%100
4	A5	Y	-6.027	-6.027	0	%100
5	A6	Y	-6.027	-6.027	0	%100
6	A7	Y	-6.027	-6.027	0	%100
7	A8	Y	-6.027	-6.027	0	%100
8	A9	Y	-6.027	-6.027	0	%100
9	A10	Y	-6.027	-6.027	0	%100
10	A11	Y	-6.027	-6.027	0	%100
11	A12	Y	-6.027	-6.027	0	%100
12	A13	Y	-6.027	-6.027	0	%100
13	A14	Y	-6.027	-6.027	0	%100
14	A15	Y	-6.027	-6.027	0	%100
15	A16	Y	-6.027	-6.027	0	%100

**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	Y	-3.859	-3.859	0	%100
2	A3	Y	-3.859	-3.859	0	%100
3	A4	Y	-3.859	-3.859	0	%100
4	A5	Y	-3.859	-3.859	0	%100
5	A6	Y	-3.859	-3.859	0	%100
6	A7	Y	-3.859	-3.859	0	%100
7	A8	Y	-3.859	-3.859	0	%100
8	A9	Y	-3.859	-3.859	0	%100
9	A10	Y	-3.859	-3.859	0	%100
10	A11	Y	-3.859	-3.859	0	%100
11	A12	Y	-3.859	-3.859	0	%100
12	A13	Y	-3.859	-3.859	0	%100
13	A14	Y	-3.859	-3.859	0	%100
14	A15	Y	-3.859	-3.859	0	%100
15	A16	Y	-3.859	-3.859	0	%100

**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A2	Y	-4.397	-4.397	0	%100
2	A3	Y	-4.397	-4.397	0	%100
3	A4	Y	-4.397	-4.397	0	%100
4	A5	Y	-4.397	-4.397	0	%100
5	A6	Y	-4.397	-4.397	0	%100
6	A7	Y	-4.397	-4.397	0	%100
7	A8	Y	-4.397	-4.397	0	%100
8	A9	Y	-4.397	-4.397	0	%100



**Member Distributed Loads (Continued)**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
9	A10	Y	-4.397	-4.397	0	%100
10	A11	Y	-4.397	-4.397	0	%100
11	A12	Y	-4.397	-4.397	0	%100
12	A13	Y	-4.397	-4.397	0	%100
13	A14	Y	-4.397	-4.397	0	%100
14	A15	Y	-4.397	-4.397	0	%100
15	A16	Y	-4.397	-4.397	0	%100

**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A16	Mx	-15.32	-15.32	0	%100
2	A9	Mx	-15.32	-15.32	0	%100
3	A12	Mx	-15.32	-15.32	0	%100
4	A8	Mx	-15.32	-15.32	0	%100
5	A7	Mx	-15.32	-15.32	0	%100
6	A13	Mx	-15.32	-15.32	0	%100
7	A10	Mx	-15.32	-15.32	0	%100
8	A6	Mx	-15.32	-15.32	0	%100
9	A14	Mx	-15.32	-15.32	0	%100
10	A15	Mx	-15.32	-15.32	0	%100
11	A4	Mx	-15.32	-15.32	0	%100
12	A3	Mx	-15.32	-15.32	0	%100
13	A2	Mx	-15.32	-15.32	0	%100
14	A5	Mx	-15.32	-15.32	0	%100
15	A11	Mx	-15.32	-15.32	0	%100
16	A14	Z	3.62	3.62	0	%100
17	A13	Z	3.62	3.62	0	%100
18	A15	Z	3.62	3.62	0	%100
19	A12	Z	3.62	3.62	0	%100
20	A9	Z	3.62	3.62	0	%100
21	A10	Z	3.62	3.62	0	%100
22	A16	Z	3.62	3.62	0	%100
23	A8	Z	3.62	3.62	0	%100
24	A7	Z	3.62	3.62	0	%100
25	A6	Z	3.62	3.62	0	%100
26	A5	Z	3.62	3.62	0	%100
27	A4	Z	3.62	3.62	0	%100
28	A3	Z	3.62	3.62	0	%100
29	A11	Z	3.62	3.62	0	%100
30	A2	Z	3.62	3.62	0	%100

**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A13	Mx	-1.71	-1.71	0	%100
2	A8	Mx	-1.71	-1.71	0	%100
3	A10	Mx	-1.71	-1.71	0	%100
4	A11	Mx	-1.71	-1.71	0	%100
5	A7	Mx	-1.71	-1.71	0	%100
6	A6	Mx	-1.71	-1.71	0	%100
7	A12	Mx	-1.71	-1.71	0	%100
8	A9	Mx	-1.71	-1.71	0	%100
9	A5	Mx	-1.71	-1.71	0	%100
10	A16	Mx	-1.71	-1.71	0	%100
11	A4	Mx	-1.71	-1.71	0	%100
12	A14	Mx	-1.71	-1.71	0	%100
13	A15	Mx	-1.71	-1.71	0	%100
14	A3	Mx	-1.71	-1.71	0	%100
15	A2	Mx	-1.71	-1.71	0	%100



**Member Distributed Loads (Continued)**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
15	A2	Mx	-1.71	-1.71	0	%100
16	A14	X	0.197	0.197	0	%100
17	A12	X	0.197	0.197	0	%100
18	A11	X	0.197	0.197	0	%100
19	A15	X	0.197	0.197	0	%100
20	A16	X	0.197	0.197	0	%100
21	A10	X	0.197	0.197	0	%100
22	A13	X	0.197	0.197	0	%100
23	A2	X	0.197	0.197	0	%100
24	A9	X	0.197	0.197	0	%100
25	A8	X	0.197	0.197	0	%100
26	A3	X	0.197	0.197	0	%100
27	A7	X	0.197	0.197	0	%100
28	A6	X	0.197	0.197	0	%100
29	A4	X	0.197	0.197	0	%100
30	A5	X	0.197	0.197	0	%100
31	A10	Z	0.197	0.197	0	%100
32	A2	Z	0.197	0.197	0	%100
33	A15	Z	0.197	0.197	0	%100
34	A3	Z	0.197	0.197	0	%100
35	A14	Z	0.197	0.197	0	%100
36	A4	Z	0.197	0.197	0	%100
37	A5	Z	0.197	0.197	0	%100
38	A13	Z	0.197	0.197	0	%100
39	A12	Z	0.197	0.197	0	%100
40	A6	Z	0.197	0.197	0	%100
41	A11	Z	0.197	0.197	0	%100
42	A7	Z	0.197	0.197	0	%100
43	A8	Z	0.197	0.197	0	%100
44	A9	Z	0.197	0.197	0	%100
45	A16	Z	0.197	0.197	0	%100

**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A7	Mx	-0.62	-0.62	0	%100
2	A13	Mx	-0.62	-0.62	0	%100
3	A11	Mx	-0.62	-0.62	0	%100
4	A10	Mx	-0.62	-0.62	0	%100
5	A16	Mx	-0.62	-0.62	0	%100
6	A9	Mx	-0.62	-0.62	0	%100
7	A8	Mx	-0.62	-0.62	0	%100
8	A14	Mx	-0.62	-0.62	0	%100
9	A6	Mx	-0.62	-0.62	0	%100
10	A5	Mx	-0.62	-0.62	0	%100
11	A12	Mx	-0.62	-0.62	0	%100
12	A15	Mx	-0.62	-0.62	0	%100
13	A2	Mx	-0.62	-0.62	0	%100
14	A4	Mx	-0.62	-0.62	0	%100
15	A3	Mx	-0.62	-0.62	0	%100
16	A5	X	0.098	0.098	0	%100
17	A12	X	0.098	0.098	0	%100
18	A16	X	0.098	0.098	0	%100
19	A11	X	0.098	0.098	0	%100
20	A10	X	0.098	0.098	0	%100
21	A3	X	0.098	0.098	0	%100
22	A9	X	0.098	0.098	0	%100
23	A15	X	0.098	0.098	0	%100
24	A4	X	0.098	0.098	0	%100



**Member Distributed Loads (Continued)**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
25	A8	X	0.098	0.098	0	%100
26	A13	X	0.098	0.098	0	%100
27	A7	X	0.098	0.098	0	%100
28	A14	X	0.098	0.098	0	%100
29	A6	X	0.098	0.098	0	%100
30	A2	X	0.098	0.098	0	%100
31	A14	Z	0.098	0.098	0	%100
32	A13	Z	0.098	0.098	0	%100
33	A15	Z	0.098	0.098	0	%100
34	A9	Z	0.098	0.098	0	%100
35	A11	Z	0.098	0.098	0	%100
36	A10	Z	0.098	0.098	0	%100
37	A8	Z	0.098	0.098	0	%100
38	A7	Z	0.098	0.098	0	%100
39	A6	Z	0.098	0.098	0	%100
40	A5	Z	0.098	0.098	0	%100
41	A4	Z	0.098	0.098	0	%100
42	A3	Z	0.098	0.098	0	%100
43	A2	Z	0.098	0.098	0	%100
44	A12	Z	0.098	0.098	0	%100
45	A16	Z	0.098	0.098	0	%100

**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A5	Z	0.024	0.024	0	%100
2	A10	Z	0.024	0.024	0	%100
3	A8	Z	0.024	0.024	0	%100
4	A7	Z	0.024	0.024	0	%100
5	A11	Z	0.024	0.024	0	%100
6	A12	Z	0.024	0.024	0	%100
7	A6	Z	0.024	0.024	0	%100
8	A9	Z	0.024	0.024	0	%100
9	A13	Z	0.024	0.024	0	%100
10	A16	Z	0.024	0.024	0	%100
11	A4	Z	0.024	0.024	0	%100
12	A14	Z	0.024	0.024	0	%100
13	A3	Z	0.024	0.024	0	%100
14	A15	Z	0.024	0.024	0	%100
15	A2	Z	0.024	0.024	0	%100
16	A14	X	0.024	0.024	0	%100
17	A12	X	0.024	0.024	0	%100
18	A11	X	0.024	0.024	0	%100
19	A15	X	0.024	0.024	0	%100
20	A10	X	0.024	0.024	0	%100
21	A16	X	0.024	0.024	0	%100
22	A13	X	0.024	0.024	0	%100
23	A2	X	0.024	0.024	0	%100
24	A9	X	0.024	0.024	0	%100
25	A8	X	0.024	0.024	0	%100
26	A7	X	0.024	0.024	0	%100
27	A3	X	0.024	0.024	0	%100
28	A6	X	0.024	0.024	0	%100
29	A4	X	0.024	0.024	0	%100
30	A5	X	0.024	0.024	0	%100
31	A10	Mx	-0.3	-0.3	0	%100
32	A2	Mx	-0.3	-0.3	0	%100
33	A15	Mx	-0.3	-0.3	0	%100
34	A3	Mx	-0.3	-0.3	0	%100



**Member Distributed Loads (Continued)**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
35	A14	Mx	-0.3	-0.3	0	%100
36	A4	Mx	-0.3	-0.3	0	%100
37	A5	Mx	-0.3	-0.3	0	%100
38	A13	Mx	-0.3	-0.3	0	%100
39	A12	Mx	-0.3	-0.3	0	%100
40	A6	Mx	-0.3	-0.3	0	%100
41	A11	Mx	-0.3	-0.3	0	%100
42	A7	Mx	-0.3	-0.3	0	%100
43	A8	Mx	-0.3	-0.3	0	%100
44	A9	Mx	-0.3	-0.3	0	%100
45	A16	Mx	-0.3	-0.3	0	%100

**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A12	Mx	-7.59	-7.59	0	%100
2	A16	Mx	-7.59	-7.59	0	%100
3	A10	Mx	-7.59	-7.59	0	%100
4	A7	Mx	-7.59	-7.59	0	%100
5	A6	Mx	-7.59	-7.59	0	%100
6	A11	Mx	-7.59	-7.59	0	%100
7	A5	Mx	-7.59	-7.59	0	%100
8	A8	Mx	-7.59	-7.59	0	%100
9	A9	Mx	-7.59	-7.59	0	%100
10	A14	Mx	-7.59	-7.59	0	%100
11	A4	Mx	-7.59	-7.59	0	%100
12	A3	Mx	-7.59	-7.59	0	%100
13	A15	Mx	-7.59	-7.59	0	%100
14	A2	Mx	-7.59	-7.59	0	%100
15	A13	Mx	-7.59	-7.59	0	%100
16	A13	X	0.874	0.874	0	%100
17	A12	X	0.874	0.874	0	%100
18	A14	X	0.874	0.874	0	%100
19	A11	X	0.874	0.874	0	%100
20	A10	X	0.874	0.874	0	%100
21	A15	X	0.874	0.874	0	%100
22	A9	X	0.874	0.874	0	%100
23	A16	X	0.874	0.874	0	%100
24	A5	X	0.874	0.874	0	%100
25	A8	X	0.874	0.874	0	%100
26	A7	X	0.874	0.874	0	%100
27	A2	X	0.874	0.874	0	%100
28	A3	X	0.874	0.874	0	%100
29	A6	X	0.874	0.874	0	%100
30	A4	X	0.874	0.874	0	%100
31	A16	Z	0.874	0.874	0	%100
32	A15	Z	0.874	0.874	0	%100
33	A3	Z	0.874	0.874	0	%100
34	A14	Z	0.874	0.874	0	%100
35	A13	Z	0.874	0.874	0	%100
36	A9	Z	0.874	0.874	0	%100
37	A8	Z	0.874	0.874	0	%100
38	A12	Z	0.874	0.874	0	%100
39	A5	Z	0.874	0.874	0	%100
40	A11	Z	0.874	0.874	0	%100
41	A6	Z	0.874	0.874	0	%100
42	A7	Z	0.874	0.874	0	%100
43	A10	Z	0.874	0.874	0	%100
44	A4	Z	0.874	0.874	0	%100



**Member Distributed Loads (Continued)**

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
45	A2	Z	0.874	0.874	0 %100

**Member Distributed Loads**

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A5	Mx	-31.46	-31.46	0 %100
2	A8	Mx	-31.46	-31.46	0 %100
3	A11	Mx	-31.46	-31.46	0 %100
4	A7	Mx	-31.46	-31.46	0 %100
5	A6	Mx	-31.46	-31.46	0 %100
6	A12	Mx	-31.46	-31.46	0 %100
7	A13	Mx	-31.46	-31.46	0 %100
8	A10	Mx	-31.46	-31.46	0 %100
9	A9	Mx	-31.46	-31.46	0 %100
10	A4	Mx	-31.46	-31.46	0 %100
11	A15	Mx	-31.46	-31.46	0 %100
12	A3	Mx	-31.46	-31.46	0 %100
13	A16	Mx	-31.46	-31.46	0 %100
14	A2	Mx	-31.46	-31.46	0 %100
15	A14	Mx	-31.46	-31.46	0 %100
16	A13	X	1.24	1.24	0 %100
17	A14	X	1.24	1.24	0 %100
18	A12	X	1.24	1.24	0 %100
19	A15	X	1.24	1.24	0 %100
20	A11	X	1.24	1.24	0 %100
21	A10	X	1.24	1.24	0 %100
22	A2	X	1.24	1.24	0 %100
23	A16	X	1.24	1.24	0 %100
24	A9	X	1.24	1.24	0 %100
25	A8	X	1.24	1.24	0 %100
26	A3	X	1.24	1.24	0 %100
27	A7	X	1.24	1.24	0 %100
28	A4	X	1.24	1.24	0 %100
29	A6	X	1.24	1.24	0 %100
30	A5	X	1.24	1.24	0 %100
31	A2	Z	2.48	2.48	0 %100
32	A15	Z	2.48	2.48	0 %100
33	A3	Z	2.48	2.48	0 %100
34	A14	Z	2.48	2.48	0 %100
35	A4	Z	2.48	2.48	0 %100
36	A13	Z	2.48	2.48	0 %100
37	A16	Z	2.48	2.48	0 %100
38	A12	Z	2.48	2.48	0 %100
39	A6	Z	2.48	2.48	0 %100
40	A7	Z	2.48	2.48	0 %100
41	A11	Z	2.48	2.48	0 %100
42	A10	Z	2.48	2.48	0 %100
43	A8	Z	2.48	2.48	0 %100
44	A5	Z	2.48	2.48	0 %100
45	A9	Z	2.48	2.48	0 %100

**Member Distributed Loads**

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	A5	Mx	-31.46	-31.46	0 %100
2	A8	Mx	-31.46	-31.46	0 %100
3	A11	Mx	-31.46	-31.46	0 %100
4	A7	Mx	-31.46	-31.46	0 %100
5	A6	Mx	-31.46	-31.46	0 %100
6	A12	Mx	-31.46	-31.46	0 %100

**Member Distributed Loads (Continued)**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
6	A12	Mx	-31.46	-31.46	0	%100
7	A13	Mx	-31.46	-31.46	0	%100
8	A10	Mx	-31.46	-31.46	0	%100
9	A9	Mx	-31.46	-31.46	0	%100
10	A4	Mx	-31.46	-31.46	0	%100
11	A15	Mx	-31.46	-31.46	0	%100
12	A3	Mx	-31.46	-31.46	0	%100
13	A16	Mx	-31.46	-31.46	0	%100
14	A2	Mx	-31.46	-31.46	0	%100
15	A14	Mx	-31.46	-31.46	0	%100
16	A13	X	1.24	1.24	0	%100
17	A14	X	1.24	1.24	0	%100
18	A12	X	1.24	1.24	0	%100
19	A15	X	1.24	1.24	0	%100
20	A11	X	1.24	1.24	0	%100
21	A10	X	1.24	1.24	0	%100
22	A2	X	1.24	1.24	0	%100
23	A16	X	1.24	1.24	0	%100
24	A9	X	1.24	1.24	0	%100
25	A8	X	1.24	1.24	0	%100
26	A3	X	1.24	1.24	0	%100
27	A7	X	1.24	1.24	0	%100
28	A4	X	1.24	1.24	0	%100
29	A6	X	1.24	1.24	0	%100
30	A5	X	1.24	1.24	0	%100
31	A2	Z	2.48	2.48	0	%100
32	A15	Z	2.48	2.48	0	%100
33	A3	Z	2.48	2.48	0	%100
34	A14	Z	2.48	2.48	0	%100
35	A4	Z	2.48	2.48	0	%100
36	A13	Z	2.48	2.48	0	%100
37	A16	Z	2.48	2.48	0	%100
38	A12	Z	2.48	2.48	0	%100
39	A6	Z	2.48	2.48	0	%100
40	A7	Z	2.48	2.48	0	%100
41	A11	Z	2.48	2.48	0	%100
42	A10	Z	2.48	2.48	0	%100
43	A8	Z	2.48	2.48	0	%100
44	A5	Z	2.48	2.48	0	%100
45	A9	Z	2.48	2.48	0	%100

**Basic Load Cases**

	BLC Description	Category	Y Gravity	Point	Distributed
1	wDC	DL	-1		18
2	wAbut	DL			15
3	PDC WW	DL		2	
4	DW	OL1			15
5	LL	LL			15
6	Sur	LL			
7	EH	EPL			30
8	WS-super	WL			45
9	WS-sub	WL			45
10	BR	LL			45
11	TU	OL2			45
12	EQ	EL			45
13	EQ Rev	None			45

**Load Combinations**

	Description	Solve	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	Strength I-a	Yes	DL	0.9	4	0.65	LL	1.75	EPL	1.5	11	1.2		
2	Strength I-b	Yes	DL	1.25	4	1.5	LL	1.75	EPL	1.5	11	1.2		
3	Strength IV	Yes	DL	1.5	4	1.5	LL		EPL	1.5	11	1.2		
4	Strength V	Yes	DL	1.25	4	1.5	LL	1.35	EPL	1.5	11	1.2	WL	1
5	Ext Event I	Yes	DL	1	4	1	LL	0.5	EPL	1	11		EL	1
6	Service I	Yes	DL	1	4	1	LL	1	EPL	1	11	1.2	WL	1
7	DL Only		DL	1	4		LL		EPL		11			
8	LL Only		DL		4		LL	1	EPL		11			
9	EH Only		DL		4		LL		EPL	1	11			
10	EQ Only		DL		4		LL		EPL		11		EL	1

**Load Combination Design**

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	Strength I-a					Yes				Yes
2	Strength I-b					Yes				Yes
3	Strength IV					Yes				Yes
4	Strength V					Yes				Yes
5	Ext Event I					Yes				Yes
6	Service I					Yes				Yes
7	DL Only					Yes				Yes
8	LL Only					Yes				Yes
9	EH Only					Yes				Yes
10	EQ Only					Yes				Yes

**Node Reactions**

	LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	RN2A	-9.007	36.017	-15.369	0	0	0
2	1	RN1C	5.879	30.651	-8.75	0	0	0
3	1	RN2C	-5.122	134.35	-25.25	0	0	0
4	1	RN3A	-3.084	24.776	-18.432	0	0	0
5	1	RN3C	-5.073	145.11	-30.281	0	0	0
6	1	RN4A	-3.081	24.287	-18.431	0	0	0
7	1	RN5C	-5.067	144.496	-30.279	0	0	0
8	1	RN6A	-3.081	24.401	-18.431	0	0	0
9	1	RN7A	-3.081	24.333	-18.431	0	0	0
10	1	RN6C	-5.067	144.495	-30.279	0	0	0
11	1	RN8C	-5.067	151.293	-30.279	0	0	0
12	1	RN9A	-3.081	27.586	-18.431	0	0	0
13	1	RN9C	-5.067	149.728	-30.279	0	0	0
14	1	RN10A	-3.081	24.094	-18.431	0	0	0
15	1	RN10C	-5.067	143.992	-30.279	0	0	0
16	1	RN13A	-3.081	24.072	-18.431	0	0	0
17	1	RN11A	-3.081	24.436	-18.431	0	0	0
18	1	RN15C	-11.616	131.775	-21.335	0	0	0
19	1	RN16A	4.705	6.108	-5.542	0	0	0
20	1	RN14C	-5.066	146.544	-30.281	0	0	0
21	1	RN15A	0.241	22.092	-12.986	0	0	0
22	1	RN12C	-5.067	144.565	-30.279	0	0	0
23	1	RN4C	-5.067	144.308	-30.279	0	0	0
24	1	RN5A	-3.081	24.401	-18.431	0	0	0
25	1	RN8A	-3.081	28.538	-18.431	0	0	0
26	1	RN7C	-5.067	144.384	-30.279	0	0	0
27	1	RN11C	-5.067	144.554	-30.279	0	0	0
28	1	RN12A	-3.081	24.443	-18.431	0	0	0
29	1	RN13C	-5.067	143.955	-30.279	0	0	0
30	1	RN14A	-3.081	25.648	-18.432	0	0	0
31	1	Totals:	-112.707	2409.432	-673.762			



**Node Reactions (Continued)**

LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
32	1	COG (ft):	X: 53.653	Y: 0	Z: 40		
33	2	RN2A	-9.007	63.797	-15.369	0	0
34	2	RN1C	5.879	41.829	-8.75	0	0
35	2	RN2C	-5.122	168.813	-25.25	0	0
36	2	RN3A	-3.084	47.616	-18.432	0	0
37	2	RN3C	-5.073	182.632	-30.281	0	0
38	2	RN4A	-3.081	47.204	-18.431	0	0
39	2	RN5C	-5.067	182.112	-30.279	0	0
40	2	RN6A	-3.081	47.31	-18.431	0	0
41	2	RN7A	-3.081	47.215	-18.431	0	0
42	2	RN6C	-5.067	182.131	-30.279	0	0
43	2	RN8C	-5.067	191.578	-30.279	0	0
44	2	RN9A	-3.081	51.732	-18.431	0	0
45	2	RN9C	-5.067	189.397	-30.279	0	0
46	2	RN10A	-3.081	46.884	-18.431	0	0
47	2	RN10C	-5.067	181.432	-30.279	0	0
48	2	RN13A	-3.081	46.841	-18.431	0	0
49	2	RN11A	-3.081	47.358	-18.431	0	0
50	2	RN15C	-11.616	167.77	-21.335	0	0
51	2	RN16A	4.705	8.787	-5.542	0	0
52	2	RN14C	-5.066	185.057	-30.281	0	0
53	2	RN15A	0.241	41.324	-12.986	0	0
54	2	RN12C	-5.067	182.233	-30.279	0	0
55	2	RN4C	-5.067	181.958	-30.279	0	0
56	2	RN5A	-3.081	47.298	-18.431	0	0
57	2	RN8A	-3.081	53.059	-18.431	0	0
58	2	RN7C	-5.067	181.975	-30.279	0	0
59	2	RN11C	-5.067	182.211	-30.279	0	0
60	2	RN12A	-3.081	47.372	-18.431	0	0
61	2	RN13C	-5.067	181.361	-30.279	0	0
62	2	RN14A	-3.081	49.09	-18.432	0	0
63	2	Totals:	-112.707	3275.375	-673.762		
64	2	COG (ft):	X: 53.65	Y: 0	Z: 40		
65	3	RN2A	-8.863	55.911	-15.265	0	0
66	3	RN1C	5.879	44.421	-8.708	0	0
67	3	RN2C	-4.948	151.561	-25.078	0	0
68	3	RN3A	-2.966	35.715	-18.313	0	0
69	3	RN3C	-4.878	161.4	-30.086	0	0
70	3	RN4A	-2.962	35.958	-18.312	0	0
71	3	RN5C	-4.872	161.685	-30.084	0	0
72	3	RN6A	-2.962	35.945	-18.312	0	0
73	3	RN7A	-2.962	35.822	-18.312	0	0
74	3	RN6C	-4.872	161.78	-30.084	0	0
75	3	RN8C	-4.872	173.107	-30.084	0	0
76	3	RN9A	-2.962	41.245	-18.312	0	0
77	3	RN9C	-4.872	170.488	-30.084	0	0
78	3	RN10A	-2.962	35.423	-18.312	0	0
79	3	RN10C	-4.872	160.923	-30.084	0	0
80	3	RN13A	-2.962	35.637	-18.312	0	0
81	3	RN11A	-2.962	36.012	-18.312	0	0
82	3	RN15C	-11.418	156.231	-21.191	0	0
83	3	RN16A	4.691	11.456	-5.516	0	0
84	3	RN14C	-4.871	163.55	-30.086	0	0
85	3	RN15A	0.314	32.468	-12.899	0	0
86	3	RN12C	-4.872	161.783	-30.084	0	0
87	3	RN4C	-4.872	161.801	-30.084	0	0
88	3	RN5A	-2.962	35.887	-18.312	0	0
89	3	RN8A	-2.962	42.839	-18.312	0	0



**Node Reactions (Continued)**

LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
90	3	RN7C	-4.872	161.576	-30.084	0	0	0
91	3	RN11C	-4.872	161.89	-30.084	0	0	0
92	3	RN12A	-2.962	35.947	-18.312	0	0	0
93	3	RN13C	-4.872	161.274	-30.084	0	0	0
94	3	RN14A	-2.962	37.022	-18.313	0	0	0
95	3	Totals:	-108.367	2856.758	-669.422			
96	3	COG (ft):	X: 53.599	Y: 0	Z: 40			
97	4	RN2A	-9.986	56.086	-16.078	0	0	0
98	4	RN1C	5.881	40.952	-9.037	0	0	0
99	4	RN2C	-6.306	164.192	-26.414	0	0	0
100	4	RN3A	-3.89	39.916	-19.239	0	0	0
101	4	RN3C	-6.399	177.058	-31.606	0	0	0
102	4	RN4A	-3.887	39.569	-19.238	0	0	0
103	4	RN5C	-6.393	176.616	-31.605	0	0	0
104	4	RN6A	-3.887	39.663	-19.238	0	0	0
105	4	RN7A	-3.887	39.566	-19.238	0	0	0
106	4	RN6C	-6.393	176.644	-31.605	0	0	0
107	4	RN8C	-6.393	186.087	-31.605	0	0	0
108	4	RN9A	-3.887	44.084	-19.238	0	0	0
109	4	RN9C	-6.393	183.908	-31.605	0	0	0
110	4	RN10A	-3.887	39.235	-19.238	0	0	0
111	4	RN10C	-6.393	175.941	-31.605	0	0	0
112	4	RN13A	-3.887	39.245	-19.238	0	0	0
113	4	RN11A	-3.887	39.713	-19.238	0	0	0
114	4	RN15C	-12.964	163.554	-22.309	0	0	0
115	4	RN16A	4.801	8.873	-5.72	0	0	0
116	4	RN14C	-6.392	179.22	-31.606	0	0	0
117	4	RN15A	-0.252	35.147	-13.579	0	0	0
118	4	RN12C	-6.393	176.722	-31.605	0	0	0
119	4	RN4C	-6.393	176.489	-31.605	0	0	0
120	4	RN5A	-3.887	39.646	-19.238	0	0	0
121	4	RN8A	-3.887	45.411	-19.238	0	0	0
122	4	RN7C	-6.393	176.485	-31.605	0	0	0
123	4	RN11C	-6.393	176.727	-31.605	0	0	0
124	4	RN12A	-3.887	39.71	-19.238	0	0	0
125	4	RN13C	-6.393	175.957	-31.605	0	0	0
126	4	RN14A	-3.887	41.231	-19.238	0	0	0
127	4	Totals:	-142.196	3093.647	-703.251			
128	4	COG (ft):	X: 53.642	Y: 0	Z: 40			
129	5	RN2A	-9.007	11.84	-14.441	0	0	0
130	5	RN1C	5.264	31.545	-8.109	0	0	0
131	5	RN2C	-5.728	140.196	-23.724	0	0	0
132	5	RN3A	-3.539	-0.441	-17.276	0	0	0
133	5	RN3C	-5.821	149.517	-28.383	0	0	0
134	5	RN4A	-3.536	-0.866	-17.275	0	0	0
135	5	RN5C	-5.816	148.98	-28.381	0	0	0
136	5	RN6A	-3.536	-0.759	-17.275	0	0	0
137	5	RN7A	-3.536	-0.839	-17.275	0	0	0
138	5	RN6C	-5.816	148.996	-28.381	0	0	0
139	5	RN8C	-5.816	156.538	-28.381	0	0	0
140	5	RN9A	-3.536	2.777	-17.275	0	0	0
141	5	RN9C	-5.816	154.805	-28.381	0	0	0
142	5	RN10A	-3.536	-1.106	-17.275	0	0	0
143	5	RN10C	-5.816	148.425	-28.381	0	0	0
144	5	RN13A	-3.536	-0.961	-17.275	0	0	0
145	5	RN11A	-3.536	-0.713	-17.275	0	0	0
146	5	RN15C	-11.699	137.84	-20.036	0	0	0
147	5	RN16A	4.304	6.966	-5.133	0	0	0

**Node Reactions (Continued)**

LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
148	5	RN14C	-5.815	150.16	-28.382	0	0	0
149	5	RN15A	-0.261	2.093	-12.196	0	0	0
150	5	RN12C	-5.816	148.998	-28.381	0	0	0
151	5	RN4C	-5.816	148.82	-28.381	0	0	0
152	5	RN5A	-3.536	-0.769	-17.275	0	0	0
153	5	RN8A	-3.536	3.832	-17.275	0	0	0
154	5	RN7C	-5.816	148.865	-28.381	0	0	0
155	5	RN11C	-5.816	149.072	-28.381	0	0	0
156	5	RN12A	-3.536	-0.758	-17.275	0	0	0
157	5	RN13C	-5.816	148.664	-28.381	0	0	0
158	5	RN14A	-3.536	-0.05	-17.276	0	0	0
159	5	Totals:	-129.363	2131.666	-631.522			
160	5	COG (ft):	X: 53.619	Y: 0	Z: 40			
161	6	RN2A	-8.203	42.684	-11.837	0	0	0
162	6	RN1C	3.924	32.136	-6.478	0	0	0
163	6	RN2C	-6.071	125.792	-19.446	0	0	0
164	6	RN3A	-3.866	29.663	-14.099	0	0	0
165	6	RN3C	-6.358	135.354	-23.162	0	0	0
166	6	RN4A	-3.863	29.465	-14.098	0	0	0
167	6	RN5C	-6.354	135.1	-23.161	0	0	0
168	6	RN6A	-3.863	29.525	-14.098	0	0	0
169	6	RN7A	-3.863	29.447	-14.098	0	0	0
170	6	RN6C	-6.354	135.129	-23.161	0	0	0
171	6	RN8C	-6.354	142.683	-23.161	0	0	0
172	6	RN9A	-3.863	33.061	-14.098	0	0	0
173	6	RN9C	-6.354	140.939	-23.161	0	0	0
174	6	RN10A	-3.863	29.182	-14.098	0	0	0
175	6	RN10C	-6.354	134.565	-23.161	0	0	0
176	6	RN13A	-3.863	29.218	-14.098	0	0	0
177	6	RN11A	-3.863	29.566	-14.098	0	0	0
178	6	RN15C	-10.769	125.929	-16.409	0	0	0
179	6	RN16A	3.352	7.198	-4.095	0	0	0
180	6	RN14C	-6.353	137.003	-23.162	0	0	0
181	6	RN15A	-0.946	26.303	-9.988	0	0	0
182	6	RN12C	-6.354	135.179	-23.161	0	0	0
183	6	RN4C	-6.354	135.031	-23.161	0	0	0
184	6	RN5A	-3.863	29.507	-14.098	0	0	0
185	6	RN8A	-3.863	34.123	-14.098	0	0	0
186	6	RN7C	-6.354	135	-23.161	0	0	0
187	6	RN11C	-6.354	135.197	-23.161	0	0	0
188	6	RN12A	-3.863	29.555	-14.098	0	0	0
189	6	RN13C	-6.354	134.625	-23.161	0	0	0
190	6	RN14A	-3.863	30.665	-14.099	0	0	0
191	6	Totals:	-141.328	2358.826	-515.364			
192	6	COG (ft):	X: 53.635	Y: 0	Z: 40			

**Node Displacements**

LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]	
1	1	N1	0	-0.001	0	3.284e-5	3.368e-7	-1.998e-5
2	1	N2	0	0	0	-7.63e-6	-1.188e-6	-3.81e-5
3	1	RN1B	0	-0.001	0	-7.63e-6	-1.188e-6	-4.09e-5
4	1	RN1C	0	0	0	-7.647e-6	-1.189e-6	-4.091e-5
5	1	RN2A	0	0	0	3.567e-8	0	-8.629e-6
6	1	RN2B	0	0	0	0	0	-8.629e-6
7	1	RN2C	0	0	0	-5.51e-8	0	-8.629e-6
8	1	RN3A	0	0	0	2.98e-8	0	2.154e-6
9	1	RN3B	0	0	0	0	0	2.154e-6
10	1	RN3C	0	0	0	-5.329e-8	0	2.154e-6

**Node Displacements (Continued)**

LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]	
11	1	RN4A	0	0	0	2.942e-8	0	-5.444e-7
12	1	RN4B	0	0	0	0	0	-5.444e-7
13	1	RN4C	0	0	0	-5.284e-8	0	-5.444e-7
14	1	RN5A	0	0	0	2.951e-8	0	1.662e-7
15	1	RN5B	0	0	0	0	0	1.662e-7
16	1	RN5C	0	0	0	-5.295e-8	0	1.662e-7
17	1	RN6A	0	0	0	2.951e-8	0	-1.639e-7
18	1	RN6B	0	0	0	0	0	-1.639e-7
19	1	RN6C	0	0	0	-5.295e-8	0	-1.639e-7
20	1	RN7A	0	0	0	2.989e-8	0	5.324e-7
21	1	RN7B	0	0	0	0	0	5.324e-7
22	1	RN7C	0	0	0	-5.246e-8	0	5.325e-7
23	1	RN8A	0	0	0	3.274e-8	0	-4.927e-6
24	1	RN8B	0	0	0	0	0	-4.927e-6
25	1	RN8C	0	0	0	-5.676e-8	0	-4.927e-6
26	1	RN9A	0	0	0	3.2e-8	0	6.781e-6
27	1	RN9B	0	0	0	0	0	6.781e-6
28	1	RN9C	0	0	0	-5.588e-8	0	6.781e-6
29	1	RN10A	0	0	0	2.927e-8	0	-1.635e-6
30	1	RN10B	0	0	0	0	0	-1.635e-6
31	1	RN10C	0	0	0	-5.267e-8	0	-1.635e-6
32	1	RN11A	0	0	0	2.954e-8	0	5.082e-7
33	1	RN11B	0	0	0	0	0	5.082e-7
34	1	RN11C	0	0	0	-5.298e-8	0	5.082e-7
35	1	RN12A	0	0	0	2.954e-8	0	-5.308e-7
36	1	RN12B	0	0	0	0	0	-5.308e-7
37	1	RN12C	0	0	0	-5.299e-8	0	-5.308e-7
38	1	RN13A	0	0	0	2.925e-8	0	1.754e-6
39	1	RN13B	0	0	0	0	0	1.754e-6
40	1	RN13C	0	0	0	-5.265e-8	0	1.754e-6
41	1	RN14A	0	0	0	3.048e-8	0	-6.944e-6
42	1	RN14B	0	0	0	0	0	-6.944e-6
43	1	RN14C	0	0	0	-5.41e-8	0	-6.944e-6
44	1	RN15A	0	0	0	2.681e-8	0	2.784e-5
45	1	RN15B	0	0	0	0	0	2.784e-5
46	1	RN15C	0	0	0	-4.822e-8	0	2.784e-5
47	1	RN16A	0	0	0	3.285e-5	3.379e-7	-1.753e-5
48	1	RN16B	0	0	0	3.284e-5	3.368e-7	-1.754e-5
49	2	N1	0	-0.001	0	3.825e-5	3.368e-7	-2.27e-5
50	2	N2	0	-0.001	0	-2.985e-5	-1.188e-6	-4.383e-5
51	2	RN1B	0	-0.002	0	-2.985e-5	-1.188e-6	-4.772e-5
52	2	RN1C	0	0	0	-2.987e-5	-1.189e-6	-4.774e-5
53	2	RN2A	0	0	0	5.628e-8	0	-7.264e-6
54	2	RN2B	0	0	0	-1.122e-8	0	-7.264e-6
55	2	RN2C	0	0	0	-7.739e-8	0	-7.264e-6
56	2	RN3A	0	0	0	4.766e-8	0	1.814e-6
57	2	RN3B	0	0	0	0	0	1.814e-6
58	2	RN3C	0	0	0	-7.431e-8	0	1.814e-6
59	2	RN4A	0	0	0	4.734e-8	0	-4.618e-7
60	2	RN4B	0	0	0	0	0	-4.618e-7
61	2	RN4C	0	0	0	-7.393e-8	0	-4.618e-7
62	2	RN5A	0	0	0	4.741e-8	0	1.536e-7
63	2	RN5B	0	0	0	0	0	1.536e-7
64	2	RN5C	0	0	0	-7.402e-8	0	1.536e-7
65	2	RN6A	0	0	0	4.742e-8	0	-1.929e-7
66	2	RN6B	0	0	0	0	0	-1.929e-7
67	2	RN6C	0	0	0	-7.403e-8	0	-1.929e-7
68	2	RN7A	0	0	0	4.789e-8	0	6.682e-7

**Node Displacements (Continued)**

	LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]
69	2	RN7B	0	0	0	0	0	6.682e-7
70	2	RN7C	0	0	0	-7.34e-8	0	6.682e-7
71	2	RN8A	0	0	0	5.192e-8	0	-6.825e-6
72	2	RN8B	0	0	0	0	0	-6.825e-6
73	2	RN8C	0	0	0	-7.932e-8	0	-6.825e-6
74	2	RN9A	0	0	0	5.088e-8	0	9.413e-6
75	2	RN9B	0	0	0	0	0	9.413e-6
76	2	RN9C	0	0	0	-7.809e-8	0	9.413e-6
77	2	RN10A	0	0	0	4.709e-8	0	-2.271e-6
78	2	RN10B	0	0	0	0	0	-2.271e-6
79	2	RN10C	0	0	0	-7.363e-8	0	-2.271e-6
80	2	RN11A	0	0	0	4.746e-8	0	7.097e-7
81	2	RN11B	0	0	0	0	0	7.097e-7
82	2	RN11C	0	0	0	-7.407e-8	0	7.097e-7
83	2	RN12A	0	0	0	4.747e-8	0	-7.538e-7
84	2	RN12B	0	0	0	0	0	-7.538e-7
85	2	RN12C	0	0	0	-7.408e-8	0	-7.538e-7
86	2	RN13A	0	0	0	4.706e-8	0	2.503e-6
87	2	RN13B	0	0	0	0	0	2.503e-6
88	2	RN13C	0	0	0	-7.359e-8	0	2.503e-6
89	2	RN14A	0	0	0	4.882e-8	0	-9.911e-6
90	2	RN14B	0	0	0	0	0	-9.911e-6
91	2	RN14C	0	0	0	-7.566e-8	0	-9.911e-6
92	2	RN15A	0	0	0	4.229e-8	0	3.973e-5
93	2	RN15B	0	0	0	0	0	3.973e-5
94	2	RN15C	0	0	0	-6.72e-8	0	3.973e-5
95	2	RN16A	0	0	0	3.827e-5	3.379e-7	-1.93e-5
96	2	RN16B	0	0	0	3.825e-5	3.368e-7	-1.932e-5
97	3	N1	0	-0.002	0	4.333e-5	3.331e-7	-2.396e-5
98	3	N2	0	-0.001	0	-3.586e-5	-1.176e-6	-4.244e-5
99	3	RN1B	0	-0.002	0	-3.586e-5	-1.176e-6	-4.711e-5
100	3	RN1C	0	0	0	-3.588e-5	-1.177e-6	-4.713e-5
101	3	RN2A	0	0	0	4.969e-8	0	4.251e-6
102	3	RN2B	0	0	0	0	0	4.251e-6
103	3	RN2C	0	0	0	-6.888e-8	0	4.251e-6
104	3	RN3A	0	0	0	3.819e-8	0	-1.055e-6
105	3	RN3B	0	0	0	0	0	-1.055e-6
106	3	RN3C	0	0	0	-6.287e-8	0	-1.055e-6
107	3	RN4A	0	0	0	3.838e-8	0	2.52e-7
108	3	RN4B	0	0	0	0	0	2.52e-7
109	3	RN4C	0	0	0	-6.309e-8	0	2.52e-7
110	3	RN5A	0	0	0	3.832e-8	0	-1.876e-8
111	3	RN5B	0	0	0	0	0	-1.876e-8
112	3	RN5C	0	0	0	-6.303e-8	0	-1.876e-8
113	3	RN6A	0	0	0	3.837e-8	0	-1.721e-7
114	3	RN6B	0	0	0	0	0	-1.721e-7
115	3	RN6C	0	0	0	-6.308e-8	0	-1.721e-7
116	3	RN7A	0	0	0	3.888e-8	0	7.519e-7
117	3	RN7B	0	0	0	0	0	7.519e-7
118	3	RN7C	0	0	0	-6.236e-8	0	7.52e-7
119	3	RN8A	0	0	0	4.376e-8	0	-8.176e-6
120	3	RN8B	0	0	0	0	0	-8.176e-6
121	3	RN8C	0	0	0	-6.942e-8	0	-8.176e-6
122	3	RN9A	0	0	0	4.251e-8	0	1.129e-5
123	3	RN9B	0	0	0	0	0	1.129e-5
124	3	RN9C	0	0	0	-6.796e-8	0	1.129e-5
125	3	RN10A	0	0	0	3.796e-8	0	-2.702e-6
126	3	RN10B	0	0	0	0	0	-2.702e-6

**Node Displacements (Continued)**

	LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]
127	3	RN10C	0	0	0	-6.26e-8	0	-2.702e-6
128	3	RN11A	0	0	0	3.842e-8	0	7.622e-7
129	3	RN11B	0	0	0	0	0	7.622e-7
130	3	RN11C	0	0	0	-6.314e-8	0	7.622e-7
131	3	RN12A	0	0	0	3.837e-8	0	-5.465e-7
132	3	RN12B	0	0	0	0	0	-5.465e-7
133	3	RN12C	0	0	0	-6.308e-8	0	-5.465e-7
134	3	RN13A	0	0	0	3.813e-8	0	1.567e-6
135	3	RN13B	0	0	0	0	0	1.567e-6
136	3	RN13C	0	0	0	-6.28e-8	0	1.567e-6
137	3	RN14A	0	0	0	3.921e-8	0	-6.13e-6
138	3	RN14B	0	0	0	0	0	-6.13e-6
139	3	RN14C	0	0	0	-6.407e-8	0	-6.13e-6
140	3	RN15A	0	0	0	3.567e-8	0	2.456e-5
141	3	RN15B	0	0	0	0	0	2.456e-5
142	3	RN15C	0	0	0	-5.993e-8	0	2.456e-5
143	3	RN16A	0	0	0	4.335e-5	3.343e-7	-1.988e-5
144	3	RN16B	0	-0.001	0	4.333e-5	3.331e-7	-1.99e-5
145	4	N1	0	-0.001	0	3.982e-5	3.613e-7	-2.349e-5
146	4	N2	0	0	0	-2.449e-5	-1.27e-6	-4.445e-5
147	4	RN1B	0	-0.002	0	-2.449e-5	-1.27e-6	-4.834e-5
148	4	RN1C	0	0	0	-2.452e-5	-1.272e-6	-4.836e-5
149	4	RN2A	0	0	0	5.105e-8	0	-6.145e-6
150	4	RN2B	0	0	0	0	0	-6.145e-6
151	4	RN2C	0	0	0	-7.265e-8	0	-6.145e-6
152	4	RN3A	0	0	0	4.235e-8	0	1.535e-6
153	4	RN3B	0	0	0	0	0	1.535e-6
154	4	RN3C	0	0	0	-6.929e-8	0	1.535e-6
155	4	RN4A	0	0	0	4.208e-8	0	-3.925e-7
156	4	RN4B	0	0	0	0	0	-3.925e-7
157	4	RN4C	0	0	0	-6.897e-8	0	-3.925e-7
158	4	RN5A	0	0	0	4.214e-8	0	1.37e-7
159	4	RN5B	0	0	0	0	0	1.37e-7
160	4	RN5C	0	0	0	-6.904e-8	0	1.37e-7
161	4	RN6A	0	0	0	4.215e-8	0	-1.914e-7
162	4	RN6B	0	0	0	0	0	-1.914e-7
163	4	RN6C	0	0	0	-6.906e-8	0	-1.914e-7
164	4	RN7A	0	0	0	4.262e-8	0	6.786e-7
165	4	RN7B	0	0	0	0	0	6.787e-7
166	4	RN7C	0	0	0	-6.842e-8	0	6.787e-7
167	4	RN8A	0	0	0	4.664e-8	0	-6.827e-6
168	4	RN8B	0	0	0	0	0	-6.827e-6
169	4	RN8C	0	0	0	-7.435e-8	0	-6.827e-6
170	4	RN9A	0	0	0	4.561e-8	0	9.413e-6
171	4	RN9B	0	0	0	0	0	9.413e-6
172	4	RN9C	0	0	0	-7.313e-8	0	9.413e-6
173	4	RN10A	0	0	0	4.182e-8	0	-2.266e-6
174	4	RN10B	0	0	0	0	0	-2.266e-6
175	4	RN10C	0	0	0	-6.866e-8	0	-2.266e-6
176	4	RN11A	0	0	0	4.219e-8	0	6.919e-7
177	4	RN11B	0	0	0	0	0	6.919e-7
178	4	RN11C	0	0	0	-6.91e-8	0	6.919e-7
179	4	RN12A	0	0	0	4.219e-8	0	-6.82e-7
180	4	RN12B	0	0	0	0	0	-6.82e-7
181	4	RN12C	0	0	0	-6.91e-8	0	-6.82e-7
182	4	RN13A	0	0	0	4.182e-8	0	2.215e-6
183	4	RN13B	0	0	0	0	0	2.215e-6
184	4	RN13C	0	0	0	-6.867e-8	0	2.215e-6



**Node Displacements (Continued)**

	LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]
185	4	RN14A	0	0	0	4.338e-8	0	-8.755e-6
186	4	RN14B	0	0	0	0	0	-8.755e-6
187	4	RN14C	0	0	0	-7.05e-8	0	-8.755e-6
188	4	RN15A	0	0	0	3.805e-8	0	3.51e-5
189	4	RN15B	0	0	0	0	0	3.51e-5
190	4	RN15C	0	0	0	-6.325e-8	0	3.51e-5
191	4	RN16A	0	0	0	3.983e-5	3.626e-7	-2.009e-5
192	4	RN16B	0	0	0	3.982e-5	3.613e-7	-2.011e-5
193	5	N1	0	-0.002	0	4.357e-5	3.251e-7	-2.618e-5
194	5	N2	0	0	0	1.399e-5	-1.142e-6	-4.7e-5
195	5	RN1B	0	-0.001	0	1.399e-5	-1.142e-6	-5.011e-5
196	5	RN1C	0	0	0	1.398e-5	-1.144e-6	-5.013e-5
197	5	RN2A	0	0	0	2.132e-8	0	-7.514e-6
198	5	RN2B	0	0	0	0	0	-7.514e-6
199	5	RN2C	0	0	0	-4.617e-8	0	-7.514e-6
200	5	RN3A	0	0	0	1.466e-8	0	1.876e-6
201	5	RN3B	0	0	0	1.513e-8	0	1.876e-6
202	5	RN3C	0	0	0	-4.348e-8	0	1.876e-6
203	5	RN4A	0	0	0	1.433e-8	0	-4.769e-7
204	5	RN4B	0	0	0	1.524e-8	0	-4.769e-7
205	5	RN4C	0	0	0	-4.309e-8	0	-4.769e-7
206	5	RN5A	0	0	0	1.44e-8	0	1.561e-7
207	5	RN5B	0	0	0	1.522e-8	0	1.561e-7
208	5	RN5C	0	0	0	-4.318e-8	0	1.561e-7
209	5	RN6A	0	0	0	1.441e-8	0	-1.881e-7
210	5	RN6B	0	0	0	1.521e-8	0	-1.881e-7
211	5	RN6C	0	0	0	-4.319e-8	0	-1.881e-7
212	5	RN7A	0	0	0	1.487e-8	0	6.456e-7
213	5	RN7B	0	0	0	1.576e-8	0	6.456e-7
214	5	RN7C	0	0	0	-4.26e-8	0	6.457e-7
215	5	RN8A	0	0	0	1.8e-8	0	-5.487e-6
216	5	RN8B	0	0	0	1.395e-8	0	-5.487e-6
217	5	RN8C	0	0	0	-4.742e-8	0	-5.487e-6
218	5	RN9A	0	0	0	1.718e-8	0	7.534e-6
219	5	RN9B	0	0	0	1.424e-8	0	7.534e-6
220	5	RN9C	0	0	0	-4.645e-8	0	7.534e-6
221	5	RN10A	0	0	0	1.414e-8	0	-1.803e-6
222	5	RN10B	0	0	0	1.531e-8	0	-1.803e-6
223	5	RN10C	0	0	0	-4.287e-8	0	-1.803e-6
224	5	RN11A	0	0	0	1.445e-8	0	5.078e-7
225	5	RN11B	0	0	0	1.52e-8	0	5.078e-7
226	5	RN11C	0	0	0	-4.323e-8	0	5.078e-7
227	5	RN12A	0	0	0	1.441e-8	0	-3.609e-7
228	5	RN12B	0	0	0	1.521e-8	0	-3.609e-7
229	5	RN12C	0	0	0	-4.319e-8	0	-3.609e-7
230	5	RN13A	0	0	0	1.425e-8	0	1.03e-6
231	5	RN13B	0	0	0	1.527e-8	0	1.03e-6
232	5	RN13C	0	0	0	-4.301e-8	0	1.03e-6
233	5	RN14A	0	0	0	1.496e-8	0	-4.029e-6
234	5	RN14B	0	0	0	1.502e-8	0	-4.029e-6
235	5	RN14C	0	0	0	-4.384e-8	0	-4.029e-6
236	5	RN15A	0	0	0	1.506e-8	0	1.614e-5
237	5	RN15B	0	0	0	1.284e-8	0	1.614e-5
238	5	RN15C	0	0	0	-4.119e-8	0	1.614e-5
239	5	RN16A	0	0	0	4.358e-5	3.263e-7	-2.346e-5
240	5	RN16B	0	0	0	4.357e-5	3.251e-7	-2.347e-5
241	6	N1	0	-0.001	0	3.155e-5	2.797e-7	-1.843e-5
242	6	N2	0	0	0	-1.966e-5	-9.763e-7	-3.444e-5

**Node Displacements (Continued)**

	LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]
243	6	RN1B	0	-0.002	0	-1.966e-5	-9.763e-7	-3.755e-5
244	6	RN1C	0	0	0	-1.968e-5	-9.777e-7	-3.757e-5
245	6	RN2A	0	0	0	3.894e-8	0	-3.502e-6
246	6	RN2B	0	0	0	0	0	-3.502e-6
247	6	RN2C	0	0	0	-5.553e-8	0	-3.502e-6
248	6	RN3A	0	0	0	3.185e-8	0	8.759e-7
249	6	RN3B	0	0	0	0	0	8.759e-7
250	6	RN3C	0	0	0	-5.259e-8	0	8.759e-7
251	6	RN4A	0	0	0	3.169e-8	0	-2.26e-7
252	6	RN4B	0	0	0	0	0	-2.26e-7
253	6	RN4C	0	0	0	-5.241e-8	0	-2.26e-7
254	6	RN5A	0	0	0	3.173e-8	0	8.745e-8
255	6	RN5B	0	0	0	0	0	8.745e-8
256	6	RN5C	0	0	0	-5.245e-8	0	8.745e-8
257	6	RN6A	0	0	0	3.174e-8	0	-1.466e-7
258	6	RN6B	0	0	0	0	0	-1.466e-7
259	6	RN6C	0	0	0	-5.247e-8	0	-1.466e-7
260	6	RN7A	0	0	0	3.211e-8	0	5.373e-7
261	6	RN7B	0	0	0	0	0	5.373e-7
262	6	RN7C	0	0	0	-5.196e-8	0	5.374e-7
263	6	RN8A	0	0	0	3.533e-8	0	-5.46e-6
264	6	RN8B	0	0	0	0	0	-5.46e-6
265	6	RN8C	0	0	0	-5.67e-8	0	-5.46e-6
266	6	RN9A	0	0	0	3.45e-8	0	7.529e-6
267	6	RN9B	0	0	0	0	0	7.529e-6
268	6	RN9C	0	0	0	-5.572e-8	0	7.529e-6
269	6	RN10A	0	0	0	3.147e-8	0	-1.811e-6
270	6	RN10B	0	0	0	0	0	-1.811e-6
271	6	RN10C	0	0	0	-5.215e-8	0	-1.811e-6
272	6	RN11A	0	0	0	3.177e-8	0	5.438e-7
273	6	RN11B	0	0	0	0	0	5.438e-7
274	6	RN11C	0	0	0	-5.251e-8	0	5.438e-7
275	6	RN12A	0	0	0	3.176e-8	0	-5.07e-7
276	6	RN12B	0	0	0	0	0	-5.07e-7
277	6	RN12C	0	0	0	-5.25e-8	0	-5.07e-7
278	6	RN13A	0	0	0	3.15e-8	0	1.617e-6
279	6	RN13B	0	0	0	0	0	1.617e-6
280	6	RN13C	0	0	0	-5.219e-8	0	1.617e-6
281	6	RN14A	0	0	0	3.263e-8	0	-6.383e-6
282	6	RN14B	0	0	0	0	0	-6.383e-6
283	6	RN14C	0	0	0	-5.352e-8	0	-6.383e-6
284	6	RN15A	0	0	0	2.883e-8	0	2.558e-5
285	6	RN15B	0	0	0	0	0	2.558e-5
286	6	RN15C	0	0	0	-4.836e-8	0	2.558e-5
287	6	RN16A	0	0	0	3.156e-5	2.807e-7	-1.571e-5
288	6	RN16B	0	0	0	3.155e-5	2.797e-7	-1.572e-5

**Member Section Forces**

	LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1	1	A1	1	0	0	0	0	0	0
2			2	0	-0.242	0	0	0	0.013
3			3	0	-0.483	0	0	0	0.052
4			4	0	-0.725	0	0	0	0.116
5			5	0	-0.966	0	0	0	0.206
6			6	0	-1.208	0	0	0	0.323
7			7	0	-1.449	0	0	0	0.464
8			8	0	-1.691	0	0	0	0.632
9			9	0	-1.933	0	0	0	0.826

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
10		10	0	-2.174	0	0	0	1.045	
11		11	0	-2.416	0	0	0	1.29	
12		12	0	-2.657	0	0	0	1.561	
13		13	0	-2.899	0	0	0	1.858	
14		14	0	-3.141	0	0	0	2.18	
15		15	0	-3.382	0	0	0	2.528	
16		16	0	-3.624	0	0	0	2.903	
17		17	0	-3.865	0	0	0	3.302	
18		18	0	-4.107	0	0	0	3.728	
19		19	0	-4.348	0	0	0	4.18	
20		20	0	-4.59	0	0	0	4.657	
21	1	A2	1	-4.705	-18.361	5.542	-23.414	2.978	-18.503
22		2	-4.842	-21.191	4.726	-27.496	3.62	-16.027	
23		3	-4.978	-24.02	3.91	-31.579	4.161	-13.198	
24		4	-5.115	-26.849	3.094	-35.661	4.599	-10.014	
25		5	-5.251	-29.679	2.277	-39.743	4.935	-6.476	
26		6	-5.388	-32.508	1.461	-43.826	5.169	-2.584	
27		7	-5.524	-35.338	0.645	-47.908	5.301	1.663	
28		8	-5.661	-38.167	-0.171	-51.99	5.331	6.263	
29		9	-5.798	-40.996	-0.988	-56.073	5.258	11.218	
30		10	-5.934	-43.826	-1.804	-60.155	5.083	16.527	
31		11	-6.071	-46.655	-2.62	-64.237	4.806	22.19	
32		12	-6.207	-49.485	-3.436	-68.32	4.427	28.207	
33		13	-6.344	-52.314	-4.253	-72.402	3.946	34.578	
34		14	-6.48	-55.144	-5.069	-76.485	3.363	41.304	
35		15	-6.617	-57.973	-5.885	-80.567	2.677	48.384	
36		16	-6.753	-60.802	-6.701	-84.649	1.889	55.817	
37		17	-6.89	-63.632	-7.518	-88.732	0.999	63.605	
38		18	-7.026	-66.461	-8.334	-92.814	0.007	71.748	
39		19	-7.163	-69.291	-9.15	-96.896	-1.087	80.244	
40		20	-7.3	-72.12	-9.966	-100.979	-2.283	89.095	
41	1	A3	1	4.075	81.747	24.355	121.81	-30.314	89.095
42		2	3.647	72.86	21.791	108.987	-21.242	58.702	
43		3	3.218	63.973	19.227	96.165	-13.179	31.804	
44		4	2.789	55.086	16.664	83.343	-6.124	8.399	
45		5	2.36	46.2	14.1	70.521	-0.076	-11.512	
46		6	1.931	37.313	11.536	57.699	4.963	-27.929	
47		7	1.502	28.426	8.973	44.877	8.995	-40.851	
48		8	1.073	19.539	6.409	32.055	12.019	-50.28	
49		9	0.645	10.653	3.845	19.233	14.034	-56.216	
50		10	0.216	1.766	1.281	6.411	15.042	-58.657	
51		11	-0.213	-7.121	-1.282	-6.411	15.042	-57.604	
52		12	-0.642	-16.008	-3.846	-19.233	14.034	-53.057	
53		13	-1.071	-24.895	-6.41	-32.055	12.018	-45.017	
54		14	-1.5	-33.781	-8.973	-44.877	8.994	-33.482	
55		15	-1.929	-42.668	-11.537	-57.699	4.962	-18.454	
56		16	-2.357	-51.555	-14.101	-70.521	-0.078	0.068	
57		17	-2.786	-60.442	-16.664	-83.343	-6.126	22.084	
58		18	-3.215	-69.328	-19.228	-96.165	-13.182	47.594	
59		19	-3.644	-78.215	-21.792	-108.988	-21.245	76.598	
60		20	-4.073	-87.102	-24.356	-121.81	-30.317	109.096	
61	1	A4	1	4.074	85.09	24.357	121.81	-30.329	109.096
62		2	3.645	76.203	21.793	108.988	-21.257	77.39	
63		3	3.216	67.316	19.23	96.166	-13.192	49.177	
64		4	2.788	58.429	16.666	83.344	-6.136	24.458	
65		5	2.359	49.542	14.102	70.522	-0.088	3.233	
66		6	1.93	40.656	11.538	57.7	4.953	-14.498	
67		7	1.501	31.769	8.975	44.877	8.985	-28.735	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
68		8	1.072	22.882	6.411	32.055	12.01	-39.478	
69		9	0.643	13.995	3.847	19.233	14.026	-46.728	
70		10	0.214	5.109	1.284	6.411	15.035	-50.483	
71		11	-0.214	-3.778	-1.28	-6.411	15.035	-50.745	
72		12	-0.643	-12.665	-3.844	-19.233	14.028	-47.512	
73		13	-1.072	-21.552	-6.408	-32.055	12.013	-40.786	
74		14	-1.501	-30.439	-8.971	-44.877	8.99	-30.566	
75		15	-1.93	-39.325	-11.535	-57.699	4.959	-16.851	
76		16	-2.359	-48.212	-14.099	-70.521	-0.08	0.357	
77		17	-2.788	-57.099	-16.662	-83.343	-6.127	21.059	
78		18	-3.216	-65.986	-19.226	-96.165	-13.182	45.254	
79		19	-3.645	-74.873	-21.79	-108.987	-21.245	72.944	
80		20	-4.074	-83.759	-24.353	-121.809	-30.316	104.128	
81	1	A5	1	4.074	84.268	24.357	121.809	-30.329	104.128
82		2	3.645	75.381	21.793	108.987	-21.257	72.744	
83		3	3.216	66.494	19.23	96.165	-13.192	44.855	
84		4	2.788	57.607	16.666	83.343	-6.136	20.459	
85		5	2.359	48.721	14.102	70.521	-0.088	-0.443	
86		6	1.93	39.834	11.538	57.699	4.953	-17.851	
87		7	1.501	30.947	8.975	44.877	8.985	-31.765	
88		8	1.072	22.06	6.411	32.055	12.01	-42.185	
89		9	0.643	13.173	3.847	19.233	14.026	-49.111	
90		10	0.214	4.287	1.284	6.411	15.035	-52.543	
91		11	-0.214	-4.6	-1.28	-6.411	15.035	-52.482	
92		12	-0.643	-13.487	-3.844	-19.233	14.028	-48.926	
93		13	-1.072	-22.374	-6.408	-32.055	12.013	-41.877	
94		14	-1.501	-31.26	-8.971	-44.877	8.99	-31.333	
95		15	-1.93	-40.147	-11.535	-57.699	4.959	-17.296	
96		16	-2.359	-49.034	-14.099	-70.521	-0.08	0.235	
97		17	-2.788	-57.921	-16.662	-83.343	-6.127	21.26	
98		18	-3.216	-66.808	-19.226	-96.165	-13.182	45.779	
99		19	-3.645	-75.694	-21.79	-108.988	-21.245	73.792	
100		20	-4.074	-84.581	-24.353	-121.81	-30.316	105.299	
101	1	A6	1	4.074	84.427	24.357	121.81	-30.329	105.299
102		2	3.645	75.541	21.793	108.987	-21.257	73.853	
103		3	3.216	66.654	19.23	96.165	-13.192	45.9	
104		4	2.788	57.767	16.666	83.343	-6.136	21.442	
105		5	2.359	48.88	14.102	70.521	-0.088	0.477	
106		6	1.93	39.993	11.538	57.699	4.953	-16.994	
107		7	1.501	31.107	8.975	44.877	8.985	-30.97	
108		8	1.072	22.22	6.411	32.055	12.01	-41.453	
109		9	0.643	13.333	3.847	19.233	14.026	-48.442	
110		10	0.214	4.446	1.284	6.411	15.035	-51.937	
111		11	-0.214	-4.44	-1.28	-6.411	15.035	-51.938	
112		12	-0.643	-13.327	-3.844	-19.233	14.028	-48.446	
113		13	-1.072	-22.214	-6.408	-32.055	12.013	-41.459	
114		14	-1.501	-31.101	-8.971	-44.877	8.99	-30.978	
115		15	-1.93	-39.988	-11.535	-57.699	4.959	-17.004	
116		16	-2.359	-48.874	-14.099	-70.521	-0.08	0.465	
117		17	-2.788	-57.761	-16.662	-83.343	-6.127	21.427	
118		18	-3.216	-66.648	-19.226	-96.165	-13.182	45.883	
119		19	-3.645	-75.535	-21.79	-108.987	-21.245	73.833	
120		20	-4.074	-84.422	-24.353	-121.81	-30.316	105.277	
121	1	A7	1	4.074	84.569	24.357	121.81	-30.329	105.277
122		2	3.645	75.682	21.793	108.988	-21.257	73.775	
123		3	3.216	66.795	19.23	96.165	-13.192	45.767	
124		4	2.788	57.908	16.666	83.343	-6.136	21.253	
125		5	2.359	49.022	14.102	70.521	-0.088	0.233	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
126		6	1.93	40.135	11.538	57.699	4.953	-17.293	
127		7	1.501	31.248	8.975	44.877	8.985	-31.326	
128		8	1.072	22.361	6.411	32.055	12.01	-41.864	
129		9	0.643	13.475	3.847	19.233	14.026	-48.909	
130		10	0.214	4.588	1.284	6.411	15.035	-52.46	
131		11	-0.214	-4.299	-1.28	-6.411	15.035	-52.516	
132		12	-0.643	-13.186	-3.844	-19.233	14.028	-49.079	
133		13	-1.072	-22.073	-6.408	-32.055	12.013	-42.148	
134		14	-1.501	-30.959	-8.971	-44.877	8.99	-31.723	
135		15	-1.93	-39.846	-11.535	-57.699	4.959	-17.804	
136		16	-2.359	-48.733	-14.099	-70.521	-0.08	-0.392	
137		17	-2.788	-57.62	-16.662	-83.343	-6.127	20.515	
138		18	-3.216	-66.506	-19.226	-96.165	-13.182	44.916	
139		19	-3.645	-75.393	-21.79	-108.987	-21.245	72.81	
140		20	-4.074	-84.28	-24.353	-121.809	-30.316	104.199	
141	1	A8	1	4.074	83.806	24.357	121.809	-30.329	104.199
142		2	3.645	74.919	21.793	108.987	-21.257	72.997	
143		3	3.216	66.033	19.23	96.165	-13.192	45.288	
144		4	2.788	57.146	16.666	83.343	-6.136	21.074	
145		5	2.359	48.259	14.102	70.521	-0.088	0.354	
146		6	1.93	39.372	11.538	57.699	4.953	-16.873	
147		7	1.501	30.485	8.975	44.877	8.985	-30.605	
148		8	1.072	21.599	6.411	32.055	12.01	-40.844	
149		9	0.643	12.712	3.847	19.233	14.026	-47.589	
150		10	0.214	3.825	1.284	6.41	15.035	-50.839	
151		11	-0.214	-5.062	-1.28	-6.412	15.035	-50.596	
152		12	-0.643	-13.948	-3.844	-19.234	14.028	-46.859	
153		13	-1.072	-22.835	-6.408	-32.056	12.013	-39.628	
154		14	-1.501	-31.722	-8.971	-44.878	8.99	-28.904	
155		15	-1.93	-40.609	-11.535	-57.7	4.959	-14.685	
156		16	-2.359	-49.496	-14.099	-70.522	-0.08	3.028	
157		17	-2.788	-58.382	-16.662	-83.344	-6.127	24.234	
158		18	-3.216	-67.862	-19.226	-96.166	-13.182	49.041	
159		19	-3.645	-77.4	-21.79	-108.988	-21.245	77.596	
160		20	-4.074	-86.938	-24.353	-121.81	-30.316	109.902	
161	1	A9	1	4.074	90.375	24.357	121.809	-30.329	109.902
162		2	3.645	80.837	21.793	108.987	-21.257	76.245	
163		3	3.216	71.299	19.23	96.165	-13.192	46.338	
164		4	2.788	61.761	16.666	83.343	-6.136	20.181	
165		5	2.359	52.223	14.102	70.521	-0.088	-2.225	
166		6	1.93	42.684	11.538	57.699	4.953	-20.882	
167		7	1.501	33.146	8.975	44.877	8.985	-35.789	
168		8	1.072	23.608	6.411	32.055	12.01	-46.945	
169		9	0.643	14.07	3.847	19.233	14.026	-54.352	
170		10	0.214	4.532	1.284	6.411	15.035	-58.009	
171		11	-0.214	-5.007	-1.28	-6.411	15.035	-57.915	
172		12	-0.643	-14.545	-3.844	-19.233	14.028	-54.072	
173		13	-1.072	-24.083	-6.408	-32.055	12.013	-46.478	
174		14	-1.501	-33.621	-8.971	-44.877	8.99	-35.135	
175		15	-1.93	-43.16	-11.535	-57.699	4.959	-20.041	
176		16	-2.359	-52.698	-14.099	-70.521	-0.08	-1.198	
177		17	-2.788	-62.236	-16.662	-83.344	-6.127	21.396	
178		18	-3.216	-71.774	-19.226	-96.166	-13.182	47.739	
179		19	-3.645	-81.312	-21.79	-108.988	-21.245	77.833	
180		20	-4.074	-90.851	-24.353	-121.81	-30.316	111.677	
181	1	A10	1	4.074	88.981	24.357	121.811	-30.329	111.677
182		2	3.645	79.443	21.793	108.988	-21.257	78.568	
183		3	3.216	69.905	19.23	96.166	-13.192	49.209	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
184		4	2.788	60.366	16.666	83.344	-6.136	23.601	
185		5	2.359	50.828	14.102	70.522	-0.088	1.742	
186		6	1.93	41.29	11.538	57.7	4.953	-16.366	
187		7	1.501	31.752	8.975	44.878	8.985	-30.725	
188		8	1.072	22.302	6.411	32.056	12.01	-41.336	
189		9	0.643	13.415	3.847	19.234	14.026	-48.357	
190		10	0.214	4.528	1.284	6.412	15.035	-51.884	
191		11	-0.214	-4.359	-1.28	-6.41	15.035	-51.917	
192		12	-0.643	-13.246	-3.844	-19.232	14.028	-48.457	
193		13	-1.072	-22.132	-6.408	-32.054	12.013	-41.502	
194		14	-1.501	-31.019	-8.971	-44.876	8.99	-31.054	
195		15	-1.93	-39.906	-11.535	-57.698	4.959	-17.111	
196		16	-2.359	-48.793	-14.099	-70.52	-0.08	0.325	
197		17	-2.788	-57.679	-16.662	-83.342	-6.127	21.255	
198		18	-3.216	-66.566	-19.226	-96.164	-13.182	45.679	
199		19	-3.645	-75.453	-21.79	-108.987	-21.245	73.597	
200		20	-4.074	-84.34	-24.353	-121.809	-30.316	105.009	
201	1	A11	1	4.074	84.377	24.357	121.809	-30.329	104.812
202		2	3.645	75.49	21.793	108.987	-21.256	73.385	
203		3	3.216	66.604	19.23	96.165	-13.192	45.452	
204		4	2.788	57.717	16.666	83.343	-6.136	21.014	
205		5	2.359	48.83	14.102	70.521	-0.088	0.069	
206		6	1.93	39.943	11.538	57.699	4.953	-17.382	
207		7	1.501	31.057	8.975	44.877	8.985	-31.339	
208		8	1.072	22.17	6.411	32.055	12.01	-41.803	
209		9	0.643	13.283	3.847	19.233	14.026	-48.772	
210		10	0.214	4.396	1.284	6.411	15.035	-52.247	
211		11	-0.214	-4.491	-1.28	-6.411	15.035	-52.229	
212		12	-0.643	-13.377	-3.844	-19.233	14.028	-48.716	
213		13	-1.072	-22.264	-6.408	-32.055	12.013	-41.71	
214		14	-1.501	-31.151	-8.971	-44.877	8.99	-31.209	
215		15	-1.93	-40.038	-11.535	-57.7	4.959	-17.215	
216		16	-2.359	-48.925	-14.099	-70.522	-0.08	0.273	
217		17	-2.788	-57.811	-16.662	-83.344	-6.127	21.255	
218		18	-3.216	-66.698	-19.226	-96.166	-13.182	45.731	
219		19	-3.645	-75.585	-21.79	-108.988	-21.245	73.701	
220		20	-4.074	-84.472	-24.353	-121.81	-30.316	105.164	
221	1	A12	1	4.074	84.424	24.357	121.81	-30.329	105.164
222		2	3.645	75.537	21.793	108.987	-21.257	73.719	
223		3	3.216	66.651	19.23	96.165	-13.192	45.768	
224		4	2.788	57.764	16.666	83.343	-6.136	21.311	
225		5	2.359	48.877	14.102	70.521	-0.088	0.348	
226		6	1.93	39.99	11.538	57.699	4.953	-17.122	
227		7	1.501	31.103	8.975	44.877	8.985	-31.097	
228		8	1.072	22.217	6.411	32.055	12.01	-41.579	
229		9	0.643	13.33	3.847	19.233	14.026	-48.567	
230		10	0.214	4.443	1.284	6.411	15.035	-52.06	
231		11	-0.214	-4.444	-1.28	-6.411	15.035	-52.06	
232		12	-0.643	-13.33	-3.844	-19.233	14.028	-48.566	
233		13	-1.072	-22.217	-6.408	-32.055	12.013	-41.578	
234		14	-1.501	-31.104	-8.971	-44.877	8.99	-31.097	
235		15	-1.93	-39.991	-11.535	-57.699	4.959	-17.121	
236		16	-2.359	-48.878	-14.099	-70.521	-0.08	0.349	
237		17	-2.788	-57.764	-16.662	-83.343	-6.127	21.312	
238		18	-3.216	-66.651	-19.226	-96.165	-13.182	45.77	
239		19	-3.645	-75.538	-21.79	-108.987	-21.245	73.721	
240		20	-4.074	-84.425	-24.353	-121.81	-30.316	105.167	
241	1	A13	1	4.074	84.473	24.357	121.81	-30.329	105.167



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
242		2	3.645	75.586	21.793	108.988	-21.257	73.702	
243		3	3.216	66.699	19.23	96.165	-13.192	45.732	
244		4	2.788	57.813	16.666	83.343	-6.136	21.256	
245		5	2.359	48.926	14.102	70.521	-0.088	0.273	
246		6	1.93	40.039	11.538	57.699	4.953	-17.215	
247		7	1.501	31.152	8.975	44.877	8.985	-31.21	
248		8	1.072	22.265	6.411	32.055	12.01	-41.711	
249		9	0.643	13.379	3.847	19.233	14.026	-48.718	
250		10	0.214	4.492	1.284	6.411	15.035	-52.231	
251		11	-0.214	-4.395	-1.28	-6.411	15.035	-52.25	
252		12	-0.643	-13.282	-3.844	-19.233	14.028	-48.775	
253		13	-1.072	-22.168	-6.408	-32.055	12.013	-41.806	
254		14	-1.501	-31.055	-8.971	-44.877	8.99	-31.344	
255		15	-1.93	-39.942	-11.535	-57.699	4.959	-17.387	
256		16	-2.359	-48.829	-14.099	-70.521	-0.08	0.064	
257		17	-2.788	-57.716	-16.662	-83.343	-6.127	21.008	
258		18	-3.216	-66.602	-19.226	-96.165	-13.182	45.446	
259		19	-3.645	-75.489	-21.79	-108.987	-21.245	73.378	
260		20	-4.074	-84.376	-24.353	-121.81	-30.316	104.805	
261	1	A14	1	4.074	84.218	24.357	121.809	-30.329	104.805
262		2	3.645	75.331	21.793	108.987	-21.257	73.44	
263		3	3.216	66.445	19.23	96.165	-13.192	45.57	
264		4	2.788	57.558	16.666	83.343	-6.136	21.194	
265		5	2.359	48.671	14.102	70.521	-0.088	0.312	
266		6	1.93	39.784	11.538	57.699	4.953	-17.077	
267		7	1.501	30.897	8.975	44.877	8.985	-30.971	
268		8	1.072	22.011	6.411	32.055	12.01	-41.372	
269		9	0.643	13.124	3.847	19.233	14.026	-48.279	
270		10	0.214	4.237	1.284	6.411	15.035	-51.692	
271		11	-0.214	-4.65	-1.28	-6.411	15.035	-51.61	
272		12	-0.643	-13.536	-3.844	-19.233	14.028	-48.035	
273		13	-1.072	-22.423	-6.408	-32.055	12.013	-40.967	
274		14	-1.501	-31.31	-8.971	-44.877	8.99	-30.404	
275		15	-1.93	-40.197	-11.535	-57.699	4.959	-16.347	
276		16	-2.359	-49.084	-14.099	-70.521	-0.08	1.204	
277		17	-2.788	-57.97	-16.662	-83.343	-6.127	22.248	
278		18	-3.216	-66.857	-19.226	-96.166	-13.182	46.787	
279		19	-3.645	-75.744	-21.79	-108.988	-21.245	74.819	
280		20	-4.074	-84.631	-24.353	-121.81	-30.316	106.345	
281	1	A15	1	4.083	85.255	24.36	121.806	-30.33	106.345
282		2	3.654	76.368	21.796	108.984	-21.257	74.574	
283		3	3.225	67.481	19.232	96.162	-13.192	46.296	
284		4	2.797	58.594	16.668	83.34	-6.134	21.512	
285		5	2.368	49.708	14.105	70.518	-0.085	0.222	
286		6	1.939	40.821	11.541	57.696	4.956	-17.574	
287		7	1.51	31.934	8.977	44.874	8.99	-31.876	
288		8	1.081	23.047	6.414	32.052	12.015	-42.684	
289		9	0.652	14.16	3.85	19.229	14.033	-49.998	
290		10	0.223	5.274	1.286	6.407	15.043	-53.818	
291		11	-0.205	-3.613	-1.277	-6.415	15.044	-54.145	
292		12	-0.634	-12.5	-3.841	-19.237	14.038	-50.977	
293		13	-1.063	-21.387	-6.405	-32.059	12.024	-44.316	
294		14	-1.492	-30.273	-8.969	-44.881	9.002	-34.161	
295		15	-1.921	-39.16	-11.532	-57.703	4.972	-20.511	
296		16	-2.35	-48.047	-14.096	-70.525	-0.066	-3.368	
297		17	-2.779	-56.934	-16.66	-83.347	-6.112	17.269	
298		18	-3.207	-65.821	-19.223	-96.169	-13.166	41.4	
299		19	-3.636	-74.707	-21.787	-108.991	-21.228	69.024	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
300		20	-4.065	-83.594	-24.351	-121.813	-30.297	100.143
301	1	1	10.064	86.773	16.268	53.606	-7.724	100.143
302		2	9.844	82.208	14.951	47.02	-4.572	83.082
303		3	9.624	77.644	13.635	40.435	-1.685	66.943
304		4	9.403	73.08	12.318	33.849	0.935	51.725
305		5	9.183	68.515	11.001	27.264	3.289	37.429
306		6	8.963	63.951	9.684	20.678	5.378	24.054
307		7	8.743	59.387	8.368	14.093	7.2	11.601
308		8	8.522	54.822	7.051	7.507	8.757	0.07
309		9	8.302	50.258	5.734	0.921	10.048	-10.539
310		10	8.082	45.694	4.417	-5.664	11.073	-20.227
311		11	7.861	41.129	3.101	-12.25	11.832	-28.993
312		12	7.641	36.565	1.784	-18.835	12.325	-36.837
313		13	7.421	32.001	0.467	-25.421	12.553	-43.76
314		14	7.201	27.436	-0.849	-32.006	12.514	-49.761
315		15	6.98	22.872	-2.166	-38.592	12.209	-54.841
316		16	6.76	18.308	-3.483	-45.177	11.639	-58.998
317		17	6.54	13.743	-4.8	-51.763	10.803	-62.234
318		18	6.32	9.179	-6.116	-58.348	9.701	-64.549
319		19	6.099	4.615	-7.433	-64.934	8.333	-65.941
320		20	5.879	0.05	-8.75	-71.519	6.699	-66.412
321	1	1	0	4.807	0	0	0	5.107
322		2	0	4.554	0	0	0	4.584
323		3	0	4.301	0	0	0	4.089
324		4	0	4.048	0	0	0	3.622
325		5	0	3.795	0	0	0	3.183
326		6	0	3.542	0	0	0	2.773
327		7	0	3.289	0	0	0	2.391
328		8	0	3.036	0	0	0	2.037
329		9	0	2.783	0	0	0	1.712
330		10	0	2.53	0	0	0	1.415
331		11	0	2.277	0	0	0	1.146
332		12	0	2.024	0	0	0	0.905
333		13	0	1.771	0	0	0	0.693
334		14	0	1.518	0	0	0	0.509
335		15	0	1.265	0	0	0	0.354
336		16	0	1.012	0	0	0	0.226
337		17	0	0.759	0	0	0	0.127
338		18	0	0.506	0	0	0	0.057
339		19	0	0.253	0	0	0	0.014
340		20	0	0	0	0	0	0
341	1	1	10.344	-30.651	-2.03	0	6.699	-101.144
342		2	10.344	-30.651	-2.03	0	6.346	-95.821
343		3	10.344	-30.651	-2.03	0	5.994	-90.497
344		4	10.344	-30.651	-2.03	0	5.641	-85.174
345		5	10.344	-30.651	-2.03	0	5.288	-79.85
346		6	10.344	-30.651	-2.03	0	4.936	-74.527
347		7	10.344	-30.651	-2.03	0	4.583	-69.204
348		8	10.344	-30.651	-2.03	0	4.231	-63.88
349		9	10.344	-30.651	-2.03	0	3.878	-58.557
350		10	10.344	-30.651	-2.03	0	3.526	-53.234
351		11	10.344	-30.651	-2.03	0	3.173	-47.91
352		12	10.344	-30.651	-2.03	0	2.821	-42.587
353		13	10.344	-30.651	-2.03	0	2.468	-37.264
354		14	10.344	-30.651	-2.03	0	2.115	-31.94
355		15	10.344	-30.651	-2.03	0	1.763	-26.617
356		16	10.344	-30.651	-2.03	0	1.41	-21.293
357		17	10.344	-30.651	-2.03	0	1.058	-15.97

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
358		18	10.344	-30.651	-2.03	0	0.705	-10.647
359		19	10.344	-30.651	-2.03	0	0.353	-5.323
360		20	10.344	-30.651	-2.03	0	0	0
361	1	R2	1	-15.369	36.017	9.007	0	0
362		2	-15.369	36.017	9.007	0	2.923	-11.69
363		3	-15.369	36.017	9.007	0	5.847	-23.379
364		4	-15.369	36.017	9.007	0	8.77	-35.069
365		5	-15.369	36.017	9.007	0	11.693	-46.759
366		6	-15.369	36.017	9.007	0	14.616	-58.448
367		7	-15.369	36.017	9.007	0	17.54	-70.138
368		8	-15.369	36.017	9.007	0	20.463	-81.828
369		9	-15.369	36.017	9.007	0	23.386	-93.517
370		10	-15.369	36.017	9.007	0	26.309	-105.207
371		11	-15.369	36.017	9.007	0	29.233	-116.897
372		12	-15.369	36.017	9.007	0	32.156	-128.587
373		13	25.25	-134.35	-5.122	0	11.638	-305.234
374		14	25.25	-134.35	-5.122	0	9.975	-261.629
375		15	25.25	-134.35	-5.122	0	8.313	-218.024
376		16	25.25	-134.35	-5.122	0	6.65	-174.419
377		17	25.25	-134.35	-5.122	0	4.988	-130.815
378		18	25.25	-134.35	-5.122	0	3.325	-87.21
379		19	25.25	-134.35	-5.122	0	1.663	-43.605
380		20	25.25	-134.35	-5.122	0	0	0
381	1	R3	1	-18.432	24.776	3.084	0	0
382		2	-18.432	24.776	3.084	0	1.001	-8.041
383		3	-18.432	24.776	3.084	0	2.002	-16.082
384		4	-18.432	24.776	3.084	0	3.003	-24.124
385		5	-18.432	24.776	3.084	0	4.004	-32.165
386		6	-18.432	24.776	3.084	0	5.005	-40.206
387		7	-18.432	24.776	3.084	0	6.006	-48.247
388		8	-18.432	24.776	3.084	0	7.007	-56.289
389		9	-18.432	24.776	3.084	0	8.008	-64.33
390		10	-18.432	24.776	3.084	0	9.009	-72.371
391		11	-18.432	24.776	3.084	0	10.01	-80.412
392		12	-18.432	24.776	3.084	0	11.011	-88.453
393		13	30.281	-145.11	-5.073	0	11.526	-329.679
394		14	30.281	-145.11	-5.073	0	9.879	-282.582
395		15	30.281	-145.11	-5.073	0	8.233	-235.485
396		16	30.281	-145.11	-5.073	0	6.586	-188.388
397		17	30.281	-145.11	-5.073	0	4.94	-141.291
398		18	30.281	-145.11	-5.073	0	3.293	-94.194
399		19	30.281	-145.11	-5.073	0	1.647	-47.097
400		20	30.281	-145.11	-5.073	0	0	0
401	1	R4	1	-18.431	24.287	3.081	0	0
402		2	-18.431	24.287	3.081	0	1	-7.882
403		3	-18.431	24.287	3.081	0	2	-15.765
404		4	-18.431	24.287	3.081	0	3	-23.647
405		5	-18.431	24.287	3.081	0	4	-31.53
406		6	-18.431	24.287	3.081	0	5	-39.412
407		7	-18.431	24.287	3.081	0	6	-47.295
408		8	-18.431	24.287	3.081	0	7	-55.177
409		9	-18.431	24.287	3.081	0	8	-63.06
410		10	-18.431	24.287	3.081	0	9	-70.942
411		11	-18.431	24.287	3.081	0	10	-78.825
412		12	-18.431	24.287	3.081	0	11	-86.707
413		13	30.279	-144.308	-5.067	0	11.512	-327.856
414		14	30.279	-144.308	-5.067	0	9.868	-281.02
415		15	30.279	-144.308	-5.067	0	8.223	-234.183

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
416		16	30.279	-144.308	-5.067	0	6.579	-187.347
417		17	30.279	-144.308	-5.067	0	4.934	-140.51
418		18	30.279	-144.308	-5.067	0	3.289	-93.673
419		19	30.279	-144.308	-5.067	0	1.645	-46.837
420		20	30.279	-144.308	-5.067	0	0	0
421	1 R5	1	-18.431	24.401	3.081	0	0	0
422		2	-18.431	24.401	3.081	0	1	-7.92
423		3	-18.431	24.401	3.081	0	2	-15.84
424		4	-18.431	24.401	3.081	0	3	-23.759
425		5	-18.431	24.401	3.081	0	4	-31.679
426		6	-18.431	24.401	3.081	0	5	-39.599
427		7	-18.431	24.401	3.081	0	6	-47.519
428		8	-18.431	24.401	3.081	0	7	-55.438
429		9	-18.431	24.401	3.081	0	8	-63.358
430		10	-18.431	24.401	3.081	0	9	-71.278
431		11	-18.431	24.401	3.081	0	10	-79.198
432		12	-18.431	24.401	3.081	0	11	-87.117
433		13	30.279	-144.496	-5.067	0	11.512	-328.285
434		14	30.279	-144.496	-5.067	0	9.868	-281.387
435		15	30.279	-144.496	-5.067	0	8.223	-234.489
436		16	30.279	-144.496	-5.067	0	6.579	-187.591
437		17	30.279	-144.496	-5.067	0	4.934	-140.694
438		18	30.279	-144.496	-5.067	0	3.289	-93.796
439		19	30.279	-144.496	-5.067	0	1.645	-46.898
440		20	30.279	-144.496	-5.067	0	0	0
441	1 R6	1	-18.431	24.401	3.081	0	0	0
442		2	-18.431	24.401	3.081	0	1	-7.919
443		3	-18.431	24.401	3.081	0	2	-15.839
444		4	-18.431	24.401	3.081	0	3	-23.758
445		5	-18.431	24.401	3.081	0	4	-31.678
446		6	-18.431	24.401	3.081	0	5	-39.597
447		7	-18.431	24.401	3.081	0	6	-47.517
448		8	-18.431	24.401	3.081	0	7	-55.436
449		9	-18.431	24.401	3.081	0	8	-63.356
450		10	-18.431	24.401	3.081	0	9	-71.275
451		11	-18.431	24.401	3.081	0	10	-79.195
452		12	-18.431	24.401	3.081	0	11	-87.114
453		13	30.279	-144.495	-5.067	0	11.512	-328.283
454		14	30.279	-144.495	-5.067	0	9.868	-281.385
455		15	30.279	-144.495	-5.067	0	8.223	-234.488
456		16	30.279	-144.495	-5.067	0	6.578	-187.59
457		17	30.279	-144.495	-5.067	0	4.934	-140.693
458		18	30.279	-144.495	-5.067	0	3.289	-93.795
459		19	30.279	-144.495	-5.067	0	1.645	-46.898
460		20	30.279	-144.495	-5.067	0	0	0
461	1 R7	1	-18.433	24.333	3.066	0	0	0
462		2	-18.433	24.333	3.066	0	0.995	-7.898
463		3	-18.433	24.333	3.066	0	1.99	-15.795
464		4	-18.433	24.333	3.066	0	2.985	-23.693
465		5	-18.433	24.333	3.066	0	3.981	-31.591
466		6	-18.433	24.333	3.066	0	4.976	-39.488
467		7	-18.433	24.333	3.066	0	5.971	-47.386
468		8	-18.433	24.333	3.066	0	6.966	-55.284
469		9	-18.433	24.333	3.066	0	7.961	-63.181
470		10	-18.433	24.333	3.066	0	8.956	-71.079
471		11	-18.433	24.333	3.066	0	9.951	-78.976
472		12	-18.433	24.333	3.066	0	10.947	-86.874
473		13	30.284	-144.384	-5.043	0	11.457	-328.03

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
474		14	30.284	-144.384	-5.043	0	9.82	-281.169
475		15	30.284	-144.384	-5.043	0	8.183	-234.307
476		16	30.284	-144.384	-5.043	0	6.547	-187.446
477		17	30.284	-144.384	-5.043	0	4.91	-140.585
478		18	30.284	-144.384	-5.043	0	3.273	-93.723
479		19	30.284	-144.384	-5.043	0	1.637	-46.862
480		20	30.284	-144.384	-5.043	0	0	0
481	1	R8	1	-18.431	28.538	3.081	0	0
482		2	-18.431	28.538	3.081	0	1	-9.262
483		3	-18.431	28.538	3.081	0	2	-18.525
484		4	-18.431	28.538	3.081	0	3	-27.787
485		5	-18.431	28.538	3.081	0	4	-37.05
486		6	-18.431	28.538	3.081	0	5	-46.312
487		7	-18.431	28.538	3.081	0	6	-55.575
488		8	-18.431	28.538	3.081	0	7	-64.837
489		9	-18.431	28.538	3.081	0	8	-74.1
490		10	-18.431	28.538	3.081	0	9	-83.362
491		11	-18.431	28.538	3.081	0	10	-92.625
492		12	-18.431	28.538	3.081	0	11	-101.887
493		13	30.279	-151.293	-5.067	0	11.512	-343.728
494		14	30.279	-151.293	-5.067	0	9.868	-294.624
495		15	30.279	-151.293	-5.067	0	8.223	-245.52
496		16	30.279	-151.293	-5.067	0	6.578	-196.416
497		17	30.279	-151.293	-5.067	0	4.934	-147.312
498		18	30.279	-151.293	-5.067	0	3.289	-98.208
499		19	30.279	-151.293	-5.067	0	1.645	-49.104
500		20	30.279	-151.293	-5.067	0	0	0
501	1	R9	1	-18.431	27.586	3.081	0	0
502		2	-18.431	27.586	3.081	0	1	-8.953
503		3	-18.431	27.586	3.081	0	2	-17.907
504		4	-18.431	27.586	3.081	0	3	-26.86
505		5	-18.431	27.586	3.081	0	4	-35.813
506		6	-18.431	27.586	3.081	0	5	-44.766
507		7	-18.431	27.586	3.081	0	6	-53.72
508		8	-18.431	27.586	3.081	0	7	-62.673
509		9	-18.431	27.586	3.081	0	8	-71.626
510		10	-18.431	27.586	3.081	0	9	-80.579
511		11	-18.431	27.586	3.081	0	10	-89.533
512		12	-18.431	27.586	3.081	0	11	-98.486
513		13	30.279	-149.728	-5.067	0	11.512	-340.171
514		14	30.279	-149.728	-5.067	0	9.868	-291.575
515		15	30.279	-149.728	-5.067	0	8.223	-242.979
516		16	30.279	-149.728	-5.067	0	6.579	-194.384
517		17	30.279	-149.728	-5.067	0	4.934	-145.788
518		18	30.279	-149.728	-5.067	0	3.289	-97.192
519		19	30.279	-149.728	-5.067	0	1.645	-48.596
520		20	30.279	-149.728	-5.067	0	0	0
521	1	R10	1	-18.431	24.094	3.081	0	0
522		2	-18.431	24.094	3.081	0	1	-7.82
523		3	-18.431	24.094	3.081	0	2	-15.64
524		4	-18.431	24.094	3.081	0	3	-23.46
525		5	-18.431	24.094	3.081	0	4	-31.28
526		6	-18.431	24.094	3.081	0	5	-39.101
527		7	-18.431	24.094	3.081	0	6	-46.921
528		8	-18.431	24.094	3.081	0	7	-54.741
529		9	-18.431	24.094	3.081	0	8	-62.561
530		10	-18.431	24.094	3.081	0	9	-70.381
531		11	-18.431	24.094	3.081	0	10	-78.201

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
532		12	-18.431	24.094	3.081	0	11	-86.021
533		13	30.279	-143.992	-5.067	0	11.512	-327.139
534		14	30.279	-143.992	-5.067	0	9.868	-280.405
535		15	30.279	-143.992	-5.067	0	8.223	-233.671
536		16	30.279	-143.992	-5.067	0	6.579	-186.937
537		17	30.279	-143.992	-5.067	0	4.934	-140.202
538		18	30.279	-143.992	-5.067	0	3.289	-93.468
539		19	30.279	-143.992	-5.067	0	1.645	-46.734
540		20	30.279	-143.992	-5.067	0	0	0
541	1	R11	1	-18.431	24.436	3.081	0	0
542		2	-18.431	24.436	3.081	0	1	-7.931
543		3	-18.431	24.436	3.081	0	2	-15.862
544		4	-18.431	24.436	3.081	0	3	-23.793
545		5	-18.431	24.436	3.081	0	4	-31.724
546		6	-18.431	24.436	3.081	0	5	-39.656
547		7	-18.431	24.436	3.081	0	6	-47.587
548		8	-18.431	24.436	3.081	0	7	-55.518
549		9	-18.431	24.436	3.081	0	8	-63.449
550		10	-18.431	24.436	3.081	0	9	-71.38
551		11	-18.431	24.436	3.081	0	10	-79.311
552		12	-18.431	24.436	3.081	0	11	-87.242
553		13	30.279	-144.554	-5.067	0	11.512	-328.416
554		14	30.279	-144.554	-5.067	0	9.868	-281.5
555		15	30.279	-144.554	-5.067	0	8.223	-234.583
556		16	30.279	-144.554	-5.067	0	6.579	-187.666
557		17	30.279	-144.554	-5.067	0	4.934	-140.75
558		18	30.279	-144.554	-5.067	0	3.289	-93.833
559		19	30.279	-144.554	-5.067	0	1.645	-46.917
560		20	30.279	-144.554	-5.067	0	0	0
561	1	R12	1	-18.431	24.443	3.081	0	0
562		2	-18.431	24.443	3.081	0	1	-7.933
563		3	-18.431	24.443	3.081	0	2	-15.867
564		4	-18.431	24.443	3.081	0	3	-23.8
565		5	-18.431	24.443	3.081	0	4	-31.733
566		6	-18.431	24.443	3.081	0	5	-39.667
567		7	-18.431	24.443	3.081	0	6	-47.6
568		8	-18.431	24.443	3.081	0	7	-55.534
569		9	-18.431	24.443	3.081	0	8	-63.467
570		10	-18.431	24.443	3.081	0	9	-71.4
571		11	-18.431	24.443	3.081	0	10	-79.334
572		12	-18.431	24.443	3.081	0	11	-87.267
573		13	30.279	-144.565	-5.067	0	11.512	-328.442
574		14	30.279	-144.565	-5.067	0	9.868	-281.521
575		15	30.279	-144.565	-5.067	0	8.223	-234.601
576		16	30.279	-144.565	-5.067	0	6.579	-187.681
577		17	30.279	-144.565	-5.067	0	4.934	-140.761
578		18	30.279	-144.565	-5.067	0	3.289	-93.84
579		19	30.279	-144.565	-5.067	0	1.645	-46.92
580		20	30.279	-144.565	-5.067	0	0	0
581	1	R13	1	-18.431	24.072	3.081	0	0
582		2	-18.431	24.072	3.081	0	1	-7.813
583		3	-18.431	24.072	3.081	0	2	-15.626
584		4	-18.431	24.072	3.081	0	3	-23.439
585		5	-18.431	24.072	3.081	0	4	-31.251
586		6	-18.431	24.072	3.081	0	5	-39.064
587		7	-18.431	24.072	3.081	0	6	-46.877
588		8	-18.431	24.072	3.081	0	7	-54.69
589		9	-18.431	24.072	3.081	0	8	-62.503





Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
590		10	-18.431	24.072	3.081	0	9	-70.316
591		11	-18.431	24.072	3.081	0	10	-78.129
592		12	-18.431	24.072	3.081	0	11	-85.941
593		13	30.279	-143.955	-5.067	0	11.512	-327.056
594		14	30.279	-143.955	-5.067	0	9.868	-280.333
595		15	30.279	-143.955	-5.067	0	8.223	-233.611
596		16	30.279	-143.955	-5.067	0	6.579	-186.889
597		17	30.279	-143.955	-5.067	0	4.934	-140.167
598		18	30.279	-143.955	-5.067	0	3.289	-93.444
599		19	30.279	-143.955	-5.067	0	1.645	-46.722
600		20	30.279	-143.955	-5.067	0	0	0
601	1	R14	1	-18.432	25.648	3.081	0	0
602		2	-18.432	25.648	3.081	0	1	-8.324
603		3	-18.432	25.648	3.081	0	2	-16.648
604		4	-18.432	25.648	3.081	0	3	-24.973
605		5	-18.432	25.648	3.081	0	4	-33.297
606		6	-18.432	25.648	3.081	0	4.999	-41.621
607		7	-18.432	25.648	3.081	0	5.999	-49.945
608		8	-18.432	25.648	3.081	0	6.999	-58.27
609		9	-18.432	25.648	3.081	0	7.999	-66.594
610		10	-18.432	25.648	3.081	0	8.999	-74.918
611		11	-18.432	25.648	3.081	0	9.999	-83.242
612		12	-18.432	25.648	3.081	0	10.999	-91.567
613		13	30.281	-146.544	-5.066	0	11.51	-332.937
614		14	30.281	-146.544	-5.066	0	9.866	-285.375
615		15	30.281	-146.544	-5.066	0	8.221	-237.812
616		16	30.281	-146.544	-5.066	0	6.577	-190.25
617		17	30.281	-146.544	-5.066	0	4.933	-142.687
618		18	30.281	-146.544	-5.066	0	3.289	-95.125
619		19	30.281	-146.544	-5.066	0	1.644	-47.562
620		20	30.281	-146.544	-5.066	0	0	0
621	1	R15	1	-12.986	22.092	-0.241	0	0
622		2	-12.986	22.092	-0.241	0	-0.078	-7.17
623		3	-12.986	22.092	-0.241	0	-0.157	-14.34
624		4	-12.986	22.092	-0.241	0	-0.235	-21.511
625		5	-12.986	22.092	-0.241	0	-0.313	-28.681
626		6	-12.986	22.092	-0.241	0	-0.392	-35.851
627		7	-12.986	22.092	-0.241	0	-0.47	-43.021
628		8	-12.986	22.092	-0.241	0	-0.548	-50.192
629		9	-12.986	22.092	-0.241	0	-0.627	-57.362
630		10	-12.986	22.092	-0.241	0	-0.705	-64.532
631		11	-12.986	22.092	-0.241	0	-0.784	-71.702
632		12	-12.986	22.092	-0.241	0	-0.862	-78.873
633		13	21.335	-131.775	-11.616	0	26.392	-299.383
634		14	21.335	-131.775	-11.616	0	22.621	-256.614
635		15	21.335	-131.775	-11.616	0	18.851	-213.845
636		16	21.335	-131.775	-11.616	0	15.081	-171.076
637		17	21.335	-131.775	-11.616	0	11.311	-128.307
638		18	21.335	-131.775	-11.616	0	7.54	-85.538
639		19	21.335	-131.775	-11.616	0	3.77	-42.769
640		20	21.335	-131.775	-11.616	0	0	0
641	1	M33	1	-7.249	6.108	0.552	0	0
642		2	-7.249	6.108	0.552	0	0.157	-1.733
643		3	-7.249	6.108	0.552	0	0.313	-3.467
644		4	-7.249	6.108	0.552	0	0.47	-5.2
645		5	-7.249	6.108	0.552	0	0.627	-6.933
646		6	-7.249	6.108	0.552	0	0.784	-8.667
647		7	-7.249	6.108	0.552	0	0.94	-10.4

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
648		8	-7.249	6.108	0.552	0	1.097	-12.133	
649		9	-7.249	6.108	0.552	0	1.254	-13.867	
650		10	-7.249	6.108	0.552	0	1.41	-15.6	
651		11	-7.249	6.108	0.552	0	1.567	-17.333	
652		12	-7.249	6.108	0.552	0	1.724	-19.066	
653		13	-7.249	6.108	0.552	0	1.881	-20.8	
654		14	-7.249	6.108	0.552	0	2.037	-22.533	
655		15	-7.249	6.108	0.552	0	2.194	-24.266	
656		16	-7.249	6.108	0.552	0	2.351	-26	
657		17	-7.249	6.108	0.552	0	2.507	-27.733	
658		18	-7.249	6.108	0.552	0	2.664	-29.466	
659		19	-7.249	6.108	0.552	0	2.821	-31.2	
660		20	-7.249	6.108	0.552	0	2.978	-32.933	
661	2	A1	1	0	0	0	0	0	
662		2	0	-0.336	0	0	0	0.018	
663		3	0	-0.671	0	0	0	0.072	
664		4	0	-1.007	0	0	0	0.161	
665		5	0	-1.342	0	0	0	0.287	
666		6	0	-1.678	0	0	0	0.448	
667		7	0	-2.013	0	0	0	0.645	
668		8	0	-2.349	0	0	0	0.878	
669		9	0	-2.684	0	0	0	1.147	
670		10	0	-3.02	0	0	0	1.451	
671		11	0	-3.355	0	0	0	1.792	
672		12	0	-3.691	0	0	0	2.168	
673		13	0	-4.026	0	0	0	2.58	
674		14	0	-4.362	0	0	0	3.028	
675		15	0	-4.697	0	0	0	3.512	
676		16	0	-5.033	0	0	0	4.031	
677		17	0	-5.368	0	0	0	4.587	
678		18	0	-5.704	0	0	0	5.178	
679		19	0	-6.039	0	0	0	5.805	
680		20	0	-6.375	0	0	0	6.468	
681	2	A2	1	-4.705	-25.198	5.542	-33.682	-26.848	
682		2	-4.842	-29.042	4.726	-37.764	3.62	-23.453	
683		3	-4.978	-32.886	3.91	-41.846	4.161	-19.577	
684		4	-5.115	-36.729	3.094	-45.929	4.599	-15.22	
685		5	-5.251	-40.573	2.277	-50.011	4.935	-10.382	
686		6	-5.388	-44.417	1.461	-54.093	5.169	-5.062	
687		7	-5.524	-48.26	0.645	-58.176	5.301	0.738	
688		8	-5.661	-52.104	-0.171	-62.258	5.331	7.02	
689		9	-5.798	-55.948	-0.988	-66.34	5.258	13.782	
690		10	-5.934	-59.791	-1.804	-70.423	5.083	21.026	
691		11	-6.071	-63.635	-2.62	-74.505	4.806	28.751	
692		12	-6.207	-67.479	-3.436	-78.587	4.427	36.957	
693		13	-6.344	-71.322	-4.253	-82.67	3.946	45.645	
694		14	-6.48	-75.166	-5.069	-86.752	3.363	54.813	
695		15	-6.617	-79.01	-5.885	-90.834	2.677	64.463	
696		16	-6.753	-82.853	-6.701	-94.917	1.889	74.593	
697		17	-6.89	-86.697	-7.518	-98.999	0.999	85.205	
698		18	-7.026	-90.541	-8.334	-103.081	0.007	96.298	
699		19	-7.163	-94.384	-9.15	-107.164	-1.087	107.872	
700		20	-7.3	-98.228	-9.966	-111.246	-2.283	119.927	
701	2	A3	1	4.075	110.865	24.355	121.809	-30.314	119.927
702		2	3.647	98.793	21.791	108.986	-21.242	78.713	
703		3	3.218	86.721	19.227	96.164	-13.179	42.245	
704		4	2.789	74.648	16.664	83.342	-6.124	10.523	
705		5	2.36	62.576	14.1	70.52	-0.076	-16.453	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
706		6	1.931	50.504	11.536	57.698	4.963	-38.682	
707		7	1.502	38.431	8.973	44.876	8.995	-56.164	
708		8	1.073	26.359	6.409	32.054	12.019	-68.901	
709		9	0.645	14.286	3.845	19.232	14.034	-76.891	
710		10	0.216	2.214	1.281	6.41	15.042	-80.134	
711		11	-0.213	-9.858	-1.282	-6.412	15.042	-78.632	
712		12	-0.642	-21.931	-3.846	-19.234	14.034	-72.382	
713		13	-1.071	-34.003	-6.41	-32.056	12.018	-61.387	
714		14	-1.5	-46.075	-8.973	-44.878	8.994	-45.645	
715		15	-1.929	-58.148	-11.537	-57.7	4.962	-25.157	
716		16	-2.357	-70.22	-14.101	-70.522	-0.078	0.077	
717		17	-2.786	-82.293	-16.664	-83.344	-6.126	30.058	
718		18	-3.215	-94.365	-19.228	-96.166	-13.182	64.785	
719		19	-3.644	-106.437	-21.792	-108.989	-21.245	104.259	
720		20	-4.073	-118.51	-24.356	-121.811	-30.317	148.479	
721	2	A4	1	4.074	115.637	24.357	121.81	-30.329	148.479
722		2	3.645	103.565	21.793	108.988	-21.257	105.388	
723		3	3.216	91.492	19.23	96.166	-13.192	67.044	
724		4	2.788	79.42	16.666	83.344	-6.136	33.446	
725		5	2.359	67.348	14.102	70.522	-0.088	4.595	
726		6	1.93	55.275	11.538	57.7	4.953	-19.51	
727		7	1.501	43.203	8.975	44.878	8.985	-38.869	
728		8	1.072	31.13	6.411	32.056	12.01	-53.481	
729		9	0.643	19.058	3.847	19.233	14.026	-63.347	
730		10	0.214	6.986	1.284	6.411	15.035	-68.467	
731		11	-0.214	-5.087	-1.28	-6.411	15.035	-68.84	
732		12	-0.643	-17.159	-3.844	-19.233	14.028	-64.467	
733		13	-1.072	-29.231	-6.408	-32.055	12.013	-55.348	
734		14	-1.501	-41.304	-8.971	-44.877	8.99	-41.482	
735		15	-1.93	-53.376	-11.535	-57.699	4.959	-22.87	
736		16	-2.359	-65.449	-14.099	-70.521	-0.08	0.489	
737		17	-2.788	-77.521	-16.662	-83.343	-6.127	28.593	
738		18	-3.216	-89.593	-19.226	-96.165	-13.182	61.445	
739		19	-3.645	-101.666	-21.79	-108.987	-21.245	99.042	
740		20	-4.074	-113.738	-24.353	-121.809	-30.316	141.386	
741	2	A5	1	4.074	114.463	24.357	121.809	-30.329	141.386
742		2	3.645	102.391	21.793	108.987	-21.257	98.757	
743		3	3.216	90.319	19.23	96.165	-13.192	60.874	
744		4	2.788	78.246	16.666	83.343	-6.136	27.738	
745		5	2.359	66.174	14.102	70.521	-0.088	-0.652	
746		6	1.93	54.102	11.538	57.699	4.953	-24.296	
747		7	1.501	42.029	8.975	44.877	8.985	-43.193	
748		8	1.072	29.957	6.411	32.055	12.01	-57.344	
749		9	0.643	17.884	3.847	19.233	14.026	-66.749	
750		10	0.214	5.812	1.284	6.411	15.035	-71.407	
751		11	-0.214	-6.26	-1.28	-6.411	15.035	-71.319	
752		12	-0.643	-18.333	-3.844	-19.233	14.028	-66.484	
753		13	-1.072	-30.405	-6.408	-32.055	12.013	-56.903	
754		14	-1.501	-42.477	-8.971	-44.877	8.99	-42.576	
755		15	-1.93	-54.55	-11.535	-57.699	4.959	-23.503	
756		16	-2.359	-66.622	-14.099	-70.521	-0.08	0.317	
757		17	-2.788	-78.695	-16.662	-83.343	-6.127	28.883	
758		18	-3.216	-90.767	-19.226	-96.166	-13.182	62.196	
759		19	-3.645	-102.839	-21.79	-108.988	-21.245	100.255	
760		20	-4.074	-114.912	-24.353	-121.81	-30.316	143.06	
761	2	A6	1	4.074	114.693	24.357	121.81	-30.329	143.06
762		2	3.645	102.621	21.793	108.987	-21.257	100.341	
763		3	3.216	90.548	19.23	96.165	-13.192	62.368	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
764		4	2.788	78.476	16.666	83.343	-6.136	29.141	
765		5	2.359	66.404	14.102	70.521	-0.088	0.661	
766		6	1.93	54.331	11.538	57.699	4.953	-23.073	
767		7	1.501	42.259	8.975	44.877	8.985	-42.061	
768		8	1.072	30.187	6.411	32.055	12.01	-56.302	
769		9	0.643	18.114	3.847	19.233	14.026	-65.797	
770		10	0.214	6.042	1.284	6.411	15.035	-70.546	
771		11	-0.214	-6.031	-1.28	-6.411	15.035	-70.548	
772		12	-0.643	-18.103	-3.844	-19.233	14.028	-65.804	
773		13	-1.072	-30.175	-6.408	-32.055	12.013	-56.313	
774		14	-1.501	-42.248	-8.971	-44.877	8.99	-42.076	
775		15	-1.93	-54.32	-11.535	-57.699	4.959	-23.093	
776		16	-2.359	-66.392	-14.099	-70.521	-0.08	0.636	
777		17	-2.788	-78.465	-16.662	-83.343	-6.127	29.112	
778		18	-3.216	-90.537	-19.226	-96.165	-13.182	62.334	
779		19	-3.645	-102.61	-21.79	-108.987	-21.245	100.303	
780		20	-4.074	-114.682	-24.353	-121.81	-30.316	143.018	
781	2	A7	1	4.074	114.888	24.357	121.81	-30.329	143.018
782		2	3.645	102.815	21.793	108.988	-21.257	100.222	
783		3	3.216	90.743	19.23	96.166	-13.192	62.173	
784		4	2.788	78.67	16.666	83.343	-6.136	28.87	
785		5	2.359	66.598	14.102	70.521	-0.088	0.313	
786		6	1.93	54.526	11.538	57.699	4.953	-23.498	
787		7	1.501	42.453	8.975	44.877	8.985	-42.562	
788		8	1.072	30.381	6.411	32.055	12.01	-56.879	
789		9	0.643	18.309	3.847	19.233	14.026	-66.451	
790		10	0.214	6.236	1.284	6.411	15.035	-71.276	
791		11	-0.214	-5.836	-1.28	-6.411	15.035	-71.354	
792		12	-0.643	-17.909	-3.844	-19.233	14.028	-66.687	
793		13	-1.072	-29.981	-6.408	-32.055	12.013	-57.273	
794		14	-1.501	-42.053	-8.971	-44.877	8.99	-43.112	
795		15	-1.93	-54.126	-11.535	-57.699	4.959	-24.205	
796		16	-2.359	-66.198	-14.099	-70.521	-0.08	-0.552	
797		17	-2.788	-78.27	-16.662	-83.343	-6.127	27.847	
798		18	-3.216	-90.343	-19.226	-96.165	-13.182	60.993	
799		19	-3.645	-102.415	-21.79	-108.987	-21.245	98.885	
800		20	-4.074	-114.487	-24.353	-121.809	-30.316	141.524	
801	2	A8	1	4.074	113.829	24.357	121.809	-30.329	141.524
802		2	3.645	101.757	21.793	108.987	-21.257	99.144	
803		3	3.216	89.685	19.23	96.165	-13.192	61.51	
804		4	2.788	77.612	16.666	83.343	-6.136	28.623	
805		5	2.359	65.54	14.102	70.521	-0.088	0.483	
806		6	1.93	53.467	11.538	57.698	4.953	-22.911	
807		7	1.501	41.395	8.975	44.876	8.985	-41.559	
808		8	1.072	29.323	6.411	32.054	12.01	-55.461	
809		9	0.643	17.25	3.847	19.232	14.026	-64.616	
810		10	0.214	5.178	1.284	6.41	15.035	-69.025	
811		11	-0.214	-6.894	-1.28	-6.412	15.035	-68.688	
812		12	-0.643	-18.967	-3.844	-19.234	14.028	-63.604	
813		13	-1.072	-31.039	-6.408	-32.056	12.013	-53.774	
814		14	-1.501	-43.112	-8.971	-44.878	8.99	-39.197	
815		15	-1.93	-55.184	-11.535	-57.7	4.959	-19.875	
816		16	-2.359	-67.256	-14.099	-70.522	-0.08	4.195	
817		17	-2.788	-79.329	-16.662	-83.344	-6.127	33.01	
818		18	-3.216	-92.224	-19.226	-96.166	-13.182	66.719	
819		19	-3.645	-105.201	-21.79	-108.988	-21.245	105.529	
820		20	-4.074	-118.178	-24.353	-121.81	-30.316	149.441	
821	2	A9	1	4.074	122.951	24.357	121.809	-30.329	149.441

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
822		2	3.645	109.974	21.793	108.987	-21.257	103.652	
823		3	3.216	96.997	19.23	96.165	-13.192	62.966	
824		4	2.788	84.02	16.666	83.343	-6.136	27.382	
825		5	2.359	71.042	14.102	70.521	-0.088	-3.1	
826		6	1.93	58.065	11.538	57.699	4.953	-28.479	
827		7	1.501	45.088	8.975	44.877	8.985	-48.757	
828		8	1.072	32.111	6.411	32.055	12.01	-63.933	
829		9	0.643	19.134	3.847	19.233	14.026	-74.007	
830		10	0.214	6.157	1.284	6.411	15.035	-78.978	
831		11	-0.214	-6.82	-1.28	-6.411	15.035	-78.848	
832		12	-0.643	-19.797	-3.844	-19.233	14.028	-73.615	
833		13	-1.072	-32.775	-6.408	-32.055	12.013	-63.281	
834		14	-1.501	-45.752	-8.971	-44.877	8.99	-47.844	
835		15	-1.93	-58.729	-11.535	-57.699	4.959	-27.306	
836		16	-2.359	-71.706	-14.099	-70.522	-0.08	-1.665	
837		17	-2.788	-84.683	-16.662	-83.344	-6.127	29.078	
838		18	-3.216	-97.66	-19.226	-96.166	-13.182	64.923	
839		19	-3.645	-110.637	-21.79	-108.988	-21.245	105.87	
840		20	-4.074	-123.614	-24.353	-121.81	-30.316	151.919	
841	2	A10	1	4.074	121.023	24.357	121.811	-30.329	151.919
842		2	3.645	108.046	21.793	108.989	-21.257	106.888	
843		3	3.216	95.069	19.23	96.167	-13.192	66.96	
844		4	2.788	82.092	16.666	83.345	-6.136	32.134	
845		5	2.359	69.115	14.102	70.523	-0.088	2.41	
846		6	1.93	56.137	11.538	57.701	4.953	-22.212	
847		7	1.501	43.16	8.975	44.879	8.985	-41.731	
848		8	1.072	30.305	6.411	32.056	12.01	-56.152	
849		9	0.643	18.233	3.847	19.234	14.026	-65.694	
850		10	0.214	6.161	1.284	6.412	15.035	-70.489	
851		11	-0.214	-5.912	-1.28	-6.41	15.035	-70.538	
852		12	-0.643	-17.984	-3.844	-19.232	14.028	-65.841	
853		13	-1.072	-30.056	-6.408	-32.054	12.013	-56.397	
854		14	-1.501	-42.129	-8.971	-44.876	8.99	-42.207	
855		15	-1.93	-54.201	-11.535	-57.698	4.959	-23.27	
856		16	-2.359	-66.274	-14.099	-70.52	-0.08	0.412	
857		17	-2.788	-78.346	-16.662	-83.342	-6.127	28.842	
858		18	-3.216	-90.418	-19.226	-96.164	-13.182	62.017	
859		19	-3.645	-102.491	-21.79	-108.986	-21.245	99.939	
860		20	-4.074	-114.563	-24.353	-121.808	-30.316	142.607	
861	2	A11	1	4.074	114.627	24.357	121.809	-30.329	142.41
862		2	3.645	102.554	21.793	108.987	-21.256	99.716	
863		3	3.216	90.482	19.23	96.165	-13.192	61.77	
864		4	2.788	78.409	16.666	83.343	-6.136	28.569	
865		5	2.359	66.337	14.102	70.521	-0.088	0.115	
866		6	1.93	54.265	11.538	57.699	4.953	-23.593	
867		7	1.501	42.192	8.975	44.877	8.985	-42.554	
868		8	1.072	30.12	6.411	32.055	12.01	-56.769	
869		9	0.643	18.048	3.847	19.233	14.026	-66.238	
870		10	0.214	5.975	1.284	6.411	15.035	-70.961	
871		11	-0.214	-6.097	-1.28	-6.411	15.035	-70.937	
872		12	-0.643	-18.169	-3.844	-19.233	14.028	-66.166	
873		13	-1.072	-30.242	-6.408	-32.055	12.013	-56.65	
874		14	-1.501	-42.314	-8.971	-44.878	8.99	-42.387	
875		15	-1.93	-54.387	-11.535	-57.7	4.959	-23.377	
876		16	-2.359	-66.459	-14.099	-70.522	-0.08	0.378	
877		17	-2.788	-78.531	-16.662	-83.344	-6.127	28.88	
878		18	-3.216	-90.604	-19.226	-96.166	-13.182	62.129	
879		19	-3.645	-102.676	-21.79	-108.988	-21.245	100.124	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
880		20	-4.074	-114.748	-24.353	-121.81	-30.316	142.865
881	2	1	4.074	114.693	24.357	121.81	-30.329	142.865
882		2	3.645	102.62	21.793	108.987	-21.257	100.146
883		3	3.216	90.548	19.23	96.165	-13.192	62.173
884		4	2.788	78.475	16.666	83.343	-6.136	28.946
885		5	2.359	66.403	14.102	70.521	-0.088	0.466
886		6	1.93	54.331	11.538	57.699	4.953	-23.267
887		7	1.501	42.258	8.975	44.877	8.985	-42.255
888		8	1.072	30.186	6.411	32.055	12.01	-56.496
889		9	0.643	18.114	3.847	19.233	14.026	-65.99
890		10	0.214	6.041	1.284	6.411	15.035	-70.739
891		11	-0.214	-6.031	-1.28	-6.411	15.035	-70.741
892		12	-0.643	-18.104	-3.844	-19.233	14.028	-65.996
893		13	-1.072	-30.176	-6.408	-32.055	12.013	-56.506
894		14	-1.501	-42.248	-8.971	-44.877	8.99	-42.269
895		15	-1.93	-54.321	-11.535	-57.699	4.959	-23.285
896		16	-2.359	-66.393	-14.099	-70.521	-0.08	0.445
897		17	-2.788	-78.465	-16.662	-83.343	-6.127	28.921
898		18	-3.216	-90.538	-19.226	-96.165	-13.182	62.143
899		19	-3.645	-102.61	-21.79	-108.987	-21.245	100.112
900		20	-4.074	-114.683	-24.353	-121.81	-30.316	142.827
901	2	1	4.074	114.727	24.357	121.81	-30.329	142.827
902		2	3.645	102.655	21.793	108.988	-21.257	100.094
903		3	3.216	90.582	19.23	96.165	-13.192	62.108
904		4	2.788	78.51	16.666	83.343	-6.136	28.868
905		5	2.359	66.438	14.102	70.521	-0.088	0.375
906		6	1.93	54.365	11.538	57.699	4.953	-23.373
907		7	1.501	42.293	8.975	44.877	8.985	-42.374
908		8	1.072	30.22	6.411	32.055	12.01	-56.628
909		9	0.643	18.148	3.847	19.233	14.026	-66.136
910		10	0.214	6.076	1.284	6.411	15.035	-70.898
911		11	-0.214	-5.997	-1.28	-6.411	15.035	-70.914
912		12	-0.643	-18.069	-3.844	-19.233	14.028	-66.183
913		13	-1.072	-30.141	-6.408	-32.055	12.013	-56.706
914		14	-1.501	-42.214	-8.971	-44.877	8.99	-42.482
915		15	-1.93	-54.286	-11.535	-57.699	4.959	-23.512
916		16	-2.359	-66.359	-14.099	-70.521	-0.08	0.204
917		17	-2.788	-78.431	-16.662	-83.343	-6.127	28.666
918		18	-3.216	-90.503	-19.226	-96.165	-13.182	61.875
919		19	-3.645	-102.576	-21.79	-108.987	-21.245	99.83
920		20	-4.074	-114.648	-24.353	-121.81	-30.316	142.532
921	2	1	4.074	114.514	24.357	121.809	-30.329	142.532
922		2	3.645	102.442	21.793	108.987	-21.257	99.883
923		3	3.216	90.369	19.23	96.165	-13.192	61.98
924		4	2.788	78.297	16.666	83.343	-6.136	28.824
925		5	2.359	66.225	14.102	70.521	-0.088	0.414
926		6	1.93	54.152	11.538	57.699	4.953	-23.249
927		7	1.501	42.08	8.975	44.877	8.985	-42.167
928		8	1.072	30.008	6.411	32.055	12.01	-56.338
929		9	0.643	17.935	3.847	19.233	14.026	-65.762
930		10	0.214	5.863	1.284	6.411	15.035	-70.44
931		11	-0.214	-6.21	-1.28	-6.411	15.035	-70.372
932		12	-0.643	-18.282	-3.844	-19.233	14.028	-65.558
933		13	-1.072	-30.354	-6.408	-32.055	12.013	-55.997
934		14	-1.501	-42.427	-8.971	-44.877	8.99	-41.69
935		15	-1.93	-54.499	-11.535	-57.699	4.959	-22.636
936		16	-2.359	-66.571	-14.099	-70.521	-0.08	1.164
937		17	-2.788	-78.644	-16.662	-83.343	-6.127	29.71



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
938		18	-3.216	-90.716	-19.226	-96.166	-13.182	63.003	
939		19	-3.645	-102.788	-21.79	-108.988	-21.245	101.042	
940		20	-4.074	-114.861	-24.353	-121.81	-30.316	143.827	
941	2	A15	1	4.083	115.386	24.36	121.804	-30.33	143.827
942		2	3.654	103.314	21.796	108.982	-21.257	100.835	
943		3	3.225	91.242	19.232	96.16	-13.192	62.589	
944		4	2.797	79.169	16.668	83.338	-6.134	29.09	
945		5	2.368	67.097	14.105	70.516	-0.085	0.337	
946		6	1.939	55.025	11.541	57.694	4.956	-23.669	
947		7	1.51	42.952	8.977	44.872	8.99	-42.929	
948		8	1.081	30.88	6.414	32.05	12.015	-57.443	
949		9	0.652	18.807	3.85	19.228	14.033	-67.211	
950		10	0.223	6.735	1.286	6.406	15.043	-72.232	
951		11	-0.205	-5.337	-1.277	-6.416	15.044	-72.507	
952		12	-0.634	-17.41	-3.841	-19.238	14.038	-68.035	
953		13	-1.063	-29.482	-6.405	-32.06	12.024	-58.817	
954		14	-1.492	-41.554	-8.969	-44.882	9.002	-44.853	
955		15	-1.921	-53.627	-11.532	-57.704	4.972	-26.142	
956		16	-2.35	-65.699	-14.096	-70.526	-0.066	-2.685	
957		17	-2.779	-77.772	-16.66	-83.349	-6.112	25.518	
958		18	-3.207	-89.844	-19.223	-96.171	-13.166	58.468	
959		19	-3.636	-101.916	-21.787	-108.993	-21.228	96.164	
960		20	-4.065	-113.989	-24.351	-121.815	-30.297	138.606	
961	2	A16	1	10.064	118.621	16.268	27.525	-7.724	138.606
962		2	9.844	112.421	14.951	20.939	-4.572	115.279	
963		3	9.624	106.221	13.635	14.354	-1.685	93.204	
964		4	9.403	100.02	12.318	7.768	0.935	72.381	
965		5	9.183	93.82	11.001	1.182	3.289	52.81	
966		6	8.963	87.619	9.684	-5.403	5.378	34.491	
967		7	8.743	81.419	8.368	-11.989	7.2	17.424	
968		8	8.522	75.218	7.051	-18.574	8.757	1.609	
969		9	8.302	69.018	5.734	-25.16	10.048	-12.954	
970		10	8.082	62.817	4.417	-31.745	11.073	-26.264	
971		11	7.861	56.617	3.101	-38.331	11.832	-38.323	
972		12	7.641	50.416	1.784	-44.916	12.325	-49.129	
973		13	7.421	44.216	0.467	-51.502	12.553	-58.684	
974		14	7.201	38.015	-0.849	-58.087	12.514	-66.986	
975		15	6.98	31.815	-2.166	-64.673	12.209	-74.037	
976		16	6.76	25.614	-3.483	-71.258	11.639	-79.835	
977		17	6.54	19.414	-4.8	-77.844	10.803	-84.381	
978		18	6.32	13.213	-6.116	-84.43	9.701	-87.675	
979		19	6.099	7.013	-7.433	-91.015	8.333	-89.717	
980		20	5.879	0.812	-8.75	-97.601	6.699	-90.507	
981	2	A17	1	0	6.676	0	0	7.093	
982		2	0	6.325	0	0	0	6.366	
983		3	0	5.973	0	0	0	5.679	
984		4	0	5.622	0	0	0	5.03	
985		5	0	5.271	0	0	0	4.421	
986		6	0	4.919	0	0	0	3.851	
987		7	0	4.568	0	0	0	3.321	
988		8	0	4.216	0	0	0	2.829	
989		9	0	3.865	0	0	0	2.378	
990		10	0	3.514	0	0	0	1.965	
991		11	0	3.162	0	0	0	1.592	
992		12	0	2.811	0	0	0	1.258	
993		13	0	2.46	0	0	0	0.963	
994		14	0	2.108	0	0	0	0.707	
995		15	0	1.757	0	0	0	0.491	



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
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 Checked By : CWT

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
996		16	0	1.405	0	0	0	0.314
997		17	0	1.054	0	0	0	0.177
998		18	0	0.703	0	0	0	0.079
999		19	0	0.351	0	0	0	0.02
1000		20	0	0	0	0	0	0
1001	2 R1	1	10.344	-41.829	-2.03	0	6.699	-138.028
1002		2	10.344	-41.829	-2.03	0	6.346	-130.764
1003		3	10.344	-41.829	-2.03	0	5.994	-123.499
1004		4	10.344	-41.829	-2.03	0	5.641	-116.234
1005		5	10.344	-41.829	-2.03	0	5.288	-108.97
1006		6	10.344	-41.829	-2.03	0	4.936	-101.705
1007		7	10.344	-41.829	-2.03	0	4.583	-94.44
1008		8	10.344	-41.829	-2.03	0	4.231	-87.176
1009		9	10.344	-41.829	-2.03	0	3.878	-79.911
1010		10	10.344	-41.829	-2.03	0	3.526	-72.646
1011		11	10.344	-41.829	-2.03	0	3.173	-65.382
1012		12	10.344	-41.829	-2.03	0	2.821	-58.117
1013		13	10.344	-41.829	-2.03	0	2.468	-50.852
1014		14	10.344	-41.829	-2.03	0	2.115	-43.588
1015		15	10.344	-41.829	-2.03	0	1.763	-36.323
1016		16	10.344	-41.829	-2.03	0	1.41	-29.059
1017		17	10.344	-41.829	-2.03	0	1.058	-21.794
1018		18	10.344	-41.829	-2.03	0	0.705	-14.529
1019		19	10.344	-41.829	-2.03	0	0.353	-7.265
1020		20	10.344	-41.829	-2.03	0	0	0
1021	2 R2	1	-15.369	63.797	9.007	0	0	0
1022		2	-15.369	63.797	9.007	0	2.923	-20.706
1023		3	-15.369	63.797	9.007	0	5.847	-41.412
1024		4	-15.369	63.797	9.007	0	8.77	-62.119
1025		5	-15.369	63.797	9.007	0	11.693	-82.825
1026		6	-15.369	63.797	9.007	0	14.616	-103.531
1027		7	-15.369	63.797	9.007	0	17.54	-124.237
1028		8	-15.369	63.797	9.007	0	20.463	-144.943
1029		9	-15.369	63.797	9.007	0	23.386	-165.65
1030		10	-15.369	63.797	9.007	0	26.309	-186.356
1031		11	-15.369	63.797	9.007	0	29.233	-207.062
1032		12	-15.369	63.797	9.007	0	32.156	-227.768
1033		13	25.25	-168.813	-5.122	0	11.638	-383.531
1034		14	25.25	-168.813	-5.122	0	9.975	-328.74
1035		15	25.25	-168.813	-5.122	0	8.313	-273.95
1036		16	25.25	-168.813	-5.122	0	6.65	-219.16
1037		17	25.25	-168.813	-5.122	0	4.988	-164.37
1038		18	25.25	-168.813	-5.122	0	3.325	-109.58
1039		19	25.25	-168.813	-5.122	0	1.663	-54.79
1040		20	25.25	-168.813	-5.122	0	0	0
1041	2 R3	1	-18.432	47.616	3.084	0	0	0
1042		2	-18.432	47.616	3.084	0	1.001	-15.454
1043		3	-18.432	47.616	3.084	0	2.002	-30.908
1044		4	-18.432	47.616	3.084	0	3.003	-46.362
1045		5	-18.432	47.616	3.084	0	4.004	-61.817
1046		6	-18.432	47.616	3.084	0	5.005	-77.271
1047		7	-18.432	47.616	3.084	0	6.006	-92.725
1048		8	-18.432	47.616	3.084	0	7.007	-108.179
1049		9	-18.432	47.616	3.084	0	8.008	-123.633
1050		10	-18.432	47.616	3.084	0	9.009	-139.087
1051		11	-18.432	47.616	3.084	0	10.01	-154.541
1052		12	-18.432	47.616	3.084	0	11.011	-169.996
1053		13	30.281	-182.632	-5.073	0	11.526	-414.926

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1054		14	30.281	-182.632	-5.073	0	9.879	-355.651
1055		15	30.281	-182.632	-5.073	0	8.233	-296.376
1056		16	30.281	-182.632	-5.073	0	6.586	-237.101
1057		17	30.281	-182.632	-5.073	0	4.94	-177.826
1058		18	30.281	-182.632	-5.073	0	3.293	-118.55
1059		19	30.281	-182.632	-5.073	0	1.647	-59.275
1060		20	30.281	-182.632	-5.073	0	0	0
1061	2	R4	1	-18.431	47.204	3.081	0	0
1062		2	-18.431	47.204	3.081	0	1	-15.321
1063		3	-18.431	47.204	3.081	0	2	-30.641
1064		4	-18.431	47.204	3.081	0	3	-45.962
1065		5	-18.431	47.204	3.081	0	4	-61.283
1066		6	-18.431	47.204	3.081	0	5	-76.603
1067		7	-18.431	47.204	3.081	0	6	-91.924
1068		8	-18.431	47.204	3.081	0	7	-107.244
1069		9	-18.431	47.204	3.081	0	8	-122.565
1070		10	-18.431	47.204	3.081	0	9	-137.886
1071		11	-18.431	47.204	3.081	0	10	-153.206
1072		12	-18.431	47.204	3.081	0	11	-168.527
1073		13	30.279	-181.958	-5.067	0	11.512	-413.396
1074		14	30.279	-181.958	-5.067	0	9.868	-354.339
1075		15	30.279	-181.958	-5.067	0	8.223	-295.283
1076		16	30.279	-181.958	-5.067	0	6.579	-236.226
1077		17	30.279	-181.958	-5.067	0	4.934	-177.17
1078		18	30.279	-181.958	-5.067	0	3.289	-118.113
1079		19	30.279	-181.958	-5.067	0	1.645	-59.057
1080		20	30.279	-181.958	-5.067	0	0	0
1081	2	R5	1	-18.431	47.298	3.081	0	0
1082		2	-18.431	47.298	3.081	0	1	-15.351
1083		3	-18.431	47.298	3.081	0	2	-30.702
1084		4	-18.431	47.298	3.081	0	3	-46.053
1085		5	-18.431	47.298	3.081	0	4	-61.404
1086		6	-18.431	47.298	3.081	0	5	-76.755
1087		7	-18.431	47.298	3.081	0	6	-92.106
1088		8	-18.431	47.298	3.081	0	7	-107.457
1089		9	-18.431	47.298	3.081	0	8	-122.808
1090		10	-18.431	47.298	3.081	0	9	-138.159
1091		11	-18.431	47.298	3.081	0	10	-153.51
1092		12	-18.431	47.298	3.081	0	11	-168.861
1093		13	30.279	-182.112	-5.067	0	11.512	-413.745
1094		14	30.279	-182.112	-5.067	0	9.868	-354.638
1095		15	30.279	-182.112	-5.067	0	8.223	-295.532
1096		16	30.279	-182.112	-5.067	0	6.579	-236.426
1097		17	30.279	-182.112	-5.067	0	4.934	-177.319
1098		18	30.279	-182.112	-5.067	0	3.289	-118.213
1099		19	30.279	-182.112	-5.067	0	1.645	-59.106
1100		20	30.279	-182.112	-5.067	0	0	0
1101	2	R6	1	-18.431	47.31	3.081	0	0
1102		2	-18.431	47.31	3.081	0	1	-15.355
1103		3	-18.431	47.31	3.081	0	2	-30.71
1104		4	-18.431	47.31	3.081	0	3	-46.065
1105		5	-18.431	47.31	3.081	0	4	-61.419
1106		6	-18.431	47.31	3.081	0	5	-76.774
1107		7	-18.431	47.31	3.081	0	6	-92.129
1108		8	-18.431	47.31	3.081	0	7	-107.484
1109		9	-18.431	47.31	3.081	0	8	-122.839
1110		10	-18.431	47.31	3.081	0	9	-138.194
1111		11	-18.431	47.31	3.081	0	10	-153.549

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1112		12	-18.431	47.31	3.081	0	11	-168.903
1113		13	30.279	-182.131	-5.067	0	11.512	-413.79
1114		14	30.279	-182.131	-5.067	0	9.868	-354.677
1115		15	30.279	-182.131	-5.067	0	8.223	-295.564
1116		16	30.279	-182.131	-5.067	0	6.578	-236.451
1117		17	30.279	-182.131	-5.067	0	4.934	-177.338
1118		18	30.279	-182.131	-5.067	0	3.289	-118.226
1119		19	30.279	-182.131	-5.067	0	1.645	-59.113
1120		20	30.279	-182.131	-5.067	0	0	0
1121	2	R7	1	-18.433	47.215	3.066	0	0
1122		2	-18.433	47.215	3.066	0	0.995	-15.324
1123		3	-18.433	47.215	3.066	0	1.99	-30.648
1124		4	-18.433	47.215	3.066	0	2.985	-45.972
1125		5	-18.433	47.215	3.066	0	3.981	-61.297
1126		6	-18.433	47.215	3.066	0	4.976	-76.621
1127		7	-18.433	47.215	3.066	0	5.971	-91.945
1128		8	-18.433	47.215	3.066	0	6.966	-107.269
1129		9	-18.433	47.215	3.066	0	7.961	-122.593
1130		10	-18.433	47.215	3.066	0	8.956	-137.917
1131		11	-18.433	47.215	3.066	0	9.951	-153.241
1132		12	-18.433	47.215	3.066	0	10.947	-168.566
1133		13	30.284	-181.975	-5.043	0	11.457	-413.434
1134		14	30.284	-181.975	-5.043	0	9.82	-354.372
1135		15	30.284	-181.975	-5.043	0	8.183	-295.31
1136		16	30.284	-181.975	-5.043	0	6.547	-236.248
1137		17	30.284	-181.975	-5.043	0	4.91	-177.187
1138		18	30.284	-181.975	-5.043	0	3.273	-118.125
1139		19	30.284	-181.975	-5.043	0	1.637	-59.063
1140		20	30.284	-181.975	-5.043	0	0	0
1141	2	R8	1	-18.431	53.059	3.081	0	0
1142		2	-18.431	53.059	3.081	0	1	-17.221
1143		3	-18.431	53.059	3.081	0	2	-34.442
1144		4	-18.431	53.059	3.081	0	3	-51.663
1145		5	-18.431	53.059	3.081	0	4	-68.884
1146		6	-18.431	53.059	3.081	0	5	-86.105
1147		7	-18.431	53.059	3.081	0	6	-103.326
1148		8	-18.431	53.059	3.081	0	7	-120.547
1149		9	-18.431	53.059	3.081	0	8	-137.768
1150		10	-18.431	53.059	3.081	0	9	-154.99
1151		11	-18.431	53.059	3.081	0	10	-172.211
1152		12	-18.431	53.059	3.081	0	11	-189.432
1153		13	30.279	-191.578	-5.067	0	11.512	-435.252
1154		14	30.279	-191.578	-5.067	0	9.868	-373.073
1155		15	30.279	-191.578	-5.067	0	8.223	-310.894
1156		16	30.279	-191.578	-5.067	0	6.578	-248.715
1157		17	30.279	-191.578	-5.067	0	4.934	-186.536
1158		18	30.279	-191.578	-5.067	0	3.289	-124.358
1159		19	30.279	-191.578	-5.067	0	1.645	-62.179
1160		20	30.279	-191.578	-5.067	0	0	0
1161	2	R9	1	-18.431	51.732	3.081	0	0
1162		2	-18.431	51.732	3.081	0	1	-16.79
1163		3	-18.431	51.732	3.081	0	2	-33.581
1164		4	-18.431	51.732	3.081	0	3	-50.371
1165		5	-18.431	51.732	3.081	0	4	-67.161
1166		6	-18.431	51.732	3.081	0	5	-83.951
1167		7	-18.431	51.732	3.081	0	6	-100.742
1168		8	-18.431	51.732	3.081	0	7	-117.532
1169		9	-18.431	51.732	3.081	0	8	-134.322

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1170		10	-18.431	51.732	3.081	0	9	-151.113
1171		11	-18.431	51.732	3.081	0	10	-167.903
1172		12	-18.431	51.732	3.081	0	11	-184.693
1173		13	30.279	-189.397	-5.067	0	11.512	-430.297
1174		14	30.279	-189.397	-5.067	0	9.868	-368.826
1175		15	30.279	-189.397	-5.067	0	8.223	-307.355
1176		16	30.279	-189.397	-5.067	0	6.579	-245.884
1177		17	30.279	-189.397	-5.067	0	4.934	-184.413
1178		18	30.279	-189.397	-5.067	0	3.289	-122.942
1179		19	30.279	-189.397	-5.067	0	1.645	-61.471
1180		20	30.279	-189.397	-5.067	0	0	0
1181	2	R10	1	-18.431	46.884	3.081	0	0
1182		2	-18.431	46.884	3.081	0	1	-15.217
1183		3	-18.431	46.884	3.081	0	2	-30.434
1184		4	-18.431	46.884	3.081	0	3	-45.651
1185		5	-18.431	46.884	3.081	0	4	-60.867
1186		6	-18.431	46.884	3.081	0	5	-76.084
1187		7	-18.431	46.884	3.081	0	6	-91.301
1188		8	-18.431	46.884	3.081	0	7	-106.518
1189		9	-18.431	46.884	3.081	0	8	-121.735
1190		10	-18.431	46.884	3.081	0	9	-136.952
1191		11	-18.431	46.884	3.081	0	10	-152.168
1192		12	-18.431	46.884	3.081	0	11	-167.385
1193		13	30.279	-181.432	-5.067	0	11.512	-412.201
1194		14	30.279	-181.432	-5.067	0	9.868	-353.315
1195		15	30.279	-181.432	-5.067	0	8.223	-294.43
1196		16	30.279	-181.432	-5.067	0	6.579	-235.544
1197		17	30.279	-181.432	-5.067	0	4.934	-176.658
1198		18	30.279	-181.432	-5.067	0	3.289	-117.772
1199		19	30.279	-181.432	-5.067	0	1.645	-58.886
1200		20	30.279	-181.432	-5.067	0	0	0
1201	2	R11	1	-18.431	47.358	3.081	0	0
1202		2	-18.431	47.358	3.081	0	1	-15.371
1203		3	-18.431	47.358	3.081	0	2	-30.741
1204		4	-18.431	47.358	3.081	0	3	-46.112
1205		5	-18.431	47.358	3.081	0	4	-61.483
1206		6	-18.431	47.358	3.081	0	5	-76.853
1207		7	-18.431	47.358	3.081	0	6	-92.224
1208		8	-18.431	47.358	3.081	0	7	-107.594
1209		9	-18.431	47.358	3.081	0	8	-122.965
1210		10	-18.431	47.358	3.081	0	9	-138.336
1211		11	-18.431	47.358	3.081	0	10	-153.706
1212		12	-18.431	47.358	3.081	0	11	-169.077
1213		13	30.279	-182.211	-5.067	0	11.512	-413.971
1214		14	30.279	-182.211	-5.067	0	9.868	-354.832
1215		15	30.279	-182.211	-5.067	0	8.223	-295.693
1216		16	30.279	-182.211	-5.067	0	6.579	-236.555
1217		17	30.279	-182.211	-5.067	0	4.934	-177.416
1218		18	30.279	-182.211	-5.067	0	3.289	-118.277
1219		19	30.279	-182.211	-5.067	0	1.645	-59.139
1220		20	30.279	-182.211	-5.067	0	0	0
1221	2	R12	1	-18.431	47.372	3.081	0	0
1222		2	-18.431	47.372	3.081	0	1	-15.375
1223		3	-18.431	47.372	3.081	0	2	-30.75
1224		4	-18.431	47.372	3.081	0	3	-46.125
1225		5	-18.431	47.372	3.081	0	4	-61.5
1226		6	-18.431	47.372	3.081	0	5	-76.875
1227		7	-18.431	47.372	3.081	0	6	-92.25

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1228		8	-18.431	47.372	3.081	0	7	-107.625
1229		9	-18.431	47.372	3.081	0	8	-123
1230		10	-18.431	47.372	3.081	0	9	-138.375
1231		11	-18.431	47.372	3.081	0	10	-153.75
1232		12	-18.431	47.372	3.081	0	11	-169.125
1233		13	30.279	-182.233	-5.067	0	11.512	-414.021
1234		14	30.279	-182.233	-5.067	0	9.868	-354.875
1235		15	30.279	-182.233	-5.067	0	8.223	-295.729
1236		16	30.279	-182.233	-5.067	0	6.579	-236.583
1237		17	30.279	-182.233	-5.067	0	4.934	-177.437
1238		18	30.279	-182.233	-5.067	0	3.289	-118.292
1239		19	30.279	-182.233	-5.067	0	1.645	-59.146
1240		20	30.279	-182.233	-5.067	0	0	0
1241	2	R13	1	-18.431	46.841	3.081	0	0
1242		2	-18.431	46.841	3.081	0	1	-15.203
1243		3	-18.431	46.841	3.081	0	2	-30.405
1244		4	-18.431	46.841	3.081	0	3	-45.608
1245		5	-18.431	46.841	3.081	0	4	-60.811
1246		6	-18.431	46.841	3.081	0	5	-76.013
1247		7	-18.431	46.841	3.081	0	6	-91.216
1248		8	-18.431	46.841	3.081	0	7	-106.419
1249		9	-18.431	46.841	3.081	0	8	-121.622
1250		10	-18.431	46.841	3.081	0	9	-136.824
1251		11	-18.431	46.841	3.081	0	10	-152.027
1252		12	-18.431	46.841	3.081	0	11	-167.23
1253		13	30.279	-181.361	-5.067	0	11.512	-412.039
1254		14	30.279	-181.361	-5.067	0	9.868	-353.176
1255		15	30.279	-181.361	-5.067	0	8.223	-294.313
1256		16	30.279	-181.361	-5.067	0	6.579	-235.451
1257		17	30.279	-181.361	-5.067	0	4.934	-176.588
1258		18	30.279	-181.361	-5.067	0	3.289	-117.725
1259		19	30.279	-181.361	-5.067	0	1.645	-58.863
1260		20	30.279	-181.361	-5.067	0	0	0
1261	2	R14	1	-18.432	49.09	3.081	0	0
1262		2	-18.432	49.09	3.081	0	1	-15.933
1263		3	-18.432	49.09	3.081	0	2	-31.865
1264		4	-18.432	49.09	3.081	0	3	-47.798
1265		5	-18.432	49.09	3.081	0	4	-63.731
1266		6	-18.432	49.09	3.081	0	4.999	-79.663
1267		7	-18.432	49.09	3.081	0	5.999	-95.596
1268		8	-18.432	49.09	3.081	0	6.999	-111.529
1269		9	-18.432	49.09	3.081	0	7.999	-127.462
1270		10	-18.432	49.09	3.081	0	8.999	-143.394
1271		11	-18.432	49.09	3.081	0	9.999	-159.327
1272		12	-18.432	49.09	3.081	0	10.999	-175.26
1273		13	30.281	-185.057	-5.066	0	11.51	-420.436
1274		14	30.281	-185.057	-5.066	0	9.866	-360.374
1275		15	30.281	-185.057	-5.066	0	8.221	-300.311
1276		16	30.281	-185.057	-5.066	0	6.577	-240.249
1277		17	30.281	-185.057	-5.066	0	4.933	-180.187
1278		18	30.281	-185.057	-5.066	0	3.289	-120.125
1279		19	30.281	-185.057	-5.066	0	1.644	-60.062
1280		20	30.281	-185.057	-5.066	0	0	0
1281	2	R15	1	-12.986	41.324	-0.241	0	0
1282		2	-12.986	41.324	-0.241	0	-0.078	-13.412
1283		3	-12.986	41.324	-0.241	0	-0.157	-26.824
1284		4	-12.986	41.324	-0.241	0	-0.235	-40.236
1285		5	-12.986	41.324	-0.241	0	-0.313	-53.648



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1286		6	-12.986	41.324	-0.241	0	-0.392	-67.06
1287		7	-12.986	41.324	-0.241	0	-0.47	-80.473
1288		8	-12.986	41.324	-0.241	0	-0.548	-93.885
1289		9	-12.986	41.324	-0.241	0	-0.627	-107.297
1290		10	-12.986	41.324	-0.241	0	-0.705	-120.709
1291		11	-12.986	41.324	-0.241	0	-0.784	-134.121
1292		12	-12.986	41.324	-0.241	0	-0.862	-147.533
1293		13	21.335	-167.77	-11.616	0	26.392	-381.161
1294		14	21.335	-167.77	-11.616	0	22.621	-326.709
1295		15	21.335	-167.77	-11.616	0	18.851	-272.258
1296		16	21.335	-167.77	-11.616	0	15.081	-217.806
1297		17	21.335	-167.77	-11.616	0	11.311	-163.355
1298		18	21.335	-167.77	-11.616	0	7.54	-108.903
1299		19	21.335	-167.77	-11.616	0	3.77	-54.452
1300		20	21.335	-167.77	-11.616	0	0	0
1301	2	M33	1	-7.249	8.787	0.552	0	0
1302		2	-7.249	8.787	0.552	0	0.157	-2.493
1303		3	-7.249	8.787	0.552	0	0.313	-4.987
1304		4	-7.249	8.787	0.552	0	0.47	-7.48
1305		5	-7.249	8.787	0.552	0	0.627	-9.974
1306		6	-7.249	8.787	0.552	0	0.784	-12.467
1307		7	-7.249	8.787	0.552	0	0.94	-14.96
1308		8	-7.249	8.787	0.552	0	1.097	-17.454
1309		9	-7.249	8.787	0.552	0	1.254	-19.947
1310		10	-7.249	8.787	0.552	0	1.41	-22.441
1311		11	-7.249	8.787	0.552	0	1.567	-24.934
1312		12	-7.249	8.787	0.552	0	1.724	-27.428
1313		13	-7.249	8.787	0.552	0	1.881	-29.921
1314		14	-7.249	8.787	0.552	0	2.037	-32.414
1315		15	-7.249	8.787	0.552	0	2.194	-34.908
1316		16	-7.249	8.787	0.552	0	2.351	-37.401
1317		17	-7.249	8.787	0.552	0	2.507	-39.895
1318		18	-7.249	8.787	0.552	0	2.664	-42.388
1319		19	-7.249	8.787	0.552	0	2.821	-44.881
1320		20	-7.249	8.787	0.552	0	2.978	-47.375
1321	3	A1	1	0	0	0	0	0
1322		2	0	-0.403	0	0	0	0.022
1323		3	0	-0.805	0	0	0	0.086
1324		4	0	-1.208	0	0	0	0.194
1325		5	0	-1.611	0	0	0	0.344
1326		6	0	-2.013	0	0	0	0.538
1327		7	0	-2.416	0	0	0	0.774
1328		8	0	-2.818	0	0	0	1.054
1329		9	0	-3.221	0	0	0	1.376
1330		10	0	-3.624	0	0	0	1.742
1331		11	0	-4.026	0	0	0	2.15
1332		12	0	-4.429	0	0	0	2.602
1333		13	0	-4.832	0	0	0	3.096
1334		14	0	-5.234	0	0	0	3.634
1335		15	0	-5.637	0	0	0	4.214
1336		16	0	-6.039	0	0	0	4.838
1337		17	0	-6.442	0	0	0	5.504
1338		18	0	-6.845	0	0	0	6.214
1339		19	0	-7.247	0	0	0	6.966
1340		20	0	-7.65	0	0	0	7.762
1341	3	A2	1	-4.691	-29.326	5.516	-43.914	2.932
1342		2	-4.822	-32.638	4.705	-47.93	3.572	-31.797
1343		3	-4.954	-35.95	3.894	-51.947	4.11	-27.504

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
1344		4	-5.085	-39.261	3.083	-55.963	4.547	-22.797	
1345		5	-5.216	-42.573	2.272	-59.98	4.882	-17.675	
1346		6	-5.348	-45.884	1.461	-63.997	5.116	-12.138	
1347		7	-5.479	-49.196	0.65	-68.013	5.248	-6.188	
1348		8	-5.61	-52.508	-0.161	-72.03	5.278	0.178	
1349		9	-5.741	-55.819	-0.972	-76.047	5.207	6.958	
1350		10	-5.873	-59.131	-1.783	-80.063	5.035	14.152	
1351		11	-6.004	-62.443	-2.594	-84.08	4.761	21.761	
1352		12	-6.135	-65.754	-3.405	-88.097	4.386	29.785	
1353		13	-6.267	-69.066	-4.216	-92.113	3.909	38.223	
1354		14	-6.398	-72.378	-5.027	-96.13	3.33	47.076	
1355		15	-6.529	-75.689	-5.838	-100.146	2.65	56.343	
1356		16	-6.66	-79.001	-6.649	-104.163	1.869	66.024	
1357		17	-6.792	-82.312	-7.46	-108.18	0.986	76.121	
1358		18	-6.923	-85.624	-8.271	-112.196	0.001	86.631	
1359		19	-7.054	-88.936	-9.082	-116.213	-1.085	97.557	
1360		20	-7.186	-92.247	-9.893	-120.23	-2.272	108.897	
1361	3	A3	1	3.919	96.452	24.198	119.848	-30.118	108.897
1362		2	3.506	86.05	21.651	107.232	-21.106	73.021	
1363		3	3.094	75.649	19.103	94.617	-13.094	41.234	
1364		4	2.682	65.247	16.556	82.001	-6.084	13.537	
1365		5	2.269	54.846	14.009	69.385	-0.076	-10.071	
1366		6	1.857	44.445	11.462	56.77	4.931	-29.59	
1367		7	1.444	34.043	8.915	44.154	8.937	-45.019	
1368		8	1.032	23.642	6.368	31.538	11.941	-56.358	
1369		9	0.62	13.24	3.82	18.923	13.944	-63.609	
1370		10	0.207	2.839	1.273	6.307	14.945	-66.77	
1371		11	-0.205	-7.562	-1.274	-6.309	14.945	-65.841	
1372		12	-0.617	-17.964	-3.821	-18.924	13.943	-60.823	
1373		13	-1.03	-28.365	-6.368	-31.54	11.94	-51.716	
1374		14	-1.442	-38.766	-8.916	-44.156	8.936	-38.519	
1375		15	-1.854	-49.168	-11.463	-56.771	4.93	-21.233	
1376		16	-2.267	-59.569	-14.01	-69.387	-0.078	0.142	
1377		17	-2.679	-69.971	-16.557	-82.002	-6.087	25.607	
1378		18	-3.091	-80.372	-19.104	-94.618	-13.097	55.161	
1379		19	-3.504	-90.773	-21.652	-107.234	-21.109	88.805	
1380		20	-3.916	-101.175	-24.199	-119.849	-30.122	126.538	
1381	3	A4	1	3.917	99.398	24.2	119.849	-30.133	126.538
1382		2	3.505	88.997	21.653	107.233	-21.119	89.503	
1383		3	3.093	78.595	19.106	94.618	-13.107	56.558	
1384		4	2.68	68.194	16.558	82.002	-6.096	27.702	
1385		5	2.268	57.792	14.011	69.386	-0.087	2.936	
1386		6	1.856	47.391	11.464	56.771	4.921	-17.741	
1387		7	1.443	36.99	8.917	44.155	8.927	-34.328	
1388		8	1.031	26.588	6.37	31.539	11.932	-46.826	
1389		9	0.619	16.187	3.822	18.924	13.936	-55.235	
1390		10	0.206	5.786	1.275	6.308	14.938	-59.554	
1391		11	-0.206	-4.616	-1.272	-6.308	14.939	-59.784	
1392		12	-0.619	-15.017	-3.819	-18.923	13.938	-55.925	
1393		13	-1.031	-25.419	-6.366	-31.539	11.936	-47.976	
1394		14	-1.443	-35.82	-8.914	-44.155	8.932	-35.938	
1395		15	-1.856	-46.221	-11.461	-56.77	4.927	-19.81	
1396		16	-2.268	-56.623	-14.008	-69.386	-0.08	0.407	
1397		17	-2.68	-67.024	-16.555	-82.001	-6.088	24.713	
1398		18	-3.093	-77.426	-19.102	-94.617	-13.097	53.109	
1399		19	-3.505	-87.827	-21.649	-107.233	-21.108	85.594	
1400		20	-3.917	-98.228	-24.197	-119.848	-30.121	122.169	
1401	3	A5	1	3.917	98.682	24.2	119.849	-30.133	122.169

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
1402		2	3.505	88.281	21.653	107.233	-21.119	85.416	
1403		3	3.093	77.88	19.106	94.617	-13.107	52.752	
1404		4	2.68	67.478	16.558	82.002	-6.096	24.178	
1405		5	2.268	57.077	14.011	69.386	-0.087	-0.307	
1406		6	1.856	46.675	11.464	56.77	4.921	-20.703	
1407		7	1.443	36.274	8.917	44.155	8.927	-37.009	
1408		8	1.031	25.873	6.37	31.539	11.932	-49.226	
1409		9	0.619	15.471	3.822	18.923	13.936	-57.353	
1410		10	0.206	5.07	1.275	6.308	14.938	-61.391	
1411		11	-0.206	-5.331	-1.272	-6.308	14.939	-61.34	
1412		12	-0.619	-15.733	-3.819	-18.924	13.938	-57.199	
1413		13	-1.031	-26.134	-6.366	-31.539	11.936	-48.969	
1414		14	-1.443	-36.536	-8.914	-44.155	8.932	-36.649	
1415		15	-1.856	-46.937	-11.461	-56.77	4.927	-20.24	
1416		16	-2.268	-57.338	-14.008	-69.386	-0.08	0.258	
1417		17	-2.68	-67.74	-16.555	-82.002	-6.088	24.846	
1418		18	-3.093	-78.141	-19.102	-94.617	-13.097	53.523	
1419		19	-3.505	-88.543	-21.649	-107.233	-21.108	86.29	
1420		20	-3.917	-98.944	-24.197	-119.849	-30.121	123.145	
1421	3	A6	1	3.917	98.786	24.2	119.849	-30.133	123.145
1422		2	3.505	88.384	21.653	107.233	-21.119	86.352	
1423		3	3.093	77.983	19.106	94.617	-13.107	53.648	
1424		4	2.68	67.581	16.558	82.002	-6.096	25.033	
1425		5	2.268	57.18	14.011	69.386	-0.087	0.507	
1426		6	1.856	46.779	11.464	56.77	4.921	-19.929	
1427		7	1.443	36.377	8.917	44.155	8.927	-36.275	
1428		8	1.031	25.976	6.37	31.539	11.932	-48.533	
1429		9	0.619	15.574	3.822	18.923	13.936	-56.701	
1430		10	0.206	5.173	1.275	6.308	14.938	-60.779	
1431		11	-0.206	-5.228	-1.272	-6.308	14.939	-60.768	
1432		12	-0.619	-15.63	-3.819	-18.923	13.938	-56.668	
1433		13	-1.031	-26.031	-6.366	-31.539	11.936	-48.478	
1434		14	-1.443	-36.432	-8.914	-44.155	8.932	-36.199	
1435		15	-1.856	-46.834	-11.461	-56.77	4.927	-19.831	
1436		16	-2.268	-57.235	-14.008	-69.386	-0.08	0.627	
1437		17	-2.68	-67.637	-16.555	-82.002	-6.088	25.174	
1438		18	-3.093	-78.038	-19.102	-94.617	-13.097	53.811	
1439		19	-3.505	-88.439	-21.649	-107.233	-21.108	86.537	
1440		20	-3.917	-98.841	-24.197	-119.849	-30.121	123.352	
1441	3	A7	1	3.917	99.062	24.2	119.849	-30.133	123.352
1442		2	3.505	88.66	21.653	107.233	-21.119	86.45	
1443		3	3.093	78.259	19.106	94.617	-13.107	53.637	
1444		4	2.68	67.858	16.558	82.002	-6.096	24.913	
1445		5	2.268	57.456	14.011	69.386	-0.087	0.279	
1446		6	1.856	47.055	11.464	56.771	4.921	-20.265	
1447		7	1.443	36.653	8.917	44.155	8.927	-36.721	
1448		8	1.031	26.252	6.37	31.539	11.932	-49.086	
1449		9	0.619	15.851	3.822	18.924	13.936	-57.363	
1450		10	0.206	5.449	1.275	6.308	14.938	-61.55	
1451		11	-0.206	-4.952	-1.272	-6.308	14.939	-61.648	
1452		12	-0.619	-15.354	-3.819	-18.923	13.938	-57.656	
1453		13	-1.031	-25.755	-6.366	-31.539	11.936	-49.575	
1454		14	-1.443	-36.156	-8.914	-44.155	8.932	-37.405	
1455		15	-1.856	-46.558	-11.461	-56.77	4.927	-21.145	
1456		16	-2.268	-56.959	-14.008	-69.386	-0.08	-0.796	
1457		17	-2.68	-67.36	-16.555	-82.002	-6.088	23.643	
1458		18	-3.093	-77.762	-19.102	-94.617	-13.097	52.171	
1459		19	-3.505	-88.163	-21.649	-107.233	-21.108	84.788	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1460		20	-3.917	-98.565	-24.197	-119.849	-30.121	121.495
1461	3 A8	1	3.917	97.781	24.2	119.848	-30.133	121.495
1462		2	3.505	87.38	21.653	107.232	-21.119	85.096
1463		3	3.093	76.979	19.106	94.616	-13.107	52.787
1464		4	2.68	66.577	16.558	82.001	-6.096	24.567
1465		5	2.268	56.176	14.011	69.385	-0.087	0.436
1466		6	1.856	45.774	11.464	56.769	4.921	-19.605
1467		7	1.443	35.373	8.917	44.154	8.927	-35.557
1468		8	1.031	24.972	6.37	31.538	11.932	-47.42
1469		9	0.619	14.57	3.822	18.923	13.936	-55.193
1470		10	0.206	4.169	1.275	6.307	14.938	-58.877
1471		11	-0.206	-6.232	-1.272	-6.309	14.939	-58.471
1472		12	-0.619	-16.634	-3.819	-18.924	13.938	-53.976
1473		13	-1.031	-27.035	-6.366	-31.54	11.936	-45.391
1474		14	-1.443	-37.437	-8.914	-44.156	8.932	-32.718
1475		15	-1.856	-47.838	-11.461	-56.771	4.927	-15.954
1476		16	-2.268	-58.239	-14.008	-69.387	-0.08	4.898
1477		17	-2.68	-68.641	-16.555	-82.003	-6.088	29.84
1478		18	-3.093	-80.03	-19.102	-94.618	-13.097	59.048
1479		19	-3.505	-91.517	-21.649	-107.234	-21.108	92.771
1480		20	-3.917	-103.004	-24.197	-119.85	-30.121	131.009
1481	3 A9	1	3.917	108.729	24.2	119.848	-30.133	131.009
1482		2	3.505	97.242	21.653	107.233	-21.119	90.52
1483		3	3.093	85.754	19.106	94.617	-13.107	54.547
1484		4	2.68	74.267	16.558	82.001	-6.096	23.09
1485		5	2.268	62.78	14.011	69.386	-0.087	-3.851
1486		6	1.856	51.293	11.464	56.77	4.921	-26.275
1487		7	1.443	39.806	8.917	44.155	8.927	-44.183
1488		8	1.031	28.319	6.37	31.539	11.932	-57.575
1489		9	0.619	16.832	3.822	18.923	13.936	-66.451
1490		10	0.206	5.345	1.275	6.308	14.938	-70.811
1491		11	-0.206	-6.142	-1.272	-6.308	14.939	-70.654
1492		12	-0.619	-17.629	-3.819	-18.924	13.938	-65.981
1493		13	-1.031	-29.116	-6.366	-31.539	11.936	-56.792
1494		14	-1.443	-40.604	-8.914	-44.155	8.932	-43.086
1495		15	-1.856	-52.091	-11.461	-56.771	4.927	-24.864
1496		16	-2.268	-63.578	-14.008	-69.386	-0.08	-2.126
1497		17	-2.68	-75.065	-16.555	-82.002	-6.088	25.128
1498		18	-3.093	-86.552	-19.102	-94.618	-13.097	56.898
1499		19	-3.505	-98.039	-21.649	-107.233	-21.108	93.185
1500		20	-3.917	-109.526	-24.197	-119.849	-30.121	133.988
1501	3 A10	1	3.917	106.42	24.2	119.85	-30.133	133.988
1502		2	3.505	94.933	21.653	107.235	-21.119	94.406
1503		3	3.093	83.446	19.106	94.619	-13.107	59.34
1504		4	2.68	71.959	16.558	82.003	-6.096	28.791
1505		5	2.268	60.472	14.011	69.388	-0.087	2.758
1506		6	1.856	48.985	11.464	56.772	4.921	-18.759
1507		7	1.443	37.498	8.917	44.156	8.927	-35.76
1508		8	1.031	26.157	6.37	31.541	11.932	-48.248
1509		9	0.618	15.756	3.822	18.925	13.936	-56.488
1510		10	0.206	5.355	1.275	6.309	14.938	-60.638
1511		11	-0.206	-5.047	-1.272	-6.306	14.939	-60.698
1512		12	-0.619	-15.448	-3.819	-18.922	13.938	-56.669
1513		13	-1.031	-25.849	-6.366	-31.538	11.936	-48.551
1514		14	-1.443	-36.251	-8.914	-44.153	8.932	-36.343
1515		15	-1.856	-46.652	-11.461	-56.769	4.927	-20.046
1516		16	-2.268	-57.054	-14.008	-69.385	-0.08	0.34
1517		17	-2.68	-67.455	-16.555	-82	-6.088	24.816

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
1518		18	-3.093	-77.856	-19.102	-94.616	-13.097	53.381	
1519		19	-3.505	-88.258	-21.649	-107.231	-21.108	86.035	
1520		20	-3.917	-98.659	-24.197	-119.847	-30.121	122.779	
1521	3	A11	1	3.917	98.739	24.2	119.848	-30.133	122.585
1522		2	3.505	88.337	21.653	107.233	-21.119	85.81	
1523		3	3.093	77.936	19.106	94.617	-13.107	53.124	
1524		4	2.68	67.535	16.558	82.001	-6.096	24.527	
1525		5	2.268	57.133	14.011	69.386	-0.087	0.02	
1526		6	1.856	46.732	11.464	56.77	4.921	-20.397	
1527		7	1.443	36.331	8.917	44.154	8.927	-36.726	
1528		8	1.031	25.929	6.37	31.539	11.932	-48.965	
1529		9	0.619	15.528	3.822	18.923	13.936	-57.114	
1530		10	0.206	5.126	1.275	6.307	14.938	-61.174	
1531		11	-0.206	-5.275	-1.272	-6.308	14.939	-61.145	
1532		12	-0.618	-15.676	-3.819	-18.924	13.938	-57.027	
1533		13	-1.031	-26.078	-6.366	-31.54	11.936	-48.819	
1534		14	-1.443	-36.479	-8.914	-44.155	8.932	-36.521	
1535		15	-1.856	-46.881	-11.461	-56.771	4.927	-20.134	
1536		16	-2.268	-57.282	-14.008	-69.386	-0.08	0.342	
1537		17	-2.68	-67.683	-16.555	-82.002	-6.088	24.907	
1538		18	-3.093	-78.085	-19.102	-94.618	-13.097	53.562	
1539		19	-3.505	-88.486	-21.649	-107.233	-21.108	86.307	
1540		20	-3.917	-98.887	-24.197	-119.849	-30.121	123.14	
1541	3	A12	1	3.917	98.838	24.2	119.849	-30.133	123.14
1542		2	3.505	88.436	21.653	107.233	-21.119	86.326	
1543		3	3.093	78.035	19.106	94.617	-13.107	53.601	
1544		4	2.68	67.633	16.558	82.002	-6.096	24.966	
1545		5	2.268	57.232	14.011	69.386	-0.087	0.42	
1546		6	1.856	46.831	11.464	56.77	4.921	-20.036	
1547		7	1.443	36.429	8.917	44.155	8.927	-36.404	
1548		8	1.031	26.028	6.37	31.539	11.932	-48.681	
1549		9	0.619	15.627	3.822	18.923	13.936	-56.87	
1550		10	0.206	5.225	1.275	6.308	14.938	-60.969	
1551		11	-0.206	-5.176	-1.272	-6.308	14.939	-60.978	
1552		12	-0.619	-15.578	-3.819	-18.923	13.938	-56.899	
1553		13	-1.031	-25.979	-6.366	-31.539	11.936	-48.729	
1554		14	-1.443	-36.38	-8.914	-44.155	8.932	-36.471	
1555		15	-1.856	-46.782	-11.461	-56.77	4.927	-20.123	
1556		16	-2.268	-57.183	-14.008	-69.386	-0.08	0.314	
1557		17	-2.68	-67.585	-16.555	-82.002	-6.088	24.841	
1558		18	-3.093	-77.986	-19.102	-94.617	-13.097	53.457	
1559		19	-3.505	-88.387	-21.649	-107.233	-21.108	86.163	
1560		20	-3.917	-98.789	-24.197	-119.849	-30.121	122.958	
1561	3	A13	1	3.917	98.783	24.2	119.849	-30.133	122.958
1562		2	3.505	88.382	21.653	107.233	-21.119	86.165	
1563		3	3.093	77.98	19.106	94.617	-13.107	53.461	
1564		4	2.68	67.579	16.558	82.002	-6.096	24.848	
1565		5	2.268	57.178	14.011	69.386	-0.087	0.323	
1566		6	1.856	46.776	11.464	56.77	4.921	-20.112	
1567		7	1.443	36.375	8.917	44.155	8.927	-36.458	
1568		8	1.031	25.974	6.37	31.539	11.932	-48.714	
1569		9	0.619	15.572	3.822	18.923	13.936	-56.881	
1570		10	0.206	5.171	1.275	6.308	14.938	-60.959	
1571		11	-0.206	-5.231	-1.272	-6.308	14.939	-60.947	
1572		12	-0.619	-15.632	-3.819	-18.923	13.938	-56.846	
1573		13	-1.031	-26.033	-6.366	-31.539	11.936	-48.656	
1574		14	-1.443	-36.435	-8.914	-44.155	8.932	-36.376	
1575		15	-1.856	-46.836	-11.461	-56.77	4.927	-20.006	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
1576		16	-2.268	-57.238	-14.008	-69.386	-0.08	0.452	
1577		17	-2.68	-67.639	-16.555	-82.002	-6.088	25	
1578		18	-3.093	-78.04	-19.102	-94.617	-13.097	53.638	
1579		19	-3.505	-88.442	-21.649	-107.233	-21.108	86.365	
1580		20	-3.917	-98.843	-24.197	-119.849	-30.121	123.181	
1581	3	A14	1	3.917	98.916	24.2	119.849	-30.133	123.181
1582		2	3.505	88.515	21.653	107.233	-21.119	86.336	
1583		3	3.093	78.113	19.106	94.617	-13.107	53.58	
1584		4	2.68	67.712	16.558	82.002	-6.096	24.914	
1585		5	2.268	57.311	14.011	69.386	-0.087	0.337	
1586		6	1.856	46.909	11.464	56.77	4.921	-20.15	
1587		7	1.443	36.508	8.917	44.155	8.927	-36.548	
1588		8	1.031	26.106	6.37	31.539	11.932	-48.857	
1589		9	0.619	15.705	3.822	18.924	13.936	-57.076	
1590		10	0.206	5.304	1.275	6.308	14.938	-61.206	
1591		11	-0.206	-5.098	-1.272	-6.308	14.939	-61.246	
1592		12	-0.619	-15.499	-3.819	-18.923	13.938	-57.197	
1593		13	-1.031	-25.901	-6.366	-31.539	11.936	-49.059	
1594		14	-1.443	-36.302	-8.914	-44.155	8.932	-36.831	
1595		15	-1.856	-46.703	-11.461	-56.77	4.927	-20.514	
1596		16	-2.268	-57.105	-14.008	-69.386	-0.08	-0.108	
1597		17	-2.68	-67.506	-16.555	-82.002	-6.088	24.388	
1598		18	-3.093	-77.907	-19.102	-94.617	-13.097	52.973	
1599		19	-3.505	-88.309	-21.649	-107.233	-21.108	85.648	
1600		20	-3.917	-98.71	-24.197	-119.849	-30.121	122.412	
1601	3	A15	1	3.926	98.404	24.203	119.843	-30.135	122.412
1602		2	3.514	88.003	21.655	107.227	-21.12	85.768	
1603		3	3.102	77.601	19.108	94.611	-13.107	53.214	
1604		4	2.689	67.2	16.561	81.996	-6.095	24.749	
1605		5	2.277	56.799	14.014	69.38	-0.084	0.374	
1606		6	1.865	46.397	11.467	56.764	4.925	-19.913	
1607		7	1.452	35.996	8.919	44.149	8.932	-36.109	
1608		8	1.04	25.594	6.372	31.533	11.938	-48.217	
1609		9	0.628	15.193	3.825	18.918	13.943	-56.235	
1610		10	0.215	4.792	1.278	6.302	14.946	-60.163	
1611		11	-0.197	-5.61	-1.269	-6.314	14.948	-60.002	
1612		12	-0.61	-16.011	-3.816	-18.929	13.948	-55.752	
1613		13	-1.022	-26.412	-6.364	-31.545	11.947	-47.413	
1614		14	-1.434	-36.814	-8.911	-44.161	8.944	-34.984	
1615		15	-1.847	-47.215	-11.458	-56.776	4.94	-18.465	
1616		16	-2.259	-57.617	-14.005	-69.392	-0.066	2.142	
1617		17	-2.671	-68.018	-16.552	-82.008	-6.073	26.84	
1618		18	-3.084	-78.419	-19.1	-94.623	-13.081	55.626	
1619		19	-3.496	-88.821	-21.647	-107.239	-21.091	88.502	
1620		20	-3.908	-99.222	-24.194	-119.855	-30.102	125.467	
1621	3	A16	1	9.903	108.251	16.149	19.461	-7.675	125.467
1622		2	9.691	102.908	14.841	12.982	-4.546	104.148	
1623		3	9.479	97.566	13.533	6.502	-1.681	83.907	
1624		4	9.267	92.224	12.225	0.022	0.919	64.745	
1625		5	9.056	86.882	10.916	-6.457	3.256	46.661	
1626		6	8.844	81.539	9.608	-12.937	5.328	29.657	
1627		7	8.632	76.197	8.3	-19.416	7.136	13.731	
1628		8	8.42	70.855	6.991	-25.896	8.68	-1.116	
1629		9	8.208	65.513	5.683	-32.375	9.96	-14.885	
1630		10	7.997	60.17	4.375	-38.855	10.975	-27.574	
1631		11	7.785	54.828	3.067	-45.334	11.727	-39.185	
1632		12	7.573	49.486	1.758	-51.814	12.214	-49.717	
1633		13	7.361	44.144	0.45	-58.293	12.437	-59.17	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1634		14	7.15	38.801	-0.858	-64.773	12.396	-67.545
1635		15	6.938	33.459	-2.166	-71.252	12.09	-74.841
1636		16	6.726	28.117	-3.475	-77.732	11.521	-81.058
1637		17	6.514	22.775	-4.783	-84.211	10.687	-86.196
1638		18	6.302	17.432	-6.091	-90.691	9.589	-90.255
1639		19	6.091	12.09	-7.399	-97.17	8.227	-93.236
1640		20	5.879	6.748	-8.708	-103.65	6.601	-95.138
1641	3	A17	1	0	8.011	0	0	8.512
1642		2	0	7.59	0	0	0	7.64
1643		3	0	7.168	0	0	0	6.814
1644		4	0	6.746	0	0	0	6.036
1645		5	0	6.325	0	0	0	5.305
1646		6	0	5.903	0	0	0	4.621
1647		7	0	5.481	0	0	0	3.985
1648		8	0	5.06	0	0	0	3.395
1649		9	0	4.638	0	0	0	2.853
1650		10	0	4.216	0	0	0	2.358
1651		11	0	3.795	0	0	0	1.91
1652		12	0	3.373	0	0	0	1.509
1653		13	0	2.952	0	0	0	1.155
1654		14	0	2.53	0	0	0	0.849
1655		15	0	2.108	0	0	0	0.589
1656		16	0	1.687	0	0	0	0.377
1657		17	0	1.265	0	0	0	0.212
1658		18	0	0.843	0	0	0	0.094
1659		19	0	0.422	0	0	0	0.024
1660		20	0	0	0	0	0	0
1661	3	R1	1	10.314	-44.421	-2	6.601	-146.583
1662		2	10.314	-44.421	-2	0	6.253	-138.868
1663		3	10.314	-44.421	-2	0	5.906	-131.153
1664		4	10.314	-44.421	-2	0	5.558	-123.438
1665		5	10.314	-44.421	-2	0	5.211	-115.724
1666		6	10.314	-44.421	-2	0	4.864	-108.009
1667		7	10.314	-44.421	-2	0	4.516	-100.294
1668		8	10.314	-44.421	-2	0	4.169	-92.579
1669		9	10.314	-44.421	-2	0	3.821	-84.864
1670		10	10.314	-44.421	-2	0	3.474	-77.149
1671		11	10.314	-44.421	-2	0	3.127	-69.434
1672		12	10.314	-44.421	-2	0	2.779	-61.719
1673		13	10.314	-44.421	-2	0	2.432	-54.004
1674		14	10.314	-44.421	-2	0	2.084	-46.289
1675		15	10.314	-44.421	-2	0	1.737	-38.575
1676		16	10.314	-44.421	-2	0	1.39	-30.86
1677		17	10.314	-44.421	-2	0	1.042	-23.145
1678		18	10.314	-44.421	-2	0	0.695	-15.43
1679		19	10.314	-44.421	-2	0	0.347	-7.715
1680		20	10.314	-44.421	-2	0	0	0
1681	3	R2	1	-15.265	55.911	8.863	0	0
1682		2	-15.265	55.911	8.863	0	2.876	-18.147
1683		3	-15.265	55.911	8.863	0	5.753	-36.293
1684		4	-15.265	55.911	8.863	0	8.629	-54.44
1685		5	-15.265	55.911	8.863	0	11.506	-72.587
1686		6	-15.265	55.911	8.863	0	14.382	-90.734
1687		7	-15.265	55.911	8.863	0	17.259	-108.88
1688		8	-15.265	55.911	8.863	0	20.135	-127.027
1689		9	-15.265	55.911	8.863	0	23.012	-145.174
1690		10	-15.265	55.911	8.863	0	25.888	-163.32
1691		11	-15.265	55.911	8.863	0	28.765	-181.467



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

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 Checked By : CWT

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1692		12	-15.265	55.911	8.863	0	31.641	-199.614
1693		13	25.078	-151.561	-4.948	0	11.242	-344.337
1694		14	25.078	-151.561	-4.948	0	9.636	-295.146
1695		15	25.078	-151.561	-4.948	0	8.03	-245.955
1696		16	25.078	-151.561	-4.948	0	6.424	-196.764
1697		17	25.078	-151.561	-4.948	0	4.818	-147.573
1698		18	25.078	-151.561	-4.948	0	3.212	-98.382
1699		19	25.078	-151.561	-4.948	0	1.606	-49.191
1700		20	25.078	-151.561	-4.948	0	0	0
1701	3	R3	1	-18.313	35.715	2.966	0	0
1702		2	-18.313	35.715	2.966	0	0.963	-11.592
1703		3	-18.313	35.715	2.966	0	1.925	-23.183
1704		4	-18.313	35.715	2.966	0	2.888	-34.775
1705		5	-18.313	35.715	2.966	0	3.85	-46.367
1706		6	-18.313	35.715	2.966	0	4.813	-57.958
1707		7	-18.313	35.715	2.966	0	5.775	-69.55
1708		8	-18.313	35.715	2.966	0	6.738	-81.142
1709		9	-18.313	35.715	2.966	0	7.7	-92.733
1710		10	-18.313	35.715	2.966	0	8.663	-104.325
1711		11	-18.313	35.715	2.966	0	9.625	-115.917
1712		12	-18.313	35.715	2.966	0	10.588	-127.508
1713		13	30.086	-161.4	-4.878	0	11.082	-366.688
1714		14	30.086	-161.4	-4.878	0	9.499	-314.304
1715		15	30.086	-161.4	-4.878	0	7.916	-261.92
1716		16	30.086	-161.4	-4.878	0	6.333	-209.536
1717		17	30.086	-161.4	-4.878	0	4.75	-157.152
1718		18	30.086	-161.4	-4.878	0	3.166	-104.768
1719		19	30.086	-161.4	-4.878	0	1.583	-52.384
1720		20	30.086	-161.4	-4.878	0	0	0
1721	3	R4	1	-18.312	35.958	2.962	0	0
1722		2	-18.312	35.958	2.962	0	0.961	-11.671
1723		3	-18.312	35.958	2.962	0	1.923	-23.341
1724		4	-18.312	35.958	2.962	0	2.884	-35.012
1725		5	-18.312	35.958	2.962	0	3.846	-46.682
1726		6	-18.312	35.958	2.962	0	4.807	-58.353
1727		7	-18.312	35.958	2.962	0	5.769	-70.023
1728		8	-18.312	35.958	2.962	0	6.73	-81.694
1729		9	-18.312	35.958	2.962	0	7.692	-93.364
1730		10	-18.312	35.958	2.962	0	8.653	-105.035
1731		11	-18.312	35.958	2.962	0	9.615	-116.705
1732		12	-18.312	35.958	2.962	0	10.576	-128.376
1733		13	30.084	-161.801	-4.872	0	11.069	-367.601
1734		14	30.084	-161.801	-4.872	0	9.488	-315.086
1735		15	30.084	-161.801	-4.872	0	7.907	-262.572
1736		16	30.084	-161.801	-4.872	0	6.325	-210.058
1737		17	30.084	-161.801	-4.872	0	4.744	-157.543
1738		18	30.084	-161.801	-4.872	0	3.163	-105.029
1739		19	30.084	-161.801	-4.872	0	1.581	-52.514
1740		20	30.084	-161.801	-4.872	0	0	0
1741	3	R5	1	-18.312	35.887	2.962	0	0
1742		2	-18.312	35.887	2.962	0	0.961	-11.648
1743		3	-18.312	35.887	2.962	0	1.923	-23.295
1744		4	-18.312	35.887	2.962	0	2.884	-34.943
1745		5	-18.312	35.887	2.962	0	3.846	-46.59
1746		6	-18.312	35.887	2.962	0	4.807	-58.238
1747		7	-18.312	35.887	2.962	0	5.769	-69.885
1748		8	-18.312	35.887	2.962	0	6.73	-81.533
1749		9	-18.312	35.887	2.962	0	7.692	-93.181

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1750		10	-18.312	35.887	2.962	0	8.653	-104.828
1751		11	-18.312	35.887	2.962	0	9.615	-116.476
1752		12	-18.312	35.887	2.962	0	10.576	-128.123
1753		13	30.084	-161.685	-4.872	0	11.069	-367.336
1754		14	30.084	-161.685	-4.872	0	9.488	-314.86
1755		15	30.084	-161.685	-4.872	0	7.907	-262.383
1756		16	30.084	-161.685	-4.872	0	6.325	-209.907
1757		17	30.084	-161.685	-4.872	0	4.744	-157.43
1758		18	30.084	-161.685	-4.872	0	3.163	-104.953
1759		19	30.084	-161.685	-4.872	0	1.581	-52.477
1760		20	30.084	-161.685	-4.872	0	0	0
1761	3	R6	1	-18.312	35.945	2.962	0	0
1762		2	-18.312	35.945	2.962	0	0.961	-11.666
1763		3	-18.312	35.945	2.962	0	1.923	-23.333
1764		4	-18.312	35.945	2.962	0	2.884	-34.999
1765		5	-18.312	35.945	2.962	0	3.846	-46.665
1766		6	-18.312	35.945	2.962	0	4.807	-58.332
1767		7	-18.312	35.945	2.962	0	5.769	-69.998
1768		8	-18.312	35.945	2.962	0	6.73	-81.664
1769		9	-18.312	35.945	2.962	0	7.692	-93.331
1770		10	-18.312	35.945	2.962	0	8.653	-104.997
1771		11	-18.312	35.945	2.962	0	9.615	-116.663
1772		12	-18.312	35.945	2.962	0	10.576	-128.33
1773		13	30.084	-161.78	-4.872	0	11.069	-367.553
1774		14	30.084	-161.78	-4.872	0	9.488	-315.045
1775		15	30.084	-161.78	-4.872	0	7.906	-262.538
1776		16	30.084	-161.78	-4.872	0	6.325	-210.03
1777		17	30.084	-161.78	-4.872	0	4.744	-157.523
1778		18	30.084	-161.78	-4.872	0	3.163	-105.015
1779		19	30.084	-161.78	-4.872	0	1.581	-52.508
1780		20	30.084	-161.78	-4.872	0	0	0
1781	3	R7	1	-18.315	35.822	2.948	0	0
1782		2	-18.315	35.822	2.948	0	0.957	-11.626
1783		3	-18.315	35.822	2.948	0	1.913	-23.253
1784		4	-18.315	35.822	2.948	0	2.87	-34.879
1785		5	-18.315	35.822	2.948	0	3.827	-46.505
1786		6	-18.315	35.822	2.948	0	4.783	-58.132
1787		7	-18.315	35.822	2.948	0	5.74	-69.758
1788		8	-18.315	35.822	2.948	0	6.697	-81.384
1789		9	-18.315	35.822	2.948	0	7.653	-93.011
1790		10	-18.315	35.822	2.948	0	8.61	-104.637
1791		11	-18.315	35.822	2.948	0	9.567	-116.263
1792		12	-18.315	35.822	2.948	0	10.523	-127.89
1793		13	30.088	-161.576	-4.848	0	11.014	-367.091
1794		14	30.088	-161.576	-4.848	0	9.44	-314.649
1795		15	30.088	-161.576	-4.848	0	7.867	-262.208
1796		16	30.088	-161.576	-4.848	0	6.294	-209.766
1797		17	30.088	-161.576	-4.848	0	4.72	-157.325
1798		18	30.088	-161.576	-4.848	0	3.147	-104.883
1799		19	30.088	-161.576	-4.848	0	1.573	-52.442
1800		20	30.088	-161.576	-4.848	0	0	0
1801	3	R8	1	-18.312	42.839	2.962	0	0
1802		2	-18.312	42.839	2.962	0	0.961	-13.904
1803		3	-18.312	42.839	2.962	0	1.923	-27.808
1804		4	-18.312	42.839	2.962	0	2.884	-41.712
1805		5	-18.312	42.839	2.962	0	3.846	-55.616
1806		6	-18.312	42.839	2.962	0	4.807	-69.52
1807		7	-18.312	42.839	2.962	0	5.769	-83.424

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1808		8	-18.312	42.839	2.962	0	6.73	-97.328
1809		9	-18.312	42.839	2.962	0	7.692	-111.232
1810		10	-18.312	42.839	2.962	0	8.653	-125.136
1811		11	-18.312	42.839	2.962	0	9.615	-139.04
1812		12	-18.312	42.839	2.962	0	10.576	-152.944
1813		13	30.084	-173.107	-4.872	0	11.069	-393.287
1814		14	30.084	-173.107	-4.872	0	9.488	-337.103
1815		15	30.084	-173.107	-4.872	0	7.906	-280.919
1816		16	30.084	-173.107	-4.872	0	6.325	-224.736
1817		17	30.084	-173.107	-4.872	0	4.744	-168.552
1818		18	30.084	-173.107	-4.872	0	3.163	-112.368
1819		19	30.084	-173.107	-4.872	0	1.581	-56.184
1820		20	30.084	-173.107	-4.872	0	0	0
1821	3	R9	1	-18.312	41.245	2.962	0	0
1822		2	-18.312	41.245	2.962	0	0.961	-13.387
1823		3	-18.312	41.245	2.962	0	1.923	-26.773
1824		4	-18.312	41.245	2.962	0	2.884	-40.16
1825		5	-18.312	41.245	2.962	0	3.846	-53.546
1826		6	-18.312	41.245	2.962	0	4.807	-66.933
1827		7	-18.312	41.245	2.962	0	5.769	-80.319
1828		8	-18.312	41.245	2.962	0	6.73	-93.706
1829		9	-18.312	41.245	2.962	0	7.692	-107.093
1830		10	-18.312	41.245	2.962	0	8.653	-120.479
1831		11	-18.312	41.245	2.962	0	9.615	-133.866
1832		12	-18.312	41.245	2.962	0	10.576	-147.252
1833		13	30.084	-170.488	-4.872	0	11.069	-387.336
1834		14	30.084	-170.488	-4.872	0	9.488	-332.002
1835		15	30.084	-170.488	-4.872	0	7.907	-276.668
1836		16	30.084	-170.488	-4.872	0	6.325	-221.335
1837		17	30.084	-170.488	-4.872	0	4.744	-166.001
1838		18	30.084	-170.488	-4.872	0	3.163	-110.667
1839		19	30.084	-170.488	-4.872	0	1.581	-55.334
1840		20	30.084	-170.488	-4.872	0	0	0
1841	3	R10	1	-18.312	35.423	2.962	0	0
1842		2	-18.312	35.423	2.962	0	0.961	-11.497
1843		3	-18.312	35.423	2.962	0	1.923	-22.994
1844		4	-18.312	35.423	2.962	0	2.884	-34.491
1845		5	-18.312	35.423	2.962	0	3.846	-45.988
1846		6	-18.312	35.423	2.962	0	4.807	-57.485
1847		7	-18.312	35.423	2.962	0	5.769	-68.982
1848		8	-18.312	35.423	2.962	0	6.73	-80.479
1849		9	-18.312	35.423	2.962	0	7.692	-91.976
1850		10	-18.312	35.423	2.962	0	8.653	-103.473
1851		11	-18.312	35.423	2.962	0	9.615	-114.97
1852		12	-18.312	35.423	2.962	0	10.576	-126.467
1853		13	30.084	-160.923	-4.872	0	11.069	-365.605
1854		14	30.084	-160.923	-4.872	0	9.488	-313.376
1855		15	30.084	-160.923	-4.872	0	7.907	-261.146
1856		16	30.084	-160.923	-4.872	0	6.325	-208.917
1857		17	30.084	-160.923	-4.872	0	4.744	-156.688
1858		18	30.084	-160.923	-4.872	0	3.163	-104.459
1859		19	30.084	-160.923	-4.872	0	1.581	-52.229
1860		20	30.084	-160.923	-4.872	0	0	0
1861	3	R11	1	-18.312	36.012	2.962	0	0
1862		2	-18.312	36.012	2.962	0	0.961	-11.688
1863		3	-18.312	36.012	2.962	0	1.923	-23.376
1864		4	-18.312	36.012	2.962	0	2.884	-35.064
1865		5	-18.312	36.012	2.962	0	3.846	-46.753

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1866		6	-18.312	36.012	2.962	0	4.807	-58.441
1867		7	-18.312	36.012	2.962	0	5.769	-70.129
1868		8	-18.312	36.012	2.962	0	6.73	-81.817
1869		9	-18.312	36.012	2.962	0	7.692	-93.505
1870		10	-18.312	36.012	2.962	0	8.653	-105.193
1871		11	-18.312	36.012	2.962	0	9.615	-116.881
1872		12	-18.312	36.012	2.962	0	10.576	-128.569
1873		13	30.084	-161.89	-4.872	0	11.069	-367.803
1874		14	30.084	-161.89	-4.872	0	9.488	-315.26
1875		15	30.084	-161.89	-4.872	0	7.907	-262.717
1876		16	30.084	-161.89	-4.872	0	6.325	-210.173
1877		17	30.084	-161.89	-4.872	0	4.744	-157.63
1878		18	30.084	-161.89	-4.872	0	3.163	-105.087
1879		19	30.084	-161.89	-4.872	0	1.581	-52.543
1880		20	30.084	-161.89	-4.872	0	0	0
1881	3	R12	1	-18.312	35.947	2.962	0	0
1882		2	-18.312	35.947	2.962	0	0.961	-11.667
1883		3	-18.312	35.947	2.962	0	1.923	-23.334
1884		4	-18.312	35.947	2.962	0	2.884	-35.001
1885		5	-18.312	35.947	2.962	0	3.846	-46.668
1886		6	-18.312	35.947	2.962	0	4.807	-58.335
1887		7	-18.312	35.947	2.962	0	5.769	-70.001
1888		8	-18.312	35.947	2.962	0	6.73	-81.668
1889		9	-18.312	35.947	2.962	0	7.692	-93.335
1890		10	-18.312	35.947	2.962	0	8.653	-105.002
1891		11	-18.312	35.947	2.962	0	9.615	-116.669
1892		12	-18.312	35.947	2.962	0	10.576	-128.336
1893		13	30.084	-161.783	-4.872	0	11.069	-367.559
1894		14	30.084	-161.783	-4.872	0	9.488	-315.05
1895		15	30.084	-161.783	-4.872	0	7.907	-262.542
1896		16	30.084	-161.783	-4.872	0	6.325	-210.034
1897		17	30.084	-161.783	-4.872	0	4.744	-157.525
1898		18	30.084	-161.783	-4.872	0	3.163	-105.017
1899		19	30.084	-161.783	-4.872	0	1.581	-52.508
1900		20	30.084	-161.783	-4.872	0	0	0
1901	3	R13	1	-18.312	35.637	2.962	0	0
1902		2	-18.312	35.637	2.962	0	0.961	-11.566
1903		3	-18.312	35.637	2.962	0	1.923	-23.133
1904		4	-18.312	35.637	2.962	0	2.884	-34.699
1905		5	-18.312	35.637	2.962	0	3.846	-46.266
1906		6	-18.312	35.637	2.962	0	4.807	-57.832
1907		7	-18.312	35.637	2.962	0	5.769	-69.398
1908		8	-18.312	35.637	2.962	0	6.73	-80.965
1909		9	-18.312	35.637	2.962	0	7.692	-92.531
1910		10	-18.312	35.637	2.962	0	8.653	-104.097
1911		11	-18.312	35.637	2.962	0	9.615	-115.664
1912		12	-18.312	35.637	2.962	0	10.576	-127.23
1913		13	30.084	-161.274	-4.872	0	11.069	-366.403
1914		14	30.084	-161.274	-4.872	0	9.488	-314.059
1915		15	30.084	-161.274	-4.872	0	7.907	-261.716
1916		16	30.084	-161.274	-4.872	0	6.325	-209.373
1917		17	30.084	-161.274	-4.872	0	4.744	-157.03
1918		18	30.084	-161.274	-4.872	0	3.163	-104.686
1919		19	30.084	-161.274	-4.872	0	1.581	-52.343
1920		20	30.084	-161.274	-4.872	0	0	0
1921	3	R14	1	-18.313	37.022	2.962	0	0
1922		2	-18.313	37.022	2.962	0	0.961	-12.016
1923		3	-18.313	37.022	2.962	0	1.923	-24.032



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1924		4	-18.313	37.022	2.962	0	2.884	-36.048
1925		5	-18.313	37.022	2.962	0	3.846	-48.064
1926		6	-18.313	37.022	2.962	0	4.807	-60.08
1927		7	-18.313	37.022	2.962	0	5.768	-72.096
1928		8	-18.313	37.022	2.962	0	6.73	-84.112
1929		9	-18.313	37.022	2.962	0	7.691	-96.128
1930		10	-18.313	37.022	2.962	0	8.652	-108.144
1931		11	-18.313	37.022	2.962	0	9.614	-120.16
1932		12	-18.313	37.022	2.962	0	10.575	-132.176
1933		13	30.086	-163.55	-4.871	0	11.067	-371.575
1934		14	30.086	-163.55	-4.871	0	9.486	-318.493
1935		15	30.086	-163.55	-4.871	0	7.905	-265.411
1936		16	30.086	-163.55	-4.871	0	6.324	-212.329
1937		17	30.086	-163.55	-4.871	0	4.743	-159.246
1938		18	30.086	-163.55	-4.871	0	3.162	-106.164
1939		19	30.086	-163.55	-4.871	0	1.581	-53.082
1940		20	30.086	-163.55	-4.871	0	0	0
1941	3	R15	1	-12.899	32.468	-0.314	0	0
1942		2	-12.899	32.468	-0.314	0	-0.102	-10.538
1943		3	-12.899	32.468	-0.314	0	-0.204	-21.076
1944		4	-12.899	32.468	-0.314	0	-0.306	-31.614
1945		5	-12.899	32.468	-0.314	0	-0.408	-42.152
1946		6	-12.899	32.468	-0.314	0	-0.51	-52.69
1947		7	-12.899	32.468	-0.314	0	-0.611	-63.227
1948		8	-12.899	32.468	-0.314	0	-0.713	-73.765
1949		9	-12.899	32.468	-0.314	0	-0.815	-84.303
1950		10	-12.899	32.468	-0.314	0	-0.917	-94.841
1951		11	-12.899	32.468	-0.314	0	-1.019	-105.379
1952		12	-12.899	32.468	-0.314	0	-1.121	-115.917
1953		13	21.191	-156.231	-11.418	0	25.941	-354.946
1954		14	21.191	-156.231	-11.418	0	22.235	-304.239
1955		15	21.191	-156.231	-11.418	0	18.529	-253.533
1956		16	21.191	-156.231	-11.418	0	14.824	-202.826
1957		17	21.191	-156.231	-11.418	0	11.118	-152.12
1958		18	21.191	-156.231	-11.418	0	7.412	-101.413
1959		19	21.191	-156.231	-11.418	0	3.706	-50.707
1960		20	21.191	-156.231	-11.418	0	0	0
1961	3	M33	1	-7.221	11.456	0.544	0	0
1962		2	-7.221	11.456	0.544	0	0.154	-3.251
1963		3	-7.221	11.456	0.544	0	0.309	-6.502
1964		4	-7.221	11.456	0.544	0	0.463	-9.753
1965		5	-7.221	11.456	0.544	0	0.617	-13.004
1966		6	-7.221	11.456	0.544	0	0.772	-16.254
1967		7	-7.221	11.456	0.544	0	0.926	-19.505
1968		8	-7.221	11.456	0.544	0	1.08	-22.756
1969		9	-7.221	11.456	0.544	0	1.235	-26.007
1970		10	-7.221	11.456	0.544	0	1.389	-29.258
1971		11	-7.221	11.456	0.544	0	1.543	-32.509
1972		12	-7.221	11.456	0.544	0	1.698	-35.76
1973		13	-7.221	11.456	0.544	0	1.852	-39.011
1974		14	-7.221	11.456	0.544	0	2.006	-42.261
1975		15	-7.221	11.456	0.544	0	2.161	-45.512
1976		16	-7.221	11.456	0.544	0	2.315	-48.763
1977		17	-7.221	11.456	0.544	0	2.469	-52.014
1978		18	-7.221	11.456	0.544	0	2.624	-55.265
1979		19	-7.221	11.456	0.544	0	2.778	-58.516
1980		20	-7.221	11.456	0.544	0	2.932	-61.767
1981	4	A1	1	0	0	0	0	0



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
1982		2	0	-0.336	0	0	0	0.018	
1983		3	0	-0.671	0	0	0	0.072	
1984		4	0	-1.007	0	0	0	0.161	
1985		5	0	-1.342	0	0	0	0.287	
1986		6	0	-1.678	0	0	0	0.448	
1987		7	0	-2.013	0	0	0	0.645	
1988		8	0	-2.349	0	0	0	0.878	
1989		9	0	-2.684	0	0	0	1.147	
1990		10	0	-3.02	0	0	0	1.451	
1991		11	0	-3.355	0	0	0	1.792	
1992		12	0	-3.691	0	0	0	2.168	
1993		13	0	-4.026	0	0	0	2.58	
1994		14	0	-4.362	0	0	0	3.028	
1995		15	0	-4.697	0	0	0	3.512	
1996		16	0	-5.033	0	0	0	4.031	
1997		17	0	-5.368	0	0	0	4.587	
1998		18	0	-5.704	0	0	0	5.178	
1999		19	0	-6.039	0	0	0	5.805	
2000		20	0	-6.375	0	0	0	6.468	
2001	4	A2	1	-4.801	-25.112	5.72	-34.014	3.286	-27.176
2002		2	-4.973	-28.735	4.868	-38.373	3.949	-23.806	
2003		3	-5.145	-32.359	4.016	-42.732	4.505	-19.982	
2004		4	-5.318	-35.982	3.164	-47.091	4.954	-15.705	
2005		5	-5.49	-39.606	2.313	-51.45	5.297	-10.974	
2006		6	-5.662	-43.229	1.461	-55.809	5.533	-5.79	
2007		7	-5.835	-46.853	0.609	-60.168	5.663	-0.152	
2008		8	-6.007	-50.476	-0.243	-64.527	5.686	5.94	
2009		9	-6.179	-54.1	-1.095	-68.886	5.602	12.485	
2010		10	-6.351	-57.723	-1.947	-73.245	5.412	19.484	
2011		11	-6.524	-61.347	-2.799	-77.604	5.114	26.936	
2012		12	-6.696	-64.97	-3.651	-81.963	4.711	34.842	
2013		13	-6.868	-68.594	-4.503	-86.322	4.2	43.201	
2014		14	-7.04	-72.217	-5.355	-90.681	3.583	52.014	
2015		15	-7.213	-75.841	-6.207	-95.04	2.86	61.281	
2016		16	-7.385	-79.464	-7.059	-99.399	2.029	71.001	
2017		17	-7.557	-83.088	-7.911	-103.758	1.092	81.175	
2018		18	-7.729	-86.711	-8.763	-108.117	0.049	91.802	
2019		19	-7.902	-90.335	-9.615	-112.476	-1.101	102.883	
2020		20	-8.074	-93.958	-10.467	-116.835	-2.358	114.418	
2021	4	A3	1	5.142	104.743	25.421	130.063	-31.642	114.418
2022		2	4.601	93.362	22.745	116.372	-22.173	75.475	
2023		3	4.06	81.981	20.069	102.681	-13.757	41.006	
2024		4	3.519	70.6	17.393	88.99	-6.392	11.012	
2025		5	2.978	59.219	14.717	75.299	-0.08	-14.508	
2026		6	2.437	47.838	12.041	61.609	5.18	-35.553	
2027		7	1.896	36.457	9.366	47.918	9.388	-52.124	
2028		8	1.354	25.076	6.69	34.227	12.544	-64.22	
2029		9	0.813	13.696	4.014	20.536	14.648	-71.842	
2030		10	0.272	2.315	1.338	6.845	15.701	-74.989	
2031		11	-0.269	-9.066	-1.338	-6.846	15.7	-73.662	
2032		12	-0.81	-20.447	-4.014	-20.537	14.648	-67.86	
2033		13	-1.351	-31.828	-6.69	-34.228	12.544	-57.584	
2034		14	-1.892	-43.209	-9.366	-47.919	9.388	-42.833	
2035		15	-2.433	-54.59	-12.042	-61.61	5.18	-23.608	
2036		16	-2.974	-65.971	-14.718	-75.301	-0.081	0.091	
2037		17	-3.515	-77.352	-17.394	-88.992	-6.393	28.266	
2038		18	-4.056	-88.732	-20.069	-102.683	-13.757	60.914	
2039		19	-4.597	-100.113	-22.745	-116.374	-22.174	98.037	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2040		20	-5.138	-111.494	-25.421	-130.065	-31.642	139.635
2041	4	1	5.14	108.957	25.423	130.064	-31.657	139.635
2042		2	4.599	97.576	22.747	116.373	-22.188	99.035
2043		3	4.058	86.195	20.072	102.682	-13.771	62.909
2044		4	3.517	74.814	17.396	88.991	-6.406	31.258
2045		5	2.976	63.433	14.72	75.3	-0.092	4.082
2046		6	2.435	52.052	12.044	61.61	5.169	-18.62
2047		7	1.894	40.671	9.368	47.919	9.378	-36.847
2048		8	1.353	29.29	6.692	34.228	12.535	-50.601
2049		9	0.812	17.91	4.016	20.537	14.64	-59.879
2050		10	0.271	6.529	1.34	6.846	15.693	-64.683
2051		11	-0.271	-4.852	-1.336	-6.845	15.694	-65.013
2052		12	-0.812	-16.233	-4.012	-20.536	14.642	-60.868
2053		13	-1.353	-27.614	-6.688	-34.227	12.539	-52.248
2054		14	-1.894	-38.995	-9.364	-47.918	9.384	-39.154
2055		15	-2.435	-50.376	-12.039	-61.609	5.176	-21.586
2056		16	-2.976	-61.757	-14.715	-75.3	-0.083	0.457
2057		17	-3.517	-73.138	-17.391	-88.991	-6.394	26.974
2058		18	-4.058	-84.518	-20.067	-102.682	-13.758	57.966
2059		19	-4.599	-95.899	-22.743	-116.373	-22.174	93.432
2060		20	-5.14	-107.28	-25.419	-130.064	-31.641	133.373
2061	4	1	5.14	107.922	25.423	130.064	-31.657	133.373
2062		2	4.599	96.541	22.747	116.373	-22.188	93.18
2063		3	4.058	85.16	20.072	102.682	-13.771	57.461
2064		4	3.517	73.779	17.396	88.991	-6.406	26.217
2065		5	2.976	62.398	14.72	75.3	-0.092	-0.553
2066		6	2.435	51.018	12.044	61.609	5.169	-22.848
2067		7	1.894	39.637	9.368	47.918	9.378	-40.669
2068		8	1.353	28.256	6.692	34.227	12.535	-54.015
2069		9	0.812	16.875	4.016	20.536	14.64	-62.887
2070		10	0.271	5.494	1.34	6.845	15.693	-67.284
2071		11	-0.271	-5.887	-1.336	-6.846	15.694	-67.207
2072		12	-0.812	-17.268	-4.012	-20.536	14.642	-62.655
2073		13	-1.353	-28.649	-6.688	-34.227	12.539	-53.629
2074		14	-1.894	-40.03	-9.364	-47.918	9.384	-40.128
2075		15	-2.435	-51.41	-12.039	-61.609	5.176	-22.153
2076		16	-2.976	-62.791	-14.715	-75.3	-0.083	0.297
2077		17	-3.517	-74.172	-17.391	-88.991	-6.394	27.221
2078		18	-4.058	-85.553	-20.067	-102.682	-13.758	58.62
2079		19	-4.599	-96.934	-22.743	-116.373	-22.174	94.493
2080		20	-5.14	-108.315	-25.419	-130.064	-31.641	134.84
2081	4	1	5.14	108.117	25.423	130.064	-31.657	134.84
2082		2	4.599	96.736	22.747	116.373	-22.188	94.57
2083		3	4.058	85.355	20.072	102.682	-13.771	58.775
2084		4	3.517	73.974	17.396	88.991	-6.406	27.454
2085		5	2.976	62.594	14.72	75.3	-0.092	0.608
2086		6	2.435	51.213	12.044	61.609	5.169	-21.764
2087		7	1.894	39.832	9.368	47.918	9.378	-39.662
2088		8	1.353	28.451	6.692	34.227	12.535	-53.085
2089		9	0.812	17.07	4.016	20.536	14.64	-62.033
2090		10	0.271	5.689	1.34	6.845	15.693	-66.507
2091		11	-0.271	-5.692	-1.336	-6.845	15.694	-66.507
2092		12	-0.812	-17.073	-4.012	-20.536	14.642	-62.032
2093		13	-1.353	-28.453	-6.688	-34.227	12.539	-53.082
2094		14	-1.894	-39.834	-9.364	-47.918	9.384	-39.658
2095		15	-2.435	-51.215	-12.039	-61.609	5.176	-21.76
2096		16	-2.976	-62.596	-14.715	-75.3	-0.083	0.613
2097		17	-3.517	-73.977	-17.391	-88.991	-6.394	27.461

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2098		18	-4.058	-85.358	-20.067	-102.682	-13.758	58.782	
2099		19	-4.599	-96.739	-22.743	-116.373	-22.174	94.579	
2100		20	-5.14	-108.12	-25.419	-130.064	-31.641	134.85	
2101	4	A7	1	5.14	108.32	25.423	130.064	-31.657	134.85
2102		2	4.599	96.939	22.747	116.373	-22.188	94.5	
2103		3	4.058	85.558	20.072	102.682	-13.771	58.625	
2104		4	3.517	74.178	17.396	88.991	-6.406	27.224	
2105		5	2.976	62.797	14.72	75.3	-0.092	0.298	
2106		6	2.435	51.416	12.044	61.609	5.169	-22.154	
2107		7	1.894	40.035	9.368	47.918	9.378	-40.131	
2108		8	1.353	28.654	6.692	34.227	12.535	-53.634	
2109		9	0.812	17.273	4.016	20.536	14.64	-62.662	
2110		10	0.271	5.892	1.34	6.846	15.693	-67.216	
2111		11	-0.271	-5.489	-1.336	-6.845	15.694	-67.295	
2112		12	-0.812	-16.87	-4.012	-20.536	14.642	-62.9	
2113		13	-1.353	-28.25	-6.688	-34.227	12.539	-54.031	
2114		14	-1.894	-39.631	-9.364	-47.918	9.384	-40.687	
2115		15	-2.435	-51.012	-12.039	-61.609	5.176	-22.868	
2116		16	-2.976	-62.393	-14.715	-75.3	-0.083	-0.575	
2117		17	-3.517	-73.774	-17.391	-88.991	-6.394	26.193	
2118		18	-4.058	-85.155	-20.067	-102.682	-13.758	57.435	
2119		19	-4.599	-96.536	-22.743	-116.373	-22.174	93.151	
2120		20	-5.14	-107.917	-25.419	-130.064	-31.641	133.342	
2121	4	A8	1	5.14	107.26	25.423	130.063	-31.657	133.342
2122		2	4.599	95.879	22.747	116.372	-22.188	93.41	
2123		3	4.058	84.498	20.072	102.681	-13.771	57.951	
2124		4	3.517	73.117	17.396	88.99	-6.406	26.968	
2125		5	2.976	61.736	14.72	75.299	-0.092	0.458	
2126		6	2.435	50.355	12.044	61.608	5.169	-21.577	
2127		7	1.894	38.974	9.368	47.917	9.378	-39.137	
2128		8	1.353	27.593	6.692	34.227	12.535	-52.223	
2129		9	0.812	16.213	4.016	20.536	14.64	-60.834	
2130		10	0.271	4.832	1.34	6.845	15.693	-64.971	
2131		11	-0.271	-6.549	-1.336	-6.846	15.694	-64.633	
2132		12	-0.812	-17.93	-4.012	-20.537	14.642	-59.821	
2133		13	-1.353	-29.311	-6.688	-34.228	12.539	-50.535	
2134		14	-1.894	-40.692	-9.364	-47.919	9.384	-36.773	
2135		15	-2.435	-52.073	-12.039	-61.61	5.176	-18.538	
2136		16	-2.976	-63.454	-14.715	-75.301	-0.083	4.172	
2137		17	-3.517	-74.835	-17.391	-88.992	-6.394	31.357	
2138		18	-4.058	-87.039	-20.067	-102.683	-13.758	63.163	
2139		19	-4.599	-99.324	-22.743	-116.374	-22.174	99.798	
2140		20	-5.14	-111.61	-25.419	-130.065	-31.641	141.263	
2141	4	A9	1	5.14	116.382	25.423	130.064	-31.657	141.263
2142		2	4.599	104.097	22.747	116.373	-22.188	97.922	
2143		3	4.058	91.811	20.072	102.682	-13.771	59.41	
2144		4	3.517	79.525	17.396	88.991	-6.406	25.729	
2145		5	2.976	67.24	14.72	75.3	-0.092	-3.122	
2146		6	2.435	54.954	12.044	61.609	5.169	-27.142	
2147		7	1.894	42.668	9.368	47.918	9.378	-46.333	
2148		8	1.353	30.383	6.692	34.227	12.535	-60.693	
2149		9	0.812	18.097	4.016	20.536	14.64	-70.223	
2150		10	0.271	5.811	1.34	6.845	15.693	-74.923	
2151		11	-0.271	-6.474	-1.336	-6.846	15.694	-74.793	
2152		12	-0.812	-18.76	-4.012	-20.537	14.642	-69.833	
2153		13	-1.353	-31.045	-6.688	-34.228	12.539	-60.042	
2154		14	-1.894	-43.331	-9.364	-47.919	9.384	-45.421	
2155		15	-2.435	-55.617	-12.039	-61.609	5.176	-25.97	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2156		16	-2.976	-67.902	-14.715	-75.3	-0.083	-1.689	
2157		17	-3.517	-80.188	-17.391	-88.991	-6.394	27.423	
2158		18	-4.058	-92.474	-20.067	-102.682	-13.758	61.364	
2159		19	-4.599	-104.759	-22.743	-116.373	-22.174	100.136	
2160		20	-5.14	-117.045	-25.419	-130.064	-31.641	143.738	
2161	4	A10	1	5.14	114.453	25.423	130.065	-31.657	143.738
2162		2	4.599	102.167	22.747	116.374	-22.188	101.155	
2163		3	4.058	89.882	20.072	102.683	-13.771	63.403	
2164		4	3.517	77.596	17.396	88.992	-6.406	30.48	
2165		5	2.976	65.31	14.72	75.301	-0.092	2.388	
2166		6	2.435	53.025	12.044	61.611	5.169	-20.874	
2167		7	1.894	40.739	9.368	47.92	9.378	-39.306	
2168		8	1.353	28.576	6.692	34.229	12.535	-52.911	
2169		9	0.812	17.195	4.016	20.538	14.64	-61.909	
2170		10	0.27	5.814	1.34	6.847	15.693	-66.432	
2171		11	-0.271	-5.567	-1.336	-6.844	15.694	-66.48	
2172		12	-0.812	-16.948	-4.012	-20.535	14.642	-62.055	
2173		13	-1.353	-28.329	-6.688	-34.226	12.539	-53.154	
2174		14	-1.894	-39.71	-9.364	-47.917	9.384	-39.779	
2175		15	-2.435	-51.091	-12.039	-61.608	5.176	-21.93	
2176		16	-2.976	-62.471	-14.715	-75.299	-0.083	0.394	
2177		17	-3.517	-73.852	-17.391	-88.99	-6.394	27.193	
2178		18	-4.058	-85.233	-20.067	-102.681	-13.758	58.465	
2179		19	-4.599	-96.614	-22.743	-116.372	-22.174	94.213	
2180		20	-5.14	-107.995	-25.419	-130.063	-31.641	134.435	
2181	4	A11	1	5.14	108.056	25.423	130.064	-31.657	134.224
2182		2	4.599	96.675	22.747	116.373	-22.188	93.978	
2183		3	4.058	85.294	20.072	102.682	-13.771	58.207	
2184		4	3.517	73.913	17.396	88.991	-6.406	26.91	
2185		5	2.976	62.532	14.72	75.3	-0.092	0.087	
2186		6	2.435	51.152	12.044	61.609	5.169	-22.26	
2187		7	1.894	39.771	9.368	47.918	9.378	-40.134	
2188		8	1.353	28.39	6.692	34.227	12.535	-53.533	
2189		9	0.812	17.009	4.016	20.536	14.64	-62.457	
2190		10	0.271	5.628	1.34	6.845	15.693	-66.907	
2191		11	-0.27	-5.753	-1.336	-6.846	15.694	-66.883	
2192		12	-0.812	-17.134	-4.012	-20.537	14.642	-62.384	
2193		13	-1.353	-28.515	-6.688	-34.228	12.539	-53.41	
2194		14	-1.894	-39.896	-9.364	-47.919	9.384	-39.962	
2195		15	-2.435	-51.276	-12.039	-61.61	5.176	-22.039	
2196		16	-2.976	-62.657	-14.715	-75.301	-0.083	0.357	
2197		17	-3.517	-74.038	-17.391	-88.991	-6.394	27.229	
2198		18	-4.058	-85.419	-20.067	-102.682	-13.758	58.575	
2199		19	-4.599	-96.8	-22.743	-116.373	-22.174	94.395	
2200		20	-5.14	-108.181	-25.419	-130.064	-31.641	134.69	
2201	4	A12	1	5.14	108.125	25.423	130.064	-31.657	134.69
2202		2	4.599	96.745	22.747	116.373	-22.188	94.417	
2203		3	4.058	85.364	20.072	102.682	-13.771	58.619	
2204		4	3.517	73.983	17.396	88.991	-6.406	27.294	
2205		5	2.976	62.602	14.72	75.3	-0.092	0.445	
2206		6	2.435	51.221	12.044	61.609	5.169	-21.93	
2207		7	1.894	39.84	9.368	47.918	9.378	-39.831	
2208		8	1.353	28.459	6.692	34.227	12.535	-53.257	
2209		9	0.812	17.078	4.016	20.536	14.64	-62.209	
2210		10	0.271	5.697	1.34	6.845	15.693	-66.886	
2211		11	-0.271	-5.683	-1.336	-6.845	15.694	-66.889	
2212		12	-0.812	-17.064	-4.012	-20.536	14.642	-62.217	
2213		13	-1.353	-28.445	-6.688	-34.227	12.539	-53.271	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2214		14	-1.894	-39.826	-9.364	-47.918	9.384	-39.85	
2215		15	-2.435	-51.207	-12.039	-61.609	5.176	-21.955	
2216		16	-2.976	-62.588	-14.715	-75.3	-0.083	0.415	
2217		17	-3.517	-73.969	-17.391	-88.991	-6.394	27.259	
2218		18	-4.058	-85.35	-20.067	-102.682	-13.758	58.577	
2219		19	-4.599	-96.731	-22.743	-116.373	-22.174	94.371	
2220		20	-5.14	-108.111	-25.419	-130.064	-31.641	134.638	
2221	4	A13	1	5.14	108.151	25.423	130.064	-31.657	134.638
2222		2	4.599	96.77	22.747	116.373	-22.188	94.355	
2223		3	4.058	85.389	20.072	102.682	-13.771	58.546	
2224		4	3.517	74.008	17.396	88.991	-6.406	27.212	
2225		5	2.976	62.628	14.72	75.3	-0.092	0.352	
2226		6	2.435	51.247	12.044	61.609	5.169	-22.033	
2227		7	1.894	39.866	9.368	47.918	9.378	-39.944	
2228		8	1.353	28.485	6.692	34.227	12.535	-53.38	
2229		9	0.812	17.104	4.016	20.536	14.64	-62.342	
2230		10	0.271	5.723	1.34	6.845	15.693	-66.83	
2231		11	-0.271	-5.658	-1.336	-6.845	15.694	-66.842	
2232		12	-0.812	-17.039	-4.012	-20.536	14.642	-62.381	
2233		13	-1.353	-28.419	-6.688	-34.227	12.539	-53.445	
2234		14	-1.894	-39.8	-9.364	-47.918	9.384	-40.034	
2235		15	-2.435	-51.181	-12.039	-61.609	5.176	-22.149	
2236		16	-2.976	-62.562	-14.715	-75.3	-0.083	0.211	
2237		17	-3.517	-73.943	-17.391	-88.991	-6.394	27.045	
2238		18	-4.058	-85.324	-20.067	-102.682	-13.758	58.353	
2239		19	-4.599	-96.705	-22.743	-116.373	-22.174	94.136	
2240		20	-5.14	-108.086	-25.419	-130.064	-31.641	134.394	
2241	4	A14	1	5.14	107.972	25.423	130.064	-31.657	134.394
2242		2	4.599	96.591	22.747	116.373	-22.188	94.181	
2243		3	4.058	85.21	20.072	102.682	-13.771	58.443	
2244		4	3.517	73.829	17.396	88.991	-6.406	27.179	
2245		5	2.976	62.448	14.72	75.3	-0.092	0.389	
2246		6	2.435	51.067	12.044	61.609	5.169	-21.925	
2247		7	1.894	39.687	9.368	47.918	9.378	-39.766	
2248		8	1.353	28.306	6.692	34.227	12.535	-53.132	
2249		9	0.812	16.925	4.016	20.536	14.64	-62.023	
2250		10	0.271	5.544	1.34	6.845	15.693	-66.44	
2251		11	-0.271	-5.837	-1.336	-6.846	15.694	-66.382	
2252		12	-0.812	-17.218	-4.012	-20.536	14.642	-61.85	
2253		13	-1.353	-28.599	-6.688	-34.227	12.539	-52.844	
2254		14	-1.894	-39.98	-9.364	-47.918	9.384	-39.363	
2255		15	-2.435	-51.36	-12.039	-61.609	5.176	-21.407	
2256		16	-2.976	-62.741	-14.715	-75.3	-0.083	1.023	
2257		17	-3.517	-74.122	-17.391	-88.991	-6.394	27.927	
2258		18	-4.058	-85.503	-20.067	-102.682	-13.758	59.306	
2259		19	-4.599	-96.884	-22.743	-116.373	-22.174	95.16	
2260		20	-5.14	-108.265	-25.419	-130.064	-31.641	135.488	
2261	4	A15	1	5.149	108.71	25.426	130.059	-31.659	135.488
2262		2	4.608	97.329	22.75	116.368	-22.189	94.985	
2263		3	4.067	85.948	20.074	102.677	-13.77	58.957	
2264		4	3.526	74.567	17.398	88.986	-6.404	27.403	
2265		5	2.985	63.186	14.722	75.295	-0.09	0.324	
2266		6	2.444	51.805	12.047	61.604	5.173	-22.281	
2267		7	1.903	40.424	9.371	47.913	9.383	-40.412	
2268		8	1.362	29.043	6.695	34.222	12.541	-54.068	
2269		9	0.821	17.663	4.019	20.531	14.647	-63.249	
2270		10	0.28	6.282	1.343	6.84	15.701	-67.956	
2271		11	-0.261	-5.099	-1.333	-6.851	15.703	-68.188	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2272		12	-0.802	-16.48	-4.009	-20.541	14.653	-63.946	
2273		13	-1.343	-27.861	-6.685	-34.232	12.551	-55.23	
2274		14	-1.885	-39.242	-9.361	-47.923	9.396	-42.039	
2275		15	-2.426	-50.623	-12.037	-61.614	5.19	-24.373	
2276		16	-2.967	-62.004	-14.713	-75.305	-0.068	-2.233	
2277		17	-3.508	-73.385	-17.389	-88.996	-6.379	24.381	
2278		18	-4.049	-84.765	-20.064	-102.687	-13.741	55.47	
2279		19	-4.59	-96.146	-22.74	-116.378	-22.156	91.033	
2280		20	-5.131	-107.527	-25.416	-130.069	-31.622	131.071	
2281	4	A16	1	11.161	112.75	17.076	38.05	-8.056	131.071
2282		2	10.883	106.905	15.701	31.018	-4.746	108.894	
2283		3	10.605	101.06	14.327	23.986	-1.714	87.897	
2284		4	10.327	95.214	12.953	16.954	1.04	68.08	
2285		5	10.049	89.369	11.578	9.922	3.517	49.443	
2286		6	9.772	83.524	10.204	2.891	5.716	31.987	
2287		7	9.494	77.678	8.83	-4.141	7.638	15.712	
2288		8	9.216	71.833	7.455	-11.173	9.282	0.616	
2289		9	8.938	65.988	6.081	-18.205	10.648	-13.299	
2290		10	8.66	60.142	4.706	-25.237	11.738	-26.034	
2291		11	8.382	54.297	3.332	-32.268	12.549	-37.588	
2292		12	8.104	48.452	1.958	-39.3	13.083	-47.962	
2293		13	7.826	42.606	0.583	-46.332	13.34	-57.156	
2294		14	7.548	36.761	-0.791	-53.364	13.319	-65.169	
2295		15	7.271	30.916	-2.165	-60.396	13.02	-72.002	
2296		16	6.993	25.07	-3.54	-67.427	12.444	-77.655	
2297		17	6.715	19.225	-4.914	-74.459	11.591	-82.127	
2298		18	6.437	13.38	-6.289	-81.491	10.46	-85.419	
2299		19	6.159	7.534	-7.663	-88.523	9.051	-87.53	
2300		20	5.881	1.689	-9.037	-95.555	7.365	-88.462	
2301	4	A17	1	0	6.676	0	0	7.093	
2302		2	0	6.325	0	0	0	6.366	
2303		3	0	5.973	0	0	0	5.679	
2304		4	0	5.622	0	0	0	5.03	
2305		5	0	5.271	0	0	0	4.421	
2306		6	0	4.919	0	0	0	3.851	
2307		7	0	4.568	0	0	0	3.321	
2308		8	0	4.216	0	0	0	2.829	
2309		9	0	3.865	0	0	0	2.378	
2310		10	0	3.514	0	0	0	1.965	
2311		11	0	3.162	0	0	0	1.592	
2312		12	0	2.811	0	0	0	1.258	
2313		13	0	2.46	0	0	0	0.963	
2314		14	0	2.108	0	0	0	0.707	
2315		15	0	1.757	0	0	0	0.491	
2316		16	0	1.405	0	0	0	0.314	
2317		17	0	1.054	0	0	0	0.177	
2318		18	0	0.703	0	0	0	0.079	
2319		19	0	0.351	0	0	0	0.02	
2320		20	0	0	0	0	0	0	
2321	4	R1	1	10.549	-40.952	-2.232	0	7.365	-135.135
2322		2	10.549	-40.952	-2.232	0	6.977	-128.022	
2323		3	10.549	-40.952	-2.232	0	6.59	-120.91	
2324		4	10.549	-40.952	-2.232	0	6.202	-113.798	
2325		5	10.549	-40.952	-2.232	0	5.814	-106.685	
2326		6	10.549	-40.952	-2.232	0	5.427	-99.573	
2327		7	10.549	-40.952	-2.232	0	5.039	-92.461	
2328		8	10.549	-40.952	-2.232	0	4.651	-85.348	
2329		9	10.549	-40.952	-2.232	0	4.264	-78.236	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2330		10	10.549	-40.952	-2.232	0	3.876	-71.124
2331		11	10.549	-40.952	-2.232	0	3.489	-64.011
2332		12	10.549	-40.952	-2.232	0	3.101	-56.899
2333		13	10.549	-40.952	-2.232	0	2.713	-49.787
2334		14	10.549	-40.952	-2.232	0	2.326	-42.674
2335		15	10.549	-40.952	-2.232	0	1.938	-35.562
2336		16	10.549	-40.952	-2.232	0	1.55	-28.449
2337		17	10.549	-40.952	-2.232	0	1.163	-21.337
2338		18	10.549	-40.952	-2.232	0	0.775	-14.225
2339		19	10.549	-40.952	-2.232	0	0.388	-7.112
2340		20	10.549	-40.952	-2.232	0	0	0
2341	4	R2	1	-16.078	56.086	9.986	0	0
2342		2	-16.078	56.086	9.986	0	3.241	-18.203
2343		3	-16.078	56.086	9.986	0	6.482	-36.407
2344		4	-16.078	56.086	9.986	0	9.723	-54.61
2345		5	-16.078	56.086	9.986	0	12.964	-72.813
2346		6	-16.078	56.086	9.986	0	16.206	-91.016
2347		7	-16.078	56.086	9.986	0	19.447	-109.22
2348		8	-16.078	56.086	9.986	0	22.688	-127.423
2349		9	-16.078	56.086	9.986	0	25.929	-145.626
2350		10	-16.078	56.086	9.986	0	29.17	-163.83
2351		11	-16.078	56.086	9.986	0	32.411	-182.033
2352		12	-16.078	56.086	9.986	0	35.652	-200.236
2353		13	26.414	-164.192	-6.306	0	14.326	-373.032
2354		14	26.414	-164.192	-6.306	0	12.28	-319.742
2355		15	26.414	-164.192	-6.306	0	10.233	-266.452
2356		16	26.414	-164.192	-6.306	0	8.186	-213.161
2357		17	26.414	-164.192	-6.306	0	6.14	-159.871
2358		18	26.414	-164.192	-6.306	0	4.093	-106.581
2359		19	26.414	-164.192	-6.306	0	2.047	-53.29
2360		20	26.414	-164.192	-6.306	0	0	0
2361	4	R3	1	-19.239	39.916	3.89	0	0
2362		2	-19.239	39.916	3.89	0	1.263	-12.955
2363		3	-19.239	39.916	3.89	0	2.525	-25.911
2364		4	-19.239	39.916	3.89	0	3.788	-38.866
2365		5	-19.239	39.916	3.89	0	5.051	-51.821
2366		6	-19.239	39.916	3.89	0	6.313	-64.776
2367		7	-19.239	39.916	3.89	0	7.576	-77.732
2368		8	-19.239	39.916	3.89	0	8.839	-90.687
2369		9	-19.239	39.916	3.89	0	10.101	-103.642
2370		10	-19.239	39.916	3.89	0	11.364	-116.598
2371		11	-19.239	39.916	3.89	0	12.627	-129.553
2372		12	-19.239	39.916	3.89	0	13.889	-142.508
2373		13	31.606	-177.058	-6.399	0	14.538	-402.264
2374		14	31.606	-177.058	-6.399	0	12.461	-344.797
2375		15	31.606	-177.058	-6.399	0	10.384	-287.331
2376		16	31.606	-177.058	-6.399	0	8.307	-229.865
2377		17	31.606	-177.058	-6.399	0	6.231	-172.399
2378		18	31.606	-177.058	-6.399	0	4.154	-114.932
2379		19	31.606	-177.058	-6.399	0	2.077	-57.466
2380		20	31.606	-177.058	-6.399	0	0	0
2381	4	R4	1	-19.238	39.569	3.887	0	0
2382		2	-19.238	39.569	3.887	0	1.262	-12.842
2383		3	-19.238	39.569	3.887	0	2.523	-25.685
2384		4	-19.238	39.569	3.887	0	3.785	-38.527
2385		5	-19.238	39.569	3.887	0	5.046	-51.37
2386		6	-19.238	39.569	3.887	0	6.308	-64.212
2387		7	-19.238	39.569	3.887	0	7.57	-77.055



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
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 Checked By : CWT

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2388		8	-19.238	39.569	3.887	0	8.831	-89.897
2389		9	-19.238	39.569	3.887	0	10.093	-102.739
2390		10	-19.238	39.569	3.887	0	11.355	-115.582
2391		11	-19.238	39.569	3.887	0	12.616	-128.424
2392		12	-19.238	39.569	3.887	0	13.878	-141.267
2393		13	31.605	-176.489	-6.393	0	14.525	-400.97
2394		14	31.605	-176.489	-6.393	0	12.45	-343.689
2395		15	31.605	-176.489	-6.393	0	10.375	-286.407
2396		16	31.605	-176.489	-6.393	0	8.3	-229.126
2397		17	31.605	-176.489	-6.393	0	6.225	-171.844
2398		18	31.605	-176.489	-6.393	0	4.15	-114.563
2399		19	31.605	-176.489	-6.393	0	2.075	-57.281
2400		20	31.605	-176.489	-6.393	0	0	0
2401	4	R5	1	-19.238	39.646	3.887	0	0
2402		2	-19.238	39.646	3.887	0	1.262	-12.868
2403		3	-19.238	39.646	3.887	0	2.523	-25.735
2404		4	-19.238	39.646	3.887	0	3.785	-38.603
2405		5	-19.238	39.646	3.887	0	5.047	-51.47
2406		6	-19.238	39.646	3.887	0	6.308	-64.338
2407		7	-19.238	39.646	3.887	0	7.57	-77.206
2408		8	-19.238	39.646	3.887	0	8.831	-90.073
2409		9	-19.238	39.646	3.887	0	10.093	-102.941
2410		10	-19.238	39.646	3.887	0	11.355	-115.809
2411		11	-19.238	39.646	3.887	0	12.616	-128.676
2412		12	-19.238	39.646	3.887	0	13.878	-141.544
2413		13	31.605	-176.616	-6.393	0	14.525	-401.26
2414		14	31.605	-176.616	-6.393	0	12.45	-343.937
2415		15	31.605	-176.616	-6.393	0	10.375	-286.614
2416		16	31.605	-176.616	-6.393	0	8.3	-229.291
2417		17	31.605	-176.616	-6.393	0	6.225	-171.968
2418		18	31.605	-176.616	-6.393	0	4.15	-114.646
2419		19	31.605	-176.616	-6.393	0	2.075	-57.323
2420		20	31.605	-176.616	-6.393	0	0	0
2421	4	R6	1	-19.238	39.663	3.887	0	0
2422		2	-19.238	39.663	3.887	0	1.262	-12.873
2423		3	-19.238	39.663	3.887	0	2.523	-25.746
2424		4	-19.238	39.663	3.887	0	3.785	-38.619
2425		5	-19.238	39.663	3.887	0	5.046	-51.492
2426		6	-19.238	39.663	3.887	0	6.308	-64.365
2427		7	-19.238	39.663	3.887	0	7.57	-77.238
2428		8	-19.238	39.663	3.887	0	8.831	-90.111
2429		9	-19.238	39.663	3.887	0	10.093	-102.983
2430		10	-19.238	39.663	3.887	0	11.355	-115.856
2431		11	-19.238	39.663	3.887	0	12.616	-128.729
2432		12	-19.238	39.663	3.887	0	13.878	-141.602
2433		13	31.605	-176.644	-6.393	0	14.524	-401.322
2434		14	31.605	-176.644	-6.393	0	12.45	-343.99
2435		15	31.605	-176.644	-6.393	0	10.375	-286.658
2436		16	31.605	-176.644	-6.393	0	8.3	-229.327
2437		17	31.605	-176.644	-6.393	0	6.225	-171.995
2438		18	31.605	-176.644	-6.393	0	4.15	-114.663
2439		19	31.605	-176.644	-6.393	0	2.075	-57.332
2440		20	31.605	-176.644	-6.393	0	0	0
2441	4	R7	1	-19.241	39.566	3.872	0	0
2442		2	-19.241	39.566	3.872	0	1.257	-12.842
2443		3	-19.241	39.566	3.872	0	2.513	-25.683
2444		4	-19.241	39.566	3.872	0	3.77	-38.525
2445		5	-19.241	39.566	3.872	0	5.026	-51.367



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2446		6	-19.241	39.566	3.872	0	6.283	-64.209
2447		7	-19.241	39.566	3.872	0	7.539	-77.05
2448		8	-19.241	39.566	3.872	0	8.796	-89.892
2449		9	-19.241	39.566	3.872	0	10.053	-102.734
2450		10	-19.241	39.566	3.872	0	11.309	-115.576
2451		11	-19.241	39.566	3.872	0	12.566	-128.417
2452		12	-19.241	39.566	3.872	0	13.822	-141.259
2453		13	31.61	-176.485	-6.367	0	14.466	-400.961
2454		14	31.61	-176.485	-6.367	0	12.4	-343.681
2455		15	31.61	-176.485	-6.367	0	10.333	-286.401
2456		16	31.61	-176.485	-6.367	0	8.267	-229.121
2457		17	31.61	-176.485	-6.367	0	6.2	-171.841
2458		18	31.61	-176.485	-6.367	0	4.133	-114.561
2459		19	31.61	-176.485	-6.367	0	2.067	-57.281
2460		20	31.61	-176.485	-6.367	0	0	0
2461	4	R8	1	-19.238	45.411	3.887	0	0
2462		2	-19.238	45.411	3.887	0	1.262	-14.739
2463		3	-19.238	45.411	3.887	0	2.523	-29.477
2464		4	-19.238	45.411	3.887	0	3.785	-44.216
2465		5	-19.238	45.411	3.887	0	5.046	-58.954
2466		6	-19.238	45.411	3.887	0	6.308	-73.693
2467		7	-19.238	45.411	3.887	0	7.57	-88.431
2468		8	-19.238	45.411	3.887	0	8.831	-103.17
2469		9	-19.238	45.411	3.887	0	10.093	-117.908
2470		10	-19.238	45.411	3.887	0	11.355	-132.647
2471		11	-19.238	45.411	3.887	0	12.616	-147.385
2472		12	-19.238	45.411	3.887	0	13.878	-162.124
2473		13	31.605	-186.087	-6.393	0	14.524	-422.777
2474		14	31.605	-186.087	-6.393	0	12.45	-362.38
2475		15	31.605	-186.087	-6.393	0	10.375	-301.984
2476		16	31.605	-186.087	-6.393	0	8.3	-241.587
2477		17	31.605	-186.087	-6.393	0	6.225	-181.19
2478		18	31.605	-186.087	-6.393	0	4.15	-120.793
2479		19	31.605	-186.087	-6.393	0	2.075	-60.397
2480		20	31.605	-186.087	-6.393	0	0	0
2481	4	R9	1	-19.238	44.084	3.887	0	0
2482		2	-19.238	44.084	3.887	0	1.262	-14.308
2483		3	-19.238	44.084	3.887	0	2.523	-28.616
2484		4	-19.238	44.084	3.887	0	3.785	-42.924
2485		5	-19.238	44.084	3.887	0	5.047	-57.232
2486		6	-19.238	44.084	3.887	0	6.308	-71.54
2487		7	-19.238	44.084	3.887	0	7.57	-85.848
2488		8	-19.238	44.084	3.887	0	8.831	-100.156
2489		9	-19.238	44.084	3.887	0	10.093	-114.464
2490		10	-19.238	44.084	3.887	0	11.355	-128.772
2491		11	-19.238	44.084	3.887	0	12.616	-143.08
2492		12	-19.238	44.084	3.887	0	13.878	-157.389
2493		13	31.605	-183.908	-6.393	0	14.525	-417.825
2494		14	31.605	-183.908	-6.393	0	12.45	-358.136
2495		15	31.605	-183.908	-6.393	0	10.375	-298.447
2496		16	31.605	-183.908	-6.393	0	8.3	-238.757
2497		17	31.605	-183.908	-6.393	0	6.225	-179.068
2498		18	31.605	-183.908	-6.393	0	4.15	-119.379
2499		19	31.605	-183.908	-6.393	0	2.075	-59.689
2500		20	31.605	-183.908	-6.393	0	0	0
2501	4	R10	1	-19.238	39.235	3.887	0	0
2502		2	-19.238	39.235	3.887	0	1.262	-12.734
2503		3	-19.238	39.235	3.887	0	2.523	-25.468

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2504		4	-19.238	39.235	3.887	0	3.785	-38.203
2505		5	-19.238	39.235	3.887	0	5.046	-50.937
2506		6	-19.238	39.235	3.887	0	6.308	-63.671
2507		7	-19.238	39.235	3.887	0	7.57	-76.405
2508		8	-19.238	39.235	3.887	0	8.831	-89.14
2509		9	-19.238	39.235	3.887	0	10.093	-101.874
2510		10	-19.238	39.235	3.887	0	11.355	-114.608
2511		11	-19.238	39.235	3.887	0	12.616	-127.342
2512		12	-19.238	39.235	3.887	0	13.878	-140.077
2513		13	31.605	-175.941	-6.393	0	14.525	-399.726
2514		14	31.605	-175.941	-6.393	0	12.45	-342.622
2515		15	31.605	-175.941	-6.393	0	10.375	-285.518
2516		16	31.605	-175.941	-6.393	0	8.3	-228.415
2517		17	31.605	-175.941	-6.393	0	6.225	-171.311
2518		18	31.605	-175.941	-6.393	0	4.15	-114.207
2519		19	31.605	-175.941	-6.393	0	2.075	-57.104
2520		20	31.605	-175.941	-6.393	0	0	0
2521	4	R11	1	-19.238	39.713	3.887	0	0
2522			2	-19.238	39.713	3.887	0	1.262
2523			3	-19.238	39.713	3.887	0	2.523
2524			4	-19.238	39.713	3.887	0	3.785
2525			5	-19.238	39.713	3.887	0	5.046
2526			6	-19.238	39.713	3.887	0	6.308
2527			7	-19.238	39.713	3.887	0	7.57
2528			8	-19.238	39.713	3.887	0	8.831
2529			9	-19.238	39.713	3.887	0	10.093
2530			10	-19.238	39.713	3.887	0	11.355
2531			11	-19.238	39.713	3.887	0	12.616
2532			12	-19.238	39.713	3.887	0	13.878
2533			13	31.605	-176.727	-6.393	0	14.525
2534			14	31.605	-176.727	-6.393	0	12.45
2535			15	31.605	-176.727	-6.393	0	10.375
2536			16	31.605	-176.727	-6.393	0	8.3
2537			17	31.605	-176.727	-6.393	0	6.225
2538			18	31.605	-176.727	-6.393	0	4.15
2539			19	31.605	-176.727	-6.393	0	2.075
2540			20	31.605	-176.727	-6.393	0	0
2541	4	R12	1	-19.238	39.71	3.887	0	0
2542			2	-19.238	39.71	3.887	0	1.262
2543			3	-19.238	39.71	3.887	0	2.523
2544			4	-19.238	39.71	3.887	0	3.785
2545			5	-19.238	39.71	3.887	0	5.047
2546			6	-19.238	39.71	3.887	0	6.308
2547			7	-19.238	39.71	3.887	0	7.57
2548			8	-19.238	39.71	3.887	0	8.831
2549			9	-19.238	39.71	3.887	0	10.093
2550			10	-19.238	39.71	3.887	0	11.355
2551			11	-19.238	39.71	3.887	0	12.616
2552			12	-19.238	39.71	3.887	0	13.878
2553			13	31.605	-176.722	-6.393	0	14.525
2554			14	31.605	-176.722	-6.393	0	12.45
2555			15	31.605	-176.722	-6.393	0	10.375
2556			16	31.605	-176.722	-6.393	0	8.3
2557			17	31.605	-176.722	-6.393	0	6.225
2558			18	31.605	-176.722	-6.393	0	4.15
2559			19	31.605	-176.722	-6.393	0	2.075
2560			20	31.605	-176.722	-6.393	0	0
2561	4	R13	1	-19.238	39.245	3.887	0	0



Company : Steamboat Structures LLC  
 Designer : Reed  
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**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2562		2	-19.238	39.245	3.887	0	1.262	-12.737
2563		3	-19.238	39.245	3.887	0	2.523	-25.475
2564		4	-19.238	39.245	3.887	0	3.785	-38.212
2565		5	-19.238	39.245	3.887	0	5.047	-50.95
2566		6	-19.238	39.245	3.887	0	6.308	-63.687
2567		7	-19.238	39.245	3.887	0	7.57	-76.425
2568		8	-19.238	39.245	3.887	0	8.831	-89.162
2569		9	-19.238	39.245	3.887	0	10.093	-101.899
2570		10	-19.238	39.245	3.887	0	11.355	-114.637
2571		11	-19.238	39.245	3.887	0	12.616	-127.374
2572		12	-19.238	39.245	3.887	0	13.878	-140.112
2573		13	31.605	-175.957	-6.393	0	14.525	-399.762
2574		14	31.605	-175.957	-6.393	0	12.45	-342.653
2575		15	31.605	-175.957	-6.393	0	10.375	-285.544
2576		16	31.605	-175.957	-6.393	0	8.3	-228.436
2577		17	31.605	-175.957	-6.393	0	6.225	-171.327
2578		18	31.605	-175.957	-6.393	0	4.15	-114.218
2579		19	31.605	-175.957	-6.393	0	2.075	-57.109
2580		20	31.605	-175.957	-6.393	0	0	0
2581	4	R14	1	-19.238	41.231	3.887	0	0
2582		2	-19.238	41.231	3.887	0	1.261	-13.382
2583		3	-19.238	41.231	3.887	0	2.523	-26.764
2584		4	-19.238	41.231	3.887	0	3.784	-40.146
2585		5	-19.238	41.231	3.887	0	5.046	-53.528
2586		6	-19.238	41.231	3.887	0	6.307	-66.909
2587		7	-19.238	41.231	3.887	0	7.569	-80.291
2588		8	-19.238	41.231	3.887	0	8.83	-93.673
2589		9	-19.238	41.231	3.887	0	10.092	-107.055
2590		10	-19.238	41.231	3.887	0	11.353	-120.437
2591		11	-19.238	41.231	3.887	0	12.615	-133.819
2592		12	-19.238	41.231	3.887	0	13.876	-147.201
2593		13	31.606	-179.22	-6.392	0	14.522	-407.175
2594		14	31.606	-179.22	-6.392	0	12.447	-349.007
2595		15	31.606	-179.22	-6.392	0	10.373	-290.84
2596		16	31.606	-179.22	-6.392	0	8.298	-232.672
2597		17	31.606	-179.22	-6.392	0	6.224	-174.504
2598		18	31.606	-179.22	-6.392	0	4.149	-116.336
2599		19	31.606	-179.22	-6.392	0	2.075	-58.168
2600		20	31.606	-179.22	-6.392	0	0	0
2601	4	R15	1	-13.579	35.147	0.252	0	0
2602		2	-13.579	35.147	0.252	0	0.082	-11.407
2603		3	-13.579	35.147	0.252	0	0.164	-22.814
2604		4	-13.579	35.147	0.252	0	0.245	-34.222
2605		5	-13.579	35.147	0.252	0	0.327	-45.629
2606		6	-13.579	35.147	0.252	0	0.409	-57.036
2607		7	-13.579	35.147	0.252	0	0.491	-68.443
2608		8	-13.579	35.147	0.252	0	0.572	-79.851
2609		9	-13.579	35.147	0.252	0	0.654	-91.258
2610		10	-13.579	35.147	0.252	0	0.736	-102.665
2611		11	-13.579	35.147	0.252	0	0.818	-114.072
2612		12	-13.579	35.147	0.252	0	0.9	-125.48
2613		13	22.309	-163.554	-12.964	0	29.453	-371.584
2614		14	22.309	-163.554	-12.964	0	25.246	-318.5
2615		15	22.309	-163.554	-12.964	0	21.038	-265.417
2616		16	22.309	-163.554	-12.964	0	16.83	-212.334
2617		17	22.309	-163.554	-12.964	0	12.623	-159.25
2618		18	22.309	-163.554	-12.964	0	8.415	-106.167
2619		19	22.309	-163.554	-12.964	0	4.208	-53.083



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
2620		20	22.309	-163.554	-12.964	0	0	0
2621	4	1	-7.443	8.873	0.609	0	0	0
2622		2	-7.443	8.873	0.609	0	0.173	-2.518
2623		3	-7.443	8.873	0.609	0	0.346	-5.036
2624		4	-7.443	8.873	0.609	0	0.519	-7.554
2625		5	-7.443	8.873	0.609	0	0.692	-10.072
2626		6	-7.443	8.873	0.609	0	0.865	-12.59
2627		7	-7.443	8.873	0.609	0	1.038	-15.108
2628		8	-7.443	8.873	0.609	0	1.211	-17.626
2629		9	-7.443	8.873	0.609	0	1.384	-20.144
2630		10	-7.443	8.873	0.609	0	1.557	-22.662
2631		11	-7.443	8.873	0.609	0	1.73	-25.18
2632		12	-7.443	8.873	0.609	0	1.903	-27.698
2633		13	-7.443	8.873	0.609	0	2.076	-30.216
2634		14	-7.443	8.873	0.609	0	2.248	-32.734
2635		15	-7.443	8.873	0.609	0	2.421	-35.252
2636		16	-7.443	8.873	0.609	0	2.594	-37.77
2637		17	-7.443	8.873	0.609	0	2.767	-40.288
2638		18	-7.443	8.873	0.609	0	2.94	-42.806
2639		19	-7.443	8.873	0.609	0	3.113	-45.324
2640		20	-7.443	8.873	0.609	0	3.286	-47.842
2641	5	1	0	0	0	0	0	0
2642		2	0	-0.268	0	0	0	0.014
2643		3	0	-0.537	0	0	0	0.057
2644		4	0	-0.805	0	0	0	0.129
2645		5	0	-1.074	0	0	0	0.229
2646		6	0	-1.342	0	0	0	0.358
2647		7	0	-1.611	0	0	0	0.516
2648		8	0	-1.879	0	0	0	0.702
2649		9	0	-2.147	0	0	0	0.917
2650		10	0	-2.416	0	0	0	1.161
2651		11	0	-2.684	0	0	0	1.433
2652		12	0	-2.953	0	0	0	1.734
2653		13	0	-3.221	0	0	0	2.064
2654		14	0	-3.489	0	0	0	2.422
2655		15	0	-3.758	0	0	0	2.809
2656		16	0	-4.026	0	0	0	3.225
2657		17	0	-4.295	0	0	0	3.669
2658		18	0	-4.563	0	0	0	4.142
2659		19	0	-4.832	0	0	0	4.644
2660		20	0	-5.1	0	0	0	5.174
2661	5	1	-4.304	-20.222	5.133	-26.704	2.963	-21.239
2662		2	-4.46	-22.705	4.367	-32.578	3.558	-18.553
2663		3	-4.617	-25.188	3.602	-38.453	4.057	-15.555
2664		4	-4.774	-27.671	2.837	-44.327	4.46	-12.247
2665		5	-4.931	-30.154	2.072	-50.202	4.767	-8.628
2666		6	-5.087	-32.637	1.307	-56.076	4.978	-4.698
2667		7	-5.244	-35.119	0.542	-61.951	5.094	-0.457
2668		8	-5.401	-37.602	-0.223	-67.825	5.114	4.094
2669		9	-5.558	-40.085	-0.988	-73.7	5.038	8.956
2670		10	-5.714	-42.568	-1.753	-79.574	4.867	14.13
2671		11	-5.871	-45.051	-2.518	-85.449	4.599	19.614
2672		12	-6.028	-47.534	-3.283	-91.323	4.236	25.408
2673		13	-6.184	-50.017	-4.048	-97.198	3.777	31.514
2674		14	-6.341	-52.5	-4.813	-103.072	3.223	37.93
2675		15	-6.498	-54.983	-5.578	-108.947	2.572	44.657
2676		16	-6.655	-57.466	-6.344	-114.821	1.826	51.695
2677		17	-6.811	-59.949	-7.109	-120.696	0.984	59.044



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2678		18	-6.968	-62.432	-7.874	-126.57	0.047	66.703	
2679		19	-7.125	-64.915	-8.639	-132.445	-0.987	74.674	
2680		20	-7.281	-67.398	-9.404	-138.319	-2.116	82.955	
2681	5	A3	1	4.678	72.535	22.828	175.285	-28.414	82.955
2682		2	4.186	64.736	20.425	156.834	-19.912	55.97	
2683		3	3.693	56.938	18.022	138.383	-12.354	32.052	
2684		4	3.201	49.139	15.619	119.932	-5.74	11.199	
2685		5	2.709	41.34	13.216	101.481	-0.072	-6.587	
2686		6	2.217	33.542	10.813	83.03	4.652	-21.307	
2687		7	1.724	25.743	8.41	64.579	8.431	-32.961	
2688		8	1.232	17.945	6.007	46.129	11.265	-41.549	
2689		9	0.74	10.146	3.604	27.678	13.154	-47.071	
2690		10	0.248	2.347	1.201	9.227	14.099	-49.527	
2691		11	-0.244	-5.451	-1.202	-9.224	14.099	-48.917	
2692		12	-0.737	-13.25	-3.605	-27.675	13.154	-45.241	
2693		13	-1.229	-21.049	-6.008	-46.126	11.265	-38.499	
2694		14	-1.721	-28.847	-8.411	-64.577	8.431	-28.69	
2695		15	-2.213	-36.646	-10.813	-83.028	4.651	-15.816	
2696		16	-2.706	-44.444	-13.216	-101.479	-0.072	0.125	
2697		17	-3.198	-52.243	-15.619	-119.93	-5.741	19.132	
2698		18	-3.69	-60.042	-18.022	-138.38	-12.354	41.204	
2699		19	-4.182	-67.84	-20.425	-156.831	-19.912	66.343	
2700		20	-4.675	-75.639	-22.828	-175.282	-28.415	94.548	
2701	5	A4	1	4.676	74.471	22.83	175.284	-28.429	94.548
2702		2	4.184	66.673	20.427	156.833	-19.925	66.802	
2703		3	3.692	58.874	18.024	138.382	-12.366	42.123	
2704		4	3.2	51.075	15.621	119.931	-5.752	20.509	
2705		5	2.707	43.277	13.218	101.48	-0.083	1.961	
2706		6	2.215	35.478	10.815	83.029	4.642	-13.52	
2707		7	1.723	27.679	8.412	64.578	8.421	-25.936	
2708		8	1.231	19.881	6.009	46.127	11.256	-35.285	
2709		9	0.738	12.082	3.606	27.677	13.147	-41.568	
2710		10	0.246	4.284	1.203	9.226	14.092	-44.786	
2711		11	-0.246	-3.515	-1.2	-9.225	14.093	-44.937	
2712		12	-0.738	-11.314	-3.602	-27.676	13.149	-42.022	
2713		13	-1.231	-19.112	-6.005	-46.127	11.26	-36.041	
2714		14	-1.723	-26.911	-8.408	-64.578	8.427	-26.993	
2715		15	-2.215	-34.709	-10.811	-83.029	4.649	-14.88	
2716		16	-2.707	-42.508	-13.214	-101.48	-0.074	0.299	
2717		17	-3.2	-50.307	-15.617	-119.931	-5.742	18.545	
2718		18	-3.692	-58.105	-18.02	-138.382	-12.355	39.856	
2719		19	-4.184	-65.904	-20.423	-156.832	-19.912	64.234	
2720		20	-4.676	-73.703	-22.826	-175.283	-28.414	91.677	
2721	5	A5	1	4.676	74.001	22.83	175.284	-28.429	91.677
2722		2	4.184	66.202	20.427	156.833	-19.925	64.116	
2723		3	3.692	58.404	18.024	138.382	-12.366	39.621	
2724		4	3.2	50.605	15.621	119.931	-5.752	18.192	
2725		5	2.707	42.807	13.218	101.48	-0.083	-0.17	
2726		6	2.215	35.008	10.815	83.029	4.642	-15.467	
2727		7	1.723	27.209	8.412	64.578	8.421	-27.698	
2728		8	1.231	19.411	6.009	46.127	11.256	-36.862	
2729		9	0.738	11.612	3.606	27.676	13.147	-42.961	
2730		10	0.246	3.814	1.203	9.225	14.092	-45.993	
2731		11	-0.246	-3.985	-1.2	-9.225	14.093	-45.959	
2732		12	-0.738	-11.784	-3.602	-27.676	13.149	-42.86	
2733		13	-1.231	-19.582	-6.005	-46.127	11.26	-36.694	
2734		14	-1.723	-27.381	-8.408	-64.578	8.427	-27.462	
2735		15	-2.215	-35.18	-10.811	-83.029	4.649	-15.164	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2736		16	-2.707	-42.978	-13.214	-101.48	-0.074	0.2	
2737		17	-3.2	-50.777	-15.617	-119.931	-5.742	18.631	
2738		18	-3.692	-58.575	-18.02	-138.382	-12.355	40.127	
2739		19	-4.184	-66.374	-20.423	-156.833	-19.912	64.689	
2740		20	-4.676	-74.173	-22.826	-175.284	-28.414	92.318	
2741	5	A6	1	4.676	74.068	22.83	175.284	-28.429	92.318
2742		2	4.184	66.269	20.427	156.833	-19.925	64.731	
2743		3	3.692	58.471	18.024	138.382	-12.366	40.209	
2744		4	3.2	50.672	15.621	119.931	-5.752	18.754	
2745		5	2.707	42.874	13.218	101.48	-0.083	0.365	
2746		6	2.215	35.075	10.815	83.029	4.642	-14.958	
2747		7	1.723	27.276	8.412	64.578	8.421	-27.215	
2748		8	1.231	19.478	6.009	46.127	11.256	-36.406	
2749		9	0.738	11.679	3.606	27.676	13.147	-42.531	
2750		10	0.246	3.88	1.203	9.225	14.092	-45.589	
2751		11	-0.246	-3.918	-1.2	-9.225	14.093	-45.582	
2752		12	-0.738	-11.717	-3.602	-27.676	13.149	-42.508	
2753		13	-1.231	-19.515	-6.005	-46.127	11.26	-36.369	
2754		14	-1.723	-27.314	-8.408	-64.578	8.427	-27.163	
2755		15	-2.215	-35.113	-10.811	-83.029	4.649	-14.891	
2756		16	-2.707	-42.911	-13.214	-101.48	-0.074	0.446	
2757		17	-3.2	-50.71	-15.617	-119.931	-5.742	18.85	
2758		18	-3.692	-58.508	-18.02	-138.382	-12.355	40.32	
2759		19	-4.184	-66.307	-20.423	-156.833	-19.912	64.856	
2760		20	-4.676	-74.106	-22.826	-175.284	-28.414	92.459	
2761	5	A7	1	4.676	74.253	22.83	175.284	-28.429	92.459
2762		2	4.184	66.454	20.427	156.833	-19.925	64.799	
2763		3	3.692	58.656	18.024	138.382	-12.366	40.205	
2764		4	3.2	50.857	15.621	119.931	-5.752	18.677	
2765		5	2.707	43.058	13.218	101.48	-0.083	0.215	
2766		6	2.215	35.26	10.815	83.029	4.642	-15.181	
2767		7	1.723	27.461	8.412	64.578	8.421	-27.51	
2768		8	1.231	19.663	6.009	46.127	11.256	-36.774	
2769		9	0.738	11.864	3.606	27.676	13.147	-42.971	
2770		10	0.246	4.065	1.203	9.226	14.092	-46.103	
2771		11	-0.246	-3.733	-1.2	-9.225	14.093	-46.168	
2772		12	-0.738	-11.532	-3.602	-27.676	13.149	-43.167	
2773		13	-1.231	-19.331	-6.005	-46.127	11.26	-37.1	
2774		14	-1.723	-27.129	-8.408	-64.578	8.427	-27.967	
2775		15	-2.215	-34.928	-10.811	-83.029	4.649	-15.768	
2776		16	-2.707	-42.726	-13.214	-101.48	-0.074	-0.503	
2777		17	-3.2	-50.525	-15.617	-119.931	-5.742	17.828	
2778		18	-3.692	-58.324	-18.02	-138.382	-12.355	39.226	
2779		19	-4.184	-66.122	-20.423	-156.833	-19.912	63.689	
2780		20	-4.676	-73.921	-22.826	-175.283	-28.414	91.219	
2781	5	A8	1	4.676	73.398	22.83	175.283	-28.429	91.219
2782		2	4.184	65.6	20.427	156.832	-19.925	63.895	
2783		3	3.692	57.801	18.024	138.381	-12.366	39.637	
2784		4	3.2	50.002	15.621	119.93	-5.752	18.445	
2785		5	2.707	42.204	13.218	101.479	-0.083	0.319	
2786		6	2.215	34.405	10.815	83.028	4.642	-14.741	
2787		7	1.723	26.606	8.412	64.578	8.421	-26.734	
2788		8	1.231	18.808	6.009	46.127	11.256	-35.662	
2789		9	0.738	11.009	3.606	27.676	13.147	-41.523	
2790		10	0.246	3.211	1.203	9.225	14.092	-44.318	
2791		11	-0.246	-4.588	-1.2	-9.226	14.093	-44.048	
2792		12	-0.738	-12.387	-3.602	-27.677	13.149	-40.711	
2793		13	-1.231	-20.185	-6.005	-46.128	11.26	-34.308	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2794		14	-1.723	-27.984	-8.408	-64.579	8.427	-24.839	
2795		15	-2.215	-35.782	-10.811	-83.03	4.649	-12.304	
2796		16	-2.707	-43.581	-13.214	-101.481	-0.074	3.298	
2797		17	-3.2	-51.38	-15.617	-119.931	-5.742	21.965	
2798		18	-3.692	-59.837	-18.02	-138.382	-12.355	43.816	
2799		19	-4.184	-68.359	-20.423	-156.833	-19.912	69.017	
2800		20	-4.676	-76.882	-22.826	-175.284	-28.414	97.568	
2801	5	A9	1	4.676	80.701	22.83	175.283	-28.429	97.568
2802		2	4.184	72.178	20.427	156.832	-19.925	67.515	
2803		3	3.692	63.656	18.024	138.382	-12.366	40.813	
2804		4	3.2	55.133	15.621	119.931	-5.752	17.462	
2805		5	2.707	46.611	13.218	101.48	-0.083	-2.539	
2806		6	2.215	38.089	10.815	83.029	4.642	-19.189	
2807		7	1.723	29.566	8.412	64.578	8.421	-32.489	
2808		8	1.231	21.044	6.009	46.127	11.256	-42.438	
2809		9	0.738	12.521	3.606	27.676	13.147	-49.036	
2810		10	0.246	3.999	1.203	9.225	14.092	-52.283	
2811		11	-0.246	-4.524	-1.2	-9.226	14.093	-52.18	
2812		12	-0.738	-13.046	-3.602	-27.677	13.149	-48.726	
2813		13	-1.231	-21.568	-6.005	-46.127	11.26	-41.922	
2814		14	-1.723	-30.091	-8.408	-64.578	8.427	-31.767	
2815		15	-2.215	-38.613	-10.811	-83.029	4.649	-18.261	
2816		16	-2.707	-47.136	-13.214	-101.48	-0.074	-1.405	
2817		17	-3.2	-55.658	-15.617	-119.931	-5.742	18.803	
2818		18	-3.692	-64.18	-18.02	-138.382	-12.355	42.36	
2819		19	-4.184	-72.703	-20.423	-156.833	-19.912	69.269	
2820		20	-4.676	-81.225	-22.826	-175.284	-28.414	99.528	
2821	5	A10	1	4.676	79.144	22.83	175.285	-28.429	99.528
2822		2	4.184	70.622	20.427	156.834	-19.925	70.087	
2823		3	3.692	62.1	18.024	138.383	-12.366	43.996	
2824		4	3.199	53.577	15.621	119.932	-5.752	21.257	
2825		5	2.707	45.055	13.218	101.481	-0.083	1.868	
2826		6	2.215	36.532	10.815	83.03	4.642	-14.17	
2827		7	1.723	28.01	8.412	64.579	8.421	-26.858	
2828		8	1.231	19.585	6.009	46.128	11.256	-36.198	
2829		9	0.738	11.787	3.606	27.677	13.147	-42.365	
2830		10	0.246	3.988	1.203	9.227	14.092	-45.466	
2831		11	-0.246	-3.811	-1.2	-9.224	14.093	-45.501	
2832		12	-0.738	-11.609	-3.602	-27.675	13.149	-42.469	
2833		13	-1.231	-19.408	-6.005	-46.126	11.26	-36.372	
2834		14	-1.723	-27.206	-8.408	-64.577	8.427	-27.209	
2835		15	-2.215	-35.005	-10.811	-83.028	4.649	-14.979	
2836		16	-2.707	-42.804	-13.214	-101.479	-0.074	0.316	
2837		17	-3.2	-50.602	-15.617	-119.93	-5.742	18.678	
2838		18	-3.692	-58.401	-18.02	-138.381	-12.355	40.106	
2839		19	-4.184	-66.199	-20.423	-156.832	-19.912	64.599	
2840		20	-4.676	-73.998	-22.826	-175.282	-28.414	92.159	
2841	5	A11	1	4.676	74.028	22.83	175.283	-28.429	91.875
2842		2	4.184	66.23	20.427	156.832	-19.925	64.303	
2843		3	3.692	58.431	18.024	138.381	-12.366	39.798	
2844		4	3.2	50.632	15.621	119.931	-5.752	18.358	
2845		5	2.707	42.834	13.218	101.48	-0.083	-0.015	
2846		6	2.215	35.035	10.815	83.029	4.642	-15.323	
2847		7	1.723	27.237	8.412	64.578	8.421	-27.564	
2848		8	1.231	19.438	6.009	46.127	11.256	-36.739	
2849		9	0.738	11.639	3.606	27.676	13.147	-42.848	
2850		10	0.246	3.841	1.203	9.225	14.092	-45.891	
2851		11	-0.246	-3.958	-1.2	-9.226	14.093	-45.868	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2852		12	-0.738	-11.757	-3.602	-27.677	13.149	-42.779	
2853		13	-1.231	-19.555	-6.005	-46.128	11.26	-36.624	
2854		14	-1.723	-27.354	-8.408	-64.578	8.427	-27.403	
2855		15	-2.215	-35.152	-10.811	-83.029	4.649	-15.115	
2856		16	-2.707	-42.951	-13.214	-101.48	-0.074	0.238	
2857		17	-3.199	-50.75	-15.617	-119.931	-5.742	18.658	
2858		18	-3.692	-58.548	-18.02	-138.382	-12.355	40.143	
2859		19	-4.184	-66.347	-20.423	-156.833	-19.912	64.695	
2860		20	-4.676	-74.145	-22.826	-175.284	-28.414	92.313	
2861	5	A12	1	4.676	74.091	22.83	175.284	-28.429	92.313
2862		2	4.184	66.292	20.427	156.833	-19.925	64.717	
2863		3	3.692	58.494	18.024	138.382	-12.366	40.186	
2864		4	3.2	50.695	15.621	119.931	-5.752	18.722	
2865		5	2.707	42.896	13.218	101.48	-0.083	0.324	
2866		6	2.215	35.098	10.815	83.029	4.642	-15.008	
2867		7	1.723	27.299	8.412	64.578	8.421	-27.274	
2868		8	1.231	19.501	6.009	46.127	11.256	-36.474	
2869		9	0.738	11.702	3.606	27.676	13.147	-42.608	
2870		10	0.246	3.903	1.203	9.225	14.092	-45.675	
2871		11	-0.246	-3.895	-1.2	-9.225	14.093	-45.677	
2872		12	-0.738	-11.694	-3.602	-27.676	13.149	-42.613	
2873		13	-1.231	-19.492	-6.005	-46.127	11.26	-36.482	
2874		14	-1.723	-27.291	-8.408	-64.578	8.427	-27.285	
2875		15	-2.215	-35.09	-10.811	-83.029	4.649	-15.023	
2876		16	-2.707	-42.888	-13.214	-101.48	-0.074	0.306	
2877		17	-3.2	-50.687	-15.617	-119.931	-5.742	18.701	
2878		18	-3.692	-58.485	-18.02	-138.382	-12.355	40.162	
2879		19	-4.184	-66.284	-20.423	-156.833	-19.912	64.689	
2880		20	-4.676	-74.083	-22.826	-175.284	-28.414	92.282	
2881	5	A13	1	4.676	74.128	22.83	175.284	-28.429	92.282
2882		2	4.184	66.329	20.427	156.833	-19.925	64.671	
2883		3	3.692	58.531	18.024	138.382	-12.366	40.126	
2884		4	3.2	50.732	15.621	119.931	-5.752	18.648	
2885		5	2.707	42.933	13.218	101.48	-0.083	0.235	
2886		6	2.215	35.135	10.815	83.029	4.642	-15.112	
2887		7	1.723	27.336	8.412	64.578	8.421	-27.392	
2888		8	1.231	19.538	6.009	46.127	11.256	-36.607	
2889		9	0.738	11.739	3.606	27.676	13.147	-42.755	
2890		10	0.246	3.94	1.203	9.225	14.092	-45.837	
2891		11	-0.246	-3.858	-1.2	-9.225	14.093	-45.853	
2892		12	-0.738	-11.657	-3.602	-27.676	13.149	-42.803	
2893		13	-1.231	-19.455	-6.005	-46.127	11.26	-36.687	
2894		14	-1.723	-27.254	-8.408	-64.578	8.427	-27.505	
2895		15	-2.215	-35.053	-10.811	-83.029	4.649	-15.257	
2896		16	-2.707	-42.851	-13.214	-101.48	-0.074	0.057	
2897		17	-3.2	-50.65	-15.617	-119.931	-5.742	18.438	
2898		18	-3.692	-58.448	-18.02	-138.382	-12.355	39.884	
2899		19	-4.184	-66.247	-20.423	-156.833	-19.912	64.396	
2900		20	-4.676	-74.046	-22.826	-175.284	-28.414	91.975	
2901	5	A14	1	4.676	73.908	22.83	175.283	-28.429	91.975
2902		2	4.184	66.109	20.427	156.833	-19.925	64.451	
2903		3	3.692	58.31	18.024	138.382	-12.366	39.993	
2904		4	3.2	50.512	15.621	119.931	-5.752	18.601	
2905		5	2.707	42.713	13.218	101.48	-0.083	0.275	
2906		6	2.215	34.914	10.815	83.029	4.642	-14.985	
2907		7	1.723	27.116	8.412	64.578	8.421	-27.179	
2908		8	1.231	19.317	6.009	46.127	11.256	-36.307	
2909		9	0.738	11.519	3.606	27.676	13.147	-42.369	



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

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 Checked By : CWT

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2910		10	0.246	3.72	1.203	9.225	14.092	-45.364	
2911		11	-0.246	-4.079	-1.2	-9.226	14.093	-45.294	
2912		12	-0.738	-11.877	-3.602	-27.676	13.149	-42.157	
2913		13	-1.231	-19.676	-6.005	-46.127	11.26	-35.954	
2914		14	-1.723	-27.474	-8.408	-64.578	8.427	-26.686	
2915		15	-2.215	-35.273	-10.811	-83.029	4.649	-14.351	
2916		16	-2.707	-43.072	-13.214	-101.48	-0.074	1.05	
2917		17	-3.2	-50.87	-15.617	-119.931	-5.742	19.517	
2918		18	-3.692	-58.669	-18.02	-138.382	-12.355	41.05	
2919		19	-4.184	-66.468	-20.423	-156.833	-19.912	65.649	
2920		20	-4.676	-74.266	-22.826	-175.284	-28.414	93.315	
2921	5	A15	1	4.684	74.81	22.833	175.28	-28.43	93.315
2922		2	4.192	67.011	20.43	156.829	-19.925	65.436	
2923		3	3.7	59.213	18.027	138.378	-12.366	40.623	
2924		4	3.208	51.414	15.624	119.927	-5.751	18.876	
2925		5	2.716	43.615	13.221	101.476	-0.08	0.195	
2926		6	2.223	35.817	10.818	83.025	4.645	-15.419	
2927		7	1.731	28.018	8.415	64.574	8.426	-27.968	
2928		8	1.239	20.219	6.012	46.123	11.262	-37.45	
2929		9	0.747	12.421	3.609	27.673	13.153	-43.867	
2930		10	0.254	4.622	1.206	9.222	14.1	-47.217	
2931		11	-0.238	-3.176	-1.197	-9.229	14.101	-47.501	
2932		12	-0.73	-10.975	-3.6	-27.68	13.158	-44.719	
2933		13	-1.222	-18.774	-6.003	-46.131	11.27	-38.871	
2934		14	-1.715	-26.572	-8.406	-64.582	8.438	-29.957	
2935		15	-2.207	-34.371	-10.809	-83.033	4.661	-17.977	
2936		16	-2.699	-42.169	-13.212	-101.484	-0.061	-2.931	
2937		17	-3.191	-49.968	-15.615	-119.935	-5.728	15.181	
2938		18	-3.683	-57.767	-18.018	-138.386	-12.34	36.36	
2939		19	-4.176	-65.565	-20.421	-156.836	-19.896	60.604	
2940		20	-4.668	-73.364	-22.824	-175.287	-28.397	87.915	
2941	5	A16	1	10.067	78.672	15.341	106.45	-7.234	87.915
2942		2	9.815	74.666	14.106	96.974	-4.26	72.433	
2943		3	9.562	70.661	12.872	87.497	-1.537	57.76	
2944		4	9.309	66.655	11.638	78.021	0.938	43.896	
2945		5	9.056	62.65	10.404	68.544	3.164	30.841	
2946		6	8.803	58.644	9.17	59.068	5.14	18.594	
2947		7	8.55	54.639	7.935	49.591	6.867	7.157	
2948		8	8.298	50.633	6.701	40.114	8.345	-3.472	
2949		9	8.045	46.628	5.467	30.638	9.573	-13.292	
2950		10	7.792	42.623	4.233	21.161	10.553	-22.303	
2951		11	7.539	38.617	2.999	11.685	11.283	-30.506	
2952		12	7.286	34.612	1.764	2.208	11.764	-37.899	
2953		13	7.034	30.606	0.53	-7.268	11.995	-44.484	
2954		14	6.781	26.601	-0.704	-16.745	11.978	-50.26	
2955		15	6.528	22.595	-1.938	-26.222	11.711	-55.227	
2956		16	6.275	18.59	-3.172	-35.698	11.195	-59.385	
2957		17	6.022	14.584	-4.407	-45.175	10.43	-62.734	
2958		18	5.769	10.579	-5.641	-54.651	9.415	-65.275	
2959		19	5.517	6.573	-6.875	-64.128	8.152	-67.007	
2960		20	5.264	2.568	-8.109	-73.604	6.639	-67.93	
2961	5	A17	1	0	5.341	0	0	0	5.675
2962		2	0	5.06	0	0	0	0	5.093
2963		3	0	4.779	0	0	0	0	4.543
2964		4	0	4.498	0	0	0	0	4.024
2965		5	0	4.216	0	0	0	0	3.537
2966		6	0	3.935	0	0	0	0	3.081
2967		7	0	3.654	0	0	0	0	2.657



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
2968		8	0	3.373	0	0	0	2.264	
2969		9	0	3.092	0	0	0	1.902	
2970		10	0	2.811	0	0	0	1.572	
2971		11	0	2.53	0	0	0	1.273	
2972		12	0	2.249	0	0	0	1.006	
2973		13	0	1.968	0	0	0	0.77	
2974		14	0	1.687	0	0	0	0.566	
2975		15	0	1.405	0	0	0	0.393	
2976		16	0	1.124	0	0	0	0.252	
2977		17	0	0.843	0	0	0	0.141	
2978		18	0	0.562	0	0	0	0.063	
2979		19	0	0.281	0	0	0	0.016	
2980		20	0	0	0	0	0	0	
2981	5	R1	1	9.456	-31.545	-2.012	0	6.639	-104.092
2982		2	9.456	-31.545	-2.012	0	6.29	-98.614	
2983		3	9.456	-31.545	-2.012	0	5.94	-93.135	
2984		4	9.456	-31.545	-2.012	0	5.591	-87.657	
2985		5	9.456	-31.545	-2.012	0	5.241	-82.178	
2986		6	9.456	-31.545	-2.012	0	4.892	-76.7	
2987		7	9.456	-31.545	-2.012	0	4.542	-71.221	
2988		8	9.456	-31.545	-2.012	0	4.193	-65.743	
2989		9	9.456	-31.545	-2.012	0	3.844	-60.264	
2990		10	9.456	-31.545	-2.012	0	3.494	-54.785	
2991		11	9.456	-31.545	-2.012	0	3.145	-49.307	
2992		12	9.456	-31.545	-2.012	0	2.795	-43.828	
2993		13	9.456	-31.545	-2.012	0	2.446	-38.35	
2994		14	9.456	-31.545	-2.012	0	2.097	-32.871	
2995		15	9.456	-31.545	-2.012	0	1.747	-27.393	
2996		16	9.456	-31.545	-2.012	0	1.398	-21.914	
2997		17	9.456	-31.545	-2.012	0	1.048	-16.436	
2998		18	9.456	-31.545	-2.012	0	0.699	-10.957	
2999		19	9.456	-31.545	-2.012	0	0.349	-5.479	
3000		20	9.456	-31.545	-2.012	0	0	0	
3001	5	R2	1	-14.441	11.84	9.007	0	0	0
3002		2	-14.441	11.84	9.007	0	2.923	-3.843	
3003		3	-14.441	11.84	9.007	0	5.847	-7.685	
3004		4	-14.441	11.84	9.007	0	8.77	-11.528	
3005		5	-14.441	11.84	9.007	0	11.694	-15.371	
3006		6	-14.441	11.84	9.007	0	14.617	-19.214	
3007		7	-14.441	11.84	9.007	0	17.541	-23.056	
3008		8	-14.441	11.84	9.007	0	20.464	-26.899	
3009		9	-14.441	11.84	9.007	0	23.388	-30.742	
3010		10	-14.441	11.84	9.007	0	26.311	-34.584	
3011		11	-14.441	11.84	9.007	0	29.235	-38.427	
3012		12	-14.441	11.84	9.007	0	32.158	-42.27	
3013		13	23.724	-140.196	-5.728	0	13.013	-318.515	
3014		14	23.724	-140.196	-5.728	0	11.154	-273.013	
3015		15	23.724	-140.196	-5.728	0	9.295	-227.511	
3016		16	23.724	-140.196	-5.728	0	7.436	-182.008	
3017		17	23.724	-140.196	-5.728	0	5.577	-136.506	
3018		18	23.724	-140.196	-5.728	0	3.718	-91.004	
3019		19	23.724	-140.196	-5.728	0	1.859	-45.502	
3020		20	23.724	-140.196	-5.728	0	0	0	
3021	5	R3	1	-17.276	-0.441	3.539	0	0	0
3022		2	-17.276	-0.441	3.539	0	1.149	0.143	
3023		3	-17.276	-0.441	3.539	0	2.297	0.286	
3024		4	-17.276	-0.441	3.539	0	3.446	0.429	
3025		5	-17.276	-0.441	3.539	0	4.595	0.573	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3026		6	-17.276	-0.441	3.539	0	5.744	0.716
3027		7	-17.276	-0.441	3.539	0	6.892	0.859
3028		8	-17.276	-0.441	3.539	0	8.041	1.002
3029		9	-17.276	-0.441	3.539	0	9.19	1.145
3030		10	-17.276	-0.441	3.539	0	10.338	1.288
3031		11	-17.276	-0.441	3.539	0	11.487	1.432
3032		12	-17.276	-0.441	3.539	0	12.636	1.575
3033		13	28.383	-149.517	-5.821	0	13.226	-339.692
3034		14	28.383	-149.517	-5.821	0	11.336	-291.165
3035		15	28.383	-149.517	-5.821	0	9.447	-242.637
3036		16	28.383	-149.517	-5.821	0	7.558	-194.11
3037		17	28.383	-149.517	-5.821	0	5.668	-145.582
3038		18	28.383	-149.517	-5.821	0	3.779	-97.055
3039		19	28.383	-149.517	-5.821	0	1.889	-48.527
3040		20	28.383	-149.517	-5.821	0	0	0
3041	5	R4	1	-17.275	-0.866	3.536	0	0
3042		2	-17.275	-0.866	3.536	0	1.148	0.281
3043		3	-17.275	-0.866	3.536	0	2.296	0.562
3044		4	-17.275	-0.866	3.536	0	3.443	0.844
3045		5	-17.275	-0.866	3.536	0	4.591	1.125
3046		6	-17.275	-0.866	3.536	0	5.739	1.406
3047		7	-17.275	-0.866	3.536	0	6.887	1.687
3048		8	-17.275	-0.866	3.536	0	8.034	1.969
3049		9	-17.275	-0.866	3.536	0	9.182	2.25
3050		10	-17.275	-0.866	3.536	0	10.33	2.531
3051		11	-17.275	-0.866	3.536	0	11.478	2.812
3052		12	-17.275	-0.866	3.536	0	12.625	3.094
3053		13	28.381	-148.82	-5.816	0	13.214	-338.108
3054		14	28.381	-148.82	-5.816	0	11.326	-289.806
3055		15	28.381	-148.82	-5.816	0	9.438	-241.505
3056		16	28.381	-148.82	-5.816	0	7.551	-193.204
3057		17	28.381	-148.82	-5.816	0	5.663	-144.903
3058		18	28.381	-148.82	-5.816	0	3.775	-96.602
3059		19	28.381	-148.82	-5.816	0	1.888	-48.301
3060		20	28.381	-148.82	-5.816	0	0	0
3061	5	R5	1	-17.275	-0.769	3.536	0	0
3062		2	-17.275	-0.769	3.536	0	1.148	0.25
3063		3	-17.275	-0.769	3.536	0	2.296	0.499
3064		4	-17.275	-0.769	3.536	0	3.443	0.749
3065		5	-17.275	-0.769	3.536	0	4.591	0.998
3066		6	-17.275	-0.769	3.536	0	5.739	1.248
3067		7	-17.275	-0.769	3.536	0	6.887	1.498
3068		8	-17.275	-0.769	3.536	0	8.034	1.747
3069		9	-17.275	-0.769	3.536	0	9.182	1.997
3070		10	-17.275	-0.769	3.536	0	10.33	2.246
3071		11	-17.275	-0.769	3.536	0	11.478	2.496
3072		12	-17.275	-0.769	3.536	0	12.625	2.746
3073		13	28.381	-148.98	-5.816	0	13.214	-338.471
3074		14	28.381	-148.98	-5.816	0	11.326	-290.118
3075		15	28.381	-148.98	-5.816	0	9.438	-241.765
3076		16	28.381	-148.98	-5.816	0	7.551	-193.412
3077		17	28.381	-148.98	-5.816	0	5.663	-145.059
3078		18	28.381	-148.98	-5.816	0	3.775	-96.706
3079		19	28.381	-148.98	-5.816	0	1.888	-48.353
3080		20	28.381	-148.98	-5.816	0	0	0
3081	5	R6	1	-17.275	-0.759	3.536	0	0
3082		2	-17.275	-0.759	3.536	0	1.148	0.246
3083		3	-17.275	-0.759	3.536	0	2.296	0.493



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3084		4	-17.275	-0.759	3.536	0	3.443	0.739
3085		5	-17.275	-0.759	3.536	0	4.591	0.986
3086		6	-17.275	-0.759	3.536	0	5.739	1.232
3087		7	-17.275	-0.759	3.536	0	6.887	1.479
3088		8	-17.275	-0.759	3.536	0	8.034	1.725
3089		9	-17.275	-0.759	3.536	0	9.182	1.972
3090		10	-17.275	-0.759	3.536	0	10.33	2.218
3091		11	-17.275	-0.759	3.536	0	11.478	2.465
3092		12	-17.275	-0.759	3.536	0	12.625	2.711
3093		13	28.381	-148.996	-5.816	0	13.214	-338.508
3094		14	28.381	-148.996	-5.816	0	11.326	-290.15
3095		15	28.381	-148.996	-5.816	0	9.438	-241.791
3096		16	28.381	-148.996	-5.816	0	7.551	-193.433
3097		17	28.381	-148.996	-5.816	0	5.663	-145.075
3098		18	28.381	-148.996	-5.816	0	3.775	-96.717
3099		19	28.381	-148.996	-5.816	0	1.888	-48.358
3100		20	28.381	-148.996	-5.816	0	0	0
3101	5	R7	1	-17.278	-0.839	3.522	0	0
3102			2	-17.278	-0.839	3.522	0	1.143
3103			3	-17.278	-0.839	3.522	0	2.286
3104			4	-17.278	-0.839	3.522	0	3.43
3105			5	-17.278	-0.839	3.522	0	4.573
3106			6	-17.278	-0.839	3.522	0	5.716
3107			7	-17.278	-0.839	3.522	0	6.859
3108			8	-17.278	-0.839	3.522	0	8.003
3109			9	-17.278	-0.839	3.522	0	9.146
3110			10	-17.278	-0.839	3.522	0	10.289
3111			11	-17.278	-0.839	3.522	0	11.432
3112			12	-17.278	-0.839	3.522	0	12.576
3113			13	28.386	-148.865	-5.793	0	13.162
3114			14	28.386	-148.865	-5.793	0	11.281
3115			15	28.386	-148.865	-5.793	0	9.401
3116			16	28.386	-148.865	-5.793	0	7.521
3117			17	28.386	-148.865	-5.793	0	5.641
3118			18	28.386	-148.865	-5.793	0	3.76
3119			19	28.386	-148.865	-5.793	0	1.88
3120			20	28.386	-148.865	-5.793	0	0
3121	5	R8	1	-17.275	3.832	3.536	0	0
3122			2	-17.275	3.832	3.536	0	1.148
3123			3	-17.275	3.832	3.536	0	2.296
3124			4	-17.275	3.832	3.536	0	3.443
3125			5	-17.275	3.832	3.536	0	4.591
3126			6	-17.275	3.832	3.536	0	5.739
3127			7	-17.275	3.832	3.536	0	6.887
3128			8	-17.275	3.832	3.536	0	8.034
3129			9	-17.275	3.832	3.536	0	9.182
3130			10	-17.275	3.832	3.536	0	10.33
3131			11	-17.275	3.832	3.536	0	11.478
3132			12	-17.275	3.832	3.536	0	12.625
3133			13	28.381	-156.538	-5.816	0	13.214
3134			14	28.381	-156.538	-5.816	0	11.326
3135			15	28.381	-156.538	-5.816	0	9.438
3136			16	28.381	-156.538	-5.816	0	7.551
3137			17	28.381	-156.538	-5.816	0	5.663
3138			18	28.381	-156.538	-5.816	0	3.775
3139			19	28.381	-156.538	-5.816	0	1.888
3140			20	28.381	-156.538	-5.816	0	0
3141	5	R9	1	-17.275	2.777	3.536	0	0

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
3142		2	-17.275	2.777	3.536	0	1.148	-0.901	
3143		3	-17.275	2.777	3.536	0	2.296	-1.803	
3144		4	-17.275	2.777	3.536	0	3.443	-2.704	
3145		5	-17.275	2.777	3.536	0	4.591	-3.605	
3146		6	-17.275	2.777	3.536	0	5.739	-4.506	
3147		7	-17.275	2.777	3.536	0	6.887	-5.408	
3148		8	-17.275	2.777	3.536	0	8.034	-6.309	
3149		9	-17.275	2.777	3.536	0	9.182	-7.21	
3150		10	-17.275	2.777	3.536	0	10.33	-8.112	
3151		11	-17.275	2.777	3.536	0	11.478	-9.013	
3152		12	-17.275	2.777	3.536	0	12.625	-9.914	
3153		13	28.381	-154.805	-5.816	0	13.214	-351.707	
3154		14	28.381	-154.805	-5.816	0	11.326	-301.463	
3155		15	28.381	-154.805	-5.816	0	9.438	-251.219	
3156		16	28.381	-154.805	-5.816	0	7.551	-200.975	
3157		17	28.381	-154.805	-5.816	0	5.663	-150.732	
3158		18	28.381	-154.805	-5.816	0	3.775	-100.488	
3159		19	28.381	-154.805	-5.816	0	1.888	-50.244	
3160		20	28.381	-154.805	-5.816	0	0	0	
3161	5	R10	1	-17.275	-1.106	3.536	0	0	0
3162		2	-17.275	-1.106	3.536	0	1.148	0.359	
3163		3	-17.275	-1.106	3.536	0	2.296	0.718	
3164		4	-17.275	-1.106	3.536	0	3.443	1.077	
3165		5	-17.275	-1.106	3.536	0	4.591	1.436	
3166		6	-17.275	-1.106	3.536	0	5.739	1.795	
3167		7	-17.275	-1.106	3.536	0	6.887	2.155	
3168		8	-17.275	-1.106	3.536	0	8.034	2.514	
3169		9	-17.275	-1.106	3.536	0	9.182	2.873	
3170		10	-17.275	-1.106	3.536	0	10.33	3.232	
3171		11	-17.275	-1.106	3.536	0	11.478	3.591	
3172		12	-17.275	-1.106	3.536	0	12.625	3.95	
3173		13	28.381	-148.425	-5.816	0	13.214	-337.212	
3174		14	28.381	-148.425	-5.816	0	11.326	-289.039	
3175		15	28.381	-148.425	-5.816	0	9.438	-240.866	
3176		16	28.381	-148.425	-5.816	0	7.551	-192.692	
3177		17	28.381	-148.425	-5.816	0	5.663	-144.519	
3178		18	28.381	-148.425	-5.816	0	3.775	-96.346	
3179		19	28.381	-148.425	-5.816	0	1.888	-48.173	
3180		20	28.381	-148.425	-5.816	0	0	0	
3181	5	R11	1	-17.275	-0.713	3.536	0	0	0
3182		2	-17.275	-0.713	3.536	0	1.148	0.231	
3183		3	-17.275	-0.713	3.536	0	2.296	0.463	
3184		4	-17.275	-0.713	3.536	0	3.443	0.694	
3185		5	-17.275	-0.713	3.536	0	4.591	0.926	
3186		6	-17.275	-0.713	3.536	0	5.739	1.157	
3187		7	-17.275	-0.713	3.536	0	6.887	1.389	
3188		8	-17.275	-0.713	3.536	0	8.034	1.62	
3189		9	-17.275	-0.713	3.536	0	9.182	1.852	
3190		10	-17.275	-0.713	3.536	0	10.33	2.083	
3191		11	-17.275	-0.713	3.536	0	11.478	2.315	
3192		12	-17.275	-0.713	3.536	0	12.625	2.546	
3193		13	28.381	-149.072	-5.816	0	13.214	-338.68	
3194		14	28.381	-149.072	-5.816	0	11.326	-290.297	
3195		15	28.381	-149.072	-5.816	0	9.438	-241.914	
3196		16	28.381	-149.072	-5.816	0	7.551	-193.531	
3197		17	28.381	-149.072	-5.816	0	5.663	-145.149	
3198		18	28.381	-149.072	-5.816	0	3.775	-96.766	
3199		19	28.381	-149.072	-5.816	0	1.888	-48.383	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3200		20	28.381	-149.072	-5.816	0	0	0
3201	5 R12	1	-17.275	-0.758	3.536	0	0	0
3202		2	-17.275	-0.758	3.536	0	1.148	0.246
3203		3	-17.275	-0.758	3.536	0	2.296	0.492
3204		4	-17.275	-0.758	3.536	0	3.443	0.738
3205		5	-17.275	-0.758	3.536	0	4.591	0.984
3206		6	-17.275	-0.758	3.536	0	5.739	1.23
3207		7	-17.275	-0.758	3.536	0	6.887	1.475
3208		8	-17.275	-0.758	3.536	0	8.034	1.721
3209		9	-17.275	-0.758	3.536	0	9.182	1.967
3210		10	-17.275	-0.758	3.536	0	10.33	2.213
3211		11	-17.275	-0.758	3.536	0	11.478	2.459
3212		12	-17.275	-0.758	3.536	0	12.625	2.705
3213		13	28.381	-148.998	-5.816	0	13.214	-338.513
3214		14	28.381	-148.998	-5.816	0	11.326	-290.154
3215		15	28.381	-148.998	-5.816	0	9.438	-241.795
3216		16	28.381	-148.998	-5.816	0	7.551	-193.436
3217		17	28.381	-148.998	-5.816	0	5.663	-145.077
3218		18	28.381	-148.998	-5.816	0	3.775	-96.718
3219		19	28.381	-148.998	-5.816	0	1.888	-48.359
3220		20	28.381	-148.998	-5.816	0	0	0
3221	5 R13	1	-17.275	-0.961	3.536	0	0	0
3222		2	-17.275	-0.961	3.536	0	1.148	0.312
3223		3	-17.275	-0.961	3.536	0	2.296	0.624
3224		4	-17.275	-0.961	3.536	0	3.443	0.936
3225		5	-17.275	-0.961	3.536	0	4.591	1.247
3226		6	-17.275	-0.961	3.536	0	5.739	1.559
3227		7	-17.275	-0.961	3.536	0	6.887	1.871
3228		8	-17.275	-0.961	3.536	0	8.034	2.183
3229		9	-17.275	-0.961	3.536	0	9.182	2.495
3230		10	-17.275	-0.961	3.536	0	10.33	2.807
3231		11	-17.275	-0.961	3.536	0	11.478	3.119
3232		12	-17.275	-0.961	3.536	0	12.625	3.43
3233		13	28.381	-148.664	-5.816	0	13.214	-337.755
3234		14	28.381	-148.664	-5.816	0	11.326	-289.504
3235		15	28.381	-148.664	-5.816	0	9.438	-241.254
3236		16	28.381	-148.664	-5.816	0	7.551	-193.003
3237		17	28.381	-148.664	-5.816	0	5.663	-144.752
3238		18	28.381	-148.664	-5.816	0	3.775	-96.501
3239		19	28.381	-148.664	-5.816	0	1.888	-48.251
3240		20	28.381	-148.664	-5.816	0	0	0
3241	5 R14	1	-17.276	-0.05	3.536	0	0	0
3242		2	-17.276	-0.05	3.536	0	1.148	0.016
3243		3	-17.276	-0.05	3.536	0	2.295	0.033
3244		4	-17.276	-0.05	3.536	0	3.443	0.049
3245		5	-17.276	-0.05	3.536	0	4.59	0.065
3246		6	-17.276	-0.05	3.536	0	5.738	0.082
3247		7	-17.276	-0.05	3.536	0	6.886	0.098
3248		8	-17.276	-0.05	3.536	0	8.033	0.114
3249		9	-17.276	-0.05	3.536	0	9.181	0.13
3250		10	-17.276	-0.05	3.536	0	10.329	0.147
3251		11	-17.276	-0.05	3.536	0	11.476	0.163
3252		12	-17.276	-0.05	3.536	0	12.624	0.179
3253		13	28.382	-150.16	-5.815	0	13.211	-341.153
3254		14	28.382	-150.16	-5.815	0	11.324	-292.417
3255		15	28.382	-150.16	-5.815	0	9.436	-243.681
3256		16	28.382	-150.16	-5.815	0	7.549	-194.945
3257		17	28.382	-150.16	-5.815	0	5.662	-146.209

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3258		18	28.382	-150.16	-5.815	0	3.775	-97.472
3259		19	28.382	-150.16	-5.815	0	1.887	-48.736
3260		20	28.382	-150.16	-5.815	0	0	0
3261	5	R15	1	-12.196	2.093	0.261	0	0
3262		2	-12.196	2.093	0.261	0	0.085	-0.679
3263		3	-12.196	2.093	0.261	0	0.169	-1.359
3264		4	-12.196	2.093	0.261	0	0.254	-2.038
3265		5	-12.196	2.093	0.261	0	0.338	-2.717
3266		6	-12.196	2.093	0.261	0	0.423	-3.396
3267		7	-12.196	2.093	0.261	0	0.507	-4.076
3268		8	-12.196	2.093	0.261	0	0.592	-4.755
3269		9	-12.196	2.093	0.261	0	0.677	-5.434
3270		10	-12.196	2.093	0.261	0	0.761	-6.113
3271		11	-12.196	2.093	0.261	0	0.846	-6.793
3272		12	-12.196	2.093	0.261	0	0.93	-7.472
3273		13	20.036	-137.84	-11.699	0	26.579	-313.163
3274		14	20.036	-137.84	-11.699	0	22.782	-268.425
3275		15	20.036	-137.84	-11.699	0	18.985	-223.688
3276		16	20.036	-137.84	-11.699	0	15.188	-178.95
3277		17	20.036	-137.84	-11.699	0	11.391	-134.213
3278		18	20.036	-137.84	-11.699	0	7.594	-89.475
3279		19	20.036	-137.84	-11.699	0	3.797	-44.738
3280		20	20.036	-137.84	-11.699	0	0	0
3281	5	M33	1	-6.676	6.966	0.55	0	0
3282		2	-6.676	6.966	0.55	0	0.156	-1.977
3283		3	-6.676	6.966	0.55	0	0.312	-3.954
3284		4	-6.676	6.966	0.55	0	0.468	-5.931
3285		5	-6.676	6.966	0.55	0	0.624	-7.907
3286		6	-6.676	6.966	0.55	0	0.78	-9.884
3287		7	-6.676	6.966	0.55	0	0.936	-11.861
3288		8	-6.676	6.966	0.55	0	1.092	-13.838
3289		9	-6.676	6.966	0.55	0	1.248	-15.815
3290		10	-6.676	6.966	0.55	0	1.404	-17.792
3291		11	-6.676	6.966	0.55	0	1.56	-19.769
3292		12	-6.676	6.966	0.55	0	1.716	-21.746
3293		13	-6.676	6.966	0.55	0	1.871	-23.722
3294		14	-6.676	6.966	0.55	0	2.027	-25.699
3295		15	-6.676	6.966	0.55	0	2.183	-27.676
3296		16	-6.676	6.966	0.55	0	2.339	-29.653
3297		17	-6.676	6.966	0.55	0	2.495	-31.63
3298		18	-6.676	6.966	0.55	0	2.651	-33.607
3299		19	-6.676	6.966	0.55	0	2.807	-35.584
3300		20	-6.676	6.966	0.55	0	2.963	-37.56
3301	6	A1	1	0	0	0	0	0
3302		2	0	-0.268	0	0	0	0.014
3303		3	0	-0.537	0	0	0	0.057
3304		4	0	-0.805	0	0	0	0.129
3305		5	0	-1.074	0	0	0	0.229
3306		6	0	-1.342	0	0	0	0.358
3307		7	0	-1.611	0	0	0	0.516
3308		8	0	-1.879	0	0	0	0.702
3309		9	0	-2.147	0	0	0	0.917
3310		10	0	-2.416	0	0	0	1.161
3311		11	0	-2.684	0	0	0	1.433
3312		12	0	-2.953	0	0	0	1.734
3313		13	0	-3.221	0	0	0	2.064
3314		14	0	-3.489	0	0	0	2.422
3315		15	0	-3.758	0	0	0	2.809

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
3316		16	0	-4.026	0	0	0	3.225	
3317		17	0	-4.295	0	0	0	3.669	
3318		18	0	-4.563	0	0	0	4.142	
3319		19	0	-4.832	0	0	0	4.644	
3320		20	0	-5.1	0	0	0	5.174	
3321	6	A2	1	-3.352	-19.99	4.095	-27.592	2.678	-22.118
3322		2	-3.523	-22.748	3.47	-30.979	3.151	-19.443	
3323		3	-3.694	-25.506	2.846	-34.366	3.547	-16.423	
3324		4	-3.865	-28.265	2.222	-37.753	3.864	-13.057	
3325		5	-4.036	-31.023	1.597	-41.14	4.103	-9.347	
3326		6	-4.208	-33.781	0.973	-44.527	4.264	-5.291	
3327		7	-4.379	-36.539	0.349	-47.914	4.346	-0.89	
3328		8	-4.55	-39.297	-0.276	-51.301	4.351	3.857	
3329		9	-4.721	-42.055	-0.9	-54.688	4.277	8.948	
3330		10	-4.893	-44.813	-1.524	-58.075	4.126	14.385	
3331		11	-5.064	-47.572	-2.149	-61.462	3.896	20.167	
3332		12	-5.235	-50.33	-2.773	-64.849	3.588	26.295	
3333		13	-5.406	-53.088	-3.398	-68.236	3.201	32.768	
3334		14	-5.577	-55.846	-4.022	-71.623	2.737	39.585	
3335		15	-5.749	-58.604	-4.646	-75.01	2.194	46.749	
3336		16	-5.92	-61.362	-5.271	-78.397	1.574	54.257	
3337		17	-6.091	-64.121	-5.895	-81.784	0.875	62.111	
3338		18	-6.262	-66.879	-6.519	-85.171	0.098	70.31	
3339		19	-6.433	-69.637	-7.144	-88.558	-0.757	78.854	
3340		20	-6.605	-72.395	-7.768	-91.945	-1.69	87.743	
3341	6	A3	1	5.111	79.837	18.63	101.061	-23.19	87.743
3342		2	4.573	71.174	16.669	90.423	-16.251	58.058	
3343		3	4.035	62.511	14.708	79.785	-10.083	31.778	
3344		4	3.497	53.848	12.747	69.147	-4.686	8.904	
3345		5	2.96	45.186	10.786	58.509	-0.06	-10.564	
3346		6	2.422	36.523	8.825	47.871	3.796	-26.626	
3347		7	1.884	27.86	6.864	37.233	6.88	-39.282	
3348		8	1.346	19.197	4.903	26.595	9.193	-48.533	
3349		9	0.809	10.534	2.942	15.957	10.735	-54.377	
3350		10	0.271	1.871	0.981	5.319	11.506	-56.815	
3351		11	-0.267	-6.792	-0.98	-5.32	11.506	-55.848	
3352		12	-0.805	-15.455	-2.941	-15.958	10.735	-51.474	
3353		13	-1.342	-24.118	-4.902	-26.596	9.194	-43.695	
3354		14	-1.88	-32.781	-6.863	-37.234	6.881	-32.51	
3355		15	-2.418	-41.444	-8.824	-47.872	3.797	-17.919	
3356		16	-2.956	-50.107	-10.785	-58.51	-0.058	0.078	
3357		17	-3.494	-58.77	-12.746	-69.148	-4.683	21.481	
3358		18	-4.031	-67.433	-14.707	-79.786	-10.08	46.29	
3359		19	-4.569	-76.096	-16.668	-90.424	-16.248	74.505	
3360		20	-5.107	-84.759	-18.629	-101.062	-23.186	106.126	
3361	6	A4	1	5.109	82.909	18.632	101.062	-23.202	106.126
3362		2	4.571	74.246	16.671	90.424	-16.262	75.232	
3363		3	4.033	65.583	14.71	79.786	-10.093	47.745	
3364		4	3.495	56.92	12.749	69.148	-4.696	23.663	
3365		5	2.958	48.257	10.788	58.51	-0.069	2.988	
3366		6	2.42	39.594	8.827	47.872	3.787	-14.282	
3367		7	1.882	30.931	6.866	37.233	6.872	-28.146	
3368		8	1.344	22.268	4.905	26.595	9.185	-38.604	
3369		9	0.807	13.605	2.944	15.957	10.728	-45.656	
3370		10	0.269	4.942	0.983	5.319	11.5	-49.302	
3371		11	-0.269	-3.721	-0.978	-5.319	11.501	-49.542	
3372		12	-0.807	-12.384	-2.939	-15.957	10.731	-46.376	
3373		13	-1.344	-21.047	-4.9	-26.595	9.19	-39.804	



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
3374		14	-1.882	-29.71	-6.861	-37.233	6.878	-29.827	
3375		15	-2.42	-38.373	-8.822	-47.871	3.794	-16.443	
3376		16	-2.958	-47.036	-10.783	-58.509	-0.06	0.346	
3377		17	-3.495	-55.698	-12.744	-69.147	-4.685	20.541	
3378		18	-4.033	-64.361	-14.705	-79.785	-10.081	44.143	
3379		19	-4.571	-73.024	-16.666	-90.423	-16.248	71.15	
3380		20	-5.109	-81.687	-18.627	-101.061	-23.186	101.563	
3381	6	A5	1	5.109	82.156	18.632	101.062	-23.202	101.563
3382		2	4.571	73.493	16.671	90.424	-16.262	70.966	
3383		3	4.033	64.83	14.71	79.785	-10.093	43.774	
3384		4	3.495	56.167	12.749	69.147	-4.696	19.989	
3385		5	2.958	47.504	10.788	58.509	-0.069	-0.391	
3386		6	2.42	38.841	8.827	47.871	3.787	-17.365	
3387		7	1.882	30.178	6.866	37.233	6.872	-30.932	
3388		8	1.344	21.515	4.905	26.595	9.185	-41.094	
3389		9	0.807	12.852	2.944	15.957	10.728	-47.85	
3390		10	0.269	4.189	0.983	5.319	11.5	-51.2	
3391		11	-0.269	-4.474	-0.978	-5.319	11.501	-51.144	
3392		12	-0.807	-13.137	-2.939	-15.957	10.731	-47.682	
3393		13	-1.344	-21.8	-4.9	-26.595	9.19	-40.815	
3394		14	-1.882	-30.463	-6.861	-37.233	6.878	-30.541	
3395		15	-2.42	-39.126	-8.822	-47.871	3.794	-16.861	
3396		16	-2.958	-47.789	-10.783	-58.509	-0.06	0.224	
3397		17	-3.495	-56.452	-12.744	-69.147	-4.685	20.716	
3398		18	-4.033	-65.115	-14.705	-79.786	-10.081	44.613	
3399		19	-4.571	-73.777	-16.666	-90.424	-16.248	71.916	
3400		20	-5.109	-82.44	-18.627	-101.062	-23.186	102.625	
3401	6	A6	1	5.109	82.294	18.632	101.062	-23.202	102.625
3402		2	4.571	73.631	16.671	90.424	-16.262	71.974	
3403		3	4.033	64.968	14.71	79.785	-10.093	44.728	
3404		4	3.495	56.305	12.749	69.147	-4.696	20.889	
3405		5	2.958	47.642	10.788	58.509	-0.069	0.455	
3406		6	2.42	38.979	8.827	47.871	3.787	-16.572	
3407		7	1.882	30.316	6.866	37.233	6.872	-30.194	
3408		8	1.344	21.653	4.905	26.595	9.185	-40.41	
3409		9	0.807	12.99	2.944	15.957	10.728	-47.22	
3410		10	0.269	4.327	0.983	5.319	11.5	-50.624	
3411		11	-0.269	-4.336	-0.978	-5.319	11.501	-50.622	
3412		12	-0.807	-12.999	-2.939	-15.957	10.731	-47.215	
3413		13	-1.344	-21.662	-4.9	-26.595	9.19	-40.401	
3414		14	-1.882	-30.325	-6.861	-37.233	6.878	-30.181	
3415		15	-2.42	-38.988	-8.822	-47.871	3.794	-16.556	
3416		16	-2.958	-47.651	-10.783	-58.509	-0.06	0.476	
3417		17	-3.495	-56.314	-12.744	-69.147	-4.685	20.913	
3418		18	-4.033	-64.977	-14.705	-79.785	-10.081	44.756	
3419		19	-4.571	-73.64	-16.666	-90.424	-16.248	72.006	
3420		20	-5.109	-82.303	-18.627	-101.062	-23.186	102.661	
3421	6	A7	1	5.109	82.461	18.632	101.062	-23.202	102.661
3422		2	4.571	73.798	16.671	90.424	-16.262	71.944	
3423		3	4.033	65.135	14.71	79.786	-10.093	44.632	
3424		4	3.495	56.472	12.749	69.147	-4.696	20.727	
3425		5	2.958	47.809	10.788	58.509	-0.069	0.228	
3426		6	2.42	39.146	8.827	47.871	3.787	-16.866	
3427		7	1.882	30.483	6.866	37.233	6.872	-30.553	
3428		8	1.344	21.82	4.905	26.595	9.185	-40.835	
3429		9	0.807	13.157	2.944	15.957	10.728	-47.71	
3430		10	0.269	4.494	0.983	5.319	11.5	-51.18	
3431		11	-0.269	-4.169	-0.978	-5.319	11.501	-51.244	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3432		12	-0.807	-12.832	-2.939	-15.957	10.731	-47.902
3433		13	-1.344	-21.495	-4.9	-26.595	9.19	-41.154
3434		14	-1.882	-30.158	-6.861	-37.233	6.878	-31
3435		15	-2.42	-38.821	-8.822	-47.871	3.794	-17.44
3436		16	-2.958	-47.484	-10.783	-58.509	-0.06	-0.474
3437		17	-3.495	-56.147	-12.744	-69.147	-4.685	19.897
3438		18	-4.033	-64.81	-14.705	-79.785	-10.081	43.675
3439		19	-4.571	-73.473	-16.666	-90.423	-16.248	70.858
3440		20	-5.109	-82.136	-18.627	-101.062	-23.186	101.448
3441	6	A8	1	5.109	81.611	18.632	101.061	-23.202
3442		2	4.571	72.948	16.671	90.423	-16.262	71.065
3443		3	4.033	64.285	14.71	79.785	-10.093	44.088
3444		4	3.495	55.622	12.749	69.147	-4.696	20.516
3445		5	2.958	46.959	10.788	58.509	-0.069	0.351
3446		6	2.42	38.296	8.827	47.871	3.787	-16.408
3447		7	1.882	29.633	6.866	37.233	6.872	-29.762
3448		8	1.344	20.97	4.905	26.595	9.185	-39.709
3449		9	0.807	12.307	2.944	15.956	10.728	-46.251
3450		10	0.269	3.644	0.983	5.318	11.5	-49.387
3451		11	-0.269	-5.019	-0.978	-5.32	11.501	-49.117
3452		12	-0.807	-13.682	-2.939	-15.958	10.731	-45.44
3453		13	-1.344	-22.345	-4.9	-26.596	9.19	-38.358
3454		14	-1.882	-31.008	-6.861	-37.234	6.878	-27.871
3455		15	-2.42	-39.671	-8.822	-47.872	3.794	-13.977
3456		16	-2.958	-48.334	-10.783	-58.51	-0.06	3.323
3457		17	-3.495	-56.997	-12.744	-69.148	-4.685	24.029
3458		18	-4.033	-66.318	-14.705	-79.786	-10.081	48.258
3459		19	-4.571	-75.705	-16.666	-90.424	-16.248	76.177
3460		20	-5.109	-85.092	-18.627	-101.062	-23.186	107.786
3461	6	A9	1	5.109	88.909	18.632	101.061	-23.202
3462		2	4.571	79.522	16.671	90.423	-16.262	74.676
3463		3	4.033	70.136	14.71	79.785	-10.093	45.256
3464		4	3.495	60.749	12.749	69.147	-4.696	19.527
3465		5	2.958	51.362	10.788	58.509	-0.069	-2.512
3466		6	2.42	41.975	8.827	47.871	3.787	-20.86
3467		7	1.882	32.589	6.866	37.233	6.872	-35.517
3468		8	1.344	23.202	4.905	26.595	9.185	-46.485
3469		9	0.807	13.815	2.944	15.957	10.728	-53.761
3470		10	0.269	4.428	0.983	5.319	11.5	-57.348
3471		11	-0.269	-4.959	-0.978	-5.319	11.501	-57.243
3472		12	-0.807	-14.345	-2.939	-15.957	10.731	-53.449
3473		13	-1.344	-23.732	-4.9	-26.595	9.19	-45.963
3474		14	-1.882	-33.119	-6.861	-37.233	6.878	-34.788
3475		15	-2.42	-42.506	-8.822	-47.871	3.794	-19.921
3476		16	-2.958	-51.892	-10.783	-58.51	-0.06	-1.365
3477		17	-3.495	-61.279	-12.744	-69.148	-4.685	20.882
3478		18	-4.033	-70.666	-14.705	-79.786	-10.081	46.82
3479		19	-4.571	-80.053	-16.666	-90.424	-16.248	76.448
3480		20	-5.109	-89.44	-18.627	-101.062	-23.186	109.767
3481	6	A10	1	5.109	87.366	18.632	101.063	-23.202
3482		2	4.571	77.98	16.671	90.425	-16.262	77.263
3483		3	4.033	68.593	14.71	79.787	-10.093	48.45
3484		4	3.495	59.206	12.749	69.148	-4.696	23.328
3485		5	2.958	49.819	10.788	58.51	-0.069	1.896
3486		6	2.42	40.432	8.827	47.872	3.787	-15.846
3487		7	1.882	31.046	6.866	37.234	6.872	-29.897
3488		8	1.344	21.757	4.905	26.596	9.185	-40.26
3489		9	0.807	13.094	2.944	15.958	10.728	-47.111

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
3490		10	0.269	4.431	0.983	5.32	11.5	-50.556	
3491		11	-0.269	-4.232	-0.978	-5.318	11.501	-50.595	
3492		12	-0.807	-12.895	-2.939	-15.956	10.731	-47.228	
3493		13	-1.344	-21.558	-4.9	-26.594	9.19	-40.455	
3494		14	-1.882	-30.221	-6.861	-37.232	6.878	-30.277	
3495		15	-2.42	-38.884	-8.822	-47.87	3.794	-16.692	
3496		16	-2.958	-47.547	-10.783	-58.508	-0.06	0.299	
3497		17	-3.495	-56.21	-12.744	-69.146	-4.685	20.695	
3498		18	-4.033	-64.873	-14.705	-79.784	-10.081	44.497	
3499		19	-4.571	-73.536	-16.666	-90.423	-16.248	71.706	
3500		20	-5.109	-82.199	-18.627	-101.061	-23.186	102.32	
3501	6	A11	1	5.109	82.248	18.632	101.061	-23.202	102.156
3502		2	4.571	73.585	16.671	90.423	-16.262	71.522	
3503		3	4.033	64.922	14.71	79.785	-10.093	44.295	
3504		4	3.495	56.259	12.749	69.147	-4.696	20.473	
3505		5	2.958	47.596	10.788	58.509	-0.069	0.057	
3506		6	2.42	38.933	8.827	47.871	3.787	-16.953	
3507		7	1.882	30.27	6.866	37.233	6.872	-30.557	
3508		8	1.344	21.607	4.905	26.595	9.185	-40.755	
3509		9	0.807	12.944	2.944	15.957	10.728	-47.547	
3510		10	0.269	4.281	0.983	5.319	11.5	-50.933	
3511		11	-0.269	-4.382	-0.978	-5.319	11.501	-50.913	
3512		12	-0.807	-13.045	-2.939	-15.957	10.731	-47.488	
3513		13	-1.344	-21.708	-4.9	-26.595	9.19	-40.656	
3514		14	-1.882	-30.37	-6.861	-37.234	6.878	-30.419	
3515		15	-2.42	-39.033	-8.822	-47.872	3.794	-16.775	
3516		16	-2.958	-47.696	-10.783	-58.51	-0.06	0.274	
3517		17	-3.495	-56.359	-12.744	-69.148	-4.685	20.729	
3518		18	-4.033	-65.022	-14.705	-79.786	-10.081	44.59	
3519		19	-4.571	-73.685	-16.666	-90.424	-16.248	71.857	
3520		20	-5.109	-82.348	-18.627	-101.062	-23.186	102.53	
3521	6	A12	1	5.109	82.306	18.632	101.062	-23.202	102.53
3522		2	4.571	73.643	16.671	90.424	-16.262	71.874	
3523		3	4.033	64.98	14.71	79.786	-10.093	44.624	
3524		4	3.495	56.317	12.749	69.147	-4.696	20.779	
3525		5	2.958	47.654	10.788	58.509	-0.069	0.341	
3526		6	2.42	38.991	8.827	47.871	3.787	-16.692	
3527		7	1.882	30.328	6.866	37.233	6.872	-30.319	
3528		8	1.344	21.665	4.905	26.595	9.185	-40.539	
3529		9	0.807	13.002	2.944	15.957	10.728	-47.354	
3530		10	0.269	4.339	0.983	5.319	11.5	-50.763	
3531		11	-0.269	-4.324	-0.978	-5.319	11.501	-50.766	
3532		12	-0.807	-12.987	-2.939	-15.957	10.731	-47.363	
3533		13	-1.344	-21.65	-4.9	-26.595	9.19	-40.554	
3534		14	-1.882	-30.313	-6.861	-37.233	6.878	-30.339	
3535		15	-2.42	-38.976	-8.822	-47.871	3.794	-16.719	
3536		16	-2.958	-47.639	-10.783	-58.509	-0.06	0.308	
3537		17	-3.495	-56.302	-12.744	-69.147	-4.685	20.74	
3538		18	-4.033	-64.965	-14.705	-79.785	-10.081	44.579	
3539		19	-4.571	-73.628	-16.666	-90.424	-16.248	71.823	
3540		20	-5.109	-82.291	-18.627	-101.062	-23.186	102.473	
3541	6	A13	1	5.109	82.316	18.632	101.062	-23.202	102.473
3542		2	4.571	73.653	16.671	90.424	-16.262	71.813	
3543		3	4.033	64.99	14.71	79.786	-10.093	44.559	
3544		4	3.495	56.327	12.749	69.147	-4.696	20.711	
3545		5	2.958	47.664	10.788	58.509	-0.069	0.268	
3546		6	2.42	39.001	8.827	47.871	3.787	-16.769	
3547		7	1.882	30.338	6.866	37.233	6.872	-30.399	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
3548		8	1.344	21.675	4.905	26.595	9.185	-40.624	
3549		9	0.807	13.012	2.944	15.957	10.728	-47.443	
3550		10	0.269	4.349	0.983	5.319	11.5	-50.856	
3551		11	-0.269	-4.314	-0.978	-5.319	11.501	-50.863	
3552		12	-0.807	-12.977	-2.939	-15.957	10.731	-47.464	
3553		13	-1.344	-21.64	-4.9	-26.595	9.19	-40.659	
3554		14	-1.882	-30.303	-6.861	-37.233	6.878	-30.448	
3555		15	-2.42	-38.966	-8.822	-47.871	3.794	-16.831	
3556		16	-2.958	-47.629	-10.783	-58.509	-0.06	0.191	
3557		17	-3.495	-56.292	-12.744	-69.147	-4.685	20.62	
3558		18	-4.033	-64.955	-14.705	-79.785	-10.081	44.454	
3559		19	-4.571	-73.617	-16.666	-90.424	-16.248	71.694	
3560		20	-5.109	-82.28	-18.627	-101.062	-23.186	102.341	
3561	6	A14	1	5.109	82.215	18.632	101.062	-23.202	102.341
3562		2	4.571	73.552	16.671	90.424	-16.262	71.72	
3563		3	4.033	64.889	14.71	79.785	-10.093	44.506	
3564		4	3.495	56.226	12.749	69.147	-4.696	20.697	
3565		5	2.958	47.563	10.788	58.509	-0.069	0.294	
3566		6	2.42	38.9	8.827	47.871	3.787	-16.703	
3567		7	1.882	30.237	6.866	37.233	6.872	-30.294	
3568		8	1.344	21.574	4.905	26.595	9.185	-40.479	
3569		9	0.807	12.911	2.944	15.957	10.728	-47.258	
3570		10	0.269	4.248	0.983	5.319	11.5	-50.631	
3571		11	-0.269	-4.415	-0.978	-5.319	11.501	-50.598	
3572		12	-0.807	-13.078	-2.939	-15.957	10.731	-47.159	
3573		13	-1.344	-21.741	-4.9	-26.595	9.19	-40.315	
3574		14	-1.882	-30.404	-6.861	-37.233	6.878	-30.064	
3575		15	-2.42	-39.067	-8.822	-47.871	3.794	-16.408	
3576		16	-2.958	-47.73	-10.783	-58.509	-0.06	0.654	
3577		17	-3.495	-56.393	-12.744	-69.147	-4.685	21.123	
3578		18	-4.033	-65.056	-14.705	-79.786	-10.081	44.997	
3579		19	-4.571	-73.719	-16.666	-90.424	-16.248	72.277	
3580		20	-5.109	-82.382	-18.627	-101.062	-23.186	102.963	
3581	6	A15	1	5.115	82.635	18.634	101.058	-23.203	102.963
3582		2	4.577	73.972	16.673	90.42	-16.262	72.177	
3583		3	4.04	65.309	14.712	79.781	-10.093	44.797	
3584		4	3.502	56.646	12.751	69.143	-4.694	20.823	
3585		5	2.964	47.983	10.79	58.505	-0.067	0.256	
3586		6	2.426	39.32	8.829	47.867	3.79	-16.907	
3587		7	1.889	30.657	6.868	37.229	6.875	-30.663	
3588		8	1.351	21.994	4.907	26.591	9.19	-41.013	
3589		9	0.813	13.331	2.946	15.953	10.733	-47.957	
3590		10	0.275	4.668	0.985	5.315	11.506	-51.496	
3591		11	-0.262	-3.995	-0.976	-5.323	11.508	-51.628	
3592		12	-0.8	-12.658	-2.937	-15.961	10.738	-48.355	
3593		13	-1.338	-21.321	-4.898	-26.599	9.198	-41.675	
3594		14	-1.876	-29.983	-6.859	-37.237	6.887	-31.59	
3595		15	-2.413	-38.646	-8.82	-47.875	3.804	-18.099	
3596		16	-2.951	-47.309	-10.781	-58.513	-0.049	-1.202	
3597		17	-3.489	-55.972	-12.742	-69.151	-4.673	19.101	
3598		18	-4.027	-64.635	-14.703	-79.79	-10.069	42.81	
3599		19	-4.565	-73.298	-16.664	-90.428	-16.235	69.925	
3600		20	-5.102	-81.961	-18.625	-101.066	-23.172	100.446	
3601	6	A16	1	9.172	86.515	12.658	28.828	-5.894	100.446
3602		2	8.895	82.066	11.651	23.364	-3.44	83.425	
3603		3	8.619	77.616	10.644	17.9	-1.189	67.303	
3604		4	8.343	73.167	9.637	12.436	0.859	52.079	
3605		5	8.067	68.717	8.629	6.973	2.703	37.754	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3606		6	7.791	64.268	7.622	1.509	4.344	24.327
3607		7	7.514	59.819	6.615	-3.955	5.781	11.799
3608		8	7.238	55.369	5.608	-9.419	7.016	0.169
3609		9	6.962	50.92	4.601	-14.883	8.046	-10.563
3610		10	6.686	46.47	3.593	-20.346	8.874	-20.396
3611		11	6.41	42.021	2.586	-25.81	9.497	-29.33
3612		12	6.133	37.572	1.579	-31.274	9.918	-37.366
3613		13	5.857	33.122	0.572	-36.738	10.135	-44.504
3614		14	5.581	28.673	-0.435	-42.202	10.149	-50.743
3615		15	5.305	24.223	-1.442	-47.666	9.959	-56.084
3616		16	5.029	19.774	-2.45	-53.129	9.566	-60.526
3617		17	4.752	15.325	-3.457	-58.593	8.97	-64.07
3618		18	4.476	10.875	-4.464	-64.057	8.17	-66.715
3619		19	4.2	6.426	-5.471	-69.521	7.167	-68.462
3620		20	3.924	1.977	-6.478	-74.985	5.961	-69.31
3621	6	A17	1	0	5.341	0	0	5.675
3622			2	0	5.06	0	0	5.093
3623			3	0	4.779	0	0	4.543
3624			4	0	4.498	0	0	4.024
3625			5	0	4.216	0	0	3.537
3626			6	0	3.935	0	0	3.081
3627			7	0	3.654	0	0	2.657
3628			8	0	3.373	0	0	2.264
3629			9	0	3.092	0	0	1.902
3630			10	0	2.811	0	0	1.572
3631			11	0	2.53	0	0	1.273
3632			12	0	2.249	0	0	1.006
3633			13	0	1.968	0	0	0.77
3634			14	0	1.687	0	0	0.566
3635			15	0	1.405	0	0	0.393
3636			16	0	1.124	0	0	0.252
3637			17	0	0.843	0	0	0.141
3638			18	0	0.562	0	0	0.063
3639			19	0	0.281	0	0	0.016
3640			20	0	0	0	0	0
3641	6	R1	1	7.355	-32.136	-1.806	0	-106.044
3642			2	7.355	-32.136	-1.806	0	-100.463
3643			3	7.355	-32.136	-1.806	0	-94.882
3644			4	7.355	-32.136	-1.806	0	-89.3
3645			5	7.355	-32.136	-1.806	0	-83.719
3646			6	7.355	-32.136	-1.806	0	-78.138
3647			7	7.355	-32.136	-1.806	0	-72.557
3648			8	7.355	-32.136	-1.806	0	-66.975
3649			9	7.355	-32.136	-1.806	0	-61.394
3650			10	7.355	-32.136	-1.806	0	-55.813
3651			11	7.355	-32.136	-1.806	0	-50.232
3652			12	7.355	-32.136	-1.806	0	-44.65
3653			13	7.355	-32.136	-1.806	0	-39.069
3654			14	7.355	-32.136	-1.806	0	-33.488
3655			15	7.355	-32.136	-1.806	0	-27.906
3656			16	7.355	-32.136	-1.806	0	-22.325
3657			17	7.355	-32.136	-1.806	0	-16.744
3658			18	7.355	-32.136	-1.806	0	-11.163
3659			19	7.355	-32.136	-1.806	0	-5.581
3660			20	7.355	-32.136	-1.806	0	0
3661	6	R2	1	-11.837	42.684	8.203	0	0
3662			2	-11.837	42.684	8.203	0	-13.854
3663			3	-11.837	42.684	8.203	0	-27.707



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3664		4	-11.837	42.684	8.203	0	7.987	-41.561
3665		5	-11.837	42.684	8.203	0	10.649	-55.414
3666		6	-11.837	42.684	8.203	0	13.311	-69.268
3667		7	-11.837	42.684	8.203	0	15.974	-83.121
3668		8	-11.837	42.684	8.203	0	18.636	-96.975
3669		9	-11.837	42.684	8.203	0	21.298	-110.828
3670		10	-11.837	42.684	8.203	0	23.961	-124.682
3671		11	-11.837	42.684	8.203	0	26.623	-138.536
3672		12	-11.837	42.684	8.203	0	29.285	-152.389
3673		13	19.446	-125.792	-6.071	0	13.793	-285.791
3674		14	19.446	-125.792	-6.071	0	11.823	-244.964
3675		15	19.446	-125.792	-6.071	0	9.852	-204.137
3676		16	19.446	-125.792	-6.071	0	7.882	-163.309
3677		17	19.446	-125.792	-6.071	0	5.911	-122.482
3678		18	19.446	-125.792	-6.071	0	3.941	-81.655
3679		19	19.446	-125.792	-6.071	0	1.97	-40.827
3680		20	19.446	-125.792	-6.071	0	0	0
3681	6	R3	1	-14.099	29.663	3.866	0	0
3682		2	-14.099	29.663	3.866	0	1.255	-9.627
3683		3	-14.099	29.663	3.866	0	2.509	-19.255
3684		4	-14.099	29.663	3.866	0	3.764	-28.882
3685		5	-14.099	29.663	3.866	0	5.019	-38.509
3686		6	-14.099	29.663	3.866	0	6.273	-48.137
3687		7	-14.099	29.663	3.866	0	7.528	-57.764
3688		8	-14.099	29.663	3.866	0	8.783	-67.391
3689		9	-14.099	29.663	3.866	0	10.037	-77.019
3690		10	-14.099	29.663	3.866	0	11.292	-86.646
3691		11	-14.099	29.663	3.866	0	12.547	-96.273
3692		12	-14.099	29.663	3.866	0	13.801	-105.901
3693		13	23.162	-135.354	-6.358	0	14.445	-307.515
3694		14	23.162	-135.354	-6.358	0	12.382	-263.584
3695		15	23.162	-135.354	-6.358	0	10.318	-219.653
3696		16	23.162	-135.354	-6.358	0	8.254	-175.723
3697		17	23.162	-135.354	-6.358	0	6.191	-131.792
3698		18	23.162	-135.354	-6.358	0	4.127	-87.861
3699		19	23.162	-135.354	-6.358	0	2.064	-43.931
3700		20	23.162	-135.354	-6.358	0	0	0
3701	6	R4	1	-14.098	29.465	3.863	0	0
3702		2	-14.098	29.465	3.863	0	1.254	-9.563
3703		3	-14.098	29.465	3.863	0	2.508	-19.126
3704		4	-14.098	29.465	3.863	0	3.762	-28.689
3705		5	-14.098	29.465	3.863	0	5.016	-38.252
3706		6	-14.098	29.465	3.863	0	6.27	-47.815
3707		7	-14.098	29.465	3.863	0	7.524	-57.379
3708		8	-14.098	29.465	3.863	0	8.777	-66.942
3709		9	-14.098	29.465	3.863	0	10.031	-76.505
3710		10	-14.098	29.465	3.863	0	11.285	-86.068
3711		11	-14.098	29.465	3.863	0	12.539	-95.631
3712		12	-14.098	29.465	3.863	0	13.793	-105.194
3713		13	23.161	-135.031	-6.354	0	14.436	-306.78
3714		14	23.161	-135.031	-6.354	0	12.374	-262.954
3715		15	23.161	-135.031	-6.354	0	10.311	-219.129
3716		16	23.161	-135.031	-6.354	0	8.249	-175.303
3717		17	23.161	-135.031	-6.354	0	6.187	-131.477
3718		18	23.161	-135.031	-6.354	0	4.125	-87.651
3719		19	23.161	-135.031	-6.354	0	2.062	-43.826
3720		20	23.161	-135.031	-6.354	0	0	0
3721	6	R5	1	-14.098	29.507	3.863	0	0





**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3722		2	-14.098	29.507	3.863	0	1.254	-9.577
3723		3	-14.098	29.507	3.863	0	2.508	-19.154
3724		4	-14.098	29.507	3.863	0	3.762	-28.73
3725		5	-14.098	29.507	3.863	0	5.016	-38.307
3726		6	-14.098	29.507	3.863	0	6.27	-47.884
3727		7	-14.098	29.507	3.863	0	7.524	-57.461
3728		8	-14.098	29.507	3.863	0	8.777	-67.037
3729		9	-14.098	29.507	3.863	0	10.031	-76.614
3730		10	-14.098	29.507	3.863	0	11.285	-86.191
3731		11	-14.098	29.507	3.863	0	12.539	-95.768
3732		12	-14.098	29.507	3.863	0	13.793	-105.345
3733		13	23.161	-135.1	-6.354	0	14.436	-306.937
3734		14	23.161	-135.1	-6.354	0	12.374	-263.089
3735		15	23.161	-135.1	-6.354	0	10.311	-219.241
3736		16	23.161	-135.1	-6.354	0	8.249	-175.393
3737		17	23.161	-135.1	-6.354	0	6.187	-131.544
3738		18	23.161	-135.1	-6.354	0	4.125	-87.696
3739		19	23.161	-135.1	-6.354	0	2.062	-43.848
3740		20	23.161	-135.1	-6.354	0	0	0
3741	6	R6	1	-14.098	29.525	3.863	0	0
3742		2	-14.098	29.525	3.863	0	1.254	-9.583
3743		3	-14.098	29.525	3.863	0	2.508	-19.165
3744		4	-14.098	29.525	3.863	0	3.762	-28.748
3745		5	-14.098	29.525	3.863	0	5.016	-38.33
3746		6	-14.098	29.525	3.863	0	6.27	-47.913
3747		7	-14.098	29.525	3.863	0	7.524	-57.495
3748		8	-14.098	29.525	3.863	0	8.777	-67.078
3749		9	-14.098	29.525	3.863	0	10.031	-76.661
3750		10	-14.098	29.525	3.863	0	11.285	-86.243
3751		11	-14.098	29.525	3.863	0	12.539	-95.826
3752		12	-14.098	29.525	3.863	0	13.793	-105.408
3753		13	23.161	-135.129	-6.354	0	14.436	-307.004
3754		14	23.161	-135.129	-6.354	0	12.374	-263.147
3755		15	23.161	-135.129	-6.354	0	10.311	-219.289
3756		16	23.161	-135.129	-6.354	0	8.249	-175.431
3757		17	23.161	-135.129	-6.354	0	6.187	-131.573
3758		18	23.161	-135.129	-6.354	0	4.125	-87.716
3759		19	23.161	-135.129	-6.354	0	2.062	-43.858
3760		20	23.161	-135.129	-6.354	0	0	0
3761	6	R7	1	-14.101	29.447	3.852	0	0
3762		2	-14.101	29.447	3.852	0	1.25	-9.557
3763		3	-14.101	29.447	3.852	0	2.5	-19.115
3764		4	-14.101	29.447	3.852	0	3.751	-28.672
3765		5	-14.101	29.447	3.852	0	5.001	-38.229
3766		6	-14.101	29.447	3.852	0	6.251	-47.786
3767		7	-14.101	29.447	3.852	0	7.501	-57.344
3768		8	-14.101	29.447	3.852	0	8.752	-66.901
3769		9	-14.101	29.447	3.852	0	10.002	-76.458
3770		10	-14.101	29.447	3.852	0	11.252	-86.015
3771		11	-14.101	29.447	3.852	0	12.502	-95.573
3772		12	-14.101	29.447	3.852	0	13.752	-105.13
3773		13	23.166	-135	-6.335	0	14.393	-306.712
3774		14	23.166	-135	-6.335	0	12.337	-262.896
3775		15	23.166	-135	-6.335	0	10.281	-219.08
3776		16	23.166	-135	-6.335	0	8.225	-175.264
3777		17	23.166	-135	-6.335	0	6.169	-131.448
3778		18	23.166	-135	-6.335	0	4.112	-87.632
3779		19	23.166	-135	-6.335	0	2.056	-43.816

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3780		20	23.166	-135	-6.335	0	0	0
3781	6	1	-14.098	34.123	3.863	0	0	0
3782		2	-14.098	34.123	3.863	0	1.254	-11.075
3783		3	-14.098	34.123	3.863	0	2.508	-22.15
3784		4	-14.098	34.123	3.863	0	3.762	-33.225
3785		5	-14.098	34.123	3.863	0	5.016	-44.299
3786		6	-14.098	34.123	3.863	0	6.27	-55.374
3787		7	-14.098	34.123	3.863	0	7.524	-66.449
3788		8	-14.098	34.123	3.863	0	8.777	-77.524
3789		9	-14.098	34.123	3.863	0	10.031	-88.599
3790		10	-14.098	34.123	3.863	0	11.285	-99.674
3791		11	-14.098	34.123	3.863	0	12.539	-110.749
3792		12	-14.098	34.123	3.863	0	13.793	-121.824
3793		13	23.161	-142.683	-6.354	0	14.436	-324.166
3794		14	23.161	-142.683	-6.354	0	12.374	-277.857
3795		15	23.161	-142.683	-6.354	0	10.311	-231.547
3796		16	23.161	-142.683	-6.354	0	8.249	-185.238
3797		17	23.161	-142.683	-6.354	0	6.187	-138.928
3798		18	23.161	-142.683	-6.354	0	4.125	-92.619
3799		19	23.161	-142.683	-6.354	0	2.062	-46.309
3800		20	23.161	-142.683	-6.354	0	0	0
3801	6	1	-14.098	33.061	3.863	0	0	0
3802		2	-14.098	33.061	3.863	0	1.254	-10.73
3803		3	-14.098	33.061	3.863	0	2.508	-21.461
3804		4	-14.098	33.061	3.863	0	3.762	-32.191
3805		5	-14.098	33.061	3.863	0	5.016	-42.922
3806		6	-14.098	33.061	3.863	0	6.27	-53.652
3807		7	-14.098	33.061	3.863	0	7.524	-64.383
3808		8	-14.098	33.061	3.863	0	8.777	-75.113
3809		9	-14.098	33.061	3.863	0	10.031	-85.843
3810		10	-14.098	33.061	3.863	0	11.285	-96.574
3811		11	-14.098	33.061	3.863	0	12.539	-107.304
3812		12	-14.098	33.061	3.863	0	13.793	-118.035
3813		13	23.161	-140.939	-6.354	0	14.436	-320.204
3814		14	23.161	-140.939	-6.354	0	12.374	-274.461
3815		15	23.161	-140.939	-6.354	0	10.311	-228.717
3816		16	23.161	-140.939	-6.354	0	8.249	-182.974
3817		17	23.161	-140.939	-6.354	0	6.187	-137.23
3818		18	23.161	-140.939	-6.354	0	4.125	-91.487
3819		19	23.161	-140.939	-6.354	0	2.062	-45.743
3820		20	23.161	-140.939	-6.354	0	0	0
3821	6	1	-14.098	29.182	3.863	0	0	0
3822		2	-14.098	29.182	3.863	0	1.254	-9.471
3823		3	-14.098	29.182	3.863	0	2.508	-18.942
3824		4	-14.098	29.182	3.863	0	3.762	-28.414
3825		5	-14.098	29.182	3.863	0	5.016	-37.885
3826		6	-14.098	29.182	3.863	0	6.27	-47.356
3827		7	-14.098	29.182	3.863	0	7.524	-56.827
3828		8	-14.098	29.182	3.863	0	8.777	-66.299
3829		9	-14.098	29.182	3.863	0	10.031	-75.77
3830		10	-14.098	29.182	3.863	0	11.285	-85.241
3831		11	-14.098	29.182	3.863	0	12.539	-94.712
3832		12	-14.098	29.182	3.863	0	13.793	-104.183
3833		13	23.161	-134.565	-6.354	0	14.436	-305.723
3834		14	23.161	-134.565	-6.354	0	12.374	-262.048
3835		15	23.161	-134.565	-6.354	0	10.311	-218.373
3836		16	23.161	-134.565	-6.354	0	8.249	-174.699
3837		17	23.161	-134.565	-6.354	0	6.187	-131.024

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3838		18	23.161	-134.565	-6.354	0	4.125	-87.349
3839		19	23.161	-134.565	-6.354	0	2.062	-43.675
3840		20	23.161	-134.565	-6.354	0	0	0
3841	6	R11	1	-14.098	29.566	3.863	0	0
3842		2	-14.098	29.566	3.863	0	1.254	-9.596
3843		3	-14.098	29.566	3.863	0	2.508	-19.192
3844		4	-14.098	29.566	3.863	0	3.762	-28.788
3845		5	-14.098	29.566	3.863	0	5.016	-38.384
3846		6	-14.098	29.566	3.863	0	6.27	-47.98
3847		7	-14.098	29.566	3.863	0	7.524	-57.576
3848		8	-14.098	29.566	3.863	0	8.777	-67.172
3849		9	-14.098	29.566	3.863	0	10.031	-76.768
3850		10	-14.098	29.566	3.863	0	11.285	-86.364
3851		11	-14.098	29.566	3.863	0	12.539	-95.96
3852		12	-14.098	29.566	3.863	0	13.793	-105.556
3853		13	23.161	-135.197	-6.354	0	14.436	-307.159
3854		14	23.161	-135.197	-6.354	0	12.374	-263.279
3855		15	23.161	-135.197	-6.354	0	10.311	-219.399
3856		16	23.161	-135.197	-6.354	0	8.249	-175.519
3857		17	23.161	-135.197	-6.354	0	6.187	-131.639
3858		18	23.161	-135.197	-6.354	0	4.125	-87.76
3859		19	23.161	-135.197	-6.354	0	2.062	-43.88
3860		20	23.161	-135.197	-6.354	0	0	0
3861	6	R12	1	-14.098	29.555	3.863	0	0
3862		2	-14.098	29.555	3.863	0	1.254	-9.592
3863		3	-14.098	29.555	3.863	0	2.508	-19.185
3864		4	-14.098	29.555	3.863	0	3.762	-28.777
3865		5	-14.098	29.555	3.863	0	5.016	-38.37
3866		6	-14.098	29.555	3.863	0	6.27	-47.962
3867		7	-14.098	29.555	3.863	0	7.524	-57.555
3868		8	-14.098	29.555	3.863	0	8.777	-67.147
3869		9	-14.098	29.555	3.863	0	10.031	-76.739
3870		10	-14.098	29.555	3.863	0	11.285	-86.332
3871		11	-14.098	29.555	3.863	0	12.539	-95.924
3872		12	-14.098	29.555	3.863	0	13.793	-105.517
3873		13	23.161	-135.179	-6.354	0	14.436	-307.117
3874		14	23.161	-135.179	-6.354	0	12.374	-263.243
3875		15	23.161	-135.179	-6.354	0	10.311	-219.369
3876		16	23.161	-135.179	-6.354	0	8.249	-175.495
3877		17	23.161	-135.179	-6.354	0	6.187	-131.622
3878		18	23.161	-135.179	-6.354	0	4.125	-87.748
3879		19	23.161	-135.179	-6.354	0	2.062	-43.874
3880		20	23.161	-135.179	-6.354	0	0	0
3881	6	R13	1	-14.098	29.218	3.863	0	0
3882		2	-14.098	29.218	3.863	0	1.254	-9.483
3883		3	-14.098	29.218	3.863	0	2.508	-18.966
3884		4	-14.098	29.218	3.863	0	3.762	-28.449
3885		5	-14.098	29.218	3.863	0	5.016	-37.932
3886		6	-14.098	29.218	3.863	0	6.27	-47.415
3887		7	-14.098	29.218	3.863	0	7.524	-56.898
3888		8	-14.098	29.218	3.863	0	8.777	-66.381
3889		9	-14.098	29.218	3.863	0	10.031	-75.865
3890		10	-14.098	29.218	3.863	0	11.285	-85.348
3891		11	-14.098	29.218	3.863	0	12.539	-94.831
3892		12	-14.098	29.218	3.863	0	13.793	-104.314
3893		13	23.161	-134.625	-6.354	0	14.436	-305.859
3894		14	23.161	-134.625	-6.354	0	12.374	-262.165
3895		15	23.161	-134.625	-6.354	0	10.311	-218.471

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3896		16	23.161	-134.625	-6.354	0	8.249	-174.777
3897		17	23.161	-134.625	-6.354	0	6.187	-131.083
3898		18	23.161	-134.625	-6.354	0	4.125	-87.388
3899		19	23.161	-134.625	-6.354	0	2.062	-43.694
3900		20	23.161	-134.625	-6.354	0	0	0
3901	6	R14	1	-14.099	30.665	3.863	0	0
3902		2	-14.099	30.665	3.863	0	1.254	-9.953
3903		3	-14.099	30.665	3.863	0	2.507	-19.905
3904		4	-14.099	30.665	3.863	0	3.761	-29.858
3905		5	-14.099	30.665	3.863	0	5.015	-39.811
3906		6	-14.099	30.665	3.863	0	6.269	-49.763
3907		7	-14.099	30.665	3.863	0	7.522	-59.716
3908		8	-14.099	30.665	3.863	0	8.776	-69.669
3909		9	-14.099	30.665	3.863	0	10.03	-79.622
3910		10	-14.099	30.665	3.863	0	11.284	-89.574
3911		11	-14.099	30.665	3.863	0	12.537	-99.527
3912		12	-14.099	30.665	3.863	0	13.791	-109.48
3913		13	23.162	-137.003	-6.353	0	14.433	-311.261
3914		14	23.162	-137.003	-6.353	0	12.371	-266.795
3915		15	23.162	-137.003	-6.353	0	10.309	-222.329
3916		16	23.162	-137.003	-6.353	0	8.247	-177.864
3917		17	23.162	-137.003	-6.353	0	6.185	-133.398
3918		18	23.162	-137.003	-6.353	0	4.124	-88.932
3919		19	23.162	-137.003	-6.353	0	2.062	-44.466
3920		20	23.162	-137.003	-6.353	0	0	0
3921	6	R15	1	-9.988	26.303	0.946	0	0
3922		2	-9.988	26.303	0.946	0	0.307	-8.537
3923		3	-9.988	26.303	0.946	0	0.614	-17.074
3924		4	-9.988	26.303	0.946	0	0.922	-25.611
3925		5	-9.988	26.303	0.946	0	1.229	-34.148
3926		6	-9.988	26.303	0.946	0	1.536	-42.685
3927		7	-9.988	26.303	0.946	0	1.843	-51.222
3928		8	-9.988	26.303	0.946	0	2.15	-59.759
3929		9	-9.988	26.303	0.946	0	2.458	-68.296
3930		10	-9.988	26.303	0.946	0	2.765	-76.833
3931		11	-9.988	26.303	0.946	0	3.072	-85.37
3932		12	-9.988	26.303	0.946	0	3.379	-93.907
3933		13	16.409	-125.929	-10.769	0	24.466	-286.102
3934		14	16.409	-125.929	-10.769	0	20.971	-245.231
3935		15	16.409	-125.929	-10.769	0	17.476	-204.359
3936		16	16.409	-125.929	-10.769	0	13.981	-163.487
3937		17	16.409	-125.929	-10.769	0	10.485	-122.615
3938		18	16.409	-125.929	-10.769	0	6.99	-81.744
3939		19	16.409	-125.929	-10.769	0	3.495	-40.872
3940		20	16.409	-125.929	-10.769	0	0	0
3941	6	M33	1	-5.268	7.198	0.497	0	0
3942		2	-5.268	7.198	0.497	0	0.141	-2.043
3943		3	-5.268	7.198	0.497	0	0.282	-4.085
3944		4	-5.268	7.198	0.497	0	0.423	-6.128
3945		5	-5.268	7.198	0.497	0	0.564	-8.17
3946		6	-5.268	7.198	0.497	0	0.705	-10.213
3947		7	-5.268	7.198	0.497	0	0.846	-12.256
3948		8	-5.268	7.198	0.497	0	0.987	-14.298
3949		9	-5.268	7.198	0.497	0	1.127	-16.341
3950		10	-5.268	7.198	0.497	0	1.268	-18.384
3951		11	-5.268	7.198	0.497	0	1.409	-20.426
3952		12	-5.268	7.198	0.497	0	1.55	-22.469
3953		13	-5.268	7.198	0.497	0	1.691	-24.511



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
3954		14	-5.268	7.198	0.497	0	1.832	-26.554
3955		15	-5.268	7.198	0.497	0	1.973	-28.597
3956		16	-5.268	7.198	0.497	0	2.114	-30.639
3957		17	-5.268	7.198	0.497	0	2.255	-32.682
3958		18	-5.268	7.198	0.497	0	2.396	-34.724
3959		19	-5.268	7.198	0.497	0	2.537	-36.767
3960		20	-5.268	7.198	0.497	0	2.678	-38.81

**Maximum Member Section Forces**

LC	Member Label	Axial[k]	Loc[ft]	y Shear[k]	Loc[ft]	z Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]		
1	1	A1	max	0	2.029	0	0	2.029	0	2.029	0	2.029	4.657	2.029	
2			min	0	0	-4.59	2.029	0	0	0	0	0	0	0	
3	1	A2	max	-4.705	0	-18.361	0	5.542	0	-23.414	0	5.333	0.851	89.095	2.378
4			min	-7.3	2.378	-72.12	2.378	-9.966	2.378	-100.979	2.378	-2.283	2.378	-18.503	0
5	1	A3	max	4.075	0	81.747	0	24.355	0	121.81	0	15.163	3.696	109.096	7.47
6			min	-4.073	7.47	-87.102	7.47	-24.356	7.47	-121.81	7.47	-30.317	7.47	-58.726	3.617
7	1	A4	max	4.074	0	85.09	0	24.357	0	121.81	0	15.156	3.774	109.096	0
8			min	-4.074	7.47	-83.759	7.47	-24.353	7.47	-121.809	7.47	-30.329	0	-51.059	3.774
9	1	A5	max	4.074	0	84.268	0	24.357	0	121.809	0	15.156	3.774	105.299	7.47
10			min	-4.074	7.47	-84.581	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-52.938	3.696
11	1	A6	max	4.074	0	84.427	0	24.357	0	121.81	0	15.156	3.774	105.299	0
12			min	-4.074	7.47	-84.422	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-52.357	3.774
13	1	A7	max	4.074	0	84.569	0	24.357	0	121.81	0	15.156	3.774	105.277	0
14			min	-4.074	7.47	-84.28	7.47	-24.353	7.47	-121.809	7.47	-30.329	0	-52.913	3.774
15	1	A8	max	4.074	0	83.806	0	24.357	0	121.809	0	15.156	3.774	109.902	7.47
16			min	-4.074	7.47	-86.938	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-51.161	3.696
17	1	A9	max	4.074	0	90.375	0	24.357	0	121.809	0	15.156	3.774	111.677	7.47
18			min	-4.074	7.47	-90.851	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-58.421	3.696
19	1	A10	max	4.074	0	88.981	0	24.357	0	121.811	0	15.156	3.774	111.677	0
20			min	-4.074	7.47	-84.34	7.47	-24.353	7.47	-121.809	7.47	-30.329	0	-52.323	3.774
21	1	A11	max	4.074	0	84.377	0	24.357	0	121.809	0	15.156	3.774	105.164	7.47
22			min	-4.074	7.47	-84.472	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-52.659	3.696
23	1	A12	max	4.074	0	84.424	0	24.357	0	121.81	0	15.156	3.774	105.167	7.47
24			min	-4.074	7.47	-84.425	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-52.48	3.696
25	1	A13	max	4.074	0	84.473	0	24.357	0	121.81	0	15.156	3.774	105.167	0
26			min	-4.074	7.47	-84.376	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-52.662	3.774
27	1	A14	max	4.074	0	84.218	0	24.357	0	121.809	0	15.156	3.774	106.345	7.47
28			min	-4.074	7.47	-84.631	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-52.078	3.696
29	1	A15	max	4.083	0	85.255	0	24.36	0	121.806	0	15.165	3.774	106.345	0
30			min	-4.065	7.47	-83.594	7.47	-24.351	7.47	-121.813	7.47	-30.33	0	-54.434	3.774
31	1	A16	max	10.064	0	86.773	0	16.268	0	53.606	0	12.569	2.504	100.143	0
32			min	5.879	3.837	0.05	3.837	-8.75	3.837	-71.519	3.837	-7.724	0	-66.412	3.837
33	1	A17	max	0	2.125	4.807	0	0	2.125	0	2.125	0	2.125	5.107	0
34			min	0	0	0	2.125	0	0	0	0	0	0	0	2.125
35	1	R1	max	10.344	3.3	-30.651	3.3	-2.03	3.3	0	3.3	6.699	0	0	3.3
36			min	10.344	0	-30.651	0	-2.03	0	0	0	0	3.3	-101.144	0
37	1	R2	max	25.25	6.167	36.017	3.83	9.007	3.83	0	6.167	34.494	3.83	0	6.167
38			min	-15.369	0	-134.35	3.895	-5.122	3.895	0	0	0	0	-305.234	3.895
39	1	R3	max	30.281	6.167	24.776	3.83	3.084	3.83	0	6.167	11.812	3.83	0	6.167
40			min	-18.432	0	-145.11	3.895	-5.073	3.895	0	0	0	0	-329.679	3.895
41	1	R4	max	30.279	6.167	24.287	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167
42			min	-18.431	0	-144.308	3.895	-5.067	3.895	0	0	0	0	-327.856	3.895
43	1	R5	max	30.279	6.167	24.401	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167
44			min	-18.431	0	-144.496	3.895	-5.067	3.895	0	0	0	0	-328.285	3.895
45	1	R6	max	30.279	6.167	24.401	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167
46			min	-18.431	0	-144.495	3.895	-5.067	3.895	0	0	0	0	-328.283	3.895
47	1	R7	max	30.284	6.167	24.333	3.83	3.066	3.83	0	6.167	11.743	3.83	0	6.167
48			min	-18.433	0	-144.384	3.895	-5.043	3.895	0	0	0	0	-328.03	3.895





**Maximum Member Section Forces (Continued)**

LC	Member Label		Axial[k]	Loc[ft]	y	Shear[k]	Loc[ft]	z	Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]
49	1	R8	max	30.279	6.167	28.538	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
50			min	-18.431	0	-151.293	3.895	-5.067	3.895	0	0	0	0	-343.728	3.895	
51	1	R9	max	30.279	6.167	27.586	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
52			min	-18.431	0	-149.728	3.895	-5.067	3.895	0	0	0	0	-340.171	3.895	
53	1	R10	max	30.279	6.167	24.094	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
54			min	-18.431	0	-143.992	3.895	-5.067	3.895	0	0	0	0	-327.139	3.895	
55	1	R11	max	30.279	6.167	24.436	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
56			min	-18.431	0	-144.554	3.895	-5.067	3.895	0	0	0	0	-328.416	3.895	
57	1	R12	max	30.279	6.167	24.443	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
58			min	-18.431	0	-144.565	3.895	-5.067	3.895	0	0	0	0	-328.442	3.895	
59	1	R13	max	30.279	6.167	24.072	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
60			min	-18.431	0	-143.955	3.895	-5.067	3.895	0	0	0	0	-327.056	3.895	
61	1	R14	max	30.281	6.167	25.648	3.83	3.081	3.83	0	6.167	11.799	3.83	0	6.167	
62			min	-18.432	0	-146.544	3.895	-5.066	3.895	0	0	0	0	-332.937	3.895	
63	1	R15	max	21.335	6.167	22.092	3.83	-0.241	3.83	0	6.167	26.392	3.895	0	6.167	
64			min	-12.986	0	-131.775	3.895	-11.616	3.895	0	0	-0.925	3.83	-299.383	3.895	
65	1	M33	max	-7.249	5.392	6.108	5.392	0.552	5.392	0	5.392	2.978	5.392	0	0	
66			min	-7.249	0	6.108	0	0.552	0	0	0	0	0	-32.933	5.392	
67	2	A1	max	0	2.029	0	0	0	2.029	0	2.029	0	2.029	6.468	2.029	
68			min	0	0	-6.375	2.029	0	0	0	0	0	0	0	0	
69	2	A2	max	-4.705	0	-25.198	0	5.542	0	-33.682	0	5.333	0.851	119.927	2.378	
70			min	-7.3	2.378	-98.228	2.378	-9.966	2.378	-111.246	2.378	-2.283	2.378	-26.848	0	
71	2	A3	max	4.075	0	110.865	0	24.355	0	121.809	0	15.163	3.696	148.479	7.47	
72			min	-4.073	7.47	-118.51	7.47	-24.356	7.47	-121.811	7.47	-30.317	7.47	-80.213	3.617	
73	2	A4	max	4.074	0	115.637	0	24.357	0	121.81	0	15.156	3.774	148.479	0	
74			min	-4.074	7.47	-113.738	7.47	-24.353	7.47	-121.809	7.47	-30.329	0	-69.26	3.774	
75	2	A5	max	4.074	0	114.463	0	24.357	0	121.809	0	15.156	3.774	143.06	7.47	
76			min	-4.074	7.47	-114.912	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-71.941	3.696	
77	2	A6	max	4.074	0	114.693	0	24.357	0	121.81	0	15.156	3.774	143.06	0	
78			min	-4.074	7.47	-114.682	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-71.116	3.774	
79	2	A7	max	4.074	0	114.888	0	24.357	0	121.81	0	15.156	3.774	143.018	0	
80			min	-4.074	7.47	-114.487	7.47	-24.353	7.47	-121.809	7.47	-30.329	0	-71.892	3.774	
81	2	A8	max	4.074	0	113.829	0	24.357	0	121.809	0	15.156	3.774	149.441	7.47	
82			min	-4.074	7.47	-118.178	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-69.46	3.696	
83	2	A9	max	4.074	0	122.951	0	24.357	0	121.809	0	15.156	3.774	151.919	7.47	
84			min	-4.074	7.47	-123.614	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-79.538	3.696	
85	2	A10	max	4.074	0	121.023	0	24.357	0	121.811	0	15.156	3.774	151.919	0	
86			min	-4.074	7.47	-114.563	7.47	-24.353	7.47	-121.808	7.47	-30.329	0	-71.088	3.774	
87	2	A11	max	4.074	0	114.627	0	24.357	0	121.809	0	15.156	3.774	142.865	7.47	
88			min	-4.074	7.47	-114.748	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-71.521	3.696	
89	2	A12	max	4.074	0	114.693	0	24.357	0	121.81	0	15.156	3.774	142.865	0	
90			min	-4.074	7.47	-114.683	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-71.31	3.774	
91	2	A13	max	4.074	0	114.727	0	24.357	0	121.81	0	15.156	3.774	142.827	0	
92			min	-4.074	7.47	-114.648	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-71.477	3.774	
93	2	A14	max	4.074	0	114.514	0	24.357	0	121.809	0	15.156	3.774	143.827	7.47	
94			min	-4.074	7.47	-114.861	7.47	-24.353	7.47	-121.81	7.47	-30.329	0	-70.983	3.696	
95	2	A15	max	4.083	0	115.386	0	24.36	0	121.804	0	15.165	3.774	143.827	0	
96			min	-4.065	7.47	-113.989	7.47	-24.351	7.47	-121.815	7.47	-30.33	0	-72.966	3.774	
97	2	A16	max	10.064	0	118.621	0	16.268	0	27.525	0	12.569	2.504	138.606	0	
98			min	5.879	3.837	0.812	3.837	-8.75	3.837	-97.601	3.837	-7.724	0	-90.507	3.837	
99	2	A17	max	0	2.125	6.676	0	0	2.125	0	2.125	0	2.125	7.093	0	
100			min	0	0	0	2.125	0	0	0	0	0	0	0	2.125	
101	2	R1	max	10.344	3.3	-41.829	3.3	-2.03	3.3	0	3.3	6.699	0	0	3.3	
102			min	10.344	0	-41.829	0	-2.03	0	0	0	0	3.3	-138.028	0	
103	2	R2	max	25.25	6.167	63.797	3.83	9.007	3.83	0	6.167	34.494	3.83	0	6.167	
104			min	-15.369	0	-168.813	3.895	-5.122	3.895	0	0	0	0	-383.531	3.895	
105	2	R3	max	30.281	6.167	47.616	3.83	3.084	3.83	0	6.167	11.812	3.83	0	6.167	
106			min	-18.432	0	-182.632	3.895	-5.073	3.895	0	0	0	0	-414.926	3.895	





Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Maximum Member Section Forces (Continued)**

LC	Member Label		Axial[k]	Loc[ft]	y	Shear[k]	Loc[ft]	z	Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]
107	2	R4	max	30.279	6.167	47.204	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
108			min	-18.431	0	-181.958	3.895	-5.067	3.895	0	0	0	0	-413.396	3.895	
109	2	R5	max	30.279	6.167	47.298	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
110			min	-18.431	0	-182.112	3.895	-5.067	3.895	0	0	0	0	-413.745	3.895	
111	2	R6	max	30.279	6.167	47.31	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
112			min	-18.431	0	-182.131	3.895	-5.067	3.895	0	0	0	0	-413.79	3.895	
113	2	R7	max	30.284	6.167	47.215	3.83	3.066	3.83	0	6.167	11.743	3.83	0	6.167	
114			min	-18.433	0	-181.975	3.895	-5.043	3.895	0	0	0	0	-413.434	3.895	
115	2	R8	max	30.279	6.167	53.059	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
116			min	-18.431	0	-191.578	3.895	-5.067	3.895	0	0	0	0	-435.252	3.895	
117	2	R9	max	30.279	6.167	51.732	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
118			min	-18.431	0	-189.397	3.895	-5.067	3.895	0	0	0	0	-430.297	3.895	
119	2	R10	max	30.279	6.167	46.884	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
120			min	-18.431	0	-181.432	3.895	-5.067	3.895	0	0	0	0	-412.201	3.895	
121	2	R11	max	30.279	6.167	47.358	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
122			min	-18.431	0	-182.211	3.895	-5.067	3.895	0	0	0	0	-413.971	3.895	
123	2	R12	max	30.279	6.167	47.372	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
124			min	-18.431	0	-182.233	3.895	-5.067	3.895	0	0	0	0	-414.021	3.895	
125	2	R13	max	30.279	6.167	46.841	3.83	3.081	3.83	0	6.167	11.8	3.83	0	6.167	
126			min	-18.431	0	-181.361	3.895	-5.067	3.895	0	0	0	0	-412.039	3.895	
127	2	R14	max	30.281	6.167	49.09	3.83	3.081	3.83	0	6.167	11.799	3.83	0	6.167	
128			min	-18.432	0	-185.057	3.895	-5.066	3.895	0	0	0	0	-420.436	3.895	
129	2	R15	max	21.335	6.167	41.324	3.83	-0.241	3.83	0	6.167	26.392	3.895	0	6.167	
130			min	-12.986	0	-167.77	3.895	-11.616	3.895	0	0	-0.925	3.83	-381.161	3.895	
131	2	M33	max	-7.249	5.392	8.787	5.392	0.552	5.392	0	5.392	2.978	5.392	0	0	
132			min	-7.249	0	8.787	0	0.552	0	0	0	0	0	-47.375	5.392	
133	3	A1	max	0	2.029	0	0	0	2.029	0	2.029	0	2.029	7.762	2.029	
134			min	0	0	-7.65	2.029	0	0	0	0	0	0	0	0	
135	3	A2	max	-4.691	0	-29.326	0	5.516	0	-43.914	0	5.28	0.851	108.897	2.378	
136			min	-7.186	2.378	-92.247	2.378	-9.893	2.378	-120.23	2.378	-2.272	2.378	-35.675	0	
137	3	A3	max	3.919	0	96.452	0	24.198	0	119.848	0	15.065	3.696	126.538	7.47	
138			min	-3.916	7.47	-101.175	7.47	-24.199	7.47	-119.849	7.47	-30.122	7.47	-66.911	3.617	
139	3	A4	max	3.917	0	99.398	0	24.2	0	119.849	0	15.059	3.774	126.538	0	
140			min	-3.917	7.47	-98.228	7.47	-24.197	7.47	-119.848	7.47	-30.133	0	-60.183	3.774	
141	3	A5	max	3.917	0	98.682	0	24.2	0	119.849	0	15.059	3.774	123.145	7.47	
142			min	-3.917	7.47	-98.944	7.47	-24.197	7.47	-119.849	7.47	-30.133	0	-61.861	3.696	
143	3	A6	max	3.917	0	98.786	0	24.2	0	119.849	0	15.059	3.774	123.352	7.47	
144			min	-3.917	7.47	-98.841	7.47	-24.197	7.47	-119.849	7.47	-30.133	0	-61.266	3.696	
145	3	A7	max	3.917	0	99.062	0	24.2	0	119.849	0	15.059	3.774	123.352	0	
146			min	-3.917	7.47	-98.565	7.47	-24.197	7.47	-119.849	7.47	-30.133	0	-62.099	3.774	
147	3	A8	max	3.917	0	97.781	0	24.2	0	119.848	0	15.059	3.774	131.009	7.47	
148			min	-3.917	7.47	-103.004	7.47	-24.197	7.47	-119.85	7.47	-30.133	0	-59.205	3.696	
149	3	A9	max	3.917	0	108.729	0	24.2	0	119.848	0	15.059	3.774	133.988	7.47	
150			min	-3.917	7.47	-109.526	7.47	-24.197	7.47	-119.849	7.47	-30.133	0	-71.29	3.696	
151	3	A10	max	3.917	0	106.42	0	24.2	0	119.85	0	15.058	3.774	133.988	0	
152			min	-3.917	7.47	-98.659	7.47	-24.197	7.47	-119.847	7.47	-30.133	0	-61.165	3.774	
153	3	A11	max	3.917	0	98.739	0	24.2	0	119.848	0	15.059	3.774	123.14	7.47	
154			min	-3.917	7.47	-98.887	7.47	-24.197	7.47	-119.849	7.47	-30.133	0	-61.653	3.696	
155	3	A12	max	3.917	0	98.838	0	24.2	0	119.849	0	15.059	3.774	123.14	0	
156			min	-3.917	7.47	-98.789	7.47	-24.197	7.47	-119.849	7.47	-30.133	0	-61.465	3.774	
157	3	A13	max	3.917	0	98.783	0	24.2	0	119.849	0	15.059	3.774	123.181	7.47	
158			min	-3.917	7.47	-98.843	7.47	-24.197	7.47	-119.849	7.47	-30.133	0	-61.445	3.696	
159	3	A14	max	3.917	0	98.916	0	24.2	0	119.849	0	15.059	3.774	123.181	0	
160			min	-3.917	7.47	-98.71	7.47	-24.197	7.47	-119.849	7.47	-30.133	0	-61.721	3.774	
161	3	A15	max	3.926	0	98.404	0	24.203	0	119.843	0	15.067	3.774	125.467	7.47	
162			min	-3.908	7.47	-99.222	7.47	-24.194	7.47	-119.855	7.47	-30.135	0	-60.59	3.696	
163	3	A16	max	9.903	0	108.251	0	16.149	0	19.461	0	12.452	2.504	125.467	0	
164			min	5.879	3.837	6.748	3.837	-8.708	3.837	-103.65	3.837	-7.675	0	-95.138	3.837	



**Maximum Member Section Forces (Continued)**

LC	Member Label	Axial[k]	Loc[ft]	y Shear[k]	Loc[ft]	z Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]		
165	3	A17	max	0	2.125	8.011	0	2.125	0	2.125	0	2.125	8.512	0	
166			min	0	0	0	2.125	0	0	0	0	0	0	2.125	
167	3	R1	max	10.314	3.3	-44.421	3.3	-2	3.3	0	3.3	6.601	0	3.3	
168			min	10.314	0	-44.421	0	-2	0	0	0	3.3	-146.583	0	
169	3	R2	max	25.078	6.167	55.911	3.83	8.863	3.83	0	6.167	33.942	3.83	0	
170			min	-15.265	0	-151.561	3.895	-4.948	3.895	0	0	0	0	-344.337	3.895
171	3	R3	max	30.086	6.167	35.715	3.83	2.966	3.83	0	6.167	11.358	3.83	0	
172			min	-18.313	0	-161.4	3.895	-4.878	3.895	0	0	0	0	-366.688	3.895
173	3	R4	max	30.084	6.167	35.958	3.83	2.962	3.83	0	6.167	11.345	3.83	0	
174			min	-18.312	0	-161.801	3.895	-4.872	3.895	0	0	0	0	-367.601	3.895
175	3	R5	max	30.084	6.167	35.887	3.83	2.962	3.83	0	6.167	11.345	3.83	0	
176			min	-18.312	0	-161.685	3.895	-4.872	3.895	0	0	0	0	-367.336	3.895
177	3	R6	max	30.084	6.167	35.945	3.83	2.962	3.83	0	6.167	11.345	3.83	0	
178			min	-18.312	0	-161.78	3.895	-4.872	3.895	0	0	0	0	-367.553	3.895
179	3	R7	max	30.088	6.167	35.822	3.83	2.948	3.83	0	6.167	11.289	3.83	0	
180			min	-18.315	0	-161.576	3.895	-4.848	3.895	0	0	0	0	-367.091	3.895
181	3	R8	max	30.084	6.167	42.839	3.83	2.962	3.83	0	6.167	11.345	3.83	0	
182			min	-18.312	0	-173.107	3.895	-4.872	3.895	0	0	0	0	-393.287	3.895
183	3	R9	max	30.084	6.167	41.245	3.83	2.962	3.83	0	6.167	11.345	3.83	0	
184			min	-18.312	0	-170.488	3.895	-4.872	3.895	0	0	0	0	-387.336	3.895
185	3	R10	max	30.084	6.167	35.423	3.83	2.962	3.83	0	6.167	11.345	3.83	0	
186			min	-18.312	0	-160.923	3.895	-4.872	3.895	0	0	0	0	-365.605	3.895
187	3	R11	max	30.084	6.167	36.012	3.83	2.962	3.83	0	6.167	11.345	3.83	0	
188			min	-18.312	0	-161.89	3.895	-4.872	3.895	0	0	0	0	-367.803	3.895
189	3	R12	max	30.084	6.167	35.947	3.83	2.962	3.83	0	6.167	11.345	3.83	0	
190			min	-18.312	0	-161.783	3.895	-4.872	3.895	0	0	0	0	-367.559	3.895
191	3	R13	max	30.084	6.167	35.637	3.83	2.962	3.83	0	6.167	11.345	3.83	0	
192			min	-18.312	0	-161.274	3.895	-4.872	3.895	0	0	0	0	-366.403	3.895
193	3	R14	max	30.086	6.167	37.022	3.83	2.962	3.83	0	6.167	11.344	3.83	0	
194			min	-18.313	0	-163.55	3.895	-4.871	3.895	0	0	0	0	-371.575	3.895
195	3	R15	max	21.191	6.167	32.468	3.83	-0.314	3.83	0	6.167	25.941	3.895	0	
196			min	-12.899	0	-156.231	3.895	-11.418	3.895	0	0	-1.203	3.83	-354.946	3.895
197	3	M33	max	-7.221	5.392	11.456	5.392	0.544	5.392	0	5.392	2.932	5.392	0	0
198			min	-7.221	0	11.456	0	0.544	0	0	0	0	0	-61.767	5.392
199	4	A1	max	0	2.029	0	0	0	2.029	0	2.029	0	2.029	6.468	2.029
200			min	0	0	-6.375	2.029	0	0	0	0	0	0	0	0
201	4	A2	max	-4.801	0	-25.112	0	5.72	0	-34.014	0	5.69	0.851	114.418	2.378
202			min	-8.074	2.378	-93.958	2.378	-10.467	2.378	-116.835	2.378	-2.358	2.378	-27.176	0
203	4	A3	max	5.142	0	104.743	0	25.421	0	130.063	0	15.827	3.696	139.635	7.47
204			min	-5.138	7.47	-111.494	7.47	-25.421	7.47	-130.065	7.47	-31.642	7.47	-75.082	3.617
205	4	A4	max	5.14	0	108.957	0	25.423	0	130.064	0	15.819	3.774	139.635	0
206			min	-5.14	7.47	-107.28	7.47	-25.419	7.47	-130.064	7.47	-31.657	0	-65.418	3.774
207	4	A5	max	5.14	0	107.922	0	25.423	0	130.064	0	15.819	3.774	134.84	7.47
208			min	-5.14	7.47	-108.315	7.47	-25.419	7.47	-130.064	7.47	-31.657	0	-67.79	3.696
209	4	A6	max	5.14	0	108.117	0	25.423	0	130.064	0	15.819	3.774	134.85	7.47
210			min	-5.14	7.47	-108.12	7.47	-25.419	7.47	-130.064	7.47	-31.657	0	-67.044	3.696
211	4	A7	max	5.14	0	108.32	0	25.423	0	130.064	0	15.819	3.774	134.85	0
212			min	-5.14	7.47	-107.917	7.47	-25.419	7.47	-130.064	7.47	-31.657	0	-67.801	3.774
213	4	A8	max	5.14	0	107.26	0	25.423	0	130.063	0	15.819	3.774	141.263	7.47
214			min	-5.14	7.47	-111.61	7.47	-25.419	7.47	-130.065	7.47	-31.657	0	-65.373	3.696
215	4	A9	max	5.14	0	116.382	0	25.423	0	130.064	0	15.819	3.774	143.738	7.47
216			min	-5.14	7.47	-117.045	7.47	-25.419	7.47	-130.064	7.47	-31.657	0	-75.451	3.696
217	4	A10	max	5.14	0	114.453	0	25.423	0	130.065	0	15.819	3.774	143.738	0
218			min	-5.14	7.47	-107.995	7.47	-25.419	7.47	-130.063	7.47	-31.657	0	-66.998	3.774
219	4	A11	max	5.14	0	108.056	0	25.423	0	130.064	0	15.82	3.774	134.69	7.47
220			min	-5.14	7.47	-108.181	7.47	-25.419	7.47	-130.064	7.47	-31.657	0	-67.434	3.696
221	4	A12	max	5.14	0	108.125	0	25.423	0	130.064	0	15.819	3.774	134.69	0
222			min	-5.14	7.47	-108.111	7.47	-25.419	7.47	-130.064	7.47	-31.657	0	-67.225	3.774



**Maximum Member Section Forces (Continued)**

LC	Member Label		Axial[k]	Loc[ft]	y Shear[k]	Loc[ft]	z Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]	
223	4	A13	max	5.14	0	108.151	0	25.423	0	130.064	0	15.819	3.774	134.638	0
224			min	-5.14	7.47	-108.086	7.47	-25.419	7.47	-130.064	7.47	-31.657	0	-67.374	3.774
225	4	A14	max	5.14	0	107.972	0	25.423	0	130.064	0	15.819	3.774	135.488	7.47
226			min	-5.14	7.47	-108.265	7.47	-25.419	7.47	-130.064	7.47	-31.657	0	-66.954	3.696
227	4	A15	max	5.149	0	108.71	0	25.426	0	130.059	0	15.828	3.774	135.488	0
228			min	-5.131	7.47	-107.527	7.47	-25.416	7.47	-130.069	7.47	-31.659	0	-68.632	3.774
229	4	A16	max	11.161	0	112.75	0	17.076	0	38.05	0	13.365	2.504	131.071	0
230			min	5.881	3.837	1.689	3.837	-9.037	3.837	-95.555	3.837	-8.056	0	-88.462	3.837
231	4	A17	max	0	2.125	6.676	0	0	2.125	0	2.125	0	2.125	7.093	0
232			min	0	0	0	2.125	0	0	0	0	0	0	0	2.125
233	4	R1	max	10.549	3.3	-40.952	3.3	-2.232	3.3	0	3.3	7.365	0	0	3.3
234			min	10.549	0	-40.952	0	-2.232	0	0	0	0	3.3	-135.135	0
235	4	R2	max	26.414	6.167	56.086	3.83	9.986	3.83	0	6.167	38.245	3.83	0	6.167
236			min	-16.078	0	-164.192	3.895	-6.306	3.895	0	0	0	0	-373.032	3.895
237	4	R3	max	31.606	6.167	39.916	3.83	3.89	3.83	0	6.167	14.9	3.83	0	6.167
238			min	-19.239	0	-177.058	3.895	-6.399	3.895	0	0	0	0	-402.264	3.895
239	4	R4	max	31.605	6.167	39.569	3.83	3.887	3.83	0	6.167	14.887	3.83	0	6.167
240			min	-19.238	0	-176.489	3.895	-6.393	3.895	0	0	0	0	-400.97	3.895
241	4	R5	max	31.605	6.167	39.646	3.83	3.887	3.83	0	6.167	14.887	3.83	0	6.167
242			min	-19.238	0	-176.616	3.895	-6.393	3.895	0	0	0	0	-401.26	3.895
243	4	R6	max	31.605	6.167	39.663	3.83	3.887	3.83	0	6.167	14.887	3.83	0	6.167
244			min	-19.238	0	-176.644	3.895	-6.393	3.895	0	0	0	0	-401.322	3.895
245	4	R7	max	31.61	6.167	39.566	3.83	3.872	3.83	0	6.167	14.828	3.83	0	6.167
246			min	-19.241	0	-176.485	3.895	-6.367	3.895	0	0	0	0	-400.961	3.895
247	4	R8	max	31.605	6.167	45.411	3.83	3.887	3.83	0	6.167	14.887	3.83	0	6.167
248			min	-19.238	0	-186.087	3.895	-6.393	3.895	0	0	0	0	-422.777	3.895
249	4	R9	max	31.605	6.167	44.084	3.83	3.887	3.83	0	6.167	14.887	3.83	0	6.167
250			min	-19.238	0	-183.908	3.895	-6.393	3.895	0	0	0	0	-417.825	3.895
251	4	R10	max	31.605	6.167	39.235	3.83	3.887	3.83	0	6.167	14.887	3.83	0	6.167
252			min	-19.238	0	-175.941	3.895	-6.393	3.895	0	0	0	0	-399.726	3.895
253	4	R11	max	31.605	6.167	39.713	3.83	3.887	3.83	0	6.167	14.887	3.83	0	6.167
254			min	-19.238	0	-176.727	3.895	-6.393	3.895	0	0	0	0	-401.51	3.895
255	4	R12	max	31.605	6.167	39.71	3.83	3.887	3.83	0	6.167	14.887	3.83	0	6.167
256			min	-19.238	0	-176.722	3.895	-6.393	3.895	0	0	0	0	-401.499	3.895
257	4	R13	max	31.605	6.167	39.245	3.83	3.887	3.83	0	6.167	14.887	3.83	0	6.167
258			min	-19.238	0	-175.957	3.895	-6.393	3.895	0	0	0	0	-399.762	3.895
259	4	R14	max	31.606	6.167	41.231	3.83	3.887	3.83	0	6.167	14.885	3.83	0	6.167
260			min	-19.238	0	-179.22	3.895	-6.392	3.895	0	0	0	0	-407.175	3.895
261	4	R15	max	22.309	6.167	35.147	3.83	0.252	3.83	0	6.167	29.453	3.895	0	6.167
262			min	-13.579	0	-163.554	3.895	-12.964	3.895	0	0	0	0	-371.584	3.895
263	4	M33	max	-7.443	5.392	8.873	5.392	0.609	5.392	0	5.392	3.286	5.392	0	0
264			min	-7.443	0	8.873	0	0.609	0	0	0	0	0	-47.842	5.392
265	5	A1	max	0	2.029	0	0	0	2.029	0	2.029	0	2.029	5.174	2.029
266			min	0	0	-5.1	2.029	0	0	0	0	0	0	0	0
267	5	A2	max	-4.304	0	-20.222	0	5.133	0	-26.704	0	5.118	0.851	82.955	2.378
268			min	-7.281	2.378	-67.398	2.378	-9.404	2.378	-138.319	2.378	-2.116	2.378	-21.239	0
269	5	A3	max	4.678	0	72.535	0	22.828	0	175.285	0	14.212	3.696	94.548	7.47
270			min	-4.675	7.47	-75.639	7.47	-22.828	7.47	-175.282	7.47	-28.415	7.47	-49.651	3.696
271	5	A4	max	4.676	0	74.471	0	22.83	0	175.284	0	14.206	3.774	94.548	0
272			min	-4.676	7.47	-73.703	7.47	-22.826	7.47	-175.283	7.47	-28.429	0	-45.244	3.774
273	5	A5	max	4.676	0	74.001	0	22.83	0	175.284	0	14.206	3.774	92.318	7.47
274			min	-4.676	7.47	-74.173	7.47	-22.826	7.47	-175.284	7.47	-28.429	0	-46.348	3.696
275	5	A6	max	4.676	0	74.068	0	22.83	0	175.284	0	14.206	3.774	92.459	7.47
276			min	-4.676	7.47	-74.106	7.47	-22.826	7.47	-175.284	7.47	-28.429	0	-45.954	3.696
277	5	A7	max	4.676	0	74.253	0	22.83	0	175.284	0	14.206	3.774	92.459	0
278			min	-4.676	7.47	-73.921	7.47	-22.826	7.47	-175.283	7.47	-28.429	0	-46.51	3.774
279	5	A8	max	4.676	0	73.398	0	22.83	0	175.283	0	14.206	3.774	97.568	7.47
280			min	-4.676	7.47	-76.882	7.47	-22.826	7.47	-175.284	7.47	-28.429	0	-44.578	3.696

**Maximum Member Section Forces (Continued)**

LC	Member Label		Axial[k]	Loc[ft]	y Shear[k]	Loc[ft]	z Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]	
281	5	A9	max	4.676	0	80.701	0	22.83	0	175.283	0	14.206	3.774	99.528	7.47
282			min	-4.676	7.47	-81.225	7.47	-22.826	7.47	-175.284	7.47	-28.429	0	-52.644	3.696
283	5	A10	max	4.676	0	79.144	0	22.83	0	175.285	0	14.206	3.774	99.528	0
284			min	-4.676	7.47	-73.998	7.47	-22.826	7.47	-175.282	7.47	-28.429	0	-45.855	3.774
285	5	A11	max	4.676	0	74.028	0	22.83	0	175.283	0	14.206	3.774	92.313	7.47
286			min	-4.676	7.47	-74.145	7.47	-22.826	7.47	-175.284	7.47	-28.429	0	-46.25	3.696
287	5	A12	max	4.676	0	74.091	0	22.83	0	175.284	0	14.206	3.774	92.313	0
288			min	-4.676	7.47	-74.083	7.47	-22.826	7.47	-175.284	7.47	-28.429	0	-46.044	3.774
289	5	A13	max	4.676	0	74.128	0	22.83	0	175.284	0	14.206	3.774	92.282	0
290			min	-4.676	7.47	-74.046	7.47	-22.826	7.47	-175.284	7.47	-28.429	0	-46.215	3.774
291	5	A14	max	4.676	0	73.908	0	22.83	0	175.283	0	14.206	3.774	93.315	7.47
292			min	-4.676	7.47	-74.266	7.47	-22.826	7.47	-175.284	7.47	-28.429	0	-45.704	3.696
293	5	A15	max	4.684	0	74.81	0	22.833	0	175.28	0	14.214	3.774	93.315	0
294			min	-4.668	7.47	-73.364	7.47	-22.824	7.47	-175.287	7.47	-28.43	0	-47.756	3.774
295	5	A16	max	10.067	0	78.672	0	15.341	0	106.45	0	12.018	2.504	87.915	0
296			min	5.264	3.837	2.568	3.837	-8.109	3.837	-73.604	3.837	-7.234	0	-67.93	3.837
297	5	A17	max	0	2.125	5.341	0	0	2.125	0	0	2.125	0	5.675	0
298			min	0	0	0	2.125	0	0	0	0	0	0	0	2.125
299	5	R1	max	9.456	3.3	-31.545	3.3	-2.012	3.3	0	3.3	6.639	0	0	3.3
300			min	9.456	0	-31.545	0	-2.012	0	0	0	0	3.3	-104.092	0
301	5	R2	max	23.724	6.167	11.84	3.83	9.007	3.83	0	6.167	34.497	3.83	0	6.167
302			min	-14.441	0	-140.196	3.895	-5.728	3.895	0	0	0	0	-318.515	3.895
303	5	R3	max	28.383	6.167	-0.441	3.83	3.539	3.83	0	6.167	13.555	3.83	1.689	3.83
304			min	-17.276	0	-149.517	3.895	-5.821	3.895	0	0	0	0	-339.692	3.895
305	5	R4	max	28.381	6.167	-0.866	3.83	3.536	3.83	0	6.167	13.544	3.83	3.318	3.83
306			min	-17.275	0	-148.82	3.895	-5.816	3.895	0	0	0	0	-338.108	3.895
307	5	R5	max	28.381	6.167	-0.769	3.83	3.536	3.83	0	6.167	13.544	3.83	2.945	3.83
308			min	-17.275	0	-148.98	3.895	-5.816	3.895	0	0	0	0	-338.471	3.895
309	5	R6	max	28.381	6.167	-0.759	3.83	3.536	3.83	0	6.167	13.544	3.83	2.908	3.83
310			min	-17.275	0	-148.996	3.895	-5.816	3.895	0	0	0	0	-338.508	3.895
311	5	R7	max	28.386	6.167	-0.839	3.83	3.522	3.83	0	6.167	13.49	3.83	3.211	3.83
312			min	-17.278	0	-148.865	3.895	-5.793	3.895	0	0	0	0	-338.211	3.895
313	5	R8	max	28.381	6.167	3.832	3.83	3.536	3.83	0	6.167	13.544	3.83	0	6.167
314			min	-17.275	0	-156.538	3.895	-5.816	3.895	0	0	0	0	-355.644	3.895
315	5	R9	max	28.381	6.167	2.777	3.83	3.536	3.83	0	6.167	13.544	3.83	0	6.167
316			min	-17.275	0	-154.805	3.895	-5.816	3.895	0	0	0	0	-351.707	3.895
317	5	R10	max	28.381	6.167	-1.106	3.83	3.536	3.83	0	6.167	13.544	3.83	4.237	3.83
318			min	-17.275	0	-148.425	3.895	-5.816	3.895	0	0	0	0	-337.212	3.895
319	5	R11	max	28.381	6.167	-0.713	3.83	3.536	3.83	0	6.167	13.544	3.83	2.731	3.83
320			min	-17.275	0	-149.072	3.895	-5.816	3.895	0	0	0	0	-338.68	3.895
321	5	R12	max	28.381	6.167	-0.758	3.83	3.536	3.83	0	6.167	13.544	3.83	2.902	3.83
322			min	-17.275	0	-148.998	3.895	-5.816	3.895	0	0	0	0	-338.513	3.895
323	5	R13	max	28.381	6.167	-0.961	3.83	3.536	3.83	0	6.167	13.544	3.83	3.68	3.83
324			min	-17.275	0	-148.664	3.895	-5.816	3.895	0	0	0	0	-337.755	3.895
325	5	R14	max	28.382	6.167	-0.05	3.83	3.536	3.83	0	6.167	13.542	3.83	0.192	3.83
326			min	-17.276	0	-150.16	3.895	-5.815	3.895	0	0	0	0	-341.153	3.895
327	5	R15	max	20.036	6.167	2.093	3.83	0.261	3.83	0	6.167	26.579	3.895	0	6.167
328			min	-12.196	0	-137.84	3.895	-11.699	3.895	0	0	0	0	-313.163	3.895
329	5	M33	max	-6.676	5.392	6.966	5.392	0.55	5.392	0	5.392	2.963	5.392	0	0
330			min	-6.676	0	6.966	0	0.55	0	0	0	0	0	-37.56	5.392
331	6	A1	max	0	2.029	0	0	0	2.029	0	2.029	0	2.029	5.174	2.029
332			min	0	0	-5.1	2.029	0	0	0	0	0	0	0	0
333	6	A2	max	-3.352	0	-19.99	0	4.095	0	-27.592	0	4.358	0.826	87.743	2.378
334			min	-6.605	2.378	-72.395	2.378	-7.768	2.378	-91.945	2.378	-1.69	2.378	-22.118	0
335	6	A3	max	5.111	0	79.837	0	18.63	0	101.061	0	11.599	3.774	106.126	7.47
336			min	-5.107	7.47	-84.759	7.47	-18.629	7.47	-101.062	7.47	-23.19	0	-56.894	3.617
337	6	A4	max	5.109	0	82.909	0	18.632	0	101.062	0	11.593	3.774	106.126	0
338			min	-5.109	7.47	-81.687	7.47	-18.627	7.47	-101.061	7.47	-23.202	0	-49.855	3.774



**Maximum Member Section Forces (Continued)**

LC	Member Label		Axial[k]	Loc[ft]	y	Shear[k]	Loc[ft]	z	Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]	
339	6	A5	max	5.109	0	82.156	0	18.632	0	101.062	0	11.593	3.774	102.625	7.47		
340			min	-5.109	7.47	-82.44	7.47	-18.627	7.47	-101.062	7.47	-23.202	0	-51.586	3.696		
341	6	A6	max	5.109	0	82.294	0	18.632	0	101.062	0	11.593	3.774	102.661	7.47		
342			min	-5.109	7.47	-82.303	7.47	-18.627	7.47	-101.062	7.47	-23.202	0	-51.032	3.696		
343	6	A7	max	5.109	0	82.461	0	18.632	0	101.062	0	11.593	3.774	102.661	0		
344			min	-5.109	7.47	-82.136	7.47	-18.627	7.47	-101.062	7.47	-23.202	0	-51.627	3.774		
345	6	A8	max	5.109	0	81.611	0	18.632	0	101.061	0	11.593	3.774	107.786	7.47		
346			min	-5.109	7.47	-85.092	7.47	-18.627	7.47	-101.062	7.47	-23.202	0	-49.687	3.696		
347	6	A9	max	5.109	0	88.909	0	18.632	0	101.061	0	11.593	3.774	109.767	7.47		
348			min	-5.109	7.47	-89.44	7.47	-18.627	7.47	-101.062	7.47	-23.202	0	-57.749	3.696		
349	6	A10	max	5.109	0	87.366	0	18.632	0	101.063	0	11.593	3.774	109.767	0		
350			min	-5.109	7.47	-82.199	7.47	-18.627	7.47	-101.061	7.47	-23.202	0	-50.988	3.774		
351	6	A11	max	5.109	0	82.248	0	18.632	0	101.061	0	11.593	3.774	102.53	7.47		
352			min	-5.109	7.47	-82.348	7.47	-18.627	7.47	-101.062	7.47	-23.202	0	-51.334	3.696		
353	6	A12	max	5.109	0	82.306	0	18.632	0	101.062	0	11.593	3.774	102.53	0		
354			min	-5.109	7.47	-82.291	7.47	-18.627	7.47	-101.062	7.47	-23.202	0	-51.173	3.774		
355	6	A13	max	5.109	0	82.316	0	18.632	0	101.062	0	11.593	3.774	102.473	0		
356			min	-5.109	7.47	-82.28	7.47	-18.627	7.47	-101.062	7.47	-23.202	0	-51.269	3.774		
357	6	A14	max	5.109	0	82.215	0	18.632	0	101.062	0	11.593	3.774	102.963	7.47		
358			min	-5.109	7.47	-82.382	7.47	-18.627	7.47	-101.062	7.47	-23.202	0	-51.026	3.696		
359	6	A15	max	5.115	0	82.635	0	18.634	0	101.058	0	11.599	3.774	102.963	0		
360			min	-5.102	7.47	-81.961	7.47	-18.625	7.47	-101.066	7.47	-23.203	0	-51.984	3.774		
361	6	A16	max	9.172	0	86.515	0	12.658	0	28.828	0	10.168	2.544	100.446	0		
362			min	3.924	3.837	1.977	3.837	-6.478	3.837	-74.985	3.837	-5.894	0	-69.31	3.837		
363	6	A17	max	0	2.125	5.341	0	0	2.125	0	2.125	0	2.125	0	5.675	0	
364			min	0	0	0	2.125	0	0	0	0	0	0	0	0	2.125	
365	6	R1	max	7.355	3.3	-32.136	3.3	-1.806	3.3	0	3.3	5.961	0	0	3.3		
366			min	7.355	0	-32.136	0	-1.806	0	0	0	0	3.3	-106.044	0		
367	6	R2	max	19.446	6.167	42.684	3.83	8.203	3.83	0	6.167	31.415	3.83	0	6.167		
368			min	-11.837	0	-125.792	3.895	-6.071	3.895	0	0	0	0	-285.791	3.895		
369	6	R3	max	23.162	6.167	29.663	3.83	3.866	3.83	0	6.167	14.805	3.83	0	6.167		
370			min	-14.099	0	-135.354	3.895	-6.358	3.895	0	0	0	0	-307.515	3.895		
371	6	R4	max	23.161	6.167	29.465	3.83	3.863	3.83	0	6.167	14.796	3.83	0	6.167		
372			min	-14.098	0	-135.031	3.895	-6.354	3.895	0	0	0	0	-306.78	3.895		
373	6	R5	max	23.161	6.167	29.507	3.83	3.863	3.83	0	6.167	14.796	3.83	0	6.167		
374			min	-14.098	0	-135.1	3.895	-6.354	3.895	0	0	0	0	-306.937	3.895		
375	6	R6	max	23.161	6.167	29.525	3.83	3.863	3.83	0	6.167	14.796	3.83	0	6.167		
376			min	-14.098	0	-135.129	3.895	-6.354	3.895	0	0	0	0	-307.004	3.895		
377	6	R7	max	23.166	6.167	29.447	3.83	3.852	3.83	0	6.167	14.753	3.83	0	6.167		
378			min	-14.101	0	-135	3.895	-6.335	3.895	0	0	0	0	-306.712	3.895		
379	6	R8	max	23.161	6.167	34.123	3.83	3.863	3.83	0	6.167	14.796	3.83	0	6.167		
380			min	-14.098	0	-142.683	3.895	-6.354	3.895	0	0	0	0	-324.166	3.895		
381	6	R9	max	23.161	6.167	33.061	3.83	3.863	3.83	0	6.167	14.796	3.83	0	6.167		
382			min	-14.098	0	-140.939	3.895	-6.354	3.895	0	0	0	0	-320.204	3.895		
383	6	R10	max	23.161	6.167	29.182	3.83	3.863	3.83	0	6.167	14.796	3.83	0	6.167		
384			min	-14.098	0	-134.565	3.895	-6.354	3.895	0	0	0	0	-305.723	3.895		
385	6	R11	max	23.161	6.167	29.566	3.83	3.863	3.83	0	6.167	14.796	3.83	0	6.167		
386			min	-14.098	0	-135.197	3.895	-6.354	3.895	0	0	0	0	-307.159	3.895		
387	6	R12	max	23.161	6.167	29.555	3.83	3.863	3.83	0	6.167	14.796	3.83	0	6.167		
388			min	-14.098	0	-135.179	3.895	-6.354	3.895	0	0	0	0	-307.117	3.895		
389	6	R13	max	23.161	6.167	29.218	3.83	3.863	3.83	0	6.167	14.796	3.83	0	6.167		
390			min	-14.098	0	-134.625	3.895	-6.354	3.895	0	0	0	0	-305.859	3.895		
391	6	R14	max	23.162	6.167	30.665	3.83	3.863	3.83	0	6.167	14.794	3.83	0	6.167		
392			min	-14.099	0	-137.003	3.895	-6.353	3.895	0	0	0	0	-311.261	3.895		
393	6	R15	max	16.409	6.167	26.303	3.83	0.946	3.83	0	6.167	24.466	3.895	0	6.167		
394			min	-9.988	0	-125.929	3.895	-10.769	3.895	0	0	0	0	-286.102	3.895		
395	6	M33	max	-5.268	5.392	7.198	5.392	0.497	5.392	0	5.392	2.678	5.392	0	0		
396			min	-5.268	0	7.198	0	0.497	0	0	0	0	0	-38.81	5.392		



Company : Steamboat Structures LLC  
Designer : Reed  
Job Number : 101.2006  
Model Name : Abutment 3 Pile Cap

1/20/2021  
11:26:12 AM  
Checked By : CWT

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**Maximum Member Section Forces (Continued)**

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LC Member Label	Axial[k]Loc[ft]y	Shear[k]Loc[ft]z	Shear[k]Loc[ft]	Torque[k-ft]Loc[ft]y-y	Moment[k-ft]Loc[ft]z-z	Moment[k-ft]Loc[ft]
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**Member End Reactions**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1	1	A1	I	0	0	0	0	0
2			J	0	-4.59	0	0	4.657
3	1	A2	I	-4.705	-18.361	5.542	-23.414	-18.503
4			J	-7.3	-72.12	-9.966	-100.979	89.095
5	1	A3	I	4.075	81.747	24.355	121.81	89.095
6			J	-4.073	-87.102	-24.356	-121.81	109.096
7	1	A4	I	4.074	85.09	24.357	121.81	109.096
8			J	-4.074	-83.759	-24.353	-121.809	104.128
9	1	A5	I	4.074	84.268	24.357	121.809	104.128
10			J	-4.074	-84.581	-24.353	-121.81	105.299
11	1	A6	I	4.074	84.427	24.357	121.81	105.299
12			J	-4.074	-84.422	-24.353	-121.81	105.277
13	1	A7	I	4.074	84.569	24.357	121.81	105.277
14			J	-4.074	-84.28	-24.353	-121.809	104.199
15	1	A8	I	4.074	83.806	24.357	121.809	104.199
16			J	-4.074	-86.938	-24.353	-121.81	109.902
17	1	A9	I	4.074	90.375	24.357	121.809	109.902
18			J	-4.074	-90.851	-24.353	-121.81	111.677
19	1	A10	I	4.074	88.981	24.357	121.811	111.677
20			J	-4.074	-84.34	-24.353	-121.809	105.009
21	1	A11	I	4.074	84.377	24.357	121.809	104.812
22			J	-4.074	-84.472	-24.353	-121.81	105.164
23	1	A12	I	4.074	84.424	24.357	121.81	105.164
24			J	-4.074	-84.425	-24.353	-121.81	105.167
25	1	A13	I	4.074	84.473	24.357	121.81	105.167
26			J	-4.074	-84.376	-24.353	-121.81	104.805
27	1	A14	I	4.074	84.218	24.357	121.809	104.805
28			J	-4.074	-84.631	-24.353	-121.81	106.345
29	1	A15	I	4.083	85.255	24.36	121.806	106.345
30			J	-4.065	-83.594	-24.351	-121.813	100.143
31	1	A16	I	10.064	86.773	16.268	53.606	100.143
32			J	5.879	0.05	-8.75	-71.519	-66.412
33	1	A17	I	0	4.807	0	0	5.107
34			J	0	0	0	0	0
35	1	R1	I	10.344	-30.651	-2.03	0	-101.144
36			J	10.344	-30.651	-2.03	0	0
37	1	R2	I	-15.369	36.017	9.007	0	0
38			J	25.25	-134.35	-5.122	0	0
39	1	R3	I	-18.432	24.776	3.084	0	0
40			J	30.281	-145.11	-5.073	0	0
41	1	R4	I	-18.431	24.287	3.081	0	0
42			J	30.279	-144.308	-5.067	0	0
43	1	R5	I	-18.431	24.401	3.081	0	0
44			J	30.279	-144.496	-5.067	0	0
45	1	R6	I	-18.431	24.401	3.081	0	0
46			J	30.279	-144.495	-5.067	0	0
47	1	R7	I	-18.433	24.333	3.066	0	0
48			J	30.284	-144.384	-5.043	0	0
49	1	R8	I	-18.431	28.538	3.081	0	0
50			J	30.279	-151.293	-5.067	0	0
51	1	R9	I	-18.431	27.586	3.081	0	0
52			J	30.279	-149.728	-5.067	0	0
53	1	R10	I	-18.431	24.094	3.081	0	0
54			J	30.279	-143.992	-5.067	0	0
55	1	R11	I	-18.431	24.436	3.081	0	0
56			J	30.279	-144.554	-5.067	0	0
57	1	R12	I	-18.431	24.443	3.081	0	0
58			J	30.279	-144.565	-5.067	0	0

**Member End Reactions (Continued)**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
59	1	R13	I	-18.431	24.072	3.081	0	0
60			J	30.279	-143.955	-5.067	0	0
61	1	R14	I	-18.432	25.648	3.081	0	0
62			J	30.281	-146.544	-5.066	0	0
63	1	R15	I	-12.986	22.092	-0.241	0	0
64			J	21.335	-131.775	-11.616	0	0
65	1	M33	I	-7.249	6.108	0.552	0	0
66			J	-7.249	6.108	0.552	0	2.978
67	2	A1	I	0	0	0	0	-32.933
68			J	0	-6.375	0	0	0
69	2	A2	I	-4.705	-25.198	5.542	-33.682	2.978
70			J	-7.3	-98.228	-9.966	-111.246	-2.283
71	2	A3	I	4.075	110.865	24.355	121.809	-30.314
72			J	-4.073	-118.51	-24.356	-121.811	-30.317
73	2	A4	I	4.074	115.637	24.357	121.81	-30.329
74			J	-4.074	-113.738	-24.353	-121.809	-30.316
75	2	A5	I	4.074	114.463	24.357	121.809	-30.329
76			J	-4.074	-114.912	-24.353	-121.81	-30.316
77	2	A6	I	4.074	114.693	24.357	121.81	-30.329
78			J	-4.074	-114.682	-24.353	-121.81	-30.316
79	2	A7	I	4.074	114.888	24.357	121.81	-30.329
80			J	-4.074	-114.487	-24.353	-121.809	-30.316
81	2	A8	I	4.074	113.829	24.357	121.809	-30.329
82			J	-4.074	-118.178	-24.353	-121.81	-30.316
83	2	A9	I	4.074	122.951	24.357	121.809	-30.329
84			J	-4.074	-123.614	-24.353	-121.81	-30.316
85	2	A10	I	4.074	121.023	24.357	121.811	-30.329
86			J	-4.074	-114.563	-24.353	-121.808	-30.316
87	2	A11	I	4.074	114.627	24.357	121.809	-30.329
88			J	-4.074	-114.748	-24.353	-121.81	-30.316
89	2	A12	I	4.074	114.693	24.357	121.81	-30.329
90			J	-4.074	-114.683	-24.353	-121.81	-30.316
91	2	A13	I	4.074	114.727	24.357	121.81	-30.329
92			J	-4.074	-114.648	-24.353	-121.81	-30.316
93	2	A14	I	4.074	114.514	24.357	121.809	-30.329
94			J	-4.074	-114.861	-24.353	-121.81	-30.316
95	2	A15	I	4.083	115.386	24.36	121.804	-30.33
96			J	-4.065	-113.989	-24.351	-121.815	-30.297
97	2	A16	I	10.064	118.621	16.268	27.525	-7.724
98			J	5.879	0.812	-8.75	-97.601	6.699
99	2	A17	I	0	6.676	0	0	0
100			J	0	0	0	0	7.093
101	2	R1	I	10.344	-41.829	-2.03	0	6.699
102			J	10.344	-41.829	-2.03	0	-138.028
103	2	R2	I	-15.369	63.797	9.007	0	0
104			J	25.25	-168.813	-5.122	0	0
105	2	R3	I	-18.432	47.616	3.084	0	0
106			J	30.281	-182.632	-5.073	0	0
107	2	R4	I	-18.431	47.204	3.081	0	0
108			J	30.279	-181.958	-5.067	0	0
109	2	R5	I	-18.431	47.298	3.081	0	0
110			J	30.279	-182.112	-5.067	0	0
111	2	R6	I	-18.431	47.31	3.081	0	0
112			J	30.279	-182.131	-5.067	0	0
113	2	R7	I	-18.433	47.215	3.066	0	0
114			J	30.284	-181.975	-5.043	0	0
115	2	R8	I	-18.431	53.059	3.081	0	0
116			J	30.279	-191.578	-5.067	0	0

**Member End Reactions (Continued)**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
117	2	R9	I	-18.431	51.732	3.081	0	0	
118			J	30.279	-189.397	-5.067	0	0	
119	2	R10	I	-18.431	46.884	3.081	0	0	
120			J	30.279	-181.432	-5.067	0	0	
121	2	R11	I	-18.431	47.358	3.081	0	0	
122			J	30.279	-182.211	-5.067	0	0	
123	2	R12	I	-18.431	47.372	3.081	0	0	
124			J	30.279	-182.233	-5.067	0	0	
125	2	R13	I	-18.431	46.841	3.081	0	0	
126			J	30.279	-181.361	-5.067	0	0	
127	2	R14	I	-18.432	49.09	3.081	0	0	
128			J	30.281	-185.057	-5.066	0	0	
129	2	R15	I	-12.986	41.324	-0.241	0	0	
130			J	21.335	-167.77	-11.616	0	0	
131	2	M33	I	-7.249	8.787	0.552	0	0	
132			J	-7.249	8.787	0.552	0	0	
133	3	A1	I	0	0	0	2.978	-47.375	
134			J	0	-7.65	0	0	0	
135	3	A2	I	-4.691	-29.326	5.516	-43.914	2.932	-35.675
136			J	-7.186	-92.247	-9.893	-120.23	-2.272	108.897
137	3	A3	I	3.919	96.452	24.198	119.848	-30.118	108.897
138			J	-3.916	-101.175	-24.199	-119.849	-30.122	126.538
139	3	A4	I	3.917	99.398	24.2	119.849	-30.133	126.538
140			J	-3.917	-98.228	-24.197	-119.848	-30.121	122.169
141	3	A5	I	3.917	98.682	24.2	119.849	-30.133	122.169
142			J	-3.917	-98.944	-24.197	-119.849	-30.121	123.145
143	3	A6	I	3.917	98.786	24.2	119.849	-30.133	123.145
144			J	-3.917	-98.841	-24.197	-119.849	-30.121	123.352
145	3	A7	I	3.917	99.062	24.2	119.849	-30.133	123.352
146			J	-3.917	-98.565	-24.197	-119.849	-30.121	121.495
147	3	A8	I	3.917	97.781	24.2	119.848	-30.133	121.495
148			J	-3.917	-103.004	-24.197	-119.85	-30.121	131.009
149	3	A9	I	3.917	108.729	24.2	119.848	-30.133	131.009
150			J	-3.917	-109.526	-24.197	-119.849	-30.121	133.988
151	3	A10	I	3.917	106.42	24.2	119.85	-30.133	133.988
152			J	-3.917	-98.659	-24.197	-119.847	-30.121	122.779
153	3	A11	I	3.917	98.739	24.2	119.848	-30.133	122.585
154			J	-3.917	-98.887	-24.197	-119.849	-30.121	123.14
155	3	A12	I	3.917	98.838	24.2	119.849	-30.133	123.14
156			J	-3.917	-98.789	-24.197	-119.849	-30.121	122.958
157	3	A13	I	3.917	98.783	24.2	119.849	-30.133	122.958
158			J	-3.917	-98.843	-24.197	-119.849	-30.121	123.181
159	3	A14	I	3.917	98.916	24.2	119.849	-30.133	123.181
160			J	-3.917	-98.71	-24.197	-119.849	-30.121	122.412
161	3	A15	I	3.926	98.404	24.203	119.843	-30.135	122.412
162			J	-3.908	-99.222	-24.194	-119.855	-30.102	125.467
163	3	A16	I	9.903	108.251	16.149	19.461	-7.675	125.467
164			J	5.879	6.748	-8.708	-103.65	6.601	-95.138
165	3	A17	I	0	8.011	0	0	0	8.512
166			J	0	0	0	0	0	0
167	3	R1	I	10.314	-44.421	-2	0	6.601	-146.583
168			J	10.314	-44.421	-2	0	0	0
169	3	R2	I	-15.265	55.911	8.863	0	0	0
170			J	25.078	-151.561	-4.948	0	0	0
171	3	R3	I	-18.313	35.715	2.966	0	0	0
172			J	30.086	-161.4	-4.878	0	0	0
173	3	R4	I	-18.312	35.958	2.962	0	0	0
174			J	30.084	-161.801	-4.872	0	0	0

**Member End Reactions (Continued)**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
175	3	R5	I	-18.312	35.887	2.962	0	0
176			J	30.084	-161.685	-4.872	0	0
177	3	R6	I	-18.312	35.945	2.962	0	0
178			J	30.084	-161.78	-4.872	0	0
179	3	R7	I	-18.315	35.822	2.948	0	0
180			J	30.088	-161.576	-4.848	0	0
181	3	R8	I	-18.312	42.839	2.962	0	0
182			J	30.084	-173.107	-4.872	0	0
183	3	R9	I	-18.312	41.245	2.962	0	0
184			J	30.084	-170.488	-4.872	0	0
185	3	R10	I	-18.312	35.423	2.962	0	0
186			J	30.084	-160.923	-4.872	0	0
187	3	R11	I	-18.312	36.012	2.962	0	0
188			J	30.084	-161.89	-4.872	0	0
189	3	R12	I	-18.312	35.947	2.962	0	0
190			J	30.084	-161.783	-4.872	0	0
191	3	R13	I	-18.312	35.637	2.962	0	0
192			J	30.084	-161.274	-4.872	0	0
193	3	R14	I	-18.313	37.022	2.962	0	0
194			J	30.086	-163.55	-4.871	0	0
195	3	R15	I	-12.899	32.468	-0.314	0	0
196			J	21.191	-156.231	-11.418	0	0
197	3	M33	I	-7.221	11.456	0.544	0	0
198			J	-7.221	11.456	0.544	2.932	-61.767
199	4	A1	I	0	0	0	0	0
200			J	0	-6.375	0	0	6.468
201	4	A2	I	-4.801	-25.112	5.72	-34.014	3.286
202			J	-8.074	-93.958	-10.467	-116.835	-2.358
203	4	A3	I	5.142	104.743	25.421	130.063	-31.642
204			J	-5.138	-111.494	-25.421	-130.065	-31.642
205	4	A4	I	5.14	108.957	25.423	130.064	-31.657
206			J	-5.14	-107.28	-25.419	-130.064	-31.641
207	4	A5	I	5.14	107.922	25.423	130.064	-31.657
208			J	-5.14	-108.315	-25.419	-130.064	-31.641
209	4	A6	I	5.14	108.117	25.423	130.064	-31.657
210			J	-5.14	-108.12	-25.419	-130.064	-31.641
211	4	A7	I	5.14	108.32	25.423	130.064	-31.657
212			J	-5.14	-107.917	-25.419	-130.064	-31.641
213	4	A8	I	5.14	107.26	25.423	130.063	-31.657
214			J	-5.14	-111.61	-25.419	-130.065	-31.641
215	4	A9	I	5.14	116.382	25.423	130.064	-31.657
216			J	-5.14	-117.045	-25.419	-130.064	-31.641
217	4	A10	I	5.14	114.453	25.423	130.065	-31.657
218			J	-5.14	-107.995	-25.419	-130.063	-31.641
219	4	A11	I	5.14	108.056	25.423	130.064	-31.657
220			J	-5.14	-108.181	-25.419	-130.064	-31.641
221	4	A12	I	5.14	108.125	25.423	130.064	-31.657
222			J	-5.14	-108.111	-25.419	-130.064	-31.641
223	4	A13	I	5.14	108.151	25.423	130.064	-31.657
224			J	-5.14	-108.086	-25.419	-130.064	-31.641
225	4	A14	I	5.14	107.972	25.423	130.064	-31.657
226			J	-5.14	-108.265	-25.419	-130.064	-31.641
227	4	A15	I	5.149	108.71	25.426	130.059	-31.659
228			J	-5.131	-107.527	-25.416	-130.069	-31.622
229	4	A16	I	11.161	112.75	17.076	38.05	-8.056
230			J	5.881	1.689	-9.037	-95.555	7.365
231	4	A17	I	0	6.676	0	0	0
232			J	0	0	0	0	0

**Member End Reactions (Continued)**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
233	4	R1	I	10.549	-40.952	-2.232	0	7.365	-135.135
234			J	10.549	-40.952	-2.232	0	0	0
235	4	R2	I	-16.078	56.086	9.986	0	0	0
236			J	26.414	-164.192	-6.306	0	0	0
237	4	R3	I	-19.239	39.916	3.89	0	0	0
238			J	31.606	-177.058	-6.399	0	0	0
239	4	R4	I	-19.238	39.569	3.887	0	0	0
240			J	31.605	-176.489	-6.393	0	0	0
241	4	R5	I	-19.238	39.646	3.887	0	0	0
242			J	31.605	-176.616	-6.393	0	0	0
243	4	R6	I	-19.238	39.663	3.887	0	0	0
244			J	31.605	-176.644	-6.393	0	0	0
245	4	R7	I	-19.241	39.566	3.872	0	0	0
246			J	31.61	-176.485	-6.367	0	0	0
247	4	R8	I	-19.238	45.411	3.887	0	0	0
248			J	31.605	-186.087	-6.393	0	0	0
249	4	R9	I	-19.238	44.084	3.887	0	0	0
250			J	31.605	-183.908	-6.393	0	0	0
251	4	R10	I	-19.238	39.235	3.887	0	0	0
252			J	31.605	-175.941	-6.393	0	0	0
253	4	R11	I	-19.238	39.713	3.887	0	0	0
254			J	31.605	-176.727	-6.393	0	0	0
255	4	R12	I	-19.238	39.71	3.887	0	0	0
256			J	31.605	-176.722	-6.393	0	0	0
257	4	R13	I	-19.238	39.245	3.887	0	0	0
258			J	31.605	-175.957	-6.393	0	0	0
259	4	R14	I	-19.238	41.231	3.887	0	0	0
260			J	31.606	-179.22	-6.392	0	0	0
261	4	R15	I	-13.579	35.147	0.252	0	0	0
262			J	22.309	-163.554	-12.964	0	0	0
263	4	M33	I	-7.443	8.873	0.609	0	0	0
264			J	-7.443	8.873	0.609	0	3.286	-47.842
265	5	A1	I	0	0	0	0	0	0
266			J	0	-5.1	0	0	0	5.174
267	5	A2	I	-4.304	-20.222	5.133	-26.704	2.963	-21.239
268			J	-7.281	-67.398	-9.404	-138.319	-2.116	82.955
269	5	A3	I	4.678	72.535	22.828	175.285	-28.414	82.955
270			J	-4.675	-75.639	-22.828	-175.282	-28.415	94.548
271	5	A4	I	4.676	74.471	22.83	175.284	-28.429	94.548
272			J	-4.676	-73.703	-22.826	-175.283	-28.414	91.677
273	5	A5	I	4.676	74.001	22.83	175.284	-28.429	91.677
274			J	-4.676	-74.173	-22.826	-175.284	-28.414	92.318
275	5	A6	I	4.676	74.068	22.83	175.284	-28.429	92.318
276			J	-4.676	-74.106	-22.826	-175.284	-28.414	92.459
277	5	A7	I	4.676	74.253	22.83	175.284	-28.429	92.459
278			J	-4.676	-73.921	-22.826	-175.283	-28.414	91.219
279	5	A8	I	4.676	73.398	22.83	175.283	-28.429	91.219
280			J	-4.676	-76.882	-22.826	-175.284	-28.414	97.568
281	5	A9	I	4.676	80.701	22.83	175.283	-28.429	97.568
282			J	-4.676	-81.225	-22.826	-175.284	-28.414	99.528
283	5	A10	I	4.676	79.144	22.83	175.285	-28.429	99.528
284			J	-4.676	-73.998	-22.826	-175.282	-28.414	92.159
285	5	A11	I	4.676	74.028	22.83	175.283	-28.429	91.875
286			J	-4.676	-74.145	-22.826	-175.284	-28.414	92.313
287	5	A12	I	4.676	74.091	22.83	175.284	-28.429	92.313
288			J	-4.676	-74.083	-22.826	-175.284	-28.414	92.282
289	5	A13	I	4.676	74.128	22.83	175.284	-28.429	92.282
290			J	-4.676	-74.046	-22.826	-175.284	-28.414	91.975

**Member End Reactions (Continued)**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
291	5	A14	I	4.676	73.908	22.83	175.283	-28.429	91.975
292			J	-4.676	-74.266	-22.826	-175.284	-28.414	93.315
293	5	A15	I	4.684	74.81	22.833	175.28	-28.43	93.315
294			J	-4.668	-73.364	-22.824	-175.287	-28.397	87.915
295	5	A16	I	10.067	78.672	15.341	106.45	-7.234	87.915
296			J	5.264	2.568	-8.109	-73.604	6.639	-67.93
297	5	A17	I	0	5.341	0	0	0	5.675
298			J	0	0	0	0	0	0
299	5	R1	I	9.456	-31.545	-2.012	0	6.639	-104.092
300			J	9.456	-31.545	-2.012	0	0	0
301	5	R2	I	-14.441	11.84	9.007	0	0	0
302			J	23.724	-140.196	-5.728	0	0	0
303	5	R3	I	-17.276	-0.441	3.539	0	0	0
304			J	28.383	-149.517	-5.821	0	0	0
305	5	R4	I	-17.275	-0.866	3.536	0	0	0
306			J	28.381	-148.82	-5.816	0	0	0
307	5	R5	I	-17.275	-0.769	3.536	0	0	0
308			J	28.381	-148.98	-5.816	0	0	0
309	5	R6	I	-17.275	-0.759	3.536	0	0	0
310			J	28.381	-148.996	-5.816	0	0	0
311	5	R7	I	-17.278	-0.839	3.522	0	0	0
312			J	28.386	-148.865	-5.793	0	0	0
313	5	R8	I	-17.275	3.832	3.536	0	0	0
314			J	28.381	-156.538	-5.816	0	0	0
315	5	R9	I	-17.275	2.777	3.536	0	0	0
316			J	28.381	-154.805	-5.816	0	0	0
317	5	R10	I	-17.275	-1.106	3.536	0	0	0
318			J	28.381	-148.425	-5.816	0	0	0
319	5	R11	I	-17.275	-0.713	3.536	0	0	0
320			J	28.381	-149.072	-5.816	0	0	0
321	5	R12	I	-17.275	-0.758	3.536	0	0	0
322			J	28.381	-148.998	-5.816	0	0	0
323	5	R13	I	-17.275	-0.961	3.536	0	0	0
324			J	28.381	-148.664	-5.816	0	0	0
325	5	R14	I	-17.276	-0.05	3.536	0	0	0
326			J	28.382	-150.16	-5.815	0	0	0
327	5	R15	I	-12.196	2.093	0.261	0	0	0
328			J	20.036	-137.84	-11.699	0	0	0
329	5	M33	I	-6.676	6.966	0.55	0	0	0
330			J	-6.676	6.966	0.55	0	2.963	-37.56
331	6	A1	I	0	0	0	0	0	0
332			J	0	-5.1	0	0	0	5.174
333	6	A2	I	-3.352	-19.99	4.095	-27.592	2.678	-22.118
334			J	-6.605	-72.395	-7.768	-91.945	-1.69	87.743
335	6	A3	I	5.111	79.837	18.63	101.061	-23.19	87.743
336			J	-5.107	-84.759	-18.629	-101.062	-23.186	106.126
337	6	A4	I	5.109	82.909	18.632	101.062	-23.202	106.126
338			J	-5.109	-81.687	-18.627	-101.061	-23.186	101.563
339	6	A5	I	5.109	82.156	18.632	101.062	-23.202	101.563
340			J	-5.109	-82.44	-18.627	-101.062	-23.186	102.625
341	6	A6	I	5.109	82.294	18.632	101.062	-23.202	102.625
342			J	-5.109	-82.303	-18.627	-101.062	-23.186	102.661
343	6	A7	I	5.109	82.461	18.632	101.062	-23.202	102.661
344			J	-5.109	-82.136	-18.627	-101.062	-23.186	101.448
345	6	A8	I	5.109	81.611	18.632	101.061	-23.202	101.448
346			J	-5.109	-85.092	-18.627	-101.062	-23.186	107.786
347	6	A9	I	5.109	88.909	18.632	101.061	-23.202	107.786
348			J	-5.109	-89.44	-18.627	-101.062	-23.186	109.767



**Member End Reactions (Continued)**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
349	6	A10	I	5.109	87.366	18.632	101.063	-23.202	109.767
350			J	-5.109	-82.199	-18.627	-101.061	-23.186	102.32
351	6	A11	I	5.109	82.248	18.632	101.061	-23.202	102.156
352			J	-5.109	-82.348	-18.627	-101.062	-23.186	102.53
353	6	A12	I	5.109	82.306	18.632	101.062	-23.202	102.53
354			J	-5.109	-82.291	-18.627	-101.062	-23.186	102.473
355	6	A13	I	5.109	82.316	18.632	101.062	-23.202	102.473
356			J	-5.109	-82.28	-18.627	-101.062	-23.186	102.341
357	6	A14	I	5.109	82.215	18.632	101.062	-23.202	102.341
358			J	-5.109	-82.382	-18.627	-101.062	-23.186	102.963
359	6	A15	I	5.115	82.635	18.634	101.058	-23.203	102.963
360			J	-5.102	-81.961	-18.625	-101.066	-23.172	100.446
361	6	A16	I	9.172	86.515	12.658	28.828	-5.894	100.446
362			J	3.924	1.977	-6.478	-74.985	5.961	-69.31
363	6	A17	I	0	5.341	0	0	0	5.675
364			J	0	0	0	0	0	0
365	6	R1	I	7.355	-32.136	-1.806	0	5.961	-106.044
366			J	7.355	-32.136	-1.806	0	0	0
367	6	R2	I	-11.837	42.684	8.203	0	0	0
368			J	19.446	-125.792	-6.071	0	0	0
369	6	R3	I	-14.099	29.663	3.866	0	0	0
370			J	23.162	-135.354	-6.358	0	0	0
371	6	R4	I	-14.098	29.465	3.863	0	0	0
372			J	23.161	-135.031	-6.354	0	0	0
373	6	R5	I	-14.098	29.507	3.863	0	0	0
374			J	23.161	-135.1	-6.354	0	0	0
375	6	R6	I	-14.098	29.525	3.863	0	0	0
376			J	23.161	-135.129	-6.354	0	0	0
377	6	R7	I	-14.101	29.447	3.852	0	0	0
378			J	23.166	-135	-6.335	0	0	0
379	6	R8	I	-14.098	34.123	3.863	0	0	0
380			J	23.161	-142.683	-6.354	0	0	0
381	6	R9	I	-14.098	33.061	3.863	0	0	0
382			J	23.161	-140.939	-6.354	0	0	0
383	6	R10	I	-14.098	29.182	3.863	0	0	0
384			J	23.161	-134.565	-6.354	0	0	0
385	6	R11	I	-14.098	29.566	3.863	0	0	0
386			J	23.161	-135.197	-6.354	0	0	0
387	6	R12	I	-14.098	29.555	3.863	0	0	0
388			J	23.161	-135.179	-6.354	0	0	0
389	6	R13	I	-14.098	29.218	3.863	0	0	0
390			J	23.161	-134.625	-6.354	0	0	0
391	6	R14	I	-14.099	30.665	3.863	0	0	0
392			J	23.162	-137.003	-6.353	0	0	0
393	6	R15	I	-9.988	26.303	0.946	0	0	0
394			J	16.409	-125.929	-10.769	0	0	0
395	6	M33	I	-5.268	7.198	0.497	0	0	0
396			J	-5.268	7.198	0.497	0	2.678	-38.81

**Member Torsion Stresses**

LC	Member Label	Sec	Torque[k-ft]	Shear[k]	y Warp Shear[k]	z Warp Shear[k]	z-Bot Warp Bend[k]	z-Top Warp Bend[k]
1	1	A1	1	0	0	NC	NC	NC
2			2	0	0	NC	NC	NC
3			3	0	0	NC	NC	NC
4			4	0	0	NC	NC	NC
5			5	0	0	NC	NC	NC
6			6	0	0	NC	NC	NC
7			7	0	0	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
8		8	0	0	NC	NC	NC	NC
9		9	0	0	NC	NC	NC	NC
10		10	0	0	NC	NC	NC	NC
11		11	0	0	NC	NC	NC	NC
12		12	0	0	NC	NC	NC	NC
13		13	0	0	NC	NC	NC	NC
14		14	0	0	NC	NC	NC	NC
15		15	0	0	NC	NC	NC	NC
16		16	0	0	NC	NC	NC	NC
17		17	0	0	NC	NC	NC	NC
18		18	0	0	NC	NC	NC	NC
19		19	0	0	NC	NC	NC	NC
20		20	0	0	NC	NC	NC	NC
21	1	A2	1	-23.414	0	NC	NC	NC
22		2	-27.496	0	NC	NC	NC	NC
23		3	-31.579	0	NC	NC	NC	NC
24		4	-35.661	0	NC	NC	NC	NC
25		5	-39.743	0	NC	NC	NC	NC
26		6	-43.826	0	NC	NC	NC	NC
27		7	-47.908	0	NC	NC	NC	NC
28		8	-51.99	0	NC	NC	NC	NC
29		9	-56.073	0	NC	NC	NC	NC
30		10	-60.155	0	NC	NC	NC	NC
31		11	-64.237	0	NC	NC	NC	NC
32		12	-68.32	0	NC	NC	NC	NC
33		13	-72.402	0	NC	NC	NC	NC
34		14	-76.485	0	NC	NC	NC	NC
35		15	-80.567	0	NC	NC	NC	NC
36		16	-84.649	0	NC	NC	NC	NC
37		17	-88.732	0	NC	NC	NC	NC
38		18	-92.814	0	NC	NC	NC	NC
39		19	-96.896	0	NC	NC	NC	NC
40		20	-100.979	0	NC	NC	NC	NC
41	1	A3	1	121.81	0	NC	NC	NC
42		2	108.987	0	NC	NC	NC	NC
43		3	96.165	0	NC	NC	NC	NC
44		4	83.343	0	NC	NC	NC	NC
45		5	70.521	0	NC	NC	NC	NC
46		6	57.699	0	NC	NC	NC	NC
47		7	44.877	0	NC	NC	NC	NC
48		8	32.055	0	NC	NC	NC	NC
49		9	19.233	0	NC	NC	NC	NC
50		10	6.411	0	NC	NC	NC	NC
51		11	-6.411	0	NC	NC	NC	NC
52		12	-19.233	0	NC	NC	NC	NC
53		13	-32.055	0	NC	NC	NC	NC
54		14	-44.877	0	NC	NC	NC	NC
55		15	-57.699	0	NC	NC	NC	NC
56		16	-70.521	0	NC	NC	NC	NC
57		17	-83.343	0	NC	NC	NC	NC
58		18	-96.165	0	NC	NC	NC	NC
59		19	-108.988	0	NC	NC	NC	NC
60		20	-121.81	0	NC	NC	NC	NC
61	1	A4	1	121.81	0	NC	NC	NC
62		2	108.988	0	NC	NC	NC	NC
63		3	96.166	0	NC	NC	NC	NC
64		4	83.344	0	NC	NC	NC	NC
65		5	70.522	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
66		6	57.7	0	NC	NC	NC	NC
67		7	44.877	0	NC	NC	NC	NC
68		8	32.055	0	NC	NC	NC	NC
69		9	19.233	0	NC	NC	NC	NC
70		10	6.411	0	NC	NC	NC	NC
71		11	-6.411	0	NC	NC	NC	NC
72		12	-19.233	0	NC	NC	NC	NC
73		13	-32.055	0	NC	NC	NC	NC
74		14	-44.877	0	NC	NC	NC	NC
75		15	-57.699	0	NC	NC	NC	NC
76		16	-70.521	0	NC	NC	NC	NC
77		17	-83.343	0	NC	NC	NC	NC
78		18	-96.165	0	NC	NC	NC	NC
79		19	-108.987	0	NC	NC	NC	NC
80		20	-121.809	0	NC	NC	NC	NC
81	1	A5	1	121.809	0	NC	NC	NC
82		2	108.987	0	NC	NC	NC	NC
83		3	96.165	0	NC	NC	NC	NC
84		4	83.343	0	NC	NC	NC	NC
85		5	70.521	0	NC	NC	NC	NC
86		6	57.699	0	NC	NC	NC	NC
87		7	44.877	0	NC	NC	NC	NC
88		8	32.055	0	NC	NC	NC	NC
89		9	19.233	0	NC	NC	NC	NC
90		10	6.411	0	NC	NC	NC	NC
91		11	-6.411	0	NC	NC	NC	NC
92		12	-19.233	0	NC	NC	NC	NC
93		13	-32.055	0	NC	NC	NC	NC
94		14	-44.877	0	NC	NC	NC	NC
95		15	-57.699	0	NC	NC	NC	NC
96		16	-70.521	0	NC	NC	NC	NC
97		17	-83.343	0	NC	NC	NC	NC
98		18	-96.165	0	NC	NC	NC	NC
99		19	-108.988	0	NC	NC	NC	NC
100		20	-121.81	0	NC	NC	NC	NC
101	1	A6	1	121.81	0	NC	NC	NC
102		2	108.987	0	NC	NC	NC	NC
103		3	96.165	0	NC	NC	NC	NC
104		4	83.343	0	NC	NC	NC	NC
105		5	70.521	0	NC	NC	NC	NC
106		6	57.699	0	NC	NC	NC	NC
107		7	44.877	0	NC	NC	NC	NC
108		8	32.055	0	NC	NC	NC	NC
109		9	19.233	0	NC	NC	NC	NC
110		10	6.411	0	NC	NC	NC	NC
111		11	-6.411	0	NC	NC	NC	NC
112		12	-19.233	0	NC	NC	NC	NC
113		13	-32.055	0	NC	NC	NC	NC
114		14	-44.877	0	NC	NC	NC	NC
115		15	-57.699	0	NC	NC	NC	NC
116		16	-70.521	0	NC	NC	NC	NC
117		17	-83.343	0	NC	NC	NC	NC
118		18	-96.165	0	NC	NC	NC	NC
119		19	-108.987	0	NC	NC	NC	NC
120		20	-121.81	0	NC	NC	NC	NC
121	1	A7	1	121.81	0	NC	NC	NC
122		2	108.988	0	NC	NC	NC	NC
123		3	96.165	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
124		4	83.343	0	NC	NC	NC	NC
125		5	70.521	0	NC	NC	NC	NC
126		6	57.699	0	NC	NC	NC	NC
127		7	44.877	0	NC	NC	NC	NC
128		8	32.055	0	NC	NC	NC	NC
129		9	19.233	0	NC	NC	NC	NC
130		10	6.411	0	NC	NC	NC	NC
131		11	-6.411	0	NC	NC	NC	NC
132		12	-19.233	0	NC	NC	NC	NC
133		13	-32.055	0	NC	NC	NC	NC
134		14	-44.877	0	NC	NC	NC	NC
135		15	-57.699	0	NC	NC	NC	NC
136		16	-70.521	0	NC	NC	NC	NC
137		17	-83.343	0	NC	NC	NC	NC
138		18	-96.165	0	NC	NC	NC	NC
139		19	-108.987	0	NC	NC	NC	NC
140		20	-121.809	0	NC	NC	NC	NC
141	1	A8	1	121.809	0	NC	NC	NC
142		2	108.987	0	NC	NC	NC	NC
143		3	96.165	0	NC	NC	NC	NC
144		4	83.343	0	NC	NC	NC	NC
145		5	70.521	0	NC	NC	NC	NC
146		6	57.699	0	NC	NC	NC	NC
147		7	44.877	0	NC	NC	NC	NC
148		8	32.055	0	NC	NC	NC	NC
149		9	19.233	0	NC	NC	NC	NC
150		10	6.41	0	NC	NC	NC	NC
151		11	-6.412	0	NC	NC	NC	NC
152		12	-19.234	0	NC	NC	NC	NC
153		13	-32.056	0	NC	NC	NC	NC
154		14	-44.878	0	NC	NC	NC	NC
155		15	-57.7	0	NC	NC	NC	NC
156		16	-70.522	0	NC	NC	NC	NC
157		17	-83.344	0	NC	NC	NC	NC
158		18	-96.166	0	NC	NC	NC	NC
159		19	-108.988	0	NC	NC	NC	NC
160		20	-121.81	0	NC	NC	NC	NC
161	1	A9	1	121.809	0	NC	NC	NC
162		2	108.987	0	NC	NC	NC	NC
163		3	96.165	0	NC	NC	NC	NC
164		4	83.343	0	NC	NC	NC	NC
165		5	70.521	0	NC	NC	NC	NC
166		6	57.699	0	NC	NC	NC	NC
167		7	44.877	0	NC	NC	NC	NC
168		8	32.055	0	NC	NC	NC	NC
169		9	19.233	0	NC	NC	NC	NC
170		10	6.411	0	NC	NC	NC	NC
171		11	-6.411	0	NC	NC	NC	NC
172		12	-19.233	0	NC	NC	NC	NC
173		13	-32.055	0	NC	NC	NC	NC
174		14	-44.877	0	NC	NC	NC	NC
175		15	-57.699	0	NC	NC	NC	NC
176		16	-70.521	0	NC	NC	NC	NC
177		17	-83.344	0	NC	NC	NC	NC
178		18	-96.166	0	NC	NC	NC	NC
179		19	-108.988	0	NC	NC	NC	NC
180		20	-121.81	0	NC	NC	NC	NC
181	1	A10	1	121.811	0	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
182		2	108.988	0	NC	NC	NC	NC
183		3	96.166	0	NC	NC	NC	NC
184		4	83.344	0	NC	NC	NC	NC
185		5	70.522	0	NC	NC	NC	NC
186		6	57.7	0	NC	NC	NC	NC
187		7	44.878	0	NC	NC	NC	NC
188		8	32.056	0	NC	NC	NC	NC
189		9	19.234	0	NC	NC	NC	NC
190		10	6.412	0	NC	NC	NC	NC
191		11	-6.41	0	NC	NC	NC	NC
192		12	-19.232	0	NC	NC	NC	NC
193		13	-32.054	0	NC	NC	NC	NC
194		14	-44.876	0	NC	NC	NC	NC
195		15	-57.698	0	NC	NC	NC	NC
196		16	-70.52	0	NC	NC	NC	NC
197		17	-83.342	0	NC	NC	NC	NC
198		18	-96.164	0	NC	NC	NC	NC
199		19	-108.987	0	NC	NC	NC	NC
200		20	-121.809	0	NC	NC	NC	NC
201	1	A11	1	121.809	0	NC	NC	NC
202		2	108.987	0	NC	NC	NC	NC
203		3	96.165	0	NC	NC	NC	NC
204		4	83.343	0	NC	NC	NC	NC
205		5	70.521	0	NC	NC	NC	NC
206		6	57.699	0	NC	NC	NC	NC
207		7	44.877	0	NC	NC	NC	NC
208		8	32.055	0	NC	NC	NC	NC
209		9	19.233	0	NC	NC	NC	NC
210		10	6.411	0	NC	NC	NC	NC
211		11	-6.411	0	NC	NC	NC	NC
212		12	-19.233	0	NC	NC	NC	NC
213		13	-32.055	0	NC	NC	NC	NC
214		14	-44.877	0	NC	NC	NC	NC
215		15	-57.7	0	NC	NC	NC	NC
216		16	-70.522	0	NC	NC	NC	NC
217		17	-83.344	0	NC	NC	NC	NC
218		18	-96.166	0	NC	NC	NC	NC
219		19	-108.988	0	NC	NC	NC	NC
220		20	-121.81	0	NC	NC	NC	NC
221	1	A12	1	121.81	0	NC	NC	NC
222		2	108.987	0	NC	NC	NC	NC
223		3	96.165	0	NC	NC	NC	NC
224		4	83.343	0	NC	NC	NC	NC
225		5	70.521	0	NC	NC	NC	NC
226		6	57.699	0	NC	NC	NC	NC
227		7	44.877	0	NC	NC	NC	NC
228		8	32.055	0	NC	NC	NC	NC
229		9	19.233	0	NC	NC	NC	NC
230		10	6.411	0	NC	NC	NC	NC
231		11	-6.411	0	NC	NC	NC	NC
232		12	-19.233	0	NC	NC	NC	NC
233		13	-32.055	0	NC	NC	NC	NC
234		14	-44.877	0	NC	NC	NC	NC
235		15	-57.699	0	NC	NC	NC	NC
236		16	-70.521	0	NC	NC	NC	NC
237		17	-83.343	0	NC	NC	NC	NC
238		18	-96.165	0	NC	NC	NC	NC
239		19	-108.987	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
240		20	-121.81	0	NC	NC	NC	NC
241	1 A13	1	121.81	0	NC	NC	NC	NC
242		2	108.988	0	NC	NC	NC	NC
243		3	96.165	0	NC	NC	NC	NC
244		4	83.343	0	NC	NC	NC	NC
245		5	70.521	0	NC	NC	NC	NC
246		6	57.699	0	NC	NC	NC	NC
247		7	44.877	0	NC	NC	NC	NC
248		8	32.055	0	NC	NC	NC	NC
249		9	19.233	0	NC	NC	NC	NC
250		10	6.411	0	NC	NC	NC	NC
251		11	-6.411	0	NC	NC	NC	NC
252		12	-19.233	0	NC	NC	NC	NC
253		13	-32.055	0	NC	NC	NC	NC
254		14	-44.877	0	NC	NC	NC	NC
255		15	-57.699	0	NC	NC	NC	NC
256		16	-70.521	0	NC	NC	NC	NC
257		17	-83.343	0	NC	NC	NC	NC
258		18	-96.165	0	NC	NC	NC	NC
259		19	-108.987	0	NC	NC	NC	NC
260		20	-121.81	0	NC	NC	NC	NC
261	1 A14	1	121.809	0	NC	NC	NC	NC
262		2	108.987	0	NC	NC	NC	NC
263		3	96.165	0	NC	NC	NC	NC
264		4	83.343	0	NC	NC	NC	NC
265		5	70.521	0	NC	NC	NC	NC
266		6	57.699	0	NC	NC	NC	NC
267		7	44.877	0	NC	NC	NC	NC
268		8	32.055	0	NC	NC	NC	NC
269		9	19.233	0	NC	NC	NC	NC
270		10	6.411	0	NC	NC	NC	NC
271		11	-6.411	0	NC	NC	NC	NC
272		12	-19.233	0	NC	NC	NC	NC
273		13	-32.055	0	NC	NC	NC	NC
274		14	-44.877	0	NC	NC	NC	NC
275		15	-57.699	0	NC	NC	NC	NC
276		16	-70.521	0	NC	NC	NC	NC
277		17	-83.343	0	NC	NC	NC	NC
278		18	-96.166	0	NC	NC	NC	NC
279		19	-108.988	0	NC	NC	NC	NC
280		20	-121.81	0	NC	NC	NC	NC
281	1 A15	1	121.806	0	NC	NC	NC	NC
282		2	108.984	0	NC	NC	NC	NC
283		3	96.162	0	NC	NC	NC	NC
284		4	83.34	0	NC	NC	NC	NC
285		5	70.518	0	NC	NC	NC	NC
286		6	57.696	0	NC	NC	NC	NC
287		7	44.874	0	NC	NC	NC	NC
288		8	32.052	0	NC	NC	NC	NC
289		9	19.229	0	NC	NC	NC	NC
290		10	6.407	0	NC	NC	NC	NC
291		11	-6.415	0	NC	NC	NC	NC
292		12	-19.237	0	NC	NC	NC	NC
293		13	-32.059	0	NC	NC	NC	NC
294		14	-44.881	0	NC	NC	NC	NC
295		15	-57.703	0	NC	NC	NC	NC
296		16	-70.525	0	NC	NC	NC	NC
297		17	-83.347	0	NC	NC	NC	NC





Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
298		18	-96.169	0	NC	NC	NC	NC
299		19	-108.991	0	NC	NC	NC	NC
300		20	-121.813	0	NC	NC	NC	NC
301	1 A16	1	53.606	0	NC	NC	NC	NC
302		2	47.02	0	NC	NC	NC	NC
303		3	40.435	0	NC	NC	NC	NC
304		4	33.849	0	NC	NC	NC	NC
305		5	27.264	0	NC	NC	NC	NC
306		6	20.678	0	NC	NC	NC	NC
307		7	14.093	0	NC	NC	NC	NC
308		8	7.507	0	NC	NC	NC	NC
309		9	0.921	0	NC	NC	NC	NC
310		10	-5.664	0	NC	NC	NC	NC
311		11	-12.25	0	NC	NC	NC	NC
312		12	-18.835	0	NC	NC	NC	NC
313		13	-25.421	0	NC	NC	NC	NC
314		14	-32.006	0	NC	NC	NC	NC
315		15	-38.592	0	NC	NC	NC	NC
316		16	-45.177	0	NC	NC	NC	NC
317		17	-51.763	0	NC	NC	NC	NC
318		18	-58.348	0	NC	NC	NC	NC
319		19	-64.934	0	NC	NC	NC	NC
320		20	-71.519	0	NC	NC	NC	NC
321	1 A17	1	0	0	NC	NC	NC	NC
322		2	0	0	NC	NC	NC	NC
323		3	0	0	NC	NC	NC	NC
324		4	0	0	NC	NC	NC	NC
325		5	0	0	NC	NC	NC	NC
326		6	0	0	NC	NC	NC	NC
327		7	0	0	NC	NC	NC	NC
328		8	0	0	NC	NC	NC	NC
329		9	0	0	NC	NC	NC	NC
330		10	0	0	NC	NC	NC	NC
331		11	0	0	NC	NC	NC	NC
332		12	0	0	NC	NC	NC	NC
333		13	0	0	NC	NC	NC	NC
334		14	0	0	NC	NC	NC	NC
335		15	0	0	NC	NC	NC	NC
336		16	0	0	NC	NC	NC	NC
337		17	0	0	NC	NC	NC	NC
338		18	0	0	NC	NC	NC	NC
339		19	0	0	NC	NC	NC	NC
340		20	0	0	NC	NC	NC	NC
341	1 R1	1	0	0	NC	NC	NC	NC
342		2	0	0	NC	NC	NC	NC
343		3	0	0	NC	NC	NC	NC
344		4	0	0	NC	NC	NC	NC
345		5	0	0	NC	NC	NC	NC
346		6	0	0	NC	NC	NC	NC
347		7	0	0	NC	NC	NC	NC
348		8	0	0	NC	NC	NC	NC
349		9	0	0	NC	NC	NC	NC
350		10	0	0	NC	NC	NC	NC
351		11	0	0	NC	NC	NC	NC
352		12	0	0	NC	NC	NC	NC
353		13	0	0	NC	NC	NC	NC
354		14	0	0	NC	NC	NC	NC
355		15	0	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
356		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
357		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
358		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
359		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
360		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
361	1	R2	1	0	0	NC	NC	NC	NC	NC	NC	NC
362		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
363		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
364		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
365		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
366		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
367		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
368		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
369		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
370		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
371		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
372		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
373		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
374		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
375		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
376		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
377		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
378		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
379		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
380		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
381	1	R3	1	0	0	NC	NC	NC	NC	NC	NC	NC
382		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
383		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
384		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
385		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
386		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
387		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
388		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
389		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
390		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
391		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
392		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
393		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
394		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
395		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
396		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
397		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
398		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
399		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
400		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
401	1	R4	1	0	0	NC	NC	NC	NC	NC	NC	NC
402		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
403		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
404		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
405		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
406		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
407		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
408		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
409		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
410		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
411		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
412		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
413		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
414		14	0	0	NC	NC	NC	NC
415		15	0	0	NC	NC	NC	NC
416		16	0	0	NC	NC	NC	NC
417		17	0	0	NC	NC	NC	NC
418		18	0	0	NC	NC	NC	NC
419		19	0	0	NC	NC	NC	NC
420		20	0	0	NC	NC	NC	NC
421	1	R5	1	0	0	NC	NC	NC
422		2	0	0	NC	NC	NC	NC
423		3	0	0	NC	NC	NC	NC
424		4	0	0	NC	NC	NC	NC
425		5	0	0	NC	NC	NC	NC
426		6	0	0	NC	NC	NC	NC
427		7	0	0	NC	NC	NC	NC
428		8	0	0	NC	NC	NC	NC
429		9	0	0	NC	NC	NC	NC
430		10	0	0	NC	NC	NC	NC
431		11	0	0	NC	NC	NC	NC
432		12	0	0	NC	NC	NC	NC
433		13	0	0	NC	NC	NC	NC
434		14	0	0	NC	NC	NC	NC
435		15	0	0	NC	NC	NC	NC
436		16	0	0	NC	NC	NC	NC
437		17	0	0	NC	NC	NC	NC
438		18	0	0	NC	NC	NC	NC
439		19	0	0	NC	NC	NC	NC
440		20	0	0	NC	NC	NC	NC
441	1	R6	1	0	0	NC	NC	NC
442		2	0	0	NC	NC	NC	NC
443		3	0	0	NC	NC	NC	NC
444		4	0	0	NC	NC	NC	NC
445		5	0	0	NC	NC	NC	NC
446		6	0	0	NC	NC	NC	NC
447		7	0	0	NC	NC	NC	NC
448		8	0	0	NC	NC	NC	NC
449		9	0	0	NC	NC	NC	NC
450		10	0	0	NC	NC	NC	NC
451		11	0	0	NC	NC	NC	NC
452		12	0	0	NC	NC	NC	NC
453		13	0	0	NC	NC	NC	NC
454		14	0	0	NC	NC	NC	NC
455		15	0	0	NC	NC	NC	NC
456		16	0	0	NC	NC	NC	NC
457		17	0	0	NC	NC	NC	NC
458		18	0	0	NC	NC	NC	NC
459		19	0	0	NC	NC	NC	NC
460		20	0	0	NC	NC	NC	NC
461	1	R7	1	0	0	NC	NC	NC
462		2	0	0	NC	NC	NC	NC
463		3	0	0	NC	NC	NC	NC
464		4	0	0	NC	NC	NC	NC
465		5	0	0	NC	NC	NC	NC
466		6	0	0	NC	NC	NC	NC
467		7	0	0	NC	NC	NC	NC
468		8	0	0	NC	NC	NC	NC
469		9	0	0	NC	NC	NC	NC
470		10	0	0	NC	NC	NC	NC
471		11	0	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
472		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
473		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
474		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
475		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
476		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
477		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
478		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
479		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
480		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
481	1	R8	1	0	0	NC	NC	NC	NC	NC	NC	NC
482		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
483		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
484		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
485		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
486		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
487		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
488		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
489		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
490		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
491		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
492		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
493		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
494		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
495		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
496		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
497		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
498		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
499		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
500		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
501	1	R9	1	0	0	NC	NC	NC	NC	NC	NC	NC
502		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
503		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
504		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
505		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
506		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
507		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
508		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
509		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
510		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
511		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
512		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
513		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
514		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
515		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
516		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
517		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
518		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
519		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
520		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
521	1	R10	1	0	0	NC	NC	NC	NC	NC	NC	NC
522		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
523		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
524		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
525		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
526		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
527		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
528		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
529		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
530		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
531		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
532		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
533		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
534		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
535		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
536		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
537		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
538		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
539		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
540		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
541	1	R11	1	0	0	NC	NC	NC	NC	NC	NC	NC
542		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
543		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
544		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
545		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
546		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
547		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
548		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
549		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
550		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
551		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
552		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
553		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
554		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
555		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
556		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
557		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
558		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
559		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
560		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
561	1	R12	1	0	0	NC	NC	NC	NC	NC	NC	NC
562		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
563		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
564		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
565		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
566		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
567		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
568		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
569		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
570		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
571		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
572		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
573		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
574		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
575		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
576		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
577		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
578		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
579		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
580		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
581	1	R13	1	0	0	NC	NC	NC	NC	NC	NC	NC
582		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
583		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
584		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
585		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
586		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
587		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
588		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
589		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
590		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
591		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
592		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
593		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
594		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
595		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
596		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
597		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
598		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
599		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
600		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
601	1	R14	1	0	0	NC	NC	NC	NC	NC	NC	NC
602		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
603		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
604		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
605		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
606		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
607		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
608		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
609		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
610		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
611		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
612		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
613		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
614		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
615		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
616		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
617		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
618		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
619		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
620		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
621	1	R15	1	0	0	NC	NC	NC	NC	NC	NC	NC
622		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
623		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
624		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
625		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
626		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
627		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
628		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
629		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
630		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
631		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
632		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
633		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
634		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
635		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
636		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
637		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
638		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
639		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
640		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
641	1	M33	1	0	0	NC	NC	NC	NC	NC	NC	NC
642		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
643		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
644		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
645		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
646		6	0	0	NC	NC	NC	NC
647		7	0	0	NC	NC	NC	NC
648		8	0	0	NC	NC	NC	NC
649		9	0	0	NC	NC	NC	NC
650		10	0	0	NC	NC	NC	NC
651		11	0	0	NC	NC	NC	NC
652		12	0	0	NC	NC	NC	NC
653		13	0	0	NC	NC	NC	NC
654		14	0	0	NC	NC	NC	NC
655		15	0	0	NC	NC	NC	NC
656		16	0	0	NC	NC	NC	NC
657		17	0	0	NC	NC	NC	NC
658		18	0	0	NC	NC	NC	NC
659		19	0	0	NC	NC	NC	NC
660		20	0	0	NC	NC	NC	NC
661	2	A1	1	0	0	NC	NC	NC
662		2	0	0	NC	NC	NC	NC
663		3	0	0	NC	NC	NC	NC
664		4	0	0	NC	NC	NC	NC
665		5	0	0	NC	NC	NC	NC
666		6	0	0	NC	NC	NC	NC
667		7	0	0	NC	NC	NC	NC
668		8	0	0	NC	NC	NC	NC
669		9	0	0	NC	NC	NC	NC
670		10	0	0	NC	NC	NC	NC
671		11	0	0	NC	NC	NC	NC
672		12	0	0	NC	NC	NC	NC
673		13	0	0	NC	NC	NC	NC
674		14	0	0	NC	NC	NC	NC
675		15	0	0	NC	NC	NC	NC
676		16	0	0	NC	NC	NC	NC
677		17	0	0	NC	NC	NC	NC
678		18	0	0	NC	NC	NC	NC
679		19	0	0	NC	NC	NC	NC
680		20	0	0	NC	NC	NC	NC
681	2	A2	1	-33.682	0	NC	NC	NC
682		2	-37.764	0	NC	NC	NC	NC
683		3	-41.846	0	NC	NC	NC	NC
684		4	-45.929	0	NC	NC	NC	NC
685		5	-50.011	0	NC	NC	NC	NC
686		6	-54.093	0	NC	NC	NC	NC
687		7	-58.176	0	NC	NC	NC	NC
688		8	-62.258	0	NC	NC	NC	NC
689		9	-66.34	0	NC	NC	NC	NC
690		10	-70.423	0	NC	NC	NC	NC
691		11	-74.505	0	NC	NC	NC	NC
692		12	-78.587	0	NC	NC	NC	NC
693		13	-82.67	0	NC	NC	NC	NC
694		14	-86.752	0	NC	NC	NC	NC
695		15	-90.834	0	NC	NC	NC	NC
696		16	-94.917	0	NC	NC	NC	NC
697		17	-98.999	0	NC	NC	NC	NC
698		18	-103.081	0	NC	NC	NC	NC
699		19	-107.164	0	NC	NC	NC	NC
700		20	-111.246	0	NC	NC	NC	NC
701	2	A3	1	121.809	0	NC	NC	NC
702		2	108.986	0	NC	NC	NC	NC
703		3	96.164	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
704		4	83.342	0	NC	NC	NC	NC
705		5	70.52	0	NC	NC	NC	NC
706		6	57.698	0	NC	NC	NC	NC
707		7	44.876	0	NC	NC	NC	NC
708		8	32.054	0	NC	NC	NC	NC
709		9	19.232	0	NC	NC	NC	NC
710		10	6.41	0	NC	NC	NC	NC
711		11	-6.412	0	NC	NC	NC	NC
712		12	-19.234	0	NC	NC	NC	NC
713		13	-32.056	0	NC	NC	NC	NC
714		14	-44.878	0	NC	NC	NC	NC
715		15	-57.7	0	NC	NC	NC	NC
716		16	-70.522	0	NC	NC	NC	NC
717		17	-83.344	0	NC	NC	NC	NC
718		18	-96.166	0	NC	NC	NC	NC
719		19	-108.989	0	NC	NC	NC	NC
720		20	-121.811	0	NC	NC	NC	NC
721	2	A4	1	121.81	0	NC	NC	NC
722			2	108.988	0	NC	NC	NC
723			3	96.166	0	NC	NC	NC
724			4	83.344	0	NC	NC	NC
725			5	70.522	0	NC	NC	NC
726			6	57.7	0	NC	NC	NC
727			7	44.878	0	NC	NC	NC
728			8	32.056	0	NC	NC	NC
729			9	19.233	0	NC	NC	NC
730			10	6.411	0	NC	NC	NC
731			11	-6.411	0	NC	NC	NC
732			12	-19.233	0	NC	NC	NC
733			13	-32.055	0	NC	NC	NC
734			14	-44.877	0	NC	NC	NC
735			15	-57.699	0	NC	NC	NC
736			16	-70.521	0	NC	NC	NC
737			17	-83.343	0	NC	NC	NC
738			18	-96.165	0	NC	NC	NC
739			19	-108.987	0	NC	NC	NC
740			20	-121.809	0	NC	NC	NC
741	2	A5	1	121.809	0	NC	NC	NC
742			2	108.987	0	NC	NC	NC
743			3	96.165	0	NC	NC	NC
744			4	83.343	0	NC	NC	NC
745			5	70.521	0	NC	NC	NC
746			6	57.699	0	NC	NC	NC
747			7	44.877	0	NC	NC	NC
748			8	32.055	0	NC	NC	NC
749			9	19.233	0	NC	NC	NC
750			10	6.411	0	NC	NC	NC
751			11	-6.411	0	NC	NC	NC
752			12	-19.233	0	NC	NC	NC
753			13	-32.055	0	NC	NC	NC
754			14	-44.877	0	NC	NC	NC
755			15	-57.699	0	NC	NC	NC
756			16	-70.521	0	NC	NC	NC
757			17	-83.343	0	NC	NC	NC
758			18	-96.166	0	NC	NC	NC
759			19	-108.988	0	NC	NC	NC
760			20	-121.81	0	NC	NC	NC
761	2	A6	1	121.81	0	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
762		2	108.987	0	NC	NC	NC	NC
763		3	96.165	0	NC	NC	NC	NC
764		4	83.343	0	NC	NC	NC	NC
765		5	70.521	0	NC	NC	NC	NC
766		6	57.699	0	NC	NC	NC	NC
767		7	44.877	0	NC	NC	NC	NC
768		8	32.055	0	NC	NC	NC	NC
769		9	19.233	0	NC	NC	NC	NC
770		10	6.411	0	NC	NC	NC	NC
771		11	-6.411	0	NC	NC	NC	NC
772		12	-19.233	0	NC	NC	NC	NC
773		13	-32.055	0	NC	NC	NC	NC
774		14	-44.877	0	NC	NC	NC	NC
775		15	-57.699	0	NC	NC	NC	NC
776		16	-70.521	0	NC	NC	NC	NC
777		17	-83.343	0	NC	NC	NC	NC
778		18	-96.165	0	NC	NC	NC	NC
779		19	-108.987	0	NC	NC	NC	NC
780		20	-121.81	0	NC	NC	NC	NC
781	2	A7	1	121.81	0	NC	NC	NC
782		2	108.988	0	NC	NC	NC	NC
783		3	96.166	0	NC	NC	NC	NC
784		4	83.343	0	NC	NC	NC	NC
785		5	70.521	0	NC	NC	NC	NC
786		6	57.699	0	NC	NC	NC	NC
787		7	44.877	0	NC	NC	NC	NC
788		8	32.055	0	NC	NC	NC	NC
789		9	19.233	0	NC	NC	NC	NC
790		10	6.411	0	NC	NC	NC	NC
791		11	-6.411	0	NC	NC	NC	NC
792		12	-19.233	0	NC	NC	NC	NC
793		13	-32.055	0	NC	NC	NC	NC
794		14	-44.877	0	NC	NC	NC	NC
795		15	-57.699	0	NC	NC	NC	NC
796		16	-70.521	0	NC	NC	NC	NC
797		17	-83.343	0	NC	NC	NC	NC
798		18	-96.165	0	NC	NC	NC	NC
799		19	-108.987	0	NC	NC	NC	NC
800		20	-121.809	0	NC	NC	NC	NC
801	2	A8	1	121.809	0	NC	NC	NC
802		2	108.987	0	NC	NC	NC	NC
803		3	96.165	0	NC	NC	NC	NC
804		4	83.343	0	NC	NC	NC	NC
805		5	70.521	0	NC	NC	NC	NC
806		6	57.698	0	NC	NC	NC	NC
807		7	44.876	0	NC	NC	NC	NC
808		8	32.054	0	NC	NC	NC	NC
809		9	19.232	0	NC	NC	NC	NC
810		10	6.41	0	NC	NC	NC	NC
811		11	-6.412	0	NC	NC	NC	NC
812		12	-19.234	0	NC	NC	NC	NC
813		13	-32.056	0	NC	NC	NC	NC
814		14	-44.878	0	NC	NC	NC	NC
815		15	-57.7	0	NC	NC	NC	NC
816		16	-70.522	0	NC	NC	NC	NC
817		17	-83.344	0	NC	NC	NC	NC
818		18	-96.166	0	NC	NC	NC	NC
819		19	-108.988	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
820		20	-121.81	0	NC	NC	NC	NC
821	2 A9	1	121.809	0	NC	NC	NC	NC
822		2	108.987	0	NC	NC	NC	NC
823		3	96.165	0	NC	NC	NC	NC
824		4	83.343	0	NC	NC	NC	NC
825		5	70.521	0	NC	NC	NC	NC
826		6	57.699	0	NC	NC	NC	NC
827		7	44.877	0	NC	NC	NC	NC
828		8	32.055	0	NC	NC	NC	NC
829		9	19.233	0	NC	NC	NC	NC
830		10	6.411	0	NC	NC	NC	NC
831		11	-6.411	0	NC	NC	NC	NC
832		12	-19.233	0	NC	NC	NC	NC
833		13	-32.055	0	NC	NC	NC	NC
834		14	-44.877	0	NC	NC	NC	NC
835		15	-57.699	0	NC	NC	NC	NC
836		16	-70.522	0	NC	NC	NC	NC
837		17	-83.344	0	NC	NC	NC	NC
838		18	-96.166	0	NC	NC	NC	NC
839		19	-108.988	0	NC	NC	NC	NC
840		20	-121.81	0	NC	NC	NC	NC
841	2 A10	1	121.811	0	NC	NC	NC	NC
842		2	108.989	0	NC	NC	NC	NC
843		3	96.167	0	NC	NC	NC	NC
844		4	83.345	0	NC	NC	NC	NC
845		5	70.523	0	NC	NC	NC	NC
846		6	57.701	0	NC	NC	NC	NC
847		7	44.879	0	NC	NC	NC	NC
848		8	32.056	0	NC	NC	NC	NC
849		9	19.234	0	NC	NC	NC	NC
850		10	6.412	0	NC	NC	NC	NC
851		11	-6.41	0	NC	NC	NC	NC
852		12	-19.232	0	NC	NC	NC	NC
853		13	-32.054	0	NC	NC	NC	NC
854		14	-44.876	0	NC	NC	NC	NC
855		15	-57.698	0	NC	NC	NC	NC
856		16	-70.52	0	NC	NC	NC	NC
857		17	-83.342	0	NC	NC	NC	NC
858		18	-96.164	0	NC	NC	NC	NC
859		19	-108.986	0	NC	NC	NC	NC
860		20	-121.808	0	NC	NC	NC	NC
861	2 A11	1	121.809	0	NC	NC	NC	NC
862		2	108.987	0	NC	NC	NC	NC
863		3	96.165	0	NC	NC	NC	NC
864		4	83.343	0	NC	NC	NC	NC
865		5	70.521	0	NC	NC	NC	NC
866		6	57.699	0	NC	NC	NC	NC
867		7	44.877	0	NC	NC	NC	NC
868		8	32.055	0	NC	NC	NC	NC
869		9	19.233	0	NC	NC	NC	NC
870		10	6.411	0	NC	NC	NC	NC
871		11	-6.411	0	NC	NC	NC	NC
872		12	-19.233	0	NC	NC	NC	NC
873		13	-32.055	0	NC	NC	NC	NC
874		14	-44.878	0	NC	NC	NC	NC
875		15	-57.7	0	NC	NC	NC	NC
876		16	-70.522	0	NC	NC	NC	NC
877		17	-83.344	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
878		18	-96.166	0	NC	NC	NC	NC
879		19	-108.988	0	NC	NC	NC	NC
880		20	-121.81	0	NC	NC	NC	NC
881	2	A12	1	121.81	0	NC	NC	NC
882		2	108.987	0	NC	NC	NC	NC
883		3	96.165	0	NC	NC	NC	NC
884		4	83.343	0	NC	NC	NC	NC
885		5	70.521	0	NC	NC	NC	NC
886		6	57.699	0	NC	NC	NC	NC
887		7	44.877	0	NC	NC	NC	NC
888		8	32.055	0	NC	NC	NC	NC
889		9	19.233	0	NC	NC	NC	NC
890		10	6.411	0	NC	NC	NC	NC
891		11	-6.411	0	NC	NC	NC	NC
892		12	-19.233	0	NC	NC	NC	NC
893		13	-32.055	0	NC	NC	NC	NC
894		14	-44.877	0	NC	NC	NC	NC
895		15	-57.699	0	NC	NC	NC	NC
896		16	-70.521	0	NC	NC	NC	NC
897		17	-83.343	0	NC	NC	NC	NC
898		18	-96.165	0	NC	NC	NC	NC
899		19	-108.987	0	NC	NC	NC	NC
900		20	-121.81	0	NC	NC	NC	NC
901	2	A13	1	121.81	0	NC	NC	NC
902		2	108.988	0	NC	NC	NC	NC
903		3	96.165	0	NC	NC	NC	NC
904		4	83.343	0	NC	NC	NC	NC
905		5	70.521	0	NC	NC	NC	NC
906		6	57.699	0	NC	NC	NC	NC
907		7	44.877	0	NC	NC	NC	NC
908		8	32.055	0	NC	NC	NC	NC
909		9	19.233	0	NC	NC	NC	NC
910		10	6.411	0	NC	NC	NC	NC
911		11	-6.411	0	NC	NC	NC	NC
912		12	-19.233	0	NC	NC	NC	NC
913		13	-32.055	0	NC	NC	NC	NC
914		14	-44.877	0	NC	NC	NC	NC
915		15	-57.699	0	NC	NC	NC	NC
916		16	-70.521	0	NC	NC	NC	NC
917		17	-83.343	0	NC	NC	NC	NC
918		18	-96.165	0	NC	NC	NC	NC
919		19	-108.987	0	NC	NC	NC	NC
920		20	-121.81	0	NC	NC	NC	NC
921	2	A14	1	121.809	0	NC	NC	NC
922		2	108.987	0	NC	NC	NC	NC
923		3	96.165	0	NC	NC	NC	NC
924		4	83.343	0	NC	NC	NC	NC
925		5	70.521	0	NC	NC	NC	NC
926		6	57.699	0	NC	NC	NC	NC
927		7	44.877	0	NC	NC	NC	NC
928		8	32.055	0	NC	NC	NC	NC
929		9	19.233	0	NC	NC	NC	NC
930		10	6.411	0	NC	NC	NC	NC
931		11	-6.411	0	NC	NC	NC	NC
932		12	-19.233	0	NC	NC	NC	NC
933		13	-32.055	0	NC	NC	NC	NC
934		14	-44.877	0	NC	NC	NC	NC
935		15	-57.699	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
936		16	-70.521	0	NC	NC	NC	NC
937		17	-83.343	0	NC	NC	NC	NC
938		18	-96.166	0	NC	NC	NC	NC
939		19	-108.988	0	NC	NC	NC	NC
940		20	-121.81	0	NC	NC	NC	NC
941	2	A15	1	121.804	0	NC	NC	NC
942		2	108.982	0	NC	NC	NC	NC
943		3	96.16	0	NC	NC	NC	NC
944		4	83.338	0	NC	NC	NC	NC
945		5	70.516	0	NC	NC	NC	NC
946		6	57.694	0	NC	NC	NC	NC
947		7	44.872	0	NC	NC	NC	NC
948		8	32.05	0	NC	NC	NC	NC
949		9	19.228	0	NC	NC	NC	NC
950		10	6.406	0	NC	NC	NC	NC
951		11	-6.416	0	NC	NC	NC	NC
952		12	-19.238	0	NC	NC	NC	NC
953		13	-32.06	0	NC	NC	NC	NC
954		14	-44.882	0	NC	NC	NC	NC
955		15	-57.704	0	NC	NC	NC	NC
956		16	-70.526	0	NC	NC	NC	NC
957		17	-83.349	0	NC	NC	NC	NC
958		18	-96.171	0	NC	NC	NC	NC
959		19	-108.993	0	NC	NC	NC	NC
960		20	-121.815	0	NC	NC	NC	NC
961	2	A16	1	27.525	0	NC	NC	NC
962		2	20.939	0	NC	NC	NC	NC
963		3	14.354	0	NC	NC	NC	NC
964		4	7.768	0	NC	NC	NC	NC
965		5	1.182	0	NC	NC	NC	NC
966		6	-5.403	0	NC	NC	NC	NC
967		7	-11.989	0	NC	NC	NC	NC
968		8	-18.574	0	NC	NC	NC	NC
969		9	-25.16	0	NC	NC	NC	NC
970		10	-31.745	0	NC	NC	NC	NC
971		11	-38.331	0	NC	NC	NC	NC
972		12	-44.916	0	NC	NC	NC	NC
973		13	-51.502	0	NC	NC	NC	NC
974		14	-58.087	0	NC	NC	NC	NC
975		15	-64.673	0	NC	NC	NC	NC
976		16	-71.258	0	NC	NC	NC	NC
977		17	-77.844	0	NC	NC	NC	NC
978		18	-84.43	0	NC	NC	NC	NC
979		19	-91.015	0	NC	NC	NC	NC
980		20	-97.601	0	NC	NC	NC	NC
981	2	A17	1	0	0	NC	NC	NC
982		2	0	0	NC	NC	NC	NC
983		3	0	0	NC	NC	NC	NC
984		4	0	0	NC	NC	NC	NC
985		5	0	0	NC	NC	NC	NC
986		6	0	0	NC	NC	NC	NC
987		7	0	0	NC	NC	NC	NC
988		8	0	0	NC	NC	NC	NC
989		9	0	0	NC	NC	NC	NC
990		10	0	0	NC	NC	NC	NC
991		11	0	0	NC	NC	NC	NC
992		12	0	0	NC	NC	NC	NC
993		13	0	0	NC	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
994		14	0	0	NC	NC	NC	NC	
995		15	0	0	NC	NC	NC	NC	
996		16	0	0	NC	NC	NC	NC	
997		17	0	0	NC	NC	NC	NC	
998		18	0	0	NC	NC	NC	NC	
999		19	0	0	NC	NC	NC	NC	
1000		20	0	0	NC	NC	NC	NC	
1001	2	R1	1	0	0	NC	NC	NC	NC
1002		2	0	0	NC	NC	NC	NC	
1003		3	0	0	NC	NC	NC	NC	
1004		4	0	0	NC	NC	NC	NC	
1005		5	0	0	NC	NC	NC	NC	
1006		6	0	0	NC	NC	NC	NC	
1007		7	0	0	NC	NC	NC	NC	
1008		8	0	0	NC	NC	NC	NC	
1009		9	0	0	NC	NC	NC	NC	
1010		10	0	0	NC	NC	NC	NC	
1011		11	0	0	NC	NC	NC	NC	
1012		12	0	0	NC	NC	NC	NC	
1013		13	0	0	NC	NC	NC	NC	
1014		14	0	0	NC	NC	NC	NC	
1015		15	0	0	NC	NC	NC	NC	
1016		16	0	0	NC	NC	NC	NC	
1017		17	0	0	NC	NC	NC	NC	
1018		18	0	0	NC	NC	NC	NC	
1019		19	0	0	NC	NC	NC	NC	
1020		20	0	0	NC	NC	NC	NC	
1021	2	R2	1	0	0	NC	NC	NC	NC
1022		2	0	0	NC	NC	NC	NC	
1023		3	0	0	NC	NC	NC	NC	
1024		4	0	0	NC	NC	NC	NC	
1025		5	0	0	NC	NC	NC	NC	
1026		6	0	0	NC	NC	NC	NC	
1027		7	0	0	NC	NC	NC	NC	
1028		8	0	0	NC	NC	NC	NC	
1029		9	0	0	NC	NC	NC	NC	
1030		10	0	0	NC	NC	NC	NC	
1031		11	0	0	NC	NC	NC	NC	
1032		12	0	0	NC	NC	NC	NC	
1033		13	0	0	NC	NC	NC	NC	
1034		14	0	0	NC	NC	NC	NC	
1035		15	0	0	NC	NC	NC	NC	
1036		16	0	0	NC	NC	NC	NC	
1037		17	0	0	NC	NC	NC	NC	
1038		18	0	0	NC	NC	NC	NC	
1039		19	0	0	NC	NC	NC	NC	
1040		20	0	0	NC	NC	NC	NC	
1041	2	R3	1	0	0	NC	NC	NC	NC
1042		2	0	0	NC	NC	NC	NC	
1043		3	0	0	NC	NC	NC	NC	
1044		4	0	0	NC	NC	NC	NC	
1045		5	0	0	NC	NC	NC	NC	
1046		6	0	0	NC	NC	NC	NC	
1047		7	0	0	NC	NC	NC	NC	
1048		8	0	0	NC	NC	NC	NC	
1049		9	0	0	NC	NC	NC	NC	
1050		10	0	0	NC	NC	NC	NC	
1051		11	0	0	NC	NC	NC	NC	



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
1052		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1053		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1054		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1055		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1056		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1057		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1058		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1059		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1060		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1061	2	R4	1	0	0	NC	NC	NC	NC	NC	NC	NC
1062		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1063		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1064		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1065		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1066		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1067		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1068		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1069		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1070		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1071		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1072		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1073		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1074		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1075		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1076		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1077		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1078		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1079		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1080		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1081	2	R5	1	0	0	NC	NC	NC	NC	NC	NC	NC
1082		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1083		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1084		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1085		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1086		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1087		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1088		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1089		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1090		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1091		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1092		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1093		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1094		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1095		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1096		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1097		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1098		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1099		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1100		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1101	2	R6	1	0	0	NC	NC	NC	NC	NC	NC	NC
1102		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1103		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1104		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1105		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1106		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1107		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1108		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1109		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
1110		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1111		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1112		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1113		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1114		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1115		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1116		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1117		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1118		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1119		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1120		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1121	2	R7	1	0	0	NC	NC	NC	NC	NC	NC	NC
1122		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1123		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1124		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1125		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1126		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1127		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1128		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1129		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1130		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1131		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1132		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1133		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1134		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1135		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1136		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1137		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1138		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1139		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1140		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1141	2	R8	1	0	0	NC	NC	NC	NC	NC	NC	NC
1142		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1143		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1144		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1145		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1146		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1147		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1148		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1149		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1150		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1151		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1152		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1153		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1154		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1155		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1156		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1157		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1158		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1159		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1160		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1161	2	R9	1	0	0	NC	NC	NC	NC	NC	NC	NC
1162		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1163		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1164		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1165		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1166		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1167		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
1168		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1169		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1170		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1171		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1172		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1173		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1174		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1175		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1176		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1177		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1178		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1179		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1180		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1181	2	R10	1	0	0	NC	NC	NC	NC	NC	NC	NC
1182		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1183		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1184		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1185		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1186		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1187		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1188		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1189		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1190		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1191		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1192		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1193		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1194		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1195		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1196		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1197		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1198		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1199		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1200		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1201	2	R11	1	0	0	NC	NC	NC	NC	NC	NC	NC
1202		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1203		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1204		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1205		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1206		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1207		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1208		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1209		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1210		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1211		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1212		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1213		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1214		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1215		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1216		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1217		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1218		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1219		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1220		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1221	2	R12	1	0	0	NC	NC	NC	NC	NC	NC	NC
1222		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1223		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1224		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1225		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
1226		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1227		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1228		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1229		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1230		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1231		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1232		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1233		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1234		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1235		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1236		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1237		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1238		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1239		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1240		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1241	2	R13	1	0	0	NC	NC	NC	NC	NC	NC	NC
1242			2	0	0	NC	NC	NC	NC	NC	NC	NC
1243			3	0	0	NC	NC	NC	NC	NC	NC	NC
1244			4	0	0	NC	NC	NC	NC	NC	NC	NC
1245			5	0	0	NC	NC	NC	NC	NC	NC	NC
1246			6	0	0	NC	NC	NC	NC	NC	NC	NC
1247			7	0	0	NC	NC	NC	NC	NC	NC	NC
1248			8	0	0	NC	NC	NC	NC	NC	NC	NC
1249			9	0	0	NC	NC	NC	NC	NC	NC	NC
1250			10	0	0	NC	NC	NC	NC	NC	NC	NC
1251			11	0	0	NC	NC	NC	NC	NC	NC	NC
1252			12	0	0	NC	NC	NC	NC	NC	NC	NC
1253			13	0	0	NC	NC	NC	NC	NC	NC	NC
1254			14	0	0	NC	NC	NC	NC	NC	NC	NC
1255			15	0	0	NC	NC	NC	NC	NC	NC	NC
1256			16	0	0	NC	NC	NC	NC	NC	NC	NC
1257			17	0	0	NC	NC	NC	NC	NC	NC	NC
1258			18	0	0	NC	NC	NC	NC	NC	NC	NC
1259			19	0	0	NC	NC	NC	NC	NC	NC	NC
1260			20	0	0	NC	NC	NC	NC	NC	NC	NC
1261	2	R14	1	0	0	NC	NC	NC	NC	NC	NC	NC
1262			2	0	0	NC	NC	NC	NC	NC	NC	NC
1263			3	0	0	NC	NC	NC	NC	NC	NC	NC
1264			4	0	0	NC	NC	NC	NC	NC	NC	NC
1265			5	0	0	NC	NC	NC	NC	NC	NC	NC
1266			6	0	0	NC	NC	NC	NC	NC	NC	NC
1267			7	0	0	NC	NC	NC	NC	NC	NC	NC
1268			8	0	0	NC	NC	NC	NC	NC	NC	NC
1269			9	0	0	NC	NC	NC	NC	NC	NC	NC
1270			10	0	0	NC	NC	NC	NC	NC	NC	NC
1271			11	0	0	NC	NC	NC	NC	NC	NC	NC
1272			12	0	0	NC	NC	NC	NC	NC	NC	NC
1273			13	0	0	NC	NC	NC	NC	NC	NC	NC
1274			14	0	0	NC	NC	NC	NC	NC	NC	NC
1275			15	0	0	NC	NC	NC	NC	NC	NC	NC
1276			16	0	0	NC	NC	NC	NC	NC	NC	NC
1277			17	0	0	NC	NC	NC	NC	NC	NC	NC
1278			18	0	0	NC	NC	NC	NC	NC	NC	NC
1279			19	0	0	NC	NC	NC	NC	NC	NC	NC
1280			20	0	0	NC	NC	NC	NC	NC	NC	NC
1281	2	R15	1	0	0	NC	NC	NC	NC	NC	NC	NC
1282			2	0	0	NC	NC	NC	NC	NC	NC	NC
1283			3	0	0	NC	NC	NC	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1284		4	0	0	NC	NC	NC	NC
1285		5	0	0	NC	NC	NC	NC
1286		6	0	0	NC	NC	NC	NC
1287		7	0	0	NC	NC	NC	NC
1288		8	0	0	NC	NC	NC	NC
1289		9	0	0	NC	NC	NC	NC
1290		10	0	0	NC	NC	NC	NC
1291		11	0	0	NC	NC	NC	NC
1292		12	0	0	NC	NC	NC	NC
1293		13	0	0	NC	NC	NC	NC
1294		14	0	0	NC	NC	NC	NC
1295		15	0	0	NC	NC	NC	NC
1296		16	0	0	NC	NC	NC	NC
1297		17	0	0	NC	NC	NC	NC
1298		18	0	0	NC	NC	NC	NC
1299		19	0	0	NC	NC	NC	NC
1300		20	0	0	NC	NC	NC	NC
1301	2	M33	1	0	0	NC	NC	NC
1302			2	0	0	NC	NC	NC
1303			3	0	0	NC	NC	NC
1304			4	0	0	NC	NC	NC
1305			5	0	0	NC	NC	NC
1306			6	0	0	NC	NC	NC
1307			7	0	0	NC	NC	NC
1308			8	0	0	NC	NC	NC
1309			9	0	0	NC	NC	NC
1310			10	0	0	NC	NC	NC
1311			11	0	0	NC	NC	NC
1312			12	0	0	NC	NC	NC
1313			13	0	0	NC	NC	NC
1314			14	0	0	NC	NC	NC
1315			15	0	0	NC	NC	NC
1316			16	0	0	NC	NC	NC
1317			17	0	0	NC	NC	NC
1318			18	0	0	NC	NC	NC
1319			19	0	0	NC	NC	NC
1320			20	0	0	NC	NC	NC
1321	3	A1	1	0	0	NC	NC	NC
1322			2	0	0	NC	NC	NC
1323			3	0	0	NC	NC	NC
1324			4	0	0	NC	NC	NC
1325			5	0	0	NC	NC	NC
1326			6	0	0	NC	NC	NC
1327			7	0	0	NC	NC	NC
1328			8	0	0	NC	NC	NC
1329			9	0	0	NC	NC	NC
1330			10	0	0	NC	NC	NC
1331			11	0	0	NC	NC	NC
1332			12	0	0	NC	NC	NC
1333			13	0	0	NC	NC	NC
1334			14	0	0	NC	NC	NC
1335			15	0	0	NC	NC	NC
1336			16	0	0	NC	NC	NC
1337			17	0	0	NC	NC	NC
1338			18	0	0	NC	NC	NC
1339			19	0	0	NC	NC	NC
1340			20	0	0	NC	NC	NC
1341	3	A2	1	-43.914	0	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1342		2	-47.93	0	NC	NC	NC	NC
1343		3	-51.947	0	NC	NC	NC	NC
1344		4	-55.963	0	NC	NC	NC	NC
1345		5	-59.98	0	NC	NC	NC	NC
1346		6	-63.997	0	NC	NC	NC	NC
1347		7	-68.013	0	NC	NC	NC	NC
1348		8	-72.03	0	NC	NC	NC	NC
1349		9	-76.047	0	NC	NC	NC	NC
1350		10	-80.063	0	NC	NC	NC	NC
1351		11	-84.08	0	NC	NC	NC	NC
1352		12	-88.097	0	NC	NC	NC	NC
1353		13	-92.113	0	NC	NC	NC	NC
1354		14	-96.13	0	NC	NC	NC	NC
1355		15	-100.146	0	NC	NC	NC	NC
1356		16	-104.163	0	NC	NC	NC	NC
1357		17	-108.18	0	NC	NC	NC	NC
1358		18	-112.196	0	NC	NC	NC	NC
1359		19	-116.213	0	NC	NC	NC	NC
1360		20	-120.23	0	NC	NC	NC	NC
1361	3	A3	1	119.848	0	NC	NC	NC
1362		2	107.232	0	NC	NC	NC	NC
1363		3	94.617	0	NC	NC	NC	NC
1364		4	82.001	0	NC	NC	NC	NC
1365		5	69.385	0	NC	NC	NC	NC
1366		6	56.77	0	NC	NC	NC	NC
1367		7	44.154	0	NC	NC	NC	NC
1368		8	31.538	0	NC	NC	NC	NC
1369		9	18.923	0	NC	NC	NC	NC
1370		10	6.307	0	NC	NC	NC	NC
1371		11	-6.309	0	NC	NC	NC	NC
1372		12	-18.924	0	NC	NC	NC	NC
1373		13	-31.54	0	NC	NC	NC	NC
1374		14	-44.156	0	NC	NC	NC	NC
1375		15	-56.771	0	NC	NC	NC	NC
1376		16	-69.387	0	NC	NC	NC	NC
1377		17	-82.002	0	NC	NC	NC	NC
1378		18	-94.618	0	NC	NC	NC	NC
1379		19	-107.234	0	NC	NC	NC	NC
1380		20	-119.849	0	NC	NC	NC	NC
1381	3	A4	1	119.849	0	NC	NC	NC
1382		2	107.233	0	NC	NC	NC	NC
1383		3	94.618	0	NC	NC	NC	NC
1384		4	82.002	0	NC	NC	NC	NC
1385		5	69.386	0	NC	NC	NC	NC
1386		6	56.771	0	NC	NC	NC	NC
1387		7	44.155	0	NC	NC	NC	NC
1388		8	31.539	0	NC	NC	NC	NC
1389		9	18.924	0	NC	NC	NC	NC
1390		10	6.308	0	NC	NC	NC	NC
1391		11	-6.308	0	NC	NC	NC	NC
1392		12	-18.923	0	NC	NC	NC	NC
1393		13	-31.539	0	NC	NC	NC	NC
1394		14	-44.155	0	NC	NC	NC	NC
1395		15	-56.77	0	NC	NC	NC	NC
1396		16	-69.386	0	NC	NC	NC	NC
1397		17	-82.001	0	NC	NC	NC	NC
1398		18	-94.617	0	NC	NC	NC	NC
1399		19	-107.233	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1400		20	-119.848	0	NC	NC	NC	NC
1401	3 A5	1	119.849	0	NC	NC	NC	NC
1402		2	107.233	0	NC	NC	NC	NC
1403		3	94.617	0	NC	NC	NC	NC
1404		4	82.002	0	NC	NC	NC	NC
1405		5	69.386	0	NC	NC	NC	NC
1406		6	56.77	0	NC	NC	NC	NC
1407		7	44.155	0	NC	NC	NC	NC
1408		8	31.539	0	NC	NC	NC	NC
1409		9	18.923	0	NC	NC	NC	NC
1410		10	6.308	0	NC	NC	NC	NC
1411		11	-6.308	0	NC	NC	NC	NC
1412		12	-18.924	0	NC	NC	NC	NC
1413		13	-31.539	0	NC	NC	NC	NC
1414		14	-44.155	0	NC	NC	NC	NC
1415		15	-56.77	0	NC	NC	NC	NC
1416		16	-69.386	0	NC	NC	NC	NC
1417		17	-82.002	0	NC	NC	NC	NC
1418		18	-94.617	0	NC	NC	NC	NC
1419		19	-107.233	0	NC	NC	NC	NC
1420		20	-119.849	0	NC	NC	NC	NC
1421	3 A6	1	119.849	0	NC	NC	NC	NC
1422		2	107.233	0	NC	NC	NC	NC
1423		3	94.617	0	NC	NC	NC	NC
1424		4	82.002	0	NC	NC	NC	NC
1425		5	69.386	0	NC	NC	NC	NC
1426		6	56.77	0	NC	NC	NC	NC
1427		7	44.155	0	NC	NC	NC	NC
1428		8	31.539	0	NC	NC	NC	NC
1429		9	18.923	0	NC	NC	NC	NC
1430		10	6.308	0	NC	NC	NC	NC
1431		11	-6.308	0	NC	NC	NC	NC
1432		12	-18.923	0	NC	NC	NC	NC
1433		13	-31.539	0	NC	NC	NC	NC
1434		14	-44.155	0	NC	NC	NC	NC
1435		15	-56.77	0	NC	NC	NC	NC
1436		16	-69.386	0	NC	NC	NC	NC
1437		17	-82.002	0	NC	NC	NC	NC
1438		18	-94.617	0	NC	NC	NC	NC
1439		19	-107.233	0	NC	NC	NC	NC
1440		20	-119.849	0	NC	NC	NC	NC
1441	3 A7	1	119.849	0	NC	NC	NC	NC
1442		2	107.233	0	NC	NC	NC	NC
1443		3	94.617	0	NC	NC	NC	NC
1444		4	82.002	0	NC	NC	NC	NC
1445		5	69.386	0	NC	NC	NC	NC
1446		6	56.771	0	NC	NC	NC	NC
1447		7	44.155	0	NC	NC	NC	NC
1448		8	31.539	0	NC	NC	NC	NC
1449		9	18.924	0	NC	NC	NC	NC
1450		10	6.308	0	NC	NC	NC	NC
1451		11	-6.308	0	NC	NC	NC	NC
1452		12	-18.923	0	NC	NC	NC	NC
1453		13	-31.539	0	NC	NC	NC	NC
1454		14	-44.155	0	NC	NC	NC	NC
1455		15	-56.77	0	NC	NC	NC	NC
1456		16	-69.386	0	NC	NC	NC	NC
1457		17	-82.002	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1458		18	-94.617	0	NC	NC	NC	NC
1459		19	-107.233	0	NC	NC	NC	NC
1460		20	-119.849	0	NC	NC	NC	NC
1461	3 A8	1	119.848	0	NC	NC	NC	NC
1462		2	107.232	0	NC	NC	NC	NC
1463		3	94.616	0	NC	NC	NC	NC
1464		4	82.001	0	NC	NC	NC	NC
1465		5	69.385	0	NC	NC	NC	NC
1466		6	56.769	0	NC	NC	NC	NC
1467		7	44.154	0	NC	NC	NC	NC
1468		8	31.538	0	NC	NC	NC	NC
1469		9	18.923	0	NC	NC	NC	NC
1470		10	6.307	0	NC	NC	NC	NC
1471		11	-6.309	0	NC	NC	NC	NC
1472		12	-18.924	0	NC	NC	NC	NC
1473		13	-31.54	0	NC	NC	NC	NC
1474		14	-44.156	0	NC	NC	NC	NC
1475		15	-56.771	0	NC	NC	NC	NC
1476		16	-69.387	0	NC	NC	NC	NC
1477		17	-82.003	0	NC	NC	NC	NC
1478		18	-94.618	0	NC	NC	NC	NC
1479		19	-107.234	0	NC	NC	NC	NC
1480		20	-119.85	0	NC	NC	NC	NC
1481	3 A9	1	119.848	0	NC	NC	NC	NC
1482		2	107.233	0	NC	NC	NC	NC
1483		3	94.617	0	NC	NC	NC	NC
1484		4	82.001	0	NC	NC	NC	NC
1485		5	69.386	0	NC	NC	NC	NC
1486		6	56.77	0	NC	NC	NC	NC
1487		7	44.155	0	NC	NC	NC	NC
1488		8	31.539	0	NC	NC	NC	NC
1489		9	18.923	0	NC	NC	NC	NC
1490		10	6.308	0	NC	NC	NC	NC
1491		11	-6.308	0	NC	NC	NC	NC
1492		12	-18.924	0	NC	NC	NC	NC
1493		13	-31.539	0	NC	NC	NC	NC
1494		14	-44.155	0	NC	NC	NC	NC
1495		15	-56.771	0	NC	NC	NC	NC
1496		16	-69.386	0	NC	NC	NC	NC
1497		17	-82.002	0	NC	NC	NC	NC
1498		18	-94.618	0	NC	NC	NC	NC
1499		19	-107.233	0	NC	NC	NC	NC
1500		20	-119.849	0	NC	NC	NC	NC
1501	3 A10	1	119.85	0	NC	NC	NC	NC
1502		2	107.235	0	NC	NC	NC	NC
1503		3	94.619	0	NC	NC	NC	NC
1504		4	82.003	0	NC	NC	NC	NC
1505		5	69.388	0	NC	NC	NC	NC
1506		6	56.772	0	NC	NC	NC	NC
1507		7	44.156	0	NC	NC	NC	NC
1508		8	31.541	0	NC	NC	NC	NC
1509		9	18.925	0	NC	NC	NC	NC
1510		10	6.309	0	NC	NC	NC	NC
1511		11	-6.306	0	NC	NC	NC	NC
1512		12	-18.922	0	NC	NC	NC	NC
1513		13	-31.538	0	NC	NC	NC	NC
1514		14	-44.153	0	NC	NC	NC	NC
1515		15	-56.769	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1516		16	-69.385	0	NC	NC	NC	NC
1517		17	-82	0	NC	NC	NC	NC
1518		18	-94.616	0	NC	NC	NC	NC
1519		19	-107.231	0	NC	NC	NC	NC
1520		20	-119.847	0	NC	NC	NC	NC
1521	3 A11	1	119.848	0	NC	NC	NC	NC
1522		2	107.233	0	NC	NC	NC	NC
1523		3	94.617	0	NC	NC	NC	NC
1524		4	82.001	0	NC	NC	NC	NC
1525		5	69.386	0	NC	NC	NC	NC
1526		6	56.77	0	NC	NC	NC	NC
1527		7	44.154	0	NC	NC	NC	NC
1528		8	31.539	0	NC	NC	NC	NC
1529		9	18.923	0	NC	NC	NC	NC
1530		10	6.307	0	NC	NC	NC	NC
1531		11	-6.308	0	NC	NC	NC	NC
1532		12	-18.924	0	NC	NC	NC	NC
1533		13	-31.54	0	NC	NC	NC	NC
1534		14	-44.155	0	NC	NC	NC	NC
1535		15	-56.771	0	NC	NC	NC	NC
1536		16	-69.386	0	NC	NC	NC	NC
1537		17	-82.002	0	NC	NC	NC	NC
1538		18	-94.618	0	NC	NC	NC	NC
1539		19	-107.233	0	NC	NC	NC	NC
1540		20	-119.849	0	NC	NC	NC	NC
1541	3 A12	1	119.849	0	NC	NC	NC	NC
1542		2	107.233	0	NC	NC	NC	NC
1543		3	94.617	0	NC	NC	NC	NC
1544		4	82.002	0	NC	NC	NC	NC
1545		5	69.386	0	NC	NC	NC	NC
1546		6	56.77	0	NC	NC	NC	NC
1547		7	44.155	0	NC	NC	NC	NC
1548		8	31.539	0	NC	NC	NC	NC
1549		9	18.923	0	NC	NC	NC	NC
1550		10	6.308	0	NC	NC	NC	NC
1551		11	-6.308	0	NC	NC	NC	NC
1552		12	-18.923	0	NC	NC	NC	NC
1553		13	-31.539	0	NC	NC	NC	NC
1554		14	-44.155	0	NC	NC	NC	NC
1555		15	-56.77	0	NC	NC	NC	NC
1556		16	-69.386	0	NC	NC	NC	NC
1557		17	-82.002	0	NC	NC	NC	NC
1558		18	-94.617	0	NC	NC	NC	NC
1559		19	-107.233	0	NC	NC	NC	NC
1560		20	-119.849	0	NC	NC	NC	NC
1561	3 A13	1	119.849	0	NC	NC	NC	NC
1562		2	107.233	0	NC	NC	NC	NC
1563		3	94.617	0	NC	NC	NC	NC
1564		4	82.002	0	NC	NC	NC	NC
1565		5	69.386	0	NC	NC	NC	NC
1566		6	56.77	0	NC	NC	NC	NC
1567		7	44.155	0	NC	NC	NC	NC
1568		8	31.539	0	NC	NC	NC	NC
1569		9	18.923	0	NC	NC	NC	NC
1570		10	6.308	0	NC	NC	NC	NC
1571		11	-6.308	0	NC	NC	NC	NC
1572		12	-18.923	0	NC	NC	NC	NC
1573		13	-31.539	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1574		14	-44.155	0	NC	NC	NC	NC
1575		15	-56.77	0	NC	NC	NC	NC
1576		16	-69.386	0	NC	NC	NC	NC
1577		17	-82.002	0	NC	NC	NC	NC
1578		18	-94.617	0	NC	NC	NC	NC
1579		19	-107.233	0	NC	NC	NC	NC
1580		20	-119.849	0	NC	NC	NC	NC
1581	3	A14	1	119.849	0	NC	NC	NC
1582		2	107.233	0	NC	NC	NC	NC
1583		3	94.617	0	NC	NC	NC	NC
1584		4	82.002	0	NC	NC	NC	NC
1585		5	69.386	0	NC	NC	NC	NC
1586		6	56.77	0	NC	NC	NC	NC
1587		7	44.155	0	NC	NC	NC	NC
1588		8	31.539	0	NC	NC	NC	NC
1589		9	18.924	0	NC	NC	NC	NC
1590		10	6.308	0	NC	NC	NC	NC
1591		11	-6.308	0	NC	NC	NC	NC
1592		12	-18.923	0	NC	NC	NC	NC
1593		13	-31.539	0	NC	NC	NC	NC
1594		14	-44.155	0	NC	NC	NC	NC
1595		15	-56.77	0	NC	NC	NC	NC
1596		16	-69.386	0	NC	NC	NC	NC
1597		17	-82.002	0	NC	NC	NC	NC
1598		18	-94.617	0	NC	NC	NC	NC
1599		19	-107.233	0	NC	NC	NC	NC
1600		20	-119.849	0	NC	NC	NC	NC
1601	3	A15	1	119.843	0	NC	NC	NC
1602		2	107.227	0	NC	NC	NC	NC
1603		3	94.611	0	NC	NC	NC	NC
1604		4	81.996	0	NC	NC	NC	NC
1605		5	69.38	0	NC	NC	NC	NC
1606		6	56.764	0	NC	NC	NC	NC
1607		7	44.149	0	NC	NC	NC	NC
1608		8	31.533	0	NC	NC	NC	NC
1609		9	18.918	0	NC	NC	NC	NC
1610		10	6.302	0	NC	NC	NC	NC
1611		11	-6.314	0	NC	NC	NC	NC
1612		12	-18.929	0	NC	NC	NC	NC
1613		13	-31.545	0	NC	NC	NC	NC
1614		14	-44.161	0	NC	NC	NC	NC
1615		15	-56.776	0	NC	NC	NC	NC
1616		16	-69.392	0	NC	NC	NC	NC
1617		17	-82.008	0	NC	NC	NC	NC
1618		18	-94.623	0	NC	NC	NC	NC
1619		19	-107.239	0	NC	NC	NC	NC
1620		20	-119.855	0	NC	NC	NC	NC
1621	3	A16	1	19.461	0	NC	NC	NC
1622		2	12.982	0	NC	NC	NC	NC
1623		3	6.502	0	NC	NC	NC	NC
1624		4	0.022	0	NC	NC	NC	NC
1625		5	-6.457	0	NC	NC	NC	NC
1626		6	-12.937	0	NC	NC	NC	NC
1627		7	-19.416	0	NC	NC	NC	NC
1628		8	-25.896	0	NC	NC	NC	NC
1629		9	-32.375	0	NC	NC	NC	NC
1630		10	-38.855	0	NC	NC	NC	NC
1631		11	-45.334	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
1632		12	-51.814	0	NC	NC	NC	NC	NC	NC	NC	NC
1633		13	-58.293	0	NC	NC	NC	NC	NC	NC	NC	NC
1634		14	-64.773	0	NC	NC	NC	NC	NC	NC	NC	NC
1635		15	-71.252	0	NC	NC	NC	NC	NC	NC	NC	NC
1636		16	-77.732	0	NC	NC	NC	NC	NC	NC	NC	NC
1637		17	-84.211	0	NC	NC	NC	NC	NC	NC	NC	NC
1638		18	-90.691	0	NC	NC	NC	NC	NC	NC	NC	NC
1639		19	-97.17	0	NC	NC	NC	NC	NC	NC	NC	NC
1640		20	-103.65	0	NC	NC	NC	NC	NC	NC	NC	NC
1641	3	A17	1	0	0	NC	NC	NC	NC	NC	NC	NC
1642		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1643		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1644		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1645		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1646		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1647		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1648		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1649		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1650		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1651		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1652		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1653		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1654		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1655		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1656		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1657		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1658		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1659		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1660		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1661	3	R1	1	0	0	NC	NC	NC	NC	NC	NC	NC
1662		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1663		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1664		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1665		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1666		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1667		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1668		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1669		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1670		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1671		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1672		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1673		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1674		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1675		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1676		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1677		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1678		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1679		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1680		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1681	3	R2	1	0	0	NC	NC	NC	NC	NC	NC	NC
1682		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1683		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1684		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1685		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1686		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1687		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1688		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1689		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
1690		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1691		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1692		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1693		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1694		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1695		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1696		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1697		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1698		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1699		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1700		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1701	3	R3	1	0	0	NC	NC	NC	NC	NC	NC	NC
1702		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1703		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1704		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1705		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1706		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1707		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1708		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1709		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1710		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1711		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1712		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1713		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1714		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1715		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1716		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1717		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1718		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1719		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1720		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1721	3	R4	1	0	0	NC	NC	NC	NC	NC	NC	NC
1722		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1723		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1724		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1725		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1726		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1727		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1728		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1729		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1730		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1731		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1732		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1733		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1734		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1735		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1736		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1737		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1738		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1739		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1740		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1741	3	R5	1	0	0	NC	NC	NC	NC	NC	NC	NC
1742		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1743		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1744		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1745		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1746		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1747		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
1748		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1749		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1750		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1751		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1752		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1753		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1754		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1755		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1756		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1757		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1758		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1759		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1760		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1761	3	R6	1	0	0	NC	NC	NC	NC	NC	NC	NC
1762		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1763		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1764		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1765		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1766		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1767		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1768		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1769		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1770		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1771		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1772		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1773		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1774		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1775		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1776		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1777		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1778		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1779		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1780		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1781	3	R7	1	0	0	NC	NC	NC	NC	NC	NC	NC
1782		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1783		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1784		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1785		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1786		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1787		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1788		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1789		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1790		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1791		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1792		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1793		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1794		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1795		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1796		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1797		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1798		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1799		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1800		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1801	3	R8	1	0	0	NC	NC	NC	NC	NC	NC	NC
1802		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1803		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1804		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1805		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
1806		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1807		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1808		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1809		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1810		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1811		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1812		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1813		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1814		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1815		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1816		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1817		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1818		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1819		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1820		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1821	3	R9	1	0	0	NC	NC	NC	NC	NC	NC	NC
1822		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1823		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1824		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1825		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1826		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1827		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1828		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1829		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1830		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1831		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1832		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1833		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1834		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1835		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1836		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1837		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1838		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1839		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1840		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1841	3	R10	1	0	0	NC	NC	NC	NC	NC	NC	NC
1842		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1843		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1844		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1845		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1846		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1847		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1848		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1849		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1850		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1851		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1852		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1853		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1854		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1855		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1856		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1857		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1858		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1859		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1860		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1861	3	R11	1	0	0	NC	NC	NC	NC	NC	NC	NC
1862		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1863		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
1864		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1865		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1866		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1867		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1868		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1869		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1870		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1871		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1872		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1873		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1874		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1875		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1876		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1877		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1878		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1879		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1880		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
1881	3	R12	1	0	0	NC	NC	NC	NC	NC	NC	NC
1882			2	0	0	NC	NC	NC	NC	NC	NC	NC
1883			3	0	0	NC	NC	NC	NC	NC	NC	NC
1884			4	0	0	NC	NC	NC	NC	NC	NC	NC
1885			5	0	0	NC	NC	NC	NC	NC	NC	NC
1886			6	0	0	NC	NC	NC	NC	NC	NC	NC
1887			7	0	0	NC	NC	NC	NC	NC	NC	NC
1888			8	0	0	NC	NC	NC	NC	NC	NC	NC
1889			9	0	0	NC	NC	NC	NC	NC	NC	NC
1890			10	0	0	NC	NC	NC	NC	NC	NC	NC
1891			11	0	0	NC	NC	NC	NC	NC	NC	NC
1892			12	0	0	NC	NC	NC	NC	NC	NC	NC
1893			13	0	0	NC	NC	NC	NC	NC	NC	NC
1894			14	0	0	NC	NC	NC	NC	NC	NC	NC
1895			15	0	0	NC	NC	NC	NC	NC	NC	NC
1896			16	0	0	NC	NC	NC	NC	NC	NC	NC
1897			17	0	0	NC	NC	NC	NC	NC	NC	NC
1898			18	0	0	NC	NC	NC	NC	NC	NC	NC
1899			19	0	0	NC	NC	NC	NC	NC	NC	NC
1900			20	0	0	NC	NC	NC	NC	NC	NC	NC
1901	3	R13	1	0	0	NC	NC	NC	NC	NC	NC	NC
1902			2	0	0	NC	NC	NC	NC	NC	NC	NC
1903			3	0	0	NC	NC	NC	NC	NC	NC	NC
1904			4	0	0	NC	NC	NC	NC	NC	NC	NC
1905			5	0	0	NC	NC	NC	NC	NC	NC	NC
1906			6	0	0	NC	NC	NC	NC	NC	NC	NC
1907			7	0	0	NC	NC	NC	NC	NC	NC	NC
1908			8	0	0	NC	NC	NC	NC	NC	NC	NC
1909			9	0	0	NC	NC	NC	NC	NC	NC	NC
1910			10	0	0	NC	NC	NC	NC	NC	NC	NC
1911			11	0	0	NC	NC	NC	NC	NC	NC	NC
1912			12	0	0	NC	NC	NC	NC	NC	NC	NC
1913			13	0	0	NC	NC	NC	NC	NC	NC	NC
1914			14	0	0	NC	NC	NC	NC	NC	NC	NC
1915			15	0	0	NC	NC	NC	NC	NC	NC	NC
1916			16	0	0	NC	NC	NC	NC	NC	NC	NC
1917			17	0	0	NC	NC	NC	NC	NC	NC	NC
1918			18	0	0	NC	NC	NC	NC	NC	NC	NC
1919			19	0	0	NC	NC	NC	NC	NC	NC	NC
1920			20	0	0	NC	NC	NC	NC	NC	NC	NC
1921	3	R14	1	0	0	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1922		2	0	0	NC	NC	NC	NC
1923		3	0	0	NC	NC	NC	NC
1924		4	0	0	NC	NC	NC	NC
1925		5	0	0	NC	NC	NC	NC
1926		6	0	0	NC	NC	NC	NC
1927		7	0	0	NC	NC	NC	NC
1928		8	0	0	NC	NC	NC	NC
1929		9	0	0	NC	NC	NC	NC
1930		10	0	0	NC	NC	NC	NC
1931		11	0	0	NC	NC	NC	NC
1932		12	0	0	NC	NC	NC	NC
1933		13	0	0	NC	NC	NC	NC
1934		14	0	0	NC	NC	NC	NC
1935		15	0	0	NC	NC	NC	NC
1936		16	0	0	NC	NC	NC	NC
1937		17	0	0	NC	NC	NC	NC
1938		18	0	0	NC	NC	NC	NC
1939		19	0	0	NC	NC	NC	NC
1940		20	0	0	NC	NC	NC	NC
1941	3	R15	1	0	0	NC	NC	NC
1942		2	0	0	NC	NC	NC	NC
1943		3	0	0	NC	NC	NC	NC
1944		4	0	0	NC	NC	NC	NC
1945		5	0	0	NC	NC	NC	NC
1946		6	0	0	NC	NC	NC	NC
1947		7	0	0	NC	NC	NC	NC
1948		8	0	0	NC	NC	NC	NC
1949		9	0	0	NC	NC	NC	NC
1950		10	0	0	NC	NC	NC	NC
1951		11	0	0	NC	NC	NC	NC
1952		12	0	0	NC	NC	NC	NC
1953		13	0	0	NC	NC	NC	NC
1954		14	0	0	NC	NC	NC	NC
1955		15	0	0	NC	NC	NC	NC
1956		16	0	0	NC	NC	NC	NC
1957		17	0	0	NC	NC	NC	NC
1958		18	0	0	NC	NC	NC	NC
1959		19	0	0	NC	NC	NC	NC
1960		20	0	0	NC	NC	NC	NC
1961	3	M33	1	0	0	NC	NC	NC
1962		2	0	0	NC	NC	NC	NC
1963		3	0	0	NC	NC	NC	NC
1964		4	0	0	NC	NC	NC	NC
1965		5	0	0	NC	NC	NC	NC
1966		6	0	0	NC	NC	NC	NC
1967		7	0	0	NC	NC	NC	NC
1968		8	0	0	NC	NC	NC	NC
1969		9	0	0	NC	NC	NC	NC
1970		10	0	0	NC	NC	NC	NC
1971		11	0	0	NC	NC	NC	NC
1972		12	0	0	NC	NC	NC	NC
1973		13	0	0	NC	NC	NC	NC
1974		14	0	0	NC	NC	NC	NC
1975		15	0	0	NC	NC	NC	NC
1976		16	0	0	NC	NC	NC	NC
1977		17	0	0	NC	NC	NC	NC
1978		18	0	0	NC	NC	NC	NC
1979		19	0	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
1980		20	0	0	NC	NC	NC	NC
1981	4	A1	1	0	0	NC	NC	NC
1982		2	0	0	NC	NC	NC	NC
1983		3	0	0	NC	NC	NC	NC
1984		4	0	0	NC	NC	NC	NC
1985		5	0	0	NC	NC	NC	NC
1986		6	0	0	NC	NC	NC	NC
1987		7	0	0	NC	NC	NC	NC
1988		8	0	0	NC	NC	NC	NC
1989		9	0	0	NC	NC	NC	NC
1990		10	0	0	NC	NC	NC	NC
1991		11	0	0	NC	NC	NC	NC
1992		12	0	0	NC	NC	NC	NC
1993		13	0	0	NC	NC	NC	NC
1994		14	0	0	NC	NC	NC	NC
1995		15	0	0	NC	NC	NC	NC
1996		16	0	0	NC	NC	NC	NC
1997		17	0	0	NC	NC	NC	NC
1998		18	0	0	NC	NC	NC	NC
1999		19	0	0	NC	NC	NC	NC
2000		20	0	0	NC	NC	NC	NC
2001	4	A2	1	-34.014	0	NC	NC	NC
2002		2	-38.373	0	NC	NC	NC	NC
2003		3	-42.732	0	NC	NC	NC	NC
2004		4	-47.091	0	NC	NC	NC	NC
2005		5	-51.45	0	NC	NC	NC	NC
2006		6	-55.809	0	NC	NC	NC	NC
2007		7	-60.168	0	NC	NC	NC	NC
2008		8	-64.527	0	NC	NC	NC	NC
2009		9	-68.886	0	NC	NC	NC	NC
2010		10	-73.245	0	NC	NC	NC	NC
2011		11	-77.604	0	NC	NC	NC	NC
2012		12	-81.963	0	NC	NC	NC	NC
2013		13	-86.322	0	NC	NC	NC	NC
2014		14	-90.681	0	NC	NC	NC	NC
2015		15	-95.04	0	NC	NC	NC	NC
2016		16	-99.399	0	NC	NC	NC	NC
2017		17	-103.758	0	NC	NC	NC	NC
2018		18	-108.117	0	NC	NC	NC	NC
2019		19	-112.476	0	NC	NC	NC	NC
2020		20	-116.835	0	NC	NC	NC	NC
2021	4	A3	1	130.063	0	NC	NC	NC
2022		2	116.372	0	NC	NC	NC	NC
2023		3	102.681	0	NC	NC	NC	NC
2024		4	88.99	0	NC	NC	NC	NC
2025		5	75.299	0	NC	NC	NC	NC
2026		6	61.609	0	NC	NC	NC	NC
2027		7	47.918	0	NC	NC	NC	NC
2028		8	34.227	0	NC	NC	NC	NC
2029		9	20.536	0	NC	NC	NC	NC
2030		10	6.845	0	NC	NC	NC	NC
2031		11	-6.846	0	NC	NC	NC	NC
2032		12	-20.537	0	NC	NC	NC	NC
2033		13	-34.228	0	NC	NC	NC	NC
2034		14	-47.919	0	NC	NC	NC	NC
2035		15	-61.61	0	NC	NC	NC	NC
2036		16	-75.301	0	NC	NC	NC	NC
2037		17	-88.992	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2038		18	-102.683	0	NC	NC	NC	NC
2039		19	-116.374	0	NC	NC	NC	NC
2040		20	-130.065	0	NC	NC	NC	NC
2041	4	A4	1	130.064	0	NC	NC	NC
2042		2	116.373	0	NC	NC	NC	NC
2043		3	102.682	0	NC	NC	NC	NC
2044		4	88.991	0	NC	NC	NC	NC
2045		5	75.3	0	NC	NC	NC	NC
2046		6	61.61	0	NC	NC	NC	NC
2047		7	47.919	0	NC	NC	NC	NC
2048		8	34.228	0	NC	NC	NC	NC
2049		9	20.537	0	NC	NC	NC	NC
2050		10	6.846	0	NC	NC	NC	NC
2051		11	-6.845	0	NC	NC	NC	NC
2052		12	-20.536	0	NC	NC	NC	NC
2053		13	-34.227	0	NC	NC	NC	NC
2054		14	-47.918	0	NC	NC	NC	NC
2055		15	-61.609	0	NC	NC	NC	NC
2056		16	-75.3	0	NC	NC	NC	NC
2057		17	-88.991	0	NC	NC	NC	NC
2058		18	-102.682	0	NC	NC	NC	NC
2059		19	-116.373	0	NC	NC	NC	NC
2060		20	-130.064	0	NC	NC	NC	NC
2061	4	A5	1	130.064	0	NC	NC	NC
2062		2	116.373	0	NC	NC	NC	NC
2063		3	102.682	0	NC	NC	NC	NC
2064		4	88.991	0	NC	NC	NC	NC
2065		5	75.3	0	NC	NC	NC	NC
2066		6	61.609	0	NC	NC	NC	NC
2067		7	47.918	0	NC	NC	NC	NC
2068		8	34.227	0	NC	NC	NC	NC
2069		9	20.536	0	NC	NC	NC	NC
2070		10	6.845	0	NC	NC	NC	NC
2071		11	-6.846	0	NC	NC	NC	NC
2072		12	-20.536	0	NC	NC	NC	NC
2073		13	-34.227	0	NC	NC	NC	NC
2074		14	-47.918	0	NC	NC	NC	NC
2075		15	-61.609	0	NC	NC	NC	NC
2076		16	-75.3	0	NC	NC	NC	NC
2077		17	-88.991	0	NC	NC	NC	NC
2078		18	-102.682	0	NC	NC	NC	NC
2079		19	-116.373	0	NC	NC	NC	NC
2080		20	-130.064	0	NC	NC	NC	NC
2081	4	A6	1	130.064	0	NC	NC	NC
2082		2	116.373	0	NC	NC	NC	NC
2083		3	102.682	0	NC	NC	NC	NC
2084		4	88.991	0	NC	NC	NC	NC
2085		5	75.3	0	NC	NC	NC	NC
2086		6	61.609	0	NC	NC	NC	NC
2087		7	47.918	0	NC	NC	NC	NC
2088		8	34.227	0	NC	NC	NC	NC
2089		9	20.536	0	NC	NC	NC	NC
2090		10	6.845	0	NC	NC	NC	NC
2091		11	-6.845	0	NC	NC	NC	NC
2092		12	-20.536	0	NC	NC	NC	NC
2093		13	-34.227	0	NC	NC	NC	NC
2094		14	-47.918	0	NC	NC	NC	NC
2095		15	-61.609	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2096		16	-75.3	0	NC	NC	NC	NC
2097		17	-88.991	0	NC	NC	NC	NC
2098		18	-102.682	0	NC	NC	NC	NC
2099		19	-116.373	0	NC	NC	NC	NC
2100		20	-130.064	0	NC	NC	NC	NC
2101	4	A7	1	130.064	0	NC	NC	NC
2102		2	116.373	0	NC	NC	NC	NC
2103		3	102.682	0	NC	NC	NC	NC
2104		4	88.991	0	NC	NC	NC	NC
2105		5	75.3	0	NC	NC	NC	NC
2106		6	61.609	0	NC	NC	NC	NC
2107		7	47.918	0	NC	NC	NC	NC
2108		8	34.227	0	NC	NC	NC	NC
2109		9	20.536	0	NC	NC	NC	NC
2110		10	6.846	0	NC	NC	NC	NC
2111		11	-6.845	0	NC	NC	NC	NC
2112		12	-20.536	0	NC	NC	NC	NC
2113		13	-34.227	0	NC	NC	NC	NC
2114		14	-47.918	0	NC	NC	NC	NC
2115		15	-61.609	0	NC	NC	NC	NC
2116		16	-75.3	0	NC	NC	NC	NC
2117		17	-88.991	0	NC	NC	NC	NC
2118		18	-102.682	0	NC	NC	NC	NC
2119		19	-116.373	0	NC	NC	NC	NC
2120		20	-130.064	0	NC	NC	NC	NC
2121	4	A8	1	130.063	0	NC	NC	NC
2122		2	116.372	0	NC	NC	NC	NC
2123		3	102.681	0	NC	NC	NC	NC
2124		4	88.99	0	NC	NC	NC	NC
2125		5	75.299	0	NC	NC	NC	NC
2126		6	61.608	0	NC	NC	NC	NC
2127		7	47.917	0	NC	NC	NC	NC
2128		8	34.227	0	NC	NC	NC	NC
2129		9	20.536	0	NC	NC	NC	NC
2130		10	6.845	0	NC	NC	NC	NC
2131		11	-6.846	0	NC	NC	NC	NC
2132		12	-20.537	0	NC	NC	NC	NC
2133		13	-34.228	0	NC	NC	NC	NC
2134		14	-47.919	0	NC	NC	NC	NC
2135		15	-61.61	0	NC	NC	NC	NC
2136		16	-75.301	0	NC	NC	NC	NC
2137		17	-88.992	0	NC	NC	NC	NC
2138		18	-102.683	0	NC	NC	NC	NC
2139		19	-116.374	0	NC	NC	NC	NC
2140		20	-130.065	0	NC	NC	NC	NC
2141	4	A9	1	130.064	0	NC	NC	NC
2142		2	116.373	0	NC	NC	NC	NC
2143		3	102.682	0	NC	NC	NC	NC
2144		4	88.991	0	NC	NC	NC	NC
2145		5	75.3	0	NC	NC	NC	NC
2146		6	61.609	0	NC	NC	NC	NC
2147		7	47.918	0	NC	NC	NC	NC
2148		8	34.227	0	NC	NC	NC	NC
2149		9	20.536	0	NC	NC	NC	NC
2150		10	6.845	0	NC	NC	NC	NC
2151		11	-6.846	0	NC	NC	NC	NC
2152		12	-20.537	0	NC	NC	NC	NC
2153		13	-34.228	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2154		14	-47.919	0	NC	NC	NC	NC
2155		15	-61.609	0	NC	NC	NC	NC
2156		16	-75.3	0	NC	NC	NC	NC
2157		17	-88.991	0	NC	NC	NC	NC
2158		18	-102.682	0	NC	NC	NC	NC
2159		19	-116.373	0	NC	NC	NC	NC
2160		20	-130.064	0	NC	NC	NC	NC
2161	4 A10	1	130.065	0	NC	NC	NC	NC
2162		2	116.374	0	NC	NC	NC	NC
2163		3	102.683	0	NC	NC	NC	NC
2164		4	88.992	0	NC	NC	NC	NC
2165		5	75.301	0	NC	NC	NC	NC
2166		6	61.611	0	NC	NC	NC	NC
2167		7	47.92	0	NC	NC	NC	NC
2168		8	34.229	0	NC	NC	NC	NC
2169		9	20.538	0	NC	NC	NC	NC
2170		10	6.847	0	NC	NC	NC	NC
2171		11	-6.844	0	NC	NC	NC	NC
2172		12	-20.535	0	NC	NC	NC	NC
2173		13	-34.226	0	NC	NC	NC	NC
2174		14	-47.917	0	NC	NC	NC	NC
2175		15	-61.608	0	NC	NC	NC	NC
2176		16	-75.299	0	NC	NC	NC	NC
2177		17	-88.99	0	NC	NC	NC	NC
2178		18	-102.681	0	NC	NC	NC	NC
2179		19	-116.372	0	NC	NC	NC	NC
2180		20	-130.063	0	NC	NC	NC	NC
2181	4 A11	1	130.064	0	NC	NC	NC	NC
2182		2	116.373	0	NC	NC	NC	NC
2183		3	102.682	0	NC	NC	NC	NC
2184		4	88.991	0	NC	NC	NC	NC
2185		5	75.3	0	NC	NC	NC	NC
2186		6	61.609	0	NC	NC	NC	NC
2187		7	47.918	0	NC	NC	NC	NC
2188		8	34.227	0	NC	NC	NC	NC
2189		9	20.536	0	NC	NC	NC	NC
2190		10	6.845	0	NC	NC	NC	NC
2191		11	-6.846	0	NC	NC	NC	NC
2192		12	-20.537	0	NC	NC	NC	NC
2193		13	-34.228	0	NC	NC	NC	NC
2194		14	-47.919	0	NC	NC	NC	NC
2195		15	-61.61	0	NC	NC	NC	NC
2196		16	-75.301	0	NC	NC	NC	NC
2197		17	-88.991	0	NC	NC	NC	NC
2198		18	-102.682	0	NC	NC	NC	NC
2199		19	-116.373	0	NC	NC	NC	NC
2200		20	-130.064	0	NC	NC	NC	NC
2201	4 A12	1	130.064	0	NC	NC	NC	NC
2202		2	116.373	0	NC	NC	NC	NC
2203		3	102.682	0	NC	NC	NC	NC
2204		4	88.991	0	NC	NC	NC	NC
2205		5	75.3	0	NC	NC	NC	NC
2206		6	61.609	0	NC	NC	NC	NC
2207		7	47.918	0	NC	NC	NC	NC
2208		8	34.227	0	NC	NC	NC	NC
2209		9	20.536	0	NC	NC	NC	NC
2210		10	6.845	0	NC	NC	NC	NC
2211		11	-6.845	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2212		12	-20.536	0	NC	NC	NC	NC
2213		13	-34.227	0	NC	NC	NC	NC
2214		14	-47.918	0	NC	NC	NC	NC
2215		15	-61.609	0	NC	NC	NC	NC
2216		16	-75.3	0	NC	NC	NC	NC
2217		17	-88.991	0	NC	NC	NC	NC
2218		18	-102.682	0	NC	NC	NC	NC
2219		19	-116.373	0	NC	NC	NC	NC
2220		20	-130.064	0	NC	NC	NC	NC
2221	4	A13	1	130.064	0	NC	NC	NC
2222		2	116.373	0	NC	NC	NC	NC
2223		3	102.682	0	NC	NC	NC	NC
2224		4	88.991	0	NC	NC	NC	NC
2225		5	75.3	0	NC	NC	NC	NC
2226		6	61.609	0	NC	NC	NC	NC
2227		7	47.918	0	NC	NC	NC	NC
2228		8	34.227	0	NC	NC	NC	NC
2229		9	20.536	0	NC	NC	NC	NC
2230		10	6.845	0	NC	NC	NC	NC
2231		11	-6.845	0	NC	NC	NC	NC
2232		12	-20.536	0	NC	NC	NC	NC
2233		13	-34.227	0	NC	NC	NC	NC
2234		14	-47.918	0	NC	NC	NC	NC
2235		15	-61.609	0	NC	NC	NC	NC
2236		16	-75.3	0	NC	NC	NC	NC
2237		17	-88.991	0	NC	NC	NC	NC
2238		18	-102.682	0	NC	NC	NC	NC
2239		19	-116.373	0	NC	NC	NC	NC
2240		20	-130.064	0	NC	NC	NC	NC
2241	4	A14	1	130.064	0	NC	NC	NC
2242		2	116.373	0	NC	NC	NC	NC
2243		3	102.682	0	NC	NC	NC	NC
2244		4	88.991	0	NC	NC	NC	NC
2245		5	75.3	0	NC	NC	NC	NC
2246		6	61.609	0	NC	NC	NC	NC
2247		7	47.918	0	NC	NC	NC	NC
2248		8	34.227	0	NC	NC	NC	NC
2249		9	20.536	0	NC	NC	NC	NC
2250		10	6.845	0	NC	NC	NC	NC
2251		11	-6.846	0	NC	NC	NC	NC
2252		12	-20.536	0	NC	NC	NC	NC
2253		13	-34.227	0	NC	NC	NC	NC
2254		14	-47.918	0	NC	NC	NC	NC
2255		15	-61.609	0	NC	NC	NC	NC
2256		16	-75.3	0	NC	NC	NC	NC
2257		17	-88.991	0	NC	NC	NC	NC
2258		18	-102.682	0	NC	NC	NC	NC
2259		19	-116.373	0	NC	NC	NC	NC
2260		20	-130.064	0	NC	NC	NC	NC
2261	4	A15	1	130.059	0	NC	NC	NC
2262		2	116.368	0	NC	NC	NC	NC
2263		3	102.677	0	NC	NC	NC	NC
2264		4	88.986	0	NC	NC	NC	NC
2265		5	75.295	0	NC	NC	NC	NC
2266		6	61.604	0	NC	NC	NC	NC
2267		7	47.913	0	NC	NC	NC	NC
2268		8	34.222	0	NC	NC	NC	NC
2269		9	20.531	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2270		10	6.84	0	NC	NC	NC	NC
2271		11	-6.851	0	NC	NC	NC	NC
2272		12	-20.541	0	NC	NC	NC	NC
2273		13	-34.232	0	NC	NC	NC	NC
2274		14	-47.923	0	NC	NC	NC	NC
2275		15	-61.614	0	NC	NC	NC	NC
2276		16	-75.305	0	NC	NC	NC	NC
2277		17	-88.996	0	NC	NC	NC	NC
2278		18	-102.687	0	NC	NC	NC	NC
2279		19	-116.378	0	NC	NC	NC	NC
2280		20	-130.069	0	NC	NC	NC	NC
2281	4	A16	1	38.05	0	NC	NC	NC
2282			2	31.018	0	NC	NC	NC
2283			3	23.986	0	NC	NC	NC
2284			4	16.954	0	NC	NC	NC
2285			5	9.922	0	NC	NC	NC
2286			6	2.891	0	NC	NC	NC
2287			7	-4.141	0	NC	NC	NC
2288			8	-11.173	0	NC	NC	NC
2289			9	-18.205	0	NC	NC	NC
2290			10	-25.237	0	NC	NC	NC
2291			11	-32.268	0	NC	NC	NC
2292			12	-39.3	0	NC	NC	NC
2293			13	-46.332	0	NC	NC	NC
2294			14	-53.364	0	NC	NC	NC
2295			15	-60.396	0	NC	NC	NC
2296			16	-67.427	0	NC	NC	NC
2297			17	-74.459	0	NC	NC	NC
2298			18	-81.491	0	NC	NC	NC
2299			19	-88.523	0	NC	NC	NC
2300			20	-95.555	0	NC	NC	NC
2301	4	A17	1	0	0	NC	NC	NC
2302			2	0	0	NC	NC	NC
2303			3	0	0	NC	NC	NC
2304			4	0	0	NC	NC	NC
2305			5	0	0	NC	NC	NC
2306			6	0	0	NC	NC	NC
2307			7	0	0	NC	NC	NC
2308			8	0	0	NC	NC	NC
2309			9	0	0	NC	NC	NC
2310			10	0	0	NC	NC	NC
2311			11	0	0	NC	NC	NC
2312			12	0	0	NC	NC	NC
2313			13	0	0	NC	NC	NC
2314			14	0	0	NC	NC	NC
2315			15	0	0	NC	NC	NC
2316			16	0	0	NC	NC	NC
2317			17	0	0	NC	NC	NC
2318			18	0	0	NC	NC	NC
2319			19	0	0	NC	NC	NC
2320			20	0	0	NC	NC	NC
2321	4	R1	1	0	0	NC	NC	NC
2322			2	0	0	NC	NC	NC
2323			3	0	0	NC	NC	NC
2324			4	0	0	NC	NC	NC
2325			5	0	0	NC	NC	NC
2326			6	0	0	NC	NC	NC
2327			7	0	0	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
2328		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2329		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2330		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2331		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2332		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2333		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2334		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2335		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2336		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2337		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2338		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2339		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2340		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2341	4	R2	1	0	0	NC	NC	NC	NC	NC	NC	NC
2342		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2343		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2344		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2345		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2346		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2347		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2348		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2349		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2350		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2351		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2352		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2353		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2354		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2355		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2356		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2357		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2358		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2359		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2360		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2361	4	R3	1	0	0	NC	NC	NC	NC	NC	NC	NC
2362		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2363		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2364		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2365		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2366		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2367		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2368		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2369		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2370		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2371		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2372		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2373		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2374		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2375		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2376		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2377		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2378		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2379		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2380		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2381	4	R4	1	0	0	NC	NC	NC	NC	NC	NC	NC
2382		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2383		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2384		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2385		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
2386		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2387		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2388		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2389		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2390		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2391		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2392		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2393		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2394		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2395		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2396		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2397		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2398		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2399		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2400		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2401	4	R5	1	0	0	NC	NC	NC	NC	NC	NC	NC
2402			2	0	0	NC	NC	NC	NC	NC	NC	NC
2403			3	0	0	NC	NC	NC	NC	NC	NC	NC
2404			4	0	0	NC	NC	NC	NC	NC	NC	NC
2405			5	0	0	NC	NC	NC	NC	NC	NC	NC
2406			6	0	0	NC	NC	NC	NC	NC	NC	NC
2407			7	0	0	NC	NC	NC	NC	NC	NC	NC
2408			8	0	0	NC	NC	NC	NC	NC	NC	NC
2409			9	0	0	NC	NC	NC	NC	NC	NC	NC
2410			10	0	0	NC	NC	NC	NC	NC	NC	NC
2411			11	0	0	NC	NC	NC	NC	NC	NC	NC
2412			12	0	0	NC	NC	NC	NC	NC	NC	NC
2413			13	0	0	NC	NC	NC	NC	NC	NC	NC
2414			14	0	0	NC	NC	NC	NC	NC	NC	NC
2415			15	0	0	NC	NC	NC	NC	NC	NC	NC
2416			16	0	0	NC	NC	NC	NC	NC	NC	NC
2417			17	0	0	NC	NC	NC	NC	NC	NC	NC
2418			18	0	0	NC	NC	NC	NC	NC	NC	NC
2419			19	0	0	NC	NC	NC	NC	NC	NC	NC
2420			20	0	0	NC	NC	NC	NC	NC	NC	NC
2421	4	R6	1	0	0	NC	NC	NC	NC	NC	NC	NC
2422			2	0	0	NC	NC	NC	NC	NC	NC	NC
2423			3	0	0	NC	NC	NC	NC	NC	NC	NC
2424			4	0	0	NC	NC	NC	NC	NC	NC	NC
2425			5	0	0	NC	NC	NC	NC	NC	NC	NC
2426			6	0	0	NC	NC	NC	NC	NC	NC	NC
2427			7	0	0	NC	NC	NC	NC	NC	NC	NC
2428			8	0	0	NC	NC	NC	NC	NC	NC	NC
2429			9	0	0	NC	NC	NC	NC	NC	NC	NC
2430			10	0	0	NC	NC	NC	NC	NC	NC	NC
2431			11	0	0	NC	NC	NC	NC	NC	NC	NC
2432			12	0	0	NC	NC	NC	NC	NC	NC	NC
2433			13	0	0	NC	NC	NC	NC	NC	NC	NC
2434			14	0	0	NC	NC	NC	NC	NC	NC	NC
2435			15	0	0	NC	NC	NC	NC	NC	NC	NC
2436			16	0	0	NC	NC	NC	NC	NC	NC	NC
2437			17	0	0	NC	NC	NC	NC	NC	NC	NC
2438			18	0	0	NC	NC	NC	NC	NC	NC	NC
2439			19	0	0	NC	NC	NC	NC	NC	NC	NC
2440			20	0	0	NC	NC	NC	NC	NC	NC	NC
2441	4	R7	1	0	0	NC	NC	NC	NC	NC	NC	NC
2442			2	0	0	NC	NC	NC	NC	NC	NC	NC
2443			3	0	0	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
2444		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2445		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2446		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2447		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2448		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2449		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2450		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2451		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2452		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2453		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2454		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2455		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2456		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2457		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2458		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2459		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2460		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2461	4	R8	1	0	0	NC	NC	NC	NC	NC	NC	NC
2462		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2463		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2464		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2465		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2466		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2467		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2468		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2469		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2470		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2471		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2472		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2473		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2474		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2475		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2476		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2477		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2478		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2479		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2480		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2481	4	R9	1	0	0	NC	NC	NC	NC	NC	NC	NC
2482		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2483		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2484		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2485		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2486		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2487		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2488		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2489		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2490		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2491		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2492		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2493		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2494		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2495		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2496		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2497		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2498		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2499		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2500		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2501	4	R10	1	0	0	NC	NC	NC	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2502		2	0	0	NC	NC	NC	NC
2503		3	0	0	NC	NC	NC	NC
2504		4	0	0	NC	NC	NC	NC
2505		5	0	0	NC	NC	NC	NC
2506		6	0	0	NC	NC	NC	NC
2507		7	0	0	NC	NC	NC	NC
2508		8	0	0	NC	NC	NC	NC
2509		9	0	0	NC	NC	NC	NC
2510		10	0	0	NC	NC	NC	NC
2511		11	0	0	NC	NC	NC	NC
2512		12	0	0	NC	NC	NC	NC
2513		13	0	0	NC	NC	NC	NC
2514		14	0	0	NC	NC	NC	NC
2515		15	0	0	NC	NC	NC	NC
2516		16	0	0	NC	NC	NC	NC
2517		17	0	0	NC	NC	NC	NC
2518		18	0	0	NC	NC	NC	NC
2519		19	0	0	NC	NC	NC	NC
2520		20	0	0	NC	NC	NC	NC
2521	4	R11	1	0	0	NC	NC	NC
2522		2	0	0	NC	NC	NC	NC
2523		3	0	0	NC	NC	NC	NC
2524		4	0	0	NC	NC	NC	NC
2525		5	0	0	NC	NC	NC	NC
2526		6	0	0	NC	NC	NC	NC
2527		7	0	0	NC	NC	NC	NC
2528		8	0	0	NC	NC	NC	NC
2529		9	0	0	NC	NC	NC	NC
2530		10	0	0	NC	NC	NC	NC
2531		11	0	0	NC	NC	NC	NC
2532		12	0	0	NC	NC	NC	NC
2533		13	0	0	NC	NC	NC	NC
2534		14	0	0	NC	NC	NC	NC
2535		15	0	0	NC	NC	NC	NC
2536		16	0	0	NC	NC	NC	NC
2537		17	0	0	NC	NC	NC	NC
2538		18	0	0	NC	NC	NC	NC
2539		19	0	0	NC	NC	NC	NC
2540		20	0	0	NC	NC	NC	NC
2541	4	R12	1	0	0	NC	NC	NC
2542		2	0	0	NC	NC	NC	NC
2543		3	0	0	NC	NC	NC	NC
2544		4	0	0	NC	NC	NC	NC
2545		5	0	0	NC	NC	NC	NC
2546		6	0	0	NC	NC	NC	NC
2547		7	0	0	NC	NC	NC	NC
2548		8	0	0	NC	NC	NC	NC
2549		9	0	0	NC	NC	NC	NC
2550		10	0	0	NC	NC	NC	NC
2551		11	0	0	NC	NC	NC	NC
2552		12	0	0	NC	NC	NC	NC
2553		13	0	0	NC	NC	NC	NC
2554		14	0	0	NC	NC	NC	NC
2555		15	0	0	NC	NC	NC	NC
2556		16	0	0	NC	NC	NC	NC
2557		17	0	0	NC	NC	NC	NC
2558		18	0	0	NC	NC	NC	NC
2559		19	0	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2560		20	0	0	NC	NC	NC	NC
2561	4 R13	1	0	0	NC	NC	NC	NC
2562		2	0	0	NC	NC	NC	NC
2563		3	0	0	NC	NC	NC	NC
2564		4	0	0	NC	NC	NC	NC
2565		5	0	0	NC	NC	NC	NC
2566		6	0	0	NC	NC	NC	NC
2567		7	0	0	NC	NC	NC	NC
2568		8	0	0	NC	NC	NC	NC
2569		9	0	0	NC	NC	NC	NC
2570		10	0	0	NC	NC	NC	NC
2571		11	0	0	NC	NC	NC	NC
2572		12	0	0	NC	NC	NC	NC
2573		13	0	0	NC	NC	NC	NC
2574		14	0	0	NC	NC	NC	NC
2575		15	0	0	NC	NC	NC	NC
2576		16	0	0	NC	NC	NC	NC
2577		17	0	0	NC	NC	NC	NC
2578		18	0	0	NC	NC	NC	NC
2579		19	0	0	NC	NC	NC	NC
2580		20	0	0	NC	NC	NC	NC
2581	4 R14	1	0	0	NC	NC	NC	NC
2582		2	0	0	NC	NC	NC	NC
2583		3	0	0	NC	NC	NC	NC
2584		4	0	0	NC	NC	NC	NC
2585		5	0	0	NC	NC	NC	NC
2586		6	0	0	NC	NC	NC	NC
2587		7	0	0	NC	NC	NC	NC
2588		8	0	0	NC	NC	NC	NC
2589		9	0	0	NC	NC	NC	NC
2590		10	0	0	NC	NC	NC	NC
2591		11	0	0	NC	NC	NC	NC
2592		12	0	0	NC	NC	NC	NC
2593		13	0	0	NC	NC	NC	NC
2594		14	0	0	NC	NC	NC	NC
2595		15	0	0	NC	NC	NC	NC
2596		16	0	0	NC	NC	NC	NC
2597		17	0	0	NC	NC	NC	NC
2598		18	0	0	NC	NC	NC	NC
2599		19	0	0	NC	NC	NC	NC
2600		20	0	0	NC	NC	NC	NC
2601	4 R15	1	0	0	NC	NC	NC	NC
2602		2	0	0	NC	NC	NC	NC
2603		3	0	0	NC	NC	NC	NC
2604		4	0	0	NC	NC	NC	NC
2605		5	0	0	NC	NC	NC	NC
2606		6	0	0	NC	NC	NC	NC
2607		7	0	0	NC	NC	NC	NC
2608		8	0	0	NC	NC	NC	NC
2609		9	0	0	NC	NC	NC	NC
2610		10	0	0	NC	NC	NC	NC
2611		11	0	0	NC	NC	NC	NC
2612		12	0	0	NC	NC	NC	NC
2613		13	0	0	NC	NC	NC	NC
2614		14	0	0	NC	NC	NC	NC
2615		15	0	0	NC	NC	NC	NC
2616		16	0	0	NC	NC	NC	NC
2617		17	0	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2618		18	0	0	NC	NC	NC	NC
2619		19	0	0	NC	NC	NC	NC
2620		20	0	0	NC	NC	NC	NC
2621	4	M33	1	0	0	NC	NC	NC
2622		2	0	0	NC	NC	NC	NC
2623		3	0	0	NC	NC	NC	NC
2624		4	0	0	NC	NC	NC	NC
2625		5	0	0	NC	NC	NC	NC
2626		6	0	0	NC	NC	NC	NC
2627		7	0	0	NC	NC	NC	NC
2628		8	0	0	NC	NC	NC	NC
2629		9	0	0	NC	NC	NC	NC
2630		10	0	0	NC	NC	NC	NC
2631		11	0	0	NC	NC	NC	NC
2632		12	0	0	NC	NC	NC	NC
2633		13	0	0	NC	NC	NC	NC
2634		14	0	0	NC	NC	NC	NC
2635		15	0	0	NC	NC	NC	NC
2636		16	0	0	NC	NC	NC	NC
2637		17	0	0	NC	NC	NC	NC
2638		18	0	0	NC	NC	NC	NC
2639		19	0	0	NC	NC	NC	NC
2640		20	0	0	NC	NC	NC	NC
2641	5	A1	1	0	0	NC	NC	NC
2642		2	0	0	NC	NC	NC	NC
2643		3	0	0	NC	NC	NC	NC
2644		4	0	0	NC	NC	NC	NC
2645		5	0	0	NC	NC	NC	NC
2646		6	0	0	NC	NC	NC	NC
2647		7	0	0	NC	NC	NC	NC
2648		8	0	0	NC	NC	NC	NC
2649		9	0	0	NC	NC	NC	NC
2650		10	0	0	NC	NC	NC	NC
2651		11	0	0	NC	NC	NC	NC
2652		12	0	0	NC	NC	NC	NC
2653		13	0	0	NC	NC	NC	NC
2654		14	0	0	NC	NC	NC	NC
2655		15	0	0	NC	NC	NC	NC
2656		16	0	0	NC	NC	NC	NC
2657		17	0	0	NC	NC	NC	NC
2658		18	0	0	NC	NC	NC	NC
2659		19	0	0	NC	NC	NC	NC
2660		20	0	0	NC	NC	NC	NC
2661	5	A2	1	-26.704	0	NC	NC	NC
2662		2	-32.578	0	NC	NC	NC	NC
2663		3	-38.453	0	NC	NC	NC	NC
2664		4	-44.327	0	NC	NC	NC	NC
2665		5	-50.202	0	NC	NC	NC	NC
2666		6	-56.076	0	NC	NC	NC	NC
2667		7	-61.951	0	NC	NC	NC	NC
2668		8	-67.825	0	NC	NC	NC	NC
2669		9	-73.7	0	NC	NC	NC	NC
2670		10	-79.574	0	NC	NC	NC	NC
2671		11	-85.449	0	NC	NC	NC	NC
2672		12	-91.323	0	NC	NC	NC	NC
2673		13	-97.198	0	NC	NC	NC	NC
2674		14	-103.072	0	NC	NC	NC	NC
2675		15	-108.947	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2676		16	-114.821	0	NC	NC	NC	NC
2677		17	-120.696	0	NC	NC	NC	NC
2678		18	-126.57	0	NC	NC	NC	NC
2679		19	-132.445	0	NC	NC	NC	NC
2680		20	-138.319	0	NC	NC	NC	NC
2681	5	A3	1	175.285	0	NC	NC	NC
2682		2	156.834	0	NC	NC	NC	NC
2683		3	138.383	0	NC	NC	NC	NC
2684		4	119.932	0	NC	NC	NC	NC
2685		5	101.481	0	NC	NC	NC	NC
2686		6	83.03	0	NC	NC	NC	NC
2687		7	64.579	0	NC	NC	NC	NC
2688		8	46.129	0	NC	NC	NC	NC
2689		9	27.678	0	NC	NC	NC	NC
2690		10	9.227	0	NC	NC	NC	NC
2691		11	-9.224	0	NC	NC	NC	NC
2692		12	-27.675	0	NC	NC	NC	NC
2693		13	-46.126	0	NC	NC	NC	NC
2694		14	-64.577	0	NC	NC	NC	NC
2695		15	-83.028	0	NC	NC	NC	NC
2696		16	-101.479	0	NC	NC	NC	NC
2697		17	-119.93	0	NC	NC	NC	NC
2698		18	-138.38	0	NC	NC	NC	NC
2699		19	-156.831	0	NC	NC	NC	NC
2700		20	-175.282	0	NC	NC	NC	NC
2701	5	A4	1	175.284	0	NC	NC	NC
2702		2	156.833	0	NC	NC	NC	NC
2703		3	138.382	0	NC	NC	NC	NC
2704		4	119.931	0	NC	NC	NC	NC
2705		5	101.48	0	NC	NC	NC	NC
2706		6	83.029	0	NC	NC	NC	NC
2707		7	64.578	0	NC	NC	NC	NC
2708		8	46.127	0	NC	NC	NC	NC
2709		9	27.677	0	NC	NC	NC	NC
2710		10	9.226	0	NC	NC	NC	NC
2711		11	-9.225	0	NC	NC	NC	NC
2712		12	-27.676	0	NC	NC	NC	NC
2713		13	-46.127	0	NC	NC	NC	NC
2714		14	-64.578	0	NC	NC	NC	NC
2715		15	-83.029	0	NC	NC	NC	NC
2716		16	-101.48	0	NC	NC	NC	NC
2717		17	-119.931	0	NC	NC	NC	NC
2718		18	-138.382	0	NC	NC	NC	NC
2719		19	-156.832	0	NC	NC	NC	NC
2720		20	-175.283	0	NC	NC	NC	NC
2721	5	A5	1	175.284	0	NC	NC	NC
2722		2	156.833	0	NC	NC	NC	NC
2723		3	138.382	0	NC	NC	NC	NC
2724		4	119.931	0	NC	NC	NC	NC
2725		5	101.48	0	NC	NC	NC	NC
2726		6	83.029	0	NC	NC	NC	NC
2727		7	64.578	0	NC	NC	NC	NC
2728		8	46.127	0	NC	NC	NC	NC
2729		9	27.676	0	NC	NC	NC	NC
2730		10	9.225	0	NC	NC	NC	NC
2731		11	-9.225	0	NC	NC	NC	NC
2732		12	-27.676	0	NC	NC	NC	NC
2733		13	-46.127	0	NC	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2734		14	-64.578	0	NC	NC	NC	NC
2735		15	-83.029	0	NC	NC	NC	NC
2736		16	-101.48	0	NC	NC	NC	NC
2737		17	-119.931	0	NC	NC	NC	NC
2738		18	-138.382	0	NC	NC	NC	NC
2739		19	-156.833	0	NC	NC	NC	NC
2740		20	-175.284	0	NC	NC	NC	NC
2741	5	A6	1	175.284	0	NC	NC	NC
2742		2	156.833	0	NC	NC	NC	NC
2743		3	138.382	0	NC	NC	NC	NC
2744		4	119.931	0	NC	NC	NC	NC
2745		5	101.48	0	NC	NC	NC	NC
2746		6	83.029	0	NC	NC	NC	NC
2747		7	64.578	0	NC	NC	NC	NC
2748		8	46.127	0	NC	NC	NC	NC
2749		9	27.676	0	NC	NC	NC	NC
2750		10	9.225	0	NC	NC	NC	NC
2751		11	-9.225	0	NC	NC	NC	NC
2752		12	-27.676	0	NC	NC	NC	NC
2753		13	-46.127	0	NC	NC	NC	NC
2754		14	-64.578	0	NC	NC	NC	NC
2755		15	-83.029	0	NC	NC	NC	NC
2756		16	-101.48	0	NC	NC	NC	NC
2757		17	-119.931	0	NC	NC	NC	NC
2758		18	-138.382	0	NC	NC	NC	NC
2759		19	-156.833	0	NC	NC	NC	NC
2760		20	-175.284	0	NC	NC	NC	NC
2761	5	A7	1	175.284	0	NC	NC	NC
2762		2	156.833	0	NC	NC	NC	NC
2763		3	138.382	0	NC	NC	NC	NC
2764		4	119.931	0	NC	NC	NC	NC
2765		5	101.48	0	NC	NC	NC	NC
2766		6	83.029	0	NC	NC	NC	NC
2767		7	64.578	0	NC	NC	NC	NC
2768		8	46.127	0	NC	NC	NC	NC
2769		9	27.676	0	NC	NC	NC	NC
2770		10	9.226	0	NC	NC	NC	NC
2771		11	-9.225	0	NC	NC	NC	NC
2772		12	-27.676	0	NC	NC	NC	NC
2773		13	-46.127	0	NC	NC	NC	NC
2774		14	-64.578	0	NC	NC	NC	NC
2775		15	-83.029	0	NC	NC	NC	NC
2776		16	-101.48	0	NC	NC	NC	NC
2777		17	-119.931	0	NC	NC	NC	NC
2778		18	-138.382	0	NC	NC	NC	NC
2779		19	-156.833	0	NC	NC	NC	NC
2780		20	-175.283	0	NC	NC	NC	NC
2781	5	A8	1	175.283	0	NC	NC	NC
2782		2	156.832	0	NC	NC	NC	NC
2783		3	138.381	0	NC	NC	NC	NC
2784		4	119.93	0	NC	NC	NC	NC
2785		5	101.479	0	NC	NC	NC	NC
2786		6	83.028	0	NC	NC	NC	NC
2787		7	64.578	0	NC	NC	NC	NC
2788		8	46.127	0	NC	NC	NC	NC
2789		9	27.676	0	NC	NC	NC	NC
2790		10	9.225	0	NC	NC	NC	NC
2791		11	-9.226	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2792		12	-27.677	0	NC	NC	NC	NC
2793		13	-46.128	0	NC	NC	NC	NC
2794		14	-64.579	0	NC	NC	NC	NC
2795		15	-83.03	0	NC	NC	NC	NC
2796		16	-101.481	0	NC	NC	NC	NC
2797		17	-119.931	0	NC	NC	NC	NC
2798		18	-138.382	0	NC	NC	NC	NC
2799		19	-156.833	0	NC	NC	NC	NC
2800		20	-175.284	0	NC	NC	NC	NC
2801	5	A9	1	175.283	0	NC	NC	NC
2802		2	156.832	0	NC	NC	NC	NC
2803		3	138.382	0	NC	NC	NC	NC
2804		4	119.931	0	NC	NC	NC	NC
2805		5	101.48	0	NC	NC	NC	NC
2806		6	83.029	0	NC	NC	NC	NC
2807		7	64.578	0	NC	NC	NC	NC
2808		8	46.127	0	NC	NC	NC	NC
2809		9	27.676	0	NC	NC	NC	NC
2810		10	9.225	0	NC	NC	NC	NC
2811		11	-9.226	0	NC	NC	NC	NC
2812		12	-27.677	0	NC	NC	NC	NC
2813		13	-46.127	0	NC	NC	NC	NC
2814		14	-64.578	0	NC	NC	NC	NC
2815		15	-83.029	0	NC	NC	NC	NC
2816		16	-101.48	0	NC	NC	NC	NC
2817		17	-119.931	0	NC	NC	NC	NC
2818		18	-138.382	0	NC	NC	NC	NC
2819		19	-156.833	0	NC	NC	NC	NC
2820		20	-175.284	0	NC	NC	NC	NC
2821	5	A10	1	175.285	0	NC	NC	NC
2822		2	156.834	0	NC	NC	NC	NC
2823		3	138.383	0	NC	NC	NC	NC
2824		4	119.932	0	NC	NC	NC	NC
2825		5	101.481	0	NC	NC	NC	NC
2826		6	83.03	0	NC	NC	NC	NC
2827		7	64.579	0	NC	NC	NC	NC
2828		8	46.128	0	NC	NC	NC	NC
2829		9	27.677	0	NC	NC	NC	NC
2830		10	9.227	0	NC	NC	NC	NC
2831		11	-9.224	0	NC	NC	NC	NC
2832		12	-27.675	0	NC	NC	NC	NC
2833		13	-46.126	0	NC	NC	NC	NC
2834		14	-64.577	0	NC	NC	NC	NC
2835		15	-83.028	0	NC	NC	NC	NC
2836		16	-101.479	0	NC	NC	NC	NC
2837		17	-119.93	0	NC	NC	NC	NC
2838		18	-138.381	0	NC	NC	NC	NC
2839		19	-156.832	0	NC	NC	NC	NC
2840		20	-175.282	0	NC	NC	NC	NC
2841	5	A11	1	175.283	0	NC	NC	NC
2842		2	156.832	0	NC	NC	NC	NC
2843		3	138.381	0	NC	NC	NC	NC
2844		4	119.931	0	NC	NC	NC	NC
2845		5	101.48	0	NC	NC	NC	NC
2846		6	83.029	0	NC	NC	NC	NC
2847		7	64.578	0	NC	NC	NC	NC
2848		8	46.127	0	NC	NC	NC	NC
2849		9	27.676	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2850		10	9.225	0	NC	NC	NC	NC
2851		11	-9.226	0	NC	NC	NC	NC
2852		12	-27.677	0	NC	NC	NC	NC
2853		13	-46.128	0	NC	NC	NC	NC
2854		14	-64.578	0	NC	NC	NC	NC
2855		15	-83.029	0	NC	NC	NC	NC
2856		16	-101.48	0	NC	NC	NC	NC
2857		17	-119.931	0	NC	NC	NC	NC
2858		18	-138.382	0	NC	NC	NC	NC
2859		19	-156.833	0	NC	NC	NC	NC
2860		20	-175.284	0	NC	NC	NC	NC
2861	5	A12	1	175.284	0	NC	NC	NC
2862		2	156.833	0	NC	NC	NC	NC
2863		3	138.382	0	NC	NC	NC	NC
2864		4	119.931	0	NC	NC	NC	NC
2865		5	101.48	0	NC	NC	NC	NC
2866		6	83.029	0	NC	NC	NC	NC
2867		7	64.578	0	NC	NC	NC	NC
2868		8	46.127	0	NC	NC	NC	NC
2869		9	27.676	0	NC	NC	NC	NC
2870		10	9.225	0	NC	NC	NC	NC
2871		11	-9.225	0	NC	NC	NC	NC
2872		12	-27.676	0	NC	NC	NC	NC
2873		13	-46.127	0	NC	NC	NC	NC
2874		14	-64.578	0	NC	NC	NC	NC
2875		15	-83.029	0	NC	NC	NC	NC
2876		16	-101.48	0	NC	NC	NC	NC
2877		17	-119.931	0	NC	NC	NC	NC
2878		18	-138.382	0	NC	NC	NC	NC
2879		19	-156.833	0	NC	NC	NC	NC
2880		20	-175.284	0	NC	NC	NC	NC
2881	5	A13	1	175.284	0	NC	NC	NC
2882		2	156.833	0	NC	NC	NC	NC
2883		3	138.382	0	NC	NC	NC	NC
2884		4	119.931	0	NC	NC	NC	NC
2885		5	101.48	0	NC	NC	NC	NC
2886		6	83.029	0	NC	NC	NC	NC
2887		7	64.578	0	NC	NC	NC	NC
2888		8	46.127	0	NC	NC	NC	NC
2889		9	27.676	0	NC	NC	NC	NC
2890		10	9.225	0	NC	NC	NC	NC
2891		11	-9.225	0	NC	NC	NC	NC
2892		12	-27.676	0	NC	NC	NC	NC
2893		13	-46.127	0	NC	NC	NC	NC
2894		14	-64.578	0	NC	NC	NC	NC
2895		15	-83.029	0	NC	NC	NC	NC
2896		16	-101.48	0	NC	NC	NC	NC
2897		17	-119.931	0	NC	NC	NC	NC
2898		18	-138.382	0	NC	NC	NC	NC
2899		19	-156.833	0	NC	NC	NC	NC
2900		20	-175.284	0	NC	NC	NC	NC
2901	5	A14	1	175.283	0	NC	NC	NC
2902		2	156.833	0	NC	NC	NC	NC
2903		3	138.382	0	NC	NC	NC	NC
2904		4	119.931	0	NC	NC	NC	NC
2905		5	101.48	0	NC	NC	NC	NC
2906		6	83.029	0	NC	NC	NC	NC
2907		7	64.578	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
2908		8	46.127	0	NC	NC	NC	NC
2909		9	27.676	0	NC	NC	NC	NC
2910		10	9.225	0	NC	NC	NC	NC
2911		11	-9.226	0	NC	NC	NC	NC
2912		12	-27.676	0	NC	NC	NC	NC
2913		13	-46.127	0	NC	NC	NC	NC
2914		14	-64.578	0	NC	NC	NC	NC
2915		15	-83.029	0	NC	NC	NC	NC
2916		16	-101.48	0	NC	NC	NC	NC
2917		17	-119.931	0	NC	NC	NC	NC
2918		18	-138.382	0	NC	NC	NC	NC
2919		19	-156.833	0	NC	NC	NC	NC
2920		20	-175.284	0	NC	NC	NC	NC
2921	5	A15	1	175.28	0	NC	NC	NC
2922		2	156.829	0	NC	NC	NC	NC
2923		3	138.378	0	NC	NC	NC	NC
2924		4	119.927	0	NC	NC	NC	NC
2925		5	101.476	0	NC	NC	NC	NC
2926		6	83.025	0	NC	NC	NC	NC
2927		7	64.574	0	NC	NC	NC	NC
2928		8	46.123	0	NC	NC	NC	NC
2929		9	27.673	0	NC	NC	NC	NC
2930		10	9.222	0	NC	NC	NC	NC
2931		11	-9.229	0	NC	NC	NC	NC
2932		12	-27.68	0	NC	NC	NC	NC
2933		13	-46.131	0	NC	NC	NC	NC
2934		14	-64.582	0	NC	NC	NC	NC
2935		15	-83.033	0	NC	NC	NC	NC
2936		16	-101.484	0	NC	NC	NC	NC
2937		17	-119.935	0	NC	NC	NC	NC
2938		18	-138.386	0	NC	NC	NC	NC
2939		19	-156.836	0	NC	NC	NC	NC
2940		20	-175.287	0	NC	NC	NC	NC
2941	5	A16	1	106.45	0	NC	NC	NC
2942		2	96.974	0	NC	NC	NC	NC
2943		3	87.497	0	NC	NC	NC	NC
2944		4	78.021	0	NC	NC	NC	NC
2945		5	68.544	0	NC	NC	NC	NC
2946		6	59.068	0	NC	NC	NC	NC
2947		7	49.591	0	NC	NC	NC	NC
2948		8	40.114	0	NC	NC	NC	NC
2949		9	30.638	0	NC	NC	NC	NC
2950		10	21.161	0	NC	NC	NC	NC
2951		11	11.685	0	NC	NC	NC	NC
2952		12	2.208	0	NC	NC	NC	NC
2953		13	-7.268	0	NC	NC	NC	NC
2954		14	-16.745	0	NC	NC	NC	NC
2955		15	-26.222	0	NC	NC	NC	NC
2956		16	-35.698	0	NC	NC	NC	NC
2957		17	-45.175	0	NC	NC	NC	NC
2958		18	-54.651	0	NC	NC	NC	NC
2959		19	-64.128	0	NC	NC	NC	NC
2960		20	-73.604	0	NC	NC	NC	NC
2961	5	A17	1	0	0	NC	NC	NC
2962		2	0	0	NC	NC	NC	NC
2963		3	0	0	NC	NC	NC	NC
2964		4	0	0	NC	NC	NC	NC
2965		5	0	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
2966		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2967		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2968		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2969		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2970		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2971		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2972		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2973		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2974		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2975		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2976		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2977		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2978		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2979		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2980		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2981	5	R1	1	0	0	NC	NC	NC	NC	NC	NC	NC
2982		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2983		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2984		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2985		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2986		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2987		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2988		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2989		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2990		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2991		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2992		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2993		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2994		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2995		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2996		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2997		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2998		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
2999		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3000		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3001	5	R2	1	0	0	NC	NC	NC	NC	NC	NC	NC
3002		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3003		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3004		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3005		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3006		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3007		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3008		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3009		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3010		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3011		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3012		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3013		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3014		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3015		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3016		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3017		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3018		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3019		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3020		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3021	5	R3	1	0	0	NC	NC	NC	NC	NC	NC	NC
3022		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3023		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
3024		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3025		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3026		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3027		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3028		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3029		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3030		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3031		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3032		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3033		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3034		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3035		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3036		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3037		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3038		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3039		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3040		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3041	5	R4	1	0	0	NC	NC	NC	NC	NC	NC	NC
3042			2	0	0	NC	NC	NC	NC	NC	NC	NC
3043			3	0	0	NC	NC	NC	NC	NC	NC	NC
3044			4	0	0	NC	NC	NC	NC	NC	NC	NC
3045			5	0	0	NC	NC	NC	NC	NC	NC	NC
3046			6	0	0	NC	NC	NC	NC	NC	NC	NC
3047			7	0	0	NC	NC	NC	NC	NC	NC	NC
3048			8	0	0	NC	NC	NC	NC	NC	NC	NC
3049			9	0	0	NC	NC	NC	NC	NC	NC	NC
3050			10	0	0	NC	NC	NC	NC	NC	NC	NC
3051			11	0	0	NC	NC	NC	NC	NC	NC	NC
3052			12	0	0	NC	NC	NC	NC	NC	NC	NC
3053			13	0	0	NC	NC	NC	NC	NC	NC	NC
3054			14	0	0	NC	NC	NC	NC	NC	NC	NC
3055			15	0	0	NC	NC	NC	NC	NC	NC	NC
3056			16	0	0	NC	NC	NC	NC	NC	NC	NC
3057			17	0	0	NC	NC	NC	NC	NC	NC	NC
3058			18	0	0	NC	NC	NC	NC	NC	NC	NC
3059			19	0	0	NC	NC	NC	NC	NC	NC	NC
3060			20	0	0	NC	NC	NC	NC	NC	NC	NC
3061	5	R5	1	0	0	NC	NC	NC	NC	NC	NC	NC
3062			2	0	0	NC	NC	NC	NC	NC	NC	NC
3063			3	0	0	NC	NC	NC	NC	NC	NC	NC
3064			4	0	0	NC	NC	NC	NC	NC	NC	NC
3065			5	0	0	NC	NC	NC	NC	NC	NC	NC
3066			6	0	0	NC	NC	NC	NC	NC	NC	NC
3067			7	0	0	NC	NC	NC	NC	NC	NC	NC
3068			8	0	0	NC	NC	NC	NC	NC	NC	NC
3069			9	0	0	NC	NC	NC	NC	NC	NC	NC
3070			10	0	0	NC	NC	NC	NC	NC	NC	NC
3071			11	0	0	NC	NC	NC	NC	NC	NC	NC
3072			12	0	0	NC	NC	NC	NC	NC	NC	NC
3073			13	0	0	NC	NC	NC	NC	NC	NC	NC
3074			14	0	0	NC	NC	NC	NC	NC	NC	NC
3075			15	0	0	NC	NC	NC	NC	NC	NC	NC
3076			16	0	0	NC	NC	NC	NC	NC	NC	NC
3077			17	0	0	NC	NC	NC	NC	NC	NC	NC
3078			18	0	0	NC	NC	NC	NC	NC	NC	NC
3079			19	0	0	NC	NC	NC	NC	NC	NC	NC
3080			20	0	0	NC	NC	NC	NC	NC	NC	NC
3081	5	R6	1	0	0	NC	NC	NC	NC	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
3082		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3083		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3084		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3085		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3086		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3087		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3088		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3089		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3090		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3091		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3092		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3093		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3094		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3095		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3096		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3097		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3098		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3099		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3100		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3101	5	R7	1	0	0	NC	NC	NC	NC	NC	NC	NC
3102		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3103		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3104		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3105		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3106		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3107		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3108		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3109		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3110		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3111		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3112		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3113		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3114		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3115		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3116		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3117		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3118		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3119		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3120		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3121	5	R8	1	0	0	NC	NC	NC	NC	NC	NC	NC
3122		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3123		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3124		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3125		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3126		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3127		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3128		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3129		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3130		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3131		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3132		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3133		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3134		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3135		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3136		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3137		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3138		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3139		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
3140		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3141	5 R9	1	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3142		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3143		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3144		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3145		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3146		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3147		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3148		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3149		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3150		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3151		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3152		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3153		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3154		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3155		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3156		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3157		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3158		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3159		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3160		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3161	5 R10	1	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3162		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3163		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3164		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3165		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3166		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3167		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3168		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3169		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3170		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3171		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3172		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3173		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3174		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3175		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3176		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3177		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3178		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3179		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3180		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3181	5 R11	1	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3182		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3183		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3184		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3185		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3186		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3187		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3188		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3189		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3190		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3191		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3192		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3193		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3194		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3195		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3196		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3197		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
3198		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3199		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3200		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3201	5 R12	1	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3202		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3203		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3204		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3205		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3206		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3207		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3208		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3209		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3210		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3211		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3212		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3213		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3214		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3215		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3216		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3217		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3218		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3219		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3220		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3221	5 R13	1	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3222		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3223		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3224		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3225		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3226		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3227		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3228		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3229		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3230		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3231		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3232		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3233		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3234		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3235		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3236		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3237		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3238		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3239		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3240		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3241	5 R14	1	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3242		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3243		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3244		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3245		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3246		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3247		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3248		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3249		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3250		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3251		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3252		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3253		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3254		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3255		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3256		16	0	0	NC	NC	NC	NC
3257		17	0	0	NC	NC	NC	NC
3258		18	0	0	NC	NC	NC	NC
3259		19	0	0	NC	NC	NC	NC
3260		20	0	0	NC	NC	NC	NC
3261	5 R15	1	0	0	NC	NC	NC	NC
3262		2	0	0	NC	NC	NC	NC
3263		3	0	0	NC	NC	NC	NC
3264		4	0	0	NC	NC	NC	NC
3265		5	0	0	NC	NC	NC	NC
3266		6	0	0	NC	NC	NC	NC
3267		7	0	0	NC	NC	NC	NC
3268		8	0	0	NC	NC	NC	NC
3269		9	0	0	NC	NC	NC	NC
3270		10	0	0	NC	NC	NC	NC
3271		11	0	0	NC	NC	NC	NC
3272		12	0	0	NC	NC	NC	NC
3273		13	0	0	NC	NC	NC	NC
3274		14	0	0	NC	NC	NC	NC
3275		15	0	0	NC	NC	NC	NC
3276		16	0	0	NC	NC	NC	NC
3277		17	0	0	NC	NC	NC	NC
3278		18	0	0	NC	NC	NC	NC
3279		19	0	0	NC	NC	NC	NC
3280		20	0	0	NC	NC	NC	NC
3281	5 M33	1	0	0	NC	NC	NC	NC
3282		2	0	0	NC	NC	NC	NC
3283		3	0	0	NC	NC	NC	NC
3284		4	0	0	NC	NC	NC	NC
3285		5	0	0	NC	NC	NC	NC
3286		6	0	0	NC	NC	NC	NC
3287		7	0	0	NC	NC	NC	NC
3288		8	0	0	NC	NC	NC	NC
3289		9	0	0	NC	NC	NC	NC
3290		10	0	0	NC	NC	NC	NC
3291		11	0	0	NC	NC	NC	NC
3292		12	0	0	NC	NC	NC	NC
3293		13	0	0	NC	NC	NC	NC
3294		14	0	0	NC	NC	NC	NC
3295		15	0	0	NC	NC	NC	NC
3296		16	0	0	NC	NC	NC	NC
3297		17	0	0	NC	NC	NC	NC
3298		18	0	0	NC	NC	NC	NC
3299		19	0	0	NC	NC	NC	NC
3300		20	0	0	NC	NC	NC	NC
3301	6 A1	1	0	0	NC	NC	NC	NC
3302		2	0	0	NC	NC	NC	NC
3303		3	0	0	NC	NC	NC	NC
3304		4	0	0	NC	NC	NC	NC
3305		5	0	0	NC	NC	NC	NC
3306		6	0	0	NC	NC	NC	NC
3307		7	0	0	NC	NC	NC	NC
3308		8	0	0	NC	NC	NC	NC
3309		9	0	0	NC	NC	NC	NC
3310		10	0	0	NC	NC	NC	NC
3311		11	0	0	NC	NC	NC	NC
3312		12	0	0	NC	NC	NC	NC
3313		13	0	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3314		14	0	0	NC	NC	NC	NC	
3315		15	0	0	NC	NC	NC	NC	
3316		16	0	0	NC	NC	NC	NC	
3317		17	0	0	NC	NC	NC	NC	
3318		18	0	0	NC	NC	NC	NC	
3319		19	0	0	NC	NC	NC	NC	
3320		20	0	0	NC	NC	NC	NC	
3321	6	A2	1	-27.592	0	NC	NC	NC	
3322		2	-30.979	0	NC	NC	NC	NC	
3323		3	-34.366	0	NC	NC	NC	NC	
3324		4	-37.753	0	NC	NC	NC	NC	
3325		5	-41.14	0	NC	NC	NC	NC	
3326		6	-44.527	0	NC	NC	NC	NC	
3327		7	-47.914	0	NC	NC	NC	NC	
3328		8	-51.301	0	NC	NC	NC	NC	
3329		9	-54.688	0	NC	NC	NC	NC	
3330		10	-58.075	0	NC	NC	NC	NC	
3331		11	-61.462	0	NC	NC	NC	NC	
3332		12	-64.849	0	NC	NC	NC	NC	
3333		13	-68.236	0	NC	NC	NC	NC	
3334		14	-71.623	0	NC	NC	NC	NC	
3335		15	-75.01	0	NC	NC	NC	NC	
3336		16	-78.397	0	NC	NC	NC	NC	
3337		17	-81.784	0	NC	NC	NC	NC	
3338		18	-85.171	0	NC	NC	NC	NC	
3339		19	-88.558	0	NC	NC	NC	NC	
3340		20	-91.945	0	NC	NC	NC	NC	
3341	6	A3	1	101.061	0	NC	NC	NC	
3342		2	90.423	0	NC	NC	NC	NC	
3343		3	79.785	0	NC	NC	NC	NC	
3344		4	69.147	0	NC	NC	NC	NC	
3345		5	58.509	0	NC	NC	NC	NC	
3346		6	47.871	0	NC	NC	NC	NC	
3347		7	37.233	0	NC	NC	NC	NC	
3348		8	26.595	0	NC	NC	NC	NC	
3349		9	15.957	0	NC	NC	NC	NC	
3350		10	5.319	0	NC	NC	NC	NC	
3351		11	-5.32	0	NC	NC	NC	NC	
3352		12	-15.958	0	NC	NC	NC	NC	
3353		13	-26.596	0	NC	NC	NC	NC	
3354		14	-37.234	0	NC	NC	NC	NC	
3355		15	-47.872	0	NC	NC	NC	NC	
3356		16	-58.51	0	NC	NC	NC	NC	
3357		17	-69.148	0	NC	NC	NC	NC	
3358		18	-79.786	0	NC	NC	NC	NC	
3359		19	-90.424	0	NC	NC	NC	NC	
3360		20	-101.062	0	NC	NC	NC	NC	
3361	6	A4	1	101.062	0	NC	NC	NC	
3362		2	90.424	0	NC	NC	NC	NC	
3363		3	79.786	0	NC	NC	NC	NC	
3364		4	69.148	0	NC	NC	NC	NC	
3365		5	58.51	0	NC	NC	NC	NC	
3366		6	47.872	0	NC	NC	NC	NC	
3367		7	37.233	0	NC	NC	NC	NC	
3368		8	26.595	0	NC	NC	NC	NC	
3369		9	15.957	0	NC	NC	NC	NC	
3370		10	5.319	0	NC	NC	NC	NC	
3371		11	-5.319	0	NC	NC	NC	NC	



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3372		12	-15.957	0	NC	NC	NC	NC
3373		13	-26.595	0	NC	NC	NC	NC
3374		14	-37.233	0	NC	NC	NC	NC
3375		15	-47.871	0	NC	NC	NC	NC
3376		16	-58.509	0	NC	NC	NC	NC
3377		17	-69.147	0	NC	NC	NC	NC
3378		18	-79.785	0	NC	NC	NC	NC
3379		19	-90.423	0	NC	NC	NC	NC
3380		20	-101.061	0	NC	NC	NC	NC
3381	6	A5	1	101.062	0	NC	NC	NC
3382		2	90.424	0	NC	NC	NC	NC
3383		3	79.785	0	NC	NC	NC	NC
3384		4	69.147	0	NC	NC	NC	NC
3385		5	58.509	0	NC	NC	NC	NC
3386		6	47.871	0	NC	NC	NC	NC
3387		7	37.233	0	NC	NC	NC	NC
3388		8	26.595	0	NC	NC	NC	NC
3389		9	15.957	0	NC	NC	NC	NC
3390		10	5.319	0	NC	NC	NC	NC
3391		11	-5.319	0	NC	NC	NC	NC
3392		12	-15.957	0	NC	NC	NC	NC
3393		13	-26.595	0	NC	NC	NC	NC
3394		14	-37.233	0	NC	NC	NC	NC
3395		15	-47.871	0	NC	NC	NC	NC
3396		16	-58.509	0	NC	NC	NC	NC
3397		17	-69.147	0	NC	NC	NC	NC
3398		18	-79.786	0	NC	NC	NC	NC
3399		19	-90.424	0	NC	NC	NC	NC
3400		20	-101.062	0	NC	NC	NC	NC
3401	6	A6	1	101.062	0	NC	NC	NC
3402		2	90.424	0	NC	NC	NC	NC
3403		3	79.785	0	NC	NC	NC	NC
3404		4	69.147	0	NC	NC	NC	NC
3405		5	58.509	0	NC	NC	NC	NC
3406		6	47.871	0	NC	NC	NC	NC
3407		7	37.233	0	NC	NC	NC	NC
3408		8	26.595	0	NC	NC	NC	NC
3409		9	15.957	0	NC	NC	NC	NC
3410		10	5.319	0	NC	NC	NC	NC
3411		11	-5.319	0	NC	NC	NC	NC
3412		12	-15.957	0	NC	NC	NC	NC
3413		13	-26.595	0	NC	NC	NC	NC
3414		14	-37.233	0	NC	NC	NC	NC
3415		15	-47.871	0	NC	NC	NC	NC
3416		16	-58.509	0	NC	NC	NC	NC
3417		17	-69.147	0	NC	NC	NC	NC
3418		18	-79.785	0	NC	NC	NC	NC
3419		19	-90.424	0	NC	NC	NC	NC
3420		20	-101.062	0	NC	NC	NC	NC
3421	6	A7	1	101.062	0	NC	NC	NC
3422		2	90.424	0	NC	NC	NC	NC
3423		3	79.786	0	NC	NC	NC	NC
3424		4	69.147	0	NC	NC	NC	NC
3425		5	58.509	0	NC	NC	NC	NC
3426		6	47.871	0	NC	NC	NC	NC
3427		7	37.233	0	NC	NC	NC	NC
3428		8	26.595	0	NC	NC	NC	NC
3429		9	15.957	0	NC	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3430		10	5.319	0	NC	NC	NC	NC
3431		11	-5.319	0	NC	NC	NC	NC
3432		12	-15.957	0	NC	NC	NC	NC
3433		13	-26.595	0	NC	NC	NC	NC
3434		14	-37.233	0	NC	NC	NC	NC
3435		15	-47.871	0	NC	NC	NC	NC
3436		16	-58.509	0	NC	NC	NC	NC
3437		17	-69.147	0	NC	NC	NC	NC
3438		18	-79.785	0	NC	NC	NC	NC
3439		19	-90.423	0	NC	NC	NC	NC
3440		20	-101.062	0	NC	NC	NC	NC
3441	6	A8	1	101.061	0	NC	NC	NC
3442		2	90.423	0	NC	NC	NC	NC
3443		3	79.785	0	NC	NC	NC	NC
3444		4	69.147	0	NC	NC	NC	NC
3445		5	58.509	0	NC	NC	NC	NC
3446		6	47.871	0	NC	NC	NC	NC
3447		7	37.233	0	NC	NC	NC	NC
3448		8	26.595	0	NC	NC	NC	NC
3449		9	15.956	0	NC	NC	NC	NC
3450		10	5.318	0	NC	NC	NC	NC
3451		11	-5.32	0	NC	NC	NC	NC
3452		12	-15.958	0	NC	NC	NC	NC
3453		13	-26.596	0	NC	NC	NC	NC
3454		14	-37.234	0	NC	NC	NC	NC
3455		15	-47.872	0	NC	NC	NC	NC
3456		16	-58.51	0	NC	NC	NC	NC
3457		17	-69.148	0	NC	NC	NC	NC
3458		18	-79.786	0	NC	NC	NC	NC
3459		19	-90.424	0	NC	NC	NC	NC
3460		20	-101.062	0	NC	NC	NC	NC
3461	6	A9	1	101.061	0	NC	NC	NC
3462		2	90.423	0	NC	NC	NC	NC
3463		3	79.785	0	NC	NC	NC	NC
3464		4	69.147	0	NC	NC	NC	NC
3465		5	58.509	0	NC	NC	NC	NC
3466		6	47.871	0	NC	NC	NC	NC
3467		7	37.233	0	NC	NC	NC	NC
3468		8	26.595	0	NC	NC	NC	NC
3469		9	15.957	0	NC	NC	NC	NC
3470		10	5.319	0	NC	NC	NC	NC
3471		11	-5.319	0	NC	NC	NC	NC
3472		12	-15.957	0	NC	NC	NC	NC
3473		13	-26.595	0	NC	NC	NC	NC
3474		14	-37.233	0	NC	NC	NC	NC
3475		15	-47.871	0	NC	NC	NC	NC
3476		16	-58.51	0	NC	NC	NC	NC
3477		17	-69.148	0	NC	NC	NC	NC
3478		18	-79.786	0	NC	NC	NC	NC
3479		19	-90.424	0	NC	NC	NC	NC
3480		20	-101.062	0	NC	NC	NC	NC
3481	6	A10	1	101.063	0	NC	NC	NC
3482		2	90.425	0	NC	NC	NC	NC
3483		3	79.787	0	NC	NC	NC	NC
3484		4	69.148	0	NC	NC	NC	NC
3485		5	58.51	0	NC	NC	NC	NC
3486		6	47.872	0	NC	NC	NC	NC
3487		7	37.234	0	NC	NC	NC	NC



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3488		8	26.596	0	NC	NC	NC	NC
3489		9	15.958	0	NC	NC	NC	NC
3490		10	5.32	0	NC	NC	NC	NC
3491		11	-5.318	0	NC	NC	NC	NC
3492		12	-15.956	0	NC	NC	NC	NC
3493		13	-26.594	0	NC	NC	NC	NC
3494		14	-37.232	0	NC	NC	NC	NC
3495		15	-47.87	0	NC	NC	NC	NC
3496		16	-58.508	0	NC	NC	NC	NC
3497		17	-69.146	0	NC	NC	NC	NC
3498		18	-79.784	0	NC	NC	NC	NC
3499		19	-90.423	0	NC	NC	NC	NC
3500		20	-101.061	0	NC	NC	NC	NC
3501	6	A11	1	101.061	0	NC	NC	NC
3502		2	90.423	0	NC	NC	NC	NC
3503		3	79.785	0	NC	NC	NC	NC
3504		4	69.147	0	NC	NC	NC	NC
3505		5	58.509	0	NC	NC	NC	NC
3506		6	47.871	0	NC	NC	NC	NC
3507		7	37.233	0	NC	NC	NC	NC
3508		8	26.595	0	NC	NC	NC	NC
3509		9	15.957	0	NC	NC	NC	NC
3510		10	5.319	0	NC	NC	NC	NC
3511		11	-5.319	0	NC	NC	NC	NC
3512		12	-15.957	0	NC	NC	NC	NC
3513		13	-26.595	0	NC	NC	NC	NC
3514		14	-37.234	0	NC	NC	NC	NC
3515		15	-47.872	0	NC	NC	NC	NC
3516		16	-58.51	0	NC	NC	NC	NC
3517		17	-69.148	0	NC	NC	NC	NC
3518		18	-79.786	0	NC	NC	NC	NC
3519		19	-90.424	0	NC	NC	NC	NC
3520		20	-101.062	0	NC	NC	NC	NC
3521	6	A12	1	101.062	0	NC	NC	NC
3522		2	90.424	0	NC	NC	NC	NC
3523		3	79.786	0	NC	NC	NC	NC
3524		4	69.147	0	NC	NC	NC	NC
3525		5	58.509	0	NC	NC	NC	NC
3526		6	47.871	0	NC	NC	NC	NC
3527		7	37.233	0	NC	NC	NC	NC
3528		8	26.595	0	NC	NC	NC	NC
3529		9	15.957	0	NC	NC	NC	NC
3530		10	5.319	0	NC	NC	NC	NC
3531		11	-5.319	0	NC	NC	NC	NC
3532		12	-15.957	0	NC	NC	NC	NC
3533		13	-26.595	0	NC	NC	NC	NC
3534		14	-37.233	0	NC	NC	NC	NC
3535		15	-47.871	0	NC	NC	NC	NC
3536		16	-58.509	0	NC	NC	NC	NC
3537		17	-69.147	0	NC	NC	NC	NC
3538		18	-79.785	0	NC	NC	NC	NC
3539		19	-90.424	0	NC	NC	NC	NC
3540		20	-101.062	0	NC	NC	NC	NC
3541	6	A13	1	101.062	0	NC	NC	NC
3542		2	90.424	0	NC	NC	NC	NC
3543		3	79.786	0	NC	NC	NC	NC
3544		4	69.147	0	NC	NC	NC	NC
3545		5	58.509	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3546		6	47.871	0	NC	NC	NC	NC
3547		7	37.233	0	NC	NC	NC	NC
3548		8	26.595	0	NC	NC	NC	NC
3549		9	15.957	0	NC	NC	NC	NC
3550		10	5.319	0	NC	NC	NC	NC
3551		11	-5.319	0	NC	NC	NC	NC
3552		12	-15.957	0	NC	NC	NC	NC
3553		13	-26.595	0	NC	NC	NC	NC
3554		14	-37.233	0	NC	NC	NC	NC
3555		15	-47.871	0	NC	NC	NC	NC
3556		16	-58.509	0	NC	NC	NC	NC
3557		17	-69.147	0	NC	NC	NC	NC
3558		18	-79.785	0	NC	NC	NC	NC
3559		19	-90.424	0	NC	NC	NC	NC
3560		20	-101.062	0	NC	NC	NC	NC
3561	6	A14	1	101.062	0	NC	NC	NC
3562		2	90.424	0	NC	NC	NC	NC
3563		3	79.785	0	NC	NC	NC	NC
3564		4	69.147	0	NC	NC	NC	NC
3565		5	58.509	0	NC	NC	NC	NC
3566		6	47.871	0	NC	NC	NC	NC
3567		7	37.233	0	NC	NC	NC	NC
3568		8	26.595	0	NC	NC	NC	NC
3569		9	15.957	0	NC	NC	NC	NC
3570		10	5.319	0	NC	NC	NC	NC
3571		11	-5.319	0	NC	NC	NC	NC
3572		12	-15.957	0	NC	NC	NC	NC
3573		13	-26.595	0	NC	NC	NC	NC
3574		14	-37.233	0	NC	NC	NC	NC
3575		15	-47.871	0	NC	NC	NC	NC
3576		16	-58.509	0	NC	NC	NC	NC
3577		17	-69.147	0	NC	NC	NC	NC
3578		18	-79.786	0	NC	NC	NC	NC
3579		19	-90.424	0	NC	NC	NC	NC
3580		20	-101.062	0	NC	NC	NC	NC
3581	6	A15	1	101.058	0	NC	NC	NC
3582		2	90.42	0	NC	NC	NC	NC
3583		3	79.781	0	NC	NC	NC	NC
3584		4	69.143	0	NC	NC	NC	NC
3585		5	58.505	0	NC	NC	NC	NC
3586		6	47.867	0	NC	NC	NC	NC
3587		7	37.229	0	NC	NC	NC	NC
3588		8	26.591	0	NC	NC	NC	NC
3589		9	15.953	0	NC	NC	NC	NC
3590		10	5.315	0	NC	NC	NC	NC
3591		11	-5.323	0	NC	NC	NC	NC
3592		12	-15.961	0	NC	NC	NC	NC
3593		13	-26.599	0	NC	NC	NC	NC
3594		14	-37.237	0	NC	NC	NC	NC
3595		15	-47.875	0	NC	NC	NC	NC
3596		16	-58.513	0	NC	NC	NC	NC
3597		17	-69.151	0	NC	NC	NC	NC
3598		18	-79.79	0	NC	NC	NC	NC
3599		19	-90.428	0	NC	NC	NC	NC
3600		20	-101.066	0	NC	NC	NC	NC
3601	6	A16	1	28.828	0	NC	NC	NC
3602		2	23.364	0	NC	NC	NC	NC
3603		3	17.9	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3604		4	12.436	0	NC	NC	NC	NC
3605		5	6.973	0	NC	NC	NC	NC
3606		6	1.509	0	NC	NC	NC	NC
3607		7	-3.955	0	NC	NC	NC	NC
3608		8	-9.419	0	NC	NC	NC	NC
3609		9	-14.883	0	NC	NC	NC	NC
3610		10	-20.346	0	NC	NC	NC	NC
3611		11	-25.81	0	NC	NC	NC	NC
3612		12	-31.274	0	NC	NC	NC	NC
3613		13	-36.738	0	NC	NC	NC	NC
3614		14	-42.202	0	NC	NC	NC	NC
3615		15	-47.666	0	NC	NC	NC	NC
3616		16	-53.129	0	NC	NC	NC	NC
3617		17	-58.593	0	NC	NC	NC	NC
3618		18	-64.057	0	NC	NC	NC	NC
3619		19	-69.521	0	NC	NC	NC	NC
3620		20	-74.985	0	NC	NC	NC	NC
3621	6	A17	1	0	NC	NC	NC	NC
3622			2	0	NC	NC	NC	NC
3623			3	0	NC	NC	NC	NC
3624			4	0	NC	NC	NC	NC
3625			5	0	NC	NC	NC	NC
3626			6	0	NC	NC	NC	NC
3627			7	0	NC	NC	NC	NC
3628			8	0	NC	NC	NC	NC
3629			9	0	NC	NC	NC	NC
3630			10	0	NC	NC	NC	NC
3631			11	0	NC	NC	NC	NC
3632			12	0	NC	NC	NC	NC
3633			13	0	NC	NC	NC	NC
3634			14	0	NC	NC	NC	NC
3635			15	0	NC	NC	NC	NC
3636			16	0	NC	NC	NC	NC
3637			17	0	NC	NC	NC	NC
3638			18	0	NC	NC	NC	NC
3639			19	0	NC	NC	NC	NC
3640			20	0	NC	NC	NC	NC
3641	6	R1	1	0	NC	NC	NC	NC
3642			2	0	NC	NC	NC	NC
3643			3	0	NC	NC	NC	NC
3644			4	0	NC	NC	NC	NC
3645			5	0	NC	NC	NC	NC
3646			6	0	NC	NC	NC	NC
3647			7	0	NC	NC	NC	NC
3648			8	0	NC	NC	NC	NC
3649			9	0	NC	NC	NC	NC
3650			10	0	NC	NC	NC	NC
3651			11	0	NC	NC	NC	NC
3652			12	0	NC	NC	NC	NC
3653			13	0	NC	NC	NC	NC
3654			14	0	NC	NC	NC	NC
3655			15	0	NC	NC	NC	NC
3656			16	0	NC	NC	NC	NC
3657			17	0	NC	NC	NC	NC
3658			18	0	NC	NC	NC	NC
3659			19	0	NC	NC	NC	NC
3660			20	0	NC	NC	NC	NC
3661	6	R2	1	0	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
3662		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3663		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3664		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3665		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3666		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3667		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3668		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3669		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3670		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3671		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3672		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3673		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3674		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3675		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3676		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3677		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3678		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3679		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3680		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3681	6	R3	1	0	0	NC	NC	NC	NC	NC	NC	NC
3682		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3683		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3684		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3685		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3686		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3687		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3688		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3689		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3690		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3691		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3692		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3693		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3694		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3695		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3696		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3697		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3698		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3699		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3700		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3701	6	R4	1	0	0	NC	NC	NC	NC	NC	NC	NC
3702		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3703		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3704		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3705		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3706		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3707		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3708		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3709		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3710		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3711		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3712		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3713		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3714		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3715		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3716		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3717		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3718		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3719		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3720		20	0	0	NC	NC	NC	NC
3721	6 R5	1	0	0	NC	NC	NC	NC
3722		2	0	0	NC	NC	NC	NC
3723		3	0	0	NC	NC	NC	NC
3724		4	0	0	NC	NC	NC	NC
3725		5	0	0	NC	NC	NC	NC
3726		6	0	0	NC	NC	NC	NC
3727		7	0	0	NC	NC	NC	NC
3728		8	0	0	NC	NC	NC	NC
3729		9	0	0	NC	NC	NC	NC
3730		10	0	0	NC	NC	NC	NC
3731		11	0	0	NC	NC	NC	NC
3732		12	0	0	NC	NC	NC	NC
3733		13	0	0	NC	NC	NC	NC
3734		14	0	0	NC	NC	NC	NC
3735		15	0	0	NC	NC	NC	NC
3736		16	0	0	NC	NC	NC	NC
3737		17	0	0	NC	NC	NC	NC
3738		18	0	0	NC	NC	NC	NC
3739		19	0	0	NC	NC	NC	NC
3740		20	0	0	NC	NC	NC	NC
3741	6 R6	1	0	0	NC	NC	NC	NC
3742		2	0	0	NC	NC	NC	NC
3743		3	0	0	NC	NC	NC	NC
3744		4	0	0	NC	NC	NC	NC
3745		5	0	0	NC	NC	NC	NC
3746		6	0	0	NC	NC	NC	NC
3747		7	0	0	NC	NC	NC	NC
3748		8	0	0	NC	NC	NC	NC
3749		9	0	0	NC	NC	NC	NC
3750		10	0	0	NC	NC	NC	NC
3751		11	0	0	NC	NC	NC	NC
3752		12	0	0	NC	NC	NC	NC
3753		13	0	0	NC	NC	NC	NC
3754		14	0	0	NC	NC	NC	NC
3755		15	0	0	NC	NC	NC	NC
3756		16	0	0	NC	NC	NC	NC
3757		17	0	0	NC	NC	NC	NC
3758		18	0	0	NC	NC	NC	NC
3759		19	0	0	NC	NC	NC	NC
3760		20	0	0	NC	NC	NC	NC
3761	6 R7	1	0	0	NC	NC	NC	NC
3762		2	0	0	NC	NC	NC	NC
3763		3	0	0	NC	NC	NC	NC
3764		4	0	0	NC	NC	NC	NC
3765		5	0	0	NC	NC	NC	NC
3766		6	0	0	NC	NC	NC	NC
3767		7	0	0	NC	NC	NC	NC
3768		8	0	0	NC	NC	NC	NC
3769		9	0	0	NC	NC	NC	NC
3770		10	0	0	NC	NC	NC	NC
3771		11	0	0	NC	NC	NC	NC
3772		12	0	0	NC	NC	NC	NC
3773		13	0	0	NC	NC	NC	NC
3774		14	0	0	NC	NC	NC	NC
3775		15	0	0	NC	NC	NC	NC
3776		16	0	0	NC	NC	NC	NC
3777		17	0	0	NC	NC	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
3778		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3779		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3780		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3781	6	R8	1	0	0	NC	NC	NC	NC	NC	NC	NC
3782		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3783		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3784		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3785		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3786		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3787		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3788		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3789		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3790		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3791		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3792		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3793		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3794		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3795		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3796		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3797		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3798		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3799		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3800		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3801	6	R9	1	0	0	NC	NC	NC	NC	NC	NC	NC
3802		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3803		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3804		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3805		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3806		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3807		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3808		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3809		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3810		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3811		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3812		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3813		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3814		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3815		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3816		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3817		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3818		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3819		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3820		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3821	6	R10	1	0	0	NC	NC	NC	NC	NC	NC	NC
3822		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3823		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3824		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3825		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3826		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3827		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3828		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3829		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3830		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3831		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3832		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3833		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3834		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3835		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot Warp	Bend[ksi]	z-Top Warp	Bend[ksi]
3836		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3837		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3838		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3839		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3840		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3841	6	R11	1	0	0	NC	NC	NC	NC	NC	NC	NC
3842		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3843		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3844		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3845		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3846		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3847		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3848		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3849		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3850		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3851		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3852		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3853		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3854		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3855		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3856		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3857		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3858		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3859		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3860		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3861	6	R12	1	0	0	NC	NC	NC	NC	NC	NC	NC
3862		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3863		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3864		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3865		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3866		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3867		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3868		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3869		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3870		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3871		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3872		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3873		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3874		14	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3875		15	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3876		16	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3877		17	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3878		18	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3879		19	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3880		20	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3881	6	R13	1	0	0	NC	NC	NC	NC	NC	NC	NC
3882		2	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3883		3	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3884		4	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3885		5	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3886		6	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3887		7	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3888		8	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3889		9	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3890		10	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3891		11	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3892		12	0	0	NC	NC	NC	NC	NC	NC	NC	NC
3893		13	0	0	NC	NC	NC	NC	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi] y	Warp Shear[ksi] z	Warp Shear[ksi] z	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3894		14	0	0	NC	NC	NC	NC
3895		15	0	0	NC	NC	NC	NC
3896		16	0	0	NC	NC	NC	NC
3897		17	0	0	NC	NC	NC	NC
3898		18	0	0	NC	NC	NC	NC
3899		19	0	0	NC	NC	NC	NC
3900		20	0	0	NC	NC	NC	NC
3901	6 R14	1	0	0	NC	NC	NC	NC
3902		2	0	0	NC	NC	NC	NC
3903		3	0	0	NC	NC	NC	NC
3904		4	0	0	NC	NC	NC	NC
3905		5	0	0	NC	NC	NC	NC
3906		6	0	0	NC	NC	NC	NC
3907		7	0	0	NC	NC	NC	NC
3908		8	0	0	NC	NC	NC	NC
3909		9	0	0	NC	NC	NC	NC
3910		10	0	0	NC	NC	NC	NC
3911		11	0	0	NC	NC	NC	NC
3912		12	0	0	NC	NC	NC	NC
3913		13	0	0	NC	NC	NC	NC
3914		14	0	0	NC	NC	NC	NC
3915		15	0	0	NC	NC	NC	NC
3916		16	0	0	NC	NC	NC	NC
3917		17	0	0	NC	NC	NC	NC
3918		18	0	0	NC	NC	NC	NC
3919		19	0	0	NC	NC	NC	NC
3920		20	0	0	NC	NC	NC	NC
3921	6 R15	1	0	0	NC	NC	NC	NC
3922		2	0	0	NC	NC	NC	NC
3923		3	0	0	NC	NC	NC	NC
3924		4	0	0	NC	NC	NC	NC
3925		5	0	0	NC	NC	NC	NC
3926		6	0	0	NC	NC	NC	NC
3927		7	0	0	NC	NC	NC	NC
3928		8	0	0	NC	NC	NC	NC
3929		9	0	0	NC	NC	NC	NC
3930		10	0	0	NC	NC	NC	NC
3931		11	0	0	NC	NC	NC	NC
3932		12	0	0	NC	NC	NC	NC
3933		13	0	0	NC	NC	NC	NC
3934		14	0	0	NC	NC	NC	NC
3935		15	0	0	NC	NC	NC	NC
3936		16	0	0	NC	NC	NC	NC
3937		17	0	0	NC	NC	NC	NC
3938		18	0	0	NC	NC	NC	NC
3939		19	0	0	NC	NC	NC	NC
3940		20	0	0	NC	NC	NC	NC
3941	6 M33	1	0	0	NC	NC	NC	NC
3942		2	0	0	NC	NC	NC	NC
3943		3	0	0	NC	NC	NC	NC
3944		4	0	0	NC	NC	NC	NC
3945		5	0	0	NC	NC	NC	NC
3946		6	0	0	NC	NC	NC	NC
3947		7	0	0	NC	NC	NC	NC
3948		8	0	0	NC	NC	NC	NC
3949		9	0	0	NC	NC	NC	NC
3950		10	0	0	NC	NC	NC	NC
3951		11	0	0	NC	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp Shear[ksi]	z Warp Shear[ksi]	z-Bot Warp Bend[ksi]	z-Top Warp Bend[ksi]
3952		12	0	0	NC	NC	NC	NC
3953		13	0	0	NC	NC	NC	NC
3954		14	0	0	NC	NC	NC	NC
3955		15	0	0	NC	NC	NC	NC
3956		16	0	0	NC	NC	NC	NC
3957		17	0	0	NC	NC	NC	NC
3958		18	0	0	NC	NC	NC	NC
3959		19	0	0	NC	NC	NC	NC
3960		20	0	0	NC	NC	NC	NC

**Member Section Stresses**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1	1	A1	1	0	0	0	0	0	0
2			2	0	0	0	0	0	0
3			3	0	0	0	0	0	0
4			4	0	0	0	0	0	0
5			5	0	0	0	0	0	0
6			6	0	0	-0.001	0.001	0	0
7			7	0	0	-0.002	0.002	0	0
8			8	0	-0.001	0	-0.002	0.002	0
9			9	0	-0.001	0	-0.003	0.003	0
10			10	0	-0.001	0	-0.004	0.004	0
11			11	0	-0.001	0	-0.004	0.004	0
12			12	0	-0.002	0	-0.005	0.005	0
13			13	0	-0.002	0	-0.006	0.006	0
14			14	0	-0.002	0	-0.007	0.007	0
15			15	0	-0.002	0	-0.009	0.009	0
16			16	0	-0.002	0	-0.01	0.01	0
17			17	0	-0.002	0	-0.011	0.011	0
18			18	0	-0.002	0	-0.013	0.013	0
19			19	0	-0.003	0	-0.014	0.014	0
20			20	0	-0.003	0	-0.016	0.016	0
21	1	A2	1	-0.002	-0.011	0.003	0.064	-0.064	0.002
22			2	-0.002	-0.013	0.003	0.055	-0.055	0.003
23			3	-0.002	-0.014	0.002	0.045	-0.045	0.003
24			4	-0.002	-0.016	0.002	0.034	-0.034	0.004
25			5	-0.002	-0.018	0.001	0.022	-0.022	0.004
26			6	-0.002	-0.02	0	0.009	-0.009	0.004
27			7	-0.002	-0.021	0	-0.006	0.006	0.004
28			8	-0.002	-0.023	0	-0.022	0.022	0.004
29			9	-0.002	-0.025	0	-0.039	0.039	0.004
30			10	-0.002	-0.026	-0.001	-0.057	0.057	0.004
31			11	-0.002	-0.028	-0.002	-0.076	0.076	0.004
32			12	-0.002	-0.03	-0.002	-0.097	0.097	0.004
33			13	-0.003	-0.031	-0.003	-0.119	0.119	0.003
34			14	-0.003	-0.033	-0.003	-0.142	0.142	0.003
35			15	-0.003	-0.035	-0.004	-0.166	0.166	0.002
36			16	-0.003	-0.037	-0.004	-0.192	0.192	0.001
37			17	-0.003	-0.038	-0.005	-0.218	0.218	0
38			18	-0.003	-0.04	-0.005	-0.246	0.246	0
39			19	-0.003	-0.042	-0.005	-0.276	0.276	0
40			20	-0.003	-0.043	-0.006	-0.306	0.306	-0.002
41	1	A3	1	0.002	0.049	0.015	-0.306	0.306	-0.024
42			2	0.001	0.044	0.013	-0.202	0.202	-0.017
43			3	0.001	0.038	0.012	-0.109	0.109	-0.01
44			4	0.001	0.033	0.01	-0.029	0.029	-0.005
45			5	0	0.028	0.008	0.04	-0.04	0
46			6	0	0.022	0.007	0.096	-0.096	0.004

**Member Section Stresses (Continued)**

LC	Member	Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
47			7	0	0.017	0.005	0.14	-0.14	0.007	-0.007
48			8	0	0.012	0.004	0.173	-0.173	0.01	-0.01
49			9	0	0.006	0.002	0.193	-0.193	0.011	-0.011
50			10	0	0.001	0	0.201	-0.201	0.012	-0.012
51			11	0	-0.004	0	0.198	-0.198	0.012	-0.012
52			12	0	-0.01	-0.002	0.182	-0.182	0.011	-0.011
53			13	0	-0.015	-0.004	0.155	-0.155	0.01	-0.01
54			14	0	-0.02	-0.005	0.115	-0.115	0.007	-0.007
55			15	0	-0.026	-0.007	0.063	-0.063	0.004	-0.004
56			16	0	-0.031	-0.008	0	0	0	0
57			17	-0.001	-0.036	-0.01	-0.076	0.076	-0.005	0.005
58			18	-0.001	-0.042	-0.012	-0.163	0.163	-0.01	0.01
59			19	-0.001	-0.047	-0.013	-0.263	0.263	-0.017	0.017
60			20	-0.002	-0.052	-0.015	-0.375	0.375	-0.024	0.024
61	1	A4	1	0.002	0.051	0.015	-0.375	0.375	-0.024	0.024
62			2	0.001	0.046	0.013	-0.266	0.266	-0.017	0.017
63			3	0.001	0.04	0.012	-0.169	0.169	-0.01	0.01
64			4	0.001	0.035	0.01	-0.084	0.084	-0.005	0.005
65			5	0	0.03	0.008	-0.011	0.011	0	0
66			6	0	0.024	0.007	0.05	-0.05	0.004	-0.004
67			7	0	0.019	0.005	0.099	-0.099	0.007	-0.007
68			8	0	0.014	0.004	0.136	-0.136	0.01	-0.01
69			9	0	0.008	0.002	0.16	-0.16	0.011	-0.011
70			10	0	0.003	0	0.173	-0.173	0.012	-0.012
71			11	0	-0.002	0	0.174	-0.174	0.012	-0.012
72			12	0	-0.008	-0.002	0.163	-0.163	0.011	-0.011
73			13	0	-0.013	-0.004	0.14	-0.14	0.01	-0.01
74			14	0	-0.018	-0.005	0.105	-0.105	0.007	-0.007
75			15	0	-0.024	-0.007	0.058	-0.058	0.004	-0.004
76			16	0	-0.029	-0.008	-0.001	0.001	0	0
77			17	-0.001	-0.034	-0.01	-0.072	0.072	-0.005	0.005
78			18	-0.001	-0.04	-0.012	-0.155	0.155	-0.01	0.01
79			19	-0.001	-0.045	-0.013	-0.25	0.25	-0.017	0.017
80			20	-0.002	-0.05	-0.015	-0.358	0.358	-0.024	0.024
81	1	A5	1	0.002	0.051	0.015	-0.358	0.358	-0.024	0.024
82			2	0.001	0.045	0.013	-0.25	0.25	-0.017	0.017
83			3	0.001	0.04	0.012	-0.154	0.154	-0.01	0.01
84			4	0.001	0.035	0.01	-0.07	0.07	-0.005	0.005
85			5	0	0.029	0.008	0.002	-0.002	0	0
86			6	0	0.024	0.007	0.061	-0.061	0.004	-0.004
87			7	0	0.019	0.005	0.109	-0.109	0.007	-0.007
88			8	0	0.013	0.004	0.145	-0.145	0.01	-0.01
89			9	0	0.008	0.002	0.169	-0.169	0.011	-0.011
90			10	0	0.003	0	0.18	-0.18	0.012	-0.012
91			11	0	-0.003	0	0.18	-0.18	0.012	-0.012
92			12	0	-0.008	-0.002	0.168	-0.168	0.011	-0.011
93			13	0	-0.013	-0.004	0.144	-0.144	0.01	-0.01
94			14	0	-0.019	-0.005	0.108	-0.108	0.007	-0.007
95			15	0	-0.024	-0.007	0.059	-0.059	0.004	-0.004
96			16	0	-0.029	-0.008	0	0	0	0
97			17	-0.001	-0.035	-0.01	-0.073	0.073	-0.005	0.005
98			18	-0.001	-0.04	-0.012	-0.157	0.157	-0.01	0.01
99			19	-0.001	-0.045	-0.013	-0.253	0.253	-0.017	0.017
100			20	-0.002	-0.051	-0.015	-0.362	0.362	-0.024	0.024
101	1	A6	1	0.002	0.051	0.015	-0.362	0.362	-0.024	0.024
102			2	0.001	0.045	0.013	-0.254	0.254	-0.017	0.017
103			3	0.001	0.04	0.012	-0.158	0.158	-0.01	0.01
104			4	0.001	0.035	0.01	-0.074	0.074	-0.005	0.005

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
105		5	0	0.029	0.008	-0.002	0.002	0	0	
106		6	0	0.024	0.007	0.058	-0.058	0.004	-0.004	
107		7	0	0.019	0.005	0.106	-0.106	0.007	-0.007	
108		8	0	0.013	0.004	0.142	-0.142	0.01	-0.01	
109		9	0	0.008	0.002	0.166	-0.166	0.011	-0.011	
110		10	0	0.003	0	0.178	-0.178	0.012	-0.012	
111		11	0	-0.003	0	0.178	-0.178	0.012	-0.012	
112		12	0	-0.008	-0.002	0.166	-0.166	0.011	-0.011	
113		13	0	-0.013	-0.004	0.142	-0.142	0.01	-0.01	
114		14	0	-0.019	-0.005	0.106	-0.106	0.007	-0.007	
115		15	0	-0.024	-0.007	0.058	-0.058	0.004	-0.004	
116		16	0	-0.029	-0.008	-0.002	0.002	0	0	
117		17	-0.001	-0.035	-0.01	-0.074	0.074	-0.005	0.005	
118		18	-0.001	-0.04	-0.012	-0.158	0.158	-0.01	0.01	
119		19	-0.001	-0.045	-0.013	-0.254	0.254	-0.017	0.017	
120		20	-0.002	-0.051	-0.015	-0.362	0.362	-0.024	0.024	
121	1	A7	1	0.002	0.051	0.015	-0.362	0.362	-0.024	0.024
122		2	0.001	0.045	0.013	-0.253	0.253	-0.017	0.017	
123		3	0.001	0.04	0.012	-0.157	0.157	-0.01	0.01	
124		4	0.001	0.035	0.01	-0.073	0.073	-0.005	0.005	
125		5	0	0.029	0.008	0	0	0	0	
126		6	0	0.024	0.007	0.059	-0.059	0.004	-0.004	
127		7	0	0.019	0.005	0.108	-0.108	0.007	-0.007	
128		8	0	0.013	0.004	0.144	-0.144	0.01	-0.01	
129		9	0	0.008	0.002	0.168	-0.168	0.011	-0.011	
130		10	0	0.003	0	0.18	-0.18	0.012	-0.012	
131		11	0	-0.003	0	0.18	-0.18	0.012	-0.012	
132		12	0	-0.008	-0.002	0.169	-0.169	0.011	-0.011	
133		13	0	-0.013	-0.004	0.145	-0.145	0.01	-0.01	
134		14	0	-0.019	-0.005	0.109	-0.109	0.007	-0.007	
135		15	0	-0.024	-0.007	0.061	-0.061	0.004	-0.004	
136		16	0	-0.029	-0.008	0.001	-0.001	0	0	
137		17	-0.001	-0.035	-0.01	-0.07	0.07	-0.005	0.005	
138		18	-0.001	-0.04	-0.012	-0.154	0.154	-0.01	0.01	
139		19	-0.001	-0.045	-0.013	-0.25	0.25	-0.017	0.017	
140		20	-0.002	-0.051	-0.015	-0.358	0.358	-0.024	0.024	
141	1	A8	1	0.002	0.05	0.015	-0.358	0.358	-0.024	0.024
142		2	0.001	0.045	0.013	-0.251	0.251	-0.017	0.017	
143		3	0.001	0.04	0.012	-0.156	0.156	-0.01	0.01	
144		4	0.001	0.034	0.01	-0.072	0.072	-0.005	0.005	
145		5	0	0.029	0.008	-0.001	0.001	0	0	
146		6	0	0.024	0.007	0.058	-0.058	0.004	-0.004	
147		7	0	0.018	0.005	0.105	-0.105	0.007	-0.007	
148		8	0	0.013	0.004	0.14	-0.14	0.01	-0.01	
149		9	0	0.008	0.002	0.163	-0.163	0.011	-0.011	
150		10	0	0.002	0	0.175	-0.175	0.012	-0.012	
151		11	0	-0.003	0	0.174	-0.174	0.012	-0.012	
152		12	0	-0.008	-0.002	0.161	-0.161	0.011	-0.011	
153		13	0	-0.014	-0.004	0.136	-0.136	0.01	-0.01	
154		14	0	-0.019	-0.005	0.099	-0.099	0.007	-0.007	
155		15	0	-0.024	-0.007	0.05	-0.05	0.004	-0.004	
156		16	0	-0.03	-0.008	-0.01	0.01	0	0	
157		17	-0.001	-0.035	-0.01	-0.083	0.083	-0.005	0.005	
158		18	-0.001	-0.041	-0.012	-0.168	0.168	-0.01	0.01	
159		19	-0.001	-0.047	-0.013	-0.266	0.266	-0.017	0.017	
160		20	-0.002	-0.052	-0.015	-0.377	0.377	-0.024	0.024	
161	1	A9	1	0.002	0.054	0.015	-0.377	0.377	-0.024	0.024
162		2	0.001	0.049	0.013	-0.262	0.262	-0.017	0.017	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
163		3	0.001	0.043	0.012	-0.159	0.159	-0.01	0.01	
164		4	0.001	0.037	0.01	-0.069	0.069	-0.005	0.005	
165		5	0	0.031	0.008	0.008	-0.008	0	0	
166		6	0	0.026	0.007	0.072	-0.072	0.004	-0.004	
167		7	0	0.02	0.005	0.123	-0.123	0.007	-0.007	
168		8	0	0.014	0.004	0.161	-0.161	0.01	-0.01	
169		9	0	0.008	0.002	0.187	-0.187	0.011	-0.011	
170		10	0	0.003	0	0.199	-0.199	0.012	-0.012	
171		11	0	-0.003	0	0.199	-0.199	0.012	-0.012	
172		12	0	-0.009	-0.002	0.186	-0.186	0.011	-0.011	
173		13	0	-0.014	-0.004	0.16	-0.16	0.01	-0.01	
174		14	0	-0.02	-0.005	0.121	-0.121	0.007	-0.007	
175		15	0	-0.026	-0.007	0.069	-0.069	0.004	-0.004	
176		16	0	-0.032	-0.008	0.004	-0.004	0	0	
177		17	-0.001	-0.037	-0.01	-0.073	0.073	-0.005	0.005	
178		18	-0.001	-0.043	-0.012	-0.164	0.164	-0.01	0.01	
179		19	-0.001	-0.049	-0.013	-0.267	0.267	-0.017	0.017	
180		20	-0.002	-0.055	-0.015	-0.384	0.384	-0.024	0.024	
181	1	A10	1	0.002	0.053	0.015	-0.384	0.384	-0.024	0.024
182		2	0.001	0.048	0.013	-0.27	0.27	-0.017	0.017	
183		3	0.001	0.042	0.012	-0.169	0.169	-0.01	0.01	
184		4	0.001	0.036	0.01	-0.081	0.081	-0.005	0.005	
185		5	0	0.031	0.008	-0.006	0.006	0	0	
186		6	0	0.025	0.007	0.056	-0.056	0.004	-0.004	
187		7	0	0.019	0.005	0.106	-0.106	0.007	-0.007	
188		8	0	0.013	0.004	0.142	-0.142	0.01	-0.01	
189		9	0	0.008	0.002	0.166	-0.166	0.011	-0.011	
190		10	0	0.003	0	0.178	-0.178	0.012	-0.012	
191		11	0	-0.003	0	0.178	-0.178	0.012	-0.012	
192		12	0	-0.008	-0.002	0.166	-0.166	0.011	-0.011	
193		13	0	-0.013	-0.004	0.143	-0.143	0.01	-0.01	
194		14	0	-0.019	-0.005	0.107	-0.107	0.007	-0.007	
195		15	0	-0.024	-0.007	0.059	-0.059	0.004	-0.004	
196		16	0	-0.029	-0.008	-0.001	0.001	0	0	
197		17	-0.001	-0.035	-0.01	-0.073	0.073	-0.005	0.005	
198		18	-0.001	-0.04	-0.012	-0.157	0.157	-0.01	0.01	
199		19	-0.001	-0.045	-0.013	-0.253	0.253	-0.017	0.017	
200		20	-0.002	-0.051	-0.015	-0.361	0.361	-0.024	0.024	
201	1	A11	1	0.002	0.051	0.015	-0.36	0.36	-0.024	0.024
202		2	0.001	0.045	0.013	-0.252	0.252	-0.017	0.017	
203		3	0.001	0.04	0.012	-0.156	0.156	-0.01	0.01	
204		4	0.001	0.035	0.01	-0.072	0.072	-0.005	0.005	
205		5	0	0.029	0.008	0	0	0	0	
206		6	0	0.024	0.007	0.06	-0.06	0.004	-0.004	
207		7	0	0.019	0.005	0.108	-0.108	0.007	-0.007	
208		8	0	0.013	0.004	0.144	-0.144	0.01	-0.01	
209		9	0	0.008	0.002	0.167	-0.167	0.011	-0.011	
210		10	0	0.003	0	0.179	-0.179	0.012	-0.012	
211		11	0	-0.003	0	0.179	-0.179	0.012	-0.012	
212		12	0	-0.008	-0.002	0.167	-0.167	0.011	-0.011	
213		13	0	-0.013	-0.004	0.143	-0.143	0.01	-0.01	
214		14	0	-0.019	-0.005	0.107	-0.107	0.007	-0.007	
215		15	0	-0.024	-0.007	0.059	-0.059	0.004	-0.004	
216		16	0	-0.029	-0.008	0	0	0	0	
217		17	-0.001	-0.035	-0.01	-0.073	0.073	-0.005	0.005	
218		18	-0.001	-0.04	-0.012	-0.157	0.157	-0.01	0.01	
219		19	-0.001	-0.045	-0.013	-0.253	0.253	-0.017	0.017	
220		20	-0.002	-0.051	-0.015	-0.361	0.361	-0.024	0.024	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
221	1	A12	1	0.002	0.051	0.015	-0.361	0.361	-0.024	0.024
222			2	0.001	0.045	0.013	-0.253	0.253	-0.017	0.017
223			3	0.001	0.04	0.012	-0.157	0.157	-0.01	0.01
224			4	0.001	0.035	0.01	-0.073	0.073	-0.005	0.005
225			5	0	0.029	0.008	-0.001	0.001	0	0
226			6	0	0.024	0.007	0.059	-0.059	0.004	-0.004
227			7	0	0.019	0.005	0.107	-0.107	0.007	-0.007
228			8	0	0.013	0.004	0.143	-0.143	0.01	-0.01
229			9	0	0.008	0.002	0.167	-0.167	0.011	-0.011
230			10	0	0.003	0	0.179	-0.179	0.012	-0.012
231			11	0	-0.003	0	0.179	-0.179	0.012	-0.012
232			12	0	-0.008	-0.002	0.167	-0.167	0.011	-0.011
233			13	0	-0.013	-0.004	0.143	-0.143	0.01	-0.01
234			14	0	-0.019	-0.005	0.107	-0.107	0.007	-0.007
235			15	0	-0.024	-0.007	0.059	-0.059	0.004	-0.004
236			16	0	-0.029	-0.008	-0.001	0.001	0	0
237			17	-0.001	-0.035	-0.01	-0.073	0.073	-0.005	0.005
238			18	-0.001	-0.04	-0.012	-0.157	0.157	-0.01	0.01
239			19	-0.001	-0.045	-0.013	-0.253	0.253	-0.017	0.017
240			20	-0.002	-0.051	-0.015	-0.361	0.361	-0.024	0.024
241	1	A13	1	0.002	0.051	0.015	-0.361	0.361	-0.024	0.024
242			2	0.001	0.045	0.013	-0.253	0.253	-0.017	0.017
243			3	0.001	0.04	0.012	-0.157	0.157	-0.01	0.01
244			4	0.001	0.035	0.01	-0.073	0.073	-0.005	0.005
245			5	0	0.029	0.008	0	0	0	0
246			6	0	0.024	0.007	0.059	-0.059	0.004	-0.004
247			7	0	0.019	0.005	0.107	-0.107	0.007	-0.007
248			8	0	0.013	0.004	0.143	-0.143	0.01	-0.01
249			9	0	0.008	0.002	0.167	-0.167	0.011	-0.011
250			10	0	0.003	0	0.179	-0.179	0.012	-0.012
251			11	0	-0.003	0	0.179	-0.179	0.012	-0.012
252			12	0	-0.008	-0.002	0.167	-0.167	0.011	-0.011
253			13	0	-0.013	-0.004	0.144	-0.144	0.01	-0.01
254			14	0	-0.019	-0.005	0.108	-0.108	0.007	-0.007
255			15	0	-0.024	-0.007	0.06	-0.06	0.004	-0.004
256			16	0	-0.029	-0.008	0	0	0	0
257			17	-0.001	-0.035	-0.01	-0.072	0.072	-0.005	0.005
258			18	-0.001	-0.04	-0.012	-0.156	0.156	-0.01	0.01
259			19	-0.001	-0.045	-0.013	-0.252	0.252	-0.017	0.017
260			20	-0.002	-0.051	-0.015	-0.36	0.36	-0.024	0.024
261	1	A14	1	0.002	0.051	0.015	-0.36	0.36	-0.024	0.024
262			2	0.001	0.045	0.013	-0.252	0.252	-0.017	0.017
263			3	0.001	0.04	0.012	-0.156	0.156	-0.01	0.01
264			4	0.001	0.035	0.01	-0.073	0.073	-0.005	0.005
265			5	0	0.029	0.008	-0.001	0.001	0	0
266			6	0	0.024	0.007	0.059	-0.059	0.004	-0.004
267			7	0	0.019	0.005	0.106	-0.106	0.007	-0.007
268			8	0	0.013	0.004	0.142	-0.142	0.01	-0.01
269			9	0	0.008	0.002	0.166	-0.166	0.011	-0.011
270			10	0	0.003	0	0.178	-0.178	0.012	-0.012
271			11	0	-0.003	0	0.177	-0.177	0.012	-0.012
272			12	0	-0.008	-0.002	0.165	-0.165	0.011	-0.011
273			13	0	-0.013	-0.004	0.141	-0.141	0.01	-0.01
274			14	0	-0.019	-0.005	0.104	-0.104	0.007	-0.007
275			15	0	-0.024	-0.007	0.056	-0.056	0.004	-0.004
276			16	0	-0.029	-0.008	-0.004	0.004	0	0
277			17	-0.001	-0.035	-0.01	-0.076	0.076	-0.005	0.005
278			18	-0.001	-0.04	-0.012	-0.161	0.161	-0.01	0.01



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
279		19	-0.001	-0.046	-0.013	-0.257	0.257	-0.017	0.017
280		20	-0.002	-0.051	-0.015	-0.365	0.365	-0.024	0.024
281	1	A15	1	0.002	0.051	0.015	-0.365	0.365	-0.024
282		2	0.001	0.046	0.013	-0.256	0.256	-0.017	0.017
283		3	0.001	0.041	0.012	-0.159	0.159	-0.01	0.01
284		4	0.001	0.035	0.01	-0.074	0.074	-0.005	0.005
285		5	0	0.03	0.008	0	0	0	0
286		6	0	0.025	0.007	0.06	-0.06	0.004	-0.004
287		7	0	0.019	0.005	0.109	-0.109	0.007	-0.007
288		8	0	0.014	0.004	0.147	-0.147	0.01	-0.01
289		9	0	0.009	0.002	0.172	-0.172	0.011	-0.011
290		10	0	0.003	0	0.185	-0.185	0.012	-0.012
291		11	0	-0.002	0	0.186	-0.186	0.012	-0.012
292		12	0	-0.008	-0.002	0.175	-0.175	0.011	-0.011
293		13	0	-0.013	-0.004	0.152	-0.152	0.01	-0.01
294		14	0	-0.018	-0.005	0.117	-0.117	0.007	-0.007
295		15	0	-0.024	-0.007	0.07	-0.07	0.004	-0.004
296		16	0	-0.029	-0.008	0.012	-0.012	0	0
297		17	-0.001	-0.034	-0.01	-0.059	0.059	-0.005	0.005
298		18	-0.001	-0.04	-0.012	-0.142	0.142	-0.01	0.01
299		19	-0.001	-0.045	-0.013	-0.237	0.237	-0.017	0.017
300		20	-0.002	-0.05	-0.015	-0.344	0.344	-0.024	0.024
301	1	A16	1	0.004	0.052	0.01	-0.344	0.344	-0.006
302		2	0.004	0.049	0.009	-0.285	0.285	-0.004	0.004
303		3	0.004	0.047	0.008	-0.23	0.23	-0.001	0.001
304		4	0.004	0.044	0.007	-0.178	0.178	0	0
305		5	0.004	0.041	0.007	-0.129	0.129	0.003	-0.003
306		6	0.004	0.038	0.006	-0.083	0.083	0.004	-0.004
307		7	0.004	0.036	0.005	-0.04	0.04	0.006	-0.006
308		8	0.003	0.033	0.004	0	0	0.007	-0.007
309		9	0.003	0.03	0.003	0.036	-0.036	0.008	-0.008
310		10	0.003	0.027	0.003	0.069	-0.069	0.009	-0.009
311		11	0.003	0.025	0.002	0.1	-0.1	0.009	-0.009
312		12	0.003	0.022	0.001	0.127	-0.127	0.01	-0.01
313		13	0.003	0.019	0	0.15	-0.15	0.01	-0.01
314		14	0.003	0.016	0	0.171	-0.171	0.01	-0.01
315		15	0.003	0.014	-0.001	0.188	-0.188	0.01	-0.01
316		16	0.003	0.011	-0.002	0.203	-0.203	0.009	-0.009
317		17	0.003	0.008	-0.003	0.214	-0.214	0.009	-0.009
318		18	0.003	0.006	-0.004	0.222	-0.222	0.008	-0.008
319		19	0.002	0.003	-0.004	0.226	-0.226	0.007	-0.007
320		20	0.002	0	-0.005	0.228	-0.228	0.005	-0.005
321	1	A17	1	0	0.003	0	-0.018	0.018	0
322		2	0	0.003	0	-0.016	0.016	0	0
323		3	0	0.003	0	-0.014	0.014	0	0
324		4	0	0.002	0	-0.012	0.012	0	0
325		5	0	0.002	0	-0.011	0.011	0	0
326		6	0	0.002	0	-0.01	0.01	0	0
327		7	0	0.002	0	-0.008	0.008	0	0
328		8	0	0.002	0	-0.007	0.007	0	0
329		9	0	0.002	0	-0.006	0.006	0	0
330		10	0	0.002	0	-0.005	0.005	0	0
331		11	0	0.001	0	-0.004	0.004	0	0
332		12	0	0.001	0	-0.003	0.003	0	0
333		13	0	0.001	0	-0.002	0.002	0	0
334		14	0	0	0	-0.002	0.002	0	0
335		15	0	0	0	-0.001	0.001	0	0
336		16	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
337		17	0	0	0	0	0	0	0
338		18	0	0	0	0	0	0	0
339		19	0	0	0	0	0	0	0
340		20	0	0	0	0	0	0	0
341	1	R1	1	0	0	0	0	0	0
342		2	0	0	0	0	0	0	0
343		3	0	0	0	0	0	0	0
344		4	0	0	0	0	0	0	0
345		5	0	0	0	0	0	0	0
346		6	0	0	0	0	0	0	0
347		7	0	0	0	0	0	0	0
348		8	0	0	0	0	0	0	0
349		9	0	0	0	0	0	0	0
350		10	0	0	0	0	0	0	0
351		11	0	0	0	0	0	0	0
352		12	0	0	0	0	0	0	0
353		13	0	0	0	0	0	0	0
354		14	0	0	0	0	0	0	0
355		15	0	0	0	0	0	0	0
356		16	0	0	0	0	0	0	0
357		17	0	0	0	0	0	0	0
358		18	0	0	0	0	0	0	0
359		19	0	0	0	0	0	0	0
360		20	0	0	0	0	0	0	0
361	1	R2	1	0	0	0	0	0	0
362		2	0	0	0	0	0	0	0
363		3	0	0	0	0	0	0	0
364		4	0	0	0	0	0	0	0
365		5	0	0	0	0	0	0	0
366		6	0	0	0	0	0	0	0
367		7	0	0	0	0	0	0	0
368		8	0	0	0	0	0	0	0
369		9	0	0	0	0	0	0	0
370		10	0	0	0	0	0	0	0
371		11	0	0	0	0	0	0	0
372		12	0	0	0	0	0	0	0
373		13	0	0	0	0	0	0	0
374		14	0	0	0	0	0	0	0
375		15	0	0	0	0	0	0	0
376		16	0	0	0	0	0	0	0
377		17	0	0	0	0	0	0	0
378		18	0	0	0	0	0	0	0
379		19	0	0	0	0	0	0	0
380		20	0	0	0	0	0	0	0
381	1	R3	1	0	0	0	0	0	0
382		2	0	0	0	0	0	0	0
383		3	0	0	0	0	0	0	0
384		4	0	0	0	0	0	0	0
385		5	0	0	0	0	0	0	0
386		6	0	0	0	0	0	0	0
387		7	0	0	0	0	0	0	0
388		8	0	0	0	0	0	0	0
389		9	0	0	0	0	0	0	0
390		10	0	0	0	0	0	0	0
391		11	0	0	0	0	0	0	0
392		12	0	0	0	0	0	0	0
393		13	0	0	0	0	0	0	0
394		14	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
395		15	0	0	0	0	0	0	0
396		16	0	0	0	0	0	0	0
397		17	0	0	0	0	0	0	0
398		18	0	0	0	0	0	0	0
399		19	0	0	0	0	0	0	0
400		20	0	0	0	0	0	0	0
401	1	R4	1	0	0	0	0	0	0
402		2	0	0	0	0	0	0	0
403		3	0	0	0	0	0	0	0
404		4	0	0	0	0	0	0	0
405		5	0	0	0	0	0	0	0
406		6	0	0	0	0	0	0	0
407		7	0	0	0	0	0	0	0
408		8	0	0	0	0	0	0	0
409		9	0	0	0	0	0	0	0
410		10	0	0	0	0	0	0	0
411		11	0	0	0	0	0	0	0
412		12	0	0	0	0	0	0	0
413		13	0	0	0	0	0	0	0
414		14	0	0	0	0	0	0	0
415		15	0	0	0	0	0	0	0
416		16	0	0	0	0	0	0	0
417		17	0	0	0	0	0	0	0
418		18	0	0	0	0	0	0	0
419		19	0	0	0	0	0	0	0
420		20	0	0	0	0	0	0	0
421	1	R5	1	0	0	0	0	0	0
422		2	0	0	0	0	0	0	0
423		3	0	0	0	0	0	0	0
424		4	0	0	0	0	0	0	0
425		5	0	0	0	0	0	0	0
426		6	0	0	0	0	0	0	0
427		7	0	0	0	0	0	0	0
428		8	0	0	0	0	0	0	0
429		9	0	0	0	0	0	0	0
430		10	0	0	0	0	0	0	0
431		11	0	0	0	0	0	0	0
432		12	0	0	0	0	0	0	0
433		13	0	0	0	0	0	0	0
434		14	0	0	0	0	0	0	0
435		15	0	0	0	0	0	0	0
436		16	0	0	0	0	0	0	0
437		17	0	0	0	0	0	0	0
438		18	0	0	0	0	0	0	0
439		19	0	0	0	0	0	0	0
440		20	0	0	0	0	0	0	0
441	1	R6	1	0	0	0	0	0	0
442		2	0	0	0	0	0	0	0
443		3	0	0	0	0	0	0	0
444		4	0	0	0	0	0	0	0
445		5	0	0	0	0	0	0	0
446		6	0	0	0	0	0	0	0
447		7	0	0	0	0	0	0	0
448		8	0	0	0	0	0	0	0
449		9	0	0	0	0	0	0	0
450		10	0	0	0	0	0	0	0
451		11	0	0	0	0	0	0	0
452		12	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
453		13	0	0	0	0	0	0	0
454		14	0	0	0	0	0	0	0
455		15	0	0	0	0	0	0	0
456		16	0	0	0	0	0	0	0
457		17	0	0	0	0	0	0	0
458		18	0	0	0	0	0	0	0
459		19	0	0	0	0	0	0	0
460		20	0	0	0	0	0	0	0
461	1	R7	1	0	0	0	0	0	0
462		2	0	0	0	0	0	0	0
463		3	0	0	0	0	0	0	0
464		4	0	0	0	0	0	0	0
465		5	0	0	0	0	0	0	0
466		6	0	0	0	0	0	0	0
467		7	0	0	0	0	0	0	0
468		8	0	0	0	0	0	0	0
469		9	0	0	0	0	0	0	0
470		10	0	0	0	0	0	0	0
471		11	0	0	0	0	0	0	0
472		12	0	0	0	0	0	0	0
473		13	0	0	0	0	0	0	0
474		14	0	0	0	0	0	0	0
475		15	0	0	0	0	0	0	0
476		16	0	0	0	0	0	0	0
477		17	0	0	0	0	0	0	0
478		18	0	0	0	0	0	0	0
479		19	0	0	0	0	0	0	0
480		20	0	0	0	0	0	0	0
481	1	R8	1	0	0	0	0	0	0
482		2	0	0	0	0	0	0	0
483		3	0	0	0	0	0	0	0
484		4	0	0	0	0	0	0	0
485		5	0	0	0	0	0	0	0
486		6	0	0	0	0	0	0	0
487		7	0	0	0	0	0	0	0
488		8	0	0	0	0	0	0	0
489		9	0	0	0	0	0	0	0
490		10	0	0	0	0	0	0	0
491		11	0	0	0	0	0	0	0
492		12	0	0	0	0	0	0	0
493		13	0	0	0	0	0	0	0
494		14	0	0	0	0	0	0	0
495		15	0	0	0	0	0	0	0
496		16	0	0	0	0	0	0	0
497		17	0	0	0	0	0	0	0
498		18	0	0	0	0	0	0	0
499		19	0	0	0	0	0	0	0
500		20	0	0	0	0	0	0	0
501	1	R9	1	0	0	0	0	0	0
502		2	0	0	0	0	0	0	0
503		3	0	0	0	0	0	0	0
504		4	0	0	0	0	0	0	0
505		5	0	0	0	0	0	0	0
506		6	0	0	0	0	0	0	0
507		7	0	0	0	0	0	0	0
508		8	0	0	0	0	0	0	0
509		9	0	0	0	0	0	0	0
510		10	0	0	0	0	0	0	0





**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
511		11	0	0	0	0	0	0	0
512		12	0	0	0	0	0	0	0
513		13	0	0	0	0	0	0	0
514		14	0	0	0	0	0	0	0
515		15	0	0	0	0	0	0	0
516		16	0	0	0	0	0	0	0
517		17	0	0	0	0	0	0	0
518		18	0	0	0	0	0	0	0
519		19	0	0	0	0	0	0	0
520		20	0	0	0	0	0	0	0
521	1	R10	1	0	0	0	0	0	0
522		2	0	0	0	0	0	0	0
523		3	0	0	0	0	0	0	0
524		4	0	0	0	0	0	0	0
525		5	0	0	0	0	0	0	0
526		6	0	0	0	0	0	0	0
527		7	0	0	0	0	0	0	0
528		8	0	0	0	0	0	0	0
529		9	0	0	0	0	0	0	0
530		10	0	0	0	0	0	0	0
531		11	0	0	0	0	0	0	0
532		12	0	0	0	0	0	0	0
533		13	0	0	0	0	0	0	0
534		14	0	0	0	0	0	0	0
535		15	0	0	0	0	0	0	0
536		16	0	0	0	0	0	0	0
537		17	0	0	0	0	0	0	0
538		18	0	0	0	0	0	0	0
539		19	0	0	0	0	0	0	0
540		20	0	0	0	0	0	0	0
541	1	R11	1	0	0	0	0	0	0
542		2	0	0	0	0	0	0	0
543		3	0	0	0	0	0	0	0
544		4	0	0	0	0	0	0	0
545		5	0	0	0	0	0	0	0
546		6	0	0	0	0	0	0	0
547		7	0	0	0	0	0	0	0
548		8	0	0	0	0	0	0	0
549		9	0	0	0	0	0	0	0
550		10	0	0	0	0	0	0	0
551		11	0	0	0	0	0	0	0
552		12	0	0	0	0	0	0	0
553		13	0	0	0	0	0	0	0
554		14	0	0	0	0	0	0	0
555		15	0	0	0	0	0	0	0
556		16	0	0	0	0	0	0	0
557		17	0	0	0	0	0	0	0
558		18	0	0	0	0	0	0	0
559		19	0	0	0	0	0	0	0
560		20	0	0	0	0	0	0	0
561	1	R12	1	0	0	0	0	0	0
562		2	0	0	0	0	0	0	0
563		3	0	0	0	0	0	0	0
564		4	0	0	0	0	0	0	0
565		5	0	0	0	0	0	0	0
566		6	0	0	0	0	0	0	0
567		7	0	0	0	0	0	0	0
568		8	0	0	0	0	0	0	0

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
569		9	0	0	0	0	0	0	0
570		10	0	0	0	0	0	0	0
571		11	0	0	0	0	0	0	0
572		12	0	0	0	0	0	0	0
573		13	0	0	0	0	0	0	0
574		14	0	0	0	0	0	0	0
575		15	0	0	0	0	0	0	0
576		16	0	0	0	0	0	0	0
577		17	0	0	0	0	0	0	0
578		18	0	0	0	0	0	0	0
579		19	0	0	0	0	0	0	0
580		20	0	0	0	0	0	0	0
581	1	R13	1	0	0	0	0	0	0
582		2	0	0	0	0	0	0	0
583		3	0	0	0	0	0	0	0
584		4	0	0	0	0	0	0	0
585		5	0	0	0	0	0	0	0
586		6	0	0	0	0	0	0	0
587		7	0	0	0	0	0	0	0
588		8	0	0	0	0	0	0	0
589		9	0	0	0	0	0	0	0
590		10	0	0	0	0	0	0	0
591		11	0	0	0	0	0	0	0
592		12	0	0	0	0	0	0	0
593		13	0	0	0	0	0	0	0
594		14	0	0	0	0	0	0	0
595		15	0	0	0	0	0	0	0
596		16	0	0	0	0	0	0	0
597		17	0	0	0	0	0	0	0
598		18	0	0	0	0	0	0	0
599		19	0	0	0	0	0	0	0
600		20	0	0	0	0	0	0	0
601	1	R14	1	0	0	0	0	0	0
602		2	0	0	0	0	0	0	0
603		3	0	0	0	0	0	0	0
604		4	0	0	0	0	0	0	0
605		5	0	0	0	0	0	0	0
606		6	0	0	0	0	0	0	0
607		7	0	0	0	0	0	0	0
608		8	0	0	0	0	0	0	0
609		9	0	0	0	0	0	0	0
610		10	0	0	0	0	0	0	0
611		11	0	0	0	0	0	0	0
612		12	0	0	0	0	0	0	0
613		13	0	0	0	0	0	0	0
614		14	0	0	0	0	0	0	0
615		15	0	0	0	0	0	0	0
616		16	0	0	0	0	0	0	0
617		17	0	0	0	0	0	0	0
618		18	0	0	0	0	0	0	0
619		19	0	0	0	0	0	0	0
620		20	0	0	0	0	0	0	0
621	1	R15	1	0	0	0	0	0	0
622		2	0	0	0	0	0	0	0
623		3	0	0	0	0	0	0	0
624		4	0	0	0	0	0	0	0
625		5	0	0	0	0	0	0	0
626		6	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
627		7	0	0	0	0	0	0	0	
628		8	0	0	0	0	0	0	0	
629		9	0	0	0	0	0	0	0	
630		10	0	0	0	0	0	0	0	
631		11	0	0	0	0	0	0	0	
632		12	0	0	0	0	0	0	0	
633		13	0	0	0	0	0	0	0	
634		14	0	0	0	0	0	0	0	
635		15	0	0	0	0	0	0	0	
636		16	0	0	0	0	0	0	0	
637		17	0	0	0	0	0	0	0	
638		18	0	0	0	0	0	0	0	
639		19	0	0	0	0	0	0	0	
640		20	0	0	0	0	0	0	0	
641	1	M33	1	0	0	0	0	0	0	
642		2	0	0	0	0	0	0	0	
643		3	0	0	0	0	0	0	0	
644		4	0	0	0	0	0	0	0	
645		5	0	0	0	0	0	0	0	
646		6	0	0	0	0	0	0	0	
647		7	0	0	0	0	0	0	0	
648		8	0	0	0	0	0	0	0	
649		9	0	0	0	0	0	0	0	
650		10	0	0	0	0	0	0	0	
651		11	0	0	0	0	0	0	0	
652		12	0	0	0	0	0	0	0	
653		13	0	0	0	0	0	0	0	
654		14	0	0	0	0	0	0	0	
655		15	0	0	0	0	0	0	0	
656		16	0	0	0	0	0	0	0	
657		17	0	0	0	0	0	0	0	
658		18	0	0	0	0	0	0	0	
659		19	0	0	0	0	0	0	0	
660		20	0	0	0	0	0	0	0	
661	2	A1	1	0	0	0	0	0	0	
662		2	0	0	0	0	0	0	0	
663		3	0	0	0	0	0	0	0	
664		4	0	0	0	0	0	0	0	
665		5	0	0	0	0	0	0	0	
666		6	0	-0.001	0	-0.002	0.002	0	0	
667		7	0	-0.001	0	-0.002	0.002	0	0	
668		8	0	-0.001	0	-0.003	0.003	0	0	
669		9	0	-0.002	0	-0.004	0.004	0	0	
670		10	0	-0.002	0	-0.005	0.005	0	0	
671		11	0	-0.002	0	-0.006	0.006	0	0	
672		12	0	-0.002	0	-0.007	0.007	0	0	
673		13	0	-0.002	0	-0.009	0.009	0	0	
674		14	0	-0.003	0	-0.01	0.01	0	0	
675		15	0	-0.003	0	-0.012	0.012	0	0	
676		16	0	-0.003	0	-0.014	0.014	0	0	
677		17	0	-0.003	0	-0.016	0.016	0	0	
678		18	0	-0.003	0	-0.018	0.018	0	0	
679		19	0	-0.004	0	-0.02	0.02	0	0	
680		20	0	-0.004	0	-0.022	0.022	0	0	
681	2	A2	1	-0.002	-0.015	0.003	0.092	-0.092	0.002	-0.002
682		2	-0.002	-0.017	0.003	0.081	-0.081	0.003	-0.003	
683		3	-0.002	-0.02	0.002	0.067	-0.067	0.003	-0.003	
684		4	-0.002	-0.022	0.002	0.052	-0.052	0.004	-0.004	

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
685		5	-0.002	-0.024	0.001	0.036	-0.036	0.004	-0.004	
686		6	-0.002	-0.027	0	0.017	-0.017	0.004	-0.004	
687		7	-0.002	-0.029	0	-0.003	0.003	0.004	-0.004	
688		8	-0.002	-0.031	0	-0.024	0.024	0.004	-0.004	
689		9	-0.002	-0.034	0	-0.047	0.047	0.004	-0.004	
690		10	-0.002	-0.036	-0.001	-0.072	0.072	0.004	-0.004	
691		11	-0.002	-0.038	-0.002	-0.099	0.099	0.004	-0.004	
692		12	-0.002	-0.041	-0.002	-0.127	0.127	0.004	-0.004	
693		13	-0.003	-0.043	-0.003	-0.157	0.157	0.003	-0.003	
694		14	-0.003	-0.045	-0.003	-0.188	0.188	0.003	-0.003	
695		15	-0.003	-0.047	-0.004	-0.221	0.221	0.002	-0.002	
696		16	-0.003	-0.05	-0.004	-0.256	0.256	0.001	-0.001	
697		17	-0.003	-0.052	-0.005	-0.293	0.293	0	0	
698		18	-0.003	-0.054	-0.005	-0.331	0.331	0	0	
699		19	-0.003	-0.057	-0.005	-0.37	0.37	0	0	
700		20	-0.003	-0.059	-0.006	-0.412	0.412	-0.002	0.002	
701	2	A3	1	0.002	0.067	0.015	-0.412	0.412	-0.024	0.024
702		2	0.001	0.059	0.013	-0.27	0.27	-0.017	0.017	
703		3	0.001	0.052	0.012	-0.145	0.145	-0.01	0.01	
704		4	0.001	0.045	0.01	-0.036	0.036	-0.005	0.005	
705		5	0	0.038	0.008	0.056	-0.056	0	0	
706		6	0	0.03	0.007	0.133	-0.133	0.004	-0.004	
707		7	0	0.023	0.005	0.193	-0.193	0.007	-0.007	
708		8	0	0.016	0.004	0.237	-0.237	0.01	-0.01	
709		9	0	0.009	0.002	0.264	-0.264	0.011	-0.011	
710		10	0	0.001	0	0.275	-0.275	0.012	-0.012	
711		11	0	-0.006	0	0.27	-0.27	0.012	-0.012	
712		12	0	-0.013	-0.002	0.249	-0.249	0.011	-0.011	
713		13	0	-0.02	-0.004	0.211	-0.211	0.01	-0.01	
714		14	0	-0.028	-0.005	0.157	-0.157	0.007	-0.007	
715		15	0	-0.035	-0.007	0.086	-0.086	0.004	-0.004	
716		16	0	-0.042	-0.008	0	0	0	0	
717		17	-0.001	-0.049	-0.01	-0.103	0.103	-0.005	0.005	
718		18	-0.001	-0.057	-0.012	-0.222	0.222	-0.01	0.01	
719		19	-0.001	-0.064	-0.013	-0.358	0.358	-0.017	0.017	
720		20	-0.002	-0.071	-0.015	-0.51	0.51	-0.024	0.024	
721	2	A4	1	0.002	0.069	0.015	-0.51	0.51	-0.024	0.024
722		2	0.001	0.062	0.013	-0.362	0.362	-0.017	0.017	
723		3	0.001	0.055	0.012	-0.23	0.23	-0.01	0.01	
724		4	0.001	0.048	0.01	-0.115	0.115	-0.005	0.005	
725		5	0	0.04	0.008	-0.016	0.016	0	0	
726		6	0	0.033	0.007	0.067	-0.067	0.004	-0.004	
727		7	0	0.026	0.005	0.133	-0.133	0.007	-0.007	
728		8	0	0.019	0.004	0.184	-0.184	0.01	-0.01	
729		9	0	0.011	0.002	0.218	-0.218	0.011	-0.011	
730		10	0	0.004	0	0.235	-0.235	0.012	-0.012	
731		11	0	-0.003	0	0.236	-0.236	0.012	-0.012	
732		12	0	-0.01	-0.002	0.221	-0.221	0.011	-0.011	
733		13	0	-0.018	-0.004	0.19	-0.19	0.01	-0.01	
734		14	0	-0.025	-0.005	0.142	-0.142	0.007	-0.007	
735		15	0	-0.032	-0.007	0.079	-0.079	0.004	-0.004	
736		16	0	-0.039	-0.008	-0.002	0.002	0	0	
737		17	-0.001	-0.047	-0.01	-0.098	0.098	-0.005	0.005	
738		18	-0.001	-0.054	-0.012	-0.211	0.211	-0.01	0.01	
739		19	-0.001	-0.061	-0.013	-0.34	0.34	-0.017	0.017	
740		20	-0.002	-0.068	-0.015	-0.486	0.486	-0.024	0.024	
741	2	A5	1	0.002	0.069	0.015	-0.486	0.486	-0.024	0.024
742		2	0.001	0.062	0.013	-0.339	0.339	-0.017	0.017	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
743		3	0.001	0.054	0.012	-0.209	0.209	-0.01	0.01	
744		4	0.001	0.047	0.01	-0.095	0.095	-0.005	0.005	
745		5	0	0.04	0.008	0.002	-0.002	0	0	
746		6	0	0.033	0.007	0.083	-0.083	0.004	-0.004	
747		7	0	0.025	0.005	0.148	-0.148	0.007	-0.007	
748		8	0	0.018	0.004	0.197	-0.197	0.01	-0.01	
749		9	0	0.011	0.002	0.229	-0.229	0.011	-0.011	
750		10	0	0.003	0	0.245	-0.245	0.012	-0.012	
751		11	0	-0.004	0	0.245	-0.245	0.012	-0.012	
752		12	0	-0.011	-0.002	0.228	-0.228	0.011	-0.011	
753		13	0	-0.018	-0.004	0.195	-0.195	0.01	-0.01	
754		14	0	-0.026	-0.005	0.146	-0.146	0.007	-0.007	
755		15	0	-0.033	-0.007	0.081	-0.081	0.004	-0.004	
756		16	0	-0.04	-0.008	-0.001	0.001	0	0	
757		17	-0.001	-0.047	-0.01	-0.099	0.099	-0.005	0.005	
758		18	-0.001	-0.055	-0.012	-0.214	0.214	-0.01	0.01	
759		19	-0.001	-0.062	-0.013	-0.344	0.344	-0.017	0.017	
760		20	-0.002	-0.069	-0.015	-0.491	0.491	-0.024	0.024	
761	2	A6	1	0.002	0.069	0.015	-0.491	0.491	-0.024	0.024
762		2	0.001	0.062	0.013	-0.345	0.345	-0.017	0.017	
763		3	0.001	0.054	0.012	-0.214	0.214	-0.01	0.01	
764		4	0.001	0.047	0.01	-0.1	0.1	-0.005	0.005	
765		5	0	0.04	0.008	-0.002	0.002	0	0	
766		6	0	0.033	0.007	0.079	-0.079	0.004	-0.004	
767		7	0	0.025	0.005	0.144	-0.144	0.007	-0.007	
768		8	0	0.018	0.004	0.193	-0.193	0.01	-0.01	
769		9	0	0.011	0.002	0.226	-0.226	0.011	-0.011	
770		10	0	0.004	0	0.242	-0.242	0.012	-0.012	
771		11	0	-0.004	0	0.242	-0.242	0.012	-0.012	
772		12	0	-0.011	-0.002	0.226	-0.226	0.011	-0.011	
773		13	0	-0.018	-0.004	0.193	-0.193	0.01	-0.01	
774		14	0	-0.025	-0.005	0.144	-0.144	0.007	-0.007	
775		15	0	-0.033	-0.007	0.079	-0.079	0.004	-0.004	
776		16	0	-0.04	-0.008	-0.002	0.002	0	0	
777		17	-0.001	-0.047	-0.01	-0.1	0.1	-0.005	0.005	
778		18	-0.001	-0.054	-0.012	-0.214	0.214	-0.01	0.01	
779		19	-0.001	-0.062	-0.013	-0.344	0.344	-0.017	0.017	
780		20	-0.002	-0.069	-0.015	-0.491	0.491	-0.024	0.024	
781	2	A7	1	0.002	0.069	0.015	-0.491	0.491	-0.024	0.024
782		2	0.001	0.062	0.013	-0.344	0.344	-0.017	0.017	
783		3	0.001	0.055	0.012	-0.214	0.214	-0.01	0.01	
784		4	0.001	0.047	0.01	-0.099	0.099	-0.005	0.005	
785		5	0	0.04	0.008	-0.001	0.001	0	0	
786		6	0	0.033	0.007	0.081	-0.081	0.004	-0.004	
787		7	0	0.026	0.005	0.146	-0.146	0.007	-0.007	
788		8	0	0.018	0.004	0.195	-0.195	0.01	-0.01	
789		9	0	0.011	0.002	0.228	-0.228	0.011	-0.011	
790		10	0	0.004	0	0.245	-0.245	0.012	-0.012	
791		11	0	-0.004	0	0.245	-0.245	0.012	-0.012	
792		12	0	-0.011	-0.002	0.229	-0.229	0.011	-0.011	
793		13	0	-0.018	-0.004	0.197	-0.197	0.01	-0.01	
794		14	0	-0.025	-0.005	0.148	-0.148	0.007	-0.007	
795		15	0	-0.033	-0.007	0.083	-0.083	0.004	-0.004	
796		16	0	-0.04	-0.008	0.002	-0.002	0	0	
797		17	-0.001	-0.047	-0.01	-0.096	0.096	-0.005	0.005	
798		18	-0.001	-0.054	-0.012	-0.209	0.209	-0.01	0.01	
799		19	-0.001	-0.062	-0.013	-0.34	0.34	-0.017	0.017	
800		20	-0.002	-0.069	-0.015	-0.486	0.486	-0.024	0.024	

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
801	2	A8	1	0.002	0.068	0.015	-0.486	0.486	-0.024	0.024
802			2	0.001	0.061	0.013	-0.34	0.34	-0.017	0.017
803			3	0.001	0.054	0.012	-0.211	0.211	-0.01	0.01
804			4	0.001	0.047	0.01	-0.098	0.098	-0.005	0.005
805			5	0	0.039	0.008	-0.002	0.002	0	0
806			6	0	0.032	0.007	0.079	-0.079	0.004	-0.004
807			7	0	0.025	0.005	0.143	-0.143	0.007	-0.007
808			8	0	0.018	0.004	0.19	-0.19	0.01	-0.01
809			9	0	0.01	0.002	0.222	-0.222	0.011	-0.011
810			10	0	0.003	0	0.237	-0.237	0.012	-0.012
811			11	0	-0.004	0	0.236	-0.236	0.012	-0.012
812			12	0	-0.011	-0.002	0.218	-0.218	0.011	-0.011
813			13	0	-0.019	-0.004	0.185	-0.185	0.01	-0.01
814			14	0	-0.026	-0.005	0.135	-0.135	0.007	-0.007
815			15	0	-0.033	-0.007	0.068	-0.068	0.004	-0.004
816			16	0	-0.04	-0.008	-0.014	0.014	0	0
817			17	-0.001	-0.048	-0.01	-0.113	0.113	-0.005	0.005
818			18	-0.001	-0.055	-0.012	-0.229	0.229	-0.01	0.01
819			19	-0.001	-0.063	-0.013	-0.362	0.362	-0.017	0.017
820			20	-0.002	-0.071	-0.015	-0.513	0.513	-0.024	0.024
821	2	A9	1	0.002	0.074	0.015	-0.513	0.513	-0.024	0.024
822			2	0.001	0.066	0.013	-0.356	0.356	-0.017	0.017
823			3	0.001	0.058	0.012	-0.216	0.216	-0.01	0.01
824			4	0.001	0.05	0.01	-0.094	0.094	-0.005	0.005
825			5	0	0.043	0.008	0.011	-0.011	0	0
826			6	0	0.035	0.007	0.098	-0.098	0.004	-0.004
827			7	0	0.027	0.005	0.167	-0.167	0.007	-0.007
828			8	0	0.019	0.004	0.22	-0.22	0.01	-0.01
829			9	0	0.011	0.002	0.254	-0.254	0.011	-0.011
830			10	0	0.004	0	0.271	-0.271	0.012	-0.012
831			11	0	-0.004	0	0.271	-0.271	0.012	-0.012
832			12	0	-0.012	-0.002	0.253	-0.253	0.011	-0.011
833			13	0	-0.02	-0.004	0.217	-0.217	0.01	-0.01
834			14	0	-0.027	-0.005	0.164	-0.164	0.007	-0.007
835			15	0	-0.035	-0.007	0.094	-0.094	0.004	-0.004
836			16	0	-0.043	-0.008	0.006	-0.006	0	0
837			17	-0.001	-0.051	-0.01	-0.1	0.1	-0.005	0.005
838			18	-0.001	-0.059	-0.012	-0.223	0.223	-0.01	0.01
839			19	-0.001	-0.066	-0.013	-0.364	0.364	-0.017	0.017
840			20	-0.002	-0.074	-0.015	-0.522	0.522	-0.024	0.024
841	2	A10	1	0.002	0.073	0.015	-0.522	0.522	-0.024	0.024
842			2	0.001	0.065	0.013	-0.367	0.367	-0.017	0.017
843			3	0.001	0.057	0.012	-0.23	0.23	-0.01	0.01
844			4	0.001	0.049	0.01	-0.11	0.11	-0.005	0.005
845			5	0	0.042	0.008	-0.008	0.008	0	0
846			6	0	0.034	0.007	0.076	-0.076	0.004	-0.004
847			7	0	0.026	0.005	0.143	-0.143	0.007	-0.007
848			8	0	0.018	0.004	0.193	-0.193	0.01	-0.01
849			9	0	0.011	0.002	0.226	-0.226	0.011	-0.011
850			10	0	0.004	0	0.242	-0.242	0.012	-0.012
851			11	0	-0.004	0	0.242	-0.242	0.012	-0.012
852			12	0	-0.011	-0.002	0.226	-0.226	0.011	-0.011
853			13	0	-0.018	-0.004	0.194	-0.194	0.01	-0.01
854			14	0	-0.025	-0.005	0.145	-0.145	0.007	-0.007
855			15	0	-0.033	-0.007	0.08	-0.08	0.004	-0.004
856			16	0	-0.04	-0.008	-0.001	0.001	0	0
857			17	-0.001	-0.047	-0.01	-0.099	0.099	-0.005	0.005
858			18	-0.001	-0.054	-0.012	-0.213	0.213	-0.01	0.01



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
859		19	-0.001	-0.062	-0.013	-0.343	0.343	-0.017	0.017	
860		20	-0.002	-0.069	-0.015	-0.49	0.49	-0.024	0.024	
861	2	A11	1	0.002	0.069	0.015	-0.489	0.489	-0.024	0.024
862		2	0.001	0.062	0.013	-0.342	0.342	-0.017	0.017	
863		3	0.001	0.054	0.012	-0.212	0.212	-0.01	0.01	
864		4	0.001	0.047	0.01	-0.098	0.098	-0.005	0.005	
865		5	0	0.04	0.008	0	0	0	0	
866		6	0	0.033	0.007	0.081	-0.081	0.004	-0.004	
867		7	0	0.025	0.005	0.146	-0.146	0.007	-0.007	
868		8	0	0.018	0.004	0.195	-0.195	0.01	-0.01	
869		9	0	0.011	0.002	0.227	-0.227	0.011	-0.011	
870		10	0	0.004	0	0.244	-0.244	0.012	-0.012	
871		11	0	-0.004	0	0.244	-0.244	0.012	-0.012	
872		12	0	-0.011	-0.002	0.227	-0.227	0.011	-0.011	
873		13	0	-0.018	-0.004	0.195	-0.195	0.01	-0.01	
874		14	0	-0.025	-0.005	0.146	-0.146	0.007	-0.007	
875		15	0	-0.033	-0.007	0.08	-0.08	0.004	-0.004	
876		16	0	-0.04	-0.008	-0.001	0.001	0	0	
877		17	-0.001	-0.047	-0.01	-0.099	0.099	-0.005	0.005	
878		18	-0.001	-0.054	-0.012	-0.213	0.213	-0.01	0.01	
879		19	-0.001	-0.062	-0.013	-0.344	0.344	-0.017	0.017	
880		20	-0.002	-0.069	-0.015	-0.491	0.491	-0.024	0.024	
881	2	A12	1	0.002	0.069	0.015	-0.491	0.491	-0.024	0.024
882		2	0.001	0.062	0.013	-0.344	0.344	-0.017	0.017	
883		3	0.001	0.054	0.012	-0.214	0.214	-0.01	0.01	
884		4	0.001	0.047	0.01	-0.099	0.099	-0.005	0.005	
885		5	0	0.04	0.008	-0.002	0.002	0	0	
886		6	0	0.033	0.007	0.08	-0.08	0.004	-0.004	
887		7	0	0.025	0.005	0.145	-0.145	0.007	-0.007	
888		8	0	0.018	0.004	0.194	-0.194	0.01	-0.01	
889		9	0	0.011	0.002	0.227	-0.227	0.011	-0.011	
890		10	0	0.004	0	0.243	-0.243	0.012	-0.012	
891		11	0	-0.004	0	0.243	-0.243	0.012	-0.012	
892		12	0	-0.011	-0.002	0.227	-0.227	0.011	-0.011	
893		13	0	-0.018	-0.004	0.194	-0.194	0.01	-0.01	
894		14	0	-0.025	-0.005	0.145	-0.145	0.007	-0.007	
895		15	0	-0.033	-0.007	0.08	-0.08	0.004	-0.004	
896		16	0	-0.04	-0.008	-0.002	0.002	0	0	
897		17	-0.001	-0.047	-0.01	-0.099	0.099	-0.005	0.005	
898		18	-0.001	-0.054	-0.012	-0.213	0.213	-0.01	0.01	
899		19	-0.001	-0.062	-0.013	-0.344	0.344	-0.017	0.017	
900		20	-0.002	-0.069	-0.015	-0.49	0.49	-0.024	0.024	
901	2	A13	1	0.002	0.069	0.015	-0.49	0.49	-0.024	0.024
902		2	0.001	0.062	0.013	-0.344	0.344	-0.017	0.017	
903		3	0.001	0.054	0.012	-0.213	0.213	-0.01	0.01	
904		4	0.001	0.047	0.01	-0.099	0.099	-0.005	0.005	
905		5	0	0.04	0.008	-0.001	0.001	0	0	
906		6	0	0.033	0.007	0.08	-0.08	0.004	-0.004	
907		7	0	0.025	0.005	0.146	-0.146	0.007	-0.007	
908		8	0	0.018	0.004	0.194	-0.194	0.01	-0.01	
909		9	0	0.011	0.002	0.227	-0.227	0.011	-0.011	
910		10	0	0.004	0	0.243	-0.243	0.012	-0.012	
911		11	0	-0.004	0	0.244	-0.244	0.012	-0.012	
912		12	0	-0.011	-0.002	0.227	-0.227	0.011	-0.011	
913		13	0	-0.018	-0.004	0.195	-0.195	0.01	-0.01	
914		14	0	-0.025	-0.005	0.146	-0.146	0.007	-0.007	
915		15	0	-0.033	-0.007	0.081	-0.081	0.004	-0.004	
916		16	0	-0.04	-0.008	0	0	0	0	



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
917		17	-0.001	-0.047	-0.01	-0.098	0.098	-0.005	0.005	
918		18	-0.001	-0.054	-0.012	-0.212	0.212	-0.01	0.01	
919		19	-0.001	-0.062	-0.013	-0.343	0.343	-0.017	0.017	
920		20	-0.002	-0.069	-0.015	-0.489	0.489	-0.024	0.024	
921	2	A14	1	0.002	0.069	0.015	-0.489	0.489	-0.024	0.024
922		2	0.001	0.062	0.013	-0.343	0.343	-0.017	0.017	
923		3	0.001	0.054	0.012	-0.213	0.213	-0.01	0.01	
924		4	0.001	0.047	0.01	-0.099	0.099	-0.005	0.005	
925		5	0	0.04	0.008	-0.001	0.001	0	0	
926		6	0	0.033	0.007	0.08	-0.08	0.004	-0.004	
927		7	0	0.025	0.005	0.145	-0.145	0.007	-0.007	
928		8	0	0.018	0.004	0.193	-0.193	0.01	-0.01	
929		9	0	0.011	0.002	0.226	-0.226	0.011	-0.011	
930		10	0	0.004	0	0.242	-0.242	0.012	-0.012	
931		11	0	-0.004	0	0.242	-0.242	0.012	-0.012	
932		12	0	-0.011	-0.002	0.225	-0.225	0.011	-0.011	
933		13	0	-0.018	-0.004	0.192	-0.192	0.01	-0.01	
934		14	0	-0.025	-0.005	0.143	-0.143	0.007	-0.007	
935		15	0	-0.033	-0.007	0.078	-0.078	0.004	-0.004	
936		16	0	-0.04	-0.008	-0.004	0.004	0	0	
937		17	-0.001	-0.047	-0.01	-0.102	0.102	-0.005	0.005	
938		18	-0.001	-0.055	-0.012	-0.216	0.216	-0.01	0.01	
939		19	-0.001	-0.062	-0.013	-0.347	0.347	-0.017	0.017	
940		20	-0.002	-0.069	-0.015	-0.494	0.494	-0.024	0.024	
941	2	A15	1	0.002	0.069	0.015	-0.494	0.494	-0.024	0.024
942		2	0.001	0.062	0.013	-0.346	0.346	-0.017	0.017	
943		3	0.001	0.055	0.012	-0.215	0.215	-0.01	0.01	
944		4	0.001	0.048	0.01	-0.1	0.1	-0.005	0.005	
945		5	0	0.04	0.008	-0.001	0.001	0	0	
946		6	0	0.033	0.007	0.081	-0.081	0.004	-0.004	
947		7	0	0.026	0.005	0.147	-0.147	0.007	-0.007	
948		8	0	0.019	0.004	0.197	-0.197	0.01	-0.01	
949		9	0	0.011	0.002	0.231	-0.231	0.011	-0.011	
950		10	0	0.004	0	0.248	-0.248	0.012	-0.012	
951		11	0	-0.003	0	0.249	-0.249	0.012	-0.012	
952		12	0	-0.01	-0.002	0.234	-0.234	0.011	-0.011	
953		13	0	-0.018	-0.004	0.202	-0.202	0.01	-0.01	
954		14	0	-0.025	-0.005	0.154	-0.154	0.007	-0.007	
955		15	0	-0.032	-0.007	0.09	-0.09	0.004	-0.004	
956		16	0	-0.039	-0.008	0.009	-0.009	0	0	
957		17	-0.001	-0.047	-0.01	-0.088	0.088	-0.005	0.005	
958		18	-0.001	-0.054	-0.012	-0.201	0.201	-0.01	0.01	
959		19	-0.001	-0.061	-0.013	-0.33	0.33	-0.017	0.017	
960		20	-0.002	-0.069	-0.015	-0.476	0.476	-0.024	0.024	
961	2	A16	1	0.004	0.071	0.01	-0.476	0.476	-0.006	0.006
962		2	0.004	0.068	0.009	-0.396	0.396	-0.004	0.004	
963		3	0.004	0.064	0.008	-0.32	0.32	-0.001	0.001	
964		4	0.004	0.06	0.007	-0.249	0.249	0	0	
965		5	0.004	0.056	0.007	-0.181	0.181	0.003	-0.003	
966		6	0.004	0.053	0.006	-0.118	0.118	0.004	-0.004	
967		7	0.004	0.049	0.005	-0.06	0.06	0.006	-0.006	
968		8	0.003	0.045	0.004	-0.006	0.006	0.007	-0.007	
969		9	0.003	0.041	0.003	0.044	-0.044	0.008	-0.008	
970		10	0.003	0.038	0.003	0.09	-0.09	0.009	-0.009	
971		11	0.003	0.034	0.002	0.132	-0.132	0.009	-0.009	
972		12	0.003	0.03	0.001	0.169	-0.169	0.01	-0.01	
973		13	0.003	0.027	0	0.202	-0.202	0.01	-0.01	
974		14	0.003	0.023	0	0.23	-0.23	0.01	-0.01	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
975		15	0.003	0.019	-0.001	0.254	-0.254	0.01	-0.01	
976		16	0.003	0.015	-0.002	0.274	-0.274	0.009	-0.009	
977		17	0.003	0.012	-0.003	0.29	-0.29	0.009	-0.009	
978		18	0.003	0.008	-0.004	0.301	-0.301	0.008	-0.008	
979		19	0.002	0.004	-0.004	0.308	-0.308	0.007	-0.007	
980		20	0.002	0	-0.005	0.311	-0.311	0.005	-0.005	
981	2	A17	1	0	0.004	0	-0.024	0.024	0	0
982			2	0	0.004	0	-0.022	0.022	0	0
983			3	0	0.004	0	-0.02	0.02	0	0
984			4	0	0.003	0	-0.017	0.017	0	0
985			5	0	0.003	0	-0.015	0.015	0	0
986			6	0	0.003	0	-0.013	0.013	0	0
987			7	0	0.003	0	-0.011	0.011	0	0
988			8	0	0.003	0	-0.01	0.01	0	0
989			9	0	0.002	0	-0.008	0.008	0	0
990			10	0	0.002	0	-0.007	0.007	0	0
991			11	0	0.002	0	-0.005	0.005	0	0
992			12	0	0.002	0	-0.004	0.004	0	0
993			13	0	0.001	0	-0.003	0.003	0	0
994			14	0	0.001	0	-0.002	0.002	0	0
995			15	0	0.001	0	-0.002	0.002	0	0
996			16	0	0	0	-0.001	0.001	0	0
997			17	0	0	0	0	0	0	0
998			18	0	0	0	0	0	0	0
999			19	0	0	0	0	0	0	0
1000			20	0	0	0	0	0	0	0
1001	2	R1	1	0	0	0	0	0	0	0
1002			2	0	0	0	0	0	0	0
1003			3	0	0	0	0	0	0	0
1004			4	0	0	0	0	0	0	0
1005			5	0	0	0	0	0	0	0
1006			6	0	0	0	0	0	0	0
1007			7	0	0	0	0	0	0	0
1008			8	0	0	0	0	0	0	0
1009			9	0	0	0	0	0	0	0
1010			10	0	0	0	0	0	0	0
1011			11	0	0	0	0	0	0	0
1012			12	0	0	0	0	0	0	0
1013			13	0	0	0	0	0	0	0
1014			14	0	0	0	0	0	0	0
1015			15	0	0	0	0	0	0	0
1016			16	0	0	0	0	0	0	0
1017			17	0	0	0	0	0	0	0
1018			18	0	0	0	0	0	0	0
1019			19	0	0	0	0	0	0	0
1020			20	0	0	0	0	0	0	0
1021	2	R2	1	0	0	0	0	0	0	0
1022			2	0	0	0	0	0	0	0
1023			3	0	0	0	0	0	0	0
1024			4	0	0	0	0	0	0	0
1025			5	0	0	0	0	0	0	0
1026			6	0	0	0	0	0	0	0
1027			7	0	0	0	0	0	0	0
1028			8	0	0	0	0	0	0	0
1029			9	0	0	0	0	0	0	0
1030			10	0	0	0	0	0	0	0
1031			11	0	0	0	0	0	0	0
1032			12	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1033		13	0	0	0	0	0	0	0
1034		14	0	0	0	0	0	0	0
1035		15	0	0	0	0	0	0	0
1036		16	0	0	0	0	0	0	0
1037		17	0	0	0	0	0	0	0
1038		18	0	0	0	0	0	0	0
1039		19	0	0	0	0	0	0	0
1040		20	0	0	0	0	0	0	0
1041	2	R3	1	0	0	0	0	0	0
1042		2	0	0	0	0	0	0	0
1043		3	0	0	0	0	0	0	0
1044		4	0	0	0	0	0	0	0
1045		5	0	0	0	0	0	0	0
1046		6	0	0	0	0	0	0	0
1047		7	0	0	0	0	0	0	0
1048		8	0	0	0	0	0	0	0
1049		9	0	0	0	0	0	0	0
1050		10	0	0	0	0	0	0	0
1051		11	0	0	0	0	0	0	0
1052		12	0	0	0	0	0	0	0
1053		13	0	0	0	0	0	0	0
1054		14	0	0	0	0	0	0	0
1055		15	0	0	0	0	0	0	0
1056		16	0	0	0	0	0	0	0
1057		17	0	0	0	0	0	0	0
1058		18	0	0	0	0	0	0	0
1059		19	0	0	0	0	0	0	0
1060		20	0	0	0	0	0	0	0
1061	2	R4	1	0	0	0	0	0	0
1062		2	0	0	0	0	0	0	0
1063		3	0	0	0	0	0	0	0
1064		4	0	0	0	0	0	0	0
1065		5	0	0	0	0	0	0	0
1066		6	0	0	0	0	0	0	0
1067		7	0	0	0	0	0	0	0
1068		8	0	0	0	0	0	0	0
1069		9	0	0	0	0	0	0	0
1070		10	0	0	0	0	0	0	0
1071		11	0	0	0	0	0	0	0
1072		12	0	0	0	0	0	0	0
1073		13	0	0	0	0	0	0	0
1074		14	0	0	0	0	0	0	0
1075		15	0	0	0	0	0	0	0
1076		16	0	0	0	0	0	0	0
1077		17	0	0	0	0	0	0	0
1078		18	0	0	0	0	0	0	0
1079		19	0	0	0	0	0	0	0
1080		20	0	0	0	0	0	0	0
1081	2	R5	1	0	0	0	0	0	0
1082		2	0	0	0	0	0	0	0
1083		3	0	0	0	0	0	0	0
1084		4	0	0	0	0	0	0	0
1085		5	0	0	0	0	0	0	0
1086		6	0	0	0	0	0	0	0
1087		7	0	0	0	0	0	0	0
1088		8	0	0	0	0	0	0	0
1089		9	0	0	0	0	0	0	0
1090		10	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1091		11	0	0	0	0	0	0	0
1092		12	0	0	0	0	0	0	0
1093		13	0	0	0	0	0	0	0
1094		14	0	0	0	0	0	0	0
1095		15	0	0	0	0	0	0	0
1096		16	0	0	0	0	0	0	0
1097		17	0	0	0	0	0	0	0
1098		18	0	0	0	0	0	0	0
1099		19	0	0	0	0	0	0	0
1100		20	0	0	0	0	0	0	0
1101	2	R6	1	0	0	0	0	0	0
1102		2	0	0	0	0	0	0	0
1103		3	0	0	0	0	0	0	0
1104		4	0	0	0	0	0	0	0
1105		5	0	0	0	0	0	0	0
1106		6	0	0	0	0	0	0	0
1107		7	0	0	0	0	0	0	0
1108		8	0	0	0	0	0	0	0
1109		9	0	0	0	0	0	0	0
1110		10	0	0	0	0	0	0	0
1111		11	0	0	0	0	0	0	0
1112		12	0	0	0	0	0	0	0
1113		13	0	0	0	0	0	0	0
1114		14	0	0	0	0	0	0	0
1115		15	0	0	0	0	0	0	0
1116		16	0	0	0	0	0	0	0
1117		17	0	0	0	0	0	0	0
1118		18	0	0	0	0	0	0	0
1119		19	0	0	0	0	0	0	0
1120		20	0	0	0	0	0	0	0
1121	2	R7	1	0	0	0	0	0	0
1122		2	0	0	0	0	0	0	0
1123		3	0	0	0	0	0	0	0
1124		4	0	0	0	0	0	0	0
1125		5	0	0	0	0	0	0	0
1126		6	0	0	0	0	0	0	0
1127		7	0	0	0	0	0	0	0
1128		8	0	0	0	0	0	0	0
1129		9	0	0	0	0	0	0	0
1130		10	0	0	0	0	0	0	0
1131		11	0	0	0	0	0	0	0
1132		12	0	0	0	0	0	0	0
1133		13	0	0	0	0	0	0	0
1134		14	0	0	0	0	0	0	0
1135		15	0	0	0	0	0	0	0
1136		16	0	0	0	0	0	0	0
1137		17	0	0	0	0	0	0	0
1138		18	0	0	0	0	0	0	0
1139		19	0	0	0	0	0	0	0
1140		20	0	0	0	0	0	0	0
1141	2	R8	1	0	0	0	0	0	0
1142		2	0	0	0	0	0	0	0
1143		3	0	0	0	0	0	0	0
1144		4	0	0	0	0	0	0	0
1145		5	0	0	0	0	0	0	0
1146		6	0	0	0	0	0	0	0
1147		7	0	0	0	0	0	0	0
1148		8	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1149		9	0	0	0	0	0	0	0
1150		10	0	0	0	0	0	0	0
1151		11	0	0	0	0	0	0	0
1152		12	0	0	0	0	0	0	0
1153		13	0	0	0	0	0	0	0
1154		14	0	0	0	0	0	0	0
1155		15	0	0	0	0	0	0	0
1156		16	0	0	0	0	0	0	0
1157		17	0	0	0	0	0	0	0
1158		18	0	0	0	0	0	0	0
1159		19	0	0	0	0	0	0	0
1160		20	0	0	0	0	0	0	0
1161	2	R9	1	0	0	0	0	0	0
1162		2	0	0	0	0	0	0	0
1163		3	0	0	0	0	0	0	0
1164		4	0	0	0	0	0	0	0
1165		5	0	0	0	0	0	0	0
1166		6	0	0	0	0	0	0	0
1167		7	0	0	0	0	0	0	0
1168		8	0	0	0	0	0	0	0
1169		9	0	0	0	0	0	0	0
1170		10	0	0	0	0	0	0	0
1171		11	0	0	0	0	0	0	0
1172		12	0	0	0	0	0	0	0
1173		13	0	0	0	0	0	0	0
1174		14	0	0	0	0	0	0	0
1175		15	0	0	0	0	0	0	0
1176		16	0	0	0	0	0	0	0
1177		17	0	0	0	0	0	0	0
1178		18	0	0	0	0	0	0	0
1179		19	0	0	0	0	0	0	0
1180		20	0	0	0	0	0	0	0
1181	2	R10	1	0	0	0	0	0	0
1182		2	0	0	0	0	0	0	0
1183		3	0	0	0	0	0	0	0
1184		4	0	0	0	0	0	0	0
1185		5	0	0	0	0	0	0	0
1186		6	0	0	0	0	0	0	0
1187		7	0	0	0	0	0	0	0
1188		8	0	0	0	0	0	0	0
1189		9	0	0	0	0	0	0	0
1190		10	0	0	0	0	0	0	0
1191		11	0	0	0	0	0	0	0
1192		12	0	0	0	0	0	0	0
1193		13	0	0	0	0	0	0	0
1194		14	0	0	0	0	0	0	0
1195		15	0	0	0	0	0	0	0
1196		16	0	0	0	0	0	0	0
1197		17	0	0	0	0	0	0	0
1198		18	0	0	0	0	0	0	0
1199		19	0	0	0	0	0	0	0
1200		20	0	0	0	0	0	0	0
1201	2	R11	1	0	0	0	0	0	0
1202		2	0	0	0	0	0	0	0
1203		3	0	0	0	0	0	0	0
1204		4	0	0	0	0	0	0	0
1205		5	0	0	0	0	0	0	0
1206		6	0	0	0	0	0	0	0





Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1207		7	0	0	0	0	0	0	0
1208		8	0	0	0	0	0	0	0
1209		9	0	0	0	0	0	0	0
1210		10	0	0	0	0	0	0	0
1211		11	0	0	0	0	0	0	0
1212		12	0	0	0	0	0	0	0
1213		13	0	0	0	0	0	0	0
1214		14	0	0	0	0	0	0	0
1215		15	0	0	0	0	0	0	0
1216		16	0	0	0	0	0	0	0
1217		17	0	0	0	0	0	0	0
1218		18	0	0	0	0	0	0	0
1219		19	0	0	0	0	0	0	0
1220		20	0	0	0	0	0	0	0
1221	2	R12	1	0	0	0	0	0	0
1222		2	0	0	0	0	0	0	0
1223		3	0	0	0	0	0	0	0
1224		4	0	0	0	0	0	0	0
1225		5	0	0	0	0	0	0	0
1226		6	0	0	0	0	0	0	0
1227		7	0	0	0	0	0	0	0
1228		8	0	0	0	0	0	0	0
1229		9	0	0	0	0	0	0	0
1230		10	0	0	0	0	0	0	0
1231		11	0	0	0	0	0	0	0
1232		12	0	0	0	0	0	0	0
1233		13	0	0	0	0	0	0	0
1234		14	0	0	0	0	0	0	0
1235		15	0	0	0	0	0	0	0
1236		16	0	0	0	0	0	0	0
1237		17	0	0	0	0	0	0	0
1238		18	0	0	0	0	0	0	0
1239		19	0	0	0	0	0	0	0
1240		20	0	0	0	0	0	0	0
1241	2	R13	1	0	0	0	0	0	0
1242		2	0	0	0	0	0	0	0
1243		3	0	0	0	0	0	0	0
1244		4	0	0	0	0	0	0	0
1245		5	0	0	0	0	0	0	0
1246		6	0	0	0	0	0	0	0
1247		7	0	0	0	0	0	0	0
1248		8	0	0	0	0	0	0	0
1249		9	0	0	0	0	0	0	0
1250		10	0	0	0	0	0	0	0
1251		11	0	0	0	0	0	0	0
1252		12	0	0	0	0	0	0	0
1253		13	0	0	0	0	0	0	0
1254		14	0	0	0	0	0	0	0
1255		15	0	0	0	0	0	0	0
1256		16	0	0	0	0	0	0	0
1257		17	0	0	0	0	0	0	0
1258		18	0	0	0	0	0	0	0
1259		19	0	0	0	0	0	0	0
1260		20	0	0	0	0	0	0	0
1261	2	R14	1	0	0	0	0	0	0
1262		2	0	0	0	0	0	0	0
1263		3	0	0	0	0	0	0	0
1264		4	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1265		5	0	0	0	0	0	0	0
1266		6	0	0	0	0	0	0	0
1267		7	0	0	0	0	0	0	0
1268		8	0	0	0	0	0	0	0
1269		9	0	0	0	0	0	0	0
1270		10	0	0	0	0	0	0	0
1271		11	0	0	0	0	0	0	0
1272		12	0	0	0	0	0	0	0
1273		13	0	0	0	0	0	0	0
1274		14	0	0	0	0	0	0	0
1275		15	0	0	0	0	0	0	0
1276		16	0	0	0	0	0	0	0
1277		17	0	0	0	0	0	0	0
1278		18	0	0	0	0	0	0	0
1279		19	0	0	0	0	0	0	0
1280		20	0	0	0	0	0	0	0
1281	2	R15	1	0	0	0	0	0	0
1282		2	0	0	0	0	0	0	0
1283		3	0	0	0	0	0	0	0
1284		4	0	0	0	0	0	0	0
1285		5	0	0	0	0	0	0	0
1286		6	0	0	0	0	0	0	0
1287		7	0	0	0	0	0	0	0
1288		8	0	0	0	0	0	0	0
1289		9	0	0	0	0	0	0	0
1290		10	0	0	0	0	0	0	0
1291		11	0	0	0	0	0	0	0
1292		12	0	0	0	0	0	0	0
1293		13	0	0	0	0	0	0	0
1294		14	0	0	0	0	0	0	0
1295		15	0	0	0	0	0	0	0
1296		16	0	0	0	0	0	0	0
1297		17	0	0	0	0	0	0	0
1298		18	0	0	0	0	0	0	0
1299		19	0	0	0	0	0	0	0
1300		20	0	0	0	0	0	0	0
1301	2	M33	1	0	0	0	0	0	0
1302		2	0	0	0	0	0	0	0
1303		3	0	0	0	0	0	0	0
1304		4	0	0	0	0	0	0	0
1305		5	0	0	0	0	0	0	0
1306		6	0	0	0	0	0	0	0
1307		7	0	0	0	0	0	0	0
1308		8	0	0	0	0	0	0	0
1309		9	0	0	0	0	0	0	0
1310		10	0	0	0	0	0	0	0
1311		11	0	0	0	0	0	0	0
1312		12	0	0	0	0	0	0	0
1313		13	0	0	0	0	0	0	0
1314		14	0	0	0	0	0	0	0
1315		15	0	0	0	0	0	0	0
1316		16	0	0	0	0	0	0	0
1317		17	0	0	0	0	0	0	0
1318		18	0	0	0	0	0	0	0
1319		19	0	0	0	0	0	0	0
1320		20	0	0	0	0	0	0	0
1321	3	A1	1	0	0	0	0	0	0
1322		2	0	0	0	0	0	0	0

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
1323		3	0	0	0	0	0	0	0	
1324		4	0	0	0	0	0	0	0	
1325		5	0	0	0	-0.001	0.001	0	0	
1326		6	0	-0.001	0	-0.002	0.002	0	0	
1327		7	0	-0.001	0	-0.003	0.003	0	0	
1328		8	0	-0.002	0	-0.004	0.004	0	0	
1329		9	0	-0.002	0	-0.005	0.005	0	0	
1330		10	0	-0.002	0	-0.006	0.006	0	0	
1331		11	0	-0.002	0	-0.007	0.007	0	0	
1332		12	0	-0.003	0	-0.009	0.009	0	0	
1333		13	0	-0.003	0	-0.011	0.011	0	0	
1334		14	0	-0.003	0	-0.012	0.012	0	0	
1335		15	0	-0.003	0	-0.014	0.014	0	0	
1336		16	0	-0.004	0	-0.017	0.017	0	0	
1337		17	0	-0.004	0	-0.019	0.019	0	0	
1338		18	0	-0.004	0	-0.021	0.021	0	0	
1339		19	0	-0.004	0	-0.024	0.024	0	0	
1340		20	0	-0.005	0	-0.027	0.027	0	0	
1341	3	A2	1	-0.002	-0.018	0.003	0.123	-0.123	0.002	-0.002
1342		2	-0.002	-0.02	0.003	0.109	-0.109	0.003	-0.003	
1343		3	-0.002	-0.022	0.002	0.094	-0.094	0.003	-0.003	
1344		4	-0.002	-0.024	0.002	0.078	-0.078	0.004	-0.004	
1345		5	-0.002	-0.026	0.001	0.061	-0.061	0.004	-0.004	
1346		6	-0.002	-0.028	0	0.042	-0.042	0.004	-0.004	
1347		7	-0.002	-0.03	0	0.021	-0.021	0.004	-0.004	
1348		8	-0.002	-0.032	0	0	0	0.004	-0.004	
1349		9	-0.002	-0.034	0	-0.024	0.024	0.004	-0.004	
1350		10	-0.002	-0.036	-0.001	-0.049	0.049	0.004	-0.004	
1351		11	-0.002	-0.038	-0.002	-0.075	0.075	0.004	-0.004	
1352		12	-0.002	-0.04	-0.002	-0.102	0.102	0.003	-0.003	
1353		13	-0.003	-0.042	-0.003	-0.131	0.131	0.003	-0.003	
1354		14	-0.003	-0.043	-0.003	-0.162	0.162	0.003	-0.003	
1355		15	-0.003	-0.045	-0.004	-0.193	0.193	0.002	-0.002	
1356		16	-0.003	-0.047	-0.004	-0.227	0.227	0.001	-0.001	
1357		17	-0.003	-0.049	-0.004	-0.261	0.261	0	0	
1358		18	-0.003	-0.051	-0.005	-0.297	0.297	0	0	
1359		19	-0.003	-0.053	-0.005	-0.335	0.335	0	0	
1360		20	-0.003	-0.055	-0.006	-0.374	0.374	-0.002	0.002	
1361	3	A3	1	0.002	0.058	0.015	-0.374	0.374	-0.024	0.024
1362		2	0.001	0.052	0.013	-0.251	0.251	-0.017	0.017	
1363		3	0.001	0.045	0.011	-0.142	0.142	-0.01	0.01	
1364		4	0.001	0.039	0.01	-0.046	0.046	-0.005	0.005	
1365		5	0	0.033	0.008	0.035	-0.035	0	0	
1366		6	0	0.027	0.007	0.102	-0.102	0.004	-0.004	
1367		7	0	0.02	0.005	0.155	-0.155	0.007	-0.007	
1368		8	0	0.014	0.004	0.194	-0.194	0.009	-0.009	
1369		9	0	0.008	0.002	0.218	-0.218	0.011	-0.011	
1370		10	0	0.002	0	0.229	-0.229	0.012	-0.012	
1371		11	0	-0.005	0	0.226	-0.226	0.012	-0.012	
1372		12	0	-0.011	-0.002	0.209	-0.209	0.011	-0.011	
1373		13	0	-0.017	-0.004	0.178	-0.178	0.009	-0.009	
1374		14	0	-0.023	-0.005	0.132	-0.132	0.007	-0.007	
1375		15	0	-0.03	-0.007	0.073	-0.073	0.004	-0.004	
1376		16	0	-0.036	-0.008	0	0	0	0	
1377		17	-0.001	-0.042	-0.01	-0.088	0.088	-0.005	0.005	
1378		18	-0.001	-0.048	-0.011	-0.189	0.189	-0.01	0.01	
1379		19	-0.001	-0.055	-0.013	-0.305	0.305	-0.017	0.017	
1380		20	-0.002	-0.061	-0.015	-0.435	0.435	-0.024	0.024	

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
1381	3	A4	1	0.002	0.06	0.015	-0.435	0.435	-0.024	0.024
1382			2	0.001	0.053	0.013	-0.307	0.307	-0.017	0.017
1383			3	0.001	0.047	0.011	-0.194	0.194	-0.01	0.01
1384			4	0.001	0.041	0.01	-0.095	0.095	-0.005	0.005
1385			5	0	0.035	0.008	-0.01	0.01	0	0
1386			6	0	0.028	0.007	0.061	-0.061	0.004	-0.004
1387			7	0	0.022	0.005	0.118	-0.118	0.007	-0.007
1388			8	0	0.016	0.004	0.161	-0.161	0.009	-0.009
1389			9	0	0.01	0.002	0.19	-0.19	0.011	-0.011
1390			10	0	0.003	0	0.205	-0.205	0.012	-0.012
1391			11	0	-0.003	0	0.205	-0.205	0.012	-0.012
1392			12	0	-0.009	-0.002	0.192	-0.192	0.011	-0.011
1393			13	0	-0.015	-0.004	0.165	-0.165	0.009	-0.009
1394			14	0	-0.022	-0.005	0.123	-0.123	0.007	-0.007
1395			15	0	-0.028	-0.007	0.068	-0.068	0.004	-0.004
1396			16	0	-0.034	-0.008	-0.001	0.001	0	0
1397			17	-0.001	-0.04	-0.01	-0.085	0.085	-0.005	0.005
1398			18	-0.001	-0.047	-0.011	-0.182	0.182	-0.01	0.01
1399			19	-0.001	-0.053	-0.013	-0.294	0.294	-0.017	0.017
1400			20	-0.002	-0.059	-0.015	-0.42	0.42	-0.024	0.024
1401	3	A5	1	0.002	0.059	0.015	-0.42	0.42	-0.024	0.024
1402			2	0.001	0.053	0.013	-0.293	0.293	-0.017	0.017
1403			3	0.001	0.047	0.011	-0.181	0.181	-0.01	0.01
1404			4	0.001	0.041	0.01	-0.083	0.083	-0.005	0.005
1405			5	0	0.034	0.008	0.001	-0.001	0	0
1406			6	0	0.028	0.007	0.071	-0.071	0.004	-0.004
1407			7	0	0.022	0.005	0.127	-0.127	0.007	-0.007
1408			8	0	0.016	0.004	0.169	-0.169	0.009	-0.009
1409			9	0	0.009	0.002	0.197	-0.197	0.011	-0.011
1410			10	0	0.003	0	0.211	-0.211	0.012	-0.012
1411			11	0	-0.003	0	0.211	-0.211	0.012	-0.012
1412			12	0	-0.009	-0.002	0.196	-0.196	0.011	-0.011
1413			13	0	-0.016	-0.004	0.168	-0.168	0.009	-0.009
1414			14	0	-0.022	-0.005	0.126	-0.126	0.007	-0.007
1415			15	0	-0.028	-0.007	0.07	-0.07	0.004	-0.004
1416			16	0	-0.034	-0.008	0	0	0	0
1417			17	-0.001	-0.041	-0.01	-0.085	0.085	-0.005	0.005
1418			18	-0.001	-0.047	-0.011	-0.184	0.184	-0.01	0.01
1419			19	-0.001	-0.053	-0.013	-0.296	0.296	-0.017	0.017
1420			20	-0.002	-0.059	-0.015	-0.423	0.423	-0.024	0.024
1421	3	A6	1	0.002	0.059	0.015	-0.423	0.423	-0.024	0.024
1422			2	0.001	0.053	0.013	-0.297	0.297	-0.017	0.017
1423			3	0.001	0.047	0.011	-0.184	0.184	-0.01	0.01
1424			4	0.001	0.041	0.01	-0.086	0.086	-0.005	0.005
1425			5	0	0.034	0.008	-0.002	0.002	0	0
1426			6	0	0.028	0.007	0.068	-0.068	0.004	-0.004
1427			7	0	0.022	0.005	0.125	-0.125	0.007	-0.007
1428			8	0	0.016	0.004	0.167	-0.167	0.009	-0.009
1429			9	0	0.009	0.002	0.195	-0.195	0.011	-0.011
1430			10	0	0.003	0	0.209	-0.209	0.012	-0.012
1431			11	0	-0.003	0	0.209	-0.209	0.012	-0.012
1432			12	0	-0.009	-0.002	0.195	-0.195	0.011	-0.011
1433			13	0	-0.016	-0.004	0.166	-0.166	0.009	-0.009
1434			14	0	-0.022	-0.005	0.124	-0.124	0.007	-0.007
1435			15	0	-0.028	-0.007	0.068	-0.068	0.004	-0.004
1436			16	0	-0.034	-0.008	-0.002	0.002	0	0
1437			17	-0.001	-0.041	-0.01	-0.086	0.086	-0.005	0.005
1438			18	-0.001	-0.047	-0.011	-0.185	0.185	-0.01	0.01



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1439		19	-0.001	-0.053	-0.013	-0.297	0.297	-0.017	0.017
1440		20	-0.002	-0.059	-0.015	-0.424	0.424	-0.024	0.024
1441	3	A7	1	0.002	0.06	0.015	-0.424	0.424	-0.024
1442		2	0.001	0.053	0.013	-0.297	0.297	-0.017	0.017
1443		3	0.001	0.047	0.011	-0.184	0.184	-0.01	0.01
1444		4	0.001	0.041	0.01	-0.086	0.086	-0.005	0.005
1445		5	0	0.035	0.008	0	0	0	0
1446		6	0	0.028	0.007	0.07	-0.07	0.004	-0.004
1447		7	0	0.022	0.005	0.126	-0.126	0.007	-0.007
1448		8	0	0.016	0.004	0.169	-0.169	0.009	-0.009
1449		9	0	0.01	0.002	0.197	-0.197	0.011	-0.011
1450		10	0	0.003	0	0.211	-0.211	0.012	-0.012
1451		11	0	-0.003	0	0.212	-0.212	0.012	-0.012
1452		12	0	-0.009	-0.002	0.198	-0.198	0.011	-0.011
1453		13	0	-0.015	-0.004	0.17	-0.17	0.009	-0.009
1454		14	0	-0.022	-0.005	0.128	-0.128	0.007	-0.007
1455		15	0	-0.028	-0.007	0.073	-0.073	0.004	-0.004
1456		16	0	-0.034	-0.008	0.003	-0.003	0	0
1457		17	-0.001	-0.04	-0.01	-0.081	0.081	-0.005	0.005
1458		18	-0.001	-0.047	-0.011	-0.179	0.179	-0.01	0.01
1459		19	-0.001	-0.053	-0.013	-0.291	0.291	-0.017	0.017
1460		20	-0.002	-0.059	-0.015	-0.417	0.417	-0.024	0.024
1461	3	A8	1	0.002	0.059	0.015	-0.417	0.417	-0.024
1462		2	0.001	0.053	0.013	-0.292	0.292	-0.017	0.017
1463		3	0.001	0.046	0.011	-0.181	0.181	-0.01	0.01
1464		4	0.001	0.04	0.01	-0.084	0.084	-0.005	0.005
1465		5	0	0.034	0.008	-0.001	0.001	0	0
1466		6	0	0.028	0.007	0.067	-0.067	0.004	-0.004
1467		7	0	0.021	0.005	0.122	-0.122	0.007	-0.007
1468		8	0	0.015	0.004	0.163	-0.163	0.009	-0.009
1469		9	0	0.009	0.002	0.19	-0.19	0.011	-0.011
1470		10	0	0.003	0	0.202	-0.202	0.012	-0.012
1471		11	0	-0.004	0	0.201	-0.201	0.012	-0.012
1472		12	0	-0.01	-0.002	0.185	-0.185	0.011	-0.011
1473		13	0	-0.016	-0.004	0.156	-0.156	0.009	-0.009
1474		14	0	-0.022	-0.005	0.112	-0.112	0.007	-0.007
1475		15	0	-0.029	-0.007	0.055	-0.055	0.004	-0.004
1476		16	0	-0.035	-0.008	-0.017	0.017	0	0
1477		17	-0.001	-0.041	-0.01	-0.102	0.102	-0.005	0.005
1478		18	-0.001	-0.048	-0.011	-0.203	0.203	-0.01	0.01
1479		19	-0.001	-0.055	-0.013	-0.319	0.319	-0.017	0.017
1480		20	-0.002	-0.062	-0.015	-0.45	0.45	-0.024	0.024
1481	3	A9	1	0.002	0.065	0.015	-0.45	0.45	-0.024
1482		2	0.001	0.058	0.013	-0.311	0.311	-0.017	0.017
1483		3	0.001	0.052	0.011	-0.187	0.187	-0.01	0.01
1484		4	0.001	0.045	0.01	-0.079	0.079	-0.005	0.005
1485		5	0	0.038	0.008	0.013	-0.013	0	0
1486		6	0	0.031	0.007	0.09	-0.09	0.004	-0.004
1487		7	0	0.024	0.005	0.152	-0.152	0.007	-0.007
1488		8	0	0.017	0.004	0.198	-0.198	0.009	-0.009
1489		9	0	0.01	0.002	0.228	-0.228	0.011	-0.011
1490		10	0	0.003	0	0.243	-0.243	0.012	-0.012
1491		11	0	-0.004	0	0.243	-0.243	0.012	-0.012
1492		12	0	-0.011	-0.002	0.227	-0.227	0.011	-0.011
1493		13	0	-0.017	-0.004	0.195	-0.195	0.009	-0.009
1494		14	0	-0.024	-0.005	0.148	-0.148	0.007	-0.007
1495		15	0	-0.031	-0.007	0.085	-0.085	0.004	-0.004
1496		16	0	-0.038	-0.008	0.007	-0.007	0	0

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
1497		17	-0.001	-0.045	-0.01	-0.086	0.086	-0.005	0.005	
1498		18	-0.001	-0.052	-0.011	-0.195	0.195	-0.01	0.01	
1499		19	-0.001	-0.059	-0.013	-0.32	0.32	-0.017	0.017	
1500		20	-0.002	-0.066	-0.015	-0.46	0.46	-0.024	0.024	
1501	3	A10	1	0.002	0.064	0.015	-0.46	0.46	-0.024	0.024
1502		2	0.001	0.057	0.013	-0.324	0.324	-0.017	0.017	
1503		3	0.001	0.05	0.011	-0.204	0.204	-0.01	0.01	
1504		4	0.001	0.043	0.01	-0.099	0.099	-0.005	0.005	
1505		5	0	0.036	0.008	-0.009	0.009	0	0	
1506		6	0	0.029	0.007	0.064	-0.064	0.004	-0.004	
1507		7	0	0.023	0.005	0.123	-0.123	0.007	-0.007	
1508		8	0	0.016	0.004	0.166	-0.166	0.009	-0.009	
1509		9	0	0.009	0.002	0.194	-0.194	0.011	-0.011	
1510		10	0	0.003	0	0.208	-0.208	0.012	-0.012	
1511		11	0	-0.003	0	0.208	-0.208	0.012	-0.012	
1512		12	0	-0.009	-0.002	0.195	-0.195	0.011	-0.011	
1513		13	0	-0.016	-0.004	0.167	-0.167	0.009	-0.009	
1514		14	0	-0.022	-0.005	0.125	-0.125	0.007	-0.007	
1515		15	0	-0.028	-0.007	0.069	-0.069	0.004	-0.004	
1516		16	0	-0.034	-0.008	-0.001	0.001	0	0	
1517		17	-0.001	-0.041	-0.01	-0.085	0.085	-0.005	0.005	
1518		18	-0.001	-0.047	-0.011	-0.183	0.183	-0.01	0.01	
1519		19	-0.001	-0.053	-0.013	-0.295	0.295	-0.017	0.017	
1520		20	-0.002	-0.059	-0.015	-0.422	0.422	-0.024	0.024	
1521	3	A11	1	0.002	0.059	0.015	-0.421	0.421	-0.024	0.024
1522		2	0.001	0.053	0.013	-0.295	0.295	-0.017	0.017	
1523		3	0.001	0.047	0.011	-0.182	0.182	-0.01	0.01	
1524		4	0.001	0.041	0.01	-0.084	0.084	-0.005	0.005	
1525		5	0	0.034	0.008	0	0	0	0	
1526		6	0	0.028	0.007	0.07	-0.07	0.004	-0.004	
1527		7	0	0.022	0.005	0.126	-0.126	0.007	-0.007	
1528		8	0	0.016	0.004	0.168	-0.168	0.009	-0.009	
1529		9	0	0.009	0.002	0.196	-0.196	0.011	-0.011	
1530		10	0	0.003	0	0.21	-0.21	0.012	-0.012	
1531		11	0	-0.003	0	0.21	-0.21	0.012	-0.012	
1532		12	0	-0.009	-0.002	0.196	-0.196	0.011	-0.011	
1533		13	0	-0.016	-0.004	0.168	-0.168	0.009	-0.009	
1534		14	0	-0.022	-0.005	0.125	-0.125	0.007	-0.007	
1535		15	0	-0.028	-0.007	0.069	-0.069	0.004	-0.004	
1536		16	0	-0.034	-0.008	-0.001	0.001	0	0	
1537		17	-0.001	-0.041	-0.01	-0.086	0.086	-0.005	0.005	
1538		18	-0.001	-0.047	-0.011	-0.184	0.184	-0.01	0.01	
1539		19	-0.001	-0.053	-0.013	-0.296	0.296	-0.017	0.017	
1540		20	-0.002	-0.059	-0.015	-0.423	0.423	-0.024	0.024	
1541	3	A12	1	0.002	0.059	0.015	-0.423	0.423	-0.024	0.024
1542		2	0.001	0.053	0.013	-0.296	0.296	-0.017	0.017	
1543		3	0.001	0.047	0.011	-0.184	0.184	-0.01	0.01	
1544		4	0.001	0.041	0.01	-0.086	0.086	-0.005	0.005	
1545		5	0	0.034	0.008	-0.001	0.001	0	0	
1546		6	0	0.028	0.007	0.069	-0.069	0.004	-0.004	
1547		7	0	0.022	0.005	0.125	-0.125	0.007	-0.007	
1548		8	0	0.016	0.004	0.167	-0.167	0.009	-0.009	
1549		9	0	0.009	0.002	0.195	-0.195	0.011	-0.011	
1550		10	0	0.003	0	0.209	-0.209	0.012	-0.012	
1551		11	0	-0.003	0	0.209	-0.209	0.012	-0.012	
1552		12	0	-0.009	-0.002	0.195	-0.195	0.011	-0.011	
1553		13	0	-0.016	-0.004	0.167	-0.167	0.009	-0.009	
1554		14	0	-0.022	-0.005	0.125	-0.125	0.007	-0.007	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
1555		15	0	-0.028	-0.007	0.069	-0.069	0.004	-0.004	
1556		16	0	-0.034	-0.008	-0.001	0.001	0	0	
1557		17	-0.001	-0.041	-0.01	-0.085	0.085	-0.005	0.005	
1558		18	-0.001	-0.047	-0.011	-0.184	0.184	-0.01	0.01	
1559		19	-0.001	-0.053	-0.013	-0.296	0.296	-0.017	0.017	
1560		20	-0.002	-0.059	-0.015	-0.422	0.422	-0.024	0.024	
1561	3	A13	1	0.002	0.059	0.015	-0.422	0.422	-0.024	0.024
1562		2	0.001	0.053	0.013	-0.296	0.296	-0.017	0.017	
1563		3	0.001	0.047	0.011	-0.184	0.184	-0.01	0.01	
1564		4	0.001	0.041	0.01	-0.085	0.085	-0.005	0.005	
1565		5	0	0.034	0.008	-0.001	0.001	0	0	
1566		6	0	0.028	0.007	0.069	-0.069	0.004	-0.004	
1567		7	0	0.022	0.005	0.125	-0.125	0.007	-0.007	
1568		8	0	0.016	0.004	0.167	-0.167	0.009	-0.009	
1569		9	0	0.009	0.002	0.195	-0.195	0.011	-0.011	
1570		10	0	0.003	0	0.209	-0.209	0.012	-0.012	
1571		11	0	-0.003	0	0.209	-0.209	0.012	-0.012	
1572		12	0	-0.009	-0.002	0.195	-0.195	0.011	-0.011	
1573		13	0	-0.016	-0.004	0.167	-0.167	0.009	-0.009	
1574		14	0	-0.022	-0.005	0.125	-0.125	0.007	-0.007	
1575		15	0	-0.028	-0.007	0.069	-0.069	0.004	-0.004	
1576		16	0	-0.034	-0.008	-0.002	0.002	0	0	
1577		17	-0.001	-0.041	-0.01	-0.086	0.086	-0.005	0.005	
1578		18	-0.001	-0.047	-0.011	-0.184	0.184	-0.01	0.01	
1579		19	-0.001	-0.053	-0.013	-0.297	0.297	-0.017	0.017	
1580		20	-0.002	-0.059	-0.015	-0.423	0.423	-0.024	0.024	
1581	3	A14	1	0.002	0.059	0.015	-0.423	0.423	-0.024	0.024
1582		2	0.001	0.053	0.013	-0.296	0.296	-0.017	0.017	
1583		3	0.001	0.047	0.011	-0.184	0.184	-0.01	0.01	
1584		4	0.001	0.041	0.01	-0.086	0.086	-0.005	0.005	
1585		5	0	0.034	0.008	-0.001	0.001	0	0	
1586		6	0	0.028	0.007	0.069	-0.069	0.004	-0.004	
1587		7	0	0.022	0.005	0.126	-0.126	0.007	-0.007	
1588		8	0	0.016	0.004	0.168	-0.168	0.009	-0.009	
1589		9	0	0.009	0.002	0.196	-0.196	0.011	-0.011	
1590		10	0	0.003	0	0.21	-0.21	0.012	-0.012	
1591		11	0	-0.003	0	0.21	-0.21	0.012	-0.012	
1592		12	0	-0.009	-0.002	0.196	-0.196	0.011	-0.011	
1593		13	0	-0.016	-0.004	0.168	-0.168	0.009	-0.009	
1594		14	0	-0.022	-0.005	0.126	-0.126	0.007	-0.007	
1595		15	0	-0.028	-0.007	0.07	-0.07	0.004	-0.004	
1596		16	0	-0.034	-0.008	0	0	0	0	
1597		17	-0.001	-0.041	-0.01	-0.084	0.084	-0.005	0.005	
1598		18	-0.001	-0.047	-0.011	-0.182	0.182	-0.01	0.01	
1599		19	-0.001	-0.053	-0.013	-0.294	0.294	-0.017	0.017	
1600		20	-0.002	-0.059	-0.015	-0.42	0.42	-0.024	0.024	
1601	3	A15	1	0.002	0.059	0.015	-0.42	0.42	-0.024	0.024
1602		2	0.001	0.053	0.013	-0.295	0.295	-0.017	0.017	
1603		3	0.001	0.047	0.011	-0.183	0.183	-0.01	0.01	
1604		4	0.001	0.04	0.01	-0.085	0.085	-0.005	0.005	
1605		5	0	0.034	0.008	-0.001	0.001	0	0	
1606		6	0	0.028	0.007	0.068	-0.068	0.004	-0.004	
1607		7	0	0.022	0.005	0.124	-0.124	0.007	-0.007	
1608		8	0	0.015	0.004	0.166	-0.166	0.009	-0.009	
1609		9	0	0.009	0.002	0.193	-0.193	0.011	-0.011	
1610		10	0	0.003	0	0.207	-0.207	0.012	-0.012	
1611		11	0	-0.003	0	0.206	-0.206	0.012	-0.012	
1612		12	0	-0.01	-0.002	0.191	-0.191	0.011	-0.011	



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
1613		13	0	-0.016	-0.004	0.163	-0.163	0.009	-0.009	
1614		14	0	-0.022	-0.005	0.12	-0.12	0.007	-0.007	
1615		15	0	-0.028	-0.007	0.063	-0.063	0.004	-0.004	
1616		16	0	-0.035	-0.008	-0.007	0.007	0	0	
1617		17	-0.001	-0.041	-0.01	-0.092	0.092	-0.005	0.005	
1618		18	-0.001	-0.047	-0.011	-0.191	0.191	-0.01	0.01	
1619		19	-0.001	-0.053	-0.013	-0.304	0.304	-0.017	0.017	
1620		20	-0.002	-0.06	-0.015	-0.431	0.431	-0.024	0.024	
1621	3	A16	1	0.004	0.065	0.01	-0.431	0.431	-0.006	0.006
1622		2	0.004	0.062	0.009	-0.358	0.358	-0.004	0.004	
1623		3	0.004	0.059	0.008	-0.288	0.288	-0.001	0.001	
1624		4	0.004	0.055	0.007	-0.222	0.222	0	0	
1625		5	0.004	0.052	0.007	-0.16	0.16	0.003	-0.003	
1626		6	0.004	0.049	0.006	-0.102	0.102	0.004	-0.004	
1627		7	0.003	0.046	0.005	-0.047	0.047	0.006	-0.006	
1628		8	0.003	0.043	0.004	0.004	-0.004	0.007	-0.007	
1629		9	0.003	0.039	0.003	0.051	-0.051	0.008	-0.008	
1630		10	0.003	0.036	0.003	0.095	-0.095	0.009	-0.009	
1631		11	0.003	0.033	0.002	0.135	-0.135	0.009	-0.009	
1632		12	0.003	0.03	0.001	0.171	-0.171	0.01	-0.01	
1633		13	0.003	0.027	0	0.203	-0.203	0.01	-0.01	
1634		14	0.003	0.023	0	0.232	-0.232	0.01	-0.01	
1635		15	0.003	0.02	-0.001	0.257	-0.257	0.01	-0.01	
1636		16	0.003	0.017	-0.002	0.278	-0.278	0.009	-0.009	
1637		17	0.003	0.014	-0.003	0.296	-0.296	0.008	-0.008	
1638		18	0.003	0.01	-0.004	0.31	-0.31	0.008	-0.008	
1639		19	0.002	0.007	-0.004	0.32	-0.32	0.007	-0.007	
1640		20	0.002	0.004	-0.005	0.327	-0.327	0.005	-0.005	
1641	3	A17	1	0	0.005	0	-0.029	0.029	0	0
1642		2	0	0.005	0	-0.026	0.026	0	0	
1643		3	0	0.004	0	-0.023	0.023	0	0	
1644		4	0	0.004	0	-0.021	0.021	0	0	
1645		5	0	0.004	0	-0.018	0.018	0	0	
1646		6	0	0.004	0	-0.016	0.016	0	0	
1647		7	0	0.003	0	-0.014	0.014	0	0	
1648		8	0	0.003	0	-0.012	0.012	0	0	
1649		9	0	0.003	0	-0.01	0.01	0	0	
1650		10	0	0.003	0	-0.008	0.008	0	0	
1651		11	0	0.002	0	-0.007	0.007	0	0	
1652		12	0	0.002	0	-0.005	0.005	0	0	
1653		13	0	0.002	0	-0.004	0.004	0	0	
1654		14	0	0.002	0	-0.003	0.003	0	0	
1655		15	0	0.001	0	-0.002	0.002	0	0	
1656		16	0	0.001	0	-0.001	0.001	0	0	
1657		17	0	0	0	0	0	0	0	
1658		18	0	0	0	0	0	0	0	
1659		19	0	0	0	0	0	0	0	
1660		20	0	0	0	0	0	0	0	
1661	3	R1	1	0	0	0	0	0	0	
1662		2	0	0	0	0	0	0	0	
1663		3	0	0	0	0	0	0	0	
1664		4	0	0	0	0	0	0	0	
1665		5	0	0	0	0	0	0	0	
1666		6	0	0	0	0	0	0	0	
1667		7	0	0	0	0	0	0	0	
1668		8	0	0	0	0	0	0	0	
1669		9	0	0	0	0	0	0	0	
1670		10	0	0	0	0	0	0	0	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1671		11	0	0	0	0	0	0	0
1672		12	0	0	0	0	0	0	0
1673		13	0	0	0	0	0	0	0
1674		14	0	0	0	0	0	0	0
1675		15	0	0	0	0	0	0	0
1676		16	0	0	0	0	0	0	0
1677		17	0	0	0	0	0	0	0
1678		18	0	0	0	0	0	0	0
1679		19	0	0	0	0	0	0	0
1680		20	0	0	0	0	0	0	0
1681	3	R2	1	0	0	0	0	0	0
1682		2	0	0	0	0	0	0	0
1683		3	0	0	0	0	0	0	0
1684		4	0	0	0	0	0	0	0
1685		5	0	0	0	0	0	0	0
1686		6	0	0	0	0	0	0	0
1687		7	0	0	0	0	0	0	0
1688		8	0	0	0	0	0	0	0
1689		9	0	0	0	0	0	0	0
1690		10	0	0	0	0	0	0	0
1691		11	0	0	0	0	0	0	0
1692		12	0	0	0	0	0	0	0
1693		13	0	0	0	0	0	0	0
1694		14	0	0	0	0	0	0	0
1695		15	0	0	0	0	0	0	0
1696		16	0	0	0	0	0	0	0
1697		17	0	0	0	0	0	0	0
1698		18	0	0	0	0	0	0	0
1699		19	0	0	0	0	0	0	0
1700		20	0	0	0	0	0	0	0
1701	3	R3	1	0	0	0	0	0	0
1702		2	0	0	0	0	0	0	0
1703		3	0	0	0	0	0	0	0
1704		4	0	0	0	0	0	0	0
1705		5	0	0	0	0	0	0	0
1706		6	0	0	0	0	0	0	0
1707		7	0	0	0	0	0	0	0
1708		8	0	0	0	0	0	0	0
1709		9	0	0	0	0	0	0	0
1710		10	0	0	0	0	0	0	0
1711		11	0	0	0	0	0	0	0
1712		12	0	0	0	0	0	0	0
1713		13	0	0	0	0	0	0	0
1714		14	0	0	0	0	0	0	0
1715		15	0	0	0	0	0	0	0
1716		16	0	0	0	0	0	0	0
1717		17	0	0	0	0	0	0	0
1718		18	0	0	0	0	0	0	0
1719		19	0	0	0	0	0	0	0
1720		20	0	0	0	0	0	0	0
1721	3	R4	1	0	0	0	0	0	0
1722		2	0	0	0	0	0	0	0
1723		3	0	0	0	0	0	0	0
1724		4	0	0	0	0	0	0	0
1725		5	0	0	0	0	0	0	0
1726		6	0	0	0	0	0	0	0
1727		7	0	0	0	0	0	0	0
1728		8	0	0	0	0	0	0	0

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1729		9	0	0	0	0	0	0	0
1730		10	0	0	0	0	0	0	0
1731		11	0	0	0	0	0	0	0
1732		12	0	0	0	0	0	0	0
1733		13	0	0	0	0	0	0	0
1734		14	0	0	0	0	0	0	0
1735		15	0	0	0	0	0	0	0
1736		16	0	0	0	0	0	0	0
1737		17	0	0	0	0	0	0	0
1738		18	0	0	0	0	0	0	0
1739		19	0	0	0	0	0	0	0
1740		20	0	0	0	0	0	0	0
1741	3	R5	1	0	0	0	0	0	0
1742		2	0	0	0	0	0	0	0
1743		3	0	0	0	0	0	0	0
1744		4	0	0	0	0	0	0	0
1745		5	0	0	0	0	0	0	0
1746		6	0	0	0	0	0	0	0
1747		7	0	0	0	0	0	0	0
1748		8	0	0	0	0	0	0	0
1749		9	0	0	0	0	0	0	0
1750		10	0	0	0	0	0	0	0
1751		11	0	0	0	0	0	0	0
1752		12	0	0	0	0	0	0	0
1753		13	0	0	0	0	0	0	0
1754		14	0	0	0	0	0	0	0
1755		15	0	0	0	0	0	0	0
1756		16	0	0	0	0	0	0	0
1757		17	0	0	0	0	0	0	0
1758		18	0	0	0	0	0	0	0
1759		19	0	0	0	0	0	0	0
1760		20	0	0	0	0	0	0	0
1761	3	R6	1	0	0	0	0	0	0
1762		2	0	0	0	0	0	0	0
1763		3	0	0	0	0	0	0	0
1764		4	0	0	0	0	0	0	0
1765		5	0	0	0	0	0	0	0
1766		6	0	0	0	0	0	0	0
1767		7	0	0	0	0	0	0	0
1768		8	0	0	0	0	0	0	0
1769		9	0	0	0	0	0	0	0
1770		10	0	0	0	0	0	0	0
1771		11	0	0	0	0	0	0	0
1772		12	0	0	0	0	0	0	0
1773		13	0	0	0	0	0	0	0
1774		14	0	0	0	0	0	0	0
1775		15	0	0	0	0	0	0	0
1776		16	0	0	0	0	0	0	0
1777		17	0	0	0	0	0	0	0
1778		18	0	0	0	0	0	0	0
1779		19	0	0	0	0	0	0	0
1780		20	0	0	0	0	0	0	0
1781	3	R7	1	0	0	0	0	0	0
1782		2	0	0	0	0	0	0	0
1783		3	0	0	0	0	0	0	0
1784		4	0	0	0	0	0	0	0
1785		5	0	0	0	0	0	0	0
1786		6	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1787		7	0	0	0	0	0	0	0
1788		8	0	0	0	0	0	0	0
1789		9	0	0	0	0	0	0	0
1790		10	0	0	0	0	0	0	0
1791		11	0	0	0	0	0	0	0
1792		12	0	0	0	0	0	0	0
1793		13	0	0	0	0	0	0	0
1794		14	0	0	0	0	0	0	0
1795		15	0	0	0	0	0	0	0
1796		16	0	0	0	0	0	0	0
1797		17	0	0	0	0	0	0	0
1798		18	0	0	0	0	0	0	0
1799		19	0	0	0	0	0	0	0
1800		20	0	0	0	0	0	0	0
1801	3	R8	1	0	0	0	0	0	0
1802		2	0	0	0	0	0	0	0
1803		3	0	0	0	0	0	0	0
1804		4	0	0	0	0	0	0	0
1805		5	0	0	0	0	0	0	0
1806		6	0	0	0	0	0	0	0
1807		7	0	0	0	0	0	0	0
1808		8	0	0	0	0	0	0	0
1809		9	0	0	0	0	0	0	0
1810		10	0	0	0	0	0	0	0
1811		11	0	0	0	0	0	0	0
1812		12	0	0	0	0	0	0	0
1813		13	0	0	0	0	0	0	0
1814		14	0	0	0	0	0	0	0
1815		15	0	0	0	0	0	0	0
1816		16	0	0	0	0	0	0	0
1817		17	0	0	0	0	0	0	0
1818		18	0	0	0	0	0	0	0
1819		19	0	0	0	0	0	0	0
1820		20	0	0	0	0	0	0	0
1821	3	R9	1	0	0	0	0	0	0
1822		2	0	0	0	0	0	0	0
1823		3	0	0	0	0	0	0	0
1824		4	0	0	0	0	0	0	0
1825		5	0	0	0	0	0	0	0
1826		6	0	0	0	0	0	0	0
1827		7	0	0	0	0	0	0	0
1828		8	0	0	0	0	0	0	0
1829		9	0	0	0	0	0	0	0
1830		10	0	0	0	0	0	0	0
1831		11	0	0	0	0	0	0	0
1832		12	0	0	0	0	0	0	0
1833		13	0	0	0	0	0	0	0
1834		14	0	0	0	0	0	0	0
1835		15	0	0	0	0	0	0	0
1836		16	0	0	0	0	0	0	0
1837		17	0	0	0	0	0	0	0
1838		18	0	0	0	0	0	0	0
1839		19	0	0	0	0	0	0	0
1840		20	0	0	0	0	0	0	0
1841	3	R10	1	0	0	0	0	0	0
1842		2	0	0	0	0	0	0	0
1843		3	0	0	0	0	0	0	0
1844		4	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1845		5	0	0	0	0	0	0	0
1846		6	0	0	0	0	0	0	0
1847		7	0	0	0	0	0	0	0
1848		8	0	0	0	0	0	0	0
1849		9	0	0	0	0	0	0	0
1850		10	0	0	0	0	0	0	0
1851		11	0	0	0	0	0	0	0
1852		12	0	0	0	0	0	0	0
1853		13	0	0	0	0	0	0	0
1854		14	0	0	0	0	0	0	0
1855		15	0	0	0	0	0	0	0
1856		16	0	0	0	0	0	0	0
1857		17	0	0	0	0	0	0	0
1858		18	0	0	0	0	0	0	0
1859		19	0	0	0	0	0	0	0
1860		20	0	0	0	0	0	0	0
1861	3	R11	1	0	0	0	0	0	0
1862		2	0	0	0	0	0	0	0
1863		3	0	0	0	0	0	0	0
1864		4	0	0	0	0	0	0	0
1865		5	0	0	0	0	0	0	0
1866		6	0	0	0	0	0	0	0
1867		7	0	0	0	0	0	0	0
1868		8	0	0	0	0	0	0	0
1869		9	0	0	0	0	0	0	0
1870		10	0	0	0	0	0	0	0
1871		11	0	0	0	0	0	0	0
1872		12	0	0	0	0	0	0	0
1873		13	0	0	0	0	0	0	0
1874		14	0	0	0	0	0	0	0
1875		15	0	0	0	0	0	0	0
1876		16	0	0	0	0	0	0	0
1877		17	0	0	0	0	0	0	0
1878		18	0	0	0	0	0	0	0
1879		19	0	0	0	0	0	0	0
1880		20	0	0	0	0	0	0	0
1881	3	R12	1	0	0	0	0	0	0
1882		2	0	0	0	0	0	0	0
1883		3	0	0	0	0	0	0	0
1884		4	0	0	0	0	0	0	0
1885		5	0	0	0	0	0	0	0
1886		6	0	0	0	0	0	0	0
1887		7	0	0	0	0	0	0	0
1888		8	0	0	0	0	0	0	0
1889		9	0	0	0	0	0	0	0
1890		10	0	0	0	0	0	0	0
1891		11	0	0	0	0	0	0	0
1892		12	0	0	0	0	0	0	0
1893		13	0	0	0	0	0	0	0
1894		14	0	0	0	0	0	0	0
1895		15	0	0	0	0	0	0	0
1896		16	0	0	0	0	0	0	0
1897		17	0	0	0	0	0	0	0
1898		18	0	0	0	0	0	0	0
1899		19	0	0	0	0	0	0	0
1900		20	0	0	0	0	0	0	0
1901	3	R13	1	0	0	0	0	0	0
1902		2	0	0	0	0	0	0	0





**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1903		3	0	0	0	0	0	0	0
1904		4	0	0	0	0	0	0	0
1905		5	0	0	0	0	0	0	0
1906		6	0	0	0	0	0	0	0
1907		7	0	0	0	0	0	0	0
1908		8	0	0	0	0	0	0	0
1909		9	0	0	0	0	0	0	0
1910		10	0	0	0	0	0	0	0
1911		11	0	0	0	0	0	0	0
1912		12	0	0	0	0	0	0	0
1913		13	0	0	0	0	0	0	0
1914		14	0	0	0	0	0	0	0
1915		15	0	0	0	0	0	0	0
1916		16	0	0	0	0	0	0	0
1917		17	0	0	0	0	0	0	0
1918		18	0	0	0	0	0	0	0
1919		19	0	0	0	0	0	0	0
1920		20	0	0	0	0	0	0	0
1921	3	R14	1	0	0	0	0	0	0
1922		2	0	0	0	0	0	0	0
1923		3	0	0	0	0	0	0	0
1924		4	0	0	0	0	0	0	0
1925		5	0	0	0	0	0	0	0
1926		6	0	0	0	0	0	0	0
1927		7	0	0	0	0	0	0	0
1928		8	0	0	0	0	0	0	0
1929		9	0	0	0	0	0	0	0
1930		10	0	0	0	0	0	0	0
1931		11	0	0	0	0	0	0	0
1932		12	0	0	0	0	0	0	0
1933		13	0	0	0	0	0	0	0
1934		14	0	0	0	0	0	0	0
1935		15	0	0	0	0	0	0	0
1936		16	0	0	0	0	0	0	0
1937		17	0	0	0	0	0	0	0
1938		18	0	0	0	0	0	0	0
1939		19	0	0	0	0	0	0	0
1940		20	0	0	0	0	0	0	0
1941	3	R15	1	0	0	0	0	0	0
1942		2	0	0	0	0	0	0	0
1943		3	0	0	0	0	0	0	0
1944		4	0	0	0	0	0	0	0
1945		5	0	0	0	0	0	0	0
1946		6	0	0	0	0	0	0	0
1947		7	0	0	0	0	0	0	0
1948		8	0	0	0	0	0	0	0
1949		9	0	0	0	0	0	0	0
1950		10	0	0	0	0	0	0	0
1951		11	0	0	0	0	0	0	0
1952		12	0	0	0	0	0	0	0
1953		13	0	0	0	0	0	0	0
1954		14	0	0	0	0	0	0	0
1955		15	0	0	0	0	0	0	0
1956		16	0	0	0	0	0	0	0
1957		17	0	0	0	0	0	0	0
1958		18	0	0	0	0	0	0	0
1959		19	0	0	0	0	0	0	0
1960		20	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
1961	3	M33	1	0	0	0	0	0	0
1962			2	0	0	0	0	0	0
1963			3	0	0	0	0	0	0
1964			4	0	0	0	0	0	0
1965			5	0	0	0	0	0	0
1966			6	0	0	0	0	0	0
1967			7	0	0	0	0	0	0
1968			8	0	0	0	0	0	0
1969			9	0	0	0	0	0	0
1970			10	0	0	0	0	0	0
1971			11	0	0	0	0	0	0
1972			12	0	0	0	0	0	0
1973			13	0	0	0	0	0	0
1974			14	0	0	0	0	0	0
1975			15	0	0	0	0	0	0
1976			16	0	0	0	0	0	0
1977			17	0	0	0	0	0	0
1978			18	0	0	0	0	0	0
1979			19	0	0	0	0	0	0
1980			20	0	0	0	0	0	0
1981	4	A1	1	0	0	0	0	0	0
1982			2	0	0	0	0	0	0
1983			3	0	0	0	0	0	0
1984			4	0	0	0	0	0	0
1985			5	0	0	0	0	0	0
1986			6	0	-0.001	0	-0.002	0.002	0
1987			7	0	-0.001	0	-0.002	0.002	0
1988			8	0	-0.001	0	-0.003	0.003	0
1989			9	0	-0.002	0	-0.004	0.004	0
1990			10	0	-0.002	0	-0.005	0.005	0
1991			11	0	-0.002	0	-0.006	0.006	0
1992			12	0	-0.002	0	-0.007	0.007	0
1993			13	0	-0.002	0	-0.009	0.009	0
1994			14	0	-0.003	0	-0.01	0.01	0
1995			15	0	-0.003	0	-0.012	0.012	0
1996			16	0	-0.003	0	-0.014	0.014	0
1997			17	0	-0.003	0	-0.016	0.016	0
1998			18	0	-0.003	0	-0.018	0.018	0
1999			19	0	-0.004	0	-0.02	0.02	0
2000			20	0	-0.004	0	-0.022	0.022	0
2001	4	A2	1	-0.002	-0.015	0.003	0.093	-0.093	0.003
2002			2	-0.002	-0.017	0.003	0.082	-0.082	0.003
2003			3	-0.002	-0.019	0.002	0.069	-0.069	0.004
2004			4	-0.002	-0.022	0.002	0.054	-0.054	0.004
2005			5	-0.002	-0.024	0.001	0.038	-0.038	0.004
2006			6	-0.002	-0.026	0	0.02	-0.02	0.004
2007			7	-0.002	-0.028	0	0	0	0.004
2008			8	-0.002	-0.03	0	-0.02	0.02	0.005
2009			9	-0.002	-0.033	0	-0.043	0.043	0.004
2010			10	-0.003	-0.035	-0.001	-0.067	0.067	0.004
2011			11	-0.003	-0.037	-0.002	-0.093	0.093	0.004
2012			12	-0.003	-0.039	-0.002	-0.12	0.12	0.004
2013			13	-0.003	-0.041	-0.003	-0.148	0.148	0.003
2014			14	-0.003	-0.043	-0.003	-0.179	0.179	0.003
2015			15	-0.003	-0.046	-0.004	-0.21	0.21	0.002
2016			16	-0.003	-0.048	-0.004	-0.244	0.244	0.002
2017			17	-0.003	-0.05	-0.005	-0.279	0.279	0
2018			18	-0.003	-0.052	-0.005	-0.315	0.315	0

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2019		19	-0.003	-0.054	-0.006	-0.353	0.353	0	0	
2020		20	-0.003	-0.056	-0.006	-0.393	0.393	-0.002	0.002	
2021	4	A3	1	0.002	0.063	0.015	-0.393	0.393	-0.025	0.025
2022		2	0.002	0.056	0.014	-0.259	0.259	-0.018	0.018	
2023		3	0.002	0.049	0.012	-0.141	0.141	-0.011	0.011	
2024		4	0.001	0.042	0.01	-0.038	0.038	-0.005	0.005	
2025		5	0.001	0.036	0.009	0.05	-0.05	0	0	
2026		6	0	0.029	0.007	0.122	-0.122	0.004	-0.004	
2027		7	0	0.022	0.006	0.179	-0.179	0.007	-0.007	
2028		8	0	0.015	0.004	0.221	-0.221	0.01	-0.01	
2029		9	0	0.008	0.002	0.247	-0.247	0.012	-0.012	
2030		10	0	0.001	0	0.258	-0.258	0.012	-0.012	
2031		11	0	-0.005	0	0.253	-0.253	0.012	-0.012	
2032		12	0	-0.012	-0.002	0.233	-0.233	0.012	-0.012	
2033		13	0	-0.019	-0.004	0.198	-0.198	0.01	-0.01	
2034		14	0	-0.026	-0.006	0.147	-0.147	0.007	-0.007	
2035		15	0	-0.033	-0.007	0.081	-0.081	0.004	-0.004	
2036		16	-0.001	-0.04	-0.009	0	0	0	0	
2037		17	-0.001	-0.046	-0.01	-0.097	0.097	-0.005	0.005	
2038		18	-0.002	-0.053	-0.012	-0.209	0.209	-0.011	0.011	
2039		19	-0.002	-0.06	-0.014	-0.337	0.337	-0.018	0.018	
2040		20	-0.002	-0.067	-0.015	-0.48	0.48	-0.025	0.025	
2041	4	A4	1	0.002	0.065	0.015	-0.48	0.48	-0.025	0.025
2042		2	0.002	0.059	0.014	-0.34	0.34	-0.018	0.018	
2043		3	0.002	0.052	0.012	-0.216	0.216	-0.011	0.011	
2044		4	0.001	0.045	0.01	-0.107	0.107	-0.005	0.005	
2045		5	0.001	0.038	0.009	-0.014	0.014	0	0	
2046		6	0	0.031	0.007	0.064	-0.064	0.004	-0.004	
2047		7	0	0.024	0.006	0.127	-0.127	0.007	-0.007	
2048		8	0	0.018	0.004	0.174	-0.174	0.01	-0.01	
2049		9	0	0.011	0.002	0.206	-0.206	0.012	-0.012	
2050		10	0	0.004	0	0.222	-0.222	0.012	-0.012	
2051		11	0	-0.003	0	0.223	-0.223	0.012	-0.012	
2052		12	0	-0.01	-0.002	0.209	-0.209	0.012	-0.012	
2053		13	0	-0.017	-0.004	0.179	-0.179	0.01	-0.01	
2054		14	0	-0.023	-0.006	0.134	-0.134	0.007	-0.007	
2055		15	0	-0.03	-0.007	0.074	-0.074	0.004	-0.004	
2056		16	-0.001	-0.037	-0.009	-0.002	0.002	0	0	
2057		17	-0.001	-0.044	-0.01	-0.093	0.093	-0.005	0.005	
2058		18	-0.002	-0.051	-0.012	-0.199	0.199	-0.011	0.011	
2059		19	-0.002	-0.058	-0.014	-0.321	0.321	-0.018	0.018	
2060		20	-0.002	-0.064	-0.015	-0.458	0.458	-0.025	0.025	
2061	4	A5	1	0.002	0.065	0.015	-0.458	0.458	-0.025	0.025
2062		2	0.002	0.058	0.014	-0.32	0.32	-0.018	0.018	
2063		3	0.002	0.051	0.012	-0.197	0.197	-0.011	0.011	
2064		4	0.001	0.044	0.01	-0.09	0.09	-0.005	0.005	
2065		5	0.001	0.037	0.009	0.002	-0.002	0	0	
2066		6	0	0.031	0.007	0.078	-0.078	0.004	-0.004	
2067		7	0	0.024	0.006	0.14	-0.14	0.007	-0.007	
2068		8	0	0.017	0.004	0.185	-0.185	0.01	-0.01	
2069		9	0	0.01	0.002	0.216	-0.216	0.012	-0.012	
2070		10	0	0.003	0	0.231	-0.231	0.012	-0.012	
2071		11	0	-0.004	0	0.231	-0.231	0.012	-0.012	
2072		12	0	-0.01	-0.002	0.215	-0.215	0.012	-0.012	
2073		13	0	-0.017	-0.004	0.184	-0.184	0.01	-0.01	
2074		14	0	-0.024	-0.006	0.138	-0.138	0.007	-0.007	
2075		15	0	-0.031	-0.007	0.076	-0.076	0.004	-0.004	
2076		16	-0.001	-0.038	-0.009	-0.001	0.001	0	0	

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2077		17	-0.001	-0.045	-0.01	-0.093	0.093	-0.005	0.005	
2078		18	-0.002	-0.051	-0.012	-0.201	0.201	-0.011	0.011	
2079		19	-0.002	-0.058	-0.014	-0.324	0.324	-0.018	0.018	
2080		20	-0.002	-0.065	-0.015	-0.463	0.463	-0.025	0.025	
2081	4	A6	1	0.002	0.065	0.015	-0.463	0.463	-0.025	0.025
2082		2	0.002	0.058	0.014	-0.325	0.325	-0.018	0.018	
2083		3	0.002	0.051	0.012	-0.202	0.202	-0.011	0.011	
2084		4	0.001	0.044	0.01	-0.094	0.094	-0.005	0.005	
2085		5	0.001	0.038	0.009	-0.002	0.002	0	0	
2086		6	0	0.031	0.007	0.075	-0.075	0.004	-0.004	
2087		7	0	0.024	0.006	0.136	-0.136	0.007	-0.007	
2088		8	0	0.017	0.004	0.182	-0.182	0.01	-0.01	
2089		9	0	0.01	0.002	0.213	-0.213	0.012	-0.012	
2090		10	0	0.003	0	0.228	-0.228	0.012	-0.012	
2091		11	0	-0.003	0	0.228	-0.228	0.012	-0.012	
2092		12	0	-0.01	-0.002	0.213	-0.213	0.012	-0.012	
2093		13	0	-0.017	-0.004	0.182	-0.182	0.01	-0.01	
2094		14	0	-0.024	-0.006	0.136	-0.136	0.007	-0.007	
2095		15	0	-0.031	-0.007	0.075	-0.075	0.004	-0.004	
2096		16	-0.001	-0.038	-0.009	-0.002	0.002	0	0	
2097		17	-0.001	-0.044	-0.01	-0.094	0.094	-0.005	0.005	
2098		18	-0.002	-0.051	-0.012	-0.202	0.202	-0.011	0.011	
2099		19	-0.002	-0.058	-0.014	-0.325	0.325	-0.018	0.018	
2100		20	-0.002	-0.065	-0.015	-0.463	0.463	-0.025	0.025	
2101	4	A7	1	0.002	0.065	0.015	-0.463	0.463	-0.025	0.025
2102		2	0.002	0.058	0.014	-0.325	0.325	-0.018	0.018	
2103		3	0.002	0.051	0.012	-0.201	0.201	-0.011	0.011	
2104		4	0.001	0.045	0.01	-0.093	0.093	-0.005	0.005	
2105		5	0.001	0.038	0.009	-0.001	0.001	0	0	
2106		6	0	0.031	0.007	0.076	-0.076	0.004	-0.004	
2107		7	0	0.024	0.006	0.138	-0.138	0.007	-0.007	
2108		8	0	0.017	0.004	0.184	-0.184	0.01	-0.01	
2109		9	0	0.01	0.002	0.215	-0.215	0.012	-0.012	
2110		10	0	0.004	0	0.231	-0.231	0.012	-0.012	
2111		11	0	-0.003	0	0.231	-0.231	0.012	-0.012	
2112		12	0	-0.01	-0.002	0.216	-0.216	0.012	-0.012	
2113		13	0	-0.017	-0.004	0.186	-0.186	0.01	-0.01	
2114		14	0	-0.024	-0.006	0.14	-0.14	0.007	-0.007	
2115		15	0	-0.031	-0.007	0.079	-0.079	0.004	-0.004	
2116		16	-0.001	-0.037	-0.009	0.002	-0.002	0	0	
2117		17	-0.001	-0.044	-0.01	-0.09	0.09	-0.005	0.005	
2118		18	-0.002	-0.051	-0.012	-0.197	0.197	-0.011	0.011	
2119		19	-0.002	-0.058	-0.014	-0.32	0.32	-0.018	0.018	
2120		20	-0.002	-0.065	-0.015	-0.458	0.458	-0.025	0.025	
2121	4	A8	1	0.002	0.064	0.015	-0.458	0.458	-0.025	0.025
2122		2	0.002	0.058	0.014	-0.321	0.321	-0.018	0.018	
2123		3	0.002	0.051	0.012	-0.199	0.199	-0.011	0.011	
2124		4	0.001	0.044	0.01	-0.093	0.093	-0.005	0.005	
2125		5	0.001	0.037	0.009	-0.002	0.002	0	0	
2126		6	0	0.03	0.007	0.074	-0.074	0.004	-0.004	
2127		7	0	0.023	0.006	0.134	-0.134	0.007	-0.007	
2128		8	0	0.017	0.004	0.179	-0.179	0.01	-0.01	
2129		9	0	0.01	0.002	0.209	-0.209	0.012	-0.012	
2130		10	0	0.003	0	0.223	-0.223	0.012	-0.012	
2131		11	0	-0.004	0	0.222	-0.222	0.012	-0.012	
2132		12	0	-0.011	-0.002	0.205	-0.205	0.012	-0.012	
2133		13	0	-0.018	-0.004	0.174	-0.174	0.01	-0.01	
2134		14	0	-0.024	-0.006	0.126	-0.126	0.007	-0.007	

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2135		15	0	-0.031	-0.007	0.064	-0.064	0.004	-0.004	
2136		16	-0.001	-0.038	-0.009	-0.014	0.014	0	0	
2137		17	-0.001	-0.045	-0.01	-0.108	0.108	-0.005	0.005	
2138		18	-0.002	-0.052	-0.012	-0.217	0.217	-0.011	0.011	
2139		19	-0.002	-0.06	-0.014	-0.343	0.343	-0.018	0.018	
2140		20	-0.002	-0.067	-0.015	-0.485	0.485	-0.025	0.025	
2141	4	A9	1	0.002	0.07	0.015	-0.485	0.485	-0.025	0.025
2142		2	0.002	0.063	0.014	-0.336	0.336	-0.018	0.018	
2143		3	0.002	0.055	0.012	-0.204	0.204	-0.011	0.011	
2144		4	0.001	0.048	0.01	-0.088	0.088	-0.005	0.005	
2145		5	0.001	0.04	0.009	0.011	-0.011	0	0	
2146		6	0	0.033	0.007	0.093	-0.093	0.004	-0.004	
2147		7	0	0.026	0.006	0.159	-0.159	0.007	-0.007	
2148		8	0	0.018	0.004	0.208	-0.208	0.01	-0.01	
2149		9	0	0.011	0.002	0.241	-0.241	0.012	-0.012	
2150		10	0	0.003	0	0.257	-0.257	0.012	-0.012	
2151		11	0	-0.004	0	0.257	-0.257	0.012	-0.012	
2152		12	0	-0.011	-0.002	0.24	-0.24	0.012	-0.012	
2153		13	0	-0.019	-0.004	0.206	-0.206	0.01	-0.01	
2154		14	0	-0.026	-0.006	0.156	-0.156	0.007	-0.007	
2155		15	0	-0.033	-0.007	0.089	-0.089	0.004	-0.004	
2156		16	-0.001	-0.041	-0.009	0.006	-0.006	0	0	
2157		17	-0.001	-0.048	-0.01	-0.094	0.094	-0.005	0.005	
2158		18	-0.002	-0.056	-0.012	-0.211	0.211	-0.011	0.011	
2159		19	-0.002	-0.063	-0.014	-0.344	0.344	-0.018	0.018	
2160		20	-0.002	-0.07	-0.015	-0.494	0.494	-0.025	0.025	
2161	4	A10	1	0.002	0.069	0.015	-0.494	0.494	-0.025	0.025
2162		2	0.002	0.061	0.014	-0.347	0.347	-0.018	0.018	
2163		3	0.002	0.054	0.012	-0.218	0.218	-0.011	0.011	
2164		4	0.001	0.047	0.01	-0.105	0.105	-0.005	0.005	
2165		5	0.001	0.039	0.009	-0.008	0.008	0	0	
2166		6	0	0.032	0.007	0.072	-0.072	0.004	-0.004	
2167		7	0	0.024	0.006	0.135	-0.135	0.007	-0.007	
2168		8	0	0.017	0.004	0.182	-0.182	0.01	-0.01	
2169		9	0	0.01	0.002	0.213	-0.213	0.012	-0.012	
2170		10	0	0.003	0	0.228	-0.228	0.012	-0.012	
2171		11	0	-0.003	0	0.228	-0.228	0.012	-0.012	
2172		12	0	-0.01	-0.002	0.213	-0.213	0.012	-0.012	
2173		13	0	-0.017	-0.004	0.183	-0.183	0.01	-0.01	
2174		14	0	-0.024	-0.006	0.137	-0.137	0.007	-0.007	
2175		15	0	-0.031	-0.007	0.075	-0.075	0.004	-0.004	
2176		16	-0.001	-0.038	-0.009	-0.001	0.001	0	0	
2177		17	-0.001	-0.044	-0.01	-0.093	0.093	-0.005	0.005	
2178		18	-0.002	-0.051	-0.012	-0.201	0.201	-0.011	0.011	
2179		19	-0.002	-0.058	-0.014	-0.324	0.324	-0.018	0.018	
2180		20	-0.002	-0.065	-0.015	-0.462	0.462	-0.025	0.025	
2181	4	A11	1	0.002	0.065	0.015	-0.461	0.461	-0.025	0.025
2182		2	0.002	0.058	0.014	-0.323	0.323	-0.018	0.018	
2183		3	0.002	0.051	0.012	-0.2	0.2	-0.011	0.011	
2184		4	0.001	0.044	0.01	-0.092	0.092	-0.005	0.005	
2185		5	0.001	0.038	0.009	0	0	0	0	
2186		6	0	0.031	0.007	0.076	-0.076	0.004	-0.004	
2187		7	0	0.024	0.006	0.138	-0.138	0.007	-0.007	
2188		8	0	0.017	0.004	0.184	-0.184	0.01	-0.01	
2189		9	0	0.01	0.002	0.214	-0.214	0.012	-0.012	
2190		10	0	0.003	0	0.23	-0.23	0.012	-0.012	
2191		11	0	-0.003	0	0.23	-0.23	0.012	-0.012	
2192		12	0	-0.01	-0.002	0.214	-0.214	0.012	-0.012	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2193		13	0	-0.017	-0.004	0.183	-0.183	0.01	-0.01	
2194		14	0	-0.024	-0.006	0.137	-0.137	0.007	-0.007	
2195		15	0	-0.031	-0.007	0.076	-0.076	0.004	-0.004	
2196		16	-0.001	-0.038	-0.009	-0.001	0.001	0	0	
2197		17	-0.001	-0.044	-0.01	-0.094	0.094	-0.005	0.005	
2198		18	-0.002	-0.051	-0.012	-0.201	0.201	-0.011	0.011	
2199		19	-0.002	-0.058	-0.014	-0.324	0.324	-0.018	0.018	
2200		20	-0.002	-0.065	-0.015	-0.463	0.463	-0.025	0.025	
2201	4	A12	1	0.002	0.065	0.015	-0.463	0.463	-0.025	0.025
2202		2	0.002	0.058	0.014	-0.324	0.324	-0.018	0.018	
2203		3	0.002	0.051	0.012	-0.201	0.201	-0.011	0.011	
2204		4	0.001	0.044	0.01	-0.094	0.094	-0.005	0.005	
2205		5	0.001	0.038	0.009	-0.002	0.002	0	0	
2206		6	0	0.031	0.007	0.075	-0.075	0.004	-0.004	
2207		7	0	0.024	0.006	0.137	-0.137	0.007	-0.007	
2208		8	0	0.017	0.004	0.183	-0.183	0.01	-0.01	
2209		9	0	0.01	0.002	0.214	-0.214	0.012	-0.012	
2210		10	0	0.003	0	0.229	-0.229	0.012	-0.012	
2211		11	0	-0.003	0	0.229	-0.229	0.012	-0.012	
2212		12	0	-0.01	-0.002	0.214	-0.214	0.012	-0.012	
2213		13	0	-0.017	-0.004	0.183	-0.183	0.01	-0.01	
2214		14	0	-0.024	-0.006	0.137	-0.137	0.007	-0.007	
2215		15	0	-0.031	-0.007	0.075	-0.075	0.004	-0.004	
2216		16	-0.001	-0.038	-0.009	-0.001	0.001	0	0	
2217		17	-0.001	-0.044	-0.01	-0.094	0.094	-0.005	0.005	
2218		18	-0.002	-0.051	-0.012	-0.201	0.201	-0.011	0.011	
2219		19	-0.002	-0.058	-0.014	-0.324	0.324	-0.018	0.018	
2220		20	-0.002	-0.065	-0.015	-0.462	0.462	-0.025	0.025	
2221	4	A13	1	0.002	0.065	0.015	-0.462	0.462	-0.025	0.025
2222		2	0.002	0.058	0.014	-0.324	0.324	-0.018	0.018	
2223		3	0.002	0.051	0.012	-0.201	0.201	-0.011	0.011	
2224		4	0.001	0.044	0.01	-0.093	0.093	-0.005	0.005	
2225		5	0.001	0.038	0.009	-0.001	0.001	0	0	
2226		6	0	0.031	0.007	0.076	-0.076	0.004	-0.004	
2227		7	0	0.024	0.006	0.137	-0.137	0.007	-0.007	
2228		8	0	0.017	0.004	0.183	-0.183	0.01	-0.01	
2229		9	0	0.01	0.002	0.214	-0.214	0.012	-0.012	
2230		10	0	0.003	0	0.229	-0.229	0.012	-0.012	
2231		11	0	-0.003	0	0.23	-0.23	0.012	-0.012	
2232		12	0	-0.01	-0.002	0.214	-0.214	0.012	-0.012	
2233		13	0	-0.017	-0.004	0.184	-0.184	0.01	-0.01	
2234		14	0	-0.024	-0.006	0.137	-0.137	0.007	-0.007	
2235		15	0	-0.031	-0.007	0.076	-0.076	0.004	-0.004	
2236		16	-0.001	-0.038	-0.009	0	0	0	0	
2237		17	-0.001	-0.044	-0.01	-0.093	0.093	-0.005	0.005	
2238		18	-0.002	-0.051	-0.012	-0.2	0.2	-0.011	0.011	
2239		19	-0.002	-0.058	-0.014	-0.323	0.323	-0.018	0.018	
2240		20	-0.002	-0.065	-0.015	-0.462	0.462	-0.025	0.025	
2241	4	A14	1	0.002	0.065	0.015	-0.462	0.462	-0.025	0.025
2242		2	0.002	0.058	0.014	-0.323	0.323	-0.018	0.018	
2243		3	0.002	0.051	0.012	-0.201	0.201	-0.011	0.011	
2244		4	0.001	0.044	0.01	-0.093	0.093	-0.005	0.005	
2245		5	0.001	0.038	0.009	-0.001	0.001	0	0	
2246		6	0	0.031	0.007	0.075	-0.075	0.004	-0.004	
2247		7	0	0.024	0.006	0.137	-0.137	0.007	-0.007	
2248		8	0	0.017	0.004	0.182	-0.182	0.01	-0.01	
2249		9	0	0.01	0.002	0.213	-0.213	0.012	-0.012	
2250		10	0	0.003	0	0.228	-0.228	0.012	-0.012	





**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2251		11	0	-0.004	0	0.228	-0.228	0.012	-0.012	
2252		12	0	-0.01	-0.002	0.212	-0.212	0.012	-0.012	
2253		13	0	-0.017	-0.004	0.181	-0.181	0.01	-0.01	
2254		14	0	-0.024	-0.006	0.135	-0.135	0.007	-0.007	
2255		15	0	-0.031	-0.007	0.074	-0.074	0.004	-0.004	
2256		16	-0.001	-0.038	-0.009	-0.004	0.004	0	0	
2257		17	-0.001	-0.045	-0.01	-0.096	0.096	-0.005	0.005	
2258		18	-0.002	-0.051	-0.012	-0.204	0.204	-0.011	0.011	
2259		19	-0.002	-0.058	-0.014	-0.327	0.327	-0.018	0.018	
2260		20	-0.002	-0.065	-0.015	-0.465	0.465	-0.025	0.025	
2261	4	A15	1	0.002	0.065	0.015	-0.465	0.465	-0.025	0.025
2262		2	0.002	0.058	0.014	-0.326	0.326	-0.018	0.018	
2263		3	0.002	0.052	0.012	-0.202	0.202	-0.011	0.011	
2264		4	0.001	0.045	0.01	-0.094	0.094	-0.005	0.005	
2265		5	0.001	0.038	0.009	-0.001	0.001	0	0	
2266		6	0	0.031	0.007	0.077	-0.077	0.004	-0.004	
2267		7	0	0.024	0.006	0.139	-0.139	0.007	-0.007	
2268		8	0	0.017	0.004	0.186	-0.186	0.01	-0.01	
2269		9	0	0.011	0.002	0.217	-0.217	0.012	-0.012	
2270		10	0	0.004	0	0.233	-0.233	0.012	-0.012	
2271		11	0	-0.003	0	0.234	-0.234	0.012	-0.012	
2272		12	0	-0.01	-0.002	0.22	-0.22	0.012	-0.012	
2273		13	0	-0.017	-0.004	0.19	-0.19	0.01	-0.01	
2274		14	0	-0.024	-0.006	0.144	-0.144	0.007	-0.007	
2275		15	0	-0.03	-0.007	0.084	-0.084	0.004	-0.004	
2276		16	-0.001	-0.037	-0.009	0.008	-0.008	0	0	
2277		17	-0.001	-0.044	-0.01	-0.084	0.084	-0.005	0.005	
2278		18	-0.002	-0.051	-0.012	-0.19	0.19	-0.011	0.011	
2279		19	-0.002	-0.058	-0.014	-0.313	0.313	-0.018	0.018	
2280		20	-0.002	-0.065	-0.015	-0.45	0.45	-0.025	0.025	
2281	4	A16	1	0.004	0.068	0.01	-0.45	0.45	-0.006	0.006
2282		2	0.004	0.064	0.009	-0.374	0.374	-0.004	0.004	
2283		3	0.004	0.061	0.009	-0.302	0.302	-0.001	0.001	
2284		4	0.004	0.057	0.008	-0.234	0.234	0	0	
2285		5	0.004	0.054	0.007	-0.17	0.17	0.003	-0.003	
2286		6	0.004	0.05	0.006	-0.11	0.11	0.005	-0.005	
2287		7	0.004	0.047	0.005	-0.054	0.054	0.006	-0.006	
2288		8	0.004	0.043	0.004	-0.002	0.002	0.007	-0.007	
2289		9	0.004	0.04	0.004	0.046	-0.046	0.008	-0.008	
2290		10	0.003	0.036	0.003	0.089	-0.089	0.009	-0.009	
2291		11	0.003	0.033	0.002	0.129	-0.129	0.01	-0.01	
2292		12	0.003	0.029	0.001	0.165	-0.165	0.01	-0.01	
2293		13	0.003	0.026	0	0.196	-0.196	0.011	-0.011	
2294		14	0.003	0.022	0	0.224	-0.224	0.011	-0.011	
2295		15	0.003	0.019	-0.001	0.247	-0.247	0.01	-0.01	
2296		16	0.003	0.015	-0.002	0.267	-0.267	0.01	-0.01	
2297		17	0.003	0.012	-0.003	0.282	-0.282	0.009	-0.009	
2298		18	0.003	0.008	-0.004	0.293	-0.293	0.008	-0.008	
2299		19	0.002	0.005	-0.005	0.301	-0.301	0.007	-0.007	
2300		20	0.002	0.001	-0.005	0.304	-0.304	0.006	-0.006	
2301	4	A17	1	0	0.004	0	-0.024	0.024	0	0
2302		2	0	0.004	0	-0.022	0.022	0	0	
2303		3	0	0.004	0	-0.02	0.02	0	0	
2304		4	0	0.003	0	-0.017	0.017	0	0	
2305		5	0	0.003	0	-0.015	0.015	0	0	
2306		6	0	0.003	0	-0.013	0.013	0	0	
2307		7	0	0.003	0	-0.011	0.011	0	0	
2308		8	0	0.003	0	-0.01	0.01	0	0	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2309		9	0	0.002	0	-0.008	0.008	0	0
2310		10	0	0.002	0	-0.007	0.007	0	0
2311		11	0	0.002	0	-0.005	0.005	0	0
2312		12	0	0.002	0	-0.004	0.004	0	0
2313		13	0	0.001	0	-0.003	0.003	0	0
2314		14	0	0.001	0	-0.002	0.002	0	0
2315		15	0	0.001	0	-0.002	0.002	0	0
2316		16	0	0	0	-0.001	0.001	0	0
2317		17	0	0	0	0	0	0	0
2318		18	0	0	0	0	0	0	0
2319		19	0	0	0	0	0	0	0
2320		20	0	0	0	0	0	0	0
2321	4	R1	1	0	0	0	0	0	0
2322		2	0	0	0	0	0	0	0
2323		3	0	0	0	0	0	0	0
2324		4	0	0	0	0	0	0	0
2325		5	0	0	0	0	0	0	0
2326		6	0	0	0	0	0	0	0
2327		7	0	0	0	0	0	0	0
2328		8	0	0	0	0	0	0	0
2329		9	0	0	0	0	0	0	0
2330		10	0	0	0	0	0	0	0
2331		11	0	0	0	0	0	0	0
2332		12	0	0	0	0	0	0	0
2333		13	0	0	0	0	0	0	0
2334		14	0	0	0	0	0	0	0
2335		15	0	0	0	0	0	0	0
2336		16	0	0	0	0	0	0	0
2337		17	0	0	0	0	0	0	0
2338		18	0	0	0	0	0	0	0
2339		19	0	0	0	0	0	0	0
2340		20	0	0	0	0	0	0	0
2341	4	R2	1	0	0	0	0	0	0
2342		2	0	0	0	0	0	0	0
2343		3	0	0	0	0	0	0	0
2344		4	0	0	0	0	0	0	0
2345		5	0	0	0	0	0	0	0
2346		6	0	0	0	0	0	0	0
2347		7	0	0	0	0	0	0	0
2348		8	0	0	0	0	0	0	0
2349		9	0	0	0	0	0	0	0
2350		10	0	0	0	0	0	0	0
2351		11	0	0	0	0	0	0	0
2352		12	0	0	0	0	0	0	0
2353		13	0	0	0	0	0	0	0
2354		14	0	0	0	0	0	0	0
2355		15	0	0	0	0	0	0	0
2356		16	0	0	0	0	0	0	0
2357		17	0	0	0	0	0	0	0
2358		18	0	0	0	0	0	0	0
2359		19	0	0	0	0	0	0	0
2360		20	0	0	0	0	0	0	0
2361	4	R3	1	0	0	0	0	0	0
2362		2	0	0	0	0	0	0	0
2363		3	0	0	0	0	0	0	0
2364		4	0	0	0	0	0	0	0
2365		5	0	0	0	0	0	0	0
2366		6	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2367		7	0	0	0	0	0	0	0
2368		8	0	0	0	0	0	0	0
2369		9	0	0	0	0	0	0	0
2370		10	0	0	0	0	0	0	0
2371		11	0	0	0	0	0	0	0
2372		12	0	0	0	0	0	0	0
2373		13	0	0	0	0	0	0	0
2374		14	0	0	0	0	0	0	0
2375		15	0	0	0	0	0	0	0
2376		16	0	0	0	0	0	0	0
2377		17	0	0	0	0	0	0	0
2378		18	0	0	0	0	0	0	0
2379		19	0	0	0	0	0	0	0
2380		20	0	0	0	0	0	0	0
2381	4	R4	1	0	0	0	0	0	0
2382		2	0	0	0	0	0	0	0
2383		3	0	0	0	0	0	0	0
2384		4	0	0	0	0	0	0	0
2385		5	0	0	0	0	0	0	0
2386		6	0	0	0	0	0	0	0
2387		7	0	0	0	0	0	0	0
2388		8	0	0	0	0	0	0	0
2389		9	0	0	0	0	0	0	0
2390		10	0	0	0	0	0	0	0
2391		11	0	0	0	0	0	0	0
2392		12	0	0	0	0	0	0	0
2393		13	0	0	0	0	0	0	0
2394		14	0	0	0	0	0	0	0
2395		15	0	0	0	0	0	0	0
2396		16	0	0	0	0	0	0	0
2397		17	0	0	0	0	0	0	0
2398		18	0	0	0	0	0	0	0
2399		19	0	0	0	0	0	0	0
2400		20	0	0	0	0	0	0	0
2401	4	R5	1	0	0	0	0	0	0
2402		2	0	0	0	0	0	0	0
2403		3	0	0	0	0	0	0	0
2404		4	0	0	0	0	0	0	0
2405		5	0	0	0	0	0	0	0
2406		6	0	0	0	0	0	0	0
2407		7	0	0	0	0	0	0	0
2408		8	0	0	0	0	0	0	0
2409		9	0	0	0	0	0	0	0
2410		10	0	0	0	0	0	0	0
2411		11	0	0	0	0	0	0	0
2412		12	0	0	0	0	0	0	0
2413		13	0	0	0	0	0	0	0
2414		14	0	0	0	0	0	0	0
2415		15	0	0	0	0	0	0	0
2416		16	0	0	0	0	0	0	0
2417		17	0	0	0	0	0	0	0
2418		18	0	0	0	0	0	0	0
2419		19	0	0	0	0	0	0	0
2420		20	0	0	0	0	0	0	0
2421	4	R6	1	0	0	0	0	0	0
2422		2	0	0	0	0	0	0	0
2423		3	0	0	0	0	0	0	0
2424		4	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2425		5	0	0	0	0	0	0	0
2426		6	0	0	0	0	0	0	0
2427		7	0	0	0	0	0	0	0
2428		8	0	0	0	0	0	0	0
2429		9	0	0	0	0	0	0	0
2430		10	0	0	0	0	0	0	0
2431		11	0	0	0	0	0	0	0
2432		12	0	0	0	0	0	0	0
2433		13	0	0	0	0	0	0	0
2434		14	0	0	0	0	0	0	0
2435		15	0	0	0	0	0	0	0
2436		16	0	0	0	0	0	0	0
2437		17	0	0	0	0	0	0	0
2438		18	0	0	0	0	0	0	0
2439		19	0	0	0	0	0	0	0
2440		20	0	0	0	0	0	0	0
2441	4	R7	1	0	0	0	0	0	0
2442		2	0	0	0	0	0	0	0
2443		3	0	0	0	0	0	0	0
2444		4	0	0	0	0	0	0	0
2445		5	0	0	0	0	0	0	0
2446		6	0	0	0	0	0	0	0
2447		7	0	0	0	0	0	0	0
2448		8	0	0	0	0	0	0	0
2449		9	0	0	0	0	0	0	0
2450		10	0	0	0	0	0	0	0
2451		11	0	0	0	0	0	0	0
2452		12	0	0	0	0	0	0	0
2453		13	0	0	0	0	0	0	0
2454		14	0	0	0	0	0	0	0
2455		15	0	0	0	0	0	0	0
2456		16	0	0	0	0	0	0	0
2457		17	0	0	0	0	0	0	0
2458		18	0	0	0	0	0	0	0
2459		19	0	0	0	0	0	0	0
2460		20	0	0	0	0	0	0	0
2461	4	R8	1	0	0	0	0	0	0
2462		2	0	0	0	0	0	0	0
2463		3	0	0	0	0	0	0	0
2464		4	0	0	0	0	0	0	0
2465		5	0	0	0	0	0	0	0
2466		6	0	0	0	0	0	0	0
2467		7	0	0	0	0	0	0	0
2468		8	0	0	0	0	0	0	0
2469		9	0	0	0	0	0	0	0
2470		10	0	0	0	0	0	0	0
2471		11	0	0	0	0	0	0	0
2472		12	0	0	0	0	0	0	0
2473		13	0	0	0	0	0	0	0
2474		14	0	0	0	0	0	0	0
2475		15	0	0	0	0	0	0	0
2476		16	0	0	0	0	0	0	0
2477		17	0	0	0	0	0	0	0
2478		18	0	0	0	0	0	0	0
2479		19	0	0	0	0	0	0	0
2480		20	0	0	0	0	0	0	0
2481	4	R9	1	0	0	0	0	0	0
2482		2	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2483		3	0	0	0	0	0	0	0
2484		4	0	0	0	0	0	0	0
2485		5	0	0	0	0	0	0	0
2486		6	0	0	0	0	0	0	0
2487		7	0	0	0	0	0	0	0
2488		8	0	0	0	0	0	0	0
2489		9	0	0	0	0	0	0	0
2490		10	0	0	0	0	0	0	0
2491		11	0	0	0	0	0	0	0
2492		12	0	0	0	0	0	0	0
2493		13	0	0	0	0	0	0	0
2494		14	0	0	0	0	0	0	0
2495		15	0	0	0	0	0	0	0
2496		16	0	0	0	0	0	0	0
2497		17	0	0	0	0	0	0	0
2498		18	0	0	0	0	0	0	0
2499		19	0	0	0	0	0	0	0
2500		20	0	0	0	0	0	0	0
2501	4	R10	1	0	0	0	0	0	0
2502		2	0	0	0	0	0	0	0
2503		3	0	0	0	0	0	0	0
2504		4	0	0	0	0	0	0	0
2505		5	0	0	0	0	0	0	0
2506		6	0	0	0	0	0	0	0
2507		7	0	0	0	0	0	0	0
2508		8	0	0	0	0	0	0	0
2509		9	0	0	0	0	0	0	0
2510		10	0	0	0	0	0	0	0
2511		11	0	0	0	0	0	0	0
2512		12	0	0	0	0	0	0	0
2513		13	0	0	0	0	0	0	0
2514		14	0	0	0	0	0	0	0
2515		15	0	0	0	0	0	0	0
2516		16	0	0	0	0	0	0	0
2517		17	0	0	0	0	0	0	0
2518		18	0	0	0	0	0	0	0
2519		19	0	0	0	0	0	0	0
2520		20	0	0	0	0	0	0	0
2521	4	R11	1	0	0	0	0	0	0
2522		2	0	0	0	0	0	0	0
2523		3	0	0	0	0	0	0	0
2524		4	0	0	0	0	0	0	0
2525		5	0	0	0	0	0	0	0
2526		6	0	0	0	0	0	0	0
2527		7	0	0	0	0	0	0	0
2528		8	0	0	0	0	0	0	0
2529		9	0	0	0	0	0	0	0
2530		10	0	0	0	0	0	0	0
2531		11	0	0	0	0	0	0	0
2532		12	0	0	0	0	0	0	0
2533		13	0	0	0	0	0	0	0
2534		14	0	0	0	0	0	0	0
2535		15	0	0	0	0	0	0	0
2536		16	0	0	0	0	0	0	0
2537		17	0	0	0	0	0	0	0
2538		18	0	0	0	0	0	0	0
2539		19	0	0	0	0	0	0	0
2540		20	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2541	4	R12	1	0	0	0	0	0	0
2542			2	0	0	0	0	0	0
2543			3	0	0	0	0	0	0
2544			4	0	0	0	0	0	0
2545			5	0	0	0	0	0	0
2546			6	0	0	0	0	0	0
2547			7	0	0	0	0	0	0
2548			8	0	0	0	0	0	0
2549			9	0	0	0	0	0	0
2550			10	0	0	0	0	0	0
2551			11	0	0	0	0	0	0
2552			12	0	0	0	0	0	0
2553			13	0	0	0	0	0	0
2554			14	0	0	0	0	0	0
2555			15	0	0	0	0	0	0
2556			16	0	0	0	0	0	0
2557			17	0	0	0	0	0	0
2558			18	0	0	0	0	0	0
2559			19	0	0	0	0	0	0
2560			20	0	0	0	0	0	0
2561	4	R13	1	0	0	0	0	0	0
2562			2	0	0	0	0	0	0
2563			3	0	0	0	0	0	0
2564			4	0	0	0	0	0	0
2565			5	0	0	0	0	0	0
2566			6	0	0	0	0	0	0
2567			7	0	0	0	0	0	0
2568			8	0	0	0	0	0	0
2569			9	0	0	0	0	0	0
2570			10	0	0	0	0	0	0
2571			11	0	0	0	0	0	0
2572			12	0	0	0	0	0	0
2573			13	0	0	0	0	0	0
2574			14	0	0	0	0	0	0
2575			15	0	0	0	0	0	0
2576			16	0	0	0	0	0	0
2577			17	0	0	0	0	0	0
2578			18	0	0	0	0	0	0
2579			19	0	0	0	0	0	0
2580			20	0	0	0	0	0	0
2581	4	R14	1	0	0	0	0	0	0
2582			2	0	0	0	0	0	0
2583			3	0	0	0	0	0	0
2584			4	0	0	0	0	0	0
2585			5	0	0	0	0	0	0
2586			6	0	0	0	0	0	0
2587			7	0	0	0	0	0	0
2588			8	0	0	0	0	0	0
2589			9	0	0	0	0	0	0
2590			10	0	0	0	0	0	0
2591			11	0	0	0	0	0	0
2592			12	0	0	0	0	0	0
2593			13	0	0	0	0	0	0
2594			14	0	0	0	0	0	0
2595			15	0	0	0	0	0	0
2596			16	0	0	0	0	0	0
2597			17	0	0	0	0	0	0
2598			18	0	0	0	0	0	0





**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2599		19	0	0	0	0	0	0	0
2600		20	0	0	0	0	0	0	0
2601	4	R15	1	0	0	0	0	0	0
2602		2	0	0	0	0	0	0	0
2603		3	0	0	0	0	0	0	0
2604		4	0	0	0	0	0	0	0
2605		5	0	0	0	0	0	0	0
2606		6	0	0	0	0	0	0	0
2607		7	0	0	0	0	0	0	0
2608		8	0	0	0	0	0	0	0
2609		9	0	0	0	0	0	0	0
2610		10	0	0	0	0	0	0	0
2611		11	0	0	0	0	0	0	0
2612		12	0	0	0	0	0	0	0
2613		13	0	0	0	0	0	0	0
2614		14	0	0	0	0	0	0	0
2615		15	0	0	0	0	0	0	0
2616		16	0	0	0	0	0	0	0
2617		17	0	0	0	0	0	0	0
2618		18	0	0	0	0	0	0	0
2619		19	0	0	0	0	0	0	0
2620		20	0	0	0	0	0	0	0
2621	4	M33	1	0	0	0	0	0	0
2622		2	0	0	0	0	0	0	0
2623		3	0	0	0	0	0	0	0
2624		4	0	0	0	0	0	0	0
2625		5	0	0	0	0	0	0	0
2626		6	0	0	0	0	0	0	0
2627		7	0	0	0	0	0	0	0
2628		8	0	0	0	0	0	0	0
2629		9	0	0	0	0	0	0	0
2630		10	0	0	0	0	0	0	0
2631		11	0	0	0	0	0	0	0
2632		12	0	0	0	0	0	0	0
2633		13	0	0	0	0	0	0	0
2634		14	0	0	0	0	0	0	0
2635		15	0	0	0	0	0	0	0
2636		16	0	0	0	0	0	0	0
2637		17	0	0	0	0	0	0	0
2638		18	0	0	0	0	0	0	0
2639		19	0	0	0	0	0	0	0
2640		20	0	0	0	0	0	0	0
2641	5	A1	1	0	0	0	0	0	0
2642		2	0	0	0	0	0	0	0
2643		3	0	0	0	0	0	0	0
2644		4	0	0	0	0	0	0	0
2645		5	0	0	0	0	0	0	0
2646		6	0	0	0	-0.001	0.001	0	0
2647		7	0	0	0	-0.002	0.002	0	0
2648		8	0	-0.001	0	-0.002	0.002	0	0
2649		9	0	-0.001	0	-0.003	0.003	0	0
2650		10	0	-0.001	0	-0.004	0.004	0	0
2651		11	0	-0.002	0	-0.005	0.005	0	0
2652		12	0	-0.002	0	-0.006	0.006	0	0
2653		13	0	-0.002	0	-0.007	0.007	0	0
2654		14	0	-0.002	0	-0.008	0.008	0	0
2655		15	0	-0.002	0	-0.01	0.01	0	0
2656		16	0	-0.002	0	-0.011	0.011	0	0

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2657		17	0	-0.003	0	-0.013	0.013	0	0	
2658		18	0	-0.003	0	-0.014	0.014	0	0	
2659		19	0	-0.003	0	-0.016	0.016	0	0	
2660		20	0	-0.003	0	-0.018	0.018	0	0	
2661	5	A2	1	-0.002	-0.012	0.003	0.073	-0.073	0.002	-0.002
2662		2	-0.002	-0.014	0.003	0.064	-0.064	0.003	-0.003	
2663		3	-0.002	-0.015	0.002	0.053	-0.053	0.003	-0.003	
2664		4	-0.002	-0.017	0.002	0.042	-0.042	0.004	-0.004	
2665		5	-0.002	-0.018	0.001	0.03	-0.03	0.004	-0.004	
2666		6	-0.002	-0.02	0	0.016	-0.016	0.004	-0.004	
2667		7	-0.002	-0.021	0	0.002	-0.002	0.004	-0.004	
2668		8	-0.002	-0.023	0	-0.014	0.014	0.004	-0.004	
2669		9	-0.002	-0.024	0	-0.031	0.031	0.004	-0.004	
2670		10	-0.002	-0.026	-0.001	-0.049	0.049	0.004	-0.004	
2671		11	-0.002	-0.027	-0.002	-0.067	0.067	0.004	-0.004	
2672		12	-0.002	-0.029	-0.002	-0.087	0.087	0.003	-0.003	
2673		13	-0.002	-0.03	-0.002	-0.108	0.108	0.003	-0.003	
2674		14	-0.003	-0.032	-0.003	-0.13	0.13	0.003	-0.003	
2675		15	-0.003	-0.033	-0.003	-0.153	0.153	0.002	-0.002	
2676		16	-0.003	-0.035	-0.004	-0.178	0.178	0.001	-0.001	
2677		17	-0.003	-0.036	-0.004	-0.203	0.203	0	0	
2678		18	-0.003	-0.038	-0.005	-0.229	0.229	0	0	
2679		19	-0.003	-0.039	-0.005	-0.256	0.256	0	0	
2680		20	-0.003	-0.041	-0.006	-0.285	0.285	-0.002	0.002	
2681	5	A3	1	0.002	0.044	0.014	-0.285	0.285	-0.023	0.023
2682		2	0.002	0.039	0.012	-0.192	0.192	-0.016	0.016	
2683		3	0.001	0.034	0.011	-0.11	0.11	-0.01	0.01	
2684		4	0.001	0.03	0.009	-0.038	0.038	-0.005	0.005	
2685		5	0.001	0.025	0.008	0.023	-0.023	0	0	
2686		6	0	0.02	0.006	0.073	-0.073	0.004	-0.004	
2687		7	0	0.015	0.005	0.113	-0.113	0.007	-0.007	
2688		8	0	0.011	0.004	0.143	-0.143	0.009	-0.009	
2689		9	0	0.006	0.002	0.162	-0.162	0.01	-0.01	
2690		10	0	0.001	0	0.17	-0.17	0.011	-0.011	
2691		11	0	-0.003	0	0.168	-0.168	0.011	-0.011	
2692		12	0	-0.008	-0.002	0.155	-0.155	0.01	-0.01	
2693		13	0	-0.013	-0.004	0.132	-0.132	0.009	-0.009	
2694		14	0	-0.017	-0.005	0.099	-0.099	0.007	-0.007	
2695		15	0	-0.022	-0.006	0.054	-0.054	0.004	-0.004	
2696		16	-0.001	-0.027	-0.008	0	0	0	0	
2697		17	-0.001	-0.031	-0.009	-0.066	0.066	-0.005	0.005	
2698		18	-0.001	-0.036	-0.011	-0.141	0.141	-0.01	0.01	
2699		19	-0.002	-0.041	-0.012	-0.228	0.228	-0.016	0.016	
2700		20	-0.002	-0.045	-0.014	-0.325	0.325	-0.023	0.023	
2701	5	A4	1	0.002	0.045	0.014	-0.325	0.325	-0.023	0.023
2702		2	0.002	0.04	0.012	-0.229	0.229	-0.016	0.016	
2703		3	0.001	0.035	0.011	-0.145	0.145	-0.01	0.01	
2704		4	0.001	0.031	0.009	-0.07	0.07	-0.005	0.005	
2705		5	0.001	0.026	0.008	-0.007	0.007	0	0	
2706		6	0	0.021	0.006	0.046	-0.046	0.004	-0.004	
2707		7	0	0.017	0.005	0.089	-0.089	0.007	-0.007	
2708		8	0	0.012	0.004	0.121	-0.121	0.009	-0.009	
2709		9	0	0.007	0.002	0.143	-0.143	0.01	-0.01	
2710		10	0	0.003	0	0.154	-0.154	0.011	-0.011	
2711		11	0	-0.002	0	0.154	-0.154	0.011	-0.011	
2712		12	0	-0.007	-0.002	0.144	-0.144	0.01	-0.01	
2713		13	0	-0.011	-0.004	0.124	-0.124	0.009	-0.009	
2714		14	0	-0.016	-0.005	0.093	-0.093	0.007	-0.007	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2715		15	0	-0.021	-0.006	0.051	-0.051	0.004	-0.004	
2716		16	-0.001	-0.026	-0.008	-0.001	0.001	0	0	
2717		17	-0.001	-0.03	-0.009	-0.064	0.064	-0.005	0.005	
2718		18	-0.001	-0.035	-0.011	-0.137	0.137	-0.01	0.01	
2719		19	-0.002	-0.04	-0.012	-0.221	0.221	-0.016	0.016	
2720		20	-0.002	-0.044	-0.014	-0.315	0.315	-0.023	0.023	
2721	5	A5	1	0.002	0.044	0.014	-0.315	0.315	-0.023	0.023
2722		2	0.002	0.04	0.012	-0.22	0.22	-0.016	0.016	
2723		3	0.001	0.035	0.011	-0.136	0.136	-0.01	0.01	
2724		4	0.001	0.03	0.009	-0.062	0.062	-0.005	0.005	
2725		5	0.001	0.026	0.008	0	0	0	0	
2726		6	0	0.021	0.006	0.053	-0.053	0.004	-0.004	
2727		7	0	0.016	0.005	0.095	-0.095	0.007	-0.007	
2728		8	0	0.012	0.004	0.127	-0.127	0.009	-0.009	
2729		9	0	0.007	0.002	0.148	-0.148	0.01	-0.01	
2730		10	0	0.002	0	0.158	-0.158	0.011	-0.011	
2731		11	0	-0.002	0	0.158	-0.158	0.011	-0.011	
2732		12	0	-0.007	-0.002	0.147	-0.147	0.01	-0.01	
2733		13	0	-0.012	-0.004	0.126	-0.126	0.009	-0.009	
2734		14	0	-0.016	-0.005	0.094	-0.094	0.007	-0.007	
2735		15	0	-0.021	-0.006	0.052	-0.052	0.004	-0.004	
2736		16	-0.001	-0.026	-0.008	0	0	0	0	
2737		17	-0.001	-0.031	-0.009	-0.064	0.064	-0.005	0.005	
2738		18	-0.001	-0.035	-0.011	-0.138	0.138	-0.01	0.01	
2739		19	-0.002	-0.04	-0.012	-0.222	0.222	-0.016	0.016	
2740		20	-0.002	-0.045	-0.014	-0.317	0.317	-0.023	0.023	
2741	5	A6	1	0.002	0.045	0.014	-0.317	0.317	-0.023	0.023
2742		2	0.002	0.04	0.012	-0.222	0.222	-0.016	0.016	
2743		3	0.001	0.035	0.011	-0.138	0.138	-0.01	0.01	
2744		4	0.001	0.03	0.009	-0.064	0.064	-0.005	0.005	
2745		5	0.001	0.026	0.008	-0.001	0.001	0	0	
2746		6	0	0.021	0.006	0.051	-0.051	0.004	-0.004	
2747		7	0	0.016	0.005	0.093	-0.093	0.007	-0.007	
2748		8	0	0.012	0.004	0.125	-0.125	0.009	-0.009	
2749		9	0	0.007	0.002	0.146	-0.146	0.01	-0.01	
2750		10	0	0.002	0	0.157	-0.157	0.011	-0.011	
2751		11	0	-0.002	0	0.157	-0.157	0.011	-0.011	
2752		12	0	-0.007	-0.002	0.146	-0.146	0.01	-0.01	
2753		13	0	-0.012	-0.004	0.125	-0.125	0.009	-0.009	
2754		14	0	-0.016	-0.005	0.093	-0.093	0.007	-0.007	
2755		15	0	-0.021	-0.006	0.051	-0.051	0.004	-0.004	
2756		16	-0.001	-0.026	-0.008	-0.002	0.002	0	0	
2757		17	-0.001	-0.03	-0.009	-0.065	0.065	-0.005	0.005	
2758		18	-0.001	-0.035	-0.011	-0.138	0.138	-0.01	0.01	
2759		19	-0.002	-0.04	-0.012	-0.223	0.223	-0.016	0.016	
2760		20	-0.002	-0.045	-0.014	-0.318	0.318	-0.023	0.023	
2761	5	A7	1	0.002	0.045	0.014	-0.318	0.318	-0.023	0.023
2762		2	0.002	0.04	0.012	-0.223	0.223	-0.016	0.016	
2763		3	0.001	0.035	0.011	-0.138	0.138	-0.01	0.01	
2764		4	0.001	0.031	0.009	-0.064	0.064	-0.005	0.005	
2765		5	0.001	0.026	0.008	0	0	0	0	
2766		6	0	0.021	0.006	0.052	-0.052	0.004	-0.004	
2767		7	0	0.017	0.005	0.094	-0.094	0.007	-0.007	
2768		8	0	0.012	0.004	0.126	-0.126	0.009	-0.009	
2769		9	0	0.007	0.002	0.148	-0.148	0.01	-0.01	
2770		10	0	0.002	0	0.158	-0.158	0.011	-0.011	
2771		11	0	-0.002	0	0.159	-0.159	0.011	-0.011	
2772		12	0	-0.007	-0.002	0.148	-0.148	0.01	-0.01	



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2773		13	0	-0.012	-0.004	0.127	-0.127	0.009	-0.009	
2774		14	0	-0.016	-0.005	0.096	-0.096	0.007	-0.007	
2775		15	0	-0.021	-0.006	0.054	-0.054	0.004	-0.004	
2776		16	-0.001	-0.026	-0.008	0.002	-0.002	0	0	
2777		17	-0.001	-0.03	-0.009	-0.061	0.061	-0.005	0.005	
2778		18	-0.001	-0.035	-0.011	-0.135	0.135	-0.01	0.01	
2779		19	-0.002	-0.04	-0.012	-0.219	0.219	-0.016	0.016	
2780		20	-0.002	-0.044	-0.014	-0.313	0.313	-0.023	0.023	
2781	5	A8	1	0.002	0.044	0.014	-0.313	0.313	-0.023	0.023
2782		2	0.002	0.039	0.012	-0.219	0.219	-0.016	0.016	
2783		3	0.001	0.035	0.011	-0.136	0.136	-0.01	0.01	
2784		4	0.001	0.03	0.009	-0.063	0.063	-0.005	0.005	
2785		5	0.001	0.025	0.008	-0.001	0.001	0	0	
2786		6	0	0.021	0.006	0.051	-0.051	0.004	-0.004	
2787		7	0	0.016	0.005	0.092	-0.092	0.007	-0.007	
2788		8	0	0.011	0.004	0.122	-0.122	0.009	-0.009	
2789		9	0	0.007	0.002	0.143	-0.143	0.01	-0.01	
2790		10	0	0.002	0	0.152	-0.152	0.011	-0.011	
2791		11	0	-0.003	0	0.151	-0.151	0.011	-0.011	
2792		12	0	-0.007	-0.002	0.14	-0.14	0.01	-0.01	
2793		13	0	-0.012	-0.004	0.118	-0.118	0.009	-0.009	
2794		14	0	-0.017	-0.005	0.085	-0.085	0.007	-0.007	
2795		15	0	-0.022	-0.006	0.042	-0.042	0.004	-0.004	
2796		16	-0.001	-0.026	-0.008	-0.011	0.011	0	0	
2797		17	-0.001	-0.031	-0.009	-0.075	0.075	-0.005	0.005	
2798		18	-0.001	-0.036	-0.011	-0.15	0.15	-0.01	0.01	
2799		19	-0.002	-0.041	-0.012	-0.237	0.237	-0.016	0.016	
2800		20	-0.002	-0.046	-0.014	-0.335	0.335	-0.023	0.023	
2801	5	A9	1	0.002	0.048	0.014	-0.335	0.335	-0.023	0.023
2802		2	0.002	0.043	0.012	-0.232	0.232	-0.016	0.016	
2803		3	0.001	0.038	0.011	-0.14	0.14	-0.01	0.01	
2804		4	0.001	0.033	0.009	-0.06	0.06	-0.005	0.005	
2805		5	0.001	0.028	0.008	0.009	-0.009	0	0	
2806		6	0	0.023	0.006	0.066	-0.066	0.004	-0.004	
2807		7	0	0.018	0.005	0.112	-0.112	0.007	-0.007	
2808		8	0	0.013	0.004	0.146	-0.146	0.009	-0.009	
2809		9	0	0.008	0.002	0.168	-0.168	0.01	-0.01	
2810		10	0	0.002	0	0.18	-0.18	0.011	-0.011	
2811		11	0	-0.003	0	0.179	-0.179	0.011	-0.011	
2812		12	0	-0.008	-0.002	0.167	-0.167	0.01	-0.01	
2813		13	0	-0.013	-0.004	0.144	-0.144	0.009	-0.009	
2814		14	0	-0.018	-0.005	0.109	-0.109	0.007	-0.007	
2815		15	0	-0.023	-0.006	0.063	-0.063	0.004	-0.004	
2816		16	-0.001	-0.028	-0.008	0.005	-0.005	0	0	
2817		17	-0.001	-0.033	-0.009	-0.065	0.065	-0.005	0.005	
2818		18	-0.001	-0.039	-0.011	-0.145	0.145	-0.01	0.01	
2819		19	-0.002	-0.044	-0.012	-0.238	0.238	-0.016	0.016	
2820		20	-0.002	-0.049	-0.014	-0.342	0.342	-0.023	0.023	
2821	5	A10	1	0.002	0.048	0.014	-0.342	0.342	-0.023	0.023
2822		2	0.002	0.042	0.012	-0.241	0.241	-0.016	0.016	
2823		3	0.001	0.037	0.011	-0.151	0.151	-0.01	0.01	
2824		4	0.001	0.032	0.009	-0.073	0.073	-0.005	0.005	
2825		5	0.001	0.027	0.008	-0.006	0.006	0	0	
2826		6	0	0.022	0.006	0.049	-0.049	0.004	-0.004	
2827		7	0	0.017	0.005	0.092	-0.092	0.007	-0.007	
2828		8	0	0.012	0.004	0.124	-0.124	0.009	-0.009	
2829		9	0	0.007	0.002	0.145	-0.145	0.01	-0.01	
2830		10	0	0.002	0	0.156	-0.156	0.011	-0.011	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2831		11	0	-0.002	0	0.156	-0.156	0.011	-0.011	
2832		12	0	-0.007	-0.002	0.146	-0.146	0.01	-0.01	
2833		13	0	-0.012	-0.004	0.125	-0.125	0.009	-0.009	
2834		14	0	-0.016	-0.005	0.093	-0.093	0.007	-0.007	
2835		15	0	-0.021	-0.006	0.051	-0.051	0.004	-0.004	
2836		16	-0.001	-0.026	-0.008	-0.001	0.001	0	0	
2837		17	-0.001	-0.03	-0.009	-0.064	0.064	-0.005	0.005	
2838		18	-0.001	-0.035	-0.011	-0.138	0.138	-0.01	0.01	
2839		19	-0.002	-0.04	-0.012	-0.222	0.222	-0.016	0.016	
2840		20	-0.002	-0.044	-0.014	-0.316	0.316	-0.023	0.023	
2841	5	A11	1	0.002	0.044	0.014	-0.316	0.316	-0.023	0.023
2842		2	0.002	0.04	0.012	-0.221	0.221	-0.016	0.016	
2843		3	0.001	0.035	0.011	-0.137	0.137	-0.01	0.01	
2844		4	0.001	0.03	0.009	-0.063	0.063	-0.005	0.005	
2845		5	0.001	0.026	0.008	0	0	0	0	
2846		6	0	0.021	0.006	0.053	-0.053	0.004	-0.004	
2847		7	0	0.016	0.005	0.095	-0.095	0.007	-0.007	
2848		8	0	0.012	0.004	0.126	-0.126	0.009	-0.009	
2849		9	0	0.007	0.002	0.147	-0.147	0.01	-0.01	
2850		10	0	0.002	0	0.158	-0.158	0.011	-0.011	
2851		11	0	-0.002	0	0.158	-0.158	0.011	-0.011	
2852		12	0	-0.007	-0.002	0.147	-0.147	0.01	-0.01	
2853		13	0	-0.012	-0.004	0.126	-0.126	0.009	-0.009	
2854		14	0	-0.016	-0.005	0.094	-0.094	0.007	-0.007	
2855		15	0	-0.021	-0.006	0.052	-0.052	0.004	-0.004	
2856		16	-0.001	-0.026	-0.008	0	0	0	0	
2857		17	-0.001	-0.03	-0.009	-0.064	0.064	-0.005	0.005	
2858		18	-0.001	-0.035	-0.011	-0.138	0.138	-0.01	0.01	
2859		19	-0.002	-0.04	-0.012	-0.222	0.222	-0.016	0.016	
2860		20	-0.002	-0.045	-0.014	-0.317	0.317	-0.023	0.023	
2861	5	A12	1	0.002	0.045	0.014	-0.317	0.317	-0.023	0.023
2862		2	0.002	0.04	0.012	-0.222	0.222	-0.016	0.016	
2863		3	0.001	0.035	0.011	-0.138	0.138	-0.01	0.01	
2864		4	0.001	0.03	0.009	-0.064	0.064	-0.005	0.005	
2865		5	0.001	0.026	0.008	-0.001	0.001	0	0	
2866		6	0	0.021	0.006	0.052	-0.052	0.004	-0.004	
2867		7	0	0.016	0.005	0.094	-0.094	0.007	-0.007	
2868		8	0	0.012	0.004	0.125	-0.125	0.009	-0.009	
2869		9	0	0.007	0.002	0.146	-0.146	0.01	-0.01	
2870		10	0	0.002	0	0.157	-0.157	0.011	-0.011	
2871		11	0	-0.002	0	0.157	-0.157	0.011	-0.011	
2872		12	0	-0.007	-0.002	0.146	-0.146	0.01	-0.01	
2873		13	0	-0.012	-0.004	0.125	-0.125	0.009	-0.009	
2874		14	0	-0.016	-0.005	0.094	-0.094	0.007	-0.007	
2875		15	0	-0.021	-0.006	0.052	-0.052	0.004	-0.004	
2876		16	-0.001	-0.026	-0.008	-0.001	0.001	0	0	
2877		17	-0.001	-0.03	-0.009	-0.064	0.064	-0.005	0.005	
2878		18	-0.001	-0.035	-0.011	-0.138	0.138	-0.01	0.01	
2879		19	-0.002	-0.04	-0.012	-0.222	0.222	-0.016	0.016	
2880		20	-0.002	-0.045	-0.014	-0.317	0.317	-0.023	0.023	
2881	5	A13	1	0.002	0.045	0.014	-0.317	0.317	-0.023	0.023
2882		2	0.002	0.04	0.012	-0.222	0.222	-0.016	0.016	
2883		3	0.001	0.035	0.011	-0.138	0.138	-0.01	0.01	
2884		4	0.001	0.03	0.009	-0.064	0.064	-0.005	0.005	
2885		5	0.001	0.026	0.008	0	0	0	0	
2886		6	0	0.021	0.006	0.052	-0.052	0.004	-0.004	
2887		7	0	0.016	0.005	0.094	-0.094	0.007	-0.007	
2888		8	0	0.012	0.004	0.126	-0.126	0.009	-0.009	

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
2889		9	0	0.007	0.002	0.147	-0.147	0.01	-0.01	
2890		10	0	0.002	0	0.157	-0.157	0.011	-0.011	
2891		11	0	-0.002	0	0.157	-0.157	0.011	-0.011	
2892		12	0	-0.007	-0.002	0.147	-0.147	0.01	-0.01	
2893		13	0	-0.012	-0.004	0.126	-0.126	0.009	-0.009	
2894		14	0	-0.016	-0.005	0.094	-0.094	0.007	-0.007	
2895		15	0	-0.021	-0.006	0.052	-0.052	0.004	-0.004	
2896		16	-0.001	-0.026	-0.008	0	0	0	0	
2897		17	-0.001	-0.03	-0.009	-0.063	0.063	-0.005	0.005	
2898		18	-0.001	-0.035	-0.011	-0.137	0.137	-0.01	0.01	
2899		19	-0.002	-0.04	-0.012	-0.221	0.221	-0.016	0.016	
2900		20	-0.002	-0.044	-0.014	-0.316	0.316	-0.023	0.023	
2901	5	A14	1	0.002	0.044	0.014	-0.316	0.316	-0.023	0.023
2902		2	0.002	0.04	0.012	-0.221	0.221	-0.016	0.016	
2903		3	0.001	0.035	0.011	-0.137	0.137	-0.01	0.01	
2904		4	0.001	0.03	0.009	-0.064	0.064	-0.005	0.005	
2905		5	0.001	0.026	0.008	0	0	0	0	
2906		6	0	0.021	0.006	0.051	-0.051	0.004	-0.004	
2907		7	0	0.016	0.005	0.093	-0.093	0.007	-0.007	
2908		8	0	0.012	0.004	0.125	-0.125	0.009	-0.009	
2909		9	0	0.007	0.002	0.145	-0.145	0.01	-0.01	
2910		10	0	0.002	0	0.156	-0.156	0.011	-0.011	
2911		11	0	-0.002	0	0.156	-0.156	0.011	-0.011	
2912		12	0	-0.007	-0.002	0.145	-0.145	0.01	-0.01	
2913		13	0	-0.012	-0.004	0.123	-0.123	0.009	-0.009	
2914		14	0	-0.017	-0.005	0.092	-0.092	0.007	-0.007	
2915		15	0	-0.021	-0.006	0.049	-0.049	0.004	-0.004	
2916		16	-0.001	-0.026	-0.008	-0.004	0.004	0	0	
2917		17	-0.001	-0.031	-0.009	-0.067	0.067	-0.005	0.005	
2918		18	-0.001	-0.035	-0.011	-0.141	0.141	-0.01	0.01	
2919		19	-0.002	-0.04	-0.012	-0.225	0.225	-0.016	0.016	
2920		20	-0.002	-0.045	-0.014	-0.32	0.32	-0.023	0.023	
2921	5	A15	1	0.002	0.045	0.014	-0.32	0.32	-0.023	0.023
2922		2	0.002	0.04	0.012	-0.225	0.225	-0.016	0.016	
2923		3	0.001	0.036	0.011	-0.14	0.14	-0.01	0.01	
2924		4	0.001	0.031	0.009	-0.065	0.065	-0.005	0.005	
2925		5	0.001	0.026	0.008	0	0	0	0	
2926		6	0	0.022	0.007	0.053	-0.053	0.004	-0.004	
2927		7	0	0.017	0.005	0.096	-0.096	0.007	-0.007	
2928		8	0	0.012	0.004	0.129	-0.129	0.009	-0.009	
2929		9	0	0.007	0.002	0.151	-0.151	0.01	-0.01	
2930		10	0	0.003	0	0.162	-0.162	0.011	-0.011	
2931		11	0	-0.002	0	0.163	-0.163	0.011	-0.011	
2932		12	0	-0.007	-0.002	0.154	-0.154	0.01	-0.01	
2933		13	0	-0.011	-0.004	0.133	-0.133	0.009	-0.009	
2934		14	0	-0.016	-0.005	0.103	-0.103	0.007	-0.007	
2935		15	0	-0.021	-0.006	0.062	-0.062	0.004	-0.004	
2936		16	-0.001	-0.025	-0.008	0.01	-0.01	0	0	
2937		17	-0.001	-0.03	-0.009	-0.052	0.052	-0.005	0.005	
2938		18	-0.001	-0.035	-0.011	-0.125	0.125	-0.01	0.01	
2939		19	-0.002	-0.039	-0.012	-0.208	0.208	-0.016	0.016	
2940		20	-0.002	-0.044	-0.014	-0.302	0.302	-0.023	0.023	
2941	5	A16	1	0.004	0.047	0.009	-0.302	0.302	-0.006	0.006
2942		2	0.004	0.045	0.008	-0.249	0.249	-0.003	0.003	
2943		3	0.004	0.042	0.008	-0.198	0.198	-0.001	0.001	
2944		4	0.004	0.04	0.007	-0.151	0.151	0	0	
2945		5	0.004	0.038	0.006	-0.106	0.106	0.003	-0.003	
2946		6	0.004	0.035	0.006	-0.064	0.064	0.004	-0.004	



**Member Section Stresses (Continued)**

LC	Member	Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
2947			7	0.003	0.033	0.005	-0.025	0.025	0.005	-0.005
2948			8	0.003	0.03	0.004	0.012	-0.012	0.007	-0.007
2949			9	0.003	0.028	0.003	0.046	-0.046	0.008	-0.008
2950			10	0.003	0.026	0.003	0.077	-0.077	0.008	-0.008
2951			11	0.003	0.023	0.002	0.105	-0.105	0.009	-0.009
2952			12	0.003	0.021	0.001	0.13	-0.13	0.009	-0.009
2953			13	0.003	0.018	0	0.153	-0.153	0.01	-0.01
2954			14	0.003	0.016	0	0.173	-0.173	0.009	-0.009
2955			15	0.003	0.014	-0.001	0.19	-0.19	0.009	-0.009
2956			16	0.003	0.011	-0.002	0.204	-0.204	0.009	-0.009
2957			17	0.002	0.009	-0.003	0.215	-0.215	0.008	-0.008
2958			18	0.002	0.006	-0.003	0.224	-0.224	0.007	-0.007
2959			19	0.002	0.004	-0.004	0.23	-0.23	0.006	-0.006
2960			20	0.002	0.002	-0.005	0.233	-0.233	0.005	-0.005
2961	5	A17	1	0	0.003	0	-0.019	0.019	0	0
2962			2	0	0.003	0	-0.017	0.017	0	0
2963			3	0	0.003	0	-0.016	0.016	0	0
2964			4	0	0.003	0	-0.014	0.014	0	0
2965			5	0	0.003	0	-0.012	0.012	0	0
2966			6	0	0.002	0	-0.011	0.011	0	0
2967			7	0	0.002	0	-0.009	0.009	0	0
2968			8	0	0.002	0	-0.008	0.008	0	0
2969			9	0	0.002	0	-0.007	0.007	0	0
2970			10	0	0.002	0	-0.005	0.005	0	0
2971			11	0	0.002	0	-0.004	0.004	0	0
2972			12	0	0.001	0	-0.003	0.003	0	0
2973			13	0	0.001	0	-0.003	0.003	0	0
2974			14	0	0.001	0	-0.002	0.002	0	0
2975			15	0	0	0	-0.001	0.001	0	0
2976			16	0	0	0	0	0	0	0
2977			17	0	0	0	0	0	0	0
2978			18	0	0	0	0	0	0	0
2979			19	0	0	0	0	0	0	0
2980			20	0	0	0	0	0	0	0
2981	5	R1	1	0	0	0	0	0	0	0
2982			2	0	0	0	0	0	0	0
2983			3	0	0	0	0	0	0	0
2984			4	0	0	0	0	0	0	0
2985			5	0	0	0	0	0	0	0
2986			6	0	0	0	0	0	0	0
2987			7	0	0	0	0	0	0	0
2988			8	0	0	0	0	0	0	0
2989			9	0	0	0	0	0	0	0
2990			10	0	0	0	0	0	0	0
2991			11	0	0	0	0	0	0	0
2992			12	0	0	0	0	0	0	0
2993			13	0	0	0	0	0	0	0
2994			14	0	0	0	0	0	0	0
2995			15	0	0	0	0	0	0	0
2996			16	0	0	0	0	0	0	0
2997			17	0	0	0	0	0	0	0
2998			18	0	0	0	0	0	0	0
2999			19	0	0	0	0	0	0	0
3000			20	0	0	0	0	0	0	0
3001	5	R2	1	0	0	0	0	0	0	0
3002			2	0	0	0	0	0	0	0
3003			3	0	0	0	0	0	0	0
3004			4	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3005		5	0	0	0	0	0	0	0
3006		6	0	0	0	0	0	0	0
3007		7	0	0	0	0	0	0	0
3008		8	0	0	0	0	0	0	0
3009		9	0	0	0	0	0	0	0
3010		10	0	0	0	0	0	0	0
3011		11	0	0	0	0	0	0	0
3012		12	0	0	0	0	0	0	0
3013		13	0	0	0	0	0	0	0
3014		14	0	0	0	0	0	0	0
3015		15	0	0	0	0	0	0	0
3016		16	0	0	0	0	0	0	0
3017		17	0	0	0	0	0	0	0
3018		18	0	0	0	0	0	0	0
3019		19	0	0	0	0	0	0	0
3020		20	0	0	0	0	0	0	0
3021	5	R3	1	0	0	0	0	0	0
3022		2	0	0	0	0	0	0	0
3023		3	0	0	0	0	0	0	0
3024		4	0	0	0	0	0	0	0
3025		5	0	0	0	0	0	0	0
3026		6	0	0	0	0	0	0	0
3027		7	0	0	0	0	0	0	0
3028		8	0	0	0	0	0	0	0
3029		9	0	0	0	0	0	0	0
3030		10	0	0	0	0	0	0	0
3031		11	0	0	0	0	0	0	0
3032		12	0	0	0	0	0	0	0
3033		13	0	0	0	0	0	0	0
3034		14	0	0	0	0	0	0	0
3035		15	0	0	0	0	0	0	0
3036		16	0	0	0	0	0	0	0
3037		17	0	0	0	0	0	0	0
3038		18	0	0	0	0	0	0	0
3039		19	0	0	0	0	0	0	0
3040		20	0	0	0	0	0	0	0
3041	5	R4	1	0	0	0	0	0	0
3042		2	0	0	0	0	0	0	0
3043		3	0	0	0	0	0	0	0
3044		4	0	0	0	0	0	0	0
3045		5	0	0	0	0	0	0	0
3046		6	0	0	0	0	0	0	0
3047		7	0	0	0	0	0	0	0
3048		8	0	0	0	0	0	0	0
3049		9	0	0	0	0	0	0	0
3050		10	0	0	0	0	0	0	0
3051		11	0	0	0	0	0	0	0
3052		12	0	0	0	0	0	0	0
3053		13	0	0	0	0	0	0	0
3054		14	0	0	0	0	0	0	0
3055		15	0	0	0	0	0	0	0
3056		16	0	0	0	0	0	0	0
3057		17	0	0	0	0	0	0	0
3058		18	0	0	0	0	0	0	0
3059		19	0	0	0	0	0	0	0
3060		20	0	0	0	0	0	0	0
3061	5	R5	1	0	0	0	0	0	0
3062		2	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3063		3	0	0	0	0	0	0	0
3064		4	0	0	0	0	0	0	0
3065		5	0	0	0	0	0	0	0
3066		6	0	0	0	0	0	0	0
3067		7	0	0	0	0	0	0	0
3068		8	0	0	0	0	0	0	0
3069		9	0	0	0	0	0	0	0
3070		10	0	0	0	0	0	0	0
3071		11	0	0	0	0	0	0	0
3072		12	0	0	0	0	0	0	0
3073		13	0	0	0	0	0	0	0
3074		14	0	0	0	0	0	0	0
3075		15	0	0	0	0	0	0	0
3076		16	0	0	0	0	0	0	0
3077		17	0	0	0	0	0	0	0
3078		18	0	0	0	0	0	0	0
3079		19	0	0	0	0	0	0	0
3080		20	0	0	0	0	0	0	0
3081	5	R6	1	0	0	0	0	0	0
3082		2	0	0	0	0	0	0	0
3083		3	0	0	0	0	0	0	0
3084		4	0	0	0	0	0	0	0
3085		5	0	0	0	0	0	0	0
3086		6	0	0	0	0	0	0	0
3087		7	0	0	0	0	0	0	0
3088		8	0	0	0	0	0	0	0
3089		9	0	0	0	0	0	0	0
3090		10	0	0	0	0	0	0	0
3091		11	0	0	0	0	0	0	0
3092		12	0	0	0	0	0	0	0
3093		13	0	0	0	0	0	0	0
3094		14	0	0	0	0	0	0	0
3095		15	0	0	0	0	0	0	0
3096		16	0	0	0	0	0	0	0
3097		17	0	0	0	0	0	0	0
3098		18	0	0	0	0	0	0	0
3099		19	0	0	0	0	0	0	0
3100		20	0	0	0	0	0	0	0
3101	5	R7	1	0	0	0	0	0	0
3102		2	0	0	0	0	0	0	0
3103		3	0	0	0	0	0	0	0
3104		4	0	0	0	0	0	0	0
3105		5	0	0	0	0	0	0	0
3106		6	0	0	0	0	0	0	0
3107		7	0	0	0	0	0	0	0
3108		8	0	0	0	0	0	0	0
3109		9	0	0	0	0	0	0	0
3110		10	0	0	0	0	0	0	0
3111		11	0	0	0	0	0	0	0
3112		12	0	0	0	0	0	0	0
3113		13	0	0	0	0	0	0	0
3114		14	0	0	0	0	0	0	0
3115		15	0	0	0	0	0	0	0
3116		16	0	0	0	0	0	0	0
3117		17	0	0	0	0	0	0	0
3118		18	0	0	0	0	0	0	0
3119		19	0	0	0	0	0	0	0
3120		20	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member	Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3121	5	R8	1	0	0	0	0	0	0	0
3122			2	0	0	0	0	0	0	0
3123			3	0	0	0	0	0	0	0
3124			4	0	0	0	0	0	0	0
3125			5	0	0	0	0	0	0	0
3126			6	0	0	0	0	0	0	0
3127			7	0	0	0	0	0	0	0
3128			8	0	0	0	0	0	0	0
3129			9	0	0	0	0	0	0	0
3130			10	0	0	0	0	0	0	0
3131			11	0	0	0	0	0	0	0
3132			12	0	0	0	0	0	0	0
3133			13	0	0	0	0	0	0	0
3134			14	0	0	0	0	0	0	0
3135			15	0	0	0	0	0	0	0
3136			16	0	0	0	0	0	0	0
3137			17	0	0	0	0	0	0	0
3138			18	0	0	0	0	0	0	0
3139			19	0	0	0	0	0	0	0
3140			20	0	0	0	0	0	0	0
3141	5	R9	1	0	0	0	0	0	0	0
3142			2	0	0	0	0	0	0	0
3143			3	0	0	0	0	0	0	0
3144			4	0	0	0	0	0	0	0
3145			5	0	0	0	0	0	0	0
3146			6	0	0	0	0	0	0	0
3147			7	0	0	0	0	0	0	0
3148			8	0	0	0	0	0	0	0
3149			9	0	0	0	0	0	0	0
3150			10	0	0	0	0	0	0	0
3151			11	0	0	0	0	0	0	0
3152			12	0	0	0	0	0	0	0
3153			13	0	0	0	0	0	0	0
3154			14	0	0	0	0	0	0	0
3155			15	0	0	0	0	0	0	0
3156			16	0	0	0	0	0	0	0
3157			17	0	0	0	0	0	0	0
3158			18	0	0	0	0	0	0	0
3159			19	0	0	0	0	0	0	0
3160			20	0	0	0	0	0	0	0
3161	5	R10	1	0	0	0	0	0	0	0
3162			2	0	0	0	0	0	0	0
3163			3	0	0	0	0	0	0	0
3164			4	0	0	0	0	0	0	0
3165			5	0	0	0	0	0	0	0
3166			6	0	0	0	0	0	0	0
3167			7	0	0	0	0	0	0	0
3168			8	0	0	0	0	0	0	0
3169			9	0	0	0	0	0	0	0
3170			10	0	0	0	0	0	0	0
3171			11	0	0	0	0	0	0	0
3172			12	0	0	0	0	0	0	0
3173			13	0	0	0	0	0	0	0
3174			14	0	0	0	0	0	0	0
3175			15	0	0	0	0	0	0	0
3176			16	0	0	0	0	0	0	0
3177			17	0	0	0	0	0	0	0
3178			18	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3179		19	0	0	0	0	0	0	0
3180		20	0	0	0	0	0	0	0
3181	5 R11	1	0	0	0	0	0	0	0
3182		2	0	0	0	0	0	0	0
3183		3	0	0	0	0	0	0	0
3184		4	0	0	0	0	0	0	0
3185		5	0	0	0	0	0	0	0
3186		6	0	0	0	0	0	0	0
3187		7	0	0	0	0	0	0	0
3188		8	0	0	0	0	0	0	0
3189		9	0	0	0	0	0	0	0
3190		10	0	0	0	0	0	0	0
3191		11	0	0	0	0	0	0	0
3192		12	0	0	0	0	0	0	0
3193		13	0	0	0	0	0	0	0
3194		14	0	0	0	0	0	0	0
3195		15	0	0	0	0	0	0	0
3196		16	0	0	0	0	0	0	0
3197		17	0	0	0	0	0	0	0
3198		18	0	0	0	0	0	0	0
3199		19	0	0	0	0	0	0	0
3200		20	0	0	0	0	0	0	0
3201	5 R12	1	0	0	0	0	0	0	0
3202		2	0	0	0	0	0	0	0
3203		3	0	0	0	0	0	0	0
3204		4	0	0	0	0	0	0	0
3205		5	0	0	0	0	0	0	0
3206		6	0	0	0	0	0	0	0
3207		7	0	0	0	0	0	0	0
3208		8	0	0	0	0	0	0	0
3209		9	0	0	0	0	0	0	0
3210		10	0	0	0	0	0	0	0
3211		11	0	0	0	0	0	0	0
3212		12	0	0	0	0	0	0	0
3213		13	0	0	0	0	0	0	0
3214		14	0	0	0	0	0	0	0
3215		15	0	0	0	0	0	0	0
3216		16	0	0	0	0	0	0	0
3217		17	0	0	0	0	0	0	0
3218		18	0	0	0	0	0	0	0
3219		19	0	0	0	0	0	0	0
3220		20	0	0	0	0	0	0	0
3221	5 R13	1	0	0	0	0	0	0	0
3222		2	0	0	0	0	0	0	0
3223		3	0	0	0	0	0	0	0
3224		4	0	0	0	0	0	0	0
3225		5	0	0	0	0	0	0	0
3226		6	0	0	0	0	0	0	0
3227		7	0	0	0	0	0	0	0
3228		8	0	0	0	0	0	0	0
3229		9	0	0	0	0	0	0	0
3230		10	0	0	0	0	0	0	0
3231		11	0	0	0	0	0	0	0
3232		12	0	0	0	0	0	0	0
3233		13	0	0	0	0	0	0	0
3234		14	0	0	0	0	0	0	0
3235		15	0	0	0	0	0	0	0
3236		16	0	0	0	0	0	0	0



Company : Steamboat Structures LLC  
 Designer : Reed  
 Job Number : 101.2006  
 Model Name : Abutment 3 Pile Cap

1/20/2021  
 11:26:12 AM  
 Checked By : CWT

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3237		17	0	0	0	0	0	0	0
3238		18	0	0	0	0	0	0	0
3239		19	0	0	0	0	0	0	0
3240		20	0	0	0	0	0	0	0
3241	5 R14	1	0	0	0	0	0	0	0
3242		2	0	0	0	0	0	0	0
3243		3	0	0	0	0	0	0	0
3244		4	0	0	0	0	0	0	0
3245		5	0	0	0	0	0	0	0
3246		6	0	0	0	0	0	0	0
3247		7	0	0	0	0	0	0	0
3248		8	0	0	0	0	0	0	0
3249		9	0	0	0	0	0	0	0
3250		10	0	0	0	0	0	0	0
3251		11	0	0	0	0	0	0	0
3252		12	0	0	0	0	0	0	0
3253		13	0	0	0	0	0	0	0
3254		14	0	0	0	0	0	0	0
3255		15	0	0	0	0	0	0	0
3256		16	0	0	0	0	0	0	0
3257		17	0	0	0	0	0	0	0
3258		18	0	0	0	0	0	0	0
3259		19	0	0	0	0	0	0	0
3260		20	0	0	0	0	0	0	0
3261	5 R15	1	0	0	0	0	0	0	0
3262		2	0	0	0	0	0	0	0
3263		3	0	0	0	0	0	0	0
3264		4	0	0	0	0	0	0	0
3265		5	0	0	0	0	0	0	0
3266		6	0	0	0	0	0	0	0
3267		7	0	0	0	0	0	0	0
3268		8	0	0	0	0	0	0	0
3269		9	0	0	0	0	0	0	0
3270		10	0	0	0	0	0	0	0
3271		11	0	0	0	0	0	0	0
3272		12	0	0	0	0	0	0	0
3273		13	0	0	0	0	0	0	0
3274		14	0	0	0	0	0	0	0
3275		15	0	0	0	0	0	0	0
3276		16	0	0	0	0	0	0	0
3277		17	0	0	0	0	0	0	0
3278		18	0	0	0	0	0	0	0
3279		19	0	0	0	0	0	0	0
3280		20	0	0	0	0	0	0	0
3281	5 M33	1	0	0	0	0	0	0	0
3282		2	0	0	0	0	0	0	0
3283		3	0	0	0	0	0	0	0
3284		4	0	0	0	0	0	0	0
3285		5	0	0	0	0	0	0	0
3286		6	0	0	0	0	0	0	0
3287		7	0	0	0	0	0	0	0
3288		8	0	0	0	0	0	0	0
3289		9	0	0	0	0	0	0	0
3290		10	0	0	0	0	0	0	0
3291		11	0	0	0	0	0	0	0
3292		12	0	0	0	0	0	0	0
3293		13	0	0	0	0	0	0	0
3294		14	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
3295		15	0	0	0	0	0	0	0	
3296		16	0	0	0	0	0	0	0	
3297		17	0	0	0	0	0	0	0	
3298		18	0	0	0	0	0	0	0	
3299		19	0	0	0	0	0	0	0	
3300		20	0	0	0	0	0	0	0	
3301	6	A1	1	0	0	0	0	0	0	
3302		2	0	0	0	0	0	0	0	
3303		3	0	0	0	0	0	0	0	
3304		4	0	0	0	0	0	0	0	
3305		5	0	0	0	0	0	0	0	
3306		6	0	0	0	-0.001	0.001	0	0	
3307		7	0	0	0	-0.002	0.002	0	0	
3308		8	0	-0.001	0	-0.002	0.002	0	0	
3309		9	0	-0.001	0	-0.003	0.003	0	0	
3310		10	0	-0.001	0	-0.004	0.004	0	0	
3311		11	0	-0.002	0	-0.005	0.005	0	0	
3312		12	0	-0.002	0	-0.006	0.006	0	0	
3313		13	0	-0.002	0	-0.007	0.007	0	0	
3314		14	0	-0.002	0	-0.008	0.008	0	0	
3315		15	0	-0.002	0	-0.01	0.01	0	0	
3316		16	0	-0.002	0	-0.011	0.011	0	0	
3317		17	0	-0.003	0	-0.013	0.013	0	0	
3318		18	0	-0.003	0	-0.014	0.014	0	0	
3319		19	0	-0.003	0	-0.016	0.016	0	0	
3320		20	0	-0.003	0	-0.018	0.018	0	0	
3321	6	A2	1	-0.001	-0.012	0.002	0.076	-0.076	0.002	-0.002
3322		2	-0.001	-0.014	0.002	0.067	-0.067	0.002	-0.002	
3323		3	-0.001	-0.015	0.002	0.056	-0.056	0.003	-0.003	
3324		4	-0.002	-0.017	0.001	0.045	-0.045	0.003	-0.003	
3325		5	-0.002	-0.019	0	0.032	-0.032	0.003	-0.003	
3326		6	-0.002	-0.02	0	0.018	-0.018	0.003	-0.003	
3327		7	-0.002	-0.022	0	0.003	-0.003	0.003	-0.003	
3328		8	-0.002	-0.024	0	-0.013	0.013	0.003	-0.003	
3329		9	-0.002	-0.025	0	-0.031	0.031	0.003	-0.003	
3330		10	-0.002	-0.027	0	-0.049	0.049	0.003	-0.003	
3331		11	-0.002	-0.029	-0.001	-0.069	0.069	0.003	-0.003	
3332		12	-0.002	-0.03	-0.002	-0.09	0.09	0.003	-0.003	
3333		13	-0.002	-0.032	-0.002	-0.113	0.113	0.003	-0.003	
3334		14	-0.002	-0.034	-0.002	-0.136	0.136	0.002	-0.002	
3335		15	-0.002	-0.035	-0.003	-0.161	0.161	0.002	-0.002	
3336		16	-0.002	-0.037	-0.003	-0.186	0.186	0.001	-0.001	
3337		17	-0.002	-0.039	-0.004	-0.213	0.213	0	0	
3338		18	-0.003	-0.04	-0.004	-0.241	0.241	0	0	
3339		19	-0.003	-0.042	-0.004	-0.271	0.271	0	0	
3340		20	-0.003	-0.044	-0.005	-0.301	0.301	-0.001	0.001	
3341	6	A3	1	0.002	0.048	0.011	-0.301	0.301	-0.018	0.018
3342		2	0.002	0.043	0.01	-0.199	0.199	-0.013	0.013	
3343		3	0.002	0.038	0.009	-0.109	0.109	-0.008	0.008	
3344		4	0.001	0.032	0.008	-0.031	0.031	-0.004	0.004	
3345		5	0.001	0.027	0.006	0.036	-0.036	0	0	
3346		6	0	0.022	0.005	0.091	-0.091	0.003	-0.003	
3347		7	0	0.017	0.004	0.135	-0.135	0.005	-0.005	
3348		8	0	0.012	0.003	0.167	-0.167	0.007	-0.007	
3349		9	0	0.006	0.002	0.187	-0.187	0.009	-0.009	
3350		10	0	0.001	0	0.195	-0.195	0.009	-0.009	
3351		11	0	-0.004	0	0.192	-0.192	0.009	-0.009	
3352		12	0	-0.009	-0.002	0.177	-0.177	0.009	-0.009	

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
3353		13	0	-0.014	-0.003	0.15	-0.15	0.007	-0.007	
3354		14	0	-0.02	-0.004	0.112	-0.112	0.005	-0.005	
3355		15	0	-0.025	-0.005	0.062	-0.062	0.003	-0.003	
3356		16	-0.001	-0.03	-0.006	0	0	0	0	
3357		17	-0.001	-0.035	-0.008	-0.074	0.074	-0.004	0.004	
3358		18	-0.002	-0.041	-0.009	-0.159	0.159	-0.008	0.008	
3359		19	-0.002	-0.046	-0.01	-0.256	0.256	-0.013	0.013	
3360		20	-0.002	-0.051	-0.011	-0.364	0.364	-0.018	0.018	
3361	6	A4	1	0.002	0.05	0.011	-0.364	0.364	-0.018	0.018
3362		2	0.002	0.045	0.01	-0.258	0.258	-0.013	0.013	
3363		3	0.002	0.039	0.009	-0.164	0.164	-0.008	0.008	
3364		4	0.001	0.034	0.008	-0.081	0.081	-0.004	0.004	
3365		5	0.001	0.029	0.006	-0.01	0.01	0	0	
3366		6	0	0.024	0.005	0.049	-0.049	0.003	-0.003	
3367		7	0	0.019	0.004	0.097	-0.097	0.005	-0.005	
3368		8	0	0.013	0.003	0.133	-0.133	0.007	-0.007	
3369		9	0	0.008	0.002	0.157	-0.157	0.009	-0.009	
3370		10	0	0.003	0	0.169	-0.169	0.009	-0.009	
3371		11	0	-0.002	0	0.17	-0.17	0.009	-0.009	
3372		12	0	-0.007	-0.002	0.159	-0.159	0.009	-0.009	
3373		13	0	-0.013	-0.003	0.137	-0.137	0.007	-0.007	
3374		14	0	-0.018	-0.004	0.102	-0.102	0.005	-0.005	
3375		15	0	-0.023	-0.005	0.056	-0.056	0.003	-0.003	
3376		16	-0.001	-0.028	-0.006	-0.001	0.001	0	0	
3377		17	-0.001	-0.033	-0.008	-0.071	0.071	-0.004	0.004	
3378		18	-0.002	-0.039	-0.009	-0.152	0.152	-0.008	0.008	
3379		19	-0.002	-0.044	-0.01	-0.244	0.244	-0.013	0.013	
3380		20	-0.002	-0.049	-0.011	-0.349	0.349	-0.018	0.018	
3381	6	A5	1	0.002	0.049	0.011	-0.349	0.349	-0.018	0.018
3382		2	0.002	0.044	0.01	-0.244	0.244	-0.013	0.013	
3383		3	0.002	0.039	0.009	-0.15	0.15	-0.008	0.008	
3384		4	0.001	0.034	0.008	-0.069	0.069	-0.004	0.004	
3385		5	0.001	0.029	0.006	0.001	-0.001	0	0	
3386		6	0	0.023	0.005	0.06	-0.06	0.003	-0.003	
3387		7	0	0.018	0.004	0.106	-0.106	0.005	-0.005	
3388		8	0	0.013	0.003	0.141	-0.141	0.007	-0.007	
3389		9	0	0.008	0.002	0.164	-0.164	0.009	-0.009	
3390		10	0	0.003	0	0.176	-0.176	0.009	-0.009	
3391		11	0	-0.003	0	0.176	-0.176	0.009	-0.009	
3392		12	0	-0.008	-0.002	0.164	-0.164	0.009	-0.009	
3393		13	0	-0.013	-0.003	0.14	-0.14	0.007	-0.007	
3394		14	0	-0.018	-0.004	0.105	-0.105	0.005	-0.005	
3395		15	0	-0.024	-0.005	0.058	-0.058	0.003	-0.003	
3396		16	-0.001	-0.029	-0.006	0	0	0	0	
3397		17	-0.001	-0.034	-0.008	-0.071	0.071	-0.004	0.004	
3398		18	-0.002	-0.039	-0.009	-0.153	0.153	-0.008	0.008	
3399		19	-0.002	-0.044	-0.01	-0.247	0.247	-0.013	0.013	
3400		20	-0.002	-0.05	-0.011	-0.352	0.352	-0.018	0.018	
3401	6	A6	1	0.002	0.049	0.011	-0.352	0.352	-0.018	0.018
3402		2	0.002	0.044	0.01	-0.247	0.247	-0.013	0.013	
3403		3	0.002	0.039	0.009	-0.154	0.154	-0.008	0.008	
3404		4	0.001	0.034	0.008	-0.072	0.072	-0.004	0.004	
3405		5	0.001	0.029	0.006	-0.002	0.002	0	0	
3406		6	0	0.023	0.005	0.057	-0.057	0.003	-0.003	
3407		7	0	0.018	0.004	0.104	-0.104	0.005	-0.005	
3408		8	0	0.013	0.003	0.139	-0.139	0.007	-0.007	
3409		9	0	0.008	0.002	0.162	-0.162	0.009	-0.009	
3410		10	0	0.003	0	0.174	-0.174	0.009	-0.009	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
3411		11	0	-0.003	0	0.174	-0.174	0.009	-0.009	
3412		12	0	-0.008	-0.002	0.162	-0.162	0.009	-0.009	
3413		13	0	-0.013	-0.003	0.139	-0.139	0.007	-0.007	
3414		14	0	-0.018	-0.004	0.104	-0.104	0.005	-0.005	
3415		15	0	-0.023	-0.005	0.057	-0.057	0.003	-0.003	
3416		16	-0.001	-0.029	-0.006	-0.002	0.002	0	0	
3417		17	-0.001	-0.034	-0.008	-0.072	0.072	-0.004	0.004	
3418		18	-0.002	-0.039	-0.009	-0.154	0.154	-0.008	0.008	
3419		19	-0.002	-0.044	-0.01	-0.247	0.247	-0.013	0.013	
3420		20	-0.002	-0.049	-0.011	-0.353	0.353	-0.018	0.018	
3421	6	A7	1	0.002	0.05	0.011	-0.353	0.353	-0.018	0.018
3422		2	0.002	0.044	0.01	-0.247	0.247	-0.013	0.013	
3423		3	0.002	0.039	0.009	-0.153	0.153	-0.008	0.008	
3424		4	0.001	0.034	0.008	-0.071	0.071	-0.004	0.004	
3425		5	0.001	0.029	0.006	0	0	0	0	
3426		6	0	0.024	0.005	0.058	-0.058	0.003	-0.003	
3427		7	0	0.018	0.004	0.105	-0.105	0.005	-0.005	
3428		8	0	0.013	0.003	0.14	-0.14	0.007	-0.007	
3429		9	0	0.008	0.002	0.164	-0.164	0.009	-0.009	
3430		10	0	0.003	0	0.176	-0.176	0.009	-0.009	
3431		11	0	-0.003	0	0.176	-0.176	0.009	-0.009	
3432		12	0	-0.008	-0.002	0.164	-0.164	0.009	-0.009	
3433		13	0	-0.013	-0.003	0.141	-0.141	0.007	-0.007	
3434		14	0	-0.018	-0.004	0.106	-0.106	0.005	-0.005	
3435		15	0	-0.023	-0.005	0.06	-0.06	0.003	-0.003	
3436		16	-0.001	-0.029	-0.006	0.002	-0.002	0	0	
3437		17	-0.001	-0.034	-0.008	-0.068	0.068	-0.004	0.004	
3438		18	-0.002	-0.039	-0.009	-0.15	0.15	-0.008	0.008	
3439		19	-0.002	-0.044	-0.01	-0.243	0.243	-0.013	0.013	
3440		20	-0.002	-0.049	-0.011	-0.348	0.348	-0.018	0.018	
3441	6	A8	1	0.002	0.049	0.011	-0.348	0.348	-0.018	0.018
3442		2	0.002	0.044	0.01	-0.244	0.244	-0.013	0.013	
3443		3	0.002	0.039	0.009	-0.151	0.151	-0.008	0.008	
3444		4	0.001	0.033	0.008	-0.07	0.07	-0.004	0.004	
3445		5	0.001	0.028	0.006	-0.001	0.001	0	0	
3446		6	0	0.023	0.005	0.056	-0.056	0.003	-0.003	
3447		7	0	0.018	0.004	0.102	-0.102	0.005	-0.005	
3448		8	0	0.013	0.003	0.136	-0.136	0.007	-0.007	
3449		9	0	0.007	0.002	0.159	-0.159	0.009	-0.009	
3450		10	0	0.002	0	0.17	-0.17	0.009	-0.009	
3451		11	0	-0.003	0	0.169	-0.169	0.009	-0.009	
3452		12	0	-0.008	-0.002	0.156	-0.156	0.009	-0.009	
3453		13	0	-0.013	-0.003	0.132	-0.132	0.007	-0.007	
3454		14	0	-0.019	-0.004	0.096	-0.096	0.005	-0.005	
3455		15	0	-0.024	-0.005	0.048	-0.048	0.003	-0.003	
3456		16	-0.001	-0.029	-0.006	-0.011	0.011	0	0	
3457		17	-0.001	-0.034	-0.008	-0.083	0.083	-0.004	0.004	
3458		18	-0.002	-0.04	-0.009	-0.166	0.166	-0.008	0.008	
3459		19	-0.002	-0.045	-0.01	-0.262	0.262	-0.013	0.013	
3460		20	-0.002	-0.051	-0.011	-0.37	0.37	-0.018	0.018	
3461	6	A9	1	0.002	0.053	0.011	-0.37	0.37	-0.018	0.018
3462		2	0.002	0.048	0.01	-0.256	0.256	-0.013	0.013	
3463		3	0.002	0.042	0.009	-0.155	0.155	-0.008	0.008	
3464		4	0.001	0.037	0.008	-0.067	0.067	-0.004	0.004	
3465		5	0.001	0.031	0.006	0.009	-0.009	0	0	
3466		6	0	0.025	0.005	0.072	-0.072	0.003	-0.003	
3467		7	0	0.02	0.004	0.122	-0.122	0.005	-0.005	
3468		8	0	0.014	0.003	0.16	-0.16	0.007	-0.007	

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
3469		9	0	0.008	0.002	0.185	-0.185	0.009	-0.009	
3470		10	0	0.003	0	0.197	-0.197	0.009	-0.009	
3471		11	0	-0.003	0	0.197	-0.197	0.009	-0.009	
3472		12	0	-0.009	-0.002	0.184	-0.184	0.009	-0.009	
3473		13	0	-0.014	-0.003	0.158	-0.158	0.007	-0.007	
3474		14	0	-0.02	-0.004	0.119	-0.119	0.005	-0.005	
3475		15	0	-0.026	-0.005	0.068	-0.068	0.003	-0.003	
3476		16	-0.001	-0.031	-0.006	0.005	-0.005	0	0	
3477		17	-0.001	-0.037	-0.008	-0.072	0.072	-0.004	0.004	
3478		18	-0.002	-0.042	-0.009	-0.161	0.161	-0.008	0.008	
3479		19	-0.002	-0.048	-0.01	-0.263	0.263	-0.013	0.013	
3480		20	-0.002	-0.054	-0.011	-0.377	0.377	-0.018	0.018	
3481	6	A10	1	0.002	0.053	0.011	-0.377	0.377	-0.018	0.018
3482		2	0.002	0.047	0.01	-0.265	0.265	-0.013	0.013	
3483		3	0.002	0.041	0.009	-0.166	0.166	-0.008	0.008	
3484		4	0.001	0.036	0.008	-0.08	0.08	-0.004	0.004	
3485		5	0.001	0.03	0.006	-0.007	0.007	0	0	
3486		6	0	0.024	0.005	0.054	-0.054	0.003	-0.003	
3487		7	0	0.019	0.004	0.103	-0.103	0.005	-0.005	
3488		8	0	0.013	0.003	0.138	-0.138	0.007	-0.007	
3489		9	0	0.008	0.002	0.162	-0.162	0.009	-0.009	
3490		10	0	0.003	0	0.174	-0.174	0.009	-0.009	
3491		11	0	-0.003	0	0.174	-0.174	0.009	-0.009	
3492		12	0	-0.008	-0.002	0.162	-0.162	0.009	-0.009	
3493		13	0	-0.013	-0.003	0.139	-0.139	0.007	-0.007	
3494		14	0	-0.018	-0.004	0.104	-0.104	0.005	-0.005	
3495		15	0	-0.023	-0.005	0.057	-0.057	0.003	-0.003	
3496		16	-0.001	-0.029	-0.006	-0.001	0.001	0	0	
3497		17	-0.001	-0.034	-0.008	-0.071	0.071	-0.004	0.004	
3498		18	-0.002	-0.039	-0.009	-0.153	0.153	-0.008	0.008	
3499		19	-0.002	-0.044	-0.01	-0.246	0.246	-0.013	0.013	
3500		20	-0.002	-0.049	-0.011	-0.351	0.351	-0.018	0.018	
3501	6	A11	1	0.002	0.049	0.011	-0.351	0.351	-0.018	0.018
3502		2	0.002	0.044	0.01	-0.246	0.246	-0.013	0.013	
3503		3	0.002	0.039	0.009	-0.152	0.152	-0.008	0.008	
3504		4	0.001	0.034	0.008	-0.07	0.07	-0.004	0.004	
3505		5	0.001	0.029	0.006	0	0	0	0	
3506		6	0	0.023	0.005	0.058	-0.058	0.003	-0.003	
3507		7	0	0.018	0.004	0.105	-0.105	0.005	-0.005	
3508		8	0	0.013	0.003	0.14	-0.14	0.007	-0.007	
3509		9	0	0.008	0.002	0.163	-0.163	0.009	-0.009	
3510		10	0	0.003	0	0.175	-0.175	0.009	-0.009	
3511		11	0	-0.003	0	0.175	-0.175	0.009	-0.009	
3512		12	0	-0.008	-0.002	0.163	-0.163	0.009	-0.009	
3513		13	0	-0.013	-0.003	0.14	-0.14	0.007	-0.007	
3514		14	0	-0.018	-0.004	0.104	-0.104	0.005	-0.005	
3515		15	0	-0.023	-0.005	0.058	-0.058	0.003	-0.003	
3516		16	-0.001	-0.029	-0.006	0	0	0	0	
3517		17	-0.001	-0.034	-0.008	-0.071	0.071	-0.004	0.004	
3518		18	-0.002	-0.039	-0.009	-0.153	0.153	-0.008	0.008	
3519		19	-0.002	-0.044	-0.01	-0.247	0.247	-0.013	0.013	
3520		20	-0.002	-0.049	-0.011	-0.352	0.352	-0.018	0.018	
3521	6	A12	1	0.002	0.049	0.011	-0.352	0.352	-0.018	0.018
3522		2	0.002	0.044	0.01	-0.247	0.247	-0.013	0.013	
3523		3	0.002	0.039	0.009	-0.153	0.153	-0.008	0.008	
3524		4	0.001	0.034	0.008	-0.071	0.071	-0.004	0.004	
3525		5	0.001	0.029	0.006	-0.001	0.001	0	0	
3526		6	0	0.023	0.005	0.057	-0.057	0.003	-0.003	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
3527		7	0	0.018	0.004	0.104	-0.104	0.005	-0.005	
3528		8	0	0.013	0.003	0.139	-0.139	0.007	-0.007	
3529		9	0	0.008	0.002	0.163	-0.163	0.009	-0.009	
3530		10	0	0.003	0	0.174	-0.174	0.009	-0.009	
3531		11	0	-0.003	0	0.174	-0.174	0.009	-0.009	
3532		12	0	-0.008	-0.002	0.163	-0.163	0.009	-0.009	
3533		13	0	-0.013	-0.003	0.139	-0.139	0.007	-0.007	
3534		14	0	-0.018	-0.004	0.104	-0.104	0.005	-0.005	
3535		15	0	-0.023	-0.005	0.057	-0.057	0.003	-0.003	
3536		16	-0.001	-0.029	-0.006	-0.001	0.001	0	0	
3537		17	-0.001	-0.034	-0.008	-0.071	0.071	-0.004	0.004	
3538		18	-0.002	-0.039	-0.009	-0.153	0.153	-0.008	0.008	
3539		19	-0.002	-0.044	-0.01	-0.247	0.247	-0.013	0.013	
3540		20	-0.002	-0.049	-0.011	-0.352	0.352	-0.018	0.018	
3541	6	A13	1	0.002	0.049	0.011	-0.352	0.352	-0.018	0.018
3542		2	0.002	0.044	0.01	-0.247	0.247	-0.013	0.013	
3543		3	0.002	0.039	0.009	-0.153	0.153	-0.008	0.008	
3544		4	0.001	0.034	0.008	-0.071	0.071	-0.004	0.004	
3545		5	0.001	0.029	0.006	0	0	0	0	
3546		6	0	0.023	0.005	0.058	-0.058	0.003	-0.003	
3547		7	0	0.018	0.004	0.104	-0.104	0.005	-0.005	
3548		8	0	0.013	0.003	0.14	-0.14	0.007	-0.007	
3549		9	0	0.008	0.002	0.163	-0.163	0.009	-0.009	
3550		10	0	0.003	0	0.175	-0.175	0.009	-0.009	
3551		11	0	-0.003	0	0.175	-0.175	0.009	-0.009	
3552		12	0	-0.008	-0.002	0.163	-0.163	0.009	-0.009	
3553		13	0	-0.013	-0.003	0.14	-0.14	0.007	-0.007	
3554		14	0	-0.018	-0.004	0.105	-0.105	0.005	-0.005	
3555		15	0	-0.023	-0.005	0.058	-0.058	0.003	-0.003	
3556		16	-0.001	-0.029	-0.006	0	0	0	0	
3557		17	-0.001	-0.034	-0.008	-0.071	0.071	-0.004	0.004	
3558		18	-0.002	-0.039	-0.009	-0.153	0.153	-0.008	0.008	
3559		19	-0.002	-0.044	-0.01	-0.246	0.246	-0.013	0.013	
3560		20	-0.002	-0.049	-0.011	-0.351	0.351	-0.018	0.018	
3561	6	A14	1	0.002	0.049	0.011	-0.351	0.351	-0.018	0.018
3562		2	0.002	0.044	0.01	-0.246	0.246	-0.013	0.013	
3563		3	0.002	0.039	0.009	-0.153	0.153	-0.008	0.008	
3564		4	0.001	0.034	0.008	-0.071	0.071	-0.004	0.004	
3565		5	0.001	0.029	0.006	-0.001	0.001	0	0	
3566		6	0	0.023	0.005	0.057	-0.057	0.003	-0.003	
3567		7	0	0.018	0.004	0.104	-0.104	0.005	-0.005	
3568		8	0	0.013	0.003	0.139	-0.139	0.007	-0.007	
3569		9	0	0.008	0.002	0.162	-0.162	0.009	-0.009	
3570		10	0	0.003	0	0.174	-0.174	0.009	-0.009	
3571		11	0	-0.003	0	0.174	-0.174	0.009	-0.009	
3572		12	0	-0.008	-0.002	0.162	-0.162	0.009	-0.009	
3573		13	0	-0.013	-0.003	0.138	-0.138	0.007	-0.007	
3574		14	0	-0.018	-0.004	0.103	-0.103	0.005	-0.005	
3575		15	0	-0.023	-0.005	0.056	-0.056	0.003	-0.003	
3576		16	-0.001	-0.029	-0.006	-0.002	0.002	0	0	
3577		17	-0.001	-0.034	-0.008	-0.073	0.073	-0.004	0.004	
3578		18	-0.002	-0.039	-0.009	-0.155	0.155	-0.008	0.008	
3579		19	-0.002	-0.044	-0.01	-0.248	0.248	-0.013	0.013	
3580		20	-0.002	-0.05	-0.011	-0.354	0.354	-0.018	0.018	
3581	6	A15	1	0.002	0.05	0.011	-0.354	0.354	-0.018	0.018
3582		2	0.002	0.044	0.01	-0.248	0.248	-0.013	0.013	
3583		3	0.002	0.039	0.009	-0.154	0.154	-0.008	0.008	
3584		4	0.001	0.034	0.008	-0.072	0.072	-0.004	0.004	



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
3585		5	0.001	0.029	0.006	0	0	0	0	
3586		6	0	0.024	0.005	0.058	-0.058	0.003	-0.003	
3587		7	0	0.018	0.004	0.105	-0.105	0.005	-0.005	
3588		8	0	0.013	0.003	0.141	-0.141	0.007	-0.007	
3589		9	0	0.008	0.002	0.165	-0.165	0.009	-0.009	
3590		10	0	0.003	0	0.177	-0.177	0.009	-0.009	
3591		11	0	-0.002	0	0.177	-0.177	0.009	-0.009	
3592		12	0	-0.008	-0.002	0.166	-0.166	0.009	-0.009	
3593		13	0	-0.013	-0.003	0.143	-0.143	0.007	-0.007	
3594		14	0	-0.018	-0.004	0.108	-0.108	0.005	-0.005	
3595		15	0	-0.023	-0.005	0.062	-0.062	0.003	-0.003	
3596		16	-0.001	-0.028	-0.006	0.004	-0.004	0	0	
3597		17	-0.001	-0.034	-0.008	-0.066	0.066	-0.004	0.004	
3598		18	-0.002	-0.039	-0.009	-0.147	0.147	-0.008	0.008	
3599		19	-0.002	-0.044	-0.01	-0.24	0.24	-0.013	0.013	
3600		20	-0.002	-0.049	-0.011	-0.345	0.345	-0.018	0.018	
3601	6	A16	1	0.004	0.052	0.008	-0.345	0.345	-0.005	0.005
3602		2	0.004	0.049	0.007	-0.286	0.286	-0.003	0.003	
3603		3	0.003	0.047	0.006	-0.231	0.231	0	0	
3604		4	0.003	0.044	0.006	-0.179	0.179	0	0	
3605		5	0.003	0.041	0.005	-0.13	0.13	0.002	-0.002	
3606		6	0.003	0.039	0.005	-0.084	0.084	0.003	-0.003	
3607		7	0.003	0.036	0.004	-0.041	0.041	0.005	-0.005	
3608		8	0.003	0.033	0.003	0	0	0.006	-0.006	
3609		9	0.003	0.031	0.003	0.036	-0.036	0.006	-0.006	
3610		10	0.003	0.028	0.002	0.07	-0.07	0.007	-0.007	
3611		11	0.003	0.025	0.002	0.101	-0.101	0.008	-0.008	
3612		12	0.002	0.023	0	0.128	-0.128	0.008	-0.008	
3613		13	0.002	0.02	0	0.153	-0.153	0.008	-0.008	
3614		14	0.002	0.017	0	0.174	-0.174	0.008	-0.008	
3615		15	0.002	0.015	0	0.193	-0.193	0.008	-0.008	
3616		16	0.002	0.012	-0.001	0.208	-0.208	0.008	-0.008	
3617		17	0.002	0.009	-0.002	0.22	-0.22	0.007	-0.007	
3618		18	0.002	0.007	-0.003	0.229	-0.229	0.006	-0.006	
3619		19	0.002	0.004	-0.003	0.235	-0.235	0.006	-0.006	
3620		20	0.002	0.001	-0.004	0.238	-0.238	0.005	-0.005	
3621	6	A17	1	0	0.003	0	-0.019	0.019	0	0
3622		2	0	0.003	0	-0.017	0.017	0	0	
3623		3	0	0.003	0	-0.016	0.016	0	0	
3624		4	0	0.003	0	-0.014	0.014	0	0	
3625		5	0	0.003	0	-0.012	0.012	0	0	
3626		6	0	0.002	0	-0.011	0.011	0	0	
3627		7	0	0.002	0	-0.009	0.009	0	0	
3628		8	0	0.002	0	-0.008	0.008	0	0	
3629		9	0	0.002	0	-0.007	0.007	0	0	
3630		10	0	0.002	0	-0.005	0.005	0	0	
3631		11	0	0.002	0	-0.004	0.004	0	0	
3632		12	0	0.001	0	-0.003	0.003	0	0	
3633		13	0	0.001	0	-0.003	0.003	0	0	
3634		14	0	0.001	0	-0.002	0.002	0	0	
3635		15	0	0	0	-0.001	0.001	0	0	
3636		16	0	0	0	0	0	0	0	
3637		17	0	0	0	0	0	0	0	
3638		18	0	0	0	0	0	0	0	
3639		19	0	0	0	0	0	0	0	
3640		20	0	0	0	0	0	0	0	
3641	6	R1	1	0	0	0	0	0	0	
3642		2	0	0	0	0	0	0	0	





**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3643		3	0	0	0	0	0	0	0
3644		4	0	0	0	0	0	0	0
3645		5	0	0	0	0	0	0	0
3646		6	0	0	0	0	0	0	0
3647		7	0	0	0	0	0	0	0
3648		8	0	0	0	0	0	0	0
3649		9	0	0	0	0	0	0	0
3650		10	0	0	0	0	0	0	0
3651		11	0	0	0	0	0	0	0
3652		12	0	0	0	0	0	0	0
3653		13	0	0	0	0	0	0	0
3654		14	0	0	0	0	0	0	0
3655		15	0	0	0	0	0	0	0
3656		16	0	0	0	0	0	0	0
3657		17	0	0	0	0	0	0	0
3658		18	0	0	0	0	0	0	0
3659		19	0	0	0	0	0	0	0
3660		20	0	0	0	0	0	0	0
3661	6	R2	1	0	0	0	0	0	0
3662		2	0	0	0	0	0	0	0
3663		3	0	0	0	0	0	0	0
3664		4	0	0	0	0	0	0	0
3665		5	0	0	0	0	0	0	0
3666		6	0	0	0	0	0	0	0
3667		7	0	0	0	0	0	0	0
3668		8	0	0	0	0	0	0	0
3669		9	0	0	0	0	0	0	0
3670		10	0	0	0	0	0	0	0
3671		11	0	0	0	0	0	0	0
3672		12	0	0	0	0	0	0	0
3673		13	0	0	0	0	0	0	0
3674		14	0	0	0	0	0	0	0
3675		15	0	0	0	0	0	0	0
3676		16	0	0	0	0	0	0	0
3677		17	0	0	0	0	0	0	0
3678		18	0	0	0	0	0	0	0
3679		19	0	0	0	0	0	0	0
3680		20	0	0	0	0	0	0	0
3681	6	R3	1	0	0	0	0	0	0
3682		2	0	0	0	0	0	0	0
3683		3	0	0	0	0	0	0	0
3684		4	0	0	0	0	0	0	0
3685		5	0	0	0	0	0	0	0
3686		6	0	0	0	0	0	0	0
3687		7	0	0	0	0	0	0	0
3688		8	0	0	0	0	0	0	0
3689		9	0	0	0	0	0	0	0
3690		10	0	0	0	0	0	0	0
3691		11	0	0	0	0	0	0	0
3692		12	0	0	0	0	0	0	0
3693		13	0	0	0	0	0	0	0
3694		14	0	0	0	0	0	0	0
3695		15	0	0	0	0	0	0	0
3696		16	0	0	0	0	0	0	0
3697		17	0	0	0	0	0	0	0
3698		18	0	0	0	0	0	0	0
3699		19	0	0	0	0	0	0	0
3700		20	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3701	6	R4	1	0	0	0	0	0	0
3702			2	0	0	0	0	0	0
3703			3	0	0	0	0	0	0
3704			4	0	0	0	0	0	0
3705			5	0	0	0	0	0	0
3706			6	0	0	0	0	0	0
3707			7	0	0	0	0	0	0
3708			8	0	0	0	0	0	0
3709			9	0	0	0	0	0	0
3710			10	0	0	0	0	0	0
3711			11	0	0	0	0	0	0
3712			12	0	0	0	0	0	0
3713			13	0	0	0	0	0	0
3714			14	0	0	0	0	0	0
3715			15	0	0	0	0	0	0
3716			16	0	0	0	0	0	0
3717			17	0	0	0	0	0	0
3718			18	0	0	0	0	0	0
3719			19	0	0	0	0	0	0
3720			20	0	0	0	0	0	0
3721	6	R5	1	0	0	0	0	0	0
3722			2	0	0	0	0	0	0
3723			3	0	0	0	0	0	0
3724			4	0	0	0	0	0	0
3725			5	0	0	0	0	0	0
3726			6	0	0	0	0	0	0
3727			7	0	0	0	0	0	0
3728			8	0	0	0	0	0	0
3729			9	0	0	0	0	0	0
3730			10	0	0	0	0	0	0
3731			11	0	0	0	0	0	0
3732			12	0	0	0	0	0	0
3733			13	0	0	0	0	0	0
3734			14	0	0	0	0	0	0
3735			15	0	0	0	0	0	0
3736			16	0	0	0	0	0	0
3737			17	0	0	0	0	0	0
3738			18	0	0	0	0	0	0
3739			19	0	0	0	0	0	0
3740			20	0	0	0	0	0	0
3741	6	R6	1	0	0	0	0	0	0
3742			2	0	0	0	0	0	0
3743			3	0	0	0	0	0	0
3744			4	0	0	0	0	0	0
3745			5	0	0	0	0	0	0
3746			6	0	0	0	0	0	0
3747			7	0	0	0	0	0	0
3748			8	0	0	0	0	0	0
3749			9	0	0	0	0	0	0
3750			10	0	0	0	0	0	0
3751			11	0	0	0	0	0	0
3752			12	0	0	0	0	0	0
3753			13	0	0	0	0	0	0
3754			14	0	0	0	0	0	0
3755			15	0	0	0	0	0	0
3756			16	0	0	0	0	0	0
3757			17	0	0	0	0	0	0
3758			18	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3759		19	0	0	0	0	0	0	0
3760		20	0	0	0	0	0	0	0
3761	6	R7	1	0	0	0	0	0	0
3762		2	0	0	0	0	0	0	0
3763		3	0	0	0	0	0	0	0
3764		4	0	0	0	0	0	0	0
3765		5	0	0	0	0	0	0	0
3766		6	0	0	0	0	0	0	0
3767		7	0	0	0	0	0	0	0
3768		8	0	0	0	0	0	0	0
3769		9	0	0	0	0	0	0	0
3770		10	0	0	0	0	0	0	0
3771		11	0	0	0	0	0	0	0
3772		12	0	0	0	0	0	0	0
3773		13	0	0	0	0	0	0	0
3774		14	0	0	0	0	0	0	0
3775		15	0	0	0	0	0	0	0
3776		16	0	0	0	0	0	0	0
3777		17	0	0	0	0	0	0	0
3778		18	0	0	0	0	0	0	0
3779		19	0	0	0	0	0	0	0
3780		20	0	0	0	0	0	0	0
3781	6	R8	1	0	0	0	0	0	0
3782		2	0	0	0	0	0	0	0
3783		3	0	0	0	0	0	0	0
3784		4	0	0	0	0	0	0	0
3785		5	0	0	0	0	0	0	0
3786		6	0	0	0	0	0	0	0
3787		7	0	0	0	0	0	0	0
3788		8	0	0	0	0	0	0	0
3789		9	0	0	0	0	0	0	0
3790		10	0	0	0	0	0	0	0
3791		11	0	0	0	0	0	0	0
3792		12	0	0	0	0	0	0	0
3793		13	0	0	0	0	0	0	0
3794		14	0	0	0	0	0	0	0
3795		15	0	0	0	0	0	0	0
3796		16	0	0	0	0	0	0	0
3797		17	0	0	0	0	0	0	0
3798		18	0	0	0	0	0	0	0
3799		19	0	0	0	0	0	0	0
3800		20	0	0	0	0	0	0	0
3801	6	R9	1	0	0	0	0	0	0
3802		2	0	0	0	0	0	0	0
3803		3	0	0	0	0	0	0	0
3804		4	0	0	0	0	0	0	0
3805		5	0	0	0	0	0	0	0
3806		6	0	0	0	0	0	0	0
3807		7	0	0	0	0	0	0	0
3808		8	0	0	0	0	0	0	0
3809		9	0	0	0	0	0	0	0
3810		10	0	0	0	0	0	0	0
3811		11	0	0	0	0	0	0	0
3812		12	0	0	0	0	0	0	0
3813		13	0	0	0	0	0	0	0
3814		14	0	0	0	0	0	0	0
3815		15	0	0	0	0	0	0	0
3816		16	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3817		17	0	0	0	0	0	0	0
3818		18	0	0	0	0	0	0	0
3819		19	0	0	0	0	0	0	0
3820		20	0	0	0	0	0	0	0
3821	6 R10	1	0	0	0	0	0	0	0
3822		2	0	0	0	0	0	0	0
3823		3	0	0	0	0	0	0	0
3824		4	0	0	0	0	0	0	0
3825		5	0	0	0	0	0	0	0
3826		6	0	0	0	0	0	0	0
3827		7	0	0	0	0	0	0	0
3828		8	0	0	0	0	0	0	0
3829		9	0	0	0	0	0	0	0
3830		10	0	0	0	0	0	0	0
3831		11	0	0	0	0	0	0	0
3832		12	0	0	0	0	0	0	0
3833		13	0	0	0	0	0	0	0
3834		14	0	0	0	0	0	0	0
3835		15	0	0	0	0	0	0	0
3836		16	0	0	0	0	0	0	0
3837		17	0	0	0	0	0	0	0
3838		18	0	0	0	0	0	0	0
3839		19	0	0	0	0	0	0	0
3840		20	0	0	0	0	0	0	0
3841	6 R11	1	0	0	0	0	0	0	0
3842		2	0	0	0	0	0	0	0
3843		3	0	0	0	0	0	0	0
3844		4	0	0	0	0	0	0	0
3845		5	0	0	0	0	0	0	0
3846		6	0	0	0	0	0	0	0
3847		7	0	0	0	0	0	0	0
3848		8	0	0	0	0	0	0	0
3849		9	0	0	0	0	0	0	0
3850		10	0	0	0	0	0	0	0
3851		11	0	0	0	0	0	0	0
3852		12	0	0	0	0	0	0	0
3853		13	0	0	0	0	0	0	0
3854		14	0	0	0	0	0	0	0
3855		15	0	0	0	0	0	0	0
3856		16	0	0	0	0	0	0	0
3857		17	0	0	0	0	0	0	0
3858		18	0	0	0	0	0	0	0
3859		19	0	0	0	0	0	0	0
3860		20	0	0	0	0	0	0	0
3861	6 R12	1	0	0	0	0	0	0	0
3862		2	0	0	0	0	0	0	0
3863		3	0	0	0	0	0	0	0
3864		4	0	0	0	0	0	0	0
3865		5	0	0	0	0	0	0	0
3866		6	0	0	0	0	0	0	0
3867		7	0	0	0	0	0	0	0
3868		8	0	0	0	0	0	0	0
3869		9	0	0	0	0	0	0	0
3870		10	0	0	0	0	0	0	0
3871		11	0	0	0	0	0	0	0
3872		12	0	0	0	0	0	0	0
3873		13	0	0	0	0	0	0	0
3874		14	0	0	0	0	0	0	0



**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3875		15	0	0	0	0	0	0	0
3876		16	0	0	0	0	0	0	0
3877		17	0	0	0	0	0	0	0
3878		18	0	0	0	0	0	0	0
3879		19	0	0	0	0	0	0	0
3880		20	0	0	0	0	0	0	0
3881	6	R13	1	0	0	0	0	0	0
3882		2	0	0	0	0	0	0	0
3883		3	0	0	0	0	0	0	0
3884		4	0	0	0	0	0	0	0
3885		5	0	0	0	0	0	0	0
3886		6	0	0	0	0	0	0	0
3887		7	0	0	0	0	0	0	0
3888		8	0	0	0	0	0	0	0
3889		9	0	0	0	0	0	0	0
3890		10	0	0	0	0	0	0	0
3891		11	0	0	0	0	0	0	0
3892		12	0	0	0	0	0	0	0
3893		13	0	0	0	0	0	0	0
3894		14	0	0	0	0	0	0	0
3895		15	0	0	0	0	0	0	0
3896		16	0	0	0	0	0	0	0
3897		17	0	0	0	0	0	0	0
3898		18	0	0	0	0	0	0	0
3899		19	0	0	0	0	0	0	0
3900		20	0	0	0	0	0	0	0
3901	6	R14	1	0	0	0	0	0	0
3902		2	0	0	0	0	0	0	0
3903		3	0	0	0	0	0	0	0
3904		4	0	0	0	0	0	0	0
3905		5	0	0	0	0	0	0	0
3906		6	0	0	0	0	0	0	0
3907		7	0	0	0	0	0	0	0
3908		8	0	0	0	0	0	0	0
3909		9	0	0	0	0	0	0	0
3910		10	0	0	0	0	0	0	0
3911		11	0	0	0	0	0	0	0
3912		12	0	0	0	0	0	0	0
3913		13	0	0	0	0	0	0	0
3914		14	0	0	0	0	0	0	0
3915		15	0	0	0	0	0	0	0
3916		16	0	0	0	0	0	0	0
3917		17	0	0	0	0	0	0	0
3918		18	0	0	0	0	0	0	0
3919		19	0	0	0	0	0	0	0
3920		20	0	0	0	0	0	0	0
3921	6	R15	1	0	0	0	0	0	0
3922		2	0	0	0	0	0	0	0
3923		3	0	0	0	0	0	0	0
3924		4	0	0	0	0	0	0	0
3925		5	0	0	0	0	0	0	0
3926		6	0	0	0	0	0	0	0
3927		7	0	0	0	0	0	0	0
3928		8	0	0	0	0	0	0	0
3929		9	0	0	0	0	0	0	0
3930		10	0	0	0	0	0	0	0
3931		11	0	0	0	0	0	0	0
3932		12	0	0	0	0	0	0	0

**Member Section Stresses (Continued)**

LC	Member Label	Sec	Axial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
3933		13	0	0	0	0	0	0	0
3934		14	0	0	0	0	0	0	0
3935		15	0	0	0	0	0	0	0
3936		16	0	0	0	0	0	0	0
3937		17	0	0	0	0	0	0	0
3938		18	0	0	0	0	0	0	0
3939		19	0	0	0	0	0	0	0
3940		20	0	0	0	0	0	0	0
3941	6	M33	1	0	0	0	0	0	0
3942		2	0	0	0	0	0	0	0
3943		3	0	0	0	0	0	0	0
3944		4	0	0	0	0	0	0	0
3945		5	0	0	0	0	0	0	0
3946		6	0	0	0	0	0	0	0
3947		7	0	0	0	0	0	0	0
3948		8	0	0	0	0	0	0	0
3949		9	0	0	0	0	0	0	0
3950		10	0	0	0	0	0	0	0
3951		11	0	0	0	0	0	0	0
3952		12	0	0	0	0	0	0	0
3953		13	0	0	0	0	0	0	0
3954		14	0	0	0	0	0	0	0
3955		15	0	0	0	0	0	0	0
3956		16	0	0	0	0	0	0	0
3957		17	0	0	0	0	0	0	0
3958		18	0	0	0	0	0	0	0
3959		19	0	0	0	0	0	0	0
3960		20	0	0	0	0	0	0	0

**Envelope Node Reactions**

Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC	
1	RN2A	max	-8.203	6	63.797	2	-11.837	6	0	6	0	6	0	6
2		min	-9.986	4	11.84	5	-16.078	4	0	1	0	1	0	1
3	RN1C	max	5.881	4	44.421	3	-6.478	6	0	6	0	6	0	6
4		min	3.924	6	30.651	1	-9.037	4	0	1	0	1	0	1
5	RN2C	max	-4.948	3	168.813	2	-19.446	6	0	6	0	6	0	6
6		min	-6.306	4	125.792	6	-26.414	4	0	1	0	1	0	1
7	RN3A	max	-2.966	3	47.616	2	-14.099	6	0	6	0	6	0	6
8		min	-3.89	4	-0.441	5	-19.239	4	0	1	0	1	0	1
9	RN3C	max	-4.878	3	182.632	2	-23.162	6	0	6	0	6	0	6
10		min	-6.399	4	135.354	6	-31.606	4	0	1	0	1	0	1
11	RN4A	max	-2.962	3	47.204	2	-14.098	6	0	6	0	6	0	6
12		min	-3.887	4	-0.866	5	-19.238	4	0	1	0	1	0	1
13	RN5C	max	-4.872	3	182.112	2	-23.161	6	0	6	0	6	0	6
14		min	-6.393	4	135.1	6	-31.605	4	0	1	0	1	0	1
15	RN6A	max	-2.962	3	47.31	2	-14.098	6	0	6	0	6	0	6
16		min	-3.887	4	-0.759	5	-19.238	4	0	1	0	1	0	1
17	RN7A	max	-2.962	3	47.215	2	-14.098	6	0	6	0	6	0	6
18		min	-3.887	4	-0.839	5	-19.238	4	0	1	0	1	0	1
19	RN6C	max	-4.872	3	182.131	2	-23.161	6	0	6	0	6	0	6
20		min	-6.393	4	135.129	6	-31.605	4	0	1	0	1	0	1
21	RN8C	max	-4.872	3	191.578	2	-23.161	6	0	6	0	6	0	6
22		min	-6.393	4	142.683	6	-31.605	4	0	1	0	1	0	1
23	RN9A	max	-2.962	3	51.732	2	-14.098	6	0	6	0	6	0	6
24		min	-3.887	4	2.777	5	-19.238	4	0	1	0	1	0	1
25	RN9C	max	-4.872	3	189.397	2	-23.161	6	0	6	0	6	0	6
26		min	-6.393	4	140.939	6	-31.605	4	0	1	0	1	0	1
27	RN10A	max	-2.962	3	46.884	2	-14.098	6	0	6	0	6	0	6



**Envelope Node Reactions (Continued)**

Node Label			X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
28		min	-3.887	4	-1.106	5	-19.238	4	0	1	0	1	0	1
29	RN10C	max	-4.872	3	181.432	2	-23.161	6	0	6	0	6	0	6
30		min	-6.393	4	134.565	6	-31.605	4	0	1	0	1	0	1
31	RN13A	max	-2.962	3	46.841	2	-14.098	6	0	6	0	6	0	6
32		min	-3.887	4	-0.961	5	-19.238	4	0	1	0	1	0	1
33	RN11A	max	-2.962	3	47.358	2	-14.098	6	0	6	0	6	0	6
34		min	-3.887	4	-0.713	5	-19.238	4	0	1	0	1	0	1
35	RN15C	max	-10.769	6	167.77	2	-16.409	6	0	6	0	6	0	6
36		min	-12.964	4	125.929	6	-22.309	4	0	1	0	1	0	1
37	RN16A	max	4.801	4	11.456	3	-4.095	6	0	6	0	6	0	6
38		min	3.352	6	6.108	1	-5.72	4	0	1	0	1	0	1
39	RN14C	max	-4.871	3	185.057	2	-23.162	6	0	6	0	6	0	6
40		min	-6.392	4	137.003	6	-31.606	4	0	1	0	1	0	1
41	RN15A	max	0.314	3	41.324	2	-9.988	6	0	6	0	6	0	6
42		min	-0.946	6	2.093	5	-13.579	4	0	1	0	1	0	1
43	RN12C	max	-4.872	3	182.233	2	-23.161	6	0	6	0	6	0	6
44		min	-6.393	4	135.179	6	-31.605	4	0	1	0	1	0	1
45	RN4C	max	-4.872	3	181.958	2	-23.161	6	0	6	0	6	0	6
46		min	-6.393	4	135.031	6	-31.605	4	0	1	0	1	0	1
47	RN5A	max	-2.962	3	47.298	2	-14.098	6	0	6	0	6	0	6
48		min	-3.887	4	-0.769	5	-19.238	4	0	1	0	1	0	1
49	RN8A	max	-2.962	3	53.059	2	-14.098	6	0	6	0	6	0	6
50		min	-3.887	4	3.832	5	-19.238	4	0	1	0	1	0	1
51	RN7C	max	-4.872	3	181.975	2	-23.161	6	0	6	0	6	0	6
52		min	-6.393	4	135	6	-31.605	4	0	1	0	1	0	1
53	RN11C	max	-4.872	3	182.211	2	-23.161	6	0	6	0	6	0	6
54		min	-6.393	4	135.197	6	-31.605	4	0	1	0	1	0	1
55	RN12A	max	-2.962	3	47.372	2	-14.098	6	0	6	0	6	0	6
56		min	-3.887	4	-0.758	5	-19.238	4	0	1	0	1	0	1
57	RN13C	max	-4.872	3	181.361	2	-23.161	6	0	6	0	6	0	6
58		min	-6.393	4	134.625	6	-31.605	4	0	1	0	1	0	1
59	RN14A	max	-2.962	3	49.09	2	-14.099	6	0	6	0	6	0	6
60		min	-3.887	4	-0.05	5	-19.238	4	0	1	0	1	0	1
61	Totals:	max	-108.367	3	3275.375	2	-515.364	6						
62		min	-142.196	4	2131.666	5	-703.251	4						

**Envelope Node Displacements**

Node Label			X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1	N1	max	0	4	-0.001	6	0	4	4.357e-5	5	3.613e-7	4	-1.843e-5	6
2		min	0	6	-0.002	3	0	6	3.155e-5	6	2.797e-7	6	-2.618e-5	5
3	N2	max	0	4	0	5	0	4	1.399e-5	5	-9.763e-7	6	-3.444e-5	6
4		min	0	6	-0.001	3	0	6	-3.586e-5	3	-1.27e-6	4	-4.7e-5	5
5	RN1B	max	0	4	-0.001	5	0	4	1.399e-5	5	-9.763e-7	6	-3.755e-5	6
6		min	0	6	-0.002	3	0	6	-3.586e-5	3	-1.27e-6	4	-5.011e-5	5
7	RN1C	max	0	6	0	1	0	4	1.398e-5	5	-9.777e-7	6	-3.757e-5	6
8		min	0	4	0	3	0	6	-3.588e-5	3	-1.272e-6	4	-5.013e-5	5
9	RN2A	max	0	4	0	5	0	4	5.628e-8	2	0	4	4.251e-6	3
10		min	0	6	0	2	0	6	2.132e-8	5	0	6	-8.629e-6	1
11	RN2B	max	0	4	0	5	0	4	0	5	0	6	4.251e-6	3
12		min	0	6	0	2	0	6	-1.122e-8	2	0	4	-8.629e-6	1
13	RN2C	max	0	4	0	6	0	4	-4.617e-8	5	0	3	4.251e-6	3
14		min	0	3	0	2	0	6	-7.739e-8	2	0	4	-8.629e-6	1
15	RN3A	max	0	4	0	5	0	4	4.766e-8	2	0	4	2.154e-6	1
16		min	0	3	0	2	0	6	1.466e-8	5	0	3	-1.055e-6	3
17	RN3B	max	0	4	0	5	0	4	1.513e-8	5	0	3	2.154e-6	1
18		min	0	3	0	2	0	6	0	2	0	4	-1.055e-6	3
19	RN3C	max	0	4	0	6	0	4	-4.348e-8	5	0	3	2.154e-6	1
20		min	0	3	0	2	0	6	-7.431e-8	2	0	4	-1.055e-6	3

**Envelope Node Displacements (Continued)**

Node Label	X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC		
21	RN4A	max	0	4	0	5	0	4	4.734e-8	2	0	4	2.52e-7	3
22		min	0	3	0	2	0	6	1.433e-8	5	0	3	-5.444e-7	1
23	RN4B	max	0	4	0	5	0	4	1.524e-8	5	0	3	2.52e-7	3
24		min	0	3	0	2	0	6	0	2	0	4	-5.444e-7	1
25	RN4C	max	0	4	0	6	0	4	-4.309e-8	5	0	3	2.52e-7	3
26		min	0	3	0	2	0	6	-7.393e-8	2	0	4	-5.444e-7	1
27	RN5A	max	0	4	0	5	0	4	4.741e-8	2	0	4	1.662e-7	1
28		min	0	3	0	2	0	6	1.44e-8	5	0	3	-1.876e-8	3
29	RN5B	max	0	4	0	5	0	4	1.522e-8	5	0	3	1.662e-7	1
30		min	0	3	0	2	0	6	0	2	0	4	-1.876e-8	3
31	RN5C	max	0	4	0	6	0	4	-4.318e-8	5	0	3	1.662e-7	1
32		min	0	3	0	2	0	6	-7.402e-8	2	0	4	-1.876e-8	3
33	RN6A	max	0	4	0	5	0	4	4.742e-8	2	0	4	-1.466e-7	6
34		min	0	3	0	2	0	6	1.441e-8	5	0	3	-1.929e-7	2
35	RN6B	max	0	4	0	5	0	4	1.521e-8	5	0	3	-1.466e-7	6
36		min	0	3	0	2	0	6	0	2	0	4	-1.929e-7	2
37	RN6C	max	0	4	0	6	0	4	-4.319e-8	5	0	3	-1.466e-7	6
38		min	0	3	0	2	0	6	-7.403e-8	2	0	4	-1.929e-7	2
39	RN7A	max	0	4	0	5	0	4	4.789e-8	2	0	4	7.519e-7	3
40		min	0	3	0	2	0	6	1.487e-8	5	0	3	5.324e-7	1
41	RN7B	max	0	4	0	5	0	4	1.576e-8	5	0	3	7.519e-7	3
42		min	0	3	0	2	0	6	0	2	0	4	5.324e-7	1
43	RN7C	max	0	4	0	6	0	4	-4.26e-8	5	0	3	7.52e-7	3
44		min	0	3	0	2	0	6	-7.34e-8	2	0	4	5.325e-7	1
45	RN8A	max	0	4	0	5	0	4	5.192e-8	2	0	4	-4.927e-6	1
46		min	0	3	0	2	0	6	1.8e-8	5	0	3	-8.176e-6	3
47	RN8B	max	0	4	0	5	0	4	1.395e-8	5	0	3	-4.927e-6	1
48		min	0	3	0	2	0	6	0	2	0	4	-8.176e-6	3
49	RN8C	max	0	4	0	6	0	4	-4.742e-8	5	0	3	-4.927e-6	1
50		min	0	3	0	2	0	6	-7.932e-8	2	0	4	-8.176e-6	3
51	RN9A	max	0	4	0	5	0	4	5.088e-8	2	0	4	1.129e-5	3
52		min	0	3	0	2	0	6	1.718e-8	5	0	3	6.781e-6	1
53	RN9B	max	0	4	0	5	0	4	1.424e-8	5	0	3	1.129e-5	3
54		min	0	3	0	2	0	6	0	2	0	4	6.781e-6	1
55	RN9C	max	0	4	0	6	0	4	-4.645e-8	5	0	3	1.129e-5	3
56		min	0	3	0	2	0	6	-7.809e-8	2	0	4	6.781e-6	1
57	RN10A	max	0	4	0	5	0	4	4.709e-8	2	0	4	-1.635e-6	1
58		min	0	3	0	2	0	6	1.414e-8	5	0	3	-2.702e-6	3
59	RN10B	max	0	4	0	5	0	4	1.531e-8	5	0	3	-1.635e-6	1
60		min	0	3	0	2	0	6	0	2	0	4	-2.702e-6	3
61	RN10C	max	0	4	0	6	0	4	-4.287e-8	5	0	3	-1.635e-6	1
62		min	0	3	0	2	0	6	-7.363e-8	2	0	4	-2.702e-6	3
63	RN11A	max	0	4	0	5	0	4	4.746e-8	2	0	4	7.622e-7	3
64		min	0	3	0	2	0	6	1.445e-8	5	0	3	5.078e-7	5
65	RN11B	max	0	4	0	5	0	4	1.52e-8	5	0	3	7.622e-7	3
66		min	0	3	0	2	0	6	0	2	0	4	5.078e-7	5
67	RN11C	max	0	4	0	6	0	4	-4.323e-8	5	0	3	7.622e-7	3
68		min	0	3	0	2	0	6	-7.407e-8	2	0	4	5.078e-7	5
69	RN12A	max	0	4	0	5	0	4	4.747e-8	2	0	4	-3.609e-7	5
70		min	0	3	0	2	0	6	1.441e-8	5	0	3	-7.538e-7	2
71	RN12B	max	0	4	0	5	0	4	1.521e-8	5	0	3	-3.609e-7	5
72		min	0	3	0	2	0	6	0	2	0	4	-7.538e-7	2
73	RN12C	max	0	4	0	6	0	4	-4.319e-8	5	0	3	-3.609e-7	5
74		min	0	3	0	2	0	6	-7.408e-8	2	0	4	-7.538e-7	2
75	RN13A	max	0	4	0	5	0	4	4.706e-8	2	0	4	2.503e-6	2
76		min	0	3	0	2	0	6	1.425e-8	5	0	3	1.03e-6	5
77	RN13B	max	0	4	0	5	0	4	1.527e-8	5	0	3	2.503e-6	2
78		min	0	3	0	2	0	6	0	2	0	4	1.03e-6	5



**Envelope Node Displacements (Continued)**

Node Label	X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC		
79	RN13C	max	0	4	0	6	0	4	-4.301e-8	5	0	3	2.503e-6	2
80		min	0	3	0	2	0	6	-7.359e-8	2	0	4	1.03e-6	5
81	RN14A	max	0	4	0	5	0	4	4.882e-8	2	0	4	-4.029e-6	5
82		min	0	3	0	2	0	6	1.496e-8	5	0	3	-9.911e-6	2
83	RN14B	max	0	4	0	5	0	4	1.502e-8	5	0	3	-4.029e-6	5
84		min	0	3	0	2	0	6	0	2	0	4	-9.911e-6	2
85	RN14C	max	0	4	0	6	0	4	-4.384e-8	5	0	3	-4.029e-6	5
86		min	0	3	0	2	0	6	-7.566e-8	2	0	4	-9.911e-6	2
87	RN15A	max	0	6	0	5	0	4	4.229e-8	2	0	6	3.973e-5	2
88		min	0	3	0	2	0	6	1.506e-8	5	0	3	1.614e-5	5
89	RN15B	max	0	4	0	5	0	4	1.284e-8	5	0	3	3.973e-5	2
90		min	0	3	0	2	0	6	0	2	0	6	1.614e-5	5
91	RN15C	max	0	4	0	6	0	4	-4.119e-8	5	0	3	3.973e-5	2
92		min	0	6	0	2	0	6	-6.72e-8	2	0	4	1.614e-5	5
93	RN16A	max	0	6	0	1	0	4	4.358e-5	5	3.626e-7	4	-1.571e-5	6
94		min	0	4	0	3	0	6	3.156e-5	6	2.807e-7	6	-2.346e-5	5
95	RN16B	max	0	4	0	1	0	4	4.357e-5	5	3.613e-7	4	-1.572e-5	6
96		min	0	6	-0.001	3	0	6	3.155e-5	6	2.797e-7	6	-2.347e-5	5

**Envelope Member Section Forces**

Member	Sec	Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1	A1	1	max	0	6	0	6	0	6	0	6	0	6
2			min	0	1	0	1	0	1	0	1	0	1
3		2	max	0	6	-0.242	1	0	6	0	6	0.022	3
4			min	0	1	-0.403	3	0	1	0	1	0.013	1
5		3	max	0	6	-0.483	1	0	6	0	6	0.086	3
6			min	0	1	-0.805	3	0	1	0	1	0.052	1
7		4	max	0	6	-0.725	1	0	6	0	6	0.194	3
8			min	0	1	-1.208	3	0	1	0	1	0.116	1
9		5	max	0	6	-0.966	1	0	6	0	6	0.344	3
10			min	0	1	-1.611	3	0	1	0	1	0.206	1
11		6	max	0	6	-1.208	1	0	6	0	6	0.538	3
12			min	0	1	-2.013	3	0	1	0	1	0.323	1
13		7	max	0	6	-1.449	1	0	6	0	6	0.774	3
14			min	0	1	-2.416	3	0	1	0	1	0.464	1
15		8	max	0	6	-1.691	1	0	6	0	6	1.054	3
16			min	0	1	-2.818	3	0	1	0	1	0.632	1
17		9	max	0	6	-1.933	1	0	6	0	6	1.376	3
18			min	0	1	-3.221	3	0	1	0	1	0.826	1
19		10	max	0	6	-2.174	1	0	6	0	6	1.742	3
20			min	0	1	-3.624	3	0	1	0	1	1.045	1
21		11	max	0	6	-2.416	1	0	6	0	6	2.15	3
22			min	0	1	-4.026	3	0	1	0	1	1.29	1
23		12	max	0	6	-2.657	1	0	6	0	6	2.602	3
24			min	0	1	-4.429	3	0	1	0	1	1.561	1
25		13	max	0	6	-2.899	1	0	6	0	6	3.096	3
26			min	0	1	-4.832	3	0	1	0	1	1.858	1
27		14	max	0	6	-3.141	1	0	6	0	6	3.634	3
28			min	0	1	-5.234	3	0	1	0	1	2.18	1
29		15	max	0	6	-3.382	1	0	6	0	6	4.214	3
30			min	0	1	-5.637	3	0	1	0	1	2.528	1
31		16	max	0	6	-3.624	1	0	6	0	6	4.838	3
32			min	0	1	-6.039	3	0	1	0	1	2.903	1
33		17	max	0	6	-3.865	1	0	6	0	6	5.504	3
34			min	0	1	-6.442	3	0	1	0	1	3.302	1
35		18	max	0	6	-4.107	1	0	6	0	6	6.214	3
36			min	0	1	-6.845	3	0	1	0	1	3.728	1
37		19	max	0	6	-4.348	1	0	6	0	6	6.966	3

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
38		min	0	1	-7.247	3	0	1	0	1	0	1	4.18	1
39		20 max	0	6	-4.59	1	0	6	0	6	0	6	7.762	3
40		min	0	1	-7.65	3	0	1	0	1	0	1	4.657	1
41	A2	1 max	-3.352	6	-18.361	1	5.72	4	-23.414	1	3.286	4	-18.503	1
42		min	-4.801	4	-29.326	3	4.095	6	-43.914	3	2.678	6	-35.675	3
43		2 max	-3.523	6	-21.191	1	4.868	4	-27.496	1	3.949	4	-16.027	1
44		min	-4.973	4	-32.638	3	3.47	6	-47.93	3	3.151	6	-31.797	3
45		3 max	-3.694	6	-24.02	1	4.016	4	-31.579	1	4.505	4	-13.198	1
46		min	-5.145	4	-35.95	3	2.846	6	-51.947	3	3.547	6	-27.504	3
47		4 max	-3.865	6	-26.849	1	3.164	4	-35.661	1	4.954	4	-10.014	1
48		min	-5.318	4	-39.261	3	2.222	6	-55.963	3	3.864	6	-22.797	3
49		5 max	-4.036	6	-29.679	1	2.313	4	-39.743	1	5.297	4	-6.476	1
50		min	-5.49	4	-42.573	3	1.597	6	-59.98	3	4.103	6	-17.675	3
51		6 max	-4.208	6	-32.508	1	1.461	3	-43.826	1	5.533	4	-2.584	1
52		min	-5.662	4	-45.884	3	0.973	6	-63.997	3	4.264	6	-12.138	3
53		7 max	-4.379	6	-35.119	5	0.65	3	-47.908	1	5.663	4	1.663	1
54		min	-5.835	4	-49.196	3	0.349	6	-68.013	3	4.346	6	-6.188	3
55		8 max	-4.55	6	-37.602	5	-0.161	3	-51.301	6	5.686	4	7.02	2
56		min	-6.007	4	-52.508	3	-0.276	6	-72.03	3	4.351	6	0.178	3
57		9 max	-4.721	6	-40.085	5	-0.9	6	-54.688	6	5.602	4	13.782	2
58		min	-6.179	4	-55.948	2	-1.095	4	-76.047	3	4.277	6	6.958	3
59		10 max	-4.893	6	-42.568	5	-1.524	6	-58.075	6	5.412	4	21.026	2
60		min	-6.351	4	-59.791	2	-1.947	4	-80.063	3	4.126	6	14.13	5
61		11 max	-5.064	6	-45.051	5	-2.149	6	-61.462	6	5.114	4	28.751	2
62		min	-6.524	4	-63.635	2	-2.799	4	-85.449	5	3.896	6	19.614	5
63		12 max	-5.235	6	-47.534	5	-2.773	6	-64.849	6	4.711	4	36.957	2
64		min	-6.696	4	-67.479	2	-3.651	4	-91.323	5	3.588	6	25.408	5
65		13 max	-5.406	6	-50.017	5	-3.398	6	-68.236	6	4.2	4	45.645	2
66		min	-6.868	4	-71.322	2	-4.503	4	-97.198	5	3.201	6	31.514	5
67		14 max	-5.577	6	-52.5	5	-4.022	6	-71.623	6	3.583	4	54.813	2
68		min	-7.04	4	-75.166	2	-5.355	4	-103.072	5	2.737	6	37.93	5
69		15 max	-5.749	6	-54.983	5	-4.646	6	-75.01	6	2.86	4	64.463	2
70		min	-7.213	4	-79.01	2	-6.207	4	-108.947	5	2.194	6	44.657	5
71		16 max	-5.92	6	-57.466	5	-5.271	6	-78.397	6	2.029	4	74.593	2
72		min	-7.385	4	-82.853	2	-7.059	4	-114.821	5	1.574	6	51.695	5
73		17 max	-6.091	6	-59.949	5	-5.895	6	-81.784	6	1.092	4	85.205	2
74		min	-7.557	4	-86.697	2	-7.911	4	-120.696	5	0.875	6	59.044	5
75		18 max	-6.262	6	-62.432	5	-6.519	6	-85.171	6	0.098	6	96.298	2
76		min	-7.729	4	-90.541	2	-8.763	4	-126.57	5	0.001	3	66.703	5
77		19 max	-6.433	6	-64.915	5	-7.144	6	-88.558	6	-0.757	6	107.872	2
78		min	-7.902	4	-94.384	2	-9.615	4	-132.445	5	-1.101	4	74.674	5
79		20 max	-6.605	6	-67.398	5	-7.768	6	-91.945	6	-1.69	6	119.927	2
80		min	-8.074	4	-98.228	2	-10.467	4	-138.319	5	-2.358	4	82.955	5
81	A3	1 max	5.142	4	110.865	2	25.421	4	175.285	5	-23.19	6	119.927	2
82		min	3.919	3	72.535	5	18.63	6	101.061	6	-31.642	4	82.955	5
83		2 max	4.601	4	98.793	2	22.745	4	156.834	5	-16.251	6	78.713	2
84		min	3.506	3	64.736	5	16.669	6	90.423	6	-22.173	4	55.97	5
85		3 max	4.06	4	86.721	2	20.069	4	138.383	5	-10.083	6	42.245	2
86		min	3.094	3	56.938	5	14.708	6	79.785	6	-13.757	4	31.778	6
87		4 max	3.519	4	74.648	2	17.393	4	119.932	5	-4.686	6	13.537	3
88		min	2.682	3	49.139	5	12.747	6	69.147	6	-6.392	4	8.399	1
89		5 max	2.978	4	62.576	2	14.717	4	101.481	5	-0.06	6	-6.587	5
90		min	2.269	3	41.34	5	10.786	6	58.509	6	-0.08	4	-16.453	2
91		6 max	2.437	4	50.504	2	12.041	4	83.03	5	5.18	4	-21.307	5
92		min	1.857	3	33.542	5	8.825	6	47.871	6	3.796	6	-38.682	2
93		7 max	1.896	4	38.431	2	9.366	4	64.579	5	9.388	4	-32.961	5
94		min	1.444	3	25.743	5	6.864	6	37.233	6	6.88	6	-56.164	2
95		8 max	1.354	4	26.359	2	6.69	4	46.129	5	12.544	4	-41.549	5

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
96		min	1.032	3	17.945	5	4.903	6	26.595	6	9.193	6	-68.901	2	
97	9	max	0.813	4	14.286	2	4.014	4	27.678	5	14.648	4	-47.071	5	
98		min	0.62	3	10.146	5	2.942	6	15.957	6	10.735	6	-76.891	2	
99	10	max	0.272	4	2.839	3	1.338	4	9.227	5	15.701	4	-49.527	5	
100		min	0.207	3	1.766	1	0.981	6	5.319	6	11.506	6	-80.134	2	
101	11	max	-0.205	3	-5.451	5	-0.98	6	-5.32	6	15.7	4	-48.917	5	
102		min	-0.269	4	-9.858	2	-1.338	4	-9.224	5	11.506	6	-78.632	2	
103	12	max	-0.617	3	-13.25	5	-2.941	6	-15.958	6	14.648	4	-45.241	5	
104		min	-0.81	4	-21.931	2	-4.014	4	-27.675	5	10.735	6	-72.382	2	
105	13	max	-1.03	3	-21.049	5	-4.902	6	-26.596	6	12.544	4	-38.499	5	
106		min	-1.351	4	-34.003	2	-6.69	4	-46.126	5	9.194	6	-61.387	2	
107	14	max	-1.442	3	-28.847	5	-6.863	6	-37.234	6	9.388	4	-28.69	5	
108		min	-1.892	4	-46.075	2	-9.366	4	-64.577	5	6.881	6	-45.645	2	
109	15	max	-1.854	3	-36.646	5	-8.824	6	-47.872	6	5.18	4	-15.816	5	
110		min	-2.433	4	-58.148	2	-12.042	4	-83.028	5	3.797	6	-25.157	2	
111	16	max	-2.267	3	-44.444	5	-10.785	6	-58.51	6	-0.058	6	0.142	3	
112		min	-2.974	4	-70.22	2	-14.718	4	-101.479	5	-0.081	4	0.068	1	
113	17	max	-2.679	3	-52.243	5	-12.746	6	-69.148	6	-4.683	6	30.058	2	
114		min	-3.515	4	-82.293	2	-17.394	4	-119.93	5	-6.393	4	19.132	5	
115	18	max	-3.091	3	-60.042	5	-14.707	6	-79.786	6	-10.08	6	64.785	2	
116		min	-4.056	4	-94.365	2	-20.069	4	-138.38	5	-13.757	4	41.204	5	
117	19	max	-3.504	3	-67.84	5	-16.668	6	-90.424	6	-16.248	6	104.259	2	
118		min	-4.597	4	-106.437	2	-22.745	4	-156.831	5	-22.174	4	66.343	5	
119	20	max	-3.916	3	-75.639	5	-18.629	6	-101.062	6	-23.186	6	148.479	2	
120		min	-5.138	4	-118.51	2	-25.421	4	-175.282	5	-31.642	4	94.548	5	
121	A4	1	max	5.14	4	115.637	2	25.423	4	175.284	5	-23.202	6	148.479	2
122		min	3.917	3	74.471	5	18.632	6	101.062	6	-31.657	4	94.548	5	
123	2	max	4.599	4	103.565	2	22.747	4	156.833	5	-16.262	6	105.388	2	
124		min	3.505	3	66.673	5	16.671	6	90.424	6	-22.188	4	66.802	5	
125	3	max	4.058	4	91.492	2	20.072	4	138.382	5	-10.093	6	67.044	2	
126		min	3.093	3	58.874	5	14.71	6	79.786	6	-13.771	4	42.123	5	
127	4	max	3.517	4	79.42	2	17.396	4	119.931	5	-4.696	6	33.446	2	
128		min	2.68	3	51.075	5	12.749	6	69.148	6	-6.406	4	20.509	5	
129	5	max	2.976	4	67.348	2	14.72	4	101.48	5	-0.069	6	4.595	2	
130		min	2.268	3	43.277	5	10.788	6	58.51	6	-0.092	4	1.961	5	
131	6	max	2.435	4	55.275	2	12.044	4	83.029	5	5.169	4	-13.52	5	
132		min	1.856	3	35.478	5	8.827	6	47.872	6	3.787	6	-19.51	2	
133	7	max	1.894	4	43.203	2	9.368	4	64.578	5	9.378	4	-25.936	5	
134		min	1.443	3	27.679	5	6.866	6	37.233	6	6.872	6	-38.869	2	
135	8	max	1.353	4	31.13	2	6.692	4	46.127	5	12.535	4	-35.285	5	
136		min	1.031	3	19.881	5	4.905	6	26.595	6	9.185	6	-53.481	2	
137	9	max	0.812	4	19.058	2	4.016	4	27.677	5	14.64	4	-41.568	5	
138		min	0.619	3	12.082	5	2.944	6	15.957	6	10.728	6	-63.347	2	
139	10	max	0.271	4	6.986	2	1.34	4	9.226	5	15.693	4	-44.786	5	
140		min	0.206	3	4.284	5	0.983	6	5.319	6	11.5	6	-68.467	2	
141	11	max	-0.206	3	-3.515	5	-0.978	6	-5.319	6	15.694	4	-44.937	5	
142		min	-0.271	4	-5.087	2	-1.336	4	-9.225	5	11.501	6	-68.84	2	
143	12	max	-0.619	3	-11.314	5	-2.939	6	-15.957	6	14.642	4	-42.022	5	
144		min	-0.812	4	-17.159	2	-4.012	4	-27.676	5	10.731	6	-64.467	2	
145	13	max	-1.031	3	-19.112	5	-4.9	6	-26.595	6	12.539	4	-36.041	5	
146		min	-1.353	4	-29.231	2	-6.688	4	-46.127	5	9.19	6	-55.348	2	
147	14	max	-1.443	3	-26.911	5	-6.861	6	-37.233	6	9.384	4	-26.993	5	
148		min	-1.894	4	-41.304	2	-9.364	4	-64.578	5	6.878	6	-41.482	2	
149	15	max	-1.856	3	-34.709	5	-8.822	6	-47.871	6	5.176	4	-14.88	5	
150		min	-2.435	4	-53.376	2	-12.039	4	-83.029	5	3.794	6	-22.87	2	
151	16	max	-2.268	3	-42.508	5	-10.783	6	-58.509	6	-0.06	6	0.489	2	
152		min	-2.976	4	-65.449	2	-14.715	4	-101.48	5	-0.083	4	0.299	5	
153	17	max	-2.68	3	-50.307	5	-12.744	6	-69.147	6	-4.685	6	28.593	2	



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
154		min	-3.517	4	-77.521	2	-17.391	4	-119.931	5	-6.394	4	18.545	5	
155	18	max	-3.093	3	-58.105	5	-14.705	6	-79.785	6	-10.081	6	61.445	2	
156		min	-4.058	4	-89.593	2	-20.067	4	-138.382	5	-13.758	4	39.856	5	
157	19	max	-3.505	3	-65.904	5	-16.666	6	-90.423	6	-16.248	6	99.042	2	
158		min	-4.599	4	-101.666	2	-22.743	4	-156.832	5	-22.174	4	64.234	5	
159	20	max	-3.917	3	-73.703	5	-18.627	6	-101.061	6	-23.186	6	141.386	2	
160		min	-5.14	4	-113.738	2	-25.419	4	-175.283	5	-31.641	4	91.677	5	
161	A5	1	max	5.14	4	114.463	2	25.423	4	175.284	5	-23.202	6	141.386	2
162		min	3.917	3	74.001	5	18.632	6	101.062	6	-31.657	4	91.677	5	
163	2	max	4.599	4	102.391	2	22.747	4	156.833	5	-16.262	6	98.757	2	
164		min	3.505	3	66.202	5	16.671	6	90.424	6	-22.188	4	64.116	5	
165	3	max	4.058	4	90.319	2	20.072	4	138.382	5	-10.093	6	60.874	2	
166		min	3.093	3	58.404	5	14.71	6	79.785	6	-13.771	4	39.621	5	
167	4	max	3.517	4	78.246	2	17.396	4	119.931	5	-4.696	6	27.738	2	
168		min	2.68	3	50.605	5	12.749	6	69.147	6	-6.406	4	18.192	5	
169	5	max	2.976	4	66.174	2	14.72	4	101.48	5	-0.069	6	-0.17	5	
170		min	2.268	3	42.807	5	10.788	6	58.509	6	-0.092	4	-0.652	2	
171	6	max	2.435	4	54.102	2	12.044	4	83.029	5	5.169	4	-15.467	5	
172		min	1.856	3	35.008	5	8.827	6	47.871	6	3.787	6	-24.296	2	
173	7	max	1.894	4	42.029	2	9.368	4	64.578	5	9.378	4	-27.698	5	
174		min	1.443	3	27.209	5	6.866	6	37.233	6	6.872	6	-43.193	2	
175	8	max	1.353	4	29.957	2	6.692	4	46.127	5	12.535	4	-36.862	5	
176		min	1.031	3	19.411	5	4.905	6	26.595	6	9.185	6	-57.344	2	
177	9	max	0.812	4	17.884	2	4.016	4	27.676	5	14.64	4	-42.961	5	
178		min	0.619	3	11.612	5	2.944	6	15.957	6	10.728	6	-66.749	2	
179	10	max	0.271	4	5.812	2	1.34	4	9.225	5	15.693	4	-45.993	5	
180		min	0.206	3	3.814	5	0.983	6	5.319	6	11.5	6	-71.407	2	
181	11	max	-0.206	3	-3.985	5	-0.978	6	-5.319	6	15.694	4	-45.959	5	
182		min	-0.271	4	-6.26	2	-1.336	4	-9.225	5	11.501	6	-71.319	2	
183	12	max	-0.619	3	-11.784	5	-2.939	6	-15.957	6	14.642	4	-42.86	5	
184		min	-0.812	4	-18.333	2	-4.012	4	-27.676	5	10.731	6	-66.484	2	
185	13	max	-1.031	3	-19.582	5	-4.9	6	-26.595	6	12.539	4	-36.694	5	
186		min	-1.353	4	-30.405	2	-6.688	4	-46.127	5	9.19	6	-56.903	2	
187	14	max	-1.443	3	-27.381	5	-6.861	6	-37.233	6	9.384	4	-27.462	5	
188		min	-1.894	4	-42.477	2	-9.364	4	-64.578	5	6.878	6	-42.576	2	
189	15	max	-1.856	3	-35.18	5	-8.822	6	-47.871	6	5.176	4	-15.164	5	
190		min	-2.435	4	-54.55	2	-12.039	4	-83.029	5	3.794	6	-23.503	2	
191	16	max	-2.268	3	-42.978	5	-10.783	6	-58.509	6	-0.06	6	0.317	2	
192		min	-2.976	4	-66.622	2	-14.715	4	-101.48	5	-0.083	4	0.2	5	
193	17	max	-2.68	3	-50.777	5	-12.744	6	-69.147	6	-4.685	6	28.883	2	
194		min	-3.517	4	-78.695	2	-17.391	4	-119.931	5	-6.394	4	18.631	5	
195	18	max	-3.093	3	-58.575	5	-14.705	6	-79.786	6	-10.081	6	62.196	2	
196		min	-4.058	4	-90.767	2	-20.067	4	-138.382	5	-13.758	4	40.127	5	
197	19	max	-3.505	3	-66.374	5	-16.666	6	-90.424	6	-16.248	6	100.255	2	
198		min	-4.599	4	-102.839	2	-22.743	4	-156.833	5	-22.174	4	64.689	5	
199	20	max	-3.917	3	-74.173	5	-18.627	6	-101.062	6	-23.186	6	143.06	2	
200		min	-5.14	4	-114.912	2	-25.419	4	-175.284	5	-31.641	4	92.318	5	
201	A6	1	max	5.14	4	114.693	2	25.423	4	175.284	5	-23.202	6	143.06	2
202		min	3.917	3	74.068	5	18.632	6	101.062	6	-31.657	4	92.318	5	
203	2	max	4.599	4	102.621	2	22.747	4	156.833	5	-16.262	6	100.341	2	
204		min	3.505	3	66.269	5	16.671	6	90.424	6	-22.188	4	64.731	5	
205	3	max	4.058	4	90.548	2	20.072	4	138.382	5	-10.093	6	62.368	2	
206		min	3.093	3	58.471	5	14.71	6	79.785	6	-13.771	4	40.209	5	
207	4	max	3.517	4	78.476	2	17.396	4	119.931	5	-4.696	6	29.141	2	
208		min	2.68	3	50.672	5	12.749	6	69.147	6	-6.406	4	18.754	5	
209	5	max	2.976	4	66.404	2	14.72	4	101.48	5	-0.069	6	0.661	2	
210		min	2.268	3	42.874	5	10.788	6	58.509	6	-0.092	4	0.365	5	
211	6	max	2.435	4	54.331	2	12.044	4	83.029	5	5.169	4	-14.958	5	



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
212		min	1.856	3	35.075	5	8.827	6	47.871	6	3.787	6	-23.073	2	
213	7	max	1.894	4	42.259	2	9.368	4	64.578	5	9.378	4	-27.215	5	
214		min	1.443	3	27.276	5	6.866	6	37.233	6	6.872	6	-42.061	2	
215	8	max	1.353	4	30.187	2	6.692	4	46.127	5	12.535	4	-36.406	5	
216		min	1.031	3	19.478	5	4.905	6	26.595	6	9.185	6	-56.302	2	
217	9	max	0.812	4	18.114	2	4.016	4	27.676	5	14.64	4	-42.531	5	
218		min	0.619	3	11.679	5	2.944	6	15.957	6	10.728	6	-65.797	2	
219	10	max	0.271	4	6.042	2	1.34	4	9.225	5	15.693	4	-45.589	5	
220		min	0.206	3	3.88	5	0.983	6	5.319	6	11.5	6	-70.546	2	
221	11	max	-0.206	3	-3.918	5	-0.978	6	-5.319	6	15.694	4	-45.582	5	
222		min	-0.271	4	-6.031	2	-1.336	4	-9.225	5	11.501	6	-70.548	2	
223	12	max	-0.619	3	-11.717	5	-2.939	6	-15.957	6	14.642	4	-42.508	5	
224		min	-0.812	4	-18.103	2	-4.012	4	-27.676	5	10.731	6	-65.804	2	
225	13	max	-1.031	3	-19.515	5	-4.9	6	-26.595	6	12.539	4	-36.369	5	
226		min	-1.353	4	-30.175	2	-6.688	4	-46.127	5	9.19	6	-56.313	2	
227	14	max	-1.443	3	-27.314	5	-6.861	6	-37.233	6	9.384	4	-27.163	5	
228		min	-1.894	4	-42.248	2	-9.364	4	-64.578	5	6.878	6	-42.076	2	
229	15	max	-1.856	3	-35.113	5	-8.822	6	-47.871	6	5.176	4	-14.891	5	
230		min	-2.435	4	-54.32	2	-12.039	4	-83.029	5	3.794	6	-23.093	2	
231	16	max	-2.268	3	-42.911	5	-10.783	6	-58.509	6	-0.06	6	0.636	2	
232		min	-2.976	4	-66.392	2	-14.715	4	-101.48	5	-0.083	4	0.446	5	
233	17	max	-2.68	3	-50.71	5	-12.744	6	-69.147	6	-4.685	6	29.112	2	
234		min	-3.517	4	-78.465	2	-17.391	4	-119.931	5	-6.394	4	18.85	5	
235	18	max	-3.093	3	-58.508	5	-14.705	6	-79.785	6	-10.081	6	62.334	2	
236		min	-4.058	4	-90.537	2	-20.067	4	-138.382	5	-13.758	4	40.32	5	
237	19	max	-3.505	3	-66.307	5	-16.666	6	-90.424	6	-16.248	6	100.303	2	
238		min	-4.599	4	-102.61	2	-22.743	4	-156.833	5	-22.174	4	64.856	5	
239	20	max	-3.917	3	-74.106	5	-18.627	6	-101.062	6	-23.186	6	143.018	2	
240		min	-5.14	4	-114.682	2	-25.419	4	-175.284	5	-31.641	4	92.459	5	
241	A7	1	max	5.14	4	114.888	2	25.423	4	175.284	5	-23.202	6	143.018	2
242		min	3.917	3	74.253	5	18.632	6	101.062	6	-31.657	4	92.459	5	
243	2	max	4.599	4	102.815	2	22.747	4	156.833	5	-16.262	6	100.222	2	
244		min	3.505	3	66.454	5	16.671	6	90.424	6	-22.188	4	64.799	5	
245	3	max	4.058	4	90.743	2	20.072	4	138.382	5	-10.093	6	62.173	2	
246		min	3.093	3	58.656	5	14.71	6	79.786	6	-13.771	4	40.205	5	
247	4	max	3.517	4	78.67	2	17.396	4	119.931	5	-4.696	6	28.87	2	
248		min	2.68	3	50.857	5	12.749	6	69.147	6	-6.406	4	18.677	5	
249	5	max	2.976	4	66.598	2	14.72	4	101.48	5	-0.069	6	0.313	2	
250		min	2.268	3	43.058	5	10.788	6	58.509	6	-0.092	4	0.215	5	
251	6	max	2.435	4	54.526	2	12.044	4	83.029	5	5.169	4	-15.181	5	
252		min	1.856	3	35.26	5	8.827	6	47.871	6	3.787	6	-23.498	2	
253	7	max	1.894	4	42.453	2	9.368	4	64.578	5	9.378	4	-27.51	5	
254		min	1.443	3	27.461	5	6.866	6	37.233	6	6.872	6	-42.562	2	
255	8	max	1.353	4	30.381	2	6.692	4	46.127	5	12.535	4	-36.774	5	
256		min	1.031	3	19.663	5	4.905	6	26.595	6	9.185	6	-56.879	2	
257	9	max	0.812	4	18.309	2	4.016	4	27.676	5	14.64	4	-42.971	5	
258		min	0.619	3	11.864	5	2.944	6	15.957	6	10.728	6	-66.451	2	
259	10	max	0.271	4	6.236	2	1.34	4	9.226	5	15.693	4	-46.103	5	
260		min	0.206	3	4.065	5	0.983	6	5.319	6	11.5	6	-71.276	2	
261	11	max	-0.206	3	-3.733	5	-0.978	6	-5.319	6	15.694	4	-46.168	5	
262		min	-0.271	4	-5.836	2	-1.336	4	-9.225	5	11.501	6	-71.354	2	
263	12	max	-0.619	3	-11.532	5	-2.939	6	-15.957	6	14.642	4	-43.167	5	
264		min	-0.812	4	-17.909	2	-4.012	4	-27.676	5	10.731	6	-66.687	2	
265	13	max	-1.031	3	-19.331	5	-4.9	6	-26.595	6	12.539	4	-37.1	5	
266		min	-1.353	4	-29.981	2	-6.688	4	-46.127	5	9.19	6	-57.273	2	
267	14	max	-1.443	3	-27.129	5	-6.861	6	-37.233	6	9.384	4	-27.967	5	
268		min	-1.894	4	-42.053	2	-9.364	4	-64.578	5	6.878	6	-43.112	2	
269	15	max	-1.856	3	-34.928	5	-8.822	6	-47.871	6	5.176	4	-15.768	5	

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
270		min	-2.435	4	-54.126	2	-12.039	4	-83.029	5	3.794	6	-24.205	2	
271		max	-2.268	3	-42.726	5	-10.783	6	-58.509	6	-0.06	6	-0.392	1	
272		min	-2.976	4	-66.198	2	-14.715	4	-101.48	5	-0.083	4	-0.796	3	
273		max	-2.68	3	-50.525	5	-12.744	6	-69.147	6	-4.685	6	27.847	2	
274		min	-3.517	4	-78.27	2	-17.391	4	-119.931	5	-6.394	4	17.828	5	
275		max	-3.093	3	-58.324	5	-14.705	6	-79.785	6	-10.081	6	60.993	2	
276		min	-4.058	4	-90.343	2	-20.067	4	-138.382	5	-13.758	4	39.226	5	
277		max	-3.505	3	-66.122	5	-16.666	6	-90.423	6	-16.248	6	98.885	2	
278		min	-4.599	4	-102.415	2	-22.743	4	-156.833	5	-22.174	4	63.689	5	
279		max	-3.917	3	-73.921	5	-18.627	6	-101.062	6	-23.186	6	141.524	2	
280		min	-5.14	4	-114.487	2	-25.419	4	-175.283	5	-31.641	4	91.219	5	
281	A8	1	max	5.14	4	113.829	2	25.423	4	175.283	5	-23.202	6	141.524	2
282		min	3.917	3	73.398	5	18.632	6	101.061	6	-31.657	4	91.219	5	
283		2	max	4.599	4	101.757	2	22.747	4	156.832	5	-16.262	6	99.144	2
284		min	3.505	3	65.6	5	16.671	6	90.423	6	-22.188	4	63.895	5	
285		3	max	4.058	4	89.685	2	20.072	4	138.381	5	-10.093	6	61.51	2
286		min	3.093	3	57.801	5	14.71	6	79.785	6	-13.771	4	39.637	5	
287		4	max	3.517	4	77.612	2	17.396	4	119.93	5	-4.696	6	28.623	2
288		min	2.68	3	50.002	5	12.749	6	69.147	6	-6.406	4	18.445	5	
289		5	max	2.976	4	65.54	2	14.72	4	101.479	5	-0.069	6	0.483	2
290		min	2.268	3	42.204	5	10.788	6	58.509	6	-0.092	4	0.319	5	
291		6	max	2.435	4	53.467	2	12.044	4	83.028	5	5.169	4	-14.741	5
292		min	1.856	3	34.405	5	8.827	6	47.871	6	3.787	6	-22.911	2	
293		7	max	1.894	4	41.395	2	9.368	4	64.578	5	9.378	4	-26.734	5
294		min	1.443	3	26.606	5	6.866	6	37.233	6	6.872	6	-41.559	2	
295		8	max	1.353	4	29.323	2	6.692	4	46.127	5	12.535	4	-35.662	5
296		min	1.031	3	18.808	5	4.905	6	26.595	6	9.185	6	-55.461	2	
297		9	max	0.812	4	17.25	2	4.016	4	27.676	5	14.64	4	-41.523	5
298		min	0.619	3	11.009	5	2.944	6	15.956	6	10.728	6	-64.616	2	
299		10	max	0.271	4	5.178	2	1.34	4	9.225	5	15.693	4	-44.318	5
300		min	0.206	3	3.211	5	0.983	6	5.318	6	11.5	6	-69.025	2	
301		11	max	-0.206	3	-4.588	5	-0.978	6	-5.32	6	15.694	4	-44.048	5
302		min	-0.271	4	-6.894	2	-1.336	4	-9.226	5	11.501	6	-68.688	2	
303		12	max	-0.619	3	-12.387	5	-2.939	6	-15.958	6	14.642	4	-40.711	5
304		min	-0.812	4	-18.967	2	-4.012	4	-27.677	5	10.731	6	-63.604	2	
305		13	max	-1.031	3	-20.185	5	-4.9	6	-26.596	6	12.539	4	-34.308	5
306		min	-1.353	4	-31.039	2	-6.688	4	-46.128	5	9.19	6	-53.774	2	
307		14	max	-1.443	3	-27.984	5	-6.861	6	-37.234	6	9.384	4	-24.839	5
308		min	-1.894	4	-43.112	2	-9.364	4	-64.579	5	6.878	6	-39.197	2	
309		15	max	-1.856	3	-35.782	5	-8.822	6	-47.872	6	5.176	4	-12.304	5
310		min	-2.435	4	-55.184	2	-12.039	4	-83.03	5	3.794	6	-19.875	2	
311		16	max	-2.268	3	-43.581	5	-10.783	6	-58.51	6	-0.06	6	4.898	3
312		min	-2.976	4	-67.256	2	-14.715	4	-101.481	5	-0.083	4	3.028	1	
313		17	max	-2.68	3	-51.38	5	-12.744	6	-69.148	6	-4.685	6	33.01	2
314		min	-3.517	4	-79.329	2	-17.391	4	-119.931	5	-6.394	4	21.965	5	
315		18	max	-3.093	3	-59.837	5	-14.705	6	-79.786	6	-10.081	6	66.719	2
316		min	-4.058	4	-92.224	2	-20.067	4	-138.382	5	-13.758	4	43.816	5	
317		19	max	-3.505	3	-68.359	5	-16.666	6	-90.424	6	-16.248	6	105.529	2
318		min	-4.599	4	-105.201	2	-22.743	4	-156.833	5	-22.174	4	69.017	5	
319		20	max	-3.917	3	-76.882	5	-18.627	6	-101.062	6	-23.186	6	149.441	2
320		min	-5.14	4	-118.178	2	-25.419	4	-175.284	5	-31.641	4	97.568	5	
321	A9	1	max	5.14	4	122.951	2	25.423	4	175.283	5	-23.202	6	149.441	2
322		min	3.917	3	80.701	5	18.632	6	101.061	6	-31.657	4	97.568	5	
323		2	max	4.599	4	109.974	2	22.747	4	156.832	5	-16.262	6	103.652	2
324		min	3.505	3	72.178	5	16.671	6	90.423	6	-22.188	4	67.515	5	
325		3	max	4.058	4	96.997	2	20.072	4	138.382	5	-10.093	6	62.966	2
326		min	3.093	3	63.656	5	14.71	6	79.785	6	-13.771	4	40.813	5	
327		4	max	3.517	4	84.02	2	17.396	4	119.931	5	-4.696	6	27.382	2

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
328		min	2.68	3	55.133	5	12.749	6	69.147	6	-6.406	4	17.462	5
329		5 max	2.976	4	71.042	2	14.72	4	101.48	5	-0.069	6	-2.225	1
330		min	2.268	3	46.611	5	10.788	6	58.509	6	-0.092	4	-3.851	3
331		6 max	2.435	4	58.065	2	12.044	4	83.029	5	5.169	4	-19.189	5
332		min	1.856	3	38.089	5	8.827	6	47.871	6	3.787	6	-28.479	2
333		7 max	1.894	4	45.088	2	9.368	4	64.578	5	9.378	4	-32.489	5
334		min	1.443	3	29.566	5	6.866	6	37.233	6	6.872	6	-48.757	2
335		8 max	1.353	4	32.111	2	6.692	4	46.127	5	12.535	4	-42.438	5
336		min	1.031	3	21.044	5	4.905	6	26.595	6	9.185	6	-63.933	2
337		9 max	0.812	4	19.134	2	4.016	4	27.676	5	14.64	4	-49.036	5
338		min	0.619	3	12.521	5	2.944	6	15.957	6	10.728	6	-74.007	2
339		10 max	0.271	4	6.157	2	1.34	4	9.225	5	15.693	4	-52.283	5
340		min	0.206	3	3.999	5	0.983	6	5.319	6	11.5	6	-78.978	2
341		11 max	-0.206	3	-4.524	5	-0.978	6	-5.319	6	15.694	4	-52.18	5
342		min	-0.271	4	-6.82	2	-1.336	4	-9.226	5	11.501	6	-78.848	2
343		12 max	-0.619	3	-13.046	5	-2.939	6	-15.957	6	14.642	4	-48.726	5
344		min	-0.812	4	-19.797	2	-4.012	4	-27.677	5	10.731	6	-73.615	2
345		13 max	-1.031	3	-21.568	5	-4.9	6	-26.595	6	12.539	4	-41.922	5
346		min	-1.353	4	-32.775	2	-6.688	4	-46.127	5	9.19	6	-63.281	2
347		14 max	-1.443	3	-30.091	5	-6.861	6	-37.233	6	9.384	4	-31.767	5
348		min	-1.894	4	-45.752	2	-9.364	4	-64.578	5	6.878	6	-47.844	2
349		15 max	-1.856	3	-38.613	5	-8.822	6	-47.871	6	5.176	4	-18.261	5
350		min	-2.435	4	-58.729	2	-12.039	4	-83.029	5	3.794	6	-27.306	2
351		16 max	-2.268	3	-47.136	5	-10.783	6	-58.51	6	-0.06	6	-1.198	1
352		min	-2.976	4	-71.706	2	-14.715	4	-101.48	5	-0.083	4	-2.126	3
353		17 max	-2.68	3	-55.658	5	-12.744	6	-69.148	6	-4.685	6	29.078	2
354		min	-3.517	4	-84.683	2	-17.391	4	-119.931	5	-6.394	4	18.803	5
355		18 max	-3.093	3	-64.18	5	-14.705	6	-79.786	6	-10.081	6	64.923	2
356		min	-4.058	4	-97.66	2	-20.067	4	-138.382	5	-13.758	4	42.36	5
357		19 max	-3.505	3	-72.703	5	-16.666	6	-90.424	6	-16.248	6	105.87	2
358		min	-4.599	4	-110.637	2	-22.743	4	-156.833	5	-22.174	4	69.269	5
359		20 max	-3.917	3	-81.225	5	-18.627	6	-101.062	6	-23.186	6	151.919	2
360		min	-5.14	4	-123.614	2	-25.419	4	-175.284	5	-31.641	4	99.528	5
361	A10	1 max	5.14	4	121.023	2	25.423	4	175.285	5	-23.202	6	151.919	2
362		min	3.917	3	79.144	5	18.632	6	101.063	6	-31.657	4	99.528	5
363		2 max	4.599	4	108.046	2	22.747	4	156.834	5	-16.262	6	106.888	2
364		min	3.505	3	70.622	5	16.671	6	90.425	6	-22.188	4	70.087	5
365		3 max	4.058	4	95.069	2	20.072	4	138.383	5	-10.093	6	66.96	2
366		min	3.093	3	62.1	5	14.71	6	79.787	6	-13.771	4	43.996	5
367		4 max	3.517	4	82.092	2	17.396	4	119.932	5	-4.696	6	32.134	2
368		min	2.68	3	53.577	5	12.749	6	69.148	6	-6.406	4	21.257	5
369		5 max	2.976	4	69.115	2	14.72	4	101.481	5	-0.069	6	2.758	3
370		min	2.268	3	45.055	5	10.788	6	58.51	6	-0.092	4	1.742	1
371		6 max	2.435	4	56.137	2	12.044	4	83.03	5	5.169	4	-14.17	5
372		min	1.856	3	36.532	5	8.827	6	47.872	6	3.787	6	-22.212	2
373		7 max	1.894	4	43.16	2	9.368	4	64.579	5	9.378	4	-26.858	5
374		min	1.443	3	28.01	5	6.866	6	37.234	6	6.872	6	-41.731	2
375		8 max	1.353	4	30.305	2	6.692	4	46.128	5	12.535	4	-36.198	5
376		min	1.031	3	19.585	5	4.905	6	26.596	6	9.185	6	-56.152	2
377		9 max	0.812	4	18.233	2	4.016	4	27.677	5	14.64	4	-42.365	5
378		min	0.618	3	11.787	5	2.944	6	15.958	6	10.728	6	-65.694	2
379		10 max	0.27	4	6.161	2	1.34	4	9.227	5	15.693	4	-45.466	5
380		min	0.206	3	3.988	5	0.983	6	5.32	6	11.5	6	-70.489	2
381		11 max	-0.206	3	-3.811	5	-0.978	6	-5.318	6	15.694	4	-45.501	5
382		min	-0.271	4	-5.912	2	-1.336	4	-9.224	5	11.501	6	-70.538	2
383		12 max	-0.619	3	-11.609	5	-2.939	6	-15.956	6	14.642	4	-42.469	5
384		min	-0.812	4	-17.984	2	-4.012	4	-27.675	5	10.731	6	-65.841	2
385		13 max	-1.031	3	-19.408	5	-4.9	6	-26.594	6	12.539	4	-36.372	5

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
386		min	-1.353	4	-30.056	2	-6.688	4	-46.126	5	9.19	6	-56.397	2	
387	14	max	-1.443	3	-27.206	5	-6.861	6	-37.232	6	9.384	4	-27.209	5	
388		min	-1.894	4	-42.129	2	-9.364	4	-64.577	5	6.878	6	-42.207	2	
389	15	max	-1.856	3	-35.005	5	-8.822	6	-47.87	6	5.176	4	-14.979	5	
390		min	-2.435	4	-54.201	2	-12.039	4	-83.028	5	3.794	6	-23.27	2	
391	16	max	-2.268	3	-42.804	5	-10.783	6	-58.508	6	-0.06	6	0.412	2	
392		min	-2.976	4	-66.274	2	-14.715	4	-101.479	5	-0.083	4	0.299	6	
393	17	max	-2.68	3	-50.602	5	-12.744	6	-69.146	6	-4.685	6	28.842	2	
394		min	-3.517	4	-78.346	2	-17.391	4	-119.93	5	-6.394	4	18.678	5	
395	18	max	-3.093	3	-58.401	5	-14.705	6	-79.784	6	-10.081	6	62.017	2	
396		min	-4.058	4	-90.418	2	-20.067	4	-138.381	5	-13.758	4	40.106	5	
397	19	max	-3.505	3	-66.199	5	-16.666	6	-90.423	6	-16.248	6	99.939	2	
398		min	-4.599	4	-102.491	2	-22.743	4	-156.832	5	-22.174	4	64.599	5	
399	20	max	-3.917	3	-73.998	5	-18.627	6	-101.061	6	-23.186	6	142.607	2	
400		min	-5.14	4	-114.563	2	-25.419	4	-175.282	5	-31.641	4	92.159	5	
401	A11	1	max	5.14	4	114.627	2	25.423	4	175.283	5	-23.202	6	142.41	2
402		min	3.917	3	74.028	5	18.632	6	101.061	6	-31.657	4	91.875	5	
403	2	max	4.599	4	102.554	2	22.747	4	156.832	5	-16.262	6	99.716	2	
404		min	3.505	3	66.23	5	16.671	6	90.423	6	-22.188	4	64.303	5	
405	3	max	4.058	4	90.482	2	20.072	4	138.381	5	-10.093	6	61.77	2	
406		min	3.093	3	58.431	5	14.71	6	79.785	6	-13.771	4	39.798	5	
407	4	max	3.517	4	78.409	2	17.396	4	119.931	5	-4.696	6	28.569	2	
408		min	2.68	3	50.632	5	12.749	6	69.147	6	-6.406	4	18.358	5	
409	5	max	2.976	4	66.337	2	14.72	4	101.48	5	-0.069	6	0.115	2	
410		min	2.268	3	42.834	5	10.788	6	58.509	6	-0.092	4	-0.015	5	
411	6	max	2.435	4	54.265	2	12.044	4	83.029	5	5.169	4	-15.323	5	
412		min	1.856	3	35.035	5	8.827	6	47.871	6	3.787	6	-23.593	2	
413	7	max	1.894	4	42.192	2	9.368	4	64.578	5	9.378	4	-27.564	5	
414		min	1.443	3	27.237	5	6.866	6	37.233	6	6.872	6	-42.554	2	
415	8	max	1.353	4	30.12	2	6.692	4	46.127	5	12.535	4	-36.739	5	
416		min	1.031	3	19.438	5	4.905	6	26.595	6	9.185	6	-56.769	2	
417	9	max	0.812	4	18.048	2	4.016	4	27.676	5	14.64	4	-42.848	5	
418		min	0.619	3	11.639	5	2.944	6	15.957	6	10.728	6	-66.238	2	
419	10	max	0.271	4	5.975	2	1.34	4	9.225	5	15.693	4	-45.891	5	
420		min	0.206	3	3.841	5	0.983	6	5.319	6	11.5	6	-70.961	2	
421	11	max	-0.206	3	-3.958	5	-0.978	6	-5.319	6	15.694	4	-45.868	5	
422		min	-0.27	4	-6.097	2	-1.336	4	-9.226	5	11.501	6	-70.937	2	
423	12	max	-0.618	3	-11.757	5	-2.939	6	-15.957	6	14.642	4	-42.779	5	
424		min	-0.812	4	-18.169	2	-4.012	4	-27.677	5	10.731	6	-66.166	2	
425	13	max	-1.031	3	-19.555	5	-4.9	6	-26.595	6	12.539	4	-36.624	5	
426		min	-1.353	4	-30.242	2	-6.688	4	-46.128	5	9.19	6	-56.65	2	
427	14	max	-1.443	3	-27.354	5	-6.861	6	-37.234	6	9.384	4	-27.403	5	
428		min	-1.894	4	-42.314	2	-9.364	4	-64.578	5	6.878	6	-42.387	2	
429	15	max	-1.856	3	-35.152	5	-8.822	6	-47.872	6	5.176	4	-15.115	5	
430		min	-2.435	4	-54.387	2	-12.039	4	-83.029	5	3.794	6	-23.377	2	
431	16	max	-2.268	3	-42.951	5	-10.783	6	-58.51	6	-0.06	6	0.378	2	
432		min	-2.976	4	-66.459	2	-14.715	4	-101.48	5	-0.083	4	0.238	5	
433	17	max	-2.68	3	-50.75	5	-12.744	6	-69.148	6	-4.685	6	28.88	2	
434		min	-3.517	4	-78.531	2	-17.391	4	-119.931	5	-6.394	4	18.658	5	
435	18	max	-3.093	3	-58.548	5	-14.705	6	-79.786	6	-10.081	6	62.129	2	
436		min	-4.058	4	-90.604	2	-20.067	4	-138.382	5	-13.758	4	40.143	5	
437	19	max	-3.505	3	-66.347	5	-16.666	6	-90.424	6	-16.248	6	100.124	2	
438		min	-4.599	4	-102.676	2	-22.743	4	-156.833	5	-22.174	4	64.695	5	
439	20	max	-3.917	3	-74.145	5	-18.627	6	-101.062	6	-23.186	6	142.865	2	
440		min	-5.14	4	-114.748	2	-25.419	4	-175.284	5	-31.641	4	92.313	5	
441	A12	1	max	5.14	4	114.693	2	25.423	4	175.284	5	-23.202	6	142.865	2
442		min	3.917	3	74.091	5	18.632	6	101.062	6	-31.657	4	92.313	5	
443	2	max	4.599	4	102.62	2	22.747	4	156.833	5	-16.262	6	100.146	2	



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
444		min	3.505	3	66.292	5	16.671	6	90.424	6	-22.188	4	64.717	5	
445	3	max	4.058	4	90.548	2	20.072	4	138.382	5	-10.093	6	62.173	2	
446		min	3.093	3	58.494	5	14.71	6	79.786	6	-13.771	4	40.186	5	
447	4	max	3.517	4	78.475	2	17.396	4	119.931	5	-4.696	6	28.946	2	
448		min	2.68	3	50.695	5	12.749	6	69.147	6	-6.406	4	18.722	5	
449	5	max	2.976	4	66.403	2	14.72	4	101.48	5	-0.069	6	0.466	2	
450		min	2.268	3	42.896	5	10.788	6	58.509	6	-0.092	4	0.324	5	
451	6	max	2.435	4	54.331	2	12.044	4	83.029	5	5.169	4	-15.008	5	
452		min	1.856	3	35.098	5	8.827	6	47.871	6	3.787	6	-23.267	2	
453	7	max	1.894	4	42.258	2	9.368	4	64.578	5	9.378	4	-27.274	5	
454		min	1.443	3	27.299	5	6.866	6	37.233	6	6.872	6	-42.255	2	
455	8	max	1.353	4	30.186	2	6.692	4	46.127	5	12.535	4	-36.474	5	
456		min	1.031	3	19.501	5	4.905	6	26.595	6	9.185	6	-56.496	2	
457	9	max	0.812	4	18.114	2	4.016	4	27.676	5	14.64	4	-42.608	5	
458		min	0.619	3	11.702	5	2.944	6	15.957	6	10.728	6	-65.99	2	
459	10	max	0.271	4	6.041	2	1.34	4	9.225	5	15.693	4	-45.675	5	
460		min	0.206	3	3.903	5	0.983	6	5.319	6	11.5	6	-70.739	2	
461	11	max	-0.206	3	-3.895	5	-0.978	6	-5.319	6	15.694	4	-45.677	5	
462		min	-0.271	4	-6.031	2	-1.336	4	-9.225	5	11.501	6	-70.741	2	
463	12	max	-0.619	3	-11.694	5	-2.939	6	-15.957	6	14.642	4	-42.613	5	
464		min	-0.812	4	-18.104	2	-4.012	4	-27.676	5	10.731	6	-65.996	2	
465	13	max	-1.031	3	-19.492	5	-4.9	6	-26.595	6	12.539	4	-36.482	5	
466		min	-1.353	4	-30.176	2	-6.688	4	-46.127	5	9.19	6	-56.506	2	
467	14	max	-1.443	3	-27.291	5	-6.861	6	-37.233	6	9.384	4	-27.285	5	
468		min	-1.894	4	-42.248	2	-9.364	4	-64.578	5	6.878	6	-42.269	2	
469	15	max	-1.856	3	-35.09	5	-8.822	6	-47.871	6	5.176	4	-15.023	5	
470		min	-2.435	4	-54.321	2	-12.039	4	-83.029	5	3.794	6	-23.285	2	
471	16	max	-2.268	3	-42.888	5	-10.783	6	-58.509	6	-0.06	6	0.445	2	
472		min	-2.976	4	-66.393	2	-14.715	4	-101.48	5	-0.083	4	0.306	5	
473	17	max	-2.68	3	-50.687	5	-12.744	6	-69.147	6	-4.685	6	28.921	2	
474		min	-3.517	4	-78.465	2	-17.391	4	-119.931	5	-6.394	4	18.701	5	
475	18	max	-3.093	3	-58.485	5	-14.705	6	-79.786	6	-10.081	6	62.143	2	
476		min	-4.058	4	-90.538	2	-20.067	4	-138.382	5	-13.758	4	40.162	5	
477	19	max	-3.505	3	-66.284	5	-16.666	6	-90.424	6	-16.248	6	100.112	2	
478		min	-4.599	4	-102.61	2	-22.743	4	-156.833	5	-22.174	4	64.689	5	
479	20	max	-3.917	3	-74.083	5	-18.627	6	-101.062	6	-23.186	6	142.827	2	
480		min	-5.14	4	-114.683	2	-25.419	4	-175.284	5	-31.641	4	92.282	5	
481	A13	1	max	5.14	4	114.727	2	25.423	4	175.284	5	-23.202	6	142.827	2
482		min	3.917	3	74.128	5	18.632	6	101.062	6	-31.657	4	92.282	5	
483	2	max	4.599	4	102.655	2	22.747	4	156.833	5	-16.262	6	100.094	2	
484		min	3.505	3	66.329	5	16.671	6	90.424	6	-22.188	4	64.671	5	
485	3	max	4.058	4	90.582	2	20.072	4	138.382	5	-10.093	6	62.108	2	
486		min	3.093	3	58.531	5	14.71	6	79.786	6	-13.771	4	40.126	5	
487	4	max	3.517	4	78.51	2	17.396	4	119.931	5	-4.696	6	28.868	2	
488		min	2.68	3	50.732	5	12.749	6	69.147	6	-6.406	4	18.648	5	
489	5	max	2.976	4	66.438	2	14.72	4	101.48	5	-0.069	6	0.375	2	
490		min	2.268	3	42.933	5	10.788	6	58.509	6	-0.092	4	0.235	5	
491	6	max	2.435	4	54.365	2	12.044	4	83.029	5	5.169	4	-15.112	5	
492		min	1.856	3	35.135	5	8.827	6	47.871	6	3.787	6	-23.373	2	
493	7	max	1.894	4	42.293	2	9.368	4	64.578	5	9.378	4	-27.392	5	
494		min	1.443	3	27.336	5	6.866	6	37.233	6	6.872	6	-42.374	2	
495	8	max	1.353	4	30.22	2	6.692	4	46.127	5	12.535	4	-36.607	5	
496		min	1.031	3	19.538	5	4.905	6	26.595	6	9.185	6	-56.628	2	
497	9	max	0.812	4	18.148	2	4.016	4	27.676	5	14.64	4	-42.755	5	
498		min	0.619	3	11.739	5	2.944	6	15.957	6	10.728	6	-66.136	2	
499	10	max	0.271	4	6.076	2	1.34	4	9.225	5	15.693	4	-45.837	5	
500		min	0.206	3	3.94	5	0.983	6	5.319	6	11.5	6	-70.898	2	
501	11	max	-0.206	3	-3.858	5	-0.978	6	-5.319	6	15.694	4	-45.853	5	

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
502		min	-0.271	4	-5.997	2	-1.336	4	-9.225	5	11.501	6	-70.914	2
503		max	-0.619	3	-11.657	5	-2.939	6	-15.957	6	14.642	4	-42.803	5
504		min	-0.812	4	-18.069	2	-4.012	4	-27.676	5	10.731	6	-66.183	2
505		max	-1.031	3	-19.455	5	-4.9	6	-26.595	6	12.539	4	-36.687	5
506		min	-1.353	4	-30.141	2	-6.688	4	-46.127	5	9.19	6	-56.706	2
507		max	-1.443	3	-27.254	5	-6.861	6	-37.233	6	9.384	4	-27.505	5
508		min	-1.894	4	-42.214	2	-9.364	4	-64.578	5	6.878	6	-42.482	2
509		max	-1.856	3	-35.053	5	-8.822	6	-47.871	6	5.176	4	-15.257	5
510		min	-2.435	4	-54.286	2	-12.039	4	-83.029	5	3.794	6	-23.512	2
511		max	-2.268	3	-42.851	5	-10.783	6	-58.509	6	-0.06	6	0.452	3
512		min	-2.976	4	-66.359	2	-14.715	4	-101.48	5	-0.083	4	0.057	5
513		max	-2.68	3	-50.65	5	-12.744	6	-69.147	6	-4.685	6	28.666	2
514		min	-3.517	4	-78.431	2	-17.391	4	-119.931	5	-6.394	4	18.438	5
515		max	-3.093	3	-58.448	5	-14.705	6	-79.785	6	-10.081	6	61.875	2
516		min	-4.058	4	-90.503	2	-20.067	4	-138.382	5	-13.758	4	39.884	5
517		max	-3.505	3	-66.247	5	-16.666	6	-90.424	6	-16.248	6	99.83	2
518		min	-4.599	4	-102.576	2	-22.743	4	-156.833	5	-22.174	4	64.396	5
519		max	-3.917	3	-74.046	5	-18.627	6	-101.062	6	-23.186	6	142.532	2
520		min	-5.14	4	-114.648	2	-25.419	4	-175.284	5	-31.641	4	91.975	5
521	A14	max	5.14	4	114.514	2	25.423	4	175.283	5	-23.202	6	142.532	2
522		min	3.917	3	73.908	5	18.632	6	101.062	6	-31.657	4	91.975	5
523		max	4.599	4	102.442	2	22.747	4	156.833	5	-16.262	6	99.883	2
524		min	3.505	3	66.109	5	16.671	6	90.424	6	-22.188	4	64.451	5
525		max	4.058	4	90.369	2	20.072	4	138.382	5	-10.093	6	61.98	2
526		min	3.093	3	58.31	5	14.71	6	79.785	6	-13.771	4	39.993	5
527		max	3.517	4	78.297	2	17.396	4	119.931	5	-4.696	6	28.824	2
528		min	2.68	3	50.512	5	12.749	6	69.147	6	-6.406	4	18.601	5
529		max	2.976	4	66.225	2	14.72	4	101.48	5	-0.069	6	0.414	2
530		min	2.268	3	42.713	5	10.788	6	58.509	6	-0.092	4	0.275	5
531		max	2.435	4	54.152	2	12.044	4	83.029	5	5.169	4	-14.985	5
532		min	1.856	3	34.914	5	8.827	6	47.871	6	3.787	6	-23.249	2
533		max	1.894	4	42.08	2	9.368	4	64.578	5	9.378	4	-27.179	5
534		min	1.443	3	27.116	5	6.866	6	37.233	6	6.872	6	-42.167	2
535		max	1.353	4	30.008	2	6.692	4	46.127	5	12.535	4	-36.307	5
536		min	1.031	3	19.317	5	4.905	6	26.595	6	9.185	6	-56.338	2
537		max	0.812	4	17.935	2	4.016	4	27.676	5	14.64	4	-42.369	5
538		min	0.619	3	11.519	5	2.944	6	15.957	6	10.728	6	-65.762	2
539		max	0.271	4	5.863	2	1.34	4	9.225	5	15.693	4	-45.364	5
540		min	0.206	3	3.72	5	0.983	6	5.319	6	11.5	6	-70.44	2
541		max	-0.206	3	-4.079	5	-0.978	6	-5.319	6	15.694	4	-45.294	5
542		min	-0.271	4	-6.21	2	-1.336	4	-9.226	5	11.501	6	-70.372	2
543		max	-0.619	3	-11.877	5	-2.939	6	-15.957	6	14.642	4	-42.157	5
544		min	-0.812	4	-18.282	2	-4.012	4	-27.676	5	10.731	6	-65.558	2
545		max	-1.031	3	-19.676	5	-4.9	6	-26.595	6	12.539	4	-35.954	5
546		min	-1.353	4	-30.354	2	-6.688	4	-46.127	5	9.19	6	-55.997	2
547		max	-1.443	3	-27.474	5	-6.861	6	-37.233	6	9.384	4	-26.686	5
548		min	-1.894	4	-42.427	2	-9.364	4	-64.578	5	6.878	6	-41.69	2
549		max	-1.856	3	-35.273	5	-8.822	6	-47.871	6	5.176	4	-14.351	5
550		min	-2.435	4	-54.499	2	-12.039	4	-83.029	5	3.794	6	-22.636	2
551		max	-2.268	3	-43.072	5	-10.783	6	-58.509	6	-0.06	6	1.204	1
552		min	-2.976	4	-66.571	2	-14.715	4	-101.48	5	-0.083	4	-0.108	3
553		max	-2.68	3	-50.87	5	-12.744	6	-69.147	6	-4.685	6	29.71	2
554		min	-3.517	4	-78.644	2	-17.391	4	-119.931	5	-6.394	4	19.517	5
555		max	-3.093	3	-58.669	5	-14.705	6	-79.786	6	-10.081	6	63.003	2
556		min	-4.058	4	-90.716	2	-20.067	4	-138.382	5	-13.758	4	41.05	5
557		max	-3.505	3	-66.468	5	-16.666	6	-90.424	6	-16.248	6	101.042	2
558		min	-4.599	4	-102.788	2	-22.743	4	-156.833	5	-22.174	4	65.649	5
559		max	-3.917	3	-74.266	5	-18.627	6	-101.062	6	-23.186	6	143.827	2



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
560		min	-5.14	4	-114.861	2	-25.419	4	-175.284	5	-31.641	4	93.315	5	
561	A15	1	max	5.149	4	115.386	2	25.426	4	175.28	5	-23.203	6	143.827	2
562		min	3.926	3	74.81	5	18.634	6	101.058	6	-31.659	4	93.315	5	
563		2	max	4.608	4	103.314	2	22.75	4	156.829	5	-16.262	6	100.835	2
564		min	3.514	3	67.011	5	16.673	6	90.42	6	-22.189	4	65.436	5	
565		3	max	4.067	4	91.242	2	20.074	4	138.378	5	-10.093	6	62.589	2
566		min	3.102	3	59.213	5	14.712	6	79.781	6	-13.77	4	40.623	5	
567		4	max	3.526	4	79.169	2	17.398	4	119.927	5	-4.694	6	29.09	2
568		min	2.689	3	51.414	5	12.751	6	69.143	6	-6.404	4	18.876	5	
569		5	max	2.985	4	67.097	2	14.722	4	101.476	5	-0.067	6	0.374	3
570		min	2.277	3	43.615	5	10.79	6	58.505	6	-0.09	4	0.195	5	
571		6	max	2.444	4	55.025	2	12.047	4	83.025	5	5.173	4	-15.419	5
572		min	1.865	3	35.817	5	8.829	6	47.867	6	3.79	6	-23.669	2	
573		7	max	1.903	4	42.952	2	9.371	4	64.574	5	9.383	4	-27.968	5
574		min	1.452	3	28.018	5	6.868	6	37.229	6	6.875	6	-42.929	2	
575		8	max	1.362	4	30.88	2	6.695	4	46.123	5	12.541	4	-37.45	5
576		min	1.04	3	20.219	5	4.907	6	26.591	6	9.19	6	-57.443	2	
577		9	max	0.821	4	18.807	2	4.019	4	27.673	5	14.647	4	-43.867	5
578		min	0.628	3	12.421	5	2.946	6	15.953	6	10.733	6	-67.211	2	
579		10	max	0.28	4	6.735	2	1.343	4	9.222	5	15.701	4	-47.217	5
580		min	0.215	3	4.622	5	0.985	6	5.315	6	11.506	6	-72.232	2	
581		11	max	-0.197	3	-3.176	5	-0.976	6	-5.323	6	15.703	4	-47.501	5
582		min	-0.262	6	-5.61	3	-1.333	4	-9.229	5	11.508	6	-72.507	2	
583		12	max	-0.61	3	-10.975	5	-2.937	6	-15.961	6	14.653	4	-44.719	5
584		min	-0.802	4	-17.41	2	-4.009	4	-27.68	5	10.738	6	-68.035	2	
585		13	max	-1.022	3	-18.774	5	-4.898	6	-26.599	6	12.551	4	-38.871	5
586		min	-1.343	4	-29.482	2	-6.685	4	-46.131	5	9.198	6	-58.817	2	
587		14	max	-1.434	3	-26.572	5	-6.859	6	-37.237	6	9.396	4	-29.957	5
588		min	-1.885	4	-41.554	2	-9.361	4	-64.582	5	6.887	6	-44.853	2	
589		15	max	-1.847	3	-34.371	5	-8.82	6	-47.875	6	5.19	4	-17.977	5
590		min	-2.426	4	-53.627	2	-12.037	4	-83.033	5	3.804	6	-26.142	2	
591		16	max	-2.259	3	-42.169	5	-10.781	6	-58.513	6	-0.049	6	2.142	3
592		min	-2.967	4	-65.699	2	-14.713	4	-101.484	5	-0.068	4	-3.368	1	
593		17	max	-2.671	3	-49.968	5	-12.742	6	-69.151	6	-4.673	6	26.84	3
594		min	-3.508	4	-77.772	2	-17.389	4	-119.935	5	-6.379	4	15.181	5	
595		18	max	-3.084	3	-57.767	5	-14.703	6	-79.79	6	-10.069	6	58.468	2
596		min	-4.049	4	-89.844	2	-20.064	4	-138.386	5	-13.741	4	36.36	5	
597		19	max	-3.496	3	-65.565	5	-16.664	6	-90.428	6	-16.235	6	96.164	2
598		min	-4.59	4	-101.916	2	-22.74	4	-156.836	5	-22.156	4	60.604	5	
599		20	max	-3.908	3	-73.364	5	-18.625	6	-101.066	6	-23.172	6	138.606	2
600		min	-5.131	4	-113.989	2	-25.416	4	-175.287	5	-31.622	4	87.915	5	
601	A16	1	max	11.161	4	118.621	2	17.076	4	106.45	5	-5.894	6	138.606	2
602		min	9.172	6	78.672	5	12.658	6	19.461	3	-8.056	4	87.915	5	
603		2	max	10.883	4	112.421	2	15.701	4	96.974	5	-3.44	6	115.279	2
604		min	8.895	6	74.666	5	11.651	6	12.982	3	-4.746	4	72.433	5	
605		3	max	10.605	4	106.221	2	14.327	4	87.497	5	-1.189	6	93.204	2
606		min	8.619	6	70.661	5	10.644	6	6.502	3	-1.714	4	57.76	5	
607		4	max	10.327	4	100.02	2	12.953	4	78.021	5	1.04	4	72.381	2
608		min	8.343	6	66.655	5	9.637	6	0.022	3	0.859	6	43.896	5	
609		5	max	10.049	4	93.82	2	11.578	4	68.544	5	3.517	4	52.81	2
610		min	8.067	6	62.65	5	8.629	6	-6.457	3	2.703	6	30.841	5	
611		6	max	9.772	4	87.619	2	10.204	4	59.068	5	5.716	4	34.491	2
612		min	7.791	6	58.644	5	7.622	6	-12.937	3	4.344	6	18.594	5	
613		7	max	9.494	4	81.419	2	8.83	4	49.591	5	7.638	4	17.424	2
614		min	7.514	6	54.639	5	6.615	6	-19.416	3	5.781	6	7.157	5	
615		8	max	9.216	4	75.218	2	7.455	4	40.114	5	9.282	4	1.609	2
616		min	7.238	6	50.633	5	5.608	6	-25.896	3	7.016	6	-3.472	5	
617		9	max	8.938	4	69.018	2	6.081	4	30.638	5	10.648	4	-10.539	1

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
618		min	6.962	6	46.628	5	4.601	6	-32.375	3	8.046	6	-14.885	3
619	10	max	8.66	4	62.817	2	4.706	4	21.161	5	11.738	4	-20.227	1
620		min	6.686	6	42.623	5	3.593	6	-38.855	3	8.874	6	-27.574	3
621	11	max	8.382	4	56.617	2	3.332	4	11.685	5	12.549	4	-28.993	1
622		min	6.41	6	38.617	5	2.586	6	-45.334	3	9.497	6	-39.185	3
623	12	max	8.104	4	50.416	2	1.958	4	2.208	5	13.083	4	-36.837	1
624		min	6.133	6	34.612	5	1.579	6	-51.814	3	9.918	6	-49.717	3
625	13	max	7.826	4	44.216	2	0.583	4	-7.268	5	13.34	4	-43.76	1
626		min	5.857	6	30.606	5	0.45	3	-58.293	3	10.135	6	-59.17	3
627	14	max	7.548	4	38.801	3	-0.435	6	-16.745	5	13.319	4	-49.761	1
628		min	5.581	6	26.601	5	-0.858	3	-64.773	3	10.149	6	-67.545	3
629	15	max	7.271	4	33.459	3	-1.442	6	-26.222	5	13.02	4	-54.841	1
630		min	5.305	6	22.595	5	-2.166	3	-71.252	3	9.959	6	-74.841	3
631	16	max	6.993	4	28.117	3	-2.45	6	-35.698	5	12.444	4	-58.998	1
632		min	5.029	6	18.308	1	-3.54	4	-77.732	3	9.566	6	-81.058	3
633	17	max	6.715	4	22.775	3	-3.457	6	-45.175	5	11.591	4	-62.234	1
634		min	4.752	6	13.743	1	-4.914	4	-84.211	3	8.97	6	-86.196	3
635	18	max	6.437	4	17.432	3	-4.464	6	-54.651	5	10.46	4	-64.549	1
636		min	4.476	6	9.179	1	-6.289	4	-90.691	3	8.17	6	-90.255	3
637	19	max	6.159	4	12.09	3	-5.471	6	-64.128	5	9.051	4	-65.941	1
638		min	4.2	6	4.615	1	-7.663	4	-97.17	3	7.167	6	-93.236	3
639	20	max	5.881	4	6.748	3	-6.478	6	-71.519	1	7.365	4	-66.412	1
640		min	3.924	6	0.05	1	-9.037	4	-103.65	3	5.961	6	-95.138	3
641	A17	1	max	0	6	8.011	3	0	6	0	6	0	8.512	3
642		min	0	1	4.807	1	0	1	0	1	0	1	5.107	1
643	2	max	0	6	7.59	3	0	6	0	6	0	6	7.64	3
644		min	0	1	4.554	1	0	1	0	1	0	1	4.584	1
645	3	max	0	6	7.168	3	0	6	0	6	0	6	6.814	3
646		min	0	1	4.301	1	0	1	0	1	0	1	4.089	1
647	4	max	0	6	6.746	3	0	6	0	6	0	6	6.036	3
648		min	0	1	4.048	1	0	1	0	1	0	1	3.622	1
649	5	max	0	6	6.325	3	0	6	0	6	0	6	5.305	3
650		min	0	1	3.795	1	0	1	0	1	0	1	3.183	1
651	6	max	0	6	5.903	3	0	6	0	6	0	6	4.621	3
652		min	0	1	3.542	1	0	1	0	1	0	1	2.773	1
653	7	max	0	6	5.481	3	0	6	0	6	0	6	3.985	3
654		min	0	1	3.289	1	0	1	0	1	0	1	2.391	1
655	8	max	0	6	5.06	3	0	6	0	6	0	6	3.395	3
656		min	0	1	3.036	1	0	1	0	1	0	1	2.037	1
657	9	max	0	6	4.638	3	0	6	0	6	0	6	2.853	3
658		min	0	1	2.783	1	0	1	0	1	0	1	1.712	1
659	10	max	0	6	4.216	3	0	6	0	6	0	6	2.358	3
660		min	0	1	2.53	1	0	1	0	1	0	1	1.415	1
661	11	max	0	6	3.795	3	0	6	0	6	0	6	1.91	3
662		min	0	1	2.277	1	0	1	0	1	0	1	1.146	1
663	12	max	0	6	3.373	3	0	6	0	6	0	6	1.509	3
664		min	0	1	2.024	1	0	1	0	1	0	1	0.905	1
665	13	max	0	6	2.952	3	0	6	0	6	0	6	1.155	3
666		min	0	1	1.771	1	0	1	0	1	0	1	0.693	1
667	14	max	0	6	2.53	3	0	6	0	6	0	6	0.849	3
668		min	0	1	1.518	1	0	1	0	1	0	1	0.509	1
669	15	max	0	6	2.108	3	0	6	0	6	0	6	0.589	3
670		min	0	1	1.265	1	0	1	0	1	0	1	0.354	1
671	16	max	0	6	1.687	3	0	6	0	6	0	6	0.377	3
672		min	0	1	1.012	1	0	1	0	1	0	1	0.226	1
673	17	max	0	6	1.265	3	0	6	0	6	0	6	0.212	3
674		min	0	1	0.759	1	0	1	0	1	0	1	0.127	1
675	18	max	0	6	0.843	3	0	6	0	6	0	6	0.094	3

**Envelope Member Section Forces (Continued)**

Member	Sec	Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC					
676		min	0	1	0.506	1	0	1	0	1					
677	19	max	0	6	0.422	3	0	6	0	6					
678		min	0	1	0.253	1	0	1	0	1					
679	20	max	0	6	0	6	0	6	0	6					
680		min	0	1	0	1	0	1	0	1					
681	R1	1	max	10.549	4	-30.651	1	-1.806	6	0	6	7.365	4	-101.144	1
682		min	7.355	6	-44.421	3	-2.232	4	0	1	5.961	6	-146.583	3	
683	2	max	10.549	4	-30.651	1	-1.806	6	0	6	6.977	4	-95.821	1	
684		min	7.355	6	-44.421	3	-2.232	4	0	1	5.647	6	-138.868	3	
685	3	max	10.549	4	-30.651	1	-1.806	6	0	6	6.59	4	-90.497	1	
686		min	7.355	6	-44.421	3	-2.232	4	0	1	5.333	6	-131.153	3	
687	4	max	10.549	4	-30.651	1	-1.806	6	0	6	6.202	4	-85.174	1	
688		min	7.355	6	-44.421	3	-2.232	4	0	1	5.02	6	-123.438	3	
689	5	max	10.549	4	-30.651	1	-1.806	6	0	6	5.814	4	-79.85	1	
690		min	7.355	6	-44.421	3	-2.232	4	0	1	4.706	6	-115.724	3	
691	6	max	10.549	4	-30.651	1	-1.806	6	0	6	5.427	4	-74.527	1	
692		min	7.355	6	-44.421	3	-2.232	4	0	1	4.392	6	-108.009	3	
693	7	max	10.549	4	-30.651	1	-1.806	6	0	6	5.039	4	-69.204	1	
694		min	7.355	6	-44.421	3	-2.232	4	0	1	4.078	6	-100.294	3	
695	8	max	10.549	4	-30.651	1	-1.806	6	0	6	4.651	4	-63.88	1	
696		min	7.355	6	-44.421	3	-2.232	4	0	1	3.765	6	-92.579	3	
697	9	max	10.549	4	-30.651	1	-1.806	6	0	6	4.264	4	-58.557	1	
698		min	7.355	6	-44.421	3	-2.232	4	0	1	3.451	6	-84.864	3	
699	10	max	10.549	4	-30.651	1	-1.806	6	0	6	3.876	4	-53.234	1	
700		min	7.355	6	-44.421	3	-2.232	4	0	1	3.137	6	-77.149	3	
701	11	max	10.549	4	-30.651	1	-1.806	6	0	6	3.489	4	-47.91	1	
702		min	7.355	6	-44.421	3	-2.232	4	0	1	2.824	6	-69.434	3	
703	12	max	10.549	4	-30.651	1	-1.806	6	0	6	3.101	4	-42.587	1	
704		min	7.355	6	-44.421	3	-2.232	4	0	1	2.51	6	-61.719	3	
705	13	max	10.549	4	-30.651	1	-1.806	6	0	6	2.713	4	-37.264	1	
706		min	7.355	6	-44.421	3	-2.232	4	0	1	2.196	6	-54.004	3	
707	14	max	10.549	4	-30.651	1	-1.806	6	0	6	2.326	4	-31.94	1	
708		min	7.355	6	-44.421	3	-2.232	4	0	1	1.882	6	-46.289	3	
709	15	max	10.549	4	-30.651	1	-1.806	6	0	6	1.938	4	-26.617	1	
710		min	7.355	6	-44.421	3	-2.232	4	0	1	1.569	6	-38.575	3	
711	16	max	10.549	4	-30.651	1	-1.806	6	0	6	1.55	4	-21.293	1	
712		min	7.355	6	-44.421	3	-2.232	4	0	1	1.255	6	-30.86	3	
713	17	max	10.549	4	-30.651	1	-1.806	6	0	6	1.163	4	-15.97	1	
714		min	7.355	6	-44.421	3	-2.232	4	0	1	0.941	6	-23.145	3	
715	18	max	10.549	4	-30.651	1	-1.806	6	0	6	0.775	4	-10.647	1	
716		min	7.355	6	-44.421	3	-2.232	4	0	1	0.627	6	-15.43	3	
717	19	max	10.549	4	-30.651	1	-1.806	6	0	6	0.388	4	-5.323	1	
718		min	7.355	6	-44.421	3	-2.232	4	0	1	0.314	6	-7.715	3	
719	20	max	10.549	4	-30.651	1	-1.806	6	0	6	0	6	0	6	
720		min	7.355	6	-44.421	3	-2.232	4	0	1	0	1	0	1	
721	R2	1	max	-11.837	6	63.797	2	9.986	4	0	6	0	6	0	6
722		min	-16.078	4	11.84	5	8.203	6	0	1	0	1	0	1	
723	2	max	-11.837	6	63.797	2	9.986	4	0	6	3.241	4	-3.843	5	
724		min	-16.078	4	11.84	5	8.203	6	0	1	2.662	6	-20.706	2	
725	3	max	-11.837	6	63.797	2	9.986	4	0	6	6.482	4	-7.685	5	
726		min	-16.078	4	11.84	5	8.203	6	0	1	5.325	6	-41.412	2	
727	4	max	-11.837	6	63.797	2	9.986	4	0	6	9.723	4	-11.528	5	
728		min	-16.078	4	11.84	5	8.203	6	0	1	7.987	6	-62.119	2	
729	5	max	-11.837	6	63.797	2	9.986	4	0	6	12.964	4	-15.371	5	
730		min	-16.078	4	11.84	5	8.203	6	0	1	10.649	6	-82.825	2	
731	6	max	-11.837	6	63.797	2	9.986	4	0	6	16.206	4	-19.214	5	
732		min	-16.078	4	11.84	5	8.203	6	0	1	13.311	6	-103.531	2	
733	7	max	-11.837	6	63.797	2	9.986	4	0	6	19.447	4	-23.056	5	

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
734		min	-16.078	4	11.84	5	8.203	6	0	1	15.974	6	-124.237	2	
735	8	max	-11.837	6	63.797	2	9.986	4	0	6	22.688	4	-26.899	5	
736		min	-16.078	4	11.84	5	8.203	6	0	1	18.636	6	-144.943	2	
737	9	max	-11.837	6	63.797	2	9.986	4	0	6	25.929	4	-30.742	5	
738		min	-16.078	4	11.84	5	8.203	6	0	1	21.298	6	-165.65	2	
739	10	max	-11.837	6	63.797	2	9.986	4	0	6	29.17	4	-34.584	5	
740		min	-16.078	4	11.84	5	8.203	6	0	1	23.961	6	-186.356	2	
741	11	max	-11.837	6	63.797	2	9.986	4	0	6	32.411	4	-38.427	5	
742		min	-16.078	4	11.84	5	8.203	6	0	1	26.623	6	-207.062	2	
743	12	max	-11.837	6	63.797	2	9.986	4	0	6	35.652	4	-42.27	5	
744		min	-16.078	4	11.84	5	8.203	6	0	1	29.285	6	-227.768	2	
745	13	max	26.414	4	-125.792	6	-4.948	3	0	6	14.326	4	-285.791	6	
746		min	19.446	6	-168.813	2	-6.306	4	0	1	11.242	3	-383.531	2	
747	14	max	26.414	4	-125.792	6	-4.948	3	0	6	12.28	4	-244.964	6	
748		min	19.446	6	-168.813	2	-6.306	4	0	1	9.636	3	-328.74	2	
749	15	max	26.414	4	-125.792	6	-4.948	3	0	6	10.233	4	-204.137	6	
750		min	19.446	6	-168.813	2	-6.306	4	0	1	8.03	3	-273.95	2	
751	16	max	26.414	4	-125.792	6	-4.948	3	0	6	8.186	4	-163.309	6	
752		min	19.446	6	-168.813	2	-6.306	4	0	1	6.424	3	-219.16	2	
753	17	max	26.414	4	-125.792	6	-4.948	3	0	6	6.14	4	-122.482	6	
754		min	19.446	6	-168.813	2	-6.306	4	0	1	4.818	3	-164.37	2	
755	18	max	26.414	4	-125.792	6	-4.948	3	0	6	4.093	4	-81.655	6	
756		min	19.446	6	-168.813	2	-6.306	4	0	1	3.212	3	-109.58	2	
757	19	max	26.414	4	-125.792	6	-4.948	3	0	6	2.047	4	-40.827	6	
758		min	19.446	6	-168.813	2	-6.306	4	0	1	1.606	3	-54.79	2	
759	20	max	26.414	4	-125.792	6	-4.948	3	0	6	0	6	0	6	
760		min	19.446	6	-168.813	2	-6.306	4	0	1	0	1	0	1	
761	R3	1	max	-14.099	6	47.616	2	3.89	4	0	6	0	6	0	6
762		min	-19.239	4	-0.441	5	2.966	3	0	1	0	1	0	1	
763	2	max	-14.099	6	47.616	2	3.89	4	0	6	1.263	4	0.143	5	
764		min	-19.239	4	-0.441	5	2.966	3	0	1	0.963	3	-15.454	2	
765	3	max	-14.099	6	47.616	2	3.89	4	0	6	2.525	4	0.286	5	
766		min	-19.239	4	-0.441	5	2.966	3	0	1	1.925	3	-30.908	2	
767	4	max	-14.099	6	47.616	2	3.89	4	0	6	3.788	4	0.429	5	
768		min	-19.239	4	-0.441	5	2.966	3	0	1	2.888	3	-46.362	2	
769	5	max	-14.099	6	47.616	2	3.89	4	0	6	5.051	4	0.573	5	
770		min	-19.239	4	-0.441	5	2.966	3	0	1	3.85	3	-61.817	2	
771	6	max	-14.099	6	47.616	2	3.89	4	0	6	6.313	4	0.716	5	
772		min	-19.239	4	-0.441	5	2.966	3	0	1	4.813	3	-77.271	2	
773	7	max	-14.099	6	47.616	2	3.89	4	0	6	7.576	4	0.859	5	
774		min	-19.239	4	-0.441	5	2.966	3	0	1	5.775	3	-92.725	2	
775	8	max	-14.099	6	47.616	2	3.89	4	0	6	8.839	4	1.002	5	
776		min	-19.239	4	-0.441	5	2.966	3	0	1	6.738	3	-108.179	2	
777	9	max	-14.099	6	47.616	2	3.89	4	0	6	10.101	4	1.145	5	
778		min	-19.239	4	-0.441	5	2.966	3	0	1	7.7	3	-123.633	2	
779	10	max	-14.099	6	47.616	2	3.89	4	0	6	11.364	4	1.288	5	
780		min	-19.239	4	-0.441	5	2.966	3	0	1	8.663	3	-139.087	2	
781	11	max	-14.099	6	47.616	2	3.89	4	0	6	12.627	4	1.432	5	
782		min	-19.239	4	-0.441	5	2.966	3	0	1	9.625	3	-154.541	2	
783	12	max	-14.099	6	47.616	2	3.89	4	0	6	13.889	4	1.575	5	
784		min	-19.239	4	-0.441	5	2.966	3	0	1	10.588	3	-169.996	2	
785	13	max	31.606	4	-135.354	6	-4.878	3	0	6	14.538	4	-307.515	6	
786		min	23.162	6	-182.632	2	-6.399	4	0	1	11.082	3	-414.926	2	
787	14	max	31.606	4	-135.354	6	-4.878	3	0	6	12.461	4	-263.584	6	
788		min	23.162	6	-182.632	2	-6.399	4	0	1	9.499	3	-355.651	2	
789	15	max	31.606	4	-135.354	6	-4.878	3	0	6	10.384	4	-219.653	6	
790		min	23.162	6	-182.632	2	-6.399	4	0	1	7.916	3	-296.376	2	
791	16	max	31.606	4	-135.354	6	-4.878	3	0	6	8.307	4	-175.723	6	

**Envelope Member Section Forces (Continued)**

Member	Sec	Axial[k]	LC y Shear[k]	LC z Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC
792		min 23.162	6 -182.632	2 -6.399	4 0	1 6.333	3 -237.101	2
793	17	max 31.606	4 -135.354	6 -4.878	3 0	6 6.231	4 -131.792	6
794		min 23.162	6 -182.632	2 -6.399	4 0	1 4.75	3 -177.826	2
795	18	max 31.606	4 -135.354	6 -4.878	3 0	6 4.154	4 -87.861	6
796		min 23.162	6 -182.632	2 -6.399	4 0	1 3.166	3 -118.55	2
797	19	max 31.606	4 -135.354	6 -4.878	3 0	6 2.077	4 -43.931	6
798		min 23.162	6 -182.632	2 -6.399	4 0	1 1.583	3 -59.275	2
799	20	max 31.606	4 -135.354	6 -4.878	3 0	6 0	6 0	6
800		min 23.162	6 -182.632	2 -6.399	4 0	1 0	1 0	1
801	R4	max -14.098	6 47.204	2 3.887	4 0	6 0	6 0	6
802		min -19.238	4 -0.866	5 2.962	3 0	1 0	1 0	1
803	2	max -14.098	6 47.204	2 3.887	4 0	6 1.262	4 0.281	5
804		min -19.238	4 -0.866	5 2.962	3 0	1 0.961	3 -15.321	2
805	3	max -14.098	6 47.204	2 3.887	4 0	6 2.523	4 0.562	5
806		min -19.238	4 -0.866	5 2.962	3 0	1 1.923	3 -30.641	2
807	4	max -14.098	6 47.204	2 3.887	4 0	6 3.785	4 0.844	5
808		min -19.238	4 -0.866	5 2.962	3 0	1 2.884	3 -45.962	2
809	5	max -14.098	6 47.204	2 3.887	4 0	6 5.046	4 1.125	5
810		min -19.238	4 -0.866	5 2.962	3 0	1 3.846	3 -61.283	2
811	6	max -14.098	6 47.204	2 3.887	4 0	6 6.308	4 1.406	5
812		min -19.238	4 -0.866	5 2.962	3 0	1 4.807	3 -76.603	2
813	7	max -14.098	6 47.204	2 3.887	4 0	6 7.57	4 1.687	5
814		min -19.238	4 -0.866	5 2.962	3 0	1 5.769	3 -91.924	2
815	8	max -14.098	6 47.204	2 3.887	4 0	6 8.831	4 1.969	5
816		min -19.238	4 -0.866	5 2.962	3 0	1 6.73	3 -107.244	2
817	9	max -14.098	6 47.204	2 3.887	4 0	6 10.093	4 2.25	5
818		min -19.238	4 -0.866	5 2.962	3 0	1 7.692	3 -122.565	2
819	10	max -14.098	6 47.204	2 3.887	4 0	6 11.355	4 2.531	5
820		min -19.238	4 -0.866	5 2.962	3 0	1 8.653	3 -137.886	2
821	11	max -14.098	6 47.204	2 3.887	4 0	6 12.616	4 2.812	5
822		min -19.238	4 -0.866	5 2.962	3 0	1 9.615	3 -153.206	2
823	12	max -14.098	6 47.204	2 3.887	4 0	6 13.878	4 3.094	5
824		min -19.238	4 -0.866	5 2.962	3 0	1 10.576	3 -168.527	2
825	13	max 31.605	4 -135.031	6 -4.872	3 0	6 14.525	4 -306.78	6
826		min 23.161	6 -181.958	2 -6.393	4 0	1 11.069	3 -413.396	2
827	14	max 31.605	4 -135.031	6 -4.872	3 0	6 12.45	4 -262.954	6
828		min 23.161	6 -181.958	2 -6.393	4 0	1 9.488	3 -354.339	2
829	15	max 31.605	4 -135.031	6 -4.872	3 0	6 10.375	4 -219.129	6
830		min 23.161	6 -181.958	2 -6.393	4 0	1 7.907	3 -295.283	2
831	16	max 31.605	4 -135.031	6 -4.872	3 0	6 8.3	4 -175.303	6
832		min 23.161	6 -181.958	2 -6.393	4 0	1 6.325	3 -236.226	2
833	17	max 31.605	4 -135.031	6 -4.872	3 0	6 6.225	4 -131.477	6
834		min 23.161	6 -181.958	2 -6.393	4 0	1 4.744	3 -177.17	2
835	18	max 31.605	4 -135.031	6 -4.872	3 0	6 4.15	4 -87.651	6
836		min 23.161	6 -181.958	2 -6.393	4 0	1 3.163	3 -118.113	2
837	19	max 31.605	4 -135.031	6 -4.872	3 0	6 2.075	4 -43.826	6
838		min 23.161	6 -181.958	2 -6.393	4 0	1 1.581	3 -59.057	2
839	20	max 31.605	4 -135.031	6 -4.872	3 0	6 0	6 0	6
840		min 23.161	6 -181.958	2 -6.393	4 0	1 0	1 0	1
841	R5	max -14.098	6 47.298	2 3.887	4 0	6 0	6 0	6
842		min -19.238	4 -0.769	5 2.962	3 0	1 0	1 0	1
843	2	max -14.098	6 47.298	2 3.887	4 0	6 1.262	4 0.25	5
844		min -19.238	4 -0.769	5 2.962	3 0	1 0.961	3 -15.351	2
845	3	max -14.098	6 47.298	2 3.887	4 0	6 2.523	4 0.499	5
846		min -19.238	4 -0.769	5 2.962	3 0	1 1.923	3 -30.702	2
847	4	max -14.098	6 47.298	2 3.887	4 0	6 3.785	4 0.749	5
848		min -19.238	4 -0.769	5 2.962	3 0	1 2.884	3 -46.053	2
849	5	max -14.098	6 47.298	2 3.887	4 0	6 5.047	4 0.998	5



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
850		min	-19.238	4	-0.769	5	2.962	3	0	1	3.846	3	-61.404	2	
851		6	max	-14.098	6	47.298	2	3.887	4	0	6	6.308	4	1.248	5
852		min	-19.238	4	-0.769	5	2.962	3	0	1	4.807	3	-76.755	2	
853		7	max	-14.098	6	47.298	2	3.887	4	0	6	7.57	4	1.498	5
854		min	-19.238	4	-0.769	5	2.962	3	0	1	5.769	3	-92.106	2	
855		8	max	-14.098	6	47.298	2	3.887	4	0	6	8.831	4	1.747	5
856		min	-19.238	4	-0.769	5	2.962	3	0	1	6.73	3	-107.457	2	
857		9	max	-14.098	6	47.298	2	3.887	4	0	6	10.093	4	1.997	5
858		min	-19.238	4	-0.769	5	2.962	3	0	1	7.692	3	-122.808	2	
859		10	max	-14.098	6	47.298	2	3.887	4	0	6	11.355	4	2.246	5
860		min	-19.238	4	-0.769	5	2.962	3	0	1	8.653	3	-138.159	2	
861		11	max	-14.098	6	47.298	2	3.887	4	0	6	12.616	4	2.496	5
862		min	-19.238	4	-0.769	5	2.962	3	0	1	9.615	3	-153.51	2	
863		12	max	-14.098	6	47.298	2	3.887	4	0	6	13.878	4	2.746	5
864		min	-19.238	4	-0.769	5	2.962	3	0	1	10.576	3	-168.861	2	
865		13	max	31.605	4	-135.1	6	-4.872	3	0	6	14.525	4	-306.937	6
866		min	23.161	6	-182.112	2	-6.393	4	0	1	11.069	3	-413.745	2	
867		14	max	31.605	4	-135.1	6	-4.872	3	0	6	12.45	4	-263.089	6
868		min	23.161	6	-182.112	2	-6.393	4	0	1	9.488	3	-354.638	2	
869		15	max	31.605	4	-135.1	6	-4.872	3	0	6	10.375	4	-219.241	6
870		min	23.161	6	-182.112	2	-6.393	4	0	1	7.907	3	-295.532	2	
871		16	max	31.605	4	-135.1	6	-4.872	3	0	6	8.3	4	-175.393	6
872		min	23.161	6	-182.112	2	-6.393	4	0	1	6.325	3	-236.426	2	
873		17	max	31.605	4	-135.1	6	-4.872	3	0	6	6.225	4	-131.544	6
874		min	23.161	6	-182.112	2	-6.393	4	0	1	4.744	3	-177.319	2	
875		18	max	31.605	4	-135.1	6	-4.872	3	0	6	4.15	4	-87.696	6
876		min	23.161	6	-182.112	2	-6.393	4	0	1	3.163	3	-118.213	2	
877		19	max	31.605	4	-135.1	6	-4.872	3	0	6	2.075	4	-43.848	6
878		min	23.161	6	-182.112	2	-6.393	4	0	1	1.581	3	-59.106	2	
879		20	max	31.605	4	-135.1	6	-4.872	3	0	6	0	6	0	6
880		min	23.161	6	-182.112	2	-6.393	4	0	1	0	1	0	1	
881	R6	1	max	-14.098	6	47.31	2	3.887	4	0	6	0	6	0	6
882		min	-19.238	4	-0.759	5	2.962	3	0	1	0	1	0	1	
883		2	max	-14.098	6	47.31	2	3.887	4	0	6	1.262	4	0.246	5
884		min	-19.238	4	-0.759	5	2.962	3	0	1	0.961	3	-15.355	2	
885		3	max	-14.098	6	47.31	2	3.887	4	0	6	2.523	4	0.493	5
886		min	-19.238	4	-0.759	5	2.962	3	0	1	1.923	3	-30.71	2	
887		4	max	-14.098	6	47.31	2	3.887	4	0	6	3.785	4	0.739	5
888		min	-19.238	4	-0.759	5	2.962	3	0	1	2.884	3	-46.065	2	
889		5	max	-14.098	6	47.31	2	3.887	4	0	6	5.046	4	0.986	5
890		min	-19.238	4	-0.759	5	2.962	3	0	1	3.846	3	-61.419	2	
891		6	max	-14.098	6	47.31	2	3.887	4	0	6	6.308	4	1.232	5
892		min	-19.238	4	-0.759	5	2.962	3	0	1	4.807	3	-76.774	2	
893		7	max	-14.098	6	47.31	2	3.887	4	0	6	7.57	4	1.479	5
894		min	-19.238	4	-0.759	5	2.962	3	0	1	5.769	3	-92.129	2	
895		8	max	-14.098	6	47.31	2	3.887	4	0	6	8.831	4	1.725	5
896		min	-19.238	4	-0.759	5	2.962	3	0	1	6.73	3	-107.484	2	
897		9	max	-14.098	6	47.31	2	3.887	4	0	6	10.093	4	1.972	5
898		min	-19.238	4	-0.759	5	2.962	3	0	1	7.692	3	-122.839	2	
899		10	max	-14.098	6	47.31	2	3.887	4	0	6	11.355	4	2.218	5
900		min	-19.238	4	-0.759	5	2.962	3	0	1	8.653	3	-138.194	2	
901		11	max	-14.098	6	47.31	2	3.887	4	0	6	12.616	4	2.465	5
902		min	-19.238	4	-0.759	5	2.962	3	0	1	9.615	3	-153.549	2	
903		12	max	-14.098	6	47.31	2	3.887	4	0	6	13.878	4	2.711	5
904		min	-19.238	4	-0.759	5	2.962	3	0	1	10.576	3	-168.903	2	
905		13	max	31.605	4	-135.129	6	-4.872	3	0	6	14.524	4	-307.004	6
906		min	23.161	6	-182.131	2	-6.393	4	0	1	11.069	3	-413.79	2	
907		14	max	31.605	4	-135.129	6	-4.872	3	0	6	12.45	4	-263.147	6



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
908		min	23.161	6	-182.131	2	-6.393	4	0	1	9.488	3	-354.677	2
909		15 max	31.605	4	-135.129	6	-4.872	3	0	6	10.375	4	-219.289	6
910		min	23.161	6	-182.131	2	-6.393	4	0	1	7.906	3	-295.564	2
911		16 max	31.605	4	-135.129	6	-4.872	3	0	6	8.3	4	-175.431	6
912		min	23.161	6	-182.131	2	-6.393	4	0	1	6.325	3	-236.451	2
913		17 max	31.605	4	-135.129	6	-4.872	3	0	6	6.225	4	-131.573	6
914		min	23.161	6	-182.131	2	-6.393	4	0	1	4.744	3	-177.338	2
915		18 max	31.605	4	-135.129	6	-4.872	3	0	6	4.15	4	-87.716	6
916		min	23.161	6	-182.131	2	-6.393	4	0	1	3.163	3	-118.226	2
917		19 max	31.605	4	-135.129	6	-4.872	3	0	6	2.075	4	-43.858	6
918		min	23.161	6	-182.131	2	-6.393	4	0	1	1.581	3	-59.113	2
919		20 max	31.605	4	-135.129	6	-4.872	3	0	6	0	6	0	6
920		min	23.161	6	-182.131	2	-6.393	4	0	1	0	1	0	1
921	R7	1 max	-14.101	6	47.215	2	3.872	4	0	6	0	6	0	6
922		min	-19.241	4	-0.839	5	2.948	3	0	1	0	1	0	1
923		2 max	-14.101	6	47.215	2	3.872	4	0	6	1.257	4	0.272	5
924		min	-19.241	4	-0.839	5	2.948	3	0	1	0.957	3	-15.324	2
925		3 max	-14.101	6	47.215	2	3.872	4	0	6	2.513	4	0.544	5
926		min	-19.241	4	-0.839	5	2.948	3	0	1	1.913	3	-30.648	2
927		4 max	-14.101	6	47.215	2	3.872	4	0	6	3.77	4	0.816	5
928		min	-19.241	4	-0.839	5	2.948	3	0	1	2.87	3	-45.972	2
929		5 max	-14.101	6	47.215	2	3.872	4	0	6	5.026	4	1.089	5
930		min	-19.241	4	-0.839	5	2.948	3	0	1	3.827	3	-61.297	2
931		6 max	-14.101	6	47.215	2	3.872	4	0	6	6.283	4	1.361	5
932		min	-19.241	4	-0.839	5	2.948	3	0	1	4.783	3	-76.621	2
933		7 max	-14.101	6	47.215	2	3.872	4	0	6	7.539	4	1.633	5
934		min	-19.241	4	-0.839	5	2.948	3	0	1	5.74	3	-91.945	2
935		8 max	-14.101	6	47.215	2	3.872	4	0	6	8.796	4	1.905	5
936		min	-19.241	4	-0.839	5	2.948	3	0	1	6.697	3	-107.269	2
937		9 max	-14.101	6	47.215	2	3.872	4	0	6	10.053	4	2.177	5
938		min	-19.241	4	-0.839	5	2.948	3	0	1	7.653	3	-122.593	2
939		10 max	-14.101	6	47.215	2	3.872	4	0	6	11.309	4	2.449	5
940		min	-19.241	4	-0.839	5	2.948	3	0	1	8.61	3	-137.917	2
941		11 max	-14.101	6	47.215	2	3.872	4	0	6	12.566	4	2.721	5
942		min	-19.241	4	-0.839	5	2.948	3	0	1	9.567	3	-153.241	2
943		12 max	-14.101	6	47.215	2	3.872	4	0	6	13.822	4	2.994	5
944		min	-19.241	4	-0.839	5	2.948	3	0	1	10.523	3	-168.566	2
945		13 max	31.61	4	-135	6	-4.848	3	0	6	14.466	4	-306.712	6
946		min	23.166	6	-181.975	2	-6.367	4	0	1	11.014	3	-413.434	2
947		14 max	31.61	4	-135	6	-4.848	3	0	6	12.4	4	-262.896	6
948		min	23.166	6	-181.975	2	-6.367	4	0	1	9.44	3	-354.372	2
949		15 max	31.61	4	-135	6	-4.848	3	0	6	10.333	4	-219.08	6
950		min	23.166	6	-181.975	2	-6.367	4	0	1	7.867	3	-295.31	2
951		16 max	31.61	4	-135	6	-4.848	3	0	6	8.267	4	-175.264	6
952		min	23.166	6	-181.975	2	-6.367	4	0	1	6.294	3	-236.248	2
953		17 max	31.61	4	-135	6	-4.848	3	0	6	6.2	4	-131.448	6
954		min	23.166	6	-181.975	2	-6.367	4	0	1	4.72	3	-177.187	2
955		18 max	31.61	4	-135	6	-4.848	3	0	6	4.133	4	-87.632	6
956		min	23.166	6	-181.975	2	-6.367	4	0	1	3.147	3	-118.125	2
957		19 max	31.61	4	-135	6	-4.848	3	0	6	2.067	4	-43.816	6
958		min	23.166	6	-181.975	2	-6.367	4	0	1	1.573	3	-59.063	2
959		20 max	31.61	4	-135	6	-4.848	3	0	6	0	6	0	6
960		min	23.166	6	-181.975	2	-6.367	4	0	1	0	1	0	1
961	R8	1 max	-14.098	6	53.059	2	3.887	4	0	6	0	6	0	6
962		min	-19.238	4	3.832	5	2.962	3	0	1	0	1	0	1
963		2 max	-14.098	6	53.059	2	3.887	4	0	6	1.262	4	-1.244	5
964		min	-19.238	4	3.832	5	2.962	3	0	1	0.961	3	-17.221	2
965		3 max	-14.098	6	53.059	2	3.887	4	0	6	2.523	4	-2.487	5

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
966		min	-19.238	4	3.832	5	2.962	3	0	1	1.923	3	-34.442	2
967		max	-14.098	6	53.059	2	3.887	4	0	6	3.785	4	-3.731	5
968		min	-19.238	4	3.832	5	2.962	3	0	1	2.884	3	-51.663	2
969		max	-14.098	6	53.059	2	3.887	4	0	6	5.046	4	-4.974	5
970		min	-19.238	4	3.832	5	2.962	3	0	1	3.846	3	-68.884	2
971		max	-14.098	6	53.059	2	3.887	4	0	6	6.308	4	-6.218	5
972		min	-19.238	4	3.832	5	2.962	3	0	1	4.807	3	-86.105	2
973		max	-14.098	6	53.059	2	3.887	4	0	6	7.57	4	-7.461	5
974		min	-19.238	4	3.832	5	2.962	3	0	1	5.769	3	-103.326	2
975		max	-14.098	6	53.059	2	3.887	4	0	6	8.831	4	-8.705	5
976		min	-19.238	4	3.832	5	2.962	3	0	1	6.73	3	-120.547	2
977		max	-14.098	6	53.059	2	3.887	4	0	6	10.093	4	-9.949	5
978		min	-19.238	4	3.832	5	2.962	3	0	1	7.692	3	-137.768	2
979		max	-14.098	6	53.059	2	3.887	4	0	6	11.355	4	-11.192	5
980		min	-19.238	4	3.832	5	2.962	3	0	1	8.653	3	-154.99	2
981		max	-14.098	6	53.059	2	3.887	4	0	6	12.616	4	-12.436	5
982		min	-19.238	4	3.832	5	2.962	3	0	1	9.615	3	-172.211	2
983		max	-14.098	6	53.059	2	3.887	4	0	6	13.878	4	-13.679	5
984		min	-19.238	4	3.832	5	2.962	3	0	1	10.576	3	-189.432	2
985		max	31.605	4	-142.683	6	-4.872	3	0	6	14.524	4	-324.166	6
986		min	23.161	6	-191.578	2	-6.393	4	0	1	11.069	3	-435.252	2
987		max	31.605	4	-142.683	6	-4.872	3	0	6	12.45	4	-277.857	6
988		min	23.161	6	-191.578	2	-6.393	4	0	1	9.488	3	-373.073	2
989		max	31.605	4	-142.683	6	-4.872	3	0	6	10.375	4	-231.547	6
990		min	23.161	6	-191.578	2	-6.393	4	0	1	7.906	3	-310.894	2
991		max	31.605	4	-142.683	6	-4.872	3	0	6	8.3	4	-185.238	6
992		min	23.161	6	-191.578	2	-6.393	4	0	1	6.325	3	-248.715	2
993		max	31.605	4	-142.683	6	-4.872	3	0	6	6.225	4	-138.928	6
994		min	23.161	6	-191.578	2	-6.393	4	0	1	4.744	3	-186.536	2
995		max	31.605	4	-142.683	6	-4.872	3	0	6	4.15	4	-92.619	6
996		min	23.161	6	-191.578	2	-6.393	4	0	1	3.163	3	-124.358	2
997		max	31.605	4	-142.683	6	-4.872	3	0	6	2.075	4	-46.309	6
998		min	23.161	6	-191.578	2	-6.393	4	0	1	1.581	3	-62.179	2
999		max	31.605	4	-142.683	6	-4.872	3	0	6	0	6	0	6
1000		min	23.161	6	-191.578	2	-6.393	4	0	1	0	1	0	1
1001	R9	max	-14.098	6	51.732	2	3.887	4	0	6	0	6	0	6
1002		min	-19.238	4	2.777	5	2.962	3	0	1	0	1	0	1
1003		max	-14.098	6	51.732	2	3.887	4	0	6	1.262	4	-0.901	5
1004		min	-19.238	4	2.777	5	2.962	3	0	1	0.961	3	-16.79	2
1005		max	-14.098	6	51.732	2	3.887	4	0	6	2.523	4	-1.803	5
1006		min	-19.238	4	2.777	5	2.962	3	0	1	1.923	3	-33.581	2
1007		max	-14.098	6	51.732	2	3.887	4	0	6	3.785	4	-2.704	5
1008		min	-19.238	4	2.777	5	2.962	3	0	1	2.884	3	-50.371	2
1009		max	-14.098	6	51.732	2	3.887	4	0	6	5.047	4	-3.605	5
1010		min	-19.238	4	2.777	5	2.962	3	0	1	3.846	3	-67.161	2
1011		max	-14.098	6	51.732	2	3.887	4	0	6	6.308	4	-4.506	5
1012		min	-19.238	4	2.777	5	2.962	3	0	1	4.807	3	-83.951	2
1013		max	-14.098	6	51.732	2	3.887	4	0	6	7.57	4	-5.408	5
1014		min	-19.238	4	2.777	5	2.962	3	0	1	5.769	3	-100.742	2
1015		max	-14.098	6	51.732	2	3.887	4	0	6	8.831	4	-6.309	5
1016		min	-19.238	4	2.777	5	2.962	3	0	1	6.73	3	-117.532	2
1017		max	-14.098	6	51.732	2	3.887	4	0	6	10.093	4	-7.21	5
1018		min	-19.238	4	2.777	5	2.962	3	0	1	7.692	3	-134.322	2
1019		max	-14.098	6	51.732	2	3.887	4	0	6	11.355	4	-8.112	5
1020		min	-19.238	4	2.777	5	2.962	3	0	1	8.653	3	-151.113	2
1021		max	-14.098	6	51.732	2	3.887	4	0	6	12.616	4	-9.013	5
1022		min	-19.238	4	2.777	5	2.962	3	0	1	9.615	3	-167.903	2
1023		max	-14.098	6	51.732	2	3.887	4	0	6	13.878	4	-9.914	5

**Envelope Member Section Forces (Continued)**

Member	Sec	Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
1024		min-19.238	4	2.777	5	2.962	3	0	1	10.576	3	-184.693	2	
1025	13	max31.605	4	-140.939	6	-4.872	3	0	6	14.525	4	-320.204	6	
1026		min23.161	6	-189.397	2	-6.393	4	0	1	11.069	3	-430.297	2	
1027	14	max31.605	4	-140.939	6	-4.872	3	0	6	12.45	4	-274.461	6	
1028		min23.161	6	-189.397	2	-6.393	4	0	1	9.488	3	-368.826	2	
1029	15	max31.605	4	-140.939	6	-4.872	3	0	6	10.375	4	-228.717	6	
1030		min23.161	6	-189.397	2	-6.393	4	0	1	7.907	3	-307.355	2	
1031	16	max31.605	4	-140.939	6	-4.872	3	0	6	8.3	4	-182.974	6	
1032		min23.161	6	-189.397	2	-6.393	4	0	1	6.325	3	-245.884	2	
1033	17	max31.605	4	-140.939	6	-4.872	3	0	6	6.225	4	-137.23	6	
1034		min23.161	6	-189.397	2	-6.393	4	0	1	4.744	3	-184.413	2	
1035	18	max31.605	4	-140.939	6	-4.872	3	0	6	4.15	4	-91.487	6	
1036		min23.161	6	-189.397	2	-6.393	4	0	1	3.163	3	-122.942	2	
1037	19	max31.605	4	-140.939	6	-4.872	3	0	6	2.075	4	-45.743	6	
1038		min23.161	6	-189.397	2	-6.393	4	0	1	1.581	3	-61.471	2	
1039	20	max31.605	4	-140.939	6	-4.872	3	0	6	0	6	0	6	
1040		min23.161	6	-189.397	2	-6.393	4	0	1	0	1	0	1	
1041	R10	1	max-14.098	6	46.884	2	3.887	4	0	6	0	6	0	6
1042		min-19.238	4	-1.106	5	2.962	3	0	1	0	1	0	1	
1043	2	max-14.098	6	46.884	2	3.887	4	0	6	1.262	4	0.359	5	
1044		min-19.238	4	-1.106	5	2.962	3	0	1	0.961	3	-15.217	2	
1045	3	max-14.098	6	46.884	2	3.887	4	0	6	2.523	4	0.718	5	
1046		min-19.238	4	-1.106	5	2.962	3	0	1	1.923	3	-30.434	2	
1047	4	max-14.098	6	46.884	2	3.887	4	0	6	3.785	4	1.077	5	
1048		min-19.238	4	-1.106	5	2.962	3	0	1	2.884	3	-45.651	2	
1049	5	max-14.098	6	46.884	2	3.887	4	0	6	5.046	4	1.436	5	
1050		min-19.238	4	-1.106	5	2.962	3	0	1	3.846	3	-60.867	2	
1051	6	max-14.098	6	46.884	2	3.887	4	0	6	6.308	4	1.795	5	
1052		min-19.238	4	-1.106	5	2.962	3	0	1	4.807	3	-76.084	2	
1053	7	max-14.098	6	46.884	2	3.887	4	0	6	7.57	4	2.155	5	
1054		min-19.238	4	-1.106	5	2.962	3	0	1	5.769	3	-91.301	2	
1055	8	max-14.098	6	46.884	2	3.887	4	0	6	8.831	4	2.514	5	
1056		min-19.238	4	-1.106	5	2.962	3	0	1	6.73	3	-106.518	2	
1057	9	max-14.098	6	46.884	2	3.887	4	0	6	10.093	4	2.873	5	
1058		min-19.238	4	-1.106	5	2.962	3	0	1	7.692	3	-121.735	2	
1059	10	max-14.098	6	46.884	2	3.887	4	0	6	11.355	4	3.232	5	
1060		min-19.238	4	-1.106	5	2.962	3	0	1	8.653	3	-136.952	2	
1061	11	max-14.098	6	46.884	2	3.887	4	0	6	12.616	4	3.591	5	
1062		min-19.238	4	-1.106	5	2.962	3	0	1	9.615	3	-152.168	2	
1063	12	max-14.098	6	46.884	2	3.887	4	0	6	13.878	4	3.95	5	
1064		min-19.238	4	-1.106	5	2.962	3	0	1	10.576	3	-167.385	2	
1065	13	max31.605	4	-134.565	6	-4.872	3	0	6	14.525	4	-305.723	6	
1066		min23.161	6	-181.432	2	-6.393	4	0	1	11.069	3	-412.201	2	
1067	14	max31.605	4	-134.565	6	-4.872	3	0	6	12.45	4	-262.048	6	
1068		min23.161	6	-181.432	2	-6.393	4	0	1	9.488	3	-353.315	2	
1069	15	max31.605	4	-134.565	6	-4.872	3	0	6	10.375	4	-218.373	6	
1070		min23.161	6	-181.432	2	-6.393	4	0	1	7.907	3	-294.43	2	
1071	16	max31.605	4	-134.565	6	-4.872	3	0	6	8.3	4	-174.699	6	
1072		min23.161	6	-181.432	2	-6.393	4	0	1	6.325	3	-235.544	2	
1073	17	max31.605	4	-134.565	6	-4.872	3	0	6	6.225	4	-131.024	6	
1074		min23.161	6	-181.432	2	-6.393	4	0	1	4.744	3	-176.658	2	
1075	18	max31.605	4	-134.565	6	-4.872	3	0	6	4.15	4	-87.349	6	
1076		min23.161	6	-181.432	2	-6.393	4	0	1	3.163	3	-117.772	2	
1077	19	max31.605	4	-134.565	6	-4.872	3	0	6	2.075	4	-43.675	6	
1078		min23.161	6	-181.432	2	-6.393	4	0	1	1.581	3	-58.886	2	
1079	20	max31.605	4	-134.565	6	-4.872	3	0	6	0	6	0	6	
1080		min23.161	6	-181.432	2	-6.393	4	0	1	0	1	0	1	
1081	R11	1	max-14.098	6	47.358	2	3.887	4	0	6	0	6	0	6

**Envelope Member Section Forces (Continued)**

Member	Sec	Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
1082		min-19.238	4	-0.713	5	2.962	3	0	1	0	1	0	1	
1083	2	max-14.098	6	47.358	2	3.887	4	0	6	1.262	4	0.231	5	
1084		min-19.238	4	-0.713	5	2.962	3	0	1	0.961	3	-15.371	2	
1085	3	max-14.098	6	47.358	2	3.887	4	0	6	2.523	4	0.463	5	
1086		min-19.238	4	-0.713	5	2.962	3	0	1	1.923	3	-30.741	2	
1087	4	max-14.098	6	47.358	2	3.887	4	0	6	3.785	4	0.694	5	
1088		min-19.238	4	-0.713	5	2.962	3	0	1	2.884	3	-46.112	2	
1089	5	max-14.098	6	47.358	2	3.887	4	0	6	5.046	4	0.926	5	
1090		min-19.238	4	-0.713	5	2.962	3	0	1	3.846	3	-61.483	2	
1091	6	max-14.098	6	47.358	2	3.887	4	0	6	6.308	4	1.157	5	
1092		min-19.238	4	-0.713	5	2.962	3	0	1	4.807	3	-76.853	2	
1093	7	max-14.098	6	47.358	2	3.887	4	0	6	7.57	4	1.389	5	
1094		min-19.238	4	-0.713	5	2.962	3	0	1	5.769	3	-92.224	2	
1095	8	max-14.098	6	47.358	2	3.887	4	0	6	8.831	4	1.62	5	
1096		min-19.238	4	-0.713	5	2.962	3	0	1	6.73	3	-107.594	2	
1097	9	max-14.098	6	47.358	2	3.887	4	0	6	10.093	4	1.852	5	
1098		min-19.238	4	-0.713	5	2.962	3	0	1	7.692	3	-122.965	2	
1099	10	max-14.098	6	47.358	2	3.887	4	0	6	11.355	4	2.083	5	
1100		min-19.238	4	-0.713	5	2.962	3	0	1	8.653	3	-138.336	2	
1101	11	max-14.098	6	47.358	2	3.887	4	0	6	12.616	4	2.315	5	
1102		min-19.238	4	-0.713	5	2.962	3	0	1	9.615	3	-153.706	2	
1103	12	max-14.098	6	47.358	2	3.887	4	0	6	13.878	4	2.546	5	
1104		min-19.238	4	-0.713	5	2.962	3	0	1	10.576	3	-169.077	2	
1105	13	max31.605	4	-135.197	6	-4.872	3	0	6	14.525	4	-307.159	6	
1106		min23.161	6	-182.211	2	-6.393	4	0	1	11.069	3	-413.971	2	
1107	14	max31.605	4	-135.197	6	-4.872	3	0	6	12.45	4	-263.279	6	
1108		min23.161	6	-182.211	2	-6.393	4	0	1	9.488	3	-354.832	2	
1109	15	max31.605	4	-135.197	6	-4.872	3	0	6	10.375	4	-219.399	6	
1110		min23.161	6	-182.211	2	-6.393	4	0	1	7.907	3	-295.693	2	
1111	16	max31.605	4	-135.197	6	-4.872	3	0	6	8.3	4	-175.519	6	
1112		min23.161	6	-182.211	2	-6.393	4	0	1	6.325	3	-236.555	2	
1113	17	max31.605	4	-135.197	6	-4.872	3	0	6	6.225	4	-131.639	6	
1114		min23.161	6	-182.211	2	-6.393	4	0	1	4.744	3	-177.416	2	
1115	18	max31.605	4	-135.197	6	-4.872	3	0	6	4.15	4	-87.76	6	
1116		min23.161	6	-182.211	2	-6.393	4	0	1	3.163	3	-118.277	2	
1117	19	max31.605	4	-135.197	6	-4.872	3	0	6	2.075	4	-43.88	6	
1118		min23.161	6	-182.211	2	-6.393	4	0	1	1.581	3	-59.139	2	
1119	20	max31.605	4	-135.197	6	-4.872	3	0	6	0	6	0	6	
1120		min23.161	6	-182.211	2	-6.393	4	0	1	0	1	0	1	
1121	R12	1	max-14.098	6	47.372	2	3.887	4	0	6	0	6	0	6
1122		min-19.238	4	-0.758	5	2.962	3	0	1	0	1	0	1	
1123	2	max-14.098	6	47.372	2	3.887	4	0	6	1.262	4	0.246	5	
1124		min-19.238	4	-0.758	5	2.962	3	0	1	0.961	3	-15.375	2	
1125	3	max-14.098	6	47.372	2	3.887	4	0	6	2.523	4	0.492	5	
1126		min-19.238	4	-0.758	5	2.962	3	0	1	1.923	3	-30.75	2	
1127	4	max-14.098	6	47.372	2	3.887	4	0	6	3.785	4	0.738	5	
1128		min-19.238	4	-0.758	5	2.962	3	0	1	2.884	3	-46.125	2	
1129	5	max-14.098	6	47.372	2	3.887	4	0	6	5.047	4	0.984	5	
1130		min-19.238	4	-0.758	5	2.962	3	0	1	3.846	3	-61.5	2	
1131	6	max-14.098	6	47.372	2	3.887	4	0	6	6.308	4	1.23	5	
1132		min-19.238	4	-0.758	5	2.962	3	0	1	4.807	3	-76.875	2	
1133	7	max-14.098	6	47.372	2	3.887	4	0	6	7.57	4	1.475	5	
1134		min-19.238	4	-0.758	5	2.962	3	0	1	5.769	3	-92.25	2	
1135	8	max-14.098	6	47.372	2	3.887	4	0	6	8.831	4	1.721	5	
1136		min-19.238	4	-0.758	5	2.962	3	0	1	6.73	3	-107.625	2	
1137	9	max-14.098	6	47.372	2	3.887	4	0	6	10.093	4	1.967	5	
1138		min-19.238	4	-0.758	5	2.962	3	0	1	7.692	3	-123	2	
1139	10	max-14.098	6	47.372	2	3.887	4	0	6	11.355	4	2.213	5	



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
1140		min	-19.238	4	-0.758	5	2.962	3	0	1	8.653	3	-138.375	2
1141		max	-14.098	6	47.372	2	3.887	4	0	6	12.616	4	2.459	5
1142		min	-19.238	4	-0.758	5	2.962	3	0	1	9.615	3	-153.75	2
1143		max	-14.098	6	47.372	2	3.887	4	0	6	13.878	4	2.705	5
1144		min	-19.238	4	-0.758	5	2.962	3	0	1	10.576	3	-169.125	2
1145		max	31.605	4	-135.179	6	-4.872	3	0	6	14.525	4	-307.117	6
1146		min	23.161	6	-182.233	2	-6.393	4	0	1	11.069	3	-414.021	2
1147		max	31.605	4	-135.179	6	-4.872	3	0	6	12.45	4	-263.243	6
1148		min	23.161	6	-182.233	2	-6.393	4	0	1	9.488	3	-354.875	2
1149		max	31.605	4	-135.179	6	-4.872	3	0	6	10.375	4	-219.369	6
1150		min	23.161	6	-182.233	2	-6.393	4	0	1	7.907	3	-295.729	2
1151		max	31.605	4	-135.179	6	-4.872	3	0	6	8.3	4	-175.495	6
1152		min	23.161	6	-182.233	2	-6.393	4	0	1	6.325	3	-236.583	2
1153		max	31.605	4	-135.179	6	-4.872	3	0	6	6.225	4	-131.622	6
1154		min	23.161	6	-182.233	2	-6.393	4	0	1	4.744	3	-177.437	2
1155		max	31.605	4	-135.179	6	-4.872	3	0	6	4.15	4	-87.748	6
1156		min	23.161	6	-182.233	2	-6.393	4	0	1	3.163	3	-118.292	2
1157		max	31.605	4	-135.179	6	-4.872	3	0	6	2.075	4	-43.874	6
1158		min	23.161	6	-182.233	2	-6.393	4	0	1	1.581	3	-59.146	2
1159		max	31.605	4	-135.179	6	-4.872	3	0	6	0	6	0	6
1160		min	23.161	6	-182.233	2	-6.393	4	0	1	0	1	0	1
1161	R13	max	-14.098	6	46.841	2	3.887	4	0	6	0	6	0	6
1162		min	-19.238	4	-0.961	5	2.962	3	0	1	0	1	0	1
1163		max	-14.098	6	46.841	2	3.887	4	0	6	1.262	4	0.312	5
1164		min	-19.238	4	-0.961	5	2.962	3	0	1	0.961	3	-15.203	2
1165		max	-14.098	6	46.841	2	3.887	4	0	6	2.523	4	0.624	5
1166		min	-19.238	4	-0.961	5	2.962	3	0	1	1.923	3	-30.405	2
1167		max	-14.098	6	46.841	2	3.887	4	0	6	3.785	4	0.936	5
1168		min	-19.238	4	-0.961	5	2.962	3	0	1	2.884	3	-45.608	2
1169		max	-14.098	6	46.841	2	3.887	4	0	6	5.047	4	1.247	5
1170		min	-19.238	4	-0.961	5	2.962	3	0	1	3.846	3	-60.811	2
1171		max	-14.098	6	46.841	2	3.887	4	0	6	6.308	4	1.559	5
1172		min	-19.238	4	-0.961	5	2.962	3	0	1	4.807	3	-76.013	2
1173		max	-14.098	6	46.841	2	3.887	4	0	6	7.57	4	1.871	5
1174		min	-19.238	4	-0.961	5	2.962	3	0	1	5.769	3	-91.216	2
1175		max	-14.098	6	46.841	2	3.887	4	0	6	8.831	4	2.183	5
1176		min	-19.238	4	-0.961	5	2.962	3	0	1	6.73	3	-106.419	2
1177		max	-14.098	6	46.841	2	3.887	4	0	6	10.093	4	2.495	5
1178		min	-19.238	4	-0.961	5	2.962	3	0	1	7.692	3	-121.622	2
1179		max	-14.098	6	46.841	2	3.887	4	0	6	11.355	4	2.807	5
1180		min	-19.238	4	-0.961	5	2.962	3	0	1	8.653	3	-136.824	2
1181		max	-14.098	6	46.841	2	3.887	4	0	6	12.616	4	3.119	5
1182		min	-19.238	4	-0.961	5	2.962	3	0	1	9.615	3	-152.027	2
1183		max	-14.098	6	46.841	2	3.887	4	0	6	13.878	4	3.43	5
1184		min	-19.238	4	-0.961	5	2.962	3	0	1	10.576	3	-167.23	2
1185		max	31.605	4	-134.625	6	-4.872	3	0	6	14.525	4	-305.859	6
1186		min	23.161	6	-181.361	2	-6.393	4	0	1	11.069	3	-412.039	2
1187		max	31.605	4	-134.625	6	-4.872	3	0	6	12.45	4	-262.165	6
1188		min	23.161	6	-181.361	2	-6.393	4	0	1	9.488	3	-353.176	2
1189		max	31.605	4	-134.625	6	-4.872	3	0	6	10.375	4	-218.471	6
1190		min	23.161	6	-181.361	2	-6.393	4	0	1	7.907	3	-294.313	2
1191		max	31.605	4	-134.625	6	-4.872	3	0	6	8.3	4	-174.777	6
1192		min	23.161	6	-181.361	2	-6.393	4	0	1	6.325	3	-235.451	2
1193		max	31.605	4	-134.625	6	-4.872	3	0	6	6.225	4	-131.083	6
1194		min	23.161	6	-181.361	2	-6.393	4	0	1	4.744	3	-176.588	2
1195		max	31.605	4	-134.625	6	-4.872	3	0	6	4.15	4	-87.388	6
1196		min	23.161	6	-181.361	2	-6.393	4	0	1	3.163	3	-117.725	2
1197		max	31.605	4	-134.625	6	-4.872	3	0	6	2.075	4	-43.694	6

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
1198		min	23.161	6	-181.361	2	-6.393	4	0	1	1.581	3	-58.863	2
1199		max	31.605	4	-134.625	6	-4.872	3	0	6	0	6	0	6
1200		min	23.161	6	-181.361	2	-6.393	4	0	1	0	1	0	1
1201	R14	max	-14.099	6	49.09	2	3.887	4	0	6	0	6	0	6
1202		min	-19.238	4	-0.05	5	2.962	3	0	1	0	1	0	1
1203		max	-14.099	6	49.09	2	3.887	4	0	6	1.261	4	0.016	5
1204		min	-19.238	4	-0.05	5	2.962	3	0	1	0.961	3	-15.933	2
1205		max	-14.099	6	49.09	2	3.887	4	0	6	2.523	4	0.033	5
1206		min	-19.238	4	-0.05	5	2.962	3	0	1	1.923	3	-31.865	2
1207		max	-14.099	6	49.09	2	3.887	4	0	6	3.784	4	0.049	5
1208		min	-19.238	4	-0.05	5	2.962	3	0	1	2.884	3	-47.798	2
1209		max	-14.099	6	49.09	2	3.887	4	0	6	5.046	4	0.065	5
1210		min	-19.238	4	-0.05	5	2.962	3	0	1	3.846	3	-63.731	2
1211		max	-14.099	6	49.09	2	3.887	4	0	6	6.307	4	0.082	5
1212		min	-19.238	4	-0.05	5	2.962	3	0	1	4.807	3	-79.663	2
1213		max	-14.099	6	49.09	2	3.887	4	0	6	7.569	4	0.098	5
1214		min	-19.238	4	-0.05	5	2.962	3	0	1	5.768	3	-95.596	2
1215		max	-14.099	6	49.09	2	3.887	4	0	6	8.83	4	0.114	5
1216		min	-19.238	4	-0.05	5	2.962	3	0	1	6.73	3	-111.529	2
1217		max	-14.099	6	49.09	2	3.887	4	0	6	10.092	4	0.13	5
1218		min	-19.238	4	-0.05	5	2.962	3	0	1	7.691	3	-127.462	2
1219		max	-14.099	6	49.09	2	3.887	4	0	6	11.353	4	0.147	5
1220		min	-19.238	4	-0.05	5	2.962	3	0	1	8.652	3	-143.394	2
1221		max	-14.099	6	49.09	2	3.887	4	0	6	12.615	4	0.163	5
1222		min	-19.238	4	-0.05	5	2.962	3	0	1	9.614	3	-159.327	2
1223		max	-14.099	6	49.09	2	3.887	4	0	6	13.876	4	0.179	5
1224		min	-19.238	4	-0.05	5	2.962	3	0	1	10.575	3	-175.26	2
1225		max	31.606	4	-137.003	6	-4.871	3	0	6	14.522	4	-311.261	6
1226		min	23.162	6	-185.057	2	-6.392	4	0	1	11.067	3	-420.436	2
1227		max	31.606	4	-137.003	6	-4.871	3	0	6	12.447	4	-266.795	6
1228		min	23.162	6	-185.057	2	-6.392	4	0	1	9.486	3	-360.374	2
1229		max	31.606	4	-137.003	6	-4.871	3	0	6	10.373	4	-222.329	6
1230		min	23.162	6	-185.057	2	-6.392	4	0	1	7.905	3	-300.311	2
1231		max	31.606	4	-137.003	6	-4.871	3	0	6	8.298	4	-177.864	6
1232		min	23.162	6	-185.057	2	-6.392	4	0	1	6.324	3	-240.249	2
1233		max	31.606	4	-137.003	6	-4.871	3	0	6	6.224	4	-133.398	6
1234		min	23.162	6	-185.057	2	-6.392	4	0	1	4.743	3	-180.187	2
1235		max	31.606	4	-137.003	6	-4.871	3	0	6	4.149	4	-88.932	6
1236		min	23.162	6	-185.057	2	-6.392	4	0	1	3.162	3	-120.125	2
1237		max	31.606	4	-137.003	6	-4.871	3	0	6	2.075	4	-44.466	6
1238		min	23.162	6	-185.057	2	-6.392	4	0	1	1.581	3	-60.062	2
1239		max	31.606	4	-137.003	6	-4.871	3	0	6	0	6	0	6
1240		min	23.162	6	-185.057	2	-6.392	4	0	1	0	1	0	1
1241	R15	max	-9.988	6	41.324	2	0.946	6	0	6	0	6	0	6
1242		min	-13.579	4	2.093	5	-0.314	3	0	1	0	1	0	1
1243		max	-9.988	6	41.324	2	0.946	6	0	6	0.307	6	-0.679	5
1244		min	-13.579	4	2.093	5	-0.314	3	0	1	-0.102	3	-13.412	2
1245		max	-9.988	6	41.324	2	0.946	6	0	6	0.614	6	-1.359	5
1246		min	-13.579	4	2.093	5	-0.314	3	0	1	-0.204	3	-26.824	2
1247		max	-9.988	6	41.324	2	0.946	6	0	6	0.922	6	-2.038	5
1248		min	-13.579	4	2.093	5	-0.314	3	0	1	-0.306	3	-40.236	2
1249		max	-9.988	6	41.324	2	0.946	6	0	6	1.229	6	-2.717	5
1250		min	-13.579	4	2.093	5	-0.314	3	0	1	-0.408	3	-53.648	2
1251		max	-9.988	6	41.324	2	0.946	6	0	6	1.536	6	-3.396	5
1252		min	-13.579	4	2.093	5	-0.314	3	0	1	-0.51	3	-67.06	2
1253		max	-9.988	6	41.324	2	0.946	6	0	6	1.843	6	-4.076	5
1254		min	-13.579	4	2.093	5	-0.314	3	0	1	-0.611	3	-80.473	2
1255		max	-9.988	6	41.324	2	0.946	6	0	6	2.15	6	-4.755	5



**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
1256		min	-13.579	4	2.093	5	-0.314	3	0	1	-0.713	3	-93.885	2	
1257	9	max	-9.988	6	41.324	2	0.946	6	0	6	2.458	6	-5.434	5	
1258		min	-13.579	4	2.093	5	-0.314	3	0	1	-0.815	3	-107.297	2	
1259	10	max	-9.988	6	41.324	2	0.946	6	0	6	2.765	6	-6.113	5	
1260		min	-13.579	4	2.093	5	-0.314	3	0	1	-0.917	3	-120.709	2	
1261	11	max	-9.988	6	41.324	2	0.946	6	0	6	3.072	6	-6.793	5	
1262		min	-13.579	4	2.093	5	-0.314	3	0	1	-1.019	3	-134.121	2	
1263	12	max	-9.988	6	41.324	2	0.946	6	0	6	3.379	6	-7.472	5	
1264		min	-13.579	4	2.093	5	-0.314	3	0	1	-1.121	3	-147.533	2	
1265	13	max	22.309	4	-125.929	6	-10.769	6	0	6	29.453	4	-286.102	6	
1266		min	16.409	6	-167.77	2	-12.964	4	0	1	24.466	6	-381.161	2	
1267	14	max	22.309	4	-125.929	6	-10.769	6	0	6	25.246	4	-245.231	6	
1268		min	16.409	6	-167.77	2	-12.964	4	0	1	20.971	6	-326.709	2	
1269	15	max	22.309	4	-125.929	6	-10.769	6	0	6	21.038	4	-204.359	6	
1270		min	16.409	6	-167.77	2	-12.964	4	0	1	17.476	6	-272.258	2	
1271	16	max	22.309	4	-125.929	6	-10.769	6	0	6	16.83	4	-163.487	6	
1272		min	16.409	6	-167.77	2	-12.964	4	0	1	13.981	6	-217.806	2	
1273	17	max	22.309	4	-125.929	6	-10.769	6	0	6	12.623	4	-122.615	6	
1274		min	16.409	6	-167.77	2	-12.964	4	0	1	10.485	6	-163.355	2	
1275	18	max	22.309	4	-125.929	6	-10.769	6	0	6	8.415	4	-81.744	6	
1276		min	16.409	6	-167.77	2	-12.964	4	0	1	6.99	6	-108.903	2	
1277	19	max	22.309	4	-125.929	6	-10.769	6	0	6	4.208	4	-40.872	6	
1278		min	16.409	6	-167.77	2	-12.964	4	0	1	3.495	6	-54.452	2	
1279	20	max	22.309	4	-125.929	6	-10.769	6	0	6	0	6	0	6	
1280		min	16.409	6	-167.77	2	-12.964	4	0	1	0	1	0	1	
1281	M33	1	max	-5.268	6	11.456	3	0.609	4	0	6	0	6	0	6
1282		min	-7.443	4	6.108	1	0.497	6	0	1	0	1	0	1	
1283	2	max	-5.268	6	11.456	3	0.609	4	0	6	0.173	4	-1.733	1	
1284		min	-7.443	4	6.108	1	0.497	6	0	1	0.141	6	-3.251	3	
1285	3	max	-5.268	6	11.456	3	0.609	4	0	6	0.346	4	-3.467	1	
1286		min	-7.443	4	6.108	1	0.497	6	0	1	0.282	6	-6.502	3	
1287	4	max	-5.268	6	11.456	3	0.609	4	0	6	0.519	4	-5.2	1	
1288		min	-7.443	4	6.108	1	0.497	6	0	1	0.423	6	-9.753	3	
1289	5	max	-5.268	6	11.456	3	0.609	4	0	6	0.692	4	-6.933	1	
1290		min	-7.443	4	6.108	1	0.497	6	0	1	0.564	6	-13.004	3	
1291	6	max	-5.268	6	11.456	3	0.609	4	0	6	0.865	4	-8.667	1	
1292		min	-7.443	4	6.108	1	0.497	6	0	1	0.705	6	-16.254	3	
1293	7	max	-5.268	6	11.456	3	0.609	4	0	6	1.038	4	-10.4	1	
1294		min	-7.443	4	6.108	1	0.497	6	0	1	0.846	6	-19.505	3	
1295	8	max	-5.268	6	11.456	3	0.609	4	0	6	1.211	4	-12.133	1	
1296		min	-7.443	4	6.108	1	0.497	6	0	1	0.987	6	-22.756	3	
1297	9	max	-5.268	6	11.456	3	0.609	4	0	6	1.384	4	-13.867	1	
1298		min	-7.443	4	6.108	1	0.497	6	0	1	1.127	6	-26.007	3	
1299	10	max	-5.268	6	11.456	3	0.609	4	0	6	1.557	4	-15.6	1	
1300		min	-7.443	4	6.108	1	0.497	6	0	1	1.268	6	-29.258	3	
1301	11	max	-5.268	6	11.456	3	0.609	4	0	6	1.73	4	-17.333	1	
1302		min	-7.443	4	6.108	1	0.497	6	0	1	1.409	6	-32.509	3	
1303	12	max	-5.268	6	11.456	3	0.609	4	0	6	1.903	4	-19.066	1	
1304		min	-7.443	4	6.108	1	0.497	6	0	1	1.55	6	-35.76	3	
1305	13	max	-5.268	6	11.456	3	0.609	4	0	6	2.076	4	-20.8	1	
1306		min	-7.443	4	6.108	1	0.497	6	0	1	1.691	6	-39.011	3	
1307	14	max	-5.268	6	11.456	3	0.609	4	0	6	2.248	4	-22.533	1	
1308		min	-7.443	4	6.108	1	0.497	6	0	1	1.832	6	-42.261	3	
1309	15	max	-5.268	6	11.456	3	0.609	4	0	6	2.421	4	-24.266	1	
1310		min	-7.443	4	6.108	1	0.497	6	0	1	1.973	6	-45.512	3	
1311	16	max	-5.268	6	11.456	3	0.609	4	0	6	2.594	4	-26	1	
1312		min	-7.443	4	6.108	1	0.497	6	0	1	2.114	6	-48.763	3	
1313	17	max	-5.268	6	11.456	3	0.609	4	0	6	2.767	4	-27.733	1	



**Envelope Member Section Forces (Continued)**

Member	Sec	Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
1314		min -7.443	4	6.108	1	0.497	6	0	1	2.255	6	-52.014	3
1315	18	max -5.268	6	11.456	3	0.609	4	0	6	2.94	4	-29.466	1
1316		min -7.443	4	6.108	1	0.497	6	0	1	2.396	6	-55.265	3
1317	19	max -5.268	6	11.456	3	0.609	4	0	6	3.113	4	-31.2	1
1318		min -7.443	4	6.108	1	0.497	6	0	1	2.537	6	-58.516	3
1319	20	max -5.268	6	11.456	3	0.609	4	0	6	3.286	4	-32.933	1
1320		min -7.443	4	6.108	1	0.497	6	0	1	2.678	6	-61.767	3

**Envelope Maximum Member Section Forces**

Member	Axial[k]	Loc[ft]	LCy	Shear[k]	Loc[ft]	LCz	Shear[k]	Loc[ft]	LC Torque[k-ft]	Loc[ft]	LCy-y Moment[k-ft]	Loc[ft]	LCz-z Moment[k-ft]	Loc[ft]	LC		
1	A1	max	0	2.029	6	0	0	6	0	2.029	6	0	2.029	6	7.762	2.029	3
2		min	0	0	1	-7.65	2.029	3	0	0	1	0	0	1	0	0	1
3	A2	max	-3.352	0	6	-18.361	0	1	5.72	0	4	-23.414	0	1	5.69	0.851	4
4		min	-8.074	2.378	4	-98.228	2.378	2	-10.467	2.378	4	-138.319	2.378	5	-2.358	2.378	4
5	A3	max	5.142	0	4	110.865	0	2	25.421	0	4	175.285	0	5	15.827	3.696	4
6		min	-5.138	7.47	4	-118.51	7.47	2	-25.421	7.47	4	-175.282	7.47	5	-31.642	7.47	4
7	A4	max	5.14	0	4	115.637	0	2	25.423	0	4	175.284	0	5	15.819	3.774	4
8		min	-5.14	7.47	4	-113.738	7.47	2	-25.419	7.47	4	-175.283	7.47	5	-31.657	0	4
9	A5	max	5.14	0	4	114.463	0	2	25.423	0	4	175.284	0	5	15.819	3.774	4
10		min	-5.14	7.47	4	-114.912	7.47	2	-25.419	7.47	4	-175.284	7.47	5	-31.657	0	4
11	A6	max	5.14	0	4	114.693	0	2	25.423	0	4	175.284	0	5	15.819	3.774	4
12		min	-5.14	7.47	4	-114.682	7.47	2	-25.419	7.47	4	-175.284	7.47	5	-31.657	0	4
13	A7	max	5.14	0	4	114.888	0	2	25.423	0	4	175.284	0	5	15.819	3.774	4
14		min	-5.14	7.47	4	-114.487	7.47	2	-25.419	7.47	4	-175.283	7.47	5	-31.657	0	4
15	A8	max	5.14	0	4	113.829	0	2	25.423	0	4	175.283	0	5	15.819	3.774	4
16		min	-5.14	7.47	4	-118.178	7.47	2	-25.419	7.47	4	-175.284	7.47	5	-31.657	0	4
17	A9	max	5.14	0	4	122.951	0	2	25.423	0	4	175.283	0	5	15.819	3.774	4
18		min	-5.14	7.47	4	-123.614	7.47	2	-25.419	7.47	4	-175.284	7.47	5	-31.657	0	4
19	A10	max	5.14	0	4	121.023	0	2	25.423	0	4	175.285	0	5	15.819	3.774	4
20		min	-5.14	7.47	4	-114.563	7.47	2	-25.419	7.47	4	-175.282	7.47	5	-31.657	0	4
21	A11	max	5.14	0	4	114.627	0	2	25.423	0	4	175.283	0	5	15.82	3.774	4
22		min	-5.14	7.47	4	-114.748	7.47	2	-25.419	7.47	4	-175.284	7.47	5	-31.657	0	4
23	A12	max	5.14	0	4	114.693	0	2	25.423	0	4	175.284	0	5	15.819	3.774	4
24		min	-5.14	7.47	4	-114.683	7.47	2	-25.419	7.47	4	-175.284	7.47	5	-31.657	0	4
25	A13	max	5.14	0	4	114.727	0	2	25.423	0	4	175.284	0	5	15.819	3.774	4
26		min	-5.14	7.47	4	-114.648	7.47	2	-25.419	7.47	4	-175.284	7.47	5	-31.657	0	4
27	A14	max	5.14	0	4	114.514	0	2	25.423	0	4	175.283	0	5	15.819	3.774	4
28		min	-5.14	7.47	4	-114.861	7.47	2	-25.419	7.47	4	-175.284	7.47	5	-31.657	0	4
29	A15	max	5.149	0	4	115.386	0	2	25.426	0	4	175.28	0	5	15.828	3.774	4
30		min	-5.131	7.47	4	-113.989	7.47	2	-25.416	7.47	4	-175.287	7.47	5	-31.659	0	4
31	A16	max	11.161	0	4	118.621	0	2	17.076	0	4	106.45	0	5	13.365	2.504	4
32		min	3.924	3.837	6	0.05	3.837	1	-9.037	3.837	4	-103.65	3.837	3	-8.056	0	4
33	A17	max	0	2.125	6	8.011	0	3	0	2.125	6	0	2.125	6	0	2.125	6
34		min	0	0	1	0	2.125	1	0	0	1	0	0	1	0	0	1
35	R1	max	10.549	3.3	4	-30.651	3.3	1	-1.806	3.3	6	0	3.3	6	7.365	0	4
36		min	7.355	0	6	-44.421	0	3	-2.232	0	4	0	0	1	0	3.3	1
37	R2	max	26.414	6.167	4	63.797	3.83	2	9.986	3.83	4	0	6.167	6	38.245	3.83	4
38		min	-16.078	0	4	-168.813	3.895	2	-6.306	3.895	4	0	0	1	0	0	1
39	R3	max	31.606	6.167	4	47.616	3.83	2	3.89	3.83	4	0	6.167	6	14.9	3.83	4
40		min	-19.239	0	4	-182.632	3.895	2	-6.399	3.895	4	0	0	1	0	0	1
41	R4	max	31.605	6.167	4	47.204	3.83	2	3.887	3.83	4	0	6.167	6	14.887	3.83	4
42		min	-19.238	0	4	-181.958	3.895	2	-6.393	3.895	4	0	0	1	0	0	1
43	R5	max	31.605	6.167	4	47.298	3.83	2	3.887	3.83	4	0	6.167	6	14.887	3.83	4
44		min	-19.238	0	4	-182.112	3.895	2	-6.393	3.895	4	0	0	1	0	0	1
45	R6	max	31.605	6.167	4	47.31	3.83	2	3.887	3.83	4	0	6.167	6	14.887	3.83	4
46		min	-19.238	0	4	-182.131	3.895	2	-6.393	3.895	4	0	0	1	0	0	1
47	R7	max	31.61	6.167	4	47.215	3.83	2	3.872	3.83	4	0	6.167	6	14.828	3.83	4
48		min	-19.241	0	4	-181.975	3.895	2	-6.367	3.895	4	0	0	1	0	0	1

**Envelope Maximum Member Section Forces (Continued)**

Member	Axial[k]	Loc[ft]	LCy	Shear[k]	Loc[ft]	LCz	Shear[k]	Loc[ft]	LC	Torque[k-ft]	Loc[ft]	LCy-y	Moment[k-ft]	Loc[ft]	LCz-z	Moment[k-ft]	Loc[ft]	LC		
49	R8	max	31.605	6.167	4	53.059	3.83	2	3.887	3.83	4	0	6.167	6	14.887	3.83	4	0	6.167	6
50		min	-19.238	0	4	-191.578	3.895	2	-6.393	3.895	4	0	0	1	0	0	1	-435.252	3.895	2
51	R9	max	31.605	6.167	4	51.732	3.83	2	3.887	3.83	4	0	6.167	6	14.887	3.83	4	0	6.167	6
52		min	-19.238	0	4	-189.397	3.895	2	-6.393	3.895	4	0	0	1	0	0	1	-430.297	3.895	2
53	R10	max	31.605	6.167	4	46.884	3.83	2	3.887	3.83	4	0	6.167	6	14.887	3.83	4	4.237	3.83	5
54		min	-19.238	0	4	-181.432	3.895	2	-6.393	3.895	4	0	0	1	0	0	1	-412.201	3.895	2
55	R11	max	31.605	6.167	4	47.358	3.83	2	3.887	3.83	4	0	6.167	6	14.887	3.83	4	2.731	3.83	5
56		min	-19.238	0	4	-182.211	3.895	2	-6.393	3.895	4	0	0	1	0	0	1	-413.971	3.895	2
57	R12	max	31.605	6.167	4	47.372	3.83	2	3.887	3.83	4	0	6.167	6	14.887	3.83	4	2.902	3.83	5
58		min	-19.238	0	4	-182.233	3.895	2	-6.393	3.895	4	0	0	1	0	0	1	-414.021	3.895	2
59	R13	max	31.605	6.167	4	46.841	3.83	2	3.887	3.83	4	0	6.167	6	14.887	3.83	4	3.68	3.83	5
60		min	-19.238	0	4	-181.361	3.895	2	-6.393	3.895	4	0	0	1	0	0	1	-412.039	3.895	2
61	R14	max	31.606	6.167	4	49.09	3.83	2	3.887	3.83	4	0	6.167	6	14.885	3.83	4	0.192	3.83	5
62		min	-19.238	0	4	-185.057	3.895	2	-6.392	3.895	4	0	0	1	0	0	1	-420.436	3.895	2
63	R15	max	22.309	6.167	4	41.324	3.83	2	0.946	3.83	6	0	6.167	6	29.453	3.895	4	0	6.167	6
64		min	-13.579	0	4	-167.77	3.895	2	-12.964	3.895	4	0	0	1	-1.203	3.83	3	-381.161	3.895	2
65	M33	max	-5.268	5.392	6	11.456	5.392	3	0.609	5.392	4	0	5.392	6	3.286	5.392	4	0	0	6
66		min	-7.443	0	4	6.108	0	1	0.497	0	6	0	0	1	0	0	1	-61.767	5.392	3

**Envelope Member End Reactions**

Member	Member End	Axial[k]	LC	y	Shear[k]	LC	z	Shear[k]	LC	Torque[k-ft]	LC	y-y	Moment[k-ft]	LC	z-z	Moment[k-ft]	LC
1	A1	I	max	0	6	0	6	0	6	0	6	0	0	6	0	0	6
2			min	0	1	0	1	0	1	0	1	0	0	1	0	0	1
3		J	max	0	6	-4.59	1	0	6	0	6	0	0	6	7.762	3	
4			min	0	1	-7.65	3	0	1	0	1	0	0	1	4.657	1	
5	A2	I	max	-3.352	6	-18.361	1	5.72	4	-23.414	1	3.286	4	-18.503	1		
6			min	-4.801	4	-29.326	3	4.095	6	-43.914	3	2.678	6	-35.675	3		
7		J	max	-6.605	6	-67.398	5	-7.768	6	-91.945	6	-1.69	6	119.927	2		
8			min	-8.074	4	-98.228	2	-10.467	4	-138.319	5	-2.358	4	82.955	5		
9	A3	I	max	5.142	4	110.865	2	25.421	4	175.285	5	-23.19	6	119.927	2		
10			min	3.919	3	72.535	5	18.63	6	101.061	6	-31.642	4	82.955	5		
11		J	max	-3.916	3	-75.639	5	-18.629	6	-101.062	6	-23.186	6	148.479	2		
12			min	-5.138	4	-118.51	2	-25.421	4	-175.282	5	-31.642	4	94.548	5		
13	A4	I	max	5.14	4	115.637	2	25.423	4	175.284	5	-23.202	6	148.479	2		
14			min	3.917	3	74.471	5	18.632	6	101.062	6	-31.657	4	94.548	5		
15		J	max	-3.917	3	-73.703	5	-18.627	6	-101.061	6	-23.186	6	141.386	2		
16			min	-5.14	4	-113.738	2	-25.419	4	-175.283	5	-31.641	4	91.677	5		
17	A5	I	max	5.14	4	114.463	2	25.423	4	175.284	5	-23.202	6	141.386	2		
18			min	3.917	3	74.001	5	18.632	6	101.062	6	-31.657	4	91.677	5		
19		J	max	-3.917	3	-74.173	5	-18.627	6	-101.062	6	-23.186	6	143.06	2		
20			min	-5.14	4	-114.912	2	-25.419	4	-175.284	5	-31.641	4	92.318	5		
21	A6	I	max	5.14	4	114.693	2	25.423	4	175.284	5	-23.202	6	143.06	2		
22			min	3.917	3	74.068	5	18.632	6	101.062	6	-31.657	4	92.318	5		
23		J	max	-3.917	3	-74.106	5	-18.627	6	-101.062	6	-23.186	6	143.018	2		
24			min	-5.14	4	-114.682	2	-25.419	4	-175.284	5	-31.641	4	92.459	5		
25	A7	I	max	5.14	4	114.888	2	25.423	4	175.284	5	-23.202	6	143.018	2		
26			min	3.917	3	74.253	5	18.632	6	101.062	6	-31.657	4	92.459	5		
27		J	max	-3.917	3	-73.921	5	-18.627	6	-101.062	6	-23.186	6	141.524	2		
28			min	-5.14	4	-114.487	2	-25.419	4	-175.283	5	-31.641	4	91.219	5		
29	A8	I	max	5.14	4	113.829	2	25.423	4	175.283	5	-23.202	6	141.524	2		
30			min	3.917	3	73.398	5	18.632	6	101.061	6	-31.657	4	91.219	5		
31		J	max	-3.917	3	-76.882	5	-18.627	6	-101.062	6	-23.186	6	149.441	2		
32			min	-5.14	4	-118.178	2	-25.419	4	-175.284	5	-31.641	4	97.568	5		
33	A9	I	max	5.14	4	122.951	2	25.423	4	175.283	5	-23.202	6	149.441	2		
34			min	3.917	3	80.701	5	18.632	6	101.061	6	-31.657	4	97.568	5		
35		J	max	-3.917	3	-81.225	5	-18.627	6	-101.062	6	-23.186	6	151.919	2		
36			min	-5.14	4	-123.614	2	-25.419	4	-175.284	5	-31.641	4	99.528	5		
37	A10	I	max	5.14	4	121.023	2	25.423	4	175.285	5	-23.202	6	151.919	2		

**Envelope Member End Reactions (Continued)**

Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
38		min	3.917	3	79.144	5	18.632	6	101.063	6	-31.657	4	99.528	5
39		max	-3.917	3	-73.998	5	-18.627	6	-101.061	6	-23.186	6	142.607	2
40		min	-5.14	4	-114.563	2	-25.419	4	-175.282	5	-31.641	4	92.159	5
41	A11	max	5.14	4	114.627	2	25.423	4	175.283	5	-23.202	6	142.41	2
42		min	3.917	3	74.028	5	18.632	6	101.061	6	-31.657	4	91.875	5
43		max	-3.917	3	-74.145	5	-18.627	6	-101.062	6	-23.186	6	142.865	2
44		min	-5.14	4	-114.748	2	-25.419	4	-175.284	5	-31.641	4	92.313	5
45	A12	max	5.14	4	114.693	2	25.423	4	175.284	5	-23.202	6	142.865	2
46		min	3.917	3	74.091	5	18.632	6	101.062	6	-31.657	4	92.313	5
47		max	-3.917	3	-74.083	5	-18.627	6	-101.062	6	-23.186	6	142.827	2
48		min	-5.14	4	-114.683	2	-25.419	4	-175.284	5	-31.641	4	92.282	5
49	A13	max	5.14	4	114.727	2	25.423	4	175.284	5	-23.202	6	142.827	2
50		min	3.917	3	74.128	5	18.632	6	101.062	6	-31.657	4	92.282	5
51		max	-3.917	3	-74.046	5	-18.627	6	-101.062	6	-23.186	6	142.532	2
52		min	-5.14	4	-114.648	2	-25.419	4	-175.284	5	-31.641	4	91.975	5
53	A14	max	5.14	4	114.514	2	25.423	4	175.283	5	-23.202	6	142.532	2
54		min	3.917	3	73.908	5	18.632	6	101.062	6	-31.657	4	91.975	5
55		max	-3.917	3	-74.266	5	-18.627	6	-101.062	6	-23.186	6	143.827	2
56		min	-5.14	4	-114.861	2	-25.419	4	-175.284	5	-31.641	4	93.315	5
57	A15	max	5.149	4	115.386	2	25.426	4	175.28	5	-23.203	6	143.827	2
58		min	3.926	3	74.81	5	18.634	6	101.058	6	-31.659	4	93.315	5
59		max	-3.908	3	-73.364	5	-18.625	6	-101.066	6	-23.172	6	138.606	2
60		min	-5.131	4	-113.989	2	-25.416	4	-175.287	5	-31.622	4	87.915	5
61	A16	max	11.161	4	118.621	2	17.076	4	106.45	5	-5.894	6	138.606	2
62		min	9.172	6	78.672	5	12.658	6	19.461	3	-8.056	4	87.915	5
63		max	5.881	4	6.748	3	-6.478	6	-71.519	1	7.365	4	-66.412	1
64		min	3.924	6	0.05	1	-9.037	4	-103.65	3	5.961	6	-95.138	3
65	A17	max	0	6	8.011	3	0	6	0	6	0	6	8.512	3
66		min	0	1	4.807	1	0	1	0	1	0	1	5.107	1
67		max	0	6	0	6	0	6	0	6	0	6	0	6
68		min	0	1	0	1	0	1	0	1	0	1	0	1
69	R1	max	10.549	4	-30.651	1	-1.806	6	0	6	7.365	4	-101.144	1
70		min	7.355	6	-44.421	3	-2.232	4	0	1	5.961	6	-146.583	3
71		max	10.549	4	-30.651	1	-1.806	6	0	6	0	6	0	6
72		min	7.355	6	-44.421	3	-2.232	4	0	1	0	1	0	1
73	R2	max	-11.837	6	63.797	2	9.986	4	0	6	0	6	0	6
74		min	-16.078	4	11.84	5	8.203	6	0	1	0	1	0	1
75		max	26.414	4	-125.792	6	-4.948	3	0	6	0	6	0	6
76		min	19.446	6	-168.813	2	-6.306	4	0	1	0	1	0	1
77	R3	max	-14.099	6	47.616	2	3.89	4	0	6	0	6	0	6
78		min	-19.239	4	-0.441	5	2.966	3	0	1	0	1	0	1
79		max	31.606	4	-135.354	6	-4.878	3	0	6	0	6	0	6
80		min	23.162	6	-182.632	2	-6.399	4	0	1	0	1	0	1
81	R4	max	-14.098	6	47.204	2	3.887	4	0	6	0	6	0	6
82		min	-19.238	4	-0.866	5	2.962	3	0	1	0	1	0	1
83		max	31.605	4	-135.031	6	-4.872	3	0	6	0	6	0	6
84		min	23.161	6	-181.958	2	-6.393	4	0	1	0	1	0	1
85	R5	max	-14.098	6	47.298	2	3.887	4	0	6	0	6	0	6
86		min	-19.238	4	-0.769	5	2.962	3	0	1	0	1	0	1
87		max	31.605	4	-135.1	6	-4.872	3	0	6	0	6	0	6
88		min	23.161	6	-182.112	2	-6.393	4	0	1	0	1	0	1
89	R6	max	-14.098	6	47.31	2	3.887	4	0	6	0	6	0	6
90		min	-19.238	4	-0.759	5	2.962	3	0	1	0	1	0	1
91		max	31.605	4	-135.129	6	-4.872	3	0	6	0	6	0	6
92		min	23.161	6	-182.131	2	-6.393	4	0	1	0	1	0	1
93	R7	max	-14.101	6	47.215	2	3.872	4	0	6	0	6	0	6
94		min	-19.241	4	-0.839	5	2.948	3	0	1	0	1	0	1
95		max	31.61	4	-135	6	-4.848	3	0	6	0	6	0	6

**Envelope Member End Reactions (Continued)**

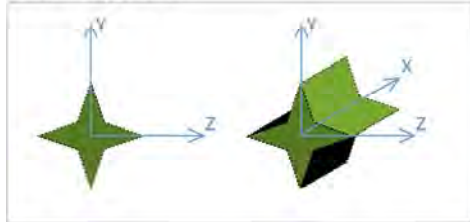
Member	Member End		Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
96		min	23.166	6	-181.975	2	-6.367	4	0	1	0	1	0	1
97	R8	max	-14.098	6	53.059	2	3.887	4	0	6	0	6	0	6
98		min	-19.238	4	3.832	5	2.962	3	0	1	0	1	0	1
99		max	31.605	4	-142.683	6	-4.872	3	0	6	0	6	0	6
100		min	23.161	6	-191.578	2	-6.393	4	0	1	0	1	0	1
101	R9	max	-14.098	6	51.732	2	3.887	4	0	6	0	6	0	6
102		min	-19.238	4	2.777	5	2.962	3	0	1	0	1	0	1
103		max	31.605	4	-140.939	6	-4.872	3	0	6	0	6	0	6
104		min	23.161	6	-189.397	2	-6.393	4	0	1	0	1	0	1
105	R10	max	-14.098	6	46.884	2	3.887	4	0	6	0	6	0	6
106		min	-19.238	4	-1.106	5	2.962	3	0	1	0	1	0	1
107		max	31.605	4	-134.565	6	-4.872	3	0	6	0	6	0	6
108		min	23.161	6	-181.432	2	-6.393	4	0	1	0	1	0	1
109	R11	max	-14.098	6	47.358	2	3.887	4	0	6	0	6	0	6
110		min	-19.238	4	-0.713	5	2.962	3	0	1	0	1	0	1
111		max	31.605	4	-135.197	6	-4.872	3	0	6	0	6	0	6
112		min	23.161	6	-182.211	2	-6.393	4	0	1	0	1	0	1
113	R12	max	-14.098	6	47.372	2	3.887	4	0	6	0	6	0	6
114		min	-19.238	4	-0.758	5	2.962	3	0	1	0	1	0	1
115		max	31.605	4	-135.179	6	-4.872	3	0	6	0	6	0	6
116		min	23.161	6	-182.233	2	-6.393	4	0	1	0	1	0	1
117	R13	max	-14.098	6	46.841	2	3.887	4	0	6	0	6	0	6
118		min	-19.238	4	-0.961	5	2.962	3	0	1	0	1	0	1
119		max	31.605	4	-134.625	6	-4.872	3	0	6	0	6	0	6
120		min	23.161	6	-181.361	2	-6.393	4	0	1	0	1	0	1
121	R14	max	-14.099	6	49.09	2	3.887	4	0	6	0	6	0	6
122		min	-19.238	4	-0.05	5	2.962	3	0	1	0	1	0	1
123		max	31.606	4	-137.003	6	-4.871	3	0	6	0	6	0	6
124		min	23.162	6	-185.057	2	-6.392	4	0	1	0	1	0	1
125	R15	max	-9.988	6	41.324	2	0.946	6	0	6	0	6	0	6
126		min	-13.579	4	2.093	5	-0.314	3	0	1	0	1	0	1
127		max	22.309	4	-125.929	6	-10.769	6	0	6	0	6	0	6
128		min	16.409	6	-167.77	2	-12.964	4	0	1	0	1	0	1
129	M33	max	-5.268	6	11.456	3	0.609	4	0	6	0	6	0	6
130		min	-7.443	4	6.108	1	0.497	6	0	1	0	1	0	1
131		max	-5.268	6	11.456	3	0.609	4	0	6	3.286	4	-32.933	1
132		min	-7.443	4	6.108	1	0.497	6	0	1	2.678	6	-61.767	3



Detail Report: R1

Unity Check: No Calc

Load Combination: Envelope

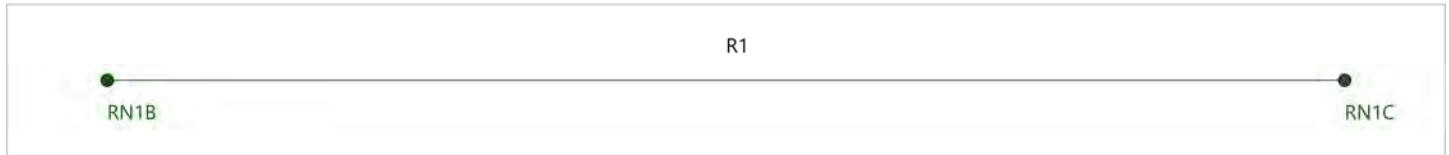


**Input Data:**

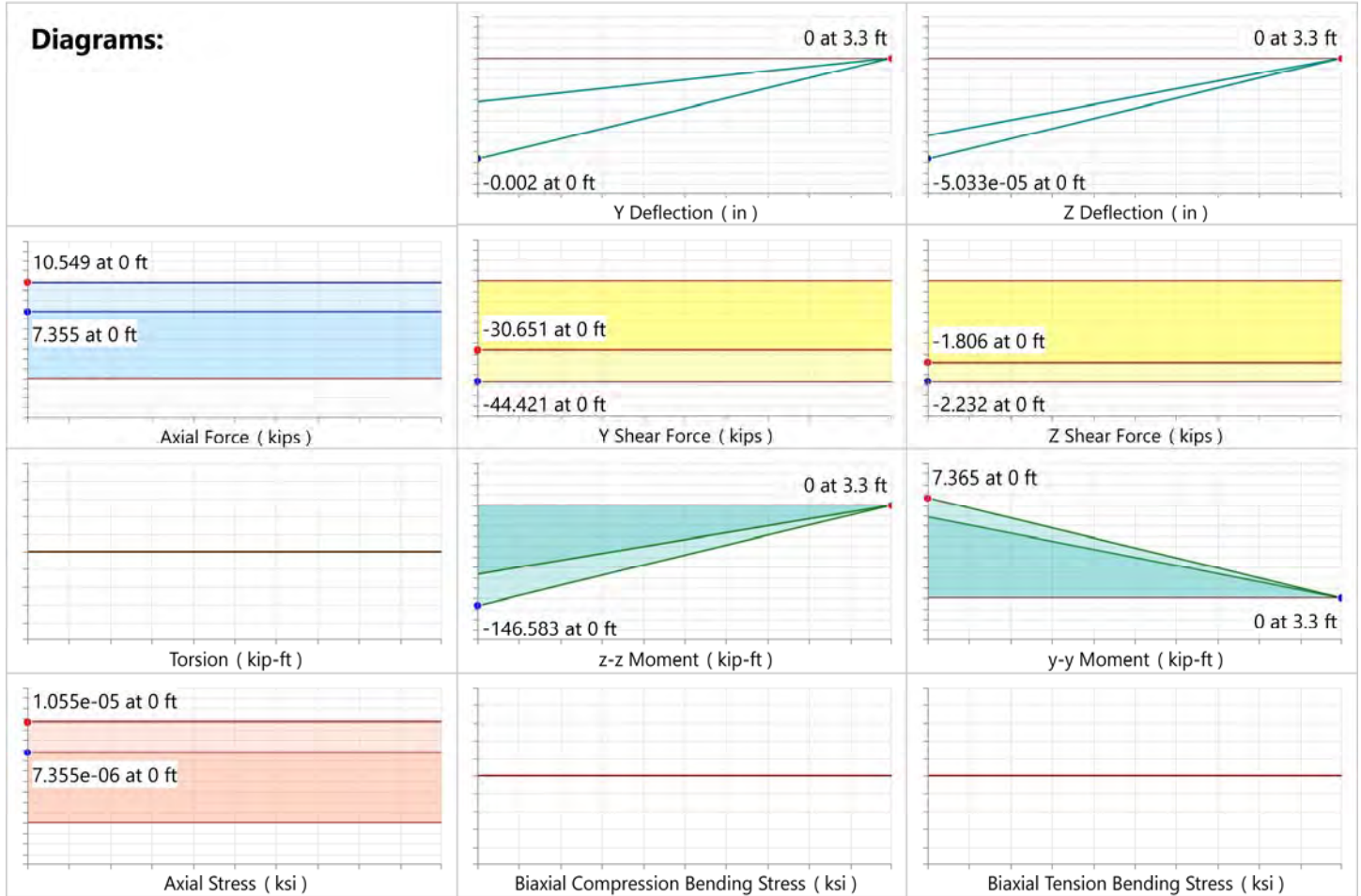
Shape:		I Node:	RN1B
Member Type:	None	J Node:	RN1C
Length (ft):	3.3	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



**Diagrams:**

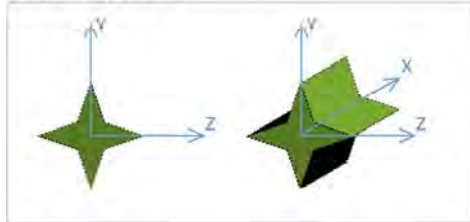




**Detail Report: R2**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

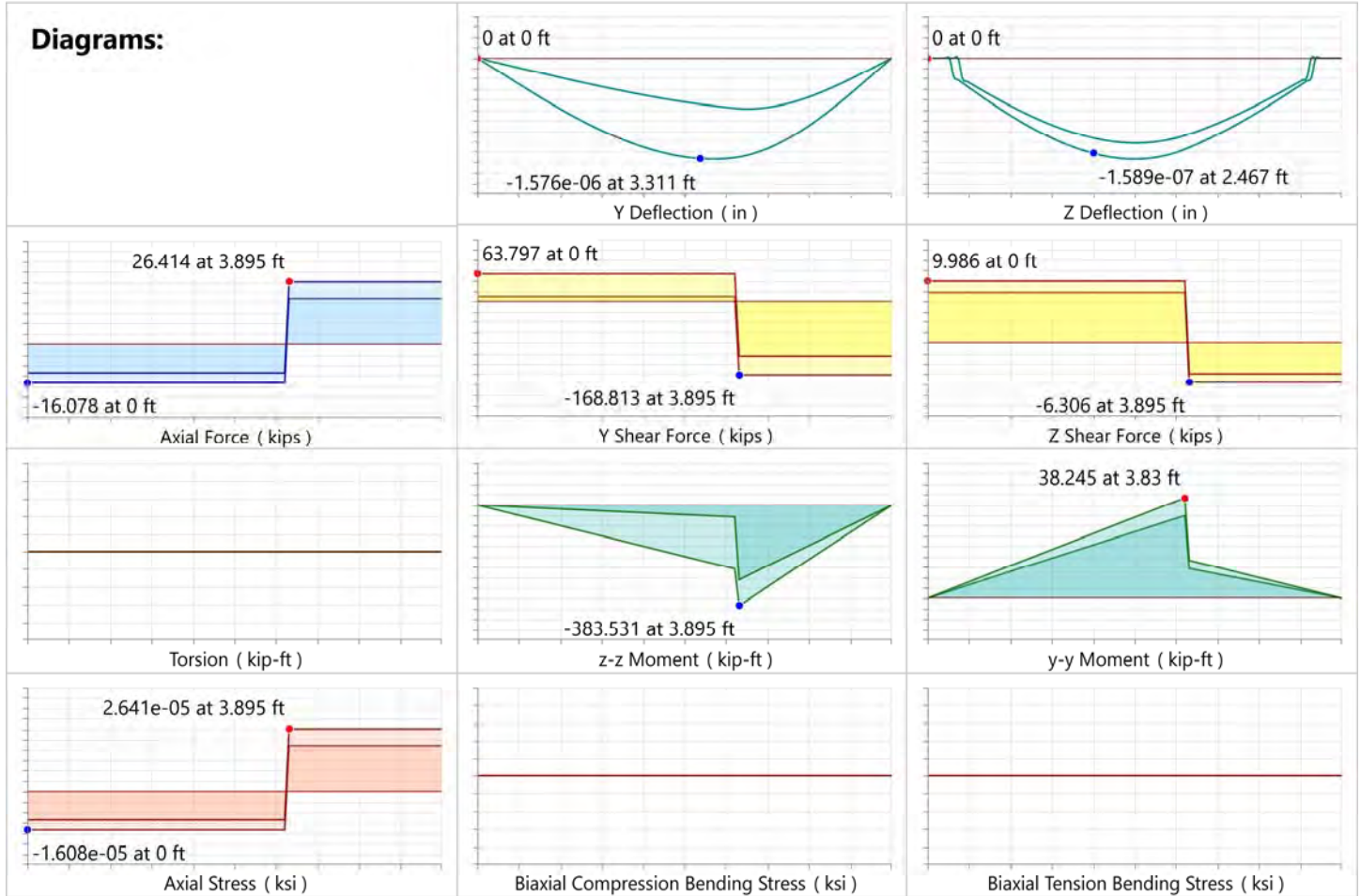
Shape:		I Node:	RN2A
Member Type:	None	J Node:	RN2C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



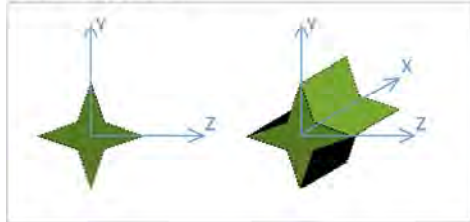
**Diagrams:**



**Detail Report: R3**

**Unity Check: No Calc**

**Load Combination: Envelope**

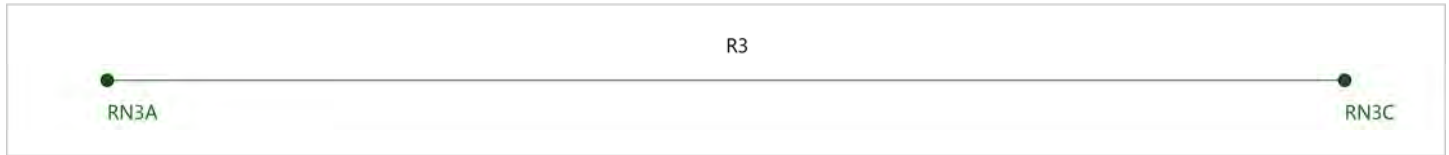


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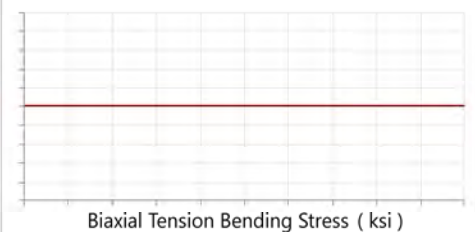
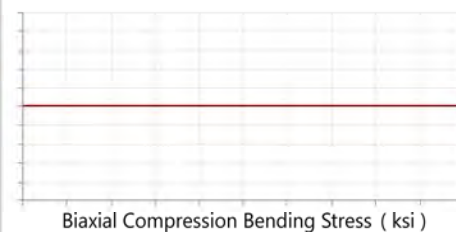
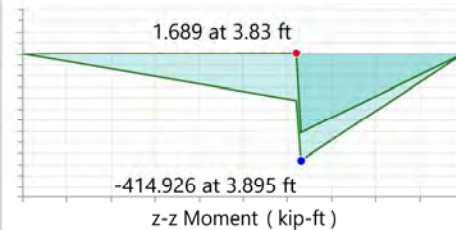
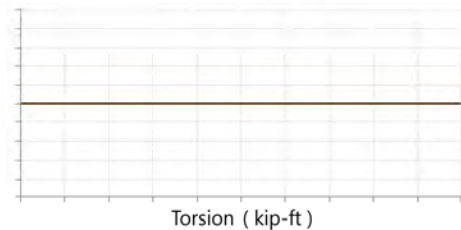
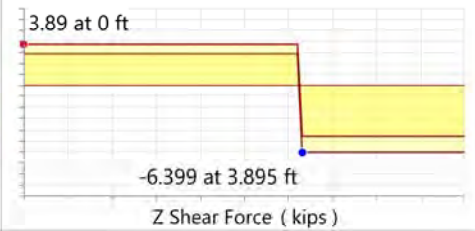
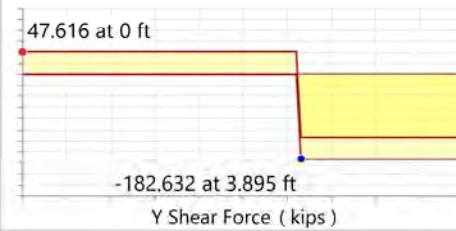
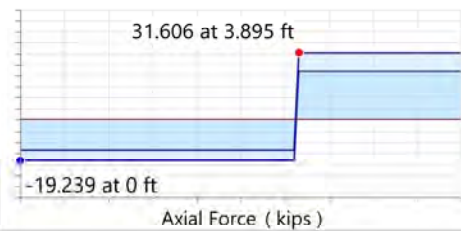
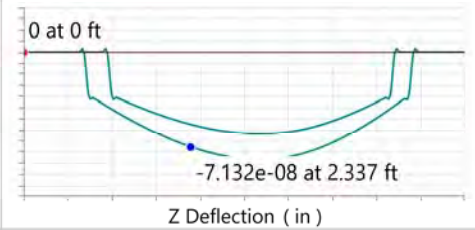
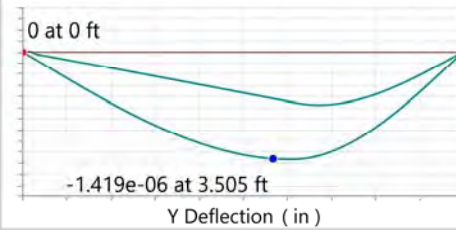
Shape:		I Node:	RN3A
Member Type:	None	J Node:	RN3C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



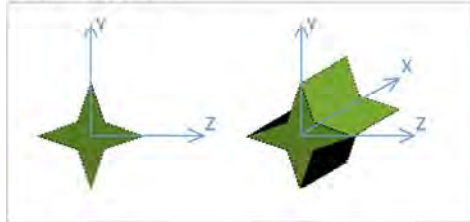
**Diagrams:**



**Detail Report: R4**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

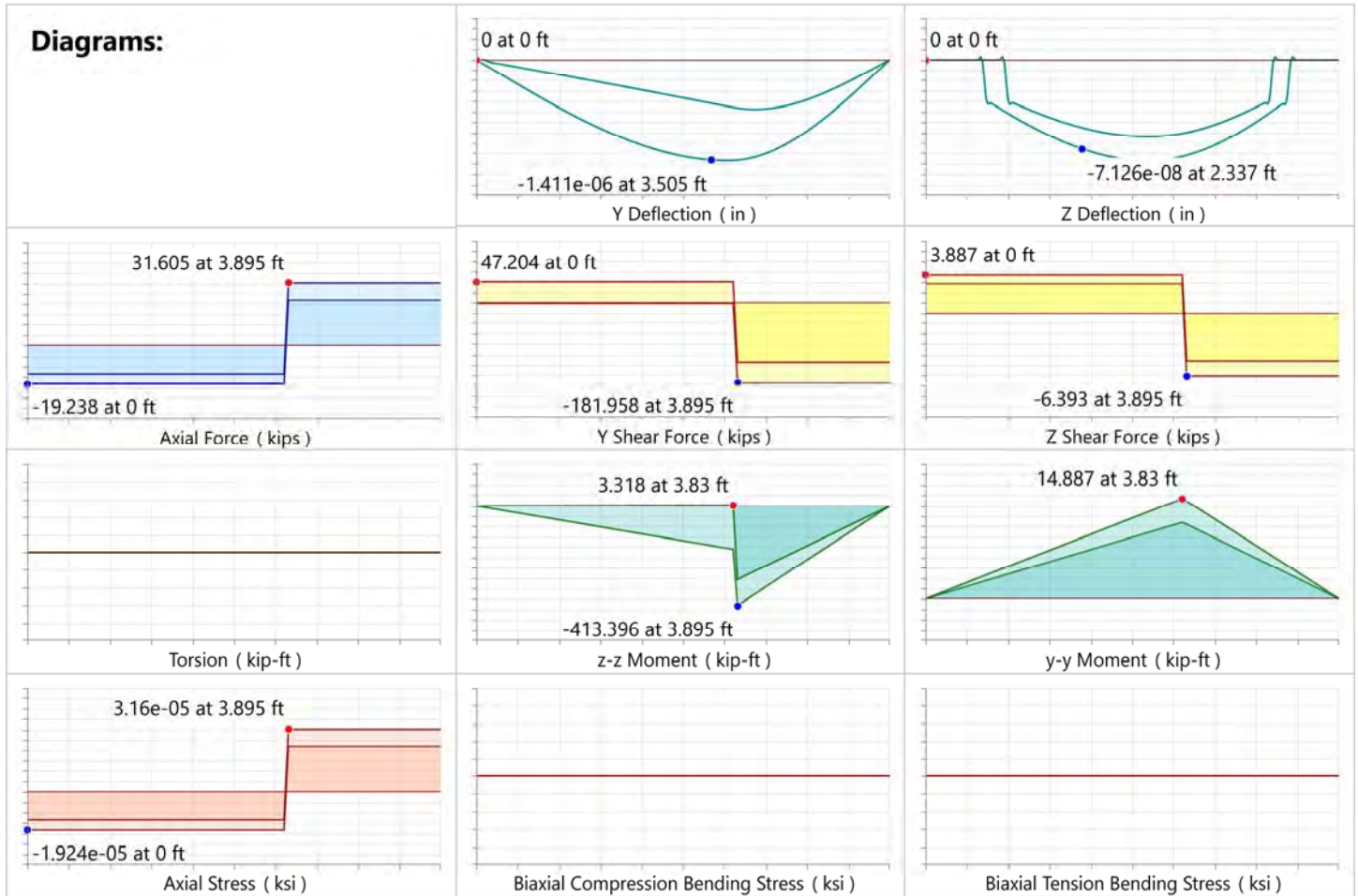
Shape:		I Node:	RN4A
Member Type:	None	J Node:	RN4C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



**Diagrams:**

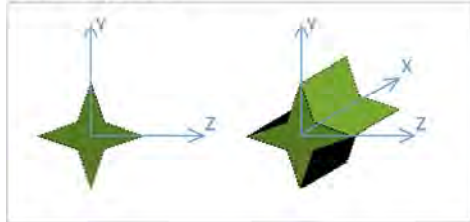




**Detail Report: R5**

**Unity Check: No Calc**

**Load Combination: Envelope**

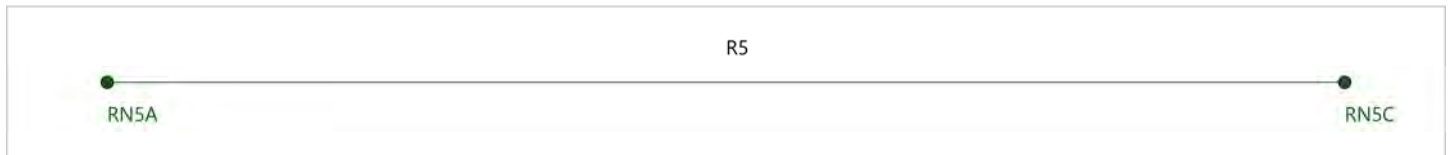


**Input Data:**

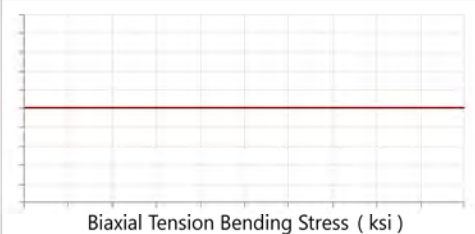
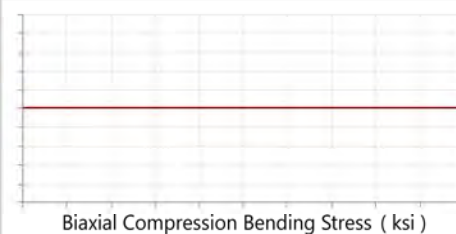
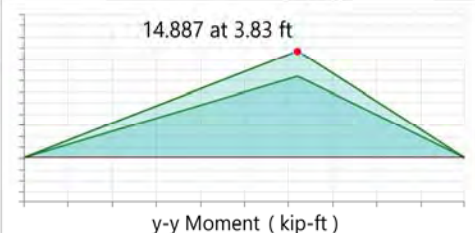
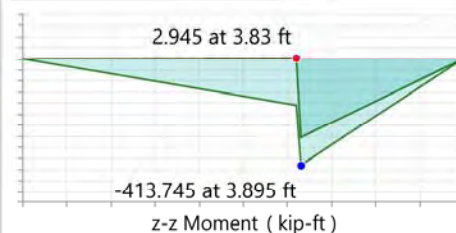
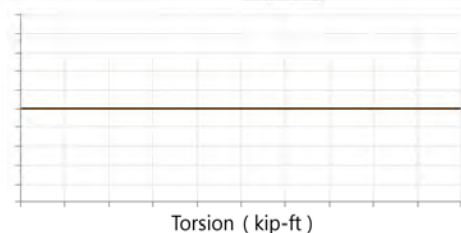
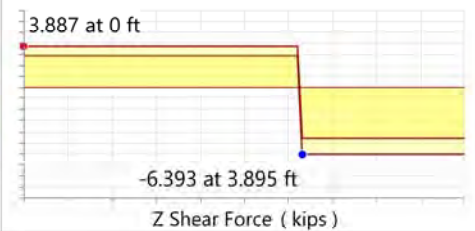
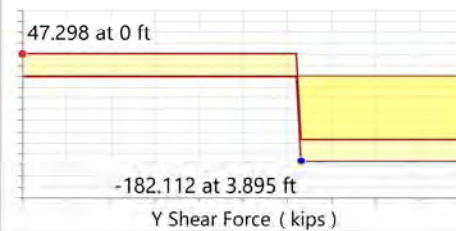
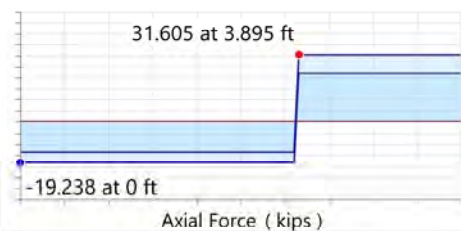
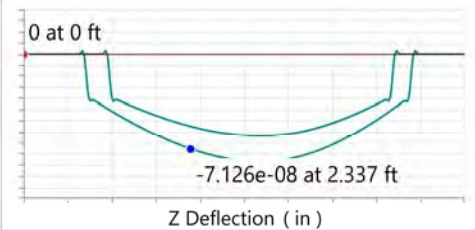
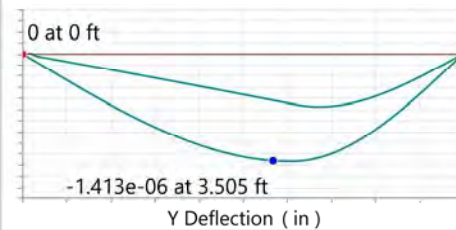
Shape:		I Node:	RN5A
Member Type:	None	J Node:	RN5C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



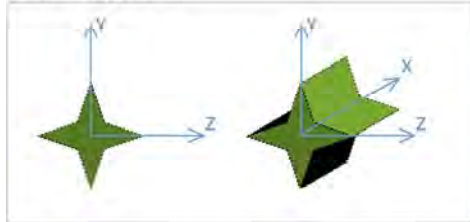
**Diagrams:**



**Detail Report: R6**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

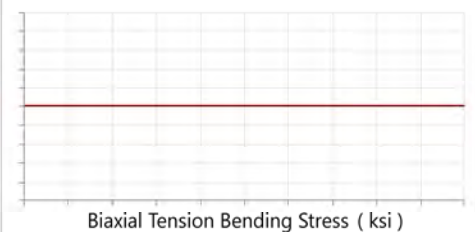
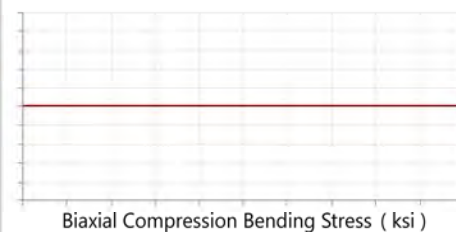
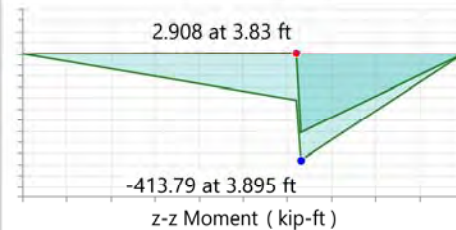
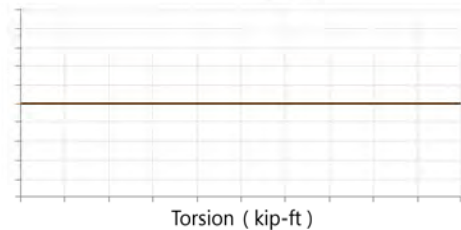
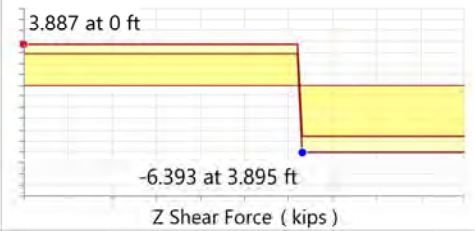
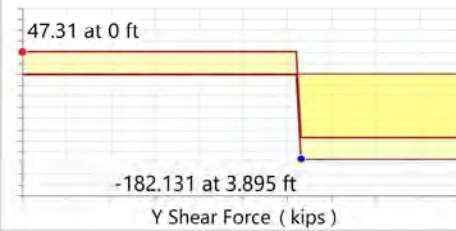
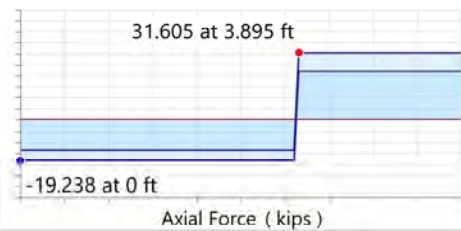
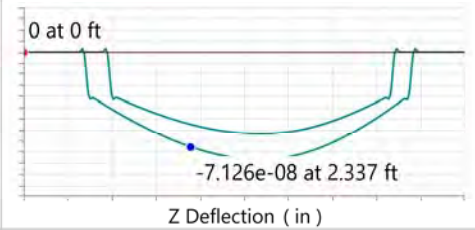
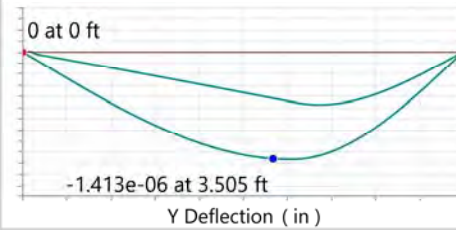
Shape:		I Node:	RN6A
Member Type:	None	J Node:	RN6C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



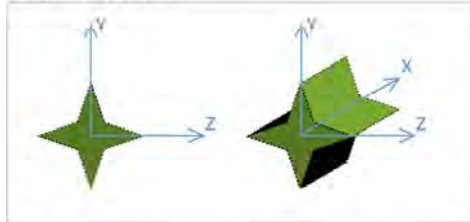
**Diagrams:**



**Detail Report: R7**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

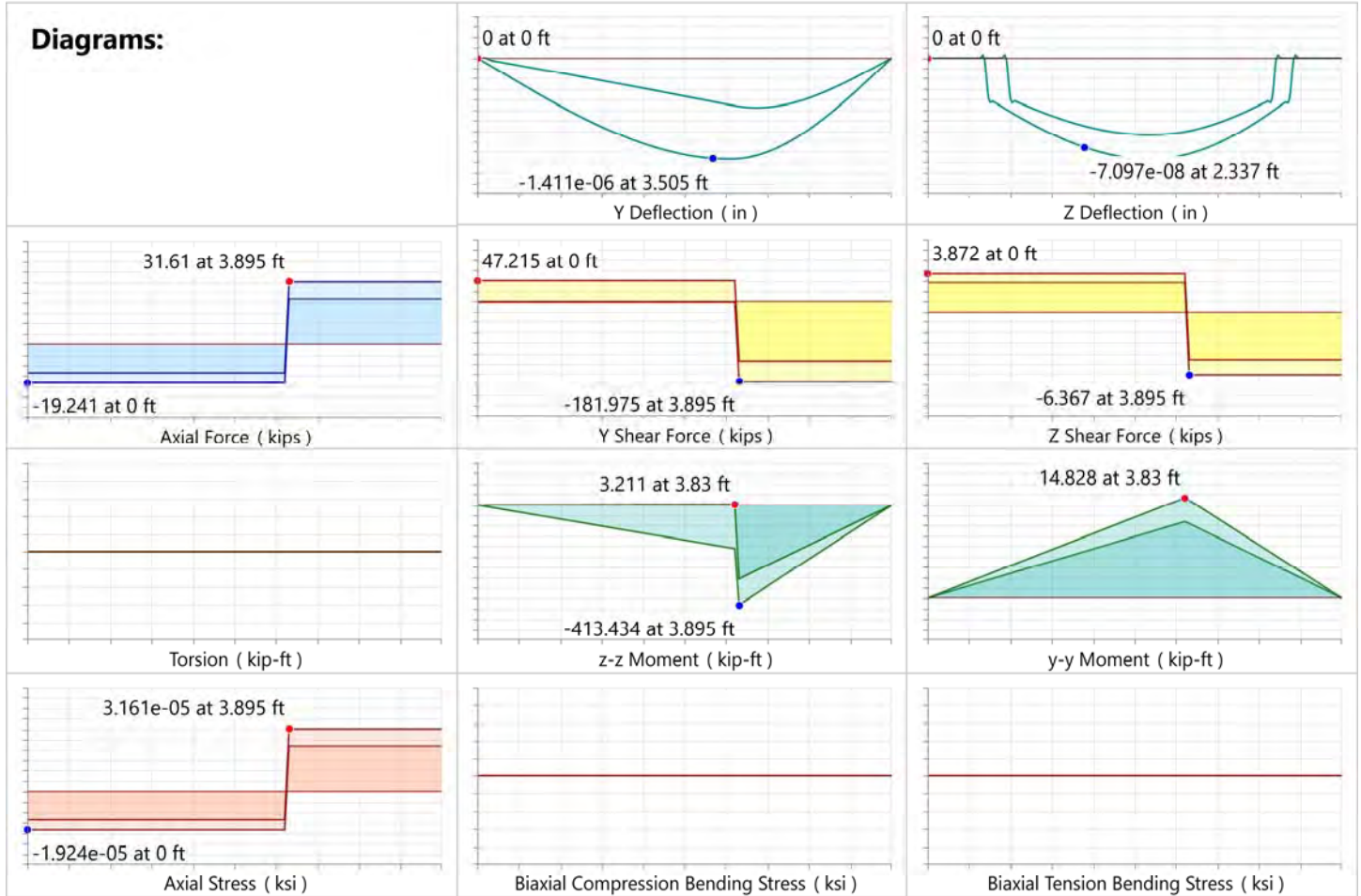
Shape:		I Node:	RN7A
Member Type:	None	J Node:	RN7C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



**Diagrams:**

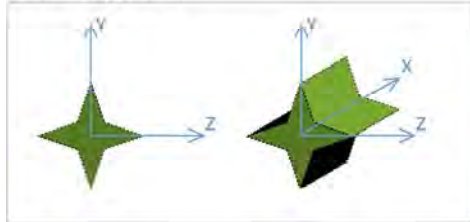




**Detail Report: R8**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

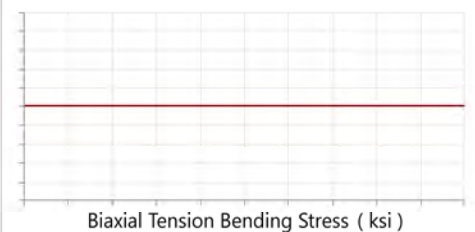
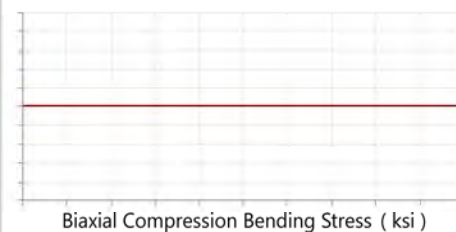
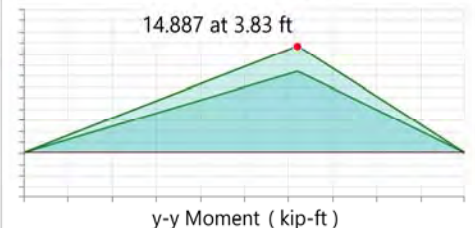
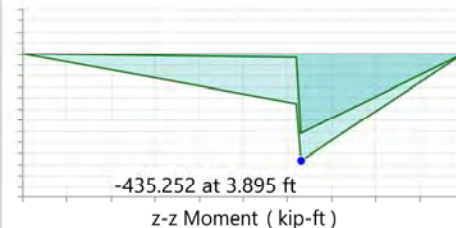
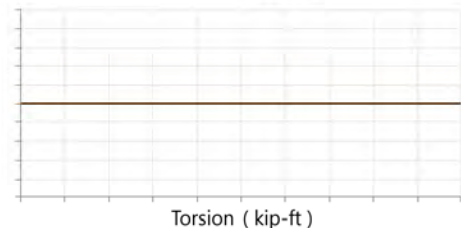
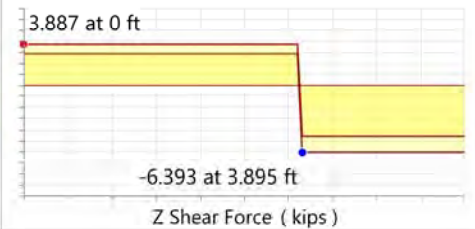
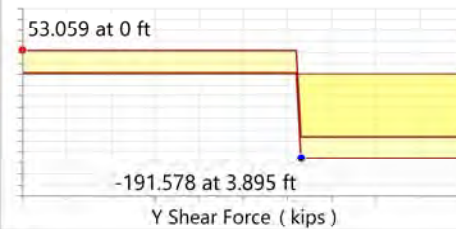
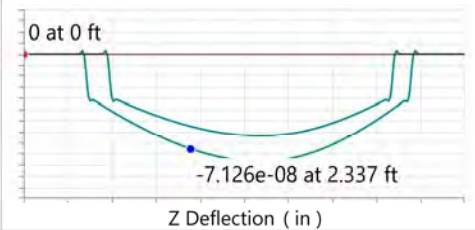
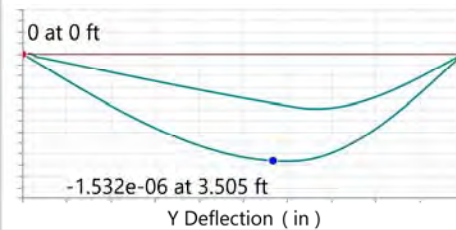
Shape:		I Node:	RN8A
Member Type:	None	J Node:	RN8C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



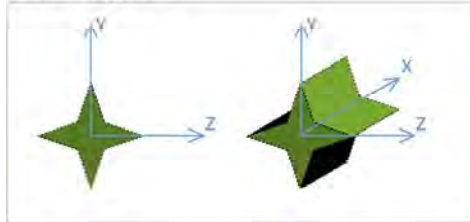
**Diagrams:**



**Detail Report: R9**

**Unity Check: No Calc**

**Load Combination: Envelope**



**Input Data:**

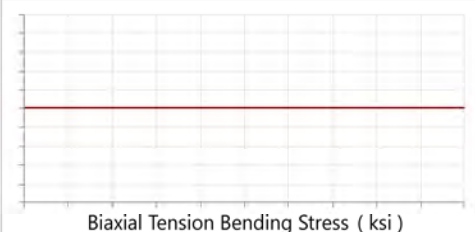
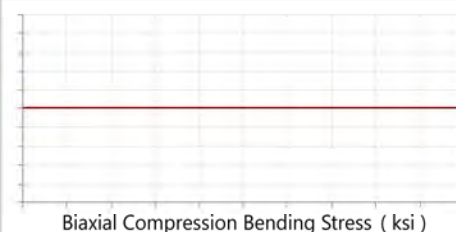
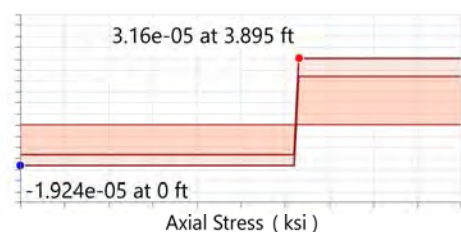
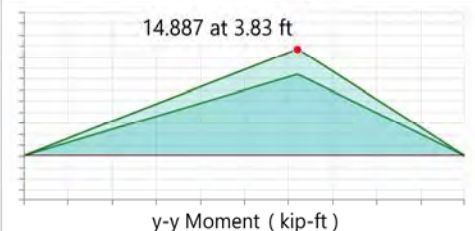
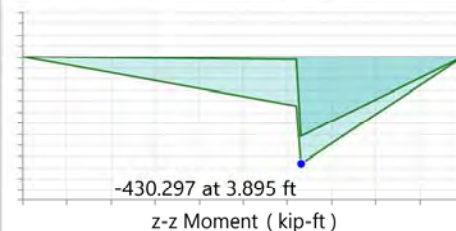
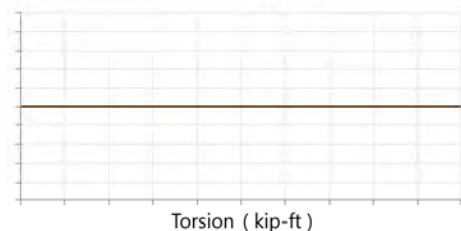
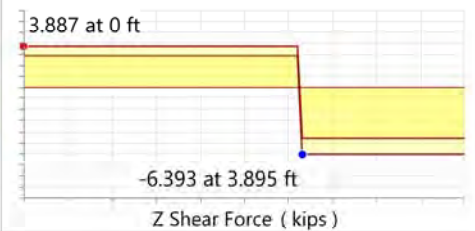
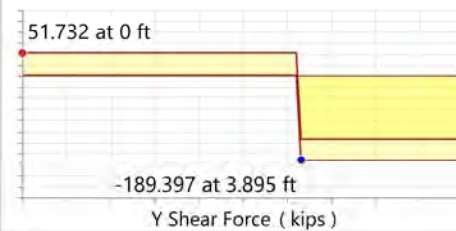
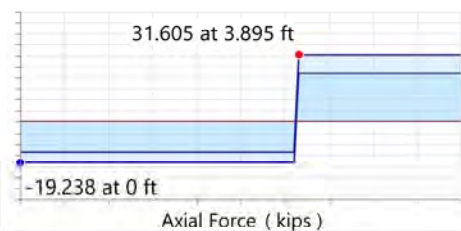
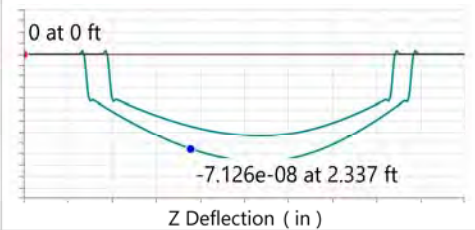
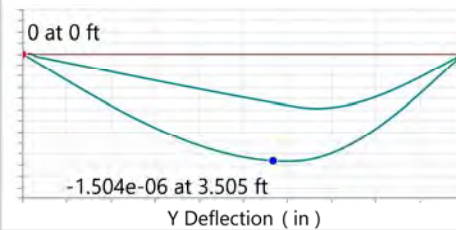
Shape:		I Node:	RN9A
Member Type:	None	J Node:	RN9C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



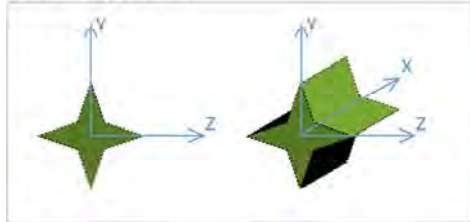
**Diagrams:**



**Detail Report: R10**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

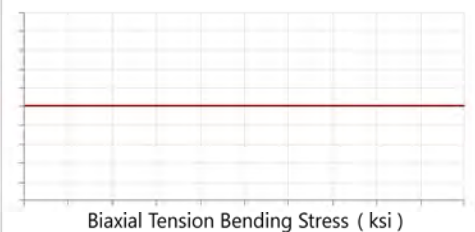
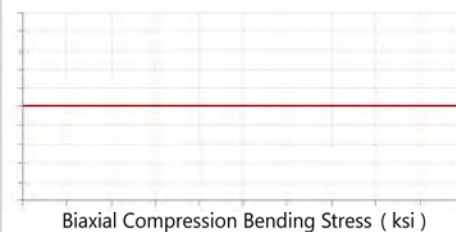
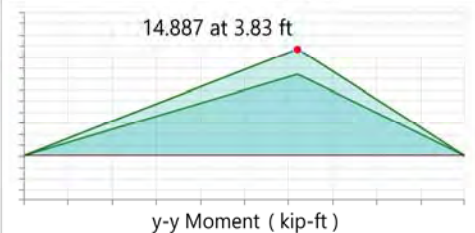
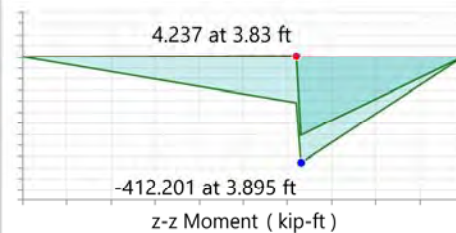
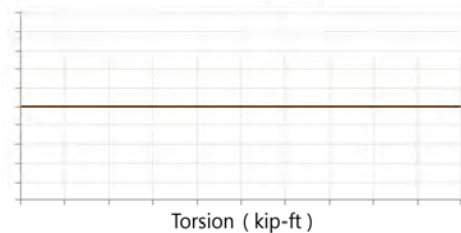
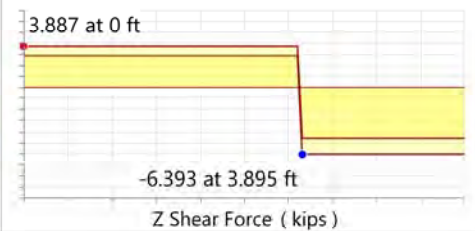
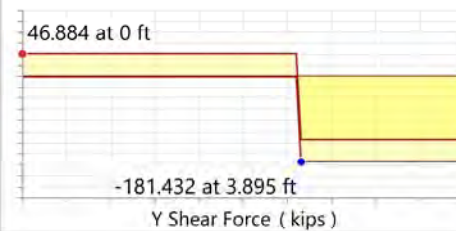
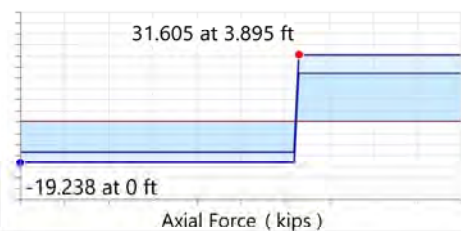
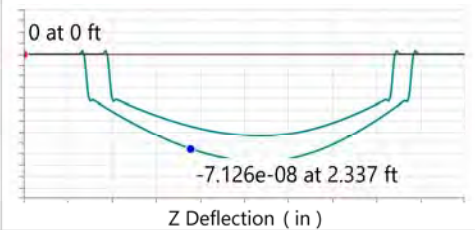
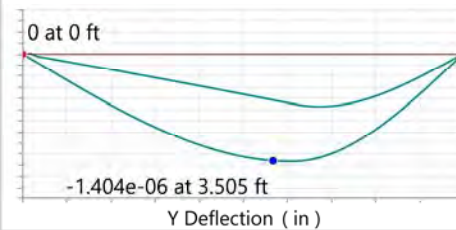
Shape:		I Node:	RN10A
Member Type:	None	J Node:	RN10C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



**Diagrams:**

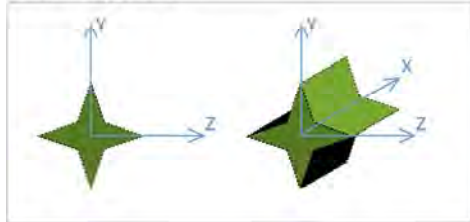




**Detail Report: R11**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

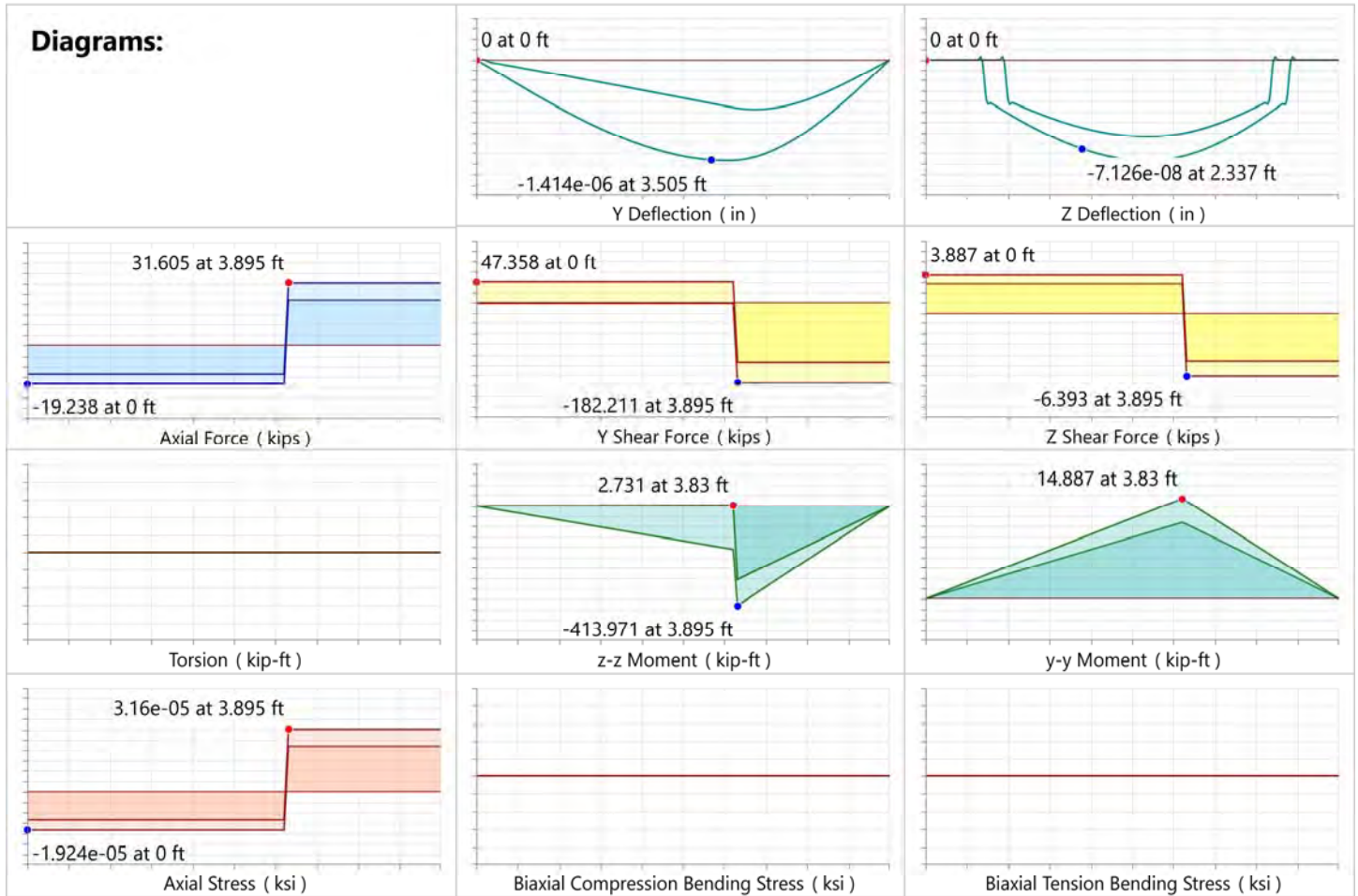
Shape:		I Node:	RN11A
Member Type:	None	J Node:	RN11C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



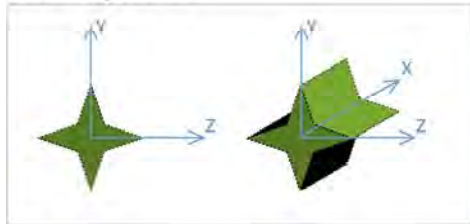
**Diagrams:**



**Detail Report: R12**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

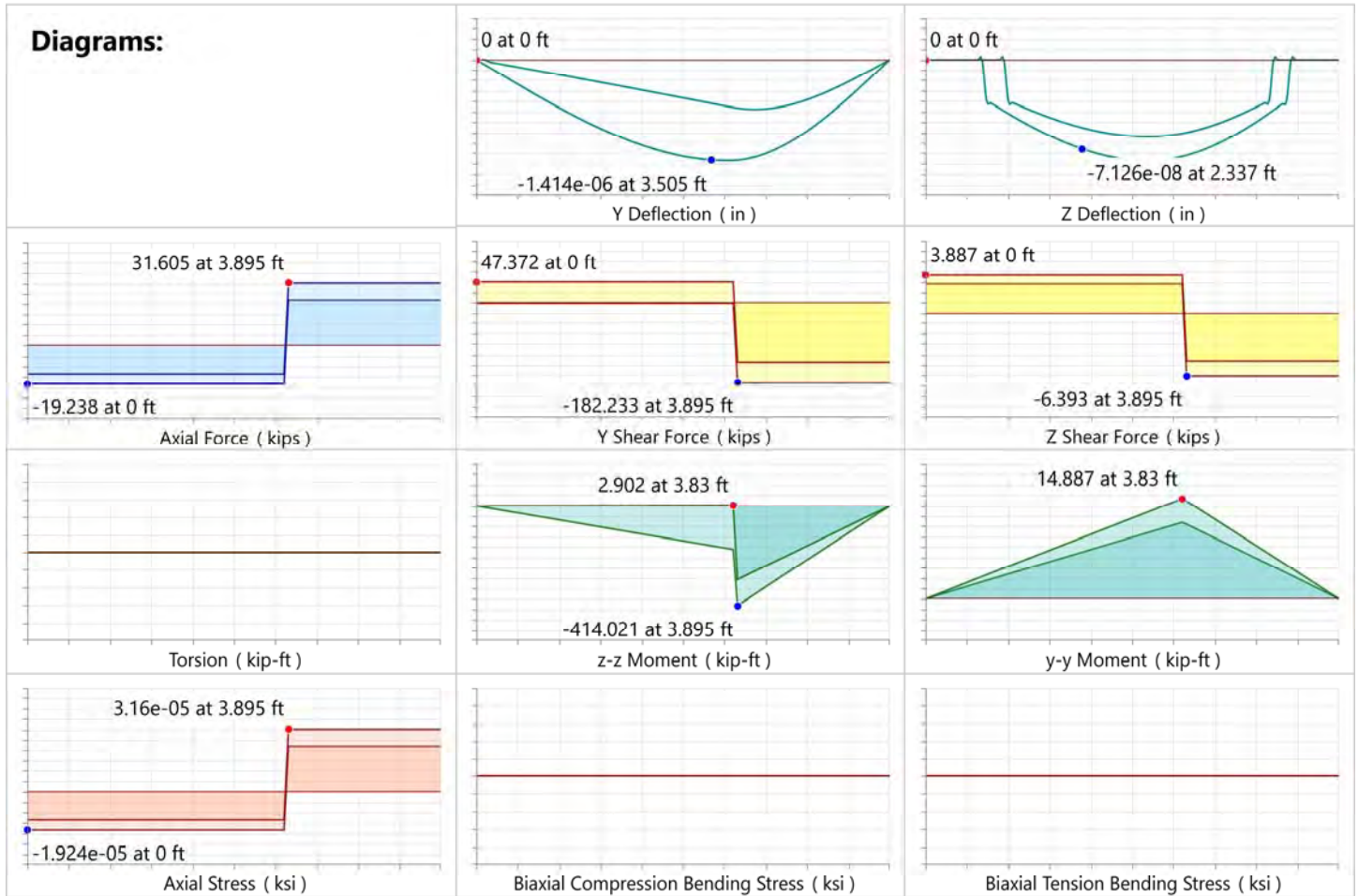
Shape:		I Node:	RN12A
Member Type:	None	J Node:	RN12C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



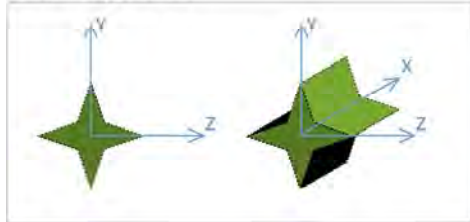
**Diagrams:**



**Detail Report: R13**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

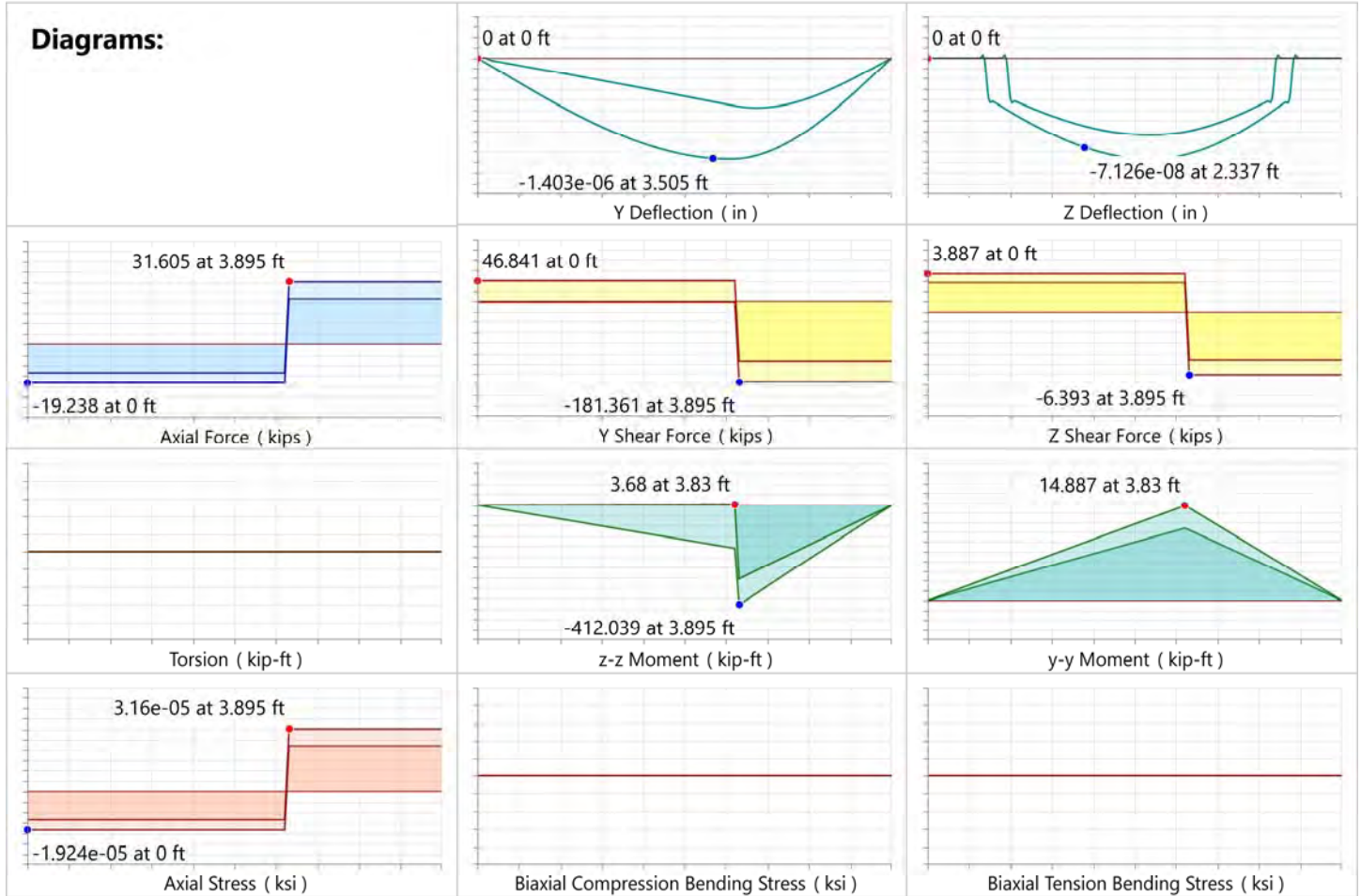
Shape:		I Node:	RN13A
Member Type:	None	J Node:	RN13C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



**Diagrams:**

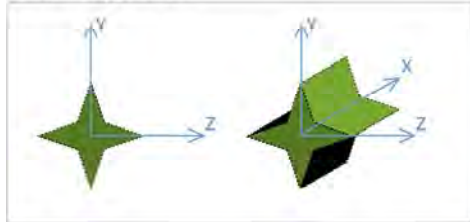




**Detail Report: R14**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

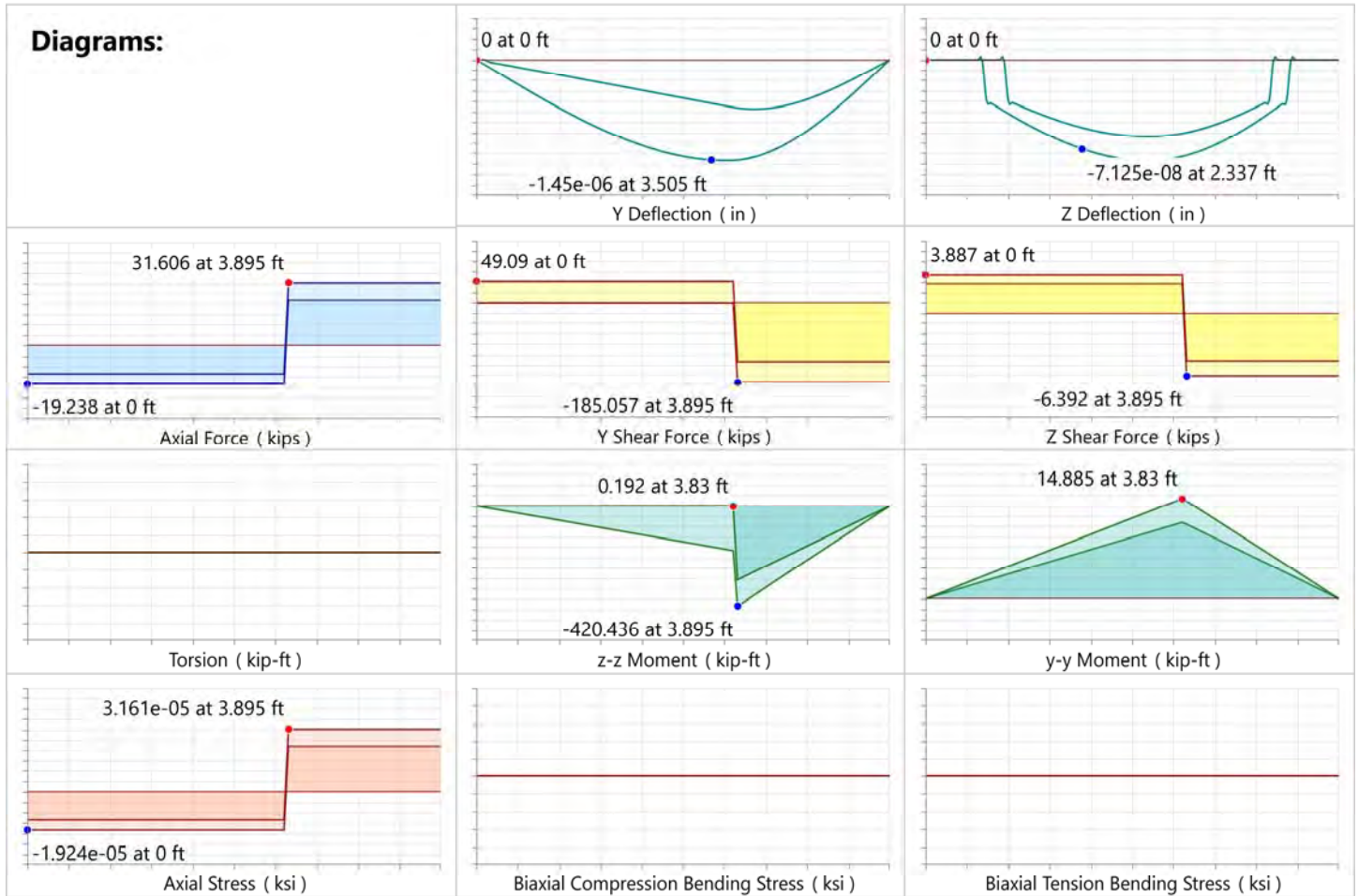
Shape:		I Node:	RN14A
Member Type:	None	J Node:	RN14C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



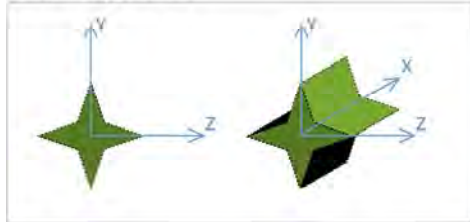
**Diagrams:**



**Detail Report: R15**

**Unity Check: No Calc**

**Load Combination: Envelope**



**Input Data:**

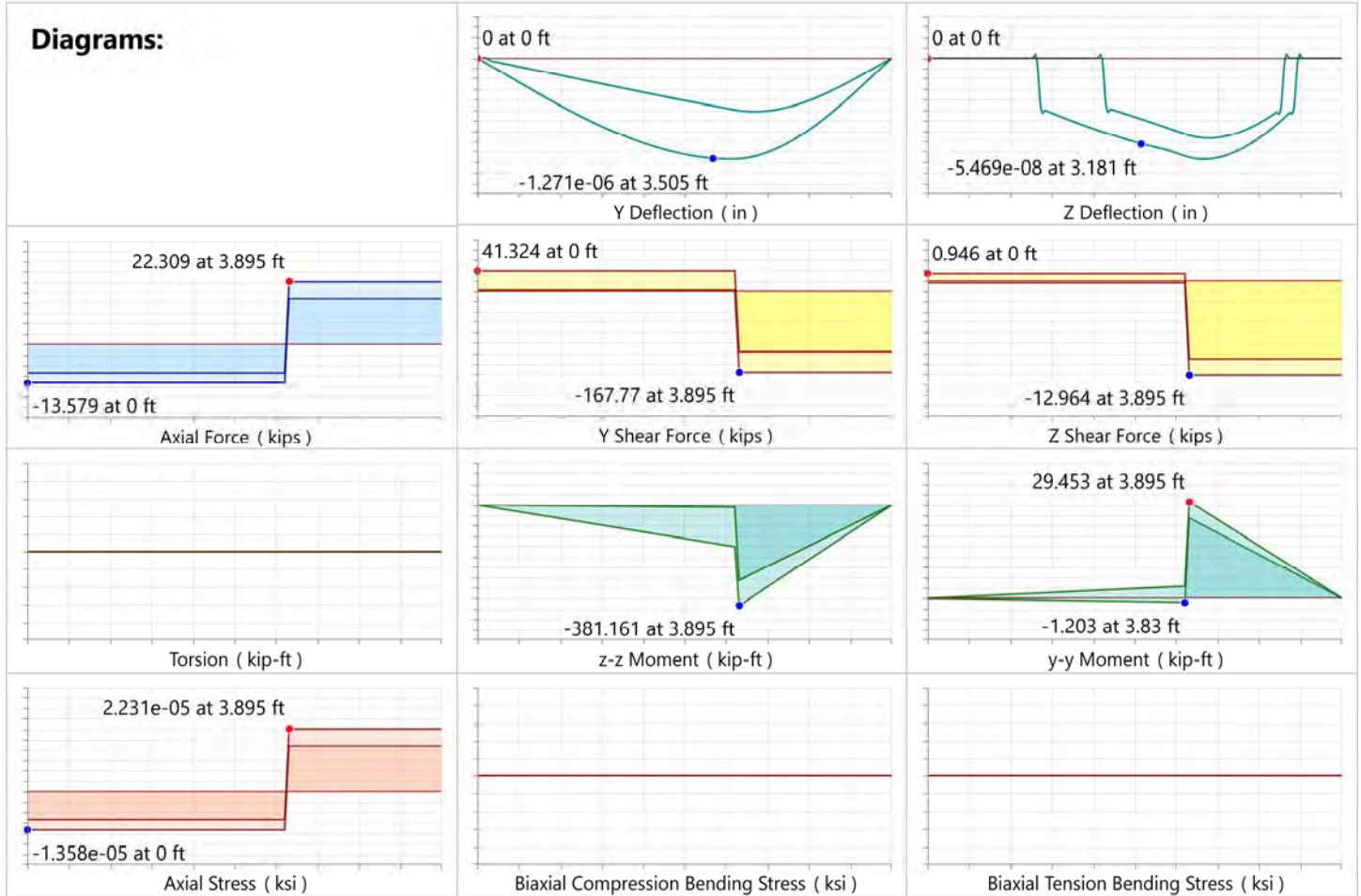
Shape:		I Node:	RN15A
Member Type:	None	J Node:	RN15C
Length (ft):	6.167	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



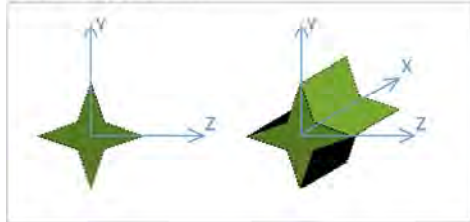
**Diagrams:**



**Detail Report: M33**

**Unity Check:** No Calc

**Load Combination:** Envelope



**Input Data:**

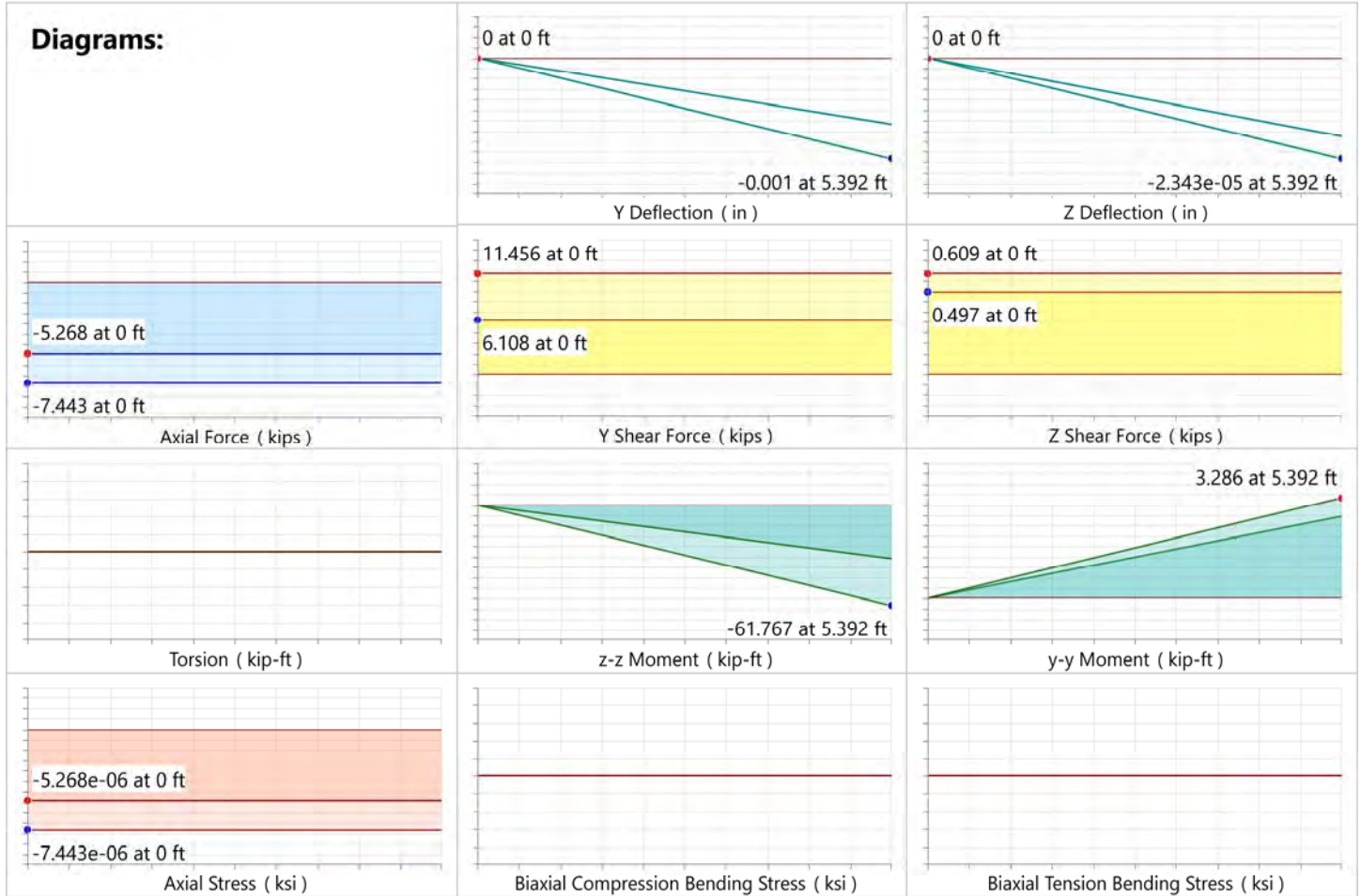
Shape:		I Node:	RN16A
Member Type:	None	J Node:	RN16B
Length (ft):	5.392	I Release:	Fixed
Material Type:	General	J Release:	Fixed
		I Offset (in):	N/A
		J Offset (in):	N/A
Number of Internal Sections:	96		

**Material Properties:**

Material:	RIGID	G (ksi):	3.846e+05	Therm. Coeff. (1e <sup>-5</sup> F <sup>-1</sup> ):	0
E (ksi):	1e+06	Nu:	0.3	Density (k/ft <sup>3</sup> ):	0



**Diagrams:**

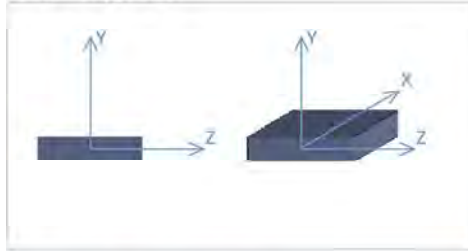




**Detail Report: A1**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	N1
Member Type:	Beam	J Node:	RN16B
Length (ft):	2.029	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

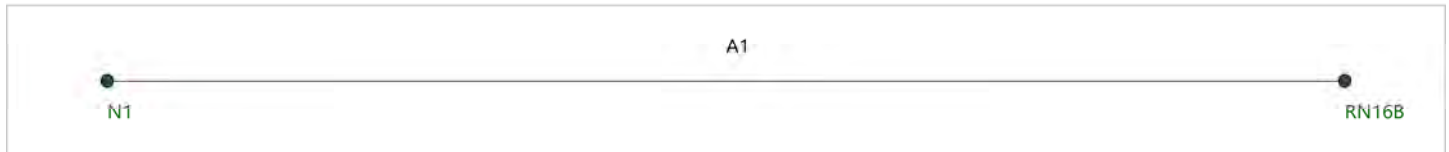
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> /°F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

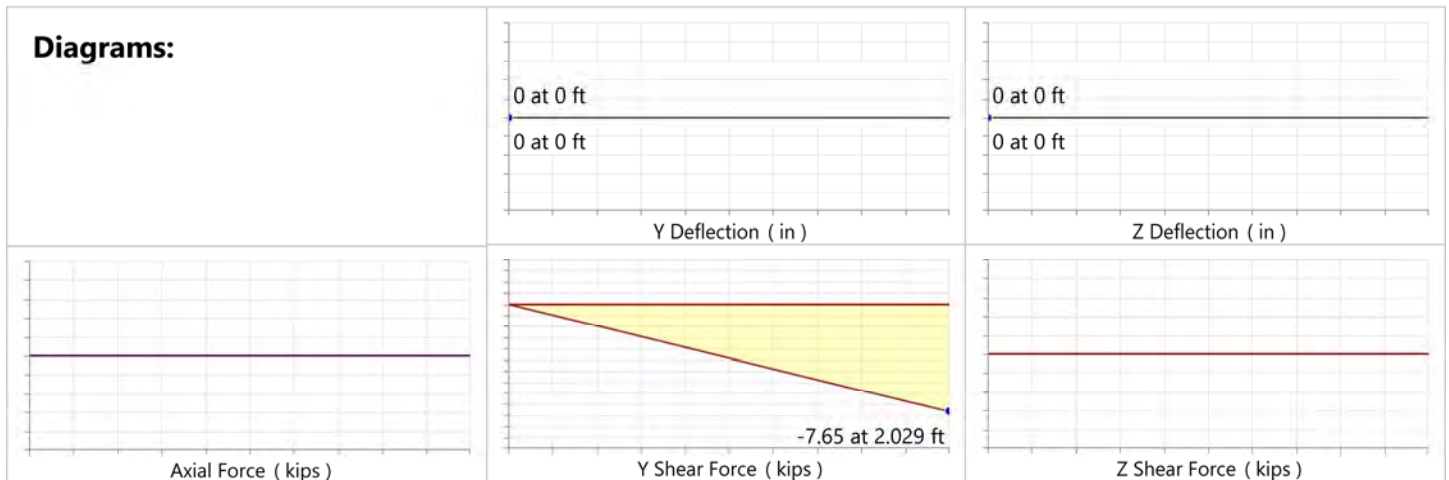
D (in):	24	W (in):	104
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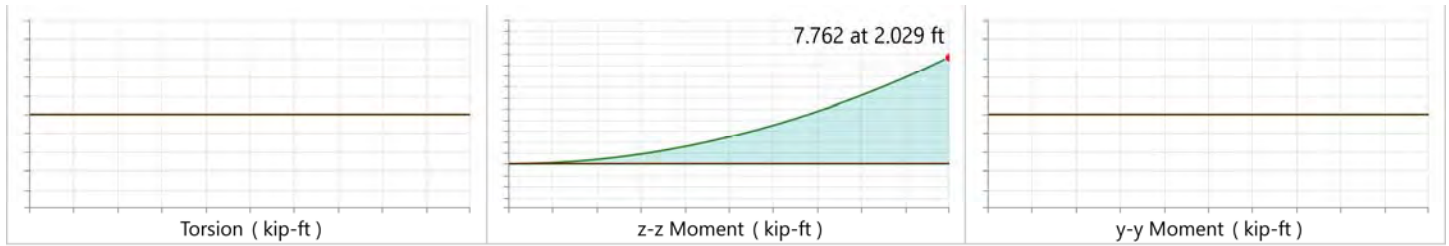
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

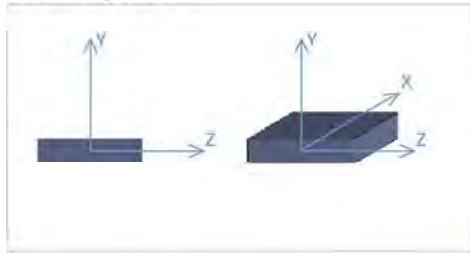
P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display

**Detail Report: A2**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN16B
Member Type:	Beam	J Node:	RN15B
Length (ft):	2.378	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

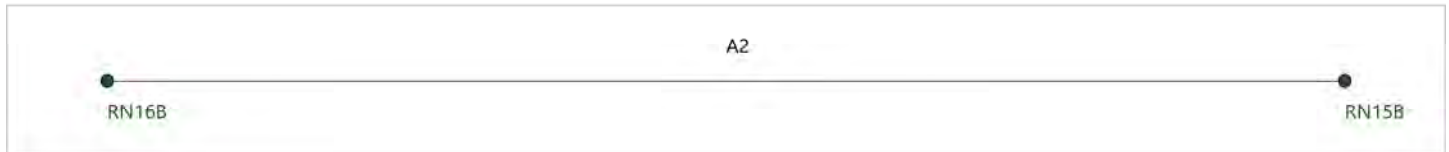
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

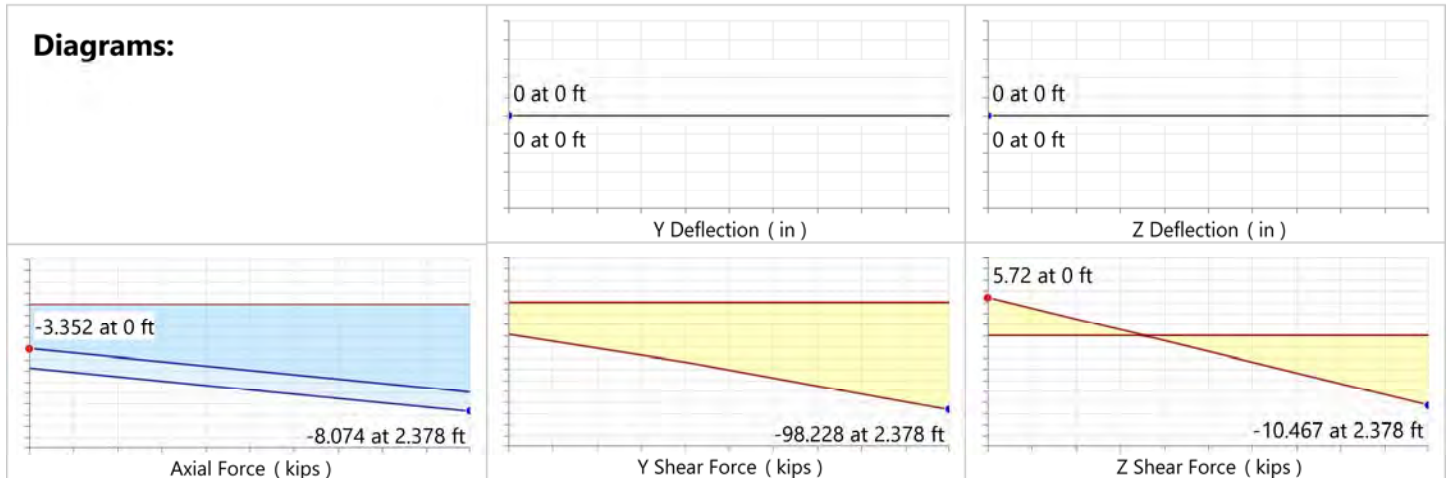
D (in):	24	W (in):	104
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**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**







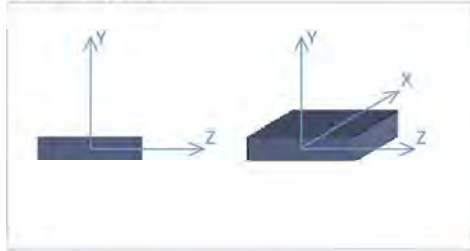
### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display

**Detail Report: A3**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN15B
Member Type:	Beam	J Node:	RN14B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

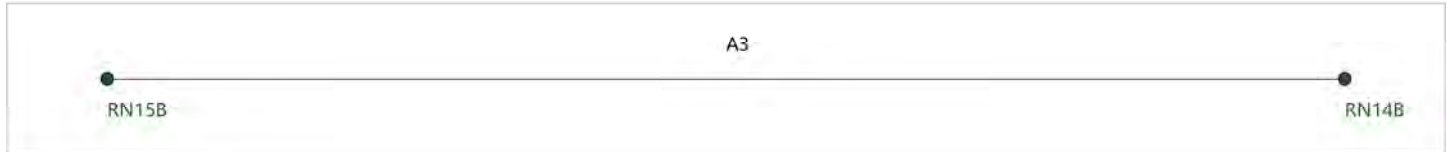
Material:	CONC4500	Therm. Coeff. (1e <sup>5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

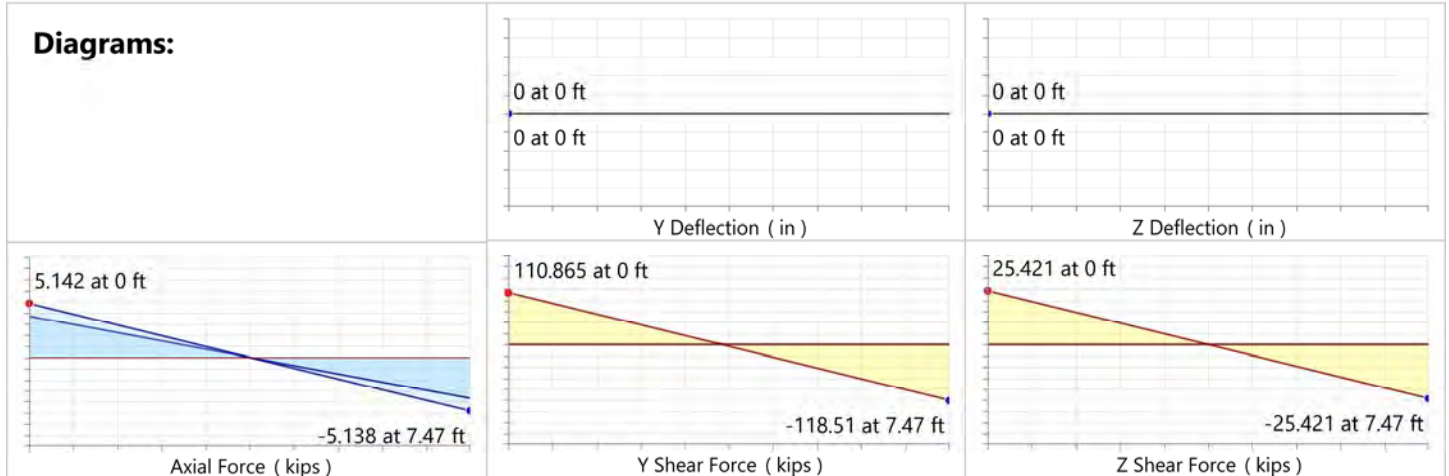
D (in):	24	W (in):	104
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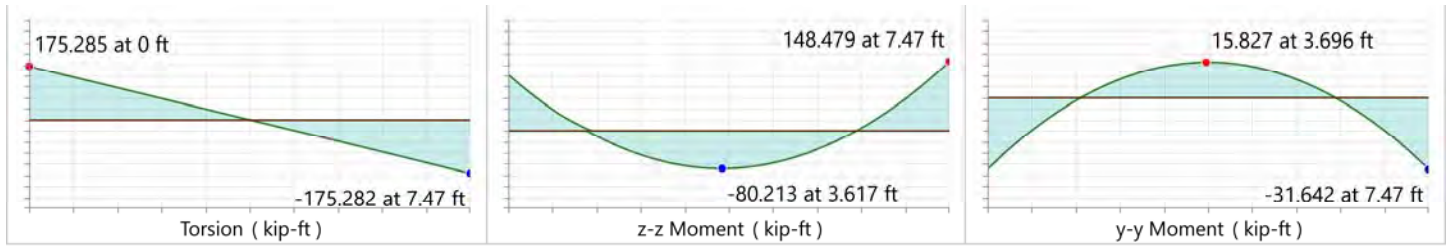
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





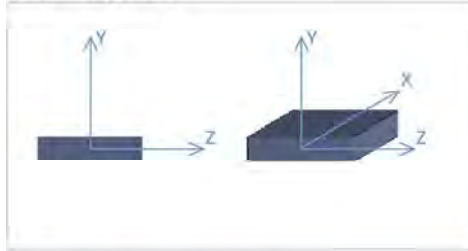
**ACI 318-14 Code Check**

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display

**Detail Report: A4**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN14B
Member Type:	Beam	J Node:	RN13B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

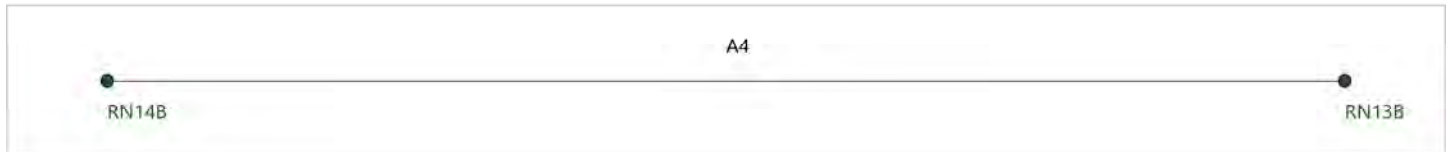
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> /°F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

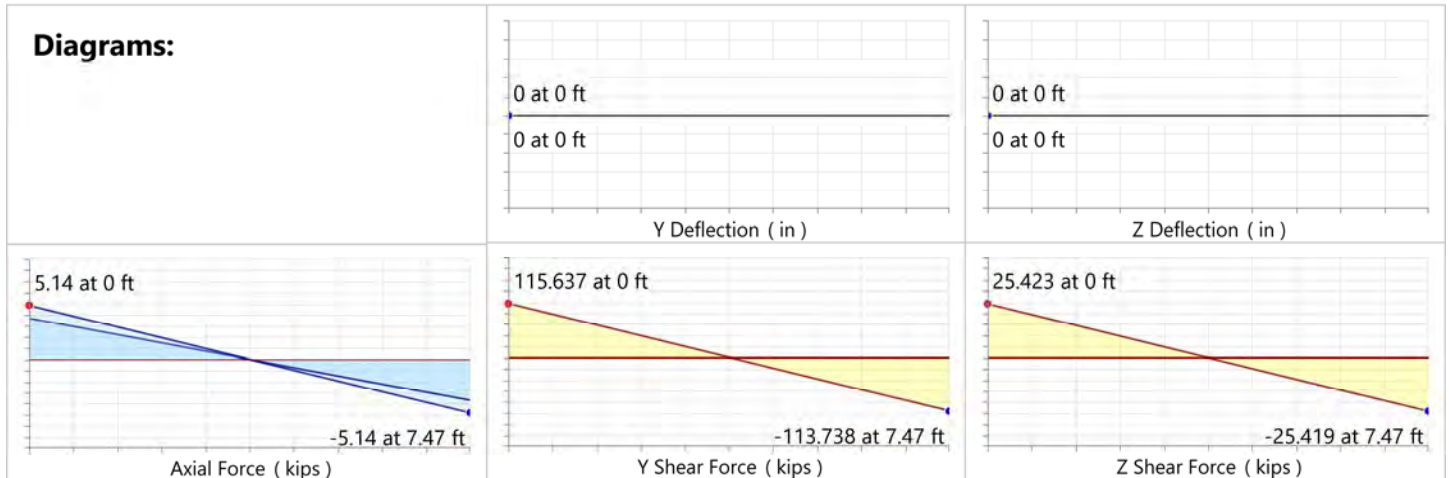
D (in):	24	W (in):	104
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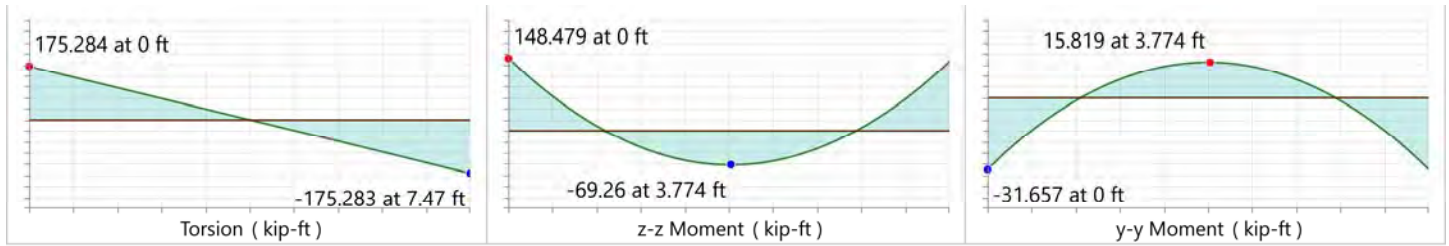
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

P-Delta Analysis required for all ACI 318-14 load combinations

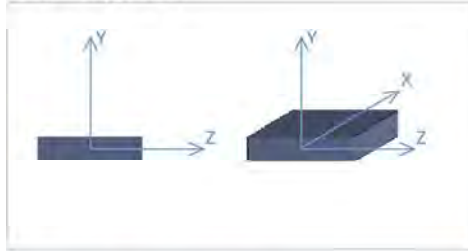
No Results to Display



**Detail Report: A5**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN13B
Member Type:	Beam	J Node:	RN12B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

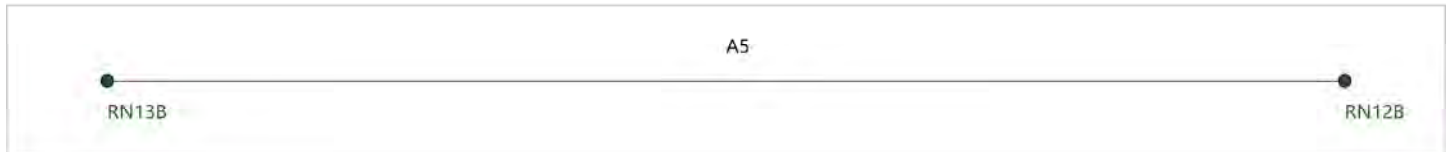
Material:	CONC4500	Therm. Coeff. (1e <sup>5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

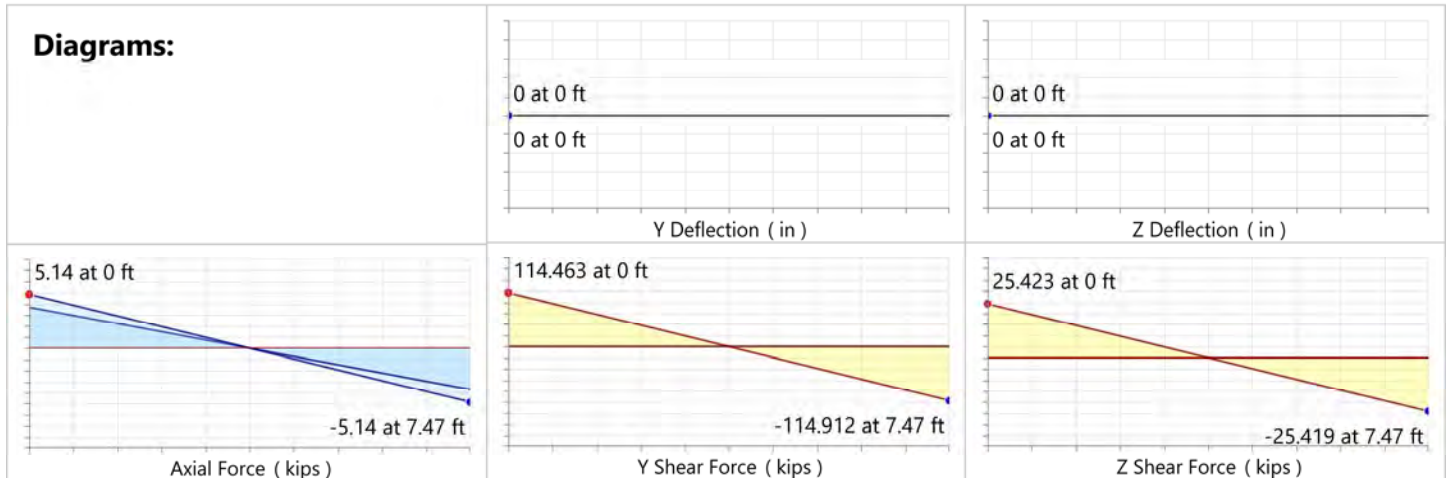
D (in):	24	W (in):	104
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**Design Properties:**

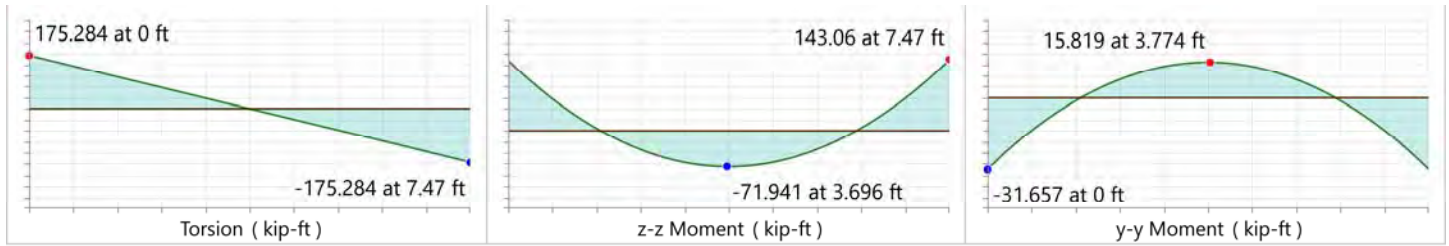
B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**







### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

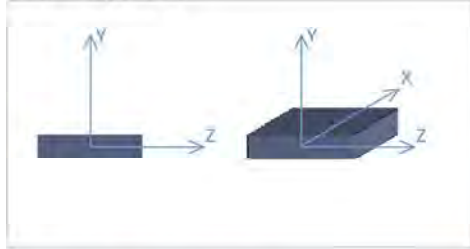
P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display

**Detail Report: A6**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN12B
Member Type:	Beam	J Node:	RN11B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

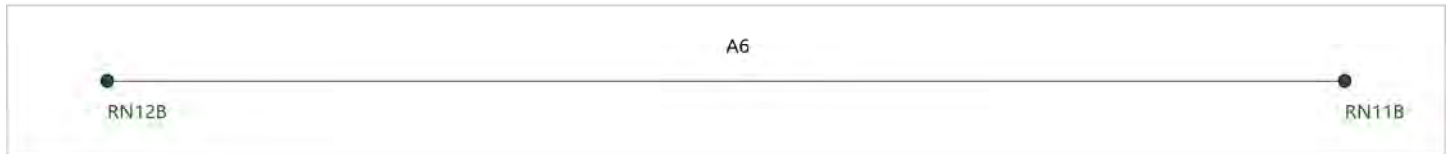
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

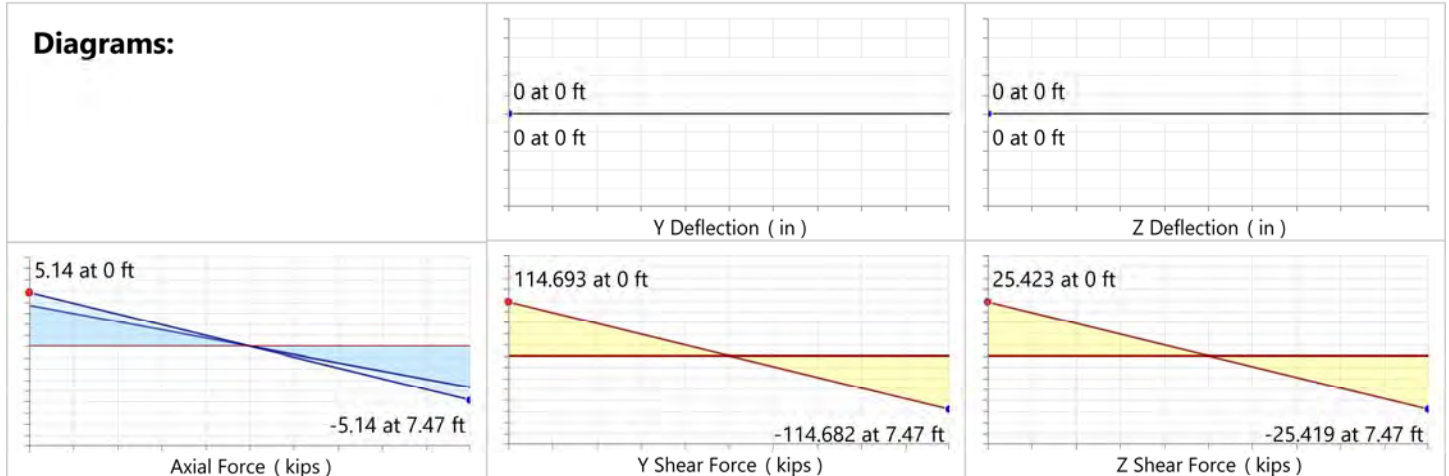
D (in):	24	W (in):	104
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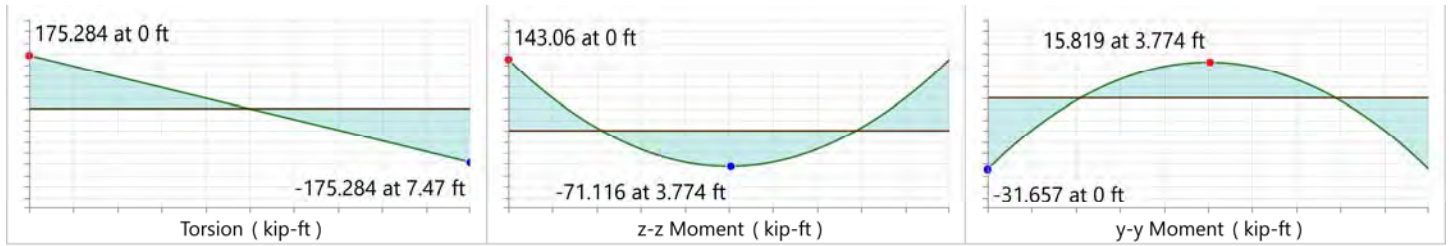
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

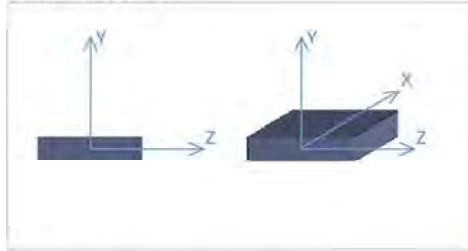
P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display

**Detail Report: A7**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN11B
Member Type:	Beam	J Node:	RN10B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

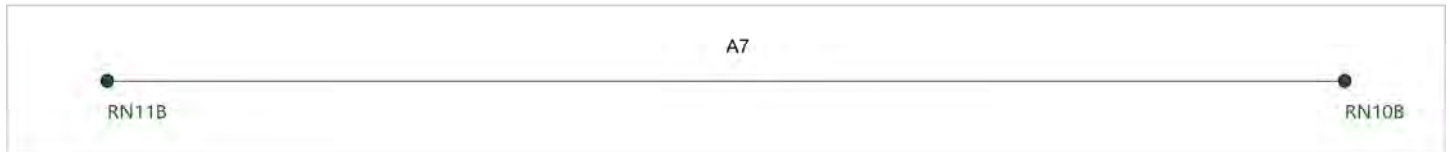
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

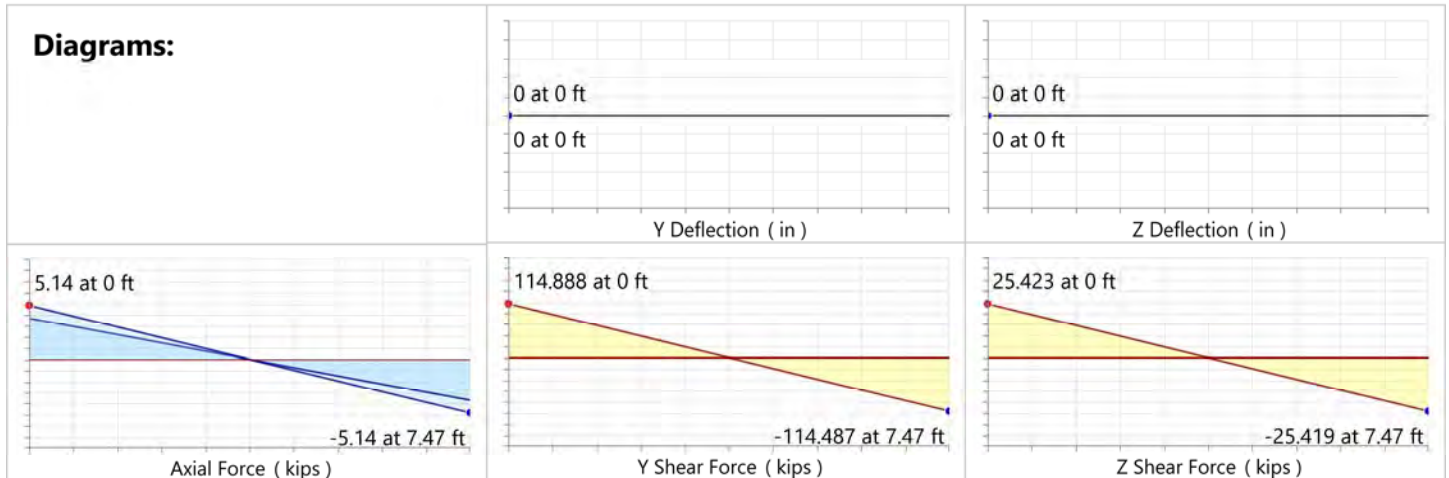
D (in):	24	W (in):	104
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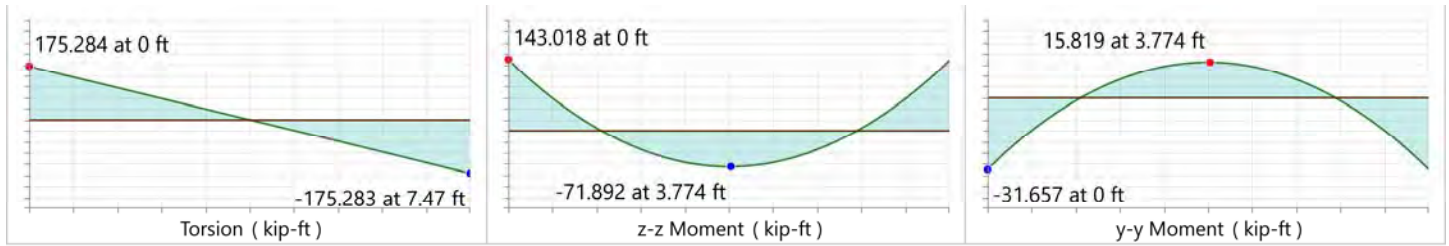
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

P-Delta Analysis required for all ACI 318-14 load combinations

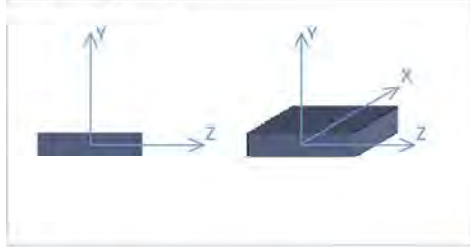
No Results to Display



**Detail Report: A8**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN10B
Member Type:	Beam	J Node:	RN9B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

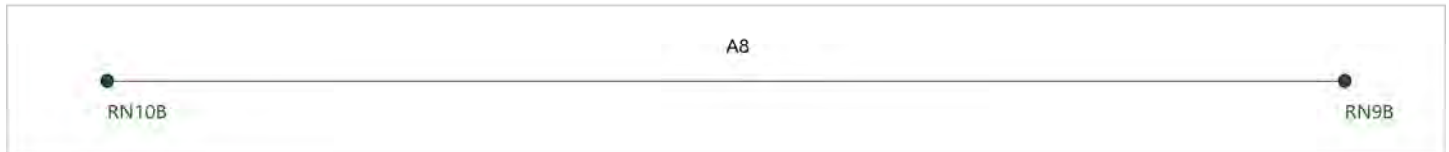
Material:	CONC4500	Therm. Coeff. (1e <sup>5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

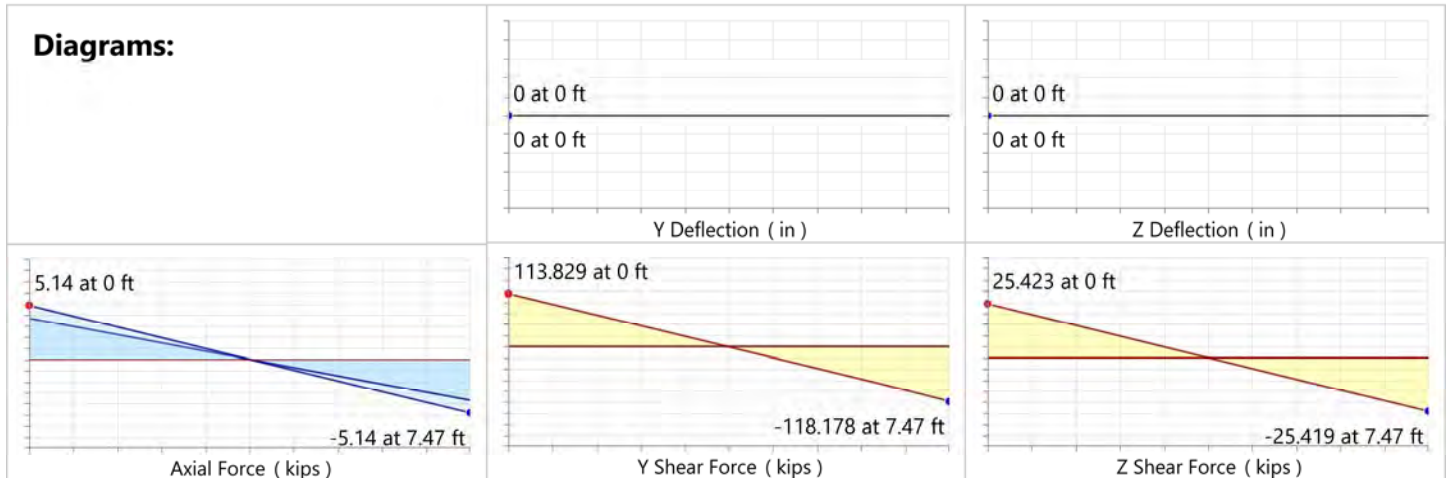
D (in):	24	W (in):	104
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**Design Properties:**

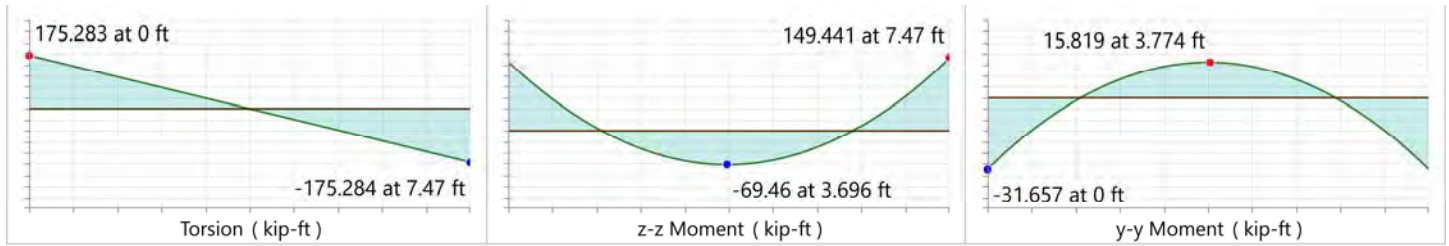
B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**







### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

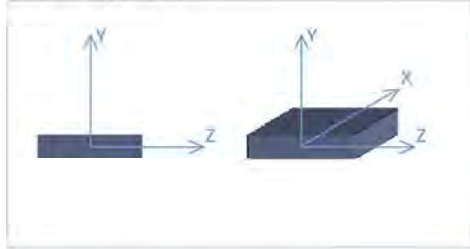
P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display

**Detail Report: A9**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN9B
Member Type:	Beam	J Node:	RN8B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

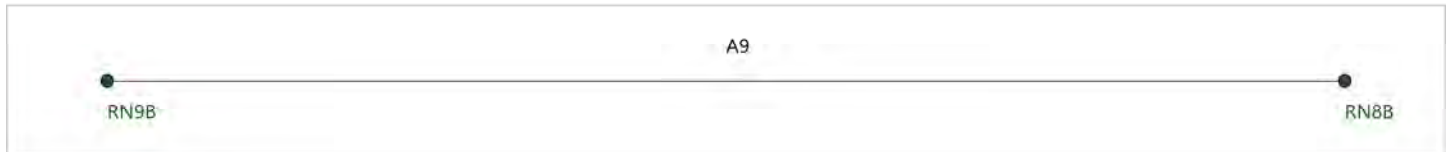
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

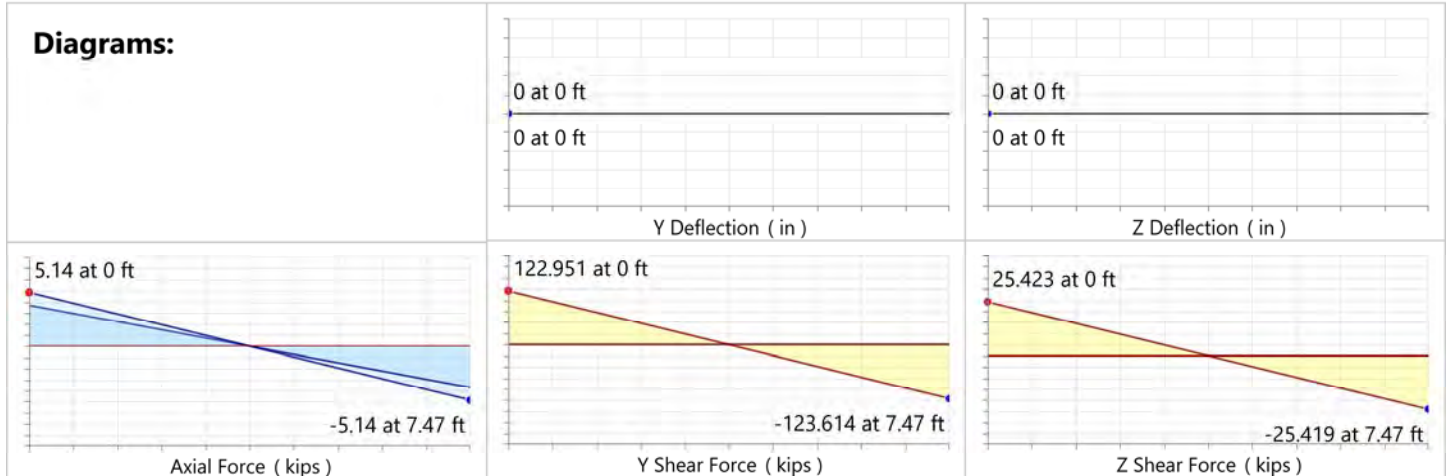
D (in):	24	W (in):	104
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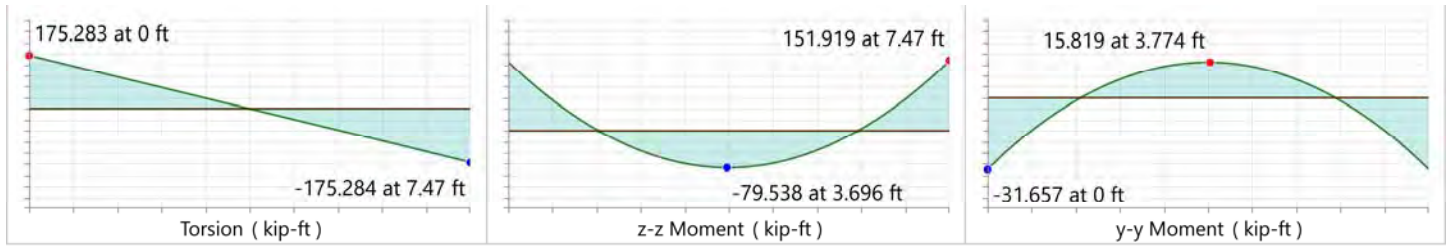
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

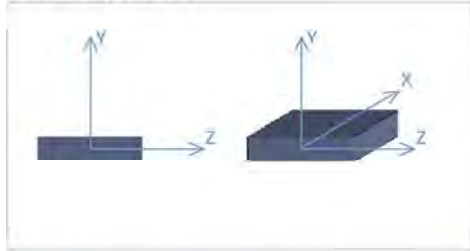
P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display

**Detail Report: A10**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN8B
Member Type:	Beam	J Node:	RN7B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

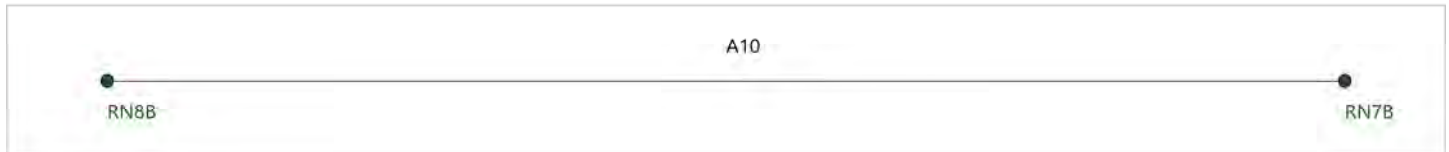
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

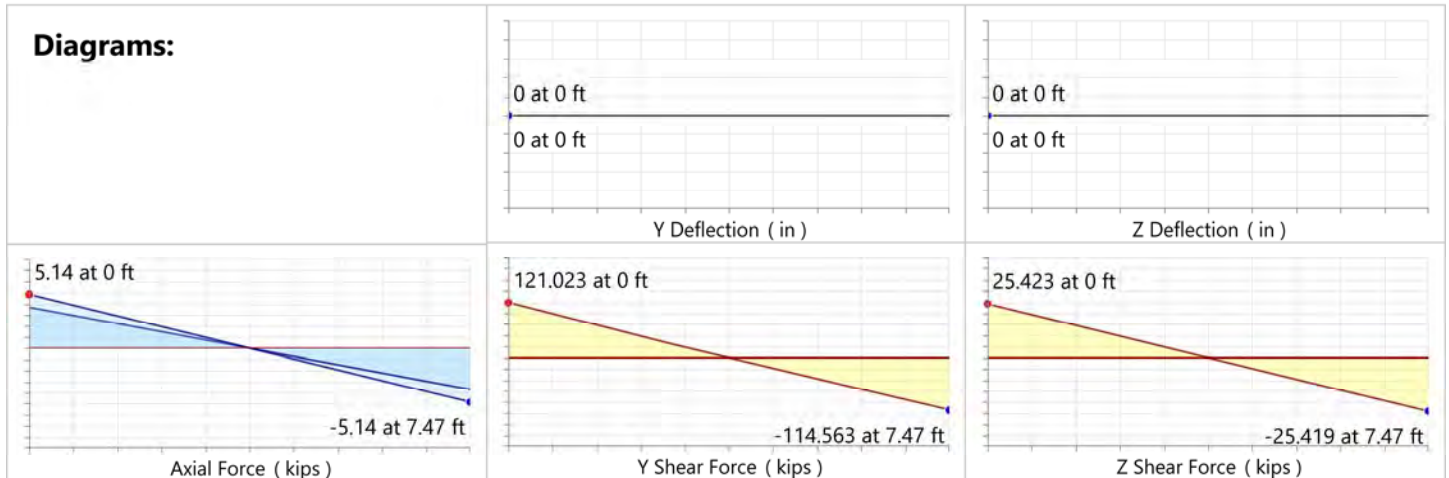
D (in):	24	W (in):	104
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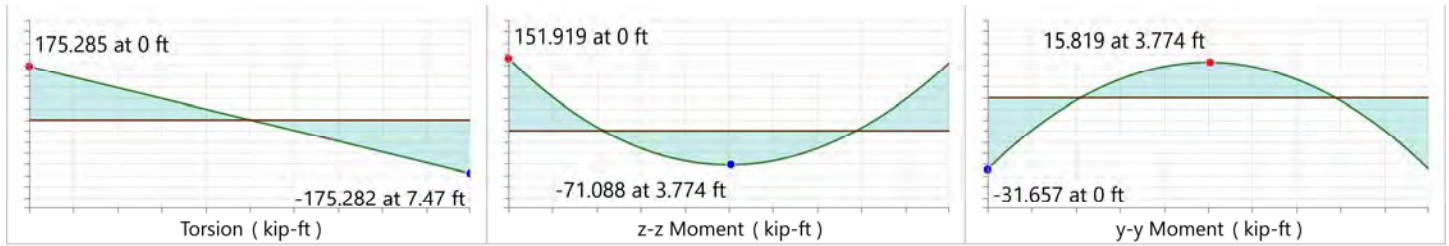
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





**ACI 318-14 Code Check**

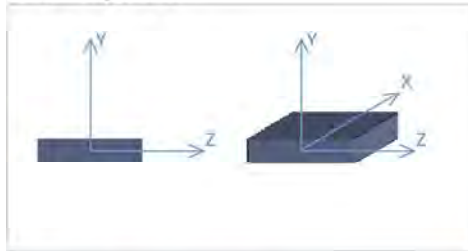
Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display



**Detail Report: A11**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN7B
Member Type:	Beam	J Node:	RN6B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> /°F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

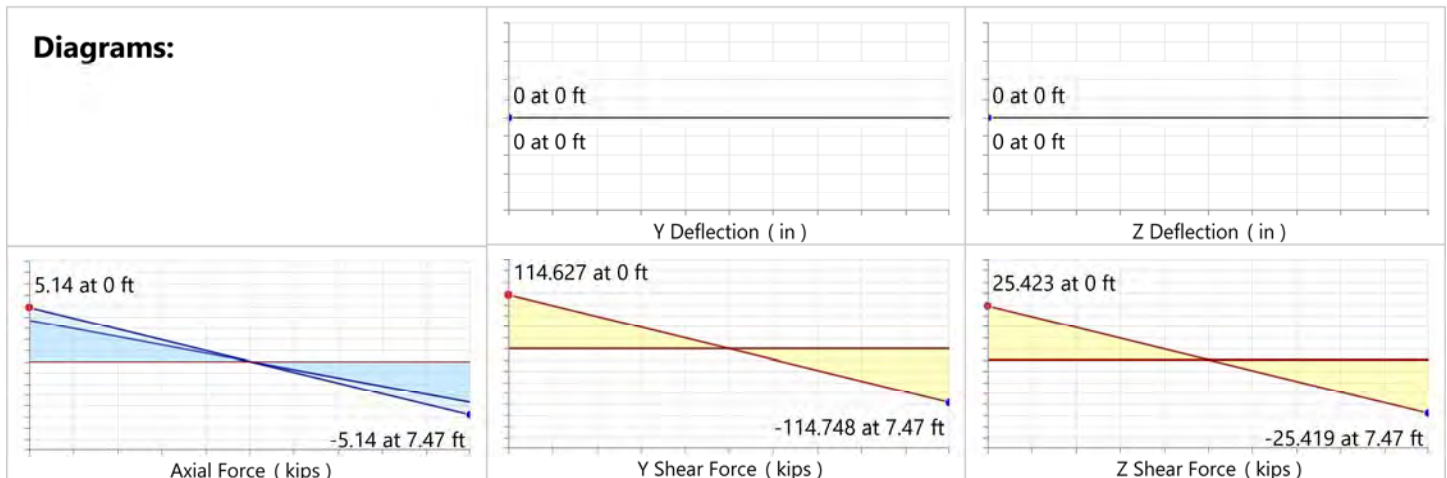
D (in):	24	W (in):	104
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**Design Properties:**

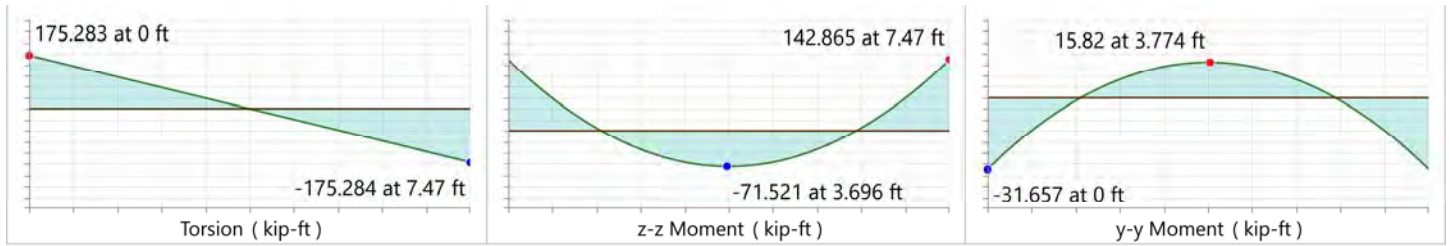
B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**







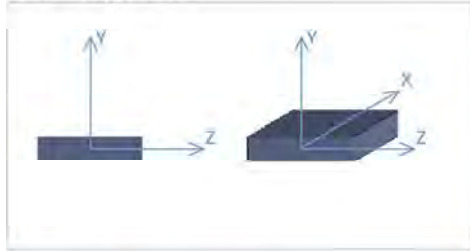
**ACI 318-14 Code Check**

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display

**Detail Report: A12**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN6B
Member Type:	Beam	J Node:	RN5B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

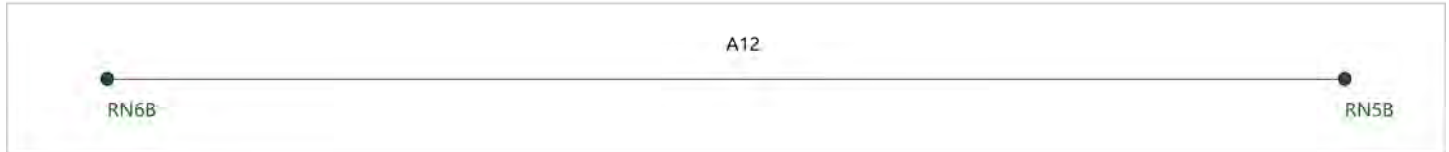
Material:	CONC4500	Therm. Coeff. (1e <sup>5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

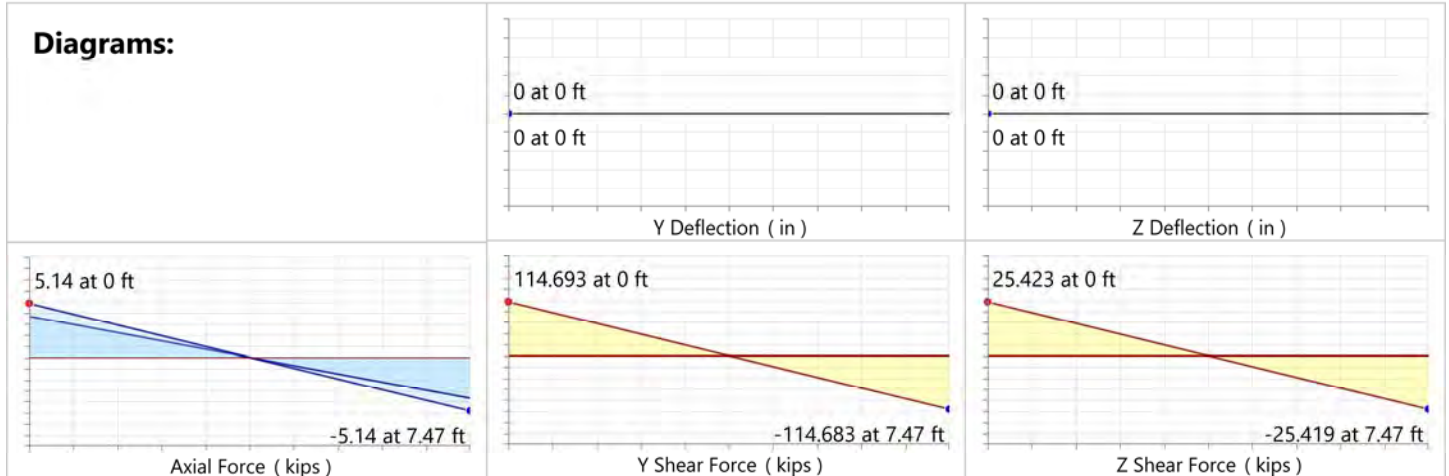
D (in):	24	W (in):	104
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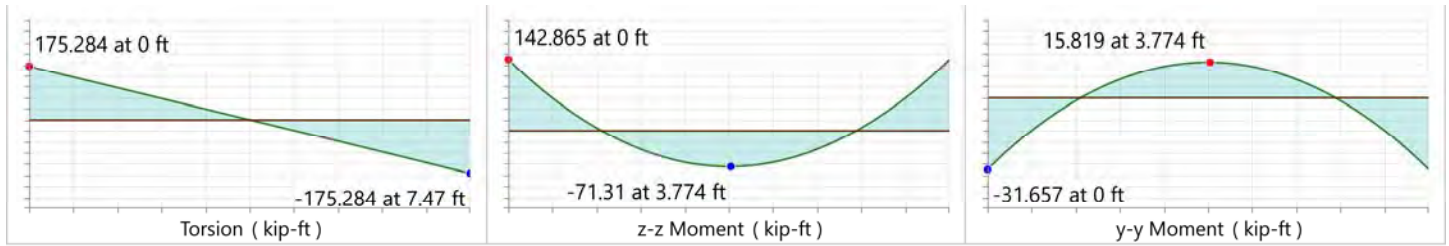
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

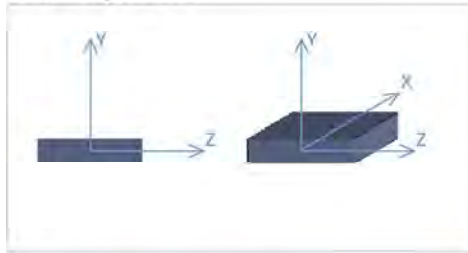
P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display

**Detail Report: A13**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN5B
Member Type:	Beam	J Node:	RN4B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

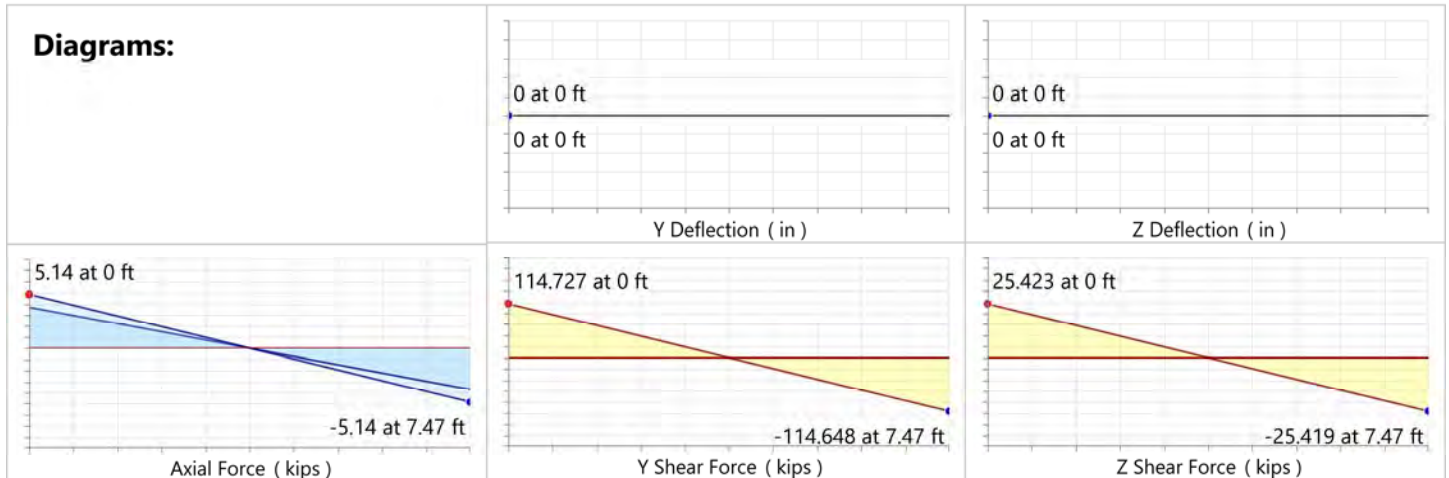
D (in):	24	W (in):	104
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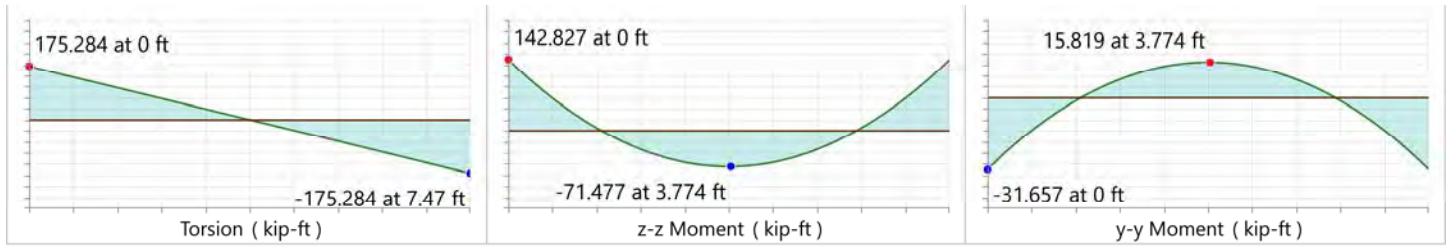
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





**ACI 318-14 Code Check**

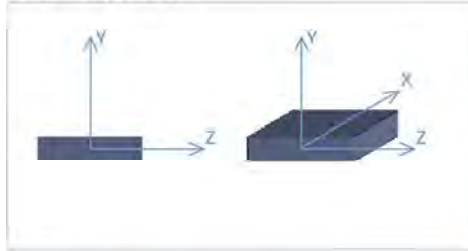
Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-14 load combinations  
 No Results to Display



**Detail Report: A14**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN4B
Member Type:	Beam	J Node:	RN3B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

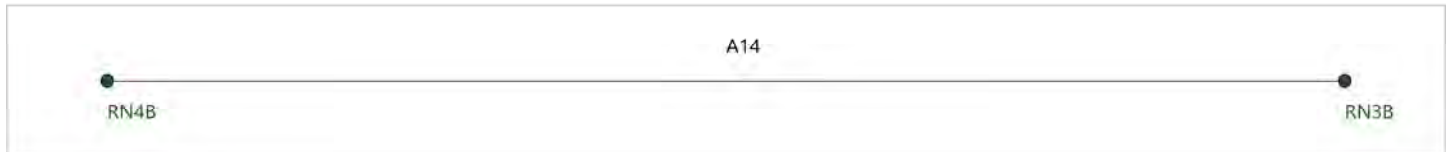
Material:	CONC4500	Therm. Coeff. (1e <sup>5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

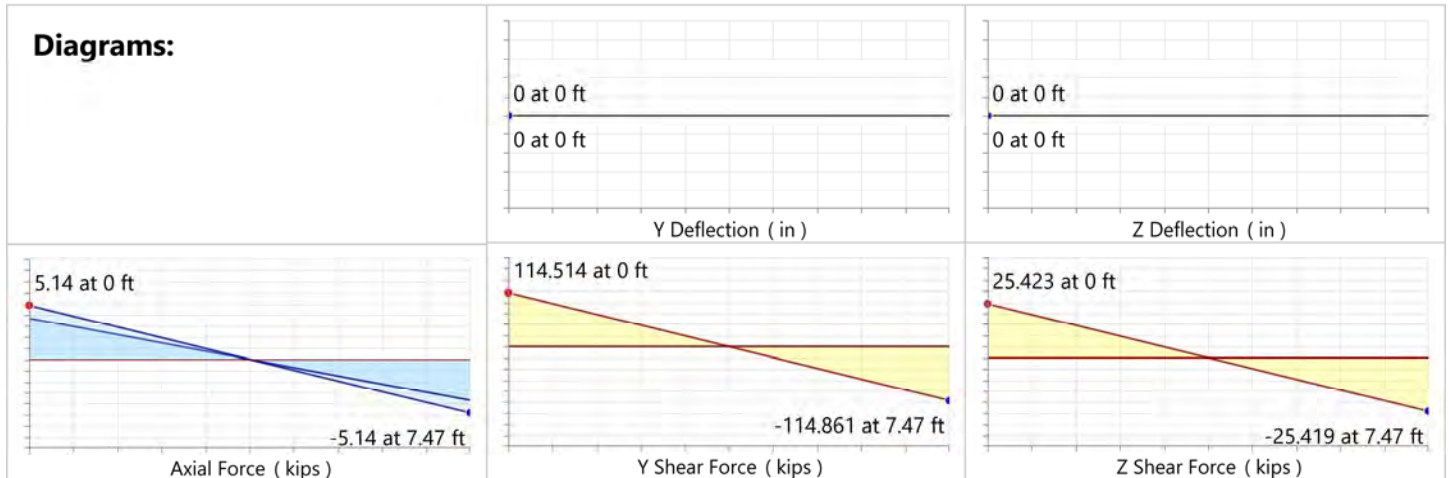
D (in):	24	W (in):	104
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**Design Properties:**

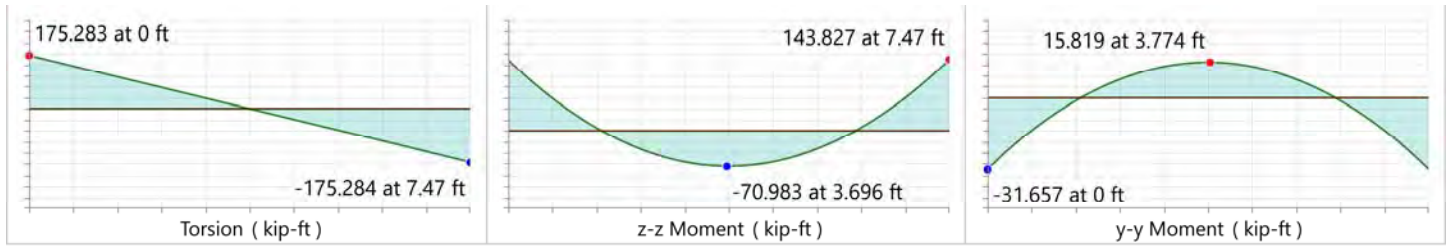
B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**







### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

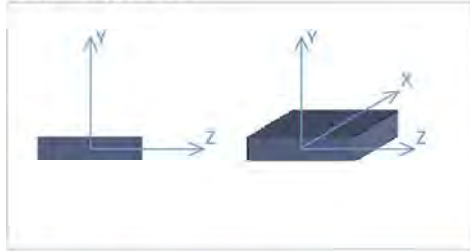
P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display

**Detail Report: A15**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN3B
Member Type:	Beam	J Node:	RN2B
Length (ft):	7.47	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

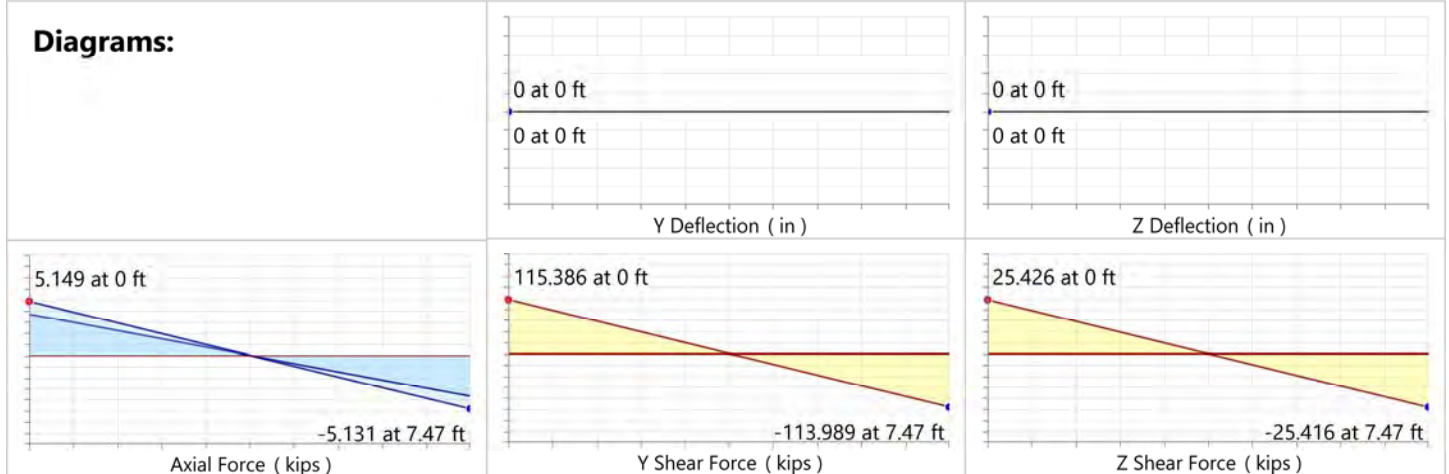
D (in):	24	W (in):	104
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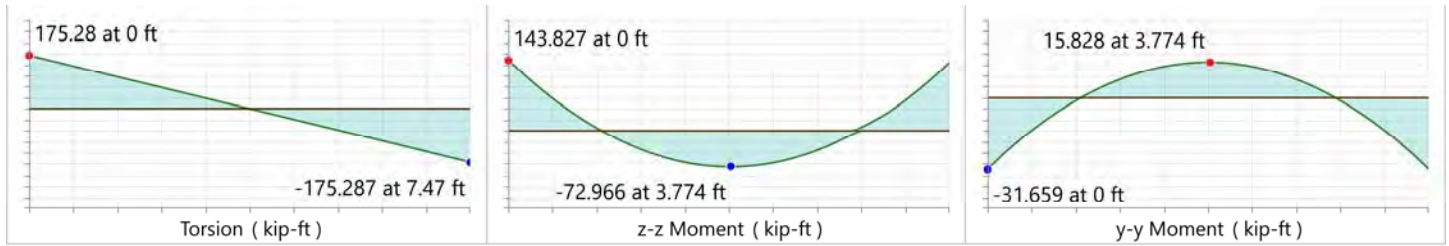
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

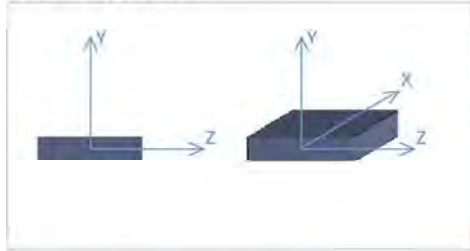
P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display

**Detail Report: A16**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN2B
Member Type:	Beam	J Node:	RN1B
Length (ft):	3.837	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> /°F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

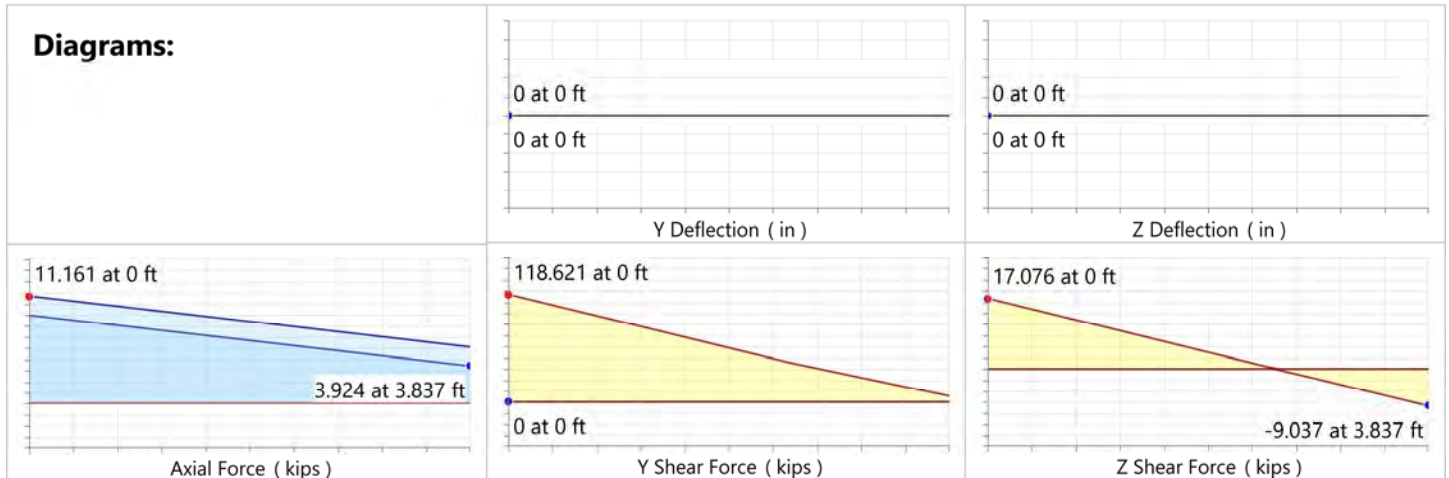
D (in):	24	W (in):	104
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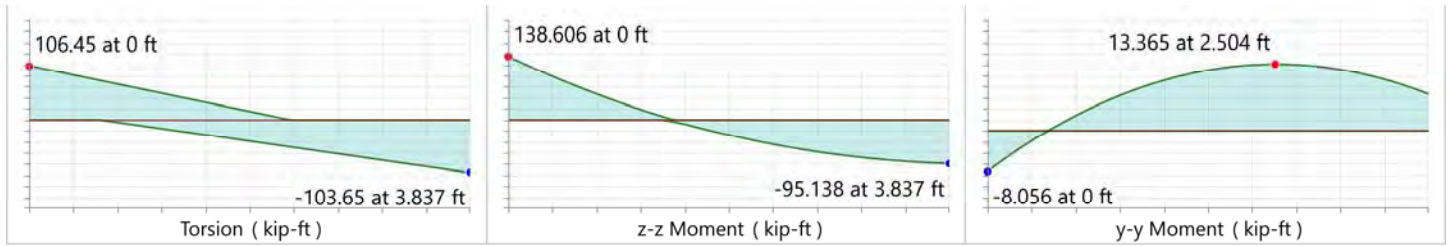
**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**





### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

P-Delta Analysis required for all ACI 318-14 load combinations

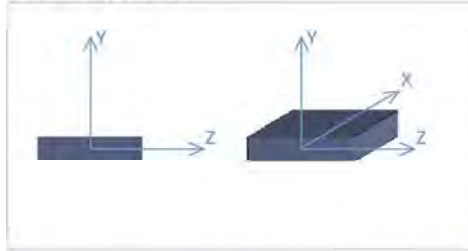
No Results to Display



**Detail Report: A17**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT24X104	I Node:	RN1B
Member Type:	Beam	J Node:	N2
Length (ft):	2.125	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-14		

**Material Properties:**

Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> /°F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1584	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

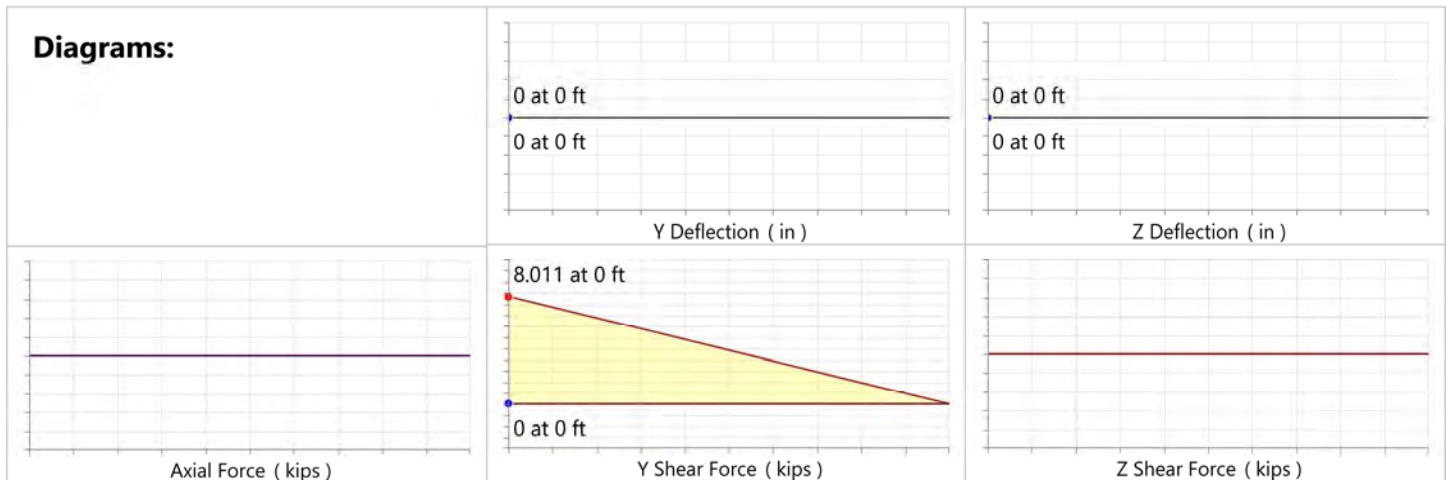
D (in):	24	W (in):	104
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**Design Properties:**

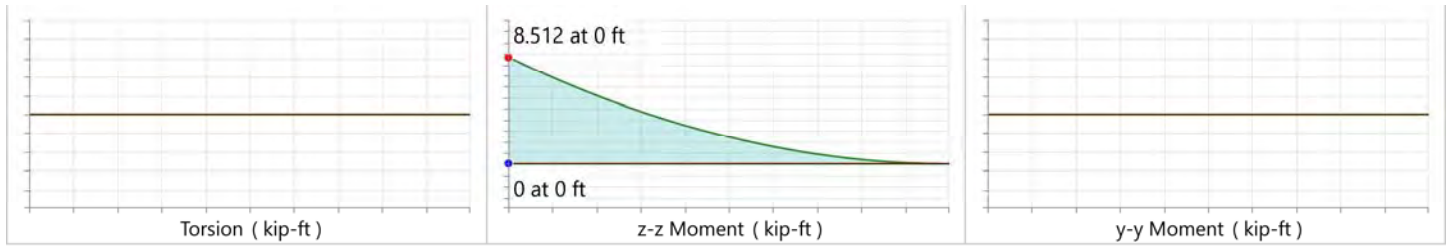
B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	2
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	41932.8	Bottom Cover (in):	3
		Effective "I" (Service) (in <sup>4</sup> ):	59963.904	Side Cover (in):	2
				Legs/Stirrup:	2



**Diagrams:**







### ACI 318-14 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

P-Delta Analysis required for all ACI 318-14 load combinations

No Results to Display



## ***ABUTMENT STEM DESIGN***



Project: Forest Lakes Bridge Substructure Design

Subject: Abutment Design Stem Wall Loadings

Client: Structures Inc

By: H. REED

Date: 10/28/2020

Page:

of:

**Cantilever Retaining Wall on Piles**

weq = 48.6 pcf  
 wsoil = 135 pcf  
 wsur = 135 psf  
 $\phi_r$  = 34 degrees

mu = 0.4  
 wind = 33 psf  
 ka = 0.333  
 c = 0 psf

wpas = 250 pcf  
 Qmax allow = 4000 psf  
 Qmin allow = 0 psf  
 $\phi_b$  = 0.5

GEOMETRY:

Hs = 14.50 ft  
 ts = 3.17 ft  
 Lf = 8.67 ft  
 tf = 2.00 ft  
 Lk = 0.00 ft  
 Hk = 0.00 ft  
 Hsoil = 14.50 ft  
 Wsoil = 3.50 ft  
 Hwater = 0.00 ft  
 Wwater = 0.00 ft  
 Hsur = 0.00 ft  
 ΔFF-BF = - ft  
 Wfs = 2.00 ft  
 Hfs = 1.00 ft  
 Hfnce = 0.00 ft

VERTICAL LOADS:

Ps = 6888 lb/ft  
 Pf = 2600 lb/ft  
 Pk = 0 lb/ft  
 Psoil = 6851 lb/ft  
 Pwater = 0 lb/ft  
 Psur(vert) = 0 lb/ft  
 Pfs = 270 lb/ft  
 Pfence = 0 lb/ft

X  
 3.583 ft

Moments  
 24.680 kip-ft/ft

4.333 ft

11.267 kip-ft/ft

9.833 ft

0.000 kip-ft/ft

6.917 ft

47.388 kip-ft/ft

5.167 ft

0.000 kip-ft/ft

6.917 ft

0.000 kip-ft/ft

1.000 ft

0.270 kip-ft/ft

3.583 ft

0.000 kip-ft/ft

HORIZONTAL LOADS:

wsur = 0 psf/ft  
 wtof = 652 psf/ft  
 wbof = 742 psf/ft  
 Rsoil = 4726 lb/ft  
 Rsoil = 6119 lb/ft  
 Rsur = 0 lb/ft  
 Rwind = 0 lb/ft

Y

4.833 ft

5.500 ft

8.250 ft

16.500 ft

Moments

22.842 kip-ft/ft

33.657 kip-ft/ft

0.000 kip-ft/ft

0.000 kip-ft/ft

heel = 2.00 Pmax = 16609 (with LS surcharge) SUM = 6119  
 key = 0.00 Pmin = 16609 (w/o LS surcharge)  
 toe = 9.83  
 d passive = 0.00

**Stem Design**

Group	DC	EV	EH (active)	LSv	LSH	BR	WS	TU	EQ
Strength I-a	0.90	1.00	1.50	1.75	1.75	1.75	-	1.20	-
Strength I-b	1.25	1.35	1.50	1.75	1.75	1.75	-	1.20	-
Strength IV	1.50	1.35	1.50	-	-	-	-	1.20	-
Strength V	1.25	1.35	1.50	1.35	1.35	1.35	1.00	1.20	-
Ext Evt I	1.00	1.00	1.00	0.50	0.50	0.50	-	-	1.00
Service I	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.20	-

**Factored Horizontal Loads**

Group/Item	Rsur	Rsoil	Rws-fence	Rws-super	RWS-sub	Rbraking	Rtemp	Rseismic	TOTAL
Units	Kips/ft	Kips/ft	Kips/ft				Kips/ft		
H (Unf.)	0.000	4.726	0.000	0.197	0.116	0.024	0.874	2.480	8.417
Strength I-a	0.000	7.089	-	-	-	0.041	1.049	-	8.179
Strength I-b	0.000	7.089	-	-	-	0.041	1.049	-	8.179
Strength IV	-	7.089	-	-	-	-	1.049	-	8.138
Strength V	0.000	7.089	0.000	0.197	0.116	0.032	1.049	-	8.483
Ext Evt I	0.000	4.726	-	-	-	0.012	-	2.480	7.218
Service I	0.000	4.726	0.000	0.197	0.116	0.024	1.049	-	6.112

**Factored Moments from Horizontal Loads**

Group/Item	Msur	Msoil	Mws-fence	Mws-super	Mws-sub	Mbraking	Mtemp	Mseismic	TOTAL
Units	Kips-ft/ft	Kips-	Kips-	Kips-			Kips-		Kips-
Mh (Unf.)	0.000	22.842	0.000	2.036	0.836	0.339	9.042	35.596	70.691
Strength I-a	0.000	34.263	-	-	-	0.593	10.850	-	45.706
Strength I-b	0.000	34.263	-	-	-	0.593	10.850	-	45.706
Strength IV	-	34.263	-	-	-	-	10.850	-	45.113
Strength V	0.000	34.263	0.000	2.036	0.836	0.458	10.850	-	48.443
Ext Evt I	0.000	22.842	-	-	-	0.170	-	35.596	58.608
Service I	0.000	22.842	0.000	2.036	0.836	0.339	10.850	-	36.903

**Project:** Forest Lakes  
**Client:** Structures Inc  
**Subject:** Abut Stem Wall BF

**Designed By:** H. Reed  
**Date:** 11/4/2020

### Parameters

Bar Size =	5	in
Bar Dia, $d_b$ =	0.63	in
Bar Area, $A_b$ =	0.31	in <sup>2</sup>
Bar Spacing c-c, $s_b$ =	9.00	in
Bar clr, $clr_b$ =	2.3125	in
Concrete Strength, $f'_c$ =	4.5	ksi
Rebar Strength, $f_y$ =	60	ksi
Weight of Concrete, $w_c$ =	0.15	kcf
Epoxy coated =	No	

### Hook Development Length

LRFD 5.10.8.2.4a

Bend Angle = 90 degrees

$$l_{dh} = \max \left\{ \begin{array}{l} l_{hb} \left( \frac{\lambda_{rc} \lambda_{cw} \lambda_{er}}{\lambda} \right) \\ 8d_b \\ 6 \text{ in} \end{array} \right.$$

$$l_{hb} = \frac{38.0d_b f_y}{60.0 \sqrt{f'_c}}$$

Bar Size = 5 in  
 $l_{hb}$  = 11.20 in  
 $l_{dh}$  = 8.96 in

### Applicable Modification Factors

LRFD 5.10.8.2.4b

For No. 11 bars and smaller

Is normal weight concrete used: Yes  
 Modification Factor  $\lambda$  = 1.00

LRFD 5.4.2.8

Is the side cover normal to plane of hook  $\geq 2.5$ " : Yes  
 Is the hook 90 degrees: Yes  
 Is the cover on the bar extension beyond the hook  $\geq 2$ " : Yes  
 Modification Factor  $\lambda_{rc}$  = 0.80

LRFD 5.10.8.2.4b

Is the hook enclosed within ties or stirrups perpendicular to the bar being developed: No  
 Is the hook 90 degrees: Yes  
 Is the stirrup spacing  $\leq 3d_b$  along  $l_{dh}$ : No  
 Is the first stirrup or tie enclosing the bent portion of the hook  $\leq 2d_b$  outside of the bend: No  
 Modification Factor  $\lambda_{rc}$  = 1.00

LRFD 5.10.8.2.4b

Is the hook enclosed within ties or stirrups parallel to the bar being developed: No  
 Is the hook 90 degrees: Yes  
 Is the stirrup spacing  $\leq 3d_b$  along the length of the tail extension of the hook + bend: No  
 Is the first stirrup or tie enclosing the bent portion of the hook  $\leq 2d_b$  outside of the bend: No  
 Modification Factor  $\lambda_{rc}$  = 1.00

LRFD 5.10.8.2.4b

**Project:** Forest Lakes  
**Client:** Structures Inc  
**Subject:** Abut Stem Wall BF

**Designed By:** H. Reed  
**Date:** 11/4/2020

Is the hook enclosed within ties or stirrups perpendicular to the bar being developed:   
 Is the hook 180 degrees:   
 Is the stirrup spacing  $\leq 3d_b$  along  $l_{dh}$ :   
 Is the first stirrup or tie enclosing the bent portion of the hook  $\leq 2d_b$  outside of the bend:   
 Modification Factor  $\lambda_{rc} = 1.00$

LRFD 5.10.8.2.4b

Is the rebar epoxy coated:   
 Modification Factor  $\lambda_{cw} = 1.00$

Is reinf. in excess of that required:   
 Moment required  $M_{r-req'd}$ :  k-ft/ft  
 Moment capacity  $M_u$ :  k-ft/ft  
 Modification Factor  $\lambda_{er} = 1.00$

\*To be conservative,  $\lambda_{er}$  may = 1.0

**Modified Development Length of Hook**

$$l_{hb} \times \lambda_{rc} \lambda_{cw} \lambda_{er} / \lambda = \boxed{8.96 \text{ in}}$$

Length provided =  in  
 Length needed = 8.96 in  
 % Developed = 133.98%





## Abutment Stem Wall Design

### Stem Wall Loading Output

Width of Stem =	107.75	ft	
$V_u$ at Base of Wall =	8.48	kip/ft	(Max Factored Horizontal)
$M_u$ at Base of Wall =	48.44	kip-ft/ft	(Max Factored Horizontal Moment)
$V_{EE}$ at Base of Wall =	7.22	kip/ft	(Extreme Event Horizontal)
$M_{EE}$ at Base of Wall =	58.61	kip-ft/ft	(Extreme Event Horizontal Moment)
$V_s$ at Base of Wall =	6.11	kip/ft	(Service Horizontal)
$M_s$ at Base of Wall =	36.90	kip-ft/ft	(Service Horizontal Moment)
b =	12	in	
h =	38.00004	in	
$f'_c$ =	4.5	ksi	
$E_c$ =	4435.309	ksi	
$f_y$ =	60	ksi	
$E_s$ =	29000	ksi	

#### I. Vertical BF Stem Bars

b =	12 in	$clr_s$ =	2 in
dia =	5/8 in	Bar Size =	5
$d = h - clr_s - dia/2$		d =	35.688 in

# **5 Bars** @ 9"

Bar Spacing $S_b$ .....	$S_b$ =	9 in
Area per Bar .....	$A_s$ =	0.31 in <sup>2</sup> /bar

$A_{s\_side} = \frac{A_s}{12S_b}$ .....	$A_{s\_side} =$	0.41 in <sup>2</sup> /ft
---	-----------------	--------------------------

#### Resistance Factors:

$\phi_f = 0.9$	For tension-controlled reinforced concrete	LRFD 5.5.4.2
$\phi_t = 0.9$	For shear and torsion reinforced concrete	LRFD 5.5.4.2

$a = \frac{A_s f_y}{0.85 b f'_c}$	a =	0.540 in
-----------------------------------	-----	----------

$M_r = (\phi_f A_{s\_side} f_y (d - a/2))/12$	$\phi M_n =$	65.876 ft-kip
		>
	$M_u =$	48.443 ft-kip
		OK!



**Limits For Reinforcement:**

**Check Minimum Reinforcement**

**LRFD 5.6.3.3**

$$I_g = \frac{bh^3}{12}$$

$$Y_t = h/2$$

$$S_c = I_g/Y_t$$

$$f_r = .24\lambda\sqrt{f_c}$$

$$M_{cr} = y_3[(y_1f_r + y_2f_{cpe})S_c - M_{dnc}(Y_c/Y_{nc} - 1)]$$

$y_1$  = flexural cracking variability factor

$y_2$  = prestress variable factor

$y_3$  = ratio of spec. min yield strength to ultimate tensile strength of rebar

$$M_{cr} = 1.33 * M_u$$

$$M_r = (\phi_f A_{s,side} f_y (d - a/2)) / 12$$

$$I_g = 54872.17 \text{ in}^4$$

$$Y_t = 19.00002 \text{ in}$$

$$S_c = 2888.006 \text{ in}^3$$

$$f_r = 0.509 \text{ ksi}$$

LRFD 5.4.2.6

$$M_{cr} = 131.350 \text{ ft-kip}$$

LRFD 5.6.3.3-1

$$y_1 = 1.60$$

$$y_2 = 0.00$$

$$y_3 = 0.67 \text{ for A615, Grade 60 Steel}$$

$$M_{dnc} = 0.00 \text{ ft-kip}$$

$$M_{cr} = 64.429 \text{ ft-kip}$$

CONTROLS

$$\phi Mn = 65.876 \text{ ft-kip}$$

>

$$M_{cr} = 64.429 \text{ ft-kip}$$

OK!

**I. a. Serviceability Requirements:**

**Crack Control**

LRFD 5.6.7

$$\rho = A_s / bd$$

$$k = \sqrt{2n\rho + (n\rho)^2} - n\rho$$

$$j = 1 - k/3$$

$$f_{ss} = \frac{M_s}{A_s j d}$$

**Allowable Spacing**

$$s \leq \frac{700y_e}{\beta_s f_{ss}} - 2d_c$$

$$\beta_s = 1 + \frac{d_c}{0.7(h - d_c)}$$

$$M_s = 36.903 \text{ ft-kip}$$

$$A_s = 0.41 \text{ in}^2/\text{ft}$$

$$0.0010$$

$$n = 6.54$$

$$k = 0.1062$$

$$j = 0.965$$

$$f_{ss(\text{actual})} = 31.12 \text{ ksi}$$

$$d_c = 2.31 \text{ in}$$

$$h = 38.0 \text{ in}$$

$$\beta_s = 1.09$$

$$y_e = 0.75$$

1.0 for Class 1 exposure, 0.75 for Class 2 exposure \*

$$s \leq 10.81 \text{ in}$$

OK!

\* Class 1 exposure condition applies when cracks can be tolerated due to reduced concerns of appearance and/or corrosion. Class 2 exposure condition applies to when there is increased concern of appearance and/or corrosion and transverse design of segmental concrete box girders for any loads applied prior to attaining full nominal concrete strength. Recommended to use Class 2 for decks.



**I.b. Temperature and Shrinkage Reinforcement Check**

LRFD 5.10.6

$$A_s \geq \frac{1.30bh}{2(b+h)f_y}$$

$$0.11 \leq A_s \leq 0.60$$

distributed to one face in both directions minimum

$$A_s \geq 0.315 \text{ in}^2$$

$$A_s = 0.41 \text{ in}^2$$

OK!

**I.c. Summary Check**

Is:  $\phi M_n \geq M_u$

$$\phi M_n = 65.88 \text{ ft-kip}$$

$$> 48.44 \text{ ft-kip} \quad \text{OK!}$$

$$M_u = 48.44 \text{ ft-kip}$$

$$\phi M_n \geq M_{cr}$$

$$\phi M_n = 65.88 \text{ ft-kip}$$

$$> 64.42926 \text{ ft-kip} \quad \text{OK!}$$

$$M_{cr} = 64.42926 \text{ ft-kip}$$

$$s \leq \frac{700\gamma_e}{\beta_s f_{ss}} - 2d_c$$

$$s = 9 \text{ in}$$

$$< 10.81 \text{ in} \quad \text{OK!}$$

$$\frac{700\gamma_e}{\beta_s f_{ss}} - 2d_c = 10.81 \text{ in}$$

**Reinforcement meets requirements**

**II. Horizontal Stem Bars**

$$b = 12 \text{ in}$$

$$\text{dia} = 5/8 \text{ in}$$

$$d = h - \text{clr}_s - \text{dia}_s - \text{dia}/2$$

$$\text{clr}_s = 2 \text{ in}$$

$$\text{Bar Size} = 5$$

$$d = 35.063 \text{ in}$$

# **5 Bars @ 9"**

Bar Spacing  $S_b$  .....

$$S_b = 9 \text{ in}$$

Area per Bar .....

$$A_s = 0.31 \text{ in}^2/\text{bar}$$

$$A_{s\_horiz} = \frac{A_s}{12S_b} \dots\dots\dots$$

$$A_{s\_horiz} = 0.41 \text{ in}^2/\text{ft}$$

**II.a. Temperature and Shrinkage Reinforcement Check**

LRFD 5.10.6

$$A_s \geq \frac{1.30bh}{2(b+h)f_y}$$

$$0.11 \leq A_s \leq 0.60$$

distributed to one face in both directions minimum

$$A_s \geq 0.315 \text{ in}^2$$

$$A_s = 0.41 \text{ in}^2/\text{ft}$$

OK!



**III. Vertical FF Stem Bars**

b =	12 in	clr <sub>s</sub> =	2 in
dia =	5/8 in	Bar Size =	5
d = h - clr <sub>s</sub> - dia/2		d =	35.688 in

# **5 Bars @ 9"**

Bar Spacing S <sub>b</sub> .....	S <sub>b</sub> =	9 in
Area per Bar .....	A <sub>s</sub> =	0.31 in <sup>2</sup> /bar
A <sub>s_vert FF</sub> = $\frac{A_s}{12S_b}$ .....	A <sub>s_vert FF</sub> =	0.41 in <sup>2</sup> /ft

**III.a. Temperature and Shrinkage Reinforcement Check**

LRFD 5.10.6

$A_s \geq \frac{1.30bh}{2(b+h)f_y}$	A <sub>s</sub> ≥	0.315 in <sup>2</sup>
0.11 ≤ A <sub>s</sub> ≤ 0.60	A <sub>s</sub> =	0.41 in <sup>2</sup> /ft
		OK!

**IV. Shear Requirements**

**Shear Check**

LRFD 5.7.3.3

$V_s + V_c \geq V_u$	V <sub>u</sub> =	8.48 kip/ft
$d_v = \max \left\{ \begin{array}{l} d_e - \frac{a}{2} \\ 0.9 * d_e \\ 0.72 * h \end{array} \right.$	$d_e - \frac{a}{2} =$	34.79 in
	$0.9 * d_e =$	32.12 in
	$0.72 * h =$	27.36 in
	d <sub>v</sub> =	34.79 in

Per LRFD 5.7.3.4.1, this section does not qualify for simplified procedure for determining shear resistance parameters. General procedure will be used per 5.7.3.4.2

$\epsilon_s = \frac{\left(\frac{|M_u|}{d_v} + 0.5N_u + |V_u|\right)}{E_s A_s}$  when removing all prestress steel unknowns

M <sub>u</sub> = max(M <sub>u</sub> , V <sub>u</sub> * d <sub>v</sub> )	M <sub>u</sub> =	48.44 kip-ft/ft
N <sub>u</sub> = factored axial force	N <sub>u</sub> =	20.03 kip/ft
A <sub>s</sub> = area of steel on the flexural side	A <sub>s</sub> =	0.41 in <sup>2</sup> /ft
	ε <sub>s</sub> =	0.0029 in/in/ft

Parameter β for sections with no transverse reinforcement

$\beta = \frac{4.8}{(1 + 750\epsilon_s)} \frac{51}{(39 + s_{xe})}$

$s_x = \min \left\{ \begin{array}{l} d_v = 34.79 \\ s = 9 \text{ in} \\ \text{if } A_s \geq 0.003b_v s_x = 0.96 \text{ in}^2/\text{ft} \end{array} \right.$

$s_{xe} = s_x \frac{1.38}{a_g + 0.63} =$

s<sub>x</sub> = 34.79 in

s<sub>xe</sub> = 34.79 in

β = 1.04

LRFD 5.7.3.4.2



Project: Forest Lakes Bridge Substructure Design

Subject: Abutment Stem Wall Design

Client: Structures Inc

By: H. REED

Date: 10/28/2020

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of:

$$V_{n,1} = 0.0316\beta\lambda\sqrt{f'_c}b_vd_v + V_s$$
$$V_{n,2} = 0.25f'_cb_vd_v$$

$$V_{c,1} = 28.99 \text{ kip/ft}$$

$$V_{n,2} = 469.70 \text{ kip/ft}$$

$$\phi V_n = 26.09 \text{ kip/ft}$$

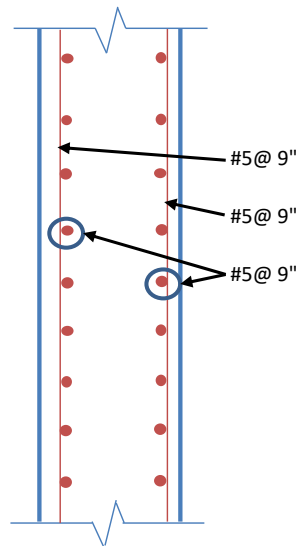
>

$$V_u = 8.48 \text{ kip/ft}$$

OK!

Therefore concrete shear resistance is adequate without considering reinforcing

### V.Summary





***ABUTMENT FOOTING PILE CAP DESIGN***





## Abutment Pile Cap Design

### RISA Output

Width of Footing =	107.57	ft		
Front Caisson # =	15	caissons		
Front Caisson Reactions =	2865.40	kip		
Front Caisson Reactions =	212.00	kip/caisson	Str Ib, RN8C	From RISA Output
Back Caisson # =	15	caissons		
Back Caisson Uplift =	13.00	kip/caisson	Ext Evt, RN10A	From RISA Output
Back Caisson Reactions =	144.53	kip		
Dist. Between front of Stem and CL				
Front Caissons =	0.75	ft		
Dist. Between back of Stem and CL				
Back Caissons =	2.25	ft		
V <sub>u</sub> =	212.00	kip	Str Ib, RN8C	From RISA Output
b =	12	in		
w =	104	in		
h =	24	in		
depth =	104	in		
f'c =	4.5	ksi		
Ec =	4435.3	ksi		
fy =	60	ksi		
Es =	29000	ksi		

#### I. Bottom of the Footing - Toe

b =	12 in	clr <sub>s</sub> =	3 in
dia =	5/8 in	Bar Size =	5
d = h - clr <sub>s</sub> - dia/2		d =	20.688 in

# **5 Bars** @ 12 "

Bar Spacing S <sub>b</sub> .....	S <sub>b</sub> =	12 in
Area per Bar .....	A <sub>s</sub> =	0.31 in <sup>2</sup> /bar

$$A_{s\_side} = \frac{A_s}{12S_b} \dots\dots\dots A_{s\_side} = 0.31 \text{ in}^2/\text{ft}$$

#### Resistance Factors:

φ <sub>f</sub> = 0.9	For tension-controlled reinforced concrete	LRFD 5.5.4.2
φ <sub>t</sub> = 0.9	For shear and torsion reinforced concrete	LRFD 5.5.4.2

$$a = \frac{A_s f_y}{0.85 b f'_c} \dots\dots\dots a = 0.405 \text{ in}$$

$$M_r = (\phi_f A_{s\_side} f_y (d_p - a/2))/12 \dots\dots\dots 28.576 \text{ ft-kip/ft}$$

$$M_u = \frac{\text{Front Caisson Reaction} * \text{Arm}}{\text{Width}} \dots\dots\dots 19.978 \text{ ft-kip/ft}$$

OK!



**Limits For Reinforcement:**

**Check Minimum Reinforcement**

**LRFD 5.6.3.3**

$$I_g = \frac{bh^3}{12}$$

$$Y_t = h/2$$

$$S_c = I_g/Y_t$$

$$f_r = .24\lambda\sqrt{f'_c}$$

$$I_g = 119808 \text{ in}^4$$

$$Y_t = 12 \text{ in}$$

$$S_c = 9984 \text{ in}^3$$

$$f_r = 0.509 \text{ ksi}$$

LRFD 5.4.2.6

$$M_{cr} = \gamma_3 [(y_1 f_r + y_2 f_{cpe}) S_c - M_{dnc} (\gamma_c / \gamma_{nc} - 1)]$$

$\gamma_1$  = flexural cracking variability factor  
 $\gamma_2$  = prestress variable factor  
 $\gamma_3$  = ratio of spec. min yield strength to ultimate tensile strength of rebar

$$M_{cr} = 454.083 \text{ ft-kip}$$

LRFD 5.6.3.3-1

$$\gamma_1 = 1.60$$

$$\gamma_2 = 0.00$$

$$\gamma_3 = 0.67 \text{ for A615, Grade 60 Steel}$$

$$M_{dnc} = 0.00 \text{ ft-kip}$$

$$M_{cr} = 1.33 * M_u$$

$$M_{cr} = 26.571 \text{ ft-kip/ft}$$

CONTROLS

$$M_r = (\phi_r A_{s\_side} f_y (d_p - a/2)) / 12$$

$$28.576 \text{ ft-kip/ft}$$

>

$$M_{cr} = 26.571 \text{ ft-kip/ft}$$

OK!

**I.a. Temperature and Shrinkage Reinforcement Check**

LRFD 5.10.6

$$A_s \geq \frac{1.30bh}{2(b+h)f_y}$$

$$A_s \geq 0.211 \text{ in}^2$$

$$0.11 \leq A_s \leq 0.60$$

$$A_s = 0.31 \text{ in}^2$$

distributed to one face in both directions minimum

OK!

**I.b. Summary Check**

$$\phi M_n \geq M_u$$

$$28.58 \text{ ft-kip/ft}$$

>

OK!

$$M_u = 19.98 \text{ ft-kip/ft}$$

$$\phi M_n \geq M_{cr}$$

$$\phi M_n = 28.58 \text{ ft-kip/ft}$$

>

OK!

$$M_{cr} = 26.57 \text{ ft-kip/ft}$$

**Reinforcement meets requirements**

**II. Top of Footing - Heel**

$$b = 12 \text{ in}$$

$$\text{dia} = 5/8 \text{ in}$$

$$d = h - \text{clr}_s - \text{dia}/2$$

$$\text{clr}_s = 2 \text{ in}$$

$$\text{Bar Size} = 5$$

$$d = 21.688 \text{ in}$$

$$\# \text{ 5 Bars @ } 12 \text{ ''}$$

$$\text{Bar Spacing } S_b = 12 \text{ in}$$

$$S_b = 12 \text{ in}$$

$$\text{Area per Bar} = 0.31 \text{ in}^2/\text{bar}$$

$$A_s = 0.31 \text{ in}^2/\text{bar}$$

$$A_{s\_horiz} = \frac{A_s}{12S_b}$$

$$A_{s\_horiz} = 0.31 \text{ in}^2/\text{ft}$$



**Resistance Factors:**

$\phi_f = 0.9$  For tension-controlled reinforced concrete LRFD 5.5.4.2  
 $\phi_t = 0.9$  For shear and torsion reinforced concrete LRFD 5.5.4.2

$$a = \frac{A_s f_y}{0.85 b f'_c} \quad a = 0.405 \text{ in}$$

$$M_r = (\phi_f A_{s\_horiz} f_y (d - a/2)) / 12 \quad 29.971 \text{ ft-kip/ft}$$

$$M_u = \frac{\text{Back Caisson Reaction} * \text{Arm}}{\text{Width}} \quad M_u = 3.023 \text{ ft-kip/ft}$$

>  
OK!

**Limits For Reinforcement:**

**Check Minimum Reinforcement**

**LRFD 5.6.3.3**

$$I_g = \frac{bh^3}{12} \quad I_g = 13824 \text{ in}^4$$

$$y_t = h/2 \quad y_t = 12 \text{ in}$$

$$S_c = I_g / y_t \quad S_c = 1152 \text{ in}^3$$

$$f_r = .24 \sqrt{f'_c} \dots \dots \dots f_r = 0.509 \text{ ksi} \quad \text{LRFD 5.4.2.6}$$

$$M_{cr} = 0.67 * 1.6 * S_c * f_r \dots \dots \dots M_{cr} = 52.394 \text{ ft-kip/ft} \quad \text{LRFD 5.6.3.3}$$

$$M_{cr} = 1.33 * M_u \quad M_{cr} = 4.021 \text{ ft-kip/ft} \quad \text{CONTROLS}$$

$$M_r = (\phi_f A_{s\_horiz} f_y (d - a/2)) / 12 \quad 29.971 \text{ ft-kip/ft}$$

>  
OK!

**I.a. Temperature and Shrinkage Reinforcement Check**

**LRFD 5.10.6**

$$A_s \geq \frac{1.30bh}{2(b+h)f_y} \quad A_s \geq 0.211 \text{ in}^2$$

$$0.11 \leq A_s \leq 0.60 \quad A_s = 0.31 \text{ in}^2$$

distributed to one face in both directions minimum OK!

**II.b. Summary Check**

Is:  $\phi M_n \geq M_u$  29.971 ft-kip/ft  
> OK!  
 $M_u = 3.023 \text{ ft-kip/ft}$

$\phi M_n \geq M_{cr}$  29.971 ft-kip/ft  
> OK!  
 $M_{cr} = 4.021 \text{ ft-kip/ft}$

**Reinforcement meets requirements**



**III. Footing Longitudinal Bars**

b =	12 in	clr <sub>s</sub> =	3 in
dia =	5/8 in	Bar Size =	5
d = h - clr <sub>s</sub> - dia <sub>s</sub> - dia/2		d =	20.063 in

# <b>5 Bars @</b>	12 "		
Bar Spacing S <sub>b</sub> .....		S <sub>b</sub> =	12 in
Area per Bar .....		A <sub>s</sub> =	0.31 in <sup>2</sup> /bar
$A_{s\_horiz} = \frac{A_s}{12S_b}$ .....		A <sub>s\_horiz</sub> =	0.31 in <sup>2</sup> /ft

**Resistance Factors:**

φ <sub>f</sub> = 0.9	For tension-controlled reinforced concrete	LRFD 5.5.4.2
φ <sub>t</sub> = 0.9	For shear and torsion reinforced concrete	LRFD 5.5.4.2

$a = \frac{A_s f_y}{0.85 b f'_c}$	a =	0.405 in
$M_r = (\phi A_{s\_trans} f_y (d - a/2))/12$		27.705 ft-kip
		>
	M <sub>u</sub> =	18.242 ft-kip
		OK!

**Limits For Reinforcement:**

**Check Minimum Reinforcement**

**LRFD 5.6.3.3**

$I_g = \frac{bh^3}{12}$	I <sub>g</sub> =	119808 in <sup>4</sup>	
y <sub>t</sub> = h/2	y <sub>t</sub> =	12 in	
S <sub>c</sub> = I <sub>g</sub> /y <sub>t</sub>	S <sub>c</sub> =	9984 in <sup>3</sup>	
f <sub>r</sub> = .24*√f' <sub>c</sub> .....	f <sub>r</sub> =	0.509 ksi	LRFD 5.4.2.6
M <sub>cr</sub> = 0.67*1.6*S <sub>c</sub> *f <sub>r</sub> .....	M <sub>cr</sub> =	454.083 ft-kip	LRFD 5.6.3.3



EV Loads:

Fill Ht = 14.35 ft

$Y_{EH} = 0.135$  kcf

$w_{EH} = 1.937$  ksf

Dist. Between Caissons = 7.47 ft

$$M_s = \frac{w_s l^2}{8}$$

$M_u = 1.35 * M_{EV}$

$M_{cr} = 1.33 * M_u$

$M_r = (\phi_r A_{shoriz} f_y (d - a/2)) / 12$

$M_{EV} = 13.51$  k-ft/ft

$M_s = 13.51$  k-ft/ft

$M_u = 18.24$  k-ft/ft

$M_{cr} = 24.26$  ft-kip      CONTROLS

27.705 ft-kip

>

$M_{cr} = 24.262$  ft-kip

OK!

III.a. Serviceability Requirements:

**Crack Control**

LRFD 5.6.7

$\rho = A_s / bd$

$k = \sqrt{(2np + [(pn)]^2)} - np$

$j = 1 - k/3$

$f_{ss} = \frac{M_s}{A_s j d}$

$M_s = 13.513$  ft-kip

$A_s = 0.31$  in<sup>2</sup>/ft  
0.0013

n = 7

k = 0.1256

j = 0.958

$f_{ss(actual)} = 27.21$  ksi

*Allowable Spacing*

$s \leq \frac{700\gamma_e}{\beta_s f_{ss}} - 2d_c$       LRFD 5.7.3.4-1

$\beta_s = 1 + \frac{d_c}{0.7(h - d_c)}$

$d_c = 4$  in

h = 24.0 in

$\beta_s = 1.28$

$\gamma_e = 1$

1.0 for Class 1 exposure, 0.75 for Class 2 exposure \*

$s \leq 12.22$  in

OK!

\* Class 1 exposure condition applies when cracks can be tolerated due to reduced concerns of appearance and/or corrosion. Class 2 exposure condition applies to when there is increased concern of appearance and/or corrosion and transverse design of segmental concrete box girders for any loads applied prior to attaining full nominal concrete strength. Recommended to use Class 2 for decks.



**III.b. Temperature and Shrinkage Reinforcement Check**

LRFD 5.10.6

$$A_s \geq \frac{1.30bh}{2(b+h)f_y}$$

$$A_s \geq 0.211 \text{ in}^2$$

LRFD 5.10.6-1

$$0.11 \leq A_s \leq 0.60$$

$$A_s = 0.31 \text{ in}^2$$

LRFD 5.10.6-2

distributed to one face in both directions minimum

OK!

**III.c. Summary Check**

Is:  $\phi M_n \geq M_u$

27.705 ft-kip

> OK!

$M_u = 18.242 \text{ ft-kip}$

$\phi M_n \geq M_{cr}$

$\phi M_n = 27.705 \text{ ft-kip}$

> OK!

$M_{cr} = 24.262 \text{ ft-kip}$

$s \leq \frac{700\gamma_e}{\beta_s f_{ss}} - 2d_c$

$s = 12 \text{ in}$

< OK!

$\frac{700\gamma_e}{\beta_s f_{ss}} - 2d_c = 12.22 \text{ in}$

**Reinforcement meets requirements**

**IV. Punching Shear Check**

LRFD 5.12.8.6.2

One Way Action

Critical section is larger of: (from face of stem)

$$\begin{cases} 0.5d_v \cot 45^\circ \\ d_v \end{cases} \quad \begin{cases} d_e - \frac{a}{2} = 20.48 \text{ in} \\ 0.9 * d_e = 18.62 \text{ in} \\ 0.72 * h = 17.28 \text{ in} \end{cases}$$

$d_v = \max \left\{ \begin{matrix} d_e - \frac{a}{2} \\ 0.9 * d_e \\ 0.72 * h \end{matrix} \right.$

$\begin{cases} d_v = 20.48 \text{ in} \\ 0.5 * d_v \cot 45^\circ = 10.24 \text{ in} \end{cases}$

CONTROLS

**FRONT CAISSONS**

$d_v = 20.48 \text{ in}$

>

Distance from face of wall to CL Front Caissons = 9.00 in

Shear is within the critical section; therefore no further calculation is required for front caissons

**BACK CAISSONS**

$d_v = 20.48 \text{ in}$

<

Distance from face of wall to CL Back Caissons = 27.00 in

Shear design is necessary outside of critical section





**Shear Check**

LRFD 5.7.3.4

$$V_s + V_c \geq V_u$$

$$V_u = 212.00 \text{ kip}$$

$$V_{n.1} = 0.0316\beta_1\sqrt{f'_c}b_vd_v + V_s$$

$$d_e - \frac{a}{2} = 20.48 \text{ in}$$

$$V_{n.2} = 0.25f'_cb_vd_v$$

$$0.9*d_e = 18.62 \text{ in}$$

$$d_v = \max \left\{ \begin{array}{l} d_e - \frac{a}{2} \\ 0.9 * d_e \\ 0.72 * h \end{array} \right.$$

$$0.72*h = 17.28 \text{ in}$$

$$d_v = 20.48 \text{ in}$$

$$V_{c.1} = 115.35 \text{ kip}$$

$$V_{n.2} = 29748.0 \text{ kip}$$

$$103.81 \text{ kip}$$

<

$$V_u = 212.00 \text{ kip}$$

NO GOOD!

**Shear Reinforcing must be designed**

**Shear Reinforcement Design**

$$b = 12 \text{ in}$$

$$clr_s = 3 \text{ in}$$

$$dia = 5/8 \text{ in}$$

$$Bar \text{ Size} = 5$$

$$d_v = 20.485 \text{ in}$$

# **5 Bars @ 12"**

Bar Spacing  $S_b$  .....

$$S_b = 12 \text{ in}$$

Area per Bar .....

$$A_s = 0.31 \text{ in}^2/\text{bar}$$

$$A_v = \frac{A_s}{12S_b} \dots\dots\dots$$

$$A_v = 0.62 \text{ in}^2/\text{ft}$$

$$V_s = \frac{A_v f_y d_v \cot \theta}{s}$$

$$\theta = 45 \text{ degrees}$$

LRFD C5.7.3.3-1

$$V_s + V_c = V_n$$

$$V_s = 6831.0 \text{ kip}$$

$$V_c = 115.35 \text{ kip}$$

$$\phi V_n = 6251.742 \text{ kip}$$

>

$$V_u = 212.00 \text{ in}$$

OK!

**Two Way Action**

LRFD 5.12.8.6.3

\*Two Way Action is not considered due to the stem being located within the concerned area



Project: Forest Lakes Bridge Substructure Design

Subject: Abutment Pile Cap Design

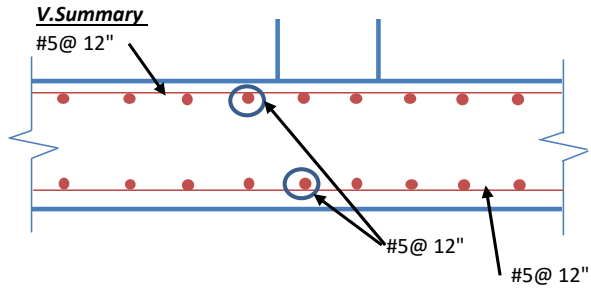
Client: Structures Inc

By: H. REED

Date: 11/04/2020

Page:

of:





## ***ABUTMENT PILE DESIGN***



## Abutment Outputs

Abutment 3

Fz loads are placed against the strong axis

Fx loads are placed against the weak axis

## Piles

Max Fy - strength lb, RN8C					
L-PILE Input			Fx and Fz Max paired with the max axial values (positive and negative values considered)		
	<b>Fx, kip</b>	<b>Fy, kip</b>		<b>Fx, lb</b>	<b>Fy, lb</b>
1	0.0	191.6		0	191600
	<b>Fz, kip</b>	<b>Fy, kip</b>		<b>Fz, lb</b>	<b>Fy, lb</b>
1	0.0	191.6		0	191600
L-PILE Output			L-Pile Output: Cases recombined to produce biaxial results		
	<b>Pu, kip</b>	<b>Mx, in-lb</b>	<b>Mx, k-in</b>	<b>Mz, in-lb</b>	<b>Mz, k-in</b>
1	191.6	0	0.00	0	0.00
Interaction Input: L-PILE Output			Interaction Output:		
	<b>Pu, kip</b>	<b>Mx, k-in</b>	<b>Mz, k-in</b>	<b>Interaction</b>	
1	191.6	0.00	0.00	1	0.376
Max Fy - service, RN8C					
L-PILE Input			Fx and Fz Max paired with the max axial values (positive and negative values considered)		
	<b>Fx, kip</b>	<b>Fy, kip</b>		<b>Fx, lb</b>	<b>Fy, lb</b>
2	0	142.7		0	142700
	<b>Fz, kip</b>	<b>Fy, kip</b>		<b>Fz, lb</b>	<b>Fy, lb</b>
2	0.0	142.7		0	142700
L-PILE Output			L-Pile Output: Cases recombined to produce biaxial results		
	<b>Pu, kip</b>	<b>Mx, in-lb</b>	<b>Mx, k-in</b>	<b>Mz, in-lb</b>	<b>Mz, k-in</b>
2	142.7	0	0.00	0	0.00
Interaction Input: L-PILE Output			Interaction Output:		
	<b>Pu, kip</b>	<b>Mx, k-in</b>	<b>Mz, k-in</b>	<b>Interaction</b>	
2	142.7	0.00	0.00	2	0.280
Min Fy- Ext Event, RN10A					
L-PILE Input			Fx and Fz Max paired with the max axial values (positive and negative values considered)		
	<b>Fx, kip</b>	<b>Fy, kip</b>		<b>Fx, lb</b>	<b>Fy, lb</b>
3	0.0	-1.1		0	-1100
	<b>Fz, kip</b>	<b>Fy, kip</b>		<b>Fz, lb</b>	<b>Fy, lb</b>
3	0.0	-1.1		0	-1100
L-PILE Output			L-Pile Output: Cases recombined to produce biaxial results		
	<b>Pu, kip</b>	<b>Mx, in-lb</b>	<b>Mx, k-in</b>	<b>Mz, in-lb</b>	<b>Mz, k-in</b>
3	-1.1	0	0.00	0	0.00
Interaction Input: L-PILE Output			Interaction Output:		
	<b>Pu, kip</b>	<b>Mx, k-in</b>	<b>Mz, k-in</b>	<b>Interaction</b>	
3	-1.1	0.00	0.00	3	-0.001



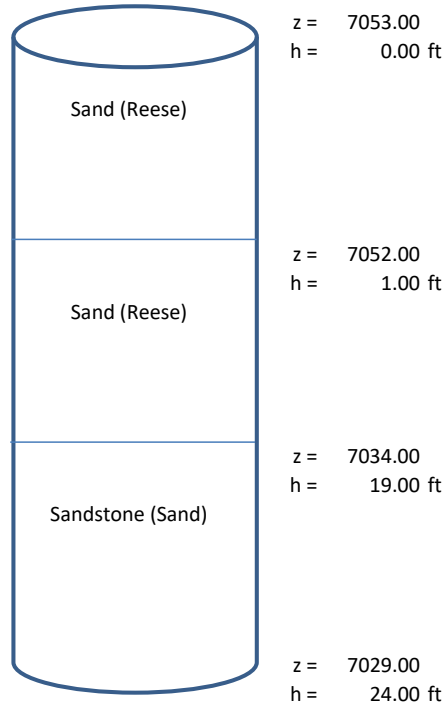
## Geotech Parameters

Top of Caisson El = 7053.00  
 Bottom of Caisson El = 7029.00  
 Caisson Length = 24 ft  
 Caisson Diameter = 12 in

Soil Material 1 = Sand (Reese)  
 Material 1 Top El = 7056.00  
 Material 1 Bottom El = 7052.00  
 $\gamma = 120.00$  pcf  
 $\phi = 32$  deg  
 $k = 25$  pci

Soil Material 2 = Sand (Reese)  
 Material 2 Top El = 7052.00  
 Material 2 Bottom El = 7034.00  
 $\gamma = 120.00$  pcf  
 $\phi = 32$  deg  
 $k = 90$  pci

Soil Material 3 = Sandstone (Sand)  
 Material 3 Top El = 7034.00  
 Material 3 Bottom El = 7029.00  
 $\gamma = 125.00$  pcf  
 $c = 4000$  psf  
 $\epsilon_{50} = 0.005$   
 225.00



## Axial Bearing Check

\*From Section 6.2 Geotech Report

$P_{n-brg} = 28$  ksi  
 $\phi_{brg} = 0.65$   
 $A_g = 15.5$  in<sup>2</sup>

$P_{r-brg} = 282.1$  kip/pile  
 >

$P_{u-brg} = 191.6$  kip/pile

OK!



**Check Pile Capacity**

Member	HP12x53	Input	
Pile Geometry	$l_c =$	10	ft
		120	in
	$N$		
	$K =$	0.8	
Unbraced Length - Point of Fixity from Lpile Deflection			
Is element slender for $F_y = 50\text{ksi}$			
Effective Length Factor (LRFD 4.6.2.5)			
Steel Properties	$E =$	29000	ksi
	$F_y =$	50	ksi
Member Properties	$d =$	11.8	in
	$b_f =$	12	in
	$r_{ts} =$	3.29	in
	$A_g =$	15.5	in <sup>2</sup>
	$Z_x =$	74	in <sup>3</sup>
	$Z_y =$	32.2	in <sup>3</sup>
	$b_f =$	12	in
	$t_f =$	0.435	in
	$I_x =$	393	in <sup>4</sup>
	$I_y =$	127	in <sup>4</sup>
	$S_{xc} =$	65.50	in <sup>3</sup>
	$S_{yc} =$	21.53	in <sup>3</sup>
	Elastic Section Modulus referred to compression (AISC C-F4-2)		
Elastic Section Modulus referred to compression (AISC C-F4-2)			





	Calculation	Equation	Reference	Pile Combination Calculations			
				1	2	3	
Flexural Buckling (LRFD 6.9.4)	$P_e =$ 5210 kip	$P_e = \frac{\pi^2 E}{KL^2} A_g$	LRFD 6.9.4.1.2-1	$P_e =$ 5210	5210	5210	kip
	$P_o =$ 775 kip	$P_o = F_y A_g$	LRFD 6.9.4.1	$P_o =$ 775	775	775	kip
	$P_e/P_o =$ 6.723	> 0.44		$P_e/P_o =$ 6.723	6.723	6.723	
	$P_n =$ 728 kip	$\frac{P_e}{P_o} \geq 0.44, \quad 0.658 \frac{P_o}{P_e} * P_o$	LRFD 6.9.4.1.1-1	$P_n =$ 728	728	728	kip
	$P_n =$ 4570 kip	$\frac{P_e}{P_o} < 0.44, \quad 0.877 P_e$	LRFD 6.9.4.1.1-2	$P_n =$ 4570	4570	4570	kip
	$P_n =$ 728 kip			$P_n =$ 728	728	728	kip
	$\Phi_c =$ 0.70		LRFD 6.5.4.2	$\Phi_c =$ 0.70	0.70	0.70	
$P_r =$ 510 kip	$P_r = \phi_c P_n$	LRFD 6.9.2.1-1	$P_r =$ 510	510	510	kip	
Ultimate Loads	$P_u =$ 212 kip	Axial compressive load (Lpile Max output)		$P_u =$ 212	158	-13	kip
	$M_{ux} =$ 0 k-in	Flexural moment about x-axis (L Pile Max Output)		$M_{ux} =$ 0	0	0	k-in
	$M_{uy} =$ 0 k-in	Flexural moment about y-axis (L Pile Max Output)		$M_{uy} =$ 0	0	0	k-in
Nominal Flexural Resistance for Flexure (LRFD 6.10)	$\Phi_f =$ 1.00		LRFD 6.5.4.2	$\Phi_f =$ 1.00	1.00	1.00	
	$\lambda_f =$ 13.8		LRFD Eq. 6.12.2.2.1-3	$\lambda_f =$ 13.8	13.8	13.8	
	$\lambda_{pf} =$ 9.2		LRFD Eq. 6.12.2.2.1-4	$\lambda_{pf} =$ 9.2	9.2	9.2	
	$\lambda_{rf} =$ 20.0		LRFD Eq. 6.12.2.2.1-5	$\lambda_{rf} =$ 20.0	20.0	20.0	
	If $\lambda_f <$	$\lambda_{pf}$		If $\lambda_f <$	$\lambda_{pf}$		
	$M_{nx} =$ 4912.50 k-in	$M_n = M_p = 1.5 F_y S_c$	LRFD C6.12.2.2.2.1	$M_{nx} =$ 4912.50	4912.50	4912.50	k-in
	$M_{ny} =$ 1614.41 k-in		LRFD C6.12.2.2.2.1	$M_{ny} =$ 1614.41	1614.41	1614.41	k-in
	If $\lambda_{pf} <$	$\lambda_f <$	$\lambda_{rf}$	If $\lambda_{pf} <$	$\lambda_f <$		
	$F_y Z_x =$ 3700 k-in		LRFD C6.12.2.2.2.1	$F_y Z_x =$ 3700.00	3700.00	3700.00	k-in
	$F_y Z_y =$ 1610 k-in		LRFD C6.12.2.2.2.1	$F_y Z_y =$ 1610.00	1610.00	1610.00	k-in
	$M_{nx} =$ 3517.98 k-in	$M_n = \left[ 1 - \left( 1 - \frac{S_c}{Z_c} \right) \left( \frac{\lambda_f - \lambda_{pf}}{0.45 \sqrt{\frac{E}{F_y f}}} \right) \right] F_y f Z_c$	LRFD Eq. 6.12.2.2.1-2	$M_{nx} =$ 3517.98	3517.98	3517.98	k-in
	$M_{ny} =$ 1381.41 k-in		LRFD Eq. 6.12.2.2.1-2	$M_{ny} =$ 1381.41	1381.41	1381.41	k-in
	$M_{nx} =$ 3517.98 k-in			$M_{nx} =$ 3517.98	3517.98	3517.98	k-in
$M_{rx} =$ 3517.98 k-in		LRFD 6.12.1.2.1-1	$M_{rx} =$ 3517.98	3517.98	3517.98	k-in	
$M_{ny} =$ 1381.41 k-in			$M_{ny} =$ 1381.41	1381.41	1381.41	k-in	
$M_{ry} =$ 1381.41 k-in		LRFD 6.12.1.2.1-1	$M_{ry} =$ 1381.41	1381.41	1381.41	k-in	
Combined Axial Compression and Flexure (LRFD 6.9.2.2)	$P_u/P_r =$ 0.416	> 0.2		$P_u/P_r =$ 0.416	0.311	-0.026	
	Check 1= 0.21	$\frac{P_u}{P_r} < 0.2, \quad \frac{P_u}{2P_r} + \left( \frac{M_{ux}}{M_{rx}} + \frac{M_{uy}}{M_{ry}} \right)$	LRFD 6.9.2.2-1	Check 1= 0.21	0.16	-0.01	
	Check 2= 0.42	$\frac{P_u}{P_r} \geq 0.2, \quad \frac{P_u}{P_r} + \frac{8}{9} \left( \frac{M_{ux}}{M_{rx}} + \frac{M_{uy}}{M_{ry}} \right)$	LRFD 6.9.2.2-2	Check 2= 0.42	0.31	-0.03	
	Ratio= 0.42	< 1.0		Ratio= 0.42	0.31	-0.01	
	Check	OK!		Check	OK!	OK!	OK!



## Abutment Outputs

Abutment 1

Fz loads are placed against the strong axis

Fx loads are placed against the weak axis

## Piles

Max Fy - strength lb, RN8C					
L-PILE Input					
	<b>Fx, kip</b>	<b>Fy, kip</b>	Fx and Fz Max paired with the max axial values (positive and negative values considered)		
1	0.0	212.025	<b>Fx, lb</b>	<b>Fy, lb</b>	
			0	212025	
	<b>Fz, kip</b>	<b>Fy, kip</b>	<b>Fz, lb</b>	<b>Fy, lb</b>	
1	0.0	212.025	0	212025	
L-PILE Output					
	<b>Pu, kip</b>	<b>Mx, in-lb</b>	<b>Mx, k-in</b>	<b>Mz, in-lb</b>	<b>Mz, k-in</b>
1	212.0	0	0.00	0	0.00
Interaction Input: L-PILE Output					
	<b>Pu, kip</b>	<b>Mx, k-in</b>	<b>Mz, k-in</b>	Interaction Output:	
1	212.0	0.00	0.00	<b>1</b>	<b>0.416</b>
Max Fy - service, RN9C					
L-PILE Input					
	<b>Fx, kip</b>	<b>Fy, kip</b>	Fx and Fz Max paired with the max axial values (positive and negative values considered)		
2	0	158.3	<b>Fx, lb</b>	<b>Fy, lb</b>	
			0	158300	
	<b>Fz, kip</b>	<b>Fy, kip</b>	<b>Fz, lb</b>	<b>Fy, lb</b>	
2	0.0	158.3	0	158300	
L-PILE Output					
	<b>Pu, kip</b>	<b>Mx, in-lb</b>	<b>Mx, k-in</b>	<b>Mz, in-lb</b>	<b>Mz, k-in</b>
2	158.3	0	0.00	0	0.00
Interaction Input: L-PILE Output					
	<b>Pu, kip</b>	<b>Mx, k-in</b>	<b>Mz, k-in</b>	Interaction Output:	
2	158.3	0.00	0.00	<b>2</b>	<b>0.311</b>
Min Fy- Ext Event, RN10A					
L-PILE Input					
	<b>Fx, kip</b>	<b>Fy, kip</b>	Fx and Fz Max paired with the max axial values (positive and negative values considered)		
3	0.0	-13	<b>Fx, lb</b>	<b>Fy, lb</b>	
			0	-13000	
	<b>Fz, kip</b>	<b>Fy, kip</b>	<b>Fz, lb</b>	<b>Fy, lb</b>	
3	0.0	-13	0	-13000	
L-PILE Output					
	<b>Pu, kip</b>	<b>Mx, in-lb</b>	<b>Mx, k-in</b>	<b>Mz, in-lb</b>	<b>Mz, k-in</b>
3	-13.0	0	0.00	0	0.00
Interaction Input: L-PILE Output					
	<b>Pu, kip</b>	<b>Mx, k-in</b>	<b>Mz, k-in</b>	Interaction Output:	
3	-13.0	0.00	0.00	<b>3</b>	<b>-0.013</b>



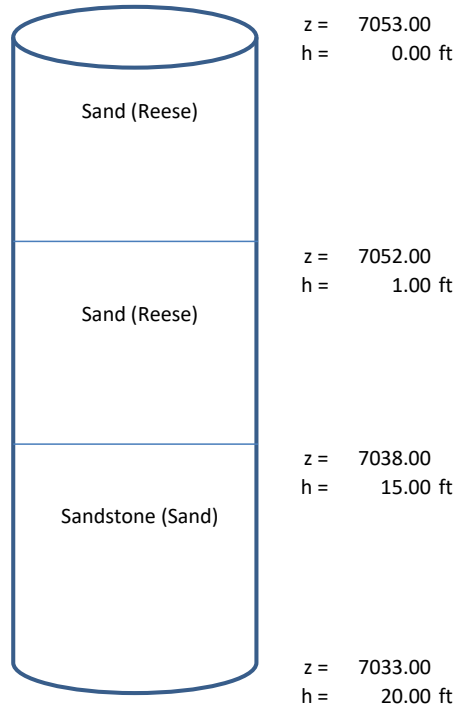
## Geotech Parameters

Top of Pile El = 7053.00  
 Bottom of Pile El = 7033.00  
 Pile Length = 20 ft  
 Pile Width = 12 in

Soil Material 1 = Sand (Reese)  
 Material 1 Top El = 7056.00  
 Material 1 Bottom El = 7052.00  
 $\gamma = 120.00$  pcf  
 $\phi = 32$  deg  
 $k = 25$  pci

Soil Material 2 = Sand (Reese)  
 Material 2 Top El = 7052.00  
 Material 2 Bottom El = 7038.00  
 $\gamma = 120.00$  pcf  
 $\phi = 32$  deg  
 $k = 90$  pci

Soil Material 3 = Sandstone (Sand)  
 Material 3 Top El = 7038.00  
 Material 3 Bottom El = 7029.00  
 $\gamma = 125.00$  pcf  
 $c = 4000$  psf  
 $\epsilon_{50} = 0.005$  in/in  
 $k = 225.00$  pci



## Axial Bearing Check

\*From Section 6.2 Geotech Report

$P_{n-brg} = 28$  ksi  
 $\phi_{brg} = 0.65$   
 $A_g = 15.5$  in<sup>2</sup>

$P_{r-brg} = 282.10$  kip/pile  
 >

$P_{u-brg} = 212.03$  kip/pile

OK!



**Check Pile Capacity**

Member	HP12x53	Input		
Pile Geometry	$l_u =$	10	ft	
		120	in	
	$K =$	N		
			Unbraced Length - Point of Fixity from Lpile Deflection	
			Is element slender for $F_y = 50\text{ksi}$	
			Effective Length Factor (LRFD 4.6.2.5)	
Steel Properties	$E =$	29000	ksi	
	$F_y =$	50	ksi	
Member Properties	$d =$	11.8	in	
	$b_f =$	12	in	
	$r_{ts} =$	3.29	in	
	$A_g =$	15.5	in <sup>2</sup>	
	$Z_x =$	74	in <sup>3</sup>	
	$Z_y =$	32.2	in <sup>3</sup>	
	$b_f =$	12	in	
	$t_f =$	0.435	in	
	$I_x =$	393	in <sup>4</sup>	
	$I_y =$	127	in <sup>4</sup>	
	$S_{xc} =$	65.50	in <sup>3</sup>	
	$S_{yc} =$	21.53	in <sup>3</sup>	
				Elastic Section Modulus referred to compression (AISC C-F4-2)
				Elastic Section Modulus referred to compression (AISC C-F4-2)

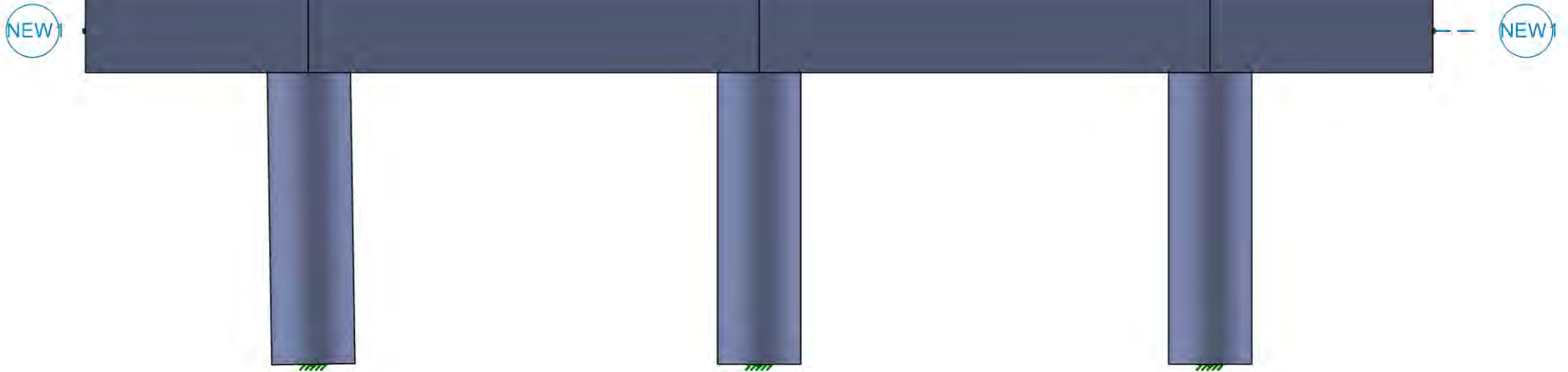


	Calculation	Equation	Reference	Pile Combination Calculations			
				1	2	3	
Flexural Buckling (LRFD 6.9.4)	$P_e =$ 5210 kip	$P_e = \frac{\pi^2 E}{KL^2} A_g$	LRFD 6.9.4.1.2-1	$P_e =$ 5210	5210	5210	kip
	$P_o =$ 775 kip	$P_o = F_y A_g$	LRFD 6.9.4.1	$P_o =$ 775	775	775	kip
	$P_e/P_o =$ 6.723	> 0.44		$P_e/P_o =$ 6.723	6.723	6.723	
	$P_n =$ 728 kip	$\frac{P_e}{P_o} \geq 0.44, \quad 0.658 \frac{P_o}{P_e} * P_o$	LRFD 6.9.4.1.1-1	$P_n =$ 728	728	728	kip
	$P_n =$ 4570 kip	$\frac{P_e}{P_o} < 0.44, \quad 0.877 P_e$	LRFD 6.9.4.1.1-2	$P_n =$ 4570	4570	4570	kip
	$P_n =$ 728 kip			$P_n =$ 728	728	728	kip
	$\Phi_c =$ 0.70		LRFD 6.5.4.2	$\Phi_c =$ 0.70	0.70	0.70	
$P_r =$ 510 kip	$P_r = \phi_c P_n$	LRFD 6.9.2.1-1	$P_r =$ 510	510	510	kip	
Ultimate Loads	$P_u =$ 212 kip	Axial compressive load (Lpile Max output)		$P_u =$ 192	143	-1	kip
	$M_{ux} =$ 0 k-in	Flexural moment about x-axis (L Pile Max Output)		$M_{ux} =$ 0	0	0	k-in
	$M_{uy} =$ 0 k-in	Flexural moment about y-axis (L Pile Max Output)		$M_{uy} =$ 0	0	0	k-in
Nominal Flexural Resistance for Flexure (LRFD 6.10)	$\Phi_f =$ 1.00		LRFD 6.5.4.2	$\Phi_f =$ 1.00	1.00	1.00	
	$\lambda_f =$ 13.8		LRFD Eq. 6.12.2.2.1-3	$\lambda_f =$ 13.8	13.8	13.8	
	$\lambda_{pf} =$ 9.2		LRFD Eq. 6.12.2.2.1-4	$\lambda_{pf} =$ 9.2	9.2	9.2	
	$\lambda_{rf} =$ 20.0		LRFD Eq. 6.12.2.2.1-5	$\lambda_{rf} =$ 20.0	20.0	20.0	
	If $\lambda_f <$	$\lambda_{pf}$		If $\lambda_f <$	$\lambda_{pf}$		
	$M_{nx} =$ 4912.50 k-in	$M_n = M_p = 1.5 F_y S_c$	LRFD C6.12.2.2.2.1	$M_{nx} =$ 4912.50	4912.50	4912.50	k-in
	$M_{ny} =$ 1614.41 k-in		LRFD C6.12.2.2.2.1	$M_{ny} =$ 1614.41	1614.41	1614.41	k-in
	If $\lambda_{pf} <$	$\lambda_f <$	$\lambda_{rf}$	If $\lambda_{pf} <$	$\lambda_f <$	$\lambda_{rf}$	
	$F_y Z_x =$ 3700 k-in		LRFD C6.12.2.2.2.1	$F_y Z_x =$ 3700.00	3700.00	3700.00	k-in
	$F_y Z_y =$ 1610 k-in		LRFD C6.12.2.2.2.1	$F_y Z_y =$ 1610.00	1610.00	1610.00	k-in
	$M_{nx} =$ 3517.98 k-in	$M_n = \left[ 1 - \left( 1 - \frac{S_c}{Z_c} \right) \left( \frac{\lambda_f - \lambda_{pf}}{0.45 \sqrt{\frac{E}{F_{yf}}}} \right) \right] F_{yf} Z_c$	LRFD Eq. 6.12.2.2.1-2	$M_{nx} =$ 3517.98	3517.98	3517.98	k-in
	$M_{ny} =$ 1381.41 k-in		LRFD Eq. 6.12.2.2.1-2	$M_{ny} =$ 1381.41	1381.41	1381.41	k-in
	$M_{nx} =$ 3517.98 k-in			$M_{nx} =$ 3517.98	3517.98	3517.98	k-in
$M_{nx} =$ 3517.98 k-in		LRFD 6.12.1.2.1-1	$M_{nx} =$ 3517.98	3517.98	3517.98	k-in	
$M_{ny} =$ 1381.41 k-in			$M_{ny} =$ 1381.41	1381.41	1381.41	k-in	
$M_{ny} =$ 1381.41 k-in		LRFD 6.12.1.2.1-1	$M_{ny} =$ 1381.41	1381.41	1381.41	k-in	
Combined Axial Compression and Flexure (LRFD 6.9.2.2)	$P_u/P_r =$ 0.416	> 0.2		$P_u/P_r =$ 0.376	0.280	-0.002	
	Check 1= 0.21	$\frac{P_u}{P_r} < 0.2, \quad \frac{P_u}{2P_r} + \left( \frac{M_{ux}}{M_{rx}} + \frac{M_{uy}}{M_{ry}} \right)$	LRFD 6.9.2.2-1	Check 1= 0.19	0.14	0.00	
	Check 2= 0.42	$\frac{P_u}{P_r} \geq 0.2, \quad \frac{P_u}{P_r} + \frac{8}{9} \left( \frac{M_{ux}}{M_{rx}} + \frac{M_{uy}}{M_{ry}} \right)$	LRFD 6.9.2.2-2	Check 2= 0.38	0.28	0.00	
	Ratio= 0.42	< 1.0		Ratio= 0.38	0.28	0.00	
	Check	OK!		Check	OK!	OK!	OK!



## ***PIER DESIGN MODELS***





Steamboat Structures LLC

Reed

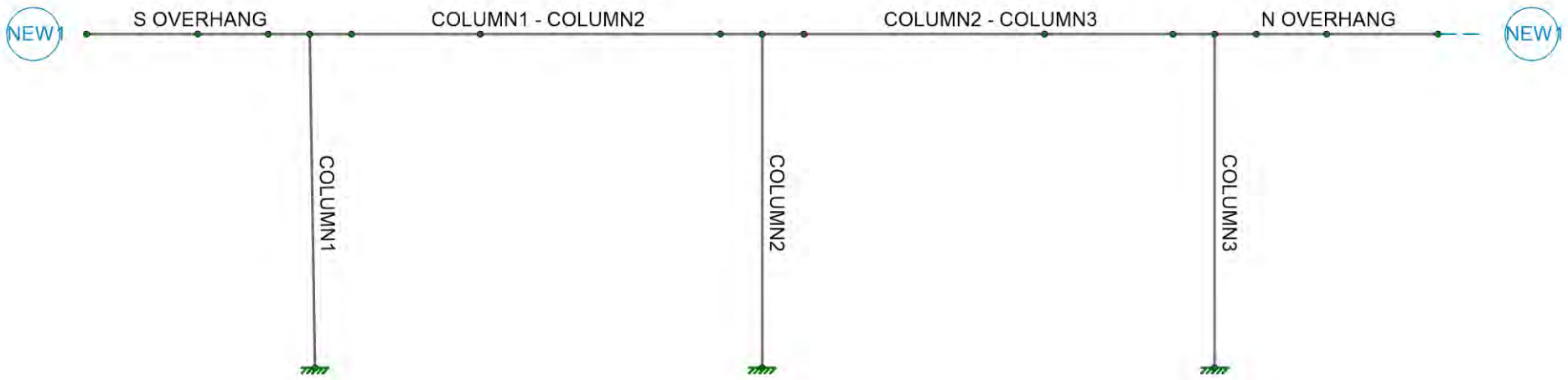
101.2006

Pier 2

SK-2

Jan 19, 2021

Pier Cap.r3d



Steamboat Structures LLC

Reed

101.2006

Pier 2

SK-1

Jan 19, 2021

Pier Cap.r3d



***PIER DESIGN INPUT***



**Pier Design:**

**Bridge Properties:**

Bridge Width =	30.000 ft
# of Lanes in one direction =	2.000
Multi-presence Factor, m =	1.000 for 2 lanes
Length of Span Behind =	100.000 ft
Length of Span Ahead =	100.000 ft
Tributary Span Length =	100.000 ft

**Superstructure Properties:**

SMA Thickness =	0.250 ft
Deck Overhang =	0.667 ft
Deck Thickness =	0.667 ft
Barrier Width=	18.000 in
Barrier Height =	42.000 in
Bearing Lines =	2
Bearing Height Back =	4.500 in
Bearing Height Ahead =	4.500 in
Maximum Girder Spacing $S_{max}$ =	7.167 ft
Dist. Between Ext. Girders =	40.542 ft
# of Girders total =	5
# of Girders being analyzed =	5
Type of Girder =	Steel Prefab
Girder Height =	3.000 ft
Girder Web Thickness =	0.870 in
Top Flange Width =	12.100 in

**Pier Properties:**

Skew, $\theta$ =	45.000 degrees	Angle Between Normal to HCL and CL Pier
Pier Cap Length =	48.542 ft	Transverse Dimension
Pier Cap Width =	4.000 ft	Longitudinal Dimension
Pier Cap Height =	3.000 ft	
Column Ht Above Streambed =	1.960 ft	
Column Ht Below Streambed =	10.040 ft	
Column Width =	3.000 ft	
# of Columns =	3	
Pile Cap Length =	- ft	Transverse Dimension
Pile Cap Width =	- ft	Longitudinal Dimension
Pile Cap Height =	- ft	
# of Piles =	3	
Length of Pile to Fixity =	19.000 ft	
% to Pier =	100%	
% of New Pier/Total Pier =	100%	Rounded up, to account for longitudinal forces



**Design Method: Load and Resistance Factored Design LRFD**

- Design References:**
1. AASHTO LRFD Eighth Edition, 2017
  2. CDOT Design Memos

**Load Input Information**

All Superstructure Loads are from CONTECH Plans

Weight of Soil Backfill, $\gamma_{BF}$ .....	$\gamma_{BF} =$	135 pcf	
Drag Coefficient, $C_D$ .....	$C_D =$	1.400	LRFD Tbl 3.7.3.1-1
100 yr Storm Velocity $V_{100}$ .....	$V_{100} =$	6.300 ft/s	
100 yr Water Surface $HW_{100}$ .....	$HW_{100} =$	7058.49	
500 yr Storm Velocity $V_{500}$ .....	$V_{500} =$	-	ft/s Not required per County
500 yr Water Surface $HW_{500}$ .....	$HW_{500} =$	-	Not required per County
500 yr Scour Elevation $Scour_{500}$ .....	$Scour_{500} =$	7047.76	
Horizontal Alignment Radius $R$ .....	$R =$	0.000 ft	

**Pier Loads (kips) (Total per Bearing Line)**

	P	H	L
Dead Load (DC)	240.89	-	-
Wearing Surface Load (DW)	104.14	-	-
Vehicle Load (LL)	193.83	-	-
Vehicle Load + IM (LL+IM)	236.87	-	-
Wind Load (WS)	-30.00	15.00	-
Thermal Load (TU)	-	-	66.59
Breaking Force (BR)	-	-	36.00
Seismic Load (EQ)	-	66.79	133.59

**Loads to Pier**

**Dead Load (DC)**

$F_{DC-int} =$	107.560 kip/brg	from Contech Plans
$F_{DC-ext} =$	79.540 kip/brg	from Contech Plans

**Wearing Surface Load (DW)**

$F_{DW-int} =$	26.880 kip/brg	from Contech Plans
$F_{DW-ext} =$	68.840 kip/brg	from Contech Plans

**Live Load (LL)**

Modeling the LL at each bearing would result in a too conservative approach, therefore the LL Total was modeled as a distributed load

$F_{LL-int} =$	209.980 kip/brg	from Contech Plans
$F_{LL-ext} =$	159.820 kip/brg	from Contech Plans

$w_{LL} =$  9.759 klf Contech Loads distributed along pier



**Braking Force (BR)**

Braking force is the greater of:

- \*25% of design truck axle weight
- \*5% of design truck plus lane load

Truck Weight = 72 kip  
 $25\% * (Truck\ Weight) * \#\ of\ Lanes * m$   
 $BR_1 = 36.00\ kip$  **GREATER VALUE, USE!**

$5\% * [(Truck\ Weight) + (Trib.\ Span\ Length) * 0.64\ klf]$   
 $BR_2 = 6.80$

$F_{BR\_Long} = 36\ kip$  Multiply by % to pier  
 Load is applied at the roadway surface

Moment is about CL of Pier Cap:

Arm = 5.42 ft

$M_{BR\_Long} = 195.00\ k-ft$

$M_{BR\_pier\ z} = 137.89\ k-ft$

$M_{BR\_pier\ x} = 2.84\ k-ft/ft$

$F_{BR\_x} = 2.55\ kip/brg$

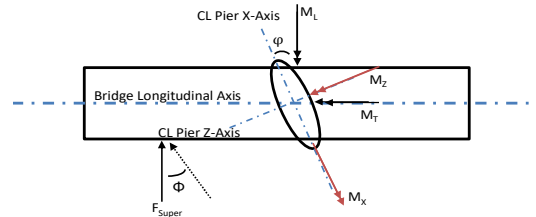
$F_{BR\_y-G1} = 1.70\ kip/brg$

$F_{BR\_y-Gn} = -1.70\ kip/brg$

Distributed along cap

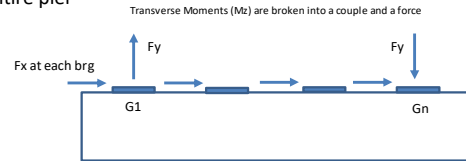
Total BR force for entire pier

LRFD 3.6.4



**Bridge Plan View**

BDM 3.10



**Wind Load on Structure (WS)**

**Wind Load from Superstructure(WS)**

Ground Surface Cat. = C  
 Wind Exposure Cat. = C  
 Horizontal Wind Load = 3.00 kip/brg

Per Contech Plans, Cat. C is conservative  
 Match Ground Surface Category  
 Per Contech Plans

LRFD 3.8.1.2  
 LRFD 3.8.1.2.3a

LRFD 3.8.1.1.4  
 LRFD 3.8.1.1.5

$F_{WS\_x} = 2.12\ kip/brg$   
 $F_{WS\_z} = 2.12\ kip/brg$

$F_{WS\_pier\ x} = 0.44\ k/ft$   
 $F_{WS\_pier\ z} = 0.44\ k/ft$   
 $M_{WS\_pier\ x} = 0.66\ k-ft/ft$

Applied at the Bearing Surface  
 Applied at the Bearing Surface  
 Moment Arm = Abutment Height - Backface Height





**Wind Load on Substructure (WS)**

LRFD 3.8.1.2

V = 115 mph

K<sub>z</sub> = 1.00 For Z < 33'

G = 1.00 All other structures

C<sub>D</sub> = 1.60 Bridge Substructure

$P_z = 2.56 * 10^{-6} V^2 K_z G C_D$  Eq. 3.8.1.2.1-1

P<sub>z</sub> = 0.054 ksf

Pier Width = 4.000 ft

Pier Wind Height = 15.000 ft

Transverse Wind Area = 60.000 ft<sup>2</sup>

F<sub>WS\_sub\_trans</sub> = 3.250 kip/abut Transverse Direction

Pier Cap Length = 48.542 ft

Pier Cap Wind Height = 3.000 ft

Column Height = 12.000 ft

Column Width = 9.000 ft

Long Wind Area = 253.625 ft<sup>2</sup>

F<sub>WS\_sub\_long</sub> = 13.739 kip/abut Longitudinal Direction

F<sub>WS\_x</sub> = 0.33 kip/brg

F<sub>WS\_z</sub> = 1.37 kip/brg

F<sub>WS\_pier\_x</sub> = 0.33 kip/brg

Applied at each bearing, both bearing lines

F<sub>WS\_pier\_z</sub> = 0.28 k/ft

Applied at Center of Pier Cap

**Centrifugal Force (CE)**

LRFD 3.6.3

Centrifugal Force was not considered due to the alignment being tangent

**Temperature (T)**

LRFD 3.12.2.2

Long. Thermal Load = 13.32 kip/brg Per Contech Plans

F<sub>WS\_x</sub> = 9.42 kip/brg

F<sub>WS\_z</sub> = 9.42 kip/brg

F<sub>TU\_pier\_x</sub> = 9.42 kip/brg

Applied at each bearing, only one bearing line at a time

F<sub>TU\_pier\_z</sub> = 0.97 k/ft

Applied at Center of Pier Cap, along the pier cap



**Stream Pressure**

LRFD 3.7.3

Pier Properties

	Caisson	Column	Pier Cap
Width	3.5	3.00	4.00
Top El	7048.38	7060.38	7063.38
Bottom El	7018.00	7048.38	7060.38

Pile Cap and Piles considered to be below Stream; therefore stream pressure is only calculated on the column, pier cap, and superstructure

**100 yr Storm**

$$p = \frac{C_D V^2}{1000}$$

- $C_{D-pier} = 1.4$
- $V_{100} = 6.300 \text{ ft/s}$
- $p_{pier} = 0.056 \text{ ksf}$
- $C_{D-debris\ raft} = 0.5$
- $p_{debris\ raft} = 0.020 \text{ ksf}$
- $Scour_{100} = 7047.76$
- $HW_{100} = 7058.49$

LRFD Eq. 3.7.3.1-1

Table 3.7.3.1-1—Drag Coefficient

Type	$C_D$
Semicircular-nosed pier	0.7
Square-ended pier	1.4
Debris lodged against the pier	1.4
Wedged-nosed pier with nose angle 90 degrees or less	0.8

Pier Loads (kips)

	Pile Cap	Column	Pier Cap	Debris Raft
Area	2.17	30.33	0.00	120.71
Load	0.12	1.69	0.00	2.40

Total 4.20 kips/pier

**Longitudinal Debris Raft and Stream Force**

- $A = 5.36 \text{ ft}$
- $B = 45.00 \text{ ft}$
- $AREA = 120.71 \text{ ft}^2$
- $F_{xWA100} = 4.20 \text{ kips/pier}$

$w_{xWA100} = 0.35 \text{ kips/ft}$

LRFD C 3.7.3.1-1

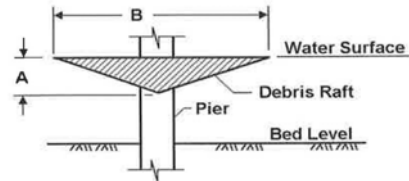


Figure C3.7.3.1-1—Debris Raft for Pier Design



**Lateral Debris Raft and Stream Force**

$$p = \frac{C_L V^2}{1000}$$

$\theta = 5$  degrees  
 $C_L = 0.5$   
 $V_{100} = 6.300$  ft/s  
 $p_{pier} = 0.020$  ksf  
  
 $L = 48.54$  ft  
 $AREA = 520.85$  ft<sup>2</sup>  
  
 $F_{zWA100} = 3.45$  kips/column  
  
 $w_{zWA100} = 0.29$  kips/ft on each column

LRFD 3.7.3.2-1

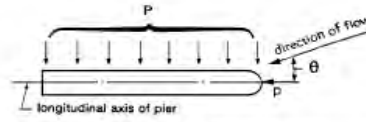


Figure 3.7.3.2-1—Plan View of Pier Showing Stream Flow Pressure

Table 3.7.3.2-1—Lateral Drag Coefficient

Angle, $\theta$ , between direction of flow and longitudinal axis of the pier	$C_L$
0 degrees	0.0
5 degrees	0.5
10 degrees	0.7
20 degrees	0.9
$\geq 30$ degrees	1.0



***PIER MODEL OUTPUT***

**Project Grid Lines**

	Label	Start [ft]	End [ft]	Start [ft]	End [ft]	Start Bubble	End Bubble
1	NEW1	40	40	0	50	Yes	Yes

**Node Coordinates**

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	CAP END S	0	0	40	
2	COLUMN1	8.020833	0	40	
3	COLUMN2/GIRDER C	24.270833	0	40	
4	COLUMN3	40.520833	0	40	
5	CAP END N	48.541667	0	40	
6	GIRDER E	4	0	40	
7	GIRDER D	14.135417	0	40	
8	GIRDER B	34.40625	0	40	
9	GIRDER A	44.541667	0	40	
10	S COLUMN 1	6.520833	0	40	
11	N COLUMN 1	9.520833	0	40	
12	S COLUMN 2	22.770833	0	40	
13	N COLUMN 2	25.770833	0	40	
14	S COLUMN 3	39.020833	0	40	
15	N COLUMN 3	42.020833	0	40	
16	BOTTOM OF COLUMN1	8.208333	-12	40	
17	BOTTOM OF COLUMN2	24.270833	-12	40	
18	BOTTOM OF COLUMN3	40.520833	-12	40	

**Node Boundary Conditions**

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	BOTTOM OF COLUMN1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	BOTTOM OF COLUMN2	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	BOTTOM OF COLUMN3	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

**Concrete Properties**

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e <sup>-6</sup> F <sup>-1</sup> ]	Density [k/ft <sup>3</sup> ]	fc [ksi]	Lambda	Flex Steel [ksi]	Shear Steel [ksi]
1	Conc3000NW	3156	1372	0.15	0.6	0.145	3	1	60	60
2	Conc3500NW	3409	1482	0.15	0.6	0.145	3.5	1	60	60
3	Conc4000NW	3644	1584	0.15	0.6	0.145	4	1	60	60
4	Conc3000LW	2085	907	0.15	0.6	0.11	3	0.75	60	60
5	Conc3500LW	2252	979	0.15	0.6	0.11	3.5	0.75	60	60
6	Conc4000LW	2408	1047	0.15	0.6	0.11	4	0.75	60	60
7	CONC4500	4435	1928	0.15	0.6	0.145	4.5	1	60	60

**Concrete Section Sets**

	Label	Shape	Type	Design List	Material	Design Rule	Area [in <sup>2</sup> ]	Iyy [in <sup>4</sup> ]	Izz [in <sup>4</sup> ]	J [in <sup>4</sup> ]
1	CONC1	CRECT12X8	Beam	Rectangular	Conc3000NW	Typical	96	512	1152	1187.84
2	Pier Cap	CRECT36X48	Beam	Rectangular	CONC4500	Typical	1728	3.318e+05	1.866e+05	3.938e+05
3	3' Column	CRND36	Column	Rectangular Square	CONC4500	Typical	1017.876	82447.958	82447.958	1.649e+05

**Member Primary Data**

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
1	S OVERHANG	CAP END S	COLUMN1	Pier Cap	Beam	Rectangular	CONC4500	Typical
2	COLUMN1 - COLUMN2	COLUMN1	COLUMN2/GIRDER C	Pier Cap	Beam	Rectangular	CONC4500	Typical
3	COLUMN2 - COLUMN3	COLUMN2/GIRDER C	COLUMN3	Pier Cap	Beam	Rectangular	CONC4500	Typical
4	N OVERHANG	COLUMN3	CAP END N	Pier Cap	Beam	Rectangular	CONC4500	Typical
5	COLUMN3	COLUMN3	BOTTOM OF COLUMN3	3' Column	Column	Rectangular Square	CONC4500	Typical
6	COLUMN2	COLUMN2/GIRDER C	BOTTOM OF COLUMN2	3' Column	Column	Rectangular Square	CONC4500	Typical
7	COLUMN1	COLUMN1	BOTTOM OF COLUMN1	3' Column	Column	Rectangular Square	CONC4500	Typical

**Concrete Beam Design Parameters**

	Label	Shape	Length [ft]	Flexural Rebar Design	Flexural Layout	Shear Rebar Design	Shear Layout
1	S OVERHANG	Pier Cap	8.021	Design Rule	Use Design Rule	Design Rule	Use Design Rule
2	COLUMN1 - COLUMN2	Pier Cap	16.25	Design Rule	Use Design Rule	Design Rule	Use Design Rule
3	COLUMN2 - COLUMN3	Pier Cap	16.25	Design Rule	Use Design Rule	Design Rule	Use Design Rule
4	N OVERHANG	Pier Cap	8.021	Design Rule	Use Design Rule	Design Rule	Use Design Rule

**Member Point Loads**

No Data to Print...							
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**Member Distributed Loads**

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	S OVERHANG	Y	-9.759	-9.759	0	%100
2	COLUMN1 - COLUMN2	Y	-9.759	-9.759	0	%100
3	COLUMN2 - COLUMN3	Y	-9.759	-9.759	0	%100
4	N OVERHANG	Y	-9.759	-9.759	0	%100

**Member Distributed Loads**

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	S OVERHANG	X	0.44	0.44	0	%100
2	COLUMN1 - COLUMN2	X	0.44	0.44	0	%100
3	COLUMN2 - COLUMN3	X	0.44	0.44	0	%100
4	N OVERHANG	X	0.44	0.44	0	%100
5	S OVERHANG	Z	0.44	0.44	0	%100
6	COLUMN1 - COLUMN2	Z	0.44	0.44	0	%100
7	COLUMN2 - COLUMN3	Z	0.44	0.44	0	%100
8	N OVERHANG	Z	0.44	0.44	0	%100
9	S OVERHANG	Mx	0.66	0.66	0	%100
10	COLUMN1 - COLUMN2	Mx	0.66	0.66	0	%100
11	COLUMN2 - COLUMN3	Mx	0.66	0.66	0	%100
12	N OVERHANG	Mx	0.66	0.66	0	%100

**Member Distributed Loads**

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	S OVERHANG	Z	0.28	0.28	0	%100
2	COLUMN1 - COLUMN2	Z	0.28	0.28	0	%100
3	COLUMN2 - COLUMN3	Z	0.28	0.28	0	%100
4	N OVERHANG	Z	0.28	0.28	0	%100

**Member Distributed Loads**

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	S OVERHANG	Mx	2.84	2.84	0	%100
2	COLUMN1 - COLUMN2	Mx	2.84	2.84	0	%100
3	COLUMN2 - COLUMN3	Mx	2.84	2.84	0	%100
4	N OVERHANG	Mx	2.84	2.84	0	%100

**Member Distributed Loads**

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	S OVERHANG	Z	0.97	0.97	0	%100
2	COLUMN1 - COLUMN2	Z	0.97	0.97	0	%100
3	COLUMN2 - COLUMN3	Z	0.97	0.97	0	%100
4	N OVERHANG	Z	0.97	0.97	0	%100





**Member Distributed Loads**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	COLUMN1	X	0.35	0.35	0	%100
2	COLUMN1	Z	0.29	0.29	0	%100
3	COLUMN2	Z	0.29	0.29	0	%100
4	COLUMN3	Z	0.29	0.29	0	%100

**Basic Load Cases**

	BLC Description	Category	Y Gravity	Nodal	Distributed
1	wDC	DL	-1	5	
2	wAbut	DL			
3	PMedian	DL			
4	DW	OL1		5	
5	LL	LL			4
6	Sur	LL			
7	EH	EPL			
8	WS-super	WL			12
9	WS-sub	WL		5	4
10	BR	LL		7	4
11	TU	OL2		5	4
12	EQ	EL			
13	EQ Rev	None			
14	WA	FL			4

**Load Combinations**

	Description	Solve	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	Strength I-a	Yes	DL	0.9	4	0.65	LL	1.75	EPL	1.5	11	1.2			FL	1
2	Strength I-b	Yes	DL	1.25	4	1.5	LL	1.75	EPL	1.5	11	1.2			FL	1
3	Strength IV	Yes	DL	1.5	4	1.5	LL		EPL	1.5	11	1.2			FL	1
4	Strength V	Yes	DL	1.25	4	1.5	LL	1.35	EPL	1.5	11	1.2	WL	1	FL	1
5	Ext Event I	Yes	DL	1	4	1	LL	0.5	EPL	1	11		EL	1	FL	1
6	Service I	Yes	DL	1	4	1	LL	1	EPL	1	11	1.2	WL	1	FL	1
7	DL Only	Yes	DL	1	4		LL		EPL		11					
8	LL Only	Yes	DL		4		LL	1	EPL		11					
9	EH Only	Yes	DL		4		LL		EPL	1	11					
10	EQ Only	Yes	DL		4		LL		EPL		11		EL	1		

**Load Combination Design**

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	Strength I-a		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Strength I-b		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	Strength IV		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	Strength V		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	Ext Event I		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	Service I		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	DL Only		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	LL Only		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	EH Only		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	EQ Only		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**Node Reactions**

LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1 BOTTOM OF COLUMN1	-44.543	521.652	-22.778	-330.484	-6.008	160.943
2	1 BOTTOM OF COLUMN2	-10.268	468.907	-21.504	-321.857	0	66.703
3	1 BOTTOM OF COLUMN3	16.403	523.165	-22.661	-329.584	3.952	-33.934
4	1 Totals:	-38.408	1513.725	-66.943			
5	1 COG (ft):	X: 24.192	Y: -0.132	Z: 40			
6	2 BOTTOM OF COLUMN1	-60.108	672.174	-22.778	-330.484	-6.008	208.287

**Node Reactions (Continued)**

LC	Node Label	X [k]	Y [k]	Z [k]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
7	2	BOTTOM OF COLUMN2	-9.371	565.251	-21.504	-321.857	0	60.948
8	2	BOTTOM OF COLUMN3	31.071	672.965	-22.661	-329.584	3.952	-91.623
9	2	Totals:	-38.408	1910.389	-66.943			
10	2	COG (ft):	X: 24.208	Y: -0.145	Z: 40			
11	3	BOTTOM OF COLUMN1	-53.803	430.706	-22.762	-249.976	-6.231	227.821
12	3	BOTTOM OF COLUMN2	-20.488	354.641	-21.522	-241.518	-0.001	131.72
13	3	BOTTOM OF COLUMN3	13.571	446.816	-22.659	-249.179	3.961	3.043
14	3	Totals:	-60.721	1232.163	-66.943			
15	3	COG (ft):	X: 24.272	Y: -0.27	Z: 40			
16	4	BOTTOM OF COLUMN1	-65.642	601.865	-34.7	-464.457	-9.739	265.945
17	4	BOTTOM OF COLUMN2	-21.751	505.082	-32.668	-450.657	0	140.31
18	4	BOTTOM OF COLUMN3	19.226	613.955	-34.525	-463.105	6.401	-14.412
19	4	Totals:	-68.166	1720.902	-101.893			
20	4	COG (ft):	X: 24.218	Y: -0.161	Z: 40			
21	5	BOTTOM OF COLUMN1	-27.884	376.047	-3.49	-43.922	-0.171	67.972
22	5	BOTTOM OF COLUMN2	4.308	311.597	-3.471	-43.806	0	-27.356
23	5	BOTTOM OF COLUMN3	25.75	370.658	-3.48	-43.844	0.001	-108.181
24	5	Totals:	2.174	1058.301	-10.44			
25	5	COG (ft):	X: 24.239	Y: -0.209	Z: 40			
26	6	BOTTOM OF COLUMN1	-54.538	446.465	-34.697	-448.356	-9.783	240.803
27	6	BOTTOM OF COLUMN2	-24.61	386.563	-32.672	-434.589	-0.001	158.544
28	6	BOTTOM OF COLUMN3	6.52	462.131	-34.524	-447.024	6.403	40.919
29	6	Totals:	-72.629	1295.16	-101.893			
30	6	COG (ft):	X: 24.218	Y: -0.171	Z: 40			
31	7	BOTTOM OF COLUMN1	-7.295	197.24	0	0	0	12.745
32	7	BOTTOM OF COLUMN2	1.152	209.568	0	0	0	-7.389
33	7	BOTTOM OF COLUMN3	6.143	196.314	0	0	0	-26.168
34	7	Totals:	0	603.122	0			
35	7	COG (ft):	X: 24.273	Y: -0.367	Z: 40			
36	8	BOTTOM OF COLUMN1	-4.645	166.159	-0.009	-46.004	0.128	-9.342
37	8	BOTTOM OF COLUMN2	6.517	150.287	0.011	-45.908	0	-41.496
38	8	BOTTOM OF COLUMN3	10.878	157.272	-0.001	-45.946	-0.005	-57.833
39	8	Totals:	12.75	473.718	0			
40	8	COG (ft):	X: 24.125	Y: 0	Z: 40			
41	9	BOTTOM OF COLUMN1	0	0	0	0	0	0
42	9	BOTTOM OF COLUMN2	0	0	0	0	0	0
43	9	BOTTOM OF COLUMN3	0	0	0	0	0	0
44	9	Totals:	0	0	0			
45	9	COG (ft):	NC	NC	NC			
46	10	BOTTOM OF COLUMN1	0	0	0	0	0	0
47	10	BOTTOM OF COLUMN2	0	0	0	0	0	0
48	10	BOTTOM OF COLUMN3	0	0	0	0	0	0
49	10	Totals:	0	0	0			
50	10	COG (ft):	NC	NC	NC			

**Node Displacements**

LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]	
1	1	CAP END S	0.013	-0.149	0.125	1.386e-3	5.376e-5	1.61e-3
2	1	COLUMN1	0.013	-0.016	0.12	1.356e-3	2.577e-5	3.332e-4
3	1	COLUMN2/GIRDER C	0.013	-0.015	0.118	1.349e-3	0	-3.439e-5
4	1	COLUMN3	0.014	-0.017	0.12	1.354e-3	-2.148e-5	-4.354e-4
5	1	CAP END N	0.014	-0.157	0.124	1.384e-3	-4.947e-5	-1.688e-3
6	1	GIRDER E	0.013	-0.072	0.122	1.378e-3	5.029e-5	1.511e-3
7	1	GIRDER D	0.013	-0.041	0.119	1.382e-3	4.951e-6	-2.898e-4
8	1	GIRDER B	0.014	-0.039	0.119	1.381e-3	-3.284e-6	3.152e-4
9	1	GIRDER A	0.014	-0.077	0.121	1.377e-3	-4.6e-5	-1.589e-3
10	1	S COLUMN 1	0.013	-0.03	0.121	1.366e-3	3.872e-5	9.93e-4
11	1	N COLUMN 1	0.013	-0.017	0.12	1.365e-3	1.388e-5	-1.54e-4

**Node Displacements (Continued)**

LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]	
12	1	S COLUMN 2	0.013	-0.018	0.118	1.36e-3	8.771e-6	2.601e-4
13	1	N COLUMN 2	0.013	-0.019	0.118	1.36e-3	-8.737e-6	-2.909e-4
14	1	S COLUMN 3	0.014	-0.015	0.119	1.364e-3	-1.035e-5	9.606e-5
15	1	N COLUMN 3	0.014	-0.032	0.12	1.364e-3	-3.443e-5	-1.081e-3
16	1	BOTTOM OF COLUMN1	0	0	0	0	0	0
17	1	BOTTOM OF COLUMN2	0	0	0	0	0	0
18	1	BOTTOM OF COLUMN3	0	0	0	0	0	0
19	2	CAP END S	0.011	-0.206	0.125	1.386e-3	5.376e-5	2.199e-3
20	2	COLUMN1	0.011	-0.021	0.12	1.356e-3	2.577e-5	5.498e-4
21	2	COLUMN2/GIRDER C	0.012	-0.018	0.118	1.349e-3	0	-3.188e-5
22	2	COLUMN3	0.013	-0.021	0.12	1.354e-3	-2.148e-5	-6.4e-4
23	2	CAP END N	0.013	-0.213	0.124	1.384e-3	-4.947e-5	-2.266e-3
24	2	GIRDER E	0.011	-0.101	0.122	1.378e-3	5.029e-5	2.097e-3
25	2	GIRDER D	0.012	-0.047	0.119	1.382e-3	4.951e-6	-3.495e-4
26	2	GIRDER B	0.013	-0.046	0.119	1.381e-3	-3.284e-6	3.731e-4
27	2	GIRDER A	0.013	-0.104	0.121	1.377e-3	-4.6e-5	-2.164e-3
28	2	S COLUMN 1	0.011	-0.042	0.121	1.366e-3	3.872e-5	1.432e-3
29	2	N COLUMN 1	0.011	-0.019	0.12	1.365e-3	1.388e-5	-9.721e-5
30	2	S COLUMN 2	0.012	-0.022	0.118	1.36e-3	8.771e-6	2.954e-4
31	2	N COLUMN 2	0.012	-0.022	0.118	1.36e-3	-8.737e-6	-3.245e-4
32	2	S COLUMN 3	0.013	-0.018	0.119	1.364e-3	-1.035e-5	4.648e-5
33	2	N COLUMN 3	0.013	-0.043	0.12	1.364e-3	-3.443e-5	-1.508e-3
34	2	BOTTOM OF COLUMN1	0	0	0	0	0	0
35	2	BOTTOM OF COLUMN2	0	0	0	0	0	0
36	2	BOTTOM OF COLUMN3	0	0	0	0	0	0
37	3	CAP END S	0.025	-0.127	0.085	8.127e-4	5.333e-5	1.322e-3
38	3	COLUMN1	0.025	-0.013	0.081	8.127e-4	2.534e-5	3.16e-4
39	3	COLUMN2/GIRDER C	0.026	-0.011	0.079	8.057e-4	0	-5.936e-5
40	3	COLUMN3	0.027	-0.014	0.081	8.114e-4	-2.153e-5	-5.702e-4
41	3	CAP END N	0.027	-0.153	0.085	8.114e-4	-4.952e-5	-1.576e-3
42	3	GIRDER E	0.025	-0.064	0.083	8.127e-4	4.986e-5	1.308e-3
43	3	GIRDER D	0.025	-0.031	0.08	8.101e-4	4.823e-6	-1.875e-4
44	3	GIRDER B	0.026	-0.026	0.08	8.092e-4	-3.332e-6	2.324e-4
45	3	GIRDER A	0.027	-0.077	0.082	8.114e-4	-4.605e-5	-1.562e-3
46	3	S COLUMN 1	0.025	-0.026	0.081	8.127e-4	3.829e-5	9.104e-4
47	3	N COLUMN 1	0.025	-0.012	0.08	8.121e-4	1.354e-5	-8.645e-5
48	3	S COLUMN 2	0.026	-0.012	0.079	8.063e-4	8.787e-6	1.316e-4
49	3	N COLUMN 2	0.026	-0.014	0.079	8.062e-4	-8.742e-6	-1.742e-4
50	3	S COLUMN 3	0.027	-0.01	0.08	8.109e-4	-1.04e-5	-6.671e-5
51	3	N COLUMN 3	0.027	-0.032	0.081	8.114e-4	-3.448e-5	-1.165e-3
52	3	BOTTOM OF COLUMN1	0	0	0	0	0	0
53	3	BOTTOM OF COLUMN2	0	0	0	0	0	0
54	3	BOTTOM OF COLUMN3	0	0	0	0	0	0
55	4	CAP END S	0.027	-0.179	0.17	1.805e-3	8.656e-5	1.909e-3
56	4	COLUMN1	0.027	-0.019	0.163	1.777e-3	4.126e-5	4.292e-4
57	4	COLUMN2/GIRDER C	0.028	-0.016	0.16	1.766e-3	0	-6.62e-5
58	4	COLUMN3	0.029	-0.019	0.162	1.775e-3	-3.479e-5	-6.815e-4
59	4	CAP END N	0.029	-0.202	0.169	1.802e-3	-8.01e-5	-2.143e-3
60	4	GIRDER E	0.027	-0.088	0.166	1.798e-3	8.095e-5	1.828e-3
61	4	GIRDER D	0.027	-0.043	0.162	1.799e-3	7.859e-6	-2.957e-4
62	4	GIRDER B	0.028	-0.039	0.162	1.798e-3	-5.337e-6	3.454e-4
63	4	GIRDER A	0.029	-0.1	0.165	1.796e-3	-7.448e-5	-2.062e-3
64	4	S COLUMN 1	0.027	-0.036	0.164	1.787e-3	6.222e-5	1.233e-3
65	4	N COLUMN 1	0.027	-0.018	0.162	1.786e-3	2.211e-5	-1.262e-4
66	4	S COLUMN 2	0.028	-0.019	0.16	1.777e-3	1.42e-5	2.42e-4
67	4	N COLUMN 2	0.028	-0.02	0.16	1.776e-3	-1.414e-5	-2.937e-4
68	4	S COLUMN 3	0.029	-0.015	0.162	1.784e-3	-1.678e-5	-2.336e-5
69	4	N COLUMN 3	0.029	-0.041	0.163	1.784e-3	-5.575e-5	-1.474e-3

**Node Displacements (Continued)**

LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]	
70	4	BOTTOM OF COLUMN1	0	0	0	0	0	
71	4	BOTTOM OF COLUMN2	0	0	0	0	0	
72	4	BOTTOM OF COLUMN3	0	0	0	0	0	
73	5	CAP END S	-0.006	-0.12	0.016	2.108e-4	3.562e-7	1.261e-3
74	5	COLUMN1	-0.006	-0.012	0.016	2.022e-4	3.562e-7	3.785e-4
75	5	COLUMN2/GIRDER C	-0.005	-0.01	0.016	2.021e-4	0	1.019e-5
76	5	COLUMN3	-0.005	-0.012	0.016	2.02e-4	0	-3.127e-4
77	5	CAP END N	-0.005	-0.113	0.016	2.107e-4	0	-1.189e-3
78	5	GIRDER E	-0.006	-0.06	0.016	2.087e-4	3.562e-7	1.226e-3
79	5	GIRDER D	-0.006	-0.025	0.016	2.105e-4	1.374e-7	-1.948e-4
80	5	GIRDER B	-0.005	-0.026	0.016	2.104e-4	0	1.867e-4
81	5	GIRDER A	-0.005	-0.056	0.016	2.085e-4	0	-1.153e-3
82	5	S COLUMN 1	-0.006	-0.025	0.016	2.051e-4	3.562e-7	8.734e-4
83	5	N COLUMN 1	-0.006	-0.01	0.016	2.051e-4	2.932e-7	-1.093e-5
84	5	S COLUMN 2	-0.005	-0.012	0.016	2.051e-4	0	1.566e-4
85	5	N COLUMN 2	-0.005	-0.012	0.016	2.051e-4	0	-1.523e-4
86	5	S COLUMN 3	-0.005	-0.011	0.016	2.05e-4	0	5.225e-5
87	5	N COLUMN 3	-0.005	-0.023	0.016	2.05e-4	0	-8.034e-4
88	5	BOTTOM OF COLUMN1	0	0	0	0	0	
89	5	BOTTOM OF COLUMN2	0	0	0	0	0	
90	5	BOTTOM OF COLUMN3	0	0	0	0	0	
91	6	CAP END S	0.031	-0.125	0.163	1.69e-3	8.648e-5	1.341e-3
92	6	COLUMN1	0.031	-0.014	0.155	1.669e-3	4.117e-5	2.468e-4
93	6	COLUMN2/GIRDER C	0.031	-0.012	0.152	1.657e-3	0	-7.347e-5
94	6	COLUMN3	0.032	-0.015	0.155	1.666e-3	-3.48e-5	-5.403e-4
95	6	CAP END N	0.032	-0.153	0.161	1.688e-3	-8.011e-5	-1.621e-3
96	6	GIRDER E	0.031	-0.061	0.158	1.685e-3	8.086e-5	1.28e-3
97	6	GIRDER D	0.031	-0.034	0.154	1.685e-3	7.834e-6	-2.168e-4
98	6	GIRDER B	0.032	-0.029	0.154	1.684e-3	-5.347e-6	2.722e-4
99	6	GIRDER A	0.032	-0.076	0.158	1.682e-3	-7.449e-5	-1.56e-3
100	6	S COLUMN 1	0.031	-0.025	0.156	1.676e-3	6.213e-5	8.403e-4
101	6	N COLUMN 1	0.031	-0.014	0.155	1.675e-3	2.204e-5	-1.468e-4
102	6	S COLUMN 2	0.031	-0.014	0.152	1.666e-3	1.421e-5	1.785e-4
103	6	N COLUMN 2	0.031	-0.016	0.152	1.666e-3	-1.414e-5	-2.341e-4
104	6	S COLUMN 3	0.032	-0.011	0.154	1.673e-3	-1.678e-5	-2.836e-5
105	6	N COLUMN 3	0.032	-0.031	0.156	1.674e-3	-5.576e-5	-1.125e-3
106	6	BOTTOM OF COLUMN1	0	0	0	0	0	
107	6	BOTTOM OF COLUMN2	0	0	0	0	0	
108	6	BOTTOM OF COLUMN3	0	0	0	0	0	
109	7	CAP END S	-0.002	-0.047	0	0	0	4.812e-4
110	7	COLUMN1	-0.002	-0.006	0	0	0	8.724e-5
111	7	COLUMN2/GIRDER C	-0.001	-0.006	0	0	0	3.21e-6
112	7	COLUMN3	-0.001	-0.006	0	0	0	-7.217e-5
113	7	CAP END N	-0.001	-0.046	0	0	0	-4.662e-4
114	7	GIRDER E	-0.002	-0.024	0	0	0	4.72e-4
115	7	GIRDER D	-0.002	-0.019	0	0	0	-1.197e-4
116	7	GIRDER B	-0.001	-0.02	0	0	0	1.173e-4
117	7	GIRDER A	-0.001	-0.023	0	0	0	-4.569e-4
118	7	S COLUMN 1	-0.002	-0.01	0	0	0	3.156e-4
119	7	N COLUMN 1	-0.002	-0.007	0	0	0	-1.133e-4
120	7	S COLUMN 2	-0.001	-0.008	0	0	0	1.062e-4
121	7	N COLUMN 2	-0.001	-0.008	0	0	0	-1.041e-4
122	7	S COLUMN 3	-0.001	-0.007	0	0	0	1.224e-4
123	7	N COLUMN 3	-0.001	-0.01	0	0	0	-3.006e-4
124	7	BOTTOM OF COLUMN1	0	0	0	0	0	
125	7	BOTTOM OF COLUMN2	0	0	0	0	0	
126	7	BOTTOM OF COLUMN3	0	0	0	0	0	
127	8	CAP END S	-0.008	-0.052	0.022	3.276e-4	2.463e-7	5.701e-4



**Node Displacements (Continued)**

LC	Node Label	X [in]	Y [in]	Z [in]	X Rotation [rad]	Y Rotation [rad]	Z Rotation [rad]	
128	8	COLUMN1	-0.008	-0.005	0.022	3.102e-4	2.463e-7	1.461e-4
129	8	COLUMN2/GIRDER C	-0.008	-0.005	0.022	3.104e-4	0	1.616e-5
130	8	COLUMN3	-0.008	-0.005	0.022	3.101e-4	2.614e-8	-5.019e-5
131	8	CAP END N	-0.008	-0.041	0.022	3.275e-4	2.614e-8	-4.606e-4
132	8	GIRDER E	-0.008	-0.024	0.022	3.232e-4	2.463e-7	5.184e-4
133	8	GIRDER D	-0.008	-0.012	0.022	3.27e-4	7.29e-8	-1.097e-4
134	8	GIRDER B	-0.008	-0.014	0.022	3.269e-4	2.696e-8	9.716e-5
135	8	GIRDER A	-0.008	-0.019	0.022	3.231e-4	2.614e-8	-4.088e-4
136	8	S COLUMN 1	-0.008	-0.01	0.022	3.161e-4	2.463e-7	3.432e-4
137	8	N COLUMN 1	-0.008	-0.005	0.022	3.162e-4	1.949e-7	-2.233e-5
138	8	S COLUMN 2	-0.008	-0.006	0.022	3.163e-4	0	1.088e-4
139	8	N COLUMN 2	-0.008	-0.006	0.022	3.163e-4	0	-1.007e-4
140	8	S COLUMN 3	-0.008	-0.006	0.022	3.161e-4	2.771e-8	8.217e-5
141	8	N COLUMN 3	-0.008	-0.008	0.022	3.16e-4	2.614e-8	-2.391e-4
142	8	BOTTOM OF COLUMN1	0	0	0	0	0	0
143	8	BOTTOM OF COLUMN2	0	0	0	0	0	0
144	8	BOTTOM OF COLUMN3	0	0	0	0	0	0
145	9	CAP END S	0	0	0	0	0	0
146	9	COLUMN1	0	0	0	0	0	0
147	9	COLUMN2/GIRDER C	0	0	0	0	0	0
148	9	COLUMN3	0	0	0	0	0	0
149	9	CAP END N	0	0	0	0	0	0
150	9	GIRDER E	0	0	0	0	0	0
151	9	GIRDER D	0	0	0	0	0	0
152	9	GIRDER B	0	0	0	0	0	0
153	9	GIRDER A	0	0	0	0	0	0
154	9	S COLUMN 1	0	0	0	0	0	0
155	9	N COLUMN 1	0	0	0	0	0	0
156	9	S COLUMN 2	0	0	0	0	0	0
157	9	N COLUMN 2	0	0	0	0	0	0
158	9	S COLUMN 3	0	0	0	0	0	0
159	9	N COLUMN 3	0	0	0	0	0	0
160	9	BOTTOM OF COLUMN1	0	0	0	0	0	0
161	9	BOTTOM OF COLUMN2	0	0	0	0	0	0
162	9	BOTTOM OF COLUMN3	0	0	0	0	0	0
163	10	CAP END S	0	0	0	0	0	0
164	10	COLUMN1	0	0	0	0	0	0
165	10	COLUMN2/GIRDER C	0	0	0	0	0	0
166	10	COLUMN3	0	0	0	0	0	0
167	10	CAP END N	0	0	0	0	0	0
168	10	GIRDER E	0	0	0	0	0	0
169	10	GIRDER D	0	0	0	0	0	0
170	10	GIRDER B	0	0	0	0	0	0
171	10	GIRDER A	0	0	0	0	0	0
172	10	S COLUMN 1	0	0	0	0	0	0
173	10	N COLUMN 1	0	0	0	0	0	0
174	10	S COLUMN 2	0	0	0	0	0	0
175	10	N COLUMN 2	0	0	0	0	0	0
176	10	S COLUMN 3	0	0	0	0	0	0
177	10	N COLUMN 3	0	0	0	0	0	0
178	10	BOTTOM OF COLUMN1	0	0	0	0	0	0
179	10	BOTTOM OF COLUMN2	0	0	0	0	0	0
180	10	BOTTOM OF COLUMN3	0	0	0	0	0	0

**Member Section Forces**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
1	1	S OVERHANG	1	0	0	0	0	0	
2			2	0	-29.908	1.867	7.973	1.498	23.991



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
3		3	0	-59.817	3.734	15.945	5.991	95.959	
4		4	6.841	-209.032	5.602	23.918	13.479	312.84	
5		5	6.841	-238.941	7.469	31.891	23.963	672.151	
6		6	6.841	-268.849	9.336	39.864	37.442	1079.441	
7	1	COLUMN1 - COLUMN2	1	-33.501	241.732	-9.961	-38.168	35.379	827.84
8			2	-33.501	181.139	-6.178	-22.016	9.152	140.676
9			3	-26.66	6.269	-2.395	-5.863	-4.779	-305.502
10			4	-26.66	-54.325	1.388	10.289	-6.417	-227.424
11			5	-26.66	-114.919	5.171	26.442	4.242	47.612
12			6	-26.66	-175.513	8.954	42.594	27.194	519.549
13	1	COLUMN2 - COLUMN3	1	-30.086	168.049	-9.07	-42.096	27.194	463.032
14			2	-30.086	107.455	-5.287	-25.944	3.864	15.353
15			3	-30.086	46.861	-1.504	-9.791	-7.172	-235.426
16			4	-30.086	-13.732	2.279	6.361	-5.912	-289.247
17			5	-23.245	-188.602	6.062	22.514	7.641	181.188
18			6	-23.245	-249.196	9.845	38.666	33.49	892.61
19	1	N OVERHANG	1	-6.841	262.899	-9.336	-39.864	37.442	1055.517
20			2	-6.841	232.991	-7.469	-31.891	23.963	657.772
21			3	-6.841	203.082	-5.602	-23.918	13.479	308.006
22			4	0	59.817	-3.735	-15.945	5.991	95.959
23			5	0	29.908	-1.867	-7.973	1.498	23.991
24			6	0	0	0	0	0	0
25	1	COLUMN3	1	512.095	16.403	-19.181	3.952	-78.53	162.907
26			2	514.309	16.403	-19.877	3.952	-125.4	123.539
27			3	516.523	16.403	-20.573	3.952	-173.94	84.171
28			4	518.737	16.403	-21.269	3.952	-224.151	44.803
29			5	520.951	16.403	-21.965	3.952	-276.032	5.434
30			6	523.165	16.403	-22.661	3.952	-329.584	-33.934
31	1	COLUMN2	1	457.838	-10.268	-18.024	0	-84.691	-56.516
32			2	460.052	-10.268	-18.72	0	-128.783	-31.872
33			3	462.266	-10.268	-19.416	0	-174.546	-7.229
34			4	464.479	-10.268	-20.112	0	-221.979	17.415
35			5	466.693	-10.268	-20.808	0	-271.083	42.059
36			6	468.907	-10.268	-21.504	0	-321.857	66.703
37	1	COLUMN1	1	511.15	32.361	19.297	-0.844	78.054	251.601
38			2	513.377	33.166	19.994	-0.844	125.209	172.958
39			3	515.604	33.972	20.69	-0.844	174.035	92.383
40			4	517.831	34.777	21.386	-0.844	224.532	9.874
41			5	520.058	35.583	22.082	-0.844	276.699	-74.568
42			6	522.285	36.388	22.778	-0.844	330.537	-160.943
43	2	S OVERHANG	1	0	0	0	0	0	0
44			2	0	-30.885	1.867	7.973	1.498	24.774
45			3	0	-61.771	3.734	15.945	5.991	99.093
46			4	6.841	-298.316	5.602	23.918	13.479	390.054
47			5	6.841	-329.202	7.469	31.891	23.963	893.375
48			6	6.841	-360.087	9.336	39.864	37.442	1446.242
49	2	COLUMN1 - COLUMN2	1	-49.066	296.711	-9.961	-38.168	35.379	1083.023
50			2	-49.066	234.138	-6.178	-22.016	9.152	220.395
51			3	-42.225	-3.205	-2.395	-5.863	-4.779	-371.498
52			4	-42.225	-65.778	1.388	10.289	-6.417	-259.414
53			5	-42.225	-128.351	5.171	26.442	4.242	56.062
54			6	-42.225	-190.925	8.954	42.594	27.194	574.87
55	2	COLUMN2 - COLUMN3	1	-44.754	184.182	-9.07	-42.096	27.194	523.367
56			2	-44.754	121.609	-5.287	-25.944	3.864	26.472
57			3	-44.754	59.036	-1.504	-9.791	-7.172	-267.091
58			4	-44.754	-3.537	2.279	6.361	-5.912	-357.262
59			5	-37.913	-240.88	6.062	22.514	7.641	256.544
60			6	-37.913	-303.453	9.845	38.666	33.49	1141.086



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
61	2	N OVERHANG	1	-6.841	354.137	-9.336	-39.864	37.442	1422.318
62			2	-6.841	323.252	-7.469	-31.891	23.963	878.996
63			3	-6.841	292.366	-5.602	-23.918	13.479	385.22
64			4	0	61.771	-3.735	-15.945	5.991	99.093
65			5	0	30.885	-1.867	-7.973	1.498	24.774
66			6	0	0	0	0	0	0
67	2	COLUMN3	1	657.59	31.071	-19.181	3.952	-78.53	281.232
68			2	660.665	31.071	-19.877	3.952	-125.4	206.661
69			3	663.74	31.071	-20.573	3.952	-173.94	132.09
70			4	666.815	31.071	-21.269	3.952	-224.151	57.519
71			5	669.89	31.071	-21.965	3.952	-276.032	-17.052
72			6	672.965	31.071	-22.661	3.952	-329.584	-91.623
73	2	COLUMN2	1	549.877	-9.371	-18.024	0	-84.691	-51.503
74			2	552.951	-9.371	-18.72	0	-128.783	-29.013
75			3	556.026	-9.371	-19.416	0	-174.546	-6.523
76			4	559.101	-9.371	-20.112	0	-221.979	15.968
77			5	562.176	-9.371	-20.808	0	-271.083	38.458
78			6	565.251	-9.371	-21.504	0	-321.857	60.948
79	2	COLUMN1	1	657.591	45.64	19.297	-0.844	78.054	363.218
80			2	660.679	46.432	19.994	-0.844	125.209	252.719
81			3	663.767	47.224	20.69	-0.844	174.035	140.319
82			4	666.855	48.016	21.386	-0.844	224.532	26.018
83			5	669.943	48.808	22.082	-0.844	276.699	-90.184
84			6	673.031	49.599	22.778	-0.844	330.537	-208.287
85	3	S OVERHANG	1	0	0	0	0	0	0
86			2	0	-4.187	1.867	0	1.498	3.358
87			3	0	-8.374	3.734	0	5.991	13.433
88			4	11.304	-235.131	5.602	0	13.479	211.062
89			5	11.304	-239.317	7.469	0	23.963	591.609
90			6	11.304	-243.504	9.336	0	37.442	978.872
91	3	COLUMN1 - COLUMN2	1	-38.299	168.75	-9.945	2.285	35.153	665.282
92			2	-38.299	160.268	-6.162	2.285	8.978	130.628
93			3	-26.995	-49.875	-2.379	2.285	-4.901	-298.733
94			4	-26.995	-58.357	1.404	2.285	-6.487	-122.858
95			5	-26.995	-66.84	5.187	2.285	4.223	80.589
96			6	-26.995	-75.322	8.97	2.285	27.227	311.6
97	3	COLUMN2 - COLUMN3	1	-36.179	59.209	-9.073	-1.846	27.226	197.466
98			2	-36.179	50.727	-5.29	-1.846	3.888	18.821
99			3	-36.179	42.244	-1.507	-1.846	-7.156	-132.259
100			4	-36.179	33.762	2.276	-1.846	-5.904	-255.768
101			5	-24.875	-176.381	6.059	-1.846	7.641	225.96
102			6	-24.875	-184.863	9.842	-1.846	33.481	812.98
103	3	N OVERHANG	1	-11.304	243.504	-9.336	0	37.442	978.873
104			2	-11.304	239.318	-7.469	0	23.963	591.609
105			3	-11.304	235.131	-5.602	0	13.479	211.062
106			4	0	8.374	-3.735	0	5.991	13.433
107			5	0	4.187	-1.867	0	1.498	3.358
108			6	0	0	0	0	0	0
109	3	COLUMN3	1	428.367	13.571	-19.179	3.961	1.846	165.892
110			2	432.057	13.571	-19.875	3.961	-45.018	133.322
111			3	435.747	13.571	-20.571	3.961	-93.553	100.752
112			4	439.437	13.571	-21.267	3.961	-143.758	68.183
113			5	443.127	13.571	-21.963	3.961	-195.633	35.613
114			6	446.816	13.571	-22.659	3.961	-249.179	3.043
115	3	COLUMN2	1	336.192	-20.488	-18.042	-0.001	-4.13	-114.134
116			2	339.882	-20.488	-18.738	-0.001	-48.267	-64.964
117			3	343.571	-20.488	-19.434	-0.001	-94.074	-15.793
118			4	347.261	-20.488	-20.13	-0.001	-141.552	33.378

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
119		5	350.951	-20.488	-20.826	-0.001	-190.699	82.549
120		6	354.641	-20.488	-21.522	-0.001	-241.518	131.72
121	3	1	412.979	43.156	19.281	-2.325	-2.248	313.59
122		2	416.682	43.939	19.978	-2.325	44.868	209.064
123		3	420.385	44.721	20.674	-2.325	93.656	102.659
124		4	424.088	45.503	21.37	-2.325	144.114	-5.623
125		5	427.791	46.286	22.066	-2.325	196.243	-115.783
126		6	431.494	47.068	22.762	-2.325	250.043	-227.821
127	4	1	0	0	0	0	0	0
128		2	0.706	-24.623	3.022	7.209	2.424	19.751
129		3	1.412	-49.247	6.044	14.418	9.697	79.002
130		4	10.639	-278.85	9.067	21.627	21.817	344.298
131		5	11.345	-303.474	12.089	28.836	38.786	811.369
132		6	12.051	-328.097	15.111	36.046	60.602	1317.941
133	4	1	-49.391	258.392	-16.108	-32.895	57.044	932.795
134		2	-47.961	208.505	-9.985	-18.29	14.642	174.088
135		3	-38.009	-16.151	-3.862	-3.684	-7.859	-355.118
136		4	-36.579	-66.037	2.261	10.921	-10.463	-221.573
137		5	-35.149	-115.924	8.384	25.527	6.836	74.125
138		6	-33.719	-165.81	14.507	40.132	44.032	531.931
139	4	1	-46.948	149.128	-14.682	-39.384	44.031	411.234
140		2	-45.518	99.242	-8.559	-24.778	6.267	7.645
141		3	-44.088	49.355	-2.436	-10.173	-11.6	-233.836
142		4	-42.658	-0.531	3.687	4.433	-9.565	-313.163
143		5	-32.707	-225.188	9.81	19.038	12.368	270.26
144		6	-31.277	-275.074	15.933	33.644	54.201	1083.185
145	4	1	-12.051	323.507	-15.111	-36.046	60.602	1299.485
146		2	-11.345	298.884	-12.089	-28.837	38.786	800.277
147		3	-10.639	274.26	-9.067	-21.627	21.817	340.568
148		4	-1.412	49.247	-6.045	-14.418	9.697	79.002
149		5	-0.706	24.623	-3.022	-7.209	2.424	19.751
150		6	0	0	0	0	0	0
151	4	1	598.581	19.226	-31.045	6.401	-69.689	216.301
152		2	601.656	19.226	-31.741	6.401	-145.031	170.158
153		3	604.731	19.226	-32.437	6.401	-222.044	124.016
154		4	607.805	19.226	-33.133	6.401	-300.727	77.873
155		5	610.88	19.226	-33.829	6.401	-381.081	31.731
156		6	613.955	19.226	-34.525	6.401	-463.105	-14.412
157	4	1	489.708	-21.751	-29.188	0	-79.516	-120.697
158		2	492.783	-21.751	-29.884	0	-150.403	-68.496
159		3	495.858	-21.751	-30.58	0	-222.961	-16.294
160		4	498.933	-21.751	-31.276	0	-297.189	35.907
161		5	502.007	-21.751	-31.972	0	-373.088	88.108
162		6	505.082	-21.751	-32.668	0	-450.657	140.31
163	4	1	587.377	52.271	31.219	-2.481	68.988	385.145
164		2	590.465	53.063	31.916	-2.481	144.759	258.729
165		3	593.553	53.855	32.612	-2.481	222.202	130.412
166		4	596.641	54.647	33.308	-2.481	301.315	0.194
167		5	599.729	55.439	34.004	-2.481	382.098	-131.925
168		6	602.817	56.231	34.7	-2.481	464.553	-265.945
169	5	1	0	0	0	0	0	0
170		2	0	-10.619	0	2.278	0	8.518
171		3	0	-21.238	0	4.556	0	34.07
172		4	-1.275	-181.086	0	6.834	0	197.904
173		5	-1.275	-191.705	0	9.112	0	496.914
174		6	-1.275	-202.324	0	11.39	0	812.958
175	5	1	-24.958	161.422	-0.01	-11.534	0.157	640.882
176		2	-24.958	139.908	-0.01	-6.919	0.126	151.221

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
177		3	-26.233	-16.045	-0.01	-2.304	0.095	-216.702	
178		4	-26.233	-37.558	-0.01	2.311	0.064	-129.602	
179		5	-26.233	-59.072	-0.01	6.926	0.032	27.427	
180		6	-26.233	-80.585	-0.01	11.541	0.001	254.364	
181	5	COLUMN2 - COLUMN3	1	-23.2	84.273	0	-11.499	0.002	278.703
182		2	-23.2	62.759	0	-6.884	0.001	39.781	
183		3	-23.2	41.246	0	-2.269	0	-129.232	
184		4	-23.2	19.732	0	2.346	0	-228.317	
185		5	-24.475	-136.221	0	6.961	0	127.621	
186		6	-24.475	-157.734	0	11.576	-0.001	605.298	
187	5	N OVERHANG	1	1.275	200.624	0	-11.39	0	806.122
188		2	1.275	190.005	0	-9.112	0	492.805	
189		3	1.275	179.386	0	-6.834	0	196.523	
190		4	0	21.238	0	-4.556	0	34.07	
191		5	0	10.619	0	-2.278	0	8.518	
192		6	0	0	0	0	0	0	
193	5	COLUMN3	1	358.358	25.75	0	0.001	-22.966	200.824
194		2	360.818	25.75	-0.696	0.001	-23.801	139.023	
195		3	363.278	25.75	-1.392	0.001	-26.306	77.222	
196		4	365.738	25.75	-2.088	0.001	-30.482	15.421	
197		5	368.198	25.75	-2.784	0.001	-36.328	-46.38	
198		6	370.658	25.75	-3.48	0.001	-43.844	-108.181	
199	5	COLUMN2	1	299.298	4.308	0.009	0	-23.039	24.339
200		2	301.758	4.308	-0.687	0	-23.852	14	
201		3	304.217	4.308	-1.383	0	-26.335	3.661	
202		4	306.677	4.308	-2.079	0	-30.488	-6.678	
203		5	309.137	4.308	-2.775	0	-36.312	-17.017	
204		6	311.597	4.308	-3.471	0	-43.806	-27.356	
205	5	COLUMN1	1	364.071	17.998	0.01	0.515	22.918	172.075
206		2	366.544	18.799	0.706	0.515	23.777	127.914	
207		3	369.017	19.601	1.402	0.515	26.306	81.828	
208		4	371.49	20.402	2.098	0.515	30.506	33.819	
209		5	373.963	21.204	2.794	0.515	36.377	-16.115	
210		6	376.436	22.005	3.49	0.515	43.919	-67.972	
211	6	S OVERHANG	1	0	0	0	0	0	0
212		2	0.706	-18.446	3.022	5.615	2.424	14.796	
213		3	1.412	-36.893	6.044	11.229	9.697	59.184	
214		4	11.531	-205.419	9.067	16.844	21.817	255.1	
215		5	12.237	-223.865	12.089	22.458	38.786	599.421	
216		6	12.943	-242.312	15.111	28.073	60.602	973.334	
217	6	COLUMN1 - COLUMN2	1	-37.395	191.853	-16.105	-24.805	56.998	667.439
218		2	-35.965	154.481	-9.982	-13.43	14.607	104.646	
219		3	-25.121	-17.331	-3.859	-2.055	-7.884	-284.865	
220		4	-23.691	-54.702	2.264	9.32	-10.477	-167.82	
221		5	-22.261	-92.074	8.387	20.695	6.832	70.701	
222		6	-20.831	-129.446	14.51	32.07	44.038	430.662	
223	6	COLUMN2 - COLUMN3	1	-36.027	110.378	-14.682	-31.334	44.037	293.884
224		2	-34.597	73.007	-8.559	-19.959	6.272	-4.108	
225		3	-33.167	35.635	-2.436	-8.584	-11.597	-180.659	
226		4	-31.737	-1.737	3.687	2.791	-9.563	-235.734	
227		5	-20.893	-173.549	9.81	14.166	12.368	215.746	
228		6	-19.463	-210.92	15.933	25.541	54.2	840.508	
229	6	N OVERHANG	1	-12.943	238.912	-15.111	-28.073	60.602	959.663
230		2	-12.237	220.465	-12.089	-22.458	38.786	591.205	
231		3	-11.532	202.019	-9.067	-16.844	21.817	252.338	
232		4	-1.412	36.893	-6.045	-11.229	9.697	59.184	
233		5	-0.706	18.446	-3.022	-5.615	2.424	14.796	
234		6	0	0	0	0	0	0	

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
235	6	COLUMN3	1	449.832	6.52	-31.044	6.403	-53.614	119.155
236			2	452.292	6.52	-31.74	6.403	-128.955	103.507
237			3	454.752	6.52	-32.436	6.403	-205.967	87.86
238			4	457.212	6.52	-33.132	6.403	-284.649	72.213
239			5	459.672	6.52	-33.828	6.403	-365.001	56.566
240			6	462.131	6.52	-34.524	6.403	-447.024	40.919
241	6	COLUMN2	1	374.264	-24.61	-29.192	-0.001	-63.404	-136.778
242			2	376.724	-24.61	-29.888	-0.001	-134.3	-77.714
243			3	379.184	-24.61	-30.584	-0.001	-206.867	-18.649
244			4	381.644	-24.61	-31.28	-0.001	-281.104	40.415
245			5	384.104	-24.61	-31.976	-0.001	-357.011	99.48
246			6	386.563	-24.61	-32.672	-0.001	-434.589	158.544
247	6	COLUMN1	1	434.898	43.549	31.216	-2.778	52.928	305.895
248			2	437.371	44.35	31.912	-2.778	128.691	200.403
249			3	439.844	45.152	32.608	-2.778	206.126	92.988
250			4	442.317	45.953	33.305	-2.778	285.231	-16.352
251			5	444.79	46.755	34.001	-2.778	366.007	-127.615
252			6	447.263	47.556	34.697	-2.778	448.454	-240.803
253	7	S OVERHANG	1	0	0	0	0	0	0
254			2	0	-2.791	0	0	0	2.239
255			3	0	-5.582	0	0	0	8.956
256			4	0	-87.914	0	0	0	84.776
257			5	0	-90.705	0	0	0	228.043
258			6	0	-93.496	0	0	0	375.787
259	7	COLUMN1 - COLUMN2	1	-7.295	91.443	0	0	0	336.818
260			2	-7.295	85.788	0	0	0	48.819
261			3	-7.295	-27.427	0	0	0	-179.345
262			4	-7.295	-33.082	0	0	0	-81.018
263			5	-7.295	-38.737	0	0	0	35.69
264			6	-7.295	-44.392	0	0	0	170.775
265	7	COLUMN2 - COLUMN3	1	-6.143	45.316	0	0	0	177.213
266			2	-6.143	39.661	0	0	0	39.125
267			3	-6.143	34.006	0	0	0	-80.587
268			4	-6.143	28.351	0	0	0	-181.917
269			5	-6.143	-84.864	0	0	0	43.243
270			6	-6.143	-90.519	0	0	0	328.239
271	7	N OVERHANG	1	0	93.496	0	0	0	375.788
272			2	0	90.705	0	0	0	228.043
273			3	0	87.914	0	0	0	84.776
274			4	0	5.583	0	0	0	8.956
275			5	0	2.791	0	0	0	2.239
276			6	0	0	0	0	0	0
277	7	COLUMN3	1	184.015	6.143	0	0	0	47.549
278			2	186.475	6.143	0	0	0	32.805
279			3	188.935	6.143	0	0	0	18.062
280			4	191.394	6.143	0	0	0	3.319
281			5	193.854	6.143	0	0	0	-11.425
282			6	196.314	6.143	0	0	0	-26.168
283	7	COLUMN2	1	197.269	1.152	0	0	0	6.438
284			2	199.729	1.152	0	0	0	3.673
285			3	202.189	1.152	0	0	0	0.907
286			4	204.648	1.152	0	0	0	-1.858
287			5	207.108	1.152	0	0	0	-4.624
288			6	209.568	1.152	0	0	0	-7.389
289	7	COLUMN1	1	185.03	4.405	0	0	0	38.97
290			2	187.49	4.367	0	0	0	28.442
291			3	189.95	4.328	0	0	0	18.007
292			4	192.41	4.29	0	0	0	7.664

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
293		5	194.87	4.251	0	0	0	-2.586
294		6	197.33	4.213	0	0	0	-12.745
295	8 S OVERHANG	1	0	0	0	0	0	0
296		2	0	-15.655	0	4.556	0	12.557
297		3	0	-31.31	0	9.112	0	50.228
298		4	-2.55	-48.665	0	13.667	0	114.392
299		5	-2.55	-64.32	0	18.223	0	205.015
300		6	-2.55	-79.975	0	22.779	0	320.752
301	8 COLUMN1 - COLUMN2	1	-7.195	86.184	-0.009	-23.116	0.129	286.826
302		2	-7.195	54.467	-0.009	-13.886	0.1	58.27
303		3	-9.745	22.75	-0.009	-4.656	0.07	-67.201
304		4	-9.745	-8.967	-0.009	4.574	0.04	-89.606
305		5	-9.745	-40.683	-0.009	13.804	0.011	-8.917
306		6	-9.745	-72.4	-0.009	23.034	-0.019	174.836
307	8 COLUMN2 - COLUMN3	1	-5.778	77.887	0.001	-23	-0.018	211.545
308		2	-5.778	46.17	0.001	-13.77	-0.014	9.961
309		3	-5.778	14.453	0.001	-4.54	-0.009	-88.559
310		4	-5.778	-17.264	0.001	4.69	-0.004	-83.985
311		5	-8.328	-48.98	0.001	13.92	0	23.655
312		6	-8.328	-80.697	0.001	23.15	0.005	234.38
313	8 N OVERHANG	1	2.55	76.575	0	-22.779	0	307.081
314		2	2.55	60.92	0	-18.223	0	196.799
315		3	2.55	45.265	0	-13.668	0	111.63
316		4	0	31.31	0	-9.112	0	50.228
317		5	0	15.655	0	-4.556	0	12.557
318		6	0	0	0	0	0	0
319	8 COLUMN3	1	157.272	10.878	-0.001	-0.005	-45.929	72.701
320		2	157.272	10.878	-0.001	-0.005	-45.932	46.594
321		3	157.272	10.878	-0.001	-0.005	-45.936	20.488
322		4	157.272	10.878	-0.001	-0.005	-45.939	-5.619
323		5	157.272	10.878	-0.001	-0.005	-45.942	-31.726
324		6	157.272	10.878	-0.001	-0.005	-45.946	-57.833
325	8 COLUMN2	1	150.287	6.517	0.011	0	-46.035	36.709
326		2	150.287	6.517	0.011	0	-46.009	21.068
327		3	150.287	6.517	0.011	0	-45.984	5.427
328		4	150.287	6.517	0.011	0	-45.959	-10.214
329		5	150.287	6.517	0.011	0	-45.933	-25.855
330		6	150.287	6.517	0.011	0	-45.908	-41.496
331	8 COLUMN1	1	166.211	2.048	0.009	0.846	45.887	33.926
332		2	166.211	2.048	0.009	0.846	45.909	29.009
333		3	166.211	2.048	0.009	0.846	45.931	24.092
334		4	166.211	2.048	0.009	0.846	45.953	19.175
335		5	166.211	2.048	0.009	0.846	45.975	14.259
336		6	166.211	2.048	0.009	0.846	45.997	9.342
337	9 S OVERHANG	1	0	0	0	0	0	0
338		2	0	0	0	0	0	0
339		3	0	0	0	0	0	0
340		4	0	0	0	0	0	0
341		5	0	0	0	0	0	0
342		6	0	0	0	0	0	0
343	9 COLUMN1 - COLUMN2	1	0	0	0	0	0	0
344		2	0	0	0	0	0	0
345		3	0	0	0	0	0	0
346		4	0	0	0	0	0	0
347		5	0	0	0	0	0	0
348		6	0	0	0	0	0	0
349	9 COLUMN2 - COLUMN3	1	0	0	0	0	0	0
350		2	0	0	0	0	0	0

**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
351		3	0	0	0	0	0	0
352		4	0	0	0	0	0	0
353		5	0	0	0	0	0	0
354		6	0	0	0	0	0	0
355	9 N OVERHANG	1	0	0	0	0	0	0
356		2	0	0	0	0	0	0
357		3	0	0	0	0	0	0
358		4	0	0	0	0	0	0
359		5	0	0	0	0	0	0
360		6	0	0	0	0	0	0
361	9 COLUMN3	1	0	0	0	0	0	0
362		2	0	0	0	0	0	0
363		3	0	0	0	0	0	0
364		4	0	0	0	0	0	0
365		5	0	0	0	0	0	0
366		6	0	0	0	0	0	0
367	9 COLUMN2	1	0	0	0	0	0	0
368		2	0	0	0	0	0	0
369		3	0	0	0	0	0	0
370		4	0	0	0	0	0	0
371		5	0	0	0	0	0	0
372		6	0	0	0	0	0	0
373	9 COLUMN1	1	0	0	0	0	0	0
374		2	0	0	0	0	0	0
375		3	0	0	0	0	0	0
376		4	0	0	0	0	0	0
377		5	0	0	0	0	0	0
378		6	0	0	0	0	0	0
379	10 S OVERHANG	1	0	0	0	0	0	0
380		2	0	0	0	0	0	0
381		3	0	0	0	0	0	0
382		4	0	0	0	0	0	0
383		5	0	0	0	0	0	0
384		6	0	0	0	0	0	0
385	10 COLUMN1 - COLUMN2	1	0	0	0	0	0	0
386		2	0	0	0	0	0	0
387		3	0	0	0	0	0	0
388		4	0	0	0	0	0	0
389		5	0	0	0	0	0	0
390		6	0	0	0	0	0	0
391	10 COLUMN2 - COLUMN3	1	0	0	0	0	0	0
392		2	0	0	0	0	0	0
393		3	0	0	0	0	0	0
394		4	0	0	0	0	0	0
395		5	0	0	0	0	0	0
396		6	0	0	0	0	0	0
397	10 N OVERHANG	1	0	0	0	0	0	0
398		2	0	0	0	0	0	0
399		3	0	0	0	0	0	0
400		4	0	0	0	0	0	0
401		5	0	0	0	0	0	0
402		6	0	0	0	0	0	0
403	10 COLUMN3	1	0	0	0	0	0	0
404		2	0	0	0	0	0	0
405		3	0	0	0	0	0	0
406		4	0	0	0	0	0	0
407		5	0	0	0	0	0	0
408		6	0	0	0	0	0	0



**Member Section Forces (Continued)**

LC	Member Label	Sec	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
409	10	COLUMN2	1	0	0	0	0	0
410			2	0	0	0	0	0
411			3	0	0	0	0	0
412			4	0	0	0	0	0
413			5	0	0	0	0	0
414			6	0	0	0	0	0
415	10	COLUMN1	1	0	0	0	0	0
416			2	0	0	0	0	0
417			3	0	0	0	0	0
418			4	0	0	0	0	0
419			5	0	0	0	0	0
420			6	0	0	0	0	0

**Maximum Member Section Forces**

LC	Member Label	Axial[k]	Loc[ft]	y Shear[k]	Loc[ft]	z Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]		
1	1	S OVERHANG	max	6.841	6.501	0	0	9.336	8.021	39.864	8.021	37.442	8.021	1079.441	8.021
2			min	0	0	-268.849	8.021	0	0	0	0	0	0	0	0
3	1	COLUMN1 - COLUMN2	max	-26.66	14.711	241.732	0	8.954	16.25	42.594	16.25	35.379	0	827.84	0
4			min	-33.501	0	-175.513	16.25	-9.961	0	-38.168	0	-7.243	8.553	-306.569	6.842
5	1	COLUMN2 - COLUMN3	max	-23.245	16.25	168.049	0	9.845	16.25	38.666	16.25	33.49	16.25	892.61	16.25
6			min	-30.086	1.539	-249.196	16.25	-9.07	0	-42.096	0	-8.14	7.868	-294.279	9.066
7	1	N OVERHANG	max	0	8.021	262.899	0	0	8.021	0	8.021	37.442	0	1055.517	0
8			min	-6.841	1.52	0	8.021	-9.336	0	-39.864	0	0	8.021	0	8.021
9	1	COLUMN3	max	523.165	12	16.403	12	-19.181	0	3.952	12	-78.53	0	162.907	0
10			min	512.095	0	16.403	0	-22.661	12	3.952	0	-329.584	12	-33.934	12
11	1	COLUMN2	max	468.907	12	-10.268	12	-18.024	0	0	12	-84.691	0	66.703	12
12			min	457.838	0	-10.268	0	-21.504	12	0	0	-321.857	12	-56.516	0
13	1	COLUMN1	max	522.285	12.001	36.388	12.001	22.778	12.001	-0.844	12.001	330.537	12.001	251.601	0
14			min	511.15	0	32.361	0	19.297	0	-0.844	0	78.054	0	-160.943	12.001
15	2	S OVERHANG	max	6.841	6.501	0	0	9.336	8.021	39.864	8.021	37.442	8.021	1446.242	8.021
16			min	0	0	-360.087	8.021	0	0	0	0	0	0	0	0
17	2	COLUMN1 - COLUMN2	max	-42.225	16.25	296.711	0	8.954	16.25	42.594	16.25	35.379	0	1083.023	0
18			min	-49.066	0	-190.925	16.25	-9.961	0	-38.168	0	-7.243	8.553	-371.761	6.329
19	2	COLUMN2 - COLUMN3	max	-37.913	16.25	184.182	0	9.845	16.25	38.666	16.25	33.49	16.25	1141.086	16.25
20			min	-44.754	1.539	-303.453	16.25	-9.07	0	-42.096	0	-8.14	7.868	-357.591	9.579
21	2	N OVERHANG	max	0	8.021	354.137	0	0	8.021	0	8.021	37.442	0	1422.318	0
22			min	-6.841	1.52	0	8.021	-9.336	0	-39.864	0	0	8.021	0	8.021
23	2	COLUMN3	max	672.965	12	31.071	12	-19.181	0	3.952	12	-78.53	0	281.232	0
24			min	657.59	0	31.071	0	-22.661	12	3.952	0	-329.584	12	-91.623	12
25	2	COLUMN2	max	565.251	12	-9.371	12	-18.024	0	0	12	-84.691	0	60.948	12
26			min	549.877	0	-9.371	0	-21.504	12	0	0	-321.857	12	-51.503	0
27	2	COLUMN1	max	673.031	12.001	49.599	12.001	22.778	12.001	-0.844	12.001	330.537	12.001	363.218	0
28			min	657.591	0	45.64	0	19.297	0	-0.844	0	78.054	0	-208.287	12.001
29	3	S OVERHANG	max	11.304	8.021	0	0	9.336	8.021	0	8.021	37.442	8.021	978.872	8.021
30			min	0	0	-243.504	8.021	0	0	0	0	0	0	0	0
31	3	COLUMN1 - COLUMN2	max	-26.995	16.25	168.75	0	8.97	16.25	2.285	1.368	35.153	0	665.282	0
32			min	-38.299	0	-75.322	16.25	-9.945	0	2.285	14.882	-7.333	8.553	-315.642	6.158
33	3	COLUMN2 - COLUMN3	max	-24.875	16.25	59.209	0	9.842	16.25	-1.846	14.711	33.481	16.25	812.98	16.25
34			min	-36.179	1.539	-184.863	16.25	-9.073	0	-1.846	0	-8.128	7.868	-267.165	10.092
35	3	N OVERHANG	max	0	8.021	243.504	0	0	8.021	0	8.021	37.442	0	978.873	0
36			min	-11.304	1.52	0	8.021	-9.336	0	0	0	0	8.021	0	8.021
37	3	COLUMN3	max	446.816	12	13.571	12	-19.179	0	3.961	12	1.846	0	165.892	0
38			min	428.367	0	13.571	0	-22.659	12	3.961	0	-249.179	12	3.043	12
39	3	COLUMN2	max	354.641	12	-20.488	12	-18.042	0	-0.001	12	-4.13	0	131.72	12
40			min	336.192	0	-20.488	0	-21.522	12	-0.001	0	-241.518	12	-114.134	0
41	3	COLUMN1	max	431.494	12.001	47.068	12.001	22.762	12.001	-2.325	12.001	250.043	12.001	313.59	0
42			min	412.979	0	43.156	0	19.281	0	-2.325	0	-2.248	0	-227.821	12.001
43	4	S OVERHANG	max	12.051	8.021	0	0	15.111	8.021	36.046	8.021	60.602	8.021	1317.941	8.021

**Maximum Member Section Forces (Continued)**

LC	Member Label	Axial[k]	Loc[ft]	y Shear[k]	Loc[ft]	z Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]	
44		min	0	0	-328.097	8.021	0	0	0	0	0	0	0	
45	4 COLUMN1 - COLUMN2	max	-33.719	16.25	258.392	0	14.507	16.25	40.132	16.25	57.044	0	932.795	0
46		min	-49.391	0	-165.81	16.25	-16.108	0	-32.895	0	-11.818	8.553	-359.741	6.158
47	4 COLUMN2 - COLUMN3	max	-31.277	16.25	149.128	0	15.933	16.25	33.644	16.25	54.201	16.25	1083.185	16.25
48		min	-46.948	0	-275.074	16.25	-14.682	0	-39.384	0	-13.169	7.868	-313.163	9.75
49	4 N OVERHANG	max	0	8.021	323.507	0	0	8.021	0	8.021	60.602	0	1299.485	0
50		min	-12.051	0	0	8.021	-15.111	0	-36.046	0	0	8.021	0	8.021
51	4 COLUMN3	max	613.955	12	19.226	12	-31.045	0	6.401	12	-69.689	0	216.301	0
52		min	598.581	0	19.226	0	-34.525	12	6.401	0	-463.105	12	-14.412	12
53	4 COLUMN2	max	505.082	12	-21.751	12	-29.188	0	0	12	-79.516	0	140.31	12
54		min	489.708	0	-21.751	0	-32.668	12	0	0	-450.657	12	-120.697	0
55	4 COLUMN1	max	602.817	12.001	56.231	12.001	34.7	12.001	-2.481	12.001	464.553	12.001	385.145	0
56		min	587.377	0	52.271	0	31.219	0	-2.481	0	68.988	0	-265.945	12.001
57	5 S OVERHANG	max	0	3.968	0	0	0	8.021	11.39	8.021	0	8.021	812.958	8.021
58		min	-1.275	4.053	-202.324	8.021	0	0	0	0	0	0	0	0
59	5 COLUMN1 - COLUMN2	max	-24.958	1.368	161.422	0	-0.01	5.987	11.541	16.25	0.157	0	640.882	0
60		min	-26.233	14.882	-80.585	16.25	-0.01	14.882	-11.534	0	0.001	16.25	-221.802	6.158
61	5 COLUMN2 - COLUMN3	max	-23.2	10.092	84.273	0	0	1.368	11.576	16.25	0.002	0	605.298	16.25
62		min	-24.475	14.882	-157.734	16.25	0	10.263	-11.499	0	-0.001	16.25	-234.678	10.092
63	5 N OVERHANG	max	1.275	1.435	200.624	0	0	8.021	0	8.021	0	8.021	806.122	0
64		min	0	4.053	0	8.021	0	0	-11.39	0	0	0	0	8.021
65	5 COLUMN3	max	370.658	12	25.75	12	0	0	0.001	12	-22.966	0	200.824	0
66		min	358.358	0	25.75	0	-3.48	12	0.001	0	-43.844	12	-108.181	12
67	5 COLUMN2	max	311.597	12	4.308	12	0.009	0	0	12	-23.039	0	24.339	0
68		min	299.298	0	4.308	0	-3.471	12	0	0	-43.806	12	-27.356	12
69	5 COLUMN1	max	376.436	12.001	22.005	12.001	3.49	12.001	0.515	12.001	43.919	12.001	172.075	0
70		min	364.071	0	17.998	0	0.01	0	0.515	0	22.918	0	-67.972	12.001
71	6 S OVERHANG	max	12.943	8.021	0	0	15.111	8.021	28.073	8.021	60.602	8.021	973.334	8.021
72		min	0	0	-242.312	8.021	0	0	0	0	0	0	0	0
73	6 COLUMN1 - COLUMN2	max	-20.831	16.25	191.853	0	14.51	16.25	32.07	16.25	56.998	0	667.439	0
74		min	-37.395	0	-129.446	16.25	-16.105	0	-24.805	0	-11.836	8.553	-290.118	6.158
75	6 COLUMN2 - COLUMN3	max	-19.463	16.25	110.378	0	15.933	16.25	25.541	16.25	54.2	16.25	840.508	16.25
76		min	-36.027	0	-210.92	16.25	-14.682	0	-31.334	0	-13.166	7.868	-235.867	9.579
77	6 N OVERHANG	max	0	8.021	238.912	0	0	8.021	0	8.021	60.602	0	959.663	0
78		min	-12.943	0	0	8.021	-15.111	0	-28.073	0	0	8.021	0	8.021
79	6 COLUMN3	max	462.131	12	6.52	12	-31.044	0	6.403	12	-53.614	0	119.155	0
80		min	449.832	0	6.52	0	-34.524	12	6.403	0	-447.024	12	40.919	12
81	6 COLUMN2	max	386.563	12	-24.61	12	-29.192	0	-0.001	12	-63.404	0	158.544	12
82		min	374.264	0	-24.61	0	-32.672	12	-0.001	0	-434.589	12	-136.778	0
83	6 COLUMN1	max	447.263	12.001	47.556	12.001	34.697	12.001	-2.778	12.001	448.454	12.001	305.895	0
84		min	434.898	0	43.549	0	31.216	0	-2.778	0	52.928	0	-240.803	12.001
85	7 S OVERHANG	max	0	8.021	0	0	0	8.021	0	8.021	0	8.021	375.787	8.021
86		min	0	0	-93.496	8.021	0	0	0	0	0	0	0	0
87	7 COLUMN1 - COLUMN2	max	-7.295	1.368	91.443	0	0	16.25	0	16.25	0	16.25	336.818	0
88		min	-7.295	14.882	-44.392	16.25	0	0	0	0	0	0	-188.626	6.158
89	7 COLUMN2 - COLUMN3	max	-6.143	14.711	45.316	0	0	16.25	0	16.25	0	16.25	328.239	16.25
90		min	-6.143	14.882	-90.519	16.25	0	0	0	0	0	0	-191.514	10.092
91	7 N OVERHANG	max	0	8.021	93.496	0	0	8.021	0	8.021	0	8.021	375.788	0
92		min	0	0	0	8.021	0	0	0	0	0	0	0	8.021
93	7 COLUMN3	max	196.314	12	6.143	12	0	12	0	12	0	12	47.549	0
94		min	184.015	0	6.143	0	0	0	0	0	0	0	-26.168	12
95	7 COLUMN2	max	209.568	12	1.152	12	0	12	0	12	0	12	6.438	0
96		min	197.269	0	1.152	0	0	0	0	0	0	0	-7.389	12
97	7 COLUMN1	max	197.33	12.001	4.405	0	0	12.001	0	12.001	0	12.001	38.97	0
98		min	185.03	0	4.213	12.001	0	0	0	0	0	0	-12.745	12.001
99	8 S OVERHANG	max	0	3.968	0	0	0	8.021	22.779	8.021	0	8.021	320.752	8.021
100		min	-2.55	4.053	-79.975	8.021	0	0	0	0	0	0	0	0
101	8 COLUMN1 - COLUMN2	max	-7.195	1.368	86.184	0	-0.009	1.368	23.034	16.25	0.129	0	286.826	0

**Maximum Member Section Forces (Continued)**

LC	Member Label		Axial[k]	Loc[ft]	y Shear[k]	Loc[ft]	z Shear[k]	Loc[ft]	Torque[k-ft]	Loc[ft]	y-y Moment[k-ft]	Loc[ft]	z-z Moment[k-ft]	Loc[ft]
102		min	-9.745	6.158	-72.4	16.25	-0.009	6.158	-23.116	0	-0.019	16.25	-93.696	8.895
103	8 COLUMN2 - COLUMN3	max	-5.778	10.092	77.887	0	0.001	16.25	23.15	16.25	0.005	16.25	234.38	16.25
104		min	-8.328	14.882	-80.697	16.25	0.001	10.263	-23	0	-0.018	0	-99.243	8.039
105	8 N OVERHANG	max	2.55	1.435	76.575	0	0	8.021	0	8.021	0	8.021	307.081	0
106		min	0	4.053	0	8.021	0	0	-22.779	0	0	0	0	8.021
107	8 COLUMN3	max	157.272	12	10.878	12	-0.001	12	-0.005	12	-45.929	0	72.701	0
108		min	157.272	0	10.878	0	-0.001	0	-0.005	0	-45.946	12	-57.833	12
109	8 COLUMN2	max	150.287	12	6.517	12	0.011	12	0	12	-45.908	12	36.709	0
110		min	150.287	0	6.517	0	0.011	0	0	0	-46.035	0	-41.496	12
111	8 COLUMN1	max	166.211	12.001	2.048	12.001	0.009	12.001	0.846	12.001	45.997	12.001	33.926	0
112		min	166.211	0	2.048	0	0.009	0	0.846	0	45.887	0	9.342	12.001
113	9 S OVERHANG	max	0	8.021	0	8.021	0	8.021	0	8.021	0	8.021	0	8.021
114		min	0	0	0	0	0	0	0	0	0	0	0	0
115	9 COLUMN1 - COLUMN2	max	0	16.25	0	16.25	0	16.25	0	16.25	0	16.25	0	16.25
116		min	0	0	0	0	0	0	0	0	0	0	0	0
117	9 COLUMN2 - COLUMN3	max	0	16.25	0	16.25	0	16.25	0	16.25	0	16.25	0	16.25
118		min	0	0	0	0	0	0	0	0	0	0	0	0
119	9 N OVERHANG	max	0	8.021	0	8.021	0	8.021	0	8.021	0	8.021	0	8.021
120		min	0	0	0	0	0	0	0	0	0	0	0	0
121	9 COLUMN3	max	0	12	0	12	0	12	0	12	0	12	0	12
122		min	0	0	0	0	0	0	0	0	0	0	0	0
123	9 COLUMN2	max	0	12	0	12	0	12	0	12	0	12	0	12
124		min	0	0	0	0	0	0	0	0	0	0	0	0
125	9 COLUMN1	max	0	12.001	0	12.001	0	12.001	0	12.001	0	12.001	0	12.001
126		min	0	0	0	0	0	0	0	0	0	0	0	0
127	10 S OVERHANG	max	0	8.021	0	8.021	0	8.021	0	8.021	0	8.021	0	8.021
128		min	0	0	0	0	0	0	0	0	0	0	0	0
129	10 COLUMN1 - COLUMN2	max	0	16.25	0	16.25	0	16.25	0	16.25	0	16.25	0	16.25
130		min	0	0	0	0	0	0	0	0	0	0	0	0
131	10 COLUMN2 - COLUMN3	max	0	16.25	0	16.25	0	16.25	0	16.25	0	16.25	0	16.25
132		min	0	0	0	0	0	0	0	0	0	0	0	0
133	10 N OVERHANG	max	0	8.021	0	8.021	0	8.021	0	8.021	0	8.021	0	8.021
134		min	0	0	0	0	0	0	0	0	0	0	0	0
135	10 COLUMN3	max	0	12	0	12	0	12	0	12	0	12	0	12
136		min	0	0	0	0	0	0	0	0	0	0	0	0
137	10 COLUMN2	max	0	12	0	12	0	12	0	12	0	12	0	12
138		min	0	0	0	0	0	0	0	0	0	0	0	0
139	10 COLUMN1	max	0	12.001	0	12.001	0	12.001	0	12.001	0	12.001	0	12.001
140		min	0	0	0	0	0	0	0	0	0	0	0	0

**Member End Reactions**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
1	1 S OVERHANG	I	0	0	0	0	0	0
2		J	6.841	-268.849	9.336	39.864	37.442	1079.441
3	1 COLUMN1 - COLUMN2	I	-33.501	241.732	-9.961	-38.168	35.379	827.84
4		J	-26.66	-175.513	8.954	42.594	27.194	519.549
5	1 COLUMN2 - COLUMN3	I	-30.086	168.049	-9.07	-42.096	27.194	463.032
6		J	-23.245	-249.196	9.845	38.666	33.49	892.61
7	1 N OVERHANG	I	-6.841	262.899	-9.336	-39.864	37.442	1055.517
8		J	0	0	0	0	0	0
9	1 COLUMN3	I	512.095	16.403	-19.181	3.952	-78.53	162.907
10		J	523.165	16.403	-22.661	3.952	-329.584	-33.934
11	1 COLUMN2	I	457.838	-10.268	-18.024	0	-84.691	-56.516
12		J	468.907	-10.268	-21.504	0	-321.857	66.703
13	1 COLUMN1	I	511.15	32.361	19.297	-0.844	78.054	251.601
14		J	522.285	36.388	22.778	-0.844	330.537	-160.943
15	2 S OVERHANG	I	0	0	0	0	0	0
16		J	6.841	-360.087	9.336	39.864	37.442	1446.242

**Member End Reactions (Continued)**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
17	2	COLUMN1 - COLUMN2	I	-49.066	296.711	-9.961	-38.168	35.379	1083.023
18			J	-42.225	-190.925	8.954	42.594	27.194	574.87
19	2	COLUMN2 - COLUMN3	I	-44.754	184.182	-9.07	-42.096	27.194	523.367
20			J	-37.913	-303.453	9.845	38.666	33.49	1141.086
21	2	N OVERHANG	I	-6.841	354.137	-9.336	-39.864	37.442	1422.318
22			J	0	0	0	0	0	0
23	2	COLUMN3	I	657.59	31.071	-19.181	3.952	-78.53	281.232
24			J	672.965	31.071	-22.661	3.952	-329.584	-91.623
25	2	COLUMN2	I	549.877	-9.371	-18.024	0	-84.691	-51.503
26			J	565.251	-9.371	-21.504	0	-321.857	60.948
27	2	COLUMN1	I	657.591	45.64	19.297	-0.844	78.054	363.218
28			J	673.031	49.599	22.778	-0.844	330.537	-208.287
29	3	S OVERHANG	I	0	0	0	0	0	0
30			J	11.304	-243.504	9.336	0	37.442	978.872
31	3	COLUMN1 - COLUMN2	I	-38.299	168.75	-9.945	2.285	35.153	665.282
32			J	-26.995	-75.322	8.97	2.285	27.227	311.6
33	3	COLUMN2 - COLUMN3	I	-36.179	59.209	-9.073	-1.846	27.226	197.466
34			J	-24.875	-184.863	9.842	-1.846	33.481	812.98
35	3	N OVERHANG	I	-11.304	243.504	-9.336	0	37.442	978.873
36			J	0	0	0	0	0	0
37	3	COLUMN3	I	428.367	13.571	-19.179	3.961	1.846	165.892
38			J	446.816	13.571	-22.659	3.961	-249.179	3.043
39	3	COLUMN2	I	336.192	-20.488	-18.042	-0.001	-4.13	-114.134
40			J	354.641	-20.488	-21.522	-0.001	-241.518	131.72
41	3	COLUMN1	I	412.979	43.156	19.281	-2.325	-2.248	313.59
42			J	431.494	47.068	22.762	-2.325	250.043	-227.821
43	4	S OVERHANG	I	0	0	0	0	0	0
44			J	12.051	-328.097	15.111	36.046	60.602	1317.941
45	4	COLUMN1 - COLUMN2	I	-49.391	258.392	-16.108	-32.895	57.044	932.795
46			J	-33.719	-165.81	14.507	40.132	44.032	531.931
47	4	COLUMN2 - COLUMN3	I	-46.948	149.128	-14.682	-39.384	44.031	411.234
48			J	-31.277	-275.074	15.933	33.644	54.201	1083.185
49	4	N OVERHANG	I	-12.051	323.507	-15.111	-36.046	60.602	1299.485
50			J	0	0	0	0	0	0
51	4	COLUMN3	I	598.581	19.226	-31.045	6.401	-69.689	216.301
52			J	613.955	19.226	-34.525	6.401	-463.105	-14.412
53	4	COLUMN2	I	489.708	-21.751	-29.188	0	-79.516	-120.697
54			J	505.082	-21.751	-32.668	0	-450.657	140.31
55	4	COLUMN1	I	587.377	52.271	31.219	-2.481	68.988	385.145
56			J	602.817	56.231	34.7	-2.481	464.553	-265.945
57	5	S OVERHANG	I	0	0	0	0	0	0
58			J	-1.275	-202.324	0	11.39	0	812.958
59	5	COLUMN1 - COLUMN2	I	-24.958	161.422	-0.01	-11.534	0.157	640.882
60			J	-26.233	-80.585	-0.01	11.541	0.001	254.364
61	5	COLUMN2 - COLUMN3	I	-23.2	84.273	0	-11.499	0.002	278.703
62			J	-24.475	-157.734	0	11.576	-0.001	605.298
63	5	N OVERHANG	I	1.275	200.624	0	-11.39	0	806.122
64			J	0	0	0	0	0	0
65	5	COLUMN3	I	358.358	25.75	0	0.001	-22.966	200.824
66			J	370.658	25.75	-3.48	0.001	-43.844	-108.181
67	5	COLUMN2	I	299.298	4.308	0.009	0	-23.039	24.339
68			J	311.597	4.308	-3.471	0	-43.806	-27.356
69	5	COLUMN1	I	364.071	17.998	0.01	0.515	22.918	172.075
70			J	376.436	22.005	3.49	0.515	43.919	-67.972
71	6	S OVERHANG	I	0	0	0	0	0	0
72			J	12.943	-242.312	15.111	28.073	60.602	973.334
73	6	COLUMN1 - COLUMN2	I	-37.395	191.853	-16.105	-24.805	56.998	667.439
74			J	-20.831	-129.446	14.51	32.07	44.038	430.662

**Member End Reactions (Continued)**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]	
75	6	COLUMN2 - COLUMN3	I	-36.027	110.378	-14.682	-31.334	44.037	293.884
76			J	-19.463	-210.92	15.933	25.541	54.2	840.508
77	6	N OVERHANG	I	-12.943	238.912	-15.111	-28.073	60.602	959.663
78			J	0	0	0	0	0	0
79	6	COLUMN3	I	449.832	6.52	-31.044	6.403	-53.614	119.155
80			J	462.131	6.52	-34.524	6.403	-447.024	40.919
81	6	COLUMN2	I	374.264	-24.61	-29.192	-0.001	-63.404	-136.778
82			J	386.563	-24.61	-32.672	-0.001	-434.589	158.544
83	6	COLUMN1	I	434.898	43.549	31.216	-2.778	52.928	305.895
84			J	447.263	47.556	34.697	-2.778	448.454	-240.803
85	7	S OVERHANG	I	0	0	0	0	0	0
86			J	0	-93.496	0	0	0	375.787
87	7	COLUMN1 - COLUMN2	I	-7.295	91.443	0	0	0	336.818
88			J	-7.295	-44.392	0	0	0	170.775
89	7	COLUMN2 - COLUMN3	I	-6.143	45.316	0	0	0	177.213
90			J	-6.143	-90.519	0	0	0	328.239
91	7	N OVERHANG	I	0	93.496	0	0	0	375.788
92			J	0	0	0	0	0	0
93	7	COLUMN3	I	184.015	6.143	0	0	0	47.549
94			J	196.314	6.143	0	0	0	-26.168
95	7	COLUMN2	I	197.269	1.152	0	0	0	6.438
96			J	209.568	1.152	0	0	0	-7.389
97	7	COLUMN1	I	185.03	4.405	0	0	0	38.97
98			J	197.33	4.213	0	0	0	-12.745
99	8	S OVERHANG	I	0	0	0	0	0	0
100			J	-2.55	-79.975	0	22.779	0	320.752
101	8	COLUMN1 - COLUMN2	I	-7.195	86.184	-0.009	-23.116	0.129	286.826
102			J	-9.745	-72.4	-0.009	23.034	-0.019	174.836
103	8	COLUMN2 - COLUMN3	I	-5.778	77.887	0.001	-23	-0.018	211.545
104			J	-8.328	-80.697	0.001	23.15	0.005	234.38
105	8	N OVERHANG	I	2.55	76.575	0	-22.779	0	307.081
106			J	0	0	0	0	0	0
107	8	COLUMN3	I	157.272	10.878	-0.001	-0.005	-45.929	72.701
108			J	157.272	10.878	-0.001	-0.005	-45.946	-57.833
109	8	COLUMN2	I	150.287	6.517	0.011	0	-46.035	36.709
110			J	150.287	6.517	0.011	0	-45.908	-41.496
111	8	COLUMN1	I	166.211	2.048	0.009	0.846	45.887	33.926
112			J	166.211	2.048	0.009	0.846	45.997	9.342
113	9	S OVERHANG	I	0	0	0	0	0	0
114			J	0	0	0	0	0	0
115	9	COLUMN1 - COLUMN2	I	0	0	0	0	0	0
116			J	0	0	0	0	0	0
117	9	COLUMN2 - COLUMN3	I	0	0	0	0	0	0
118			J	0	0	0	0	0	0
119	9	N OVERHANG	I	0	0	0	0	0	0
120			J	0	0	0	0	0	0
121	9	COLUMN3	I	0	0	0	0	0	0
122			J	0	0	0	0	0	0
123	9	COLUMN2	I	0	0	0	0	0	0
124			J	0	0	0	0	0	0
125	9	COLUMN1	I	0	0	0	0	0	0
126			J	0	0	0	0	0	0
127	10	S OVERHANG	I	0	0	0	0	0	0
128			J	0	0	0	0	0	0
129	10	COLUMN1 - COLUMN2	I	0	0	0	0	0	0
130			J	0	0	0	0	0	0
131	10	COLUMN2 - COLUMN3	I	0	0	0	0	0	0
132			J	0	0	0	0	0	0



**Member End Reactions (Continued)**

LC	Member Label	Member End	Axial[k]	y Shear[k]	z Shear[k]	Torque[k-ft]	y-y Moment[k-ft]	z-z Moment[k-ft]
133	10	N OVERHANG	I	0	0	0	0	0
134			J	0	0	0	0	0
135	10	COLUMN3	I	0	0	0	0	0
136			J	0	0	0	0	0
137	10	COLUMN2	I	0	0	0	0	0
138			J	0	0	0	0	0
139	10	COLUMN1	I	0	0	0	0	0
140			J	0	0	0	0	0

**Member Torsion Stresses**

LC	Member Label	SecTorque[k-ft]	Shear[ksi]y	Warp Shear[ksi]z	Warp Shear[ksi]z-Bot	Warp Bend[ksi]z-Top	Warp Bend[ksi]
1	1	S OVERHANG	1	0	0	NC	NC
2			2	7.973	0	NC	NC
3			3	15.945	0	NC	NC
4			4	23.918	0	NC	NC
5			5	31.891	0	NC	NC
6			6	39.864	0	NC	NC
7	1	COLUMN1 - COLUMN2	1	-38.168	0	NC	NC
8			2	-22.016	0	NC	NC
9			3	-5.863	0	NC	NC
10			4	10.289	0	NC	NC
11			5	26.442	0	NC	NC
12			6	42.594	0	NC	NC
13	1	COLUMN2 - COLUMN3	1	-42.096	0	NC	NC
14			2	-25.944	0	NC	NC
15			3	-9.791	0	NC	NC
16			4	6.361	0	NC	NC
17			5	22.514	0	NC	NC
18			6	38.666	0	NC	NC
19	1	N OVERHANG	1	-39.864	0	NC	NC
20			2	-31.891	0	NC	NC
21			3	-23.918	0	NC	NC
22			4	-15.945	0	NC	NC
23			5	-7.973	0	NC	NC
24			6	0	0	NC	NC
25	1	COLUMN3	1	3.952	0	NC	NC
26			2	3.952	0	NC	NC
27			3	3.952	0	NC	NC
28			4	3.952	0	NC	NC
29			5	3.952	0	NC	NC
30			6	3.952	0	NC	NC
31	1	COLUMN2	1	0	0	NC	NC
32			2	0	0	NC	NC
33			3	0	0	NC	NC
34			4	0	0	NC	NC
35			5	0	0	NC	NC
36			6	0	0	NC	NC
37	1	COLUMN1	1	-0.844	0	NC	NC
38			2	-0.844	0	NC	NC
39			3	-0.844	0	NC	NC
40			4	-0.844	0	NC	NC
41			5	-0.844	0	NC	NC
42			6	-0.844	0	NC	NC
43	2	S OVERHANG	1	0	0	NC	NC
44			2	7.973	0	NC	NC
45			3	15.945	0	NC	NC
46			4	23.918	0	NC	NC
47			5	31.891	0	NC	NC





**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot	Warp Bend[ksi]	z-Top	Warp Bend[ksi]
48		6	39.864	0	NC		NC		NC		NC	
49	2 COLUMN1 - COLUMN2	1	-38.168	0	NC		NC		NC		NC	
50		2	-22.016	0	NC		NC		NC		NC	
51		3	-5.863	0	NC		NC		NC		NC	
52		4	10.289	0	NC		NC		NC		NC	
53		5	26.442	0	NC		NC		NC		NC	
54		6	42.594	0	NC		NC		NC		NC	
55	2 COLUMN2 - COLUMN3	1	-42.096	0	NC		NC		NC		NC	
56		2	-25.944	0	NC		NC		NC		NC	
57		3	-9.791	0	NC		NC		NC		NC	
58		4	6.361	0	NC		NC		NC		NC	
59		5	22.514	0	NC		NC		NC		NC	
60		6	38.666	0	NC		NC		NC		NC	
61	2 N OVERHANG	1	-39.864	0	NC		NC		NC		NC	
62		2	-31.891	0	NC		NC		NC		NC	
63		3	-23.918	0	NC		NC		NC		NC	
64		4	-15.945	0	NC		NC		NC		NC	
65		5	-7.973	0	NC		NC		NC		NC	
66		6	0	0	NC		NC		NC		NC	
67	2 COLUMN3	1	3.952	0	NC		NC		NC		NC	
68		2	3.952	0	NC		NC		NC		NC	
69		3	3.952	0	NC		NC		NC		NC	
70		4	3.952	0	NC		NC		NC		NC	
71		5	3.952	0	NC		NC		NC		NC	
72		6	3.952	0	NC		NC		NC		NC	
73	2 COLUMN2	1	0	0	NC		NC		NC		NC	
74		2	0	0	NC		NC		NC		NC	
75		3	0	0	NC		NC		NC		NC	
76		4	0	0	NC		NC		NC		NC	
77		5	0	0	NC		NC		NC		NC	
78		6	0	0	NC		NC		NC		NC	
79	2 COLUMN1	1	-0.844	0	NC		NC		NC		NC	
80		2	-0.844	0	NC		NC		NC		NC	
81		3	-0.844	0	NC		NC		NC		NC	
82		4	-0.844	0	NC		NC		NC		NC	
83		5	-0.844	0	NC		NC		NC		NC	
84		6	-0.844	0	NC		NC		NC		NC	
85	3 S OVERHANG	1	0	0	NC		NC		NC		NC	
86		2	0	0	NC		NC		NC		NC	
87		3	0	0	NC		NC		NC		NC	
88		4	0	0	NC		NC		NC		NC	
89		5	0	0	NC		NC		NC		NC	
90		6	0	0	NC		NC		NC		NC	
91	3 COLUMN1 - COLUMN2	1	2.285	0	NC		NC		NC		NC	
92		2	2.285	0	NC		NC		NC		NC	
93		3	2.285	0	NC		NC		NC		NC	
94		4	2.285	0	NC		NC		NC		NC	
95		5	2.285	0	NC		NC		NC		NC	
96		6	2.285	0	NC		NC		NC		NC	
97	3 COLUMN2 - COLUMN3	1	-1.846	0	NC		NC		NC		NC	
98		2	-1.846	0	NC		NC		NC		NC	
99		3	-1.846	0	NC		NC		NC		NC	
100		4	-1.846	0	NC		NC		NC		NC	
101		5	-1.846	0	NC		NC		NC		NC	
102		6	-1.846	0	NC		NC		NC		NC	
103	3 N OVERHANG	1	0	0	NC		NC		NC		NC	
104		2	0	0	NC		NC		NC		NC	
105		3	0	0	NC		NC		NC		NC	

**Member Torsion Stresses (Continued)**

LC	Member Label	SecTorque[k-ft]	Shear[ksi]y	Warp Shear[ksi]z	Warp Shear[ksi]z-Bot	Warp Bend[ksi]z-Top	Warp Bend[ksi]
106		4	0	0	NC	NC	NC
107		5	0	0	NC	NC	NC
108		6	0	0	NC	NC	NC
109	3 COLUMN3	1	3.961	0	NC	NC	NC
110		2	3.961	0	NC	NC	NC
111		3	3.961	0	NC	NC	NC
112		4	3.961	0	NC	NC	NC
113		5	3.961	0	NC	NC	NC
114		6	3.961	0	NC	NC	NC
115	3 COLUMN2	1	-0.001	0	NC	NC	NC
116		2	-0.001	0	NC	NC	NC
117		3	-0.001	0	NC	NC	NC
118		4	-0.001	0	NC	NC	NC
119		5	-0.001	0	NC	NC	NC
120		6	-0.001	0	NC	NC	NC
121	3 COLUMN1	1	-2.325	0	NC	NC	NC
122		2	-2.325	0	NC	NC	NC
123		3	-2.325	0	NC	NC	NC
124		4	-2.325	0	NC	NC	NC
125		5	-2.325	0	NC	NC	NC
126		6	-2.325	0	NC	NC	NC
127	4 S OVERHANG	1	0	0	NC	NC	NC
128		2	7.209	0	NC	NC	NC
129		3	14.418	0	NC	NC	NC
130		4	21.627	0	NC	NC	NC
131		5	28.836	0	NC	NC	NC
132		6	36.046	0	NC	NC	NC
133	4 COLUMN1 - COLUMN2	1	-32.895	0	NC	NC	NC
134		2	-18.29	0	NC	NC	NC
135		3	-3.684	0	NC	NC	NC
136		4	10.921	0	NC	NC	NC
137		5	25.527	0	NC	NC	NC
138		6	40.132	0	NC	NC	NC
139	4 COLUMN2 - COLUMN3	1	-39.384	0	NC	NC	NC
140		2	-24.778	0	NC	NC	NC
141		3	-10.173	0	NC	NC	NC
142		4	4.433	0	NC	NC	NC
143		5	19.038	0	NC	NC	NC
144		6	33.644	0	NC	NC	NC
145	4 N OVERHANG	1	-36.046	0	NC	NC	NC
146		2	-28.837	0	NC	NC	NC
147		3	-21.627	0	NC	NC	NC
148		4	-14.418	0	NC	NC	NC
149		5	-7.209	0	NC	NC	NC
150		6	0	0	NC	NC	NC
151	4 COLUMN3	1	6.401	0	NC	NC	NC
152		2	6.401	0	NC	NC	NC
153		3	6.401	0	NC	NC	NC
154		4	6.401	0	NC	NC	NC
155		5	6.401	0	NC	NC	NC
156		6	6.401	0	NC	NC	NC
157	4 COLUMN2	1	0	0	NC	NC	NC
158		2	0	0	NC	NC	NC
159		3	0	0	NC	NC	NC
160		4	0	0	NC	NC	NC
161		5	0	0	NC	NC	NC
162		6	0	0	NC	NC	NC
163	4 COLUMN1	1	-2.481	0	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	SecTorque[k-ft]	Shear[ksi]y Warp	Shear[ksi]z Warp	Shear[ksi]z-Bot	Warp Bend[ksi]z-Top	Warp Bend[ksi]
164		2	-2.481	0	NC	NC	NC
165		3	-2.481	0	NC	NC	NC
166		4	-2.481	0	NC	NC	NC
167		5	-2.481	0	NC	NC	NC
168		6	-2.481	0	NC	NC	NC
169	5 S OVERHANG	1	0	0	NC	NC	NC
170		2	2.278	0	NC	NC	NC
171		3	4.556	0	NC	NC	NC
172		4	6.834	0	NC	NC	NC
173		5	9.112	0	NC	NC	NC
174		6	11.39	0	NC	NC	NC
175	5 COLUMN1 - COLUMN2	1	-11.534	0	NC	NC	NC
176		2	-6.919	0	NC	NC	NC
177		3	-2.304	0	NC	NC	NC
178		4	2.311	0	NC	NC	NC
179		5	6.926	0	NC	NC	NC
180		6	11.541	0	NC	NC	NC
181	5 COLUMN2 - COLUMN3	1	-11.499	0	NC	NC	NC
182		2	-6.884	0	NC	NC	NC
183		3	-2.269	0	NC	NC	NC
184		4	2.346	0	NC	NC	NC
185		5	6.961	0	NC	NC	NC
186		6	11.576	0	NC	NC	NC
187	5 N OVERHANG	1	-11.39	0	NC	NC	NC
188		2	-9.112	0	NC	NC	NC
189		3	-6.834	0	NC	NC	NC
190		4	-4.556	0	NC	NC	NC
191		5	-2.278	0	NC	NC	NC
192		6	0	0	NC	NC	NC
193	5 COLUMN3	1	0.001	0	NC	NC	NC
194		2	0.001	0	NC	NC	NC
195		3	0.001	0	NC	NC	NC
196		4	0.001	0	NC	NC	NC
197		5	0.001	0	NC	NC	NC
198		6	0.001	0	NC	NC	NC
199	5 COLUMN2	1	0	0	NC	NC	NC
200		2	0	0	NC	NC	NC
201		3	0	0	NC	NC	NC
202		4	0	0	NC	NC	NC
203		5	0	0	NC	NC	NC
204		6	0	0	NC	NC	NC
205	5 COLUMN1	1	0.515	0	NC	NC	NC
206		2	0.515	0	NC	NC	NC
207		3	0.515	0	NC	NC	NC
208		4	0.515	0	NC	NC	NC
209		5	0.515	0	NC	NC	NC
210		6	0.515	0	NC	NC	NC
211	6 S OVERHANG	1	0	0	NC	NC	NC
212		2	5.615	0	NC	NC	NC
213		3	11.229	0	NC	NC	NC
214		4	16.844	0	NC	NC	NC
215		5	22.458	0	NC	NC	NC
216		6	28.073	0	NC	NC	NC
217	6 COLUMN1 - COLUMN2	1	-24.805	0	NC	NC	NC
218		2	-13.43	0	NC	NC	NC
219		3	-2.055	0	NC	NC	NC
220		4	9.32	0	NC	NC	NC
221		5	20.695	0	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	Sec	Torque[k-ft]	Shear[ksi]	y Warp	Shear[ksi]	z Warp	Shear[ksi]	z-Bot	Warp Bend[ksi]	z-Top	Warp Bend[ksi]
222		6	32.07	0	NC		NC		NC		NC	
223	6 COLUMN2 - COLUMN3	1	-31.334	0	NC		NC		NC		NC	
224		2	-19.959	0	NC		NC		NC		NC	
225		3	-8.584	0	NC		NC		NC		NC	
226		4	2.791	0	NC		NC		NC		NC	
227		5	14.166	0	NC		NC		NC		NC	
228		6	25.541	0	NC		NC		NC		NC	
229	6 N OVERHANG	1	-28.073	0	NC		NC		NC		NC	
230		2	-22.458	0	NC		NC		NC		NC	
231		3	-16.844	0	NC		NC		NC		NC	
232		4	-11.229	0	NC		NC		NC		NC	
233		5	-5.615	0	NC		NC		NC		NC	
234		6	0	0	NC		NC		NC		NC	
235	6 COLUMN3	1	6.403	0	NC		NC		NC		NC	
236		2	6.403	0	NC		NC		NC		NC	
237		3	6.403	0	NC		NC		NC		NC	
238		4	6.403	0	NC		NC		NC		NC	
239		5	6.403	0	NC		NC		NC		NC	
240		6	6.403	0	NC		NC		NC		NC	
241	6 COLUMN2	1	-0.001	0	NC		NC		NC		NC	
242		2	-0.001	0	NC		NC		NC		NC	
243		3	-0.001	0	NC		NC		NC		NC	
244		4	-0.001	0	NC		NC		NC		NC	
245		5	-0.001	0	NC		NC		NC		NC	
246		6	-0.001	0	NC		NC		NC		NC	
247	6 COLUMN1	1	-2.778	0	NC		NC		NC		NC	
248		2	-2.778	0	NC		NC		NC		NC	
249		3	-2.778	0	NC		NC		NC		NC	
250		4	-2.778	0	NC		NC		NC		NC	
251		5	-2.778	0	NC		NC		NC		NC	
252		6	-2.778	0	NC		NC		NC		NC	
253	7 S OVERHANG	1	0	0	NC		NC		NC		NC	
254		2	0	0	NC		NC		NC		NC	
255		3	0	0	NC		NC		NC		NC	
256		4	0	0	NC		NC		NC		NC	
257		5	0	0	NC		NC		NC		NC	
258		6	0	0	NC		NC		NC		NC	
259	7 COLUMN1 - COLUMN2	1	0	0	NC		NC		NC		NC	
260		2	0	0	NC		NC		NC		NC	
261		3	0	0	NC		NC		NC		NC	
262		4	0	0	NC		NC		NC		NC	
263		5	0	0	NC		NC		NC		NC	
264		6	0	0	NC		NC		NC		NC	
265	7 COLUMN2 - COLUMN3	1	0	0	NC		NC		NC		NC	
266		2	0	0	NC		NC		NC		NC	
267		3	0	0	NC		NC		NC		NC	
268		4	0	0	NC		NC		NC		NC	
269		5	0	0	NC		NC		NC		NC	
270		6	0	0	NC		NC		NC		NC	
271	7 N OVERHANG	1	0	0	NC		NC		NC		NC	
272		2	0	0	NC		NC		NC		NC	
273		3	0	0	NC		NC		NC		NC	
274		4	0	0	NC		NC		NC		NC	
275		5	0	0	NC		NC		NC		NC	
276		6	0	0	NC		NC		NC		NC	
277	7 COLUMN3	1	0	0	NC		NC		NC		NC	
278		2	0	0	NC		NC		NC		NC	
279		3	0	0	NC		NC		NC		NC	

**Member Torsion Stresses (Continued)**

LC	Member Label	SecTorque[k-ft]	Shear[ksi]y	Warp Shear[ksi]z	Warp Shear[ksi]z-Bot	Warp Bend[ksi]z-Top	Warp Bend[ksi]
280		4	0	0	NC	NC	NC
281		5	0	0	NC	NC	NC
282		6	0	0	NC	NC	NC
283	7 COLUMN2	1	0	0	NC	NC	NC
284		2	0	0	NC	NC	NC
285		3	0	0	NC	NC	NC
286		4	0	0	NC	NC	NC
287		5	0	0	NC	NC	NC
288		6	0	0	NC	NC	NC
289	7 COLUMN1	1	0	0	NC	NC	NC
290		2	0	0	NC	NC	NC
291		3	0	0	NC	NC	NC
292		4	0	0	NC	NC	NC
293		5	0	0	NC	NC	NC
294		6	0	0	NC	NC	NC
295	8 S OVERHANG	1	0	0	NC	NC	NC
296		2	4.556	0	NC	NC	NC
297		3	9.112	0	NC	NC	NC
298		4	13.667	0	NC	NC	NC
299		5	18.223	0	NC	NC	NC
300		6	22.779	0	NC	NC	NC
301	8 COLUMN1 - COLUMN2	1	-23.116	0	NC	NC	NC
302		2	-13.886	0	NC	NC	NC
303		3	-4.656	0	NC	NC	NC
304		4	4.574	0	NC	NC	NC
305		5	13.804	0	NC	NC	NC
306		6	23.034	0	NC	NC	NC
307	8 COLUMN2 - COLUMN3	1	-23	0	NC	NC	NC
308		2	-13.77	0	NC	NC	NC
309		3	-4.54	0	NC	NC	NC
310		4	4.69	0	NC	NC	NC
311		5	13.92	0	NC	NC	NC
312		6	23.15	0	NC	NC	NC
313	8 N OVERHANG	1	-22.779	0	NC	NC	NC
314		2	-18.223	0	NC	NC	NC
315		3	-13.668	0	NC	NC	NC
316		4	-9.112	0	NC	NC	NC
317		5	-4.556	0	NC	NC	NC
318		6	0	0	NC	NC	NC
319	8 COLUMN3	1	-0.005	0	NC	NC	NC
320		2	-0.005	0	NC	NC	NC
321		3	-0.005	0	NC	NC	NC
322		4	-0.005	0	NC	NC	NC
323		5	-0.005	0	NC	NC	NC
324		6	-0.005	0	NC	NC	NC
325	8 COLUMN2	1	0	0	NC	NC	NC
326		2	0	0	NC	NC	NC
327		3	0	0	NC	NC	NC
328		4	0	0	NC	NC	NC
329		5	0	0	NC	NC	NC
330		6	0	0	NC	NC	NC
331	8 COLUMN1	1	0.846	0	NC	NC	NC
332		2	0.846	0	NC	NC	NC
333		3	0.846	0	NC	NC	NC
334		4	0.846	0	NC	NC	NC
335		5	0.846	0	NC	NC	NC
336		6	0.846	0	NC	NC	NC
337	9 S OVERHANG	1	0	0	NC	NC	NC

**Member Torsion Stresses (Continued)**

LC	Member Label	SecTorque[k-ft]	Shear[ksi]y	Warp Shear[ksi]z	Warp Shear[ksi]z-Bot	Warp Bend[ksi]z-Top	Warp Bend[ksi]
338		2	0	0	NC	NC	NC
339		3	0	0	NC	NC	NC
340		4	0	0	NC	NC	NC
341		5	0	0	NC	NC	NC
342		6	0	0	NC	NC	NC
343	9 COLUMN1 - COLUMN2	1	0	0	NC	NC	NC
344		2	0	0	NC	NC	NC
345		3	0	0	NC	NC	NC
346		4	0	0	NC	NC	NC
347		5	0	0	NC	NC	NC
348		6	0	0	NC	NC	NC
349	9 COLUMN2 - COLUMN3	1	0	0	NC	NC	NC
350		2	0	0	NC	NC	NC
351		3	0	0	NC	NC	NC
352		4	0	0	NC	NC	NC
353		5	0	0	NC	NC	NC
354		6	0	0	NC	NC	NC
355	9 N OVERHANG	1	0	0	NC	NC	NC
356		2	0	0	NC	NC	NC
357		3	0	0	NC	NC	NC
358		4	0	0	NC	NC	NC
359		5	0	0	NC	NC	NC
360		6	0	0	NC	NC	NC
361	9 COLUMN3	1	0	0	NC	NC	NC
362		2	0	0	NC	NC	NC
363		3	0	0	NC	NC	NC
364		4	0	0	NC	NC	NC
365		5	0	0	NC	NC	NC
366		6	0	0	NC	NC	NC
367	9 COLUMN2	1	0	0	NC	NC	NC
368		2	0	0	NC	NC	NC
369		3	0	0	NC	NC	NC
370		4	0	0	NC	NC	NC
371		5	0	0	NC	NC	NC
372		6	0	0	NC	NC	NC
373	9 COLUMN1	1	0	0	NC	NC	NC
374		2	0	0	NC	NC	NC
375		3	0	0	NC	NC	NC
376		4	0	0	NC	NC	NC
377		5	0	0	NC	NC	NC
378		6	0	0	NC	NC	NC
379	10 S OVERHANG	1	0	0	NC	NC	NC
380		2	0	0	NC	NC	NC
381		3	0	0	NC	NC	NC
382		4	0	0	NC	NC	NC
383		5	0	0	NC	NC	NC
384		6	0	0	NC	NC	NC
385	10 COLUMN1 - COLUMN2	1	0	0	NC	NC	NC
386		2	0	0	NC	NC	NC
387		3	0	0	NC	NC	NC
388		4	0	0	NC	NC	NC
389		5	0	0	NC	NC	NC
390		6	0	0	NC	NC	NC
391	10 COLUMN2 - COLUMN3	1	0	0	NC	NC	NC
392		2	0	0	NC	NC	NC
393		3	0	0	NC	NC	NC
394		4	0	0	NC	NC	NC
395		5	0	0	NC	NC	NC



**Member Torsion Stresses (Continued)**

LC	Member Label	SecTorque[k-ft]	Shear[ksi]y	Warp Shear[ksi]z	Warp Shear[ksi]z-Bot	Warp Bend[ksi]z-Top	Warp Bend[ksi]
396		6	0	0	NC	NC	NC
397	10 N OVERHANG	1	0	0	NC	NC	NC
398		2	0	0	NC	NC	NC
399		3	0	0	NC	NC	NC
400		4	0	0	NC	NC	NC
401		5	0	0	NC	NC	NC
402		6	0	0	NC	NC	NC
403	10 COLUMN3	1	0	0	NC	NC	NC
404		2	0	0	NC	NC	NC
405		3	0	0	NC	NC	NC
406		4	0	0	NC	NC	NC
407		5	0	0	NC	NC	NC
408		6	0	0	NC	NC	NC
409	10 COLUMN2	1	0	0	NC	NC	NC
410		2	0	0	NC	NC	NC
411		3	0	0	NC	NC	NC
412		4	0	0	NC	NC	NC
413		5	0	0	NC	NC	NC
414		6	0	0	NC	NC	NC
415	10 COLUMN1	1	0	0	NC	NC	NC
416		2	0	0	NC	NC	NC
417		3	0	0	NC	NC	NC
418		4	0	0	NC	NC	NC
419		5	0	0	NC	NC	NC
420		6	0	0	NC	NC	NC

**Member Section Stresses**

LC	Member Label	SecAxial[ksi]y	Shear[ksi]z	Shear[ksi]y top	Bending[ksi]y bot	Bending[ksi]z top	Bending[ksi]z bot
1	1 S OVERHANG	1	0	0	0	0	0
2		2	0	-0.026	0.002	-0.079	0.079
3		3	0	-0.052	0.003	-0.317	0.317
4		4	0.004	-0.181	0.005	-1.035	1.035
5		5	0.004	-0.207	0.006	-2.223	2.223
6		6	0.004	-0.233	0.008	-3.57	3.57
7	1 COLUMN1 - COLUMN2	1	-0.019	0.21	-0.009	-2.738	2.738
8		2	-0.019	0.157	-0.005	-0.465	0.465
9		3	-0.015	0.005	-0.002	1.01	-1.01
10		4	-0.015	-0.047	0.001	0.752	-0.752
11		5	-0.015	-0.1	0.004	-0.157	0.157
12		6	-0.015	-0.152	0.008	-1.718	1.718
13	1 COLUMN2 - COLUMN3	1	-0.017	0.146	-0.008	-1.531	1.531
14		2	-0.017	0.093	-0.005	-0.051	0.051
15		3	-0.017	0.041	-0.001	0.779	-0.779
16		4	-0.017	-0.012	0.002	0.957	-0.957
17		5	-0.013	-0.164	0.005	-0.599	0.599
18		6	-0.013	-0.216	0.009	-2.952	2.952
19	1 N OVERHANG	1	-0.004	0.228	-0.008	-3.49	3.49
20		2	-0.004	0.202	-0.006	-2.175	2.175
21		3	-0.004	0.176	-0.005	-1.019	1.019
22		4	0	0.052	-0.003	-0.317	0.317
23		5	0	0.026	-0.002	-0.079	0.079
24		6	0	0	0	0	0
25	1 COLUMN3	1	0.503	0.021	-0.025	-0.61	0.61
26		2	0.505	0.021	-0.026	-0.462	0.462
27		3	0.507	0.021	-0.027	-0.315	0.315
28		4	0.51	0.021	-0.028	-0.168	0.168
29		5	0.512	0.021	-0.029	-0.02	0.02
30		6	0.514	0.021	-0.03	0.127	-0.127

**Member Section Stresses (Continued)**

LC	Member Label	SecAxial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
31	1 COLUMN2	1	0.45	-0.013	-0.024	0.212	-0.212	-0.317	0.317
32		2	0.452	-0.013	-0.025	0.119	-0.119	-0.482	0.482
33		3	0.454	-0.013	-0.025	0.027	-0.027	-0.653	0.653
34		4	0.456	-0.013	-0.026	-0.065	0.065	-0.831	0.831
35		5	0.458	-0.013	-0.027	-0.157	0.157	-1.015	1.015
36		6	0.461	-0.013	-0.028	-0.25	0.25	-1.205	1.205
37	1 COLUMN1	1	0.502	0.042	0.025	-0.942	0.942	0.292	-0.292
38		2	0.504	0.043	0.026	-0.647	0.647	0.469	-0.469
39		3	0.507	0.045	0.027	-0.346	0.346	0.651	-0.651
40		4	0.509	0.046	0.028	-0.037	0.037	0.84	-0.84
41		5	0.511	0.047	0.029	0.279	-0.279	1.036	-1.036
42		6	0.513	0.048	0.03	0.602	-0.602	1.237	-1.237
43	2 S OVERHANG	1	0	0	0	0	0	0	0
44		2	0	-0.027	0.002	-0.082	0.082	0.004	-0.004
45		3	0	-0.054	0.003	-0.328	0.328	0.015	-0.015
46		4	0.004	-0.259	0.005	-1.29	1.29	0.033	-0.033
47		5	0.004	-0.286	0.006	-2.954	2.954	0.059	-0.059
48		6	0.004	-0.313	0.008	-4.783	4.783	0.093	-0.093
49	2 COLUMN1 - COLUMN2	1	-0.028	0.258	-0.009	-3.581	3.581	0.088	-0.088
50		2	-0.028	0.203	-0.005	-0.729	0.729	0.023	-0.023
51		3	-0.024	-0.003	-0.002	1.228	-1.228	-0.012	0.012
52		4	-0.024	-0.057	0.001	0.858	-0.858	-0.016	0.016
53		5	-0.024	-0.111	0.004	-0.185	0.185	0.011	-0.011
54		6	-0.024	-0.166	0.008	-1.901	1.901	0.067	-0.067
55	2 COLUMN2 - COLUMN3	1	-0.026	0.16	-0.008	-1.731	1.731	0.067	-0.067
56		2	-0.026	0.106	-0.005	-0.088	0.088	0.01	-0.01
57		3	-0.026	0.051	-0.001	0.883	-0.883	-0.018	0.018
58		4	-0.026	-0.003	0.002	1.181	-1.181	-0.015	0.015
59		5	-0.022	-0.209	0.005	-0.848	0.848	0.019	-0.019
60		6	-0.022	-0.263	0.009	-3.773	3.773	0.083	-0.083
61	2 N OVERHANG	1	-0.004	0.307	-0.008	-4.703	4.703	0.093	-0.093
62		2	-0.004	0.281	-0.006	-2.907	2.907	0.059	-0.059
63		3	-0.004	0.254	-0.005	-1.274	1.274	0.033	-0.033
64		4	0	0.054	-0.003	-0.328	0.328	0.015	-0.015
65		5	0	0.027	-0.002	-0.082	0.082	0.004	-0.004
66		6	0	0	0	0	0	0	0
67	2 COLUMN3	1	0.646	0.041	-0.025	-1.053	1.053	-0.294	0.294
68		2	0.649	0.041	-0.026	-0.773	0.773	-0.469	0.469
69		3	0.652	0.041	-0.027	-0.494	0.494	-0.651	0.651
70		4	0.655	0.041	-0.028	-0.215	0.215	-0.839	0.839
71		5	0.658	0.041	-0.029	0.064	-0.064	-1.033	1.033
72		6	0.661	0.041	-0.03	0.343	-0.343	-1.234	1.234
73	2 COLUMN2	1	0.54	-0.012	-0.024	0.193	-0.193	-0.317	0.317
74		2	0.543	-0.012	-0.025	0.109	-0.109	-0.482	0.482
75		3	0.546	-0.012	-0.025	0.024	-0.024	-0.653	0.653
76		4	0.549	-0.012	-0.026	-0.06	0.06	-0.831	0.831
77		5	0.552	-0.012	-0.027	-0.144	0.144	-1.015	1.015
78		6	0.555	-0.012	-0.028	-0.228	0.228	-1.205	1.205
79	2 COLUMN1	1	0.646	0.06	0.025	-1.359	1.359	0.292	-0.292
80		2	0.649	0.061	0.026	-0.946	0.946	0.469	-0.469
81		3	0.652	0.062	0.027	-0.525	0.525	0.651	-0.651
82		4	0.655	0.063	0.028	-0.097	0.097	0.84	-0.84
83		5	0.658	0.064	0.029	0.338	-0.338	1.036	-1.036
84		6	0.661	0.065	0.03	0.78	-0.78	1.237	-1.237
85	3 S OVERHANG	1	0	0	0	0	0	0	0
86		2	0	-0.004	0.002	-0.011	0.011	0.004	-0.004
87		3	0	-0.007	0.003	-0.044	0.044	0.015	-0.015
88		4	0.007	-0.204	0.005	-0.698	0.698	0.033	-0.033

**Member Section Stresses (Continued)**

LC	Member Label	SecAxial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
89		5	0.007	-0.208	0.006	-1.956	1.956	0.059	-0.059
90		6	0.007	-0.211	0.008	-3.237	3.237	0.093	-0.093
91	3 COLUMN1 - COLUMN2	1	-0.022	0.146	-0.009	-2.2	2.2	0.087	-0.087
92		2	-0.022	0.139	-0.005	-0.432	0.432	0.022	-0.022
93		3	-0.016	-0.043	-0.002	0.988	-0.988	-0.012	0.012
94		4	-0.016	-0.051	0.001	0.406	-0.406	-0.016	0.016
95		5	-0.016	-0.058	0.005	-0.266	0.266	0.01	-0.01
96		6	-0.016	-0.065	0.008	-1.03	1.03	0.068	-0.068
97	3 COLUMN2 - COLUMN3	1	-0.021	0.051	-0.008	-0.653	0.653	0.068	-0.068
98		2	-0.021	0.044	-0.005	-0.062	0.062	0.01	-0.01
99		3	-0.021	0.037	-0.001	0.437	-0.437	-0.018	0.018
100		4	-0.021	0.029	0.002	0.846	-0.846	-0.015	0.015
101		5	-0.014	-0.153	0.005	-0.747	0.747	0.019	-0.019
102		6	-0.014	-0.16	0.009	-2.688	2.688	0.083	-0.083
103	3 N OVERHANG	1	-0.007	0.211	-0.008	-3.237	3.237	0.093	-0.093
104		2	-0.007	0.208	-0.006	-1.956	1.956	0.059	-0.059
105		3	-0.007	0.204	-0.005	-0.698	0.698	0.033	-0.033
106		4	0	0.007	-0.003	-0.044	0.044	0.015	-0.015
107		5	0	0.004	-0.002	-0.011	0.011	0.004	-0.004
108		6	0	0	0	0	0	0	0
109	3 COLUMN3	1	0.421	0.018	-0.025	-0.621	0.621	0.007	-0.007
110		2	0.424	0.018	-0.026	-0.499	0.499	-0.168	0.168
111		3	0.428	0.018	-0.027	-0.377	0.377	-0.35	0.35
112		4	0.432	0.018	-0.028	-0.255	0.255	-0.538	0.538
113		5	0.435	0.018	-0.029	-0.133	0.133	-0.732	0.732
114		6	0.439	0.018	-0.03	-0.011	0.011	-0.933	0.933
115	3 COLUMN2	1	0.33	-0.027	-0.024	0.427	-0.427	-0.015	0.015
116		2	0.334	-0.027	-0.025	0.243	-0.243	-0.181	0.181
117		3	0.338	-0.027	-0.025	0.059	-0.059	-0.352	0.352
118		4	0.341	-0.027	-0.026	-0.125	0.125	-0.53	0.53
119		5	0.345	-0.027	-0.027	-0.309	0.309	-0.714	0.714
120		6	0.348	-0.027	-0.028	-0.493	0.493	-0.904	0.904
121	3 COLUMN1	1	0.406	0.057	0.025	-1.174	1.174	-0.008	0.008
122		2	0.409	0.058	0.026	-0.782	0.782	0.168	-0.168
123		3	0.413	0.059	0.027	-0.384	0.384	0.351	-0.351
124		4	0.417	0.06	0.028	0.021	-0.021	0.539	-0.539
125		5	0.42	0.061	0.029	0.433	-0.433	0.734	-0.734
126		6	0.424	0.062	0.03	0.853	-0.853	0.936	-0.936
127	4 S OVERHANG	1	0	0	0	0	0	0	0
128		2	0	-0.021	0.003	-0.065	0.065	0.006	-0.006
129		3	0	-0.043	0.005	-0.261	0.261	0.024	-0.024
130		4	0.006	-0.242	0.008	-1.139	1.139	0.054	-0.054
131		5	0.007	-0.263	0.01	-2.683	2.683	0.096	-0.096
132		6	0.007	-0.285	0.013	-4.358	4.358	0.15	-0.15
133	4 COLUMN1 - COLUMN2	1	-0.029	0.224	-0.014	-3.085	3.085	0.141	-0.141
134		2	-0.028	0.181	-0.009	-0.576	0.576	0.036	-0.036
135		3	-0.022	-0.014	-0.003	1.174	-1.174	-0.019	0.019
136		4	-0.021	-0.057	0.002	0.733	-0.733	-0.026	0.026
137		5	-0.02	-0.101	0.007	-0.245	0.245	0.017	-0.017
138		6	-0.02	-0.144	0.013	-1.759	1.759	0.109	-0.109
139	4 COLUMN2 - COLUMN3	1	-0.027	0.129	-0.013	-1.36	1.36	0.109	-0.109
140		2	-0.026	0.086	-0.007	-0.025	0.025	0.016	-0.016
141		3	-0.026	0.043	-0.002	0.773	-0.773	-0.029	0.029
142		4	-0.025	0	0.003	1.036	-1.036	-0.024	0.024
143		5	-0.019	-0.195	0.009	-0.894	0.894	0.031	-0.031
144		6	-0.018	-0.239	0.014	-3.582	3.582	0.134	-0.134
145	4 N OVERHANG	1	-0.007	0.281	-0.013	-4.297	4.297	0.15	-0.15
146		2	-0.007	0.259	-0.01	-2.646	2.646	0.096	-0.096

**Member Section Stresses (Continued)**

LC	Member Label	SecAxial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
147		3	-0.006	0.238	-0.008	-1.126	1.126	0.054	-0.054
148		4	0	0.043	-0.005	-0.261	0.261	0.024	-0.024
149		5	0	0.021	-0.003	-0.065	0.065	0.006	-0.006
150		6	0	0	0	0	0	0	0
151	4 COLUMN3	1	0.588	0.025	-0.041	-0.81	0.81	-0.261	0.261
152		2	0.591	0.025	-0.042	-0.637	0.637	-0.543	0.543
153		3	0.594	0.025	-0.042	-0.464	0.464	-0.831	0.831
154		4	0.597	0.025	-0.043	-0.291	0.291	-1.126	1.126
155		5	0.6	0.025	-0.044	-0.119	0.119	-1.426	1.426
156		6	0.603	0.025	-0.045	0.054	-0.054	-1.733	1.733
157	4 COLUMN2	1	0.481	-0.028	-0.038	0.452	-0.452	-0.298	0.298
158		2	0.484	-0.028	-0.039	0.256	-0.256	-0.563	0.563
159		3	0.487	-0.028	-0.04	0.061	-0.061	-0.834	0.834
160		4	0.49	-0.028	-0.041	-0.134	0.134	-1.112	1.112
161		5	0.493	-0.028	-0.042	-0.33	0.33	-1.396	1.396
162		6	0.496	-0.028	-0.043	-0.525	0.525	-1.687	1.687
163	4 COLUMN1	1	0.577	0.068	0.041	-1.441	1.441	0.258	-0.258
164		2	0.58	0.07	0.042	-0.968	0.968	0.542	-0.542
165		3	0.583	0.071	0.043	-0.488	0.488	0.832	-0.832
166		4	0.586	0.072	0.044	0	0	1.128	-1.128
167		5	0.589	0.073	0.045	0.494	-0.494	1.43	-1.43
168		6	0.592	0.074	0.045	0.995	-0.995	1.739	-1.739
169	5 S OVERHANG	1	0	0	0	0	0	0	0
170		2	0	-0.009	0	-0.028	0.028	0	0
171		3	0	-0.018	0	-0.113	0.113	0	0
172		4	0	-0.157	0	-0.654	0.654	0	0
173		5	0	-0.166	0	-1.643	1.643	0	0
174		6	0	-0.176	0	-2.688	2.688	0	0
175	5 COLUMN1 - COLUMN2	1	-0.014	0.14	0	-2.119	2.119	0	0
176		2	-0.014	0.121	0	-0.5	0.5	0	0
177		3	-0.015	-0.014	0	0.717	-0.717	0	0
178		4	-0.015	-0.033	0	0.429	-0.429	0	0
179		5	-0.015	-0.051	0	-0.091	0.091	0	0
180		6	-0.015	-0.07	0	-0.841	0.841	0	0
181	5 COLUMN2 - COLUMN3	1	-0.013	0.073	0	-0.922	0.922	0	0
182		2	-0.013	0.054	0	-0.132	0.132	0	0
183		3	-0.013	0.036	0	0.427	-0.427	0	0
184		4	-0.013	0.017	0	0.755	-0.755	0	0
185		5	-0.014	-0.118	0	-0.422	0.422	0	0
186		6	-0.014	-0.137	0	-2.002	2.002	0	0
187	5 N OVERHANG	1	0	0.174	0	-2.666	2.666	0	0
188		2	0	0.165	0	-1.63	1.63	0	0
189		3	0	0.156	0	-0.65	0.65	0	0
190		4	0	0.018	0	-0.113	0.113	0	0
191		5	0	0.009	0	-0.028	0.028	0	0
192		6	0	0	0	0	0	0	0
193	5 COLUMN3	1	0.352	0.034	0	-0.752	0.752	-0.086	0.086
194		2	0.354	0.034	0	-0.52	0.52	-0.089	0.089
195		3	0.357	0.034	-0.002	-0.289	0.289	-0.098	0.098
196		4	0.359	0.034	-0.003	-0.058	0.058	-0.114	0.114
197		5	0.362	0.034	-0.004	0.174	-0.174	-0.136	0.136
198		6	0.364	0.034	-0.005	0.405	-0.405	-0.164	0.164
199	5 COLUMN2	1	0.294	0.006	0	-0.091	0.091	-0.086	0.086
200		2	0.296	0.006	0	-0.052	0.052	-0.089	0.089
201		3	0.299	0.006	-0.002	-0.014	0.014	-0.099	0.099
202		4	0.301	0.006	-0.003	0.025	-0.025	-0.114	0.114
203		5	0.304	0.006	-0.004	0.064	-0.064	-0.136	0.136
204		6	0.306	0.006	-0.005	0.102	-0.102	-0.164	0.164

**Member Section Stresses (Continued)**

LC	Member Label	SecAxial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
205	5 COLUMN1	1	0.358	0.024	0	-0.644	0.644	0.086	-0.086
206		2	0.36	0.025	0	-0.479	0.479	0.089	-0.089
207		3	0.363	0.026	0.002	-0.306	0.306	0.098	-0.098
208		4	0.365	0.027	0.003	-0.127	0.127	0.114	-0.114
209		5	0.367	0.028	0.004	0.06	-0.06	0.136	-0.136
210		6	0.37	0.029	0.005	0.254	-0.254	0.164	-0.164
211	6 S OVERHANG	1	0	0	0	0	0	0	0
212		2	0	-0.016	0.003	-0.049	0.049	0.006	-0.006
213		3	0	-0.032	0.005	-0.196	0.196	0.024	-0.024
214		4	0.007	-0.178	0.008	-0.844	0.844	0.054	-0.054
215		5	0.007	-0.194	0.01	-1.982	1.982	0.096	-0.096
216		6	0.007	-0.21	0.013	-3.219	3.219	0.15	-0.15
217	6 COLUMN1 - COLUMN2	1	-0.022	0.167	-0.014	-2.207	2.207	0.141	-0.141
218		2	-0.021	0.134	-0.009	-0.346	0.346	0.036	-0.036
219		3	-0.015	-0.015	-0.003	0.942	-0.942	-0.02	0.02
220		4	-0.014	-0.047	0.002	0.555	-0.555	-0.026	0.026
221		5	-0.013	-0.08	0.007	-0.234	0.234	0.017	-0.017
222		6	-0.012	-0.112	0.013	-1.424	1.424	0.109	-0.109
223	6 COLUMN2 - COLUMN3	1	-0.021	0.096	-0.013	-0.972	0.972	0.109	-0.109
224		2	-0.02	0.063	-0.007	0.014	-0.014	0.016	-0.016
225		3	-0.019	0.031	-0.002	0.597	-0.597	-0.029	0.029
226		4	-0.018	-0.002	0.003	0.78	-0.78	-0.024	0.024
227		5	-0.012	-0.151	0.009	-0.713	0.713	0.031	-0.031
228		6	-0.011	-0.183	0.014	-2.779	2.779	0.134	-0.134
229	6 N OVERHANG	1	-0.007	0.207	-0.013	-3.173	3.173	0.15	-0.15
230		2	-0.007	0.191	-0.01	-1.955	1.955	0.096	-0.096
231		3	-0.007	0.175	-0.008	-0.834	0.834	0.054	-0.054
232		4	0	0.032	-0.005	-0.196	0.196	0.024	-0.024
233		5	0	0.016	-0.003	-0.049	0.049	0.006	-0.006
234		6	0	0	0	0	0	0	0
235	6 COLUMN3	1	0.442	0.009	-0.041	-0.446	0.446	-0.201	0.201
236		2	0.444	0.009	-0.042	-0.387	0.387	-0.483	0.483
237		3	0.447	0.009	-0.042	-0.329	0.329	-0.771	0.771
238		4	0.449	0.009	-0.043	-0.27	0.27	-1.065	1.065
239		5	0.452	0.009	-0.044	-0.212	0.212	-1.366	1.366
240		6	0.454	0.009	-0.045	-0.153	0.153	-1.673	1.673
241	6 COLUMN2	1	0.368	-0.032	-0.038	0.512	-0.512	-0.237	0.237
242		2	0.37	-0.032	-0.039	0.291	-0.291	-0.503	0.503
243		3	0.373	-0.032	-0.04	0.07	-0.07	-0.774	0.774
244		4	0.375	-0.032	-0.041	-0.151	0.151	-1.052	1.052
245		5	0.377	-0.032	-0.042	-0.372	0.372	-1.336	1.336
246		6	0.38	-0.032	-0.043	-0.593	0.593	-1.627	1.627
247	6 COLUMN1	1	0.427	0.057	0.041	-1.145	1.145	0.198	-0.198
248		2	0.43	0.058	0.042	-0.75	0.75	0.482	-0.482
249		3	0.432	0.059	0.043	-0.348	0.348	0.771	-0.771
250		4	0.435	0.06	0.044	0.061	-0.061	1.068	-1.068
251		5	0.437	0.061	0.045	0.478	-0.478	1.37	-1.37
252		6	0.439	0.062	0.045	0.901	-0.901	1.678	-1.678
253	7 S OVERHANG	1	0	0	0	0	0	0	0
254		2	0	-0.002	0	-0.007	0.007	0	0
255		3	0	-0.005	0	-0.03	0.03	0	0
256		4	0	-0.076	0	-0.28	0.28	0	0
257		5	0	-0.079	0	-0.754	0.754	0	0
258		6	0	-0.081	0	-1.243	1.243	0	0
259	7 COLUMN1 - COLUMN2	1	-0.004	0.079	0	-1.114	1.114	0	0
260		2	-0.004	0.074	0	-0.161	0.161	0	0
261		3	-0.004	-0.024	0	0.593	-0.593	0	0
262		4	-0.004	-0.029	0	0.268	-0.268	0	0

**Member Section Stresses (Continued)**

LC	Member Label	SecAxial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
263		5	-0.004	-0.034	0	-0.118	0.118	0	0
264		6	-0.004	-0.039	0	-0.565	0.565	0	0
265	7 COLUMN2 - COLUMN3	1	-0.004	0.039	0	-0.586	0.586	0	0
266		2	-0.004	0.034	0	-0.129	0.129	0	0
267		3	-0.004	0.03	0	0.266	-0.266	0	0
268		4	-0.004	0.025	0	0.602	-0.602	0	0
269		5	-0.004	-0.074	0	-0.143	0.143	0	0
270		6	-0.004	-0.079	0	-1.085	1.085	0	0
271	7 N OVERHANG	1	0	0.081	0	-1.243	1.243	0	0
272		2	0	0.079	0	-0.754	0.754	0	0
273		3	0	0.076	0	-0.28	0.28	0	0
274		4	0	0.005	0	-0.03	0.03	0	0
275		5	0	0.002	0	-0.007	0.007	0	0
276		6	0	0	0	0	0	0	0
277	7 COLUMN3	1	0.181	0.008	0	-0.178	0.178	0	0
278		2	0.183	0.008	0	-0.123	0.123	0	0
279		3	0.186	0.008	0	-0.068	0.068	0	0
280		4	0.188	0.008	0	-0.012	0.012	0	0
281		5	0.19	0.008	0	0.043	-0.043	0	0
282		6	0.193	0.008	0	0.098	-0.098	0	0
283	7 COLUMN2	1	0.194	0.002	0	-0.024	0.024	0	0
284		2	0.196	0.002	0	-0.014	0.014	0	0
285		3	0.199	0.002	0	-0.003	0.003	0	0
286		4	0.201	0.002	0	0.007	-0.007	0	0
287		5	0.203	0.002	0	0.017	-0.017	0	0
288		6	0.206	0.002	0	0.028	-0.028	0	0
289	7 COLUMN1	1	0.182	0.006	0	-0.146	0.146	0	0
290		2	0.184	0.006	0	-0.106	0.106	0	0
291		3	0.187	0.006	0	-0.067	0.067	0	0
292		4	0.189	0.006	0	-0.029	0.029	0	0
293		5	0.191	0.006	0	0.01	-0.01	0	0
294		6	0.194	0.006	0	0.048	-0.048	0	0
295	8 S OVERHANG	1	0	0	0	0	0	0	0
296		2	0	-0.014	0	-0.042	0.042	0	0
297		3	0	-0.027	0	-0.166	0.166	0	0
298		4	-0.001	-0.042	0	-0.378	0.378	0	0
299		5	-0.001	-0.056	0	-0.678	0.678	0	0
300		6	-0.001	-0.069	0	-1.061	1.061	0	0
301	8 COLUMN1 - COLUMN2	1	-0.004	0.075	0	-0.948	0.948	0	0
302		2	-0.004	0.047	0	-0.193	0.193	0	0
303		3	-0.006	0.02	0	0.222	-0.222	0	0
304		4	-0.006	-0.008	0	0.296	-0.296	0	0
305		5	-0.006	-0.035	0	0.029	-0.029	0	0
306		6	-0.006	-0.063	0	-0.578	0.578	0	0
307	8 COLUMN2 - COLUMN3	1	-0.003	0.068	0	-0.7	0.7	0	0
308		2	-0.003	0.04	0	-0.033	0.033	0	0
309		3	-0.003	0.013	0	0.293	-0.293	0	0
310		4	-0.003	-0.015	0	0.278	-0.278	0	0
311		5	-0.005	-0.043	0	-0.078	0.078	0	0
312		6	-0.005	-0.07	0	-0.775	0.775	0	0
313	8 N OVERHANG	1	0.001	0.066	0	-1.015	1.015	0	0
314		2	0.001	0.053	0	-0.651	0.651	0	0
315		3	0.001	0.039	0	-0.369	0.369	0	0
316		4	0	0.027	0	-0.166	0.166	0	0
317		5	0	0.014	0	-0.042	0.042	0	0
318		6	0	0	0	0	0	0	0
319	8 COLUMN3	1	0.155	0.014	0	-0.272	0.272	-0.172	0.172
320		2	0.155	0.014	0	-0.174	0.174	-0.172	0.172



**Member Section Stresses (Continued)**

LC	Member Label	SecAxial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]	
321		3	0.155	0.014	0	-0.077	0.077	-0.172	0.172
322		4	0.155	0.014	0	0.021	-0.021	-0.172	0.172
323		5	0.155	0.014	0	0.119	-0.119	-0.172	0.172
324		6	0.155	0.014	0	0.216	-0.216	-0.172	0.172
325	8 COLUMN2	1	0.148	0.009	0	-0.137	0.137	-0.172	0.172
326		2	0.148	0.009	0	-0.079	0.079	-0.172	0.172
327		3	0.148	0.009	0	-0.02	0.02	-0.172	0.172
328		4	0.148	0.009	0	0.038	-0.038	-0.172	0.172
329		5	0.148	0.009	0	0.097	-0.097	-0.172	0.172
330		6	0.148	0.009	0	0.155	-0.155	-0.172	0.172
331	8 COLUMN1	1	0.163	0.003	0	-0.127	0.127	0.172	-0.172
332		2	0.163	0.003	0	-0.109	0.109	0.172	-0.172
333		3	0.163	0.003	0	-0.09	0.09	0.172	-0.172
334		4	0.163	0.003	0	-0.072	0.072	0.172	-0.172
335		5	0.163	0.003	0	-0.053	0.053	0.172	-0.172
336		6	0.163	0.003	0	-0.035	0.035	0.172	-0.172
337	9 S OVERHANG	1	0	0	0	0	0	0	0
338		2	0	0	0	0	0	0	0
339		3	0	0	0	0	0	0	0
340		4	0	0	0	0	0	0	0
341		5	0	0	0	0	0	0	0
342		6	0	0	0	0	0	0	0
343	9 COLUMN1 - COLUMN2	1	0	0	0	0	0	0	0
344		2	0	0	0	0	0	0	0
345		3	0	0	0	0	0	0	0
346		4	0	0	0	0	0	0	0
347		5	0	0	0	0	0	0	0
348		6	0	0	0	0	0	0	0
349	9 COLUMN2 - COLUMN3	1	0	0	0	0	0	0	0
350		2	0	0	0	0	0	0	0
351		3	0	0	0	0	0	0	0
352		4	0	0	0	0	0	0	0
353		5	0	0	0	0	0	0	0
354		6	0	0	0	0	0	0	0
355	9 N OVERHANG	1	0	0	0	0	0	0	0
356		2	0	0	0	0	0	0	0
357		3	0	0	0	0	0	0	0
358		4	0	0	0	0	0	0	0
359		5	0	0	0	0	0	0	0
360		6	0	0	0	0	0	0	0
361	9 COLUMN3	1	0	0	0	0	0	0	0
362		2	0	0	0	0	0	0	0
363		3	0	0	0	0	0	0	0
364		4	0	0	0	0	0	0	0
365		5	0	0	0	0	0	0	0
366		6	0	0	0	0	0	0	0
367	9 COLUMN2	1	0	0	0	0	0	0	0
368		2	0	0	0	0	0	0	0
369		3	0	0	0	0	0	0	0
370		4	0	0	0	0	0	0	0
371		5	0	0	0	0	0	0	0
372		6	0	0	0	0	0	0	0
373	9 COLUMN1	1	0	0	0	0	0	0	0
374		2	0	0	0	0	0	0	0
375		3	0	0	0	0	0	0	0
376		4	0	0	0	0	0	0	0
377		5	0	0	0	0	0	0	0
378		6	0	0	0	0	0	0	0

**Member Section Stresses (Continued)**

LC	Member Label	SecAxial[ksi]	y Shear[ksi]	z Shear[ksi]	y top Bending[ksi]	y bot Bending[ksi]	z top Bending[ksi]	z bot Bending[ksi]
379	10 S OVERHANG	1	0	0	0	0	0	0
380		2	0	0	0	0	0	0
381		3	0	0	0	0	0	0
382		4	0	0	0	0	0	0
383		5	0	0	0	0	0	0
384		6	0	0	0	0	0	0
385	10 COLUMN1 - COLUMN2	1	0	0	0	0	0	0
386		2	0	0	0	0	0	0
387		3	0	0	0	0	0	0
388		4	0	0	0	0	0	0
389		5	0	0	0	0	0	0
390		6	0	0	0	0	0	0
391	10 COLUMN2 - COLUMN3	1	0	0	0	0	0	0
392		2	0	0	0	0	0	0
393		3	0	0	0	0	0	0
394		4	0	0	0	0	0	0
395		5	0	0	0	0	0	0
396		6	0	0	0	0	0	0
397	10 N OVERHANG	1	0	0	0	0	0	0
398		2	0	0	0	0	0	0
399		3	0	0	0	0	0	0
400		4	0	0	0	0	0	0
401		5	0	0	0	0	0	0
402		6	0	0	0	0	0	0
403	10 COLUMN3	1	0	0	0	0	0	0
404		2	0	0	0	0	0	0
405		3	0	0	0	0	0	0
406		4	0	0	0	0	0	0
407		5	0	0	0	0	0	0
408		6	0	0	0	0	0	0
409	10 COLUMN2	1	0	0	0	0	0	0
410		2	0	0	0	0	0	0
411		3	0	0	0	0	0	0
412		4	0	0	0	0	0	0
413		5	0	0	0	0	0	0
414		6	0	0	0	0	0	0
415	10 COLUMN1	1	0	0	0	0	0	0
416		2	0	0	0	0	0	0
417		3	0	0	0	0	0	0
418		4	0	0	0	0	0	0
419		5	0	0	0	0	0	0
420		6	0	0	0	0	0	0

**Envelope Node Reactions**

Node Label	X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC	
1 BOTTOM OF COLUMN1	max	0	10	672.174	2	0	10	0	10	0.128	8	265.945	4
2	min	-65.642	4	0	9	-34.7	4	-464.457	4	-9.783	6	-9.342	8
3 BOTTOM OF COLUMN2	max	6.517	8	565.251	2	0.011	8	0	10	0	8	158.544	6
4	min	-24.61	6	0	9	-32.672	6	-450.657	4	-0.001	3	-41.496	8
5 BOTTOM OF COLUMN3	max	31.071	2	672.965	2	0	10	0	10	6.403	6	40.919	6
6	min	0	9	0	9	-34.525	4	-463.105	4	-0.005	8	-108.181	5
7 Totals:	max	12.75	8	1910.389	2	0	10						
8	min	-72.629	6	0	9	-101.893	4						

**Envelope Node Displacements**

Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1 CAP END S	max	0.031	6	0	10	0.17	4	1.805e-3	4	8.656e-5	4	2.199e-3	2
2	min	-0.008	8	-0.206	2	0	7	0	7	0	7	0	9
3 COLUMN1	max	0.031	6	0	10	0.163	4	1.777e-3	4	4.126e-5	4	5.498e-4	2
4	min	-0.008	8	-0.021	2	0	7	0	7	0	7	0	9
5 COLUMN2/GIRDER C	max	0.031	6	0	10	0.16	4	1.766e-3	4	0	3	1.616e-5	8
6	min	-0.008	8	-0.018	2	0	7	0	7	0	8	-7.347e-5	6
7 COLUMN3	max	0.032	6	0	10	0.162	4	1.775e-3	4	2.614e-8	8	0	10
8	min	-0.008	8	-0.021	2	0	7	0	7	-3.48e-5	6	-6.815e-4	4
9 CAP END N	max	0.032	6	0	10	0.169	4	1.802e-3	4	2.614e-8	8	0	10
10	min	-0.008	8	-0.213	2	0	7	0	7	-8.011e-5	6	-2.266e-3	2
11 GIRDER E	max	0.031	6	0	10	0.166	4	1.798e-3	4	8.095e-5	4	2.097e-3	2
12	min	-0.008	8	-0.101	2	0	7	0	7	0	7	0	9
13 GIRDER D	max	0.031	6	0	10	0.162	4	1.799e-3	4	7.859e-6	4	0	10
14	min	-0.008	8	-0.047	2	0	7	0	7	0	7	-3.495e-4	2
15 GIRDER B	max	0.032	6	0	10	0.162	4	1.798e-3	4	2.696e-8	8	3.731e-4	2
16	min	-0.008	8	-0.046	2	0	7	0	7	-5.347e-6	6	0	9
17 GIRDER A	max	0.032	6	0	10	0.165	4	1.796e-3	4	2.614e-8	8	0	10
18	min	-0.008	8	-0.104	2	0	7	0	7	-7.449e-5	6	-2.164e-3	2
19 S COLUMN 1	max	0.031	6	0	10	0.164	4	1.787e-3	4	6.222e-5	4	1.432e-3	2
20	min	-0.008	8	-0.042	2	0	7	0	7	0	7	0	9
21 N COLUMN 1	max	0.031	6	0	10	0.162	4	1.786e-3	4	2.211e-5	4	0	10
22	min	-0.008	8	-0.019	2	0	7	0	7	0	7	-1.54e-4	1
23 S COLUMN 2	max	0.031	6	0	10	0.16	4	1.777e-3	4	1.421e-5	6	2.954e-4	2
24	min	-0.008	8	-0.022	2	0	7	0	7	0	8	0	9
25 N COLUMN 2	max	0.031	6	0	10	0.16	4	1.776e-3	4	0	8	0	10
26	min	-0.008	8	-0.022	2	0	7	0	7	-1.414e-5	6	-3.245e-4	2
27 S COLUMN 3	max	0.032	6	0	10	0.162	4	1.784e-3	4	2.771e-8	8	1.224e-4	7
28	min	-0.008	8	-0.018	2	0	7	0	7	-1.678e-5	6	-6.671e-5	3
29 N COLUMN 3	max	0.032	6	0	10	0.163	4	1.784e-3	4	2.614e-8	8	0	10
30	min	-0.008	8	-0.043	2	0	7	0	7	-5.576e-5	6	-1.508e-3	2
31 BOTTOM OF COLUMN1	max	0	4	0	10	0	4	0	4	0	6	0	8
32	min	0	9	0	2	0	7	0	7	0	8	0	4
33 BOTTOM OF COLUMN2	max	0	6	0	10	0	6	0	4	0	3	0	8
34	min	0	8	0	2	0	8	0	7	0	8	0	6
35 BOTTOM OF COLUMN3	max	0	10	0	10	0	4	0	4	0	8	0	5
36	min	0	2	0	2	0	7	0	7	0	6	0	6

**Envelope Member Section Forces**

Member	Sec	Axial[k]	LC	y Shear[k]	LC	z Shear[k]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC	
1 S OVERHANG	1	max	0	10	0	10	0	10	0	10	0	10	0	10
2		min	0	1	0	1	0	1	0	1	0	1	0	1
3	2	max	0.706	6	0	10	3.022	4	7.973	2	2.424	4	24.774	2
4		min	0	1	-30.885	2	0	5	0	3	0	5	0	9
5	3	max	1.412	6	0	10	6.044	4	15.945	2	9.697	4	99.093	2
6		min	0	1	-61.771	2	0	5	0	3	0	5	0	9
7	4	max	11.531	6	0	10	9.067	4	23.918	2	21.817	4	390.054	2
8		min	-2.55	8	-298.316	2	0	5	0	3	0	5	0	9
9	5	max	12.237	6	0	10	12.089	4	31.891	2	38.786	4	893.375	2
10		min	-2.55	8	-329.202	2	0	5	0	3	0	5	0	9
11	6	max	12.943	6	0	10	15.111	6	39.864	2	60.602	6	1446.242	2
12		min	-2.55	8	-360.087	2	0	5	0	3	0	5	0	9
13 COLUMN1 - COLUMN2	1	max	0	10	296.711	2	0	10	2.285	3	57.044	4	1083.023	2
14		min	-49.391	4	0	9	-16.108	4	-38.168	1	0	7	0	9
15	2	max	0	10	234.138	2	0	10	2.285	3	14.642	4	220.395	2
16		min	-49.066	2	0	9	-9.985	4	-22.016	1	0	7	0	9
17	3	max	0	10	22.75	8	0	10	2.285	3	0.095	5	0	10
18		min	-42.225	2	-49.875	3	-3.862	4	-5.863	1	-7.884	6	-371.498	2
19	4	max	0	10	0	10	2.264	6	10.921	4	0.064	5	0	10

**Envelope Member Section Forces (Continued)**

Member	Sec		Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC			
20		min	-42.225	2	-66.037	4	-0.01	5	0	7	-10.477	6	-259.414	2
21		max	0	10	0	10	8.387	6	26.442	2	6.836	4	80.589	3
22		min	-42.225	2	-128.351	2	-0.01	5	0	7	0	7	-8.917	8
23		max	0	10	0	10	14.51	6	42.594	2	44.038	6	574.87	2
24		min	-42.225	2	-190.925	2	-0.01	5	0	7	-0.019	8	0	9
25	COLUMN2 - COLUMN3	max	0	10	184.182	2	0.001	8	0	10	44.037	6	523.367	2
26		min	-46.948	4	0	9	-14.682	6	-42.096	1	-0.018	8	0	9
27		max	0	10	121.609	2	0.001	8	0	10	6.272	6	39.781	5
28		min	-45.518	4	0	9	-8.559	6	-25.944	1	-0.014	8	-4.108	6
29		max	0	10	59.036	2	0.001	8	0	10	0	5	0	10
30		min	-44.754	2	0	9	-2.436	6	-10.173	4	-11.6	4	-267.091	2
31		max	0	10	33.762	3	3.687	4	6.361	2	0	5	0	10
32		min	-44.754	2	-17.264	8	0	5	-1.846	3	-9.565	4	-357.262	2
33		max	0	10	0	10	9.81	4	22.514	2	12.368	4	270.26	4
34		min	-37.913	2	-240.88	2	0	5	-1.846	3	0	5	0	9
35		max	0	10	0	10	15.933	4	38.666	2	54.201	4	1141.086	2
36		min	-37.913	2	-303.453	2	0	5	-1.846	3	-0.001	5	0	9
37	N OVERHANG	max	2.55	8	354.137	2	0	10	0	10	60.602	4	1422.318	2
38		min	-12.943	6	0	9	-15.111	4	-39.864	1	0	5	0	9
39		max	2.55	8	323.252	2	0	10	0	10	38.786	6	878.996	2
40		min	-12.237	6	0	9	-12.089	6	-31.891	1	0	5	0	9
41		max	2.55	8	292.366	2	0	10	0	10	21.817	6	385.22	2
42		min	-11.532	6	0	9	-9.067	6	-23.918	1	0	5	0	9
43		max	0	10	61.771	2	0	10	0	10	9.697	4	99.093	2
44		min	-1.412	6	0	9	-6.045	6	-15.945	1	0	5	0	9
45		max	0	10	30.885	2	0	10	0	10	2.424	4	24.774	2
46		min	-0.706	6	0	9	-3.022	6	-7.973	1	0	5	0	9
47		max	0	10	0	10	0	10	0	10	0	10	0	10
48		min	0	1	0	1	0	1	0	1	0	1	0	1
49	COLUMN3	max	657.59	2	31.071	2	0	5	6.403	6	1.846	3	281.232	2
50		min	0	9	0	9	-31.045	4	-0.005	8	-78.53	1	0	9
51		max	660.665	2	31.071	2	0	10	6.403	6	0	10	206.661	2
52		min	0	9	0	9	-31.741	4	-0.005	8	-145.031	4	0	9
53		max	663.74	2	31.071	2	0	10	6.403	6	0	10	132.09	2
54		min	0	9	0	9	-32.437	4	-0.005	8	-222.044	4	0	9
55		max	666.815	2	31.071	2	0	10	6.403	6	0	10	77.873	4
56		min	0	9	0	9	-33.133	4	-0.005	8	-300.727	4	-5.619	8
57		max	669.89	2	31.071	2	0	10	6.403	6	0	10	56.566	6
58		min	0	9	0	9	-33.829	4	-0.005	8	-381.081	4	-46.38	5
59		max	672.965	2	31.071	2	0	10	6.403	6	0	10	40.919	6
60		min	0	9	0	9	-34.525	4	-0.005	8	-463.105	4	-108.181	5
61	COLUMN2	max	549.877	2	6.517	8	0.011	8	0	8	0	10	36.709	8
62		min	0	9	-24.61	6	-29.192	6	-0.001	3	-84.691	1	-136.778	6
63		max	552.951	2	6.517	8	0.011	8	0	8	0	10	21.068	8
64		min	0	9	-24.61	6	-29.888	6	-0.001	3	-150.403	4	-77.714	6
65		max	556.026	2	6.517	8	0.011	8	0	8	0	10	5.427	8
66		min	0	9	-24.61	6	-30.584	6	-0.001	3	-222.961	4	-18.649	6
67		max	559.101	2	6.517	8	0.011	8	0	8	0	10	40.415	6
68		min	0	9	-24.61	6	-31.28	6	-0.001	3	-297.189	4	-10.214	8
69		max	562.176	2	6.517	8	0.011	8	0	8	0	10	99.48	6
70		min	0	9	-24.61	6	-31.976	6	-0.001	3	-373.088	4	-25.855	8
71		max	565.251	2	6.517	8	0.011	8	0	8	0	10	158.544	6
72		min	0	9	-24.61	6	-32.672	6	-0.001	3	-450.657	4	-41.496	8
73	COLUMN1	max	657.591	2	52.271	4	31.219	4	0.846	8	78.054	2	385.145	4
74		min	0	9	0	9	0	7	-2.778	6	-2.248	3	0	9
75		max	660.679	2	53.063	4	31.916	4	0.846	8	144.759	4	258.729	4
76		min	0	9	0	9	0	7	-2.778	6	0	7	0	9
77		max	663.767	2	53.855	4	32.612	4	0.846	8	222.202	4	140.319	2

**Envelope Member Section Forces (Continued)**

Member	Sec	Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
78		min	0	9	0	9	0	7	-2.778	6	0	7	0	9
79	4	max	666.855	2	54.647	4	33.308	4	0.846	8	301.315	4	33.819	5
80		min	0	9	0	9	0	7	-2.778	6	0	7	-16.352	6
81	5	max	669.943	2	55.439	4	34.004	4	0.846	8	382.098	4	14.259	8
82		min	0	9	0	9	0	7	-2.778	6	0	7	-131.925	4
83	6	max	673.031	2	56.231	4	34.7	4	0.846	8	464.553	4	9.342	8
84		min	0	9	0	9	0	7	-2.778	6	0	7	-265.945	4

**Envelope Maximum Member Section Forces**

Member	Axial[k]	Loc[ft]	LC y	Shear[k]	Loc[ft]	LC z	Shear[k]	Loc[ft]	LC Torque[k-ft]	Loc[ft]	LC y-y Moment[k-ft]	Loc[ft]	LC z-z Moment[k-ft]	Loc[ft]	LC				
1 S OVERHANG	max	12.943	8.021	6	0	8.021	10	15.111	8.021	6	39.864	8.021	2	60.602	8.021	6	1446.242	8.021	2
2	min	-2.55	4.053	8	-360.087	8.021	2	0	0	1	0	0	1	0	0	1	0	0	1
3 COLUMN1 - COLUMN2	max	0	16.25	10	296.711	0	2	14.51	16.25	6	42.594	16.25	2	57.044	0	4	1083.023	0	2
4	min	-49.391	0	4	-190.925	16.25	2	-16.108	0	4	-38.168	0	1	-11.836	8.553	6	-371.761	6.329	2
5 COLUMN2 - COLUMN3	max	0	16.25	10	184.182	0	2	15.933	16.25	4	38.666	16.25	2	54.201	16.25	4	1141.086	16.25	2
6	min	-46.948	0	4	-303.453	16.25	2	-14.682	0	6	-42.096	0	1	-13.169	7.868	4	-357.591	9.579	2
7 N OVERHANG	max	2.55	1.435	8	354.137	0	2	0	8.021	10	0	8.021	10	60.602	0	4	1422.318	0	2
8	min	-12.943	0	6	0	0	9	-15.111	0	4	-39.864	0	1	0	0	5	0	0	9
9 COLUMN3	max	672.965	12	2	31.071	12	2	0	0	5	6.403	12	6	1.846	0	3	281.232	0	2
10	min	0	0	9	0	0	9	-34.525	12	4	-0.005	0	8	-463.105	12	4	-108.181	12	5
11 COLUMN2	max	565.251	12	2	6.517	12	8	0.011	12	8	0	12	8	0	12	10	158.544	12	6
12	min	0	0	9	-24.61	0	6	-32.672	12	6	-0.001	0	3	-450.657	12	4	-136.778	0	6
13 COLUMN1	max	673.031	12.001	2	56.231	12.001	4	34.7	12.001	4	0.846	12.001	8	464.553	12.001	4	385.145	0	4
14	min	0	0	9	0	0	9	0	0	7	-2.778	0	6	-2.248	0	3	-265.945	12.001	4

**Envelope Member End Reactions**

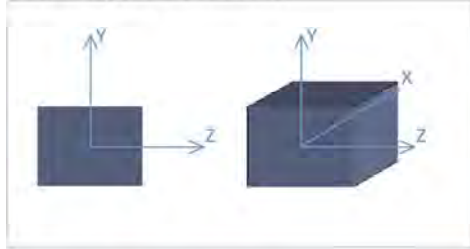
Member	Member End	Axial[k]	LC y	Shear[k]	LC z	Shear[k]	LC Torque[k-ft]	LC y-y Moment[k-ft]	LC z-z Moment[k-ft]	LC				
1 S OVERHANG	I	max	0	10	0	10	0	10	0	10				
2		min	0	1	0	1	0	1	0	1				
3	J	max	12.943	6	0	10	15.111	6	39.864	2	60.602	6	1446.242	2
4		min	-2.55	8	-360.087	2	0	5	0	3	0	5	0	9
5 COLUMN1 - COLUMN2	I	max	0	10	296.711	2	0	10	2.285	3	57.044	4	1083.023	2
6		min	-49.391	4	0	9	-16.108	4	-38.168	1	0	7	0	9
7	J	max	0	10	0	10	14.51	6	42.594	2	44.038	6	574.87	2
8		min	-42.225	2	-190.925	2	-0.01	5	0	7	-0.019	8	0	9
9 COLUMN2 - COLUMN3	I	max	0	10	184.182	2	0.001	8	0	10	44.037	6	523.367	2
10		min	-46.948	4	0	9	-14.682	6	-42.096	1	-0.018	8	0	9
11	J	max	0	10	0	10	15.933	4	38.666	2	54.201	4	1141.086	2
12		min	-37.913	2	-303.453	2	0	5	-1.846	3	-0.001	5	0	9
13 N OVERHANG	I	max	2.55	8	354.137	2	0	10	0	10	60.602	4	1422.318	2
14		min	-12.943	6	0	9	-15.111	4	-39.864	1	0	5	0	9
15	J	max	0	10	0	10	0	10	0	10	0	10	0	10
16		min	0	1	0	1	0	1	0	1	0	1	0	1
17 COLUMN3	I	max	657.59	2	31.071	2	0	5	6.403	6	1.846	3	281.232	2
18		min	0	9	0	9	-31.045	4	-0.005	8	-78.53	1	0	9
19	J	max	672.965	2	31.071	2	0	10	6.403	6	0	10	40.919	6
20		min	0	9	0	9	-34.525	4	-0.005	8	-463.105	4	-108.181	5
21 COLUMN2	I	max	549.877	2	6.517	8	0.011	8	0	8	0	10	36.709	8
22		min	0	9	-24.61	6	-29.192	6	-0.001	3	-84.691	1	-136.778	6
23	J	max	565.251	2	6.517	8	0.011	8	0	8	0	10	158.544	6
24		min	0	9	-24.61	6	-32.672	6	-0.001	3	-450.657	4	-41.496	8
25 COLUMN1	I	max	657.591	2	52.271	4	31.219	4	0.846	8	78.054	2	385.145	4
26		min	0	9	0	9	0	7	-2.778	6	-2.248	3	0	9
27	J	max	673.031	2	56.231	4	34.7	4	0.846	8	464.553	4	9.342	8
28		min	0	9	0	9	0	7	-2.778	6	0	7	-265.945	4



**Detail Report: S OVERHANG**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT36X48	I Node:	CAP END S
Member Type:	Beam	J Node:	COLUMN1
Length (ft):	8.021	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-19		

**Material Properties:**

Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1928	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

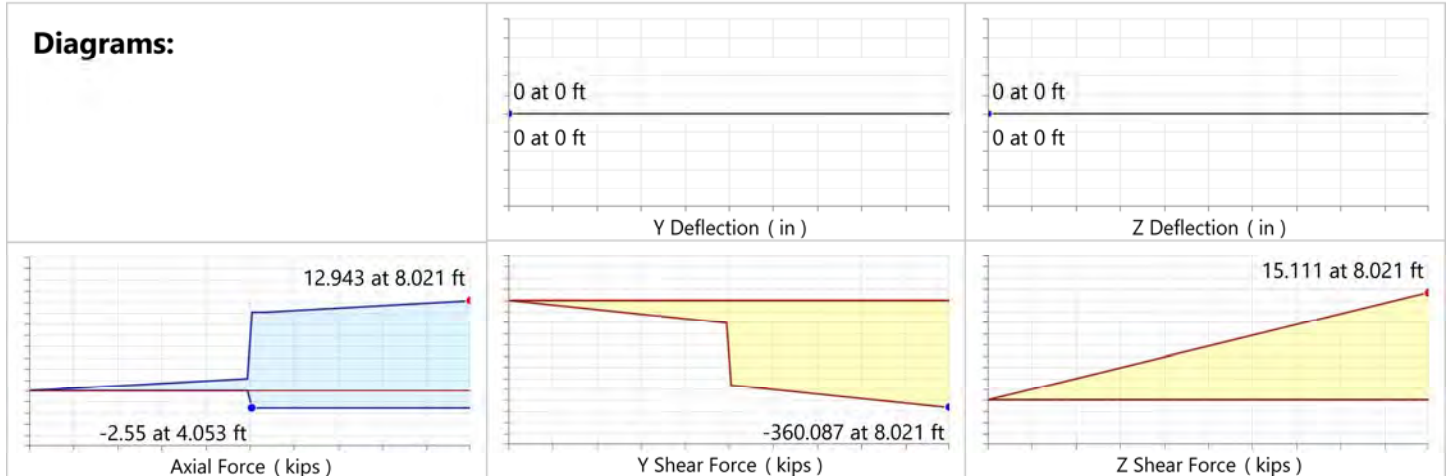
D (in):	36	W (in):	48
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**Design Properties:**

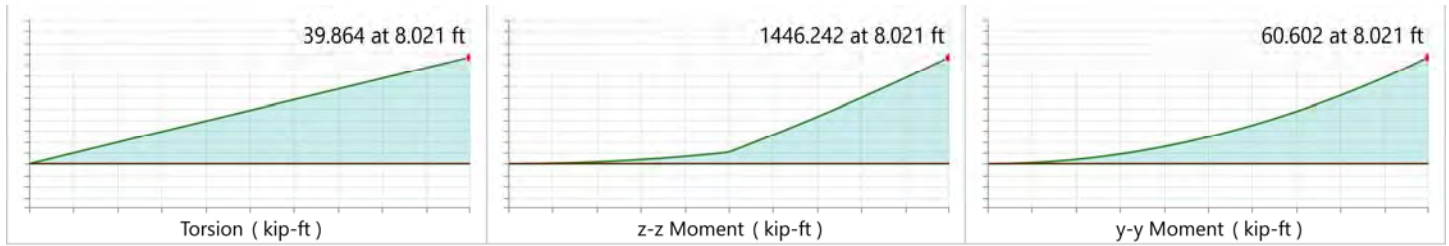
B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	1.5
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	65318.4	Bottom Cover (in):	1.5
		Effective "I" (Service) (in <sup>4</sup> ):	93405.312	Side Cover (in):	1.5
				Legs/Stirrup:	2



**Diagrams:**







### ACI 318-19 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.

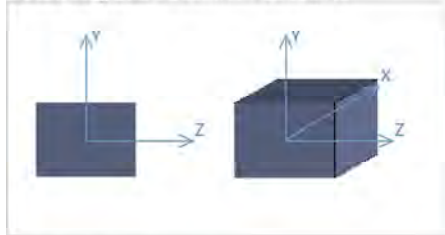
P-Delta Analysis required for all ACI 318-19 load combinations

No Results to Display

**Detail Report:** COLUMN1 - COLUMN2

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT36X48	I Node:	COLUMN1
Member Type:	Beam	J Node:	COLUMN2/GIRDER C
Length (ft):	16.25	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-19		

**Material Properties:**

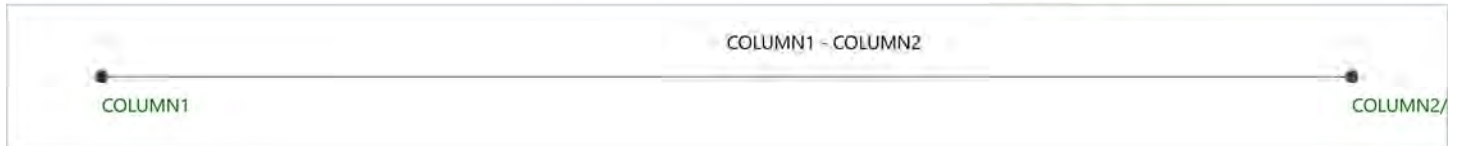
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1928	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

D (in):	36	W (in):	48
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**Design Properties:**

B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	1.5
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	65318.4	Bottom Cover (in):	1.5
		Effective "I" (Service) (in <sup>4</sup> ):	93405.312	Side Cover (in):	1.5
				Legs/Stirrup:	2





Company : Steamboat Structures LLC  
Designer : Reed  
Job Number : 101.2006  
Model Name : Pier 2

1/19/2021  
2:27:26 PM  
Checked By : CWT

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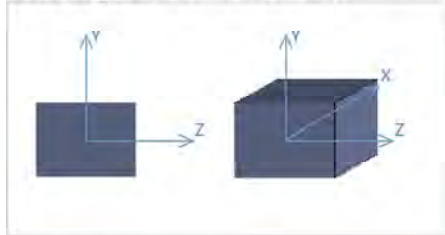
### ACI 318-19 Code Check

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
P-Delta Analysis required for all ACI 318-19 load combinations  
No Results to Display

**Detail Report:** COLUMN2 - COLUMN3

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope

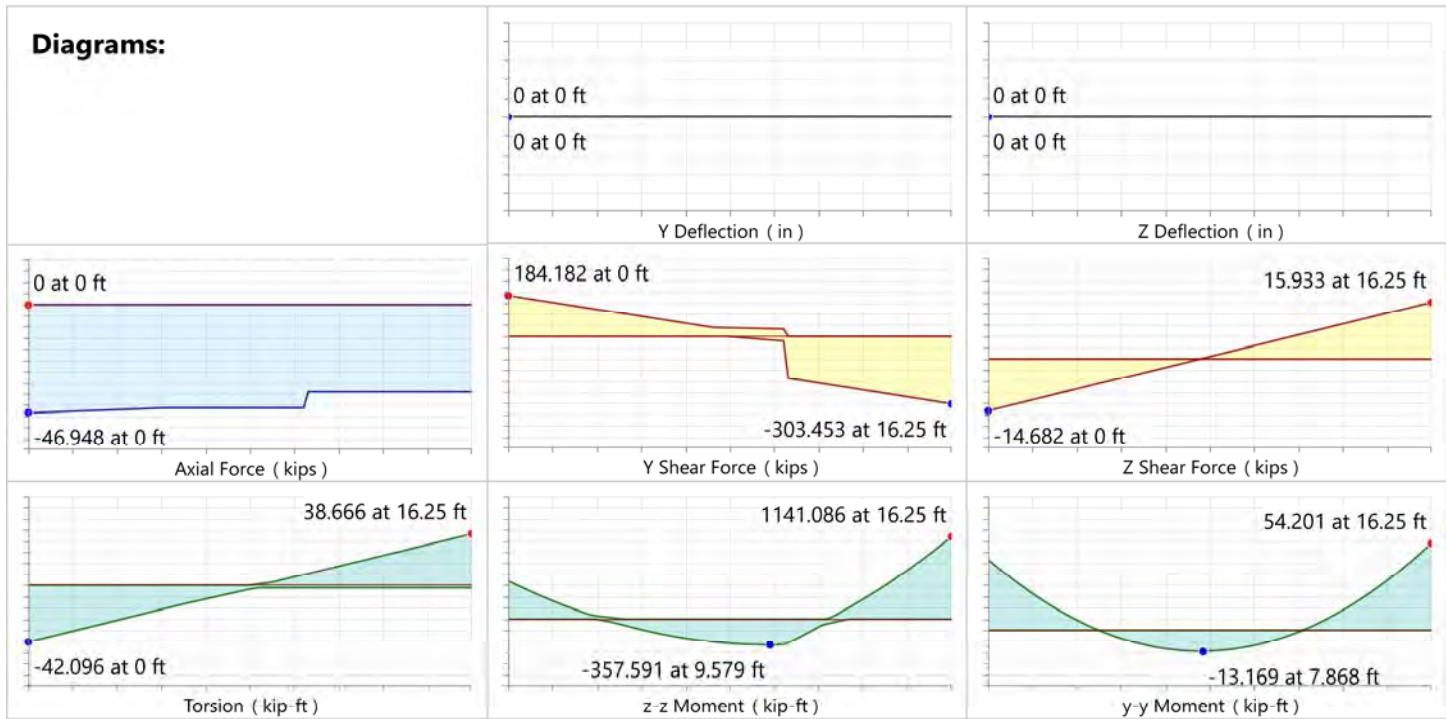
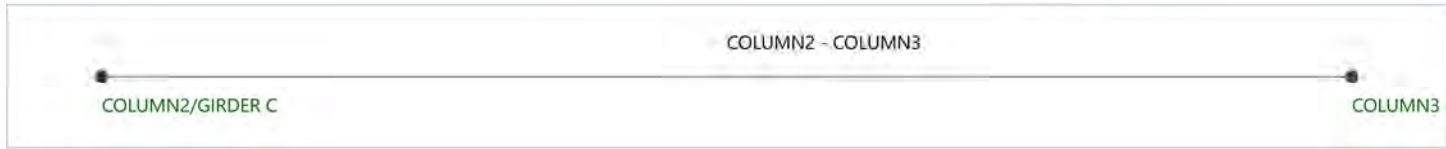


Input Data:			
Shape:	CRECT36X48	I Node:	COLUMN2/GIRDER C
Member Type:	Beam	J Node:	COLUMN3
Length (ft):	16.25	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-19		

Material Properties:			
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> F <sup>-1</sup> ):	0.6
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145
G (ksi):	1928	f'c (ksi):	4.5
Nu:	0.15	Lambda:	1
		Flex Steel (ksi):	60
		Shear Steel (ksi):	60

Shape Properties:			
D (in):	36	W (in):	48

Design Properties:			
B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular
B-eff Right (in):	N/A	Cracked Sections Used:	Yes
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	65318.4
		Effective "I" (Service) (in <sup>4</sup> ):	93405.312
		Flex Rebar Set:	ASTM A615
		Shear Rebar Set:	ASTM A615
		Top Cover (in):	1.5
		Bottom Cover (in):	1.5
		Side Cover (in):	1.5
		Legs/Stirrup:	2





Company : Steamboat Structures LLC  
Designer : Reed  
Job Number : 101.2006  
Model Name : Pier 2

1/19/2021  
2:27:28 PM  
Checked By : CWT

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### ACI 318-19 Code Check

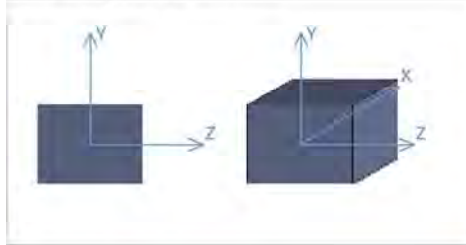
Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
P-Delta Analysis required for all ACI 318-19 load combinations  
No Results to Display



**Detail Report: N OVERHANG**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRECT36X48	I Node:	COLUMN3
Member Type:	Beam	J Node:	CAP END N
Length (ft):	8.021	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-19		

**Material Properties:**

Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> /F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1928	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

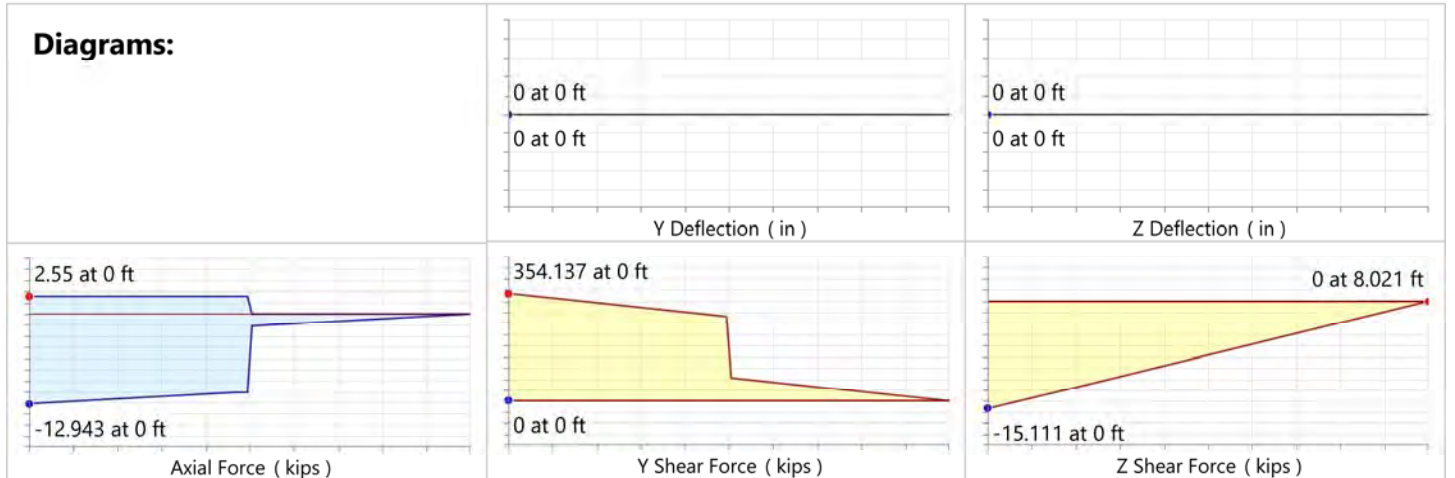
D (in):	36	W (in):	48
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**Design Properties:**

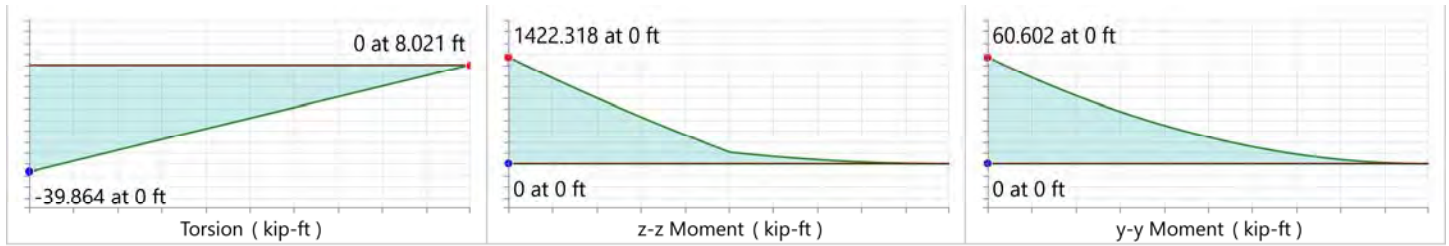
B-eff Left (in):	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
B-eff Right (in):	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
Slab Thk Left (in):	N/A	Cracked "I" Factor:	0.35	Top Cover (in):	1.5
Slab Thk Right (in):	N/A	Effective "I" (in <sup>4</sup> ):	65318.4	Bottom Cover (in):	1.5
		Effective "I" (Service) (in <sup>4</sup> ):	93405.312	Side Cover (in):	1.5
				Legs/Stirrup:	2



**Diagrams:**







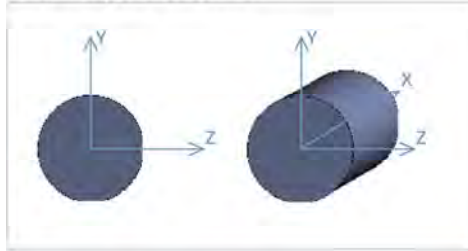
**ACI 318-19 Code Check**

Beam Design does not consider any 'T' & 'My' Moments, nor 'A' & 'Vz' Forces.  
 P-Delta Analysis required for all ACI 318-19 load combinations  
 No Results to Display

**Detail Report: COLUMN3**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRND36	I Node:	COLUMN3
Member Type:	Column	J Node:	BOTTOM OF COLUMN3
Length (ft):	12	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-19		

**Material Properties:**

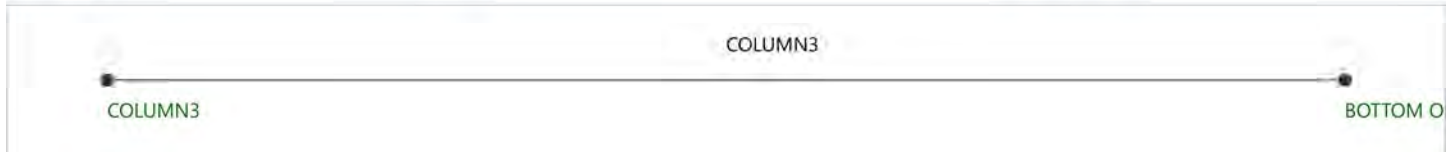
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> /°F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1928	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

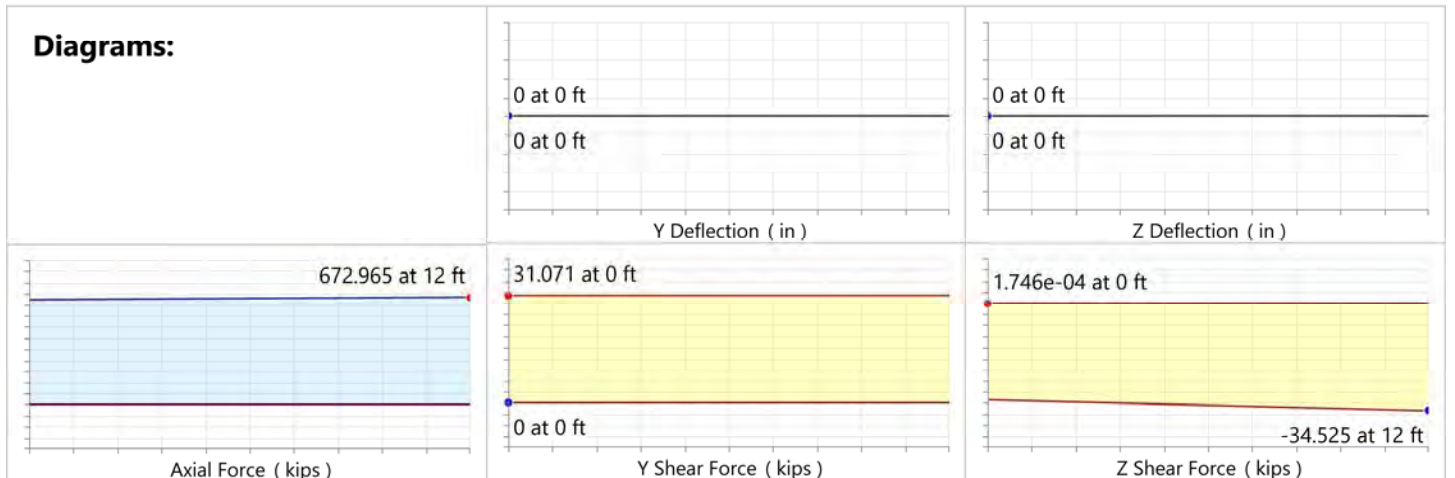
D (in):	36
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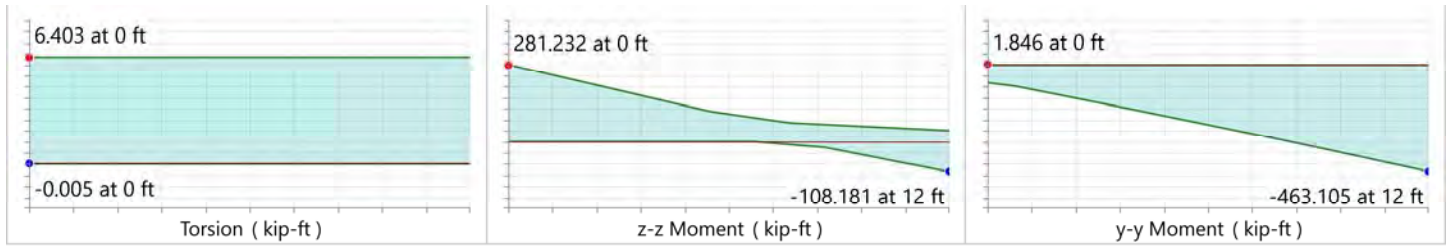
**Design Properties:**

C <sub>m y-y</sub> :	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
C <sub>m z-z</sub> :	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
K <sub>y-y</sub> :	1	Cracked "I" Factor:	0.7	Top Cover (in):	1.5
K <sub>z-z</sub> :	1	Effective "I" (in <sup>4</sup> ):	57713.57	Bottom Cover (in):	1.5
y sway:	No	Effective "I" (Service) (in <sup>4</sup> ):	82530.406	Side Cover (in):	1.5
z sway:	No			Legs/Stirrup:	2



**Diagrams:**





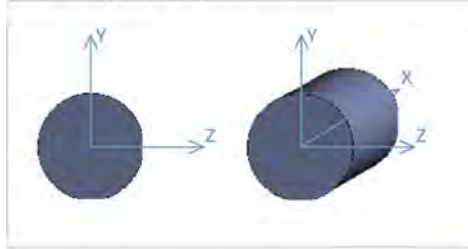
**ACI 318-19 Code Check**

Column Design does not consider any Torsional Moments  
 P-Delta Analysis required for all ACI 318-19 load combinations  
 No Results to Display

**Detail Report: COLUMN2**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRND36	I Node:	COLUMN2/GIRDER C
Member Type:	Column	J Node:	BOTTOM OF COLUMN2
Length (ft):	12	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-19		

**Material Properties:**

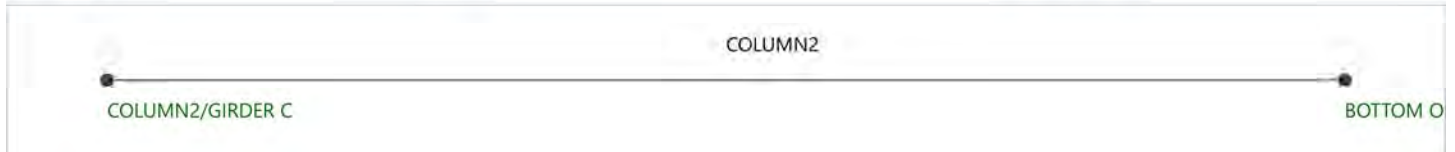
Material:	CONC4500	Therm. Coeff. (1e <sup>-5</sup> /°F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1928	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

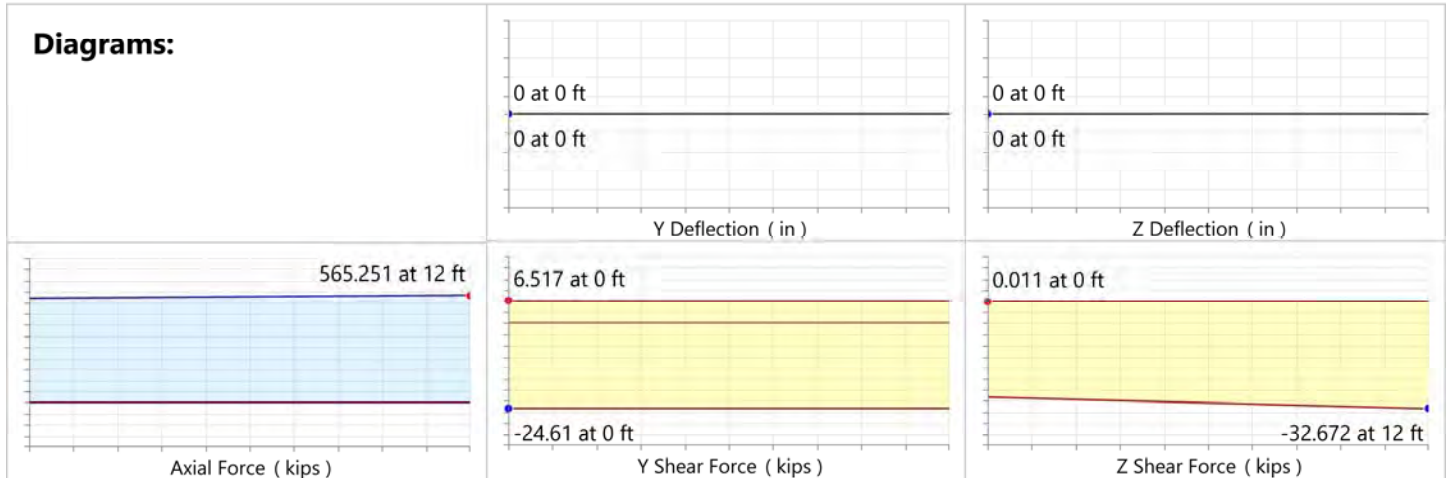
D (in):	36
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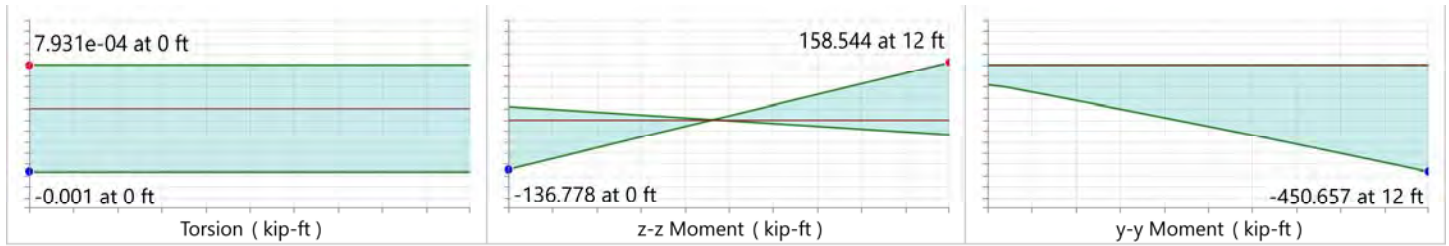
**Design Properties:**

C <sub>m y-y</sub> :	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
C <sub>m z-z</sub> :	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
K <sub>y-y</sub> :	1	Cracked "I" Factor:	0.7	Top Cover (in):	1.5
K <sub>z-z</sub> :	1	Effective "I" (in <sup>4</sup> ):	57713.57	Bottom Cover (in):	1.5
y sway:	No	Effective "I" (Service) (in <sup>4</sup> ):	82530.406	Side Cover (in):	1.5
z sway:	No			Legs/Stirrup:	2



**Diagrams:**





**ACI 318-19 Code Check**

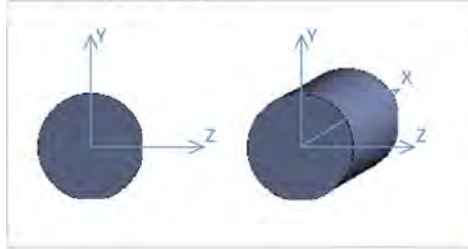
Column Design does not consider any Torsional Moments  
 P-Delta Analysis required for all ACI 318-19 load combinations  
 No Results to Display



**Detail Report: COLUMN1**

**Unity Check:** 0 (axial/bending)

**Load Combination:** Envelope



**Input Data:**

Shape:	CRND36	I Node:	COLUMN1
Member Type:	Column	J Node:	BOTTOM OF COLUMN1
Length (ft):	12.001	I Release:	Fixed
Material Type:	Concrete	J Release:	Fixed
Design Rule:	Typical	I Offset (in):	N/A
Number of Internal Sections:	96	J Offset (in):	N/A
Design Code:	ACI 318-19		

**Material Properties:**

Material:	CONC4500	Therm. Coeff. (1e <sup>5</sup> °F <sup>-1</sup> ):	0.6	Lambda:	1
E (ksi):	4435	Density (k/ft <sup>3</sup> ):	0.145	Flex Steel (ksi):	60
G (ksi):	1928	f'c (ksi):	4.5	Shear Steel (ksi):	60
Nu:	0.15				

**Shape Properties:**

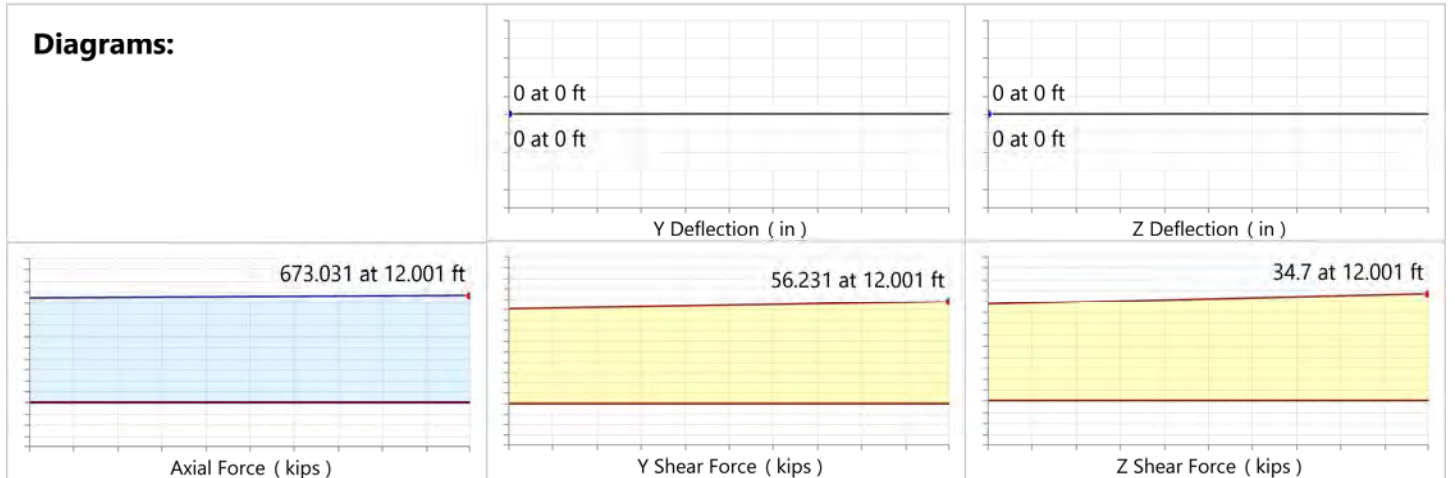
D (in):	36
---------	----

**Design Properties:**

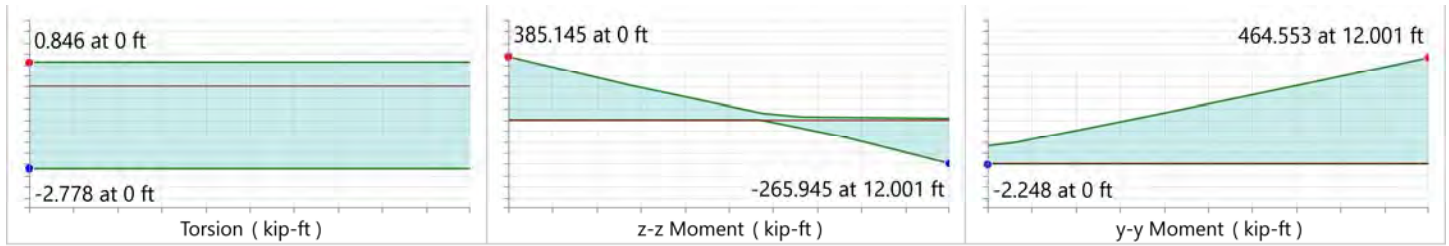
C <sub>m y-y</sub> :	N/A	Concrete Stress Block:	Rectangular	Flex Rebar Set:	ASTM A615
C <sub>m z-z</sub> :	N/A	Cracked Sections Used:	Yes	Shear Rebar Set:	ASTM A615
K <sub>y-y</sub> :	1	Cracked "I" Factor:	0.7	Top Cover (in):	1.5
K <sub>z-z</sub> :	1	Effective "I" (in <sup>4</sup> ):	57713.57	Bottom Cover (in):	1.5
y sway:	No	Effective "I" (Service) (in <sup>4</sup> ):	82530.406	Side Cover (in):	1.5
z sway:	No			Legs/Stirrup:	2



**Diagrams:**







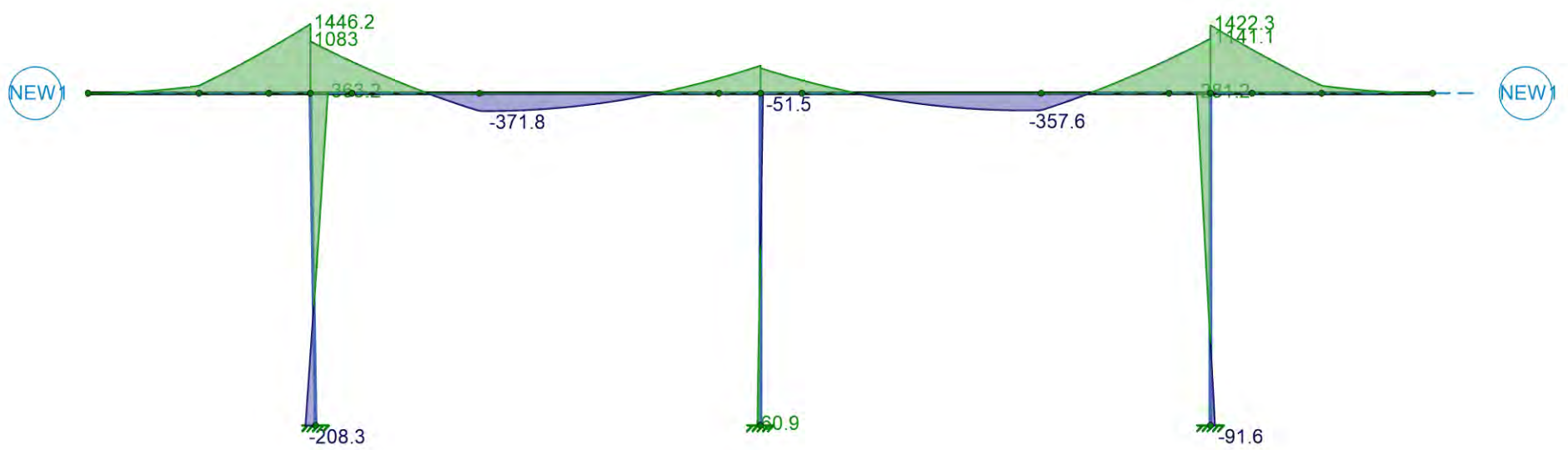
### ACI 318-19 Code Check

Column Design does not consider any Torsional Moments  
P-Delta Analysis required for all ACI 318-19 load combinations  
No Results to Display



Code Check (LC 2)

- No Calc
- > 1.0
- .90-1.0
- .75-.90
- .50-.75
- 0-.50

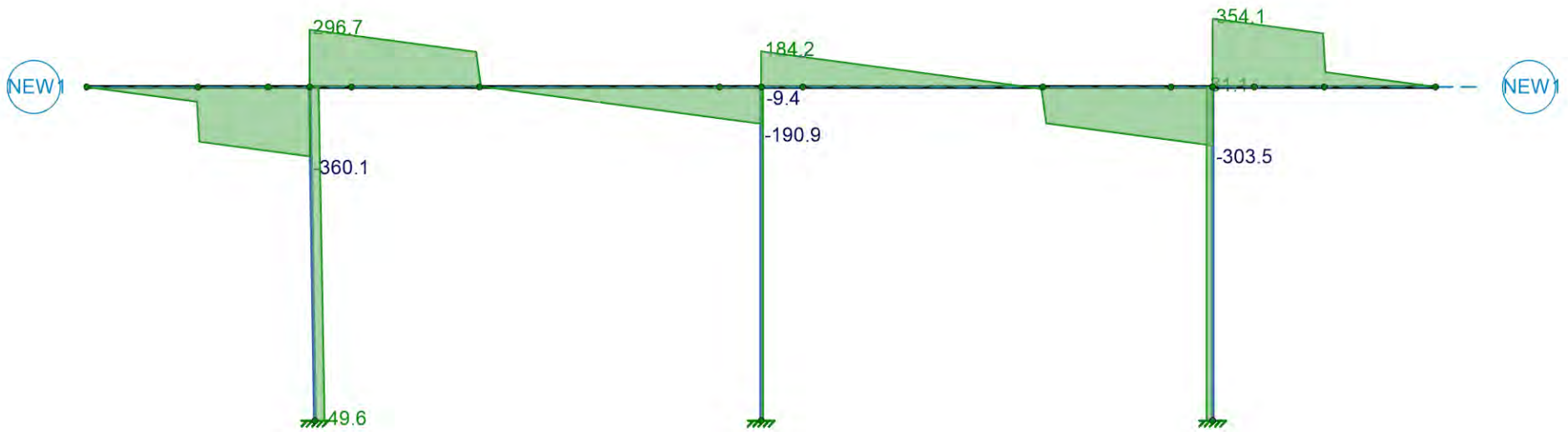


Results for LC 2, Strength I-b  
Member z Bending Moments (kip-ft)

Steamboat Structures LLC	Pier 2	SK-3
Reed		Jan 19, 2021
101.2006		Pier Cap.r3d



Code Check (LC 2)	
Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50



Results for LC 2, Strength I-b  
Member y Shear Forces (kips)

Steamboat Structures LLC	Pier 2	SK-4
Reed		Jan 19, 2021
101.2006		Pier Cap.r3d



## ***PIER CAP DESIGN***



## Pier Cap Design

### RISA Output

Pier Cap Length =	48.54	ft
Pier Cap Height =	3.00	ft
Pier Cap Width =	4.00	ft
# of Columns =	3	columns
Max -Mz =	1401.00	k-ft
Max +Mz =	1180.00	k-ft
Max Shear =	501.00	kip
Max Service -Mz =	520.00	k-ft
Max Service +Mz =	228.12	k-ft
Max Service Shear =	220.00	kip
b =	48	in
h =	36	in
depth =	582.5	in
f'c =	4.5	ksi
Ec =	4435.3	ksi
fy =	60	ksi
Es =	29000	ksi

#### Min Height

Str 1b @ Face of Col 1	From RISA Output
Str 1b b/n Col 2 & 3	From RISA Output
Str 1b @ Face of Col 1	From RISA Output
Serv 1 @ Face of Col 1	From RISA Output
Serv 1 b/n Col 2 & 3	From RISA Output
Serv 1 @ Face of Col 1	From RISA Output

#### I. Negative Moment Resistance - Top Bars in Pier Cap

Taken at face of column, due to the large 'd' if taken at CL Column

##### I.a. Flexural Resistance:

b =	48 in	clr <sub>s</sub> =	2 in
dia =	1 1/8 in	Bar Size =	9
d = h - clr <sub>s</sub> - dia <sub>s</sub> - dia/2		d =	32.813 in

##### 10 - #9 Bars

Number of Bars =	# <sub>b</sub> =	10
Area per Bar =	A <sub>s</sub> =	1.00 in <sup>2</sup> /bar

$$A_{s-M} = \#_b * A_s \quad A_{s-M} = 10.00 \text{ in}^2$$

#### Resistance Factors:

$\phi_f = 0.9$	For tension-controlled reinforced concrete	LRFD 5.5.4.2
$\phi_t = 0.9$	For shear and torsion reinforced concrete	LRFD 5.5.4.2

$$a = \frac{A_s f_y}{0.85 b f'_c} \quad a = 3.268 \text{ in}$$

$$M_r = (\phi_f A_{s-M} f_y (d - a/2))/12 \quad 1403.033 \text{ ft-kip/ft}$$

$$M_u = 1401.000 \text{ ft-kip/ft}$$

OK!



**I.b. Limits For Reinforcement:**

**Check Minimum Reinforcement**

$$I_g = \frac{bh^3}{12}$$

$$Y_t = h/2$$

$$S_c = I_g/Y_t$$

$$f_r = .24\lambda\sqrt{f_c}$$

$$M_{cr} = y_3[(y_1 f_r + y_2 f_{cpe})S_c - M_{dnc}(\gamma_c/\gamma_{nc} - 1)]$$

$y_1$  = flexural cracking variability factor  
 $y_2$  = prestress variable factor  
 $y_3$  = ratio of spec. min yield strength to ultimate tensile strength of rebar

$$M_{cr} = 1.33 * M_u$$

$$M_r = (\phi_r A_s m f_y (d_p - a/2))/12$$

**LRFD 5.6.3.3**

$$I_g = 186624 \text{ in}^4$$

$$Y_t = 18 \text{ in}$$

$$S_c = 10368 \text{ in}^3$$

$$f_r = 0.509 \text{ ksi}$$

LRFD 5.4.2.6

$$M_{cr} = 471.548 \text{ ft-kip} \quad \text{CONTROLS} \quad \text{LRFD 5.6.3.3-1}$$

$$y_1 = 1.60$$

$$y_2 = 0.00$$

$$y_3 = 0.67 \text{ for A615, Grade 60 Steel}$$

$$M_{dnc} = 0.00 \text{ ft-kip}$$

$$M_{cr} = 1863.330 \text{ ft-kip/ft}$$

$$1403.033 \text{ ft-kip/ft}$$

>

$$M_{cr} = 471.548 \text{ ft-kip/ft}$$

OK!

**I.c. Serviceability Requirements:**

**Crack Control**

$$\rho = A_s/bd$$

$$k = \sqrt{(2np + [(pn)]^2) - np}$$

$$j = 1 - k/3$$

$$f_{ss} = \frac{M_s}{A_s j d}$$

$$M_s = 520.00 \text{ ft-kip}$$

LRFD 5.6.7

$$A_s = 10.00 \text{ in}^2$$

$$0.0063$$

$$n = 7$$

$$k = 0.2570$$

$$j = 0.914$$

$$f_{ss(\text{actual})} = 20.80 \text{ ksi}$$

**Allowable Spacing**

$$s \leq \frac{700y_e}{\beta_s f_{ss}} - 2d_c$$

LRFD 5.7.3.4-1

$$\beta_s = 1 + \frac{d_c}{0.7(h - d_c)}$$

$$d_c = 3.19 \text{ in}$$

$$h = 36.0 \text{ in}$$

$$\beta_s = 1.14$$

$$y_e = 0.75$$

1.0 for Class 1 exposure, 0.75 for Class 2 exposure \*

$$s \leq 15.79 \text{ in}$$

OK!

\* Class 1 exposure condition applies when cracks can be tolerated due to reduced concerns of appearance and/or corrosion. Class 2 exposure condition applies to when there is increased concern of appearance and/or corrosion and transverse design of segmental concrete box girders for any loads applied prior to attaining full nominal concrete strength. Recommended to use Class 2 for decks.





**I.d. Summary Check**

Is:	$\phi M_n \geq M_u$	1403.03 ft-kip/ft	
		>	OK!
		Mu = 1401.00 ft-kip/ft	
	$\phi M_n \geq M_{cr}$	$\phi M_n = 1403.03$ ft-kip/ft	
		>	OK!
		Mcr = 471.55 ft-kip/ft	
	$s \leq \frac{700\gamma_e}{\beta_s f_{ss}} - 2d_c$	s = 4.63 in	
		<	OK!
		$\frac{700\gamma_e}{\beta_s f_{ss}} - 2d_c = 15.79$ in	

**Reinforcement meets requirements**

**II. Positive Moment Resistance - Bottom Bars in Pier Cap**

**II.a. Flexural Resistance:**

b =	48 in	clr <sub>s</sub> =	2 in
dia =	1 1/8 in	Bar Size =	9
d = h - clr <sub>s</sub> - dia <sub>s</sub> - dia/2		d =	32.813 in

**10 - #9 Bars**

Number of Bars =	# <sub>b</sub> =	10
Area per Bar =	A <sub>s</sub> =	1.00 in <sup>2</sup> /bar

A <sub>s,+M</sub> = # <sub>b</sub> * A <sub>s</sub>	A <sub>s,+M</sub> =	10.00 in <sup>2</sup>
---	---------------------	-----------------------

**Resistance Factors:**

$\phi_f = 0.9$	For tension-controlled reinforced concrete	LRFD 5.5.4.2
$\phi_t = 0.9$	For shear and torsion reinforced concrete	LRFD 5.5.4.2

$a = \frac{A_s f_y}{0.85 b f'_c}$	a =	3.268 in
$M_r = (\phi_f A_{s,+M} f_y (d - a/2))/12$		1403.033 ft-kip/ft
		>
	M <sub>u</sub> =	1180.000 ft-kip/ft
		OK!



**II.b. Limits For Reinforcement:**

**Check Minimum Reinforcement**

$$I_g = \frac{bh^3}{12}$$

$$Y_t = h/2$$

$$S_c = I_g/Y_t$$

$$f_r = .24\lambda\sqrt{f'_c}$$

$$M_{cr} = \gamma_3 [(y_1 f_r + y_2 f_{cpe}) S_c - M_{dnc} (\gamma_c / \gamma_{nc} - 1)]$$

$\gamma_1$  = flexural cracking variability factor  
 $\gamma_2$  = prestress variable factor  
 $\gamma_3$  = ratio of spec. min yield strength to ultimate tensile strength of rebar

$$M_{cr} = 1.33 * M_u$$

$$M_r = (\phi_r A_{shoriz} f_y (d - a/2)) / 12$$

**LRFD 5.6.3.3**

$$I_g = 186624 \text{ in}^4$$

$$Y_t = 18 \text{ in}$$

$$S_c = 10368 \text{ in}^3$$

$$f_r = 0.509 \text{ ksi}$$

LRFD 5.4.2.6

$$M_{cr} = 471.548 \text{ ft-kip} \quad \text{CONTROLS} \quad \text{LRFD 5.6.3.3-1}$$

$$\gamma_1 = 1.60$$

$$\gamma_2 = 0.00$$

$$\gamma_3 = 0.67 \text{ for A615, Grade 60 Steel}$$

$$M_{dnc} = 0.00 \text{ ft-kip}$$

$$M_{cr} = 1569.400 \text{ ft-kip/ft}$$

$$1403.033 \text{ ft-kip/ft}$$

>

$$M_{cr} = 471.548 \text{ ft-kip/ft}$$

OK!

**II.c. Serviceability Requirements:**

**Crack Control**

$$\rho = A_s / bd$$

$$k = \sqrt{(2np + [(pn)]^2)} - np$$

$$j = 1 - k/3$$

$$f_{ss} = \frac{M_s}{A_s j d}$$

$$M_s = 228.12 \text{ ft-kip}$$

LRFD 5.6.7

$$A_s = 10.00 \text{ in}^2$$

$$0.0063$$

$$n = 7$$

$$k = 0.2570$$

$$j = 0.914$$

$$f_{ss(\text{actual})} = 9.12 \text{ ksi}$$

**Allowable Spacing**

$$s \leq \frac{700\gamma_e}{\beta_s f_{ss}} - 2d_c \quad \text{LRFD 5.7.3.4-1}$$

$$\beta_s = 1 + \frac{d_c}{0.7(h - d_c)}$$

$$d_c = 3.19 \text{ in}$$

$$h = 36.0 \text{ in}$$

$$\beta_s = 1.14$$

$$Y_e = 0.75$$

1.0 for Class 1 exposure, 0.75 for Class 2 exposure \*

$$s \leq 44.15 \text{ in}$$

OK!

\* Class 1 exposure condition applies when cracks can be tolerated due to reduced concerns of appearance and/or corrosion. Class 2 exposure condition applies to when there is increased concern of appearance and/or corrosion and transverse design of segmental concrete box girders for any loads applied prior to attaining full nominal concrete strength. Recommended to use Class 2 for decks.



**II.d. Summary Check**

Is:	$\phi M_n \geq M_u$	1403.033 ft-kip/ft	
		>	OK!
		Mu = 1180.000 ft-kip/ft	
	$\phi M_n \geq M_{cr}$	$\phi M_n = 1403.033$ ft-kip/ft	
		>	OK!
		Mcr = 471.548 ft-kip/ft	
	$s \leq \frac{700\gamma_e}{\beta_s f_{ss}} - 2d_c$	s = 4.63 in	
		<	OK!
		$\frac{700\gamma_e}{\beta_s f_{ss}} - 2d_c = 44.15$ in	

**Reinforcement meets requirements**

**III. Shear Reinforcement**

LRFD 5.7.3.3

**III.a. Limits For Reinforcement:**

**Minimum Transverse Reinforcement**

LRFD 5.7.2.5

b =	48 in	clr <sub>s</sub> =	2 in
dia =	5/8 in	Bar Size =	5
d = h - clr <sub>s</sub> - dia/2		d =	33.688 in

**4 legs of #5 Bars @ 6"**

Bar Spacing =	S <sub>b</sub> =	6 in
Area per Bar =	A <sub>s</sub> =	0.31 in <sup>2</sup> /bar
Number of Legs =	# <sub>legs</sub> =	4

$A_v = S_b * A_s * \#_{legs}$	A <sub>v</sub> =	2.48 in <sup>2</sup>
-------------------------------	------------------	----------------------

λ = concrete density modification factor	λ =	1.0	LRFD 5.4.2.8
$A_v \geq 0.0316\lambda\sqrt{f'_c} \frac{b_v s}{f_y}$	A <sub>v</sub> ≥	0.322 in <sup>2</sup>	LRFD 5.7.2.5
		<	
	A <sub>v</sub> =	2.48 in <sup>2</sup>	

**Minimum Transverse Reinforcement is Provided**

**Shear Stress on Concrete**

LRFD 5.7.2.8

**Resistance Factors:**

φ <sub>f</sub> = 0.9	For tension-controlled reinforced concrete	LRFD 5.5.4.2
φ <sub>t</sub> = 0.9	For shear and torsion reinforced concrete	LRFD 5.5.4.2

$d_v = \max \left\{ \begin{array}{l} d_e - \frac{a}{2} \\ 0.9 * d_e \\ 0.72 * h \end{array} \right.$	$d_e - \frac{a}{2} =$	31.18 in
	$0.9 * d_e =$	29.53 in
	$0.72 * h =$	25.92 in
	d <sub>v</sub> =	31.18 in

$v_u = \frac{ V_u }{\phi b_v d_v}$	V <sub>u</sub> =	501.00 kip
	v <sub>u</sub> =	0.372 ksi



**Maximum Spacing of Transverse Reinforcement**

LRFD 5.7.2.6

$$v_u = 0.372 \text{ ksi}$$

$$<$$

$$0.125 f'_c = 0.563 \text{ ksi}$$

If  $v_u < 0.125 f'_c$ , then:

$$s_{max} = 0.8 d_v \leq 24.0 \text{ in}$$

$$s_{max} = 24.0 \text{ in}$$

If  $v_u \geq 0.125 f'_c$ , then:

$$s_{max} = 0.4 d_v \leq 12.0 \text{ in}$$

$$s_b = 6.0 \text{ in}$$

OK!

**III.b. Shear Resistance**

LRFD 5.7.3.3

Per LRFD 5.7.3.4.1, this section does not qualify for simplified procedure for determining shear resistance parameters. General procedure will be used per 5.7.3.4.2

$$\epsilon_s = \frac{\left(\frac{|M_u|}{d_v} + 0.5N_u + |V_u|\right)}{E_s A_s} \quad \text{when removing all prestress steel unknowns}$$

$$M_u = \max(\mu_u, V_u * d_v)$$

$$M_u = 1401.00 \text{ kip-ft/ft}$$

$$N_u = \text{factored axial force}$$

$$N_u = 6.82 \text{ kip/ft}$$

$$A_s = \text{area of steel on the flexural side}$$

$$A_s = 10.00 \text{ in}^2/\text{ft}$$

$$\epsilon_s = 0.0036 \text{ in/in/ft}$$

Parameter  $\beta$  for sections with minimum transverse reinforcement

$$\beta = \frac{4.8}{(1 + 750\epsilon_s)}$$

$$\beta = 1.30$$

LRFD 5.7.3.4.2

$$\theta = 29 + 3500\epsilon_s$$

$$\theta = 41.60$$

$$V_s + V_c = \phi_t V_n \geq V_u$$

$$V_u = 501.00 \text{ kip}$$

$$V_n = \text{lesser of } V_{n,1}, V_{n,2}$$

$$V_c = 0.0316\beta\lambda\sqrt{f'_c}b_v d_v$$

$$V_c = 130.18 \text{ kip}$$

$$V_s = \frac{A_v f_y d_v \cot \theta}{s}$$

$$V_s = 871.04 \text{ kip}$$

$$V_{n,2} = 0.25f'_c b_v d_v$$

$$V_{n,1} = 1001.22 \text{ kip}$$

$$V_{n,2} = 1683.64 \text{ kip}$$

$$\phi V_n = 901.10 \text{ kip}$$

>

$$V_u = 501.00 \text{ kip}$$

OK!

**III.c. Summary Check**

Is:

$$A_v \geq 0.0316\lambda\sqrt{f'_c} \frac{b_v s}{f_y}$$

$$A_v \geq 0.322 \text{ in}^2$$

<

OK!

$$A_v = 2.480 \text{ in}^2$$

$$s_{max} = \text{MIN}(0.8*d_v, 24)$$

$$s_{max} = 24.00 \text{ in}$$

>

OK!

$$s_b = 6.00 \text{ in}$$

$$\phi V_n \geq V_u$$

$$\phi V_n = 901.10 \text{ kip}$$

>

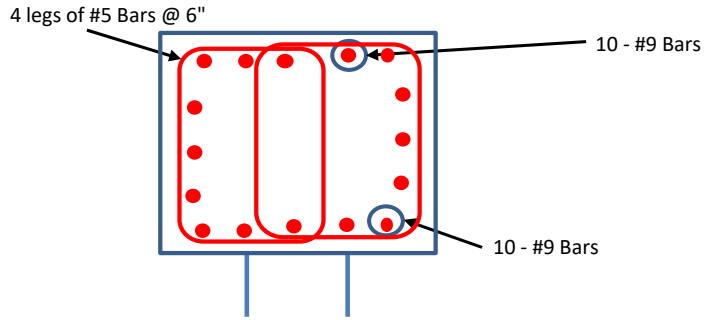
OK!

$$V_u = 501.00 \text{ kip}$$

**Reinforcement meets requirements**



IV. Summary





## ***PIER COLUMN DESIGN***





**Column Design**

**RISA Output**

	Pu, kip	My, k-ft	Mz, k-ft	Local Axes Output
1	672.97	463.11	281.23	Column 3 Max Values
2	565.25	450.66	158.54	Column 2 Max Values
3	673.03	464.55	385.15	Column 1 Max Values

**BridgeLink Input**

**Section**

Diameter = 36.000 in  
 f'c = 4.500 ksi

**Reinforcement**

Cover = 2.000 in  
 As = 13.970 in<sup>2</sup>  
 Es = 29000 ksi  
 fy = 60 ksi  
 e cl = 0.002  
 e tl = 0.005

11 - #10 Bars

**BridgeLink Output Summary**

	$\phi M_n$	$\phi M_n/M_{u-x}$	$\phi M_n/M_{u-z}$			
1	1393.35	3.01	4.95	>	1.0	OK!
2	1326.59	2.94	8.37	>	1.0	OK!
3	1393.39	3.00	3.62	>	1.0	OK!



**BridgeLink Output**

Mn (kip-ft)	Pn (kip)	$\phi$	$\phi$ Mn (kip-ft)	$\phi$ Pn (kip)
208.86	-684.29	0.9	187.97	-615.86
570.54	-392.81	0.9	513.49	-353.53
866.36	-123.6	0.9	779.72	-111.24
1142.36	168.46	0.9	1028.13	151.62
1370.18	460.57	0.9	1233.16	414.51
1544.65	742.08	0.9	1390.19	667.87
1683.74	1040.75	0.854167	1438.19	888.97
1779.33	1355.31	0.809896	1441.07	1097.66
1814.94	1640.81	0.775463	1407.42	1272.39
1794.24	1987.86	0.75	1345.68	1490.9
1722.94	2293.93	0.75	1292.21	1720.45
1623.81	2623.3	0.75	1217.86	1967.48
1496.33	2931.54	0.75	1122.25	2198.66
1345.26	3215.59	0.75	1008.95	2411.69
1177.64	3473.19	0.75	883.23	2604.89
1002.41	3701.86	0.75	751.81	2776.4
804.37	3925.36	0.75	603.28	2944.02
600.7	4126.57	0.75	450.52	3094.93
418.9	4287.69	0.75	314.18	3215.77
264.69	4412.65	0.75	198.52	3309.49
204.13	4464.1	0.75	153.1	3348.08
187.84	4483.87	0.75	140.88	3362.9
172.89	4501.7	0.75	129.67	3376.28
159.14	4517.85	0.75	119.35	3388.39
146.44	4532.51	0.75	109.83	3399.38
134.69	4545.85	0.75	101.02	3409.39
123.78	4558.03	0.75	92.84	3418.52
113.65	4569.17	0.75	85.24	3426.88
104.21	4579.37	0.75	78.16	3434.53
95.41	4588.73	0.75	71.56	3441.55
87.19	4597.34	0.75	65.39	3448
79.5	4605.25	0.75	59.63	3453.94
72.32	4612.54	0.75	54.24	3459.41
65.59	4619.26	0.75	49.19	3464.45
59.29	4625.45	0.75	44.47	3469.09

$$\frac{(x_1 - x_2)}{(y_1 - y_2)} = \frac{(x_1 - x_3)}{(y_1 - y_3)}$$

Solve for $y_3$ for P1	Solve for $y_3$ for P2	Solve for $y_3$ for P3
$\underline{X}$ $x_1 = 414.51$ $x_2 = 667.87$ $x_3 = 672.97$ $\underline{Y}$ $y_1 = 1233.16$ $y_2 = 1390.19$ $y_3 = 1393.35$	$\underline{X}$ $x_1 = 414.51$ $x_2 = 667.87$ $x_3 = 565.25$ $\underline{Y}$ $y_1 = 1233.16$ $y_2 = 1390.19$ $y_3 = 1326.59$	$\underline{X}$ $x_1 = 414.51$ $x_2 = 667.87$ $x_3 = 673.03$ $\underline{Y}$ $y_1 = 1233.16$ $y_2 = 1390.19$ $y_3 = 1393.39$



### Parameters

Bar Size =	10	in
Bar Dia, $d_b$ =	1.27	in
Bar Area, $A_b$ =	1.27	in <sup>2</sup>
Bar Spacing c-c, $s_b$ =	7.04	in
Bar clr, $clr_b$ =	3.25	in
Concrete Strength, $f'_c$ =	4.5	ksi
Rebar Strength, $f_y$ =	60	ksi
Weight of Concrete, $w_c$ =	0.15	kcf
Epoxy coated =	Yes	

### Basic Development Length

LRFD 5.10.8.2.1a

For No. 11 Bar and Smaller

$$l_d = l_{db} \left( \frac{\lambda_{ri} \lambda_{cf} \lambda_{rc} \lambda_{er}}{\lambda} \right)$$

$$l_{db} = 2.4 d_b \frac{f_y}{\sqrt{f'_c}}$$

Bar Size = 10 in  
 $l_{db}$  = 86.21 in  
 $l_d$  = 51.73 in  
 but not less than:  
 $l_d$  = 12.00 in

**CONTROLS!**

### Applicable Modification Factors

LRFD 5.10.8.2.1b&c

Top horizontal, with more than 12" below  No  
 Modification Factor  $\lambda_{ri}$  = 1.00

Top horizontal, with less than 12" below  No  
 Modification Factor  $\lambda_{ri}$  = 1.00

Is normal weight concrete used:  Yes  
 Modification Factor  $\lambda$  = 1.00

LRFD 5.4.2.8

$\min(1/2s_b, clr_b) = c_b = 3.25$  in

LRFD 5.10.8.2.1c

Area of Transverse Reinf. w/n  $s_b = A_{tr} = 0.31$  in<sup>2</sup>

\* $A_{tr}$  can be taken to be zero for conservativeness

Max c-c spacing of transverse bars,  $s = 12.00$  in

# of bars developed along plane,  $n = 1.00$

Transverse reinforcement index  $k_{tr} = 1.03$

Modification Factor  $\lambda_{rc} = 0.40$

$k_{tr} = 40A_{tr}/(sn)$  LRFD 5.10.8.2.1c

$\lambda_{rc} = \frac{d_b}{c_b + k_{tr}} \quad 0.4 \leq \lambda_{rc} \leq 1.0$

Is the rebar epoxy coated:  Yes

\*If the product of  $\lambda_{ri} * \lambda_{cf} > 1.7$ ,  $\lambda_{ri} * \lambda_{cf} = 1.7$

Is  $s_b < 6d_b$  or  $clr_b < 3d_b$ : Yes

Modification Factor  $\lambda_{cf} = 1.50$

Modification Factor  $\lambda_{cf} * \lambda_{ri} = 1.50$

Modification Factor  $\lambda_{cf}$  to use = 1.50



Project: Forest Lakes Bridge Substructure Design

Subject: Pier Caisson Reinforcement Splice Design

Client: Structures Inc

By: H. REED

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Is reinf. in excess of that required:   
 Area of steel required  $A_{s-req'd}$ :  in<sup>2</sup>  
 Area of steel provided  $A_{s-prov'd}$ :  in<sup>2</sup>  
 Modification Factor  $\lambda_{er}$  = 1.00

\*To be conservative,  $\lambda_{er}$  may = 1.0

### Modified Development Length

$$l_{db} \times \lambda_{rl} \lambda_{cf} \lambda_{rc} \lambda_{er} / \lambda = 51.73 \text{ in}$$

### Lap Splices in Tension

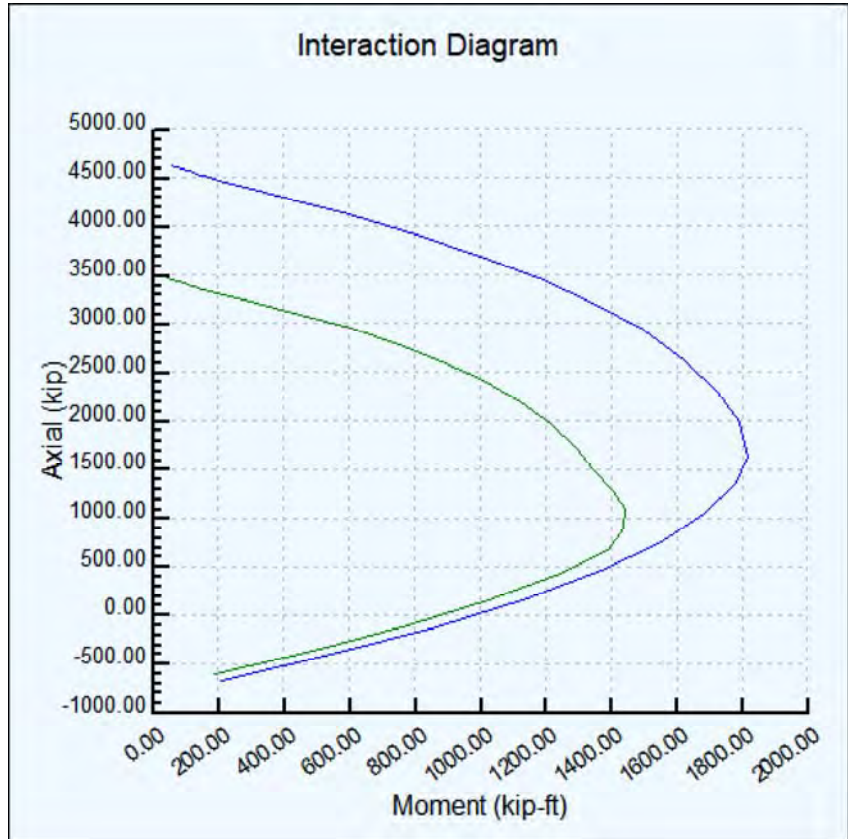
Class A or Class B Splice:

LRFD 5.10.8.4.3a

Minimum Lap Splice in Tension = 67.24 in

M <sub>n</sub> (kip-ft)	P <sub>n</sub> (kip)	φ	φM <sub>n</sub> (kip-ft)	φP <sub>n</sub> (kip)
208.86	-684.29	0.9	187.97	-615.86
570.54	-392.81	0.9	513.49	-353.53
866.36	-123.60	0.9	779.72	-111.24
1142.36	168.46	0.9	1028.13	151.62
1370.18	460.57	0.9	1233.16	414.51
1544.65	742.08	0.9	1390.19	667.87
1683.74	1040.75	0.854167	1438.19	888.97
1779.33	1355.31	0.809896	1441.07	1097.66
1814.94	1640.81	0.775463	1407.42	1272.39
1794.24	1987.86	0.75	1345.68	1490.90
1722.94	2293.93	0.75	1292.21	1720.45
1623.81	2623.30	0.75	1217.86	1967.48
1496.33	2931.54	0.75	1122.25	2198.66
1345.26	3215.59	0.75	1008.95	2411.69
1177.64	3473.19	0.75	883.23	2604.89
1002.41	3701.86	0.75	751.81	2776.40
804.37	3925.36	0.75	603.28	2944.02
600.70	4126.57	0.75	450.52	3094.93
418.90	4287.69	0.75	314.18	3215.77
264.69	4412.65	0.75	198.52	3309.49
204.13	4464.10	0.75	153.10	3348.08
187.84	4483.87	0.75	140.88	3362.90
172.89	4501.70	0.75	129.67	3376.28
159.14	4517.85	0.75	119.35	3388.39
146.44	4532.51	0.75	109.83	3399.38
134.69	4545.85	0.75	101.02	3409.39
123.78	4558.03	0.75	92.84	3418.52
113.65	4569.17	0.75	85.24	3426.88
104.21	4579.37	0.75	78.16	3434.53
95.41	4588.73	0.75	71.56	3441.55
87.19	4597.34	0.75	65.39	3448.00
79.50	4605.25	0.75	59.63	3453.94
72.32	4612.54	0.75	54.24	3459.41
65.59	4619.26	0.75	49.19	3464.45
59.29	4625.45	0.75	44.47	3469.09

Diameter = 36.000 in  
 f<sub>c</sub> = 4.500 KSI  
 Cover = 2.000 in  
 A<sub>s</sub> = 13.970 in<sup>2</sup>  
 E<sub>s</sub> = 29000.000 KSI  
 f<sub>y</sub> = 60.000 KSI  
 ε<sub>ci</sub> = 0.002  
 ε<sub>ti</sub> = 0.005  
 $0.75 \leq \phi = 0.75 + 0.15(\epsilon_t - \epsilon_{ci})/(\epsilon_{ti} - \epsilon_{ci}) \leq 0.9$





## ***PIER CAISSON DESIGN***





**Caisson Design**

**RISA Output**

	Pu, kip	Fx, kip	Fz, kip	Local Axes Output
1	672.97	31.07	34.53	Column 3 Max Values
2	565.25	24.61	32.67	Column 2 Max Values
3	672.17	65.64	34.70	Column 1 Max Values

**L-Pile Inputs**

<b>Caisson 1 Max</b>									
L-PILE Input		Fx and Fz Max paired with the max axial values (positive and negative values considered)							
1	<b>Fx, kip</b>	<b>Fy, kip</b>			<b>Fx, lb</b>	<b>Fy, lb</b>			
	31.07	672.965			31070	672965			
2	<b>Fz, kip</b>	<b>Fy, kip</b>			<b>Fz, lb</b>	<b>Fy, lb</b>			
	34.525	672.965			34525	672965			
L-PILE Output		L-Pile Output: Fx translates into Mz, Fz translates into Mx							
1 & 2	Pu, kip	Mx, in-lb	Mx, k-ft	Mz, in-lb	Mz, k-ft				
	673.0	2672705	222.73	2361385	196.78				
Interaction Input: L-PILE Output						Interaction Output: BridgeLink Output (calculations below)			
1	Pu, kip	Mx, k-ft	Mz, k-ft	<b>Interaction</b>					
	673.0	222.73	196.78	1	5.96	>	1.0	OK!	
<b>Caisson 2 Max</b>									
L-PILE Input		Fx and Fz Max paired with the max axial values (positive and negative values considered)							
3	<b>Fx, kip</b>	<b>Fy, kip</b>			<b>Fx, lb</b>	<b>Fy, lb</b>			
	24.61	565.25			24610	565251			
4	<b>Fz, kip</b>	<b>Fy, kip</b>			<b>Fz, lb</b>	<b>Fy, lb</b>			
	32.67	565.251			32672	565251			
L-PILE Output		L-Pile Output: Fx translates into Mz, Fz translates into Mx							
3 & 4	Pu, kip	Mx, in-lb	Mx, k-ft	Mz, in-lb	Mz, k-ft				
	565.3	2479598	206.63	1785906	148.83				
Interaction Input: L-PILE Output						Interaction Output: BridgeLink Output (calculations below)			
2	Pu, kip	Mx, k-ft	Mz, k-ft	<b>Interaction</b>					
	565.3	206.63	148.83	2	6.15	>	1	OK!	
<b>Caisson 3 Max</b>									
L-PILE Input		Fx and Fz Max paired with the max axial values (positive and negative values considered)							
5	<b>Fx, kip</b>	<b>Fy, kip</b>			<b>Fx, lb</b>	<b>Fy, lb</b>			
	65.64	672.17			65642	672174			
6	<b>Fz, kip</b>	<b>Fy, kip</b>			<b>Fz, lb</b>	<b>Fy, lb</b>			
	34.70	672.174			34700	672174			
L-PILE Output		L-Pile Output: Fx translates into Mz, Fz translates into Mx							
5 & 6	Pu, kip	Mx, in-lb	Mx, k-ft	Mz, in-lb	Mz, k-ft				
	672.2	2688621	224.05	5848868	487.41				
Interaction Input: L-PILE Output						Interaction Output: BridgeLink Output (calculations below)			
3	Pu, kip	Mx, k-ft	Mz, k-ft	<b>Interaction</b>					
	672.2	224.05	487.41	3	2.72	>	1	OK!	



**BridgeLink Input**

**Section**

Diameter = 42.000 in  
 f'c = 4.000 ksi

**Reinforcement**

Cover = 5.000 in  
 As = 13.970 in<sup>2</sup>      11 - #10 Bars  
 Es = 29000 ksi  
 fy = 60 ksi  
 e cl = 0.002  
 e tl = 0.005

**BridgeLink Output Summary**

	$\phi M_n$	$\phi M_n/M_{u-x}$	$\phi M_n/M_{u-z}$			
1	1326.76	5.96	6.74	>	1.0	OK!
2	1270.21	6.15	8.53	>	1.0	OK!
3	1326.35	5.92	2.72	>	1.0	OK!



**BridgeLink Output**

Mn (kip-ft)	Pn (kip)	$\phi$	$\phi$ Mn (kip-ft)	$\phi$ Pn (kip)
147.31	-748.6	0.9	132.58	-673.74
516.03	-485.39	0.9	464.43	-436.85
912.01	-167.36	0.9	820.81	-150.62
1301.13	189.52	0.9	1171.02	170.56
1630.19	549.64	0.9	1467.17	494.68
1885.29	896.5	0.885417	1669.27	793.78
2090.04	1263.18	0.830357	1735.48	1048.89
2228.14	1645.42	0.789063	1758.14	1298.34
2276.35	1995.05	0.756944	1723.07	1510.14
2249.48	2416.83	0.75	1687.11	1812.62
2181.97	2767.76	0.75	1636.47	2075.82
2069.45	3150.15	0.75	1552.08	2362.62
1912.56	3509.34	0.75	1434.42	2632.01
1718.92	3841.32	0.75	1289.19	2880.99
1499.36	4142.63	0.75	1124.52	3106.97
1266.82	4410.33	0.75	950.11	3307.74
1000.82	4672.3	0.75	750.61	3504.23
727.23	4906.82	0.75	545.42	3680.12
477.43	5097.77	0.75	358.07	3823.33
259.33	5249.61	0.75	194.5	3937.2
182.41	5306.59	0.75	136.81	3979.94
167.21	5325.72	0.75	125.41	3994.29
153.23	5342.94	0.75	114.92	4007.21
140.33	5358.49	0.75	105.25	4018.87
128.41	5372.56	0.75	96.31	4029.42
117.37	5385.33	0.75	88.03	4039
107.11	5396.95	0.75	80.33	4047.71
97.57	5407.54	0.75	73.18	4055.66
88.69	5417.21	0.75	66.52	4062.9
80.41	5426.04	0.75	60.3	4069.53
72.68	5434.13	0.75	54.51	4075.6
65.46	5441.53	0.75	49.1	4081.15
58.73	5448.31	0.75	44.05	4086.23
52.44	5454.53	0.75	39.33	4090.89
46.57	5460.22	0.75	34.93	4095.16

$$\frac{(x_1 - x_2)}{(y_1 - y_2)} = \frac{(x_1 - x_3)}{(y_1 - y_3)}$$

Solve for $y_3$ for P1	Solve for $y_3$ for P2	Solve for $y_3$ for P3
$\underline{X}$ $x_1 = 494.68$ $x_2 = 793.78$ $x_3 = 672.97$ $\underline{Y}$ $y_1 = 1233.16$ $y_2 = 1390.19$ $y_3 = 1326.76$	$\underline{X}$ $x_1 = 494.68$ $x_2 = 793.78$ $x_3 = 565.25$ $\underline{Y}$ $y_1 = 1233.16$ $y_2 = 1390.19$ $y_3 = 1270.21$	$\underline{X}$ $x_1 = 494.68$ $x_2 = 793.78$ $x_3 = 672.17$ $\underline{Y}$ $y_1 = 1233.16$ $y_2 = 1390.19$ $y_3 = 1326.35$

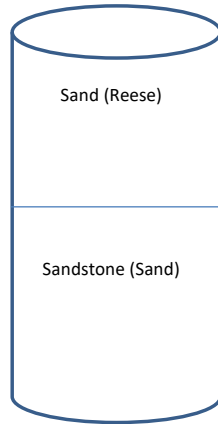


### Geotech Parameters

Top of Caisson El = 7048.45  
 Bottom of Caisson El = 7018.50  
 Caisson Length = 29.95 ft  
 Caisson Diameter = 42 in

Soil Material 1 = Sand (Reese)  
 Material 1 Top El = 7056.00  
 Material 1 Bottom El = 7032.50  
 $\gamma$  = 120.00 pcf  
 $\phi$  = 32 deg  
 $k$  = 25 pci

Soil Material 2 = Sandstone (Sand)  
 Material 2 Top El = 7032.50  
 Material 2 Bottom El = 7029.00  
 $\gamma$  = 125.00 pcf  
 $c$  = 4000 psf  
 $\epsilon_{50}$  = 0.005  
 $k$  = 225.00 pci



z = 7048.45  
 h = 0.00 ft

z = 7032.50  
 h = 15.95 ft

z = 7018.50  
 h = 29.95 ft

### Axial Design

Pmax = 672.97 k (Top of Caisson)  
 Wt of Caisson = 54.03 k

**Pmax = 726.99 k**

End Bearing = 54 ksf 90ksf \* 0.6 per geotech  
 Side Shear = 5.4 ksf 9ksf \* 0.6 per geotech

Caisson Area = 9.62 ft<sup>2</sup>  
 Caisson Perimeter = 11.00 ft  
 Bedrock Embed = 14.00 ft Per geotech report. 4d or 6'

Side Shear Capacity = 831.27 k  
 Bearing Capacity = 519.54 k

**Caisson Capacity = 1350.81 k**

>

**Pmax = 726.99 k**

OK!



## Structure Parameters

Shape = Circle

Web width, $b_v$ =	42.00	in
Clear to Transverse, $clr$ =	5.00	in
Tie Bar Size =	5	
Tie Bar Area, $A_{s/bar}$ =	0.310	in <sup>2</sup> /ft
Tie Bar Size, $dia_t$ =	0.625	in
Tie Bar Spacing, $s_t$ =	12	in
Longitudinal Bar Size =	10	
# of Longitudinal Bars =	11	bars
Longitudinal Bar Size, $dia_l$ =	1.270	in
Longitudinal Bar Area, $A_{s/bar}$ =	1.270	in <sup>2</sup>
Are Bars bundled =	No	
How many bars/bundle =	0	
Nominal Moment, $M_n$ =	487	k-ft
Max Shear, $V_u$ =	65.64	kips
Max Axial, $N_u$ =	727.00	kips
$0.9*d_e$ =	28.07	in
$0.72*h$ =	30.24	in
$\frac{M_n}{A_s f_y}$ =	13.96	in
Effective Shear Depth, $d_v$ =	28.07	in
Gross Area, $A_g$ =	1385.44	in <sup>2</sup>

If bars are bundled above #10, ties must be spaced a max of 6"  
Tie spacing unaffected due to bundles

## Design Parameters

Concrete Strength, $f'_c$ =	4.0	ksi	
Rebar Strength, $f_y$ =	60	ksi	
$\phi$ (tie) =	0.75		LRFD 5.5.4.2
$\beta$ =	0.87	assuming $\epsilon_s$ is 0.006	EQ 5.7.3.4.2-1
$\theta$ =	50.00	assuming $\epsilon_s$ is 0.006	EQ 5.7.3.4.2-3

## Shear Strength

$V_u$ =	65.64	kips	
$\phi$ =	0.75		
$v_u = \frac{V_u}{\phi b_v d_v}$			EQ 5.7.2.8-1
$v_u$ =	0.074	ksi	

LRFD 5.7.2.8



### Nominal Shear Resistance

LRFD 5.7.3.3

The nominal shear resistance is the lesser of:

$$V_{n-1} = V_c + V_s$$

EQ 5.78.3.3-1

or

$$V_{n-2} = 0.25f'_c b_v d_v$$

EQ 5.7.3.3-2

$$V_c = 0.0316\beta\lambda\sqrt{f'_c} b_v d_v$$

$$V_c = 65.02 \text{ kips}$$

$$V_s = A_v f_y$$

$$V_s = 37.200 \text{ kips}$$

$$V_{n-1} = 102.220 \text{ kips}$$

$$V_{n-2} = 1178.828 \text{ kips}$$

$$\phi V_n = 76.665 \text{ kips}$$

>

$$V_u = 65.640 \text{ kips}$$

OK!

### Minimum Transverse Reinforcement

LRFD 5.7.2.5

$$A_{v, \min} \geq 0.0316\lambda\sqrt{f'_c} \frac{b_v s}{f_y}$$

$$A_{v, \min} \geq 0.53 \text{ in}^2$$

<

$$A_{v, \text{prov'd}} = 0.62 \text{ in}^2$$

OK!

### Maximum Spacing of Transverse Reinforcement

LRFD 5.7.2.6

$$v_u = 0.074 \text{ ksi}$$

<

$$0.125 * f'_c = 0.500 \text{ ksi}$$

Therefore  $s_{\max} = 0.8 d_v \leq 24"$

$$s_{\max} = 22.454 \text{ in}$$

EQ 5.7.2.6-1

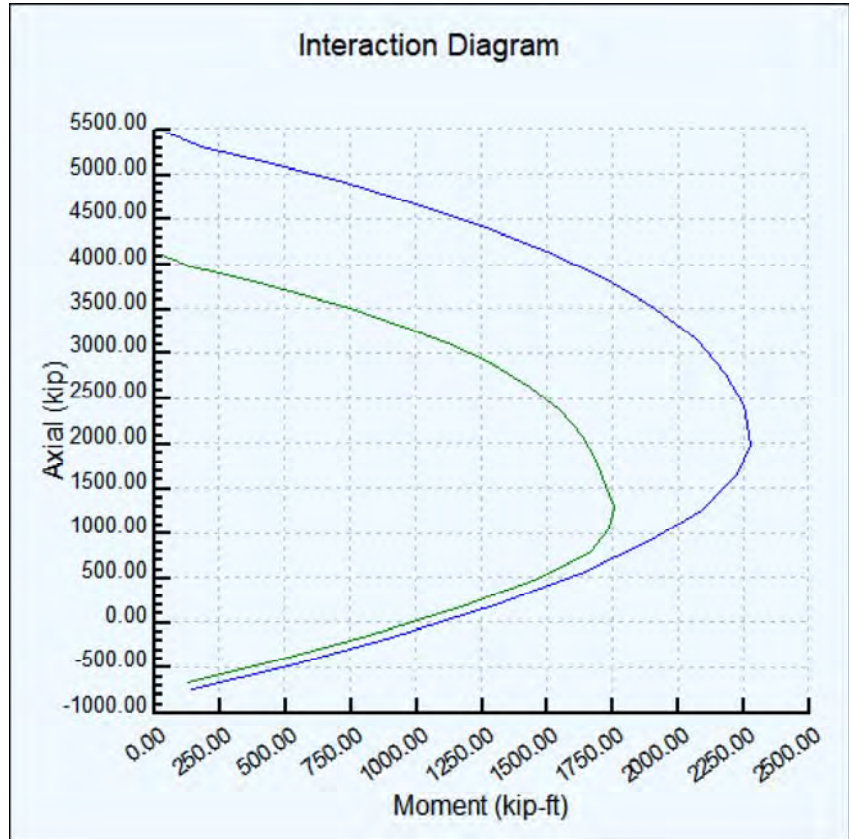
>

$$s = 12.000 \text{ in}$$



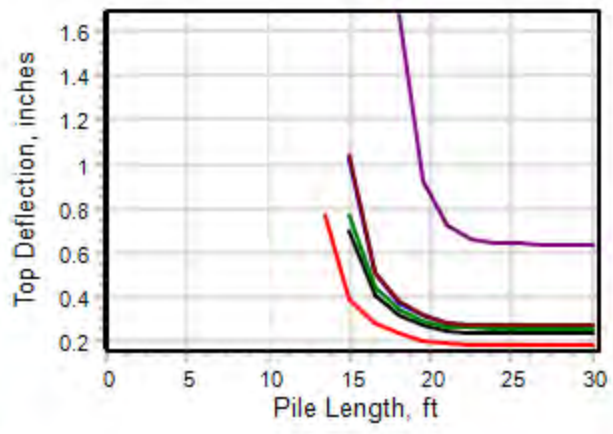
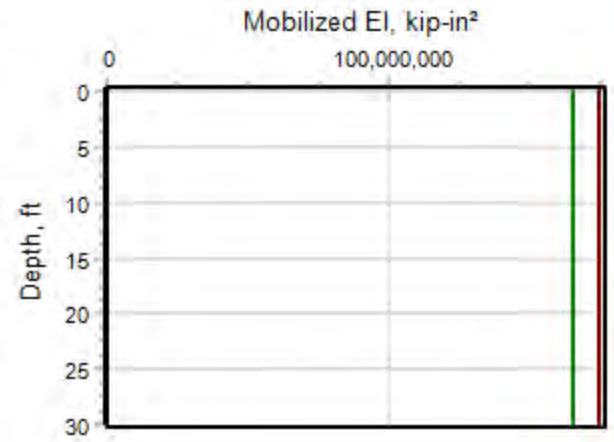
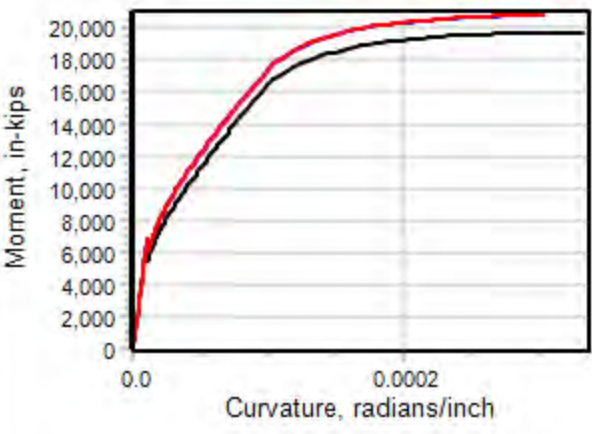
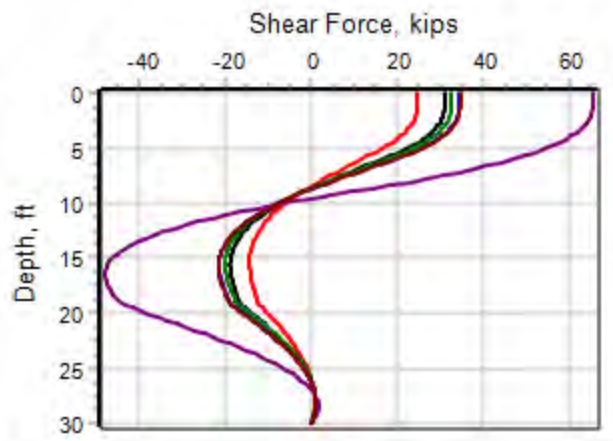
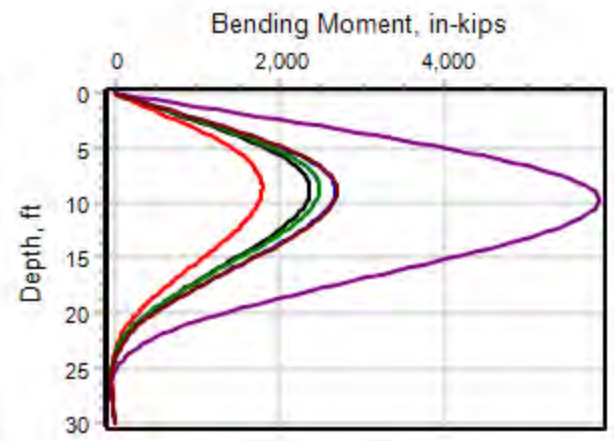
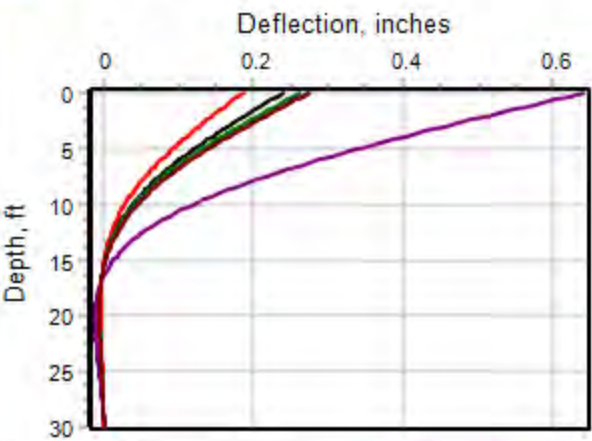
M <sub>n</sub> (kip-ft)	P <sub>n</sub> (kip)	φ	φM <sub>n</sub> (kip-ft)	φP <sub>n</sub> (kip)
147.31	-748.60	0.9	132.58	-673.74
516.03	-485.39	0.9	464.43	-436.85
912.01	-167.36	0.9	820.81	-150.62
1301.13	189.52	0.9	1171.02	170.56
1630.19	549.64	0.9	1467.17	494.68
1885.29	896.50	0.885417	1669.27	793.78
2090.04	1263.18	0.830357	1735.48	1048.89
2228.14	1645.42	0.789063	1758.14	1298.34
2276.35	1995.05	0.756944	1723.07	1510.14
2249.48	2416.83	0.75	1687.11	1812.62
2181.97	2767.76	0.75	1636.47	2075.82
2069.45	3150.15	0.75	1552.08	2362.62
1912.56	3509.34	0.75	1434.42	2632.01
1718.92	3841.32	0.75	1289.19	2880.99
1499.36	4142.63	0.75	1124.52	3106.97
1266.82	4410.33	0.75	950.11	3307.74
1000.82	4672.30	0.75	750.61	3504.23
727.23	4906.82	0.75	545.42	3680.12
477.43	5097.77	0.75	358.07	3823.33
259.33	5249.61	0.75	194.50	3937.20
182.41	5306.59	0.75	136.81	3979.94
167.21	5325.72	0.75	125.41	3994.29
153.23	5342.94	0.75	114.92	4007.21
140.33	5358.49	0.75	105.25	4018.87
128.41	5372.56	0.75	96.31	4029.42
117.37	5385.33	0.75	88.03	4039.00
107.11	5396.95	0.75	80.33	4047.71
97.57	5407.54	0.75	73.18	4055.66
88.69	5417.21	0.75	66.52	4062.90
80.41	5426.04	0.75	60.30	4069.53
72.68	5434.13	0.75	54.51	4075.60
65.46	5441.53	0.75	49.10	4081.15
58.73	5448.31	0.75	44.05	4086.23
52.44	5454.53	0.75	39.33	4090.89
46.57	5460.22	0.75	34.93	4095.16

Diameter = 42.000 in  
 f<sub>c</sub> = 4.000 KSI  
 Cover = 5.000 in  
 A<sub>s</sub> = 13.970 in<sup>2</sup>  
 E<sub>s</sub> = 29000.000 KSI  
 f<sub>y</sub> = 60.000 KSI  
 ε<sub>cl</sub> = 0.002  
 ε<sub>tl</sub> = 0.005  
 $0.75 \leq \phi = 0.75 + 0.15(\epsilon_t - \epsilon_{cl})/(\epsilon_{tl} - \epsilon_{cl}) \leq 0.9$





***PIER L-PILE OUTPUT***



=====  
LPile for Windows, Version 2019-11.005

Analysis of Individual Piles and Drilled Shafts  
Subjected to Lateral Loading Using the p-y Method  
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=====  
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-----  
Files Used for Analysis  
-----

Path to file locations:

\Users\Reed\Steamboat Structures, LLC\Steamboat Structures -  
General\1\_PROJECTS\STRUCTURES\FOREST LAKES BRIDGES\Calculations\L-Pile\

Name of input data file:

Pier Caissons.lp11d

Name of output report file:

Pier Caissons.lp11o

Name of plot output file:

Pier Caissons.lp11p

Name of runtime message file:

Pier Caissons.lp11r

-----  
Date and Time of Analysis  
-----

Date: January 19, 2021

Time: 15:46:20

-----  
Problem Title  
-----

Project Name: Forest Lakes Abutment

Job Number: 101.2006

Client: Structures Inc

Engineer: H. Reed

Description: Pier 2 Caissons

-----  
Program Options and Settings  
-----

Computational Options:

- Conventional Analysis

Engineering Units Used for Data Input and Computations:

- US Customary System Units (pounds, feet, inches)

Analysis Control Options:

- Maximum number of iterations allowed = 500
- Deflection tolerance for convergence = 1.0000E-05 in
- Maximum allowable deflection = 100.0000 in
- Number of pile increments = 100

Loading Type and Number of Cycles of Loading:

- Cyclic loading specified
- Number of cycles of loading = 100 cycles

- Use of p-y modification factors for p-y curves not selected
- Analysis uses layering correction (Method of Georgiadis)
- No distributed lateral loads are entered
- Loading by lateral soil movements acting on pile not selected
- Input of shear resistance at the pile tip not selected
- Input of moment resistance at the pile tip not selected
- Input of side resistance moment along pile not selected
- Computation of pile-head foundation stiffness matrix not selected
- Push-over analysis of pile not selected
- Buckling analysis of pile not selected

Output Options:

- Output files use decimal points to denote decimal symbols.
- Values of pile-head deflection, bending moment, shear force, and soil reaction are printed for full length of pile.
- Printing Increment (nodal spacing of output points) = 1
- No p-y curves to be computed and reported for user-specified depths
- Print using wide report formats

-----  
 Pile Structural Properties and Geometry  
 -----

Number of pile sections defined = 1  
 Total length of pile = 30.000 ft  
 Depth of ground surface below top of pile = 1.0000 ft

Pile diameters used for p-y curve computations are defined using 2 points.

p-y curves are computed using pile diameter values interpolated with depth over the length of the pile. A summary of values of pile diameter vs. depth follows.

Point No.	Depth Below Pile Head feet	Pile Diameter inches
1	0.000	42.0000
2	30.000	42.0000

Input Structural Properties for Pile Sections:  
 -----

Pile Section No. 1:

Section 1 is a round drilled shaft, bored pile, or CIDH pile  
 Length of section = 30.000000 ft



Shaft Diameter = 42.000000 in  
Shear capacity of section = 0.0000 lbs

-----  
Ground Slope and Pile Batter Angles  
-----

Ground Slope Angle = 0.000 degrees  
= 0.000 radians  
  
Pile Batter Angle = 0.000 degrees  
= 0.000 radians

-----  
Soil and Rock Layering Information  
-----

The soil profile is modelled using 2 layers

Layer 1 is sand, p-y criteria by Reese et al., 1974

Distance from top of pile to top of layer = 1.000000 ft  
Distance from top of pile to bottom of layer = 19.000000 ft  
Effective unit weight at top of layer = 120.000000 pcf  
Effective unit weight at bottom of layer = 120.000000 pcf  
Friction angle at top of layer = 32.000000 deg.  
Friction angle at bottom of layer = 32.000000 deg.  
Subgrade k at top of layer = 90.000000 pci  
Subgrade k at bottom of layer = 90.000000 pci

Layer 2 is sand, p-y criteria by Reese et al., 1974

Distance from top of pile to top of layer = 19.000000 ft  
Distance from top of pile to bottom of layer = 40.000000 ft  
Effective unit weight at top of layer = 125.000000 pcf  
Effective unit weight at bottom of layer = 125.000000 pcf  
Friction angle at top of layer = 38.000000 deg.  
Friction angle at bottom of layer = 38.000000 deg.  
Subgrade k at top of layer = 225.000000 pci  
Subgrade k at bottom of layer = 225.000000 pci

(Depth of the lowest soil layer extends 10.000 ft below the pile tip)

-----  
 Summary of Input Soil Properties  
 -----

Layer Layer Num.	Soil Type Name (p-y Curve Type)	Layer Depth ft	Effective Unit Wt. pcf	Angle of Friction deg.	kpy pci
1	Sand (Reese, et al.)	1.0000 19.0000	120.0000 120.0000	32.0000 32.0000	90.0000 90.0000
2	Sand (Reese, et al.)	19.0000 40.0000	125.0000 125.0000	38.0000 38.0000	225.0000 225.0000

-----  
 Cyclic Loading Type  
 -----

Cyclic loading criteria were used for computation of p-y curves for all analyses.

Number of cycles of loading = 100

-----  
 Pile-head Loading and Pile-head Fixity Conditions  
 -----

Number of loads specified = 6

Load Compute No.	Load Top y Type vs. Pile Length	Condition Run Analysis 1	Condition 2	Axial Thrust Force, lbs
1	1	V = 31070. lbs Yes	M = 0.0000 in-lbs	672965.
2	1	V = 34525. lbs Yes	M = 0.0000 in-lbs	672965.
3	1	V = 24610. lbs Yes	M = 0.0000 in-lbs	565251.
4	1	V = 32672. lbs Yes	M = 0.0000 in-lbs	565251.
5	1	V = 65642. lbs Yes	M = 0.0000 in-lbs	672174.
6	1	V = 34700. lbs Yes	M = 0.0000 in-lbs	672174.

V = shear force applied normal to pile axis

M = bending moment applied to pile head  
 y = lateral deflection normal to pile axis  
 S = pile slope relative to original pile batter angle  
 R = rotational stiffness applied to pile head  
 Values of top y vs. pile lengths can be computed only for load types with specified shear loading (Load Types 1, 2, and 3).  
 Thrust force is assumed to be acting axially for all pile batter angles.

-----  
 Computations of Nominal Moment Capacity and Nonlinear Bending Stiffness  
 -----

Axial thrust force values were determined from pile-head loading conditions

Number of Pile Sections Analyzed = 1

Pile Section No. 1:  
 -----

Dimensions and Properties of Drilled Shaft (Bored Pile):  
 -----

Length of Section	=	30.000000	ft
Shaft Diameter	=	42.000000	in
Concrete Cover Thickness (to edge of long. rebar)	=	5.625000	in
Number of Reinforcing Bars	=	11	bars
Yield Stress of Reinforcing Bars	=	60000.	psi
Modulus of Elasticity of Reinforcing Bars	=	29000000.	psi
Gross Area of Shaft	=	1385.	sq. in.
Total Area of Reinforcing Steel	=	13.970000	sq. in.
Area Ratio of Steel Reinforcement	=	1.01	percent
Edge-to-Edge Bar Spacing	=	7.035476	in
Maximum Concrete Aggregate Size	=	0.750000	in
Ratio of Bar Spacing to Aggregate Size	=	9.38	
Offset of Center of Rebar Cage from Center of Pile	=	0.0000	in
Compute Equivalent Elastoplastic (CALTRANS) Moment Curvature			

Axial Structural Capacities:  
 -----

Nom. Axial Structural Capacity = $0.85 F_c A_c + F_y A_s$	=	5501.206	kips
Tensile Load for Cracking of Concrete	=	-617.148	kips
Nominal Axial Tensile Capacity	=	-838.200	kips

Reinforcing Bar Dimensions and Positions Used in Computations:

Bar	Bar Diam.	Bar Area	X	Y
-----	-----------	----------	---	---

Number	inches	sq. in.	inches	inches
1	1.270000	1.270000	14.740000	0.00000
2	1.270000	1.270000	12.400077	7.969046
3	1.270000	1.270000	6.123217	13.407976
4	1.270000	1.270000	-2.097721	14.589968
5	1.270000	1.270000	-9.652647	11.139749
6	1.270000	1.270000	-14.142926	4.152738
7	1.270000	1.270000	-14.142926	-4.152738
8	1.270000	1.270000	-9.652647	-11.139749
9	1.270000	1.270000	-2.097721	-14.589968
10	1.270000	1.270000	6.123217	-13.407976
11	1.270000	1.270000	12.400077	-7.969046

NOTE: The positions of the above rebars were computed by LPILE

Minimum spacing between any two bars not equal to zero = 7.035 inches  
between bars 10 and 11.

Ratio of bar spacing to maximum aggregate size = 9.38

Concrete Properties:

-----

Compressive Strength of Concrete	=	4000. psi
Modulus of Elasticity of Concrete	=	3604997. psi
Modulus of Rupture of Concrete	=	-474.341649 psi
Compression Strain at Peak Stress	=	0.001886
Tensile Strain at Fracture of Concrete	=	-0.0001154
Maximum Coarse Aggregate Size	=	0.750000 in

Number of Axial Thrust Force Values Determined from Pile-head Loadings = 3

Number	Axial Thrust Force kips
1	565.251
2	672.174
3	672.965

Definitions of Run Messages and Notes:

-----

C = concrete in section has cracked in tension.  
Y = stress in reinforcing steel has reached yield stress.  
T = ACI 318 criteria for tension-controlled section met, tensile strain in

reinforcement exceeds 0.005 while simultaneously compressive strain in concrete more than 0.003. See ACI 318, Section 10.3.4.

Z = depth of tensile zone in concrete section is less than 10 percent of section depth.

Bending Stiffness (EI) = Computed Bending Moment / Curvature.  
 Position of neutral axis is measured from edge of compression side of pile.  
 Compressive stresses and strains are positive in sign.  
 Tensile stresses and strains are negative in sign.

Axial Thrust Force = 565.251 kips

Bending Max Conc Curvature Stress rad/in. ksi	Bending Max Steel Moment Stress in-kip ksi	Bending Run Stiffness Msg kip-in2	Depth to N Axis in	Max Comp Strain in/in	Max Tens Strain in/in
6.25000E-07	408.6416467	653826635.	169.8073743	0.0001061	0.00007988
0.4369260	2.9749899				
0.00000125	817.2954829	653836386.	95.4305701	0.0001193	0.00006679
0.4888816	3.2538207				
0.00000188	1226.	653824401.	70.6502400	0.0001325	0.00005372
0.5405439	3.5333006				
0.00000250	1635.	653801273.	58.2690291	0.0001457	0.00004067
0.5919110	3.8134296				
0.00000313	2043.	653769119.	50.8474669	0.0001589	0.00002765
0.6429808	4.0942079				
0.00000375	2451.	653728643.	45.9057299	0.0001721	0.00001465
0.6937515	4.3756356				
0.00000438	2860.	653680148.	42.3810369	0.0001854	0.00000167
0.7442210	4.6577128				
0.00000500	3268.	653616108.	39.7419327	0.0001987	-0.00001129
0.7943861	4.9404302				
0.00000563	3676.	653481013.	37.6927064	0.0002120	-0.00002423
0.8442340	5.2237040				
0.00000625	4083.	653228187.	36.0557564	0.0002253	-0.00003715
0.8937481	5.5074184				
0.00000688	4488.	652845645.	34.7181826	0.0002387	-0.00005006
0.9429153	5.7914813				
0.00000750	4893.	652339240.	33.6048343	0.0002520	-0.00006296
0.9917260	6.0758264				
0.00000813	5295.	651720923.	32.6637572	0.0002654	-0.00007586
1.0401732	6.3604040				
0.00000875	5696.	651003927.	31.8578888	0.0002788	-0.00008874
1.0882514	6.6451768				
0.00000938	6096.	650201069.	31.1600854	0.0002921	-0.0001016

1.1359566	6.9301170				
0.00001000	6493.	649323727.	30.5500105	0.0003055	-0.0001145
1.1832857	7.2152031				
0.00001063	5490.	516663800.	28.5113379	0.0003029	-0.0001433
1.1736740	7.0379873 C				
0.00001125	5655.	502668068.	27.8517014	0.0003133	-0.0001592
1.2101595	7.2367801 C				
0.00001188	5811.	489381761.	27.2467890	0.0003236	-0.0001752
1.2457932	7.4305066 C				
0.00001250	5961.	476854721.	26.6909486	0.0003336	-0.0001914
1.2806987	7.6200939 C				
0.00001313	6103.	464965027.	26.1761722	0.0003436	-0.0002077
1.3148401	7.8051617 C				
0.00001375	6239.	453727560.	25.6986617	0.0003534	-0.0002241
1.3483133	7.9864289 C				
0.00001438	6370.	443111768.	25.2544524	0.0003630	-0.0002407
1.3811710	8.1642686 C				
0.00001500	6496.	433078495.	24.8399998	0.0003726	-0.0002574
1.4134524	8.3389499 C				
0.00001563	6619.	423587887.	24.4522194	0.0003821	-0.0002742
1.4451903	8.5106932 C				
0.00001625	6737.	414603259.	24.0884948	0.0003914	-0.0002911
1.4764161	8.6797157 C				
0.00001688	6853.	406083097.	23.7463466	0.0004007	-0.0003080
1.5071468	8.8461122 C				
0.00001750	6964.	397961067.	23.4226345	0.0004099	-0.0003251
1.5373397	9.0094620 C				
0.00001813	7073.	390257636.	23.1172049	0.0004190	-0.0003423
1.5671062	9.1706871 C				
0.00001875	7180.	382953537.	22.8288897	0.0004280	-0.0003595
1.5964916	9.3301463 C				
0.00001938	7285.	375978272.	22.5547717	0.0004370	-0.0003768
1.6254196	9.4871312 C				
0.00002000	7387.	369325758.	22.2941797	0.0004459	-0.0003941
1.6539382	9.6420243 C				
0.00002063	7487.	363019587.	22.0478443	0.0004547	-0.0004115
1.6821822	9.7959982 C				
0.00002125	7585.	356940109.	21.8108814	0.0004635	-0.0004290
1.7099061	9.9468182 C				
0.00002188	7682.	351177948.	21.5867647	0.0004722	-0.0004465
1.7374148	10.0971975 C				
0.00002250	7777.	345631687.	21.3712801	0.0004809	-0.0004641
1.7644849	10.2450853 C				
0.00002313	7871.	340356864.	21.1667154	0.0004895	-0.0004818
1.7913389	10.3924848 C				
0.00002375	7963.	335270953.	20.9694897	0.0004980	-0.0004995
1.8177758	-10.5795514 C				
0.00002438	8054.	330437210.	20.7824712	0.0005066	-0.0005172
1.8440605	-10.9901594 C				
0.00002563	8233.	321287804.	20.4282786	0.0005235	-0.0005528



1.8955590	-11.8169669	C				
0.00002688	8407.		312836478.	20.1011380	0.0005402	-0.0005885
1.9459535	-12.6483693	C				
0.00002813	8579.		305018952.	19.7985921	0.0005568	-0.0006244
1.9953585	-13.4834295	C				
0.00002938	8747.		297777305.	19.5185857	0.0005734	-0.0006604
2.0438826	-14.3212234	C				
0.00003063	8912.		290994290.	19.2553694	0.0005897	-0.0006966
2.0912678	-15.1644063	C				
0.00003188	9074.		284685900.	19.0107840	0.0006060	-0.0007328
2.1378863	-16.0094502	C				
0.00003313	9235.		278779605.	18.7815191	0.0006221	-0.0007691
2.1836313	-16.8575094	C				
0.00003438	9393.		273238386.	18.5660504	0.0006382	-0.0008055
2.2285282	-17.7084373	C				
0.00003563	9549.		268037823.	18.3638362	0.0006542	-0.0008420
2.2726781	-18.5612929	C				
0.00003688	9703.		263140168.	18.1730878	0.0006701	-0.0008786
2.3160431	-19.4165480	C				
0.00003813	9856.		258517325.	17.9927714	0.0006860	-0.0009153
2.3586418	-20.2740983	C				
0.00003938	10008.		254168398.	17.8236744	0.0007018	-0.0009519
2.4006705	-21.1319105	C				
0.00004063	10157.		250025431.	17.6613281	0.0007175	-0.0009888
2.4417611	-21.9940294	C				
0.00004188	10306.		246121095.	17.5092031	0.0007332	-0.0010256
2.4823748	-22.8555051	C				
0.00004313	10454.		242411386.	17.3643690	0.0007488	-0.0010624
2.5222824	-23.7188922	C				
0.00004438	10600.		238875401.	17.2257914	0.0007644	-0.0010994
2.5614434	-24.5847288	C				
0.00004563	10746.		235525361.	17.0952874	0.0007800	-0.0011363
2.6001336	-25.4499289	C				
0.00004688	10891.		232333731.	16.9709814	0.0007955	-0.0011732
2.6382080	-26.3161658	C				
0.00004813	11034.		229273712.	16.8509547	0.0008110	-0.0012103
2.6755015	-27.1854426	C				
0.00004938	11177.		226361563.	16.7374463	0.0008264	-0.0012473
2.7123297	-28.0540886	C				
0.00005063	11319.		223586306.	16.6299755	0.0008419	-0.0012844
2.7486906	-28.9220983	C				
0.00005188	11460.		220918930.	16.5260115	0.0008573	-0.0013215
2.7843278	-29.7926251	C				
0.00005313	11600.		218358912.	16.4260624	0.0008726	-0.0013586
2.8193428	-30.6645039	C				
0.00005438	11740.		215910278.	16.3311101	0.0008880	-0.0013957
2.8538957	-31.5357501	C				
0.00005563	11880.		213565498.	16.2408200	0.0009034	-0.0014329
2.8879846	-32.4063583	C				
0.00005688	12018.		211313314.	16.1543435	0.0009188	-0.0014700

2.9215394	-33.2772232	C				
0.00005813	12156.		209132695.	16.0695341	0.0009340	-0.0015072
2.9543214	-34.1515476	C				
0.00005938	12293.		207038201.	15.9886662	0.0009493	-0.0015444
2.9866445	-35.0252341	C				
0.00006063	12430.		205024464.	15.9114982	0.0009646	-0.0015816
3.0185066	-35.8982791	C				
0.00006188	12566.		203086570.	15.8378079	0.0009800	-0.0016188
3.0499059	-36.7706769	C				
0.00006313	12702.		201219954.	15.7673909	0.0009953	-0.0016559
3.0808402	-37.6424260	C				
0.00006438	12837.		199407501.	15.6981705	0.0010106	-0.0016932
3.1110646	-38.5170465	C				
0.00006563	12971.		197654641.	15.6312989	0.0010258	-0.0017304
3.1407465	-39.3922153	C				
0.00006688	13105.		195962263.	15.5672651	0.0010411	-0.0017677
3.1699681	-40.2667289	C				
0.00006813	13239.		194327000.	15.5059150	0.0010563	-0.0018049
3.1987274	-41.1405832	C				
0.00006938	13372.		192745732.	15.4471057	0.0010716	-0.0018421
3.2270222	-42.0137741	C				
0.00007063	13505.		191215577.	15.3907044	0.0010870	-0.0018793
3.2548508	-42.8862946	C				
0.00007188	13637.		189733807.	15.3365875	0.0011023	-0.0019164
3.2822107	-43.7581440	C				
0.00007313	13769.		188287637.	15.2828399	0.0011176	-0.0019537
3.3088681	-44.6331336	C				
0.00007438	13900.		186884085.	15.2309622	0.0011328	-0.0019909
3.3350292	-45.5079869	C				
0.00007938	14420.		181668741.	15.0427835	0.0011940	-0.0021397
3.4350048	-49.0005124	C				
0.00008438	14934.		176999673.	14.8803135	0.0012555	-0.0022882
3.5272598	-52.4847014	C				
0.00008938	15441.		172767723.	14.7356343	0.0013170	-0.0024368
3.6112512	-55.9698963	C				
0.00009438	15942.		168923442.	14.6106785	0.0013789	-0.0025849
3.6875260	-59.4430676	C				
0.00009938	16410.		165130573.	14.4954597	0.0014405	-0.0027333
3.7551836	-60.0000000	CY				
0.0001044	16778.		160742565.	14.3661556	0.0014995	-0.0028843
3.8121946	-60.0000000	CY				
0.0001094	17069.		156062691.	14.2329364	0.0015567	-0.0030370
3.8602987	-60.0000000	CY				
0.0001144	17343.		151634011.	14.1107710	0.0016139	-0.0031898
3.9012537	-60.0000000	CY				
0.0001194	17555.		147056448.	13.9819616	0.0016691	-0.0033447
3.9340288	-60.0000000	CY				
0.0001244	17747.		142692778.	13.8601889	0.0017239	-0.0034999
3.9600417	-60.0000000	CY				
0.0001294	17937.		138640095.	13.7506228	0.0017790	-0.0036548

3.9796768	-60.0000000	CY				
0.0001344	18112.		134785421.	13.6486701	0.0018340	-0.0038097
3.9927239	-60.0000000	CY				
0.0001394	18247.		130922786.	13.5404923	0.0018872	-0.0039665
3.9990975	-60.0000000	CY				
0.0001444	18364.		127193772.	13.4371171	0.0019400	-0.0041238
3.9984406	-60.0000000	CY				
0.0001494	18476.		123690822.	13.3431049	0.0019931	-0.0042806
3.9971908	-60.0000000	CY				
0.0001544	18586.		120394323.	13.2577021	0.0020467	-0.0044371
3.9999967	-60.0000000	CY				
0.0001594	18691.		117275124.	13.1770910	0.0021001	-0.0045937
3.9995297	-60.0000000	CY				
0.0001644	18791.		114317842.	13.1017173	0.0021536	-0.0047502
3.9978878	-60.0000000	CY				
0.0001694	18881.		111473387.	13.0298994	0.0022069	-0.0049068
3.9998277	-60.0000000	CY				
0.0001744	18952.		108687800.	12.9585838	0.0022597	-0.0050641
3.9990267	-60.0000000	CY				
0.0001794	19011.		105984607.	12.8886502	0.0023119	-0.0052218
3.9964652	-60.0000000	CY				
0.0001844	19064.		103398580.	12.8229984	0.0023642	-0.0053795
3.9992762	-60.0000000	CY				
0.0001894	19114.		100932728.	12.7588289	0.0024162	-0.0055375
3.9959434	-60.0000000	CY				
0.0001944	19162.		98583146.	12.6986830	0.0024683	-0.0056954
3.9989716	-60.0000000	CY				
0.0001994	19209.		96345129.	12.6428564	0.0025207	-0.0058531
3.9980037	-60.0000000	CY				
0.0002044	19254.		94208432.	12.5913563	0.0025734	-0.0060104
3.9979664	-60.0000000	CY				
0.0002094	19298.		92169092.	12.5433753	0.0026263	-0.0061675
3.9999373	-60.0000000	CY				
0.0002144	19340.		90217614.	12.4991128	0.0026795	-0.0063243
3.9956604	-60.0000000	CY				
0.0002194	19382.		88350450.	12.4579205	0.0027330	-0.0064808
3.9990791	-60.0000000	CY				
0.0002244	19422.		86562120.	12.4195797	0.0027866	-0.0066371
3.9983960	-60.0000000	CY				
0.0002294	19459.		84834528.	12.3825033	0.0028402	-0.0067935
3.9962730	-60.0000000	CY				
0.0002344	19493.		83168199.	12.3445589	0.0028933	-0.0069505
3.9992040	-60.0000000	CY				
0.0002394	19519.		81540265.	12.3055057	0.0029456	-0.0071081
3.9988350	-60.0000000	CY				
0.0002444	19542.		79966423.	12.2681483	0.0029980	-0.0072657
3.9947136	-60.0000000	CY				
0.0002494	19559.		78431235.	12.2298645	0.0030498	-0.0074239
3.9981167	-60.0000000	CYT				
0.0002544	19575.		76952937.	12.1934266	0.0031017	-0.0075820

3.9998041	-60.0000000	CYT				
0.0002594	19589.		75522738.	12.1583659	0.0031536	-0.0077402
3.9954464	-60.0000000	CYT				
0.0002644	19602.		74144363.	12.1253795	0.0032056	-0.0078981
3.9947106	-60.0000000	CYT				
0.0002694	19615.		72815905.	12.0941014	0.0032578	-0.0080559
3.9979559	-60.0000000	CYT				
0.0002744	19627.		71534607.	12.0644471	0.0033102	-0.0082136
3.9996918	-60.0000000	CYT				
0.0003044	19692.		64695164.	11.9121649	0.0036258	-0.0091580
3.9957085	-60.0000000	CYT				
0.0003344	19659.		58793957.	11.8363157	0.0039578	-0.0100860
3.9889785	-60.0000000	CYT				

Equivalent Elastoplastic (CALTRANS) Moment Curvature

Bending Curvature rad/in.	Bending Moment in-kip	Bending Stiffness kip-in2
0.00000	0.00000	165130573.
0.00009938	16410.	165130573.
0.0001158	19130.	165130573.
0.0003344	19130.	57210202.

Mp = 1594. kip-ft  
 Icr = 2.2090099 ft^4  
 Phi yi = 0.0001158 rad/in  
 Phi p = 0.0002185 rad/in

Axial Thrust Force = 672.174 kips

Bending Max Conc Curvature Stress rad/in. ksi	Bending Max Steel Moment Stress in-kip ksi	Bending Run Stiffness kip-in2	Depth to N Axis in	Max Comp Strain in/in	Max Tens Strain in/in
6.25000E-07	404.7893063	647662890.	198.7687085	0.0001242	0.00009798
0.5090124	3.4999141				
0.00000125	809.5958471	647676678.	109.9114925	0.0001374	0.00008489
0.5604391	3.7787541				
0.00000188	1214.	647665894.	80.3044717	0.0001506	0.00007182
0.6115724	4.0582494				
0.00000250	1619.	647643203.	65.5100007	0.0001638	0.00005878
0.6624103	4.3384001				
0.00000313	2024.	647611137.	56.6405504	0.0001770	0.00004575

0.7129508	4.6192061				
0.00000375	2428.	647570540.	50.7336114	0.0001903	0.00003275
0.7631920	4.9006677				
0.00000438	2833.	647521772.	46.5195370	0.0002035	0.00001977
0.8131319	5.1827850				
0.00000500	3237.	647465013.	43.3635042	0.0002168	0.00000682
0.8627684	5.4655581				
0.00000563	3642.	647399664.	40.9128275	0.0002301	-0.00000612
0.9120996	5.7489862				
0.00000625	4046.	647301226.	38.9556860	0.0002435	-0.00001903
0.9611183	6.0330306				
0.00000688	4449.	647124061.	37.3569934	0.0002568	-0.00003192
1.0098105	6.3175943				
0.00000750	4851.	646844188.	36.0267110	0.0002702	-0.00004480
1.0581630	6.6025847				
0.00000813	5252.	646455975.	34.9025847	0.0002836	-0.00005767
1.1061652	6.8879278				
0.00000875	5652.	645963531.	33.9402171	0.0002970	-0.00007052
1.1538092	7.1735674				
0.00000938	6050.	645374958.	33.1070974	0.0003104	-0.00008337
1.2010887	7.4594608				
0.00001000	6447.	644699404.	32.3788730	0.0003238	-0.00009621
1.2479988	7.7455732				
0.00001063	6842.	643946049.	31.7369453	0.0003372	-0.0001090
1.2945356	8.0318775				
0.00001125	6084.	540782766.	30.0335400	0.0003379	-0.0001346
1.2964224	7.9486048 C				
0.00001188	6268.	527854106.	29.3644548	0.0003487	-0.0001500
1.3335826	8.1597779 C				
0.00001250	6444.	515512506.	28.7503899	0.0003594	-0.0001656
1.3699747	8.3666414 C				
0.00001313	6610.	503635994.	28.1820219	0.0003699	-0.0001814
1.4055436	8.5686384 C				
0.00001375	6769.	492312828.	27.6555191	0.0003803	-0.0001972
1.4404129	8.7667256 C				
0.00001438	6922.	481506519.	27.1656918	0.0003905	-0.0002132
1.4746052	8.9610162 C				
0.00001500	7068.	471188730.	26.7083094	0.0004006	-0.0002294
1.5081471	9.1516646 C				
0.00001563	7208.	461335077.	26.2798627	0.0004106	-0.0002456
1.5410671	9.3388440 C				
0.00001625	7344.	451924373.	25.8774275	0.0004205	-0.0002620
1.5733953	9.5227502 C				
0.00001688	7475.	442939321.	25.4985969	0.0004303	-0.0002785
1.6051659	9.7036196 C				
0.00001750	7601.	434367240.	25.1414375	0.0004400	-0.0002950
1.6364198	9.8817545 C				
0.00001813	7725.	426192730.	24.8042370	0.0004496	-0.0003117
1.6671941	10.0574333 C				
0.00001875	7845.	418399704.	24.4855079	0.0004591	-0.0003284

1.6975249	10.2309325	C				
0.00001938	7962.		410950270.	24.1832884	0.0004686	-0.0003452
1.7274062	10.4021540	C				
0.00002000	8076.		403788476.	23.8950582	0.0004779	-0.0003621
1.7567811	10.5705338	C				
0.00002063	8187.		396961607.	23.6217216	0.0004872	-0.0003791
1.7857973	10.7373735	C				
0.00002125	8297.		390426089.	23.3614554	0.0004964	-0.0003961
1.8144243	10.9023594	C				
0.00002188	8403.		384131812.	23.1120863	0.0005056	-0.0004132
1.8425941	11.0648236	C				
0.00002250	8508.		378140450.	22.8755117	0.0005147	-0.0004303
1.8705075	11.2265964	C				
0.00002313	8610.		372334436.	22.6472286	0.0005237	-0.0004475
1.8979194	11.3853540	C				
0.00002375	8712.		366804444.	22.4303740	0.0005327	-0.0004648
1.9251113	11.5437077	C				
0.00002438	8810.		361449474.	22.2209799	0.0005416	-0.0004821
1.9518553	11.6994740	C				
0.00002563	9004.		351378834.	21.8284616	0.0005594	-0.0005169
2.0044873	12.0077568	C				
0.00002688	9192.		342041903.	21.4658257	0.0005769	-0.0005519
2.0559073	12.3108716	C				
0.00002813	9376.		333371527.	21.1300365	0.0005943	-0.0005870
2.1062141	12.6095924	C				
0.00002938	9556.		325295842.	20.8179647	0.0006115	-0.0006222
2.1554501	-13.2143150	C				
0.00003063	9730.		317729129.	20.5256722	0.0006286	-0.0006577
2.2035419	-14.0362187	C				
0.00003188	9903.		310669473.	20.2534505	0.0006456	-0.0006932
2.2507434	-14.8607604	C				
0.00003313	10072.		304055081.	19.9987198	0.0006625	-0.0007288
2.2970365	-15.6882359	C				
0.00003438	10237.		297815973.	19.7580780	0.0006792	-0.0007646
2.3422924	-16.5201347	C				
0.00003563	10402.		291979654.	19.5337886	0.0006959	-0.0008004
2.3868875	-17.3525858	C				
0.00003688	10562.		286430134.	19.3195265	0.0007124	-0.0008363
2.4303673	-18.1905749	C				
0.00003813	10722.		281231339.	19.1198752	0.0007289	-0.0008723
2.4733091	-19.0279441	C				
0.00003938	10878.		276272049.	18.9283162	0.0007453	-0.0009084
2.5151889	-19.8705476	C				
0.00004063	11034.		271603284.	18.7488803	0.0007617	-0.0009446
2.5565210	-20.7127565	C				
0.00004188	11187.		267156349.	18.5774138	0.0007779	-0.0009808
2.5969811	-21.5582969	C				
0.00004313	11339.		262933908.	18.4147617	0.0007941	-0.0010171
2.6367459	-22.4052448	C				
0.00004438	11490.		258936651.	18.2615646	0.0008104	-0.0010534



2.6759706	-23.2518177	C				
0.00004563	11639.		255094298.	18.1129914	0.0008264	-0.0010898
2.7142092	-24.1033797	C				
0.00004688	11787.		251448254.	17.9728530	0.0008425	-0.0011263
2.7519442	-24.9542466	C				
0.00004813	11934.		247979536.	17.8401851	0.0008586	-0.0011627
2.7891385	-25.8048478	C				
0.00004938	12079.		244634199.	17.7109266	0.0008745	-0.0011993
2.8253949	-26.6601858	C				
0.00005063	12223.		241446267.	17.5885200	0.0008904	-0.0012358
2.8611539	-27.5148352	C				
0.00005188	12367.		238404293.	17.4724722	0.0009064	-0.0012724
2.8964133	-28.3687933	C				
0.00005313	12510.		235474294.	17.3600742	0.0009223	-0.0013090
2.9309073	-29.2255418	C				
0.00005438	12651.		232657723.	17.2519276	0.0009381	-0.0013457
2.9647460	-30.0837358	C				
0.00005563	12792.		229960740.	17.1490679	0.0009539	-0.0013823
2.9980909	-30.9412426	C				
0.00005688	12932.		227375444.	17.0511488	0.0009698	-0.0014190
3.0309399	-31.7980551	C				
0.00005813	13071.		224878034.	16.9560780	0.0009856	-0.0014557
3.0630787	-32.6571670	C				
0.00005938	13209.		222466861.	16.8640716	0.0010013	-0.0014924
3.0945630	-33.5178956	C				
0.00006063	13347.		220148791.	16.7762523	0.0010171	-0.0015292
3.1255564	-34.3779335	C				
0.00006188	13484.		217918158.	16.6923688	0.0010328	-0.0015659
3.1560570	-35.2372743	C				
0.00006313	13620.		215769693.	16.6121894	0.0010486	-0.0016026
3.1860622	-36.0959170	C				
0.00006438	13756.		213682836.	16.5335643	0.0010643	-0.0016394
3.2153357	-36.9574707	C				
0.00006563	13890.		211663529.	16.4575456	0.0010800	-0.0016762
3.2440261	-37.8197647	C				
0.00006688	14025.		209714014.	16.3847311	0.0010957	-0.0017130
3.2722260	-38.6813565	C				
0.00006813	14158.		207830406.	16.3149465	0.0011115	-0.0017498
3.2999330	-39.5422416	C				
0.00006938	14292.		206009131.	16.2480305	0.0011272	-0.0017865
3.3271453	-40.4024122	C				
0.00007063	14425.		204246794.	16.1838328	0.0011430	-0.0018233
3.3538601	-41.2618688	C				
0.00007188	14557.		202527656.	16.1203976	0.0011587	-0.0018601
3.3798573	-42.1243899	C				
0.00007313	14688.		200858562.	16.0589642	0.0011743	-0.0018969
3.4053007	-42.9872651	C				
0.00007438	14819.		199240442.	15.9999316	0.0011900	-0.0019338
3.4302512	-43.8494164	C				
0.00007938	15338.		193228850.	15.7855848	0.0012530	-0.0020808

3.5250766	-47.2906756	C				
0.00008438	15847.		187820635.	15.5955165	0.0013159	-0.0022279
3.6111512	-50.7346893	C				
0.00008938	16350.		182939953.	15.4302095	0.0013791	-0.0023747
3.6889967	-54.1696443	C				
0.00009438	16846.		178499594.	15.2852266	0.0014425	-0.0025212
3.7584326	-57.5969143	C				
0.00009938	17332.		174411015.	15.1552970	0.0015061	-0.0026677
3.8191501	-60.0000000	CY				
0.0001044	17747.		170035324.	15.0259386	0.0015683	-0.0028154
3.8701491	-60.0000000	CY				
0.0001094	18072.		165233441.	14.8901641	0.0016286	-0.0029651
3.9114652	-60.0000000	CY				
0.0001144	18350.		160437816.	14.7544104	0.0016875	-0.0031162
3.9442169	-60.0000000	CY				
0.0001194	18600.		155814875.	14.6271796	0.0017461	-0.0032676
3.9693114	-60.0000000	CY				
0.0001244	18798.		151139570.	14.5001267	0.0018035	-0.0034203
3.9866587	-60.0000000	CY				
0.0001294	18982.		146721823.	14.3785581	0.0018602	-0.0035735
3.9968165	-60.0000000	CY				
0.0001344	19162.		142600894.	14.2686110	0.0019173	-0.0037264
3.9991049	-60.0000000	CY				
0.0001394	19325.		138656914.	14.1659969	0.0019744	-0.0038794
3.9999032	-60.0000000	CY				
0.0001444	19454.		134745037.	14.0639195	0.0020305	-0.0040333
3.9999387	-60.0000000	CY				
0.0001494	19561.		130952454.	13.9614538	0.0020855	-0.0041883
3.9995340	-60.0000000	CY				
0.0001544	19664.		127380687.	13.8681615	0.0021409	-0.0043429
3.9984491	-60.0000000	CY				
0.0001594	19765.		124013431.	13.7832348	0.0021967	-0.0044970
3.9971114	-60.0000000	CY				
0.0001644	19862.		120831726.	13.7059682	0.0022529	-0.0046508
3.9998083	-60.0000000	CY				
0.0001694	19955.		117817729.	13.6346526	0.0023094	-0.0048044
3.9982641	-60.0000000	CY				
0.0001744	20042.		114936992.	13.5648129	0.0023654	-0.0049584
3.9990439	-60.0000000	CY				
0.0001794	20113.		112126887.	13.4958782	0.0024208	-0.0051129
3.9989556	-60.0000000	CY				
0.0001844	20168.		109386655.	13.4269975	0.0024756	-0.0052681
3.9973192	-60.0000000	CY				
0.0001894	20216.		106751703.	13.3613831	0.0025303	-0.0054234
3.9988468	-60.0000000	CY				
0.0001944	20262.		104239919.	13.3000622	0.0025852	-0.0055786
3.9984293	-60.0000000	CY				
0.0001994	20305.		101844835.	13.2435092	0.0026404	-0.0057333
3.9980776	-60.0000000	CY				
0.0002044	20347.		99555698.	13.1877542	0.0026952	-0.0058885

3.9999528	-60.0000000	CY				
0.0002094	20386.		97366332.	13.1352297	0.0027502	-0.0060436
3.9960299	-60.0000000	CY				
0.0002144	20424.		95274487.	13.0862320	0.0028054	-0.0061984
3.9992222	-60.0000000	CY				
0.0002194	20462.		93273368.	13.0405560	0.0028608	-0.0063530
3.9977873	-60.0000000	CY				
0.0002244	20498.		91355356.	12.9982648	0.0029165	-0.0065073
3.9967802	-60.0000000	CY				
0.0002294	20533.		89517779.	12.9586489	0.0029724	-0.0066614
3.9994676	-60.0000000	CY				
0.0002344	20567.		87754460.	12.9217395	0.0030285	-0.0068152
3.9967925	-60.0000000	CYT				
0.0002394	20600.		86055742.	12.8869924	0.0030848	-0.0069689
3.9961965	-60.0000000	CYT				
0.0002444	20630.		84419102.	12.8537773	0.0031411	-0.0071226
3.9991124	-60.0000000	CYT				
0.0002494	20656.		82832396.	12.8209529	0.0031972	-0.0072765
3.9994559	-60.0000000	CYT				
0.0002544	20677.		81285973.	12.7865471	0.0032526	-0.0074312
3.9935066	-60.0000000	CYT				
0.0002594	20695.		79787836.	12.7517550	0.0033075	-0.0075863
3.9972520	-60.0000000	CYT				
0.0002644	20708.		78327265.	12.7161794	0.0033618	-0.0077419
3.9993825	-60.0000000	CYT				
0.0002694	20720.		76919131.	12.6824520	0.0034163	-0.0078974
3.9991509	-60.0000000	CYT				
0.0002744	20730.		75553071.	12.6498643	0.0034708	-0.0080529
3.9916062	-60.0000000	CYT				
0.0003044	20782.		68277316.	12.4859824	0.0038004	-0.0089833
3.9949033	60.0000000	CYT				

Equivalent Elastoplastic (CALTRANS) Moment Curvature

Bending Curvature rad/in.	Bending Moment in-kip	Bending Stiffness kip-in <sup>2</sup>
0.00000	0.00000	174411015.
0.00009938	17332.	174411015.
0.0001154	20128.	174411015.
0.0003044	20128.	66129157.

$M_p = 1677. \text{ kip-ft}$   
 $I_{cr} = 2.3331576 \text{ ft}^4$   
 $\Phi_{yi} = 0.0001154 \text{ rad/in}$   
 $\Phi_p = 0.0001890 \text{ rad/in}$

Axial Thrust Force = 672.965 kips

Bending Max Conc Curvature Stress rad/in. ksi	Bending Max Steel Moment Stress in-kip ksi	Bending Run Stiffness Msg kip-in2	Depth to N Axis in	Max Comp Strain in/in	Max Tens Strain in/in
6.25000E-07	404.7606710	647617074.	198.9839847	0.0001244	0.00009811
0.5095455	3.5038160				
0.00000125	809.5386140	647630891.	110.0191325	0.0001375	0.00008502
0.5609682	3.7826561				
0.00000188	1214.	647620116.	80.3762339	0.0001507	0.00007196
0.6120976	4.0621515				
0.00000250	1619.	647597428.	65.5638245	0.0001639	0.00005891
0.6629315	4.3423023				
0.00000313	2024.	647565363.	56.6836117	0.0001771	0.00004589
0.7134682	4.6231086				
0.00000375	2428.	647524766.	50.7694982	0.0001904	0.00003289
0.7637054	4.9045704				
0.00000438	2833.	647475996.	46.5502995	0.0002037	0.00001991
0.8136413	5.1866880				
0.00000500	3237.	647419233.	43.3904237	0.0002170	0.00000695
0.8632740	5.4694615				
0.00000563	3641.	647353931.	40.9367588	0.0002303	-0.00000598
0.9126012	5.7528900				
0.00000625	4045.	647256079.	38.9772319	0.0002436	-0.00001889
0.9616161	6.0369358				
0.00000688	4449.	647080032.	37.3765940	0.0002570	-0.00003179
1.0103046	6.3215022				
0.00000750	4851.	646801576.	36.0446958	0.0002703	-0.00004466
1.0586536	6.6064964				
0.00000813	5252.	646414908.	34.9192065	0.0002837	-0.00005753
1.1066524	6.8918443				
0.00000875	5652.	645924032.	33.9556739	0.0002971	-0.00007039
1.1542930	7.1774896				
0.00000938	6050.	645336997.	33.1215472	0.0003105	-0.00008324
1.2015693	7.4633894				
0.00001000	6447.	644662923.	32.3924439	0.0003239	-0.00009608
1.2484762	7.7495087				
0.00001063	6842.	643910967.	31.7497422	0.0003373	-0.0001089
1.2950098	8.0358206				
0.00001125	6087.	541024023.	30.0490359	0.0003381	-0.0001344
1.2970302	7.9536603	C			
0.00001188	6271.	528106365.	29.3795900	0.0003489	-0.0001499
1.3342050	8.1649901	C			
0.00001250	6447.	515774313.	28.7652247	0.0003596	-0.0001654
1.3706124	8.3720190	C			
0.00001313	6614.	503895648.	28.1963881	0.0003701	-0.0001812

1.4061876	8.5741065 C				
0.00001375	6773.	492570700.	27.6694712	0.0003805	-0.0001970
1.4410637	8.7722890 C				
0.00001438	6925.	481762828.	27.1792758	0.0003907	-0.0002130
1.4752632	8.9666790 C				
0.00001500	7072.	471443659.	26.7215659	0.0004008	-0.0002292
1.5088127	9.1574312 C				
0.00001563	7212.	461588782.	26.2928280	0.0004108	-0.0002454
1.5417407	9.3447189 C				
0.00001625	7348.	452176984.	25.8901342	0.0004207	-0.0002618
1.5740773	9.5287382 C				
0.00001688	7479.	443190892.	25.5110730	0.0004305	-0.0002783
1.6058568	9.7097251 C				
0.00001750	7606.	434617668.	25.1537048	0.0004402	-0.0002948
1.6371197	9.8879802 C				
0.00001813	7729.	426442081.	24.8163197	0.0004498	-0.0003115
1.6679034	10.0637843 C				
0.00001875	7850.	418648197.	24.4974333	0.0004593	-0.0003282
1.6982444	10.2374169 C				
0.00001938	7967.	411190169.	24.1948337	0.0004688	-0.0003450
1.7281213	10.4086410 C				
0.00002000	8081.	404027959.	23.9064865	0.0004781	-0.0003619
1.7575070	10.5771622 C				
0.00002063	8192.	397200686.	23.6330512	0.0004874	-0.0003788
1.7865346	10.7441500 C				
0.00002125	8301.	390657641.	23.3724566	0.0004967	-0.0003958
1.8151571	10.9091389 C				
0.00002188	8408.	384363208.	23.1230183	0.0005058	-0.0004129
1.8433389	11.0717585 C				
0.00002250	8513.	378371673.	22.8863900	0.0005149	-0.0004301
1.8712649	11.2336945 C				
0.00002313	8615.	372558981.	22.6578178	0.0005240	-0.0004473
1.8986723	11.3924554 C				
0.00002375	8717.	367028988.	22.4409337	0.0005330	-0.0004645
1.9258773	11.5509806 C				
0.00002438	8816.	361667865.	22.2312738	0.0005419	-0.0004819
1.9526167	11.7067505 C				
0.00002563	9010.	351591659.	21.8385014	0.0005596	-0.0005166
2.0052579	12.0152176 C				
0.00002688	9198.	342249610.	21.4756456	0.0005772	-0.0005516
2.0566876	12.3185250 C				
0.00002813	9382.	333574436.	21.1396640	0.0005946	-0.0005867
2.1070041	12.6174448 C				
0.00002938	9561.	325489516.	20.8271929	0.0006118	-0.0006220
2.1562308	-13.2064537 C				
0.00003063	9736.	317918944.	20.5347606	0.0006289	-0.0006574
2.2043329	-14.0281471 C				
0.00003188	9909.	310855773.	20.2624274	0.0006459	-0.0006929
2.2515458	-14.8524623 C				
0.00003313	10078.	304233845.	20.0073687	0.0006627	-0.0007285

2.2978292	-15.6799276	C				
0.00003438	10243.		297991876.	19.7666552	0.0006795	-0.0007643
2.3430973	-16.5115843	C				
0.00003563	10408.		292148926.	19.5420755	0.0006962	-0.0008001
2.3876825	-17.3440243	C				
0.00003688	10568.		286597017.	19.3277732	0.0007127	-0.0008360
2.4311751	-18.1817562	C				
0.00003813	10728.		281392331.	19.1278624	0.0007292	-0.0008720
2.4741068	-19.0191133	C				
0.00003938	10884.		276431014.	18.9362895	0.0007456	-0.0009081
2.5160000	-19.8614430	C				
0.00004063	11040.		271756972.	18.7566194	0.0007620	-0.0009443
2.5573219	-20.7036389	C				
0.00004188	11194.		267308289.	18.5851622	0.0007783	-0.0009805
2.5977960	-21.5488874	C				
0.00004313	11345.		263081087.	18.4222968	0.0007945	-0.0010168
2.6375504	-22.3958212	C				
0.00004438	11497.		259082296.	18.2691296	0.0008107	-0.0010531
2.6767896	-23.2420825	C				
0.00004563	11645.		255235622.	18.1203608	0.0008267	-0.0010895
2.7150175	-24.0936291	C				
0.00004688	11793.		251585485.	17.9800374	0.0008428	-0.0011259
2.7527419	-24.9444803	C				
0.00004813	11941.		248115543.	17.8474225	0.0008589	-0.0011623
2.7899512	-25.7947471	C				
0.00004938	12085.		244766460.	17.7179928	0.0008748	-0.0011989
2.8261966	-26.6500680	C				
0.00005063	12230.		241574965.	17.5954234	0.0008908	-0.0012355
2.8619447	-27.5047002	C				
0.00005188	12374.		238529598.	17.4792208	0.0009067	-0.0012720
2.8971931	-28.3586408	C				
0.00005313	12516.		235598673.	17.3668960	0.0009226	-0.0013086
2.9317018	-29.2150319	C				
0.00005438	12657.		232778967.	17.2586046	0.0009384	-0.0013453
2.9655292	-30.0732069	C				
0.00005563	12798.		230078990.	17.1556068	0.0009543	-0.0013820
2.9988628	-30.9306944	C				
0.00005688	12939.		227490828.	17.0575557	0.0009701	-0.0014186
3.0317004	-31.7874876	C				
0.00005813	13078.		224992665.	16.9625726	0.0009859	-0.0014553
3.0638534	-32.6462197	C				
0.00005938	13216.		222578826.	16.8704417	0.0010017	-0.0014921
3.0953260	-33.5069270	C				
0.00006063	13353.		220258199.	16.7825033	0.0010174	-0.0015288
3.1263078	-34.3669435	C				
0.00006188	13490.		218025109.	16.6985055	0.0010332	-0.0015655
3.1567965	-35.2262628	C				
0.00006313	13627.		215874283.	16.6182165	0.0010490	-0.0016022
3.1867899	-36.0848836	C				
0.00006438	13763.		213786870.	16.5396964	0.0010647	-0.0016390



3.2160771	-36.9460228	C				
0.00006563	13897.		211765349.	16.4635735	0.0010804	-0.0016758
3.2447553	-37.8082929	C				
0.00006688	14031.		209813701.	16.3906587	0.0010961	-0.0017126
3.2729429	-38.6698605	C				
0.00006813	14165.		207928037.	16.3207778	0.0011119	-0.0017494
3.3006377	-39.5307212	C				
0.00006938	14299.		206104777.	16.2537689	0.0011276	-0.0017861
3.3278376	-40.3908672	C				
0.00007063	14432.		204340526.	16.1894819	0.0011434	-0.0018229
3.3545400	-41.2502989	C				
0.00007188	14563.		202621013.	16.1261717	0.0011591	-0.0018597
3.3805501	-42.1123545	C				
0.00007313	14694.		200950108.	16.0646526	0.0011747	-0.0018965
3.4059808	-42.9752022	C				
0.00007438	14825.		199330237.	16.0055372	0.0011904	-0.0019333
3.4309183	-43.8373258	C				
0.00007938	15344.		193312175.	15.7908866	0.0012534	-0.0020803
3.5256914	-47.2784714	C				
0.00008438	15854.		187899402.	15.6007565	0.0013163	-0.0022274
3.6117357	-50.7218675	C				
0.00008938	16357.		183013548.	15.4352081	0.0013795	-0.0023742
3.6895248	-54.1566885	C				
0.00009438	16852.		178569465.	15.2902168	0.0014430	-0.0025207
3.7589232	-57.5832568	C				
0.00009938	17339.		174476800.	15.1600956	0.0015065	-0.0026672
3.8195799	-60.0000000	CY				
0.0001044	17754.		170101410.	15.0306691	0.0015688	-0.0028149
3.8705261	-60.0000000	CY				
0.0001094	18080.		165300238.	14.8950439	0.0016291	-0.0029646
3.9118017	-60.0000000	CY				
0.0001144	18357.		160501264.	14.7591303	0.0016881	-0.0031157
3.9444869	-60.0000000	CY				
0.0001194	18608.		155877606.	14.6318330	0.0017467	-0.0032671
3.9695174	-60.0000000	CY				
0.0001244	18806.		151200222.	14.5046705	0.0018040	-0.0034197
3.9867968	-60.0000000	CY				
0.0001294	18990.		146780625.	14.3832086	0.0018608	-0.0035729
3.9968881	-60.0000000	CY				
0.0001344	19170.		142656978.	14.2731398	0.0019180	-0.0037258
3.9989141	-60.0000000	CY				
0.0001394	19333.		138711883.	14.1704776	0.0019750	-0.0038787
3.9997074	-60.0000000	CY				
0.0001444	19462.		134799738.	14.0686057	0.0020312	-0.0040326
3.9999494	-60.0000000	CY				
0.0001494	19569.		131005215.	13.9660526	0.0020862	-0.0041876
3.9995649	-60.0000000	CY				
0.0001544	19672.		127431293.	13.8726637	0.0021416	-0.0043422
3.9985066	-60.0000000	CY				
0.0001594	19772.		124062015.	13.7876483	0.0021974	-0.0044963

3.9968908	-60.0000000	CY				
0.0001644	19869.		120878515.	13.7102895	0.0022536	-0.0046501
3.9998286	-60.0000000	CY				
0.0001694	19963.		117863467.	13.6391826	0.0023101	-0.0048036
3.9983312	-60.0000000	CY				
0.0001744	20050.		114981219.	13.5692825	0.0023661	-0.0049576
3.9987995	-60.0000000	CY				
0.0001794	20121.		112170495.	13.5003239	0.0024216	-0.0051121
3.9990096	-60.0000000	CY				
0.0001844	20176.		109429645.	13.4314394	0.0024764	-0.0052673
3.9970624	-60.0000000	CY				
0.0001894	20224.		106793679.	13.3657682	0.0025311	-0.0054226
3.9989058	-60.0000000	CY				
0.0001944	20270.		104280518.	13.3043841	0.0025860	-0.0055777
3.9981659	-60.0000000	CY				
0.0001994	20313.		101884238.	13.2477560	0.0026413	-0.0057325
3.9981555	-60.0000000	CY				
0.0002044	20355.		99594609.	13.1922577	0.0026962	-0.0058876
3.9999653	-60.0000000	CY				
0.0002094	20394.		97404057.	13.1396783	0.0027511	-0.0060426
3.9961534	-60.0000000	CY				
0.0002144	20432.		95311178.	13.0906125	0.0028063	-0.0061974
3.9992767	-60.0000000	CY				
0.0002194	20470.		93308976.	13.0448896	0.0028617	-0.0063520
3.9974893	-60.0000000	CY				
0.0002244	20506.		91390036.	13.0025349	0.0029174	-0.0065063
3.9968945	-60.0000000	CY				
0.0002294	20541.		89551571.	12.9628595	0.0029734	-0.0066604
3.9995138	-60.0000000	CY				
0.0002344	20575.		87787310.	12.9259110	0.0030295	-0.0068142
3.9964859	-60.0000000	CYT				
0.0002394	20607.		86087970.	12.8911288	0.0030858	-0.0069679
3.9963249	-60.0000000	CYT				
0.0002444	20638.		84450558.	12.8578598	0.0031421	-0.0071216
3.9991744	-60.0000000	CYT				
0.0002494	20664.		82863603.	12.8250771	0.0031983	-0.0072755
3.9991334	-60.0000000	CYT				
0.0002544	20685.		81316964.	12.7910060	0.0032537	-0.0074300
3.9936990	-60.0000000	CYT				
0.0002594	20703.		79818763.	12.7562505	0.0033087	-0.0075851
3.9973801	-60.0000000	CYT				
0.0002644	20716.		78357528.	12.7206190	0.0033630	-0.0077407
3.9994428	-60.0000000	CYT				
0.0002694	20728.		76948837.	12.6868903	0.0034175	-0.0078962
3.9987760	-60.0000000	CYT				
0.0002744	20738.		75582171.	12.6542469	0.0034720	-0.0080517
3.9918382	-60.0000000	CYT				
0.0003044	20790.		68303090.	12.4901073	0.0038017	-0.0089821
3.9950916	60.0000000	CYT				

Equivalent Elastoplastic (CALTRANS) Moment Curvature

Bending Curvature rad/in.	Bending Moment in-kip	Bending Stiffness kip-in <sup>2</sup>
0.00000	0.00000	174476800.
0.00009938	17339.	174476800.
0.0001154	20136.	174476800.
0.0003044	20136.	66154661.

Mp = 1678. kip-ft  
 Icr = 2.3340376 ft<sup>4</sup>  
 Phi yi = 0.0001154 rad/in  
 Phi p = 0.0001890 rad/in

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 Summary of Results for Nominal Moment Capacity for Section 1  
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Moment values interpolated at maximum compressive strain = 0.003 or maximum developed moment if pile fails at smaller strains.

Load No.	Axial Thrust kips	Nominal Mom. Cap. in-kip	Max. Comp. Strain
1	565.251	19542.441	0.00300000
2	672.174	20550.014	0.00300000
3	672.965	20557.147	0.00300000

Note that the values of moment capacity in the table above are not factored by a strength reduction factor (phi-factor).

In ACI 318, the value of the strength reduction factor depends on whether the transverse reinforcing steel bars are tied hoops (0.65) or spirals (0.75).

The above values should be multiplied by the appropriate strength reduction factor to compute ultimate moment capacity according to ACI 318, or the value required by the design standard being followed.

The following table presents factored moment capacities and corresponding bending stiffnesses computed for common resistance factor values used for reinforced concrete sections.

Axial Stiff. Load Ult Mom No.	Resist. Factor	Nominal Ax. Thrust kips	Nominal Moment Cap in-kips	Ult. (Fac) Ax. Thrust kips	Ult. (Fac) Moment Cap in-kips	Bend. at
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kip-in<sup>2</sup>

1	0.65	565.251000	19542.	367.413150	12703.
653801273.					
2	0.65	672.174000	20550.	436.913100	13358.
647643203.					
3	0.65	672.965000	20557.	437.427250	13362.
647597428.					
1	0.75	565.251000	19542.	423.938250	14657.
653801273.					
2	0.75	672.174000	20550.	504.130500	15413.
647643203.					
3	0.75	672.965000	20557.	504.723750	15418.
647597428.					
1	0.90	565.251000	19542.	508.725900	17588.
653801273.					
2	0.90	672.174000	20550.	604.956600	18495.
647643203.					
3	0.90	672.965000	20557.	605.668500	18501.
647597428.					

Layering Correction Equivalent Depths of Soil & Rock Layers

Layer No.	Top of Layer Below Pile Head ft	Equivalent Top Depth Below Grnd Surf ft	Same Layer Type As Layer Above	Layer is Rock or is Below Rock Layer	F0 Integral for Layer lbs	F1 Integral for Layer lbs
1	1.0000	0.00	N.A.	No	0.00	671670.
2	19.0000	15.0678	Yes	No	671670.	N.A.

Notes: The F0 integral of Layer n+1 equals the sum of the F0 and F1 integrals for Layer n. Layering correction equivalent depths are computed only for soil types with both shallow-depth and deep-depth expressions for peak lateral load transfer. These soil types are soft and stiff clays, non-liquefied sands, and cemented c-phi soil.

Computed Values of Pile Loading and Deflection

for Lateral Loading for Load Case Number 1

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Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head = 31070.0 lbs  
 Applied moment at pile head = 0.0 in-lbs  
 Axial thrust load on pile head = 672965.0 lbs

Depth	Deflect.	Bending	Shear	Slope	Total	Bending	Soil
Res. Soil	Spr. Distrib.	Moment	Force	S	Stress	Stiffness	p
X	y	Lat. Load					
Es*h	Lat.	Load					
feet	inches	in-lbs	lbs	radians	psi*	lb-in^2	
lb/inch	lb/inch	lb/inch					
0.00	0.2386	-3.74E-06	31070.	-0.00207	0.00	1.74E+11	
0.00	0.00	0.00					
0.3000	0.2312	116858.	31070.	-0.00207	0.00	1.74E+11	
0.00	0.00	0.00					
0.6000	0.2237	233710.	31070.	-0.00206	0.00	1.74E+11	
0.00	0.00	0.00					
0.9000	0.2163	350551.	31070.	-0.00206	0.00	1.74E+11	
0.00	0.00	0.00					
1.2000	0.2089	467374.	31055.	-0.00205	0.00	1.74E+11	
-8.0987	139.5363	0.00					
1.5000	0.2016	584069.	30999.	-0.00204	0.00	1.74E+11	
-23.1162	412.8034	0.00					
1.8000	0.1943	700434.	30882.	-0.00202	0.00	1.74E+11	
-41.8797	776.0114	0.00					
2.1000	0.1870	816223.	30690.	-0.00201	0.00	1.74E+11	
-64.7283	1246.	0.00					
2.4000	0.1798	931131.	30408.	-0.00199	0.00	1.74E+11	
-91.9990	1842.	0.00					
2.7000	0.1727	1044801.	30019.	-0.00197	0.00	1.74E+11	
-124.0272	2585.	0.00					
3.0000	0.1657	1156811.	29514.	-0.00195	0.00	1.74E+11	
-156.4821	3401.	0.00					
3.3000	0.1587	1266735.	28889.	-0.00192	0.00	1.74E+11	
-191.2399	4338.	0.00					
3.6000	0.1518	1374117.	28132.	-0.00189	0.00	1.74E+11	
-229.0858	5432.	0.00					
3.9000	0.1451	1478462.	27234.	-0.00186	0.00	1.74E+11	
-270.0435	6702.	0.00					
4.2000	0.1384	1579233.	26182.	-0.00183	0.00	1.74E+11	
-314.1257	8171.	0.00					
4.5000	0.1319	1675854.	24966.	-0.00180	0.00	1.74E+11	
-361.3330	9865.	0.00					
4.8000	0.1254	1767708.	23587.	-0.00176	0.00	1.74E+11	

-404.6487	11613.	0.00				
5.1000	0.1192	1854230.	22050.	-0.00173	0.00	1.74E+11
-449.5646	13582.	0.00				
5.4000	0.1130	1934833.	20348.	-0.00169	0.00	1.74E+11
-495.9831	15799.	0.00				
5.7000	0.1070	2008911.	18477.	-0.00165	0.00	1.74E+11
-543.1823	18274.	0.00				
6.0000	0.1012	2075849.	16516.	-0.00160	0.00	1.74E+11
-546.2444	19440.	0.00				
6.3000	0.09546	2135604.	14550.	-0.00156	0.00	1.74E+11
-546.3959	20606.	0.00				
6.6000	0.08992	2188171.	12587.	-0.00152	0.00	1.74E+11
-543.8137	21773.	0.00				
6.9000	0.08454	2233581.	10639.	-0.00147	0.00	1.74E+11
-538.6767	22939.	0.00				
7.2000	0.07933	2271897.	8713.	-0.00142	0.00	1.74E+11
-531.1656	24106.	0.00				
7.5000	0.07428	2303217.	6818.	-0.00138	0.00	1.74E+11
-521.4616	25272.	0.00				
7.8000	0.06941	2327663.	4962.	-0.00133	0.00	1.74E+11
-509.7458	26438.	0.00				
8.1000	0.06471	2345386.	3151.	-0.00128	0.00	1.74E+11
-496.1985	27605.	0.00				
8.4000	0.06018	2356561.	1393.	-0.00123	0.00	1.74E+11
-480.9981	28771.	0.00				
8.7000	0.05583	2361385.	-309.0355	-0.00118	0.00	1.74E+11
-464.3210	29938.	0.00				
9.0000	0.05166	2360074.	-1948.	-0.00114	0.00	1.74E+11
-446.3404	31104.	0.00				
9.3000	0.04766	2352859.	-3521.	-0.00109	0.00	1.74E+11
-427.2258	32270.	0.00				
9.6000	0.04384	2339990.	-5023.	-0.00104	0.00	1.74E+11
-407.1428	33437.	0.00				
9.9000	0.04018	2321728.	-6451.	-9.90E-04	0.00	1.74E+11
-386.2520	34603.	0.00				
10.2000	0.03671	2298344.	-7802.	-9.43E-04	0.00	1.74E+11
-364.7089	35770.	0.00				
10.5000	0.03340	2270118.	-9076.	-8.95E-04	0.00	1.74E+11
-342.6632	36936.	0.00				
10.8000	0.03026	2237338.	-10269.	-8.49E-04	0.00	1.74E+11
-320.2588	38102.	0.00				
11.1000	0.02729	2200296.	-11381.	-8.03E-04	0.00	1.74E+11
-297.6329	39269.	0.00				
11.4000	0.02448	2159286.	-12412.	-7.58E-04	0.00	1.74E+11
-274.9163	40435.	0.00				
11.7000	0.02183	2114605.	-13361.	-7.14E-04	0.00	1.74E+11
-252.2325	41602.	0.00				
12.0000	0.01933	2066550.	-14228.	-6.71E-04	0.00	1.74E+11
-229.6980	42768.	0.00				
12.3000	0.01700	2015414.	-15015.	-6.29E-04	0.00	1.74E+11

-207.4220	43934.	0.00					
12.6000	0.01481	1961490.	-15722.	-5.88E-04	0.00	1.74E+11	
-185.5060	45101.	0.00					
12.9000	0.01276	1905063.	-16351.	-5.48E-04	0.00	1.74E+11	
-164.0441	46267.	0.00					
13.2000	0.01086	1846415.	-16904.	-5.09E-04	0.00	1.74E+11	
-143.1227	47434.	0.00					
13.5000	0.00910	1785820.	-17383.	-4.72E-04	0.00	1.74E+11	
-122.8205	48600.	0.00					
13.8000	0.00747	1723544.	-17790.	-4.36E-04	0.00	1.74E+11	
-103.2087	49766.	0.00					
14.1000	0.00596	1659845.	-18127.	-4.01E-04	0.00	1.74E+11	
-84.3506	50933.	0.00					
14.4000	0.00458	1594969.	-18399.	-3.67E-04	0.00	1.74E+11	
-66.3023	52099.	0.00					
14.7000	0.00332	1529154.	-18606.	-3.35E-04	0.00	1.74E+11	
-49.1122	53266.	0.00					
15.0000	0.00217	1462626.	-18754.	-3.04E-04	0.00	1.74E+11	
-32.8218	54432.	0.00					
15.3000	0.00113	1395599.	-18844.	-2.74E-04	0.00	1.74E+11	
-17.4649	55598.	0.00					
15.6000	1.95E-04	1328277.	-18881.	-2.46E-04	0.00	1.74E+11	
-3.0688	56765.	0.00					
15.9000	-6.43E-04	1260848.	-18868.	-2.20E-04	0.00	1.74E+11	
10.3463	57931.	0.00					
16.2000	-0.00139	1193491.	-18809.	-1.94E-04	0.00	1.74E+11	
22.7668	59098.	0.00					
16.5000	-0.00204	1126368.	-18706.	-1.70E-04	0.00	1.74E+11	
34.1852	60264.	0.00					
16.8000	-0.00261	1059633.	-18564.	-1.48E-04	0.00	1.74E+11	
44.6006	61430.	0.00					
17.1000	-0.00311	993423.	-18387.	-1.27E-04	0.00	1.74E+11	
54.0178	62597.	0.00					
17.4000	-0.00353	927863.	-18177.	-1.07E-04	0.00	1.74E+11	
62.4474	63763.	0.00					
17.7000	-0.00388	863066.	-17939.	-8.84E-05	0.00	1.74E+11	
69.9056	64930.	0.00					
18.0000	-0.00416	799131.	-17675.	-7.12E-05	0.00	1.74E+11	
76.4136	66096.	0.00					
18.3000	-0.00439	736148.	-17390.	-5.54E-05	0.00	1.74E+11	
81.9979	67262.	0.00					
18.6000	-0.00456	674190.	-17087.	-4.08E-05	0.00	1.74E+11	
86.6898	68429.	0.00					
18.9000	-0.00468	613321.	-16768.	-2.75E-05	0.00	1.74E+11	
90.5251	69595.	0.00					
19.2000	-0.00476	553596.	-16184.	-1.55E-05	0.00	1.74E+11	
233.8597	176904.	0.00					
19.5000	-0.00479	496873.	-15332.	-4.67E-06	0.00	1.74E+11	
239.4765	179820.	0.00					
19.8000	-0.00479	443230.	-14463.	5.03E-06	0.00	1.74E+11	



243.2770	182736.	0.00					
20.1000	-0.00476	392717.	-13583.	1.37E-05	0.00	1.74E+11	
245.3771	185652.	0.00					
20.4000	-0.00469	345364.	-12699.	2.13E-05	0.00	1.74E+11	
245.8932	188568.	0.00					
20.7000	-0.00461	301181.	-11815.	2.79E-05	0.00	1.74E+11	
244.9415	191484.	0.00					
21.0000	-0.00449	260158.	-10938.	3.37E-05	0.00	1.74E+11	
242.6370	194400.	0.00					
21.3000	-0.00436	222266.	-10071.	3.87E-05	0.00	1.74E+11	
239.0923	197316.	0.00					
21.6000	-0.00421	187461.	-9218.	4.29E-05	0.00	1.74E+11	
234.4170	200232.	0.00					
21.9000	-0.00405	155685.	-8385.	4.65E-05	0.00	1.74E+11	
228.7169	203148.	0.00					
22.2000	-0.00388	126866.	-7573.	4.94E-05	0.00	1.74E+11	
222.0932	206064.	0.00					
22.5000	-0.00370	100918.	-6787.	5.17E-05	0.00	1.74E+11	
214.6420	208980.	0.00					
22.8000	-0.00351	77748.	-6029.	5.36E-05	0.00	1.74E+11	
206.4540	211896.	0.00					
23.1000	-0.00331	57249.	-5302.	5.50E-05	0.00	1.74E+11	
197.6136	214812.	0.00					
23.4000	-0.00311	39308.	-4607.	5.60E-05	0.00	1.74E+11	
188.1989	217728.	0.00					
23.7000	-0.00291	23804.	-3948.	5.66E-05	0.00	1.74E+11	
178.2811	220644.	0.00					
24.0000	-0.00270	10610.	-3325.	5.70E-05	0.00	1.74E+11	
167.9249	223560.	0.00					
24.3000	-0.00250	-408.6713	-2739.	5.71E-05	0.00	1.74E+11	
157.1874	226476.	0.00					
24.6000	-0.00229	-9390.	-2193.	5.70E-05	0.00	1.74E+11	
146.1189	229392.	0.00					
24.9000	-0.00209	-16477.	-1688.	5.67E-05	0.00	1.74E+11	
134.7626	232308.	0.00					
25.2000	-0.00188	-21817.	-1224.	5.63E-05	0.00	1.74E+11	
123.1545	235224.	0.00					
25.5000	-0.00168	-25560.	-801.5123	5.58E-05	0.00	1.74E+11	
111.3239	238140.	0.00					
25.8000	-0.00148	-27859.	-422.4012	5.53E-05	0.00	1.74E+11	
99.2933	241056.	0.00					
26.1000	-0.00128	-28869.	-86.9311	5.47E-05	0.00	1.74E+11	
87.0789	243972.	0.00					
26.4000	-0.00109	-28749.	204.2546	5.41E-05	0.00	1.74E+11	
74.6909	246888.	0.00					
26.7000	-8.95E-04	-27660.	450.5391	5.35E-05	0.00	1.74E+11	
62.1338	249804.	0.00					
27.0000	-7.04E-04	-25765.	651.3131	5.30E-05	0.00	1.74E+11	
49.4073	252720.	0.00					
27.3000	-5.14E-04	-23228.	805.9572	5.25E-05	0.00	1.74E+11	

36.5061	255636.	0.00					
27.6000	-3.26E-04	-20216.	913.8271	5.20E-05	0.00	1.74E+11	
23.4216	258552.	0.00					
27.9000	-1.40E-04	-16900.	974.2409	5.16E-05	0.00	1.74E+11	
10.1416	261468.	0.00					
28.2000	4.56E-05	-13452.	986.4688	5.13E-05	0.00	1.74E+11	
-3.3483	264384.	0.00					
28.5000	2.30E-04	-10046.	949.7264	5.11E-05	0.00	1.74E+11	
-17.0641	267300.	0.00					
28.8000	4.13E-04	-6861.	863.1709	5.09E-05	0.00	1.74E+11	
-31.0223	270216.	0.00					
29.1000	5.96E-04	-4078.	725.9003	5.08E-05	0.00	1.74E+11	
-45.2391	273132.	0.00					
29.4000	7.79E-04	-1881.	536.9575	5.07E-05	0.00	1.74E+11	
-59.7291	276048.	0.00					
29.7000	9.61E-04	-457.6160	295.3376	5.07E-05	0.00	1.74E+11	
-74.5042	278964.	0.00					
30.0000	0.00114	0.00	0.00	5.07E-05	0.00	1.74E+11	
-89.5723	140940.	0.00					

\* This analysis computed pile response using nonlinear moment-curvature relationships. Values of total stress due to combined axial and bending stresses are computed only for elastic sections only and do not equal the actual stresses in concrete and steel. Stresses in concrete and steel may be interpolated from the output for nonlinear bending properties relative to the magnitude of bending moment developed in the pile.

#### Output Summary for Load Case No. 1:

Pile-head deflection = 0.23861363 inches  
 Computed slope at pile head = -0.00206634 radians  
 Maximum bending moment = 2361385. inch-lbs  
 Maximum shear force = 31070. lbs  
 Depth of maximum bending moment = 8.70000000 feet below pile head  
 Depth of maximum shear force = 0.30000000 feet below pile head  
 Number of iterations = 7  
 Number of zero deflection points = 2

-----  
 Pile-head Deflection vs. Pile Length for Load Case 1  
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#### Boundary Condition Type 1, Shear and Moment

Shear = 31070. lbs  
 Moment = 0. in-lbs  
 Axial Load = 672965. lbs

Pile Length feet	Pile Head Deflection inches	Maximum Moment In-lbs	Maximum Shear lbs
30.00000	0.23861363	2361385.	31070.
28.50000	0.23864483	2361729.	31070.
27.00000	0.23869994	2361615.	31070.
25.50000	0.23880970	2361443.	31070.
24.00000	0.23939733	2358363.	31070.
22.50000	0.24168204	2350641.	31070.
21.00000	0.24856701	2334268.	31070.
19.50000	0.27394862	2300101.	31070.
18.00000	0.32254370	2271541.	31070.
16.50000	0.41143510	2264506.	-33935.
15.00000	0.69954585	2307349.	-43998.

-----  
 Computed Values of Pile Loading and Deflection  
 for Lateral Loading for Load Case Number 2  
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Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head = 34525.0 lbs  
 Applied moment at pile head = 0.0 in-lbs  
 Axial thrust load on pile head = 672965.0 lbs

Depth Res. X feet lb/inch	Deflect. Soil Spr. y inches lb/inch	Bending Distrib. Lat. Load Moment in-lbs lb/inch	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil p
0.00	0.2718	-2.99E-06	34525.	-0.00234	0.00	1.74E+11	
0.00	0.00	0.00					
0.3000	0.2634	129961.	34525.	-0.00234	0.00	1.74E+11	
0.00	0.00	0.00					
0.6000	0.2550	259916.	34525.	-0.00234	0.00	1.74E+11	
0.00	0.00	0.00					
0.9000	0.2466	389858.	34525.	-0.00233	0.00	1.74E+11	
0.00	0.00	0.00					
1.2000	0.2382	519781.	34510.	-0.00232	0.00	1.74E+11	
-8.4424	127.6006	0.00					
1.5000	0.2299	649568.	34451.	-0.00231	0.00	1.74E+11	
-24.0355	376.4459	0.00					

1.8000	0.2216	779011.	34330.	-0.00229	0.00	1.74E+11
-43.4456	705.8863	0.00				
2.1000	0.2133	907852.	34131.	-0.00228	0.00	1.74E+11
-67.0106	1131.	0.00				
2.4000	0.2052	1035779.	33839.	-0.00226	0.00	1.74E+11
-95.0661	1668.	0.00				
2.7000	0.1971	1162423.	33438.	-0.00223	0.00	1.74E+11
-127.9459	2337.	0.00				
3.0000	0.1891	1287350.	32917.	-0.00221	0.00	1.74E+11
-161.3849	3072.	0.00				
3.3000	0.1812	1410121.	32272.	-0.00218	0.00	1.74E+11
-197.2349	3918.	0.00				
3.6000	0.1734	1530265.	31491.	-0.00215	0.00	1.74E+11
-236.2720	4905.	0.00				
3.9000	0.1657	1647271.	30565.	-0.00212	0.00	1.74E+11
-278.5215	6050.	0.00				
4.2000	0.1582	1760585.	29480.	-0.00208	0.00	1.74E+11
-323.9970	7374.	0.00				
4.5000	0.1508	1869612.	28226.	-0.00204	0.00	1.74E+11
-372.7000	8900.	0.00				
4.8000	0.1435	1973716.	26804.	-0.00200	0.00	1.74E+11
-417.4220	10474.	0.00				
5.1000	0.1363	2072311.	25218.	-0.00196	0.00	1.74E+11
-463.8052	12248.	0.00				
5.4000	0.1293	2164791.	23462.	-0.00192	0.00	1.74E+11
-511.7495	14244.	0.00				
5.7000	0.1225	2250531.	21530.	-0.00187	0.00	1.74E+11
-561.1490	16489.	0.00				
6.0000	0.1159	2328886.	19419.	-0.00183	0.00	1.74E+11
-611.8912	19014.	0.00				
6.3000	0.1094	2399194.	17191.	-0.00178	0.00	1.74E+11
-626.0188	20606.	0.00				
6.6000	0.1031	2461270.	14942.	-0.00173	0.00	1.74E+11
-623.3006	21773.	0.00				
6.9000	0.09693	2515144.	12708.	-0.00168	0.00	1.74E+11
-617.6595	22939.	0.00				
7.2000	0.09099	2560887.	10500.	-0.00162	0.00	1.74E+11
-609.3000	24106.	0.00				
7.5000	0.08525	2598607.	8326.	-0.00157	0.00	1.74E+11
-598.4275	25272.	0.00				
7.8000	0.07969	2628440.	6195.	-0.00152	0.00	1.74E+11
-585.2475	26438.	0.00				
8.1000	0.07433	2650558.	4116.	-0.00146	0.00	1.74E+11
-569.9647	27605.	0.00				
8.4000	0.06917	2665156.	2095.	-0.00141	0.00	1.74E+11
-552.7818	28771.	0.00				
8.7000	0.06420	2672457.	138.7964	-0.00135	0.00	1.74E+11
-533.8994	29938.	0.00				
9.0000	0.05943	2672705.	-1747.	-0.00130	0.00	1.74E+11
-513.5144	31104.	0.00				

9.3000	0.05487	2666164.	-3556.	-0.00124	0.00	1.74E+11
-491.8201	32270.	0.00				
9.6000	0.05050	2653116.	-5286.	-0.00119	0.00	1.74E+11
-469.0049	33437.	0.00				
9.9000	0.04632	2633857.	-6931.	-0.00113	0.00	1.74E+11
-445.2519	34603.	0.00				
10.2000	0.04234	2608696.	-8490.	-0.00108	0.00	1.74E+11
-420.7386	35770.	0.00				
10.5000	0.03856	2577951.	-9960.	-0.00102	0.00	1.74E+11
-395.6358	36936.	0.00				
10.8000	0.03497	2541951.	-11338.	-9.72E-04	0.00	1.74E+11
-370.1078	38102.	0.00				
11.1000	0.03157	2501027.	-12624.	-9.20E-04	0.00	1.74E+11
-344.3115	39269.	0.00				
11.4000	0.02835	2455515.	-13817.	-8.68E-04	0.00	1.74E+11
-318.3963	40435.	0.00				
11.7000	0.02531	2405754.	-14916.	-8.18E-04	0.00	1.74E+11
-292.5037	41602.	0.00				
12.0000	0.02246	2352083.	-15923.	-7.69E-04	0.00	1.74E+11
-266.7671	42768.	0.00				
12.3000	0.01977	2294836.	-16838.	-7.21E-04	0.00	1.74E+11
-241.3115	43934.	0.00				
12.6000	0.01726	2234347.	-17661.	-6.75E-04	0.00	1.74E+11
-216.2535	45101.	0.00				
12.9000	0.01492	2170944.	-18396.	-6.29E-04	0.00	1.74E+11
-191.7011	46267.	0.00				
13.2000	0.01273	2104948.	-19043.	-5.85E-04	0.00	1.74E+11
-167.7534	47434.	0.00				
13.5000	0.01070	2036673.	-19605.	-5.42E-04	0.00	1.74E+11
-144.5010	48600.	0.00				
13.8000	0.00883	1966423.	-20084.	-5.01E-04	0.00	1.74E+11
-122.0259	49766.	0.00				
14.1000	0.00710	1894493.	-20485.	-4.61E-04	0.00	1.74E+11
-100.4012	50933.	0.00				
14.4000	0.00551	1821167.	-20809.	-4.23E-04	0.00	1.74E+11
-79.6915	52099.	0.00				
14.7000	0.00405	1746718.	-21060.	-3.86E-04	0.00	1.74E+11
-59.9532	53266.	0.00				
15.0000	0.00273	1671404.	-21242.	-3.51E-04	0.00	1.74E+11
-41.2340	54432.	0.00				
15.3000	0.00153	1595473.	-21359.	-3.17E-04	0.00	1.74E+11
-23.5737	55598.	0.00				
15.6000	4.44E-04	1519156.	-21414.	-2.85E-04	0.00	1.74E+11
-7.0040	56765.	0.00				
15.9000	-5.25E-04	1442672.	-21411.	-2.54E-04	0.00	1.74E+11
8.4512	57931.	0.00				
16.2000	-0.00139	1366226.	-21355.	-2.25E-04	0.00	1.74E+11
22.7753	59098.	0.00				
16.5000	-0.00215	1290006.	-21250.	-1.98E-04	0.00	1.74E+11
35.9594	60264.	0.00				

16.8000	-0.00281	1214189.	-21098.	-1.72E-04	0.00	1.74E+11
48.0013	61430.	0.00				
17.1000	-0.00339	1138932.	-20906.	-1.48E-04	0.00	1.74E+11
58.9059	62597.	0.00				
17.4000	-0.00388	1064382.	-20676.	-1.25E-04	0.00	1.74E+11
68.6844	63763.	0.00				
17.7000	-0.00429	990669.	-20413.	-1.04E-04	0.00	1.74E+11
77.3546	64930.	0.00				
18.0000	-0.00463	917909.	-20121.	-8.43E-05	0.00	1.74E+11
84.9401	66096.	0.00				
18.3000	-0.00490	846204.	-19804.	-6.61E-05	0.00	1.74E+11
91.4704	67262.	0.00				
18.6000	-0.00510	775643.	-19465.	-4.93E-05	0.00	1.74E+11
96.9805	68429.	0.00				
18.9000	-0.00525	706299.	-19107.	-3.41E-05	0.00	1.74E+11
101.5105	69595.	0.00				
19.2000	-0.00535	638235.	-18452.	-2.02E-05	0.00	1.74E+11
262.7643	176904.	0.00				
19.5000	-0.00540	573545.	-17493.	-7.68E-06	0.00	1.74E+11
269.5405	179820.	0.00				
19.8000	-0.00540	512320.	-16515.	3.52E-06	0.00	1.74E+11
274.2334	182736.	0.00				
20.1000	-0.00537	454623.	-15522.	1.35E-05	0.00	1.74E+11
276.9741	185652.	0.00				
20.4000	-0.00531	400493.	-14524.	2.23E-05	0.00	1.74E+11
277.8947	188568.	0.00				
20.7000	-0.00521	349944.	-13525.	3.01E-05	0.00	1.74E+11
277.1268	191484.	0.00				
21.0000	-0.00509	302970.	-12531.	3.68E-05	0.00	1.74E+11
274.8011	194400.	0.00				
21.3000	-0.00495	259541.	-11549.	4.26E-05	0.00	1.74E+11
271.0455	197316.	0.00				
21.6000	-0.00478	219613.	-10582.	4.75E-05	0.00	1.74E+11
265.9847	200232.	0.00				
21.9000	-0.00460	183121.	-9636.	5.17E-05	0.00	1.74E+11
259.7394	203148.	0.00				
22.2000	-0.00441	149985.	-8714.	5.51E-05	0.00	1.74E+11
252.4251	206064.	0.00				
22.5000	-0.00421	120114.	-7820.	5.79E-05	0.00	1.74E+11
244.1514	208980.	0.00				
22.8000	-0.00399	93401.	-6957.	6.01E-05	0.00	1.74E+11
235.0221	211896.	0.00				
23.1000	-0.00377	69729.	-6129.	6.18E-05	0.00	1.74E+11
225.1337	214812.	0.00				
23.4000	-0.00355	48971.	-5338.	6.30E-05	0.00	1.74E+11
214.5758	217728.	0.00				
23.7000	-0.00332	30992.	-4585.	6.39E-05	0.00	1.74E+11
203.4303	220644.	0.00				
24.0000	-0.00309	15648.	-3874.	6.43E-05	0.00	1.74E+11
191.7713	223560.	0.00				

24.3000	-0.00286	2788.	-3205.	6.45E-05	0.00	1.74E+11
179.6649	226476.	0.00				
24.6000	-0.00262	-7743.	-2581.	6.45E-05	0.00	1.74E+11
167.1691	229392.	0.00				
24.9000	-0.00239	-16108.	-2002.	6.42E-05	0.00	1.74E+11
154.3340	232308.	0.00				
25.2000	-0.00216	-22471.	-1470.	6.38E-05	0.00	1.74E+11
141.2014	235224.	0.00				
25.5000	-0.00193	-27004.	-986.1525	6.33E-05	0.00	1.74E+11
127.8056	238140.	0.00				
25.8000	-0.00171	-29878.	-550.5905	6.27E-05	0.00	1.74E+11
114.1732	241056.	0.00				
26.1000	-0.00148	-31272.	-164.4963	6.21E-05	0.00	1.74E+11
100.3236	243972.	0.00				
26.4000	-0.00126	-31364.	171.3706	6.15E-05	0.00	1.74E+11
86.2691	246888.	0.00				
26.7000	-0.00104	-30336.	456.2839	6.08E-05	0.00	1.74E+11
72.0160	249804.	0.00				
27.0000	-8.20E-04	-28373.	689.5290	6.02E-05	0.00	1.74E+11
57.5646	252720.	0.00				
27.3000	-6.04E-04	-25663.	870.3829	5.97E-05	0.00	1.74E+11
42.9098	255636.	0.00				
27.6000	-3.90E-04	-22395.	998.0972	5.92E-05	0.00	1.74E+11
28.0425	258552.	0.00				
27.9000	-1.78E-04	-18763.	1072.	5.87E-05	0.00	1.74E+11
12.9497	261468.	0.00				
28.2000	3.25E-05	-14962.	1091.	5.84E-05	0.00	1.74E+11
-2.3845	264384.	0.00				
28.5000	2.42E-04	-11192.	1054.	5.81E-05	0.00	1.74E+11
-17.9776	267300.	0.00				
28.8000	4.51E-04	-7653.	960.9624	5.79E-05	0.00	1.74E+11
-33.8480	270216.	0.00				
29.1000	6.59E-04	-4553.	810.0116	5.78E-05	0.00	1.74E+11
-50.0135	273132.	0.00				
29.4000	8.67E-04	-2101.	600.3043	5.77E-05	0.00	1.74E+11
-66.4905	276048.	0.00				
29.7000	0.00107	-510.9804	330.6955	5.77E-05	0.00	1.74E+11
-83.2922	278964.	0.00				
30.0000	0.00128	0.00	0.00	5.77E-05	0.00	1.74E+11
-100.4275	140940.	0.00				

\* This analysis computed pile response using nonlinear moment-curvature relationships. Values of total stress due to combined axial and bending stresses are computed only for elastic sections only and do not equal the actual stresses in concrete and steel. Stresses in concrete and steel may be interpolated from the output for nonlinear bending properties relative to the magnitude of bending moment developed in the pile.

Output Summary for Load Case No. 2:



Pile-head deflection = 0.27179871 inches  
 Computed slope at pile head = -0.00234097 radians  
 Maximum bending moment = 2672705. inch-lbs  
 Maximum shear force = 34525. lbs  
 Depth of maximum bending moment = 9.00000000 feet below pile head  
 Depth of maximum shear force = 0.30000000 feet below pile head  
 Number of iterations = 8  
 Number of zero deflection points = 2

-----  
 Pile-head Deflection vs. Pile Length for Load Case 2  
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Boundary Condition Type 1, Shear and Moment

Shear = 34525. lbs  
 Moment = 0. in-lbs  
 Axial Load = 672965. lbs

Pile Length feet	Pile Head Deflection inches	Maximum Moment ln-lbs	Maximum Shear lbs
30.00000	0.27179871	2672705.	34525.
28.50000	0.27183287	2673628.	34525.
27.00000	0.27187200	2673775.	34525.
25.50000	0.27192976	2672923.	34525.
24.00000	0.27272904	2669988.	34525.
22.50000	0.27553848	2661489.	34525.
21.00000	0.28400386	2644541.	34525.
19.50000	0.31649311	2609397.	34525.
18.00000	0.37649003	2585445.	34525.
16.50000	0.50618991	2584420.	-39982.
15.00000	1.01951070	2681288.	-55086.

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 Computed Values of Pile Loading and Deflection  
 for Lateral Loading for Load Case Number 3  
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Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head = 24610.0 lbs  
 Applied moment at pile head = 0.0 in-lbs  
 Axial thrust load on pile head = 565251.0 lbs

Depth Res.	Soil X	Deflect. Spr.	Distrib. y	Bending Moment Load	Shear Force	Slope S	Total Stress	Bending Stiffness	Soil p
feet	Es*h	inches	Lat.	in-lbs	lbs	radians	psi*	lb-in^2	
lb/inch		lb/inch		lb/inch					
0.00		0.1853		4.95E-06	24610.	-0.00163	0.00	1.65E+11	
0.00		0.00		0.00					
0.3000		0.1794		91921.	24610.	-0.00163	0.00	1.65E+11	
0.00		0.00		0.00					
0.6000		0.1735		183838.	24610.	-0.00163	0.00	1.65E+11	
0.00		0.00		0.00					
0.9000		0.1677		275746.	24610.	-0.00162	0.00	1.65E+11	
0.00		0.00		0.00					
1.2000		0.1618		367643.	24597.	-0.00162	0.00	1.65E+11	
-7.4676	166.1384			0.00					
1.5000		0.1560		459426.	24545.	-0.00161	0.00	1.65E+11	
-21.4194	494.2858			0.00					
1.8000		0.1502		550911.	24436.	-0.00160	0.00	1.65E+11	
-38.9757	933.9945			0.00					
2.1000		0.1445		641867.	24257.	-0.00158	0.00	1.65E+11	
-60.4771	1507.			0.00					
2.4000		0.1388		732011.	23993.	-0.00157	0.00	1.65E+11	
-86.2621	2237.			0.00					
2.7000		0.1332		821004.	23627.	-0.00155	0.00	1.65E+11	
-116.6676	3153.			0.00					
3.0000		0.1276		908448.	23152.	-0.00153	0.00	1.65E+11	
-147.2563	4153.			0.00					
3.3000		0.1221		993944.	22563.	-0.00151	0.00	1.65E+11	
-179.9405	5303.			0.00					
3.6000		0.1167		1077064.	21852.	-0.00149	0.00	1.65E+11	
-215.5179	6646.			0.00					
3.9000		0.1114		1157343.	21006.	-0.00147	0.00	1.65E+11	
-254.0082	8207.			0.00					
4.2000		0.1062		1234278.	20017.	-0.00144	0.00	1.65E+11	
-295.4202	10016.			0.00					
4.5000		0.1010		1307331.	18874.	-0.00141	0.00	1.65E+11	
-339.7512	12105.			0.00					
4.8000		0.09601		1375922.	17578.	-0.00138	0.00	1.65E+11	
-380.3494	14261.			0.00					
5.1000		0.09108		1439522.	16167.	-0.00135	0.00	1.65E+11	
-403.3224	15941.			0.00					
5.4000		0.08627		1497832.	14703.	-0.00132	0.00	1.65E+11	
-409.9610	17107.			0.00					
5.7000		0.08158		1550762.	13220.	-0.00129	0.00	1.65E+11	
-414.0774	18274.			0.00					
6.0000		0.07700		1598257.	11726.	-0.00125	0.00	1.65E+11	

-415.8082	19440.	0.00				
6.3000	0.07255	1640292.	10230.	-0.00122	0.00	1.65E+11
-415.2930	20606.	0.00				
6.6000	0.06823	1676872.	8740.	-0.00118	0.00	1.65E+11
-412.6737	21773.	0.00				
6.9000	0.06404	1708030.	7263.	-0.00114	0.00	1.65E+11
-408.0937	22939.	0.00				
7.2000	0.05999	1733823.	5805.	-0.00111	0.00	1.65E+11
-401.6974	24106.	0.00				
7.5000	0.05607	1754333.	4373.	-0.00107	0.00	1.65E+11
-393.6292	25272.	0.00				
7.8000	0.05229	1769664.	2974.	-0.00103	0.00	1.65E+11
-384.0333	26438.	0.00				
8.1000	0.04865	1779939.	1611.	-9.92E-04	0.00	1.65E+11
-373.0526	27605.	0.00				
8.4000	0.04515	1785300.	289.9503	-9.53E-04	0.00	1.65E+11
-360.8286	28771.	0.00				
8.7000	0.04179	1785906.	-985.0426	-9.14E-04	0.00	1.65E+11
-347.5007	29938.	0.00				
9.0000	0.03857	1781929.	-2210.	-8.75E-04	0.00	1.65E+11
-333.2054	31104.	0.00				
9.3000	0.03548	1773555.	-3383.	-8.37E-04	0.00	1.65E+11
-318.0761	32270.	0.00				
9.6000	0.03254	1760979.	-4499.	-7.98E-04	0.00	1.65E+11
-302.2428	33437.	0.00				
9.9000	0.02974	1744409.	-5558.	-7.60E-04	0.00	1.65E+11
-285.8311	34603.	0.00				
10.2000	0.02707	1724057.	-6556.	-7.22E-04	0.00	1.65E+11
-268.9626	35770.	0.00				
10.5000	0.02454	1700142.	-7494.	-6.85E-04	0.00	1.65E+11
-251.7538	36936.	0.00				
10.8000	0.02214	1672889.	-8369.	-6.48E-04	0.00	1.65E+11
-234.3165	38102.	0.00				
11.1000	0.01987	1642526.	-9181.	-6.12E-04	0.00	1.65E+11
-216.7571	39269.	0.00				
11.4000	0.01773	1609280.	-9929.	-5.76E-04	0.00	1.65E+11
-199.1763	40435.	0.00				
11.7000	0.01572	1573382.	-10615.	-5.42E-04	0.00	1.65E+11
-181.6693	41602.	0.00				
12.0000	0.01383	1535059.	-11237.	-5.08E-04	0.00	1.65E+11
-164.3255	42768.	0.00				
12.3000	0.01206	1494539.	-11798.	-4.75E-04	0.00	1.65E+11
-147.2281	43934.	0.00				
12.6000	0.01041	1452044.	-12298.	-4.43E-04	0.00	1.65E+11
-130.4544	45101.	0.00				
12.9000	0.00888	1407794.	-12738.	-4.12E-04	0.00	1.65E+11
-114.0755	46267.	0.00				
13.2000	0.00745	1362004.	-13120.	-3.81E-04	0.00	1.65E+11
-98.1565	47434.	0.00				
13.5000	0.00613	1314880.	-13446.	-3.52E-04	0.00	1.65E+11

-82.7563	48600.	0.00					
13.8000	0.00491	1266626.	-13717.	-3.24E-04	0.00	1.65E+11	
-67.9275	49766.	0.00					
14.1000	0.00380	1217436.	-13936.	-2.97E-04	0.00	1.65E+11	
-53.7170	50933.	0.00					
14.4000	0.00278	1167495.	-14105.	-2.71E-04	0.00	1.65E+11	
-40.1655	52099.	0.00					
14.7000	0.00185	1116982.	-14227.	-2.46E-04	0.00	1.65E+11	
-27.3079	53266.	0.00					
15.0000	0.00100	1066065.	-14303.	-2.22E-04	0.00	1.65E+11	
-15.1733	54432.	0.00					
15.3000	2.45E-04	1014905.	-14337.	-2.00E-04	0.00	1.65E+11	
-3.7851	55598.	0.00					
15.6000	-4.34E-04	963650.	-14332.	-1.78E-04	0.00	1.65E+11	
6.8385	56765.	0.00					
15.9000	-0.00104	912441.	-14289.	-1.58E-04	0.00	1.65E+11	
16.6849	57931.	0.00					
16.2000	-0.00157	861408.	-14213.	-1.38E-04	0.00	1.65E+11	
25.7466	59098.	0.00					
16.5000	-0.00203	810671.	-14105.	-1.20E-04	0.00	1.65E+11	
34.0211	60264.	0.00					
16.8000	-0.00243	760338.	-13969.	-1.03E-04	0.00	1.65E+11	
41.5104	61430.	0.00					
17.1000	-0.00277	710510.	-13808.	-8.69E-05	0.00	1.65E+11	
48.2216	62597.	0.00					
17.4000	-0.00306	661275.	-13624.	-7.19E-05	0.00	1.65E+11	
54.1658	63763.	0.00					
17.7000	-0.00329	612713.	-13419.	-5.80E-05	0.00	1.65E+11	
59.3586	64930.	0.00					
18.0000	-0.00348	564893.	-13198.	-4.52E-05	0.00	1.65E+11	
63.8194	66096.	0.00					
18.3000	-0.00362	517874.	-12961.	-3.34E-05	0.00	1.65E+11	
67.5717	67262.	0.00					
18.6000	-0.00372	471709.	-12712.	-2.26E-05	0.00	1.65E+11	
70.6425	68429.	0.00					
18.9000	-0.00378	426438.	-12454.	-1.28E-05	0.00	1.65E+11	
73.0623	69595.	0.00					
19.2000	-0.00381	382096.	-11985.	-4.01E-06	0.00	1.65E+11	
187.1626	176904.	0.00					
19.5000	-0.00381	340162.	-11306.	3.87E-06	0.00	1.65E+11	
190.2192	179820.	0.00					
19.8000	-0.00378	300678.	-10618.	1.09E-05	0.00	1.65E+11	
191.9197	182736.	0.00					
20.1000	-0.00373	263668.	-9926.	1.70E-05	0.00	1.65E+11	
192.3591	185652.	0.00					
20.4000	-0.00366	229139.	-9235.	2.24E-05	0.00	1.65E+11	
191.6322	188568.	0.00					
20.7000	-0.00357	197083.	-8549.	2.70E-05	0.00	1.65E+11	
189.8328	191484.	0.00					
21.0000	-0.00346	167480.	-7870.	3.10E-05	0.00	1.65E+11	

187.0531	194400.	0.00				
21.3000	-0.00335	140293.	-7203.	3.44E-05	0.00	1.65E+11
183.3828	197316.	0.00				
21.6000	-0.00322	115476.	-6551.	3.71E-05	0.00	1.65E+11
178.9087	200232.	0.00				
21.9000	-0.00308	92973.	-5916.	3.94E-05	0.00	1.65E+11
173.7139	203148.	0.00				
22.2000	-0.00293	72717.	-5302.	4.12E-05	0.00	1.65E+11
167.8775	206064.	0.00				
22.5000	-0.00278	54633.	-4709.	4.26E-05	0.00	1.65E+11
161.4741	208980.	0.00				
22.8000	-0.00263	38640.	-4140.	4.36E-05	0.00	1.65E+11
154.5733	211896.	0.00				
23.1000	-0.00247	24649.	-3597.	4.43E-05	0.00	1.65E+11
147.2396	214812.	0.00				
23.4000	-0.00231	12564.	-3080.	4.47E-05	0.00	1.65E+11
139.5320	217728.	0.00				
23.7000	-0.00215	2287.	-2593.	4.49E-05	0.00	1.65E+11
131.5041	220644.	0.00				
24.0000	-0.00198	-6285.	-2134.	4.48E-05	0.00	1.65E+11
123.2033	223560.	0.00				
24.3000	-0.00182	-13261.	-1706.	4.46E-05	0.00	1.65E+11
114.6718	226476.	0.00				
24.6000	-0.00166	-18749.	-1309.	4.43E-05	0.00	1.65E+11
105.9454	229392.	0.00				
24.9000	-0.00150	-22864.	-943.4193	4.38E-05	0.00	1.65E+11
97.0547	232308.	0.00				
25.2000	-0.00135	-25720.	-610.2774	4.33E-05	0.00	1.65E+11
88.0242	235224.	0.00				
25.5000	-0.00119	-27434.	-309.8624	4.27E-05	0.00	1.65E+11
78.8731	238140.	0.00				
25.8000	-0.00104	-28125.	-42.5834	4.21E-05	0.00	1.65E+11
69.6153	241056.	0.00				
26.1000	-8.89E-04	-27912.	191.1919	4.15E-05	0.00	1.65E+11
60.2598	243972.	0.00				
26.4000	-7.41E-04	-26917.	391.1189	4.09E-05	0.00	1.65E+11
50.8108	246888.	0.00				
26.7000	-5.95E-04	-25263.	556.8609	4.03E-05	0.00	1.65E+11
41.2681	249804.	0.00				
27.0000	-4.51E-04	-23072.	688.0737	3.98E-05	0.00	1.65E+11
31.6278	252720.	0.00				
27.3000	-3.08E-04	-20471.	784.3924	3.93E-05	0.00	1.65E+11
21.8826	255636.	0.00				
27.6000	-1.67E-04	-17585.	845.4207	3.89E-05	0.00	1.65E+11
12.0220	258552.	0.00				
27.9000	-2.80E-05	-14542.	870.7210	3.86E-05	0.00	1.65E+11
2.0337	261468.	0.00				
28.2000	1.10E-04	-11472.	859.8076	3.83E-05	0.00	1.65E+11
-8.0967	264384.	0.00				
28.5000	2.48E-04	-8507.	812.1422	3.81E-05	0.00	1.65E+11

-18.3841	267300.	0.00					
28.8000	3.84E-04	-5780.	727.1317	3.79E-05	0.00	1.65E+11	
-28.8440	270216.	0.00					
29.1000	5.21E-04	-3426.	604.1291	3.78E-05	0.00	1.65E+11	
-39.4908	273132.	0.00					
29.4000	6.56E-04	-1584.	442.4377	3.77E-05	0.00	1.65E+11	
-50.3377	276048.	0.00					
29.7000	7.92E-04	-394.1415	241.3183	3.77E-05	0.00	1.65E+11	
-61.3953	278964.	0.00					
30.0000	9.28E-04	0.00	0.00	3.77E-05	0.00	1.65E+11	
-72.6704	140940.	0.00					

\* This analysis computed pile response using nonlinear moment-curvature relationships. Values of total stress due to combined axial and bending stresses are computed only for elastic sections only and do not equal the actual stresses in concrete and steel. Stresses in concrete and steel may be interpolated from the output for nonlinear bending properties relative to the magnitude of bending moment developed in the pile.

Output Summary for Load Case No. 3:

Pile-head deflection	=	0.18526858 inches
Computed slope at pile head	=	-0.00163391 radians
Maximum bending moment	=	1785906. inch-lbs
Maximum shear force	=	24610. lbs
Depth of maximum bending moment	=	8.70000000 feet below pile head
Depth of maximum shear force	=	0.90000000 feet below pile head
Number of iterations	=	7
Number of zero deflection points	=	2

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Pile-head Deflection vs. Pile Length for Load Case 3  
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Boundary Condition Type 1, Shear and Moment

Shear	=	24610. lbs
Moment	=	0. in-lbs
Axial Load	=	565251. lbs

Pile Length feet	Pile Head Deflection inches	Maximum Moment ln-lbs	Maximum Shear lbs
-----			
30.00000	0.18526858	1785906.	24610.
28.50000	0.18528650	1786224.	24610.

27.00000	0.18531532	1786330.	24610.
25.50000	0.18534514	1786101.	24610.
24.00000	0.18564627	1784194.	24610.
22.50000	0.18688695	1778075.	24610.
21.00000	0.19107970	1764683.	24610.
19.50000	0.20534576	1734866.	24610.
18.00000	0.23619902	1699347.	24610.
16.50000	0.28429673	1678851.	24610.
15.00000	0.39482069	1677462.	-28534.
13.50000	0.76810499	1740435.	-38846.

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 Computed Values of Pile Loading and Deflection  
 for Lateral Loading for Load Case Number 4  
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Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head = 32672.0 lbs  
 Applied moment at pile head = 0.0 in-lbs  
 Axial thrust load on pile head = 565251.0 lbs

Depth	Deflect.	Bending	Shear	Slope	Total	Bending	Soil
Res. Soil	Spr. Distrib.	Moment	Force	S	Stress	Stiffness	p
X	y	Lat. Load					
Es*h	Lat. Load						
feet	inches	in-lbs	lbs	radians	psi*	lb-in^2	
lb/inch	lb/inch	lb/inch					
0.00	0.2606	-1.41E-06	32672.	-0.00227	0.00	1.65E+11	
0.00	0.00	0.00					
0.3000	0.2525	122240.	32672.	-0.00227	0.00	1.65E+11	
0.00	0.00	0.00					
0.6000	0.2443	244475.	32672.	-0.00227	0.00	1.65E+11	
0.00	0.00	0.00					
0.9000	0.2361	366698.	32672.	-0.00226	0.00	1.65E+11	
0.00	0.00	0.00					
1.2000	0.2280	488906.	32657.	-0.00225	0.00	1.65E+11	
-8.3264	131.4528	0.00					
1.5000	0.2200	610984.	32599.	-0.00224	0.00	1.65E+11	
-23.7227	388.2774	0.00					
1.8000	0.2119	732727.	32479.	-0.00222	0.00	1.65E+11	
-42.9082	728.9073	0.00					
2.1000	0.2039	853882.	32283.	-0.00221	0.00	1.65E+11	
-66.2200	1169.	0.00					
2.4000	0.1960	974141.	31995.	-0.00219	0.00	1.65E+11	
-93.9933	1726.	0.00					
2.7000	0.1882	1093138.	31598.	-0.00216	0.00	1.65E+11	



-126.5612	2421.	0.00				
3.0000	0.1805	1210446.	31082.	-0.00214	0.00	1.65E+11
-159.6332	3184.	0.00				
3.3000	0.1728	1325632.	30444.	-0.00211	0.00	1.65E+11
-195.0681	4064.	0.00				
3.6000	0.1653	1438232.	29672.	-0.00208	0.00	1.65E+11
-233.6433	5089.	0.00				
3.9000	0.1578	1547739.	28756.	-0.00205	0.00	1.65E+11
-275.3814	6281.	0.00				
4.2000	0.1505	1653609.	27684.	-0.00201	0.00	1.65E+11
-320.2933	7660.	0.00				
4.5000	0.1433	1755254.	26444.	-0.00198	0.00	1.65E+11
-368.3776	9251.	0.00				
4.8000	0.1363	1852047.	25039.	-0.00194	0.00	1.65E+11
-412.4970	10895.	0.00				
5.1000	0.1294	1943412.	23471.	-0.00189	0.00	1.65E+11
-458.2350	12748.	0.00				
5.4000	0.1227	2028753.	21737.	-0.00185	0.00	1.65E+11
-505.4903	14836.	0.00				
5.7000	0.1161	2107452.	19829.	-0.00181	0.00	1.65E+11
-554.1554	17187.	0.00				
6.0000	0.1097	2178876.	17766.	-0.00176	0.00	1.65E+11
-592.1274	19440.	0.00				
6.3000	0.1034	2242529.	15635.	-0.00171	0.00	1.65E+11
-591.8815	20606.	0.00				
6.6000	0.09733	2298411.	13510.	-0.00166	0.00	1.65E+11
-588.6501	21773.	0.00				
6.9000	0.09144	2346563.	11401.	-0.00161	0.00	1.65E+11
-582.6324	22939.	0.00				
7.2000	0.08573	2387060.	9319.	-0.00156	0.00	1.65E+11
-574.0290	24106.	0.00				
7.5000	0.08021	2420012.	7273.	-0.00151	0.00	1.65E+11
-563.0412	25272.	0.00				
7.8000	0.07487	2445559.	5270.	-0.00145	0.00	1.65E+11
-549.8700	26438.	0.00				
8.1000	0.06973	2463872.	3317.	-0.00140	0.00	1.65E+11
-534.7156	27605.	0.00				
8.4000	0.06479	2475145.	1423.	-0.00135	0.00	1.65E+11
-517.7759	28771.	0.00				
8.7000	0.06003	2479598.	-407.8691	-0.00129	0.00	1.65E+11
-499.2462	29938.	0.00				
9.0000	0.05548	2477471.	-2169.	-0.00124	0.00	1.65E+11
-479.3183	31104.	0.00				
9.3000	0.05111	2469022.	-3857.	-0.00119	0.00	1.65E+11
-458.1801	32270.	0.00				
9.6000	0.04694	2454525.	-5466.	-0.00113	0.00	1.65E+11
-436.0142	33437.	0.00				
9.9000	0.04297	2434269.	-6995.	-0.00108	0.00	1.65E+11
-412.9980	34603.	0.00				
10.2000	0.03918	2408552.	-8439.	-0.00103	0.00	1.65E+11

-389.3032	35770.	0.00					
10.5000	0.03558	2377683.	-9797.	-9.73E-04	0.00	1.65E+11	
-365.0945	36936.	0.00					
10.8000	0.03217	2341977.	-11067.	-9.22E-04	0.00	1.65E+11	
-340.5302	38102.	0.00					
11.1000	0.02895	2301754.	-12248.	-8.71E-04	0.00	1.65E+11	
-315.7611	39269.	0.00					
11.4000	0.02590	2257337.	-13340.	-8.21E-04	0.00	1.65E+11	
-290.9303	40435.	0.00					
11.7000	0.02303	2209049.	-14343.	-7.73E-04	0.00	1.65E+11	
-266.1731	41602.	0.00					
12.0000	0.02034	2157213.	-15257.	-7.25E-04	0.00	1.65E+11	
-241.6168	42768.	0.00					
12.3000	0.01781	2102150.	-16083.	-6.79E-04	0.00	1.65E+11	
-217.3802	43934.	0.00					
12.6000	0.01545	2044177.	-16823.	-6.34E-04	0.00	1.65E+11	
-193.5737	45101.	0.00					
12.9000	0.01325	1983604.	-17478.	-5.90E-04	0.00	1.65E+11	
-170.2992	46267.	0.00					
13.2000	0.01121	1920736.	-18050.	-5.47E-04	0.00	1.65E+11	
-147.6500	47434.	0.00					
13.5000	0.00931	1855870.	-18542.	-5.06E-04	0.00	1.65E+11	
-125.7109	48600.	0.00					
13.8000	0.00756	1789292.	-18957.	-4.66E-04	0.00	1.65E+11	
-104.5580	49766.	0.00					
14.1000	0.00596	1721279.	-19297.	-4.28E-04	0.00	1.65E+11	
-84.2589	50933.	0.00					
14.4000	0.00448	1652098.	-19565.	-3.91E-04	0.00	1.65E+11	
-64.8728	52099.	0.00					
14.7000	0.00314	1582003.	-19765.	-3.56E-04	0.00	1.65E+11	
-46.4508	53266.	0.00					
15.0000	0.00192	1511236.	-19901.	-3.22E-04	0.00	1.65E+11	
-29.0358	54432.	0.00					
15.3000	8.20E-04	1440026.	-19976.	-2.90E-04	0.00	1.65E+11	
-12.6625	55598.	0.00					
15.6000	-1.68E-04	1368587.	-19994.	-2.59E-04	0.00	1.65E+11	
2.6418	56765.	0.00					
15.9000	-0.00105	1297123.	-19959.	-2.30E-04	0.00	1.65E+11	
16.8575	57931.	0.00					
16.2000	-0.00183	1225819.	-19875.	-2.03E-04	0.00	1.65E+11	
29.9723	59098.	0.00					
16.5000	-0.00251	1154849.	-19745.	-1.77E-04	0.00	1.65E+11	
41.9808	60264.	0.00					
16.8000	-0.00310	1084372.	-19575.	-1.52E-04	0.00	1.65E+11	
52.8847	61430.	0.00					
17.1000	-0.00361	1014532.	-19367.	-1.30E-04	0.00	1.65E+11	
62.6920	62597.	0.00					
17.4000	-0.00403	945459.	-19125.	-1.08E-04	0.00	1.65E+11	
71.4171	63763.	0.00					
17.7000	-0.00438	877271.	-18854.	-8.83E-05	0.00	1.65E+11	

79.0803	64930.	0.00					
18.0000	-0.00467	810068.	-18558.	-6.99E-05	0.00	1.65E+11	
85.7078	66096.	0.00					
18.3000	-0.00489	743940.	-18239.	-5.30E-05	0.00	1.65E+11	
91.3312	67262.	0.00					
18.6000	-0.00505	678963.	-17902.	-3.75E-05	0.00	1.65E+11	
95.9874	68429.	0.00					
18.9000	-0.00516	615199.	-17550.	-2.34E-05	0.00	1.65E+11	
99.7181	69595.	0.00					
19.2000	-0.00522	552701.	-16909.	-1.07E-05	0.00	1.65E+11	
256.4251	176904.	0.00					
19.5000	-0.00523	493502.	-15976.	7.44E-07	0.00	1.65E+11	
261.4855	179820.	0.00					
19.8000	-0.00521	437669.	-15029.	1.09E-05	0.00	1.65E+11	
264.6068	182736.	0.00					
20.1000	-0.00516	385246.	-14074.	1.99E-05	0.00	1.65E+11	
265.9211	185652.	0.00					
20.4000	-0.00507	336253.	-13118.	2.77E-05	0.00	1.65E+11	
265.5603	188568.	0.00					
20.7000	-0.00496	290686.	-12165.	3.46E-05	0.00	1.65E+11	
263.6554	191484.	0.00					
21.0000	-0.00482	248523.	-11222.	4.04E-05	0.00	1.65E+11	
260.3355	194400.	0.00					
21.3000	-0.00467	209724.	-10293.	4.54E-05	0.00	1.65E+11	
255.7264	197316.	0.00					
21.6000	-0.00449	174229.	-9383.	4.96E-05	0.00	1.65E+11	
249.9503	200232.	0.00					
21.9000	-0.00431	141966.	-8495.	5.31E-05	0.00	1.65E+11	
243.1241	203148.	0.00					
22.2000	-0.00411	112847.	-7634.	5.58E-05	0.00	1.65E+11	
235.3598	206064.	0.00					
22.5000	-0.00391	86774.	-6802.	5.80E-05	0.00	1.65E+11	
226.7628	208980.	0.00					
22.8000	-0.00369	63635.	-6003.	5.97E-05	0.00	1.65E+11	
217.4321	211896.	0.00					
23.1000	-0.00348	43312.	-5238.	6.08E-05	0.00	1.65E+11	
207.4595	214812.	0.00					
23.4000	-0.00326	25675.	-4510.	6.16E-05	0.00	1.65E+11	
196.9294	217728.	0.00					
23.7000	-0.00303	10590.	-3821.	6.20E-05	0.00	1.65E+11	
185.9182	220644.	0.00					
24.0000	-0.00281	-2086.	-3172.	6.21E-05	0.00	1.65E+11	
174.4946	223560.	0.00					
24.3000	-0.00259	-12501.	-2565.	6.19E-05	0.00	1.65E+11	
162.7193	226476.	0.00					
24.6000	-0.00236	-20807.	-2001.	6.15E-05	0.00	1.65E+11	
150.6446	229392.	0.00					
24.9000	-0.00214	-27159.	-1481.	6.10E-05	0.00	1.65E+11	
138.3151	232308.	0.00					
25.2000	-0.00192	-31717.	-1006.	6.04E-05	0.00	1.65E+11	

125.7672	235224.	0.00					
25.5000	-0.00171	-34644.	-575.6873	5.97E-05	0.00	1.65E+11	
113.0299	238140.	0.00					
25.8000	-0.00150	-36105.	-192.0093	5.89E-05	0.00	1.65E+11	
100.1245	241056.	0.00					
26.1000	-0.00128	-36266.	144.9325	5.81E-05	0.00	1.65E+11	
87.0654	243972.	0.00					
26.4000	-0.00108	-35298.	434.5991	5.73E-05	0.00	1.65E+11	
73.8604	246888.	0.00					
26.7000	-8.72E-04	-33371.	676.4679	5.66E-05	0.00	1.65E+11	
60.5112	249804.	0.00					
27.0000	-6.70E-04	-30658.	870.0126	5.59E-05	0.00	1.65E+11	
47.0137	252720.	0.00					
27.3000	-4.70E-04	-27334.	1015.	5.52E-05	0.00	1.65E+11	
33.3593	255636.	0.00					
27.6000	-2.72E-04	-23577.	1110.	5.47E-05	0.00	1.65E+11	
19.5352	258552.	0.00					
27.9000	-7.61E-05	-19565.	1155.	5.42E-05	0.00	1.65E+11	
5.5250	261468.	0.00					
28.2000	1.18E-04	-15481.	1149.	5.38E-05	0.00	1.65E+11	
-8.6898	264384.	0.00					
28.5000	3.12E-04	-11509.	1092.	5.35E-05	0.00	1.65E+11	
-23.1294	267300.	0.00					
28.8000	5.04E-04	-7837.	982.3330	5.33E-05	0.00	1.65E+11	
-37.8141	270216.	0.00					
29.1000	6.95E-04	-4654.	819.2933	5.32E-05	0.00	1.65E+11	
-52.7636	273132.	0.00					
29.4000	8.87E-04	-2154.	601.9269	5.31E-05	0.00	1.65E+11	
-67.9956	276048.	0.00					
29.7000	0.00108	-535.8379	329.1910	5.31E-05	0.00	1.65E+11	
-83.5244	278964.	0.00					
30.0000	0.00127	0.00	0.00	5.31E-05	0.00	1.65E+11	
-99.3595	140940.	0.00					

\* This analysis computed pile response using nonlinear moment-curvature relationships. Values of total stress due to combined axial and bending stresses are computed only for elastic sections only and do not equal the actual stresses in concrete and steel. Stresses in concrete and steel may be interpolated from the output for nonlinear bending properties relative to the magnitude of bending moment developed in the pile.

#### Output Summary for Load Case No. 4:

Pile-head deflection	=	0.26063251 inches
Computed slope at pile head	=	-0.00227079 radians
Maximum bending moment	=	2479598. inch-lbs
Maximum shear force	=	32672. lbs
Depth of maximum bending moment	=	8.70000000 feet below pile head
Depth of maximum shear force	=	0.30000000 feet below pile head

Number of iterations = 8  
 Number of zero deflection points = 2

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 Pile-head Deflection vs. Pile Length for Load Case 4  
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Boundary Condition Type 1, Shear and Moment

Shear = 32672. lbs  
 Moment = 0. in-lbs  
 Axial Load = 565251. lbs

Pile Length feet	Pile Head Deflection inches	Maximum Moment ln-lbs	Maximum Shear lbs
30.00000	0.26063251	2479598.	32672.
28.50000	0.26065913	2479535.	32672.
27.00000	0.26066584	2479313.	32672.
25.50000	0.26075711	2479484.	32672.
24.00000	0.26131017	2476945.	32672.
22.50000	0.26354133	2469643.	32672.
21.00000	0.27057265	2454386.	32672.
19.50000	0.29753472	2420841.	32672.
18.00000	0.34912742	2392168.	32672.
16.50000	0.44822043	2379910.	-35751.
15.00000	0.76881946	2407341.	-46066.

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 Computed Values of Pile Loading and Deflection  
 for Lateral Loading for Load Case Number 5  
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Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head = 65642.0 lbs  
 Applied moment at pile head = 0.0 in-lbs  
 Axial thrust load on pile head = 672174.0 lbs

Depth Res.	Deflect. Soil Spr.	Bending Distrib.	Shear Force	Slope S	Total Stress	Bending Stiffness	Soil p
X	y	Moment					
Es*h	Lat. Load	in-lbs	lbs	radians	psi*	lb-in^2	
feet	inches	lb/inch					
lb/inch	lb/inch	lb/inch					

0.00	0.6401	-7.47E-06	65642.	-0.00522	0.00	1.74E+11
0.00	0.00	0.00				
0.3000	0.6213	248952.	65642.	-0.00522	0.00	1.74E+11
0.00	0.00	0.00				
0.6000	0.6025	497891.	65642.	-0.00521	0.00	1.74E+11
0.00	0.00	0.00				
0.9000	0.5838	746806.	65642.	-0.00520	0.00	1.74E+11
0.00	0.00	0.00				
1.2000	0.5651	995683.	65622.	-0.00518	0.00	1.74E+11
-11.1052	70.7504	0.00				
1.5000	0.5464	1244366.	65546.	-0.00516	0.00	1.74E+11
-31.0934	204.8432	0.00				
1.8000	0.5279	1492585.	65390.	-0.00513	0.00	1.74E+11
-55.3718	377.5923	0.00				
2.1000	0.5095	1740011.	65139.	-0.00510	0.00	1.74E+11
-84.2697	595.4250	0.00				
2.4000	0.4912	1986258.	64775.	-0.00506	0.00	1.74E+11
-118.1143	865.6318	0.00				
2.7000	0.4731	2230875.	64279.	-0.00502	0.00	1.74E+11
-157.2312	1196.	0.00				
3.0000	0.4551	2473344.	63640.	-0.00497	0.00	1.74E+11
-198.0279	1566.	0.00				
3.3000	0.4373	2713122.	62847.	-0.00491	0.00	1.74E+11
-242.0959	1993.	0.00				
3.6000	0.4197	2949627.	61889.	-0.00486	0.00	1.74E+11
-290.1178	2488.	0.00				
3.9000	0.4024	3182225.	60751.	-0.00479	0.00	1.74E+11
-342.1348	3061.	0.00				
4.2000	0.3852	3410229.	59419.	-0.00472	0.00	1.74E+11
-398.1747	3721.	0.00				
4.5000	0.3683	3632903.	57877.	-0.00465	0.00	1.74E+11
-458.2511	4479.	0.00				
4.8000	0.3517	3849457.	56128.	-0.00457	0.00	1.74E+11
-513.7438	5258.	0.00				
5.1000	0.3354	4059160.	54174.	-0.00449	0.00	1.74E+11
-571.4081	6133.	0.00				
5.4000	0.3194	4261256.	52010.	-0.00441	0.00	1.74E+11
-631.1326	7114.	0.00				
5.7000	0.3037	4454958.	49627.	-0.00432	0.00	1.74E+11
-692.7983	8213.	0.00				
6.0000	0.2883	4639460.	47018.	-0.00422	0.00	1.74E+11
-756.2783	9444.	0.00				
6.3000	0.2733	4813928.	44181.	-0.00413	0.00	1.74E+11
-820.1378	10804.	0.00				
6.6000	0.2586	4977528.	41123.	-0.00402	0.00	1.74E+11
-878.6309	12232.	0.00				
6.9000	0.2443	5129491.	37853.	-0.00392	0.00	1.74E+11
-937.8988	13821.	0.00				

7.2000	0.2304	5269043.	34369.	-0.00381	0.00	1.74E+11
-997.9084	15594.	0.00				
7.5000	0.2168	5395399.	30667.	-0.00370	0.00	1.74E+11
-1059.	17575.	0.00				
7.8000	0.2037	5507766.	26745.	-0.00359	0.00	1.74E+11
-1120.	19794.	0.00				
8.1000	0.1910	5605341.	22609.	-0.00348	0.00	1.74E+11
-1178.	22199.	0.00				
8.4000	0.1787	5687373.	18284.	-0.00336	0.00	1.74E+11
-1225.	24687.	0.00				
8.7000	0.1668	5753239.	13790.	-0.00324	0.00	1.74E+11
-1271.	27427.	0.00				
9.0000	0.1554	5802348.	9138.	-0.00312	0.00	1.74E+11
-1314.	30448.	0.00				
9.3000	0.1443	5834137.	4444.	-0.00300	0.00	1.74E+11
-1294.	32270.	0.00				
9.6000	0.1337	5848868.	-121.3372	-0.00288	0.00	1.74E+11
-1242.	33437.	0.00				
9.9000	0.1236	5847206.	-4496.	-0.00276	0.00	1.74E+11
-1188.	34603.	0.00				
10.2000	0.1139	5829856.	-8671.	-0.00264	0.00	1.74E+11
-1131.	35770.	0.00				
10.5000	0.1046	5797551.	-12639.	-0.00252	0.00	1.74E+11
-1073.	36936.	0.00				
10.8000	0.09573	5751049.	-16394.	-0.00240	0.00	1.74E+11
-1013.	38102.	0.00				
11.1000	0.08731	5691128.	-19932.	-0.00228	0.00	1.74E+11
-952.3383	39269.	0.00				
11.4000	0.07930	5618581.	-23250.	-0.00217	0.00	1.74E+11
-890.7139	40435.	0.00				
11.7000	0.07171	5534209.	-26345.	-0.00205	0.00	1.74E+11
-828.7269	41602.	0.00				
12.0000	0.06454	5438821.	-29217.	-0.00194	0.00	1.74E+11
-766.7087	42768.	0.00				
12.3000	0.05777	5333225.	-31866.	-0.00183	0.00	1.74E+11
-704.9725	43934.	0.00				
12.6000	0.05139	5218225.	-34294.	-0.00172	0.00	1.74E+11
-643.8127	45101.	0.00				
12.9000	0.04540	5094621.	-36503.	-0.00161	0.00	1.74E+11
-583.5049	46267.	0.00				
13.2000	0.03979	4963201.	-38497.	-0.00151	0.00	1.74E+11
-524.3047	47434.	0.00				
13.5000	0.03455	4824737.	-40280.	-0.00141	0.00	1.74E+11
-466.4485	48600.	0.00				
13.8000	0.02967	4679988.	-41858.	-0.00131	0.00	1.74E+11
-410.1524	49766.	0.00				
14.1000	0.02514	4529689.	-43236.	-0.00121	0.00	1.74E+11
-355.6128	50933.	0.00				
14.4000	0.02094	4374555.	-44422.	-0.00112	0.00	1.74E+11
-303.0060	52099.	0.00				



14.7000	0.01706	4215276.	-45422.	-0.00103	0.00	1.74E+11
-252.4886	53266.	0.00				
15.0000	0.01351	4052514.	-46244.	-9.47E-04	0.00	1.74E+11
-204.1976	54432.	0.00				
15.3000	0.01025	3886903.	-46896.	-8.65E-04	0.00	1.74E+11
-158.2507	55598.	0.00				
15.6000	0.00728	3719047.	-47388.	-7.86E-04	0.00	1.74E+11
-114.7466	56765.	0.00				
15.9000	0.00458	3549518.	-47727.	-7.11E-04	0.00	1.74E+11
-73.7653	57931.	0.00				
16.2000	0.00215	3378856.	-47923.	-6.40E-04	0.00	1.74E+11
-35.3685	59098.	0.00				
16.5000	-2.39E-05	3207566.	-47986.	-5.72E-04	0.00	1.74E+11
0.3995	60264.	0.00				
16.8000	-0.00196	3036122.	-47925.	-5.08E-04	0.00	1.74E+11
33.5120	61430.	0.00				
17.1000	-0.00368	2864961.	-47750.	-4.47E-04	0.00	1.74E+11
63.9589	62597.	0.00				
17.4000	-0.00518	2694485.	-47470.	-3.89E-04	0.00	1.74E+11
91.7460	63763.	0.00				
17.7000	-0.00648	2525063.	-47094.	-3.35E-04	0.00	1.74E+11
116.8949	64930.	0.00				
18.0000	-0.00759	2357031.	-46633.	-2.85E-04	0.00	1.74E+11
139.4423	66096.	0.00				
18.3000	-0.00853	2190688.	-46095.	-2.38E-04	0.00	1.74E+11
159.4388	67262.	0.00				
18.6000	-0.00931	2026301.	-45489.	-1.95E-04	0.00	1.74E+11
176.9494	68429.	0.00				
18.9000	-0.00993	1864107.	-44825.	-1.54E-04	0.00	1.74E+11
192.0519	69595.	0.00				
19.2000	-0.01042	1704309.	-43558.	-1.18E-04	0.00	1.74E+11
512.0920	176904.	0.00				
19.5000	-0.01078	1551062.	-41666.	-8.40E-05	0.00	1.74E+11
538.5170	179820.	0.00				
19.8000	-0.01103	1404717.	-39690.	-5.35E-05	0.00	1.74E+11
559.6748	182736.	0.00				
20.1000	-0.01117	1265556.	-37646.	-2.59E-05	0.00	1.74E+11
575.8463	185652.	0.00				
20.4000	-0.01121	1133794.	-35552.	-1.18E-06	0.00	1.74E+11
587.3194	188568.	0.00				
20.7000	-0.01117	1009587.	-33425.	2.09E-05	0.00	1.74E+11
594.3864	191484.	0.00				
21.0000	-0.01106	893032.	-31280.	4.06E-05	0.00	1.74E+11
597.3409	194400.	0.00				
21.3000	-0.01088	784175.	-29131.	5.79E-05	0.00	1.74E+11
596.4755	197316.	0.00				
21.6000	-0.01065	683009.	-26992.	7.30E-05	0.00	1.74E+11
592.0786	200232.	0.00				
21.9000	-0.01036	589482.	-24874.	8.62E-05	0.00	1.74E+11
584.4330	203148.	0.00				

22.2000	-0.01002	503500.	-22789.	9.74E-05	0.00	1.74E+11
573.8131	206064.	0.00				
22.5000	-0.00966	424930.	-20747.	1.07E-04	0.00	1.74E+11
560.4833	208980.	0.00				
22.8000	-0.00925	353602.	-18758.	1.15E-04	0.00	1.74E+11
544.6964	211896.	0.00				
23.1000	-0.00883	289315.	-16829.	1.22E-04	0.00	1.74E+11
526.6919	214812.	0.00				
23.4000	-0.00838	231841.	-14969.	1.27E-04	0.00	1.74E+11
506.6949	217728.	0.00				
23.7000	-0.00791	180921.	-13184.	1.31E-04	0.00	1.74E+11
484.9149	220644.	0.00				
24.0000	-0.00743	136277.	-11481.	1.35E-04	0.00	1.74E+11
461.5449	223560.	0.00				
24.3000	-0.00694	97607.	-9864.	1.37E-04	0.00	1.74E+11
436.7611	226476.	0.00				
24.6000	-0.00645	64594.	-8338.	1.39E-04	0.00	1.74E+11
410.7219	229392.	0.00				
24.9000	-0.00594	36900.	-6909.	1.40E-04	0.00	1.74E+11
383.5680	232308.	0.00				
25.2000	-0.00544	14175.	-5579.	1.40E-04	0.00	1.74E+11
355.4221	235224.	0.00				
25.5000	-0.00493	-3945.	-4351.	1.40E-04	0.00	1.74E+11
326.3894	238140.	0.00				
25.8000	-0.00443	-17834.	-3230.	1.40E-04	0.00	1.74E+11
296.5574	241056.	0.00				
26.1000	-0.00392	-27879.	-2217.	1.40E-04	0.00	1.74E+11
265.9968	243972.	0.00				
26.4000	-0.00342	-34475.	-1316.	1.39E-04	0.00	1.74E+11
234.7619	246888.	0.00				
26.7000	-0.00292	-38027.	-528.2186	1.38E-04	0.00	1.74E+11
202.8919	249804.	0.00				
27.0000	-0.00243	-38947.	143.7275	1.37E-04	0.00	1.74E+11
170.4115	252720.	0.00				
27.3000	-0.00193	-37657.	697.6665	1.37E-04	0.00	1.74E+11
137.3324	255636.	0.00				
27.6000	-0.00144	-34586.	1131.	1.36E-04	0.00	1.74E+11
103.6547	258552.	0.00				
27.9000	-9.55E-04	-30169.	1443.	1.35E-04	0.00	1.74E+11
69.3687	261468.	0.00				
28.2000	-4.69E-04	-24852.	1630.	1.35E-04	0.00	1.74E+11
34.4565	264384.	0.00				
28.5000	1.49E-05	-19087.	1690.	1.34E-04	0.00	1.74E+11
-1.1058	267300.	0.00				
28.8000	4.98E-04	-13335.	1621.	1.34E-04	0.00	1.74E+11
-37.3458	270216.	0.00				
29.1000	9.79E-04	-8067.	1420.	1.34E-04	0.00	1.74E+11
-74.2925	273132.	0.00				
29.4000	0.00146	-3761.	1084.	1.34E-04	0.00	1.74E+11
-111.9736	276048.	0.00				

29.7000	0.00194	-905.6426	612.0664	1.34E-04	0.00	1.74E+11
-150.4123	278964.	0.00				
30.0000	0.00242	0.00	0.00	1.34E-04	0.00	1.74E+11
-189.6246	140940.	0.00				

\* This analysis computed pile response using nonlinear moment-curvature relationships. Values of total stress due to combined axial and bending stresses are computed only for elastic sections only and do not equal the actual stresses in concrete and steel. Stresses in concrete and steel may be interpolated from the output for nonlinear bending properties relative to the magnitude of bending moment developed in the pile.

Output Summary for Load Case No. 5:

Pile-head deflection	=	0.64010613 inches
Computed slope at pile head	=	-0.00522376 radians
Maximum bending moment	=	5848868. inch-lbs
Maximum shear force	=	65642. lbs
Depth of maximum bending moment	=	9.60000000 feet below pile head
Depth of maximum shear force	=	0.30000000 feet below pile head
Number of iterations	=	12
Number of zero deflection points	=	2

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Pile-head Deflection vs. Pile Length for Load Case 5  
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Boundary Condition Type 1, Shear and Moment

Shear	=	65642. lbs
Moment	=	0. in-lbs
Axial Load	=	672174. lbs

Pile Length feet	Pile Head Deflection inches	Maximum Moment ln-lbs	Maximum Shear lbs
30.00000	0.64010613	5848868.	65642.
28.50000	0.63999612	5850039.	65642.
27.00000	0.64017511	5850259.	65642.
25.50000	0.64118635	5848859.	65642.
24.00000	0.64591617	5842853.	65642.
22.50000	0.66070062	5832083.	65642.
21.00000	0.72418276	5804603.	65642.
19.50000	0.92113298	5764766.	-75023.
18.00000	1.67299806	5789358.	-95253.

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 Computed Values of Pile Loading and Deflection  
 for Lateral Loading for Load Case Number 6  
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Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head = 34700.0 lbs  
 Applied moment at pile head = 0.0 in-lbs  
 Axial thrust load on pile head = 672174.0 lbs

Depth	Deflect.	Bending	Shear	Slope	Total	Bending	Soil
Res. Soil Spr.	Distrib.	Moment	Force	S	Stress	Stiffness	p
X	y	Lat. Load					
Es*h	Lat. Load						
feet	inches	in-lbs	lbs	radians	psi*	lb-in^2	
lb/inch	lb/inch	lb/inch					
0.00	0.2736	-6.72E-06	34700.	-0.00236	0.00	1.74E+11	
0.00	0.00	0.00					
0.3000	0.2651	130620.	34700.	-0.00235	0.00	1.74E+11	
0.00	0.00	0.00					
0.6000	0.2566	261234.	34700.	-0.00235	0.00	1.74E+11	
0.00	0.00	0.00					
0.9000	0.2482	391835.	34700.	-0.00234	0.00	1.74E+11	
0.00	0.00	0.00					
1.2000	0.2397	522417.	34685.	-0.00233	0.00	1.74E+11	
-8.4599	127.0319	0.00					
1.5000	0.2314	652862.	34626.	-0.00232	0.00	1.74E+11	
-24.0823	374.7168	0.00					
1.8000	0.2230	782963.	34505.	-0.00231	0.00	1.74E+11	
-43.5254	702.5567	0.00					
2.1000	0.2148	912461.	34305.	-0.00229	0.00	1.74E+11	
-67.1266	1125.	0.00					
2.4000	0.2065	1041043.	34013.	-0.00227	0.00	1.74E+11	
-95.2218	1660.	0.00					
2.7000	0.1984	1168339.	33611.	-0.00225	0.00	1.74E+11	
-128.1447	2325.	0.00					
3.0000	0.1904	1293916.	33089.	-0.00222	0.00	1.74E+11	
-161.6334	3057.	0.00					
3.3000	0.1824	1417333.	32443.	-0.00219	0.00	1.74E+11	
-197.5387	3898.	0.00					
3.6000	0.1746	1538120.	31661.	-0.00216	0.00	1.74E+11	
-236.6360	4880.	0.00					
3.9000	0.1668	1655763.	30733.	-0.00213	0.00	1.74E+11	
-278.9508	6019.	0.00					
4.2000	0.1592	1769708.	29647.	-0.00209	0.00	1.74E+11	

-324.4966	7336.	0.00				
4.5000	0.1518	1879359.	28391.	-0.00206	0.00	1.74E+11
-373.2751	8854.	0.00				
4.8000	0.1444	1984079.	26967.	-0.00202	0.00	1.74E+11
-418.0680	10421.	0.00				
5.1000	0.1372	2083282.	25378.	-0.00198	0.00	1.74E+11
-464.5251	12185.	0.00				
5.4000	0.1302	2176360.	23619.	-0.00193	0.00	1.74E+11
-512.5462	14171.	0.00				
5.7000	0.1233	2262687.	21685.	-0.00189	0.00	1.74E+11
-562.0252	16404.	0.00				
6.0000	0.1166	2341617.	19570.	-0.00184	0.00	1.74E+11
-612.8494	18916.	0.00				
6.3000	0.1101	2412487.	17333.	-0.00179	0.00	1.74E+11
-630.2569	20606.	0.00				
6.6000	0.1038	2475069.	15069.	-0.00174	0.00	1.74E+11
-627.5295	21773.	0.00				
6.9000	0.09759	2529394.	12820.	-0.00169	0.00	1.74E+11
-621.8594	22939.	0.00				
7.2000	0.09161	2575534.	10596.	-0.00163	0.00	1.74E+11
-613.4525	24106.	0.00				
7.5000	0.08583	2613595.	8408.	-0.00158	0.00	1.74E+11
-602.5156	25272.	0.00				
7.8000	0.08024	2643717.	6262.	-0.00153	0.00	1.74E+11
-589.2553	26438.	0.00				
8.1000	0.07484	2666070.	4169.	-0.00147	0.00	1.74E+11
-573.8777	27605.	0.00				
8.4000	0.06964	2680852.	2134.	-0.00142	0.00	1.74E+11
-556.5870	28771.	0.00				
8.7000	0.06464	2688287.	164.3658	-0.00136	0.00	1.74E+11
-537.5849	29938.	0.00				
9.0000	0.05985	2688621.	-1734.	-0.00131	0.00	1.74E+11
-517.0697	31104.	0.00				
9.3000	0.05525	2682119.	-3556.	-0.00125	0.00	1.74E+11
-495.2359	32270.	0.00				
9.6000	0.05085	2669065.	-5298.	-0.00119	0.00	1.74E+11
-472.2732	33437.	0.00				
9.9000	0.04665	2649757.	-6955.	-0.00114	0.00	1.74E+11
-448.3659	34603.	0.00				
10.2000	0.04264	2624506.	-8525.	-0.00109	0.00	1.74E+11
-423.6926	35770.	0.00				
10.5000	0.03883	2593632.	-10004.	-0.00103	0.00	1.74E+11
-398.4254	36936.	0.00				
10.8000	0.03522	2557466.	-11392.	-9.78E-04	0.00	1.74E+11
-372.7297	38102.	0.00				
11.1000	0.03179	2516341.	-12688.	-9.26E-04	0.00	1.74E+11
-346.7633	39269.	0.00				
11.4000	0.02855	2470597.	-13889.	-8.74E-04	0.00	1.74E+11
-320.6767	40435.	0.00				
11.7000	0.02549	2420573.	-14996.	-8.24E-04	0.00	1.74E+11

-294.6124	41602.	0.00					
12.0000	0.02262	2366610.	-16010.	-7.74E-04	0.00	1.74E+11	
-268.7046	42768.	0.00					
12.3000	0.01992	2309046.	-16932.	-7.26E-04	0.00	1.74E+11	
-243.0793	43934.	0.00					
12.6000	0.01739	2248217.	-17761.	-6.79E-04	0.00	1.74E+11	
-217.8538	45101.	0.00					
12.9000	0.01503	2184452.	-18501.	-6.33E-04	0.00	1.74E+11	
-193.1367	46267.	0.00					
13.2000	0.01283	2118075.	-19153.	-5.89E-04	0.00	1.74E+11	
-169.0281	47434.	0.00					
13.5000	0.01079	2049401.	-19719.	-5.46E-04	0.00	1.74E+11	
-145.6191	48600.	0.00					
13.8000	0.00890	1978738.	-20203.	-5.04E-04	0.00	1.74E+11	
-122.9921	49766.	0.00					
14.1000	0.00715	1906382.	-20606.	-4.64E-04	0.00	1.74E+11	
-101.2210	50933.	0.00					
14.4000	0.00555	1832619.	-20933.	-4.26E-04	0.00	1.74E+11	
-80.3707	52099.	0.00					
14.7000	0.00409	1757723.	-21187.	-3.89E-04	0.00	1.74E+11	
-60.4979	53266.	0.00					
15.0000	0.00275	1681955.	-21371.	-3.53E-04	0.00	1.74E+11	
-41.6508	54432.	0.00					
15.3000	0.00155	1605564.	-21489.	-3.19E-04	0.00	1.74E+11	
-23.8694	55598.	0.00					
15.6000	4.56E-04	1528783.	-21545.	-2.87E-04	0.00	1.74E+11	
-7.1857	56765.	0.00					
15.9000	-5.21E-04	1451832.	-21542.	-2.56E-04	0.00	1.74E+11	
8.3762	57931.	0.00					
16.2000	-0.00139	1374917.	-21486.	-2.27E-04	0.00	1.74E+11	
22.7997	59098.	0.00					
16.5000	-0.00216	1298229.	-21380.	-1.99E-04	0.00	1.74E+11	
36.0757	60264.	0.00					
16.8000	-0.00282	1221944.	-21229.	-1.73E-04	0.00	1.74E+11	
48.2019	61430.	0.00					
17.1000	-0.00340	1146222.	-21035.	-1.49E-04	0.00	1.74E+11	
59.1834	62597.	0.00					
17.4000	-0.00390	1071211.	-20805.	-1.26E-04	0.00	1.74E+11	
69.0314	63763.	0.00					
17.7000	-0.00431	997040.	-20540.	-1.05E-04	0.00	1.74E+11	
77.7637	64930.	0.00					
18.0000	-0.00465	923828.	-20247.	-8.49E-05	0.00	1.74E+11	
85.4041	66096.	0.00					
18.3000	-0.00492	851676.	-19927.	-6.66E-05	0.00	1.74E+11	
91.9823	67262.	0.00					
18.6000	-0.00513	780673.	-19586.	-4.98E-05	0.00	1.74E+11	
97.5334	68429.	0.00					
18.9000	-0.00528	710896.	-19227.	-3.44E-05	0.00	1.74E+11	
102.0980	69595.	0.00					
19.2000	-0.00538	642406.	-18567.	-2.04E-05	0.00	1.74E+11	

264.3038	176904.	0.00					
19.5000	-0.00543	577310.	-17604.	-7.81E-06	0.00	1.74E+11	
271.1358	179820.	0.00					
19.8000	-0.00543	515699.	-16619.	3.47E-06	0.00	1.74E+11	
275.8705	182736.	0.00					
20.1000	-0.00540	457637.	-15621.	1.35E-05	0.00	1.74E+11	
278.6399	185652.	0.00					
20.4000	-0.00534	403164.	-14616.	2.24E-05	0.00	1.74E+11	
279.5767	188568.	0.00					
20.7000	-0.00524	352293.	-13611.	3.02E-05	0.00	1.74E+11	
278.8137	191484.	0.00					
21.0000	-0.00512	305019.	-12611.	3.70E-05	0.00	1.74E+11	
276.4822	194400.	0.00					
21.3000	-0.00498	261313.	-11623.	4.28E-05	0.00	1.74E+11	
272.7111	197316.	0.00					
21.6000	-0.00481	221127.	-10650.	4.78E-05	0.00	1.74E+11	
267.6260	200232.	0.00					
21.9000	-0.00463	184400.	-9698.	5.20E-05	0.00	1.74E+11	
261.3481	203148.	0.00					
22.2000	-0.00444	151050.	-8770.	5.55E-05	0.00	1.74E+11	
253.9938	206064.	0.00					
22.5000	-0.00423	120984.	-7871.	5.83E-05	0.00	1.74E+11	
245.6737	208980.	0.00					
22.8000	-0.00402	94096.	-7003.	6.05E-05	0.00	1.74E+11	
236.4918	211896.	0.00					
23.1000	-0.00380	70269.	-6170.	6.22E-05	0.00	1.74E+11	
226.5458	214812.	0.00					
23.4000	-0.00357	49374.	-5373.	6.34E-05	0.00	1.74E+11	
215.9255	217728.	0.00					
23.7000	-0.00334	31275.	-4616.	6.42E-05	0.00	1.74E+11	
204.7135	220644.	0.00					
24.0000	-0.00311	15827.	-3900.	6.47E-05	0.00	1.74E+11	
192.9844	223560.	0.00					
24.3000	-0.00287	2880.	-3227.	6.49E-05	0.00	1.74E+11	
180.8048	226476.	0.00					
24.6000	-0.00264	-7725.	-2599.	6.49E-05	0.00	1.74E+11	
168.2331	229392.	0.00					
24.9000	-0.00241	-16148.	-2017.	6.46E-05	0.00	1.74E+11	
155.3197	232308.	0.00					
25.2000	-0.00217	-22558.	-1481.	6.42E-05	0.00	1.74E+11	
142.1067	235224.	0.00					
25.5000	-0.00194	-27125.	-994.0476	6.37E-05	0.00	1.74E+11	
128.6287	238140.	0.00					
25.8000	-0.00172	-30023.	-555.6735	6.31E-05	0.00	1.74E+11	
114.9125	241056.	0.00					
26.1000	-0.00149	-31431.	-167.0717	6.25E-05	0.00	1.74E+11	
100.9774	243972.	0.00					
26.4000	-0.00127	-31529.	170.9930	6.18E-05	0.00	1.74E+11	
86.8363	246888.	0.00					
26.7000	-0.00104	-30499.	457.7895	6.12E-05	0.00	1.74E+11	



72.4951	249804.	0.00					
27.0000	-8.26E-04	-28529.	692.5984	6.06E-05	0.00	1.74E+11	
57.9543	252720.	0.00					
27.3000	-6.08E-04	-25806.	874.6921	6.00E-05	0.00	1.74E+11	
43.2089	255636.	0.00					
27.6000	-3.93E-04	-22522.	1003.	5.95E-05	0.00	1.74E+11	
28.2496	258552.	0.00					
27.9000	-1.80E-04	-18870.	1078.	5.91E-05	0.00	1.74E+11	
13.0633	261468.	0.00					
28.2000	3.22E-05	-15048.	1097.	5.88E-05	0.00	1.74E+11	
-2.3659	264384.	0.00					
28.5000	2.43E-04	-11256.	1060.	5.85E-05	0.00	1.74E+11	
-18.0556	267300.	0.00					
28.8000	4.53E-04	-7698.	966.4338	5.83E-05	0.00	1.74E+11	
-34.0242	270216.	0.00					
29.1000	6.63E-04	-4580.	814.6683	5.82E-05	0.00	1.74E+11	
-50.2899	273132.	0.00					
29.4000	8.72E-04	-2114.	603.7823	5.81E-05	0.00	1.74E+11	
-66.8690	276048.	0.00					
29.7000	0.00108	-514.0915	332.6237	5.81E-05	0.00	1.74E+11	
-83.7747	278964.	0.00					
30.0000	0.00129	0.00	0.00	5.81E-05	0.00	1.74E+11	
-101.0162	140940.	0.00					

\* This analysis computed pile response using nonlinear moment-curvature relationships. Values of total stress due to combined axial and bending stresses are computed only for elastic sections only and do not equal the actual stresses in concrete and steel. Stresses in concrete and steel may be interpolated from the output for nonlinear bending properties relative to the magnitude of bending moment developed in the pile.

Output Summary for Load Case No. 6:

Pile-head deflection = 0.27357418 inches  
 Computed slope at pile head = -0.00235573 radians  
 Maximum bending moment = 2688621. inch-lbs  
 Maximum shear force = 34700. lbs  
 Depth of maximum bending moment = 9.00000000 feet below pile head  
 Depth of maximum shear force = 0.30000000 feet below pile head  
 Number of iterations = 8  
 Number of zero deflection points = 2

-----  
 Pile-head Deflection vs. Pile Length for Load Case 6  
 -----

Boundary Condition Type 1, Shear and Moment

Shear = 34700. lbs  
 Moment = 0. in-lbs  
 Axial Load = 672174. lbs

Pile Length feet	Pile Head Deflection inches	Maximum Moment ln-lbs	Maximum Shear lbs
30.00000	0.27357418	2688621.	34700.
28.50000	0.27360470	2689482.	34700.
27.00000	0.27363532	2689600.	34700.
25.50000	0.27367988	2688669.	34700.
24.00000	0.27450565	2685827.	34700.
22.50000	0.27734602	2677317.	34700.
21.00000	0.28587036	2660243.	34700.
19.50000	0.31877198	2625262.	34700.
18.00000	0.37937898	2601380.	34700.
16.50000	0.51159826	2600595.	-40301.
15.00000	1.04121088	2701374.	-55720.

Summary of Pile-head Responses for Conventional Analyses

Definitions of Pile-head Loading Conditions:

Load Type 1: Load 1 = Shear, V, lbs, and Load 2 = Moment, M, in-lbs  
 Load Type 2: Load 1 = Shear, V, lbs, and Load 2 = Slope, S, radians  
 Load Type 3: Load 1 = Shear, V, lbs, and Load 2 = Rot. Stiffness, R, in-lbs/rad.  
 Load Type 4: Load 1 = Top Deflection, y, inches, and Load 2 = Moment, M, in-lbs  
 Load Type 5: Load 1 = Top Deflection, y, inches, and Load 2 = Slope, S, radians

Load Case No.	Load Type	Load 1	Load 2	Axial Loading lbs	Pile-head Deflection inches	Pile-head Rotation radians	Max in
1	V, lb	31070.	M, in-lb	0.00	672965.	0.2386	-0.00207
		31070. 2361385.					
2	V, lb	34525.	M, in-lb	0.00	672965.	0.2718	-0.00234
		34525. 2672705.					
3	V, lb	24610.	M, in-lb	0.00	565251.	0.1853	-0.00163
		24610. 1785906.					
4	V, lb	32672.	M, in-lb	0.00	565251.	0.2606	-0.00227

32672.	2479598.						
5 V, lb	65642.	M, in-lb	0.00	672174.	0.6401	-0.00522	
65642.	5848868.						
6 V, lb	34700.	M, in-lb	0.00	672174.	0.2736	-0.00236	
34700.	2688621.						

Maximum pile-head deflection = 0.6401061284 inches

Maximum pile-head rotation = -0.0052237627 radians = -0.299300 deg.

The analysis ended normally.

## **4.0 MISCELLANEOUS CALCULATIONS**

## **STRIP SEAL CALCULATIONS**



**GENERAL INFORMATION**

The superstructure was designed as a single span, 100' bridge. The deck is not continuous at the pier and therefore the expansion forces are transferred to each abutment and fixed at the pier. This analysis is for one single span, 100' bridge.

- Design References:** 1. AASHTO LRFD Eighth Edition, 2017  
 2. CDOT Design Memos

**PROJECT VARIABLES**

**Bridge Properties**

Superstructure Type	Bridge	<b>Steel</b>	
Expansion Length	L =	<b>100.00</b>	ft
Skew	Skew =	<b>45</b>	°
Thermal Coefficient	$\alpha =$	<b>6.5E-06</b>	in./in./°F

Measured from a line normal to bridge  $\perp$   
 AASHTO 6.4.1

**Creep and Shrinkage**

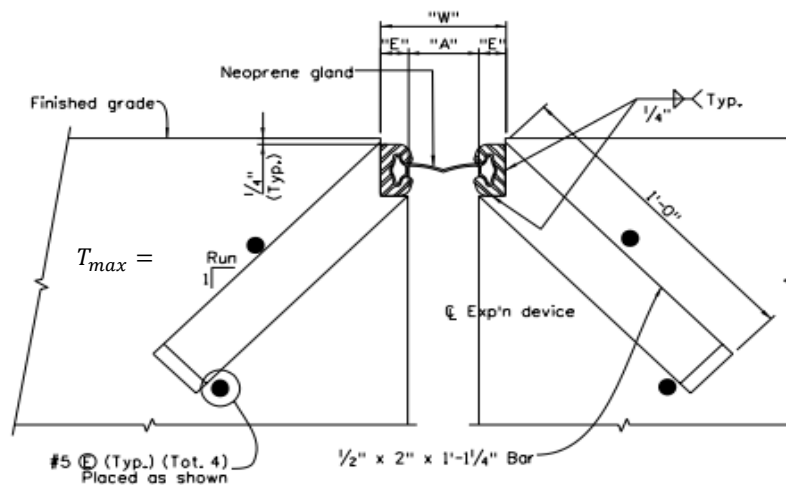
Total Creep and Shrinkage Strain	$\epsilon_{CR\&SH} =$	<b>0.0000</b>	in./in.	AASHTO 5.4.2.3.2 & AASHTO 5.4.2.3.3
----------------------------------	-----------------------	---------------	---------	--

**Temperature Range**

Maximum Temperature	$T_{max} =$	<b>120</b>	°F	AASHTO 3.12.2.2-3
Minimum Temperature	$T_{min} =$	<b>-30</b>	°F	AASHTO F3.12.2.2-4
Strength Load Factor, TU	$\gamma_{TU} =$	<b>1.20</b>		AASHTO 14.5.3.2 & T3.4.1-1

**Expansion Device Dimensions**

Cold Temperature Opening	$A_C =$	<b>4.00</b>	inch	Maximum recommended gland opening
Hot Temperature Opening	$A_H =$	<b>0.50</b>	inch	Minimum recommended gland opening
Minimum Installation Opening	$A_i =$	<b>1.50</b>	inch	Required for placement of gland
Rail Width (min.)	E =	<b>1.25</b>	inch	CDOT B-518-1



**FIGURE 1 - BRIDGE EXPANSION DEVICE (0 - 4 INCH)**



### SOLUTION

The following solution assumes a structure temperature of 60 °F at the time of expansion device installation. The "A" and "W" for the additional installation temperatures accordingly were calculated following the same calculation process and are as shown in the completed table below.

$$T_i = 60 \text{ } ^\circ\text{F}$$

The total horizontal joint movement shall not exceed the maximum manufacturer recommended joint opening:

$$HM = L(\gamma_{TU}\Delta T\alpha + \epsilon) \cos(Skew) = (100.00)*(12)[1.20*(120.00-(-30.00))*6.5E-06+0.0000]\cos(45.00)$$

$$HM = 0.99 \text{ in.} < 4.00 \text{ in. OK}$$

Maximum cold temperature fall if installed at  $T_i$  :

$$\Delta T_C = T_i - T_{min} = 60 - (-30) = 90 \text{ } ^\circ\text{F}$$

Maximum hot temperature rise if installed at  $T_i$  :

$$\Delta T_H = T_{max} - T_i = 120 - (60) = 60 \text{ } ^\circ\text{F}$$

Maximum superstructure contraction (joint expansion) caused by a fall in temperature from  $T_i$  :

$$A_{expn} = L(\gamma_{TU}\Delta T_C\alpha + \epsilon) \cos(Skew) = (100.00)*(12)[1.20*90.00*6.5E-06+0.0000]\cos(45.00)$$

$$A_{expn} = 0.60 \text{ in.}$$

Maximum superstructure expansion (joint contraction) caused by a rise in temperature from  $T_i$  :

$$A_{cont} = L(\gamma_{TU}\Delta T_H\alpha - \epsilon) \cos(Skew) = (100.00)*(12)[1.20*60.00*6.5E-06-0.0000]\cos(45.00)$$

$$A_{cont} = 0.40 \text{ in.}$$

Check that the factored cyclic joint movement does not exceed 3.50 in. per BDM 14.4.4

$$\Delta_{cyclic} = A_{expn} + A_{cont} = 0.60 + 0.40 = 0.99 \text{ in.} < 3.50 \text{ in. OK}$$

Dimension "A" at the given installation temperature needs to accommodate the hot and cold temperature movement ranges within the capabilities of the 0-4 in. joint.

The maximum opening the joint is allowed at the installation temperature is the recommended maximum opening minus the maximum joint expansion under cold temperatures.

$$A_{max} = A_C - A_{expn} = 4.00 - 0.60 = 3.40 \text{ in.}$$

The minimum opening the joint is allowed at the installation temperature is the recommended minimum opening plus the maximum joint contraction under hot temperatures.

$$A_{min} = A_H + A_{cont} = 0.50 + 0.40 = 0.90 \text{ in.}$$





The "A" dimension is determined as the value midway between  $A_{max}$  and  $A_{min}$ . The "A" value specified in the plans should be at least the minimum gland opening required for installation. If the temperature is too warm, causing a narrow joint opening, waiting for a drop in the air temperature is an option prior to gland installation.

$$A = \frac{A_{max} + A_{min}}{2} = \frac{(3.40 + 0.90)}{2} = 2.15 \text{ in.}$$

$$\text{Check } A \geq A_i = 2.15 \text{ in.} > 1.50 \text{ in.} \quad \text{OK}$$

The "W" dimension specified in the plans shall be the total width of the expansion device, measured as the gland opening "A" plus the two rails on either side, E

$$W = 2E + A = 2*1.25 + 2.15 = 4.65 \text{ in.}$$

**Comprehensive Expansion Device Table**

Air Temp. $T_i$ (°)	$\Delta T_C$ (°)	$\Delta T_H$ (°)	$A_{max}$ (in)	$A_{min}$ (in)	"A"	"W"
-30	0	150	4.00	1.49	2.75	5.25
-20	10	140	3.93	1.43	2.68	5.18
-10	20	130	3.87	1.36	2.61	5.11
0	30	120	3.80	1.29	2.55	5.05
10	40	110	3.74	1.23	2.48	4.98
20	50	100	3.67	1.16	2.42	4.92
30	60	90	3.60	1.10	2.35	4.85
40	70	80	3.54	1.03	2.28	4.78
50	80	70	3.47	0.96	2.22	4.72
60	90	60	3.40	0.90	2.15	4.65
70	100	50	3.34	0.83	2.08	4.58
80	110	40	3.27	0.76	2.02	4.52
90	120	30	3.21	0.70	1.95	4.45
100	130	20	3.14	0.63	1.89	4.39
110	140	10	3.07	0.57	1.82	4.32
120	150	0	3.01	0.50	1.75	4.25

The "A" dimension values provided are based on a joint with a minimum opening of 0.5 in. and a maximum opening of 4 in. The Contractor shall adjust the "A" dimension values for joints fabricated with different minimum and maximum opening dimensions accordingly.

## **5.0 QUANTITY CALCULATIONS**



Structure Substructure

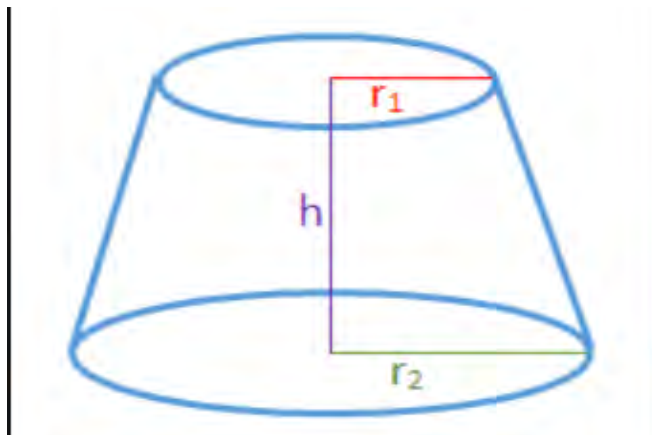
Item Name Structure Excavation

Item Code 206

Location of Member Below Existing Grade

		Cubic Foot	Cubic Yard
<b>Abut 1</b>	Excav. Cross Section Area 1 = 251.56 ft <sup>2</sup>	14656.71	<b>543</b>
	Excavation Length 1-2= 52.50 ft		
	Excav. Cross Section Area 2 = 131.45 ft <sup>2</sup>		
	Excavation Length 2-3= 52.50 ft		
	Excav. Cross Section Area 3 = 43.88 ft <sup>2</sup>		
<b>Pier 2</b>	r1 = 3.00 ft	1130.73	<b>42</b>
	r2 for Westbound Columns= 5.89 ft		
	h for Westbound Columns= 2.89 ft		
	r2 for Eastbound Columns= 5.94 ft		
	h for Eastbound Columns= 2.94 ft		
	# of Columns / Bridge = 3.00 each		
	$V = \frac{1}{3} \pi h(r_1^2 + r_2^2 + r_1 * r_2)$		
<b>Abut 3</b>	Excav. Cross Section Area 1 = 12.33 ft <sup>2</sup>	1740.90	<b>65</b>
	Excavation Length 1-2= 52.50 ft		
	Excav. Cross Section Area 2 = 0.00 ft <sup>2</sup>		
	Excavation Length 2-3= 52.50 ft		
	Excav. Cross Section Area 3 = 54.00 ft <sup>2</sup>		
<b>Total</b>		<b>17528.34</b>	<b>650</b>

Cross Sectional Areas were taken at edge of deck on the north side (1), at the HCL (2), and at the edge of deck on the south side of the s Existing Grade elevations at the front of abutment and CL Pier 2 were taken from the Bridge Abutment Exhibit from Classic Consulting, d







Project: Forest Lakes Bridges

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Client: Structures Inc

By: H. REED

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Structure Substructure

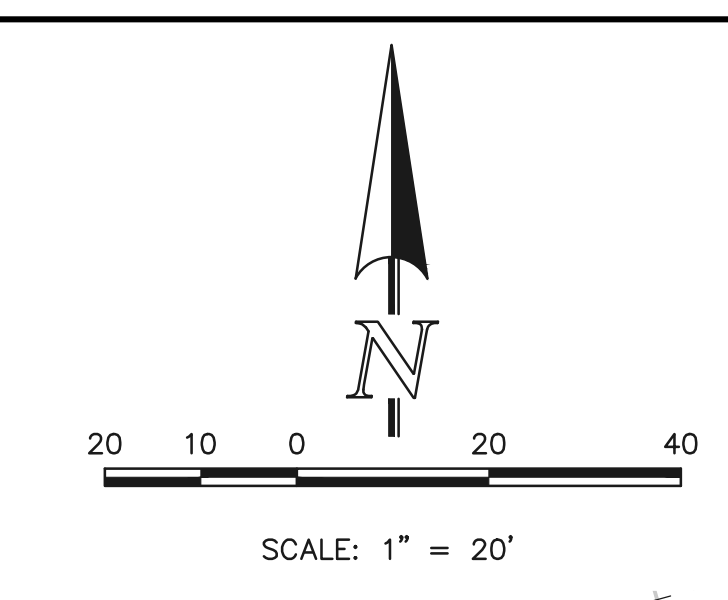
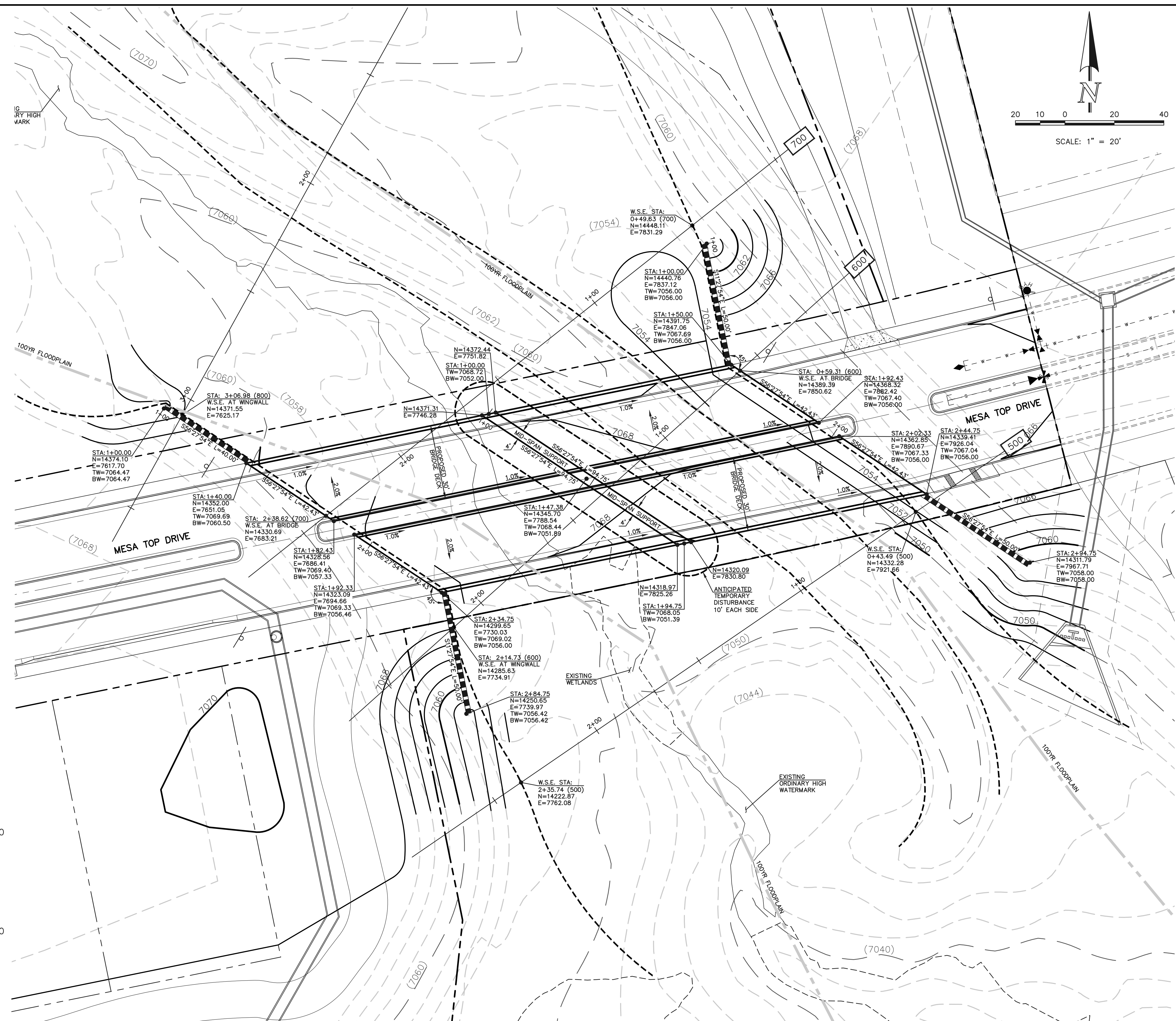
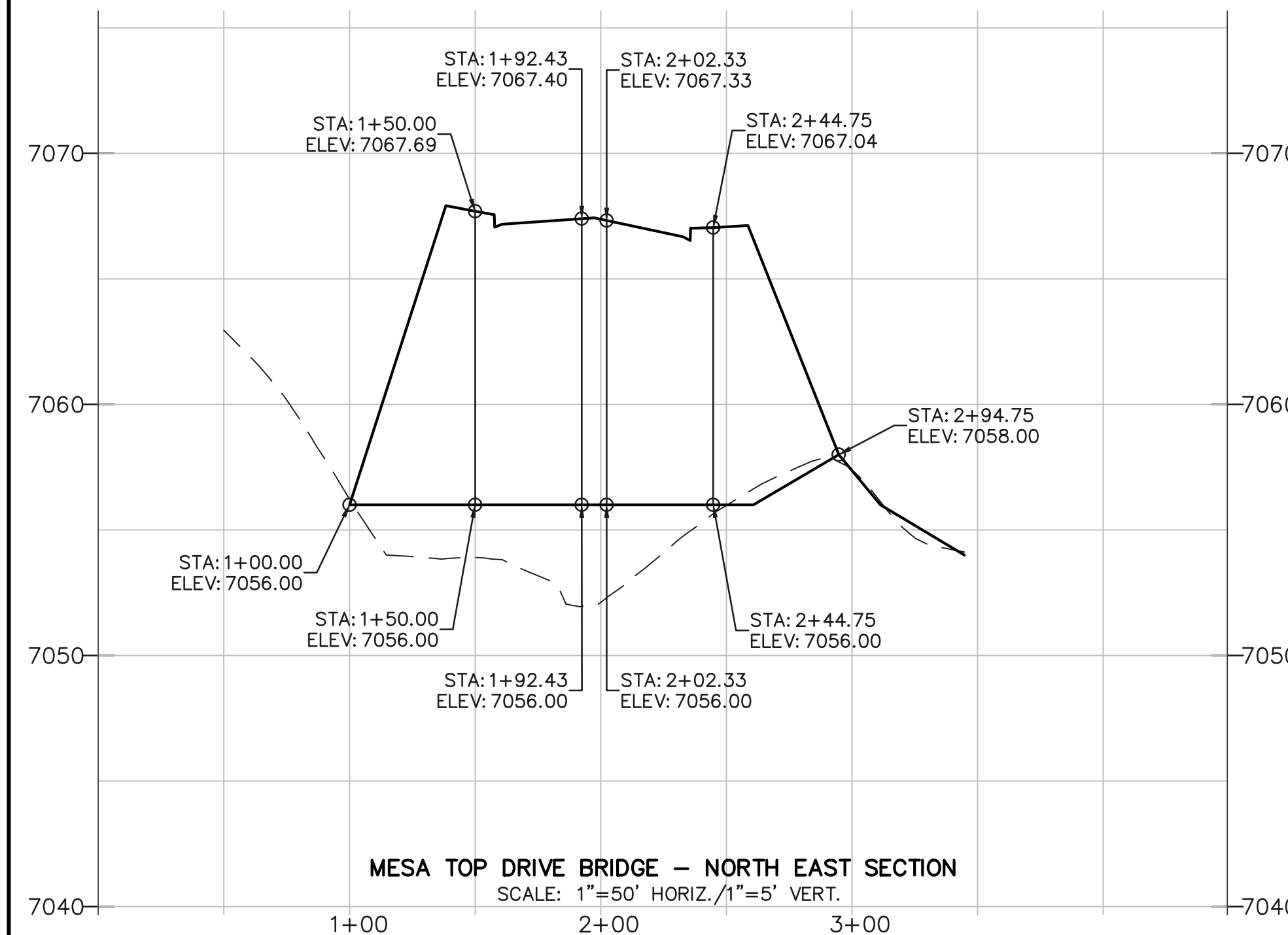
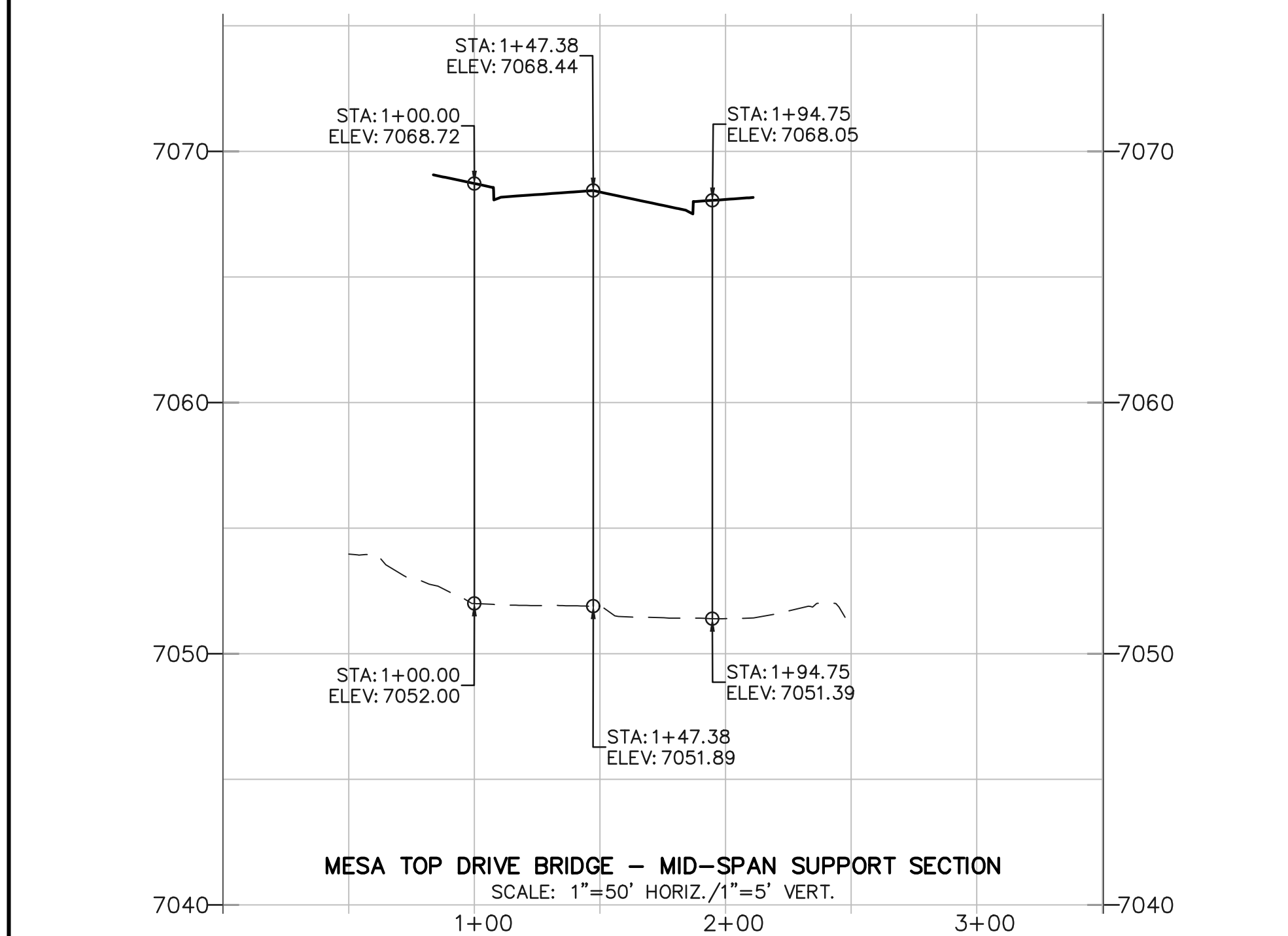
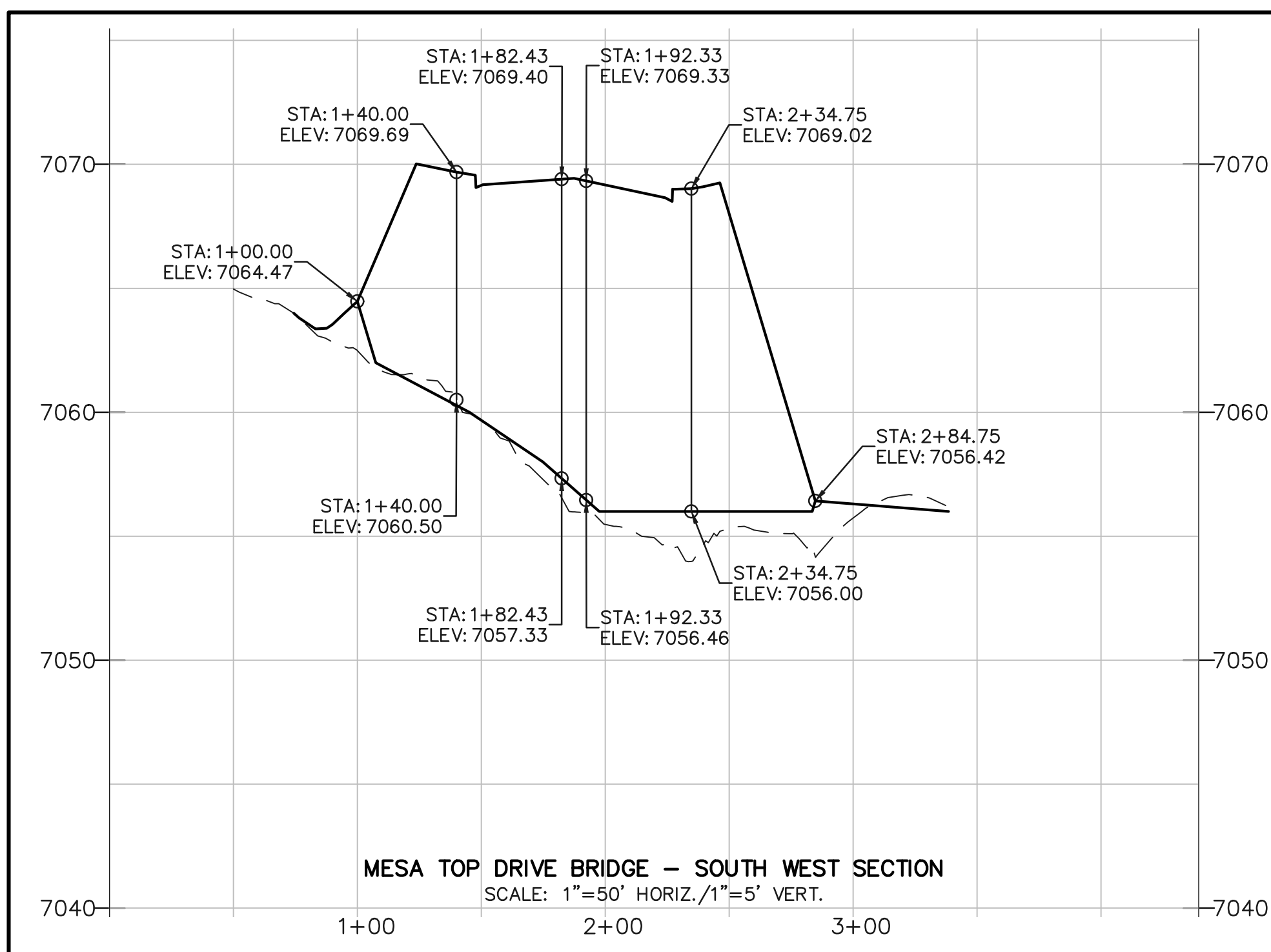
Item Name Mechanical Reinf. Of Soil

Item Code 206

Location of Member Below Finished Grade @ Abutments

		Cubic Foot	Cubic Yard
<b>Abut 1</b>	MRS Cross Section Area 1 =	408.75	ft <sup>2</sup>
	MRS Length 1-2=	52.50	ft
	MRS Cross Section Area 2 =	419.59	ft <sup>2</sup>
	MRS Length 2-3=	52.50	ft
	MRS Cross Section Area 3 =	388.29	ft <sup>2</sup>
			42950.59
<b>Abut 3</b>	MRS Cross Section Area 1 =	326.82	ft <sup>2</sup>
	MRS Length 1-2=	52.50	ft
	MRS Cross Section Area 2 =	339.83	ft <sup>2</sup>
	MRS Length 2-3=	52.50	ft
	MRS Cross Section Area 3 =	298.80	ft <sup>2</sup>
			34263.60
<b>Total</b>		<b>77214.19</b>	<b>2861</b>

Cross Sectional Areas were taken at edge of deck on the north side (1), at the HCL (2), and at the edge of deck on the south side of the s Existing Grade?FF elevations at the front of abutment and CL Pier 2 were taken from the Bridge Abutment Exhibit from Classic Consultin



N:\17596\DRAWINGS\EXHIBITS\MESA - TOP BRIDGE - ABUTMENT EXHIBIT - 24x36.dwg, 9/28/2020 2:27:04 PM, 1:1

<p>48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS</p> <p><b>811</b></p> <p>UTILITY NOTIFICATION CENTER OF COLORADO IT'S THE LAW</p> <p>THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.</p>	NO. REVISION	DATE	REVIEW:
			PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC
			KYLE R. CAMPBELL, COLORADO P.E. #29794

DESIGNED BY	SCALE	DATE
DRAWN BY	(H) 1"=VARIES	09/28/20
CHECKED BY	(V) 1"= N/A	SHEET 1 OF 1

619 N. Cascade Avenue, Suite 200  
Colorado Springs, Colorado 80903

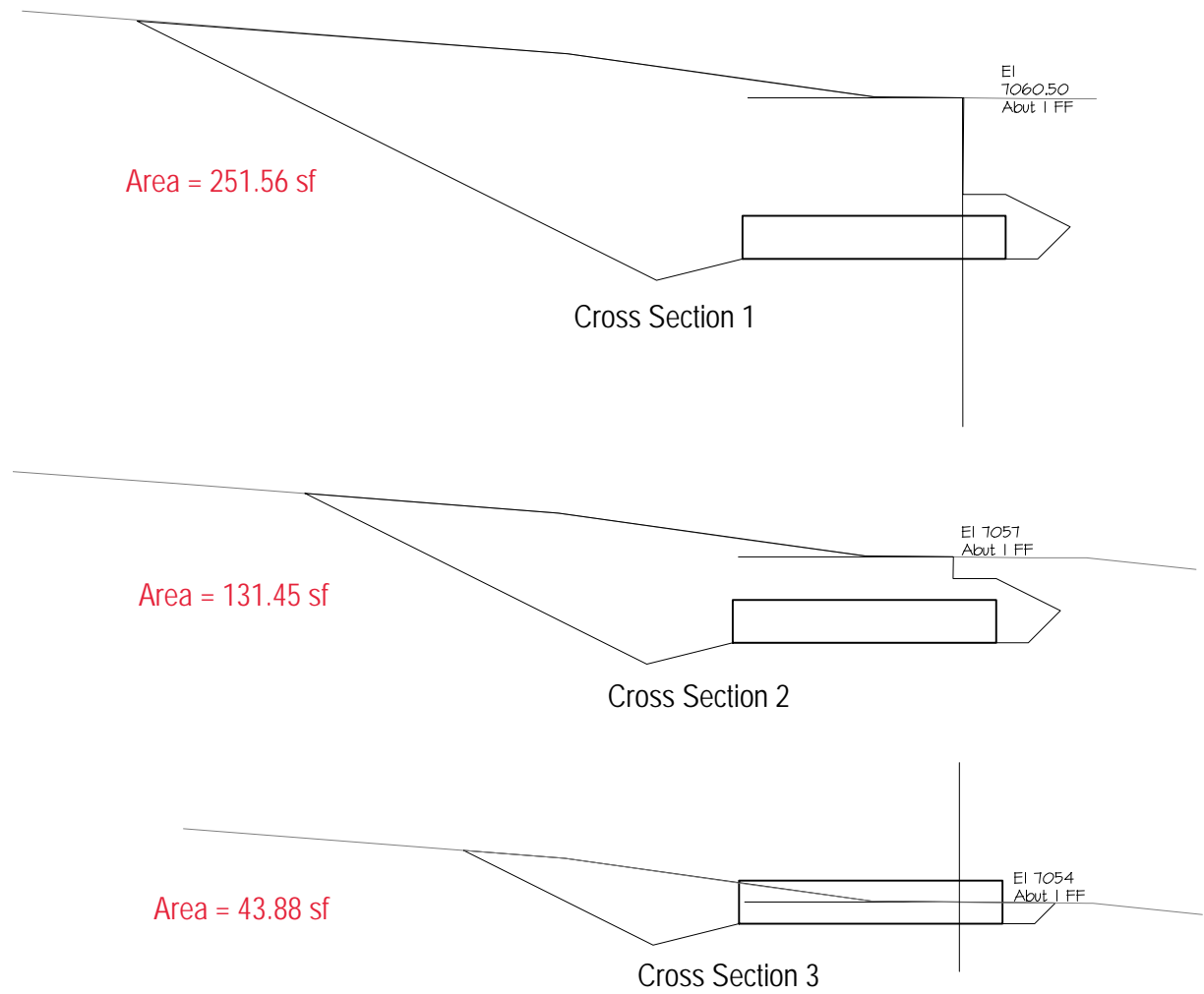
(719) 785-0790  
(719) 785-0799 (Fax)

FOREST LAKES FILING NO. 6  
MESA TOP DRIVE  
BRIDGE PLAN ABUTMENT EXHIBIT

DATE 09/28/20  
JOB NO. 1175.60

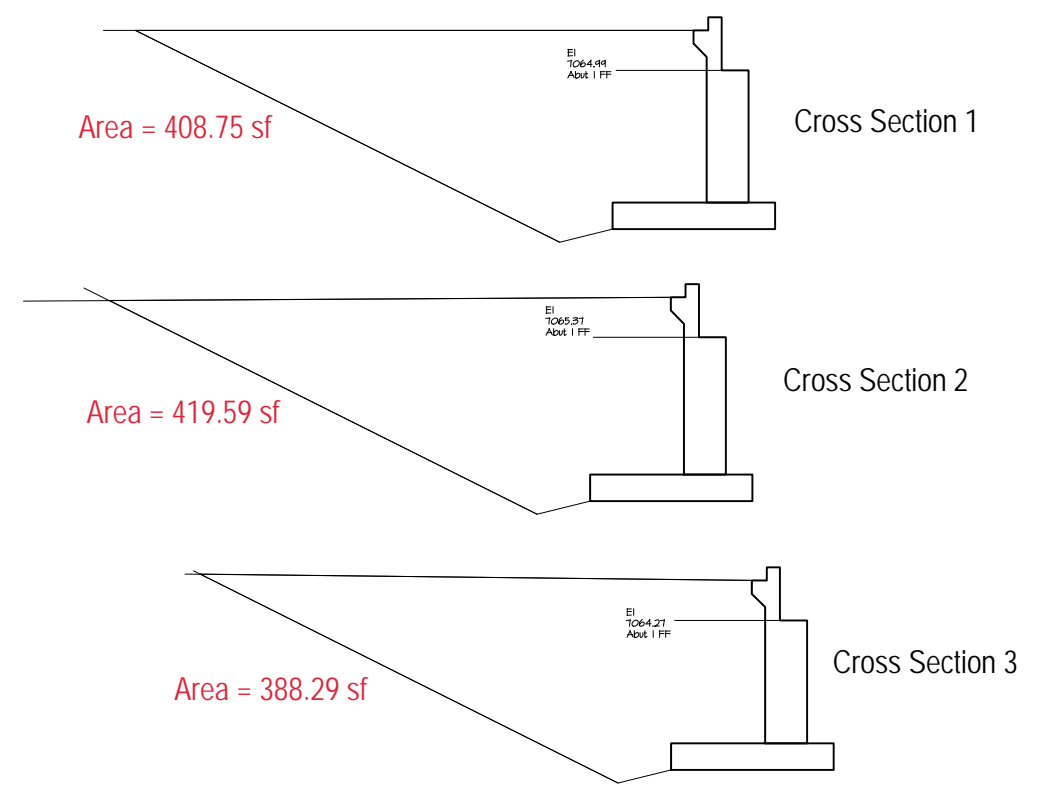


### Abutment 1: Structure Excavation

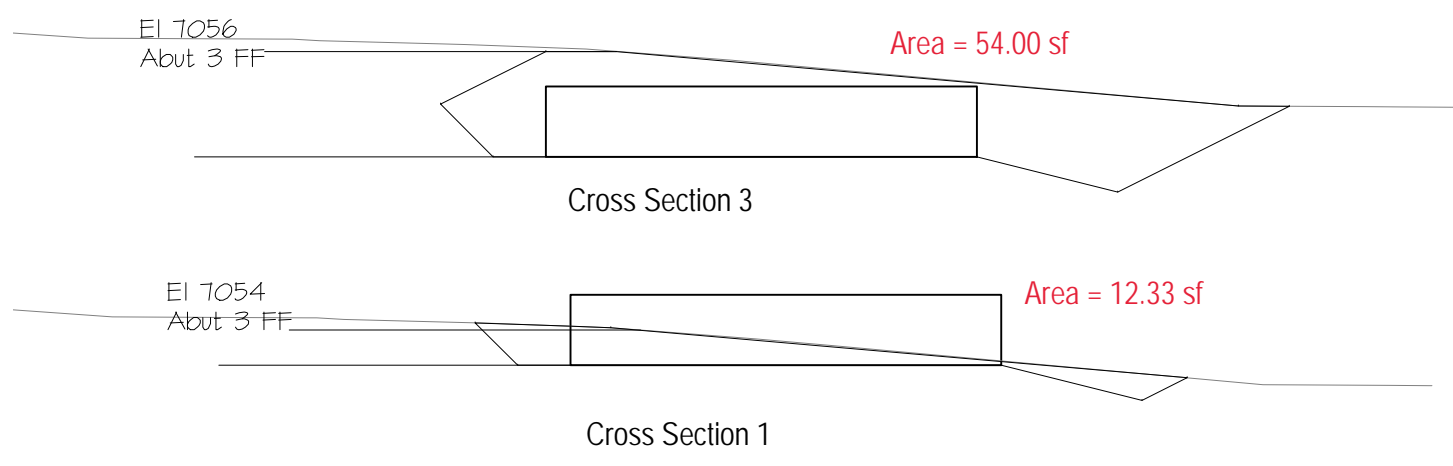


These areas are based on the shapes and dimensions represented in the M-206-2 and B20. The backfill in front of the abutments and wingwalls is not quantified within the bridge quantities. Refer to the civil plans for grading in front of the wingwalls and abutments. Front face existing grade/finished grade elevations were provided by Classic Consulting on the Bridge Abutment Exhibit, dated 9/28/2020.

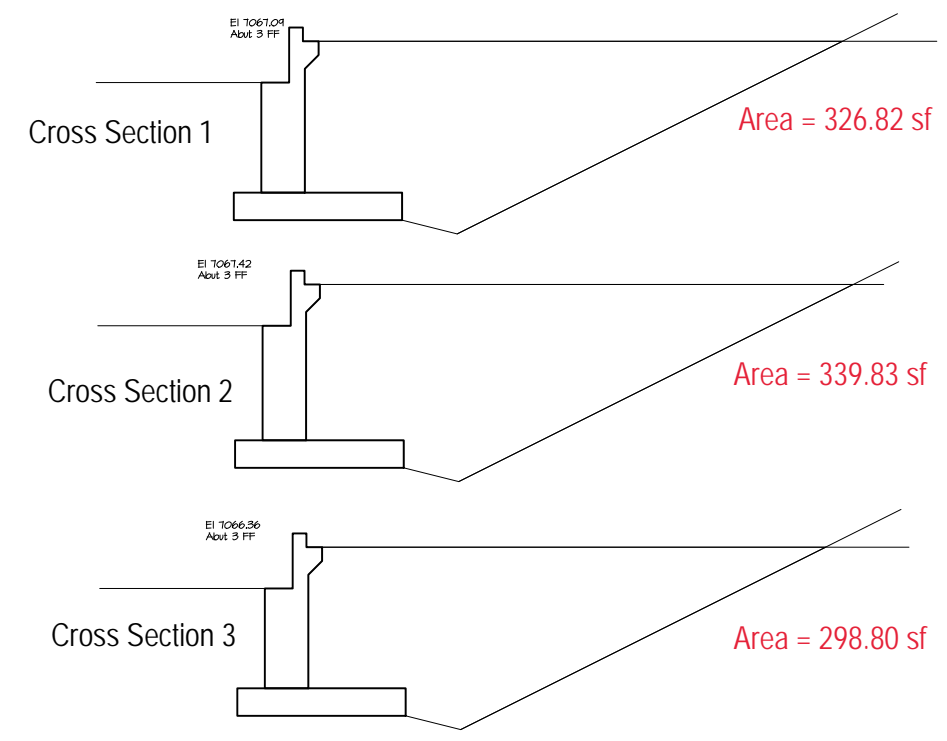
### Abutment 1: Structure Backfill (Class 1) / Mechanical Reinf of Soil



### Abutment 3: Structure Excavation



### Abutment 3: Structure Backfill (Class 1) / Mechanical Reinf of Soil







Project: Forest Lakes Bridges

Subject: Quantity Calculation

Client: Structures Inc

By: H. REED

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Structure Substructure Item Name Steel Piling (HP 12x53)  
 Item Code 502-11253 Location of Member Abutment and Wingwall Footing

		Linear Foot	
<b>Abutment 1</b>	Start Elevation=	7054.00	ft
	Tip Elevation=	7028.00	ft
	Pile Length=	26.00	ft
	Number of Piles=	30.00	each
		780.00	
<b>Abutment 3</b>	Start Elevation=	7054.00	ft
	Tip Elevation=	7024.00	ft
	Pile Length=	30.00	ft
	Number of Piles=	30.00	each
		900.00	
<b>Wingwall 1A</b>	Start Elevation=	7055.00	ft
	Tip Elevation=	7035.00	ft
	Pile Length=	20.00	ft
	Number of Piles=	1.00	each
		20.00	
<b>Wingwall 1B</b>	Start Elevation=	7055.00	ft
	Tip Elevation=	7028.00	ft
	Pile Length=	27.00	ft
	Number of Piles=	1.00	each
		27.00	
<b>Wingwall 3A</b>	Start Elevation=	7055.00	ft
	Tip Elevation=	7024.00	ft
	Pile Length=	31.00	ft
	Number of Piles=	1.00	each
		31.00	
<b>Wingwall 3B</b>	Start Elevation=	7055.00	ft
	Tip Elevation=	7028.00	ft
	Pile Length=	27.00	ft
	Number of Piles=	1.00	each
		27.00	
<b>Total</b>		<b>1785.00</b>	



Project: Forest Lakes Bridges

Subject: Quantity Calculation

Client: Structures Inc

By: H. REED

Date: 01/01/2021

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Structure Substructure Item Name Drilled Caisson (42 Inch)

Item Code 503-00042 Location of Member Pier 2

		Linear Foot	
<b>Westbound Pier</b>	Start Elevation=	7049.11	ft
	Tip Elevation=	7018.50	ft
	Caisson Length=	30.61	ft
	Number of Caissons=	3.00	each
		91.83	
<b>Eastbound Pier</b>	Start Elevation=	7048.45	ft
	Tip Elevation=	7018.50	ft
	Caisson Length=	29.95	ft
	Number of Caissons=	3.00	each
		89.85	
<b>Total</b>		<b>181.68</b>	



Project: Forest Lakes Bridges

Subject: Quantity Calculation

Client: Structures Inc

By: H. REED

Date: 07/08/2021

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Structure \_\_\_\_\_ Substructure \_\_\_\_\_ Item Name **Riprap**

Item Code \_\_\_\_\_ 628 \_\_\_\_\_ Location of Member Refer to Hydraulic data

		Cubic Foot	Cubic Yard
<b>Abutment 1</b>	Plan Area = 8889.00 ft <sup>2</sup> Riprap Depth = 4.00 ft	35556.00	1,317.0
<b>Abutment 3</b>	Plan Area = 6623.00 ft <sup>2</sup> Riprap Depth = 4.00 ft	26492.00	982.0
<b>Total</b>		<b>62048.00</b>	<b>2,298.0</b>



Project: Forest Lakes Bridges

Subject: Quantity Calculation

Client: Structures Inc

By: H. REED

Date: 01/01/2021

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Structure \_\_\_\_\_ Substructure \_\_\_\_\_ Item Name Pipe Railing  
 Item Code \_\_\_\_\_ 514 \_\_\_\_\_ Location of Member On top of Wingwalls and at Abut Median

		Linear Feet	
<b>Superstructure</b>	Median Length= 7.08 ft	14.17	
	Number of Rails= 2.00 each		
<b>Wingwalls</b>	Wingwall 1A Length= 19.63 ft	93.29	
	Wingwall 1B Length= 26.98 ft		
	Wingwall 3A Length= 25.73 ft		
	Wingwall 3B Length= 20.96 ft		
<b>Total</b>		<b>107.46</b>	



Project: Forest Lakes Bridges

Subject: Quantity Calculation

Client: Structures Inc

By: H. REED

Date: 01/01/2021

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**Structure** \_\_\_\_\_ **Substructure** \_\_\_\_\_ **Item Name** Bridge Compression Joint Sealer

**Item Code** \_\_\_\_\_ **518** \_\_\_\_\_ **Location of Member** Between End of Decks at Pier 2

		Linear Feet	
Pier 2	Length= 42.43 ft	84.85	
	Number of Rails= 2.00 each		
	<b>Total</b>	<b>84.85</b>	



Project: Forest Lakes Bridges

Subject: Quantity Calculation

Client: Structures Inc

By: H. REED

Date: 01/01/2021

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Structure \_\_\_\_\_ Substructure \_\_\_\_\_ Item Name **Bridge Expansion Device (0-4 Inch)**  
 Item Code 518-01004 Location of Member End of Deck and Backwall Stub

		Linear Feet	
<b>Abutment 1</b>	Length= 42.43 ft Number of Rails= 2.00 each	84.85	
<b>Abutment 3</b>	Length= 42.43 ft Number of Rails= 2.00 each	84.85	
<b>Total</b>		<b>169.71</b>	



Structure \_\_\_\_\_ Substructure \_\_\_\_\_ Item Name Concrete Class D (Bridge)  
 Item Code 601-03040 Location of Member \_\_\_\_\_

			Cubic Foot	Cubic Yard		
<b>Superstructure</b>	Deck thickness=	0.67	ft			
	Deck width =	30.00	ft			
	Length=	200.00	ft			
	Number of Bridges =	2.00	each	8000.00	296.0	
	Curb Width =	0.50	ft			
	Curb Avg Height =	0.51	ft			
	Curb Length =	203.67	ft			BF Abut to BF Abut
	Number of Curbs=	2.00	each	103.42	4.0	
	Sidewalk Width =	5.50	ft			
	Sidewalk Avg Height =	0.93	ft			
	Sidewalk Length =	203.67	ft			BF Abut to BF Abut
	Number of Sidewalks=	2.00	each	2076.98	77.0	377.0
	Sidewalk Width =	5.50	ft			
	Sidewalk Avg Height =	0.93	ft			
	Sidewalk Length =	10.00	ft			On Approach Slabs
	Number of Sidewalks=	4.00	each	203.96	8.0	
	Approach Slab Width =	29.50	ft			
	Approach Slab Depth=	1.00	ft			
	Approach Slab Length =	10.00	ft			
	Number of Approaches=	4.00	each	1180.00	44.0	
	Sleeper Slab Width =	3.00	ft			
	Sleeper Slab Depth=	1.00	ft			
	Sleeper Slab Length =	29.50	ft			
	Number of Sleepers=	4.00	each	354.00	13.0	
	Median Curb depth=	0.50	ft			
Median Curb width=	1.00	ft				
Median Curb length =	8.00	ft				
Number of Median Curbs=	2.00	each	8.00	0.0		
Abut Diaphragm wall height=	3.01	ft				
Average wall thickness=	1.13	ft				
Abutment width =	104.65	ft				
Corbel Area =	1.69	ft <sup>2</sup>				
Stubwall Height =	1.00	ft				
Stubwall Width =	1.00	ft				
Number of Abutments=	2.00	each	1271.35	47.0		
WW1A Avg Ht above Brg Depth=	4.04	ft				
WW1A Length =	19.92	ft				
WW1B Avg Ht above Brg Depth=	4.05	ft				
WW1B Length =	28.25	ft				
WW3A Avg Ht above Brg Depth=	3.86	ft				
WW3A Length =	27.00	ft				
WW3B Avg Ht above Brg Depth=	3.77	ft				
WW3B Length =	21.25	ft				
Wingwall Width =	1.00	ft				
			378.96	14.0		
			13576.67	503.0		





<b>Abutment 1</b>	Average Stem Wall Height =	10.06	ft			
	Stem Wall Thickness =	3.17	ft			
	Stem Wall Length =	104.65	ft			
					3333.17	123.0
	Footing Height =	2.00	ft			
	Footing Width =	8.67	ft			
	Footing Length =	107.48	ft			
					1862.97	69.0
	WW1A Ht Below Brg Depth=	10.10	ft			
	WW1A Length =	19.92	ft			
	WW1B Ht Below Brg Depth=	9.44	ft			
WW1B Length =	28.25	ft				
Wingwall Width =	1.00	ft				
				467.84	17.0	
				5663.99	210.0	
<b>Westbound Pier 2</b>	Average Pier Cap Height =	3.14	ft			
	Pier Cap Thickness =	4.00	ft			
	Pier Cap Length =	48.54	ft			
					609.68	23.0
	Column Diameter =	3.00	ft			
	Column Height =	12.00	ft			
# of Columns =	3.00					
				254.47	9.0	
				864.15	33.0	
<b>Eastbound Pier 2</b>	Average Pier Cap Height =	3.43	ft			
	Pier Cap Thickness =	4.00	ft			
	Pier Cap Length =	48.54	ft			
					665.99	25.0
	Column Diameter =	3.00	ft			
	Column Height =	12.00	ft			
# of Columns =	3.00					
				254.47	9.0	
				920.46	35.0	
<b>Abutment 3</b>	Average Stem Wall Height =	8.07	ft			
	Stem Wall Thickness =	3.17	ft			
	Stem Wall Length =	104.65	ft			
					2672.70	99.0
	Footing Height =	2.00	ft			
	Footing Width =	8.67	ft			
	Footing Length =	107.48	ft			
					1862.97	69.0
	WW3A Ht Below Brg Depth=	8.11	ft			
	WW3A Length =	27.00	ft			
	WW3B Ht Below Brg Depth=	7.44	ft			
WW3B Length =	21.25	ft				
Wingwall Width =	1.00	ft				
				377.07	14.0	
				4912.75	182.0	
<b>Total</b>				<b>25938.01</b>	<b>963.0</b>	



Project: Forest Lakes Bridges

Subject: Quantity Calculation

Client: Structures Inc

By: H. REED

Date: 06/01/2021

Page: of:

Structure Substructure Item Name Reinforcing Steel (Epoxy)

Item Code 602 Location of Member \_\_\_\_\_

**SUMMARY:**

	LBS	CY	LBS/CY
Abutment 1	23725	210	113
Pier 2	16885	68	248
Abutment 3	20813	182	114
Superstructure	77965	490	159
<b>TOTAL FOR ESTIMATE</b>	<b>139388</b>		

Reference:  
Notes:

LRFD 5.11.2 and 5.11.5.3.1  
Splices follow BDM 5.4

\*Straight Length = overall length of primary straight bar excluding laps, legs, and hooks (may equal zero for stirrups)  
= User Input

Misc Input:

Bridge Length = 100 ft (measured along CL Bridge)  
Deck Width = 30.00 ft  
No. of Piers = 1  
f'c (super) = 4.5 ksi  
f'c (sub) = 4.5 ksi

Size	Weight (plf)	f'c (ksi)	Top Bar? (y/n)	Number Req'd	Location	Straight Length* (ft)	Number of Splices	Splice Length (ft)	Hook & Leg Lengths (ft)					SUBTOTAL (lbs)	TOTALS (lbs)
									A	B	C	D	E		
<b>Superstructure</b>															
Deck															
Typical Longitudinal Bars:															
#4	0.668	4.50	n	31	Top of Slab - 4D1	99.67	1	2.25							2111
#5	1.043	4.50	n	24	Bottom of Slab - 5D1	99.67	1	3.33							2579
#4	0.668	4.50	n	1	Curb Longitudinal - 4D1	99.67	1	2.25							69
#4	0.668	4.50	n	6	Sidewalk Longitudinal - 4D1	99.67	1	2.25							409
Typical Transverse Bars:															
#4	0.668	4.50	y	201	Top of Slab (primary) - 4D4	29.67	0	1.83							3984
#4	0.668	4.50	n	201	Bottom of Slab (primary) - 4D4	29.67	0	2.25							3984
#6	1.502	4.50	n	4	Top of Slab along skew	41.96	0	4.58							253
#4	0.668	4.50	n	201	Curb Angle - 4D3	1.00	0	2.25	0.89						254
#4	0.668	4.50	n	201	Sidewalk Stirrups - 4D2	5.17	0	2.25	1.00	1.06	0.88	1.00			1223
Wingwall Above Bearing															
#9	3.400	4.50	n	8	Fill Face	19.57	0	9.00	27.91	26.66	20.91				2586
#7	2.044	4.50	n	8	Front Face	19.57	0	5.92	27.91	26.66	20.91				1555
#6	1.502	4.50	n	54	Wingwall to Cap Connection	6.00	0	4.58	1.00						568
#6	1.502	4.50	n	18	Wingwall to Cap Acute Corners Connection	6.00	0	4.58	1.00	2.00					244
Abut 1															
#4	0.668	4.50	n	12	Transverse Continuous	104.32	1	2.25							855
#5	1.043	4.50	n	60	Approach Slab Connection Bar	2.33	0	3.33	0.83						198
#5	1.043	4.50	n	103	Corbel Stirrup	2.67	0	3.33	1.79	0.67	1.25	0.67			757
#4	0.668	4.50	n	98	Stubwall Stirrup	2.00	0	2.25	0.67	2.00					306
#4	0.668	4.50	n	8	Median Stubwall Stirrup	2.50	0	2.25	0.67	2.50					31
#4	0.668	4.50	n	2	Median Transverse Stirrup	7.67	0	2.25	0.67	1.00	0.67	1.00			15
Abut 5															
#4	0.668	4.50	n	12	Transverse Continuous	104.32	1	2.25							855
#5	1.043	4.50	n	60	Approach Slab Connection Bar	2.33	0	3.33	0.83						198
#5	1.043	4.50	n	103	Corbel Stirrup	2.67	0	3.33	1.79	0.67	1.25	0.67			757
#4	0.668	4.50	n	98	Stubwall Stirrup	2.00	0	2.25	0.67	2.00					306
#4	0.668	4.50	n	8	Median Stubwall Stirrup	2.50	0	2.25	0.67	2.50					31
#4	0.668	4.50	n	2	Median Transverse Stirrup	7.67	0	2.25	0.67	1.00	0.67	1.00			15
Approach Slabs															
#5	1.043	4.50	n	72	Transverse Continuous	41.39	0	3.33							3108
#4	0.668	4.50	n	80	Longitudinal Stirrup	9.67	0	2.25	0.50	1.00	0.50	1.00			677
#6	1.502	4.50	n	236	Longitudinal Bar (Bottom)	9.67	0	4.58							3427
#4	0.668	4.50	n	44	Sidewalk Stirrups	5.17	0	2.25	1.60	1.60					247
#4	0.668	4.50	n	24	Longitudinal Sidewalk Bars	9.67	0	2.25							155
#5	1.043	4.50	n	24	Sleeper Slab Transverse	41.39	0	3.33							1036
#4	0.668	4.50	n	112	Sleeper Slab Longitudinal Stirrup	2.67	0	2.25	0.67	2.67	0.67	1.00			574
											Subtotal:	77965			
											Total for Estimate:		77965		

Abut 1												
#5	1.043	4.50	n	2	Top of Stem Transverse	104.32	1	3.33				225
#4	0.668	4.50	n	54	Horizontal Hook Bars	2.83	0	2.25	1.00			139
#4	0.668	4.50	n	105	Vertical Backwall FF Bars	4.00	0	2.25				281
#5	1.043	4.50	n	28	EF of Stem Transverse	104.32	1	3.33				3144
#5	1.043	4.50	n	141	Top of Stem Stirrup	2.83	0	3.33	0.83	0.83		662
#5	1.043	4.50	n	141	BF of Stem Vertical	13.07	0	3.33	1.75	2.50	0.83	2670
#5	1.043	4.50	n	141	FF of Stem Vertical	9.99	0	3.33	1.75	2.50	0.83	2217
#5	1.043	4.50	n	8	Footing Bottom Transverse	104.32	1	3.33				899
#5	1.043	4.50	n	4	Acute Corner T&B Diagonal Bar	11.83	0	3.33				50
#5	1.043	4.50	n	9	Footing Top Transverse	104.32	1	3.33				1011
#6	1.502	4.50	n	106	Footing Bottom Longitudinal	8.33	0	4.58				1327
#5	1.043	4.50	n	106	Footing Top Longitudinal	8.33	0	3.33				922
Wingwall Below Bearing												
#9	3.400	4.50	n	20	Fill Face - WW1A	19.57	0	9.00				1331
#9	3.400	4.50	n	20	Fill Face - WW1B	27.91	0	9.00				1898
#7	2.044	4.50	n	20	Front Face - WW1A	19.57	0	5.92				801
#7	2.044	4.50	n	20	Front Face - WW1B	27.91	0	5.92				1141
#6	1.502	4.50	n	80	EF Vertical Bars - WW1A	13.75	0	4.58				1653
#6	1.502	4.50	n	112	EF Vertical Bars - WW1B	13.12	0	4.58				2208
#6	1.502	4.50	n	80	Wingwall to Cap Connection	6.00	0	4.58	1.50			902
#6	1.502	4.50	n	18	Wingwall to Cap Acute Corners Connection	6.00	0	4.58	1.00	2.00		244
											Subtotal:	23725
											Total for Estimate:	23725

Pier 2 (WB & EB)												
Pier Cap												
#9	3.400	4.50	n	40	T&B Transverse Bars	48.21	0	9.00				6557
#5	1.043	4.50	n	16	EF Transverse Bars	48.21	0	3.33				805
#5	1.043	4.50	n	344	Double Stirrups	3.00	0	3.33	3.00	2.75	2.75	4127
#5	1.043	4.50	n	12	Single Stirrups	2.67	0	3.33	1.00	1.00		59
#5	1.043	4.50	n	24	Vertical End Cap Stirrups	2.67	0	3.33	1.50	1.50		142
#5	1.043	4.50	n	24	End Cap Horizontal Stirrups	3.67	0	3.33	1.50	1.50		167
Column												
#10	4.303	4.50	n	66	Vertical Bars	13.33	0	10.92	0.42	1.00		4190
#5	1.043	4.50	n	78	Horizontal Stirrups	8.38	0	3.33	1.92			838
											Subtotal:	16885
											Total for Estimate:	16885

Abut 3												
#5	1.043	4.50	n	2	Top of Stem Transverse	104.32	1	3.33				225
#4	0.668	4.50	n	54	Horizontal Hook Bars	2.83	0	2.25	1.00			139
#4	0.668	4.50	n	106	Vertical Backwall FF Bars	4.00	0	2.25				284
#5	1.043	4.50	n	24	EF of Stem Transverse	104.32	1	3.33				2695
#5	1.043	4.50	n	141	Top of Stem Stirrup	2.83	0	3.33	0.83	0.83		662
#5	1.043	4.50	n	141	BF of Stem Vertical	10.74	0	3.33	1.75	2.50	0.83	2328
#5	1.043	4.50	n	141	FF of Stem Vertical	7.66	0	3.33	1.75	2.50	0.83	1875
#5	1.043	4.50	n	8	Footing Bottom Transverse	104.32	1	3.33				899
#5	1.043	4.50	n	4	Acute Corner T&B Diagonal Bar	11.83	0	3.33				50
#5	1.043	4.50	n	9	Footing Top Transverse	104.32	1	3.33				1011
#6	1.502	4.50	n	106	Footing Bottom Longitudinal	8.33	0	4.58				1327
#5	1.043	4.50	n	106	Footing Top Longitudinal	8.33	0	3.33				922
Wingwall Below Bearing												
#9	3.400	4.50	n	16	Fill Face - WW3A	26.66	0	9.00				1451
#9	3.400	4.50	n	16	Fill Face - WW3B	20.91	0	9.00				1138
#7	2.044	4.50	n	16	Front Face - WW3A	26.66	0	5.92				872
#7	2.044	4.50	n	16	Front Face - WW3B	20.91	0	5.92				684
#6	1.502	4.50	n	108	EF Vertical Bars - WW3A	11.78	0	4.58				1911
#6	1.502	4.50	n	84	EF Vertical Bars - WW3B	11.11	0	4.58				1402
#6	1.502	4.50	n	64	Wingwall to Cap Connection	6.00	0	4.58	1.50			721
#6	1.502	4.50	n	16	Wingwall to Cap Acute Corners Connection	6.00	0	4.58	1.00	2.00		217
											Subtotal:	20813
											Total for Estimate:	20813

EB & WB Bridges Total = 139388