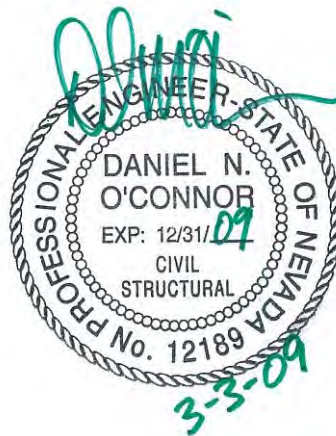
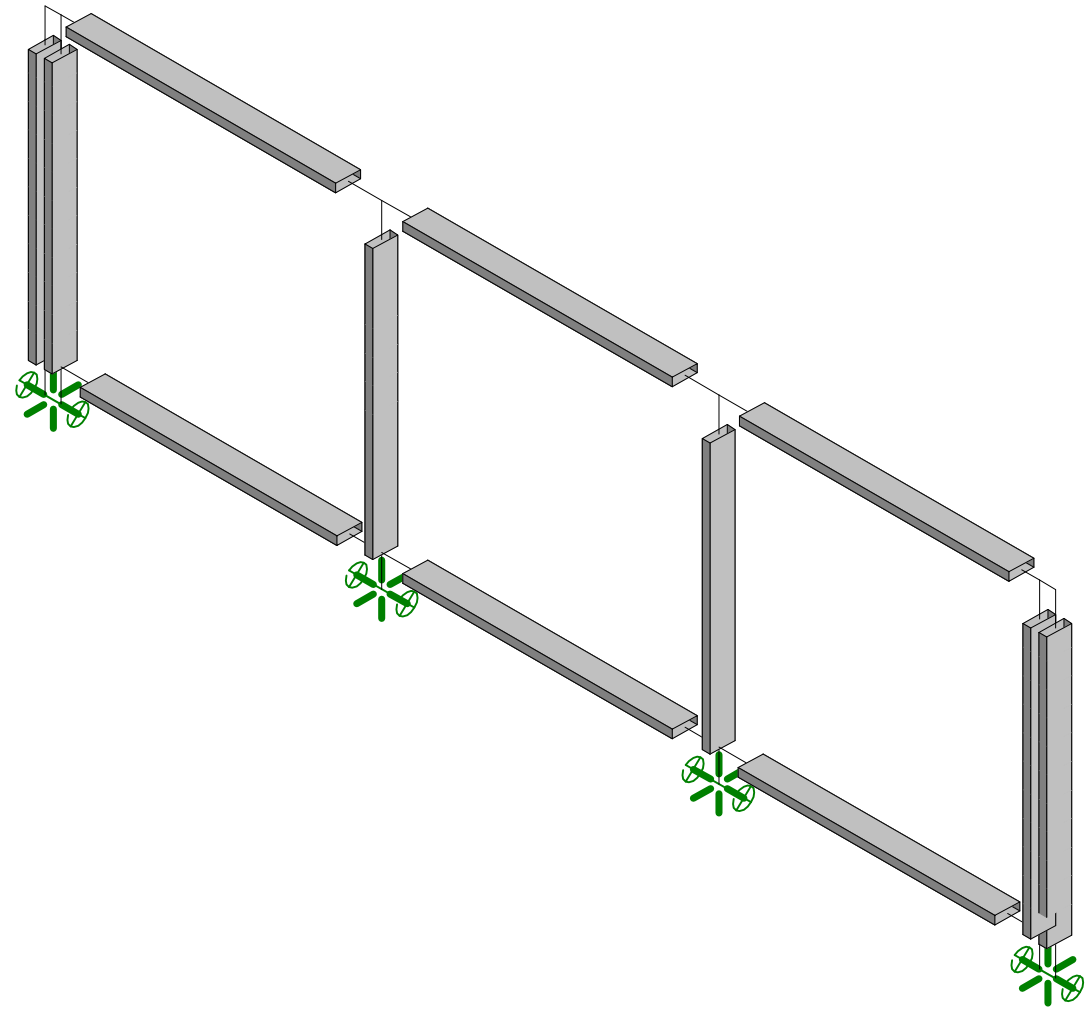
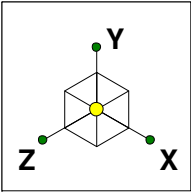


D3b—3" x 1" RECT. TUBE x 42-1/2" HIGH RAIL WITH BOTTOM RAIL

| | |
|---------------------|---------------------------------------------------------------------------------------------------------------------------|
| Building Code: | 2006 International Building Code 2007 California Building Code AISC Steel Construction Manual, 13th ed—ASD |
| Material: | Carbon Steel, A500, Grade B, Fy = 42 ksi Stainless Steel, A554, Grade MT-304 or MT-316, Fy = 30 ksi |
| Height: | 42.5" |
| Anchor Post: | Carbon Steel: Double HSS 3x1x1/8 Tube Stainless Steel: Double 3"x1"x0.120" Tube |
| Intermediate Posts: | Carbon Steel: HSS 3x1x1/8 Tube Stainless Steel: 3"x1"x0.120" Tube |
| Top Rail: | Carbon Steel: HSS 3x1x1/8 Tube Stainless Steel: 3"x1"x0.120" Tube |
| Bottom Rail: | Carbon Steel: HSS 3x1x1/8 Tube Stainless Steel: 3"x1"x0.120" Tube |
| Number of Cables: | 11 |
| Cable Spacing: | 3.08" |
| Cable Prestress: | 325 lbs |



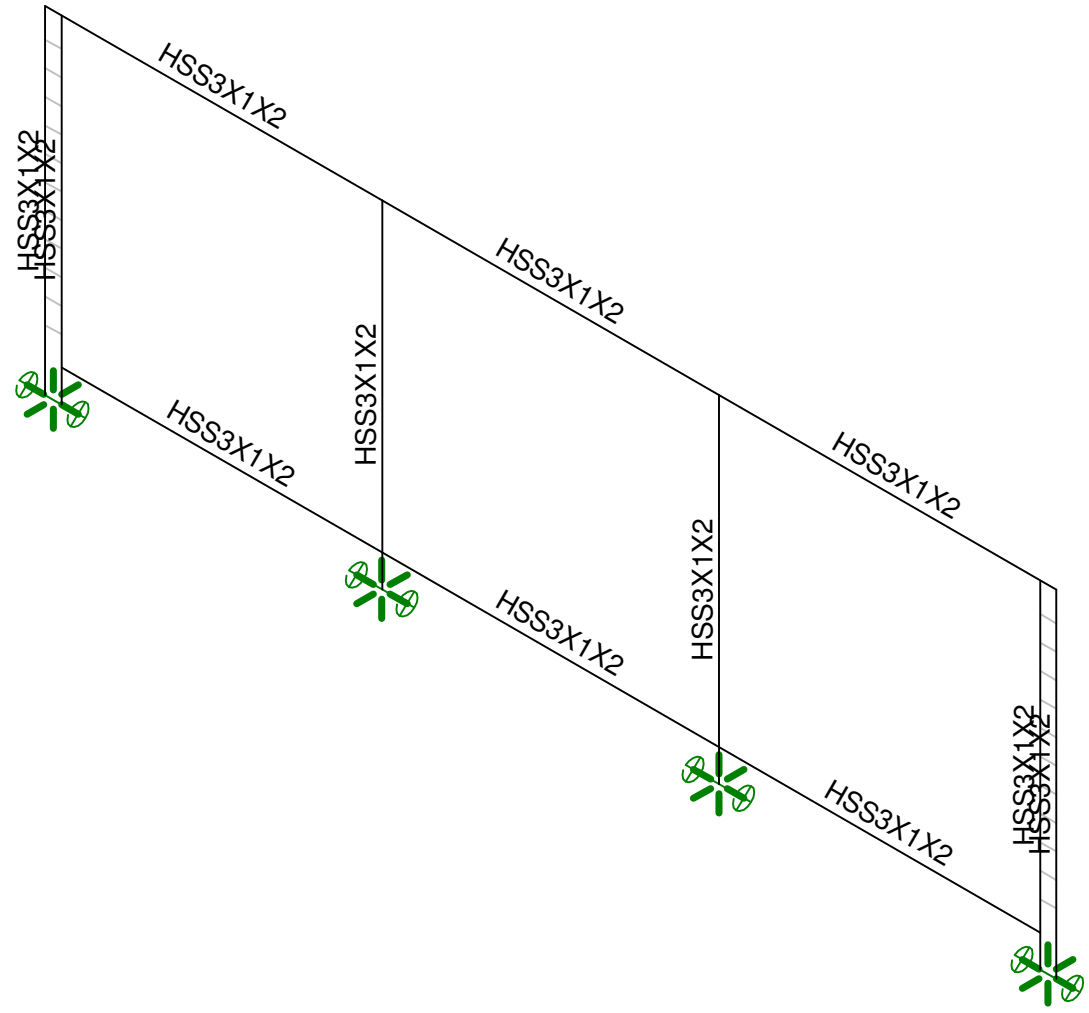
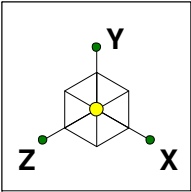
Disclaimer: Analysis and Structural Certification DOES NOT include base plates or anchorage to supporting structure. Where required by the Local Building Official, these shall be reviewed and designed by the project Structural Engineer of Record.



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D3b - 3" x 1" RECT TUBE x 42-1/2" HIGH RAIL W/ BOTTOM RAIL

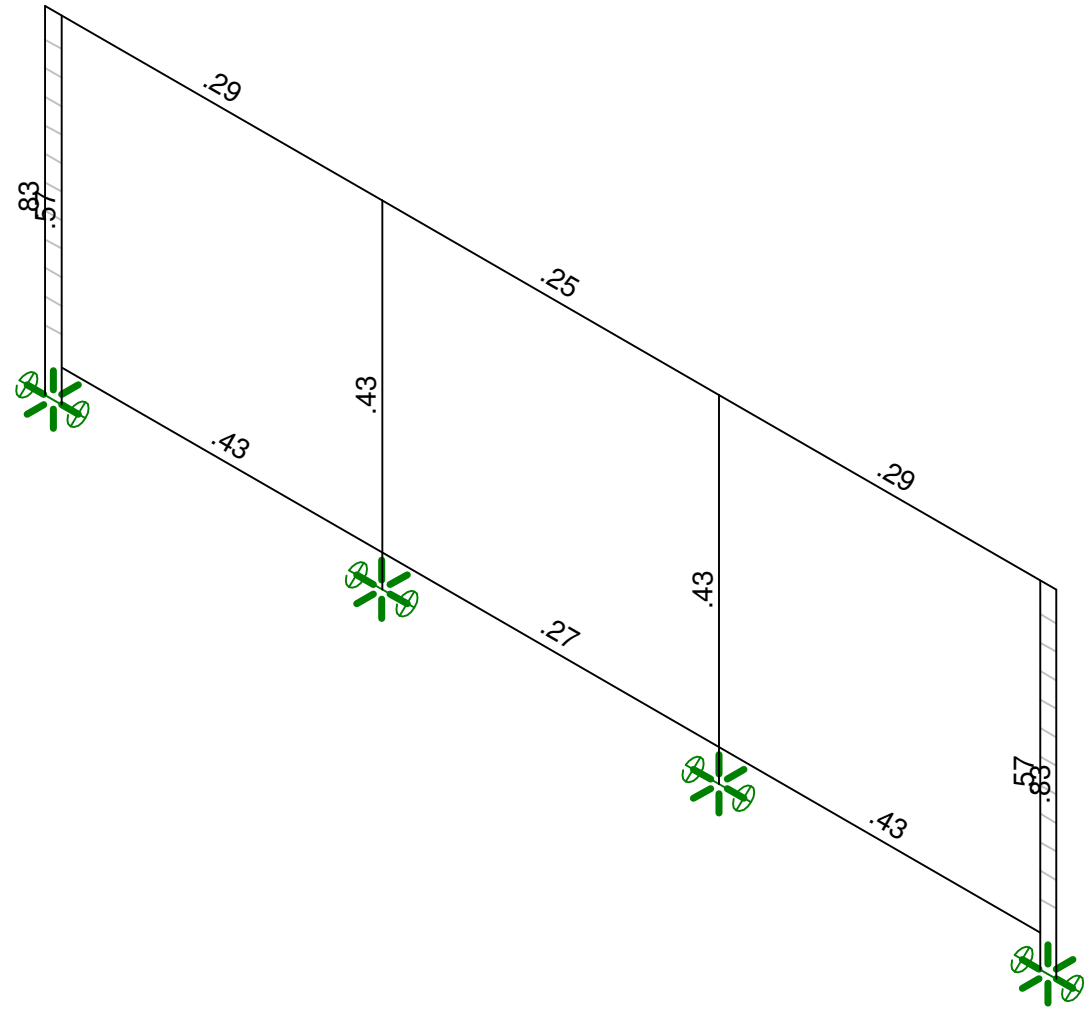
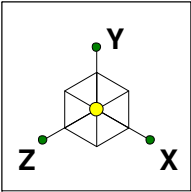
Mar 3, 2009 at 10:31 AM
D3b-3x1.R3D



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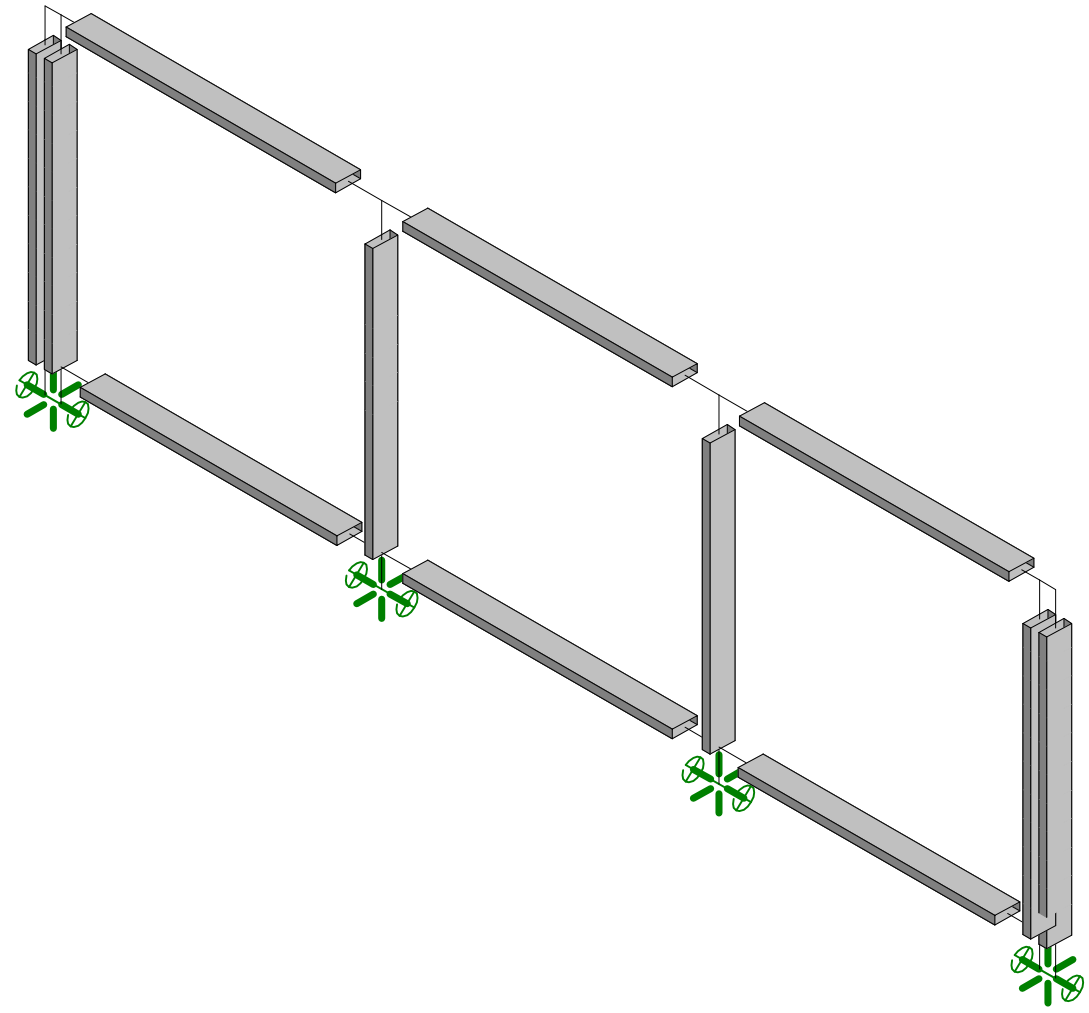
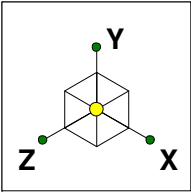
D3b - 3" x 1" RECT TUBE x 42-1/2" HIGH RAIL W/ BOTTOM RAIL

Mar 3, 2009 at 10:31 AM
D3b-3x1.R3D



Member Code Checks Displayed
Solution: Envelope

| | | |
|------------------------------|------------------------------------------------------------|-------------------------|
| Ferrari Shields & Associates | D3b - 3" x 1" RECT TUBE x 42-1/2" HIGH RAIL W/ BOTTOM RAIL | |
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| 08196 | | D3b-3x1.R3D |



Ferrari Shields & Associates

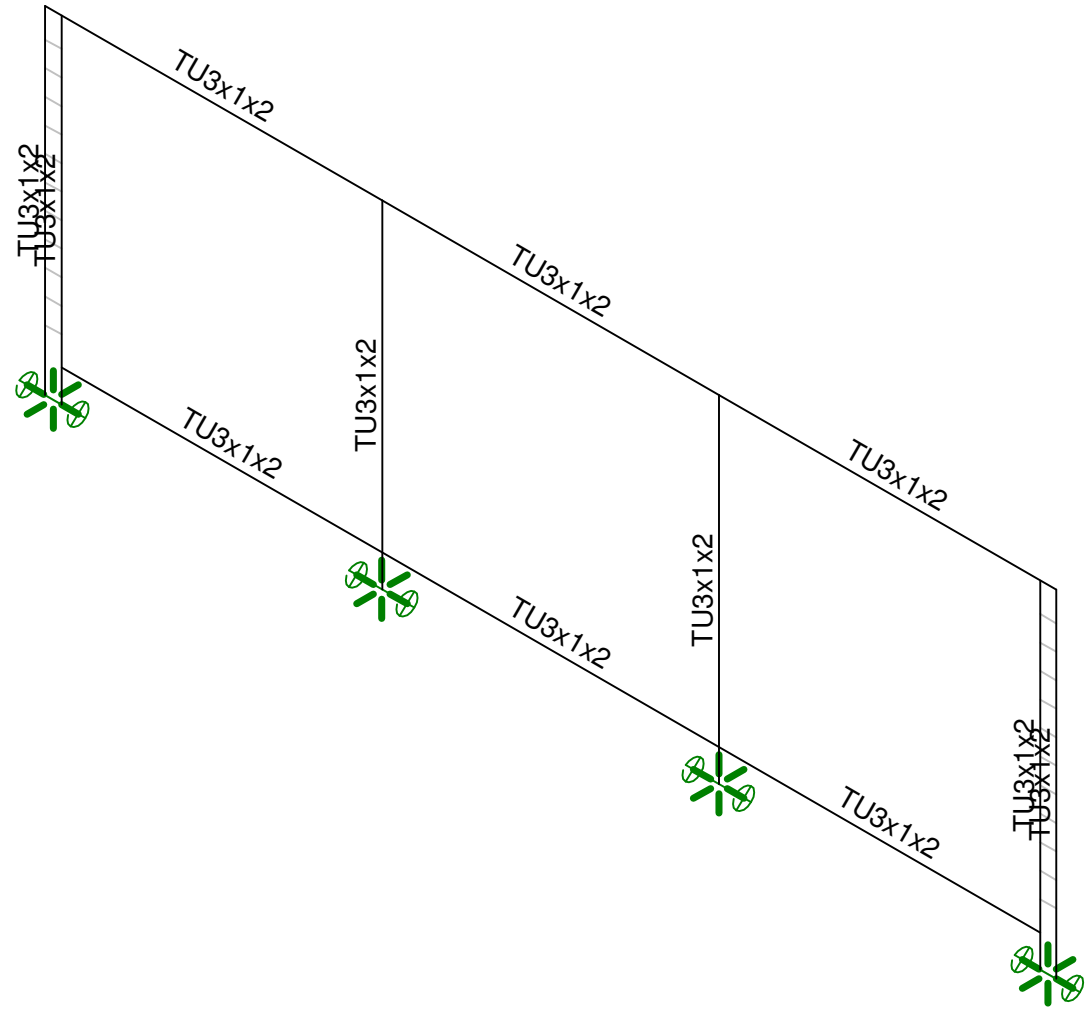
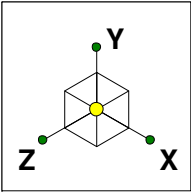
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D3b (SS) - 3" x 1" RECT TUBE x 42-1/2" HIGH RAIL W/ BOTTOM RAIL

Mar 3, 2009 at 10:36 AM

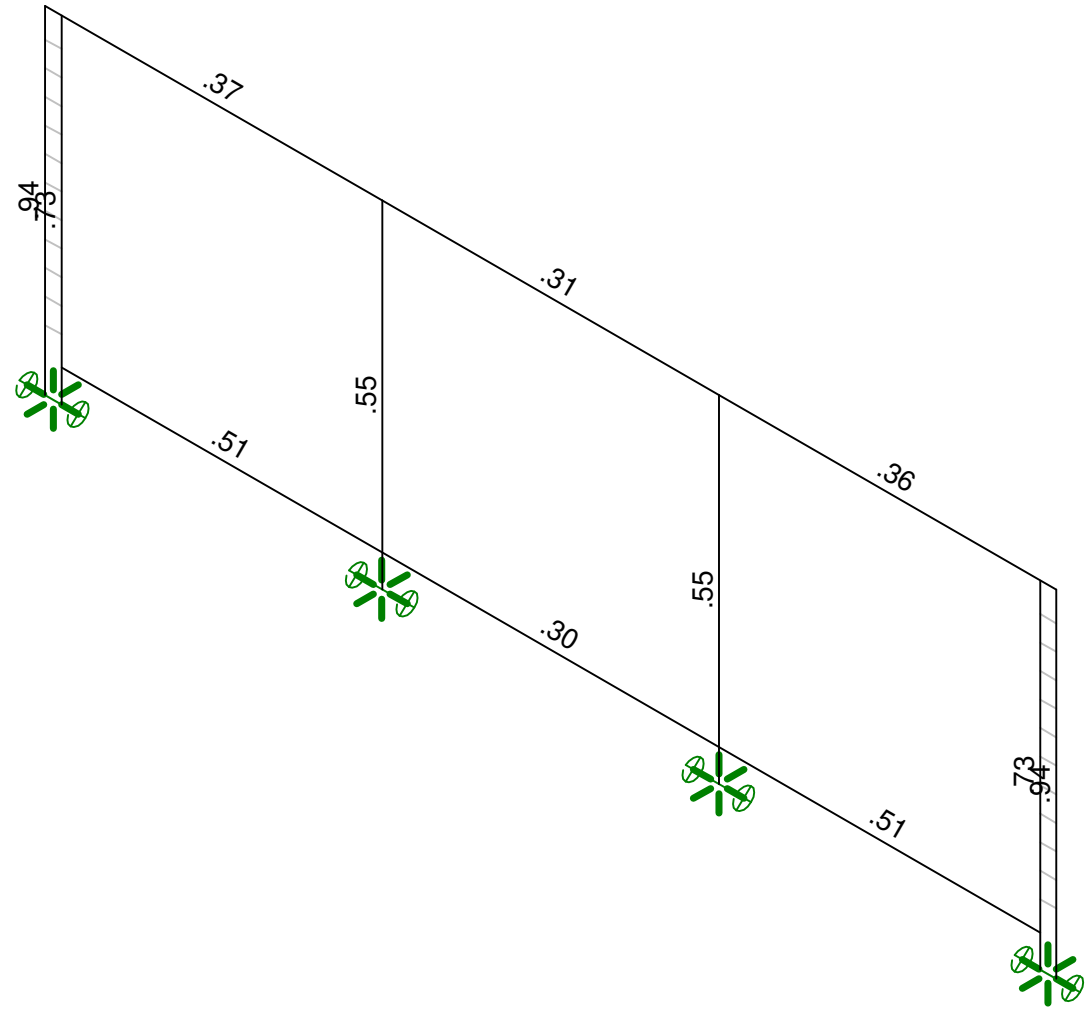
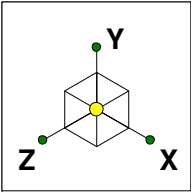
D3b-3x1-ss.R3D



Ferrari Shields & Associates
 Dan O'Connor
 08196

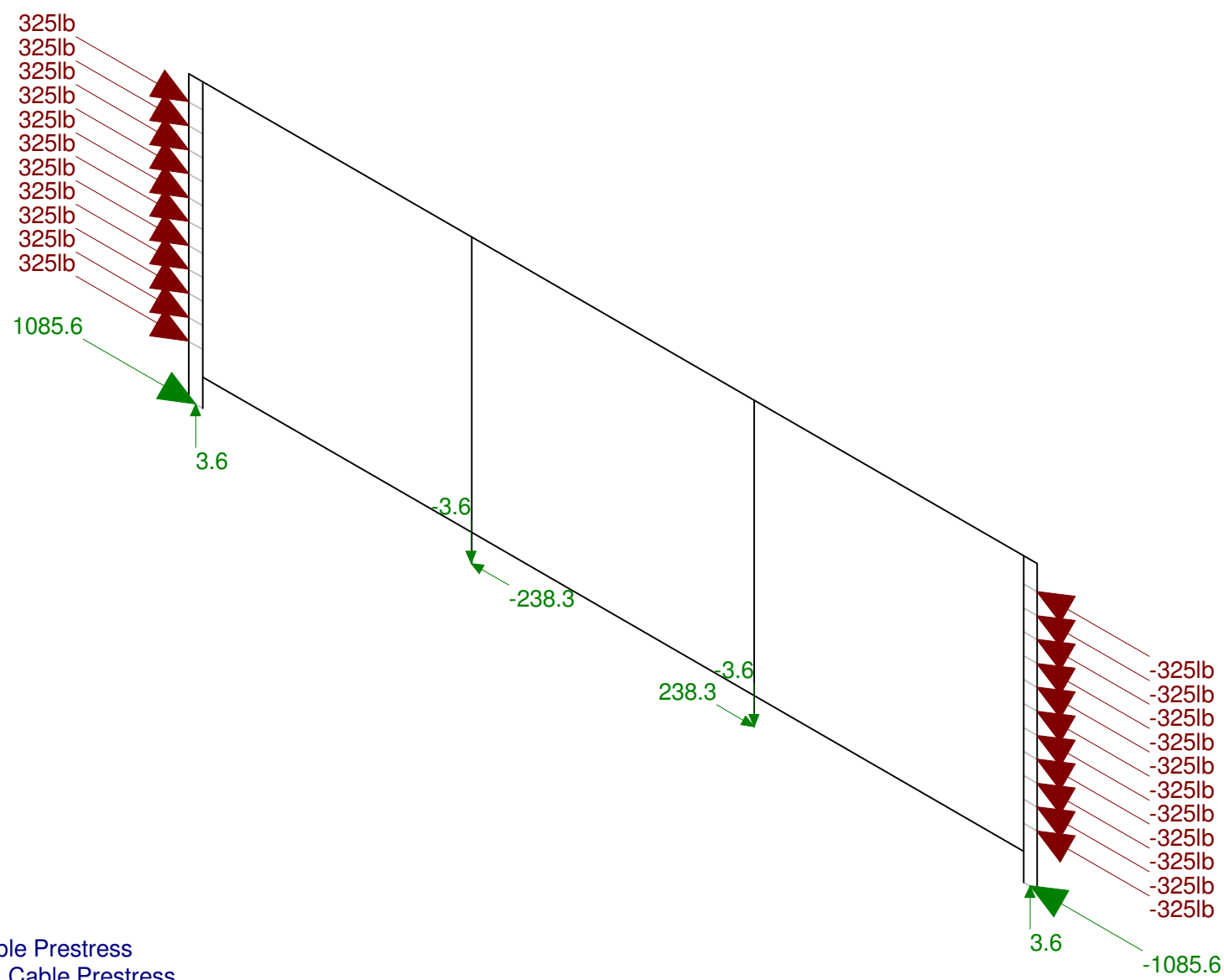
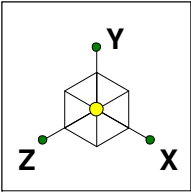
D3b (SS) - 3" x 1" RECT TUBE x 42-1/2" HIGH RAIL W/ BOTTOM RAIL

Mar 3, 2009 at 10:35 AM
 D3b-3x1-ss.R3D



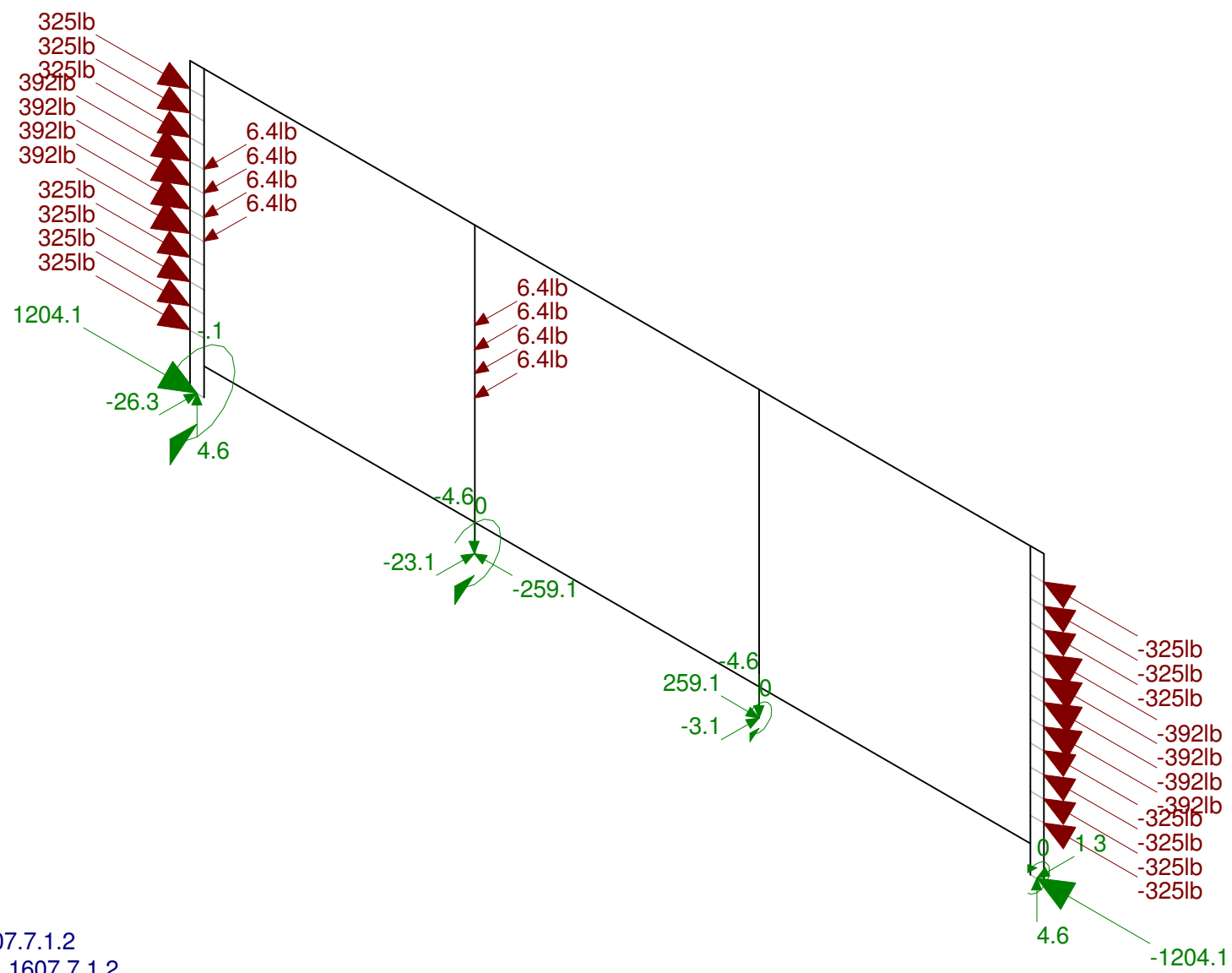
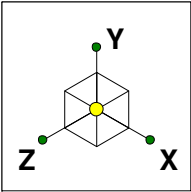
Member Code Checks Displayed
Solution: Envelope

| | | |
|------------------------------|-----------------------------------------------------------------|-------------------------|
| Ferrari Shields & Associates | D3b (SS) - 3" x 1" RECT TUBE x 42-1/2" HIGH RAIL W/ BOTTOM RAIL | |
| Dan O'Connor | | Mar 3, 2009 at 10:36 AM |
| 08196 | | D3b-3x1-ss.R3D |



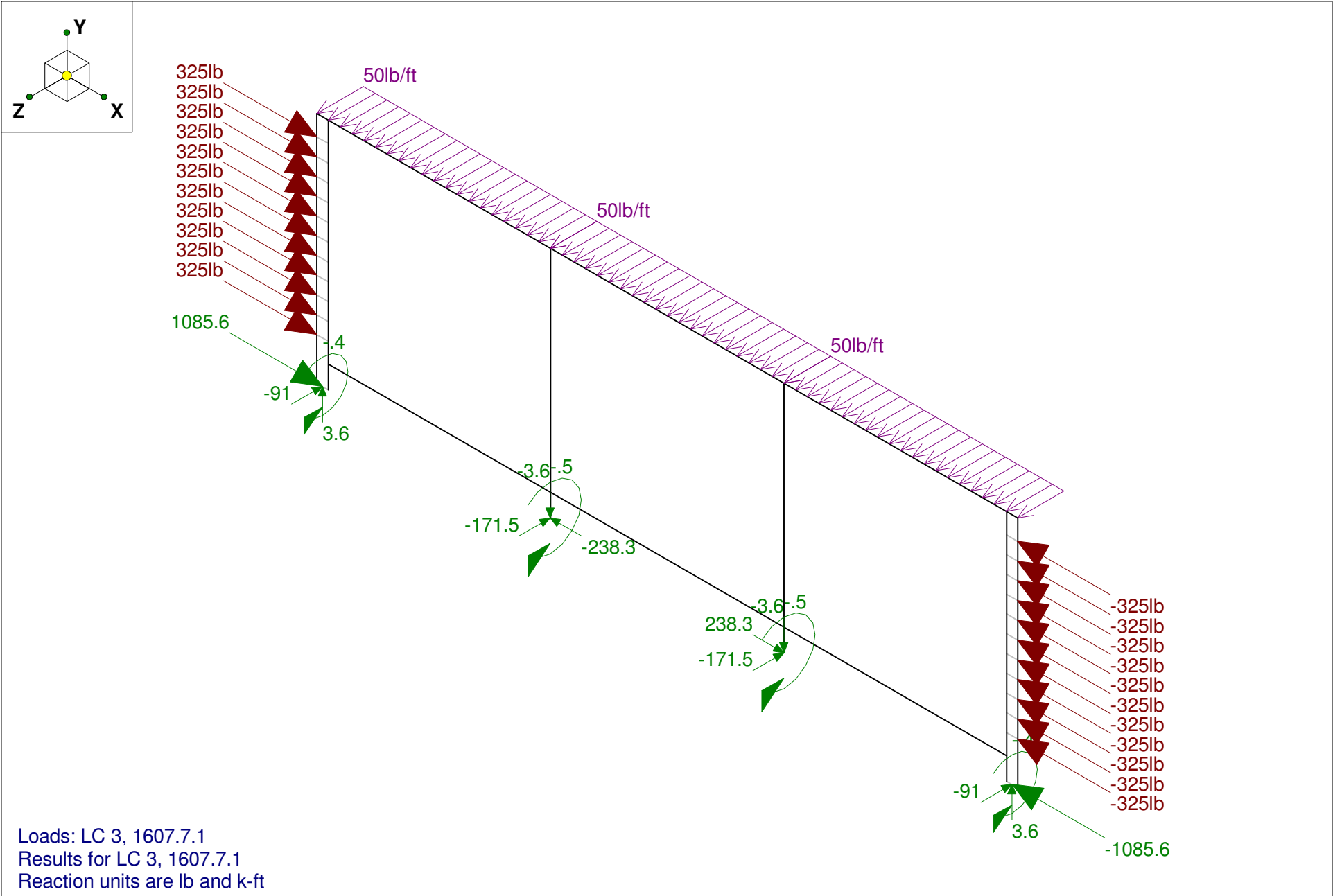
Loads: LC 1, Cable Prestress
 Results for LC 1, Cable Prestress
 Reaction units are lb and k-ft

| | | |
|------------------------------|------------------------------------------------------------|-------------------------|
| Ferrari Shields & Associates | D3b - 3" x 1" RECT TUBE x 42-1/2" HIGH RAIL W/ BOTTOM RAIL | |
| Dan O'Connor | | Mar 3, 2009 at 10:32 AM |
| 08196 | | D3b-3x1.R3D |



Loads: LC 2, 1607.7.1.2
 Results for LC 2, 1607.7.1.2
 Reaction units are lb and k-ft

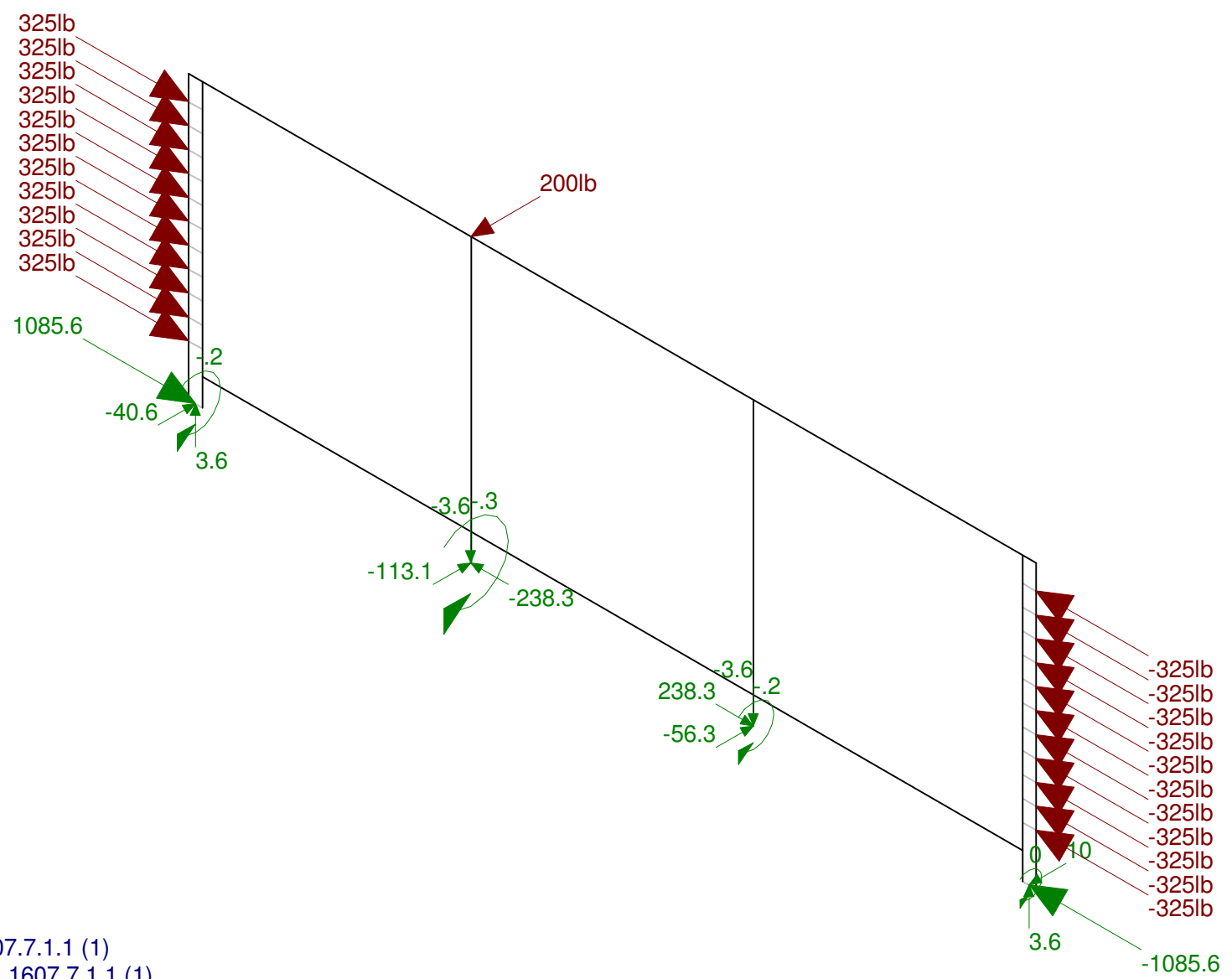
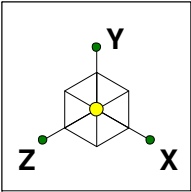
| | | |
|------------------------------|------------------------------------------------------------|-------------------------|
| Ferrari Shields & Associates | D3b - 3" x 1" RECT TUBE x 42-1/2" HIGH RAIL W/ BOTTOM RAIL | |
| Dan O'Connor | | Mar 3, 2009 at 10:33 AM |
| 08196 | | D3b-3x1.R3D |



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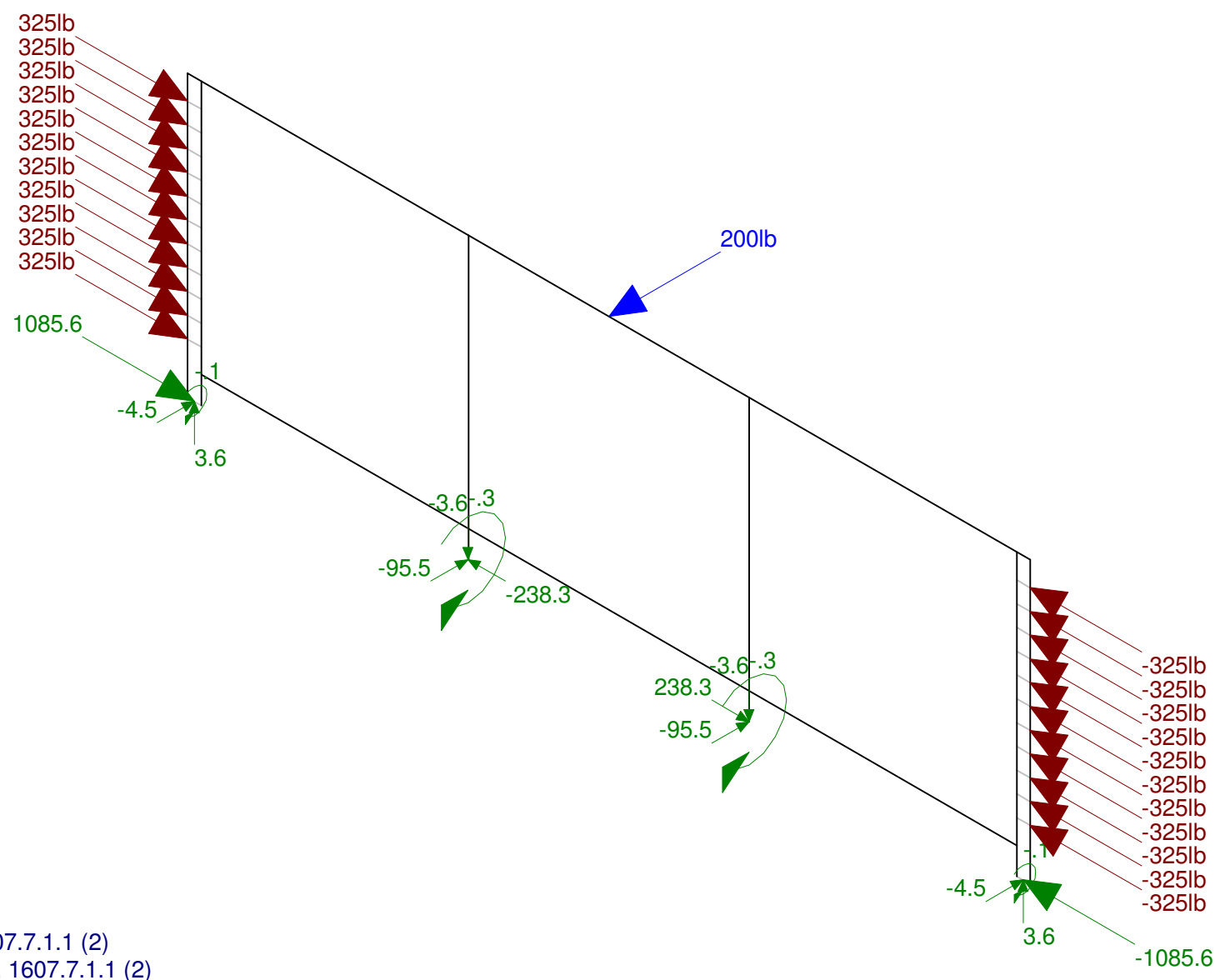
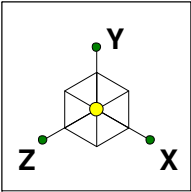
D3b - 3" x 1" RECT TUBE x 42-1/2" HIGH RAIL W/ BOTTOM RAIL

Mar 3, 2009 at 10:33 AM
D3b-3x1.R3D



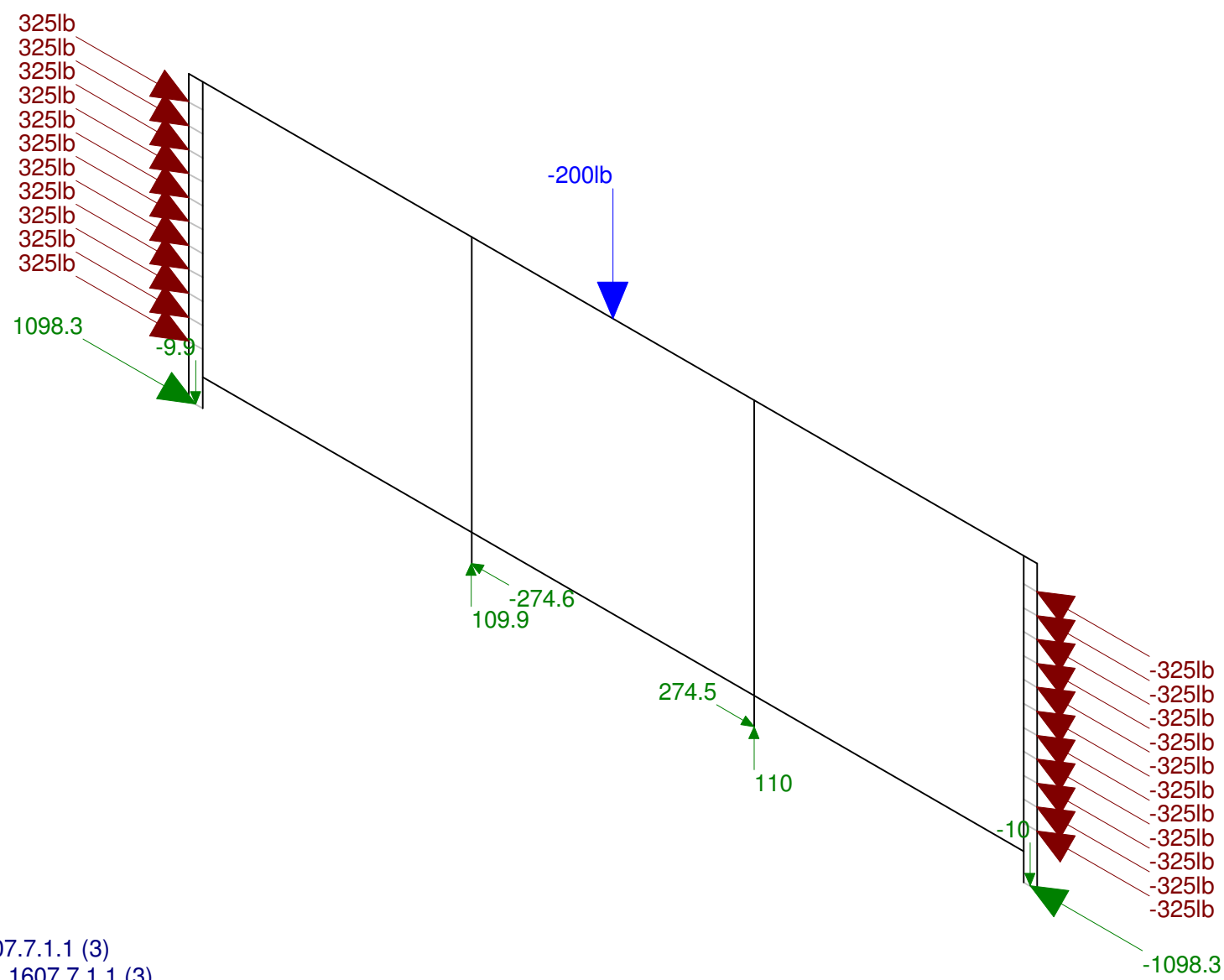
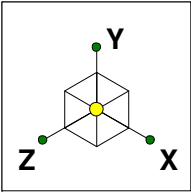
Loads: LC 4, 1607.7.1.1 (1)
 Results for LC 4, 1607.7.1.1 (1)
 Reaction units are lb and k-ft

| | | |
|------------------------------|------------------------------------------------------------|-------------------------|
| Ferrari Shields & Associates | D3b - 3" x 1" RECT TUBE x 42-1/2" HIGH RAIL W/ BOTTOM RAIL | |
| Dan O'Connor | | Mar 3, 2009 at 10:33 AM |
| 08196 | | D3b-3x1.R3D |



Loads: LC 5, 1607.7.1.1 (2)
 Results for LC 5, 1607.7.1.1 (2)
 Reaction units are lb and k-ft

| | | |
|------------------------------|------------------------------------------------------------|-------------------------|
| Ferrari Shields & Associates | D3b - 3" x 1" RECT TUBE x 42-1/2" HIGH RAIL W/ BOTTOM RAIL | |
| Dan O'Connor | | Mar 3, 2009 at 10:33 AM |
| 08196 | | D3b-3x1.R3D |



Loads: LC 6, 1607.7.1.1 (3)
Results for LC 6, 1607.7.1.1 (3)
Reaction units are lb and k-ft

| | | |
|------------------------------|------------------------------------------------------------|-------------------------|
| Ferrari Shields & Associates | D3b - 3" x 1" RECT TUBE x 42-1/2" HIGH RAIL W/ BOTTOM RAIL | |
| Dan O'Connor | | Mar 3, 2009 at 10:33 AM |
| 08196 | | D3b-3x1.R3D |

Global

| | |
|----------------------------------------|-------|
| Display Sections for Member Calcs | 5 |
| Max Internal Sections for Member Calcs | 97 |
| Include Shear Deformation | Yes |
| Include Warping | Yes |
| Area Load Mesh (in^2) | 144 |
| Merge Tolerance (in) | .12 |
| P-Delta Analysis Tolerance | 0.50% |
| Vertical Axis | Y |

| | |
|------------------------|--------------------|
| Hot Rolled Steel Code | AISC : ASD 13th |
| Cold Formed Steel Code | AISI 01: ASD |
| Wood Code | NDS 2005: ASD |
| Wood Temperature | < 100F |
| Concrete Code | ACI 2005 |
| Masonry Code | MSJC 05/IBC 06 ASD |

| | |
|-------------------------------|------------------|
| Number of Shear Regions | 4 |
| Region Spacing Increment (in) | 4 |
| Biaxial Column Method | PCA Load Contour |
| Parame Beta Factor (PCA) | .65 |
| Concrete Stress Block | Rectangular |
| Use Cracked Sections | Yes |
| Bad Framing Warnings | No |
| Unused Force Warnings | Yes |

Hot Rolled Steel Properties

| | Label | E [ksi] | G [ksi] | Nu | Therm (1E5 F) | Density[k/ft^3] | Yield[ksi] |
|---|----------|---------|---------|----|---------------|-----------------|------------|
| 1 | A500Gr42 | 29000 | 11154 | .3 | .65 | .49 | 42 |
| 2 | A36 | 29000 | 11154 | .3 | .65 | .49 | 36 |

Hot Rolled Steel Section Sets

| | Label | Shape | Type | Design List | Material | Design Rules | A [in2] | Iyy [in4] | Izz [in4] | J [in4] |
|---|-------|----------|--------|-------------|----------|--------------|---------|-----------|-----------|---------|
| 1 | RAIL | HSS3X1X2 | Beam | Tube | A500Gr42 | Typical | .841 | .138 | .818 | .409 |
| 2 | EPOST | HSS3X1X2 | Column | Tube | A500Gr42 | Typical | .841 | .138 | .818 | .409 |
| 3 | IPOST | HSS3X1X2 | Column | Tube | A500Gr42 | Typical | .841 | .138 | .818 | .409 |

General Material Properties

| | Label | E [ksi] | G [ksi] | Nu | Therm (1E5 F) | Density[k/ft^3] |
|---|-----------|---------|---------|----|---------------|-----------------|
| 1 | GEN RIGID | 1e+6 | | .3 | .65 | 0 |

General Section Sets

| | Label | Shape | Type | Material | A [in2] | Iyy [in4] | Izz [in4] | J [in4] |
|---|-------|-------|------|-----------|---------|-----------|-----------|---------|
| 1 | LINK | | Beam | GEN RIGID | .25 | .005 | .005 | .01 |

Basic Load Cases

| | BLC Description | Category | X Gravity | Y Gravity | Z Gravity | Joint | Point | Distributed | Area (Mem... | Surface (Pl... |
|---|-----------------|----------|-----------|-----------|-----------|-------|-------|-------------|--------------|----------------|
| 1 | Cable Prestress | None | | | | 22 | | | | |
| 2 | 1607.7.1.2 | None | | | | 16 | | | | |
| 3 | 1607.7.1 | None | | | | | | 3 | | |
| 4 | 1607.7.1.1 (1) | None | | | | 1 | | | | |
| 5 | 1607.7.1.1 (2) | None | | | | | 1 | | | |
| 6 | 1607.7.1.1 (3) | None | | | | | 1 | | | |

Load Combinations

| | Description | Solve | PDelta | SR... | BLC Factor | BLC Factor | BLC Factor | BLC Factor | BLC Factor | BLC Factor | BLC Factor | BLC Factor | BLC Factor |
|---|-----------------|-------|--------|-------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 1 | Cable Prestress | Yes | C | | 1 | 1 | | | | | | | |
| 2 | 1607.7.1.2 | Yes | C | | 1 | 1 | 2 | 1 | | | | | |
| 3 | 1607.7.1 | Yes | C | | 1 | 1 | 3 | 1 | | | | | |
| 4 | 1607.7.1.1 (1) | Yes | C | | 1 | 1 | 4 | 1 | | | | | |
| 5 | 1607.7.1.1 (2) | Yes | C | | 1 | 1 | 5 | 1 | | | | | |
| 6 | 1607.7.1.1 (3) | Yes | C | | 1 | 1 | 6 | 1 | | | | | |

Member Primary Data

| | Label | I Joint | J Joint | K Joint | Rotate(deg) | Section/Shape | Type | Design List | Material | Design Rules |
|----|-------|---------|---------|---------|-------------|---------------|--------|-------------|-----------|--------------|
| 1 | M1 | N1 | N2 | | 90 | EPOST | Column | Tube | A500Gr42 | Typical |
| 2 | M2 | N3 | N4 | | 90 | IPOST | Column | Tube | A500Gr42 | Typical |
| 3 | M3 | N2 | N4 | | 90 | RAIL | Beam | Tube | A500Gr42 | Typical |
| 4 | M4 | N4 | N8 | | 90 | RAIL | Beam | Tube | A500Gr42 | Typical |
| 5 | M5 | N5 | N6 | | 90 | EPOST | Column | Tube | A500Gr42 | Typical |
| 6 | M6 | N7 | N8 | | 90 | IPOST | Column | Tube | A500Gr42 | Typical |
| 7 | M7 | N8 | N6 | | 90 | RAIL | Beam | Tube | A500Gr42 | Typical |
| 8 | M8 | N9 | N10 | | 90 | EPOST | Column | Tube | A500Gr42 | Typical |
| 9 | M9 | N11 | N12 | | 90 | EPOST | Column | Tube | A500Gr42 | Typical |
| 10 | M10 | N13 | N15 | | | LINK | Beam | None | GEN_RIGID | Default |
| 11 | M11 | N16 | N14 | | | LINK | Beam | None | GEN_RIGID | Default |
| 12 | M12 | N1 | N17 | | | LINK | Beam | None | GEN_RIGID | Default |
| 13 | M13 | N11 | N18 | | | LINK | Beam | None | GEN_RIGID | Default |
| 14 | M14 | N17 | N9 | | | LINK | Beam | None | GEN_RIGID | Default |
| 15 | M15 | N18 | N5 | | | LINK | Beam | None | GEN_RIGID | Default |
| 16 | M16 | N19 | N20 | | 90 | RAIL | Beam | Tube | A500Gr42 | Typical |
| 17 | M17 | N20 | N22 | | 90 | RAIL | Beam | Tube | A500Gr42 | Typical |
| 18 | M18 | N22 | N21 | | 90 | RAIL | Beam | Tube | A500Gr42 | Typical |
| 19 | M19 | N23 | N25 | | | LINK | Beam | None | GEN_RIGID | Default |
| 20 | M20 | N26 | N24 | | | LINK | Beam | None | GEN_RIGID | Default |
| 21 | M21 | N27 | N29 | | | LINK | Beam | None | GEN_RIGID | Default |
| 22 | M22 | N30 | N28 | | | LINK | Beam | None | GEN_RIGID | Default |
| 23 | M23 | N31 | N33 | | | LINK | Beam | None | GEN_RIGID | Default |
| 24 | M24 | N34 | N32 | | | LINK | Beam | None | GEN_RIGID | Default |
| 25 | M25 | N35 | N37 | | | LINK | Beam | None | GEN_RIGID | Default |
| 26 | M26 | N38 | N36 | | | LINK | Beam | None | GEN_RIGID | Default |
| 27 | M27 | N39 | N41 | | | LINK | Beam | None | GEN_RIGID | Default |
| 28 | M28 | N42 | N40 | | | LINK | Beam | None | GEN_RIGID | Default |
| 29 | M29 | N43 | N45 | | | LINK | Beam | None | GEN_RIGID | Default |
| 30 | M30 | N46 | N44 | | | LINK | Beam | None | GEN_RIGID | Default |
| 31 | M31 | N47 | N49 | | | LINK | Beam | None | GEN_RIGID | Default |

Member Primary Data (Continued)

| | Label | I Joint | J Joint | K Joint | Rotate(deg) | Section/Shape | Type | Design List | Material | Design Rules |
|----|-------|---------|---------|---------|-------------|---------------|------|-------------|-----------|--------------|
| 32 | M32 | N50 | N48 | | | LINK | Beam | None | GEN_RIGID | Default |
| 33 | M33 | N51 | N53 | | | LINK | Beam | None | GEN_RIGID | Default |
| 34 | M34 | N54 | N52 | | | LINK | Beam | None | GEN_RIGID | Default |
| 35 | M35 | N55 | N57 | | | LINK | Beam | None | GEN_RIGID | Default |
| 36 | M36 | N58 | N56 | | | LINK | Beam | None | GEN_RIGID | Default |
| 37 | M37 | N63 | N65 | | | LINK | Beam | None | GEN_RIGID | Default |
| 38 | M38 | N66 | N64 | | | LINK | Beam | None | GEN_RIGID | Default |

Envelope Joint Reactions

| Joint | | X [lb] | LC | Y [lb] | LC | Z [lb] | LC | MX [k-ft] | LC | MY [k-ft] | LC | MZ [k-ft] | LC | |
|-------|---------|--------|-----------|--------|---------|--------|----------|-----------|------|-----------|----|-----------|----|---|
| 1 | N3 | max | -238.258 | 1 | 109.944 | 6 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 2 | | min | -274.553 | 6 | -4.589 | 2 | -171.476 | 3 | -533 | 3 | 0 | 1 | 0 | 1 |
| 3 | N7 | max | 274.516 | 6 | 109.953 | 6 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 4 | | min | 238.258 | 1 | -4.589 | 2 | -171.476 | 3 | -533 | 3 | 0 | 1 | 0 | 1 |
| 5 | N17 | max | 1204.068 | 2 | 4.589 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 6 | | min | 1085.604 | 1 | -9.947 | 6 | -91.024 | 3 | -437 | 3 | 0 | 1 | 0 | 1 |
| 7 | N18 | max | -1085.604 | 1 | 4.589 | 2 | 9.958 | 4 | .002 | 2 | 0 | 1 | 0 | 1 |
| 8 | | min | -1204.068 | 2 | -9.95 | 6 | -91.024 | 3 | -437 | 3 | 0 | 1 | 0 | 1 |
| 9 | Totals: | max | 0 | 1 | 200 | 6 | 0 | 1 | | | | | | |
| 10 | | min | 0 | 2 | 0 | 1 | -525 | 3 | | | | | | |

Envelope Member Section Forces

| Member | Sec | | Axial[lb] | LC | y Shear[lb] | LC | z Shear[lb] | LC | Torque[k-ft] | LC | y-y Moment[...] | LC | z-z Moment[...] | LC | |
|--------|-----|---|-----------|----------|-------------|----------|-------------|----------|--------------|-------|-----------------|-------|-----------------|-------|---|
| 1 | M1 | 1 | max | -798.772 | 1 | 0 | 1 | -47.378 | 2 | .008 | 3 | .024 | 1 | 0 | 1 |
| 2 | | | min | -906.801 | 2 | -42.801 | 3 | -55.588 | 1 | 0 | 1 | .023 | 2 | -214 | 3 |
| 3 | | 2 | max | 1533.318 | 2 | 27.942 | 5 | -900.116 | 1 | .013 | 3 | -.114 | 1 | 0 | 1 |
| 4 | | | min | 1471.51 | 6 | -12.989 | 2 | -977.493 | 2 | 0 | 1 | -.122 | 2 | -.177 | 3 |
| 5 | | 3 | max | 6987.19 | 2 | 19.834 | 5 | -139.133 | 1 | .014 | 3 | -.105 | 1 | 0 | 1 |
| 6 | | | min | 6280.552 | 1 | -26.941 | 3 | -173.989 | 2 | 0 | 2 | -.117 | 2 | -.119 | 3 |
| 7 | | 4 | max | 5989.619 | 2 | 19.378 | 5 | 433.011 | 2 | .014 | 3 | -.071 | 4 | 0 | 1 |
| 8 | | | min | 5414.153 | 1 | -27.579 | 3 | 360.622 | 6 | 0 | 2 | -.076 | 2 | -.065 | 3 |
| 9 | | 5 | max | 511.889 | 6 | 13.671 | 5 | 821.253 | 2 | .015 | 3 | .088 | 2 | 0 | 2 |
| 10 | | | min | 471.077 | 4 | -19.173 | 3 | 761.989 | 4 | 0 | 2 | .08 | 6 | -.014 | 3 |
| 11 | M2 | 1 | max | 109.944 | 6 | 0 | 1 | -238.258 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 12 | | | min | -4.589 | 2 | -171.476 | 3 | -274.655 | 6 | 0 | 1 | 0 | 1 | -.533 | 3 |
| 13 | | 2 | max | 61.689 | 6 | 0 | 1 | 32.956 | 6 | .012 | 5 | -.011 | 1 | 0 | 1 |
| 14 | | | min | -58.026 | 2 | -156.314 | 3 | 16.502 | 1 | 0 | 2 | -.018 | 6 | -.39 | 3 |
| 15 | | 3 | max | 61.689 | 6 | 0 | 1 | 32.967 | 6 | .012 | 5 | .011 | 6 | 0 | 1 |
| 16 | | | min | -58.026 | 2 | -156.314 | 3 | 16.502 | 1 | 0 | 2 | .004 | 1 | -.253 | 3 |
| 17 | | 4 | max | 61.689 | 6 | 2.914 | 2 | 32.828 | 6 | .012 | 5 | .04 | 6 | .003 | 2 |
| 18 | | | min | -58.026 | 2 | -156.314 | 3 | 16.502 | 1 | 0 | 2 | .018 | 1 | -.116 | 3 |
| 19 | | 5 | max | 61.689 | 6 | 2.914 | 2 | 32.828 | 6 | .012 | 5 | .069 | 6 | .026 | 4 |
| 20 | | | min | -58.026 | 2 | -156.314 | 3 | 16.502 | 1 | 0 | 2 | .033 | 1 | 0 | 1 |
| 21 | M3 | 1 | max | 816.831 | 2 | 12.488 | 5 | -466.16 | 4 | 0 | 2 | .088 | 2 | 0 | 2 |
| 22 | | | min | 758.207 | 4 | -18.953 | 3 | -506.889 | 6 | -.014 | 3 | .08 | 6 | -.015 | 3 |
| 23 | | 2 | max | 1810.684 | 2 | 0 | 1 | -38.592 | 6 | 0 | 2 | .103 | 2 | .031 | 3 |
| 24 | | | min | 1671.508 | 6 | -66.16 | 3 | -58.345 | 2 | -.021 | 3 | .089 | 6 | -.012 | 5 |
| 25 | | 3 | max | 1810.684 | 2 | 0 | 1 | -38.592 | 6 | 0 | 2 | .056 | 6 | .07 | 3 |
| 26 | | | min | 1671.508 | 6 | -54.363 | 4 | -58.345 | 2 | -.021 | 3 | .047 | 1 | 0 | 1 |
| 27 | | 4 | max | 1810.684 | 2 | 21.34 | 3 | -38.592 | 6 | 0 | 2 | .022 | 6 | .11 | 4 |

Envelope Member Section Forces (Continued)

| Member | Sec | | Axial[lb] | LC | y Shear[lb] | LC | z Shear[lb] | LC | Torque[k-ft] | LC | y-y Moment[...] | LC | z-z Moment[...] | LC | |
|--------|-----|-----|-----------|----------|-------------|--------|-------------|--------|--------------|------|-----------------|-------|-----------------|------|---|
| 28 | | min | 1671.508 | 6 | -54.363 | 4 | -58.345 | 2 | -.021 | 3 | 0 | 1 | 0 | 1 | |
| 29 | 5 | max | 1810.684 | 2 | 65.09 | 3 | -38.592 | 6 | 0 | 2 | -.012 | 6 | .157 | 4 | |
| 30 | | min | 1671.508 | 6 | -54.363 | 4 | -58.345 | 2 | -.021 | 3 | -.051 | 2 | 0 | 1 | |
| 31 | M4 | 1 | max | 1828.77 | 2 | 52.073 | 4 | 0 | .012 | 4 | .057 | 6 | .156 | 4 | |
| 32 | | min | 1694.081 | 4 | -100 | 5 | -99.993 | 6 | 0 | 1 | -.015 | 2 | 0 | 1 | |
| 33 | 2 | max | 1828.77 | 2 | 52.073 | 4 | 0 | 1 | .012 | 4 | -.013 | 1 | .117 | 5 | |
| 34 | | min | 1694.081 | 4 | -100 | 5 | -99.993 | 6 | 0 | 1 | -.031 | 6 | 0 | 1 | |
| 35 | 3 | max | 1828.77 | 2 | 100 | 5 | 100.007 | 6 | .012 | 4 | -.013 | 1 | .204 | 5 | |
| 36 | | min | 1694.081 | 4 | 0 | 1 | 0 | 1 | 0 | 1 | -.118 | 6 | 0 | 1 | |
| 37 | 4 | max | 1828.77 | 2 | 100 | 5 | 100.007 | 6 | .012 | 4 | -.013 | 1 | .117 | 5 | |
| 38 | | min | 1694.081 | 4 | 0 | 1 | 0 | 1 | 0 | 1 | -.031 | 6 | -.002 | 2 | |
| 39 | 5 | max | 1828.77 | 2 | 100 | 5 | 100.007 | 6 | .012 | 4 | .057 | 6 | .029 | 5 | |
| 40 | | min | 1694.081 | 4 | 0 | 1 | 0 | 1 | 0 | 1 | -.015 | 2 | -.026 | 4 | |
| 41 | M5 | 1 | max | -798.772 | 1 | 4.472 | 4 | 55.588 | 1 | 0 | 1 | -.023 | 2 | .001 | 2 |
| 42 | | min | -906.801 | 2 | -42.801 | 3 | 47.378 | 2 | -.008 | 3 | -.024 | 1 | -.214 | 3 | |
| 43 | 2 | max | 1533.318 | 2 | 27.942 | 5 | 977.493 | 2 | 0 | 1 | .122 | 2 | 0 | 2 | |
| 44 | | min | 1471.51 | 6 | -5.73 | 3 | 900.116 | 1 | -.013 | 3 | .114 | 1 | -.177 | 3 | |
| 45 | 3 | max | 6987.19 | 2 | 21.922 | 4 | 173.989 | 2 | 0 | 1 | .117 | 2 | 0 | 2 | |
| 46 | | min | 6280.552 | 1 | -26.941 | 3 | 139.133 | 1 | -.014 | 3 | .105 | 1 | -.119 | 3 | |
| 47 | 4 | max | 5989.619 | 2 | 21.578 | 4 | -360.622 | 6 | 0 | 1 | .076 | 2 | 0 | 1 | |
| 48 | | min | 5414.153 | 1 | -27.579 | 3 | -433.011 | 2 | -.014 | 3 | .071 | 4 | -.065 | 3 | |
| 49 | 5 | max | 511.887 | 6 | 14.184 | 4 | -761.989 | 4 | 0 | 1 | -.08 | 6 | 0 | 1 | |
| 50 | | min | 471.077 | 4 | -19.173 | 3 | -821.253 | 2 | -.015 | 3 | -.088 | 2 | -.014 | 3 | |
| 51 | M6 | 1 | max | 109.953 | 6 | 0 | 274.618 | 6 | 0 | 1 | 0 | 1 | 0 | 1 | |
| 52 | | min | -4.589 | 2 | -171.476 | 3 | 238.258 | 1 | 0 | 1 | 0 | 1 | -.533 | 3 | |
| 53 | 2 | max | 61.699 | 6 | 0 | 1 | -16.502 | 1 | 0 | 1 | .018 | 6 | 0 | 1 | |
| 54 | | min | -58.026 | 2 | -156.314 | 3 | -32.91 | 6 | -.013 | 4 | .011 | 1 | -.39 | 3 | |
| 55 | 3 | max | 61.699 | 6 | 0 | 1 | -16.502 | 1 | 0 | 1 | -.004 | 1 | 0 | 1 | |
| 56 | | min | -58.026 | 2 | -156.314 | 3 | -32.91 | 6 | -.013 | 4 | -.011 | 6 | -.253 | 3 | |
| 57 | 4 | max | 61.699 | 6 | 0 | 1 | -16.502 | 1 | 0 | 1 | -.018 | 1 | 0 | 1 | |
| 58 | | min | -58.026 | 2 | -156.314 | 3 | -32.91 | 6 | -.013 | 4 | -.04 | 6 | -.116 | 3 | |
| 59 | 5 | max | 61.699 | 6 | 0 | 1 | -16.502 | 1 | 0 | 1 | -.033 | 1 | .021 | 3 | |
| 60 | | min | -58.026 | 2 | -156.314 | 3 | -32.91 | 6 | -.013 | 4 | -.069 | 6 | 0 | 1 | |
| 61 | M7 | 1 | max | 1810.684 | 2 | 20.349 | 5 | 58.345 | 2 | .021 | 3 | -.012 | 6 | .042 | 5 |
| 62 | | min | 1671.509 | 6 | -65.09 | 3 | 38.597 | 6 | 0 | 1 | -.051 | 2 | -.013 | 4 | |
| 63 | 2 | max | 1810.684 | 2 | 20.349 | 5 | 58.345 | 2 | .021 | 3 | .022 | 6 | .07 | 3 | |
| 64 | | min | 1671.509 | 6 | -21.34 | 3 | 38.597 | 6 | 0 | 1 | 0 | 1 | -.015 | 4 | |
| 65 | 3 | max | 1810.684 | 2 | 22.41 | 3 | 58.345 | 2 | .021 | 3 | .056 | 6 | .07 | 3 | |
| 66 | | min | 1671.509 | 6 | -.516 | 2 | 38.597 | 6 | 0 | 1 | .047 | 1 | -.016 | 4 | |
| 67 | 4 | max | 1810.684 | 2 | 66.16 | 3 | 58.345 | 2 | .021 | 3 | .103 | 2 | .031 | 3 | |
| 68 | | min | 1671.509 | 6 | -.516 | 2 | 38.597 | 6 | 0 | 1 | .089 | 6 | -.018 | 4 | |
| 69 | 5 | max | 816.831 | 2 | 18.953 | 3 | 506.888 | 6 | .014 | 3 | .088 | 2 | 0 | 1 | |
| 70 | | min | 758.207 | 4 | -13.098 | 4 | 466.16 | 4 | 0 | 1 | .08 | 6 | -.015 | 3 | |
| 71 | M8 | 1 | max | 911.39 | 2 | 0 | 1248.581 | 2 | 0 | 1 | -.158 | 1 | 0 | 1 | |
| 72 | | min | 802.407 | 1 | -49.406 | 3 | 1138.869 | 1 | -.009 | 3 | -.175 | 2 | -.223 | 3 | |
| 73 | 2 | max | -1429.268 | 4 | 0 | 1 | -681.825 | 1 | .016 | 3 | -.125 | 1 | 0 | 1 | |
| 74 | | min | -1475.292 | 2 | -104.184 | 3 | -740.621 | 2 | 0 | 1 | -.134 | 2 | -.171 | 3 | |
| 75 | 3 | max | -6227.696 | 1 | 0 | 1 | -139.131 | 1 | .014 | 3 | -.105 | 1 | 0 | 1 | |
| 76 | | min | -6929.164 | 2 | -104.426 | 3 | -173.997 | 2 | 0 | 2 | -.117 | 2 | -.122 | 3 | |
| 77 | 4 | max | -5361.297 | 1 | 1.094 | 2 | 432.918 | 2 | .014 | 3 | -.071 | 4 | 0 | 1 | |
| 78 | | min | -5931.593 | 2 | -104.05 | 3 | 360.615 | 6 | 0 | 2 | -.076 | 2 | -.06 | 3 | |
| 79 | 5 | max | -418.221 | 4 | 1.155 | 2 | 993.853 | 2 | .016 | 3 | .139 | 2 | 0 | 2 | |
| 80 | | min | -473.585 | 6 | -89.374 | 3 | 908.646 | 6 | 0 | 2 | .122 | 6 | -.008 | 5 | |

Envelope Member Section Forces (Continued)

| | Member | Sec | | Axial[lb] | LC | y Shear[lb] | LC | z Shear[lb] | LC | Torque[k-ft] | LC | y-y Moment[...] | LC | z-z Moment[...] | LC |
|-----|--------|-----|-----|-----------|----|-------------|----|-------------|----|--------------|----|-----------------|----|-----------------|----|
| 81 | M9 | 1 | max | 911.39 | 2 | 5.439 | 4 | -1138.869 | 1 | .009 | 3 | .175 | 2 | 0 | 2 |
| 82 | | | min | 802.407 | 1 | -49.406 | 3 | -1248.581 | 2 | 0 | 1 | .158 | 1 | -.223 | 3 |
| 83 | | 2 | max | -1429.268 | 4 | 0 | 1 | 740.621 | 2 | 0 | 1 | .134 | 2 | 0 | 2 |
| 84 | | | min | -1475.292 | 2 | -104.184 | 3 | 681.825 | 1 | -.016 | 3 | .125 | 1 | -.171 | 3 |
| 85 | | 3 | max | -6227.696 | 1 | 0 | 1 | 173.997 | 2 | 0 | 1 | .117 | 2 | 0 | 2 |
| 86 | | | min | -6929.164 | 2 | -104.426 | 3 | 139.131 | 1 | -.014 | 3 | .105 | 1 | -.122 | 3 |
| 87 | | 4 | max | -5361.297 | 1 | 0 | 1 | -360.614 | 6 | 0 | 1 | .076 | 2 | 0 | 1 |
| 88 | | | min | -5931.593 | 2 | -104.05 | 3 | -432.918 | 2 | -.014 | 3 | .071 | 4 | -.06 | 3 |
| 89 | | 5 | max | -418.221 | 4 | 0 | 1 | -908.647 | 6 | 0 | 1 | -.122 | 6 | 0 | 1 |
| 90 | | | min | -473.579 | 6 | -89.374 | 3 | -993.853 | 2 | -.016 | 3 | -.139 | 2 | -.008 | 5 |
| 91 | M16 | 1 | max | 3236.384 | 2 | 15.373 | 3 | 53.871 | 2 | .001 | 3 | -.107 | 6 | .036 | 3 |
| 92 | | | min | 2983.025 | 1 | 0 | 1 | 48.616 | 6 | -.003 | 5 | -.117 | 2 | 0 | 1 |
| 93 | | 2 | max | 3236.384 | 2 | 15.373 | 3 | 53.871 | 2 | .001 | 3 | -.066 | 6 | .024 | 3 |
| 94 | | | min | 2983.025 | 1 | 0 | 1 | 48.616 | 6 | -.003 | 5 | -.072 | 2 | 0 | 1 |
| 95 | | 3 | max | 3236.384 | 2 | 15.373 | 3 | 53.871 | 2 | .001 | 3 | -.025 | 1 | .011 | 3 |
| 96 | | | min | 2983.025 | 1 | 0 | 1 | 48.616 | 6 | -.003 | 5 | -.027 | 2 | 0 | 1 |
| 97 | | 4 | max | 3236.384 | 2 | 15.373 | 3 | 53.871 | 2 | .001 | 3 | .018 | 2 | 0 | 4 |
| 98 | | | min | 2983.025 | 1 | 0 | 1 | 48.616 | 6 | -.003 | 5 | .015 | 6 | -.003 | 5 |
| 99 | | 5 | max | 3236.384 | 2 | 15.373 | 3 | 53.871 | 2 | .001 | 3 | .063 | 2 | 0 | 1 |
| 100 | | | min | 2983.025 | 1 | 0 | 1 | 48.616 | 6 | -.003 | 5 | .055 | 6 | -.015 | 3 |
| 101 | M17 | 1 | max | 2959.161 | 2 | 0 | 1 | 0 | 1 | .003 | 4 | 0 | 6 | 0 | 1 |
| 102 | | | min | 2694.333 | 6 | -3.075 | 4 | -.004 | 6 | 0 | 1 | -.002 | 2 | -.007 | 4 |
| 103 | | 2 | max | 2959.161 | 2 | 0 | 1 | 0 | 1 | .003 | 4 | 0 | 6 | 0 | 1 |
| 104 | | | min | 2694.333 | 6 | -3.075 | 4 | -.004 | 6 | 0 | 1 | -.002 | 2 | -.006 | 3 |
| 105 | | 3 | max | 2959.161 | 2 | 0 | 1 | 0 | 1 | .003 | 4 | 0 | 6 | 0 | 1 |
| 106 | | | min | 2694.333 | 6 | -3.075 | 4 | -.004 | 6 | 0 | 1 | -.002 | 2 | -.006 | 3 |
| 107 | | 4 | max | 2959.161 | 2 | 0 | 1 | 0 | 1 | .003 | 4 | 0 | 6 | 0 | 4 |
| 108 | | | min | 2694.333 | 6 | -3.075 | 4 | -.004 | 6 | 0 | 1 | -.002 | 2 | -.006 | 3 |
| 109 | | 5 | max | 2959.161 | 2 | 0 | 1 | 0 | 1 | .003 | 4 | 0 | 6 | .003 | 4 |
| 110 | | | min | 2694.333 | 6 | -3.075 | 4 | -.004 | 6 | 0 | 1 | -.002 | 2 | -.006 | 3 |
| 111 | M18 | 1 | max | 3236.384 | 2 | 0 | 1 | -48.624 | 6 | .003 | 4 | .063 | 2 | 0 | 1 |
| 112 | | | min | 2983.025 | 1 | -15.373 | 3 | -53.871 | 2 | -.001 | 3 | .055 | 6 | -.015 | 3 |
| 113 | | 2 | max | 3236.384 | 2 | 0 | 1 | -48.624 | 6 | .003 | 4 | .018 | 2 | 0 | 1 |
| 114 | | | min | 2983.025 | 1 | -15.373 | 3 | -53.871 | 2 | -.001 | 3 | .015 | 6 | -.003 | 5 |
| 115 | | 3 | max | 3236.384 | 2 | 0 | 1 | -48.624 | 6 | .003 | 4 | -.025 | 1 | .011 | 3 |
| 116 | | | min | 2983.025 | 1 | -15.373 | 3 | -53.871 | 2 | -.001 | 3 | -.027 | 2 | 0 | 1 |
| 117 | | 4 | max | 3236.384 | 2 | 0 | 1 | -48.624 | 6 | .003 | 4 | -.066 | 6 | .024 | 3 |
| 118 | | | min | 2983.025 | 1 | -15.373 | 3 | -53.871 | 2 | -.001 | 3 | -.072 | 2 | 0 | 1 |
| 119 | | 5 | max | 3236.384 | 2 | 0 | 1 | -48.624 | 6 | .003 | 4 | -.107 | 6 | .036 | 3 |
| 120 | | | min | 2983.025 | 1 | -15.373 | 3 | -53.871 | 2 | -.001 | 3 | -.117 | 2 | 0 | 1 |

Envelope AISC 13th ASD Steel Code Checks

| | Member | Shape | Code Check | Loc[in] | LC | Shear ... | Loc[in] | Dir | LC | Pnc/om [lb] | Pnt/om [lb] | Mnyy/om [k-ft] | Mnzz/om... Cb | Eqn |
|---|--------|----------|------------|---------|----|-----------|---------|-----|----|-------------|-------------|----------------|---------------|------------|
| 1 | M1 | HSS3X1X2 | .828 | 23.188 | 2 | .428 | 7.875 | z | 2 | 10920.117 | 21154.469 | .683 | 1.528 | 2... H1-1a |
| 2 | M2 | HSS3X1X2 | .426 | 3.938 | 3 | .120 | 0 | z | 6 | 10920.117 | 21154.469 | .683 | 1.528 | 1... H1-1b |
| 3 | M3 | HSS3X1X2 | .294 | 2.188 | 2 | .233 | 0 | z | 3 | 10920.289 | 21154.469 | .683 | 1.528 | 1... H1-1b |
| 4 | M4 | HSS3X1X2 | .251 | 21 | 6 | .044 | 21 | z | 6 | 10920.289 | 21154.469 | .683 | 1.528 | 1 H1-1b |
| 5 | M5 | HSS3X1X2 | .825 | 23.188 | 2 | .429 | 7.875 | z | 2 | 10920.117 | 21154.469 | .683 | 1.528 | 2... H1-1a |
| 6 | M6 | HSS3X1X2 | .426 | 3.938 | 3 | .120 | 0 | z | 6 | 10920.117 | 21154.469 | .683 | 1.528 | 1... H1-1b |
| 7 | M7 | HSS3X1X2 | .293 | 39.813 | 2 | .233 | 40.25 | z | 3 | 10920.289 | 21154.469 | .683 | 1.528 | 1... H1-1b |
| 8 | M8 | HSS3X1X2 | .570 | 4.375 | 3 | .873 | 4.375 | z | 2 | 10920.117 | 21154.469 | .683 | 1.528 | 1... H1-1b |

Envelope AISC 13th ASD Steel Code Checks (Continued)

| Member | Shape | Code Check | Loc[in] | LC | Shear ... | Loc[in] | Dir | LC | Pnc/om [lb] | Pnt/om [lb] | Mnyy/om [k-ft] | Mnzz/om... Cb | Eqn | | |
|--------|-------|------------|---------|-------|-----------|---------|-------|----|-------------|-------------|----------------|---------------|-------|------|-------|
| 9 | M9 | HSS3X1X2 | .570 | 4.375 | 3 | .874 | 4.375 | z | 2 | 10920.117 | 21154.469 | .683 | 1.528 | 1... | H1-1b |
| 10 | M16 | HSS3X1X2 | .431 | 0 | 2 | .027 | 0 | z | 5 | 11612.675 | 21154.469 | .683 | 1.528 | 1... | H1-1a |
| 11 | M17 | HSS3X1X2 | .274 | 0 | 2 | .005 | 0 | z | 4 | 10920.289 | 21154.469 | .683 | 1.528 | 2... | H1-1a |
| 12 | M18 | HSS3X1X2 | .431 | 40 | 2 | .027 | 0 | z | 4 | 11612.675 | 21154.469 | .683 | 1.528 | 2... | H1-1a |

Global

| | |
|----------------------------------------|-------|
| Display Sections for Member Calcs | 5 |
| Max Internal Sections for Member Calcs | 97 |
| Include Shear Deformation | Yes |
| Include Warping | Yes |
| Area Load Mesh (in^2) | 144 |
| Merge Tolerance (in) | .12 |
| P-Delta Analysis Tolerance | 0.50% |
| Vertical Axis | Y |

| | |
|------------------------|--------------------|
| Hot Rolled Steel Code | AISC : ASD 13th |
| Cold Formed Steel Code | AISI 01: ASD |
| Wood Code | NDS 2005: ASD |
| Wood Temperature | < 100F |
| Concrete Code | ACI 2005 |
| Masonry Code | MSJC 05/IBC 06 ASD |

| | |
|-------------------------------|------------------|
| Number of Shear Regions | 4 |
| Region Spacing Increment (in) | 4 |
| Biaxial Column Method | PCA Load Contour |
| Parame Beta Factor (PCA) | .65 |
| Concrete Stress Block | Rectangular |
| Use Cracked Sections | Yes |
| Bad Framing Warnings | No |
| Unused Force Warnings | Yes |

Hot Rolled Steel Properties

| | Label | E [ksi] | G [ksi] | Nu | Therm (1E5 F) | Density[k/ft^3] | Yield[ksi] |
|---|---------|---------|---------|----|---------------|-----------------|------------|
| 1 | LDX2101 | 28000 | 11154 | .3 | .65 | .49 | 60 |
| 2 | SS316 | 28000 | 11154 | .3 | .65 | .49 | 30 |

Hot Rolled Steel Section Sets

| | Label | Shape | Type | Design List | Material | Design Rules | A [in2] | Iyy [in4] | Izz [in4] | J [in4] |
|---|-------|---------|--------|-------------|----------|--------------|---------|-----------|-----------|---------|
| 1 | RAIL | TU3x1x2 | Beam | Tube | SS316 | Typical | .902 | .149 | .918 | .41 |
| 2 | EPOST | TU3x1x2 | Column | Tube | SS316 | Typical | .902 | .149 | .918 | .41 |
| 3 | IPOST | TU3x1x2 | Column | Tube | SS316 | Typical | .902 | .149 | .918 | .41 |

General Material Properties

| | Label | E [ksi] | G [ksi] | Nu | Therm (1E5 F) | Density[k/ft^3] |
|---|-----------|---------|---------|----|---------------|-----------------|
| 1 | GEN RIGID | 1e+6 | | .3 | .65 | 0 |

General Section Sets

| | Label | Shape | Type | Material | A [in2] | Iyy [in4] | Izz [in4] | J [in4] |
|---|-------|-------|------|-----------|---------|-----------|-----------|---------|
| 1 | LINK | | Beam | GEN RIGID | .25 | .005 | .005 | .01 |

Basic Load Cases

| | BLC Description | Category | X Gravity | Y Gravity | Z Gravity | Joint | Point | Distributed | Area (Mem... | Surface (Pl... |
|---|-----------------|----------|-----------|-----------|-----------|-------|-------|-------------|--------------|----------------|
| 1 | Cable Prestress | None | | | | 22 | | | | |
| 2 | 1607.7.1.2 | None | | | | 16 | | | | |
| 3 | 1607.7.1 | None | | | | | | 3 | | |
| 4 | 1607.7.1.1 (1) | None | | | | 1 | | | | |
| 5 | 1607.7.1.1 (2) | None | | | | | 1 | | | |
| 6 | 1607.7.1.1 (3) | None | | | | | 1 | | | |

Load Combinations

| | Description | Solve | PDelta | SR... | BLC Factor | BLC Factor | BLC Factor | BLC Factor | BLC Factor | BLC Factor | BLC Factor | BLC Factor | BLC Factor |
|---|-----------------|-------|--------|-------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 1 | Cable Prestress | Yes | C | | 1 | 1 | | | | | | | |
| 2 | 1607.7.1.2 | Yes | C | | 1 | 1 | 2 | 1 | | | | | |
| 3 | 1607.7.1 | Yes | C | | 1 | 1 | 3 | 1 | | | | | |
| 4 | 1607.7.1.1 (1) | Yes | C | | 1 | 1 | 4 | 1 | | | | | |
| 5 | 1607.7.1.1 (2) | Yes | C | | 1 | 1 | 5 | 1 | | | | | |
| 6 | 1607.7.1.1 (3) | Yes | C | | 1 | 1 | 6 | 1 | | | | | |

Member Primary Data

| | Label | I Joint | J Joint | K Joint | Rotate(deg) | Section/Shape | Type | Design List | Material | Design Rules |
|----|-------|---------|---------|---------|-------------|---------------|--------|-------------|-----------|--------------|
| 1 | M1 | N1 | N2 | | 90 | EPOST | Column | Tube | SS316 | Typical |
| 2 | M2 | N3 | N4 | | 90 | IPOST | Column | Tube | SS316 | Typical |
| 3 | M3 | N2 | N4 | | 90 | RAIL | Beam | Tube | SS316 | Typical |
| 4 | M4 | N4 | N8 | | 90 | RAIL | Beam | Tube | SS316 | Typical |
| 5 | M5 | N5 | N6 | | 90 | EPOST | Column | Tube | SS316 | Typical |
| 6 | M6 | N7 | N8 | | 90 | IPOST | Column | Tube | SS316 | Typical |
| 7 | M7 | N8 | N6 | | 90 | RAIL | Beam | Tube | SS316 | Typical |
| 8 | M8 | N9 | N10 | | 90 | EPOST | Column | Tube | SS316 | Typical |
| 9 | M9 | N11 | N12 | | 90 | EPOST | Column | Tube | SS316 | Typical |
| 10 | M10 | N13 | N15 | | | LINK | Beam | None | GEN_RIGID | Default |
| 11 | M11 | N16 | N14 | | | LINK | Beam | None | GEN_RIGID | Default |
| 12 | M12 | N1 | N17 | | | LINK | Beam | None | GEN_RIGID | Default |
| 13 | M13 | N11 | N18 | | | LINK | Beam | None | GEN_RIGID | Default |
| 14 | M14 | N17 | N9 | | | LINK | Beam | None | GEN_RIGID | Default |
| 15 | M15 | N18 | N5 | | | LINK | Beam | None | GEN_RIGID | Default |
| 16 | M16 | N19 | N20 | | 90 | RAIL | Beam | Tube | SS316 | Typical |
| 17 | M17 | N20 | N22 | | 90 | RAIL | Beam | Tube | SS316 | Typical |
| 18 | M18 | N22 | N21 | | 90 | RAIL | Beam | Tube | SS316 | Typical |
| 19 | M19 | N23 | N25 | | | LINK | Beam | None | GEN_RIGID | Default |
| 20 | M20 | N26 | N24 | | | LINK | Beam | None | GEN_RIGID | Default |
| 21 | M21 | N27 | N29 | | | LINK | Beam | None | GEN_RIGID | Default |
| 22 | M22 | N30 | N28 | | | LINK | Beam | None | GEN_RIGID | Default |
| 23 | M23 | N31 | N33 | | | LINK | Beam | None | GEN_RIGID | Default |
| 24 | M24 | N34 | N32 | | | LINK | Beam | None | GEN_RIGID | Default |
| 25 | M25 | N35 | N37 | | | LINK | Beam | None | GEN_RIGID | Default |
| 26 | M26 | N38 | N36 | | | LINK | Beam | None | GEN_RIGID | Default |
| 27 | M27 | N39 | N41 | | | LINK | Beam | None | GEN_RIGID | Default |
| 28 | M28 | N42 | N40 | | | LINK | Beam | None | GEN_RIGID | Default |
| 29 | M29 | N43 | N45 | | | LINK | Beam | None | GEN_RIGID | Default |
| 30 | M30 | N46 | N44 | | | LINK | Beam | None | GEN_RIGID | Default |
| 31 | M31 | N47 | N49 | | | LINK | Beam | None | GEN_RIGID | Default |

Member Primary Data (Continued)

| | Label | I Joint | J Joint | K Joint | Rotate(deg) | Section/Shape | Type | Design List | Material | Design Rules |
|----|-------|---------|---------|---------|-------------|---------------|------|-------------|-----------|--------------|
| 32 | M32 | N50 | N48 | | | LINK | Beam | None | GEN_RIGID | Default |
| 33 | M33 | N51 | N53 | | | LINK | Beam | None | GEN_RIGID | Default |
| 34 | M34 | N54 | N52 | | | LINK | Beam | None | GEN_RIGID | Default |
| 35 | M35 | N55 | N57 | | | LINK | Beam | None | GEN_RIGID | Default |
| 36 | M36 | N58 | N56 | | | LINK | Beam | None | GEN_RIGID | Default |
| 37 | M37 | N63 | N65 | | | LINK | Beam | None | GEN_RIGID | Default |
| 38 | M38 | N66 | N64 | | | LINK | Beam | None | GEN_RIGID | Default |

Envelope Joint Reactions

| Joint | X [lb] | LC | Y [lb] | LC | Z [lb] | LC | MX [k-ft] | LC | MY [k-ft] | LC | MZ [k-ft] | LC |
|-------|---------|-----|-----------|----|---------|----|-----------|----|-----------|----|-----------|----|
| 1 | N3 | max | -240.53 | 1 | 109.989 | 6 | 0 | 1 | 0 | 1 | 0 | 1 |
| 2 | | min | -276.941 | 6 | -4.552 | 2 | -171.147 | 3 | -.535 | 3 | 0 | 1 |
| 3 | N7 | max | 276.907 | 6 | 109.997 | 6 | 0 | 1 | 0 | 1 | 0 | 1 |
| 4 | | min | 240.53 | 1 | -4.552 | 2 | -171.147 | 3 | -.535 | 3 | 0 | 1 |
| 5 | N17 | max | 1212.888 | 2 | 4.552 | 2 | 0 | 1 | 0 | 1 | 0 | 1 |
| 6 | | min | 1093.721 | 1 | -9.992 | 6 | -91.353 | 3 | -.43 | 3 | 0 | 1 |
| 7 | N18 | max | -1093.721 | 1 | 4.552 | 2 | 9.615 | 4 | .002 | 2 | 0 | 1 |
| 8 | | min | -1212.888 | 2 | -9.995 | 6 | -91.353 | 3 | -.43 | 3 | 0 | 1 |
| 9 | Totals: | max | 0 | 6 | 200 | 6 | 0 | 1 | | | | |
| 10 | | min | 0 | 2 | 0 | 4 | -525 | 3 | | | | |

Envelope Member Section Forces

| Member | Sec | Axial[lb] | LC | y Shear[lb] | LC | z Shear[lb] | LC | Torque[k-ft] | LC | y-y Moment[...] | LC | z-z Moment[...] | LC |
|--------|-----|-----------|-----|-------------|----|-------------|----|--------------|----|-----------------|----|-----------------|----|
| 1 | M1 | 1 | max | -804.217 | 1 | 0 | 1 | -42.853 | 2 | .008 | 3 | .023 | 1 |
| 2 | | | min | -912.683 | 2 | -43.238 | 3 | -51.43 | 1 | 0 | 1 | .022 | 2 |
| 3 | | 2 | max | 1514.22 | 2 | 26.839 | 5 | -905.948 | 1 | .012 | 3 | -.114 | 1 |
| 4 | | | min | 1453.632 | 6 | -12.952 | 2 | -983.801 | 2 | 0 | 1 | -.122 | 2 |
| 5 | | 3 | max | 6959.566 | 2 | 18.889 | 5 | -139.407 | 1 | .014 | 3 | -.106 | 1 |
| 6 | | | min | 6256.074 | 1 | -27.52 | 3 | -174.25 | 2 | 0 | 2 | -.117 | 2 |
| 7 | | 4 | max | 5969.043 | 2 | 18.45 | 5 | 431.919 | 2 | .014 | 3 | -.071 | 4 |
| 8 | | | min | 5395.755 | 1 | -28.108 | 3 | 359.676 | 6 | 0 | 2 | -.077 | 2 |
| 9 | | 5 | max | 518.394 | 6 | 13.125 | 5 | 819.137 | 2 | .014 | 3 | .088 | 2 |
| 10 | | | min | 477.167 | 4 | -20.203 | 3 | 760.054 | 4 | 0 | 2 | .08 | 6 |
| 11 | M2 | 1 | max | 109.989 | 6 | 0 | 1 | -240.53 | 1 | 0 | 1 | 0 | 1 |
| 12 | | | min | -4.552 | 2 | -171.147 | 3 | -277.04 | 6 | 0 | 1 | 0 | 1 |
| 13 | | 2 | max | 61.476 | 6 | 0 | 1 | 33.112 | 6 | .012 | 5 | -.011 | 1 |
| 14 | | | min | -58.264 | 2 | -156.748 | 3 | 16.651 | 1 | 0 | 2 | -.018 | 6 |
| 15 | | 3 | max | 61.476 | 6 | 0 | 1 | 33.122 | 6 | .012 | 5 | .011 | 6 |
| 16 | | | min | -58.264 | 2 | -156.748 | 3 | 16.651 | 1 | 0 | 2 | .004 | 1 |
| 17 | | 4 | max | 61.476 | 6 | 2.854 | 2 | 32.99 | 6 | .012 | 5 | .04 | 6 |
| 18 | | | min | -58.264 | 2 | -156.748 | 3 | 16.651 | 1 | 0 | 2 | .018 | 1 |
| 19 | | 5 | max | 61.476 | 6 | 2.854 | 2 | 32.99 | 6 | .012 | 5 | .069 | 6 |
| 20 | | | min | -58.264 | 2 | -156.748 | 3 | 16.651 | 1 | 0 | 2 | .033 | 1 |
| 21 | M3 | 1 | max | 814.845 | 2 | 12.005 | 5 | -472.449 | 4 | 0 | 2 | .088 | 2 |
| 22 | | | min | 756.384 | 4 | -19.985 | 3 | -513.596 | 6 | -.013 | 3 | .08 | 6 |
| 23 | | 2 | max | 1809.838 | 2 | 0 | 1 | -38.795 | 6 | 0 | 2 | .103 | 2 |
| 24 | | | min | 1670.707 | 6 | -65.45 | 3 | -58.571 | 2 | -.019 | 3 | .09 | 6 |
| 25 | | 3 | max | 1809.838 | 2 | 0 | 1 | -38.795 | 6 | 0 | 2 | .056 | 6 |
| 26 | | | min | 1670.707 | 6 | -54.058 | 4 | -58.571 | 2 | -.019 | 3 | .047 | 1 |
| 27 | | 4 | max | 1809.838 | 2 | 22.05 | 3 | -38.795 | 6 | 0 | 2 | .022 | 6 |

Envelope Member Section Forces (Continued)

| Member | Sec | | Axial[lb] | LC | y Shear[lb] | LC | z Shear[lb] | LC | Torque[k-ft] | LC | y-y Moment[...] | LC | z-z Moment[...] | LC | |
|--------|-----|-----|-----------|----------|-------------|--------|-------------|---------|--------------|------|-----------------|-------|-----------------|------|---|
| 28 | | min | 1670.707 | 6 | -54.058 | 4 | -58.571 | 2 | -.019 | 3 | 0 | 1 | 0 | 1 | |
| 29 | 5 | max | 1809.838 | 2 | 65.8 | 3 | -38.795 | 6 | 0 | 2 | -.012 | 6 | .158 | 4 | |
| 30 | | min | 1670.707 | 6 | -54.058 | 4 | -58.571 | 2 | -.019 | 3 | -.051 | 2 | 0 | 1 | |
| 31 | M4 | 1 | max | 1828.086 | 2 | 52.03 | 4 | 0 | .011 | 4 | .057 | 6 | .157 | 4 | |
| 32 | | min | 1693.44 | 4 | -100 | 5 | -99.994 | 6 | 0 | 1 | -.015 | 2 | 0 | 1 | |
| 33 | 2 | max | 1828.086 | 2 | 52.03 | 4 | 0 | 1 | .011 | 4 | -.013 | 1 | .118 | 5 | |
| 34 | | min | 1693.44 | 4 | -100 | 5 | -99.994 | 6 | 0 | 1 | -.031 | 6 | 0 | 1 | |
| 35 | 3 | max | 1828.086 | 2 | 100 | 5 | 100.006 | 6 | .011 | 4 | -.013 | 1 | .205 | 5 | |
| 36 | | min | 1693.44 | 4 | 0 | 1 | 0 | 1 | 0 | 1 | -.118 | 6 | 0 | 1 | |
| 37 | 4 | max | 1828.086 | 2 | 100 | 5 | 100.006 | 6 | .011 | 4 | -.013 | 1 | .118 | 5 | |
| 38 | | min | 1693.44 | 4 | 0 | 1 | 0 | 1 | 0 | 1 | -.031 | 6 | -.002 | 2 | |
| 39 | 5 | max | 1828.086 | 2 | 100 | 5 | 100.006 | 6 | .011 | 4 | .057 | 6 | .03 | 5 | |
| 40 | | min | 1693.44 | 4 | 0 | 1 | 0 | 1 | 0 | 1 | -.015 | 2 | -.026 | 4 | |
| 41 | M5 | 1 | max | -804.217 | 1 | 4.225 | 4 | 51.43 | 1 | 0 | 1 | -.022 | 2 | .001 | 2 |
| 42 | | min | -912.683 | 2 | -43.238 | 3 | 42.853 | 2 | -.008 | 3 | -.023 | 1 | -.211 | 3 | |
| 43 | 2 | max | 1514.22 | 2 | 26.839 | 5 | 983.801 | 2 | 0 | 1 | .122 | 2 | 0 | 2 | |
| 44 | | min | 1453.632 | 6 | -7.224 | 3 | 905.948 | 1 | -.012 | 3 | .114 | 1 | -.174 | 3 | |
| 45 | 3 | max | 6959.566 | 2 | 21.246 | 4 | 174.25 | 2 | 0 | 1 | .117 | 2 | 0 | 2 | |
| 46 | | min | 6256.074 | 1 | -27.52 | 3 | 139.407 | 1 | -.014 | 3 | .106 | 1 | -.117 | 3 | |
| 47 | 4 | max | 5969.043 | 2 | 20.911 | 4 | -359.676 | 6 | 0 | 1 | .077 | 2 | 0 | 1 | |
| 48 | | min | 5395.755 | 1 | -28.108 | 3 | -431.919 | 2 | -.014 | 3 | .071 | 4 | -.063 | 3 | |
| 49 | 5 | max | 518.393 | 6 | 13.982 | 4 | -760.054 | 4 | 0 | 1 | -.08 | 6 | 0 | 1 | |
| 50 | | min | 477.167 | 4 | -20.203 | 3 | -819.137 | 2 | -.014 | 3 | -.088 | 2 | -.013 | 3 | |
| 51 | M6 | 1 | max | 109.997 | 6 | 0 | 1 | 277.005 | 6 | 0 | 1 | 0 | 1 | 0 | 1 |
| 52 | | min | -4.552 | 2 | -171.147 | 3 | 240.53 | 1 | 0 | 1 | 0 | 1 | -.535 | 3 | |
| 53 | 2 | max | 61.485 | 6 | 0 | 1 | -16.651 | 1 | 0 | 1 | .018 | 6 | 0 | 1 | |
| 54 | | min | -58.264 | 2 | -156.748 | 3 | -33.068 | 6 | -.012 | 4 | .011 | 1 | -.392 | 3 | |
| 55 | 3 | max | 61.485 | 6 | 0 | 1 | -16.651 | 1 | 0 | 1 | -.004 | 1 | 0 | 1 | |
| 56 | | min | -58.264 | 2 | -156.748 | 3 | -33.068 | 6 | -.012 | 4 | -.011 | 6 | -.255 | 3 | |
| 57 | 4 | max | 61.485 | 6 | 0 | 1 | -16.651 | 1 | 0 | 1 | -.018 | 1 | 0 | 1 | |
| 58 | | min | -58.264 | 2 | -156.748 | 3 | -33.068 | 6 | -.012 | 4 | -.04 | 6 | -.118 | 3 | |
| 59 | 5 | max | 61.485 | 6 | 0 | 1 | -16.651 | 1 | 0 | 1 | -.033 | 1 | .019 | 3 | |
| 60 | | min | -58.264 | 2 | -156.748 | 3 | -33.068 | 6 | -.012 | 4 | -.069 | 6 | 0 | 1 | |
| 61 | M7 | 1 | max | 1809.838 | 2 | 20.023 | 5 | 58.571 | 2 | .019 | 3 | -.012 | 6 | .042 | 5 |
| 62 | | min | 1670.708 | 6 | -65.8 | 3 | 38.799 | 6 | 0 | 1 | -.051 | 2 | -.013 | 4 | |
| 63 | 2 | max | 1809.838 | 2 | 20.023 | 5 | 58.571 | 2 | .019 | 3 | .022 | 6 | .07 | 3 | |
| 64 | | min | 1670.708 | 6 | -22.05 | 3 | 38.799 | 6 | 0 | 1 | 0 | 1 | -.015 | 4 | |
| 65 | 3 | max | 1809.838 | 2 | 21.7 | 3 | 58.571 | 2 | .019 | 3 | .056 | 6 | .07 | 3 | |
| 66 | | min | 1670.708 | 6 | -.55 | 2 | 38.799 | 6 | 0 | 1 | .047 | 1 | -.016 | 4 | |
| 67 | 4 | max | 1809.838 | 2 | 65.45 | 3 | 58.571 | 2 | .019 | 3 | .103 | 2 | .032 | 3 | |
| 68 | | min | 1670.708 | 6 | -.55 | 2 | 38.799 | 6 | 0 | 1 | .09 | 6 | -.017 | 4 | |
| 69 | 5 | max | 814.845 | 2 | 19.985 | 3 | 513.595 | 6 | .013 | 3 | .088 | 2 | 0 | 1 | |
| 70 | | min | 756.384 | 4 | -12.948 | 4 | 472.449 | 4 | 0 | 1 | .08 | 6 | -.014 | 3 | |
| 71 | M8 | 1 | max | 917.235 | 2 | 0 | 1 | 1252.95 | 2 | 0 | 1 | -.158 | 1 | 0 | 1 |
| 72 | | min | 807.814 | 1 | -49.265 | 3 | 1142.886 | 1 | -.008 | 3 | -.175 | 2 | -.219 | 3 | |
| 73 | 2 | max | -1411.318 | 4 | 0 | 1 | -676.278 | 1 | .015 | 3 | -.125 | 1 | 0 | 1 | |
| 74 | | min | -1455.956 | 2 | -101.994 | 3 | -734.582 | 2 | 0 | 1 | -.134 | 2 | -.168 | 3 | |
| 75 | 3 | max | -6203.001 | 1 | 0 | 1 | -139.404 | 1 | .014 | 3 | -.106 | 1 | 0 | 1 | |
| 76 | | min | -6901.302 | 2 | -101.507 | 3 | -174.259 | 2 | 0 | 2 | -.117 | 2 | -.119 | 3 | |
| 77 | 4 | max | -5342.683 | 1 | 1.259 | 2 | 431.821 | 2 | .014 | 3 | -.071 | 4 | 0 | 1 | |
| 78 | | min | -5910.779 | 2 | -101.086 | 3 | 359.668 | 6 | 0 | 2 | -.077 | 2 | -.059 | 3 | |
| 79 | 5 | max | -424.094 | 4 | 1.251 | 2 | 994.993 | 2 | .015 | 3 | .14 | 2 | 0 | 2 | |
| 80 | | min | -479.877 | 6 | -87.757 | 3 | 909.541 | 6 | 0 | 2 | .123 | 6 | -.007 | 5 | |

Envelope Member Section Forces (Continued)

| | Member | Sec | | Axial[lb] | LC | y Shear[lb] | LC | z Shear[lb] | LC | Torque[k-ft] | LC | y-y Moment[...] | LC | z-z Moment[...] | LC |
|-----|--------|-----|-----|-----------|----|-------------|----|-------------|----|--------------|----|-----------------|----|-----------------|----|
| 81 | M9 | 1 | max | 917.235 | 2 | 5.349 | 4 | -1142.886 | 1 | .008 | 3 | .175 | 2 | 0 | 2 |
| 82 | | | min | 807.814 | 1 | -49.265 | 3 | -1252.95 | 2 | 0 | 1 | .158 | 1 | -219 | 3 |
| 83 | | 2 | max | -1411.318 | 4 | 0 | 1 | 734.582 | 2 | 0 | 1 | .134 | 2 | 0 | 2 |
| 84 | | | min | -1455.956 | 2 | -101.994 | 3 | 676.278 | 1 | -.015 | 3 | .125 | 1 | -.168 | 3 |
| 85 | | 3 | max | -6203.001 | 1 | 0 | 1 | 174.259 | 2 | 0 | 1 | .117 | 2 | 0 | 2 |
| 86 | | | min | -6901.302 | 2 | -101.507 | 3 | 139.404 | 1 | -.014 | 3 | .106 | 1 | -.119 | 3 |
| 87 | | 4 | max | -5342.683 | 1 | 0 | 1 | -359.668 | 6 | 0 | 1 | .077 | 2 | 0 | 1 |
| 88 | | | min | -5910.779 | 2 | -101.086 | 3 | -431.821 | 2 | -.014 | 3 | .071 | 4 | -.059 | 3 |
| 89 | | 5 | max | -424.094 | 4 | 0 | 1 | -909.542 | 6 | 0 | 1 | -.123 | 6 | 0 | 1 |
| 90 | | | min | -479.872 | 6 | -87.757 | 3 | -994.993 | 2 | -.015 | 3 | -.14 | 2 | -.007 | 5 |
| 91 | M16 | 1 | max | 3246.05 | 2 | 14.611 | 3 | 54.129 | 2 | .001 | 3 | -.107 | 6 | .034 | 3 |
| 92 | | | min | 2991.931 | 1 | 0 | 1 | 48.861 | 6 | -.003 | 5 | -.117 | 2 | 0 | 1 |
| 93 | | 2 | max | 3246.05 | 2 | 14.611 | 3 | 54.129 | 2 | .001 | 3 | -.066 | 6 | .022 | 3 |
| 94 | | | min | 2991.931 | 1 | 0 | 1 | 48.861 | 6 | -.003 | 5 | -.072 | 2 | 0 | 1 |
| 95 | | 3 | max | 3246.05 | 2 | 14.611 | 3 | 54.129 | 2 | .001 | 3 | -.025 | 1 | .01 | 3 |
| 96 | | | min | 2991.931 | 1 | 0 | 1 | 48.861 | 6 | -.003 | 5 | -.027 | 2 | 0 | 1 |
| 97 | | 4 | max | 3246.05 | 2 | 14.611 | 3 | 54.129 | 2 | .001 | 3 | .018 | 2 | 0 | 4 |
| 98 | | | min | 2991.931 | 1 | 0 | 1 | 48.861 | 6 | -.003 | 5 | .015 | 6 | -.002 | 5 |
| 99 | | 5 | max | 3246.05 | 2 | 14.611 | 3 | 54.129 | 2 | .001 | 3 | .063 | 2 | 0 | 1 |
| 100 | | | min | 2991.931 | 1 | 0 | 1 | 48.861 | 6 | -.003 | 5 | .056 | 6 | -.014 | 3 |
| 101 | M17 | 1 | max | 2966.203 | 2 | 0 | 1 | 0 | 1 | .002 | 4 | 0 | 6 | 0 | 1 |
| 102 | | | min | 2700.797 | 6 | -2.939 | 4 | -.004 | 6 | 0 | 1 | -.002 | 2 | -.007 | 4 |
| 103 | | 2 | max | 2966.203 | 2 | 0 | 1 | 0 | 1 | .002 | 4 | 0 | 6 | 0 | 1 |
| 104 | | | min | 2700.797 | 6 | -2.939 | 4 | -.004 | 6 | 0 | 1 | -.002 | 2 | -.006 | 3 |
| 105 | | 3 | max | 2966.203 | 2 | 0 | 1 | 0 | 1 | .002 | 4 | 0 | 6 | 0 | 1 |
| 106 | | | min | 2700.797 | 6 | -2.939 | 4 | -.004 | 6 | 0 | 1 | -.002 | 2 | -.006 | 3 |
| 107 | | 4 | max | 2966.203 | 2 | 0 | 1 | 0 | 1 | .002 | 4 | 0 | 6 | 0 | 4 |
| 108 | | | min | 2700.797 | 6 | -2.939 | 4 | -.004 | 6 | 0 | 1 | -.002 | 2 | -.006 | 3 |
| 109 | | 5 | max | 2966.203 | 2 | 0 | 1 | 0 | 1 | .002 | 4 | 0 | 6 | .003 | 4 |
| 110 | | | min | 2700.797 | 6 | -2.939 | 4 | -.004 | 6 | 0 | 1 | -.002 | 2 | -.006 | 3 |
| 111 | M18 | 1 | max | 3246.05 | 2 | 0 | 1 | -48.868 | 6 | .003 | 4 | .063 | 2 | 0 | 1 |
| 112 | | | min | 2991.931 | 1 | -14.611 | 3 | -54.129 | 2 | -.001 | 3 | .056 | 6 | -.014 | 3 |
| 113 | | 2 | max | 3246.05 | 2 | 0 | 1 | -48.868 | 6 | .003 | 4 | .018 | 2 | 0 | 1 |
| 114 | | | min | 2991.931 | 1 | -14.611 | 3 | -54.129 | 2 | -.001 | 3 | .015 | 6 | -.002 | 5 |
| 115 | | 3 | max | 3246.05 | 2 | 0 | 1 | -48.868 | 6 | .003 | 4 | -.025 | 1 | .01 | 3 |
| 116 | | | min | 2991.931 | 1 | -14.611 | 3 | -54.129 | 2 | -.001 | 3 | -.027 | 2 | 0 | 1 |
| 117 | | 4 | max | 3246.05 | 2 | 0 | 1 | -48.868 | 6 | .003 | 4 | -.066 | 6 | .022 | 3 |
| 118 | | | min | 2991.931 | 1 | -14.611 | 3 | -54.129 | 2 | -.001 | 3 | -.072 | 2 | 0 | 1 |
| 119 | | 5 | max | 3246.05 | 2 | 0 | 1 | -48.868 | 6 | .003 | 4 | -.107 | 6 | .034 | 3 |
| 120 | | | min | 2991.931 | 1 | -14.611 | 3 | -54.129 | 2 | -.001 | 3 | -.117 | 2 | 0 | 1 |

Envelope AISC 13th ASD Steel Code Checks

| | Member | Shape | Code Check | Loc[in] | LC | Shear ... | Loc[in] | Dir | LC | Pnc/om [lb] | Pnt/om [lb] | Mnyy/om [k-ft] | Mnzz/om... Cb | Eqn |
|---|--------|---------|------------|---------|----|-----------|---------|-----|----|-------------|-------------|----------------|---------------|------------|
| 1 | M1 | TU3x1x2 | .942 | 22.75 | 2 | .594 | 7.875 | z | 2 | 9977.739 | 16210.778 | .526 | 1.202 | 2... H1-1a |
| 2 | M2 | TU3x1x2 | .549 | 3.938 | 3 | .167 | 0 | z | 6 | 9977.739 | 16210.778 | .526 | 1.202 | 1... H1-1b |
| 3 | M3 | TU3x1x2 | .365 | 2.188 | 2 | .323 | 0 | z | 3 | 9977.855 | 16210.778 | .526 | 1.202 | 1... H1-1b |
| 4 | M4 | TU3x1x2 | .310 | 21 | 6 | .060 | 21 | z | 6 | 9977.855 | 16210.778 | .526 | 1.202 | 1... H1-1b |
| 5 | M5 | TU3x1x2 | .939 | 22.75 | 2 | .595 | 7.875 | z | 2 | 9977.739 | 16210.778 | .526 | 1.202 | 2... H1-1a |
| 6 | M6 | TU3x1x2 | .549 | 3.938 | 3 | .167 | 0 | z | 6 | 9977.739 | 16210.778 | .526 | 1.202 | 1... H1-1b |
| 7 | M7 | TU3x1x2 | .365 | 39.813 | 2 | .323 | 40.25 | z | 3 | 9977.855 | 16210.778 | .526 | 1.202 | 1... H1-1b |
| 8 | M8 | TU3x1x2 | .730 | 4.375 | 3 | 1.207 | 4.375 | z | 2 | 9977.739 | 16210.778 | .526 | 1.202 | 1... H1-1b |

Envelope AISC 13th ASD Steel Code Checks (Continued)

| Member | Shape | Code Check | Loc[in] | LC | Shear ... | Loc[in] | Dir | LC | Pnc/om [lb] | Pnt/om [lb] | Mnyy/om [k-ft] | Mnzz/om... | Cb | Eqn | |
|--------|-------|------------|---------|-------|-----------|---------|-------|----|-------------|-------------|----------------|------------|-------|------|-------|
| 9 | M9 | TU3x1x2 | .730 | 4.375 | 3 | 1.210 | 4.375 | z | 2 | 9977.739 | 16210.778 | .526 | 1.202 | 1... | H1-1b |
| 10 | M16 | TU3x1x2 | .509 | 0 | 2 | .037 | 0 | z | 5 | 10438.36 | 16210.778 | .526 | 1.202 | 2... | H1-1a |
| 11 | M17 | TU3x1x2 | .302 | 0 | 2 | .007 | 0 | z | 4 | 9977.855 | 16210.778 | .526 | 1.202 | 2... | H1-1a |
| 12 | M18 | TU3x1x2 | .510 | 40 | 2 | .037 | 0 | z | 4 | 10438.36 | 16210.778 | .526 | 1.202 | 2... | H1-1a |

***** End of Calculations *****