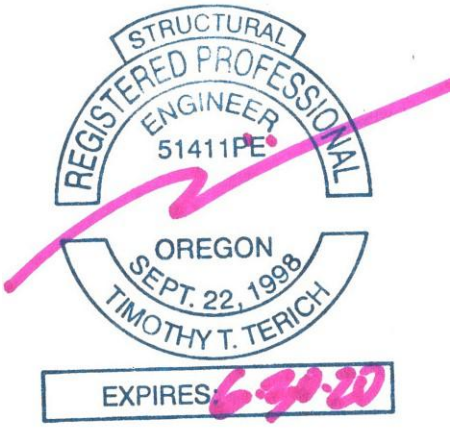
# Structural Calculations
# For
# 18s
# Permit Revision

Portland, Oregon
Sera Architects

November 1, 2019
Job Number – 18-T066

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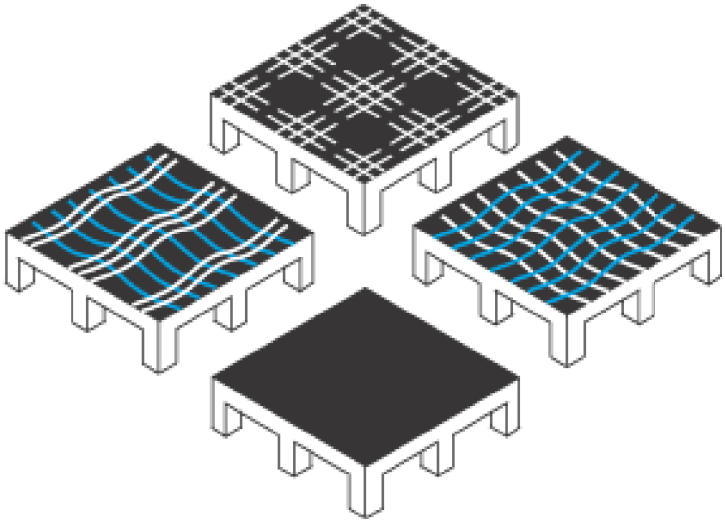
**Client:** SERA
**Project:** 18S
**Project Number:** 18-T066
**Date:** November 1, 2019
**By:** SPD

**Structural Narrative:**

The 1st floor concrete slab on grade and 2nd level PT was modified due to owner changes.

Additional revisions are to keep the permit drawings up today to reflect RFI changes since the permit was issued.



Level 2.19 (VE).cpt
10/31/2019

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# Units

## Geometry Units

Plan Dimensions: feet
Angles: degrees

Slab Thickness: inches
Elevations: inches

Support Dimensions: inches
Support Height: feet

## Loading and Reaction Units

Point Force: Kips
- Report As Zero: 0 Kips

Point Moment: kip-ft
- Report As Zero: 0 kip-ft

Line Force: kips/ft
- Report As Zero: 0 kips/ft

Line Moment: Kips
- Report As Zero: 0 Kips

Area Force: psf
- Report As Zero: 0 psf

Area Moment: #/foot
- Report As Zero: 0 #/foot

## Spring and Stiffness Units

Point Force Spring: kips/in
Point Moment Spring: k-ft/°

Line Force Spring: ksi
Line Moment Spring: k/°

Area Force Spring: pci
Area Moment Spring: k/ft°

## Slab Analysis Units

Force: Kips
- Report As Zero: 0 Kips

Force Per Width: kips/ft
- Report As Zero: 0 kips/ft

Moment: kip-ft
- Report As Zero: 0 kip-ft

Moment Per Width: Kips
- Report As Zero: 0 Kips

Concrete Stress: psi
- Report As Zero: 0 psi

Deflection: inches
- Report As Zero: 0 inches

## Materials Units

Concrete Volume: $yd^3$
Reinforcement Weight: tons
PT Weight: pounds

Reinforcing Area: $in^2$
Tendon Profile: inches
Cover: inches

PT Force: Kips
Reinforcing Stress: ksi

## Miscellaneous Units

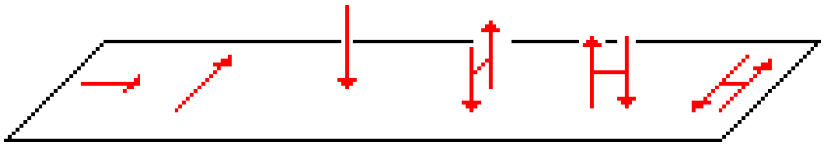
Floor Area: $ft^2$
Tendon Angles (for friction): radians

Density: pcf

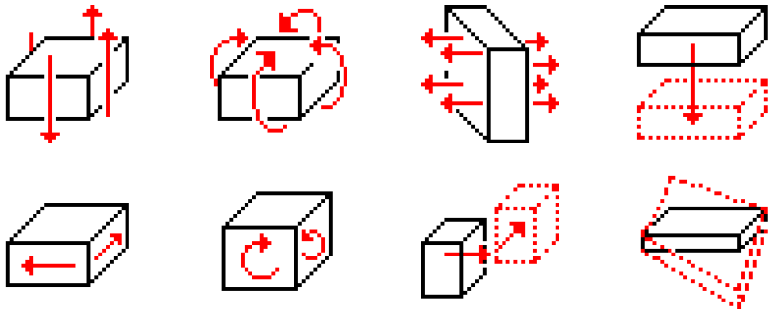
Elongations: inches

# Signs

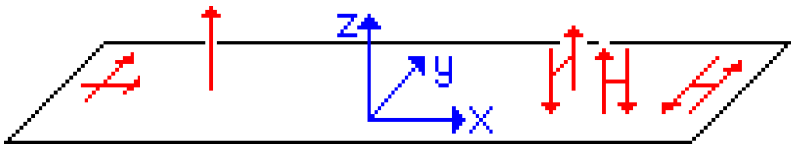
**Positive Loads**



**Positive Analysis**



**Positive Reactions**



# Materials

## Concrete Mix

| Mix Name | Density (pcf) | Density For Loads (pcf) | f'ci (psi) | f'c (psi) | fcui (psi) | fcu (psi) | Poissons Ratio | Ec Calc | User Eci (psi) | User Ec (psi) |
|---|---|---|---|---|---|---|---|---|---|---|
| 3000 psi | 150 | 150 | 3000 | 3000 | 3725 | 3725 | 0.2 | Code | 2500000 | 3000000 |
| 4000 psi | 150 | 150 | 3000 | 4000 | 3725 | 4975 | 0.2 | Code | 2500000 | 3000000 |
| 5000 psi | 150 | 150 | 3000 | 5000 | 3725 | 6399 | 0.2 | Code | 2500000 | 3000000 |
| 6000 psi | 150 | 150 | 3000 | 6000 | 3725 | 7450 | 0.2 | Code | 2500000 | 3000000 |

## PT Systems

| System Name | Type | Aps (in²) | Eps (ksi) | fse (ksi) | fpy (ksi) | fpu (ksi) | Duct Width (inches) | Strands Per Duct | Min Radius (feet) |
|---|---|---|---|---|---|---|---|---|---|
| ½" Unbonded | unbonded | 0.153 | 28000 | 175 | 243 | 270 | 0.5 | 1 | 6 |
| ½" Bonded | bonded | 0.153 | 28000 | 160 | 243 | 270 | 3 | 4 | 6 |
| 0.6" Unbonded | unbonded | 0.217 | 28000 | 175 | 243 | 270 | 0.6 | 1 | 8 |
| 0.6" Bonded | bonded | 0.217 | 28000 | 160 | 243 | 270 | 4 | 4 | 8 |

## PT Stressing Parameters

| System Name | Jacking Stress (ksi) | Seating Loss (inches) | Anchor Friction | Wobble Friction (1/feet) | Angular Friction (1/radians) | Long-Term Losses (ksi) |
|---|---|---|---|---|---|---|
| ½" Unbonded | 216 | 0.25 | 0 | 0.0014 | 0.07 | 22 |
| ½" Bonded | 216 | 0.25 | 0.02 | 0.001 | 0.2 | 22 |
| 0.6" Unbonded | 216 | 0.25 | 0 | 0.0014 | 0.07 | 22 |
| 0.6" Bonded | 216 | 0.25 | 0.02 | 0.001 | 0.2 | 22 |

## Reinforcing Bars

| Bar Name | As (in²) | Es (ksi) | Fy (ksi) | Coating | Straight Ld/Db | 90 Hook Ld/Db | 180 Hook Ld/Db |
|---|---|---|---|---|---|---|---|
| #3 | 0.11 | 29000 | 60 | None | Code | Code | Code |
| #4 | 0.2 | 29000 | 60 | None | Code | Code | Code |
| #5 | 0.31 | 29000 | 60 | None | Code | Code | Code |
| #6 | 0.44 | 29000 | 60 | None | Code | Code | Code |
| #7 | 0.6 | 29000 | 60 | None | Code | Code | Code |
| #8 | 0.79 | 29000 | 60 | None | Code | Code | Code |
| #9 | 1 | 29000 | 60 | None | Code | Code | Code |
| #10 | 1.27 | 29000 | 60 | None | Code | Code | Code |
| #11 | 1.56 | 29000 | 60 | None | Code | Code | Code |

# Materials (2)

## SSR Systems

| SSR System Name | Stud Area (in²) | Head Area (in²) | Min Clear Head Spacing (inches) | Specified Stud Spacing (inches) | Fy (ksi) | Stud Spacing Rounding Increment (inches) | Min Studs Per Rail | System Type |
|---|---|---|---|---|---|---|---|---|
| 3/8" SSR | 0.11 | 1.11 | 0.5 | None | 50 | 0.25 | 2 | Rail |
| 1/2" SSR | 0.196 | 1.96 | 0.5 | None | 50 | 0.25 | 2 | Rail |
| 5/8" SSR | 0.307 | 3.07 | 0.5 | None | 50 | 0.25 | 2 | Rail |
| 3/4" SSR | 0.442 | 4.42 | 0.5 | None | 50 | 0.25 | 2 | Rail |
| Ancon Shearfix Auto-Size | 0.1217 | 1.096 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 10 mm | 0.1217 | 1.096 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 12 mm | 0.1753 | 1.578 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 14 mm | 0.2386 | 2.147 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 16 mm | 0.3116 | 2.805 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 20 mm | 0.4869 | 4.383 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 24 mm | 0.7012 | 6.311 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |

# Loadings

| *Loading Name* | *Type* | *Analysis* | *On-Pattern Factor* | *Off-Pattern Factor* |
|---|---|---|---|---|
| Self-Dead Loading | Self-Weight | Normal | 1 | 1 |
| Balance Loading | Balance | Normal | 1 | 1 |
| Hyperstatic Loading | Hyperstatic | Hyperstatic | 1 | 1 |
| Temporary Construction (At Stressing) Loading | Stressing Dead | Normal | 1 | 1 |
| Other Dead Loading | Dead | Normal | 1 | 1 |
| Live (Reducible) Loading | Live (Reducible) | Normal | 1 | 0 |
| Live (Unreducible) Loading | Live (Unreducible) | Normal | 1 | 0 |
| Live (Storage) Loading | Live (Storage) | Normal | 1 | 0 |
| Live (Parking) Loading | Live (Parking) | Normal | 1 | 0 |
| Live (Roof) Loading | Live (Roof) | Normal | 1 | 0 |
| Snow Loading | Snow | Normal | 1 | 1 |
| Seismic E/W | Ultimate Seismic 1 (transfer) | Normal | 1 | 0 |
| Seismic N/S | Ultimate Seismic 1 (transfer) | Normal | 1 | 0 |

# Load Combinations

## All Dead LC

Active Design Criteria: <none>
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |

## Dead + Balance LC

Active Design Criteria: <none>
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |

## Initial Service LC

Active Design Criteria: Initial Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1.13 | 1.13 |
| Temporary Construction (At Stressing) Loading | 1 | 1 |

## Service LC: D + L

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Reducible) Loading | 1 | 0 |
| Live (Unreducible) Loading | 1 | 0 |
| Live (Storage) Loading | 1 | 0 |
| Live (Parking) Loading | 1 | 0 |

## Service LC: D + Lr

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Roof) Loading | 1 | 0 |

# Load Combinations (2)

## Service LC: D + S

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Snow Loading | 1 | 0 |

## Service LC: D + 0.75L + 0.75Lr

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Reducible) Loading | 0.75 | 0 |
| Live (Unreducible) Loading | 0.75 | 0 |
| Live (Storage) Loading | 0.75 | 0 |
| Live (Parking) Loading | 0.75 | 0 |
| Live (Roof) Loading | 0.75 | 0 |

## Service LC: D + 0.75L + 0.75S

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Reducible) Loading | 0.75 | 0 |
| Live (Unreducible) Loading | 0.75 | 0 |
| Live (Storage) Loading | 0.75 | 0 |
| Live (Parking) Loading | 0.75 | 0 |
| Snow Loading | 0.75 | 0 |

## Sustained Service LC

Active Design Criteria: Sustained Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Reducible) Loading | 0.5 | 0.5 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Live (Storage) Loading | 1 | 1 |
| Live (Parking) Loading | 0.5 | 0.5 |
| Live (Roof) Loading | 0.5 | 0.5 |

# Load Combinations (3)

## Factored LC: 1.4D

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.4 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.4 | 0.9 |

## Factored LC: 1.2D + 1.6L + 0.5Lr

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.2 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.2 | 0.9 |
| Live (Reducible) Loading | 1.6 | 0 |
| Live (Unreducible) Loading | 1.6 | 0 |
| Live (Storage) Loading | 1.6 | 0 |
| Live (Parking) Loading | 1.6 | 0 |
| Live (Roof) Loading | 0.5 | 0 |

## Factored LC: 1.2D + f1L + 1.6Lr

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.2 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.2 | 0.9 |
| Live (Reducible) Loading | 0.5 | 0 |
| Live (Unreducible) Loading | 1 | 0 |
| Live (Storage) Loading | 1 | 0 |
| Live (Parking) Loading | 1 | 0 |
| Live (Roof) Loading | 1.6 | 0 |

## Factored LC: 1.2D + 1.6L + 0.5S

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.2 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.2 | 0.9 |
| Live (Reducible) Loading | 1.6 | 0 |
| Live (Unreducible) Loading | 1.6 | 0 |
| Live (Storage) Loading | 1.6 | 0 |
| Live (Parking) Loading | 1.6 | 0 |
| Snow Loading | 0.5 | 0 |

# Load Combinations (4)

## Factored LC: 1.2D + f1L + 1.6S

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.2 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.2 | 0.9 |
| Live (Reducible) Loading | 0.5 | 0 |
| Live (Unreducible) Loading | 1 | 0 |
| Live (Storage) Loading | 1 | 0 |
| Live (Parking) Loading | 1 | 0 |
| Snow Loading | 1.6 | 0 |

## Long Term deflection

Active Design Criteria: <none>
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 3.35 | 3.35 |
| Balance Loading | 3.35 | 3.35 |
| Other Dead Loading | 3.35 | 3.35 |
| Live (Unreducible) Loading | 2 | 2 |
| Snow Loading | 1 | 1 |

## Earthquake N-S: (1.2+.2*Sds)D + 2.5E + 0.5L+0.2S

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.344 | 1.344 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.344 | 1.344 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Snow Loading | 0.2 | 0.2 |
| Seismic N/S | 2.5 | 2.5 |

## Earthquake N-S: (0.9-0.2*Sds)D + 2.5E

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.756 | 0.756 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 0.756 | 0.756 |
| Seismic N/S | 2.5 | 2.5 |

# Load Combinations (5)

## Earthquake E-W: (1.2+0.2*Sds)D + 2.5E + 0.5L+0.2S

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.344 | 1.344 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.344 | 1.344 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Snow Loading | 0.2 | 0.2 |
| Seismic E/W | 2.5 | 2.5 |

## Earthquake E-W: (0.9-0.2*Sds)D + 2.5E

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.756 | 0.756 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 0.756 | 0.756 |
| Seismic E/W | 2.5 | 2.5 |

## Earthquake N-S: (1.0+0.14*Sds)D + 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.101 | 1.101 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.101 | 1.101 |
| Seismic N/S | 1.75 | 1.75 |

## Earthquake N-S: (1.0+0.105*Sds)D + 1.3125E + 0.75L + 0.75S

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.076 | 1.076 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.076 | 1.076 |
| Live (Unreducible) Loading | 0.75 | 0.75 |
| Snow Loading | 0.75 | 0.75 |
| Seismic N/S | 1.313 | 1.313 |

# Load Combinations (6)

## Earthquake N-S: (0.6-0.14*Sds)D + 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.499 | 0.499 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 0.899 | 0.899 |
| Seismic N/S | 1.75 | 1.75 |

## Earthquake E-W: (1.0+0.14*Sds)D + 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.101 | 1.101 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.101 | 1.101 |
| Seismic E/W | 1.75 | 1.75 |

## Earthquake E-W: (1.0+0.105*Sds)D + 1.3125E + 0.75L+0.75S

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.076 | 1.076 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.076 | 1.076 |
| Live (Unreducible) Loading | 0.75 | 0.75 |
| Snow Loading | 0.75 | 0.75 |
| Seismic E/W | 1.313 | 1.313 |

## Earthquake N-S: (1.2+0.2*Sds)D - 2.5E + .5L + 0.2S

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.344 | 1.344 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.344 | 1.344 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Snow Loading | 0.2 | 0.2 |
| Seismic N/S | -2.5 | -2.5 |

# Load Combinations (7)

## Earthquake N-S: (0.9-0.2*Sds)D - 2.5E

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.756 | 0.756 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 0.756 | 0.756 |
| Seismic N/S | -2.5 | -2.5 |

## Earthquake E-W: (1.2+0.2*Sds)D - 2.5E + .5L + 0.2S

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.344 | 1.344 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.344 | 1.344 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Snow Loading | 0.2 | 0.2 |
| Seismic E/W | -2.5 | -2.5 |

## Earthquake E-W: (0.9-0.2*Sds)D - 2.5E

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.756 | 0.756 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 0.756 | 0.756 |
| Seismic E/W | -2.5 | -2.5 |

## Earthquake N-S: (1.0+0.14*Sds)D - 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.101 | 1.101 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.101 | 1.101 |
| Seismic N/S | -1.75 | -1.75 |

# Load Combinations (8)

## Earthquake N-S: (1.0+0.105*Sds)D - 1.3125E + 0.75L+.75S

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.076 | 1.076 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.076 | 1.076 |
| Live (Unreducible) Loading | 0.75 | 0.75 |
| Snow Loading | 0.75 | 0.75 |
| Seismic N/S | -1.313 | -1.313 |

## Earthquake N-S: (0.6-0.14*Sds)D - 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.499 | 0.499 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 0.899 | 0.899 |
| Seismic N/S | -1.75 | -1.75 |

## Earthquake E-W: (1.0+0.14*Sds)D - 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.101 | 1.101 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.101 | 1.101 |
| Seismic E/W | -1.75 | -1.75 |

## Earthquake E-W: (0.6-0.14*Sds)D + 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.499 | 0.499 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 0.899 | 0.899 |
| Seismic E/W | 1.75 | 1.75 |

## Earthquake E-W: (0.6-0.14*Sds)D - 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.499 | 0.499 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 0.899 | 0.899 |
| Seismic E/W | -1.75 | -1.75 |

# Load Combinations (9)

## Earthquake E-W: (1.0+0.105*Sds)D - 1.3125E + 0.75L + 0.75S

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.076 | 1.076 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.076 | 1.076 |
| Live (Unreducible) Loading | 0.75 | 0.75 |
| Snow Loading | 0.75 | 0.75 |
| Seismic E/W | -1.313 | -1.313 |

# Design Rules

## Code Minimum Desig

318-11 Min. Reinforcement

## User Minimum Desig

Specified Min. Reinforcement

## Initial Service Desig

318-11 Initial Service Design

## Service Design

318-11 Service Design
Include detailed section analysis

## Sustained Service Design

318-11 Sustained Service Design

## Strength Design

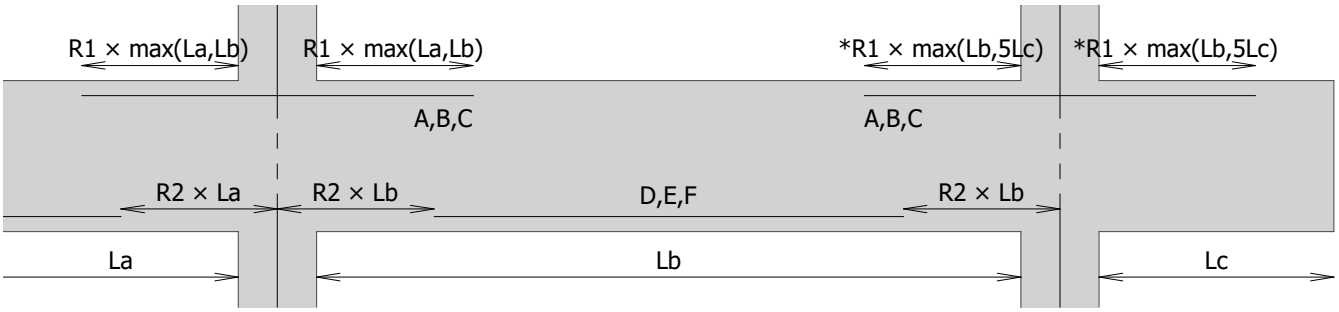
318-11 Strength Design
Punching Shear Design

## Ductility Design

318-11 Ductility Design

# Detailing Rules

## Custom Span Detailing Rules




| *Rule Name* | *A Fraction* | *A R1* | *B Fraction* | *B R1* | *C Fraction* | *C R1* | *D Fraction* | *D R2* | *E Fraction* | *E R2* | *F Fraction* | *F R2* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| None | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

"A", "B" and "C", are support reinforcement sets, based on the peak reinforcement in the support zone.
"D", "E" and "F", are span reinforcement sets, based on the peak reinforcement in the span zone.
"*R1" is never taken as greater than 0.2 when multiplied by Lc (or Lcc).
"Fraction" is the ratio of set reinforcement to peak reinforcement. It is always in the 0.0 to 1.0 range.

# Load History

| *Load History Step Name* | *Load Combination* | *Duration (days)* | *Total Age (days)* |
|---|---|---|---|
| Maximum Short Term Load | Service LC: D + L | 30 | 33 |
| Sustained Load | Sustained Service LC | 5000 | 5033 |
| Final Instantaneous Load | Service LC: D + L | 0 | 5033 |

# Mesh Input: Walls Below Table

| *Number* | *Location feet* | *Mix* | *Fixed Near* | *Fixed Far* | *Comp.* | *Height feet* | *Thickness inches* |
|---|---|---|---|---|---|---|---|
| 1 | (-163.8,-2)(-192.2,-2.005) | 5000 psi | false | false | true | 11.5 | 4 |
| 2 | (-161.7,-94.62)(-161.7,-52.04) | 5000 psi | false | false | true | 11 | 16 |
| 3 | (-158.1,-74.12)(-158.1,-52.01) | 5000 psi | false | false | true | 11 | 16 |
| 4 | (-139.7,-83.12)(-162.3,-53.03) | 5000 psi | false | false | true | 11 | 12 |
| 5 | (-139.7,-94.11)(-162.3,-54.03) | 5000 psi | false | false | true | 11 | 12 |
| 6 | (-136.1,-62.61)(-158.8,-52.07) | 5000 psi | false | false | true | 11 | 12 |
| 7 | (-140.3,-94.58)(-140.3,-52.06) | 5000 psi | false | false | true | 11 | 16 |
| 8 | (-136.8,-74.05)(-136.8,-52.02) | 5000 psi | false | false | true | 11 | 16 |
| 9 | (-56.8,-65.35)(-56.84,-75.24) | 5000 psi | false | false | true | 11 | 16 |
| 10 | (-27.39,-1.995)(-27.39,-5.104) | 5000 psi | false | false | true | 11.5 | 16 |
| 11 | (-0.6634,-1.994)(-28.14,-1.995) | 5000 psi | false | false | true | 11.5 | 4 |

# Mesh Input: Walls Below Table (2)

| ckness<br>nes | Shear Wall | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area<br>ft² | Spec. Infl. Area<br>ft² | Max LLR<br>% |
|---|---|---|---|---|---|---|
| | true | false | 1 | 0 | 0 | 40 |
| | true | false | 1 | 0 | 0 | 40 |
| | true | false | 1 | 0 | 0 | 40 |
| | true | false | 1 | 0 | 0 | 40 |
| | true | false | 1 | 0 | 0 | 40 |
| | true | false | 1 | 0 | 0 | 40 |
| | true | false | 1 | 0 | 0 | 40 |
| | true | false | 1 | 0 | 0 | 40 |
| | true | false | 1 | 0 | 0 | 40 |
| | true | false | 1 | 0 | 0 | 40 |
| | true | false | 1 | 0 | 0 | 40 |

# Mesh Input: Columns Below Table

| *Number* | *Location feet* | *Mix* | *Fixed Near* | *Fixed Far* | *Comp.* | *Height feet* | *B inches* | *D inches* |
|---|---|---|---|---|---|---|---|---|
| 1 | (-200.6,-89.05) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 2 | (-198,-65.18) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 3 | (-195.5,-41.31) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 4 | (-193,-17.44) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 5 | (-181.4,-44.55) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 6 | (-177,-67.39) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 7 | (-176.8,-92.28) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 8 | (-164.9,-47.89) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 9 | (-164.6,-22.53) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 10 | (-145.3,-22.83) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 11 | (-138.3,-51.38) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 12 | (-120.6,-101.9) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 13 | (-118.9,-75.16) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 14 | (-118.4,-52.35) | 5000 psi | true | true | true | 11.5 | 18 | 24 |
| 15 | (-118.3,-22.84) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 16 | (-109.7,-60.83) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 17 | (-99.8,-22.83) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 18 | (-94.99,-75.16) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 19 | (-94.55,-101.9) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 20 | (-87.38,-47.22) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 21 | (-85.98,-66.03) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 22 | (-72.8,-22.83) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 23 | (-71.38,-109.1) | 5000 psi | true | true | true | 11.5 | 18 | 24 |
| 24 | (-70.75,-75.58) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 25 | (-67.92,-66.08) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 26 | (-65.26,-94) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 27 | (-60.2,-44.83) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 28 | (-45.78,-22.84) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 29 | (-41.7,-44.83) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 30 | (-19.85,-17.33) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 31 | (-14.45,-46.55) | 5000 psi | true | true | true | 11.5 | 24 | 18 |
| 32 | (-5.378,-16.83) | 5000 psi | true | true | true | 11.5 | 24 | 18 |

# Mesh Input: Columns Below Table (2)

| *Angle degrees* | *Roller* | *I Factor* | *Use Spec LLR Params* | *Spec. LLR Levels* | *Spec. Trib. Area ft²* | *Spec. Infl. Area ft²* |
|---|---|---|---|---|---|---|
| 84 | false | 1 | false | 1 | 0 | 0 |
| 84 | false | 1 | false | 1 | 0 | 0 |
| 84 | false | 1 | false | 1 | 0 | 0 |
| 84 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| 84 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| 84 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |

# Mesh Input: Columns Below Table (3)

| c. Infl. Area | Max LLR % |
|---|---|
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |

# Mesh Input: Slab Areas Table

| *Number* | *Location feet* | *Mix* | *Thickness inches* | *TOC inches* | *Priority* | *Behavior* | *R-Axis degrees* |
|---|---|---|---|---|---|---|---|
| 1 | (-136.4,-53.48)(-136.4,-49.49)(-140.4,-49.49)(-140.4,-53.48) | 5000 psi | 10 | 0 | 2 | two-way slab | 0 |
| 2 | (-192.6,-1.5)(-163.8,-1.5)(-163.8,-21.83)(-28.14,-21.83)(-28.14,-1.253)(-0.2917,-1.253)(-0.2917,-5.644)(-2.458,-5.644)(-2.458 | 5000 psi | 18 | 0 | 2 | two-way slab | 0 |
| 3 | (-116.5,-54.46)(-116.5,-50.47)(-120.5,-50.47)(-120.5,-54.46) | 5000 psi | 10 | 0 | 2 | two-way slab | 0 |
| 4 | (-76.04,-102.9)(-84.79,-102.9)(-139.7,-88.1)(-139.7,-94.58)(-139.7,-95.23)(-136.5,-102.9)(-130.2,-102.9) | 5000 psi | 18 | 0 | 2 | two-way slab | 0 |
| 5 | (-86.31,-49.22)(-86.31,-45.23)(-90.29,-45.23)(-90.29,-49.22) | 5000 psi | 10 | 0 | 2 | two-way slab | 0 |

# Mesh Input: Slab Areas Table (2)

*xis*
*rees*

| *KMr* | *KMs* | *KMrs* | *KFr* | *KFs* |
|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |

# Mesh Input: Slab Areas Table (3)

| *KVrs* |
|---|
| 1 |
| 1 |
| 1 |
| 1 |
| 1 |

# Mesh Input: Beams Table

| Number | Location feet | Mix | Thickness inches | TOC inches | Priority | Mesh As Slab | Width inches |
|---|---|---|---|---|---|---|---|
| 1 | (-141.7,-82.62)(-141.7,-77.09)(-143.7,-82.62)(-143.7,-77.09)(-139.7,-82.62)(-139.7,-77.09) | 5000 psi | 11 | -3 | 5 | false | 48 |
| 2 | (-139.7,-79.1)(-81.13,-79.1)(-139.7,-77.1)(-81.13,-77.1)(-139.7,-81.1)(-81.13,-81.1) | 5000 psi | 11 | -3 | 5 | false | 48 |
| 3 | (-74.18,-102.2)(-83,-80.21)(-76.04,-102.9)(-84.86,-80.96)(-72.33,-101.5)(-81.15,-79.46) | 5000 psi | 11 | -3 | 5 | false | 48 |
| 4 | (-100.6,-22.83)(-45.03,-22.84)(-100.6,-21.83)(-45.03,-21.84)(-100.6,-23.83)(-45.03,-23.84) | 5000 psi | 28 | 30 | 5 | true | 24 |
| 5 | (-45.05,-22.84)(-28.1,-22.84)(-45.05,-21.84)(-28.1,-21.84)(-45.05,-23.84)(-28.1,-23.84) | 5000 psi | 16 | 18 | 5 | true | 24 |
| 6 | (-14.45,-47.3)(-14.45,-20.01)(-15.45,-47.3)(-15.45,-20.01)(-13.45,-47.3)(-13.45,-20.01) | 5000 psi | 36 | 28 | 3 | false | 24 |
| 7 | (-14.45,-20.01)(-14.45,-16.01)(-15.45,-20.01)(-15.45,-16.01)(-13.45,-20.01)(-13.45,-16.01) | 5000 psi | 36 | 28 | 1 | true | 24 |
| 8 | (-28.14,-18.02)(0,-18)(-28.14,-16.02)(0.001312,-16)(-28.14,-20.02)(0.001312,-20) | 5000 psi | 12 | 0 | 5 | true | 48 |

# Mesh Input: Beams Table (2)

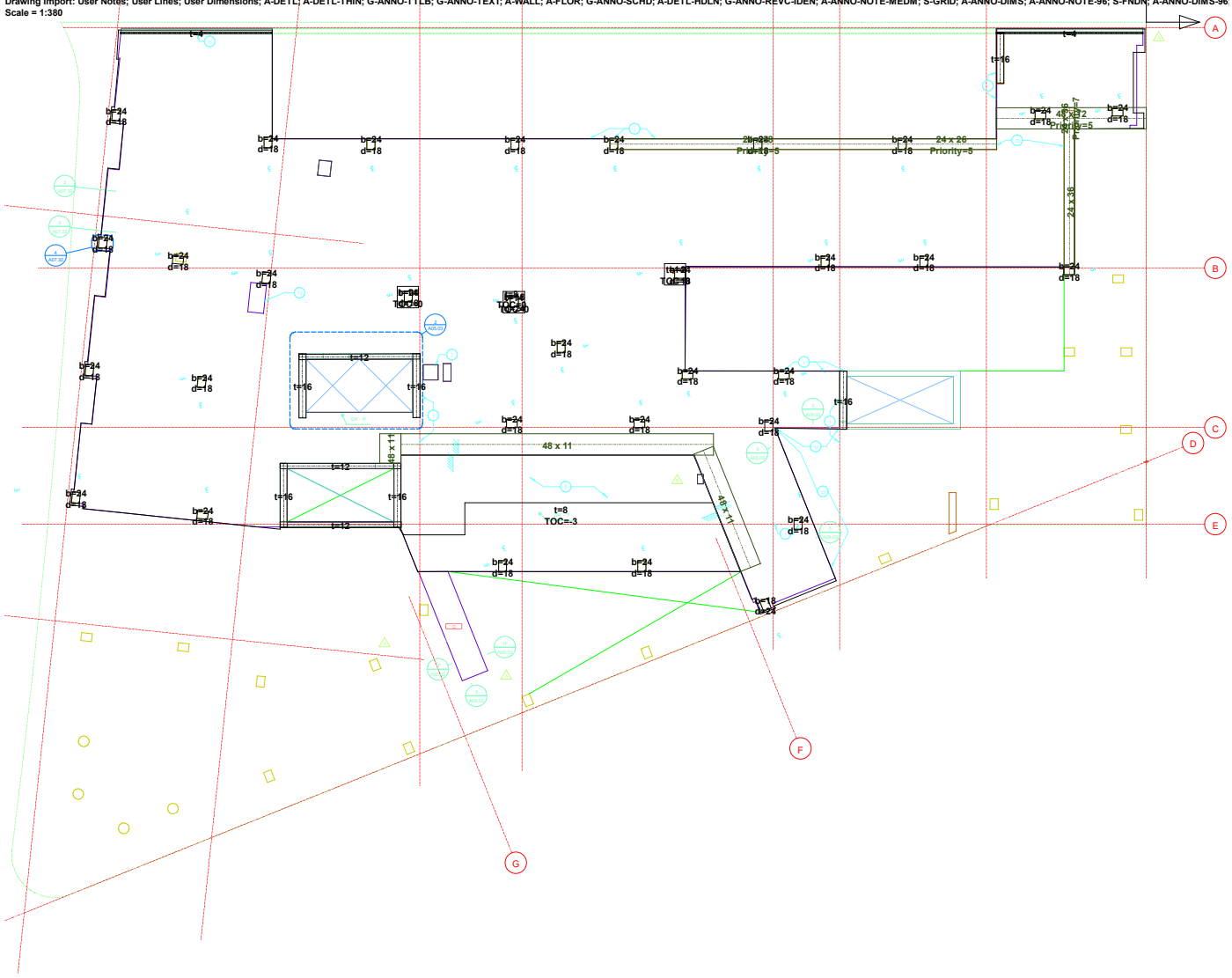
| Width inches | Behavior | KMr | KMs | KMrs | KFr | KFs |
|---|---|---|---|---|---|---|
| 1 | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 |
| 1 | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 |
| 1 | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 |
| 1 | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 |
| 1 | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 |
| 1 | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 |
| 1 | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 |
| 1 | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 |

# Mesh Input: Beams Table (3)

| *KVrs* |
|---|
| 1 |
| 1 |
| 1 |
| 1 |
| 1 |
| 1 |
| 1 |
| 1 |

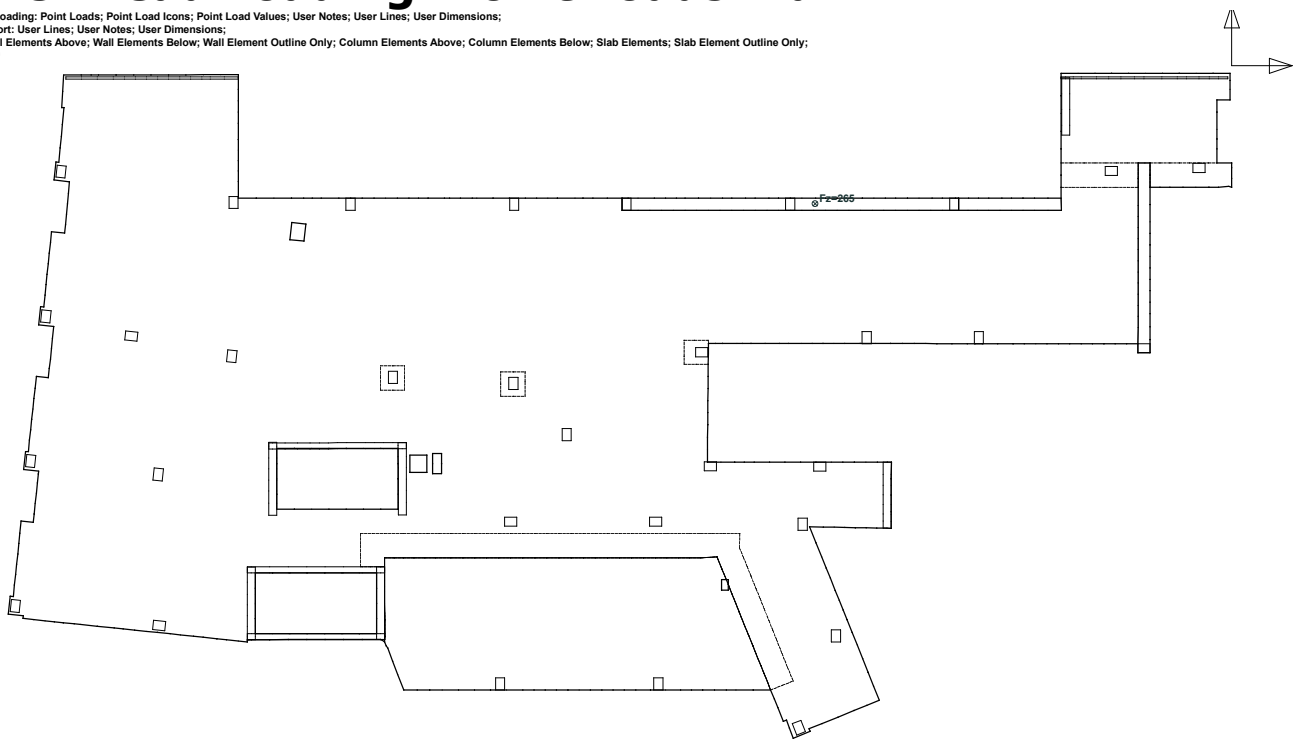
# Mesh Input: Standard Plan

Mesh Input: Beams; Beam Dimensions; Beam Priorities; Slab Areas; Slab AreaT hicknesses; Slab Area Elevations; Slab Openings; Point Supports; Point Support Icons; Line Supports; Line Support Icons; Walls Above; Walls Below; Wall Thicknesses; Columns Above; Columns Bel
Drawing Import: User Notes; User Lines; User Dimensions; A-DETL; A-DETL-THIN; G-ANNO-TTLB; G-ANNO-TEXT; A-WALL; A-FLOR; G-ANNO-SCHD; A-DETL-HDLN; G-ANNO-REVC-IDEN; A-ANNO-NOTE-MEDM; S-GRID; A-ANNO-DIMS; A-ANNO-NOTE-96; S-FNDN; A-ANNO-DIMS-96
Scale = 1:380



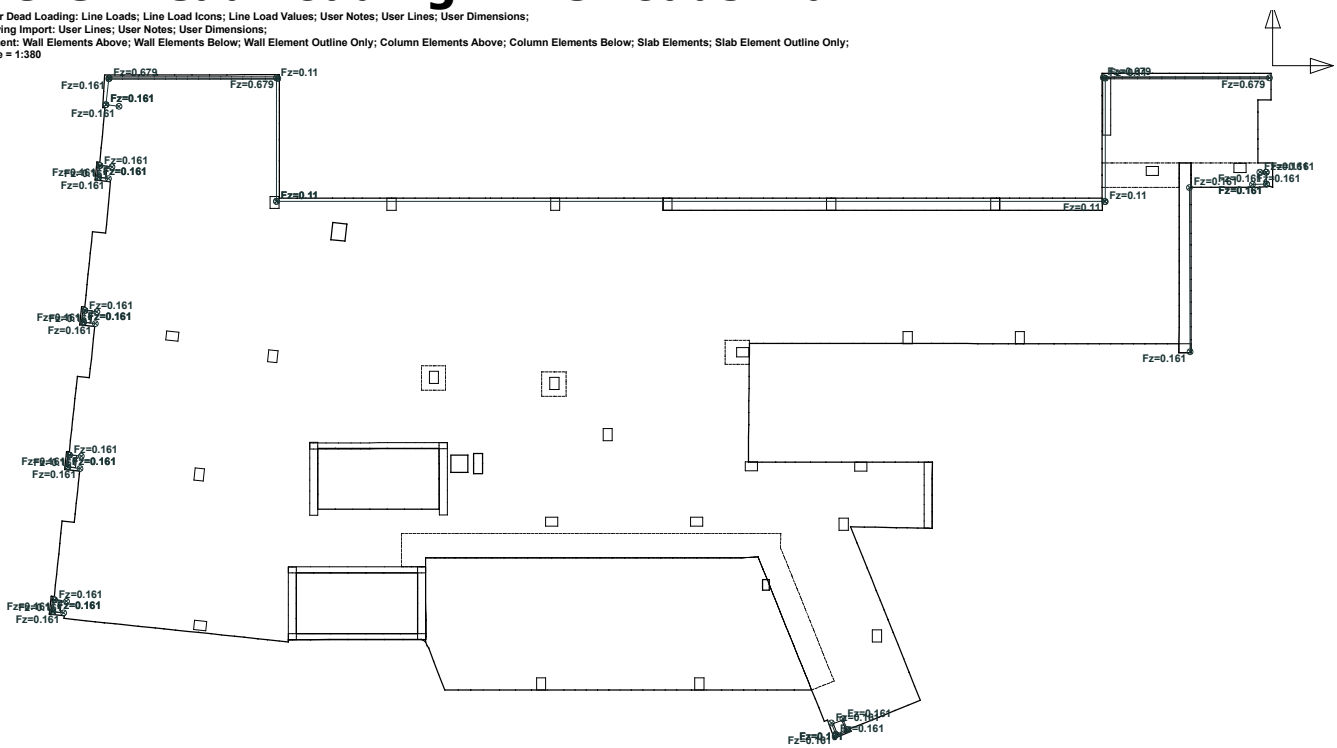
# Other Dead Loading: Point Loads Plan

**Other Dead Loading: Point Loads; Point Load Icons; Point Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



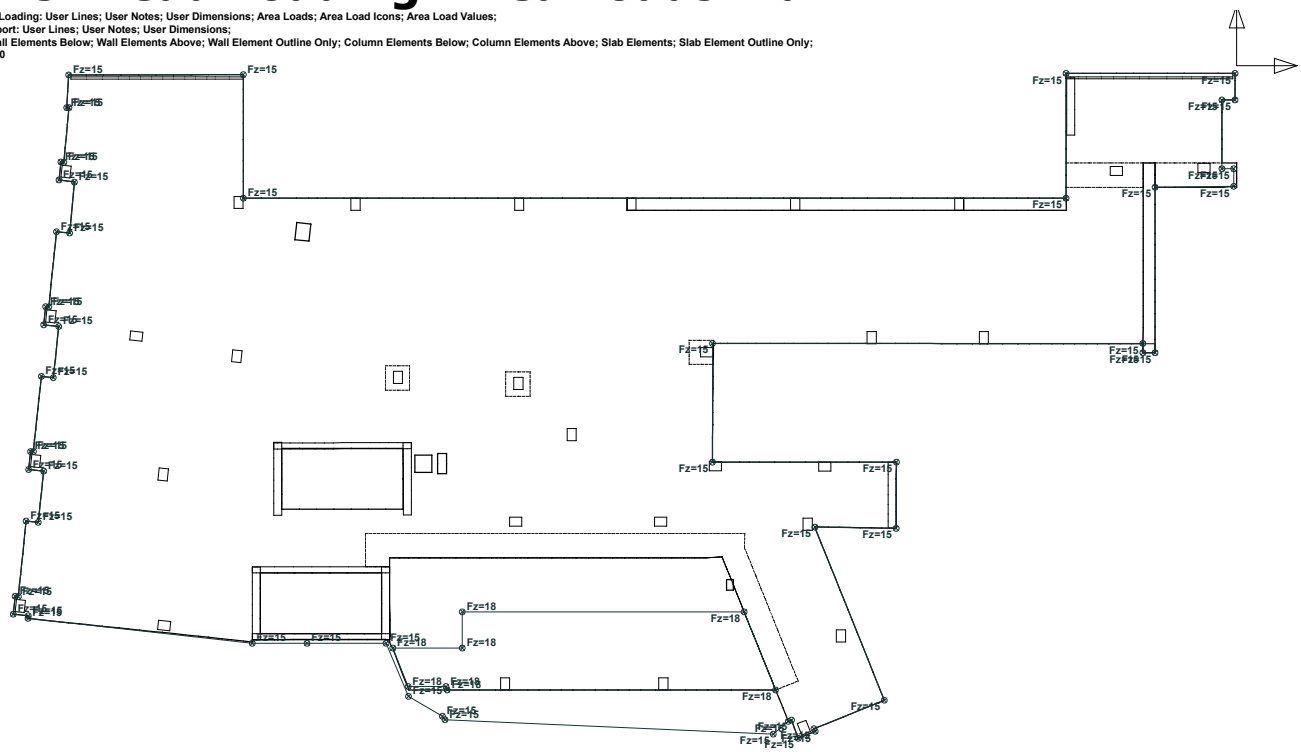
# Other Dead Loading: Line Loads Plan

**Other Dead Loading: Line Loads; Line Load Icons; Line Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



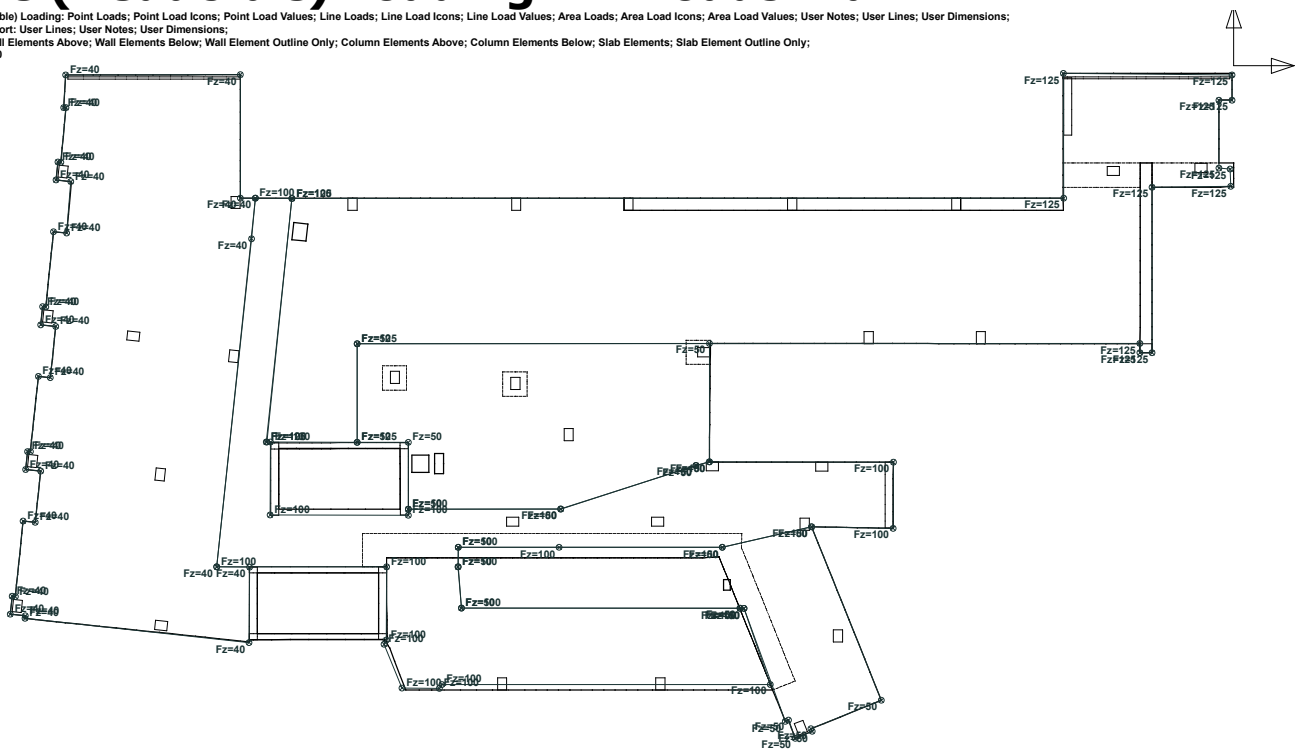
# Other Dead Loading: Area Loads Plan

**Other Dead Loading: User Lines; User Notes; User Dimensions; Area Loads; Area Load Icons; Area Load Values;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



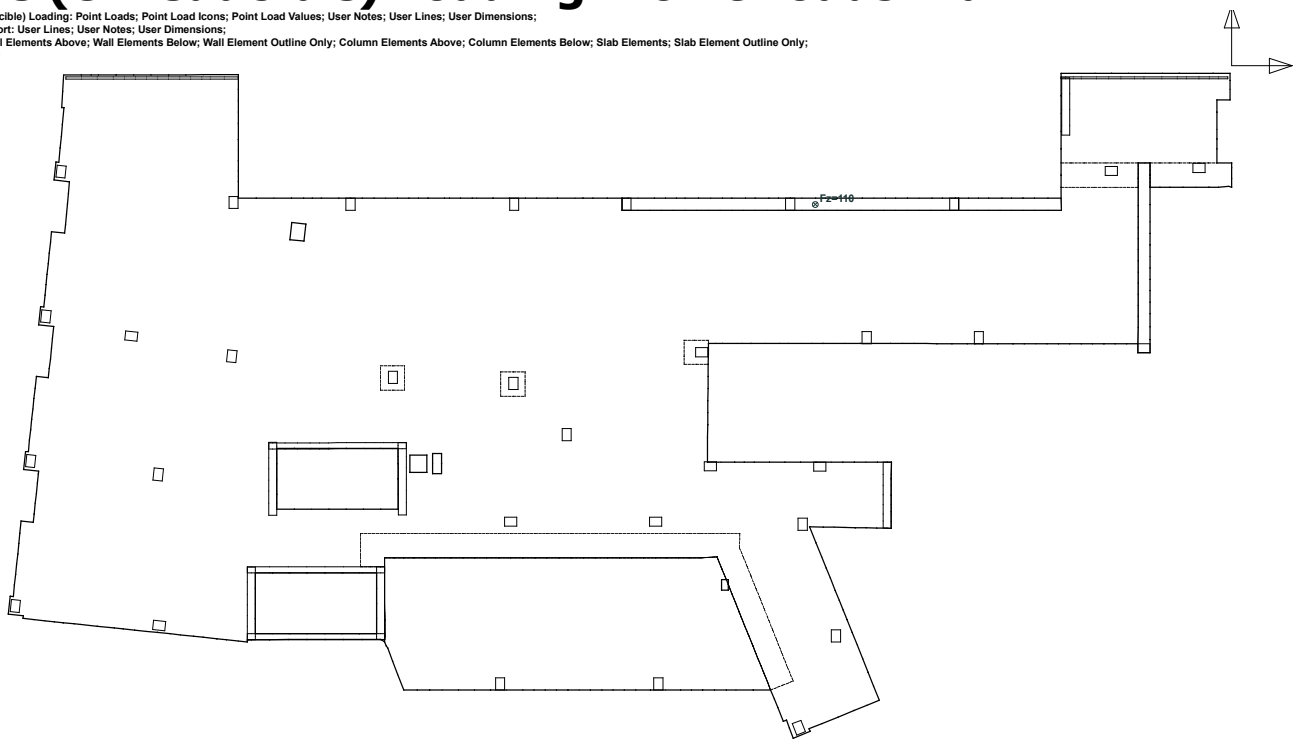
# Live (Reducible) Loading: All Loads Plan

**Live (Reducible) Loading: Point Loads; Point Load Icons; Point Load Values; Line Loads; Line Load Icons; Line Load Values; Area Loads; Area Load Icons; Area Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



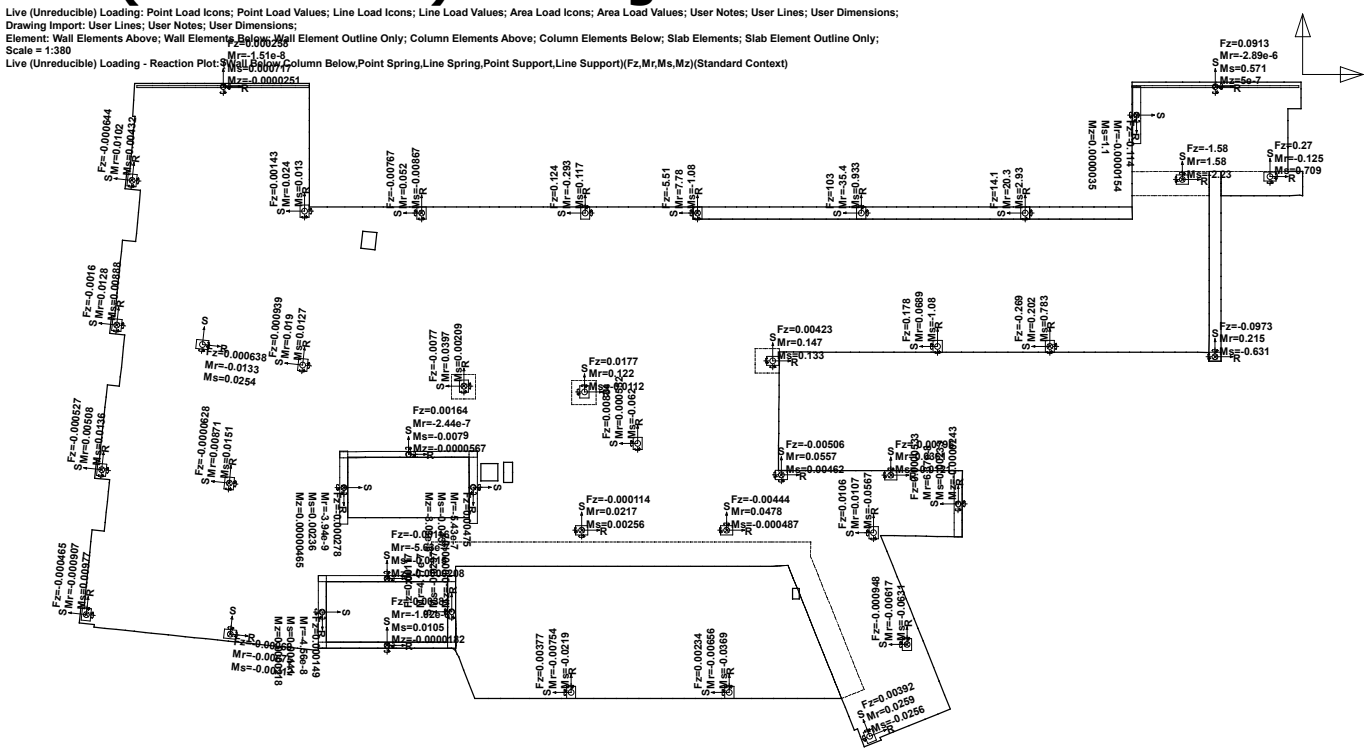
# Live (Unreducible) Loading: Point Loads Plan

**Live (Unreducible) Loading: Point Loads; Point Load Icons; Point Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



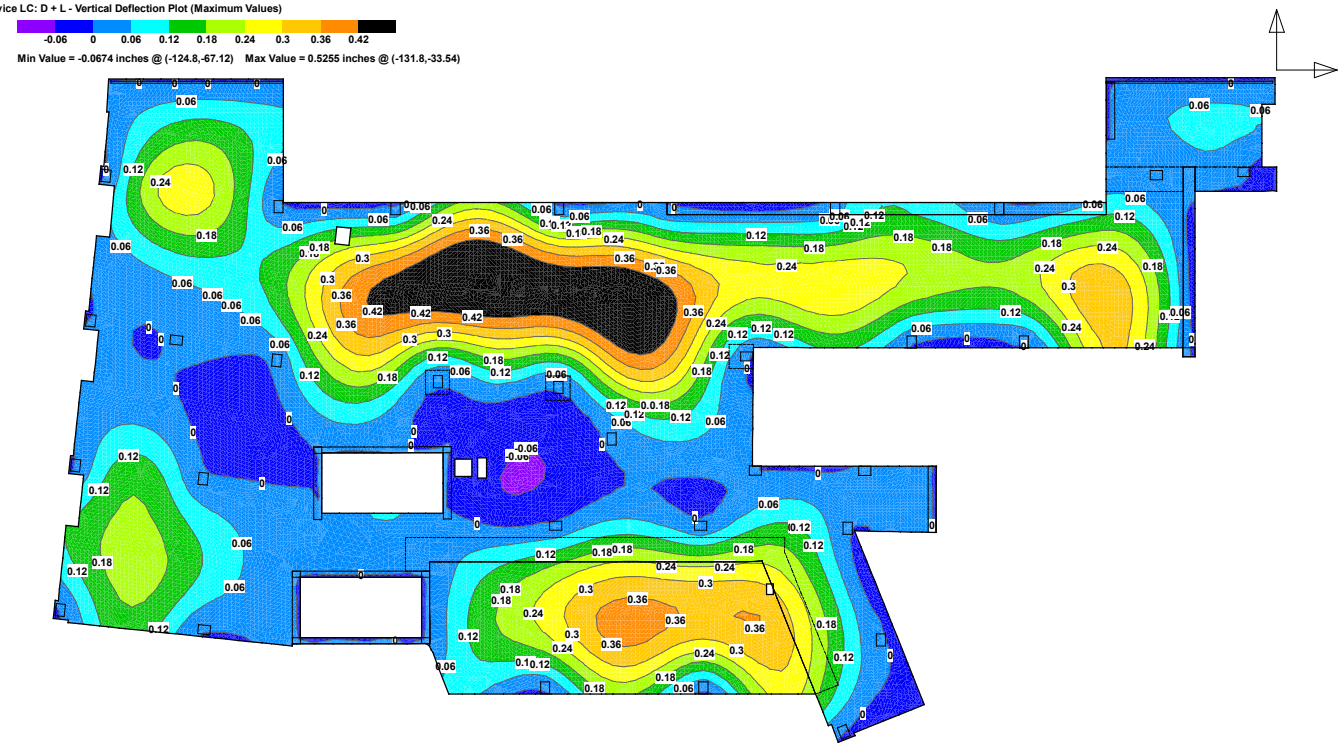
# Live (Unreducible) Loading: Std Reactions Plan

Live (Unreducible) Loading: Point Load Icons; Point Load Values; Line Load Icons; Line Load Values; Area Load Icons; Area Load Values; User Notes; User Lines; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Live (Unreducible) Loading - Reaction Plot:Wall Below,Column Below,Point Spring,Line Spring,Point Support,Line Support)(Fz,Mr,Ms,Mz)(Standard Context)



# Service LC: D + L: Max Deflection Plan

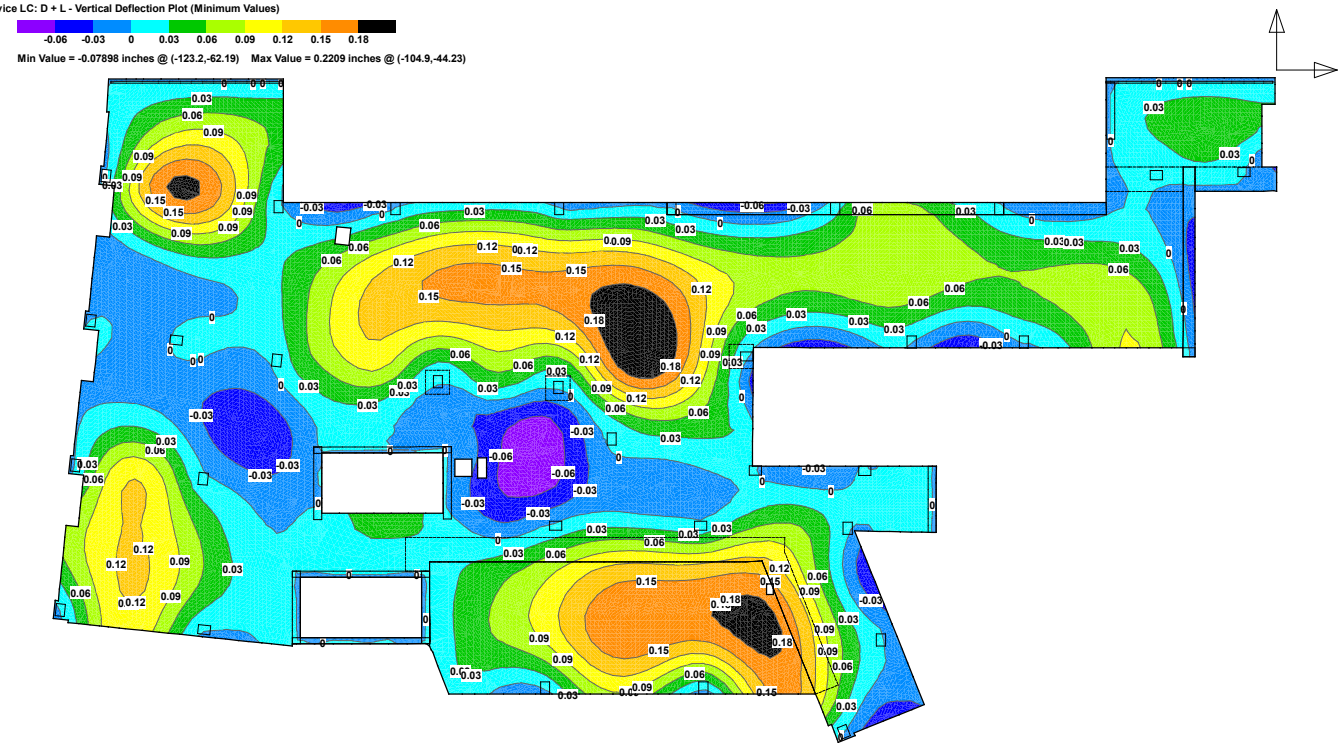
Service LC: D + L: User Lines; User Notes; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Service LC: D + L - Vertical Deflection Plot (Maximum Values)




Min Value = -0.0674 inches @ (-124.8,-67.12)  Max Value = 0.5255 inches @ (-131.8,-33.54)

# Service LC: D + L: Min Deflection Plan

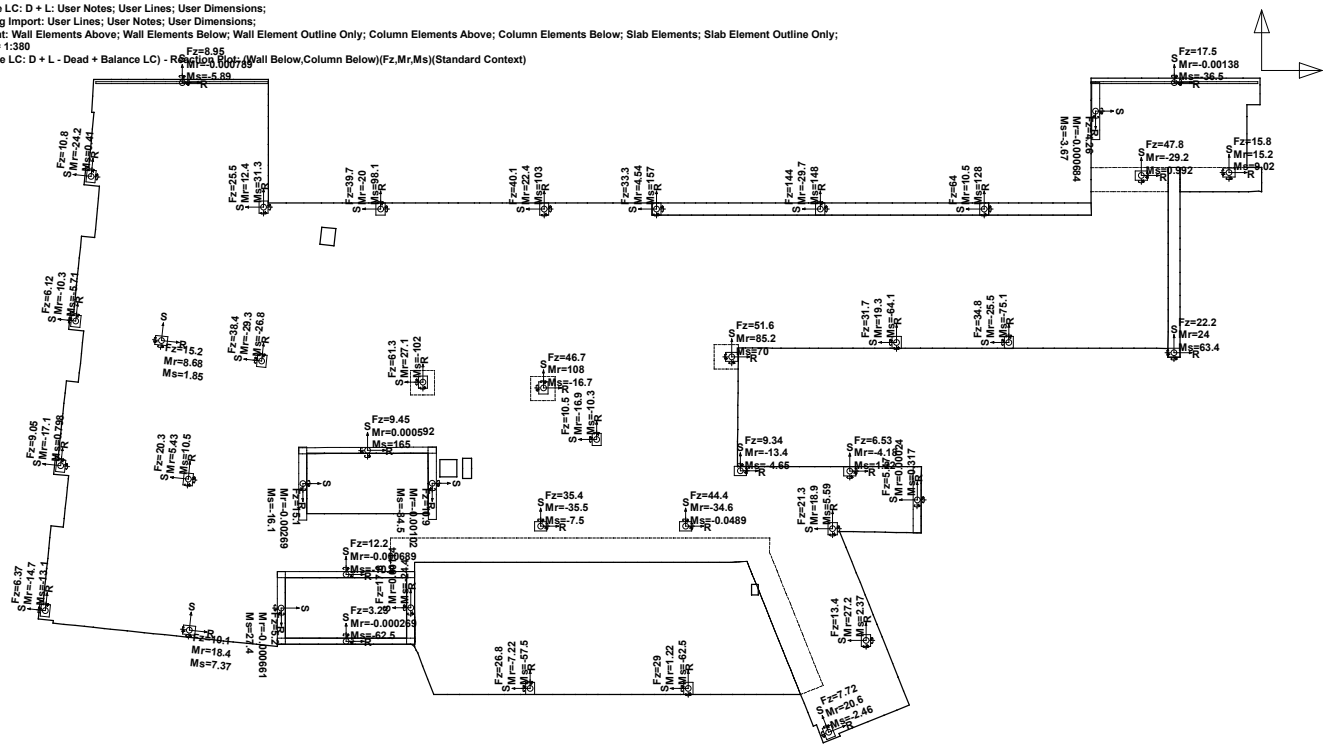
Service LC: D + L: User Lines; User Notes; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Service LC: D + L - Vertical Deflection Plot (Minimum Values)




Min Value = -0.07898 inches @ (-123.2,-62.19)  Max Value = 0.2209 inches @ (-104.9,-44.23)

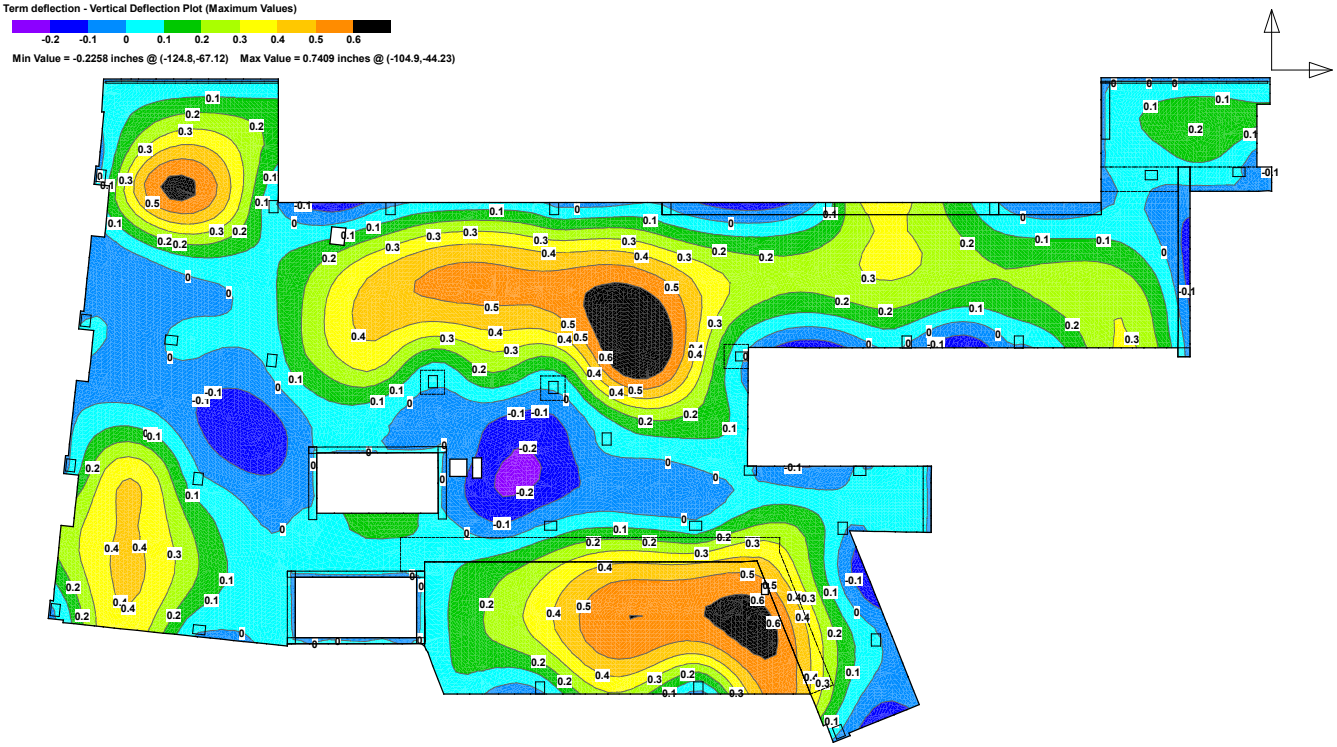
# Service LC: D + L: Reaction Plan

Service LC: D + L: User Notes; User Lines; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;
Scale = 1:380
(Service LC: D + L - Dead + Balance LC) - Reaction Plot: (Wall Below,Column Below)(Fz,Mr,Ms)(Standard Context)



# Long Term deflection: Max Deflection Plan

Long Term deflection: User Lines; User Notes; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Long Term deflection - Vertical Deflection Plot (Maximum Values)



# Design Strip: Latitude SSs Table

| *Name* | *Set* | *Location feet* | *Skew degrees* | *At Support 1* | *At Support 2* | *Support Width 1 inches* |
|---|---|---|---|---|---|---|
| 1-1 | latitude | (-200.6,-89.05)(-176.8,-92.28) | -2.758 | true | true | 18.17 |
| 1-2 | latitude | (-176.8,-92.28)(-161.5,-94.37) | -4.037 | true | true | 24.16 |
| 2-1 | latitude | (-195.5,-41.31)(-181.4,-44.55) | -14.51 | true | true | 18.29 |
| 2-2 | latitude | (-181.4,-44.55)(-164.9,-47.89) | -17.49 | true | true | 24.27 |
| 2-3 | latitude | (-164.9,-47.89)(-138.3,-51.38) | -5.178 | true | true | 18.16 |
| 2-4 | latitude | (-138.3,-51.38)(-118.4,-52.35) | -2.835 | true | true | 18.18 |
| 2-5 | latitude | (-118.4,-52.35)(-87.38,-49.32) | 9.732 | true | true | 18.4 |
| 3-1 | latitude | (-198,-65.18)(-177,-67.39) | -6 | true | true | 18.16 |
| 3-2 | latitude | (-177,-67.39)(-158,-73.74) | 18.47 | true | true | 18.6 |
| 4-1 | latitude | (-193,-17.44)(-164.6,-22.53) | -10.31 | true | true | 18.2 |
| 4-2 | latitude | (-164.6,-22.53)(-145.3,-22.83) | -0.893 | true | true | 18.16 |
| 4-3 | latitude | (-145.3,-22.83)(-118.3,-22.83) | -0.03578 | true | true | 18.16 |
| 4-4 | latitude | (-118.3,-22.83)(-99.8,-22.83) | -0.008123 | true | true | 18.16 |
| 4-5 | latitude | (-99.8,-22.83)(-72.79,-22.83) | -0.003478 | true | true | 18.16 |
| 4-6 | latitude | (-72.79,-22.83)(-45.78,-22.83) | -0.00655 | true | true | 17.83 |
| 4-7 | latitude | (-45.78,-22.84)(-15.45,-23.26) | -0.226 | true | false | 18.16 |
| 5-1 | latitude | (-140.1,-94.03)(-120.6,-97.09) | -17.09 | true | true | 12.35 |
| 5-2 | latitude | (-120.6,-101.9)(-94.55,-101.9) | -1.019e-6 | true | true | 18.16 |
| 5-3 | latitude | (-94.55,-101.9)(-65.26,-94) | 15.11 | true | true | 18.8 |
| 5-4 | latitude | (-65.26,-94)(-62.99,-93.09) | 21.9 | true | false | 19.56 |
| 6-1 | latitude | (-136.6,-73.68)(-118.9,-75.16) | -4.746 | true | true | 13.05 |
| 6-2 | latitude | (-118.9,-75.16)(-94.99,-74.76) | 0.9747 | true | true | 24.16 |
| 6-3 | latitude | (-94.99,-74.76)(-70.83,-75.36) | -1.435 | true | true | 24.16 |
| 6-4 | latitude | (-70.83,-75.36)(-56.75,-75.57) | -0.5517 | true | true | 20.02 |
| 7-1 | latitude | (-85.98,-66.03)(-67.92,-66.08) | -0.1623 | true | true | 24.16 |
| 7-2 | latitude | (-67.92,-66.08)(-56.52,-65.49) | 1.499 | true | true | 24.16 |
| 8-1 | latitude | (-87.36,-45.48)(-60.2,-44.83) | 1.365 | false | true | 0 |
| 8-2 | latitude | (-60.2,-44.83)(-41.7,-44.83) | 5.309e-6 | true | true | 18.16 |
| 8-3 | latitude | (-41.7,-44.83)(-15.45,-44.25) | -1.257 | true | false | 18.16 |
| 9-1 | latitude | (-71.38,-109.1)(-59.03,-110.7) | -7.467 | true | false | 18.15 |
| 10-1 | latitude | (-27.98,-17.62)(-19.02,-17.34) | -1.724 | false | true | 0.3702 |
| 10-2 | latitude | (-19.02,-17.34)(-15.45,-17.36) | -0.3262 | true | false | 4.158 |
| 10-2(2) | latitude | (-15.45,-17.36)(-13.45,-17.4) | -0.241 | false | false | 0 |
| 10-2(3) | latitude | (-13.45,-17.4)(-5.378,-16.83) | 6.891 | false | true | 0 |
| 10-3 | latitude | (-5.378,-16.83)(-0.5896,-17.11) | -3.718 | true | false | 24.2 |

# Design Strip: Latitude SSs Table (2)

| *port Width 1 nes* | *Support Width 2 inches* | *Support Trans. Width 1 inches* | *Support Trans. Width 2 inches* | *Auto-Support* | *Min Divisions* | *Max Division Spacing feet* |
|---|---|---|---|---|---|---|
| | 24.17 | 24.01 | 18.01 | true | 4 | 2.5 |
| | 19.99 | 18 | 55.24 | true | 4 | 2.5 |
| | 24.33 | 24.17 | 18.13 | true | 4 | 2.5 |
| | 18.24 | 18.08 | 24.11 | true | 4 | 2.5 |
| | 18.31 | 24.01 | 24.21 | true | 4 | 2.5 |
| | 18.18 | 24.03 | 24.03 | true | 4 | 2.5 |
| | 24.48 | 24.32 | 18.24 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 19.82 | 24.58 | 25.71 | true | 4 | 2.5 |
| | 18.44 | 24.06 | 24.38 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 18.49 | 24 | 24 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 0 | 24 | 0 | true | 4 | 2.5 |
| | 19.57 | 21.46 | 25.89 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 18.8 | 24.86 | 24.86 | true | 4 | 2.5 |
| | 0 | 25.87 | 0 | true | 4 | 2.5 |
| | 24.24 | 80.15 | 18.06 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 16.3 | 18.01 | 24.01 | true | 4 | 2.5 |
| | 18.06 | 24 | 130.8 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 22.85 | 18 | 130.8 | true | 4 | 2.5 |
| | 18.16 | 0 | 24.01 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 0 | 24 | 0 | true | 4 | 2.5 |
| | 0 | 24 | 0 | true | 4 | 2.5 |
| | 44.18 | 0 | 18.01 | true | 4 | 2.5 |
| | 0 | 18 | 0 | true | 4 | 2.5 |
| | 0 | 0 | 0 | true | 4 | 2.5 |
| | 24.22 | 0 | 18.04 | true | 4 | 2.5 |
| | 0 | 18.03 | 0 | true | 4 | 2.5 |

# Design Strip: Latitude SSs Table (3)

| ision Spacing | Design For Axial | Environment | Design As PT | Maximize Integrated V | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² |
|---|---|---|---|---|---|---|---|
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |

# Design Strip: Latitude SSs Table (4)

| Spec. Infl. Area ft² | Max LLR % | Span Width | Col Strip Width | Lock Strips | Design CS for CS | CS Auto Trim | CS Section Slope |
|---|---|---|---|---|---|---|---|
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | inverted T or L | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |

# Design Strip: Latitude SSs Table (5)

| CS Section Slope Simp | CS Top Bar | CS Bot Bar | CS Shear Bar | CS Top Cover inches | CS Bot Cover inches | CS Shear d calc | CS Torsion Design | CS System |
|---|---|---|---|---|---|---|---|---|
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | beam |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | beam |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | beam |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | beam |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | beam |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | beam |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | beam |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | beam |

# Design Strip: Latitude SSs Table (6)

| CS Min. Bar Loc. | CS Min T.Bar | CS Min B.Bar | CS Shear Legs | MS Same As CS | MS Auto Trim | MS Section Slope | MS Top Bar | MS Bot Bar |
|---|---|---|---|---|---|---|---|---|
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |

# Design Strip: Latitude SSs Table (7)

| MS Bot Bar | MS Shear Bar | MS Top Cover inches | MS Bot Cover inches | MS Shear d calc | MS Torsion Design | MS System | MS Min. Bar Loc. | MS Min T.Bar | MS Min B.Bar |
|---|---|---|---|---|---|---|---|---|---|
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |

# Design Strip: Latitude SSs Table (8)

| *MS Min B.Bar* | *MS Shear Legs* |
|---|---|
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
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| | 2 |
| | 2 |
| | 2 |
| | 2 |

# Design Strip: Longitude SSs Table

| *Name* | *Set* | *Location feet* | *Skew degrees* | *At Support 1* | *At Support 2* | *Support Width 1 inches* |
|---|---|---|---|---|---|---|
| 11-1 | longitude | (-200.6,-89.05)(-198,-65.18) | 5.081 | true | true | 24.16 |
| 11-2 | longitude | (-198,-65.18)(-195.5,-41.31) | 5.31 | true | true | 24.16 |
| 11-3 | longitude | (-195.5,-41.31)(-193,-17.44) | 5.44 | true | true | 24.16 |
| 11-4 | longitude | (-193,-17.44)(-191.6,-2.565) | 5.263 | true | true | 24.16 |
| 12-1 | longitude | (-176.8,-92.28)(-177,-67.39) | -0.399905 | true | true | 18.27 |
| 12-2 | longitude | (-177,-67.39)(-164.9,-47.89) | 7.289 | true | true | 26.83 |
| 12-3 | longitude | (-164.9,-47.89)(-164.6,-22.53) | -0.7596 | true | true | 24.26 |
| 12-4 | longitude | (-164.6,-22.53)(-164.6,-2) | 2.036 | true | true | 24.16 |
| 13-1 | longitude | (-145.3,-22.83)(-138.3,-51.38) | 11.37 | true | true | 24.87 |
| 13-2 | longitude | (-138.3,-51.38)(-136.7,-62.35) | 6.395 | true | true | 24.42 |
| 14-1 | longitude | (-120.6,-101.9)(-119.9,-90.02) | 3.752 | true | false | 24.21 |
| 14-1(2) | longitude | (-119.9,-90.02)(-118.9,-75.16) | 7.516 | false | true | 0 |
| 14-2 | longitude | (-118.9,-75.16)(-118.4,-52.35) | 12.85 | true | true | 18.16 |
| 14-3 | longitude | (-118.4,-52.35)(-118.3,-22.83) | 0.2843 | true | true | 24.16 |
| 15-1 | longitude | (-109.7,-60.83)(-94.99,-74.76) | 34.24 | true | true | 24.97 |
| 16-1 | longitude | (-94.99,-74.76)(-94.55,-109.6) | 10.167 | true | true | 27.64 |
| 17-1 | longitude | (-99.8,-22.83)(-88.59,-44.03) | 20.93 | true | false | 27.07 |
| 18-1 | longitude | (-87.38,-47.22)(-86.87,-66.53) | 6.535 | true | true | 18.16 |
| 19-1 | longitude | (-67.92,-66.08)(-70.83,-75.36) | 17.46 | true | true | 19.02 |
| 19-2 | longitude | (-70.83,-75.36)(-65.26,-94) | 19.63 | true | true | 30.69 |
| 19-3 | longitude | (-65.26,-94)(-71.38,-109.2) | 21.03 | true | true | 26.05 |
| 20-1 | longitude | (-72.79,-22.83)(-60.2,-44.03) | 20.378 | true | true | 27.85 |
| 21-1 | longitude | (-45.78,-22.84)(-41.7,-44.83) | 11.83 | true | true | 24.57 |
| 22-1 | longitude | (-19.91,-15.87)(-19.56,-2) | 2.427 | false | true | 0 |
| 23-1 | longitude | (-14.48,-20.06)(-14.45,-46.25) | 46.278 | false | true | 0 |
| 24-1 | longitude | (-5.47,-2.005)(-5.33,-16.93) | 9.5377 | true | true | 3.906 |
| 24-2 | longitude | (-5.33,-16.93)(-5.308,-19.83) | 1.8411 | true | false | 15.8 |

# Design Strip: Longitude SSs Table (2)

| *port Width 1 nes* | *Support Width 2 inches* | *Support Trans. Width 1 inches* | *Support Trans. Width 2 inches* | *Auto-Support* | *Min Divisions* | *Max Division Spacing feet* |
|---|---|---|---|---|---|---|
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 3.629 | 18 | 26.04 | true | 4 | 2.5 |
| | 24.31 | 24.15 | 18.11 | true | 4 | 2.5 |
| | 26.83 | 20.01 | 20.01 | true | 4 | 2.5 |
| | 24.16 | 18.08 | 18 | true | 4 | 2.5 |
| | 3.299 | 18 | 341 | true | 4 | 2.5 |
| | 24.87 | 18.53 | 18.53 | true | 4 | 2.5 |
| | 10.49 | 18.19 | 55.16 | true | 4 | 2.5 |
| | 0 | 18.04 | 0 | true | 4 | 2.5 |
| | 18.2 | 0 | 24.05 | true | 4 | 2.5 |
| | 24.16 | 24 | 18 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 12.53 | 26.15 | 23.31 | true | 4 | 2.5 |
| | 24.16 | 24 | 18 | true | 4 | 2.5 |
| | 0 | 20.18 | 0 | true | 4 | 2.5 |
| | 19.76 | 24.01 | 24.01 | true | 4 | 2.5 |
| | 19.81 | 25.15 | 18.86 | true | 4 | 2.5 |
| | 25.2 | 18.79 | 18.79 | true | 4 | 2.5 |
| | 26.06 | 19.42 | 25.03 | true | 4 | 2.5 |
| | 27.81 | 20.74 | 20.74 | true | 4 | 2.5 |
| | 24.57 | 18.31 | 18.31 | true | 4 | 2.5 |
| | 4.033 | 0 | 160.4 | true | 4 | 2.5 |
| | 18.16 | 0 | 24 | true | 4 | 2.5 |
| | 20.51 | 258.7 | 24 | true | 4 | 2.5 |
| | 0 | 24 | 0 | true | 4 | 2.5 |

# Design Strip: Longitude SSs Table (3)

| ision Spacing | Design For Axial | Environment | Design As PT | Maximize Integrated V. | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² |
|---|---|---|---|---|---|---|---|
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | false | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | false | false | false | 1 | 0 |
| | true | normal | false | false | false | 1 | 0 |

# Design Strip: Longitude SSs Table (4)

| Spec. Infl. Area ft² | Max LLR % | Span Width | Col Strip Width | Lock Strips | Design CS for CS | CS Auto Trim | CS Section Slope |
|---|---|---|---|---|---|---|---|
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | code-beam | false | false | inverted T or L | 100 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |

# Design Strip: Longitude SSs Table (5)

| CS Section Slope Simp | CS Top Bar | CS Bot Bar | CS Shear Bar | CS Top Cover inches | CS Bot Cover inches | CS Shear d calc | CS Torsion Design | CS System |
|---|---|---|---|---|---|---|---|---|
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1 | 1 | Maximize Effective Depth | | beam |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |

# Design Strip: Longitude SSs Table (6)

| CS Min. Bar Loc. | CS Min T.Bar | CS Min B.Bar | CS Shear Legs | MS Same As CS | MS Auto Trim | MS Section Slope | MS Top Bar | MS Bot Bar |
|---|---|---|---|---|---|---|---|---|
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| bottom | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |

# Design Strip: Longitude SSs Table (7)

| MS Bot Bar | MS Shear Bar | MS Top Cover inches | MS Bot Cover inches | MS Shear d calc | MS Torsion Design | MS System | MS Min. Bar Loc. | MS Min T.Bar | MS Min B.Bar |
|---|---|---|---|---|---|---|---|---|---|
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |

# Design Strip: Longitude SSs Table (8)

| *MS Min B.Bar* | *MS Shear Legs* |
|---|---|
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |

# Design Strip: Latitude SSSs Table

| *Name* | *Strip Type* | *Calc. Trib. Area ft²* | *Calc. Infl. Area ft²* | *Top Bar* | *Bottom Bar* | *Shear Bar* | *Top Cover inches* |
|---|---|---|---|---|---|---|---|
| 1C-1 | center | 274.3 | 0 | #5 | #4 | #4 | 1.5 |
| 1C-2 | center | 152 | 0 | #5 | #4 | #4 | 1.5 |
| 2C-1 | center | 319.6 | 0 | #5 | #4 | #4 | 1.5 |
| 2C-2 | center | 371.8 | 0 | #5 | #4 | #4 | 1.5 |
| 2C-3 | center | 525.8 | 0 | #5 | #4 | #4 | 1.5 |
| 2C-4 | center | 499.9 | 0 | #5 | #4 | #4 | 1.5 |
| 2C-5 | center | 569.8 | 0 | #5 | #4 | #4 | 1.5 |
| 3C-1 | center | 448.6 | 0 | #5 | #4 | #4 | 1.5 |
| 3C-2 | center | 325.6 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-1 | center | 532.1 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-2 | center | 250.6 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-3 | center | 330.6 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-4 | center | 257.9 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-5 | center | 321.8 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-6 | center | 311 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-7 | center | 251.3 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-1 | center | 323.2 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-2 | center | 320.3 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-3 | center | 347.6 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-4 | center | 4.711 | 0 | #5 | #4 | #4 | 1.5 |
| 6C-1 | center | 369.2 | 0 | #5 | #4 | #4 | 1.5 |
| 6C-2 | center | 508.2 | 0 | #5 | #4 | #4 | 1.5 |
| 6C-3 | center | 419.6 | 0 | #5 | #4 | #4 | 1.5 |
| 6C-4 | center | 41.45 | 0 | #5 | #4 | #4 | 1.5 |
| 7C-1 | center | 67.15 | 0 | #5 | #4 | #4 | 1.5 |
| 7C-2 | center | 49.83 | 0 | #5 | #4 | #4 | 1.5 |
| 8C-1 | center | 298.2 | 0 | #5 | #4 | #4 | 1.5 |
| 8C-2 | center | 199.3 | 0 | #5 | #4 | #4 | 1.5 |
| 8C-3 | center | 283.2 | 0 | #5 | #4 | #4 | 1.5 |
| 9C-1 | center | 71.28 | 0 | #5 | #4 | #4 | 1.5 |
| 10C-1 | center | 128.7 | 0 | #5 | #4 | #4 | 1.5 |
| 10C-2 | center | 55.2 | 0 | #5 | #4 | #4 | 1.5 |
| 10C-2(2) | center | 53.18 | 0 | #5 | #4 | #4 | 1.5 |
| 10C-2(3) | center | 77.26 | 0 | #5 | #4 | #4 | 1.5 |
| 10C-3 | center | 27.32 | 0 | #5 | #4 | #4 | 1.5 |

# Design Strip: Latitude SSSs Table (2)

| *Top Cover inches* | *Bot. Cover inches* | *Torsion Design* | *System* | *Min Bar Loc.* | *Min T. Bar* | *Min B. Bar* | *Shear Legs* |
|---|---|---|---|---|---|---|---|
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | beam | stress | 0 | 0 | 2 |
| | 0.75 | none | beam | stress | 0 | 0 | 4 |
| | 0.75 | none | beam | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | beam | elevated | 0 | 0 | 4 |
| | 0.75 | none | beam | elevated | 0 | 0 | 4 |
| | 0.75 | none | beam | elevated | 0 | 0 | 4 |
| | 0.75 | none | beam | elevated | 0 | 0 | 4 |
| | 0.75 | none | beam | elevated | 0 | 0 | 4 |

# Design Strip: Longitude SSSs Table

| *Name* | *Strip Type* | *Calc. Trib. Area ft²* | *Calc. Infl. Area ft²* | *Top Bar* | *Bottom Bar* | *Shear Bar* | *Top Cover inches* |
|---|---|---|---|---|---|---|---|
| 11C-1 | center | 257 | 0 | #5 | #4 | #4 | 1.5 |
| 11C-2 | center | 53.72 | 0 | #5 | #4 | #4 | 1.5 |
| 11C-3 | center | 330.2 | 0 | #5 | #4 | #4 | 1.5 |
| 11C-4 | center | 260.2 | 0 | #5 | #4 | #4 | 1.5 |
| 12C-1 | center | 447.7 | 0 | #5 | #4 | #4 | 1.5 |
| 12C-2 | center | 445.9 | 0 | #5 | #4 | #4 | 1.5 |
| 12C-3 | center | 451.6 | 0 | #5 | #4 | #4 | 1.5 |
| 12C-4 | center | 267.9 | 0 | #5 | #4 | #4 | 1.5 |
| 13C-1 | center | 630 | 0 | #5 | #4 | #4 | 1.5 |
| 13C-2 | center | 213.1 | 0 | #5 | #4 | #4 | 1.5 |
| 14C-1 | center | 225 | 0 | #5 | #4 | #4 | 1.5 |
| 14C-1(2) | center | 321.5 | 0 | #5 | #4 | #4 | 1.5 |
| 14C-2 | center | 319.8 | 0 | #5 | #4 | #4 | 1.5 |
| 14C-3 | center | 634.6 | 0 | #5 | #4 | #4 | 1.5 |
| 15C-1 | center | 287.3 | 0 | #5 | #4 | #4 | 1.5 |
| 16C-1 | center | 649.5 | 0 | #5 | #4 | #4 | 1.5 |
| 17C-1 | center | 558.6 | 0 | #5 | #4 | #4 | 1.5 |
| 18C-1 | center | 196.3 | 0 | #5 | #4 | #4 | 1.5 |
| 19C-1 | center | 132 | 0 | #5 | #4 | #4 | 1.5 |
| 19C-2 | center | 270.3 | 0 | #5 | #4 | #4 | 1.5 |
| 19C-3 | center | 225.8 | 0 | #5 | #4 | #4 | 1.5 |
| 20C-1 | center | 480.5 | 0 | #5 | #4 | #4 | 1.5 |
| 21C-1 | center | 491.8 | 0 | #5 | #4 | #4 | 1.5 |
| 22C-1 | center | 159.6 | 0 | #5 | #4 | #4 | 1.5 |
| 23C-1 | center | 275.6 | 0 | #5 | #4 | #4 | 1 |
| 23R-1 | right | 71.52 | 0 | #5 | #4 | #4 | 1.5 |
| 24C-1 | center | 111.7 | 0 | #5 | #4 | #4 | 1.5 |
| 24C-2 | center | 39.77 | 0 | #5 | #4 | #4 | 1.5 |

# Design Strip: Longitude SSSs Table (2)

| *Top Cover inches* | *Bot. Cover inches* | *Torsion Design* | *System* | *Min Bar Loc.* | *Min T. Bar* | *Min B. Bar* | *Shear Legs* |
|---|---|---|---|---|---|---|---|
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | beam | bottom | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |

# Design Strip: Punching Checks Table

| *Number* | *Location feet* | *Radius feet* | *Cover To CGS inches* | *Angle degrees* | *Edge* | *Connection* |
|---|---|---|---|---|---|---|
| 1 | (-200.6,-89.05) | 10 | 1.625 | 84 | failure planes | auto |
| 2 | (-198,-65.18) | 10 | 1.625 | 84 | failure planes | auto |
| 3 | (-195.5,-41.31) | 10 | 1.625 | 84 | failure planes | auto |
| 4 | (-193,-17.44) | 10 | 1.625 | 84 | failure planes | auto |
| 5 | (-181.4,-44.55) | 10 | 1.625 | -6 | failure planes | auto |
| 6 | (-177,-67.39) | 10 | 1.625 | 84 | failure planes | auto |
| 7 | (-176.8,-92.28) | 10 | 1.625 | -6 | failure planes | auto |
| 8 | (-164.9,-47.89) | 10 | 1.625 | 84 | failure planes | auto |
| 9 | (-164.6,-22.53) | 10 | 1.625 | 90 | failure planes | auto |
| 10 | (-145.3,-22.83) | 13 | 1.625 | 90 | failure planes | auto |
| 11 | (-138.3,-51.38) | 10 | 1.625 | 90 | failure planes | auto |
| 12 | (-120.6,-101.9) | 10 | 1.625 | 90 | failure planes | auto |
| 13 | (-118.9,-75.16) | 10 | 1.625 | 0 | failure planes | auto |
| 14 | (-118.4,-52.35) | 10 | 1.625 | 0 | failure planes | auto |
| 15 | (-118.3,-22.84) | 15 | 1.625 | 90 | failure planes | auto |
| 16 | (-109.7,-60.83) | 10 | 1.625 | 90 | failure planes | auto |
| 17 | (-94.99,-75.16) | 10 | 1.625 | 0 | failure planes | auto |
| 18 | (-94.55,-101.9) | 10 | 1.625 | 90 | failure planes | auto |
| 19 | (-87.38,-47.22) | 10 | 1.625 | 0 | failure planes | auto |
| 20 | (-85.98,-66.03) | 10 | 1.625 | 0 | failure planes | auto |
| 21 | (-71.38,-109.1) | 10 | 1.625 | 22 | failure planes | auto |
| 22 | (-70.75,-75.58) | 10 | 1.625 | 90 | failure planes | auto |
| 23 | (-67.92,-66.08) | 10 | 1.625 | 0 | failure planes | auto |
| 24 | (-65.26,-94) | 10 | 1.625 | 90 | failure planes | auto |
| 25 | (-60.2,-44.83) | 10 | 1.625 | 90 | failure planes | auto |
| 26 | (-41.7,-44.83) | 10 | 1.625 | 90 | failure planes | auto |
| 27 | (-19.85,-17.33) | 6 | 1.625 | 0 | failure planes | auto |
| 28 | (-5.378,-16.83) | 6 | 1.625 | 0 | failure planes | auto |

# Design Strip: Punching Checks Table (2)

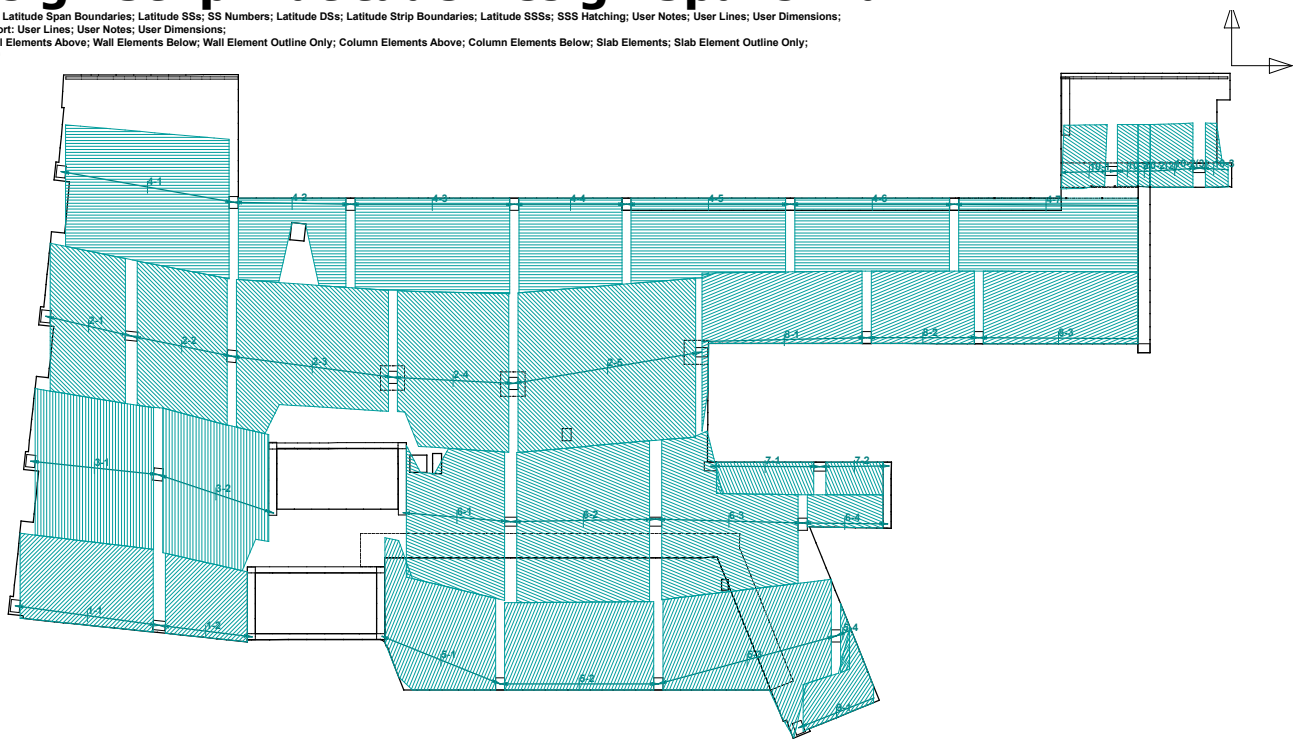
| Connection | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² | Spec. Infl. Area ft² | Calc. Trib. Area ft² | Calc. Infl. Area ft² |
|---|---|---|---|---|---|---|
| | false | 1 | 0 | 0 | 159.5 | 0 |
| | false | 1 | 0 | 0 | 227.4 | 0 |
| | false | 1 | 0 | 0 | 151.7 | 0 |
| | false | 1 | 0 | 0 | 279 | 0 |
| | false | 1 | 0 | 0 | 432.6 | 0 |
| | false | 1 | 0 | 0 | 493.6 | 0 |
| | false | 1 | 0 | 0 | 247.8 | 0 |
| | false | 1 | 0 | 0 | 465.4 | 0 |
| | false | 1 | 0 | 0 | 479.5 | 0 |
| | false | 1 | 0 | 0 | 312 | 0 |
| | false | 1 | 0 | 0 | 601.6 | 0 |
| | false | 1 | 0 | 0 | 309.7 | 0 |
| | false | 1 | 0 | 0 | 498.8 | 0 |
| | false | 1 | 0 | 0 | 551.1 | 0 |
| | false | 1 | 0 | 0 | 323.4 | 0 |
| | false | 1 | 0 | 0 | 249 | 0 |
| | false | 1 | 0 | 0 | 588.4 | 0 |
| | false | 1 | 0 | 0 | 359.6 | 0 |
| | false | 1 | 0 | 0 | 518 | 0 |
| | false | 1 | 0 | 0 | 136.1 | 0 |
| | false | 1 | 0 | 0 | 135.7 | 0 |
| | false | 1 | 0 | 0 | 279.5 | 0 |
| | false | 1 | 0 | 0 | 54.26 | 0 |
| | false | 1 | 0 | 0 | 252.6 | 0 |
| | false | 1 | 0 | 0 | 249.8 | 0 |
| | false | 1 | 0 | 0 | 281.3 | 0 |
| | false | 1 | 0 | 0 | 394.4 | 0 |
| | false | 1 | 0 | 0 | 129.5 | 0 |

# Design Strip: Punching Checks Table (3)

| c. Infl. Area | Max LLR % | Red. Red. % | Stor. Red. % | Park. Red. % |
|---|---|---|---|---|
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |

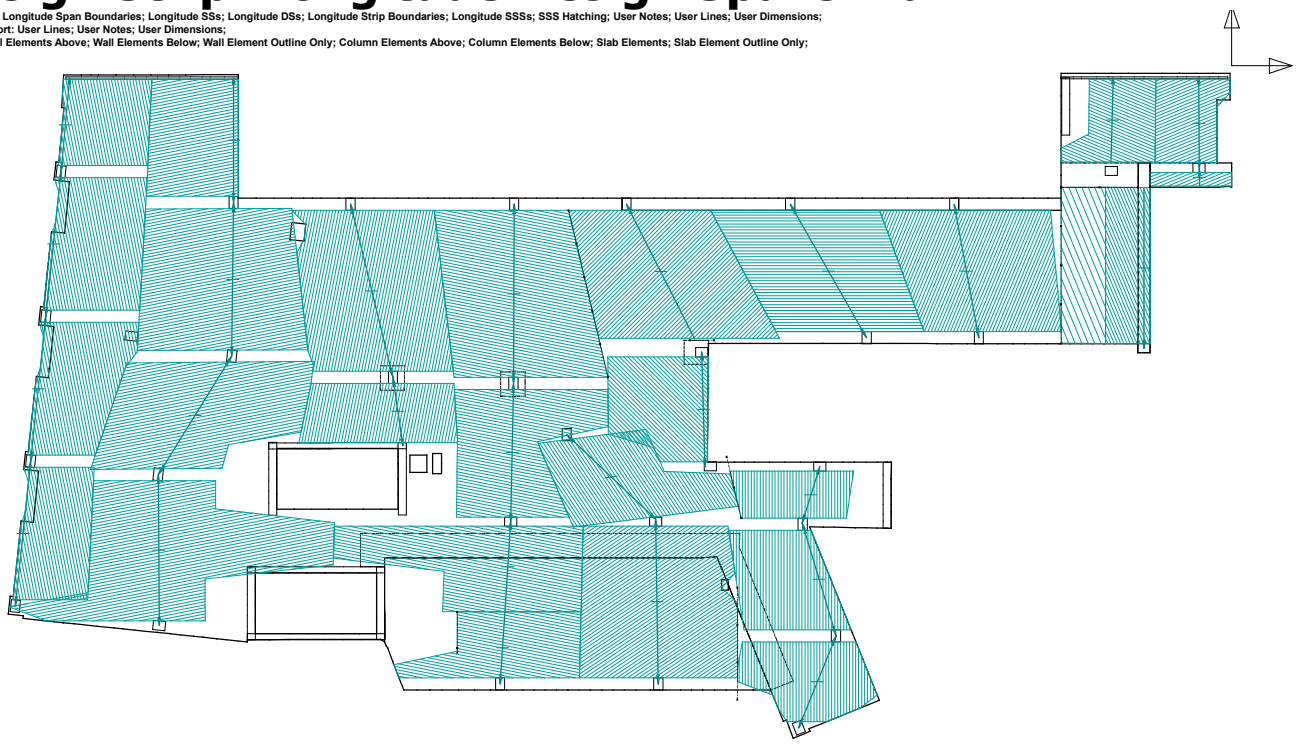
# Design Strip: Latitude Design Spans Plan

**Design Strip: Latitude Span Boundaries; Latitude SSs; SS Numbers; Latitude DSs; Latitude Strip Boundaries; Latitude SSSs; SSS Hatching; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



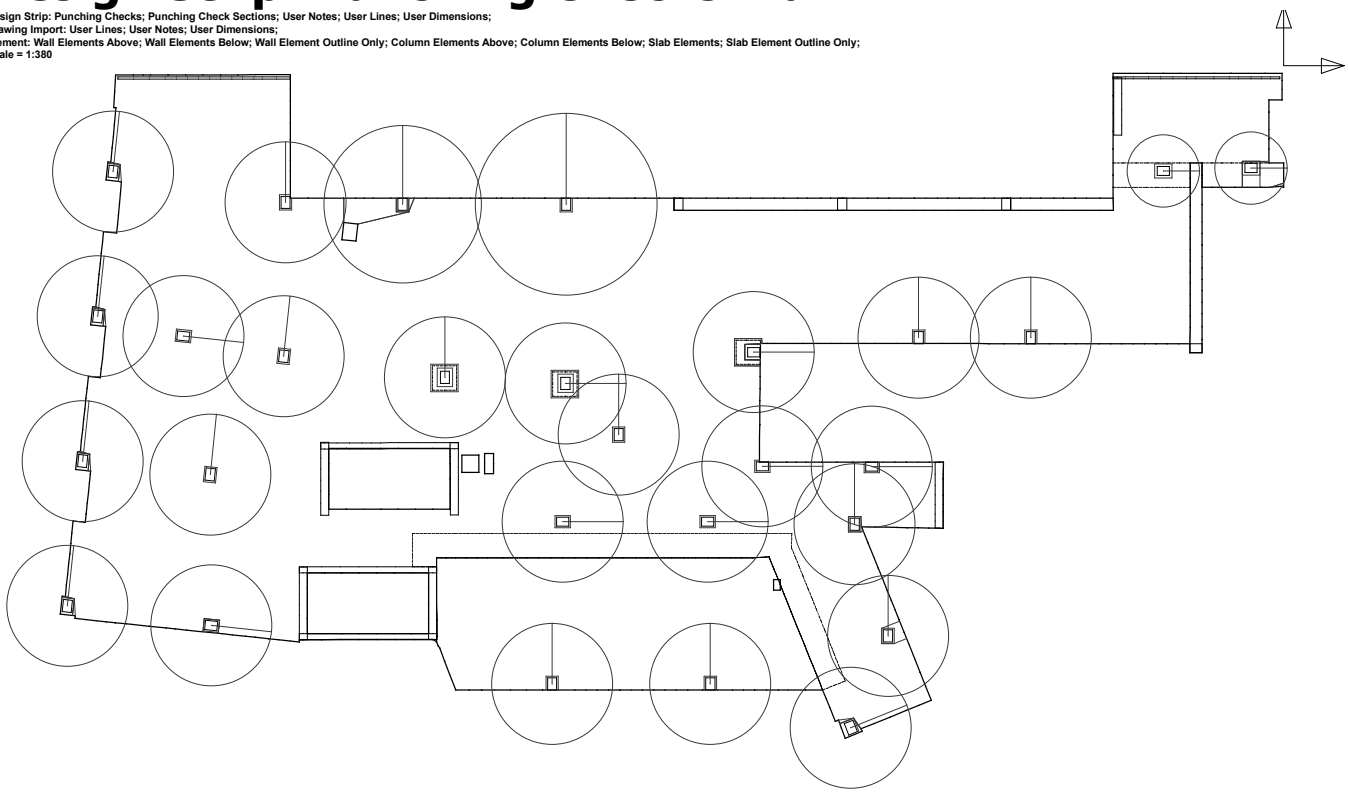
# Design Strip: Longitude Design Spans Plan

**Design Strip: Longitude Span Boundaries; Longitude SSs; Longitude DSs; Longitude Strip Boundaries; Longitude SSSs; SSS Hatching; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



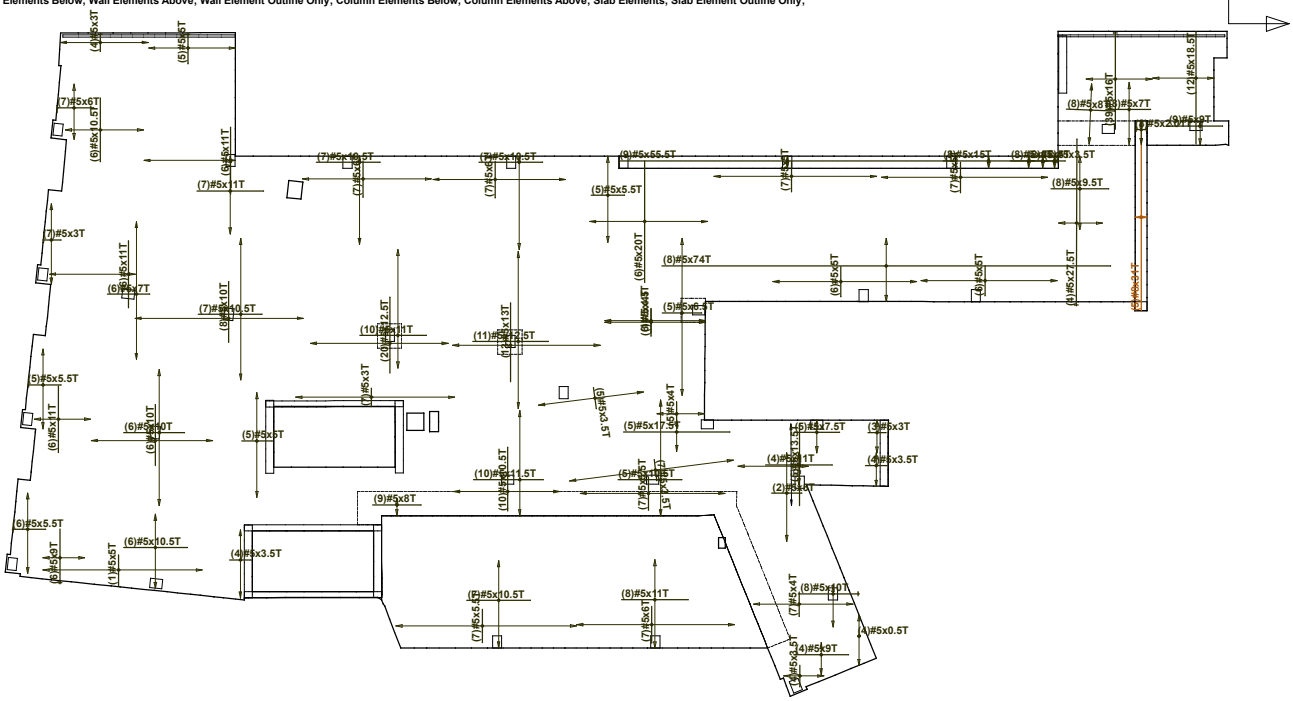
# Design Strip: Punching Checks Plan

**Design Strip: Punching Checks; Punching Check Sections; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



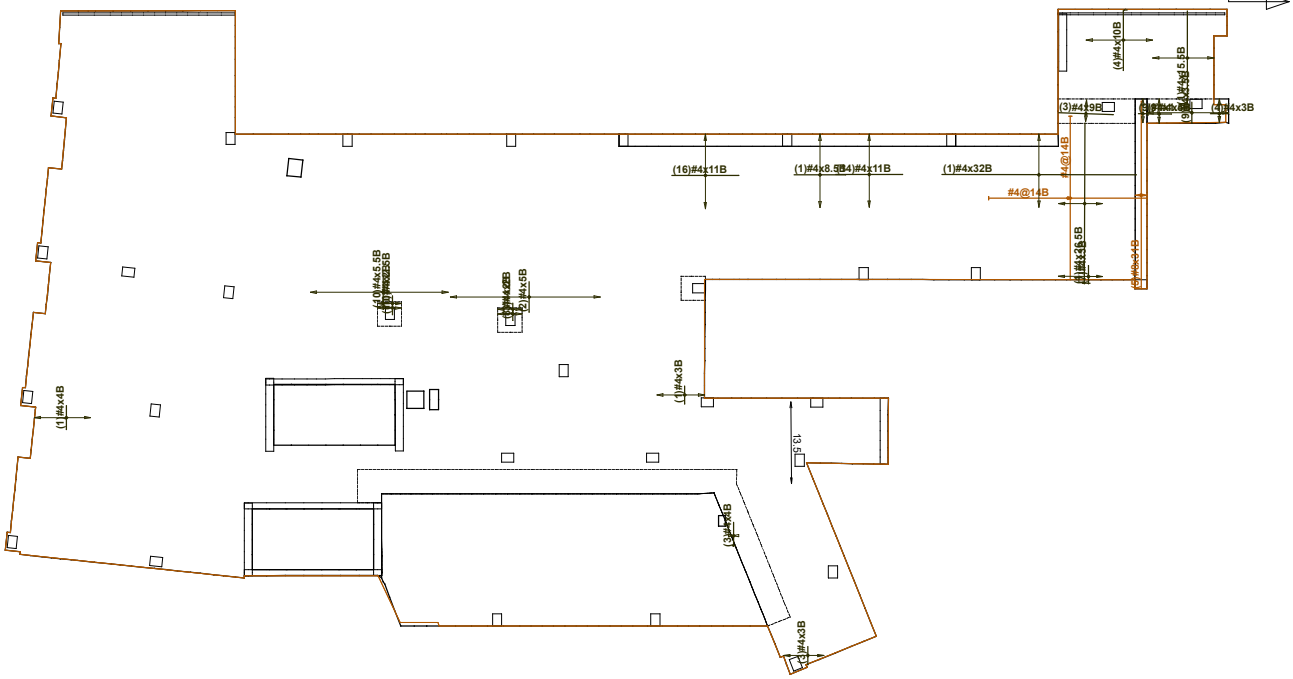
# Reinforcement: Top Bars Plan

**Reinforcement: User Lines; User Notes; User Dimensions; Latitude User Concentrated Reinf.; Latitude Program Concentrated Reinf.; Latitude User Distributed Reinf.; Latitude Program Distributed Reinf.; Longitude User Concentrated Reinf.; Longitude Program Concentrated Reinf.**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



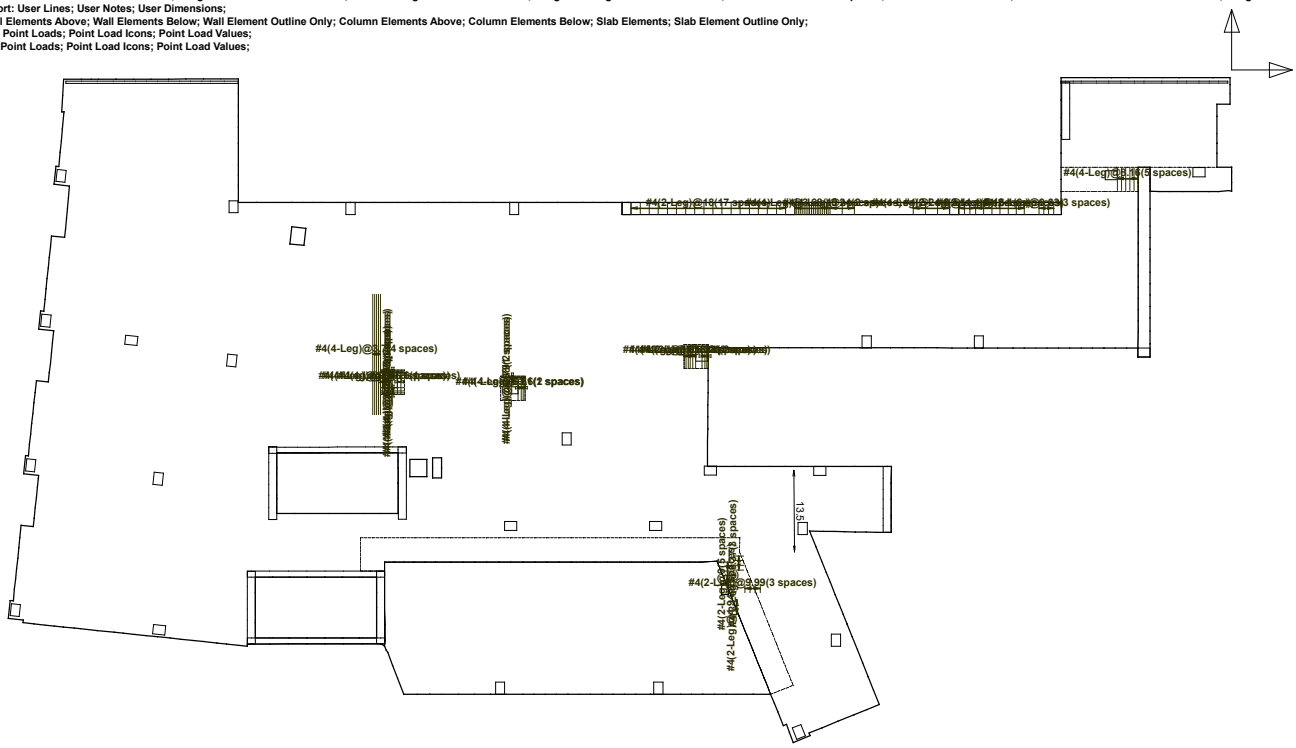
# Reinforcement: Bottom Bars Plan

**Reinforcement: User Lines; User Notes; User Dimensions; Latitude User Concentrated Reinf.; Latitude Program Concentrated Reinf.; Latitude User Distributed Reinf.; Latitude Program Distributed Reinf.; Longitude User Concentrated Reinf.; Longitude Program Concentrated Reinf.**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



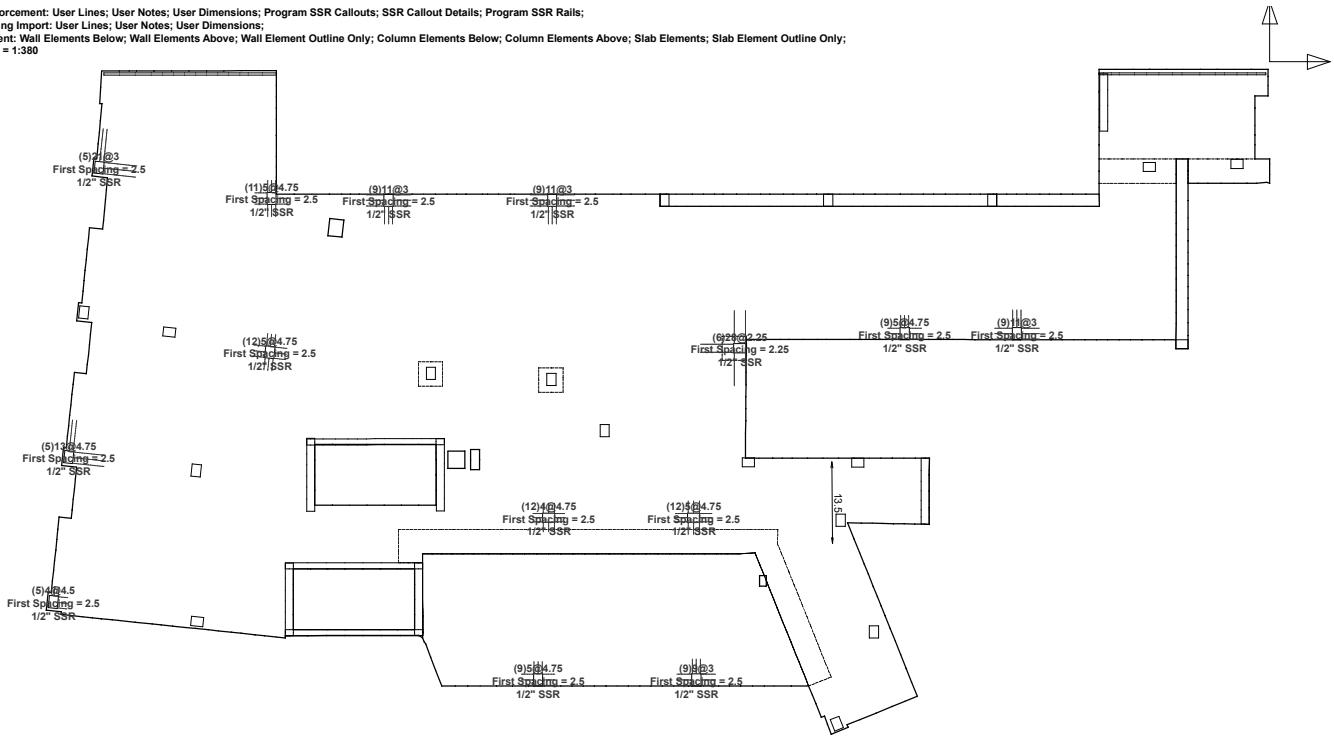
# Reinforcement: Shear Bars Plan

**Reinforcement: Latitude User Transverse Reinf.; Longitude User Transverse Reinf.; Latitude Program Transverse Reinf.; Longitude Program Transverse Reinf.; Transverse Reinf. Descriptions; Transverse Reinf. Extent; Latitude User Individual Transverse Bars; Longitude User Indi**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Seismic E/W: Point Loads; Point Load Icons; Point Load Values;**
**Seismic N/S: Point Loads; Point Load Icons; Point Load Values;**
**Scale = 1:380**



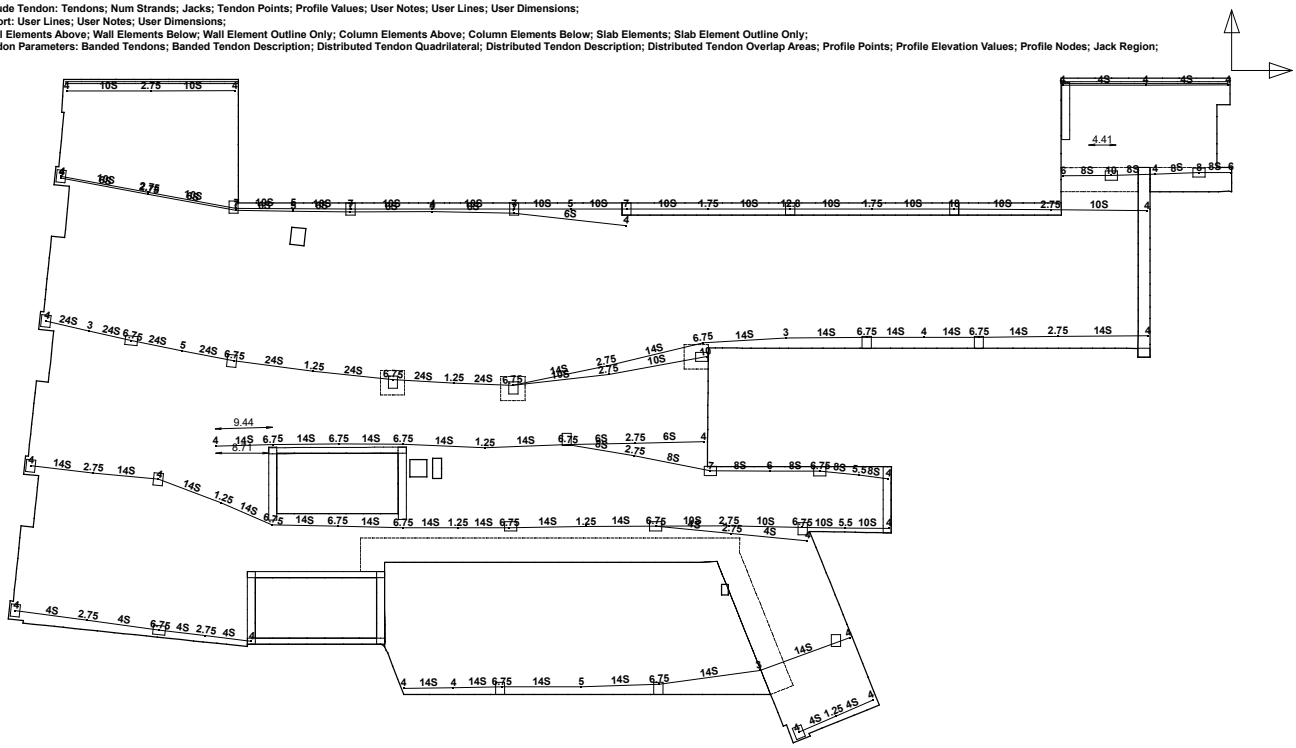
# Reinforcement: SSR Plan

**Reinforcement: User Lines; User Notes; User Dimensions; Program SSR Callouts; SSR Callout Details; Program SSR Rails;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



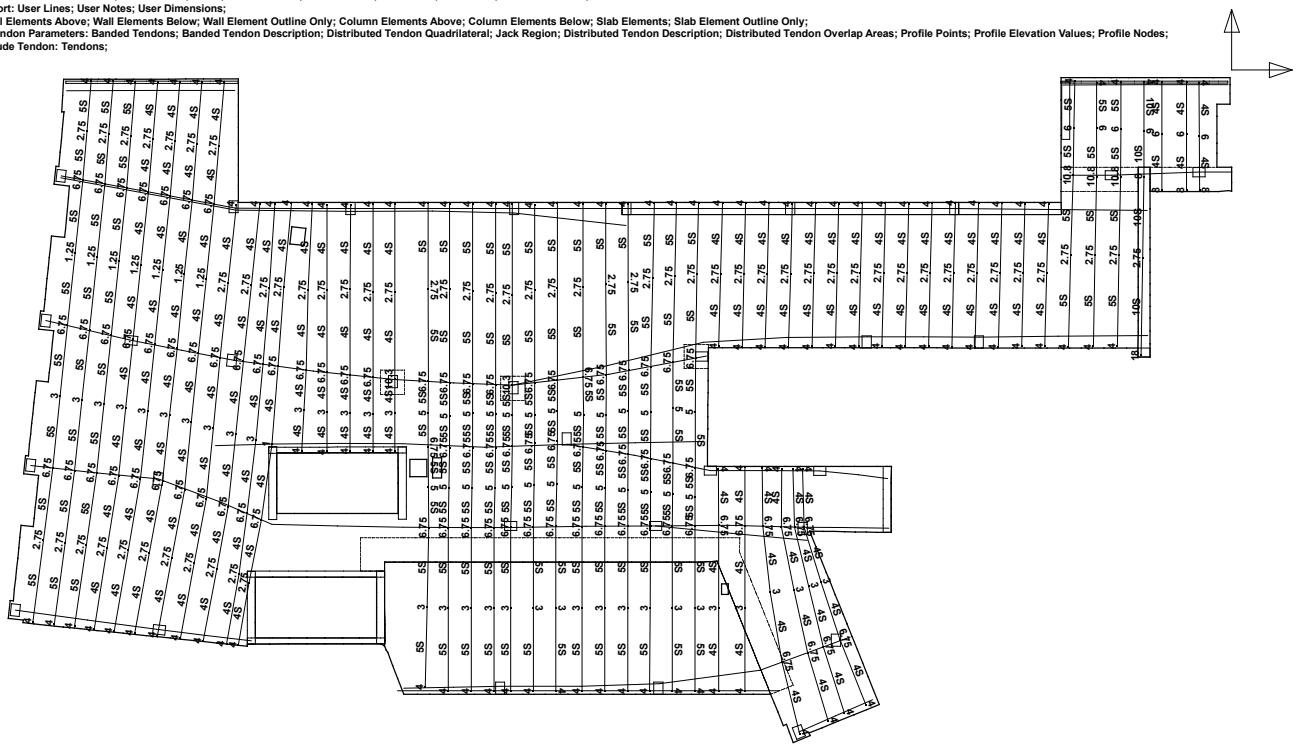
# Manual Latitude Tendon: Standard Plan

**Manual Latitude Tendon: Tendons; Num Strands; Jacks; Tendon Points; Profile Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Latitude Tendon Parameters: Banded Tendons; Banded Tendon Description; Distributed Tendon Quadrilateral; Distributed Tendon Description; Distributed Tendon Overlap Areas; Profile Points; Profile Elevation Values; Profile Nodes; Jack Region;**
**Scale = 1:380**



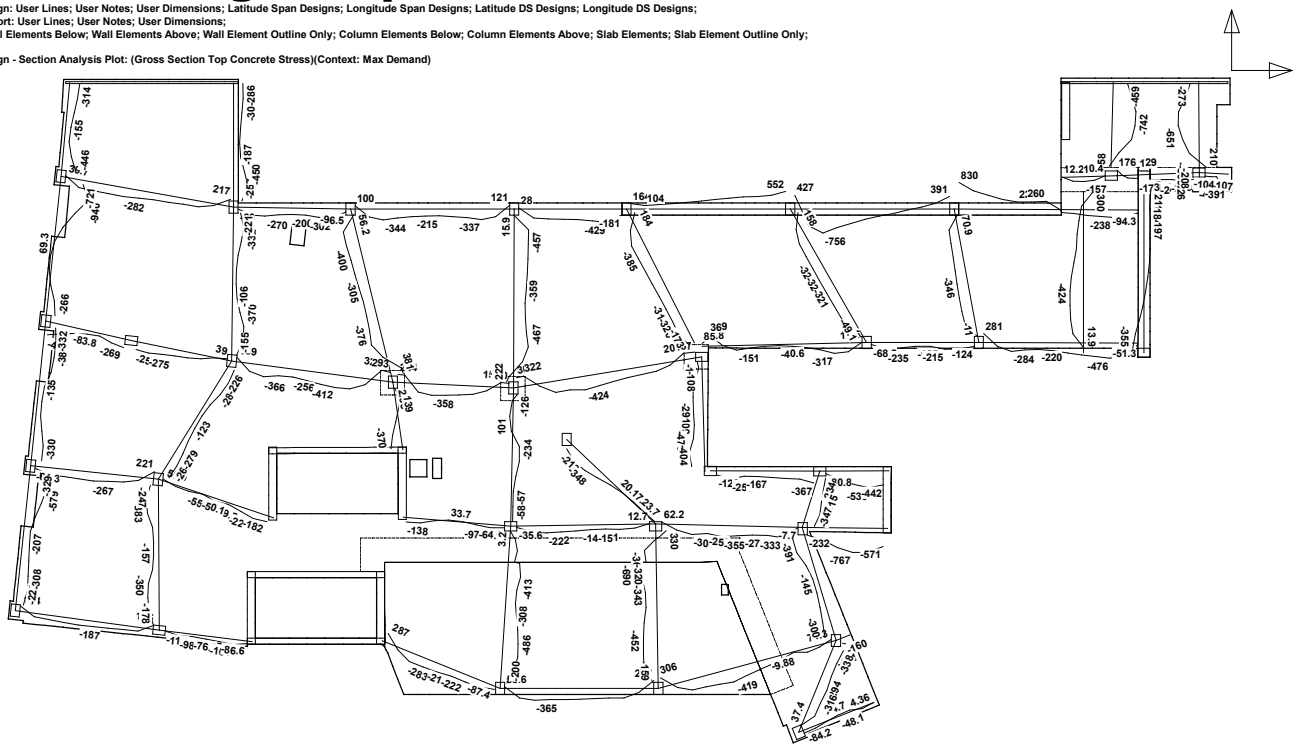
# Manual Longitude Tendon: Standard Plan

**Manual Longitude Tendon: Tendons; Num Strands; Jacks; Tendon Points; Profile Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Longitude Tendon Parameters: Banded Tendons; Banded Tendon Description; Distributed Tendon Quadrilateral; Jack Region; Distributed Tendon Description; Distributed Tendon Overlap Areas; Profile Points; Profile Elevation Values; Profile Nodes;**
**Manual Latitude Tendon: Tendons;**
**Scale = 1:380**



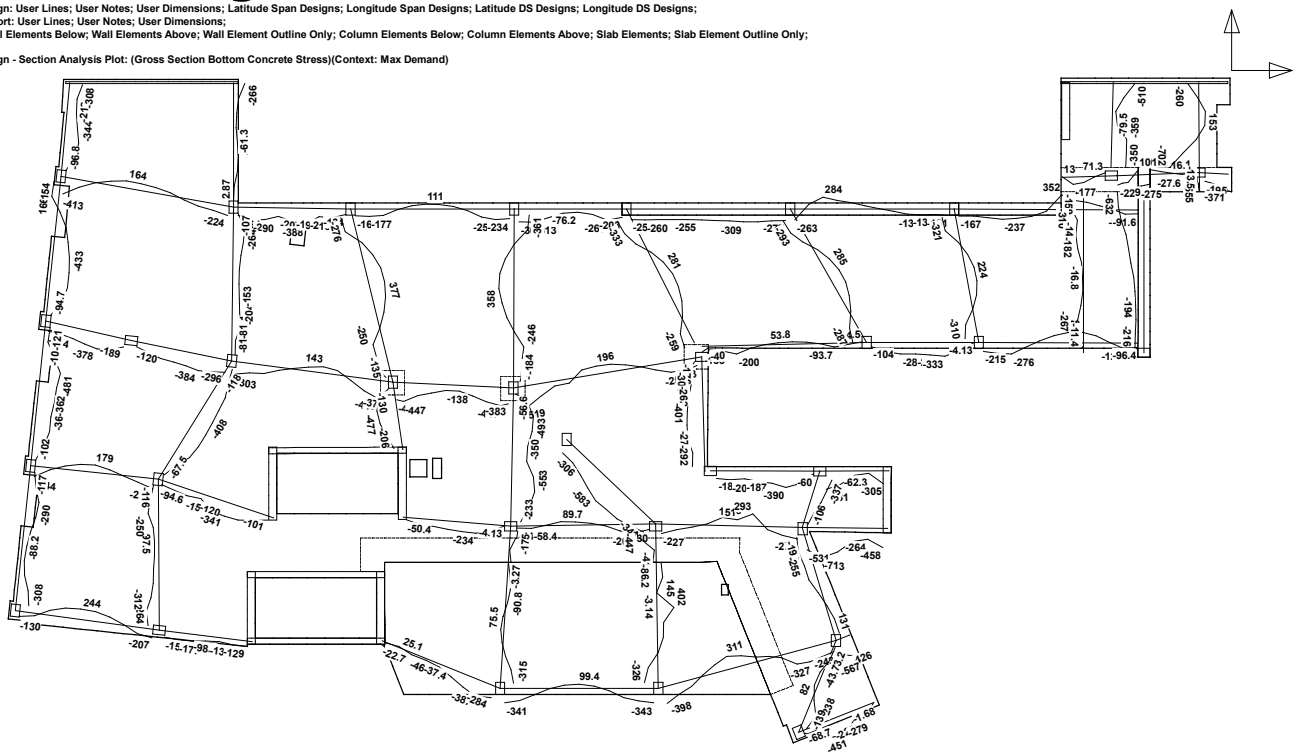
# Service Design: Top Stress Plan

**Service Design: User Lines; User Notes; User Dimensions; Latitude Span Designs; Longitude Span Designs; Latitude DS Designs; Longitude DS Designs;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**
**Service Design - Section Analysis Plot: (Gross Section Top Concrete Stress)(Context: Max Demand)**



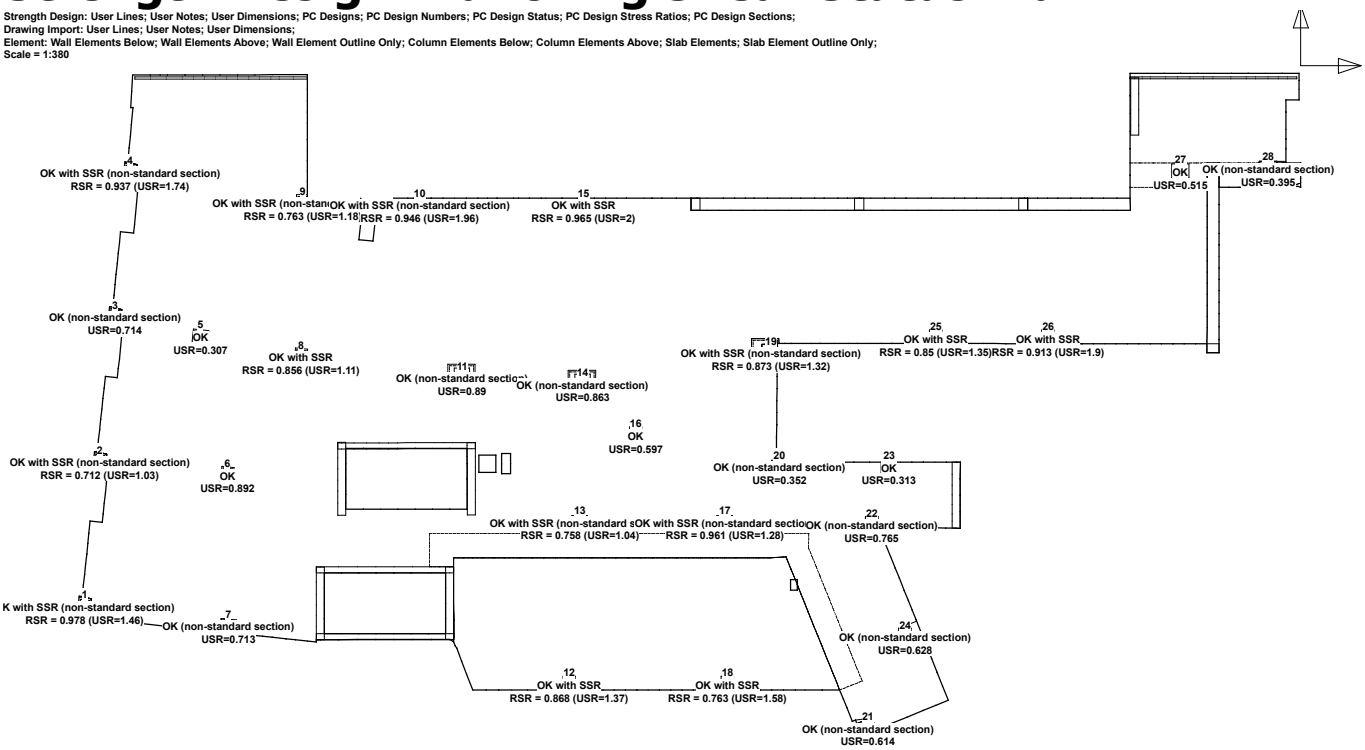
# Service Design: Bottom Stress Plan

**Service Design: User Lines; User Notes; User Dimensions; Latitude Span Designs; Longitude Span Designs; Latitude DS Designs; Longitude DS Designs;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**
**Service Design - Section Analysis Plot: (Gross Section Bottom Concrete Stress)(Context: Max Demand)**



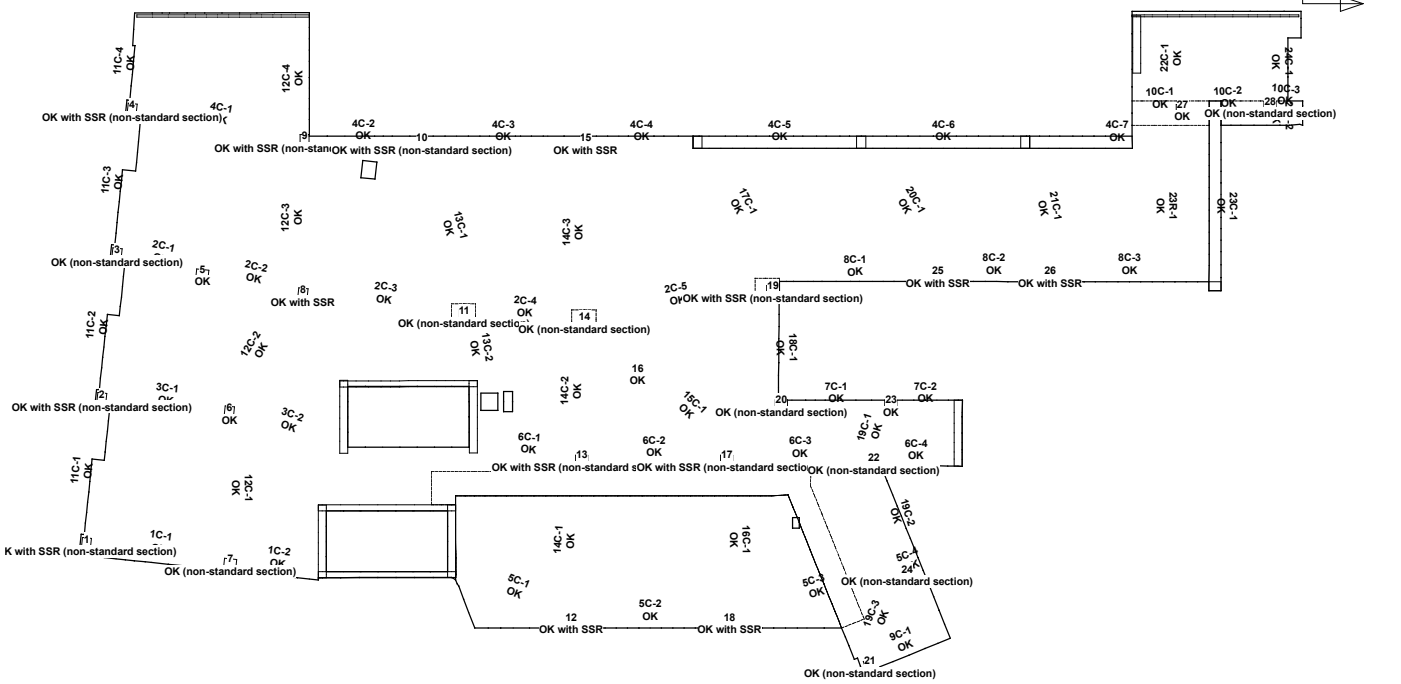
# Strength Design: Punching Shear Status Plan

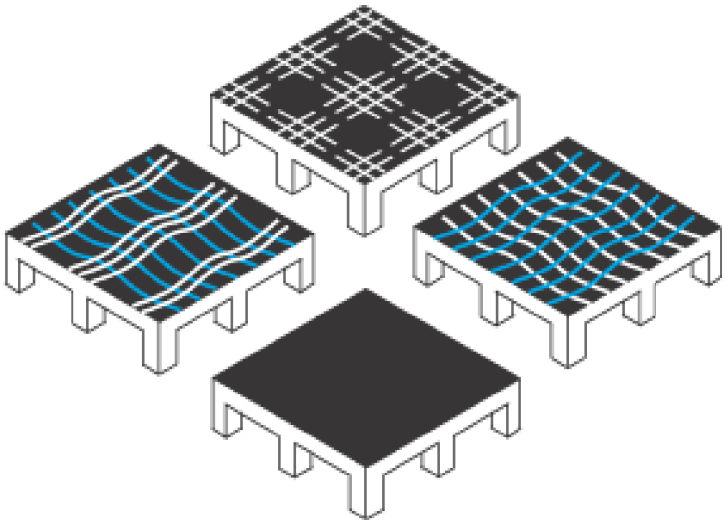
Strength Design: User Lines; User Notes; User Dimensions; PC Designs; PC Design Numbers; PC Design Status; PC Design Stress Ratios; PC Design Sections;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;
Scale = 1:380



# Design Status: Status Plan

**Design Status: Latitude Span Designs; Longitude Span Designs; Span Design Numbers; Span Design Status; Latitude DS Designs; Longitude DS Designs; DS Design Numbers; DS Design Status; PC Designs; PC Design Numbers; PC Design Status; User Notes; User Lines; User Di**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**





Level 3.24.2.cpt
10/31/2019

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# Units

## Geometry Units

Plan Dimensions: feet
Angles: degrees

Slab Thickness: inches
Elevations: inches

Support Dimensions: inches
Support Height: feet

## Loading and Reaction Units

Point Force: Kips
- Report As Zero: 0 Kips

Point Moment: kip-ft
- Report As Zero: 0 kip-ft

Line Force: kips/ft
- Report As Zero: 0 kips/ft

Line Moment: Kips
- Report As Zero: 0 Kips

Area Force: psf
- Report As Zero: 0 psf

Area Moment: #/foot
- Report As Zero: 0 #/foot

## Spring and Stiffness Units

Point Force Spring: kips/in
Point Moment Spring: k-ft/°

Line Force Spring: ksi
Line Moment Spring: k/°

Area Force Spring: pci
Area Moment Spring: k/ft°

## Slab Analysis Units

Force: Kips
- Report As Zero: 0 Kips

Force Per Width: kips/ft
- Report As Zero: 0 kips/ft

Moment: kip-ft
- Report As Zero: 0 kip-ft

Moment Per Width: Kips
- Report As Zero: 0 Kips

Concrete Stress: psi
- Report As Zero: 0 psi

Deflection: inches
- Report As Zero: 0 inches

## Materials Units

Concrete Volume: $yd^3$
Reinforcement Weight: tons
PT Weight: pounds

Reinforcing Area: $in^2$
Tendon Profile: inches
Cover: inches

PT Force: Kips
Reinforcing Stress: ksi

## Miscellaneous Units

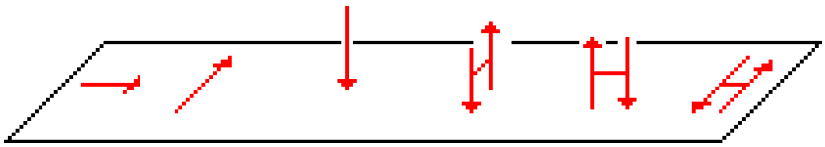
Floor Area: $ft^2$
Tendon Angles (for friction): radians

Density: pcf

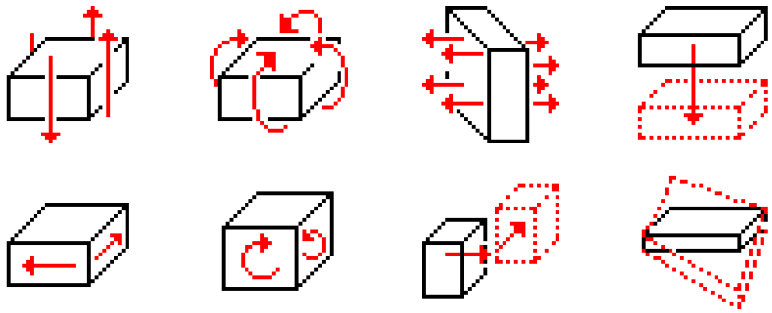
Elongations: inches

# Signs

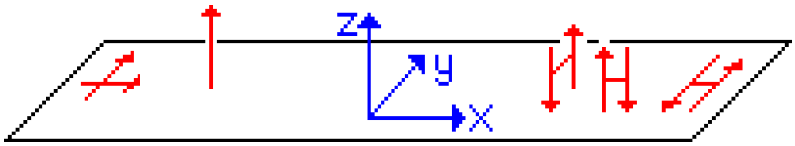
**Positive Loads**



**Positive Analysis**



**Positive Reactions**



# Materials

## Concrete Mix

| Mix Name | Density (pcf) | Density For Loads (pcf) | f'ci (psi) | f'c (psi) | fcui (psi) | fcu (psi) | Poissons Ratio | Ec Calc | User Eci (psi) | User Ec (psi) |
|---|---|---|---|---|---|---|---|---|---|---|
| 3000 psi | 150 | 150 | 3000 | 3000 | 3725 | 3725 | 0.2 | Code | 2500000 | 3000000 |
| 4000 psi | 150 | 150 | 3000 | 4000 | 3725 | 4975 | 0.2 | Code | 2500000 | 3000000 |
| 5000 psi | 150 | 150 | 3000 | 5000 | 3725 | 6399 | 0.2 | Code | 2500000 | 3000000 |
| 6000 psi | 150 | 150 | 3000 | 6000 | 3725 | 7450 | 0.2 | Code | 2500000 | 3000000 |

## PT Systems

| System Name | Type | Aps ($in^2$) | Eps (ksi) | fse (ksi) | fpy (ksi) | fpu (ksi) | Duct Width (inches) | Strands Per Duct | Min Radius (feet) |
|---|---|---|---|---|---|---|---|---|---|
| ½" Unbonded | unbonded | 0.153 | 28000 | 175 | 243 | 270 | 0.5 | 1 | 6 |
| ½" Bonded | bonded | 0.153 | 28000 | 160 | 243 | 270 | 3 | 4 | 6 |
| 0.6" Unbonded | unbonded | 0.217 | 28000 | 175 | 243 | 270 | 0.6 | 1 | 8 |
| 0.6" Bonded | bonded | 0.217 | 28000 | 160 | 243 | 270 | 4 | 4 | 8 |

## PT Stressing Parameters

| System Name | Jacking Stress (ksi) | Seating Loss (inches) | Anchor Friction | Wobble Friction (1/feet) | Angular Friction (1/radians) | Long-Term Losses (ksi) |
|---|---|---|---|---|---|---|
| ½" Unbonded | 216 | 0.25 | 0 | 0.0014 | 0.07 | 22 |
| ½" Bonded | 216 | 0.25 | 0.02 | 0.001 | 0.2 | 22 |
| 0.6" Unbonded | 216 | 0.25 | 0 | 0.0014 | 0.07 | 22 |
| 0.6" Bonded | 216 | 0.25 | 0.02 | 0.001 | 0.2 | 22 |

## Reinforcing Bars

| Bar Name | As ($in^2$) | Es (ksi) | Fy (ksi) | Coating | Straight Ld/Db | 90 Hook Ld/Db | 180 Hook Ld/Db |
|---|---|---|---|---|---|---|---|
| #3 | 0.11 | 29000 | 60 | None | Code | Code | Code |
| #4 | 0.2 | 29000 | 60 | None | Code | Code | Code |
| #5 | 0.31 | 29000 | 60 | None | Code | Code | Code |
| #6 | 0.44 | 29000 | 60 | None | Code | Code | Code |
| #7 | 0.6 | 29000 | 60 | None | Code | Code | Code |
| #8 | 0.79 | 29000 | 60 | None | Code | Code | Code |
| #9 | 1 | 29000 | 60 | None | Code | Code | Code |
| #10 | 1.27 | 29000 | 60 | None | Code | Code | Code |
| #11 | 1.56 | 29000 | 60 | None | Code | Code | Code |

# Materials (2)

## SSR Systems

| *SSR System Name* | *Stud Area (in²)* | *Head Area (in²)* | *Min Clear Head Spacing (inches)* | *Specified Stud Spacing (inches)* | *Fy (ksi)* | *Stud Spacing Rounding Increment (inches)* | *Min Studs Per Rail* | *System Type* |
|---|---|---|---|---|---|---|---|---|
| 3/8" SSR | 0.11 | 1.11 | 0.5 | None | 50 | 0.25 | 2 | Rail |
| 1/2" SSR | 0.196 | 1.96 | 0.5 | None | 50 | 0.25 | 2 | Rail |
| 5/8" SSR | 0.307 | 3.07 | 0.5 | None | 50 | 0.25 | 2 | Rail |
| 3/4" SSR | 0.442 | 4.42 | 0.5 | None | 50 | 0.25 | 2 | Rail |
| Ancon Shearfix Auto-Size | 0.1217 | 1.096 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 10 mm | 0.1217 | 1.096 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 12 mm | 0.1753 | 1.578 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 14 mm | 0.2386 | 2.147 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 16 mm | 0.3116 | 2.805 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 20 mm | 0.4869 | 4.383 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 24 mm | 0.7012 | 6.311 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |

# Loadings

| *Loading Name* | *Type* | *Analysis* | *On-Pattern Factor* | *Off-Pattern Factor* |
|---|---|---|---|---|
| Self-Dead Loading | Self-Weight | Normal | 1 | 1 |
| Balance Loading | Balance | Normal | 1 | 1 |
| Hyperstatic Loading | Hyperstatic | Hyperstatic | 1 | 1 |
| Temporary Construction (At Stressing) Loading | Stressing Dead | Normal | 1 | 1 |
| Other Dead Loading | Dead | Normal | 1 | 1 |
| Live (Reducible) Loading | Live (Reducible) | Normal | 1 | 0 |
| Live (Unreducible) Loading | Live (Unreducible) | Normal | 1 | 0 |
| Live (Storage) Loading | Live (Storage) | Normal | 1 | 0 |
| Live (Parking) Loading | Live (Parking) | Normal | 1 | 0 |
| Live (Roof) Loading | Live (Roof) | Normal | 1 | 0 |
| Snow Loading | Snow | Normal | 1 | 1 |
| Seismic E/W | Ultimate Seismic 1 (transfer) | Normal | 1 | 0 |
| Seismic N/S | Ultimate Seismic 1 (transfer) | Normal | 1 | 0 |

# Load Combinations

## All Dead LC

Active Design Criteria: <none>
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |

## Dead + Balance LC

Active Design Criteria: <none>
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |

## Initial Service LC

Active Design Criteria: Initial Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1.13 | 1.13 |
| Temporary Construction (At Stressing) Loading | 1 | 1 |

## Service LC: D + L

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Reducible) Loading | 1 | 0 |
| Live (Unreducible) Loading | 1 | 0 |
| Live (Storage) Loading | 1 | 0 |
| Live (Parking) Loading | 1 | 0 |

## Service LC: D + Lr

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Roof) Loading | 1 | 0 |

# Load Combinations (2)

## Service LC: D + S

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Snow Loading | 1 | 0 |

## Service LC: D + 0.75L + 0.75Lr

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Reducible) Loading | 0.75 | 0 |
| Live (Unreducible) Loading | 0.75 | 0 |
| Live (Storage) Loading | 0.75 | 0 |
| Live (Parking) Loading | 0.75 | 0 |
| Live (Roof) Loading | 0.75 | 0 |

## Service LC: D + 0.75L + 0.75S

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Reducible) Loading | 0.75 | 0 |
| Live (Unreducible) Loading | 0.75 | 0 |
| Live (Storage) Loading | 0.75 | 0 |
| Live (Parking) Loading | 0.75 | 0 |
| Snow Loading | 0.75 | 0 |

## Sustained Service LC

Active Design Criteria: Sustained Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Reducible) Loading | 0.5 | 0.5 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Live (Storage) Loading | 1 | 1 |
| Live (Parking) Loading | 0.5 | 0.5 |
| Live (Roof) Loading | 0.5 | 0.5 |

# Load Combinations (3)

## Factored LC: 1.4D

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.4 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.4 | 0.9 |

## Factored LC: 1.2D + 1.6L + 0.5Lr

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.2 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.2 | 0.9 |
| Live (Reducible) Loading | 1.6 | 0 |
| Live (Unreducible) Loading | 1.6 | 0 |
| Live (Storage) Loading | 1.6 | 0 |
| Live (Parking) Loading | 1.6 | 0 |
| Live (Roof) Loading | 0.5 | 0 |

## Factored LC: 1.2D + f1L + 1.6Lr

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.2 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.2 | 0.9 |
| Live (Reducible) Loading | 0.5 | 0 |
| Live (Unreducible) Loading | 1 | 0 |
| Live (Storage) Loading | 1 | 0 |
| Live (Parking) Loading | 1 | 0 |
| Live (Roof) Loading | 1.6 | 0 |

## Factored LC: 1.2D + 1.6L + 0.5S

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.2 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.2 | 0.9 |
| Live (Reducible) Loading | 1.6 | 0 |
| Live (Unreducible) Loading | 1.6 | 0 |
| Live (Storage) Loading | 1.6 | 0 |
| Live (Parking) Loading | 1.6 | 0 |
| Snow Loading | 0.5 | 0 |

# Load Combinations (4)

## Factored LC: 1.2D + f1L + 1.6S

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.2 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.2 | 0.9 |
| Live (Reducible) Loading | 0.5 | 0 |
| Live (Unreducible) Loading | 1 | 0 |
| Live (Storage) Loading | 1 | 0 |
| Live (Parking) Loading | 1 | 0 |
| Snow Loading | 1.6 | 0 |

## Long Term deflection

Active Design Criteria: <none>
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 3.35 | 3.35 |
| Balance Loading | 3.35 | 3.35 |
| Other Dead Loading | 3.35 | 3.35 |
| Live (Unreducible) Loading | 2 | 2 |
| Snow Loading | 1 | 1 |

## Earthquake N-S: (1.2+.2*Sds)D + 2.5E + 0.5L+0.2S

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.344 | 1.344 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.344 | 1.344 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Snow Loading | 0.2 | 0.2 |
| Seismic N/S | 2.5 | 2.5 |

## Earthquake N-S: (0.9-0.2*Sds)D + 2.5E

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.756 | 0.756 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 0.756 | 0.756 |
| Seismic N/S | 2.5 | 2.5 |

# Load Combinations (5)

## Earthquake E-W: (1.2+0.2*Sds)D + 2.5E + 0.5L+0.2S

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.344 | 1.344 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.344 | 1.344 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Snow Loading | 0.2 | 0.2 |
| Seismic E/W | 2.5 | 2.5 |

## Earthquake E-W: (0.9-0.2*Sds)D + 2.5E

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.756 | 0.756 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 0.756 | 0.756 |
| Seismic E/W | 2.5 | 2.5 |

## Earthquake N-S: (1.0+0.14*Sds)D + 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.101 | 1.101 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.101 | 1.101 |
| Seismic N/S | 1.75 | 1.75 |

## Earthquake N-S: (1.0+0.105*Sds)D + 1.3125E + 0.75L + 0.75S

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.076 | 1.076 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.076 | 1.076 |
| Live (Unreducible) Loading | 0.75 | 0.75 |
| Snow Loading | 0.75 | 0.75 |
| Seismic N/S | 1.313 | 1.313 |

# Load Combinations (6)

## Earthquake N-S: (0.6-0.14*Sds)D + 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.499 | 0.499 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 0.899 | 0.899 |
| Seismic N/S | 1.75 | 1.75 |

## Earthquake E-W: (1.0+0.14*Sds)D + 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.101 | 1.101 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.101 | 1.101 |
| Seismic E/W | 1.75 | 1.75 |

## Earthquake E-W: (1.0+0.105*Sds)D + 1.3125E + 0.75L+0.75S

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.076 | 1.076 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.076 | 1.076 |
| Live (Unreducible) Loading | 0.75 | 0.75 |
| Snow Loading | 0.75 | 0.75 |
| Seismic E/W | 1.313 | 1.313 |

## Earthquake N-S: (1.2+0.2*Sds)D - 2.5E + .5L + 0.2S

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.344 | 1.344 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.344 | 1.344 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Snow Loading | 0.2 | 0.2 |
| Seismic N/S | -2.5 | -2.5 |

# Load Combinations (7)

## Earthquake N-S: (0.9-0.2*Sds)D - 2.5E

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.756 | 0.756 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 0.756 | 0.756 |
| Seismic N/S | -2.5 | -2.5 |

## Earthquake E-W: (1.2+0.2*Sds)D - 2.5E + .5L + 0.2S

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.344 | 1.344 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.344 | 1.344 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Snow Loading | 0.2 | 0.2 |
| Seismic E/W | -2.5 | -2.5 |

## Earthquake E-W: (0.9-0.2*Sds)D - 2.5E

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.756 | 0.756 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 0.756 | 0.756 |
| Seismic E/W | -2.5 | -2.5 |

## Earthquake N-S: (1.0+0.14*Sds)D - 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.101 | 1.101 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.101 | 1.101 |
| Seismic N/S | -1.75 | -1.75 |

# Load Combinations (8)

## Earthquake N-S: (1.0+0.105*Sds)D - 1.3125E + 0.75L+.75S

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.076 | 1.076 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.076 | 1.076 |
| Live (Unreducible) Loading | 0.75 | 0.75 |
| Snow Loading | 0.75 | 0.75 |
| Seismic N/S | -1.313 | -1.313 |

## Earthquake N-S: (0.6-0.14*Sds)D - 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.499 | 0.499 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 0.899 | 0.899 |
| Seismic N/S | -1.75 | -1.75 |

## Earthquake E-W: (1.0+0.14*Sds)D - 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.101 | 1.101 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.101 | 1.101 |
| Seismic E/W | -1.75 | -1.75 |

## Earthquake E-W: (0.6-0.14*Sds)D + 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.499 | 0.499 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 0.899 | 0.899 |
| Seismic E/W | 1.75 | 1.75 |

## Earthquake E-W: (0.6-0.14*Sds)D - 1.75E

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.499 | 0.499 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 0.899 | 0.899 |
| Seismic E/W | -1.75 | -1.75 |

# Load Combinations (9)

## Earthquake E-W: (1.0+0.105*Sds)D - 1.3125E + 0.75L + 0.75S

Active Design Criteria: Service Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.076 | 1.076 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1.076 | 1.076 |
| Live (Unreducible) Loading | 0.75 | 0.75 |
| Snow Loading | 0.75 | 0.75 |
| Seismic E/W | -1.313 | -1.313 |

# Design Rules

## Code Minimum Desig

318-11 Min. Reinforcement

## User Minimum Desig

Specified Min. Reinforcement

## Initial Service Desig

318-11 Initial Service Design

## Service Design

318-11 Service Design
Include detailed section analysis

## Sustained Service Desig

318-11 Sustained Service Design

## Strength Design

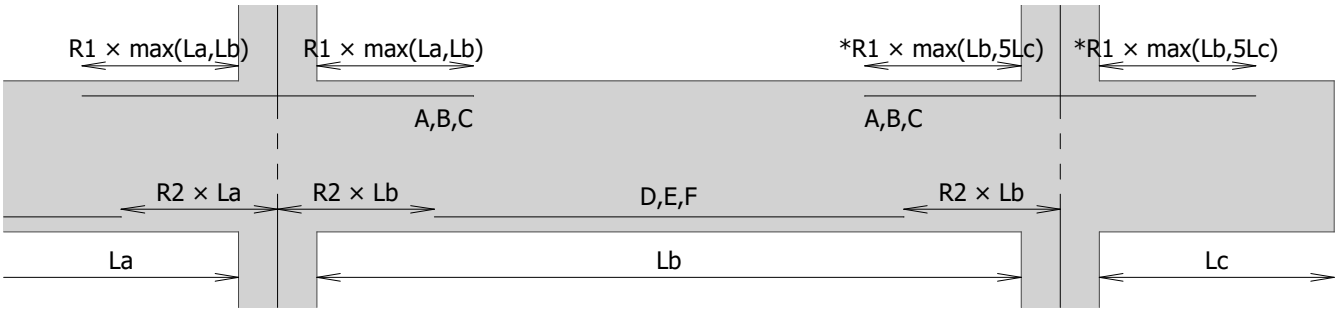
318-11 Strength Design
Punching Shear Design

## Ductility Desig

318-11 Ductility Design

# Detailing Rules

## Custom Span Detailing Rules




| *Rule Name* | *A Fraction* | *A R1* | *B Fraction* | *B R1* | *C Fraction* | *C R1* | *D Fraction* | *D R2* | *E Fraction* | *E R2* | *F Fraction* | *F R2* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| None | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

"A", "B" and "C", are support reinforcement sets, based on the peak reinforcement in the support zone.
"D", "E" and "F", are span reinforcement sets, based on the peak reinforcement in the span zone.
"*R1" is never taken as greater than 0.2 when multiplied by Lc (or Lcc).
"Fraction" is the ratio of set reinforcement to peak reinforcement. It is always in the 0.0 to 1.0 range.

# Load History

| *Load History Step Name* | *Load Combination* | *Duration (days)* | *Total Age (days)* |
|---|---|---|---|
| Maximum Short Term Load | Service LC: D + L | 30 | 33 |
| Sustained Load | Sustained Service LC | 5000 | 5033 |
| Final Instantaneous Load | Service LC: D + L | 0 | 5033 |

# Mesh Input: Walls Below Table

| Number | Location feet | Mix | Fixed Near | Fixed Far | Comp. | Height feet | Thickness inches |
|---|---|---|---|---|---|---|---|
| 1 | (-163.6,-1.647)(-192,-1.576) | 5000 psi | false | false | true | 10 | 12 |
| 2 | (-161.7,-82.62)(-161.7,-59.09) | 5000 psi | false | false | true | 10 | 16 |
| 3 | (-158.1,-62.08)(-158.2,-74.02) | 5000 psi | false | false | true | 10 | 16 |
| 4 | (-139.7,-94.13)(-162.3,-94.03) | 5000 psi | false | false | true | 10 | 12 |
| 5 | (-139.7,-83.13)(-162.3,-83.05) | 5000 psi | false | false | true | 10 | 12 |
| 6 | (-136.1,-62.6)(-158.8,-62.59) | 5000 psi | false | false | true | 10 | 12 |
| 7 | (-161,-1.721)(-123.1,-1.721) | 5000 psi | false | false | true | 10 | 12 |
| 8 | (-140.4,-82.62)(-140.3,-94.62) | 5000 psi | false | false | true | 10 | 16 |
| 9 | (-136.8,-62.11)(-136.7,-74.01) | 5000 psi | false | false | true | 10 | 16 |
| 10 | (-119.9,-1.567)(-67.86,-1.567) | 5000 psi | false | false | true | 10 | 12 |
| 11 | (-56.84,-76.25)(-56.83,-55.33) | 5000 psi | false | false | true | 10 | 16 |
| 12 | (-57.52,-65.84)(-41.13,-55.81) | 5000 psi | false | false | true | 10 | 12 |
| 13 | (-66.17,-1.72)(-29.51,-1.720) | 5000 psi | false | false | true | 10 | 12 |
| 14 | (-34.82,-75.75)(-57.5,-75.74) | 5000 psi | false | false | true | 10 | 12 |
| 15 | (-36.33,-88.13)(-36.33,-55.88) | 5000 psi | false | false | true | 11 | 16 |
| 16 | (-35.54,-65.33)(-35.5,-76.25) | 5000 psi | false | false | true | 10 | 16 |
| 17 | (-27.41,-1.659)(-27.39,-1.104) | 5000 psi | false | false | true | 11 | 16 |
| 18 | (-28.05,-1.658)(-1.22,-1.671) | 5000 psi | false | false | true | 10 | 12 |

# Mesh Input: Walls Below Table (2)

ess

| *Shear Wall* | *Use Spec LLR Params* | *Spec. LLR Levels* | *Spec. Trib. Area ft²* | *Spec. Infl. Area ft²* | *Max LLR %* |
|---|---|---|---|---|---|
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |

# Mesh Input: Columns Below Table

| *Number* | *Location feet* | *Mix* | *Fixed Near* | *Fixed Far* | *Comp.* | *Height feet* | *B inches* | *D inches* |
|---|---|---|---|---|---|---|---|---|
| 1 | (-200.6,-89.05) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 2 | (-200.1,-144.6) | 5000 psi | true | true | true | 10 | 0 | 24 |
| 3 | (-199.1,-134.7) | 5000 psi | true | true | true | 10 | 0 | 24 |
| 4 | (-198.6,-115.2) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 5 | (-198,-65.18) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 6 | (-195.5,-41.31) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 7 | (-193,-17.44) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 8 | (-191.6,-151) | 5000 psi | true | true | true | 10 | 0 | 24 |
| 9 | (-182.2,-147.7) | 5000 psi | true | true | true | 10 | 0 | 24 |
| 10 | (-180.8,-44.12) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 11 | (-180.5,-117.1) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 12 | (-177,-67.39) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 13 | (-176.8,-92.28) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 14 | (-166,-123.6) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 15 | (-164.9,-47.89) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 16 | (-164.6,-22.53) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 17 | (-164.2,-141.7) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 18 | (-145.3,-22.83) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 19 | (-144.5,-120.4) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 20 | (-138.3,-51.35) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 21 | (-138.2,-136) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 22 | (-135.3,-110.1) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 23 | (-120.6,-101.9) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 24 | (-118.9,-75.16) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 25 | (-118.4,-52.35) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 26 | (-118.3,-22.83) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 27 | (-115.9,-127) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 28 | (-109.7,-60.83) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 29 | (-99.8,-22.83) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 30 | (-94.99,-75.16) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 31 | (-94.55,-101.9) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 32 | (-93.65,-118.1) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 33 | (-87.45,-47.25) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 34 | (-86.02,-66.08) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 35 | (-71.38,-109.1) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 36 | (-68.7,-22.67) | 5000 psi | false | true | true | 10 | 18 | 24 |
| 37 | (-67.92,-66.08) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 38 | (-65.26,-94) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 39 | (-60.2,-44.83) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 40 | (-49,-100.5) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 41 | (-45.8,-22.83) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 42 | (-41.7,-44.83) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 43 | (-28.53,-90.28) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 44 | (-19.02,-17.34) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 45 | (-14.45,-61.73) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 46 | (-14.45,-46.58) | 5000 psi | true | true | true | 10 | 24 | 18 |

# Mesh Input: Columns Below Table (2)

| *Angle degrees* | *Roller* | *I Factor* | *Use Spec LLR Params* | *Spec. LLR Levels* | *Spec. Trib. Area ft²* | *Spec. Infl. Area ft²* |
|---|---|---|---|---|---|---|
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| 84 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 112 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |

# Mesh Input: Columns Below Table (3)

| nfl. Area | Max LLR % |
|---|---|
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |
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| | 40 |
| | 40 |

# Mesh Input: Columns Below Table (4)

| *Number* | *Location feet* | *Mix* | *Fixed Near* | *Fixed Far* | *Comp.* | *Height feet* | *B inches* | *D inches* |
|---|---|---|---|---|---|---|---|---|
| 47 | (-5.364,-16.83) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 48 | (-5.313,-48.07) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 49 | (-3.839,-76.3) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 50 | (-3.5,-61.73) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 51 | (-1.469,-92.28) | 5000 psi | true | true | true | 10 | 18 | 24 |

# Mesh Input: Columns Below Table (5)

| *Angle degrees* | *Roller* | *I Factor* | *Use Spec LLR Params* | *Spec. LLR Levels* | *Spec. Trib. Area ft²* | *Spec. Infl. Area ft²* |
|---|---|---|---|---|---|---|
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |

# Mesh Input: Columns Below Table (6)

| *nfl. Area* | *Max LLR %* |
|---|---|
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |

# Mesh Input: Slab Areas Table

| *Number* | *Location feet* | *Mix* | *Thickness inches* | *TOC inches* | *Priority* | *Behavior* | *R-Axis degrees* |
|---|---|---|---|---|---|---|---|
| 1 | (-163.1,-142.3)(-165.7,-1 | 50508 pcf | 195.2,-24 | 07.1)(-192.1,-115.1 | 0)(-199.5,-12 | 24.3)(-199.7,-115.8 | (-199.3,-115.8)(-200 | 0,-121.8)(-204.9,-1 |
| 2 | (-192.3,-1)(-119.5,-1.00 | 50000 pcf | 119.5,-52.5 | 8(-108.2,-52.48)(-10 | 7.6,-48.52)(-1 | 79.08,-48.6)(-78.66,-5 | 2.53)(-67.49,-52 | 059)(-67.54,-1.012) |
| 3 | (-69.54,-1.067)(-69.54,-5 | 50000 pcf | 77.54,-51 | .46)(-77.54,-46.46)(-5 | 109.5,-46 | .46)(-109.5,-50.46 | (-117.5,-50.46)(-110 | 7.5,-1.067) |

# Mesh Input: Slab Areas Table (2)

| s | KMr | KMs | KMrs | KFr | KFs | KVrs |
|---|---|---|---|---|---|---|
| | 1 | 1 | 1 | 1 | 1 | 1 |
| | 1 | 1 | 1 | 1 | 1 | 1 |
| | 1 | 1 | 1 | 1 | 1 | 1 |

# Mesh Input: Beams Table

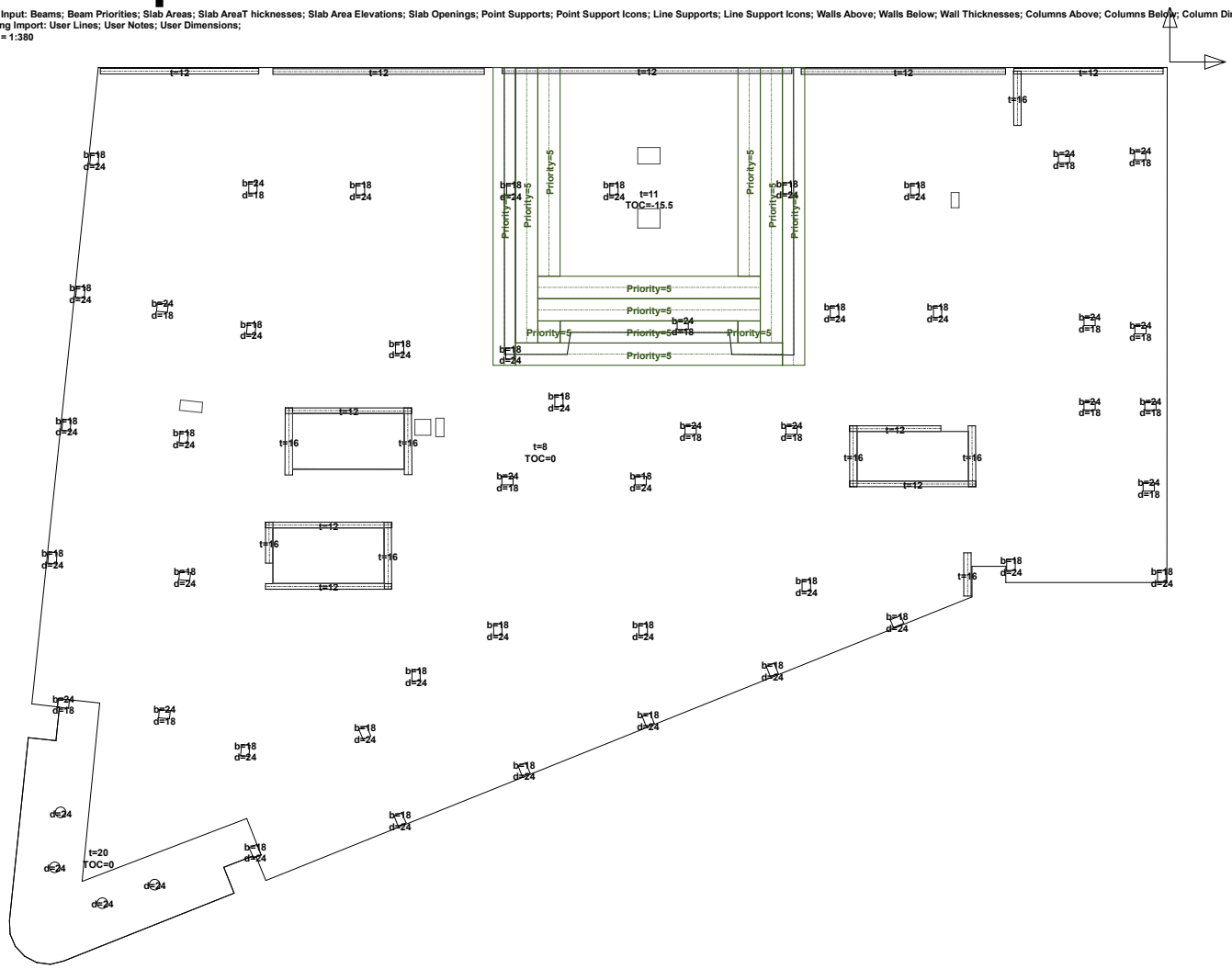
| Number | Location feet | Mix | Thickness inches | TOC inches | Priority | Mesh As Slab | Width inches |
|---|---|---|---|---|---|---|---|
| 1 | (-119.5,-1.007)(-119.5,-54.46)(-117.5,-1.007)(-117.5,-54.46) | 5000 psi | 26.5 | 0 | 12-15 | true | 48 |
| 2 | (-115.5,-1.007)(-115.5,-50.46)(-113.5,-1.007)(-113.5,-50.46) | 5000 psi | 14 | 0 | 12-15 | true | 48 |
| 3 | (-113.5,-48.46)(-109.5,-48.46)(-113.5,-46.46)(-109.5,-46.46) | 5000 psi | 16 | 0 | 12-15 | true | 48 |
| 4 | (-111.5,-1.007)(-111.5,-38.46)(-109.5,-1.007)(-109.5,-38.46) | 5000 psi | 13 | 0 | 13-15 | true | 48 |
| 5 | (-109.5,-48.46)(-77.54,-48.46)(-109.5,-46.46)(-77.54,-46.46) | 5000 psi | 26.5 | 0 | 12-15 | true | 48 |
| 6 | (-113.5,-44.46)(-73.54,-44.46)(-113.5,-42.46)(-73.54,-42.46) | 5000 psi | 12 | 0 | 12-15 | true | 48 |
| 7 | (-113.5,-40.46)(-73.54,-40.46)(-113.5,-38.46)(-73.54,-38.46) | 5000 psi | 13 | 0 | 13-15 | true | 48 |
| 8 | (-117.5,-52.46)(-69.53,-52.46)(-117.5,-50.46)(-69.53,-50.46) | 5000 psi | 26.5 | 0 | 12-15 | true | 48 |
| 9 | (-77.54,-48.46)(-73.54,-48.46)(-77.54,-46.46)(-73.54,-46.46) | 5000 psi | 16 | 0 | 12-15 | true | 48 |
| 10 | (-75.54,-1.012)(-75.54,-38.46)(-73.54,-1.012)(-73.54,-38.46) | 5000 psi | 13 | 0 | 13-15 | true | 48 |
| 11 | (-71.54,-1.012)(-71.54,-50.46)(-69.54,-1.012)(-69.54,-50.46) | 5000 psi | 14 | 0 | 12-15 | true | 48 |
| 12 | (-67.54,-1.012)(-67.54,-54.46)(-65.54,-1.012)(-65.54,-54.46) | 5000 psi | 26.5 | 0 | 12-15 | true | 48 |

# Mesh Input: Beams Table (2)

| Width inches | Behavior | KMr | KMs | KMrs | KFr | KFs | KVrs |
|---|---|---|---|---|---|---|---|
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |

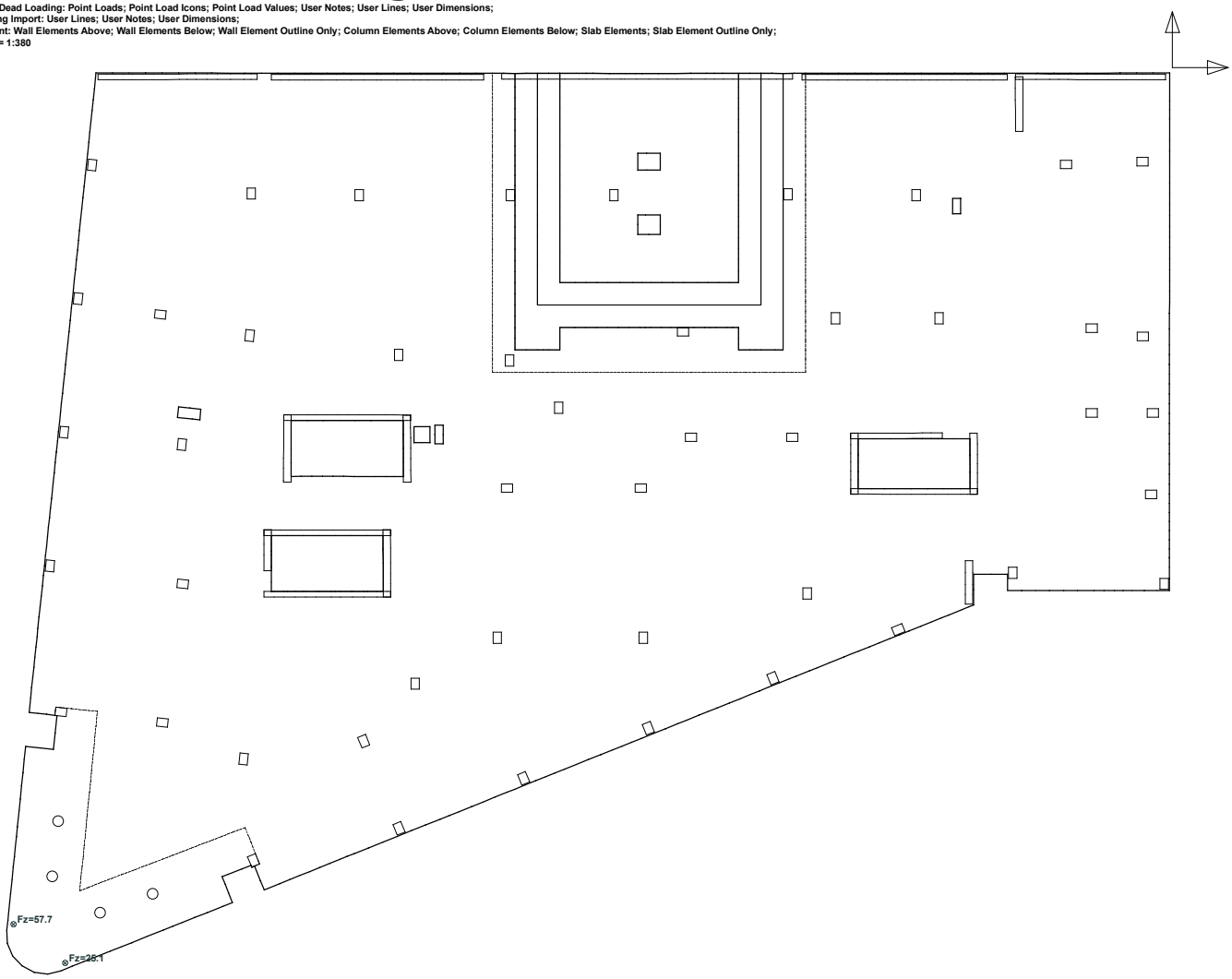
# Mesh Input: Standard Plan

Mesh Input: Beams; Beam Priorities; Slab Areas; Slab AreaT hicknesses; Slab Area Elevations; Slab Openings; Point Supports; Point Support Icons; Line Supports; Line Support Icons; Walls Above; Walls Below; Wall Thicknesses; Columns Above; Columns Below; Column Dimens
Drawing Import: User Lines; User Notes; User Dimensions;
Scale = 1:380



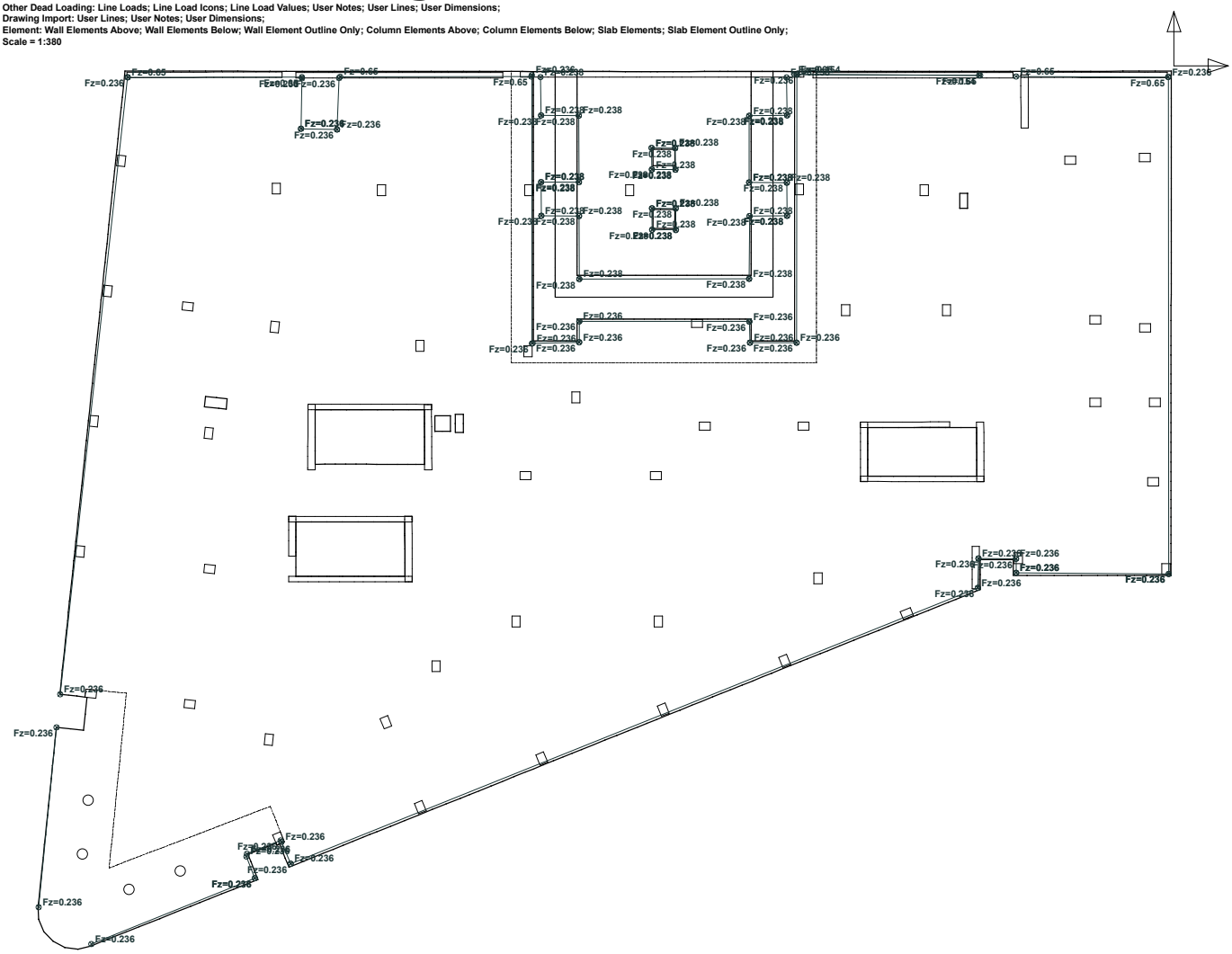
# Other Dead Loading: Point Loads Plan

**Other Dead Loading: Point Loads; Point Load Icons; Point Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



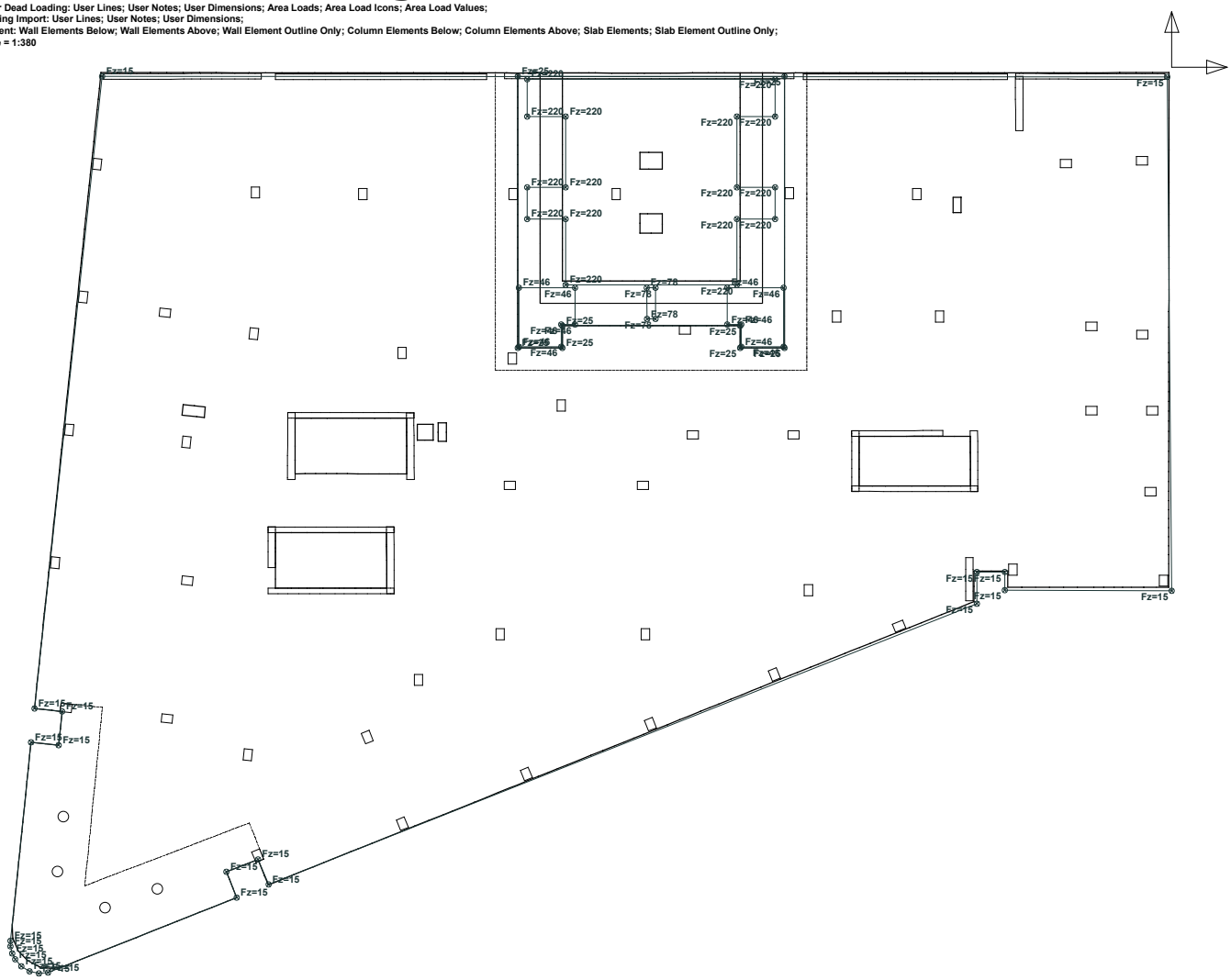
# Other Dead Loading: Line Loads Plan

**Other Dead Loading: Line Loads; Line Load Icons; Line Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



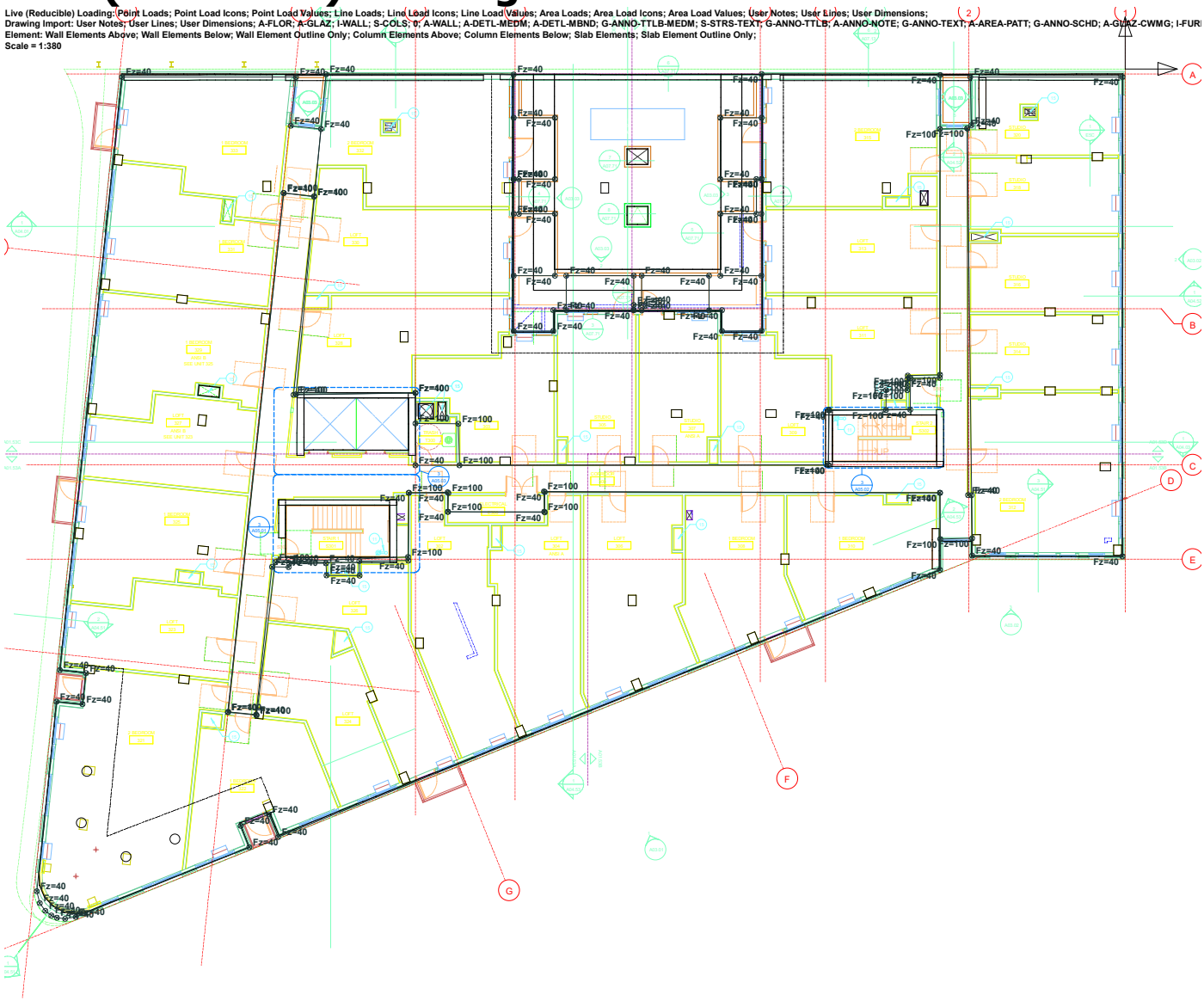
# Other Dead Loading: Area Loads Plan

**Other Dead Loading: User Lines; User Notes; User Dimensions; Area Loads; Area Load Icons; Area Load Values;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



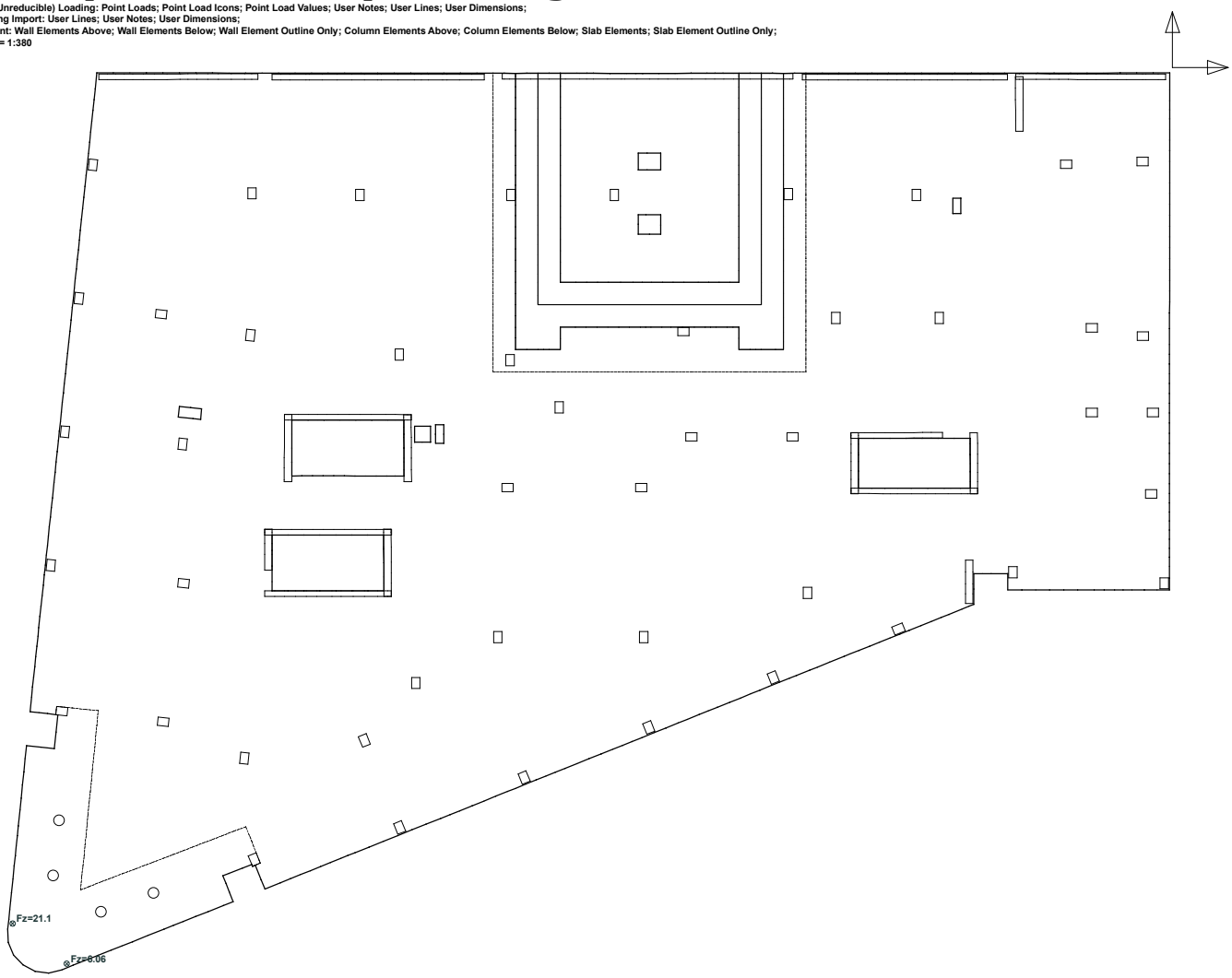
# Live (Reducible) Loading: All Loads Plan

**Live (Reducible) Loading: Point Loads; Point Load Icons; Point Load Values; Line Loads; Line Load Icons; Line Load Values; Area Loads; Area Load Icons; Area Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Notes; User Lines; User Dimensions; A-FLOR; A-GLAZ; I-WALL; S-COLS; 0; A-WALL; A-DETL-MEDM; A-DETL-MBND; G-ANNO-TTLB-MEDM; S-STRS-TEXT; G-ANNO-TTLB; A-ANNO-NOTE; G-ANNO-TEXT; A-AREA-PATT; G-ANNO-SCHD; A-GLAZ-CWMG; I-FURN**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



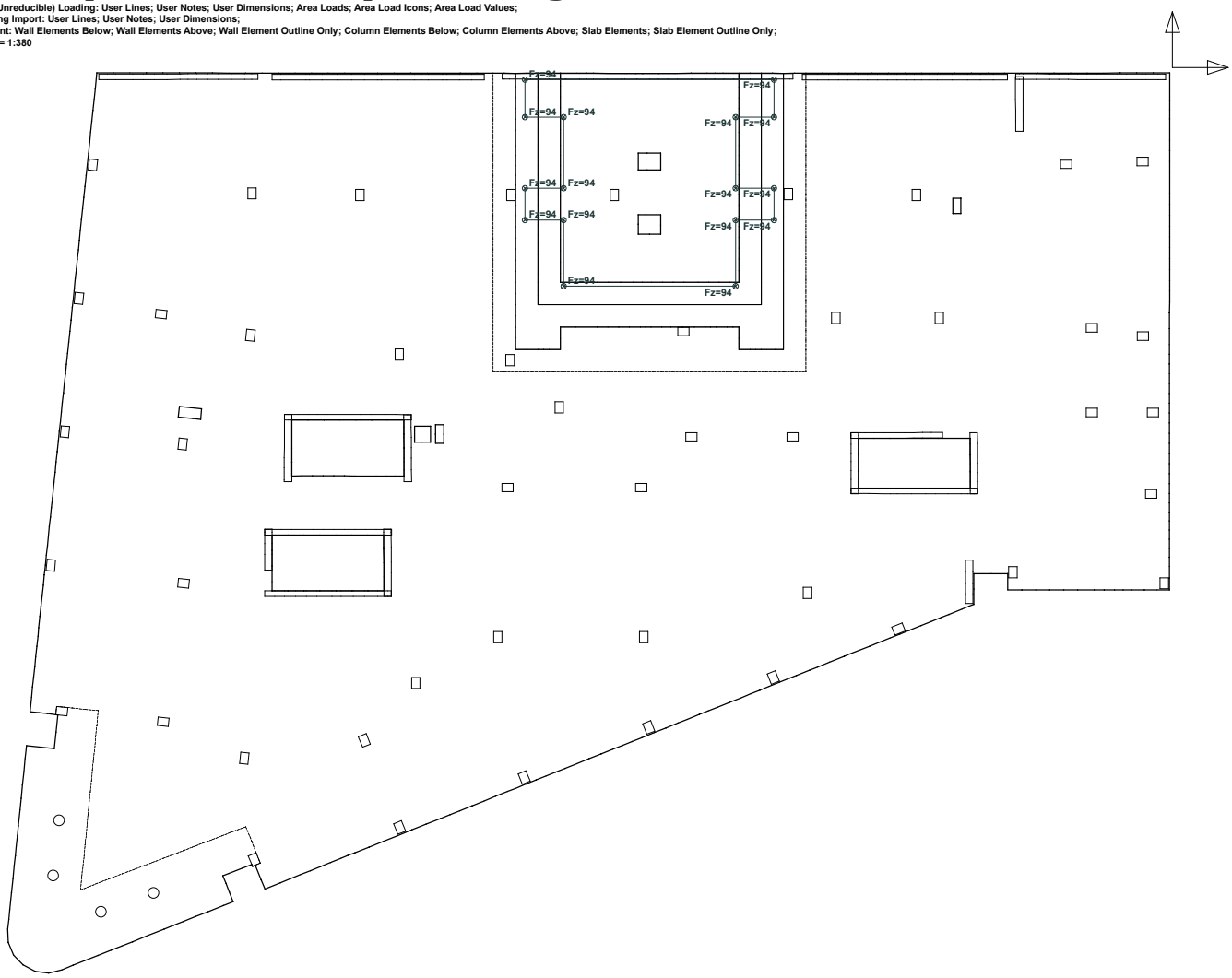
# Live (Unreducible) Loading: Point Loads Plan

**Live (Unreducible) Loading: Point Loads; Point Load Icons; Point Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



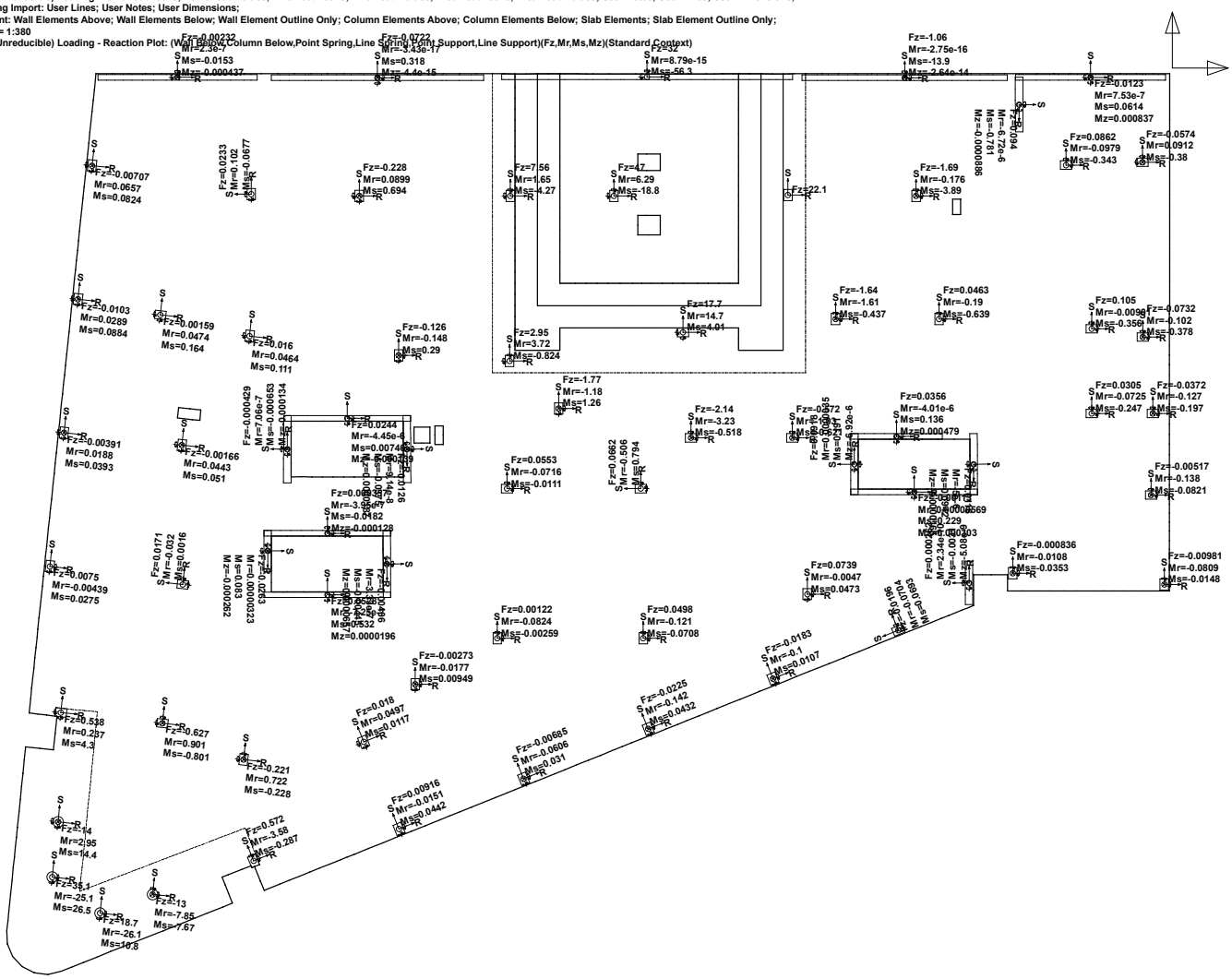
# Live (Unreducible) Loading: Area Loads Plan

**Live (Unreducible) Loading: User Lines; User Notes; User Dimensions; Area Loads; Area Load Icons; Area Load Values;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



# Live (Unreducible) Loading: Std Reactions Plan

Live (Unreducible) Loading: Point Load Icons; Point Load Values; Line Load Icons; Line Load Values; Area Load Icons; Area Load Values; User Notes; User Lines; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Live (Unreducible) Loading - Reaction Plot: (Wall Below,Column Below,Point Spring,Line Spring,Point Support,Line Support)(Fz,Mr,Ms,Mz)(Standard Context)

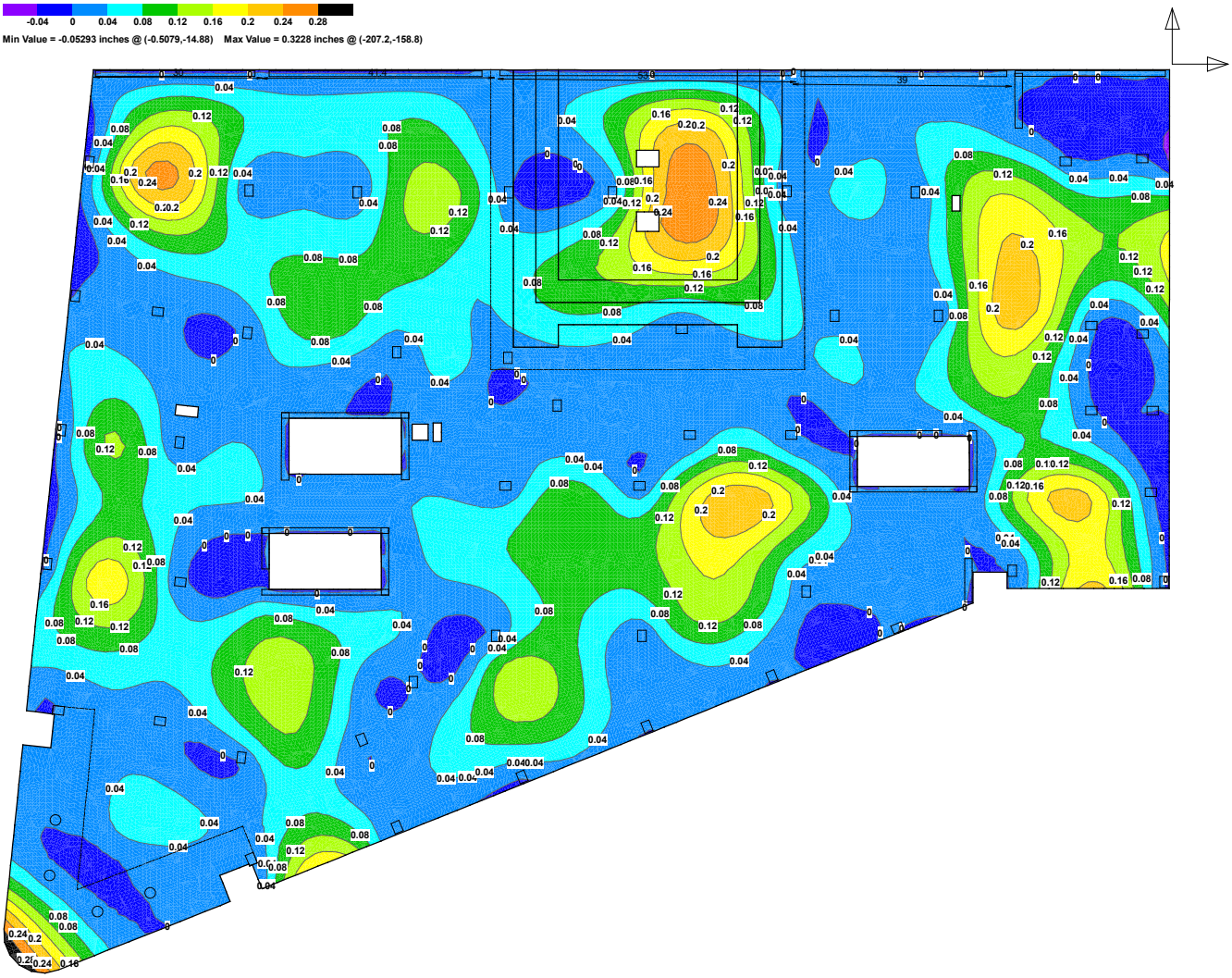


# Service LC: D + L: Max Deflection Plan

Service LC: D + L: User Lines; User Notes; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Service LC: D + L - Vertical Deflection Plot (Maximum Values)

-0.04 0 0.04 0.08 0.12 0.16 0.2 0.24 0.28

Min Value = -0.05293 inches @ (-0.5079,-14.88) Max Value = 0.3228 inches @ (-207.2,-158.8)

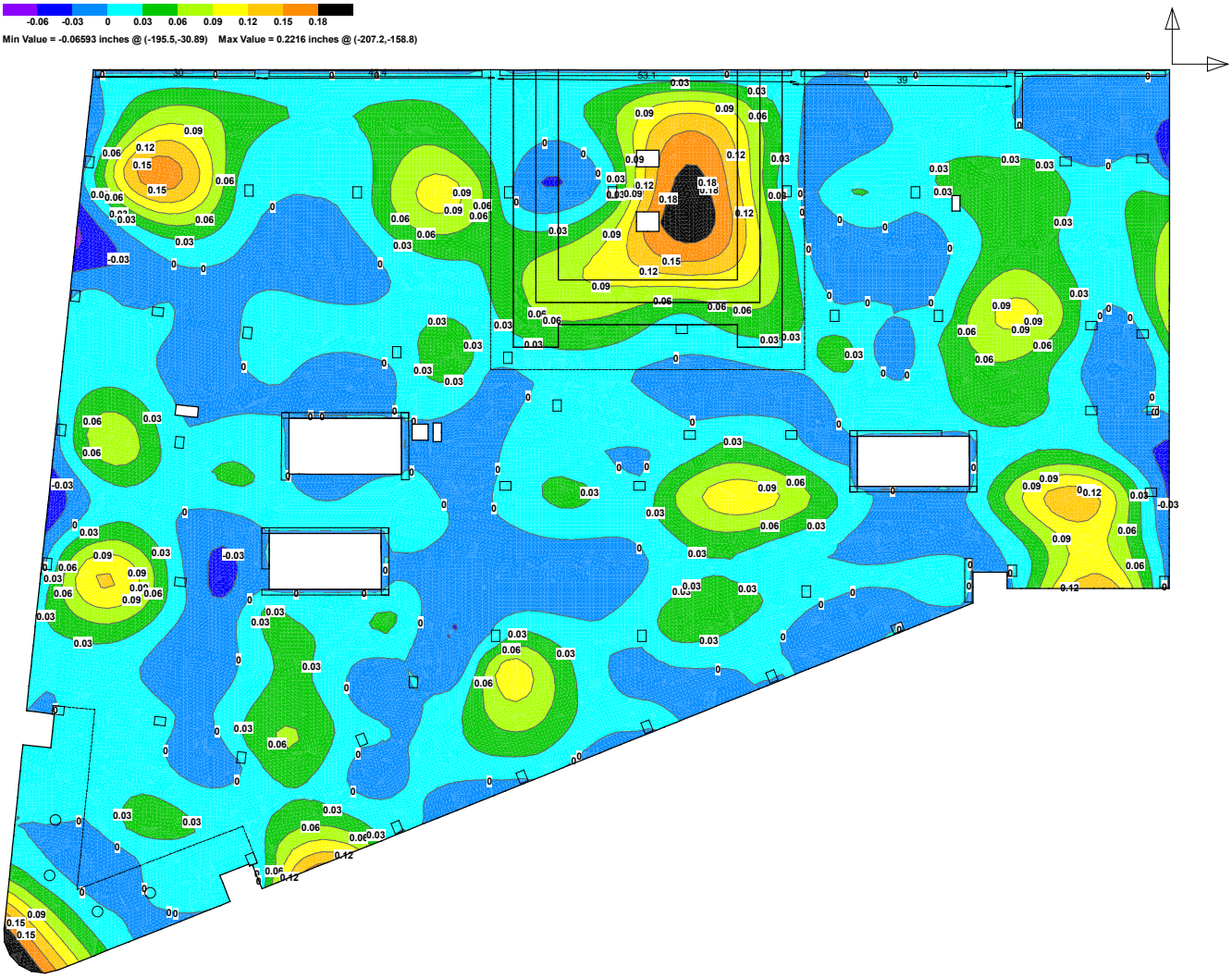


# Service LC: D + L: Min Deflection Plan

Service LC: D + L: User Lines; User Notes; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Service LC: D + L - Vertical Deflection Plot (Minimum Values)

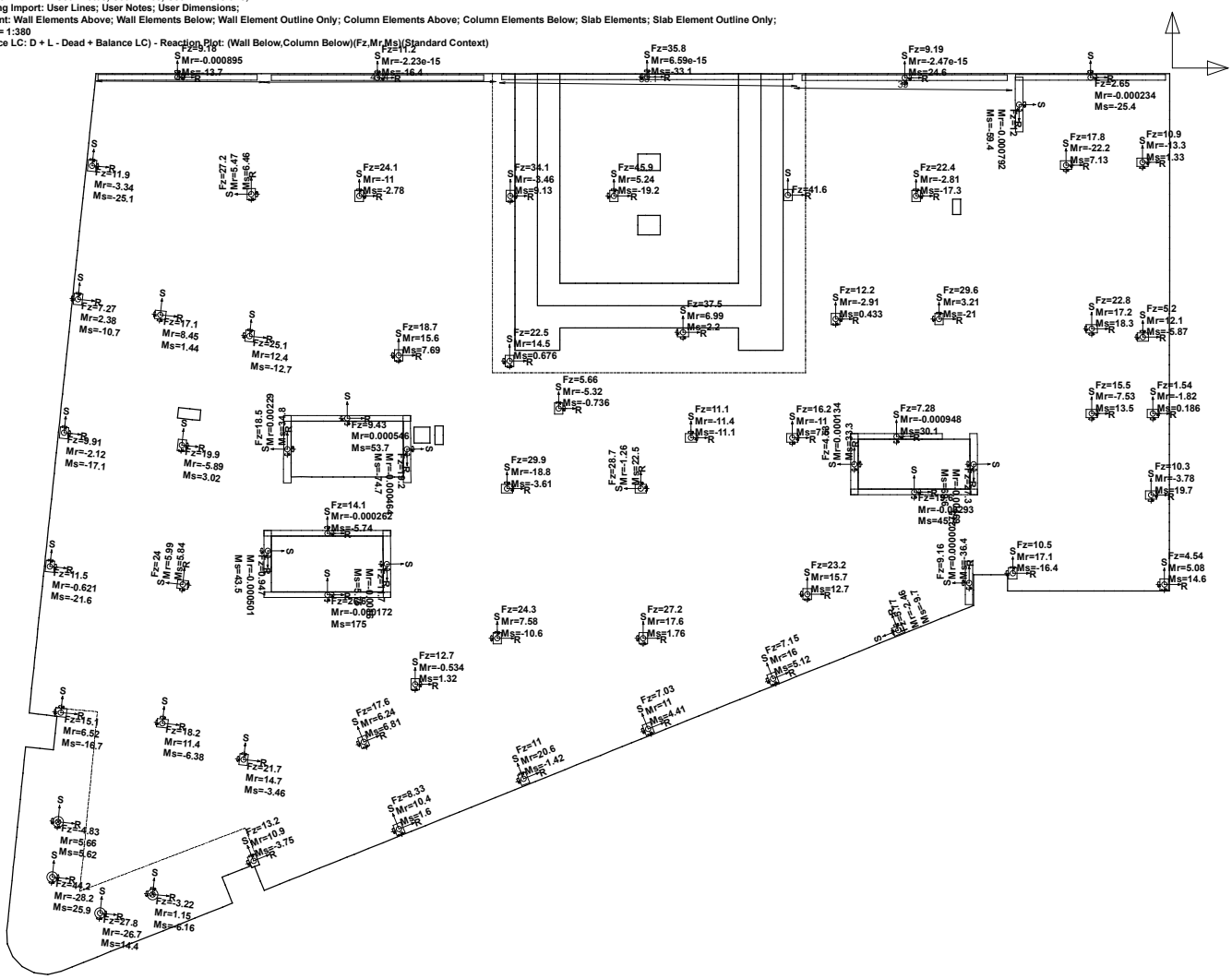
-0.06 -0.03 0 0.03 0.06 0.09 0.12 0.15 0.18

Min Value = -0.06593 inches @ (-195.5,-30.89) Max Value = 0.2216 inches @ (-207.2,-158.8)



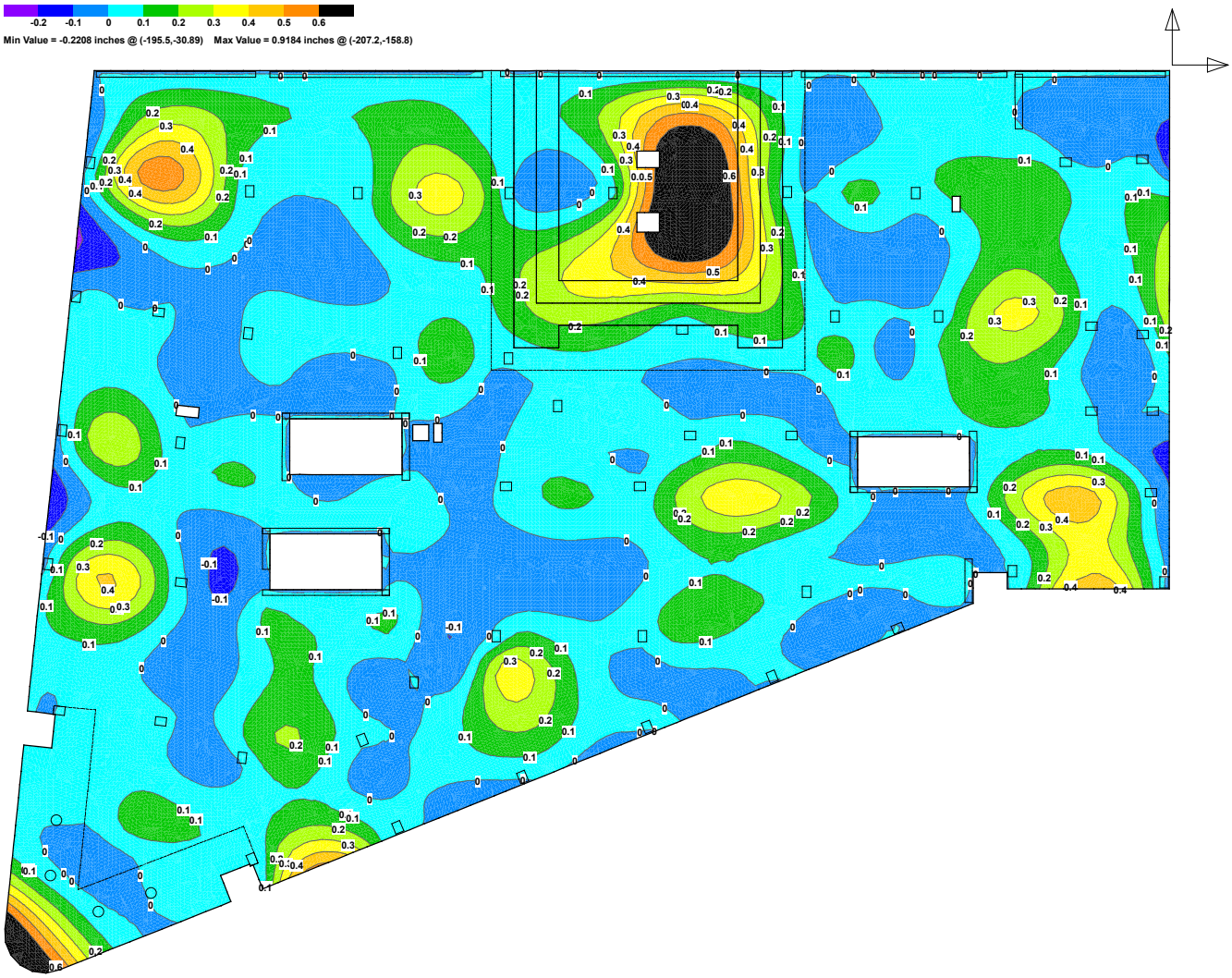
# Service LC: D + L: Reaction Plan

**Service LC: D + L: User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**
**(Service LC: D + L - Dead + Balance LC) - Reaction Plot: (Wall Below,Column Below)(Fz,Mr,Ms)(Standard Context)**



# Long Term deflection: Max Deflection Plan

Long Term deflection: User Lines; User Notes; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Long Term deflection - Vertical Deflection Plot (Maximum Values)




Min Value = -0.2208 inches @ (-195.5,-30.89)  Max Value = 0.9184 inches @ (-207.2,-158.8)

# Design Strip: Latitude SSs Table

| *Name* | *Set* | *Location feet* | *Skew degrees* | *At Support 1* | *At Support 2* | *Support Width 1 inches* |
|---|---|---|---|---|---|---|
| 1-1 | latitude | (-207.2,-144.6)(-200.1,-144.6) | 0 | false | true | 3.087 |
| 2-1 | latitude | (-206,-133.9)(-199.1,-133.9) | 0.427 | false | true | 0 |
| 3-1 | latitude | (-203.9,-114.5)(-199.6,-114.5) | 0 | false | true | 0 |
| 4-1 | latitude | (-208.4,-158)(-191.6,-152.2) | 22.46 | false | true | 23.41 |
| 4-2 | latitude | (-191.6,-151)(-182.2,-147.7) | 19.51 | true | true | 21.1 |
| 4-3 | latitude | (-182.2,-147.7)(-164.4,-141.4) | 18.34 | true | true | 21.03 |
| 4-4 | latitude | (-164.4,-141.7)(-138.2,-136) | 0 | true | true | 22.97 |
| 4-5 | latitude | (-138.2,-136)(-115.9,-127) | 0 | true | true | 18.16 |
| 4-6 | latitude | (-115.9,-127)(-93.65,-118.1) | 0 | true | true | 18.16 |
| 4-7 | latitude | (-93.65,-118.1)(-71.38,-109.1) | 0 | true | true | 18.16 |
| 4-8 | latitude | (-71.38,-109.1)(-49.11,-100.2) | 0 | true | true | 18.16 |
| 4-9 | latitude | (-49.11,-100.2)(-36.21,-95.17) | 0 | true | true | 24.16 |
| 5-1 | latitude | (-198.6,-115.2)(-180.5,-117.1) | 0 | true | true | 24.16 |
| 5-2 | latitude | (-180.5,-117.1)(-166,-123.6) | 24.61 | true | true | 25.41 |
| 5-3 | latitude | (-166,-123.6)(-144.5,-120.4) | 8.448 | true | true | 18.75 |
| 5-4 | latitude | (-144.5,-120.4)(-135.3,-110.1) | 25.67 | true | true | 20.22 |
| 5-5 | latitude | (-135.3,-110.1)(-120.6,-101.9) | 30.23 | true | true | 20.78 |
| 5-6 | latitude | (-120.6,-101.9)(-94.55,-101.9) | 0 | true | true | 18.16 |
| 5-7 | latitude | (-94.55,-101.9)(-65.26,-94) | 15.11 | true | true | 18.8 |
| 5-8 | latitude | (-65.26,-94)(-36.27,-89.19) | 0 | true | true | 18.4 |
| 5-9 | latitude | (-36.27,-89.19)(-28.53,-90.28) | 0 | true | true | 14.77 |
| 5-10 | latitude | (-28.53,-90.28)(-1.302,-92.45) | 0 | true | true | 18.21 |
| 6-1 | latitude | (-200.8,-89.04)(-176.8,-92.28) | 26.24 | true | true | 24.84 |
| 6-2 | latitude | (-176.8,-92.28)(-161.7,-94.39) | 24.19 | true | true | 24.16 |
| 7-1 | latitude | (-195.5,-41.31)(-180.7,-44.59) | 22.52 | true | true | 18.27 |
| 7-2 | latitude | (-180.7,-44.59)(-164.9,-47.89) | 17.83 | true | true | 18.49 |
| 7-3 | latitude | (-164.9,-47.89)(-138.3,-51.35) | 5.145 | true | true | 18.17 |
| 7-4 | latitude | (-138.3,-51.35)(-118.4,-52.35) | 0 | true | true | 18.18 |
| 7-5 | latitude | (-118.4,-52.35)(-87.45,-47.25) | 17.25 | true | true | 18.4 |
| 7-6 | latitude | (-87.45,-47.25)(-60.2,-44.83) | 6.83 | true | true | 24.25 |
| 7-7 | latitude | (-60.2,-44.83)(-41.7,-44.83) | 0 | true | true | 18.16 |
| 7-8 | latitude | (-41.7,-44.83)(-14.45,-46.58) | 6.58 | true | true | 18.19 |
| 7-9 | latitude | (-14.45,-46.58)(-5.313,-47.92) | 8.204 | true | true | 24.41 |
| 7-10 | latitude | (-5.313,-47.92)(-0.7549,-47.92) | 0 | true | false | 24.17 |
| 8-1 | latitude | (-198,-65.18)(-177,-67.39) | 9 | true | true | 18.16 |
| 8-2 | latitude | (-177,-67.39)(-158.2,-73.79) | 19.1 | true | true | 18.55 |
| 9-1 | latitude | (-193,-17.44)(-164.2,-22.76) | 0 | true | true | 18.21 |
| 9-2 | latitude | (-164.2,-22.76)(-145.3,-22.83) | 0 | true | true | 9.142 |
| 9-3 | latitude | (-145.3,-22.83)(-121.5,-22.85) | 0 | true | false | 18.16 |
| 10-1 | latitude | (-140.2,-94.08)(-120.6,-101.9) | 20.79 | true | true | 14.97 |
| 11-1 | latitude | (-136.6,-73.6)(-118.9,-75.16) | 5 | true | true | 13.58 |
| 11-2 | latitude | (-118.9,-75.16)(-94.99,-75.16) | 0 | true | true | 24.16 |
| 11-3 | latitude | (-94.99,-75.16)(-56.84,-75.28) | 0 | true | true | 24.16 |
| 12-1 | latitude | (-136.7,-62.49)(-109.7,-60.83) | 3.56 | true | true | 13.4 |
| 12-2 | latitude | (-109.7,-60.83)(-86.02,-66.08) | 12.52 | true | true | 18.6 |
| 12-3 | latitude | (-86.02,-66.08)(-67.92,-56.09) | 0 | true | true | 24.16 |

# Design Strip: Latitude SSs Table (2)

| t Width 1 | Support Width 2 inches | Support Trans. Width 1 inches | Support Trans. Width 2 inches | Auto-Support | Min Divisions | Max Division Spacing feet |
|---|---|---|---|---|---|---|
| | 21.28 | 0 | 21.12 | true | 4 | 2.5 |
| | 20.95 | 0 | 20.79 | true | 4 | 2.5 |
| | 0 | 0 | 0 | true | 4 | 2.5 |
| | 21.28 | 0 | 21.12 | true | 4 | 2.5 |
| | 21.1 | 20.94 | 20.94 | true | 4 | 2.5 |
| | 13.69 | 20.87 | 24.05 | true | 4 | 2.5 |
| | 18.41 | 24.34 | 24.34 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 24.15 | 24 | 18 | true | 4 | 2.5 |
| | 20.49 | 18 | 35.28 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 19.1 | 18.94 | 25.26 | true | 4 | 2.5 |
| | 18.67 | 24.78 | 24.68 | true | 4 | 2.5 |
| | 27.17 | 26.75 | 24.14 | true | 4 | 2.5 |
| | 20.78 | 27.5 | 27.5 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 18.8 | 24.86 | 24.86 | true | 4 | 2.5 |
| | 17.92 | 24.33 | 57.18 | true | 4 | 2.5 |
| | 18.33 | 75.88 | 24.24 | true | 4 | 2.5 |
| | 22.23 | 24.08 | 24.08 | true | 4 | 2.5 |
| | 24.17 | 24.01 | 18 | true | 4 | 2.5 |
| | 16.08 | 18.01 | 12.09 | true | 4 | 2.5 |
| | 30.1 | 24.15 | 18.11 | true | 4 | 2.5 |
| | 18.25 | 18.09 | 24.12 | true | 4 | 2.5 |
| | 18.31 | 24 | 24.2 | true | 4 | 2.5 |
| | 18.18 | 24.03 | 24.03 | true | 4 | 2.5 |
| | 24.48 | 24.32 | 18.24 | true | 4 | 2.5 |
| | 18.23 | 18.07 | 24.09 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 24.21 | 24.05 | 18.04 | true | 4 | 2.5 |
| | 24.41 | 18.19 | 18.19 | true | 4 | 2.5 |
| | 0 | 18.01 | 0 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 16.66 | 24.53 | 34.67 | true | 4 | 2.5 |
| | 27.63 | 24.07 | 24.41 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 0 | 24 | 0 | true | 4 | 2.5 |
| | 19.54 | 25.27 | 25.84 | true | 4 | 2.5 |
| | 24.25 | 77.59 | 18.07 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 16.17 | 18 | 130.9 | true | 4 | 2.5 |
| | 18.19 | 118 | 24.05 | true | 4 | 2.5 |
| | 24.74 | 24.58 | 18.44 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |

# Design Strip: Latitude SSs Table (3)

| n Spacing | Design For Axial | Environment | Design As PT | Maximize Integrated V | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² |
|---|---|---|---|---|---|---|---|
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |

# Design Strip: Latitude SSs Table (4)

| Spec. Infl. Area ft² | Max LLR % | Span Width | Col Strip Width | Lock Strips | Design CS for CS | -CS Auto Trim | CS Section Slop |
|---|---|---|---|---|---|---|---|
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | manual | manual | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |

# Design Strip: Latitude SSs Table (5)

| Section Slope Strip | CS Top Bar | CS Bot Bar | CS Shear Bar | CS Top Cover inches | CS Bot Cover inches | CS Shear d calc | CS Torsion Design | CS System |
|---|---|---|---|---|---|---|---|---|
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |

# Design Strip: Latitude SSs Table (6)

| CS Min. Bar Loc. | CS Min T.Bar | CS Min B.Bar | CS Shear Legs | MS Same As CS | MS Auto Trim | MS Section Slope | MS Top Bar | MS Bot Bar |
|---|---|---|---|---|---|---|---|---|
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |

# Design Strip: Latitude SSs Table (7)

| S Bot Bar | MS Shear Bar | MS Top Cover inches | MS Bot Cover inches | MS Shear d calc | MS Torsion Design | MS System | MS Min. Bar Loc. | MS Min T.Bar | MS Min B.Bar |
|---|---|---|---|---|---|---|---|---|---|
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |

# Design Strip: Latitude SSs Table (8)

| *Min B.Bar* | *MS Shear Legs* |
|---|---|
| | 2 |
| | 2 |
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| | 2 |
| | 2 |

# Design Strip: Latitude SSs Table (9)

| *Name* | *Set* | *Location feet* | *Skew degrees* | *At Support 1* | *At Support 2* | *Support Width 1 inches* |
|---|---|---|---|---|---|---|
| 12-4 | latitude | (-67.92,-66.08)(-56.72,-65.52) | 0 | true | true | 24.17 |
| 13-1 | latitude | (-117.5,-22.85)(-99.8,-22.83) | 0 | true | true | 0 |
| 13-2 | latitude | (-99.8,-22.83)(-73.54,-22.69) | 0.67 | true | false | 18.16 |
| 13-2(2) | latitude | (-73.54,-22.69)(-68.7,-22.67) | 0.67 | false | true | 0 |
| 13-3 | latitude | (-68.7,-22.67)(-65.54,-22.69) | 0 | true | false | 18.16 |
| 13-3(2) | latitude | (-65.54,-22.69)(-45.8,-22.83) | 0 | false | true | 0 |
| 13-4 | latitude | (-45.8,-22.83)(-19.02,-17.34) | 1.48 | true | true | 18.53 |
| 13-5 | latitude | (-19.02,-17.34)(-5.366,-16.83) | 1.31 | true | true | 24.17 |
| 13-6 | latitude | (-5.366,-16.83)(-0.7621,-16.76) | 0 | true | false | 24.22 |
| 14-1 | latitude | (-35.54,-65.89)(-14.45,-61.73) | 0 | true | true | 16.35 |
| 14-2 | latitude | (-14.45,-61.73)(-3.5,-61.73) | 0 | true | true | 24.16 |
| 14-3 | latitude | (-3.5,-61.73)(-0.8442,-61.81) | 0 | true | false | 24.17 |
| 15-1 | latitude | (-35.53,-75.78)(-3.5,-76.3) | 1.218 | true | true | 17.16 |
| 15-2 | latitude | (-3.5,-76.3)(-0.9865,-76.2) | 1.165 | true | false | 16.03 |

# Design Strip: Latitude SSs Table (10)

| t Width 1 | Support Width 2 inches | Support Trans. Width 1 inches | Support Trans. Width 2 inches | Auto-Support | Min Divisions | Max Division Spacing feet |
|---|---|---|---|---|---|---|
| | 19.15 | 18.01 | 131 | true | 4 | 2.5 |
| | 18.16 | 0 | 24 | true | 4 | 2.5 |
| | 0 | 24 | 0 | true | 4 | 2.5 |
| | 18.16 | 0 | 24 | true | 4 | 2.5 |
| | 0 | 24 | 0 | true | 4 | 2.5 |
| | 18.16 | 0 | 24 | true | 4 | 2.5 |
| | 24.66 | 24.5 | 18.37 | true | 4 | 2.5 |
| | 24.12 | 18.01 | 18.01 | true | 4 | 2.5 |
| | 0 | 18 | 0 | true | 4 | 2.5 |
| | 24.62 | 48.78 | 18.35 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 0 | 18.01 | 0 | true | 4 | 2.5 |
| | 32.29 | 131 | 18 | true | 4 | 2.5 |
| | 0 | 18 | 0 | true | 4 | 2.5 |

# Design Strip: Latitude SSs Table (11)

| n Spacing | Design For Axial | Environment | Design As PT | Maximize Integrated V | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² |
|---|---|---|---|---|---|---|---|
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |

# Design Strip: Latitude SSs Table (12)

| *Spec. Infl. Area ft²* | *Max LLR %* | *Span Width* | *Col Strip Width* | *Lock Strips* | *Design CS for CS* | *-CS Auto Trim* | *CS Section Slope* |
|---|---|---|---|---|---|---|---|
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | manual | manual | false | false | none | 0.25 |
| 0 | 40 | manual | manual | false | false | none | 0.25 |
| 0 | 40 | manual | manual | false | false | none | 0.25 |
| 0 | 40 | manual | manual | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |

# Design Strip: Latitude SSs Table (13)

| Section Slope Sin | CS Top Bar | CS Bot Bar | CS Shear Bar | CS Top Cover inches | CS Bot Cover inches | CS Shear d calc | CS Torsion Design | CS System |
|---|---|---|---|---|---|---|---|---|
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1.5 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1.5 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1.5 | 1 | All Tension Reinforcement | none | two-way slab |
| | #4 | #4 | #4 | 1.5 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |

# Design Strip: Latitude SSs Table (14)

| CS Min. Bar Loc. | CS Min T.Bar | CS Min B.Bar | CS Shear Legs | MS Same As CS | MS Auto Trim | MS Section Slope | MS Top Bar | MS Bot Bar |
|---|---|---|---|---|---|---|---|---|
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |

# Design Strip: Latitude SSs Table (15)

| S Bot Bar | MS Shear Bar | MS Top Cover inches | MS Bot Cover inches | MS Shear d calc | MS Torsion Design | MS System | MS Min. Bar Loc. | MS Min T.Bar | MS Min B.Bar |
|---|---|---|---|---|---|---|---|---|---|
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |

# Design Strip: Latitude SSs Table (16)

| Min B.Bar | MS Shear Legs |
|---|---|
| | 2 |
| | 2 |
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| | 2 |
| | 2 |

# Design Strip: Longitude SSs Table

| *Name* | *Set* | *Location feet* | *Skew degrees* | *At Support 1* | *At Support 2* | *Support Width 1 inches* |
|---|---|---|---|---|---|---|
| 16-1 | longitude | (-201.7,-162)(-200.1,-144.6) | 4.081 | false | true | 6.268 |
| 16-2 | longitude | (-200.1,-144.6)(-199.1,-134.7) | -1.342 | true | true | 20.96 |
| 16-3 | longitude | (-199.1,-134.7)(-198.6,-115.2) | -1.452 | true | true | 21.17 |
| 16-4 | longitude | (-198.6,-115.2)(-200.6,-89.05) | -8.266 | true | true | 18.45 |
| 16-5 | longitude | (-200.6,-89.05)(-198,-65.18) | 5.18 | true | true | 24.16 |
| 16-6 | longitude | (-198,-65.18)(-195.5,-41.31) | 5.31 | true | true | 24.16 |
| 16-7 | longitude | (-195.5,-41.31)(-193,-17.44) | 5.44 | true | true | 24.16 |
| 16-8 | longitude | (-193,-17.44)(-191.7,-2.507) | 3.078 | true | true | 24.16 |
| 17-1 | longitude | (-195.3,-159.9)(-191.6,-125.6) | -15.66 | false | true | 0 |
| 17-2 | longitude | (-191.6,-151)(-180.5,-117.1) | 18.19 | true | true | 21.03 |
| 17-3 | longitude | (-180.5,-117.1)(-176.8,-92.28) | -9.228 | true | true | 18.17 |
| 17-4 | longitude | (-176.8,-92.28)(-177,-67.39) | 0.399 | true | true | 18.27 |
| 17-5 | longitude | (-177,-67.39)(-164.9,-47.89) | 23.89 | true | true | 26.82 |
| 17-6 | longitude | (-164.9,-47.89)(-164.6,-22.53) | -0.673 | true | true | 24.26 |
| 17-7 | longitude | (-164.6,-22.53)(-164.9,-2.347) | -0.478 | true | true | 24.16 |
| 18-1 | longitude | (-164.2,-141.7)(-166,-123.6) | -5.604 | true | true | 25.17 |
| 18-2 | longitude | (-166,-123.6)(-161.6,-94.26) | 8.362 | true | true | 24.17 |
| 19-1 | longitude | (-148.6,-94.26)(-144.5,-120.4) | -6.874 | true | true | 9.262 |
| 19-2 | longitude | (-144.5,-120.4)(-138.2,-23.69) | 23.69 | true | true | 24.15 |
| 20-1 | longitude | (-141.5,-1.583)(-145.3,-22.83) | -22.83 | true | true | 15.72 |
| 20-2 | longitude | (-145.3,-22.83)(-138.3,-51.35) | -11.354 | true | true | 24.88 |
| 20-3 | longitude | (-138.3,-51.35)(-136.9,-73.22) | -2.621 | true | true | 24.34 |
| 21-1 | longitude | (-140.5,-83.22)(-136.7,-94.09) | -23.59 | true | true | 15.62 |
| 22-1 | longitude | (-140.5,-94.09)(-135.3,-110.1) | -17.093 | true | true | 13.76 |
| 22-2 | longitude | (-135.3,-110.1)(-138.2,-136.3) | -6.368 | true | true | 24.31 |
| 23-1 | longitude | (-118.6,-1.583)(-118.3,-22.85) | -0.854 | true | true | 11.77 |
| 23-2 | longitude | (-118.3,-22.85)(-118.4,-52.35) | -0.158 | true | true | 23.66 |
| 23-3 | longitude | (-118.4,-52.35)(-118.5,-54.47) | | true | false | 24.16 |
| 23-3(2) | longitude | (-118.5,-54.47)(-118.9,-75.16) | -2.108 | false | true | 0 |
| 23-4 | longitude | (-118.9,-75.16)(-120.6,-101.9) | -3.058 | true | true | 18.2 |
| 23-5 | longitude | (-120.6,-101.9)(-115.9,-127.5) | -10.754 | true | true | 24.58 |
| 24-1 | longitude | (-99.8,-1.583)(-99.8,-22.83) | 0.000 | true | true | 11.77 |
| 24-2 | longitude | (-99.8,-22.83)(-87.59,-46.68) | -22.684 | true | true | 27.17 |
| 25-1 | longitude | (-94.99,-74.76)(-94.55,-101.9) | -1.074 | true | true | 27.64 |
| 25-2 | longitude | (-94.55,-101.9)(-93.65,-128.1) | -1.891 | true | true | 24.19 |
| 26-1 | longitude | (-87.45,-47.25)(-86.87,-54.61) | | true | false | 18.21 |
| 26-1(2) | longitude | (-86.87,-54.61)(-86.02,-66.38) | -6.338 | false | true | 0 |
| 27-1 | longitude | (-68.45,-1.609)(-68.7,-22.67) | -2.602 | true | true | 11.15 |
| 27-2 | longitude | (-68.7,-22.67)(-60.2,-44.83) | -23.098 | true | true | 25.86 |
| 27-3 | longitude | (-60.2,-44.83)(-56.64,-65.74) | -5.793 | true | true | 24.5 |
| 28-1 | longitude | (-71.38,-109.1)(-65.26,-94) | -24.03 | true | true | 26.06 |
| 28-2 | longitude | (-65.26,-94)(-67.92,-66.08) | -3.434 | true | true | 24.27 |
| 29-1 | longitude | (-56.76,-75.73)(-49.11,-101.6) | -10.036 | true | true | 13.09 |
| 30-1 | longitude | (-47.52,-1.583)(-45.8,-22.83) | -4.624 | true | true | 15.5 |
| 30-2 | longitude | (-45.8,-22.83)(-41.7,-44.83) | -8.057 | true | true | 24.57 |
| 30-3 | longitude | (-41.7,-44.83)(-35.45,-65.74) | -5.925 | true | true | 25.19 |

# Design Strip: Longitude SSs Table (2)

| t Width 1 | Support Width 2 inches | Support Trans. Width 1 inches | Support Trans. Width 2 inches | Auto-Support | Min Divisions | Max Division Spacing feet |
|---|---|---|---|---|---|---|
| | 20.99 | 0 | 20.83 | true | 4 | 2.5 |
| | 20.96 | 20.8 | 20.8 | true | 4 | 2.5 |
| | 18.21 | 21.02 | 24.07 | true | 4 | 2.5 |
| | 24.55 | 24.39 | 18.29 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 4.355 | 18 | 27.26 | true | 4 | 2.5 |
| | 21.26 | 0 | 21.1 | true | 4 | 2.5 |
| | 18.57 | 20.87 | 24.55 | true | 4 | 2.5 |
| | 18.17 | 24.02 | 24.02 | true | 4 | 2.5 |
| | 24.31 | 24.15 | 18.11 | true | 4 | 2.5 |
| | 26.82 | 20.01 | 20.01 | true | 4 | 2.5 |
| | 24.16 | 18.08 | 18 | true | 4 | 2.5 |
| | 0.1654 | 18 | 16.18 | true | 4 | 2.5 |
| | 24.65 | 18.76 | 18.38 | true | 4 | 2.5 |
| | 14.12 | 18.02 | 55.98 | true | 4 | 2.5 |
| | 24.78 | 76.73 | 18.47 | true | 4 | 2.5 |
| | 24.15 | 18 | 18 | true | 4 | 2.5 |
| | 24.55 | 67.4 | 18.29 | true | 4 | 2.5 |
| | 24.88 | 18.54 | 18.54 | true | 4 | 2.5 |
| | 12.76 | 18.14 | 56.07 | true | 4 | 2.5 |
| | 10.87 | 29.95 | 17.29 | true | 4 | 2.5 |
| | 25.38 | 31.43 | 18.92 | true | 4 | 2.5 |
| | 27.42 | 18.11 | 20.45 | true | 4 | 2.5 |
| | 24.66 | 542.7 | 18 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 0 | 18 | 0 | true | 4 | 2.5 |
| | 18.16 | 0 | 24 | true | 4 | 2.5 |
| | 24.21 | 24.05 | 18.04 | true | 4 | 2.5 |
| | 24.63 | 18.31 | 18.36 | true | 4 | 2.5 |
| | 24.16 | 624.1 | 18 | true | 4 | 2.5 |
| | 0 | 20.26 | 0 | true | 4 | 2.5 |
| | 24.16 | 24 | 18 | true | 4 | 2.5 |
| | 25.51 | 18.03 | 19.01 | true | 4 | 2.5 |
| | 0 | 24.07 | 0 | true | 4 | 2.5 |
| | 18.21 | 0 | 24.07 | true | 4 | 2.5 |
| | 24.16 | 554.9 | 18 | true | 4 | 2.5 |
| | 25.86 | 19.28 | 19.28 | true | 4 | 2.5 |
| | 11.16 | 18.26 | 43.11 | true | 4 | 2.5 |
| | 26.05 | 25.03 | 19.42 | true | 4 | 2.5 |
| | 18.24 | 18.08 | 24.11 | true | 4 | 2.5 |
| | 10.92 | 28.99 | 24.08 | true | 4 | 2.5 |
| | 24.24 | 148.8 | 18.06 | true | 4 | 2.5 |
| | 24.57 | 18.31 | 18.31 | true | 4 | 2.5 |
| | 14.73 | 18.77 | 16.67 | true | 4 | 2.5 |

# Design Strip: Longitude SSs Table (3)

| n Spacing | Design For Axial | Environment | Design As PT | Maximize Integrated V | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² |
|---|---|---|---|---|---|---|---|
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |

# Design Strip: Longitude SSs Table (4)

| Spec. Infl. Area ft² | Max LLR % | Span Width | Col Strip Width | Lock Strips | Design CS for CS | -CS Auto Trim | CS Section Slop |
|---|---|---|---|---|---|---|---|
| 0 | 40 | auto | full | false | false | T or L | 100 |
| 0 | 40 | auto | full | false | false | T or L | 100 |
| 0 | 40 | auto | full | false | false | T or L | 100 |
| 0 | 40 | auto | full | false | false | T or L | 100 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 100 |
| 0 | 40 | auto | full | false | false | T or L | 100 |
| 0 | 40 | auto | full | false | false | T or L | 100 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |

# Design Strip: Longitude SSs Table (5)

| Section Slope Strip | CS Top Bar | CS Bot Bar | CS Shear Bar | CS Top Cover inches | CS Bot Cover inches | CS Shear d calc | CS Torsion Design | CS System |
|---|---|---|---|---|---|---|---|---|
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | Maximize Effective Depth | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab |

# Design Strip: Longitude SSs Table (6)

| CS Min. Bar Loc. | CS Min T.Bar | CS Min B.Bar | CS Shear Legs | MS Same As CS | MS Auto Trim | MS Section Slope | MS Top Bar | MS Bot Bar |
|---|---|---|---|---|---|---|---|---|
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |

# Design Strip: Longitude SSs Table (7)

| S Bot Bar | MS Shear Bar | MS Top Cover inches | MS Bot Cover inches | MS Shear d calc | MS Torsion Design | MS System | MS Min. Bar Loc. | MS Min T.Bar | MS Min B.Bar |
|---|---|---|---|---|---|---|---|---|---|
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |

# Design Strip: Longitude SSs Table (8)

| *S Min B.Bar* | *MS Shear Legs* |
|---|---|
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
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| | 2 |
| | 2 |

# Design Strip: Longitude SSs Table (9)

| *Name* | *Set* | *Location feet* | *Skew degrees* | *At Support 1* | *At Support 2* | *Support Width 1 inches* |
|---|---|---|---|---|---|---|
| 31-1 | longitude | (-36.1,-88.79)(-35.48,-75.22) | 5.22 | true | true | 16.07 |
| 32-1 | longitude | (-28.53,-90.28)(-14.45,-61.73) | 36.26 | true | true | 26.92 |
| 32-2 | longitude | (-14.45,-61.73)(-14.45,-46.58) | 0 | true | true | 18.16 |
| 32-3 | longitude | (-14.45,-46.58)(-19.02,-17.34) | -17.89 | true | true | 18.38 |
| 32-4 | longitude | (-19.02,-17.34)(-22,-1.815) | 15.89 | true | true | 18.49 |
| 33-1 | longitude | (-5.387,-2.098)(-5.364,-17.54) | -17.599 | true | true | 1.85 |
| 33-2 | longitude | (-5.364,-17.54)(-5.313,-47.92) | -47.917 | true | true | 1.157 |
| 33-3 | longitude | (-5.313,-47.92)(-3.5,-61.73) | -73.74 | true | true | 22.09 |
| 33-4 | longitude | (-3.5,-61.73)(-3.5,-76.3) | 0 | true | true | 18.16 |
| 33-5 | longitude | (-3.5,-76.3)(-1.302,-92.45) | 45.093 | true | true | 18.32 |

# Design Strip: Longitude SSs Table (10)

| t Width 1 | Support Width 2 inches | Support Trans. Width 1 inches | Support Trans. Width 2 inches | Auto-Support | Min Divisions | Max Division Spacing feet |
|---|---|---|---|---|---|---|
| | 8.553 | 16.02 | 173.8 | true | 4 | 2.5 |
| | 20.23 | 20.07 | 26.76 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 18.38 | 24.29 | 24.29 | true | 4 | 2.5 |
| | 6.901 | 24.44 | 63.37 | true | 4 | 2.5 |
| | 35.16 | 322 | 24 | true | 4 | 2.5 |
| | 14.41 | 24 | 24 | true | 4 | 2.5 |
| | 18.31 | 24.21 | 24.21 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 28.42 | 24.22 | 18.17 | true | 4 | 2.5 |

# Design Strip: Longitude SSs Table (11)

| n Spacing | Design For Axial | Environment | Design As PT | Maximize Integrated V | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² |
|---|---|---|---|---|---|---|---|
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |

# Design Strip: Longitude SSs Table (12)

| *Spec. Infl. Area* *ft²* | *Max LLR* *%* | *Span Width* | *Col Strip Width* | *Lock Strips* | *Design CS for CS* | *-CS Auto Trim* | *CS Section Slope* |
|---|---|---|---|---|---|---|---|
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |

# Design Strip: Longitude SSs Table (13)

| Section Slope Strip | CS Top Bar | CS Bot Bar | CS Shear Bar | CS Top Cover inches | CS Bot Cover inches | CS Shear d calc | CS Torsion Design | CS System |
|---|---|---|---|---|---|---|---|---|
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |
| | #5 | #4 | #4 | 1.5 | 0.75 | All Tension Reinforcement | none | two-way slab |

# Design Strip: Longitude SSs Table (14)

| CS Min. Bar Loc. | CS Min T.Bar | CS Min B.Bar | CS Shear Legs | MS Same As CS | MS Auto Trim | MS Section Slope | MS Top Bar | MS Bot Bar |
|---|---|---|---|---|---|---|---|---|
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |

# Design Strip: Longitude SSs Table (15)

| MS Bot Bar | MS Shear Bar | MS Top Cover inches | MS Bot Cover inches | MS Shear d calc | MS Torsion Design | MS System | MS Min. Bar Loc. | MS Min T.Bar | MS Min B.Bar |
|---|---|---|---|---|---|---|---|---|---|
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |

# Design Strip: Longitude SSs Table (16)

| Min B.Bar | MS Shear Legs |
|---|---|
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |

# Design Strip: Latitude SSSs Table

| Name | Strip Type | Calc. Trib. Area ft² | Calc. Infl. Area ft² | Top Bar | Bottom Bar | Shear Bar | Top Cover inches |
|---|---|---|---|---|---|---|---|
| 1C-1 | center | 76.66 | 0 | #5 | #4 | #4 | 1.5 |
| 2C-1 | center | 55.21 | 0 | #5 | #4 | #4 | 1.5 |
| 3C-1 | center | 46.62 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-1 | center | 57.22 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-2 | center | 183.7 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-3 | center | 284.4 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-4 | center | 260.6 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-5 | center | 218.1 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-6 | center | 242.8 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-7 | center | 162.1 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-8 | center | 115.8 | 0 | #5 | #4 | #4 | 1.5 |
| 4C-9 | center | 81.88 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-1 | center | 374.5 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-2 | center | 333.4 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-3 | center | 489.3 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-4 | center | 281.4 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-5 | center | 256.9 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-6 | center | 604.1 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-7 | center | 558.7 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-8 | center | 307.2 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-9 | center | 77.83 | 0 | #5 | #4 | #4 | 1.5 |
| 5C-10 | center | 264.3 | 0 | #5 | #4 | #4 | 1.5 |
| 6C-1 | center | 527.6 | 0 | #5 | #4 | #4 | 1.5 |
| 6C-2 | center | 316.9 | 0 | #5 | #4 | #4 | 1.5 |
| 7C-1 | center | 356.3 | 0 | #5 | #4 | #4 | 1.5 |
| 7C-2 | center | 349.7 | 0 | #5 | #4 | #4 | 1.5 |
| 7C-3 | center | 459.4 | 0 | #5 | #4 | #4 | 1.5 |
| 7C-4 | center | 429.4 | 0 | #5 | #4 | #4 | 1.5 |
| 7C-5 | center | 677.4 | 0 | #5 | #5 | #4 | 1.5 |
| 7C-6 | center | 556.4 | 0 | #5 | #4 | #4 | 1.5 |
| 7C-7 | center | 378.3 | 0 | #5 | #4 | #4 | 1.5 |
| 7C-8 | center | 558.8 | 0 | #5 | #4 | #4 | 1.5 |
| 7C-9 | center | 179.3 | 0 | #5 | #4 | #4 | 1.5 |
| 7C-10 | center | 74.63 | 0 | #5 | #4 | #4 | 1.5 |
| 8C-1 | center | 446.9 | 0 | #5 | #4 | #4 | 1.5 |
| 8C-2 | center | 318.7 | 0 | #5 | #4 | #4 | 1.5 |
| 9C-1 | center | 562.9 | 0 | #5 | #4 | #4 | 1.5 |
| 9C-2 | center | 491.6 | 0 | #5 | #4 | #4 | 1.5 |
| 9C-3 | center | 573.3 | 0 | #5 | #4 | #4 | 1.5 |
| 10C-1 | center | 235.4 | 0 | #5 | #4 | #4 | 1.5 |
| 11C-1 | center | 322 | 0 | #5 | #4 | #4 | 1.5 |
| 11C-2 | center | 474.3 | 0 | #5 | #4 | #4 | 1.5 |
| 11C-3 | center | 347.4 | 0 | #5 | #4 | #4 | 1.5 |
| 12C-1 | center | 119.6 | 0 | #5 | #4 | #4 | 1.5 |
| 12C-2 | center | 165.2 | 0 | #5 | #4 | #4 | 1.5 |
| 12C-3 | center | 301.6 | 0 | #5 | #4 | #4 | 1.5 |

# Design Strip: Latitude SSSs Table (2)

| Top Cover inches | Bot. Cover inches | Torsion Design | System | Min Bar Loc. | Min T. Bar | Min B. Bar | Shear Legs |
|---|---|---|---|---|---|---|---|
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 4 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |

# Design Strip: Latitude SSSs Table (3)

| *Name* | *Strip Type* | *Calc. Trib. Area ft²* | *Calc. Infl. Area ft²* | *Top Bar* | *Bottom Bar* | *Shear Bar* | *Top Cover inches* |
|---|---|---|---|---|---|---|---|
| 12C-4 | center | 171.6 | 0 | #5 | #4 | #4 | 1.5 |
| 13C-1 | center | 442.7 | 0 | #5 | #4 | #4 | 1.5 |
| 13C-2 | center | 517.3 | 0 | #5 | #5 | #4 | 1.5 |
| 13C-2(2) | center | 66.27 | 0 | #5 | #5 | #4 | 1.5 |
| 13C-3 | center | 87.39 | 0 | #5 | #5 | #4 | 1.5 |
| 13C-3(2) | center | 446.4 | 0 | #4 | #4 | #4 | 1.5 |
| 13C-4 | center | 428.2 | 0 | #5 | #4 | #4 | 1.5 |
| 13C-5 | center | 296.6 | 0 | #5 | #4 | #4 | 1.5 |
| 13C-6 | center | 75.37 | 0 | #5 | #4 | #4 | 1.5 |
| 14C-1 | center | 331.1 | 0 | #5 | #4 | #4 | 1.5 |
| 14C-2 | center | 125.3 | 0 | #5 | #4 | #4 | 1.5 |
| 14C-3 | center | 18.62 | 0 | #5 | #4 | #4 | 1.5 |
| 15C-1 | center | 305.3 | 0 | #5 | #4 | #4 | 1.5 |
| 15C-2 | center | 11.21 | 0 | #5 | #4 | #4 | 1.5 |

# Design Strip: Latitude SSSs Table (4)

| *Top Cover inches* | *Bot. Cover inches* | *Torsion Design* | *System* | *Min Bar Loc.* | *Min T. Bar* | *Min B. Bar* | *Shear Legs* |
|---|---|---|---|---|---|---|---|
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |

# Design Strip: Longitude SSSs Table

| Name | Strip Type | Calc. Trib. Area ft² | Calc. Infl. Area ft² | Top Bar | Bottom Bar | Shear Bar | Top Cover inches |
|---|---|---|---|---|---|---|---|
| 16C-1 | center | 117.7 | 0 | #5 | #4 | #4 | 1.5 |
| 16C-2 | center | 138.5 | 0 | #5 | #4 | #4 | 1.5 |
| 16C-3 | center | 275.7 | 0 | #5 | #4 | #4 | 1.5 |
| 16C-4 | center | 340.2 | 0 | #5 | #4 | #4 | 1.5 |
| 16C-5 | center | 247.2 | 0 | #5 | #4 | #4 | 1.5 |
| 16C-6 | center | 58.89 | 0 | #5 | #4 | #4 | 1.5 |
| 16C-7 | center | 335.3 | 0 | #5 | #4 | #4 | 1.5 |
| 16C-8 | center | 202.4 | 0 | #5 | #4 | #4 | 1.5 |
| 17C-1 | center | 129.5 | 0 | #5 | #4 | #4 | 1.5 |
| 17C-2 | center | 204.5 | 0 | #5 | #4 | #4 | 1.5 |
| 17C-3 | center | 462.7 | 0 | #5 | #4 | #4 | 1.5 |
| 17C-4 | center | 604.7 | 0 | #5 | #4 | #4 | 1.5 |
| 17C-5 | center | 430.3 | 0 | #5 | #4 | #4 | 1.5 |
| 17C-6 | center | 464.3 | 0 | #5 | #4 | #4 | 1.5 |
| 17C-7 | center | 463.6 | 0 | #5 | #4 | #4 | 1.5 |
| 18C-1 | center | 387.5 | 0 | #5 | #4 | #4 | 1.5 |
| 18C-2 | center | 383.3 | 0 | #5 | #4 | #4 | 1.5 |
| 19C-1 | center | 256.9 | 0 | #5 | #4 | #4 | 1.5 |
| 19C-2 | center | 262 | 0 | #5 | #4 | #4 | 1.5 |
| 20C-1 | center | 407.5 | 0 | #5 | #4 | #4 | 1.5 |
| 20C-2 | center | 538.9 | 0 | #5 | #4 | #4 | 1.5 |
| 20C-3 | center | 206.6 | 0 | #5 | #4 | #4 | 1.5 |
| 21C-1 | center | 192 | 0 | #5 | #4 | #4 | 1.5 |
| 22C-1 | center | 243.3 | 0 | #5 | #4 | #4 | 1.5 |
| 22C-2 | center | 205.1 | 0 | #5 | #4 | #4 | 1.5 |
| 23C-1 | center | 506.9 | 0 | #5 | #5 | #4 | 1.5 |
| 23C-2 | center | 763.2 | 0 | #5 | #5 | #4 | 1.5 |
| 23C-3 | center | 36.51 | 0 | #5 | #4 | #4 | 1.5 |
| 23C-3(2) | center | 453.5 | 0 | #5 | #4 | #4 | 1.5 |
| 23C-4 | center | 534.6 | 0 | #5 | #4 | #4 | 1.5 |
| 23C-5 | center | 452.8 | 0 | #5 | #4 | #4 | 1.5 |
| 24C-1 | center | 407.7 | 0 | #5 | #4 | #4 | 1.5 |
| 24C-2 | center | 602.2 | 0 | #5 | #4 | #4 | 1.5 |
| 25C-1 | center | 673.5 | 0 | #5 | #4 | #4 | 1.5 |
| 25C-2 | center | 382.7 | 0 | #5 | #4 | #4 | 1.5 |
| 26C-1 | center | 218.6 | 0 | #5 | #4 | #4 | 1.5 |
| 26C-1(2) | center | 264.5 | 0 | #5 | #4 | #4 | 1.5 |
| 27C-1 | center | 578.8 | 0 | #5 | #5 | #4 | 1.5 |
| 27C-2 | center | 515.6 | 0 | #5 | #4 | #4 | 1.5 |
| 27C-3 | center | 424.9 | 0 | #5 | #4 | #4 | 1.5 |
| 28C-1 | center | 303.4 | 0 | #5 | #4 | #4 | 1.5 |
| 28C-2 | center | 573 | 0 | #5 | #4 | #4 | 1.5 |
| 29C-1 | center | 293.5 | 0 | #5 | #4 | #4 | 1.5 |
| 30C-1 | center | 334.5 | 0 | #5 | #4 | #4 | 1.5 |
| 30C-2 | center | 489.6 | 0 | #5 | #4 | #4 | 1.5 |
| 30C-3 | center | 428.1 | 0 | #5 | #4 | #4 | 1.5 |

# Design Strip: Longitude SSSs Table (2)

| Top Cover inches | Bot. Cover inches | Torsion Design | System | Min Bar Loc. | Min T. Bar | Min B. Bar | Shear Legs |
|---|---|---|---|---|---|---|---|
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 4 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 4 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 0.75 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |

# Design Strip: Longitude SSSs Table (3)

| *Name* | *Strip Type* | *Calc. Trib. Area ft²* | *Calc. Infl. Area ft²* | *Top Bar* | *Bottom Bar* | *Shear Bar* | *Top Cover inches* |
|---|---|---|---|---|---|---|---|
| 31C-1 | center | 212.9 | 0 | #5 | #4 | #4 | 1.5 |
| 32C-1 | center | 343.7 | 0 | #5 | #4 | #4 | 1.5 |
| 32C-2 | center | 291.8 | 0 | #5 | #4 | #4 | 1.5 |
| 32C-3 | center | 548.3 | 0 | #5 | #4 | #4 | 1.5 |
| 32C-4 | center | 93.16 | 0 | #5 | #4 | #4 | 1.5 |
| 33C-1 | center | 152.3 | 0 | #5 | #4 | #4 | 1.5 |
| 33C-2 | center | 248.8 | 0 | #5 | #4 | #4 | 1.5 |
| 33C-3 | center | 72.81 | 0 | #5 | #4 | #4 | 1.5 |
| 33C-4 | center | 125.4 | 0 | #5 | #4 | #4 | 1.5 |
| 33C-5 | center | 220.5 | 0 | #5 | #4 | #4 | 1.5 |

# Design Strip: Longitude SSSs Table (4)

| *Top Cover inches* | *Bot. Cover inches* | *Torsion Design* | *System* | *Min Bar Loc.* | *Min T. Bar* | *Min B. Bar* | *Shear Legs* |
|---|---|---|---|---|---|---|---|
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |
| | 0.75 | none | two-way slab | stress | 0 | 0 | 2 |

# Design Strip: Punching Checks Table

| Number | Location feet | Radius feet | Cover To CGS inches | Angle degrees | Edge | Connection |
|---|---|---|---|---|---|---|
| 1 | (-200.6,-89.05) | 10 | 1 | -6 | failure planes | auto |
| 2 | (-200.1,-144.6) | 10 | 1 | 0 | failure planes | auto |
| 3 | (-199.1,-134.7) | 10 | 1 | 0 | failure planes | auto |
| 4 | (-198.6,-115.2) | 10 | 1 | -6 | failure planes | auto |
| 5 | (-198,-65.18) | 10 | 1 | -6 | failure planes | auto |
| 6 | (-195.5,-41.31) | 10 | 1 | -6 | failure planes | auto |
| 7 | (-193,-17.44) | 10 | 1 | -6 | failure planes | auto |
| 8 | (-191.6,-151) | 10 | 1 | 0 | failure planes | auto |
| 9 | (-182.2,-147.7) | 10 | 1 | 0 | failure planes | auto |
| 10 | (-180.8,-44.12) | 10 | 1 | -6 | failure planes | auto |
| 11 | (-180.5,-117.1) | 10 | 1 | -6 | failure planes | auto |
| 12 | (-177,-67.39) | 10 | 1 | -6 | failure planes | auto |
| 13 | (-176.8,-92.28) | 10 | 1 | 84 | failure planes | auto |
| 14 | (-166,-123.6) | 10 | 1 | -6 | failure planes | auto |
| 15 | (-164.9,-47.89) | 10 | 1 | -6 | failure planes | auto |
| 16 | (-164.6,-22.53) | 10 | 1 | 90 | failure planes | auto |
| 17 | (-164.2,-141.7) | 10 | 1 | 22 | failure planes | auto |
| 18 | (-145.3,-22.83) | 10 | 1 | 0 | failure planes | auto |
| 19 | (-144.5,-120.4) | 10 | 1 | 22 | failure planes | auto |
| 20 | (-138.3,-51.35) | 10 | 1 | 0 | failure planes | auto |
| 21 | (-138.2,-136) | 10 | 1 | 22 | failure planes | auto |
| 22 | (-135.3,-110.1) | 10 | 1 | 0 | failure planes | auto |
| 23 | (-120.6,-101.9) | 10 | 1 | 0 | failure planes | auto |
| 24 | (-118.9,-75.16) | 10 | 1 | 0 | failure planes | auto |
| 25 | (-118.4,-52.35) | 10 | 1 | 0 | failure planes | auto |
| 26 | (-118.3,-22.83) | 10 | 1 | 0 | failure planes | auto |
| 27 | (-115.9,-127) | 10 | 1 | 22 | failure planes | auto |
| 28 | (-109.7,-60.83) | 10 | 1 | 0 | failure planes | auto |
| 29 | (-99.8,-22.83) | 10 | 1 | 0 | failure planes | auto |
| 30 | (-94.99,-75.16) | 10 | 1 | 90 | failure planes | auto |
| 31 | (-94.55,-101.9) | 10 | 1 | 0 | failure planes | auto |
| 32 | (-93.65,-118.1) | 10 | 1 | 22 | failure planes | auto |
| 33 | (-87.45,-47.25) | 10 | 1 | 0 | failure planes | auto |
| 34 | (-86.02,-66.08) | 10 | 1 | 0 | failure planes | auto |
| 35 | (-71.38,-109.1) | 10 | 1 | 22 | failure planes | auto |
| 36 | (-68.7,-22.67) | 10 | 1 | 0 | failure planes | auto |
| 37 | (-67.92,-66.08) | 10 | 1 | 0 | failure planes | auto |
| 38 | (-65.26,-94) | 10 | 1 | 0 | failure planes | auto |
| 39 | (-60.2,-44.83) | 10 | 1 | 0 | failure planes | auto |
| 40 | (-49,-100.5) | 10 | 1 | 112 | failure planes | auto |
| 41 | (-45.8,-22.83) | 10 | 1 | 0 | failure planes | auto |
| 42 | (-41.7,-44.83) | 10 | 1 | 0 | failure planes | auto |
| 43 | (-28.53,-90.28) | 10 | 1 | 0 | failure planes | auto |
| 44 | (-19.02,-17.34) | 10 | 1 | 0 | failure planes | auto |
| 45 | (-14.45,-61.73) | 10 | 1 | 0 | failure planes | auto |
| 46 | (-14.45,-46.58) | 10 | 1 | 0 | failure planes | auto |

# Design Strip: Punching Checks Table (2)

| nnection | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² | Spec. Infl. Area ft² | Calc. Trib. Area ft² | Calc. Infl. Area ft² |
|---|---|---|---|---|---|---|
| | false | 1 | 0 | 0 | 291.3 | 0 |
| | false | 1 | 0 | 0 | 224.6 | 0 |
| | false | 1 | 0 | 0 | 235.5 | 0 |
| | false | 1 | 0 | 0 | 371.7 | 0 |
| | false | 1 | 0 | 0 | 251.7 | 0 |
| | false | 1 | 0 | 0 | 183.6 | 0 |
| | false | 1 | 0 | 0 | 302.4 | 0 |
| | false | 1 | 0 | 0 | 225.9 | 0 |
| | false | 1 | 0 | 0 | 247.6 | 0 |
| | false | 1 | 0 | 0 | 431.5 | 0 |
| | false | 1 | 0 | 0 | 408.1 | 0 |
| | false | 1 | 0 | 0 | 464.9 | 0 |
| | false | 1 | 0 | 0 | 533.7 | 0 |
| | false | 1 | 0 | 0 | 439.2 | 0 |
| | false | 1 | 0 | 0 | 451.7 | 0 |
| | false | 1 | 0 | 0 | 614.3 | 0 |
| | false | 1 | 0 | 0 | 327.8 | 0 |
| | false | 1 | 0 | 0 | 575.7 | 0 |
| | false | 1 | 0 | 0 | 429.6 | 0 |
| | false | 1 | 0 | 0 | 446 | 0 |
| | false | 1 | 0 | 0 | 211 | 0 |
| | false | 1 | 0 | 0 | 324.2 | 0 |
| | false | 1 | 0 | 0 | 569.1 | 0 |
| | false | 1 | 0 | 0 | 484.9 | 0 |
| | false | 1 | 0 | 0 | 585.4 | 0 |
| | false | 1 | 0 | 0 | 786.9 | 0 |
| | false | 1 | 0 | 0 | 280 | 0 |
| | false | 1 | 0 | 0 | 173.1 | 0 |
| | false | 1 | 0 | 0 | 489.1 | 0 |
| | false | 1 | 0 | 0 | 532 | 0 |
| | false | 1 | 0 | 0 | 643.6 | 0 |
| | false | 1 | 0 | 0 | 183.9 | 0 |
| | false | 1 | 0 | 0 | 802.6 | 0 |
| | false | 1 | 0 | 0 | 270.3 | 0 |
| | false | 1 | 0 | 0 | 187.1 | 0 |
| | false | 1 | 0 | 0 | 773.7 | 0 |
| | false | 1 | 0 | 0 | 350.1 | 0 |
| | false | 1 | 0 | 0 | 511.5 | 0 |
| | false | 1 | 0 | 0 | 379.7 | 0 |
| | false | 1 | 0 | 0 | 148.7 | 0 |
| | false | 1 | 0 | 0 | 504.2 | 0 |
| | false | 1 | 0 | 0 | 558.8 | 0 |
| | false | 1 | 0 | 0 | 227.6 | 0 |
| | false | 1 | 0 | 0 | 390.6 | 0 |
| | false | 1 | 0 | 0 | 348 | 0 |
| | false | 1 | 0 | 0 | 483.4 | 0 |

# Design Strip: Punching Checks Table (3)

| nfl. Area | Max LLR % | Red. Red. % | Stor. Red. % | Park. Red. % |
|---|---|---|---|---|
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
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| | 40 | 0 | 0 | 0 |
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| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |

# Design Strip: Punching Checks Table (4)

| *Number* | *Location feet* | *Radius feet* | *Cover To CGS inches* | *Angle degrees* | *Edge* | *Connection* |
|---|---|---|---|---|---|---|
| 47 | (-5.364,-16.83) | 10 | 1 | 0 | failure planes | auto |
| 48 | (-5.313,-48.07) | 10 | 1 | 0 | failure planes | auto |
| 49 | (-3.839,-76.3) | 10 | 1 | 0 | failure planes | auto |
| 50 | (-3.5,-61.73) | 10 | 1 | 0 | failure planes | auto |
| 51 | (-1.469,-92.28) | 10 | 1 | 0 | failure planes | auto |

# Design Strip: Punching Checks Table (5)

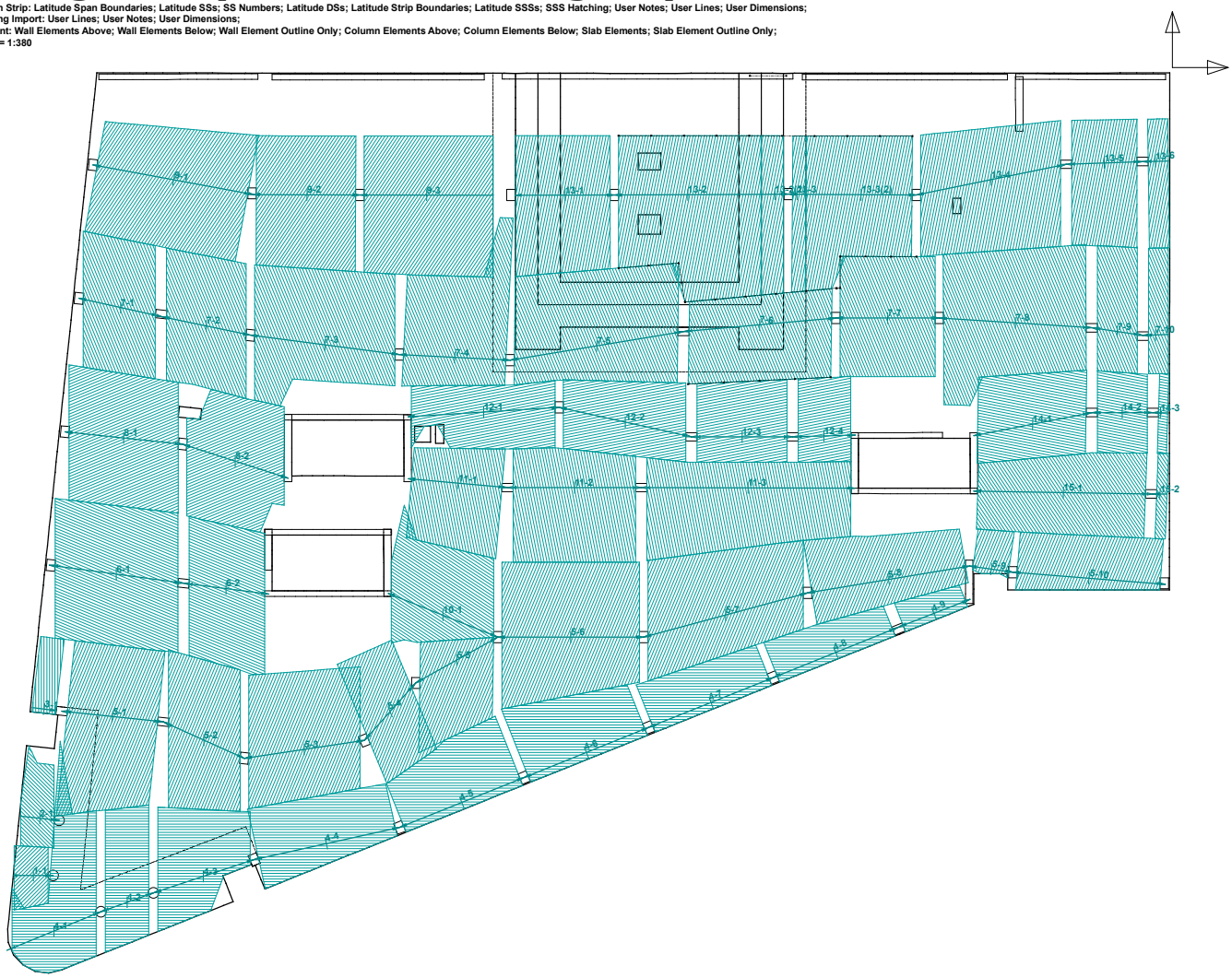
| nnection | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² | Spec. Infl. Area ft² | Calc. Trib. Area ft² | Calc. Infl. Area ft² |
|---|---|---|---|---|---|---|
| | false | 1 | 0 | 0 | 285.7 | 0 |
| | false | 1 | 0 | 0 | 157.5 | 0 |
| | false | 1 | 0 | 0 | 257 | 0 |
| | false | 1 | 0 | 0 | 49.09 | 0 |
| | false | 1 | 0 | 0 | 115.4 | 0 |

# Design Strip: Punching Checks Table (6)

| nfl. Area | Max LLR % | Red. Red. % | Stor. Red. % | Park. Red. % |
|---|---|---|---|---|
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |

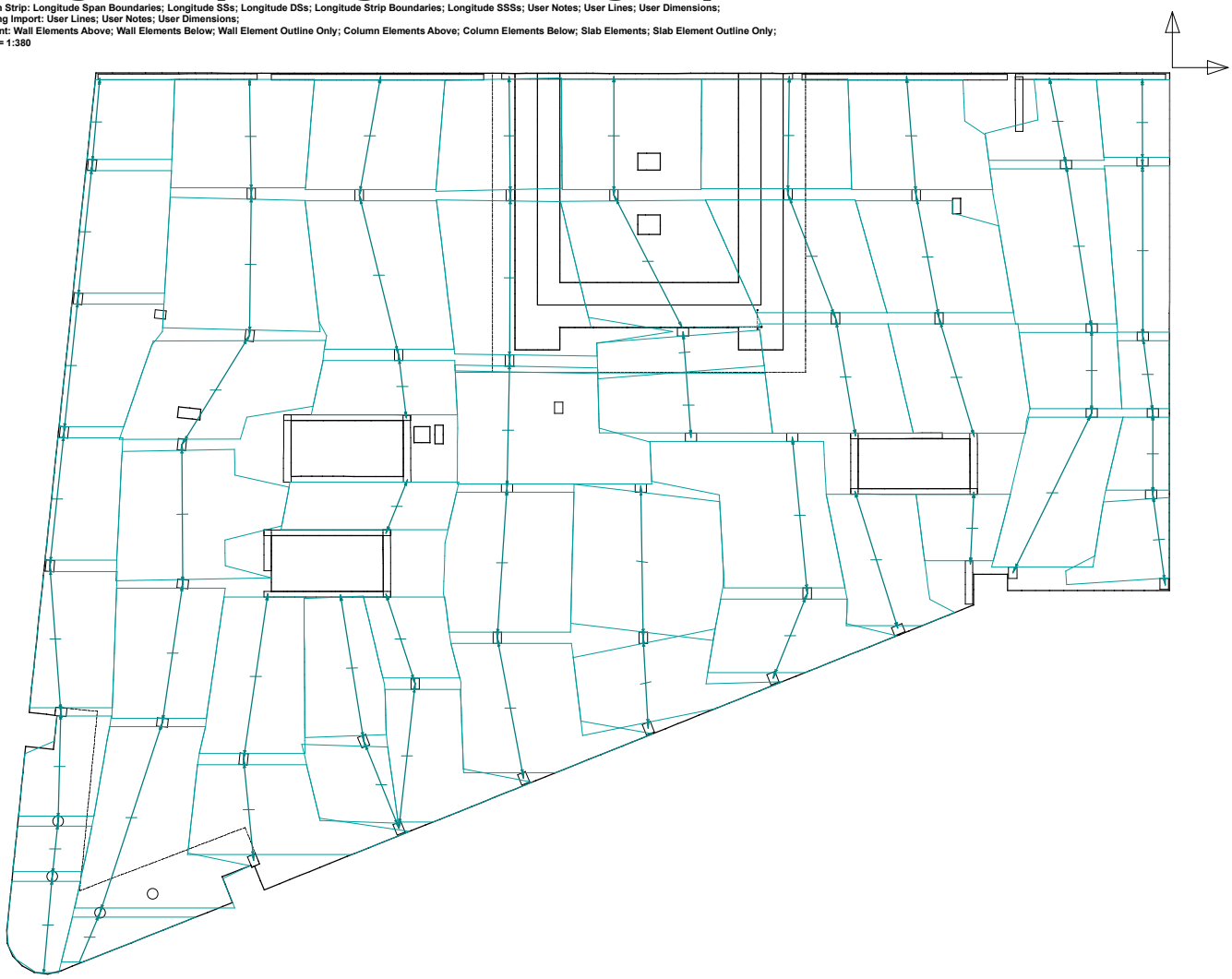
# Design Strip: Latitude Design Spans Plan

**Design Strip: Latitude Span Boundaries; Latitude SSs; SS Numbers; Latitude DSs; Latitude Strip Boundaries; Latitude SSSs; SSS Hatching; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



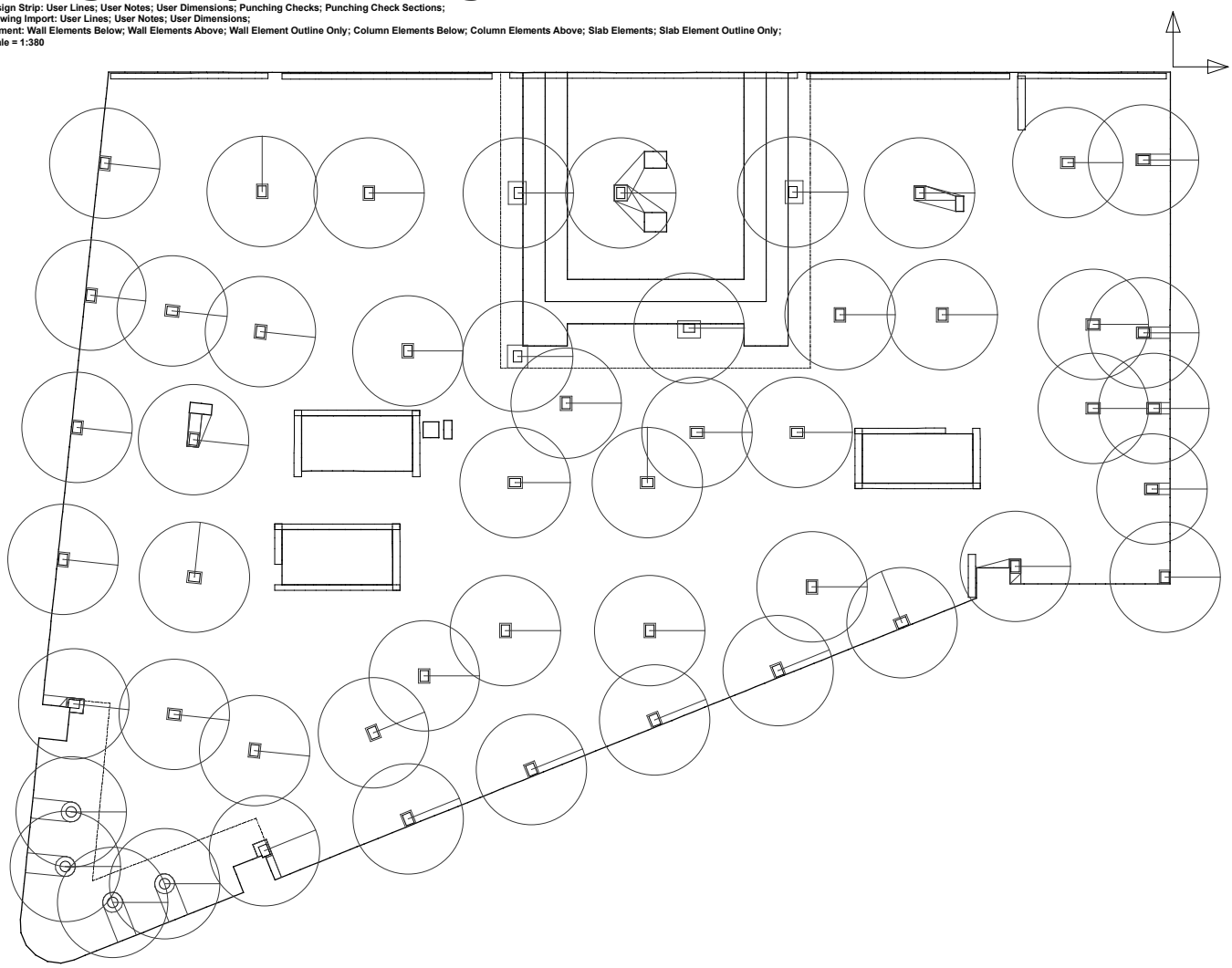
# Design Strip: Longitude Design Spans Plan

**Design Strip: Longitude Span Boundaries; Longitude SSs; Longitude DSs; Longitude Strip Boundaries; Longitude SSSs; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



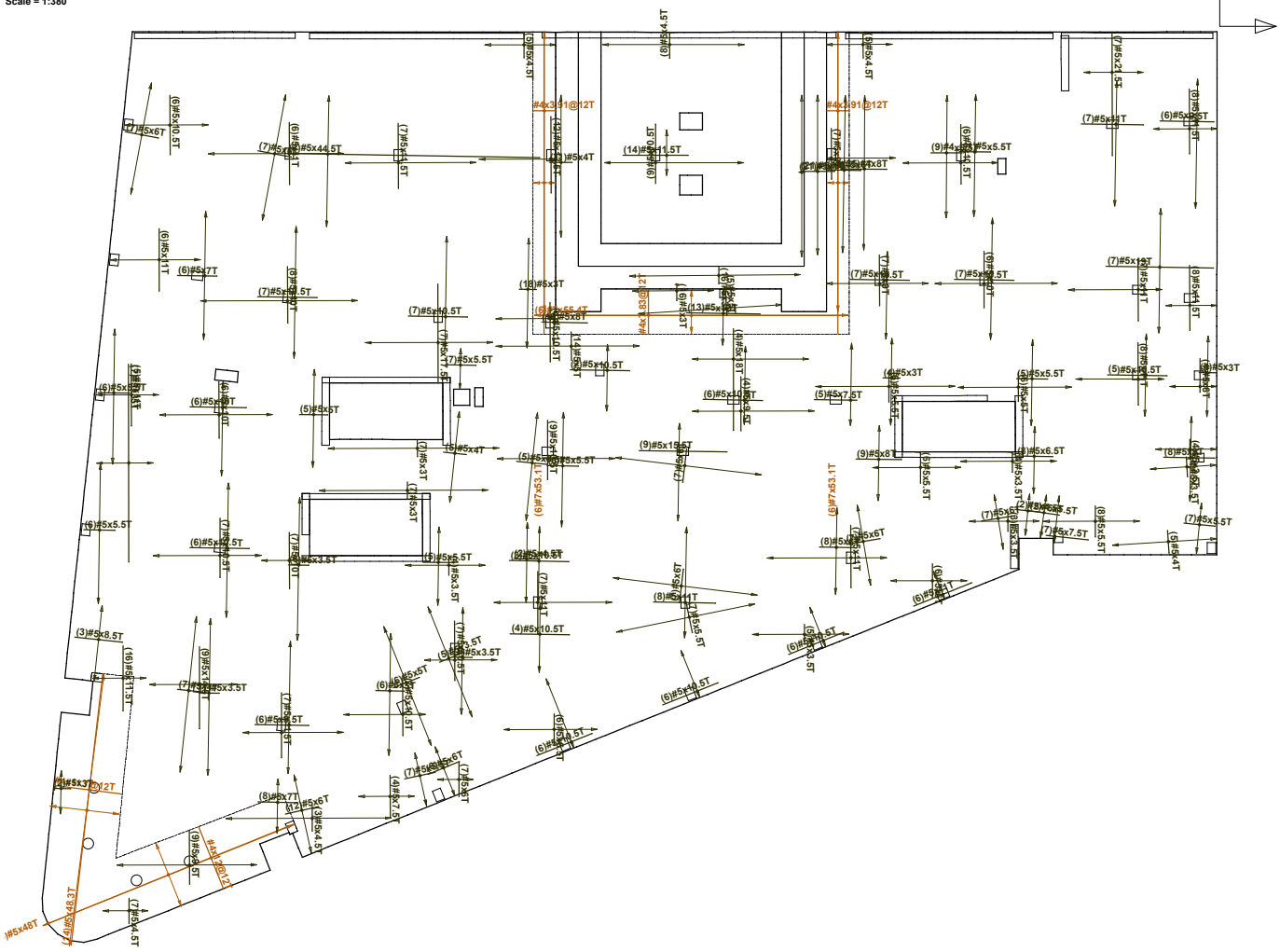
# Design Strip: Punching Checks Plan

**Design Strip: User Lines; User Notes; User Dimensions; Punching Checks; Punching Check Sections;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



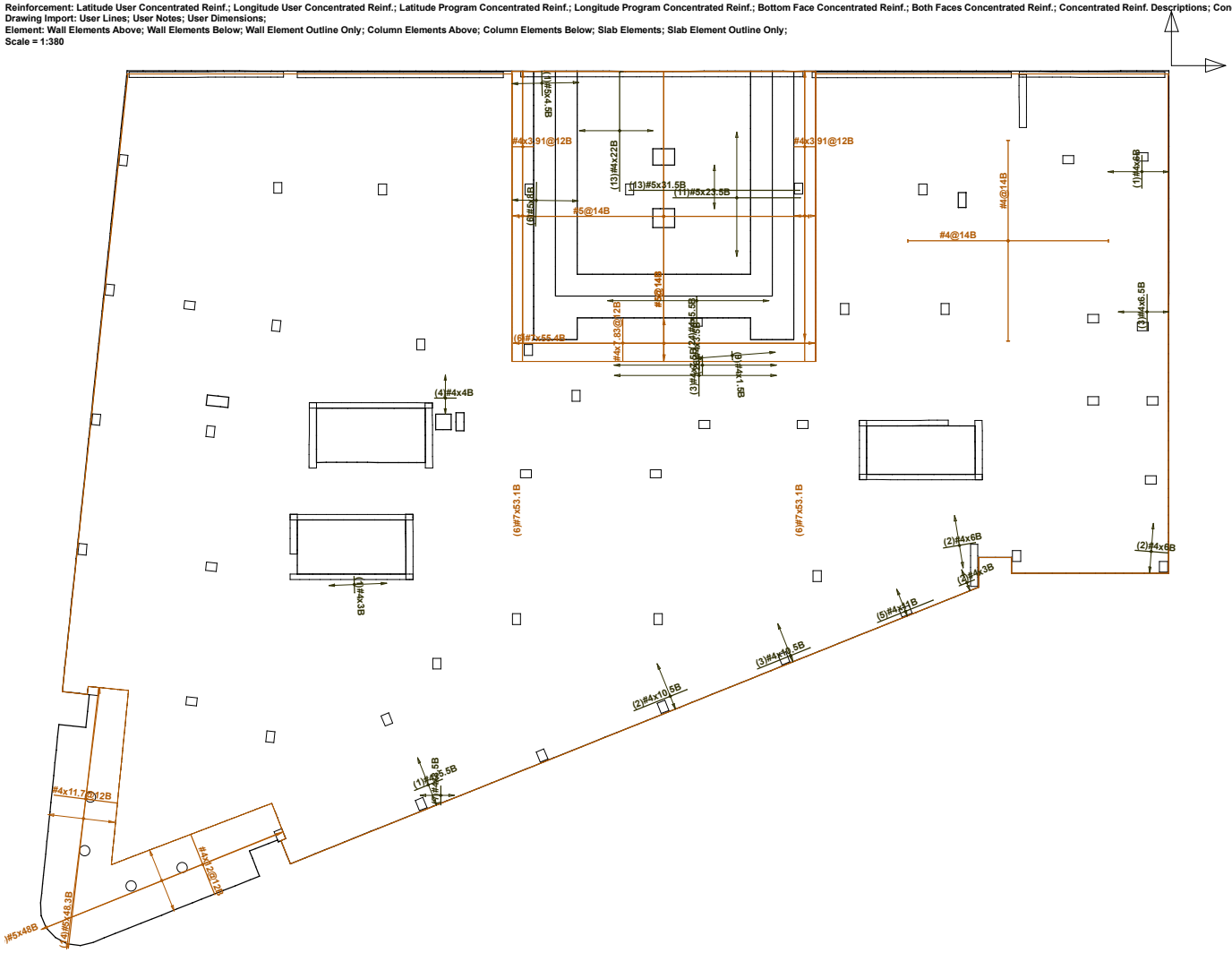
# Reinforcement: Top Bars Plan

**Reinforcement: User Lines; User Notes; User Dimensions; Latitude User Concentrated Reinf.; Latitude Program Concentrated Reinf.; Latitude User Distributed Reinf.; Latitude Program Distributed Reinf.; Longitude User Concentrated Reinf.; Longitude Program Concentrated Reinf.**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



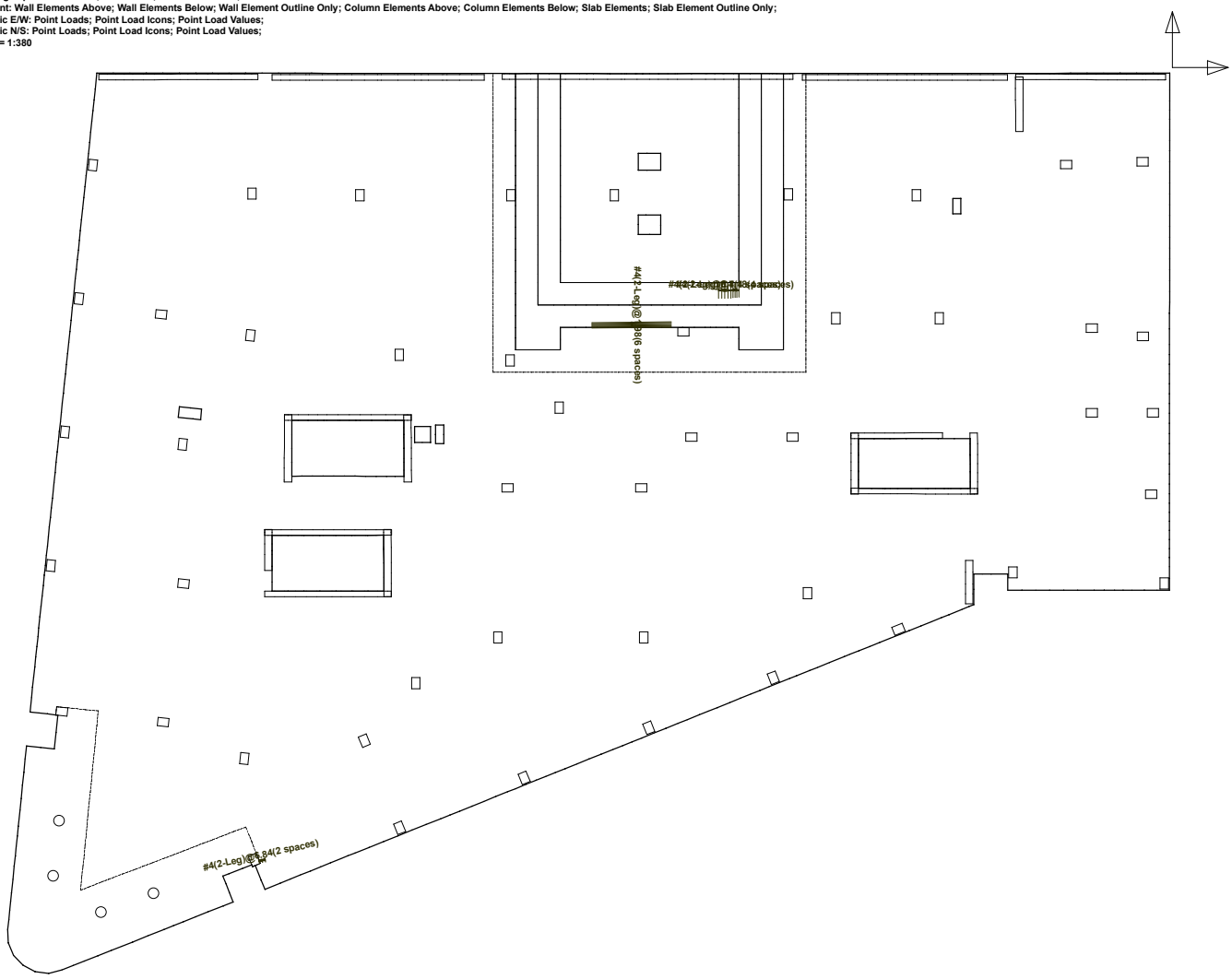
# Reinforcement: Bottom Bars Plan

**Reinforcement: Latitude User Concentrated Reinf.; Longitude User Concentrated Reinf.; Latitude Program Concentrated Reinf.; Longitude Program Concentrated Reinf.; Bottom Face Concentrated Reinf.; Both Faces Concentrated Reinf.; Concentrated Reinf. Descriptions; Concent**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



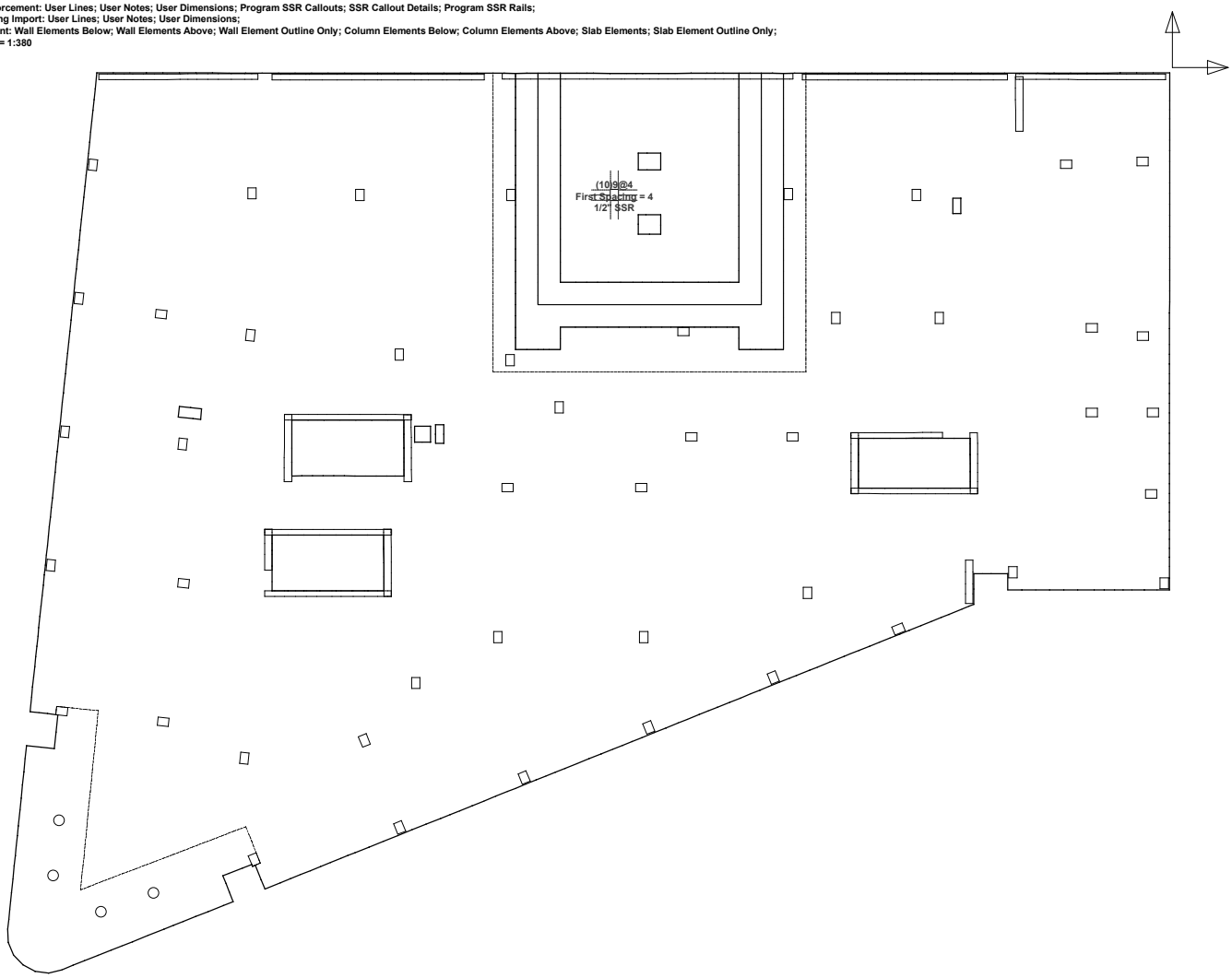
# Reinforcement: Shear Bars Plan

**Reinforcement: Latitude User Transverse Reinf.; Longitude User Transverse Reinf.; Latitude Program Transverse Reinf.; Longitude Program Transverse Reinf.; Transverse Reinf. Descriptions; Transverse Reinf. Extent; Latitude User Individual Transverse Bars; Longitude User Indi**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Seismic E/W: Point Loads; Point Load Icons; Point Load Values;**
**Seismic N/S: Point Loads; Point Load Icons; Point Load Values;**
**Scale = 1:380**



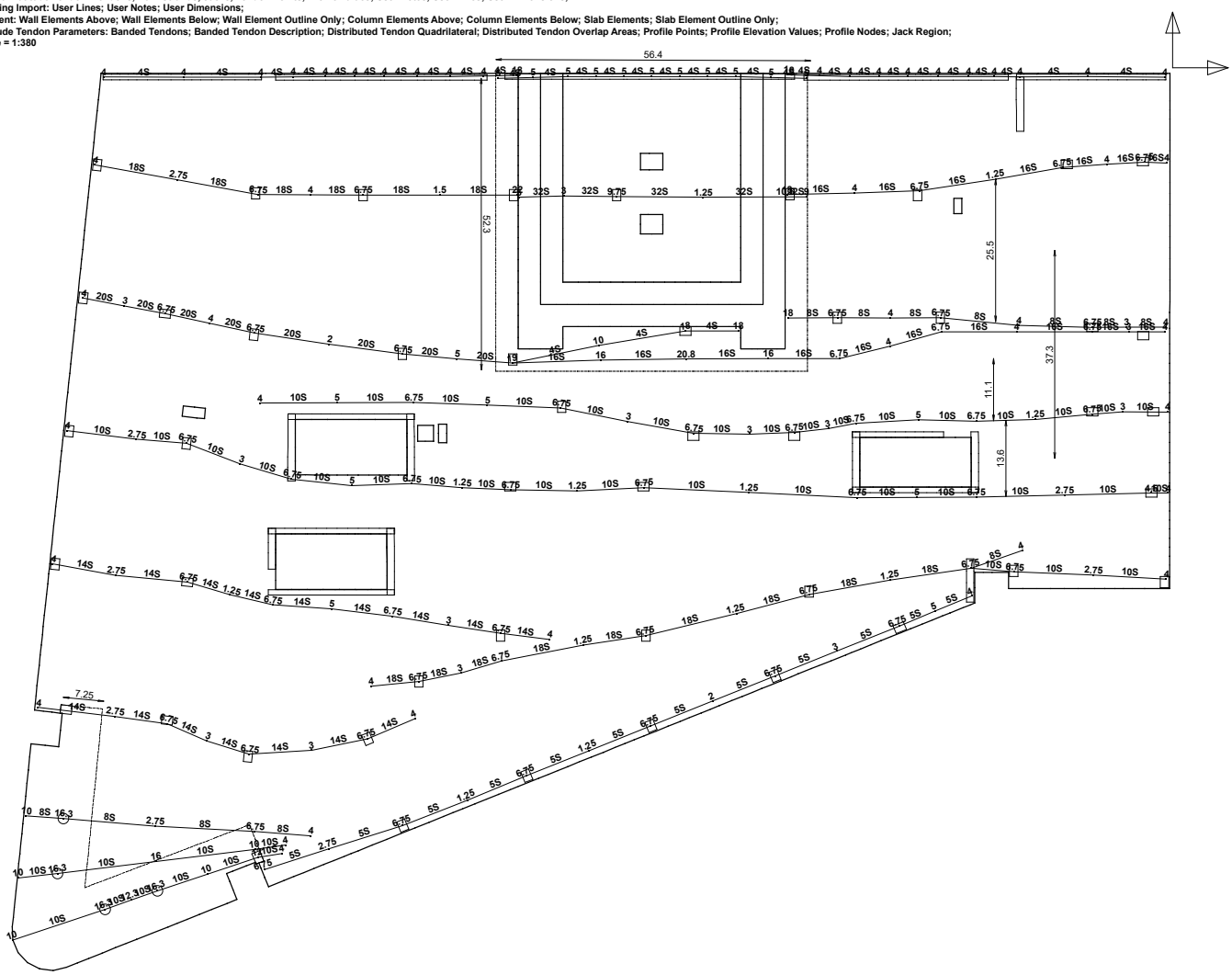
# Reinforcement: SSR Plan

**Reinforcement: User Lines; User Notes; User Dimensions; Program SSR Callouts; SSR Callout Details; Program SSR Rails;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



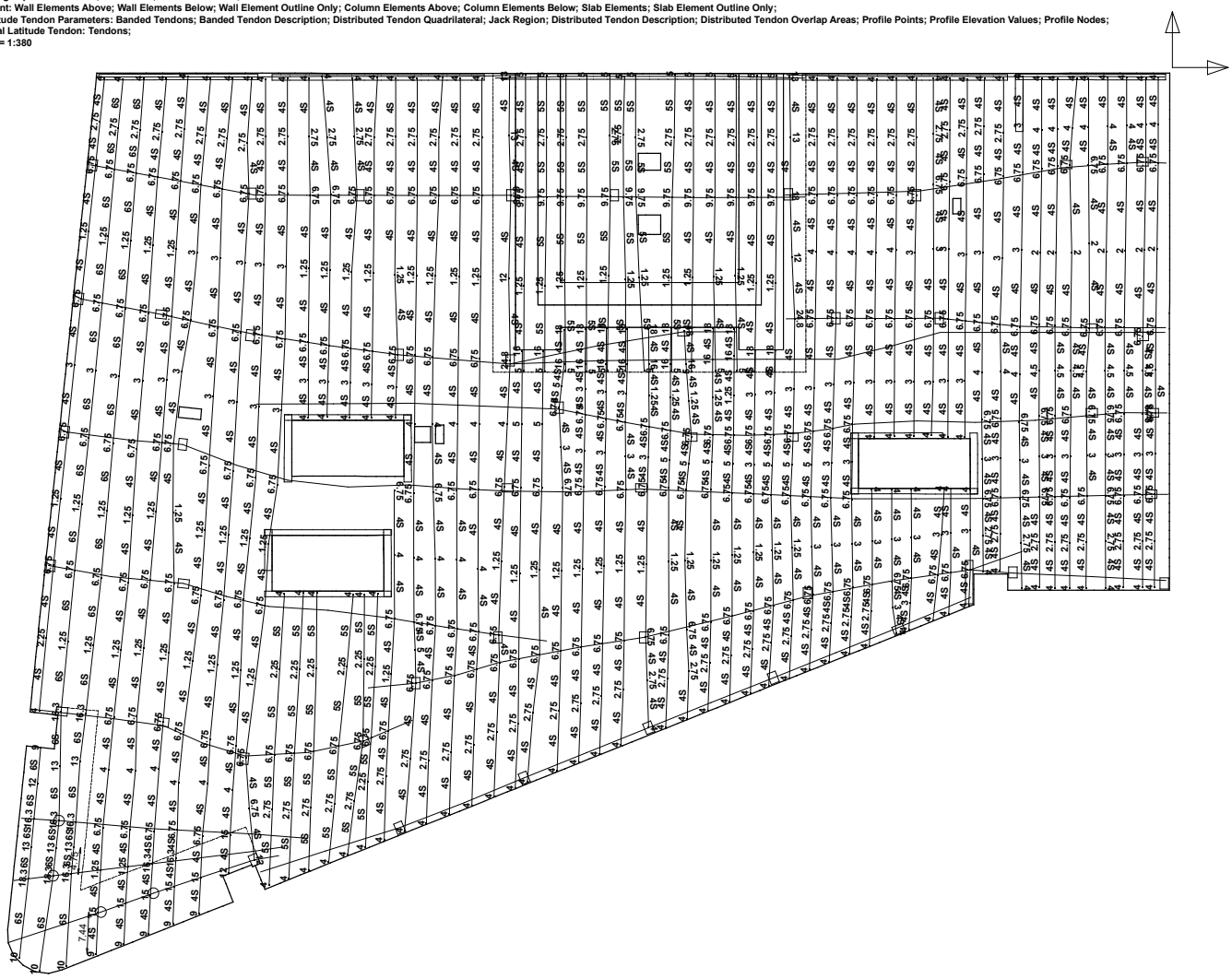
# Manual Latitude Tendon: Standard Plan

**Manual Latitude Tendon: Tendons; Num Strands; Jacks; Tendon Points; Profile Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Latitude Tendon Parameters: Banded Tendons; Banded Tendon Description; Distributed Tendon Quadrilateral; Distributed Tendon Overlap Areas; Profile Points; Profile Elevation Values; Profile Nodes; Jack Region;**
**Scale = 1:380**



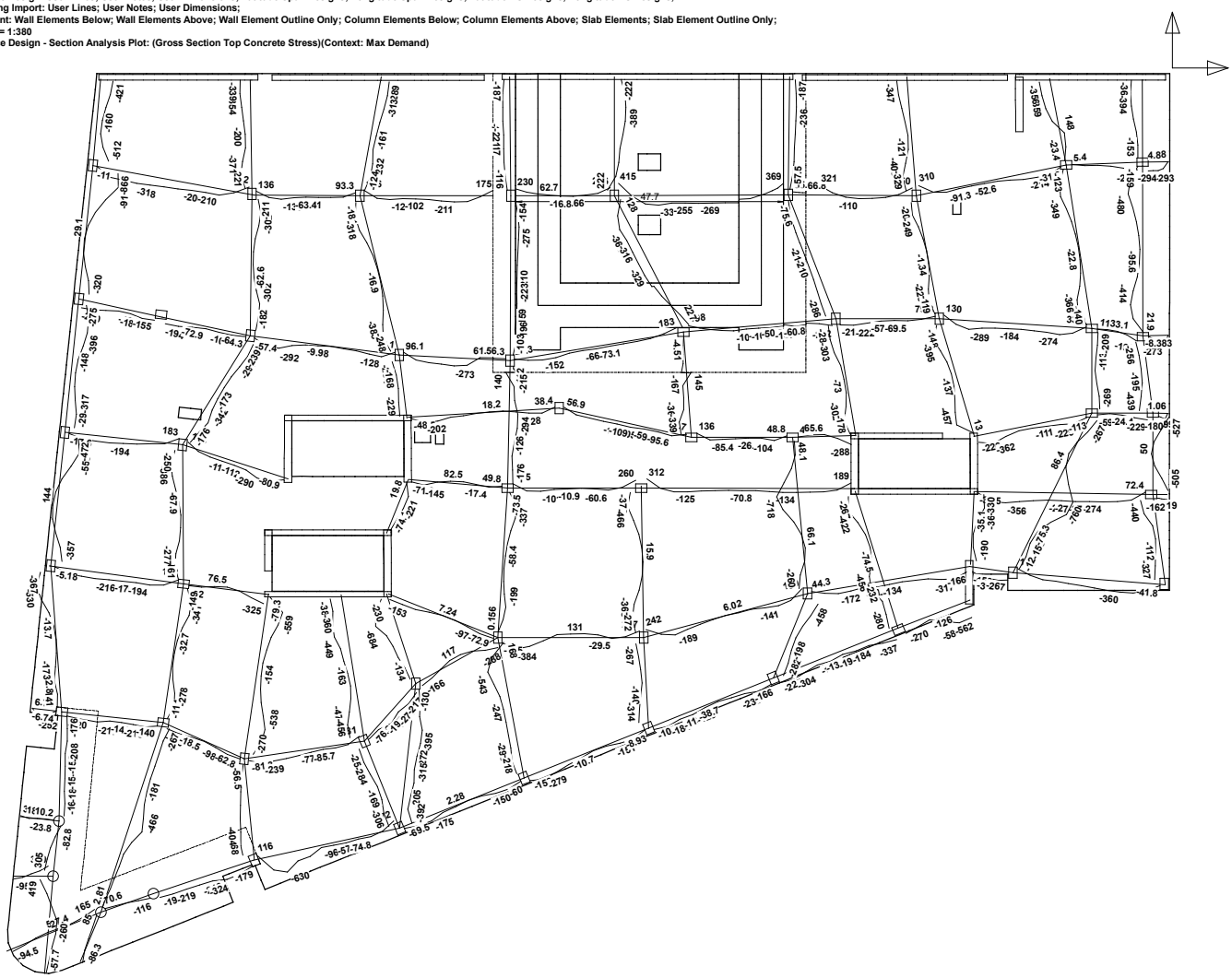
# Manual Longitude Tendon: Standard Plan

**Manual Longitude Tendon: Tendons; Num Strands; Jacks; Tendon Points; Profile Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Longitude Tendon Parameters: Banded Tendons; Banded Tendon Description; Distributed Tendon Quadrilateral; Jack Region; Distributed Tendon Description; Distributed Tendon Overlap Areas; Profile Points; Profile Elevation Values; Profile Nodes;**
**Manual Latitude Tendon: Tendons;**
**Scale = 1:380**



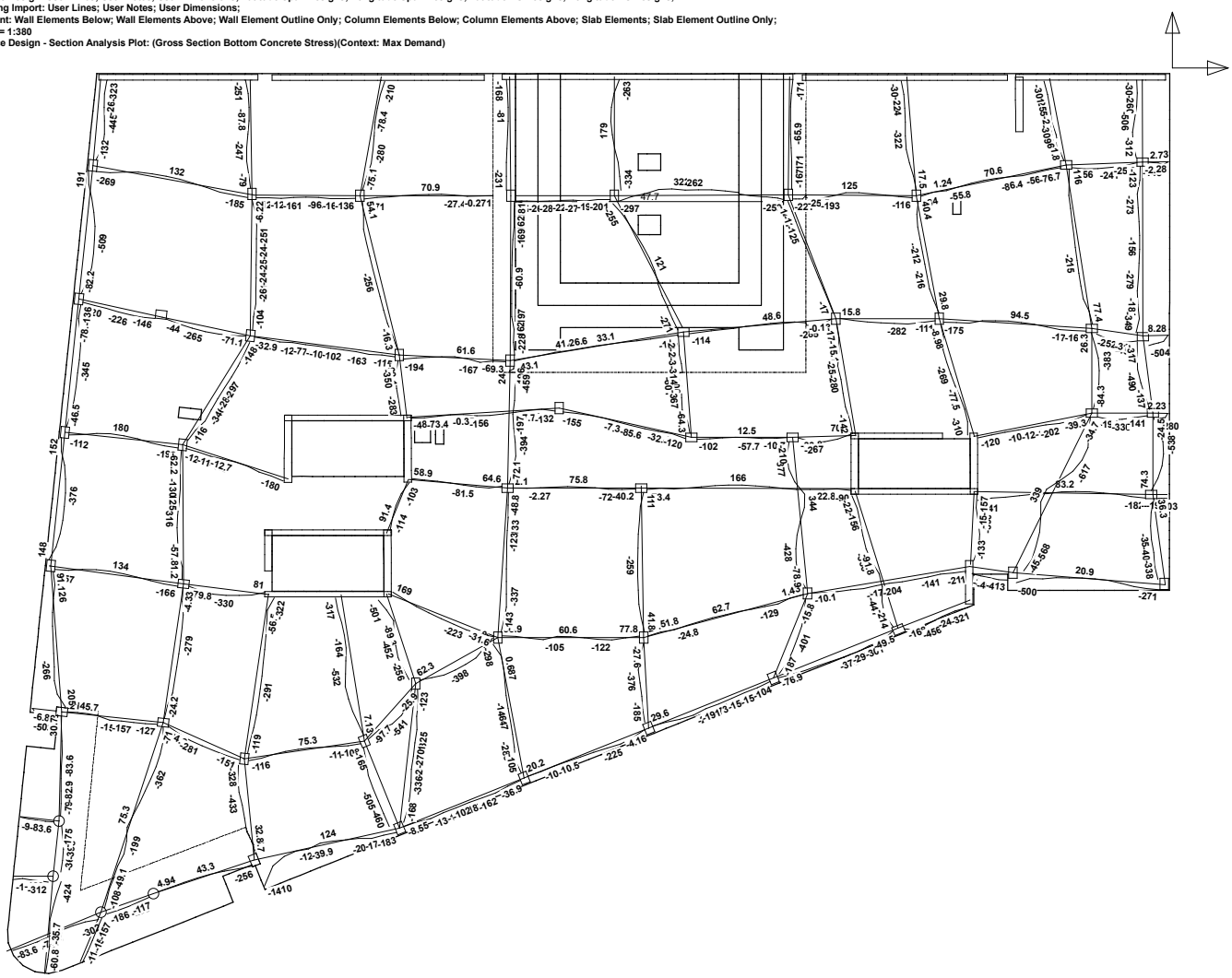
# Service Design: Top Stress Plan

**Service Design: User Lines; User Notes; User Dimensions; Latitude Span Designs; Longitude Span Designs; Latitude DS Designs; Longitude DS Designs;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**
**Service Design - Section Analysis Plot: (Gross Section Top Concrete Stress)(Context: Max Demand)**



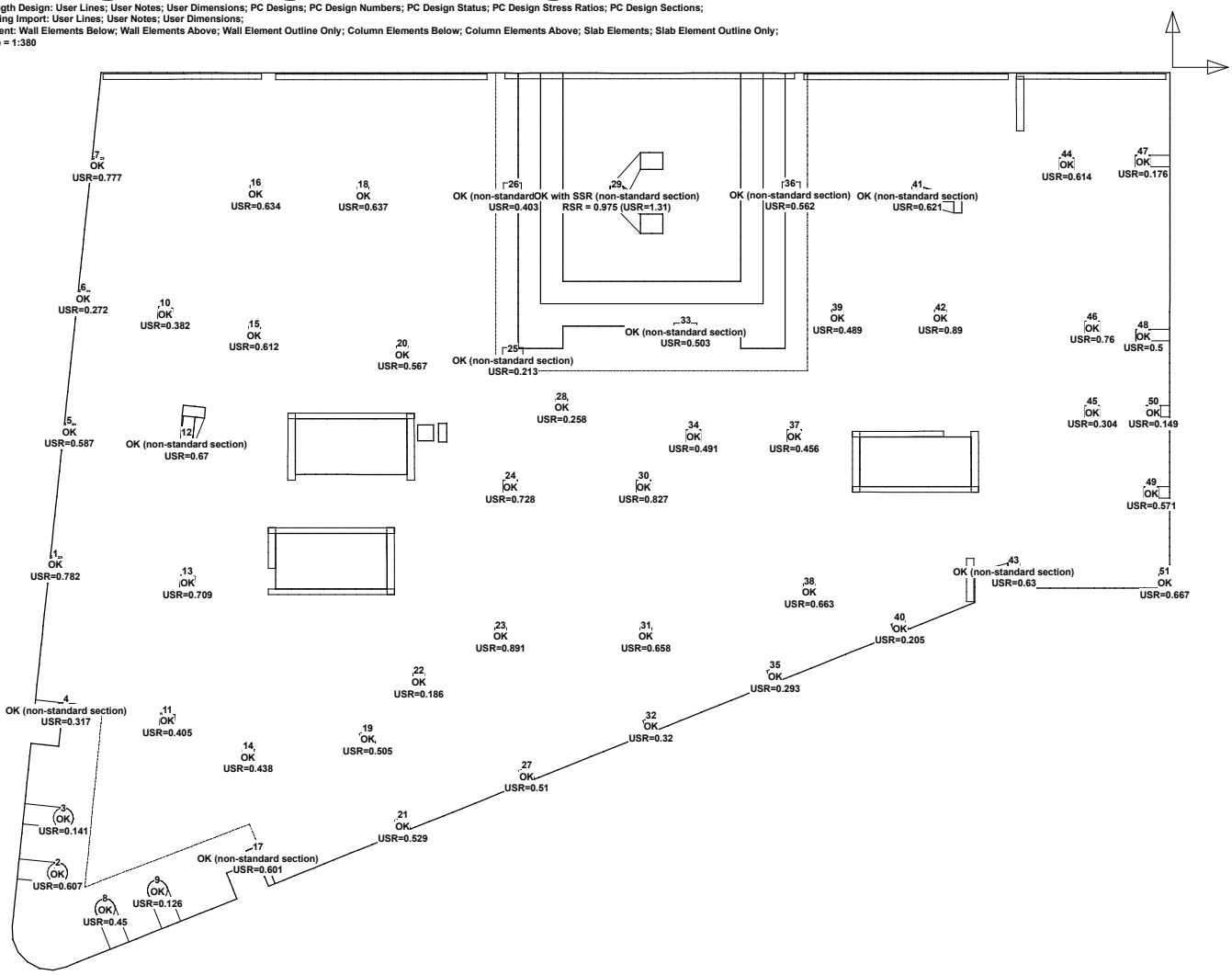
# Service Design: Bottom Stress Plan

**Service Design: User Lines; User Notes; User Dimensions; Latitude Span Designs; Longitude Span Designs; Latitude DS Designs; Longitude DS Designs;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**
**Service Design - Section Analysis Plot: (Gross Section Bottom Concrete Stress)(Context: Max Demand)**



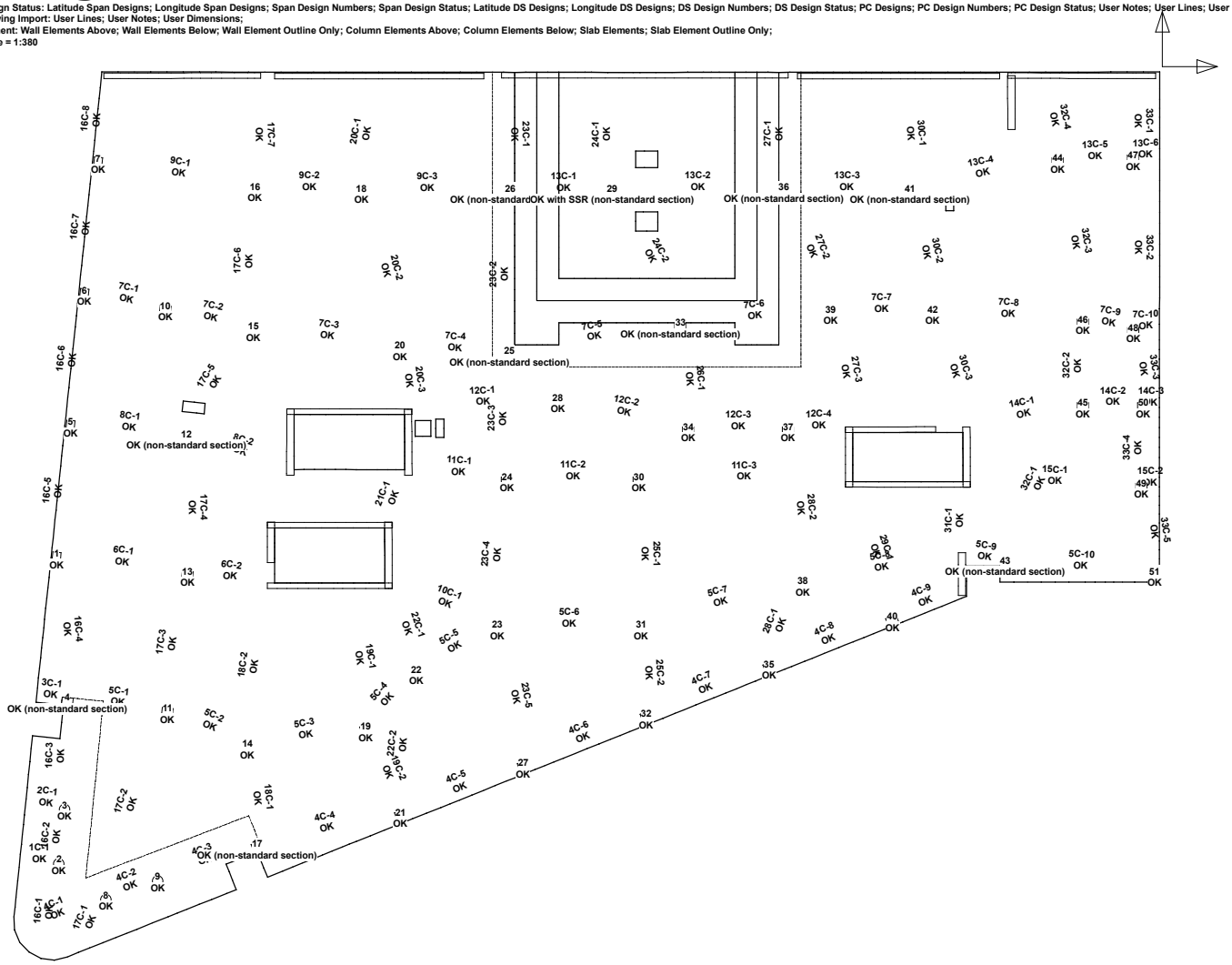
# Strength Design: Punching Shear Status Plan

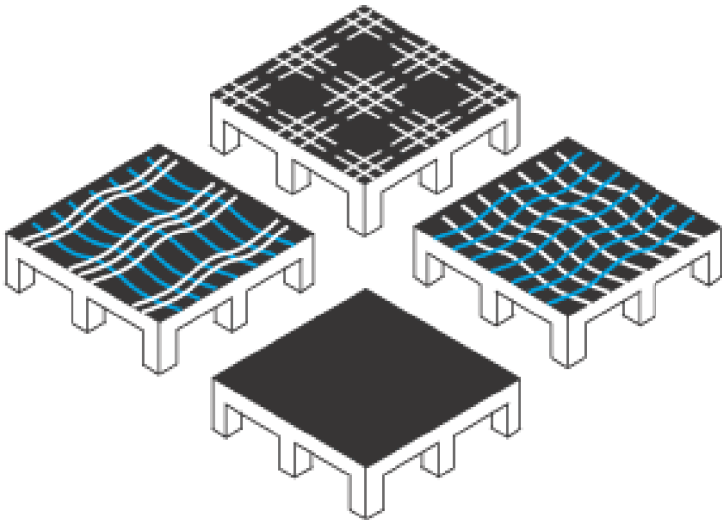
Strength Design: User Lines; User Notes; User Dimensions; PC Designs; PC Design Numbers; PC Design Status; PC Design Stress Ratios; PC Design Sections;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;
Scale = 1:380



# Design Status: Status Plan

**Design Status: Latitude Span Designs; Longitude Span Designs; Span Design Numbers; Span Design Status; Latitude DS Designs; Longitude DS Designs; DS Design Numbers; DS Design Status; PC Designs; PC Design Numbers; PC Design Status; User Notes; User Lines; User Di**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**





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# Units

## Geometry Units

Plan Dimensions: feet
Angles: degrees

Slab Thickness: inches
Elevations: inches

Support Dimensions: inches
Support Height: feet

## Loading and Reaction Units

Point Force: Kips
- Report As Zero: 0 Kips

Point Moment: kip-ft
- Report As Zero: 0 kip-ft

Line Force: kips/ft
- Report As Zero: 0 kips/ft

Line Moment: Kips
- Report As Zero: 0 Kips

Area Force: psf
- Report As Zero: 0 psf

Area Moment: #/foot
- Report As Zero: 0 #/foot

## Spring and Stiffness Units

Point Force Spring: kips/in
Point Moment Spring: k-ft/°

Line Force Spring: ksi
Line Moment Spring: k/°

Area Force Spring: pci
Area Moment Spring: k/ft°

## Slab Analysis Units

Force: Kips
- Report As Zero: 0 Kips

Force Per Width: kips/ft
- Report As Zero: 0 kips/ft

Moment: kip-ft
- Report As Zero: 0 kip-ft

Moment Per Width: Kips
- Report As Zero: 0 Kips

Concrete Stress: psi
- Report As Zero: 0 psi

Deflection: inches
- Report As Zero: 0 inches

## Materials Units

Concrete Volume: $yd^3$
Reinforcement Weight: tons
PT Weight: pounds

Reinforcing Area: $in^2$
Tendon Profile: inches
Cover: inches

PT Force: Kips
Reinforcing Stress: ksi

## Miscellaneous Units

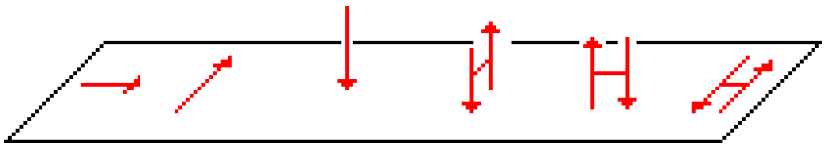
Floor Area: $ft^2$
Tendon Angles (for friction): radians

Density: pcf

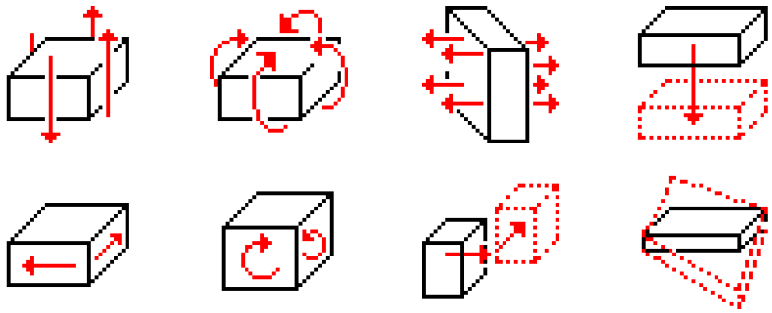
Elongations: inches

# Signs

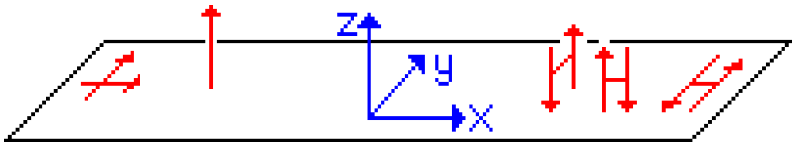
**Positive Loads**



**Positive Analysis**



**Positive Reactions**



# Materials

## Concrete Mix

| Mix Name | Density (pcf) | Density For Loads (pcf) | f'ci (psi) | f'c (psi) | fcui (psi) | fcu (psi) | Poissons Ratio | Ec Calc | User Eci (psi) | User Ec (psi) |
|---|---|---|---|---|---|---|---|---|---|---|
| 3000 psi | 150 | 150 | 3000 | 3000 | 3725 | 3725 | 0.2 | Code | 2500000 | 3000000 |
| 4000 psi | 150 | 150 | 3000 | 4000 | 3725 | 4975 | 0.2 | Code | 2500000 | 3000000 |
| 5000 psi | 150 | 150 | 3000 | 5000 | 3725 | 6399 | 0.2 | Code | 2500000 | 3000000 |
| 6000 psi | 150 | 150 | 3000 | 6000 | 3725 | 7450 | 0.2 | Code | 2500000 | 3000000 |

## PT Systems

| System Name | Type | Aps ($in^2$) | Eps (ksi) | fse (ksi) | fpy (ksi) | fpu (ksi) | Duct Width (inches) | Strands Per Duct | Min Radius (feet) |
|---|---|---|---|---|---|---|---|---|---|
| ½" Unbonded | unbonded | 0.153 | 28000 | 175 | 243 | 270 | 0.5 | 1 | 6 |
| ½" Bonded | bonded | 0.153 | 28000 | 160 | 243 | 270 | 3 | 4 | 6 |
| 0.6" Unbonded | unbonded | 0.217 | 28000 | 175 | 243 | 270 | 0.6 | 1 | 8 |
| 0.6" Bonded | bonded | 0.217 | 28000 | 160 | 243 | 270 | 4 | 4 | 8 |

## PT Stressing Parameters

| System Name | Jacking Stress (ksi) | Seating Loss (inches) | Anchor Friction | Wobble Friction (1/feet) | Angular Friction (1/radians) | Long-Term Losses (ksi) |
|---|---|---|---|---|---|---|
| ½" Unbonded | 216 | 0.25 | 0 | 0.0014 | 0.07 | 22 |
| ½" Bonded | 216 | 0.25 | 0.02 | 0.001 | 0.2 | 22 |
| 0.6" Unbonded | 216 | 0.25 | 0 | 0.0014 | 0.07 | 22 |
| 0.6" Bonded | 216 | 0.25 | 0.02 | 0.001 | 0.2 | 22 |

## Reinforcing Bars

| Bar Name | As ($in^2$) | Es (ksi) | Fy (ksi) | Coating | Straight Ld/Db | 90 Hook Ld/Db | 180 Hook Ld/Db |
|---|---|---|---|---|---|---|---|
| #3 | 0.11 | 29000 | 60 | None | Code | Code | Code |
| #4 | 0.2 | 29000 | 60 | None | Code | Code | Code |
| #5 | 0.31 | 29000 | 60 | None | Code | Code | Code |
| #6 | 0.44 | 29000 | 60 | None | Code | Code | Code |
| #7 | 0.6 | 29000 | 60 | None | Code | Code | Code |
| #8 | 0.79 | 29000 | 60 | None | Code | Code | Code |
| #9 | 1 | 29000 | 60 | None | Code | Code | Code |
| #10 | 1.27 | 29000 | 60 | None | Code | Code | Code |
| #11 | 1.56 | 29000 | 60 | None | Code | Code | Code |

# Materials (2)

## SSR Systems

| *SSR System Name* | *Stud Area (in²)* | *Head Area (in²)* | *Min Clear Head Spacing (inches)* | *Specified Stud Spacing (inches)* | *Fy (ksi)* | *Stud Spacing Rounding Increment (inches)* | *Min Studs Per Rail* | *System Type* |
|---|---|---|---|---|---|---|---|---|
| 3/8" SSR | 0.11 | 1.11 | 0.5 | None | 50 | 0.25 | 2 | Rail |
| 1/2" SSR | 0.196 | 1.96 | 0.5 | None | 50 | 0.25 | 2 | Rail |
| 5/8" SSR | 0.307 | 3.07 | 0.5 | None | 50 | 0.25 | 2 | Rail |
| 3/4" SSR | 0.442 | 4.42 | 0.5 | None | 50 | 0.25 | 2 | Rail |
| Ancon Shearfix Auto-Size | 0.1217 | 1.096 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 10 mm | 0.1217 | 1.096 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 12 mm | 0.1753 | 1.578 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 14 mm | 0.2386 | 2.147 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 16 mm | 0.3116 | 2.805 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 20 mm | 0.4869 | 4.383 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |
| Ancon Shearfix 24 mm | 0.7012 | 6.311 | 0.5906 | None | 72.52 | 0.03937 | 2 | Rail |

# Loadings

| *Loading Name* | *Type* | *Analysis* | *On-Pattern Factor* | *Off-Pattern Factor* |
|---|---|---|---|---|
| Self-Dead Loading | Self-Weight | Normal | 1 | 1 |
| Balance Loading | Balance | Normal | 1 | 1 |
| Hyperstatic Loading | Hyperstatic | Hyperstatic | 1 | 1 |
| Temporary Construction (At Stressing) Loading | Stressing Dead | Normal | 1 | 1 |
| Other Dead Loading | Dead | Normal | 1 | 1 |
| Live (Reducible) Loading | Live (Reducible) | Normal | 1 | 0 |
| Live (Unreducible) Loading | Live (Unreducible) | Normal | 1 | 0 |
| Live (Storage) Loading | Live (Storage) | Normal | 1 | 0 |
| Live (Parking) Loading | Live (Parking) | Normal | 1 | 0 |
| Live (Roof) Loading | Live (Roof) | Normal | 1 | 0 |
| Snow Loading | Snow | Normal | 1 | 1 |
| Seismic E/W | Ultimate Seismic 1 (transfer) | Normal | 1 | 0 |
| Seismic N/S | Ultimate Seismic 1 (transfer) | Normal | 1 | 0 |

# Load Combinations

## All Dead LC

Active Design Criteria: <none>
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |

## Dead + Balance LC

Active Design Criteria: <none>
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |

## Initial Service LC

Active Design Criteria: Initial Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1.13 | 1.13 |
| Temporary Construction (At Stressing) Loading | 1 | 1 |

## Service LC: D + L

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Reducible) Loading | 1 | 0 |
| Live (Unreducible) Loading | 1 | 0 |
| Live (Storage) Loading | 1 | 0 |
| Live (Parking) Loading | 1 | 0 |

## Service LC: D + Lr

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Roof) Loading | 1 | 0 |

# Load Combinations (2)

## Service LC: D + S

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Snow Loading | 1 | 0 |

## Service LC: D + 0.75L + 0.75Lr

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Reducible) Loading | 0.75 | 0 |
| Live (Unreducible) Loading | 0.75 | 0 |
| Live (Storage) Loading | 0.75 | 0 |
| Live (Parking) Loading | 0.75 | 0 |
| Live (Roof) Loading | 0.75 | 0 |

## Service LC: D + 0.75L + 0.75S

Active Design Criteria: User Minimum Design, Code Minimum Design, Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Reducible) Loading | 0.75 | 0 |
| Live (Unreducible) Loading | 0.75 | 0 |
| Live (Storage) Loading | 0.75 | 0 |
| Live (Parking) Loading | 0.75 | 0 |
| Snow Loading | 0.75 | 0 |

## Sustained Service LC

Active Design Criteria: Sustained Service Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1 | 1 |
| Balance Loading | 1 | 1 |
| Other Dead Loading | 1 | 1 |
| Live (Reducible) Loading | 0.5 | 0.5 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Live (Storage) Loading | 1 | 1 |
| Live (Parking) Loading | 0.5 | 0.5 |
| Live (Roof) Loading | 0.5 | 0.5 |

# Load Combinations (3)

## Factored LC: 1.4D

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.4 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.4 | 0.9 |

## Factored LC: 1.2D + 1.6L + 0.5Lr

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.2 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.2 | 0.9 |
| Live (Reducible) Loading | 1.6 | 0 |
| Live (Unreducible) Loading | 1.6 | 0 |
| Live (Storage) Loading | 1.6 | 0 |
| Live (Parking) Loading | 1.6 | 0 |
| Live (Roof) Loading | 0.5 | 0 |

## Factored LC: 1.2D + f1L + 1.6Lr

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.2 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.2 | 0.9 |
| Live (Reducible) Loading | 0.5 | 0 |
| Live (Unreducible) Loading | 1 | 0 |
| Live (Storage) Loading | 1 | 0 |
| Live (Parking) Loading | 1 | 0 |
| Live (Roof) Loading | 1.6 | 0 |

## Factored LC: 1.2D + 1.6L + 0.5S

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.2 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.2 | 0.9 |
| Live (Reducible) Loading | 1.6 | 0 |
| Live (Unreducible) Loading | 1.6 | 0 |
| Live (Storage) Loading | 1.6 | 0 |
| Live (Parking) Loading | 1.6 | 0 |
| Snow Loading | 0.5 | 0 |

# Load Combinations (4)

## Factored LC: 1.2D + f1L + 1.6S

Active Design Criteria: User Minimum Design, Code Minimum Design, Strength Design, Ductility Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.2 | 0.9 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.2 | 0.9 |
| Live (Reducible) Loading | 0.5 | 0 |
| Live (Unreducible) Loading | 1 | 0 |
| Live (Storage) Loading | 1 | 0 |
| Live (Parking) Loading | 1 | 0 |
| Snow Loading | 1.6 | 0 |

## Long Term deflection

Active Design Criteria: <none>
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 3.35 | 3.35 |
| Balance Loading | 3.35 | 3.35 |
| Other Dead Loading | 3.35 | 3.35 |
| Live (Unreducible) Loading | 2 | 2 |
| Snow Loading | 1 | 1 |

## Earthquake N-S: (1.2+.2*Sds)D + 2.5E + 0.5L+0.2S

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.344 | 1.344 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.344 | 1.344 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Snow Loading | 0.2 | 0.2 |
| Seismic N/S | 2.5 | 2.5 |

## Earthquake N-S: (0.9-0.2*Sds)D + 2.5E

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.756 | 0.756 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 0.756 | 0.756 |
| Seismic N/S | 2.5 | 2.5 |

# Load Combinations (5)

## Earthquake E-W: (1.2+0.2*Sds)D + 2.5E + 0.5L+0.2S

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.344 | 1.344 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.344 | 1.344 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Snow Loading | 0.2 | 0.2 |
| Seismic E/W | 2.5 | 2.5 |

## Earthquake E-W: (0.9-0.2*Sds)D + 2.5E

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.756 | 0.756 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 0.756 | 0.756 |
| Seismic E/W | 2.5 | 2.5 |

## Earthquake N-S: (1.2+0.2*Sds)D - 2.5E + .5L + 0.2S

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.344 | 1.344 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.344 | 1.344 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Snow Loading | 0.2 | 0.2 |
| Seismic N/S | -2.5 | -2.5 |

## Earthquake N-S: (0.9-0.2*Sds)D - 2.5E

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.756 | 0.756 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 0.756 | 0.756 |
| Seismic N/S | -2.5 | -2.5 |

# Load Combinations (6)

## Earthquake E-W: (1.2+0.2*Sds)D - 2.5E + .5L + 0.2S

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 1.344 | 1.344 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 1.344 | 1.344 |
| Live (Unreducible) Loading | 0.5 | 0.5 |
| Snow Loading | 0.2 | 0.2 |
| Seismic E/W | -2.5 | -2.5 |

## Earthquake E-W: (0.9-0.2*Sds)D - 2.5E

Active Design Criteria: Strength Design, Code Minimum Design, User Minimum Design
Analysis: Linear

| *Loading* | *Standard Factor* | *Alt. Envelope Factor* |
|---|---|---|
| Self-Dead Loading | 0.756 | 0.756 |
| Hyperstatic Loading | 1 | 1 |
| Other Dead Loading | 0.756 | 0.756 |
| Seismic E/W | -2.5 | -2.5 |

# Design Rules

## Code Minimum Desig

318-11 Min. Reinforcement

## User Minimum Desig

Specified Min. Reinforcement

## Initial Service Desig

318-11 Initial Service Design

## Service Design

318-11 Service Design
Include detailed section analysis

## Sustained Service Desig

318-11 Sustained Service Design

## Strength Design

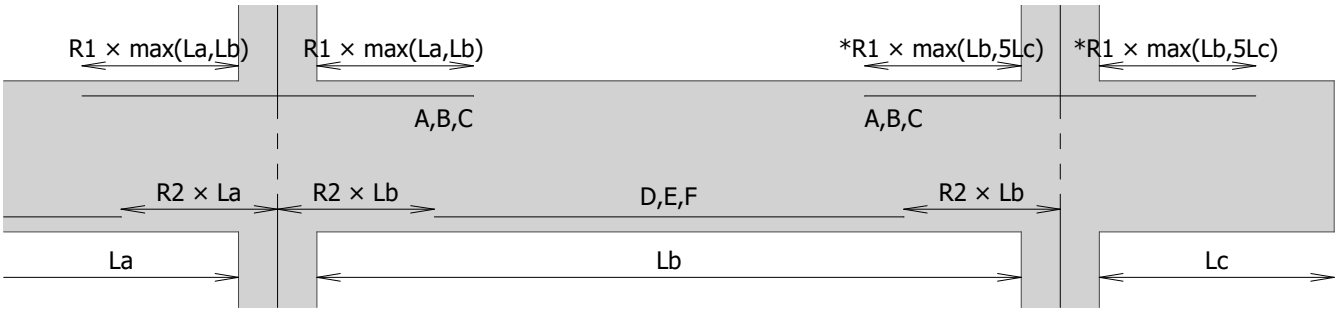
318-11 Strength Design
Punching Shear Design

## Ductility Desig

318-11 Ductility Design

# Detailing Rules

## Custom Span Detailing Rules




| *Rule Name* | *A Fraction* | *A R1* | *B Fraction* | *B R1* | *C Fraction* | *C R1* | *D Fraction* | *D R2* | *E Fraction* | *E R2* | *F Fraction* | *F R2* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| None | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

"A", "B" and "C", are support reinforcement sets, based on the peak reinforcement in the support zone.
"D", "E" and "F", are span reinforcement sets, based on the peak reinforcement in the span zone.
"*R1" is never taken as greater than 0.2 when multiplied by Lc (or Lcc).
"Fraction" is the ratio of set reinforcement to peak reinforcement. It is always in the 0.0 to 1.0 range.

# Load History

| *Load History Step Name* | *Load Combination* | *Duration (days)* | *Total Age (days)* |
|---|---|---|---|
| Maximum Short Term Load | Service LC: D + L | 30 | 33 |
| Sustained Load | Sustained Service LC | 5000 | 5033 |
| Final Instantaneous Load | Service LC: D + L | 0 | 5033 |

# Mesh Input: Walls Below Table

| Number | Location feet | Mix | Fixed Near | Fixed Far | Comp. | Height feet | Thickness inches |
|---|---|---|---|---|---|---|---|
| 1 | (-192.2,-1.583)(-159.3,-1.583) | 4000 psi | false | false | true | 10 | 10 |
| 2 | (-161.6,-82.57)(-161.6,-69.08) | 6000 psi | false | false | true | 10 | 12 |
| 3 | (-158,-74.05)(-158,-62.65) | 6000 psi | false | false | true | 10 | 12 |
| 4 | (-140.5,-94.13)(-161.6,-94.13) | 6000 psi | false | false | true | 10 | 12 |
| 5 | (-140.5,-83.15)(-161.6,-83.15) | 6000 psi | false | false | true | 10 | 12 |
| 6 | (-158,-62.55)(-136.2,-62.55) | 6000 psi | false | false | true | 10 | 12 |
| 7 | (-140.5,-82.57)(-140.5,-94.57) | 6000 psi | false | false | true | 10 | 12 |
| 8 | (-136.7,-62.55)(-136.7,-74.05) | 6000 psi | false | false | true | 10 | 12 |
| 9 | (-152,-1.583)(-117.8,-1.552) | 4000 psi | false | false | true | 10 | 10 |
| 10 | (-56.72,-65.28)(-56.72,-76.02) | 6000 psi | false | false | true | 10 | 12 |
| 11 | (-69.5,-1.552)(-35.53,-1.552) | 4000 psi | false | false | true | 10 | 8 |
| 12 | (-56.72,-65.78)(-41.18,-65.78) | 6000 psi | false | false | true | 10 | 12 |
| 13 | (-56.72,-75.7)(-35.72,-75.70) | 6000 psi | false | false | true | 10 | 12 |
| 14 | (-36.55,-88.08)(-36.55,-95.04) | 6000 psi | false | false | true | 10 | 12 |
| 15 | (-35.72,-65.28)(-35.72,-76.02) | 6000 psi | false | false | true | 10 | 12 |
| 16 | (-27.39,-11.56)(-27.39,-1.583) | 4000 psi | false | false | true | 10 | 16 |
| 17 | (-29.33,-1.583)(-0.6667,-1.583) | 4000 psi | false | false | true | 10 | 10 |

# Mesh Input: Walls Below Table (2)

ess

| *Shear Wall* | *Use Spec LLR Params* | *Spec. LLR Levels* | *Spec. Trib. Area ft²* | *Spec. Infl. Area ft²* | *Max LLR %* |
|---|---|---|---|---|---|
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |
| true | false | 1 | 0 | 0 | 40 |

# Mesh Input: Columns Below Table

| *Number* | *Location feet* | *Mix* | *Fixed Near* | *Fixed Far* | *Comp.* | *Height feet* | *B inches* | *D inches* |
|---|---|---|---|---|---|---|---|---|
| 1 | (-207,-153.1) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 2 | (-200.6,-89.05) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 3 | (-199.7,-144.9) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 4 | (-198.6,-115.2) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 5 | (-198.6,-134.5) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 6 | (-198,-65.18) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 7 | (-197.9,-160) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 8 | (-195.5,-41.31) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 9 | (-193,-17.44) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 10 | (-191.4,-151.5) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 11 | (-180.8,-44.12) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 12 | (-180.5,-117.1) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 13 | (-177,-67.39) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 14 | (-176.8,-92.28) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 15 | (-165.9,-123.5) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 16 | (-164.9,-47.89) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 17 | (-164.6,-22.53) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 18 | (-164.4,-141.2) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 19 | (-145.3,-22.83) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 20 | (-144.5,-120.4) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 21 | (-138.3,-51.35) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 22 | (-138.2,-136) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 23 | (-135.3,-110.1) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 24 | (-120.6,-101.9) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 25 | (-118.9,-75.16) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 26 | (-118.8,-22.8) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 27 | (-118.4,-52.35) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 28 | (-115.9,-127) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 29 | (-109.7,-60.83) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 30 | (-95,-75.17) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 31 | (-94.55,-101.9) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 32 | (-93.65,-118.1) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 33 | (-87.45,-47.3) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 34 | (-86.02,-66.08) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 35 | (-71.38,-109.1) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 36 | (-68.7,-22.83) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 37 | (-67.92,-66.08) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 38 | (-65.26,-94) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 39 | (-60.2,-44.83) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 40 | (-48.99,-100.5) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 41 | (-45.8,-22.83) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 42 | (-41.7,-44.83) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 43 | (-28.53,-90.28) | 5000 psi | true | true | true | 10 | 18 | 24 |
| 44 | (-19.02,-17.34) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 45 | (-14.46,-46.58) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 46 | (-14.45,-61.73) | 5000 psi | true | true | true | 10 | 24 | 18 |

# Mesh Input: Columns Below Table (2)

| *Angle degrees* | *Roller* | *I Factor* | *Use Spec LLR Params* | *Spec. LLR Levels* | *Spec. Trib. Area ft²* | *Spec. Infl. Area ft²* |
|---|---|---|---|---|---|---|
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| 84 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| 84 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| -6 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 90 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 22 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 112 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |

# Mesh Input: Columns Below Table (3)

| *Infl. Area* | *Max LLR* <br> *%* |
|---|---|
| | 40 |
| | 40 |
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| | 40 |
| | 40 |

# Mesh Input: Columns Below Table (4)

| *Number* | *Location feet* | *Mix* | *Fixed Near* | *Fixed Far* | *Comp.* | *Height feet* | *B inches* | *D inches* |
|---|---|---|---|---|---|---|---|---|
| 47 | (-5.364,-16.83) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 48 | (-5.313,-48.08) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 49 | (-3.839,-76.29) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 50 | (-3.615,-61.75) | 5000 psi | true | true | true | 10 | 24 | 18 |
| 51 | (-1.469,-92.28) | 5000 psi | true | true | true | 10 | 18 | 24 |

# Mesh Input: Columns Below Table (5)

| *Angle degrees* | *Roller* | *I Factor* | *Use Spec LLR Params* | *Spec. LLR Levels* | *Spec. Trib. Area ft²* | *Spec. Infl. Area ft²* |
|---|---|---|---|---|---|---|
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |
| 0 | false | 1 | false | 1 | 0 | 0 |

# Mesh Input: Columns Below Table (6)

| *nfl. Area* | *Max LLR %* |
|---|---|
| | 40 |
| | 40 |
| | 40 |
| | 40 |
| | 40 |

# Mesh Input: Slab Areas Table

| *Number* | *Location feet* | *Mix* | *Thickness inches* | *TOC inches* | *Priority* | *Behavior* | *R-Axis degrees* |
|---|---|---|---|---|---|---|---|
| 1 | (-190.7,-158.2)(-168.1,-140.2)(-169.8,-145)(-163.9,-142.7)(-164.8,-140.3)(-193,-150.8) | 5000 psi | 14 | 0 | 5 | two-way slab | 0 |
| 2 | (-164.8,-140.3)(-165.4,-140.6)(-164.5,-142.9)(-163.9,-142.7) | 5000 psi | 14 | 0 | 5 | two-way slab | 0 |
| 3 | (-123,-25.33)(-118,-25.33)(-118,-20.33)(-123,-20.33) | 5000 psi | 14 | 0 | 5 | two-way slab | 0 |
| 4 | (-192.3,-0.7966)(-159,-0.7966)(-159.9,-10.16)(-154.2,-10.67)(-153.2,-0.7966)(-117.5,-0.7966)(-117.5,-50.35)(-109.4,-50.35)(-109 | 5000 psi | 14 | 0 | 5 | two-way slab | 0 |

# Mesh Input: Slab Areas Table (2)

| s | KMr | KMs | KMrs | KFr | KFs | KVrs |
|---|---|---|---|---|---|---|
| | 1 | 1 | 1 | 1 | 1 | 1 |
| | 1 | 1 | 1 | 1 | 1 | 1 |
| | 1 | 1 | 1 | 1 | 1 | 1 |
| | 1 | 1 | 1 | 1 | 1 | 1 |

# Mesh Input: Beams Table

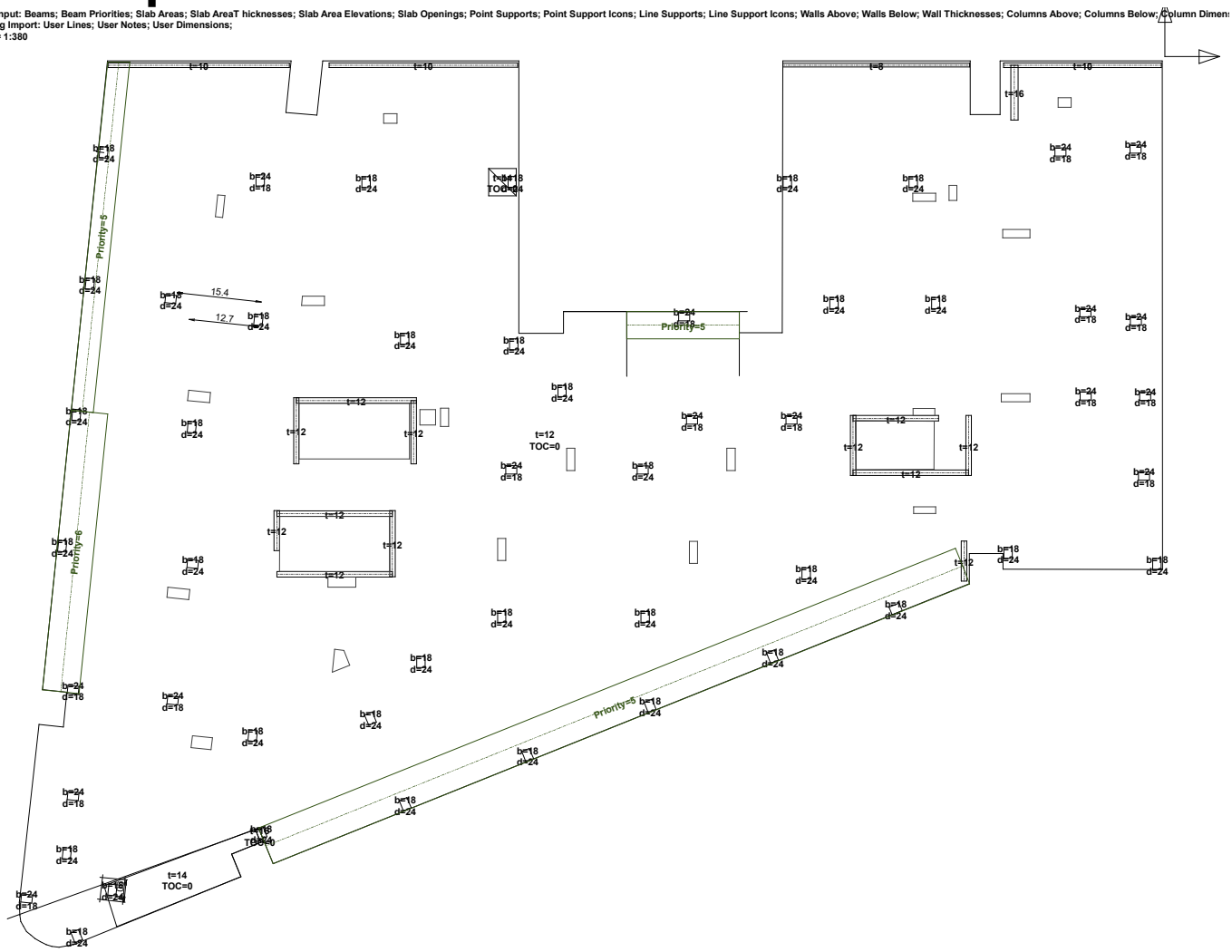
| *Number* | *Location feet* | *Mix* | *Thickness inches* | *TOC inches* | *Priority* | *Mesh As Slab* | *Width inches* |
|---|---|---|---|---|---|---|---|
| 1 | (-200.8,-115.5)(-195.6,-64.05)(-204.1,-165.2)(-198.9,-64.31) | 5000 psi | 16 | 0 | (-197.5,-165.8)(-192.3,-64.99) | true | 80 |
| 2 | (-190.3,-1)(-196.9,-64.55)(-188.3,-0.9974)(-194.9,-64.76) | 5000 psi | 14 | -1 | (-192.3,-0.9984)(-198.9,-64.34) | true | 48 |
| 3 | (-36.79,-92.65)(-163.5,-140.6)(-35.54,-95.92)(-162.2,-146.8) | 4000 psi | 16 | 0 | (-38.1,-89.4)(-164.8,-140.3) | true | 84 |
| 4 | (-97.9,-48.85)(-77.42,-45.85)(-97.9,-46.35)(-77.42,-46.35) | 5000 psi | 15 | 0 | (-97.9,-51.35)(-77.42,-51.35) | true | 60 |

# Mesh Input: Beams Table (2)

| Width inches | Behavior | KMr | KMs | KMrs | KFr | KFs | KVrs |
|---|---|---|---|---|---|---|---|
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |
| | no-torsion two-way slab | 1 | 1 | 0.001 | 1 | 1 | 1 |

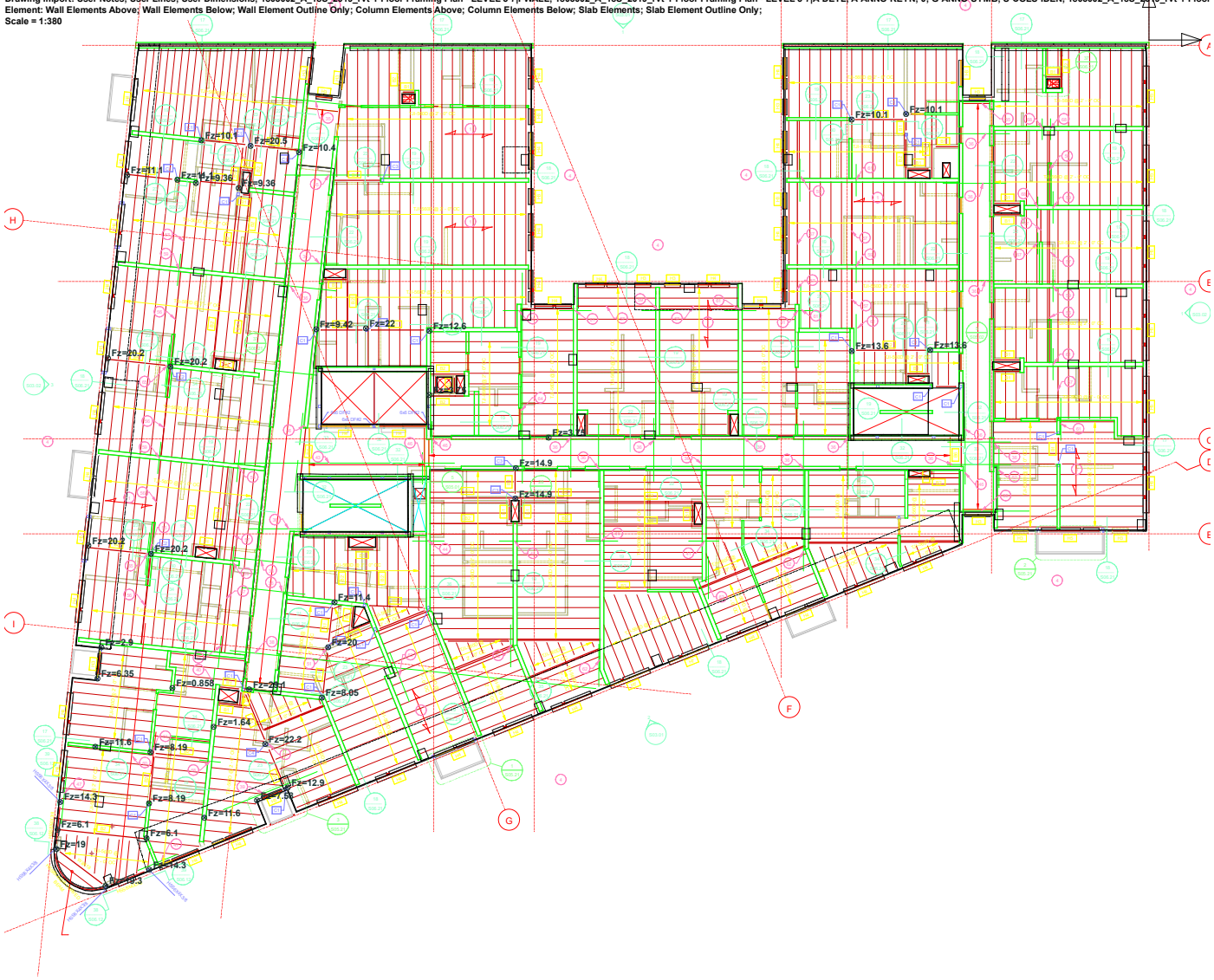
# Mesh Input: Standard Plan

Mesh Input: Beams; Beam Priorities; Slab Areas; Slab AreaT hicknesses; Slab Area Elevations; Slab Openings; Point Supports; Point Support Icons; Line Supports; Line Support Icons; Walls Above; Walls Below; Wall Thicknesses; Columns Above; Columns Below; Column Dimens
Drawing Import: User Lines; User Notes; User Dimensions;
Scale = 1:380



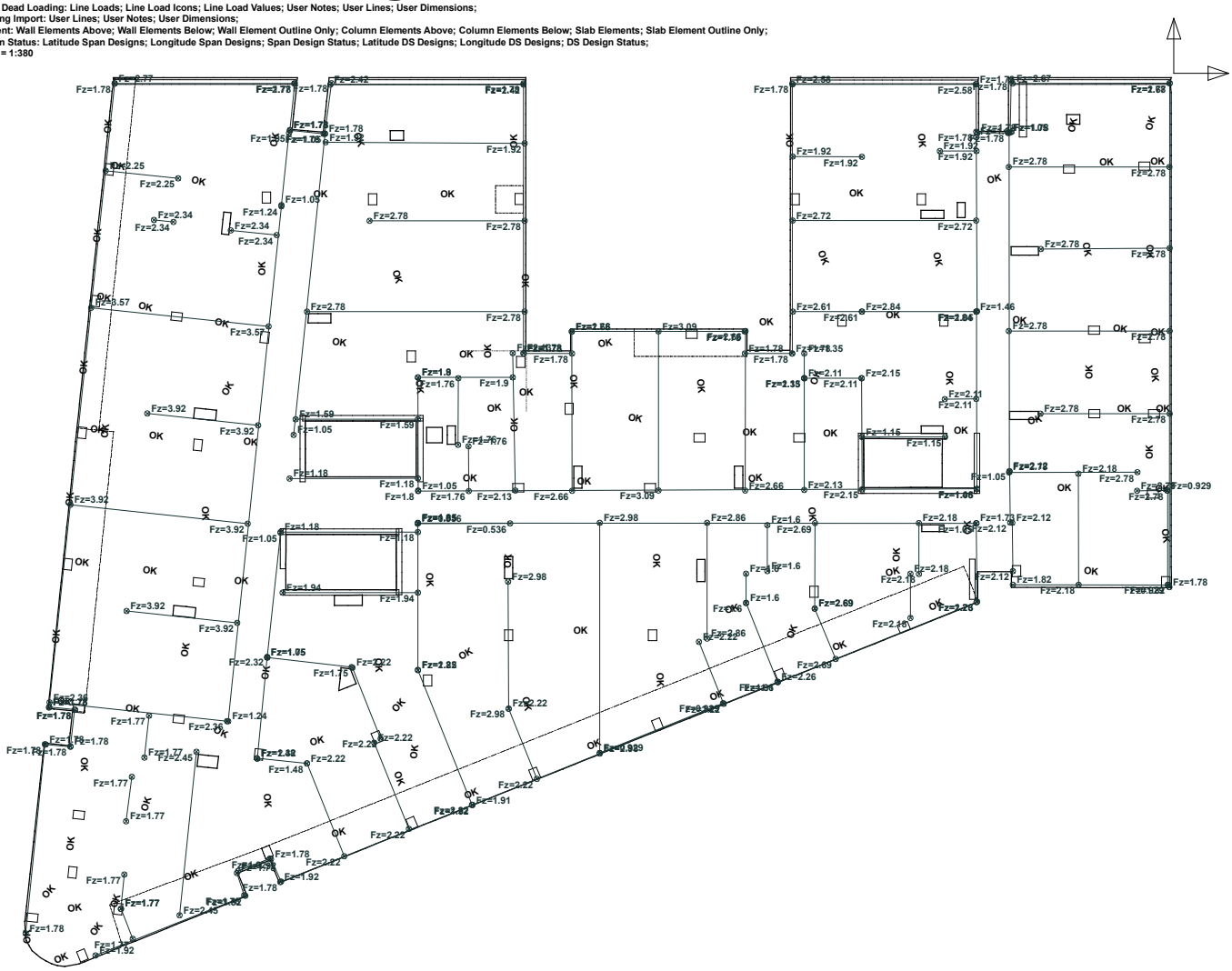
# Other Dead Loading: Point Loads Plan

**Other Dead Loading: Point Loads; Point Load Icons; Point Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Notes; User Lines; User Dimensions; 1803002_A_18S_2019_rvt-1-Floor Framing Plan - LEVEL 5-7|I-WALL; 1803002_A_18S_2019_rvt-1-Floor Framing Plan - LEVEL 5-7|A-DETL; A-ANNO-KEYN; 0; G-ANNO-SYMB; S-COLS-IDEN; 1803002_A_18S_2019_rvt-1-Floor**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



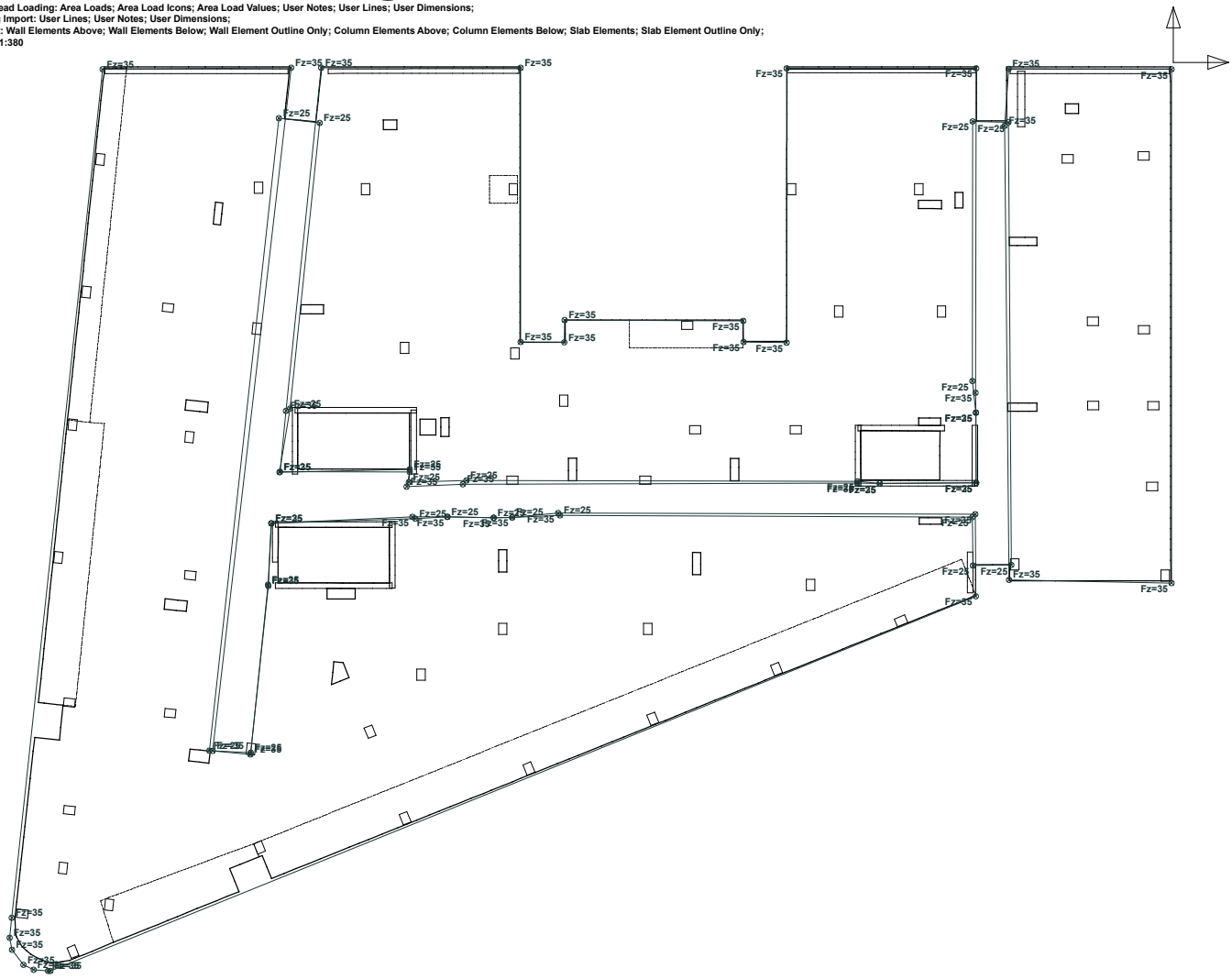
# Other Dead Loading: Line Loads Plan

**Other Dead Loading: Line Loads; Line Load Icons; Line Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Design Status: Latitude Span Designs; Longitude Span Designs; Span Design Status; Latitude DS Designs; Longitude DS Designs; DS Design Status;**
**Scale = 1:380**



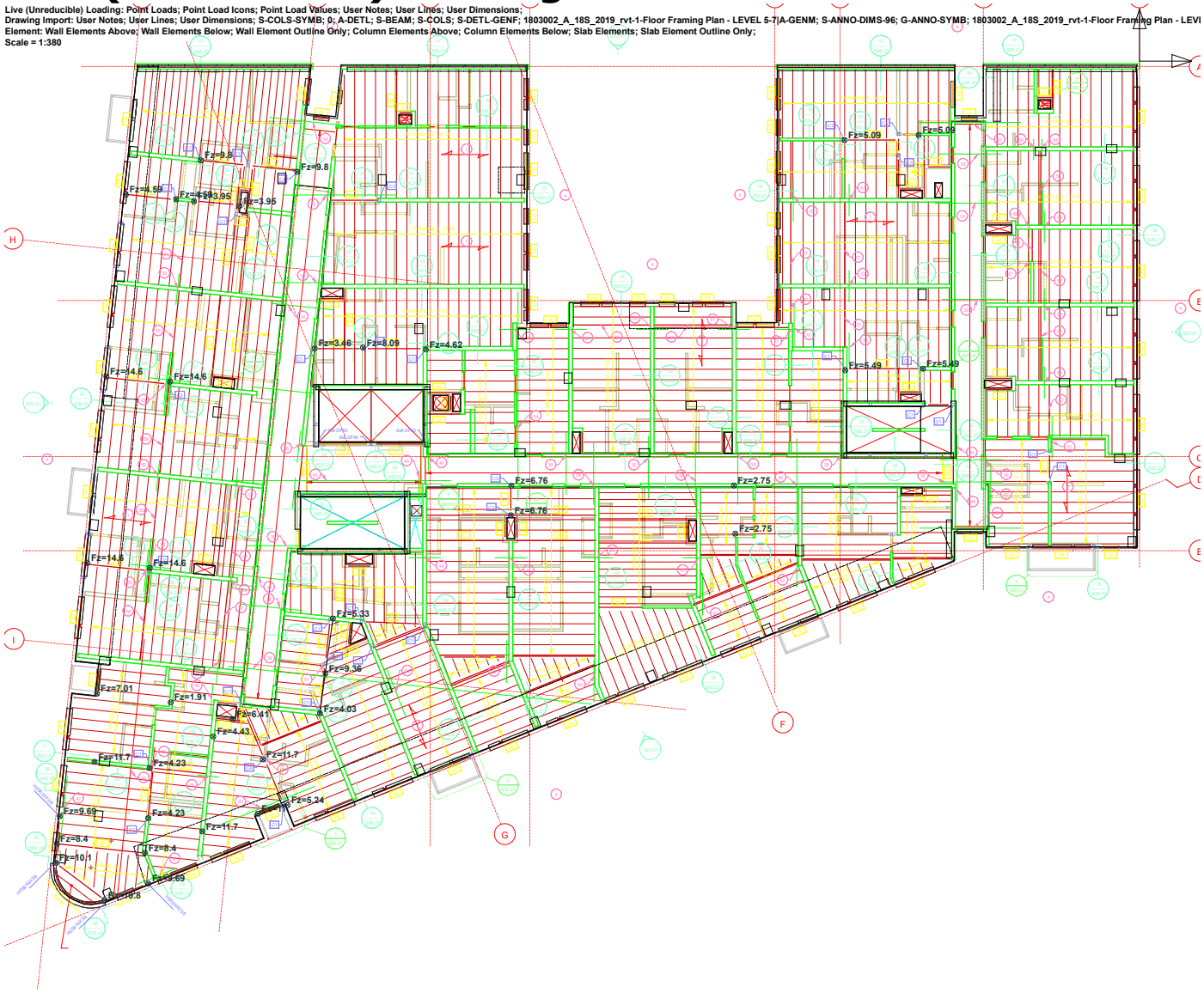
# Other Dead Loading: Area Loads Plan

**Other Dead Loading: Area Loads; Area Load Icons; Area Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



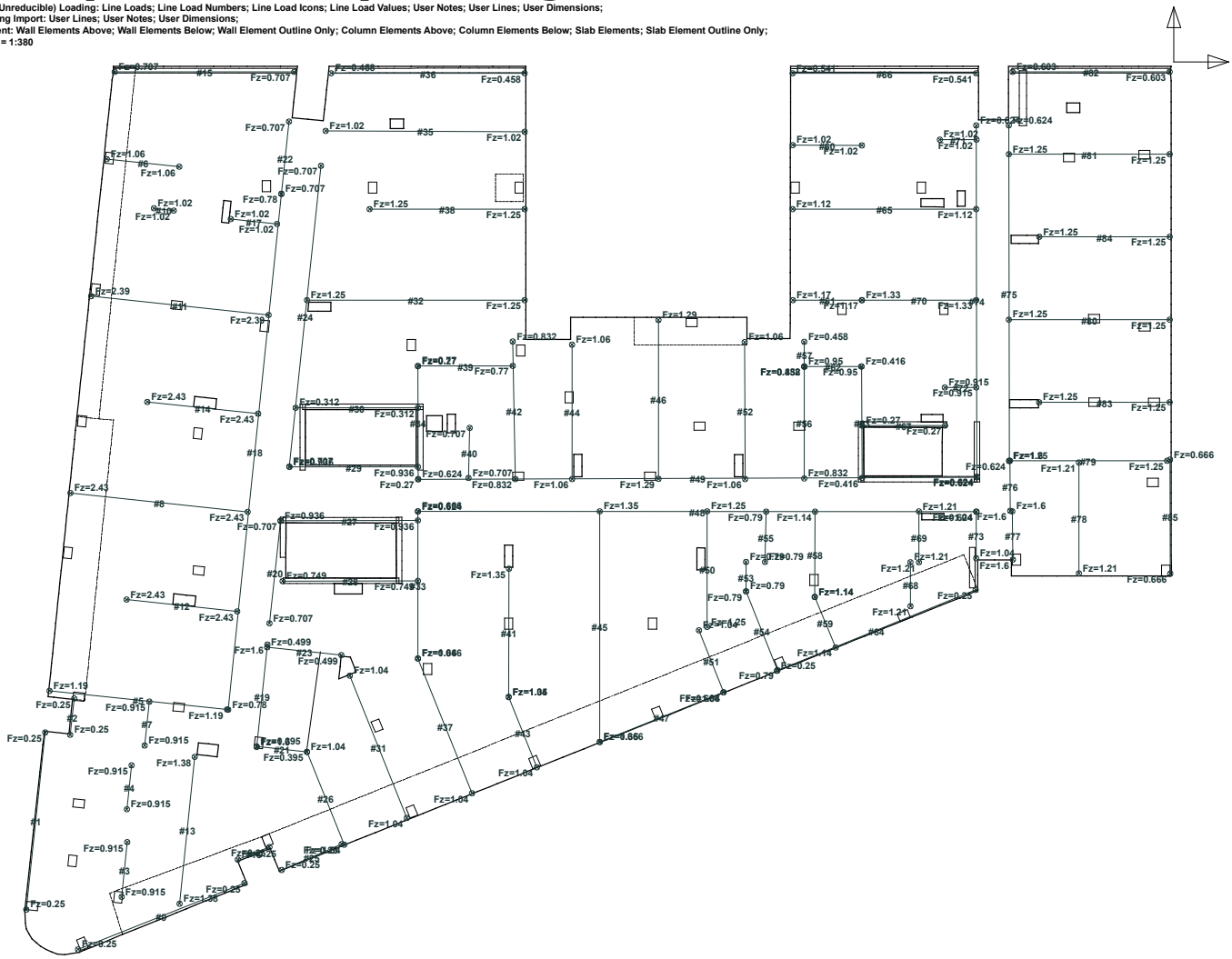
# Live (Unreducible) Loading: Point Loads Plan

Live (Unreducible) Loading: Point Loads; Point Load Icons; Point Load Values; User Notes; User Lines; User Dimensions;
Drawing Import: User Notes; User Lines; User Dimensions; S-COLS-SYMB; 0; A-DETL; S-BEAM; S-COLS; S-DETL-GENF; 1803002_A_18S_2019_rvt-1-Floor Framing Plan - LEVEL 5-7|A-GENM; S-ANNO-DIMS-96; G-ANNO-SYMB; 1803002_A_18S_2019_rvt-1-Floor Framing Plan - LEVI
Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;
Scale = 1:380



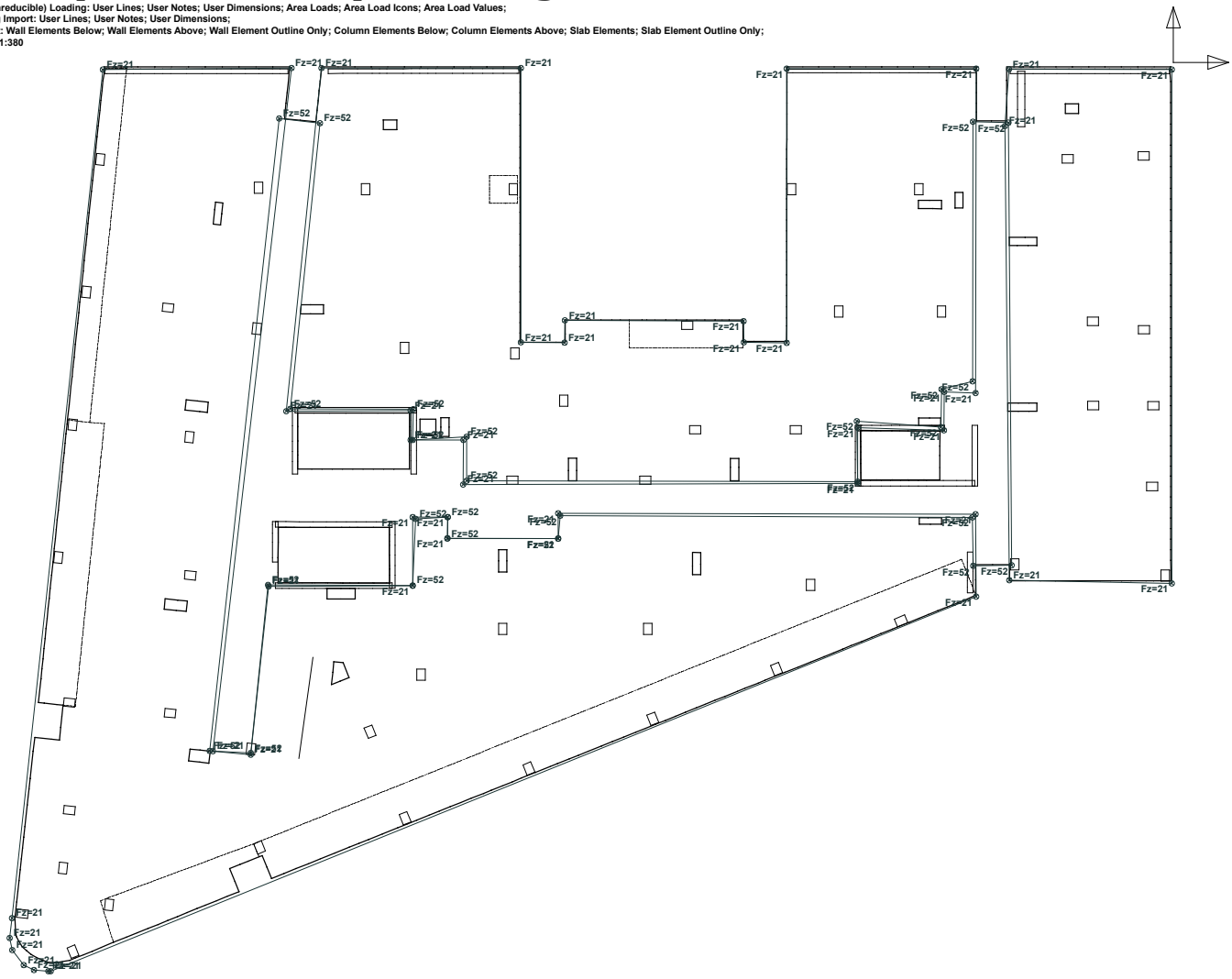
# Live (Unreducible) Loading: Line Loads Plan

**Live (Unreducible) Loading: Line Loads; Line Load Numbers; Line Load Icons; Line Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



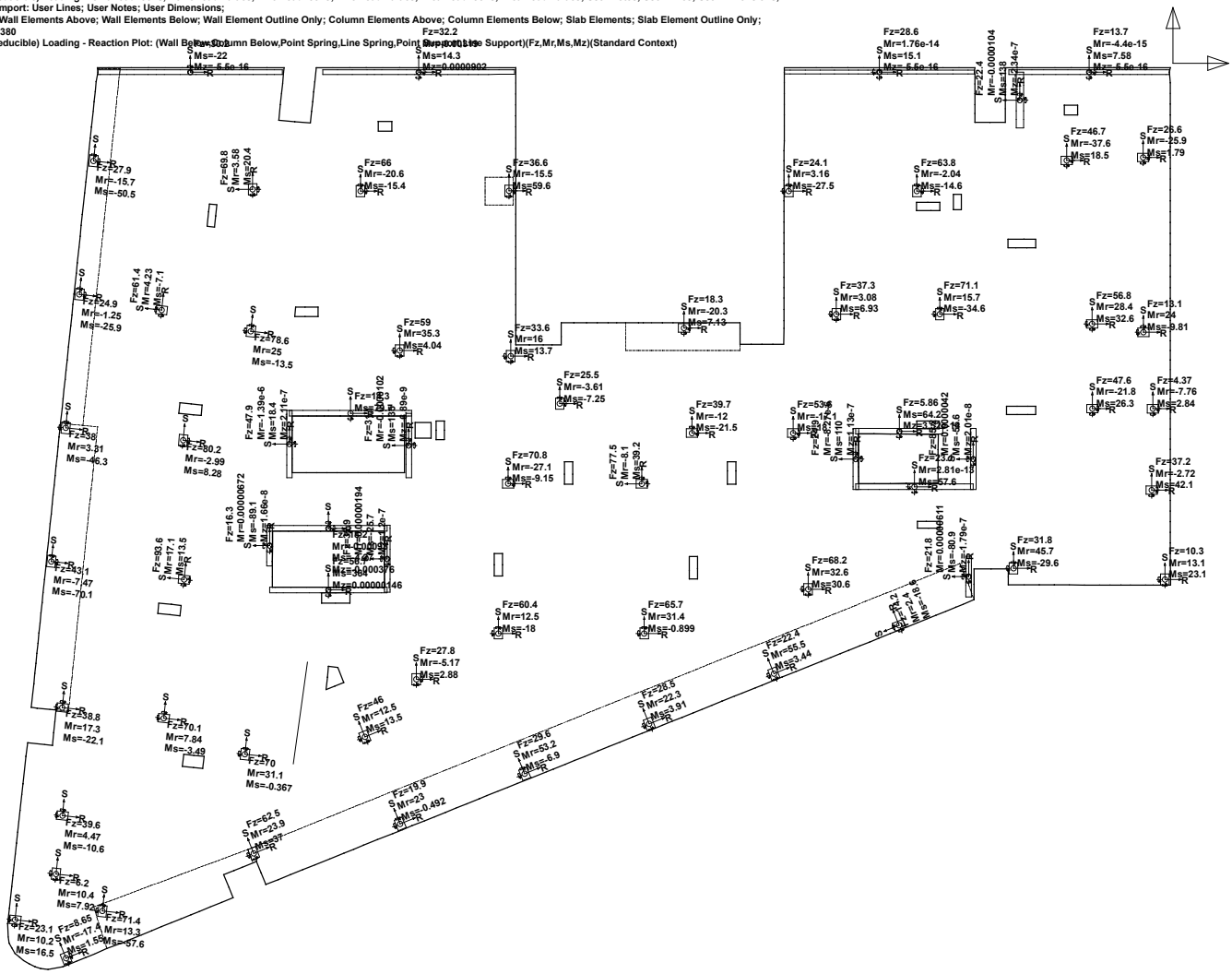
# Live (Unreducible) Loading: Area Loads Plan

**Live (Unreducible) Loading: User Lines; User Notes; User Dimensions; Area Loads; Area Load Icons; Area Load Values;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



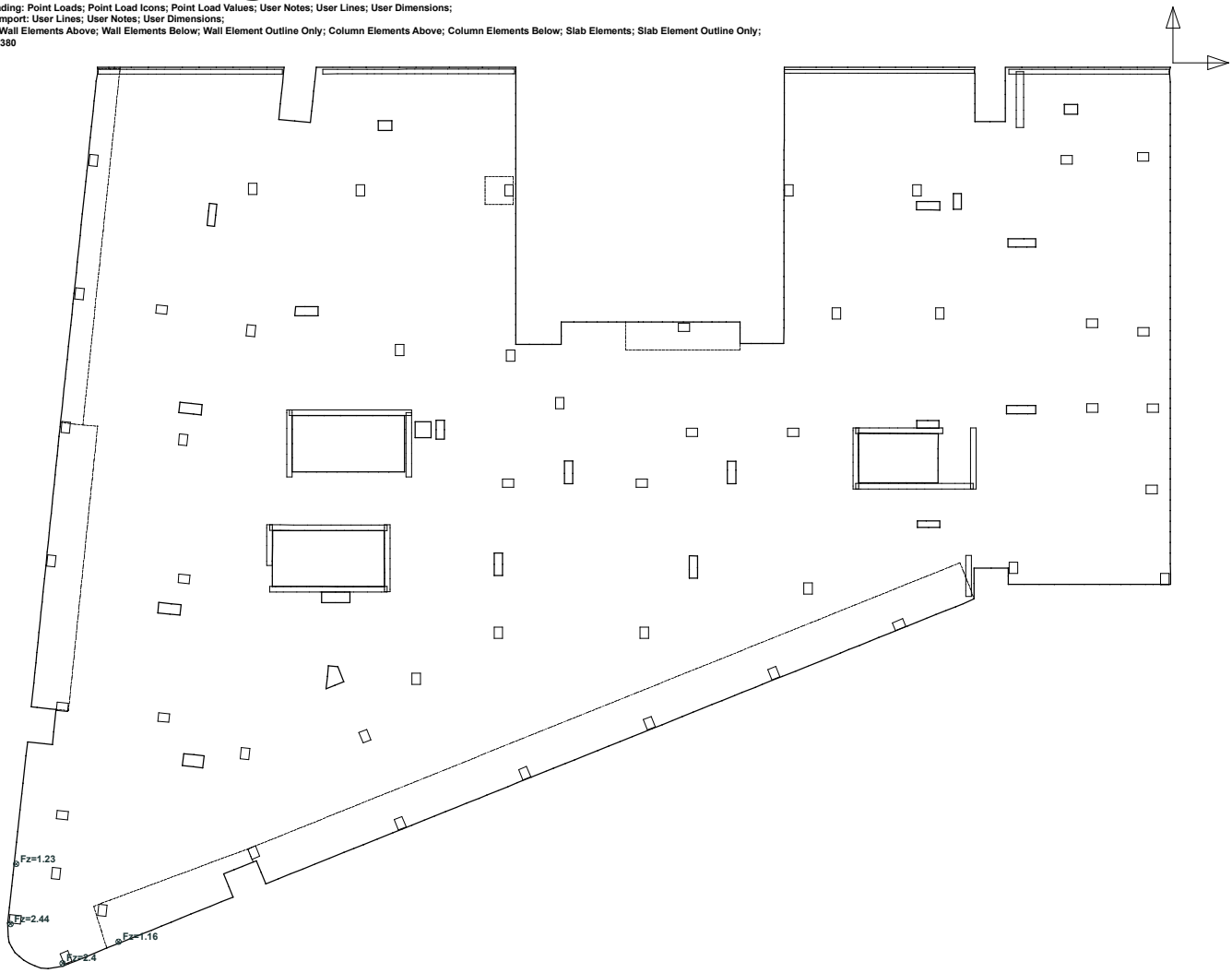
# Live (Unreducible) Loading: Std Reactions Plan

Live (Unreducible) Loading: Point Load Icons; Point Load Values; Line Load Icons; Line Load Values; Area Load Icons; Area Load Values; User Notes; User Lines; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Live (Unreducible) Loading - Reaction Plot: (Wall Below,Column Below,Point Spring,Line Spring,Point Support,Line Support)(Fz,Mr,Ms,Mz)(Standard Context)



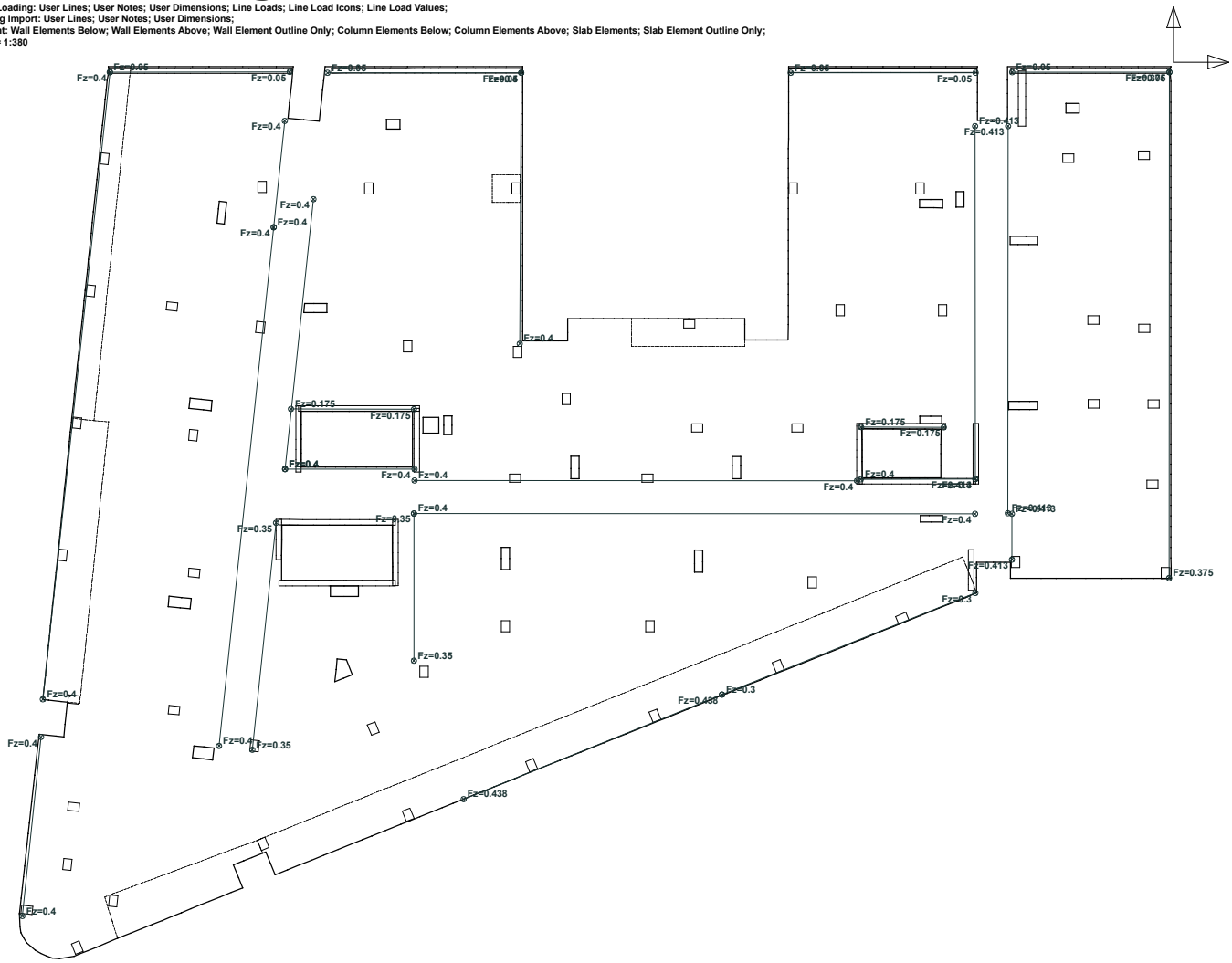
# Snow Loading: Point Loads Plan

**Snow Loading: Point Loads; Point Load Icons; Point Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



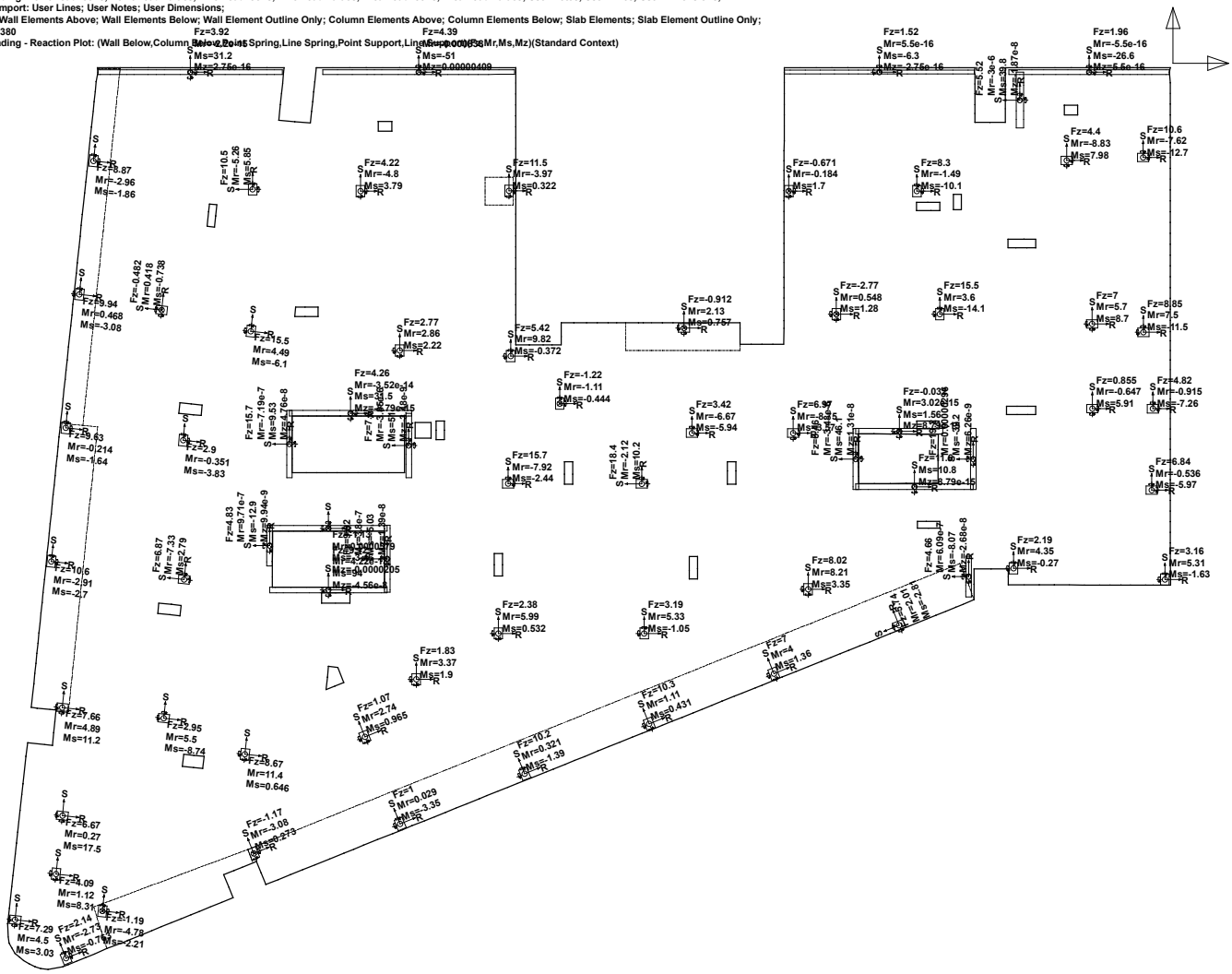
# Snow Loading: Line Loads Plan

**Snow Loading: User Lines; User Notes; User Dimensions; Line Loads; Line Load Icons; Line Load Values;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



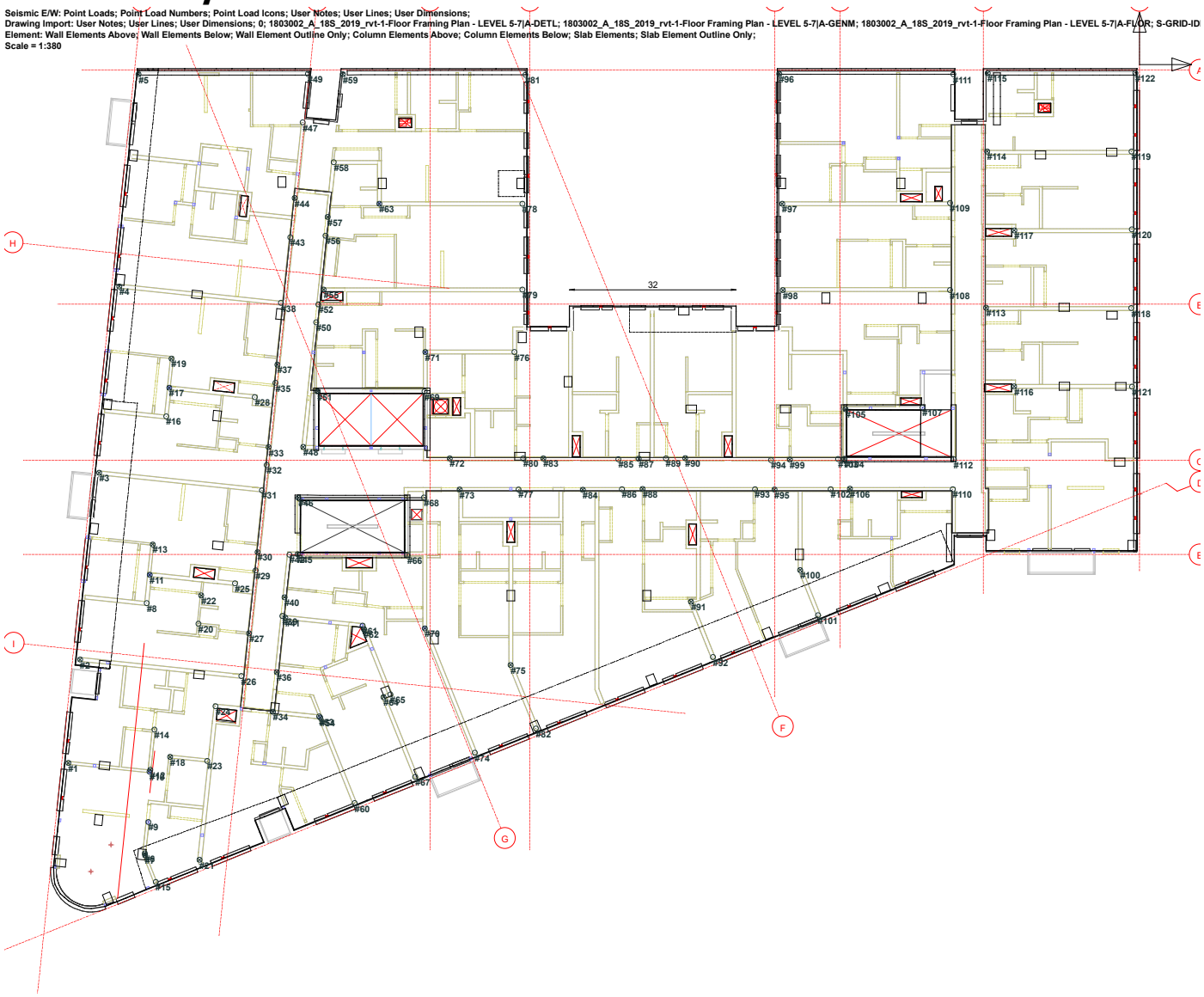
# Snow Loading: Std Reactions Plan

Snow Loading: Point Load Icons; Point Load Values; Line Load Icons; Line Load Values; Area Load Icons; Area Load Values; User Notes; User Lines; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Snow Loading - Reaction Plot: (Wall Below,Column Below,Point Spring,Line Spring,Point Support,Line Support,Fz,Mr,Ms,Mz)(Standard Context)



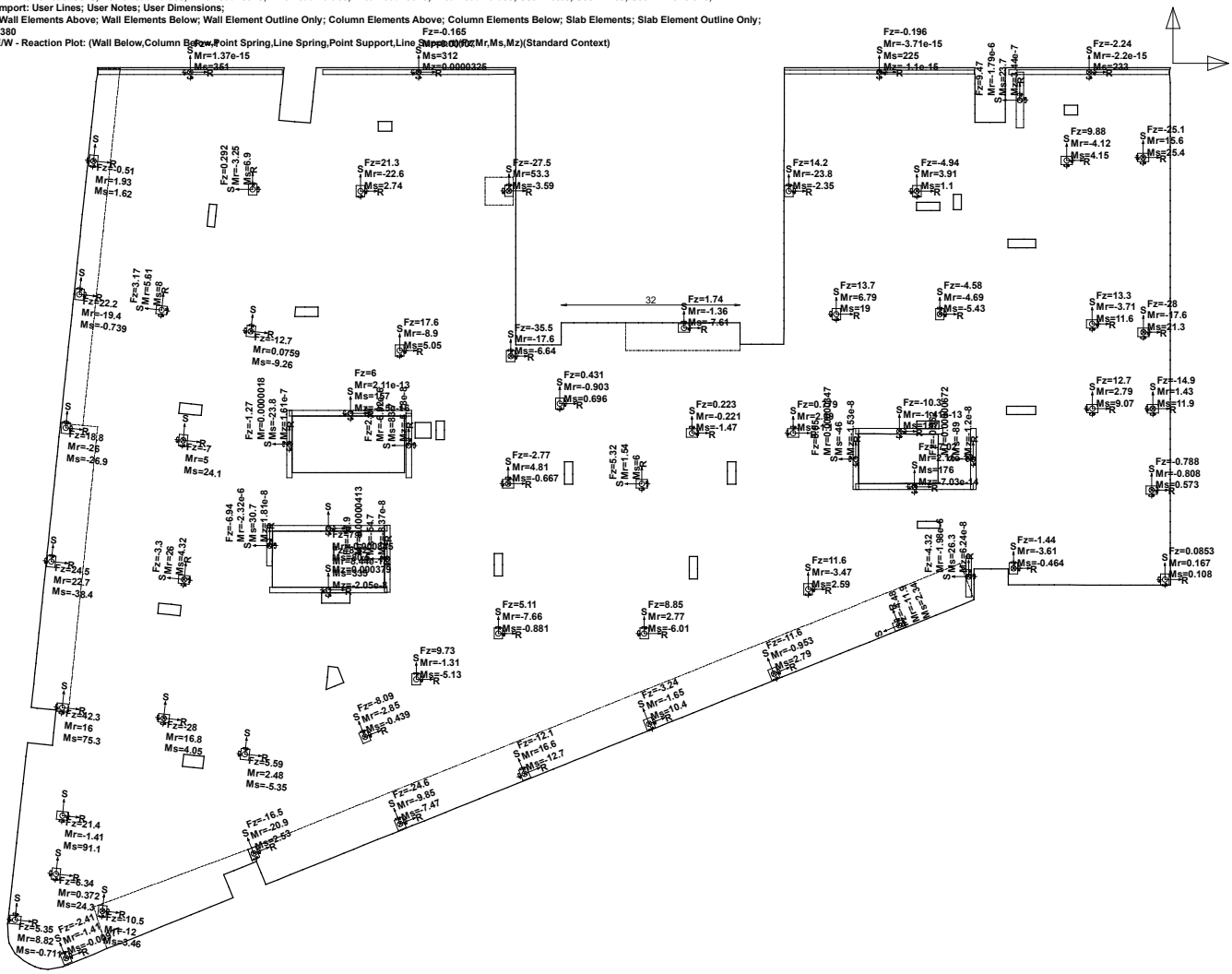
# Seismic E/W: Point Loads Plan

**Seismic E/W: Point Loads; Point Load Numbers; Point Load Icons; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Notes; User Lines; User Dimensions; 0; 1803002_A_18S_2019_rvt-1-Floor Framing Plan - LEVEL 5-7|A-DETL; 1803002_A_18S_2019_rvt-1-Floor Framing Plan - LEVEL 5-7|A-GENM; 1803002_A_18S_2019_rvt-1-Floor Framing Plan - LEVEL 5-7|A-FLOR; S-GRID-ID**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



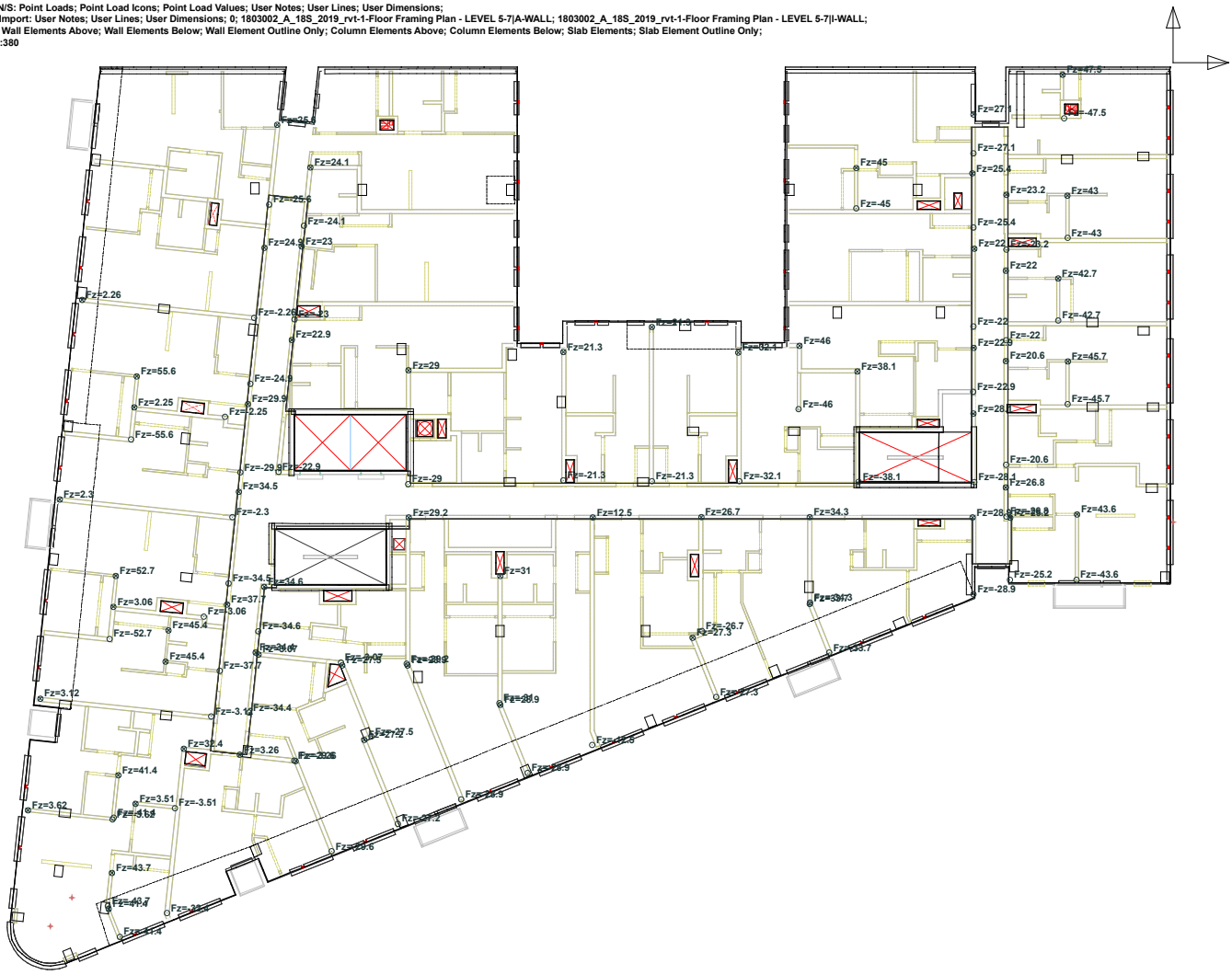
# Seismic E/W: Std Reactions Plan

Seismic E/W: Point Load Icons; Point Load Values; Line Load Icons; Line Load Values; Area Load Icons; Area Load Values; User Notes; User Lines; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Seismic E/W - Reaction Plot: (Wall Below,Column Below,Point Spring,Line Spring,Point Support,Line Support)(Fz,Mr,Ms,Mz)(Standard Context)



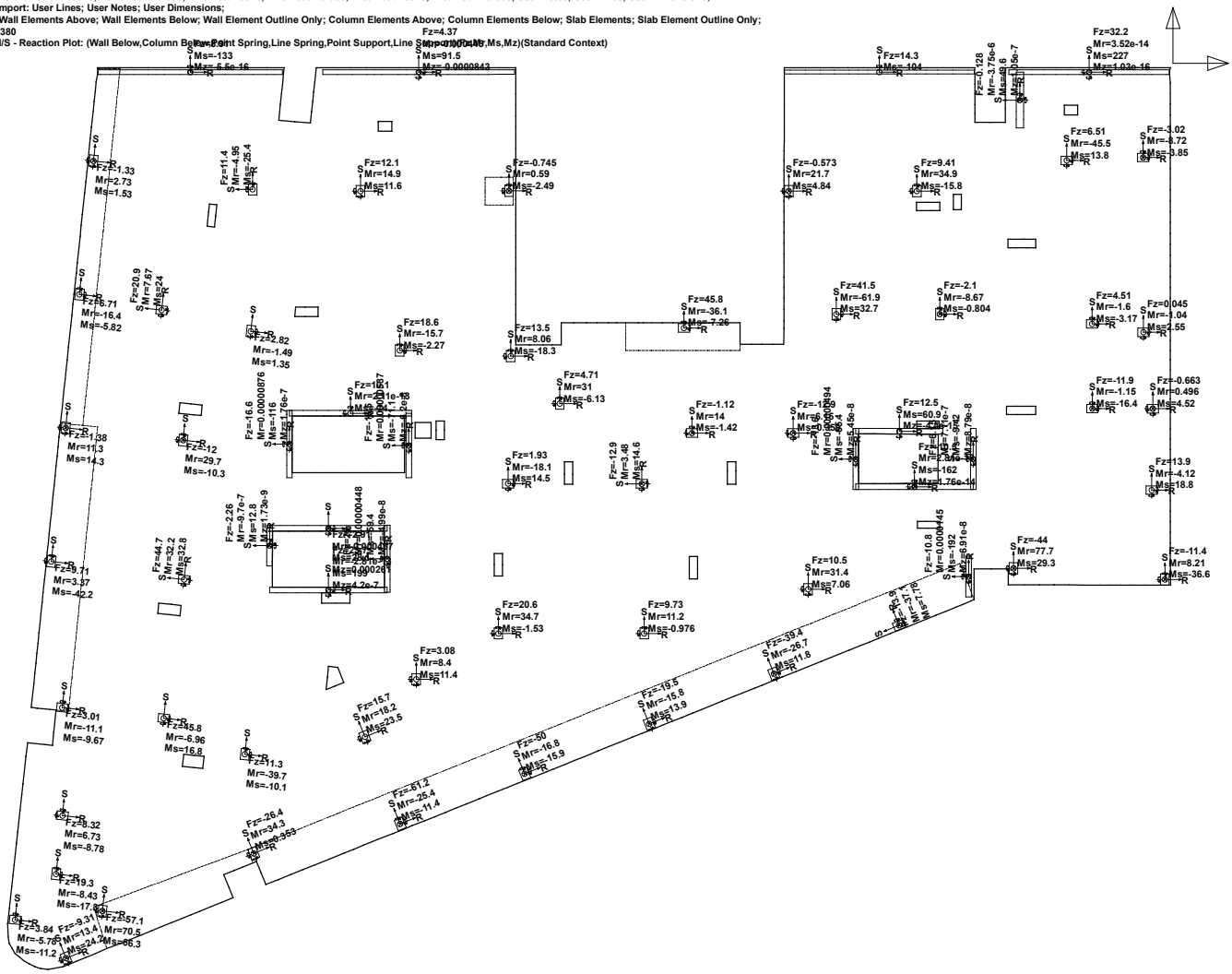
# Seismic N/S: Point Loads Plan

**Seismic N/S: Point Loads; Point Load Icons; Point Load Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Notes; User Lines; User Dimensions; 0; 1803002_A_18S_2019_rvt-1-Floor Framing Plan - LEVEL 5-7|A-WALL; 1803002_A_18S_2019_rvt-1-Floor Framing Plan - LEVEL 5-7|I-WALL;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



# Seismic N/S: Std Reactions Plan

Seismic N/S: Point Load Icons; Point Load Values; Line Load Icons; Line Load Values; Area Load Icons; Area Load Values; User Notes; User Lines; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Seismic N/S - Reaction Plot: (Wall Below,Column Below,Point Spring,Line Spring,Point Support,Line Support,Fz,Mr,Ms,Mz)(Standard Context)

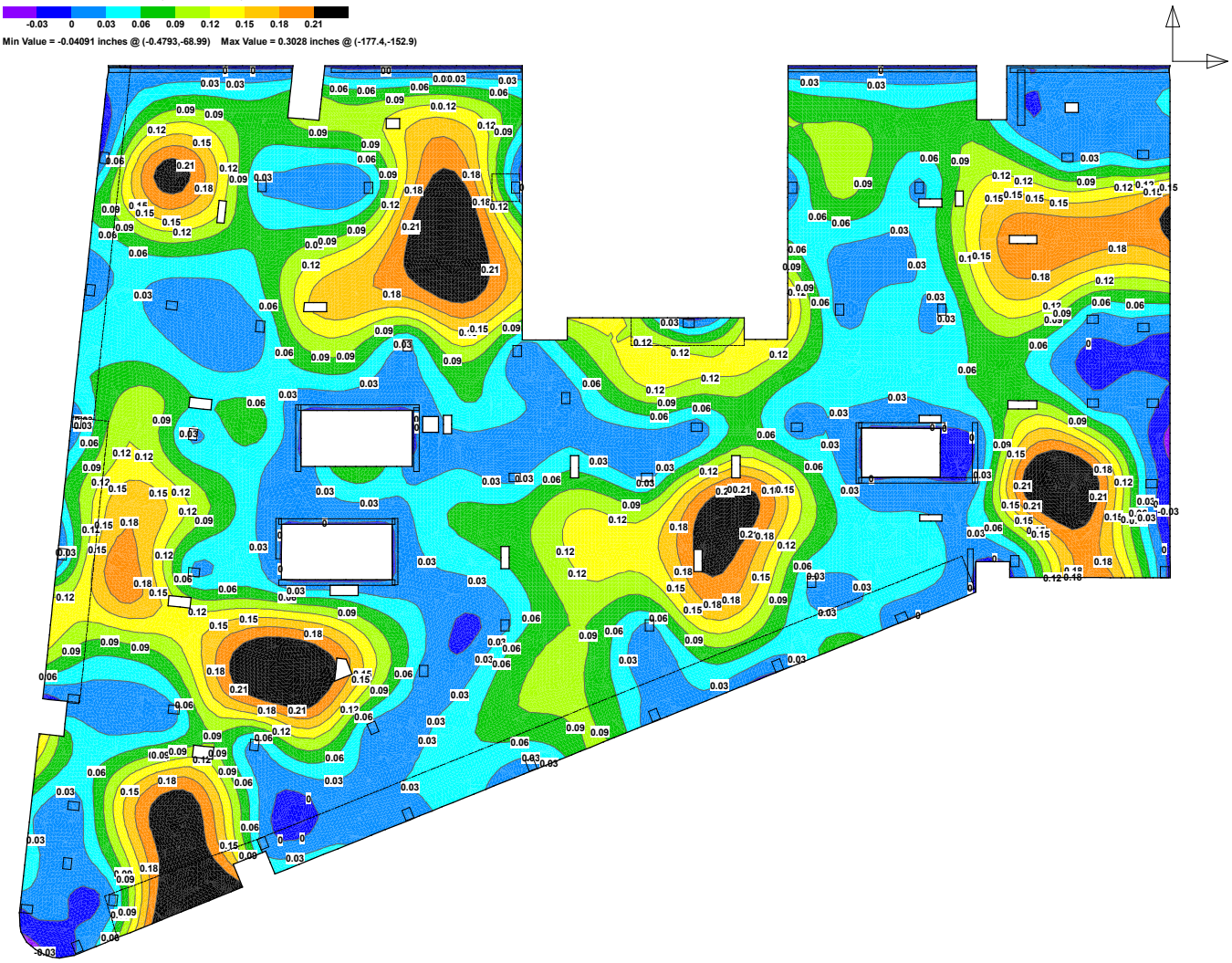


# Service LC: D + L: Max Deflection Plan

Service LC: D + L: User Lines; User Notes; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Service LC: D + L - Vertical Deflection Plot (Maximum Values)

-0.03 0 0.03 0.06 0.09 0.12 0.15 0.18 0.21

Min Value = -0.04091 inches @ (-0.4793,-68.99) Max Value = 0.3028 inches @ (-177.4,-152.9)

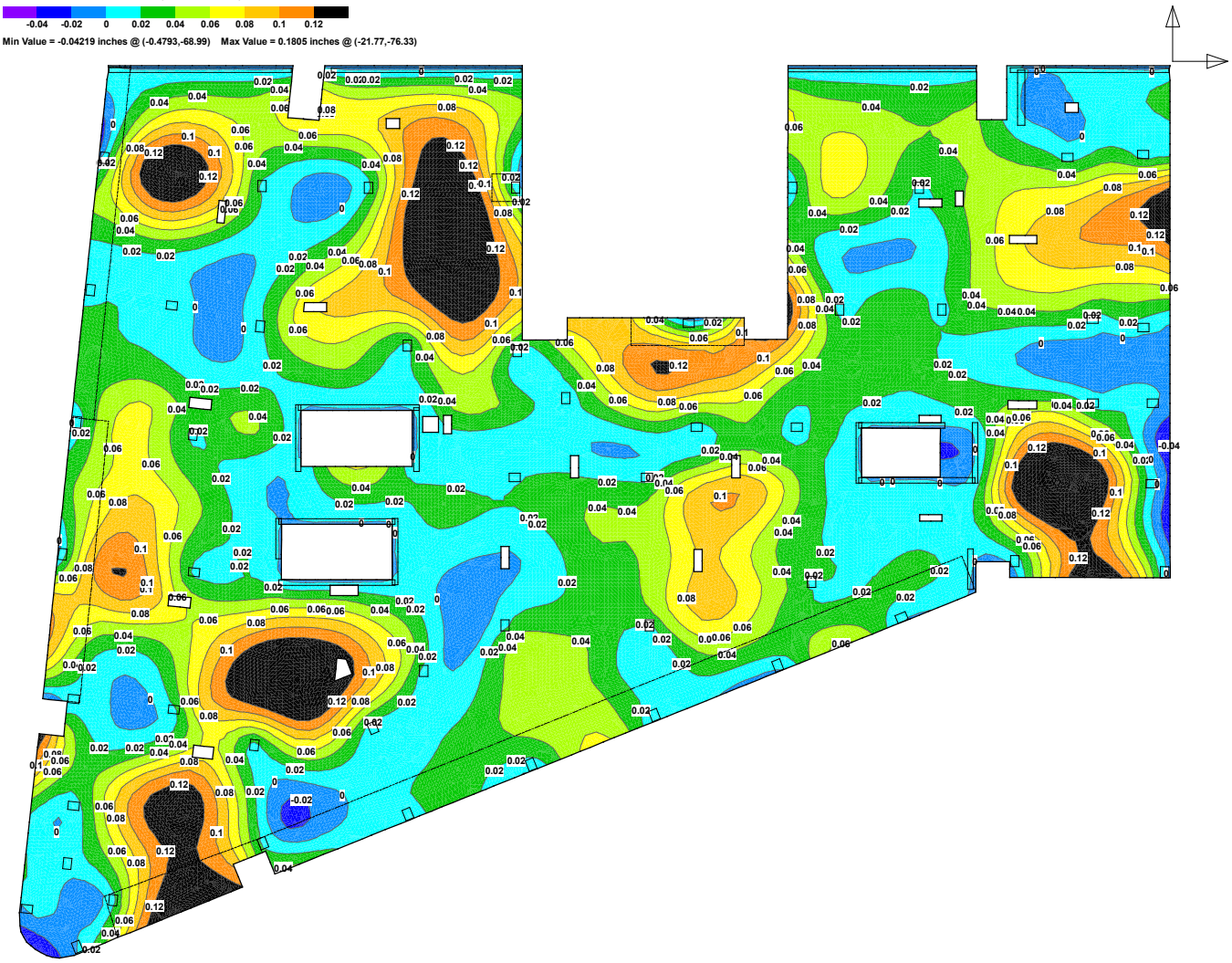


# Service LC: D + L: Min Deflection Plan

Service LC: D + L: User Lines; User Notes; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Service LC: D + L - Vertical Deflection Plot (Minimum Values)

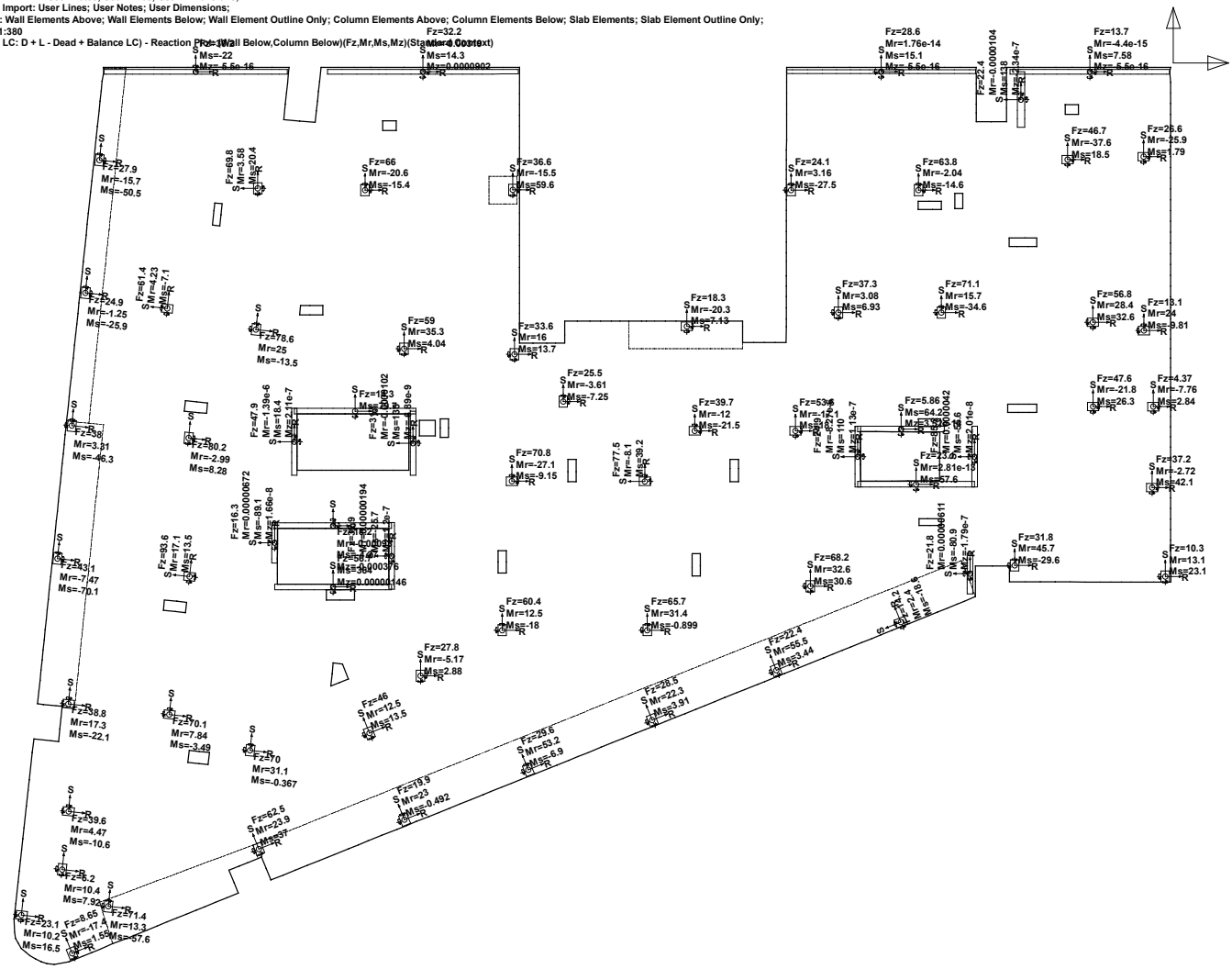
-0.04 -0.02 0 0.02 0.04 0.06 0.08 0.1 0.12

Min Value = -0.04219 inches @ (-0.4793,-68.99) Max Value = 0.1805 inches @ (-21.77,-76.33)



# Service LC: D + L: Reaction Plan

Service LC: D + L: User Notes; User Lines; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;
Scale = 1:380
(Service LC: D + L - Dead + Balance LC) - Reaction Plan(Wall Below,Column Below)(Fz,Mr,Ms,Mz)(Standard Text)

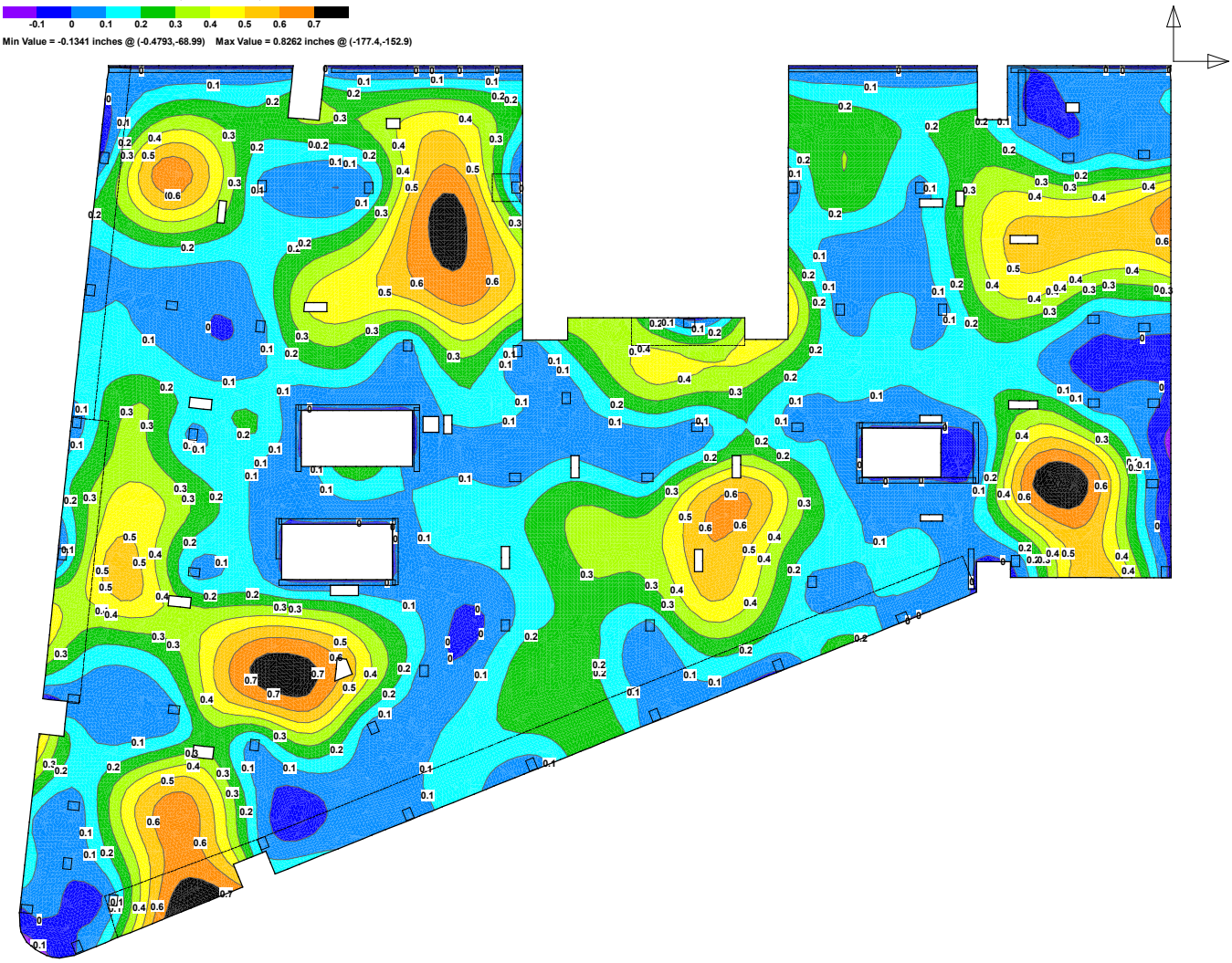


# Long Term deflection: Max Deflection Plan

Long Term deflection: User Lines; User Notes; User Dimensions;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;
Scale = 1:380
Long Term deflection - Vertical Deflection Plot (Maximum Values)

-0.1 0 0.1 0.2 0.3 0.4 0.5 0.6 0.7

Min Value = -0.1341 inches @ (-0.4793,-68.99) Max Value = 0.8262 inches @ (-177.4,-152.9)



# Design Strip: Latitude SSs Table

| *Name* | *Set* | *Location feet* | *Skew degrees* | *At Support 1* | *At Support 2* | *Support Width 1 inches* |
|---|---|---|---|---|---|---|
| 1-1 | latitude | (-205,-162.6)(-197.9,-160) | 0.282 | false | true | 0 |
| 2-1 | latitude | (-204,-114.5)(-198.6,-110.2) | 0.524 | false | true | 1.39 |
| 3-1 | latitude | (-207,-153.1)(-195.2,-151.8) | 1.81 | true | false | 24.68 |
| 3-1(2) | latitude | (-195.2,-151.9)(-191.4,-151.5) | 0 | false | true | 0 |
| 3-2 | latitude | (-191.4,-151.5)(-164.4,-146.6) | 20.33 | true | true | 20.33 |
| 3-3 | latitude | (-164.4,-141.2)(-138.2,-136) | 18.47 | true | true | 18.47 |
| 3-4 | latitude | (-138.2,-136)(-115.9,-127) | 18.55 | true | true | 18.55 |
| 3-5 | latitude | (-115.9,-127)(-93.67,-118.1) | 18.55 | true | true | 18.55 |
| 3-6 | latitude | (-93.67,-118.1)(-71.4,-109.1) | 18.55 | true | true | 18.55 |
| 3-7 | latitude | (-71.4,-109.1)(-49.13,-100.2) | 18.55 | true | true | 18.55 |
| 3-8 | latitude | (-49.13,-100.2)(-36.47,-94.24) | 24.74 | true | true | 24.74 |
| 4-1 | latitude | (-201.3,-89.19)(-195,-89.93) | 34.4 | true | false | 34.4 |
| 5-1 | latitude | (-198,-65.18)(-192.6,-65.83) | 18.16 | true | false | 18.16 |
| 6-1 | latitude | (-195.5,-41.31)(-192.7,-41.76) | 18.18 | true | false | 18.18 |
| 7-1 | latitude | (-193,-17.44)(-190.2,-17.89) | 18.19 | true | false | 18.19 |
| 8-1 | latitude | (-197.3,-115.3)(-180.5,-117.7) | 0.0227 | false | true | 0 |
| 8-2 | latitude | (-180.5,-117.1)(-166,-123.6) | 24.17 | true | true | 25.41 |
| 8-3 | latitude | (-166,-123.6)(-144.5,-128.4) | 19.17 | true | true | 19.56 |
| 8-4 | latitude | (-144.5,-120.4)(-135.3,-118.1) | 20.15 | true | true | 20.23 |
| 8-5 | latitude | (-135.3,-110.1)(-120.6,-107.6) | 20.69 | true | true | 20.78 |
| 8-6 | latitude | (-120.6,-101.9)(-94.55,-101.9) | 5.009e-6 | true | true | 18.16 |
| 8-7 | latitude | (-94.55,-101.9)(-65.26,-94) | 18.81 | true | true | 18.8 |
| 8-8 | latitude | (-65.26,-94)(-36.46,-88.51) | 18.79 | true | true | 18.48 |
| 9-1 | latitude | (-192.4,-41.91)(-181,-44.5) | 1.37 | false | true | 0 |
| 9-2 | latitude | (-181,-44.5)(-164.6,-47.85) | 27.82 | true | true | 27.53 |
| 9-3 | latitude | (-164.6,-47.85)(-138.3,-51.35) | 11.71 | true | true | 11.73 |
| 9-4 | latitude | (-138.3,-51.35)(-118.4,-52.35) | 18.36 | true | true | 18.18 |
| 9-5 | latitude | (-118.4,-52.35)(-87.45,-47.25) | 18.51 | true | true | 18.4 |
| 9-6 | latitude | (-87.45,-47.25)(-60.2,-44.83) | 4.809e-6 | true | true | 24.25 |
| 9-7 | latitude | (-60.2,-44.83)(-41.7,-44.83) | 3.309e-6 | true | true | 18.16 |
| 9-8 | latitude | (-41.7,-44.83)(-14.46,-46.58) | 18.37 | true | true | 18.19 |
| 9-9 | latitude | (-14.46,-46.58)(-5.313,-47.92) | 24.92 | true | true | 24.41 |
| 9-10 | latitude | (-5.313,-47.92)(-0.5036,-47.88) | 0.0488 | true | false | 24.16 |
| 10-1 | latitude | (-194.8,-89.98)(-176.8,-92.28) | 0 | false | true | 0 |
| 10-2 | latitude | (-176.8,-92.28)(-161.6,-93.52) | 24.16 | true | true | 24.16 |
| 11-1 | latitude | (-192.3,-65.88)(-177,-67.39) | 0 | false | true | 0 |
| 11-2 | latitude | (-177,-67.39)(-157.9,-68.21) | 18.19 | true | true | 18.19 |
| 12-1 | latitude | (-189.8,-18.04)(-164.2,-22.76) | 0 | false | true | 0 |
| 12-2 | latitude | (-164.2,-22.76)(-145.3,-22.83) | 9.307 | true | true | 9.307 |
| 12-3 | latitude | (-145.3,-22.83)(-118.2,-22.46) | 18.16 | true | true | 18.16 |
| 13-1 | latitude | (-136.6,-73.5)(-118.9,-75.16) | 11.03 | true | true | 11.03 |
| 13-2 | latitude | (-118.9,-75.16)(-94.99,-74.76) | 24.16 | true | true | 24.16 |
| 13-3 | latitude | (-94.99,-74.76)(-56.81,-73.35) | 23.87 | true | true | 23.87 |
| 14-1 | latitude | (-136.8,-62.55)(-109.7,-60.83) | 14.6 | true | true | 14.6 |
| 14-2 | latitude | (-109.7,-60.83)(-86.02,-67.52) | 18.6 | true | true | 18.6 |
| 14-3 | latitude | (-86.02,-66.08)(-67.92,-66.08) | 5.009e-6 | true | true | 24.16 |

# Design Strip: Latitude SSs Table (2)

| t Width 1 | Support Width 2 inches | Support Trans. Width 1 inches | Support Trans. Width 2 inches | Auto-Support | Min Divisions | Max Division Spacing feet |
|---|---|---|---|---|---|---|
| | 18.16 | 0 | 24.01 | true | 4 | 2.5 |
| | 24.15 | 0 | 18 | true | 4 | 2.5 |
| | 0 | 18.39 | 0 | true | 4 | 2.5 |
| | 18.54 | 0 | 24.52 | true | 4 | 2.5 |
| | 18.16 | 26.9 | 24.01 | true | 4 | 2.5 |
| | 18.07 | 24.42 | 24.42 | true | 4 | 2.5 |
| | 17.76 | 24 | 24 | true | 4 | 2.5 |
| | 17.76 | 24 | 24 | true | 4 | 2.5 |
| | 17.76 | 24 | 24 | true | 4 | 2.5 |
| | 23.6 | 24 | 18 | true | 4 | 2.5 |
| | 15.5 | 18.03 | 28.21 | true | 4 | 2.5 |
| | 0 | 24 | 0 | true | 4 | 2.5 |
| | 0 | 24 | 0 | true | 4 | 2.5 |
| | 0 | 24.04 | 0 | true | 4 | 2.5 |
| | 0 | 24.04 | 0 | true | 4 | 2.5 |
| | 24.16 | 0 | 18 | true | 4 | 2.5 |
| | 18.27 | 18.94 | 25.26 | true | 4 | 2.5 |
| | 18.67 | 24.78 | 24.69 | true | 4 | 2.5 |
| | 27.18 | 26.75 | 24.14 | true | 4 | 2.5 |
| | 20.78 | 27.5 | 27.5 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 18.8 | 24.86 | 24.86 | true | 4 | 2.5 |
| | 14.58 | 24.43 | 31.43 | true | 4 | 2.5 |
| | 21.06 | 0 | 18.13 | true | 4 | 2.5 |
| | 24.7 | 18.08 | 24.11 | true | 4 | 2.5 |
| | 18.32 | 24 | 24.21 | true | 4 | 2.5 |
| | 18.18 | 24.03 | 24.03 | true | 4 | 2.5 |
| | 24.48 | 24.32 | 18.24 | true | 4 | 2.5 |
| | 18.23 | 18.07 | 24.09 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 24.21 | 24.05 | 18.04 | true | 4 | 2.5 |
| | 24.41 | 18.19 | 18.19 | true | 4 | 2.5 |
| | 3.804 | 18 | 0 | true | 4 | 2.5 |
| | 24.16 | 0 | 18.01 | true | 4 | 2.5 |
| | 0 | 18 | 0 | true | 4 | 2.5 |
| | 18.16 | 0 | 24 | true | 4 | 2.5 |
| | 13.8 | 24.05 | 144.1 | true | 4 | 2.5 |
| | 27.46 | 0 | 24.41 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 31.77 | 24 | 24 | true | 4 | 2.5 |
| | 24.26 | 64.9 | 18.08 | true | 4 | 2.5 |
| | 24.45 | 18 | 18 | true | 4 | 2.5 |
| | 10.01 | 18.01 | 131 | true | 4 | 2.5 |
| | 18.19 | 113.9 | 24.05 | true | 4 | 2.5 |
| | 24.74 | 24.58 | 18.44 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |

# Design Strip: Latitude SSs Table (3)

| n Spacing | Design For Axial | Environment | Design As PT | Maximize Integrated V | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² |
|---|---|---|---|---|---|---|---|
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |

# Design Strip: Latitude SSs Table (4)

| Spec. Infl. Area ft² | Max LLR % | Span Width | Col Strip Width | Lock Strips | Design CS for CS | -CS Auto Trim | CS Section Slop |
|---|---|---|---|---|---|---|---|
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 10 |
| 0 | 40 | auto | full | false | false | max shear core | 10 |
| 0 | 40 | auto | full | false | false | T or L | 10 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 10 |
| 0 | 40 | auto | full | false | false | T or L | 10 |
| 0 | 40 | auto | full | false | false | T or L | 10 |
| 0 | 40 | auto | full | false | false | T or L | 10 |
| 0 | 40 | auto | full | false | false | T or L | 10 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 10 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | T or L | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |

# Design Strip: Latitude SSs Table (5)

| Section Slope Strip | CS Top Bar | CS Bot Bar | CS Shear Bar | CS Top Cover inches | CS Bot Cover inches | CS Shear d calc | CS Torsion Design | CS System |
|---|---|---|---|---|---|---|---|---|
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | Maximize Effective Depth | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | Maximize Effective Depth | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | Maximize Effective Depth | none | two-way slab |
| | #7 | #7 | #4 | 1 | 1 | Maximize Effective Depth | none | beam |
| | #7 | #7 | #4 | 1 | 1 | Maximize Effective Depth | none | beam |
| | #7 | #7 | #4 | 1 | 1 | Maximize Effective Depth | none | beam |
| | #7 | #7 | #4 | 1 | 1 | Maximize Effective Depth | none | beam |
| | #7 | #7 | #4 | 1 | 1 | Maximize Effective Depth | none | beam |
| | #7 | #7 | #4 | 1 | 1 | Maximize Effective Depth | none | beam |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | Maximize Effective Depth | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | Maximize Effective Depth | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | Maximize Effective Depth | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | Maximize Effective Depth | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | Maximize Effective Depth | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | Maximize Effective Depth | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |

# Design Strip: Latitude SSs Table (6)

| CS Min. Bar Loc. | CS Min T.Bar | CS Min B.Bar | CS Shear Legs | MS Same As CS | MS Auto Trim | MS Section Slope | MS Top Bar | MS Bot Bar |
|---|---|---|---|---|---|---|---|---|
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 2 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |

# Design Strip: Latitude SSs Table (7)

| S Bot Bar | MS Shear Bar | MS Top Cover inches | MS Bot Cover inches | MS Shear d calc | MS Torsion Design | MS System | MS Min. Bar Loc. | MS Min T.Bar | MS Min B.Bar |
|---|---|---|---|---|---|---|---|---|---|
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |

# Design Strip: Latitude SSs Table (8)

| S Min B.Bar | MS Shear Legs |
|---|---|
| | 2 |
| | 2 |
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| | 2 |
| | 2 |

# Design Strip: Latitude SSs Table (9)

| *Name* | *Set* | *Location feet* | *Skew degrees* | *At Support 1* | *At Support 2* | *Support Width 1 inches* |
|---|---|---|---|---|---|---|
| 14-4 | latitude | (-67.92,-66.08)(-56.72,-66.28) | 0 | true | true | 24.16 |
| 15-1 | latitude | (-69.33,-22.67)(-45.8,-22.67) | 2.609e-6 | true | true | 33.31 |
| 15-2 | latitude | (-45.8,-22.67)(-19.02,-17.34) | 7.134 | true | true | 18.51 |
| 15-3 | latitude | (-19.02,-17.34)(-5.364,-16.83) | 0 | true | true | 24.17 |
| 15-4 | latitude | (-5.364,-16.83)(-0.5351,-16.83) | 0.0007 | true | false | 24.16 |
| 16-1 | latitude | (-41.75,-65.72)(-35.58,-65.81) | 0.8436 | true | true | 13.94 |
| 16-2 | latitude | (-35.58,-65.81)(-14.45,-61.73) | 0 | true | true | 8.971 |
| 16-3 | latitude | (-14.45,-61.73)(-3.5,-61.73) | 7.709e-6 | true | true | 24.16 |
| 16-4 | latitude | (-3.5,-61.73)(-0.4875,-61.73) | 7.709e-6 | true | false | 21.41 |
| 17-1 | latitude | (-36.22,-75.7)(-3.5,-76.3) | 1.058 | true | true | 24.16 |
| 17-2 | latitude | (-3.5,-76.3)(-0.6594,-76.25) | 4.592 | true | false | 16.03 |
| 18-1 | latitude | (-28.53,-90.28)(-1.634,-92.36) | 0 | true | true | 18.2 |

# Design Strip: Latitude SSs Table (10)

| t Width 1 | Support Width 2 inches | Support Trans. Width 1 inches | Support Trans. Width 2 inches | Auto-Support | Min Divisions | Max Division Spacing feet |
|---|---|---|---|---|---|---|
| | 12.16 | 18 | 131 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 24.63 | 24.47 | 18.35 | true | 4 | 2.5 |
| | 24.17 | 18.01 | 18.01 | true | 4 | 2.5 |
| | 3.417 | 18 | 0 | true | 4 | 2.5 |
| | 15.51 | 12 | 131 | true | 4 | 2.5 |
| | 24.6 | 29.29 | 18.33 | true | 4 | 2.5 |
| | 26.91 | 18 | 18 | true | 4 | 2.5 |
| | 4.016 | 18 | 0 | true | 4 | 2.5 |
| | 32.29 | 125 | 18 | true | 4 | 2.5 |
| | 0 | 18 | 0 | true | 4 | 2.5 |
| | 14.23 | 24.05 | 24.05 | true | 4 | 2.5 |

# Design Strip: Latitude SSs Table (11)

| n Spacing | Design For Axial | Environment | Design As PT | Maximize Integrated V | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² |
|---|---|---|---|---|---|---|---|
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |

# Design Strip: Latitude SSs Table (12)

| *Spec. Infl. Area ft²* | *Max LLR %* | *Span Width* | *Col Strip Width* | *Lock Strips* | *Design CS for CS* | *-CS Auto Trim* | *CS Section Slope* |
|---|---|---|---|---|---|---|---|
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |

# Design Strip: Latitude SSs Table (13)

| Section Slope Sin | CS Top Bar | CS Bot Bar | CS Shear Bar | CS Top Cover inches | CS Bot Cover inches | CS Shear d calc | CS Torsion Design | CS System |
|---|---|---|---|---|---|---|---|---|
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |

# Design Strip: Latitude SSs Table (14)

| CS Min. Bar Loc. | CS Min T.Bar | CS Min B.Bar | CS Shear Legs | MS Same As CS | MS Auto Trim | MS Section Slope | MS Top Bar | MS Bot Bar |
|---|---|---|---|---|---|---|---|---|
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |

# Design Strip: Latitude SSs Table (15)

| MS Bot Bar | MS Shear Bar | MS Top Cover inches | MS Bot Cover inches | MS Shear d calc | MS Torsion Design | MS System | MS Min. Bar Loc. | MS Min T.Bar | MS Min B.Bar |
|---|---|---|---|---|---|---|---|---|---|
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |

# Design Strip: Latitude SSs Table (16)

| Min B.Bar | MS Shear Legs |
|---|---|
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |

# Design Strip: Longitude SSs Table

| *Name* | *Set* | *Location feet* | *Skew degrees* | *At Support 1* | *At Support 2* | *Support Width 1 inches* |
|---|---|---|---|---|---|---|
| 19-1 | longitude | (-207,-159.8)(-207,-153.1) | 0 | false | true | 21.45 |
| 19-2 | longitude | (-207,-153.1)(-199.7,-144.9) | 41.97 | true | true | 22.33 |
| 19-3 | longitude | (-199.7,-144.9)(-198.6,-134.5) | 13.425 | true | true | 24.16 |
| 19-4 | longitude | (-198.6,-134.5)(-198.6,-115) | 0.164872 | true | true | 18.26 |
| 20-1 | longitude | (-203,-115)(-200.6,-89.18) | 8.266 | false | true | 0 |
| 20-2 | longitude | (-200.6,-89.18)(-198.1,-65.31) | 0 | true | true | 27.21 |
| 20-3 | longitude | (-198.1,-65.31)(-195.5,-41.31) | 7.931 | true | true | 27.31 |
| 20-4 | longitude | (-195.5,-41.31)(-193,-17.57) | 7.58 | true | true | 24.16 |
| 20-5 | longitude | (-193,-17.57)(-191.6,-1.589) | 5.897 | true | true | 27.22 |
| 21-1 | longitude | (-197.9,-160)(-191.4,-151.5) | 37.56 | true | true | 21.01 |
| 21-2 | longitude | (-191.4,-151.5)(-190.7,-148.5) | 14.92 | true | false | 24.63 |
| 22-1 | longitude | (-190.5,-148.5)(-180.5,-117.1) | 16.74 | false | true | 0 |
| 22-2 | longitude | (-180.5,-117.1)(-176.2,-92.34) | 32.49 | true | true | 18.2 |
| 22-3 | longitude | (-176.2,-92.34)(-177,-67.39) | 1.391 | true | true | 18.14 |
| 22-4 | longitude | (-177,-67.39)(-164.6,-47.85) | 2.872 | true | true | 26.95 |
| 22-5 | longitude | (-164.6,-47.85)(-164.2,-22.76) | 0.2796 | true | true | 22.66 |
| 22-6 | longitude | (-164.2,-22.76)(-160.1,-1.583) | 11.584 | true | true | 30.23 |
| 23-1 | longitude | (-164.7,-140.2)(-165.9,-123.6) | 4.233 | true | true | 0 |
| 23-2 | longitude | (-165.9,-123.6)(-161.6,-94.21) | 9.478 | true | true | 25.34 |
| 24-1 | longitude | (-152.1,-1.583)(-145.3,-22.83) | 22.83 | true | true | 10.65 |
| 24-2 | longitude | (-145.3,-22.83)(-138.3,-51.35) | 11.354 | true | true | 24.88 |
| 24-3 | longitude | (-138.3,-51.35)(-137.2,-62.65) | 2.655 | true | true | 24.28 |
| 25-1 | longitude | (-145.9,-94.21)(-144.5,-120.4) | 3.024 | true | true | 10.33 |
| 25-2 | longitude | (-144.5,-120.4)(-138.2,-136) | 23.06 | true | true | 24.16 |
| 26-1 | longitude | (-138.2,-136)(-135.3,-160.1) | 6.338 | true | true | 27.42 |
| 26-2 | longitude | (-135.3,-110.1)(-136.5,-101.6) | 13.964 | true | true | 24.17 |
| 27-1 | longitude | (-118.8,-1.583)(-118.8,-22.85) | 0 | true | true | 9.433 |
| 27-2 | longitude | (-118.8,-22.85)(-118.4,-52.35) | 52.358 | true | true | 22.87 |
| 27-3 | longitude | (-118.4,-52.35)(-118.9,-75.16) | 1.108 | true | true | 24.16 |
| 27-4 | longitude | (-118.9,-75.16)(-120.6,-101.9) | 3.758 | true | true | 18.2 |
| 27-5 | longitude | (-120.6,-101.9)(-115.9,-110) | 12.754 | true | true | 24.58 |
| 28-1 | longitude | (-110,-50.87)(-109.6,-60.85) | 1.553 | false | true | 0 |
| 29-1 | longitude | (-94.99,-74.76)(-94.55,-101.9) | 0.9167 | true | true | 27.89 |
| 29-2 | longitude | (-94.55,-101.9)(-93.65,-131.6) | 3.886 | true | true | 24.19 |
| 30-1 | longitude | (-87.45,-47.25)(-86.02,-66.08) | 6.388 | true | true | 19.46 |
| 31-1 | longitude | (-68.66,-1.577)(-68.7,-22.67) | 0 | true | true | 7.567 |
| 31-2 | longitude | (-68.7,-22.67)(-60.2,-44.83) | 30.98 | true | true | 30.15 |
| 31-3 | longitude | (-60.2,-44.83)(-67.92,-66.08) | 6.083 | true | true | 25.69 |
| 31-4 | longitude | (-67.92,-66.08)(-65.26,-94) | 2.221 | true | true | 18.24 |
| 31-5 | longitude | (-65.26,-94)(-71.38,-109.2) | 2.103 | true | true | 26.05 |
| 32-1 | longitude | (-49.6,-98.98)(-49.11,-75.58) | 1.548 | false | true | 0 |
| 33-1 | longitude | (-47.52,-1.583)(-45.8,-22.83) | 4.624 | true | true | 7.433 |
| 33-2 | longitude | (-45.8,-22.83)(-41.7,-44.83) | 8.357 | true | true | 24.57 |
| 33-3 | longitude | (-41.7,-44.83)(-41.7,-65.08) | 0.001793 | true | true | 24.16 |
| 34-1 | longitude | (-36.48,-88.8)(-36.48,-75.65) | 3.651e-6 | true | true | 17.24 |
| 35-1 | longitude | (-15.77,-1.583)(-19.02,-17.03) | 7.03 | true | true | 10.38 |

# Design Strip: Longitude SSs Table (2)

| t Width 1 | Support Width 2 inches | Support Trans. Width 1 inches | Support Trans. Width 2 inches | Auto-Support | Min Divisions | Max Division Spacing feet |
|---|---|---|---|---|---|---|
| | 18.26 | 0 | 24.13 | true | 4 | 2.5 |
| | 29.71 | 29.55 | 22.17 | true | 4 | 2.5 |
| | 18.16 | 18 | 24 | true | 4 | 2.5 |
| | 0 | 24.13 | 0 | true | 4 | 2.5 |
| | 21.1 | 0 | 18 | true | 4 | 2.5 |
| | 21 | 18 | 18 | true | 4 | 2.5 |
| | 24.15 | 18 | 18 | true | 4 | 2.5 |
| | 21.1 | 18 | 18 | true | 4 | 2.5 |
| | 10.05 | 18 | 63.15 | true | 4 | 2.5 |
| | 28.36 | 27.81 | 21.15 | true | 4 | 2.5 |
| | 0 | 18.36 | 0 | true | 4 | 2.5 |
| | 18.54 | 0 | 24.5 | true | 4 | 2.5 |
| | 18.39 | 24.05 | 24.05 | true | 4 | 2.5 |
| | 24.39 | 24.23 | 18.18 | true | 4 | 2.5 |
| | 28.72 | 20.09 | 20.1 | true | 4 | 2.5 |
| | 18.64 | 18.07 | 18 | true | 4 | 2.5 |
| | 10.35 | 18.34 | 36.02 | true | 4 | 2.5 |
| | 23.36 | 0 | 18.28 | true | 4 | 2.5 |
| | 0 | 18.02 | 44.82 | true | 4 | 2.5 |
| | 25.34 | 0 | 18.89 | true | 4 | 2.5 |
| | 24.88 | 18.54 | 18.54 | true | 4 | 2.5 |
| | 12.22 | 18.09 | 72.62 | true | 4 | 2.5 |
| | 25.53 | 160.9 | 19.03 | true | 4 | 2.5 |
| | 24.16 | 17.99 | 17.99 | true | 4 | 2.5 |
| | 24.31 | 20.45 | 18.11 | true | 4 | 2.5 |
| | 9.596 | 18.01 | 12.01 | true | 4 | 2.5 |
| | 25.45 | 411.3 | 18 | true | 4 | 2.5 |
| | 24.16 | 18 | 18 | true | 4 | 2.5 |
| | 18.16 | 18 | 24 | true | 4 | 2.5 |
| | 24.21 | 24.05 | 18.04 | true | 4 | 2.5 |
| | 24.63 | 18.31 | 18.36 | true | 4 | 2.5 |
| | 24.17 | 0 | 18.01 | true | 4 | 2.5 |
| | 24.16 | 24 | 18 | true | 4 | 2.5 |
| | 25.51 | 18.03 | 19.01 | true | 4 | 2.5 |
| | 18.21 | 24.07 | 24.07 | true | 4 | 2.5 |
| | 20.16 | 407.7 | 18 | true | 4 | 2.5 |
| | 25.86 | 19.28 | 19.28 | true | 4 | 2.5 |
| | 19.31 | 19.15 | 25.53 | true | 4 | 2.5 |
| | 24.27 | 24.11 | 18.08 | true | 4 | 2.5 |
| | 26.06 | 19.42 | 25.03 | true | 4 | 2.5 |
| | 13.54 | 0 | 252.1 | true | 4 | 2.5 |
| | 24.24 | 99.23 | 18.06 | true | 4 | 2.5 |
| | 24.57 | 18.31 | 18.31 | true | 4 | 2.5 |
| | 11.22 | 18 | 186.5 | true | 4 | 2.5 |
| | 8.748 | 12 | 252 | true | 4 | 2.5 |
| | 18.54 | 49.45 | 24.51 | true | 4 | 2.5 |

# Design Strip: Longitude SSs Table (3)

| n Spacing | Design For Axial | Environment | Design As PT | Maximize Integrated V | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² |
|---|---|---|---|---|---|---|---|
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |

# Design Strip: Longitude SSs Table (4)

| Spec. Infl. Area ft² | Max LLR % | Span Width | Col Strip Width | Lock Strips | Design CS for CS | -CS Auto Trim | CS Section Slop |
|---|---|---|---|---|---|---|---|
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |

# Design Strip: Longitude SSs Table (5)

| Section Slope Tip | CS Top Bar | CS Bot Bar | CS Shear Bar | CS Top Cover inches | CS Bot Cover inches | CS Shear d calc | CS Torsion Design | CS System |
|---|---|---|---|---|---|---|---|---|
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #7 | #7 | #4 | 1 | 1 | All Tension Reinforcement | | beam |
| | #7 | #7 | #4 | 1 | 1 | All Tension Reinforcement | | beam |
| | #7 | #7 | #4 | 1 | 1 | All Tension Reinforcement | | beam |
| | #7 | #7 | #4 | 1 | 1 | All Tension Reinforcement | | beam |
| | #7 | #7 | #4 | 1 | 1 | All Tension Reinforcement | | beam |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | Maximize Effective Depth | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | Maximize Effective Depth | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | Maximize Effective Depth | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | Maximize Effective Depth | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | | two-way slab |

# Design Strip: Longitude SSs Table (6)

| CS Min. Bar Loc. | CS Min T.Bar | CS Min B.Bar | CS Shear Legs | MS Same As CS | MS Auto Trim | MS Section Slope | MS Top Bar | MS Bot Bar |
|---|---|---|---|---|---|---|---|---|
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| elevated | 0 | 0 | 4 | true | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 4 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |

# Design Strip: Longitude SSs Table (7)

| S Bot Bar | MS Shear Bar | MS Top Cover inches | MS Bot Cover inches | MS Shear d calc | MS Torsion Design | MS System | MS Min. Bar Loc. | MS Min T.Bar | MS Min B.Bar |
|---|---|---|---|---|---|---|---|---|---|
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |

# Design Strip: Longitude SSs Table (8)

| S Min B.Bar | MS Shear Legs |
|---|---|
| | 2 |
| | 2 |
| | 2 |
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| | 2 |
| | 2 |

# Design Strip: Longitude SSs Table (9)

| *Name* | *Set* | *Location feet* | *Skew degrees* | *At Support 1* | *At Support 2* | *Support Width 1 inches* |
|---|---|---|---|---|---|---|
| 35-2 | longitude | (-19.02,-17.34)(-14.45,-46.58) | 0 | true | true | 18.38 |
| 35-3 | longitude | (-14.45,-46.58)(-14.45,-61.73) | 0 | true | true | 18.17 |
| 36-1 | longitude | (-1.248,-1.54)(-5.364,-16.83) | 15.836 | true | true | 11.6 |
| 36-2 | longitude | (-5.364,-16.83)(-5.313,-47.92) | 0.927 | true | true | 18.16 |
| 36-3 | longitude | (-5.313,-47.92)(-3.5,-61.73) | 1.734 | true | true | 22.35 |
| 36-4 | longitude | (-3.5,-61.73)(-3.5,-75.6) | 0 | true | true | 18.54 |
| 36-5 | longitude | (-3.5,-75.6)(-1.302,-92.47) | 7.433 | true | true | 35.04 |

# Design Strip: Longitude SSs Table (10)

| t Width 1 | Support Width 2 inches | Support Trans. Width 1 inches | Support Trans. Width 2 inches | Auto-Support | Min Divisions | Max Division Spacing feet |
|---|---|---|---|---|---|---|
| | 18.36 | 24.29 | 24.29 | true | 4 | 2.5 |
| | 18.16 | 24 | 24 | true | 4 | 2.5 |
| | 18.8 | 24.45 | 24.85 | true | 4 | 2.5 |
| | 14.16 | 24 | 24 | true | 4 | 2.5 |
| | 17.93 | 24.21 | 24.21 | true | 4 | 2.5 |
| | 1.567 | 24 | 24 | true | 4 | 2.5 |
| | 28.39 | 21.65 | 18.15 | true | 4 | 2.5 |

# Design Strip: Longitude SSs Table (11)

| n Spacing | Design For Axial | Environment | Design As PT | Maximize Integrated V | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² |
|---|---|---|---|---|---|---|---|
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | false | false | 1 | 0 |
| | true | normal | true | true | false | 1 | 0 |

# Design Strip: Longitude SSs Table (12)

| *Spec. Infl. Area ft²* | *Max LLR %* | *Span Width* | *Col Strip Width* | *Lock Strips* | *Design CS for CS* | *-CS Auto Trim* | *CS Section Slope* |
|---|---|---|---|---|---|---|---|
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |
| 0 | 40 | auto | full | false | false | none | 0.25 |

# Design Strip: Longitude SSs Table (13)

| Section Slope Strip | CS Top Bar | CS Bot Bar | CS Shear Bar | CS Top Cover inches | CS Bot Cover inches | CS Shear d calc | CS Torsion Design | CS System |
|---|---|---|---|---|---|---|---|---|
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |
| | #5 | #5 | #4 | 1 | 1 | All Tension Reinforcement | none | two-way slab |

# Design Strip: Longitude SSs Table (14)

| CS Min. Bar Loc. | CS Min T.Bar | CS Min B.Bar | CS Shear Legs | MS Same As CS | MS Auto Trim | MS Section Slope | MS Top Bar | MS Bot Bar |
|---|---|---|---|---|---|---|---|---|
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |
| stress | 0 | 0 | 2 | false | none | 0.25 | #5 | #4 |

# Design Strip: Longitude SSs Table (15)

| MS Bot Bar | MS Shear Bar | MS Top Cover inches | MS Bot Cover inches | MS Shear d calc | MS Torsion Design | MS System | MS Min. Bar Loc. | MS Min T.Bar | MS Min B.Bar |
|---|---|---|---|---|---|---|---|---|---|
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |
| | #4 | 1.5 | 0.75 | All Tension Reinforcement | | two-way slab | stress | 0 | 0 |

# Design Strip: Longitude SSs Table (16)

| Min B.Bar | MS Shear Legs |
|---|---|
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |
| | 2 |

# Design Strip: Latitude SSSs Table

| Name | Strip Type | Calc. Trib. Area ft² | Calc. Infl. Area ft² | Top Bar | Bottom Bar | Shear Bar | Top Cover inches |
|---|---|---|---|---|---|---|---|
| 1C-1 | center | 17.87 | 0 | #5 | #5 | #4 | 1 |
| 2C-1 | center | 83.59 | 0 | #5 | #5 | #4 | 1 |
| 3C-1 | center | 20.07 | 0 | #5 | #5 | #4 | 1 |
| 3C-1(2) | center | 65.94 | 0 | #5 | #5 | #4 | 1 |
| 3C-2 | center | 452.4 | 0 | #5 | #5 | #4 | 1 |
| 3C-3 | center | 270.2 | 0 | #7 | #7 | #4 | 1 |
| 3C-4 | center | 216.7 | 0 | #7 | #7 | #4 | 1 |
| 3C-5 | center | 241 | 0 | #7 | #7 | #4 | 1 |
| 3C-6 | center | 158.6 | 0 | #7 | #7 | #4 | 1 |
| 3C-7 | center | 113.3 | 0 | #7 | #7 | #4 | 1 |
| 3C-8 | center | 88.8 | 0 | #7 | #7 | #4 | 1 |
| 4C-1 | center | 128.1 | 0 | #5 | #5 | #4 | 1 |
| 5C-1 | center | 92.91 | 0 | #5 | #5 | #4 | 1 |
| 6C-1 | center | 43.19 | 0 | #5 | #5 | #4 | 1 |
| 7C-1 | center | 37.91 | 0 | #5 | #5 | #4 | 1 |
| 8C-1 | center | 388.8 | 0 | #5 | #5 | #4 | 1 |
| 8C-2 | center | 356.1 | 0 | #5 | #5 | #4 | 1 |
| 8C-3 | center | 479.8 | 0 | #5 | #5 | #4 | 1 |
| 8C-4 | center | 131.1 | 0 | #5 | #5 | #4 | 1 |
| 8C-5 | center | 459.9 | 0 | #5 | #5 | #4 | 1 |
| 8C-6 | center | 600.2 | 0 | #5 | #5 | #4 | 1 |
| 8C-7 | center | 547.5 | 0 | #5 | #5 | #4 | 1 |
| 8C-8 | center | 295.2 | 0 | #5 | #5 | #4 | 1 |
| 9C-1 | center | 279.6 | 0 | #5 | #5 | #4 | 1 |
| 9C-2 | center | 357.4 | 0 | #5 | #5 | #4 | 1 |
| 9C-3 | center | 468 | 0 | #5 | #5 | #4 | 1 |
| 9C-4 | center | 441 | 0 | #5 | #5 | #4 | 1 |
| 9C-5 | center | 274.4 | 0 | #5 | #5 | #4 | 1 |
| 9C-6 | center | 281 | 0 | #5 | #5 | #4 | 1 |
| 9C-7 | center | 389.4 | 0 | #5 | #5 | #4 | 1 |
| 9C-8 | center | 561.8 | 0 | #5 | #5 | #4 | 1 |
| 9C-9 | center | 179.6 | 0 | #5 | #5 | #4 | 1 |
| 9C-10 | center | 74.68 | 0 | #5 | #5 | #4 | 1 |
| 10C-1 | center | 351.7 | 0 | #5 | #5 | #4 | 1 |
| 10C-2 | center | 380.1 | 0 | #5 | #5 | #4 | 1 |
| 11C-1 | center | 325.3 | 0 | #5 | #5 | #4 | 1 |
| 11C-2 | center | 334.5 | 0 | #5 | #5 | #4 | 1 |
| 12C-1 | center | 502.3 | 0 | #5 | #5 | #4 | 1 |
| 12C-2 | center | 480.3 | 0 | #5 | #5 | #4 | 1 |
| 12C-3 | center | 644.9 | 0 | #5 | #5 | #4 | 1 |
| 13C-1 | center | 353.8 | 0 | #5 | #5 | #4 | 1 |
| 13C-2 | center | 467.9 | 0 | #5 | #5 | #4 | 1 |
| 13C-3 | center | 320.7 | 0 | #5 | #5 | #4 | 1 |
| 14C-1 | center | 152.2 | 0 | #5 | #5 | #4 | 1 |
| 14C-2 | center | 282 | 0 | #5 | #5 | #4 | 1 |
| 14C-3 | center | 358.4 | 0 | #5 | #5 | #4 | 1 |

# Design Strip: Latitude SSSs Table (2)

| Top Cover inches | Bot. Cover inches | Torsion Design | System | Min Bar Loc. | Min T. Bar | Min B. Bar | Shear Legs |
|---|---|---|---|---|---|---|---|
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 1 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 1 | none | beam | elevated | 0 | 0 | 4 |
| | 1 | none | beam | elevated | 0 | 0 | 4 |
| | 1 | none | beam | elevated | 0 | 0 | 4 |
| | 1 | none | beam | elevated | 0 | 0 | 4 |
| | 1 | none | beam | elevated | 0 | 0 | 4 |
| | 1 | none | beam | elevated | 0 | 0 | 4 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 1 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | elevated | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 1 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 4 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |

# Design Strip: Latitude SSSs Table (3)

| *Name* | *Strip Type* | *Calc. Trib. Area ft²* | *Calc. Infl. Area ft²* | *Top Bar* | *Bottom Bar* | *Shear Bar* | *Top Cover inches* |
|---|---|---|---|---|---|---|---|
| 14C-4 | center | 182.2 | 0 | #5 | #5 | #4 | 1 |
| 15C-1 | center | 470.4 | 0 | #5 | #5 | #4 | 1 |
| 15C-2 | center | 397.9 | 0 | #5 | #5 | #4 | 1 |
| 15C-3 | center | 300.6 | 0 | #5 | #5 | #4 | 1 |
| 15C-4 | center | 76.18 | 0 | #5 | #5 | #4 | 1 |
| 16C-1 | center | 69.4 | 0 | #5 | #5 | #4 | 1 |
| 16C-2 | center | 336.6 | 0 | #5 | #5 | #4 | 1 |
| 16C-3 | center | 127.3 | 0 | #5 | #5 | #4 | 1 |
| 16C-4 | center | 13.91 | 0 | #5 | #5 | #4 | 1 |
| 17C-1 | center | 314.4 | 0 | #5 | #5 | #4 | 1 |
| 17C-2 | center | 22.6 | 0 | #5 | #5 | #4 | 1 |
| 18C-1 | center | 252.2 | 0 | #5 | #5 | #4 | 1 |

# Design Strip: Latitude SSSs Table (4)

| *Top Cover inches* | *Bot. Cover inches* | *Torsion Design* | *System* | *Min Bar Loc.* | *Min T. Bar* | *Min B. Bar* | *Shear Legs* |
|---|---|---|---|---|---|---|---|
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |

# Design Strip: Longitude SSSs Table

| Name | Strip Type | Calc. Trib. Area ft² | Calc. Infl. Area ft² | Top Bar | Bottom Bar | Shear Bar | Top Cover inches |
|---|---|---|---|---|---|---|---|
| 19C-1 | center | 25.76 | 0 | #5 | #5 | #4 | 1 |
| 19C-2 | center | 47.97 | 0 | #5 | #5 | #4 | 1 |
| 19C-3 | center | 184.1 | 0 | #5 | #5 | #4 | 1 |
| 19C-4 | center | 269.8 | 0 | #5 | #5 | #4 | 1 |
| 20C-1 | center | 79.37 | 0 | #7 | #7 | #4 | 1 |
| 20C-2 | center | 240.7 | 0 | #7 | #7 | #4 | 1 |
| 20C-3 | center | 144.2 | 0 | #7 | #7 | #4 | 1 |
| 20C-4 | center | 181.5 | 0 | #7 | #7 | #4 | 1 |
| 20C-5 | center | 129.9 | 0 | #7 | #7 | #4 | 1 |
| 21C-1 | center | 130.2 | 0 | #5 | #5 | #4 | 1 |
| 21C-2 | center | 33 | 0 | #5 | #5 | #4 | 1 |
| 22C-1 | center | 339.1 | 0 | #5 | #5 | #4 | 1 |
| 22C-2 | center | 507.5 | 0 | #5 | #5 | #4 | 1 |
| 22C-3 | center | 498 | 0 | #5 | #5 | #4 | 1 |
| 22C-4 | center | 444.6 | 0 | #5 | #5 | #4 | 1 |
| 22C-5 | center | 432.9 | 0 | #5 | #5 | #4 | 1 |
| 22C-6 | center | 402.9 | 0 | #5 | #5 | #4 | 1 |
| 23C-1 | center | 405.6 | 0 | #5 | #5 | #4 | 1 |
| 23C-2 | center | 120.4 | 0 | #5 | #5 | #4 | 1 |
| 24C-1 | center | 420.2 | 0 | #5 | #5 | #4 | 1 |
| 24C-2 | center | 634.9 | 0 | #5 | #5 | #4 | 1 |
| 24C-3 | center | 225.1 | 0 | #5 | #5 | #4 | 1 |
| 25C-1 | center | 271.4 | 0 | #5 | #5 | #4 | 1 |
| 25C-2 | center | 237.1 | 0 | #5 | #5 | #4 | 1 |
| 26C-1 | center | 224.8 | 0 | #5 | #5 | #4 | 1 |
| 26C-2 | center | 245 | 0 | #5 | #5 | #4 | 1 |
| 27C-1 | center | 290.5 | 0 | #5 | #5 | #4 | 1 |
| 27C-2 | center | 328.2 | 0 | #5 | #5 | #4 | 1 |
| 27C-3 | center | 320.3 | 0 | #5 | #5 | #4 | 1 |
| 27C-4 | center | 538.8 | 0 | #5 | #5 | #4 | 1 |
| 27C-5 | center | 447.5 | 0 | #5 | #5 | #4 | 1 |
| 28C-1 | center | 102.6 | 0 | #5 | #5 | #4 | 1 |
| 29C-1 | center | 679.4 | 0 | #5 | #5 | #4 | 1 |
| 29C-2 | center | 366.9 | 0 | #5 | #5 | #4 | 1 |
| 30C-1 | center | 422.4 | 0 | #5 | #5 | #4 | 1 |
| 31C-1 | center | 221.6 | 0 | #5 | #5 | #4 | 1 |
| 31C-2 | center | 295.8 | 0 | #5 | #5 | #4 | 1 |
| 31C-3 | center | 319.9 | 0 | #5 | #5 | #4 | 1 |
| 31C-4 | center | 581 | 0 | #5 | #5 | #4 | 1 |
| 31C-5 | center | 305.9 | 0 | #5 | #5 | #4 | 1 |
| 32C-1 | center | 232.8 | 0 | #5 | #5 | #4 | 1 |
| 33C-1 | center | 418.1 | 0 | #5 | #5 | #4 | 1 |
| 33C-2 | center | 507.2 | 0 | #5 | #5 | #4 | 1 |
| 33C-3 | center | 437.6 | 0 | #5 | #5 | #4 | 1 |
| 34C-1 | center | 337.3 | 0 | #5 | #5 | #4 | 1 |
| 35C-1 | center | 125.9 | 0 | #5 | #5 | #4 | 1 |

# Design Strip: Longitude SSSs Table (2)

| Top Cover inches | Bot. Cover inches | Torsion Design | System | Min Bar Loc. | Min T. Bar | Min B. Bar | Shear Legs |
|---|---|---|---|---|---|---|---|
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | beam | stress | 0 | 0 | 4 |
| | 1 | none | beam | stress | 0 | 0 | 4 |
| | 1 | none | beam | stress | 0 | 0 | 4 |
| | 1 | none | beam | stress | 0 | 0 | 4 |
| | 1 | none | beam | stress | 0 | 0 | 4 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 4 |
| | 1 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 1 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 1 | none | two-way slab | elevated | 0 | 0 | 4 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 4 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |

# Design Strip: Longitude SSSs Table (3)

| *Name* | *Strip Type* | *Calc. Trib. Area ft²* | *Calc. Infl. Area ft²* | *Top Bar* | *Bottom Bar* | *Shear Bar* | *Top Cover inches* |
|---|---|---|---|---|---|---|---|
| 35C-2 | center | 547.8 | 0 | #5 | #5 | #4 | 1 |
| 35C-3 | center | 303.5 | 0 | #5 | #5 | #4 | 1 |
| 36C-1 | center | 138.9 | 0 | #5 | #5 | #4 | 1 |
| 36C-2 | center | 258.3 | 0 | #5 | #5 | #4 | 1 |
| 36C-3 | center | 72.67 | 0 | #5 | #5 | #4 | 1 |
| 36C-4 | center | 283 | 0 | #5 | #5 | #4 | 1 |
| 36C-5 | center | 220.6 | 0 | #5 | #5 | #4 | 1 |

# Design Strip: Longitude SSSs Table (4)

| *Top Cover inches* | *Bot. Cover inches* | *Torsion Design* | *System* | *Min Bar Loc.* | *Min T. Bar* | *Min B. Bar* | *Shear Legs* |
|---|---|---|---|---|---|---|---|
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |
| | 1 | none | two-way slab | stress | 0 | 0 | 2 |

# Design Strip: Punching Checks Table

| Number | Location feet | Radius feet | Cover To CGS inches | Angle degrees | Edge | Connection |
|---|---|---|---|---|---|---|
| 1 | (-207,-153.1) | 8 | 1.5 | -6 | failure planes | auto |
| 2 | (-200.6,-89.05) | 10 | 1.5 | -6 | failure planes | auto |
| 3 | (-199.7,-144.9) | 8 | 1.5 | -6 | failure planes | auto |
| 4 | (-198.6,-115.2) | 10 | 1.5 | -6 | failure planes | auto |
| 5 | (-198.6,-134.5) | 8 | 1.5 | -6 | failure planes | auto |
| 6 | (-198,-65.18) | 8 | 1.5 | -6 | failure planes | auto |
| 7 | (-197.9,-160) | 8 | 1.5 | 22 | failure planes | auto |
| 8 | (-195.5,-41.31) | 10 | 1.5 | -6 | failure planes | auto |
| 9 | (-193,-17.44) | 8 | 1.5 | -6 | failure planes | auto |
| 10 | (-191.4,-151.5) | 6.5 | 1.5 | -6 | failure planes | auto |
| 11 | (-180.8,-44.12) | 8 | 1.5 | 84 | failure planes | auto |
| 12 | (-180.5,-117.1) | 8 | 1.5 | -6 | failure planes | auto |
| 13 | (-177,-67.39) | 8 | 1.5 | -6 | failure planes | auto |
| 14 | (-176.8,-92.28) | 8 | 1.5 | 84 | failure planes | auto |
| 15 | (-165.9,-123.5) | 8 | 1.5 | -6 | failure planes | auto |
| 16 | (-164.9,-47.89) | 8 | 1.5 | -6 | failure planes | auto |
| 17 | (-164.6,-22.53) | 8 | 1.5 | 90 | failure planes | auto |
| 18 | (-164.4,-141.2) | 15 | 1.5 | 22 | failure planes | auto |
| 19 | (-145.3,-22.83) | 8 | 1.5 | 0 | failure planes | auto |
| 20 | (-144.5,-120.4) | 8 | 1.5 | 22 | failure planes | auto |
| 21 | (-138.3,-51.35) | 8 | 1.5 | 0 | failure planes | auto |
| 22 | (-138.2,-136) | 12 | 1.5 | 22 | failure planes | auto |
| 23 | (-135.3,-110.1) | 8 | 1.5 | 0 | failure planes | auto |
| 24 | (-120.6,-101.9) | 8 | 1.5 | 0 | failure planes | auto |
| 25 | (-118.9,-75.16) | 8 | 1.5 | 0 | failure planes | auto |
| 26 | (-118.8,-22.8) | 15 | 1.5 | 0 | failure planes | auto |
| 27 | (-118.4,-52.35) | 8 | 1.5 | 0 | failure planes | auto |
| 28 | (-115.9,-127) | 8 | 1.5 | 22 | failure planes | auto |
| 29 | (-109.7,-60.83) | 8 | 1.5 | 0 | failure planes | auto |
| 30 | (-95,-75.17) | 8 | 1.5 | 90 | failure planes | auto |
| 31 | (-94.55,-101.9) | 8 | 1.5 | 0 | failure planes | auto |
| 32 | (-93.65,-118.1) | 8 | 1.5 | 22 | failure planes | auto |
| 33 | (-87.45,-47.3) | 10 | 1.5 | 0 | failure planes | auto |
| 34 | (-86.02,-66.08) | 8 | 1.5 | 0 | failure planes | auto |
| 35 | (-71.38,-109.1) | 8 | 1.5 | 22 | failure planes | auto |
| 36 | (-68.7,-22.83) | 12 | 1.5 | 0 | failure planes | auto |
| 37 | (-67.92,-66.08) | 8 | 1.5 | 0 | failure planes | auto |
| 38 | (-65.26,-94) | 8 | 1.5 | 0 | failure planes | auto |
| 39 | (-60.2,-44.83) | 8 | 1.5 | 0 | failure planes | auto |
| 40 | (-48.99,-100.5) | 8 | 1.5 | 112 | failure planes | auto |
| 41 | (-45.8,-22.83) | 10 | 1.5 | 0 | failure planes | auto |
| 42 | (-41.7,-44.83) | 8 | 1.5 | 0 | failure planes | auto |
| 43 | (-28.53,-90.28) | 15 | 1.5 | 0 | failure planes | auto |
| 44 | (-19.02,-17.34) | 8 | 1.5 | 0 | failure planes | auto |
| 45 | (-14.46,-46.58) | 8 | 1.5 | 0 | failure planes | auto |
| 46 | (-14.45,-61.73) | 8 | 1.5 | 0 | failure planes | auto |

# Design Strip: Punching Checks Table (2)

| nnection | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² | Spec. Infl. Area ft² | Calc. Trib. Area ft² | Calc. Infl. Area ft² |
|---|---|---|---|---|---|---|
| | false | 1 | 0 | 0 | 60.18 | 0 |
| | false | 1 | 0 | 0 | 292 | 0 |
| | false | 1 | 0 | 0 | 97.35 | 0 |
| | false | 1 | 0 | 0 | 298.4 | 0 |
| | false | 1 | 0 | 0 | 312.6 | 0 |
| | false | 1 | 0 | 0 | 246.7 | 0 |
| | false | 1 | 0 | 0 | 27.72 | 0 |
| | false | 1 | 0 | 0 | 186.9 | 0 |
| | false | 1 | 0 | 0 | 284.9 | 0 |
| | false | 1 | 0 | 0 | 358.1 | 0 |
| | false | 1 | 0 | 0 | 430.3 | 0 |
| | false | 1 | 0 | 0 | 483.9 | 0 |
| | false | 1 | 0 | 0 | 468.6 | 0 |
| | false | 1 | 0 | 0 | 556.1 | 0 |
| | false | 1 | 0 | 0 | 456 | 0 |
| | false | 1 | 0 | 0 | 449.8 | 0 |
| | false | 1 | 0 | 0 | 597.8 | 0 |
| | false | 1 | 0 | 0 | 384.9 | 0 |
| | false | 1 | 0 | 0 | 659.8 | 0 |
| | false | 1 | 0 | 0 | 416.4 | 0 |
| | false | 1 | 0 | 0 | 546.9 | 0 |
| | false | 1 | 0 | 0 | 210.9 | 0 |
| | false | 1 | 0 | 0 | 328.5 | 0 |
| | false | 1 | 0 | 0 | 578.8 | 0 |
| | false | 1 | 0 | 0 | 472.8 | 0 |
| | false | 1 | 0 | 0 | 374.8 | 0 |
| | false | 1 | 0 | 0 | 331.9 | 0 |
| | false | 1 | 0 | 0 | 268.6 | 0 |
| | false | 1 | 0 | 0 | 271.2 | 0 |
| | false | 1 | 0 | 0 | 524.2 | 0 |
| | false | 1 | 0 | 0 | 638.8 | 0 |
| | false | 1 | 0 | 0 | 190 | 0 |
| | false | 1 | 0 | 0 | 242.2 | 0 |
| | false | 1 | 0 | 0 | 354.6 | 0 |
| | false | 1 | 0 | 0 | 174.1 | 0 |
| | false | 1 | 0 | 0 | 259.9 | 0 |
| | false | 1 | 0 | 0 | 396.8 | 0 |
| | false | 1 | 0 | 0 | 517.9 | 0 |
| | false | 1 | 0 | 0 | 405.2 | 0 |
| | false | 1 | 0 | 0 | 135.8 | 0 |
| | false | 1 | 0 | 0 | 575 | 0 |
| | false | 1 | 0 | 0 | 550 | 0 |
| | false | 1 | 0 | 0 | 236.9 | 0 |
| | false | 1 | 0 | 0 | 401.6 | 0 |
| | false | 1 | 0 | 0 | 485.1 | 0 |
| | false | 1 | 0 | 0 | 341.9 | 0 |

# Design Strip: Punching Checks Table (3)

| nfl. Area | Max LLR % | Red. Red. % | Stor. Red. % | Park. Red. % |
|---|---|---|---|---|
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |

# Design Strip: Punching Checks Table (4)

| *Number* | *Location feet* | *Radius feet* | *Cover To CGS inches* | *Angle degrees* | *Edge* | *Connection* |
|---|---|---|---|---|---|---|
| 47 | (-5.364,-16.83) | 8 | 1.5 | 0 | failure planes | auto |
| 48 | (-5.313,-48.08) | 8 | 1.5 | 0 | failure planes | auto |
| 49 | (-3.839,-76.29) | 8 | 1.5 | 0 | failure planes | auto |
| 50 | (-3.615,-61.75) | 8 | 1.5 | 0 | failure planes | auto |
| 51 | (-1.469,-92.28) | 15 | 1.5 | 0 | failure planes | auto |

# Design Strip: Punching Checks Table (5)

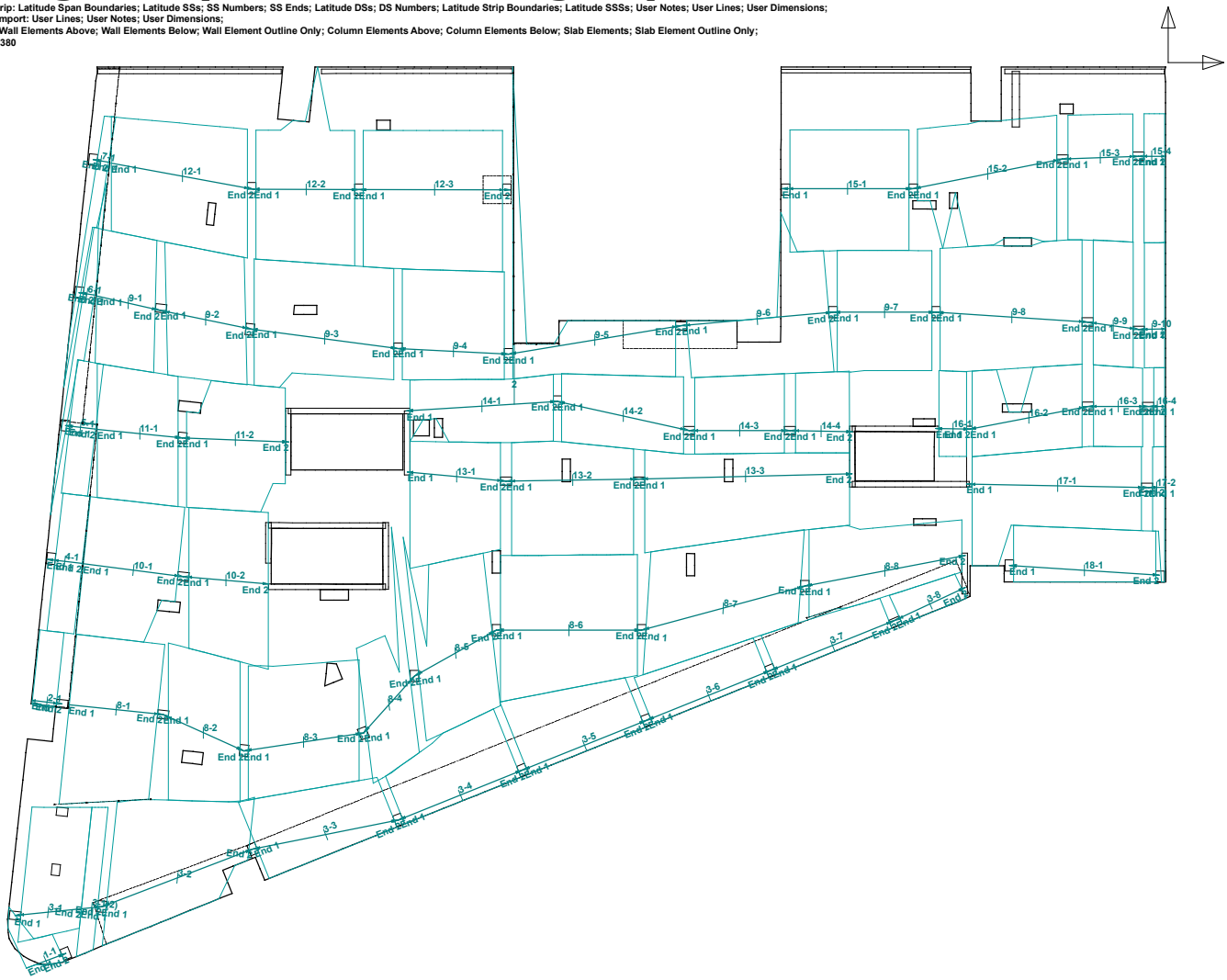
| nnection | Use Spec LLR Params | Spec. LLR Levels | Spec. Trib. Area ft² | Spec. Infl. Area ft² | Calc. Trib. Area ft² | Calc. Infl. Area ft² |
|---|---|---|---|---|---|---|
| | false | 1 | 0 | 0 | 288.6 | 0 |
| | false | 1 | 0 | 0 | 163.4 | 0 |
| | false | 1 | 0 | 0 | 260.9 | 0 |
| | false | 1 | 0 | 0 | 36.58 | 0 |
| | false | 1 | 0 | 0 | 110.8 | 0 |

# Design Strip: Punching Checks Table (6)

| nfl. Area | Max LLR % | Red. Red. % | Stor. Red. % | Park. Red. % |
|---|---|---|---|---|
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |
| | 40 | 0 | 0 | 0 |

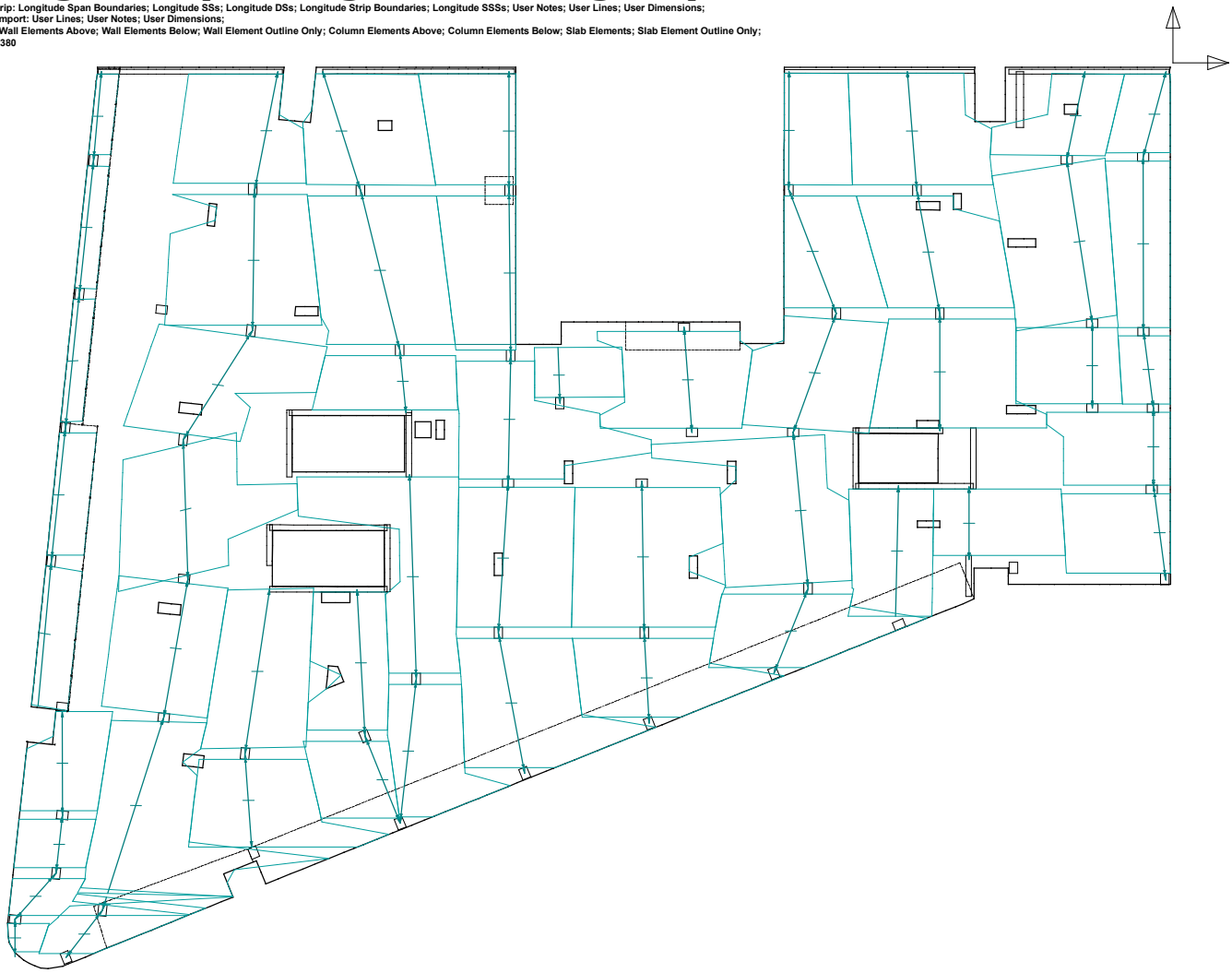
# Design Strip: Latitude Design Spans Plan

**Design Strip: Latitude Span Boundaries; Latitude SSs; SS Numbers; SS Ends; Latitude DSs; DS Numbers; Latitude Strip Boundaries; Latitude SSSs; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



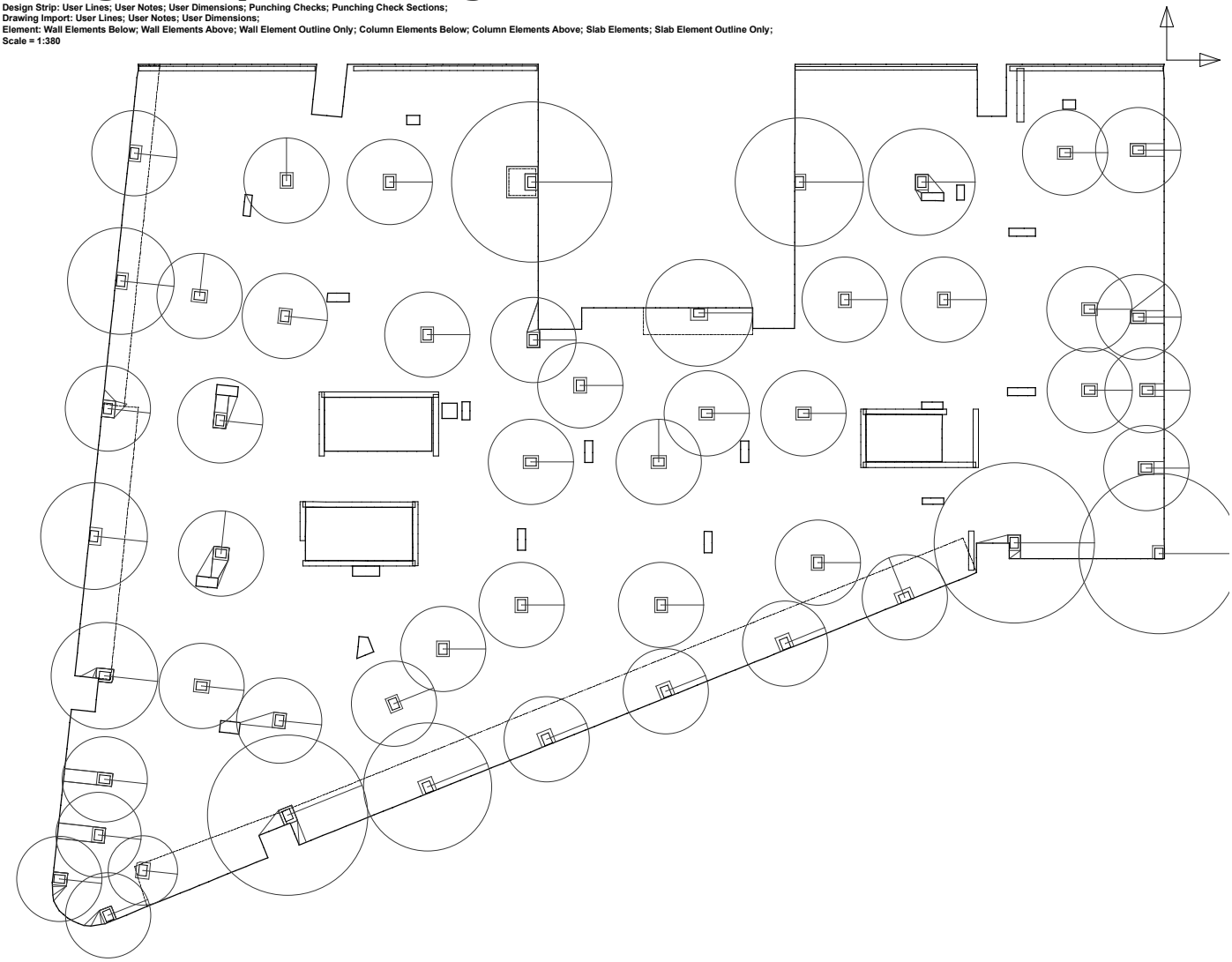
# Design Strip: Longitude Design Spans Plan

**Design Strip: Longitude Span Boundaries; Longitude SSs; Longitude DSs; Longitude Strip Boundaries; Longitude SSSs; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



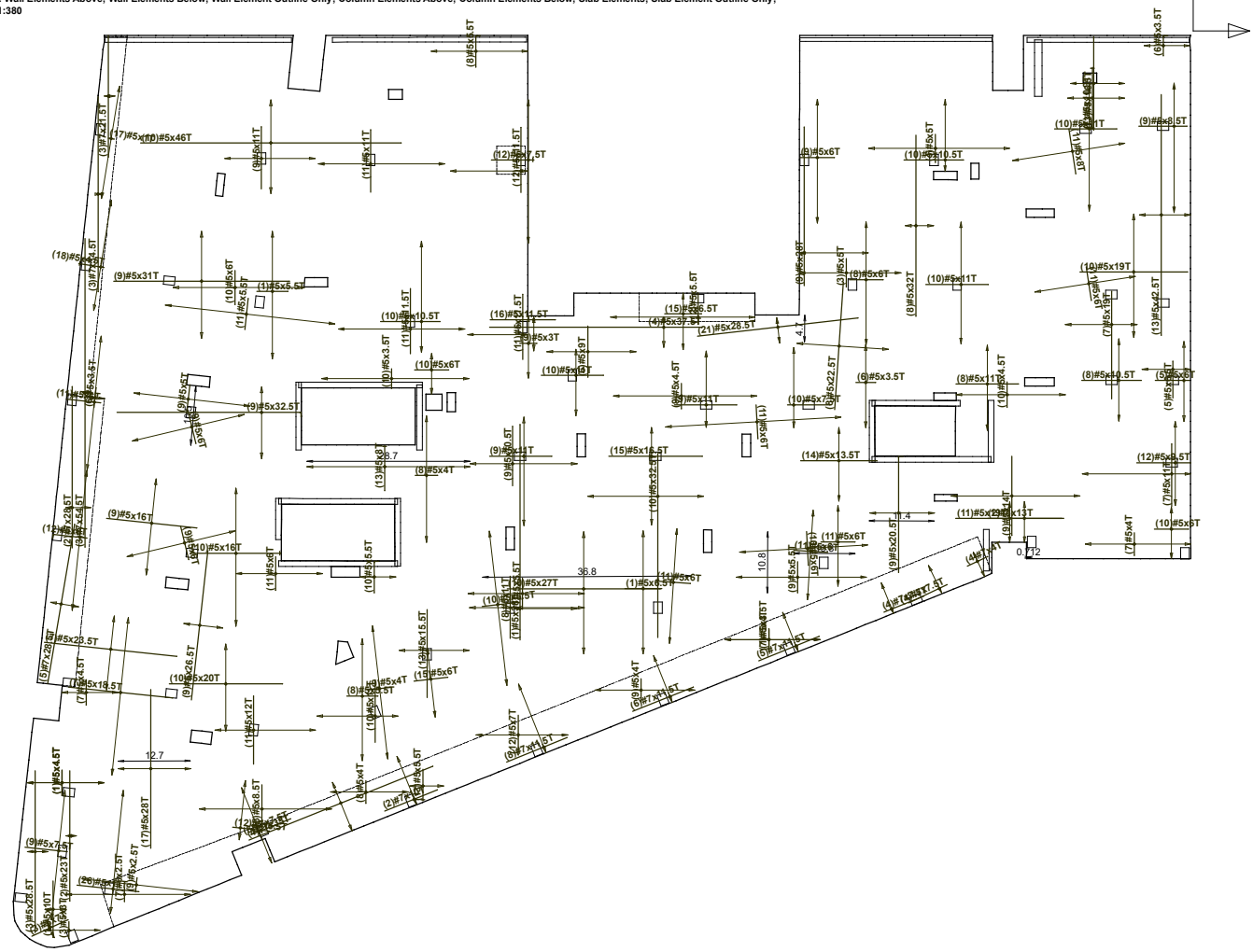
# Design Strip: Punching Checks Plan

**Design Strip: User Lines; User Notes; User Dimensions; Punching Checks; Punching Check Sections;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



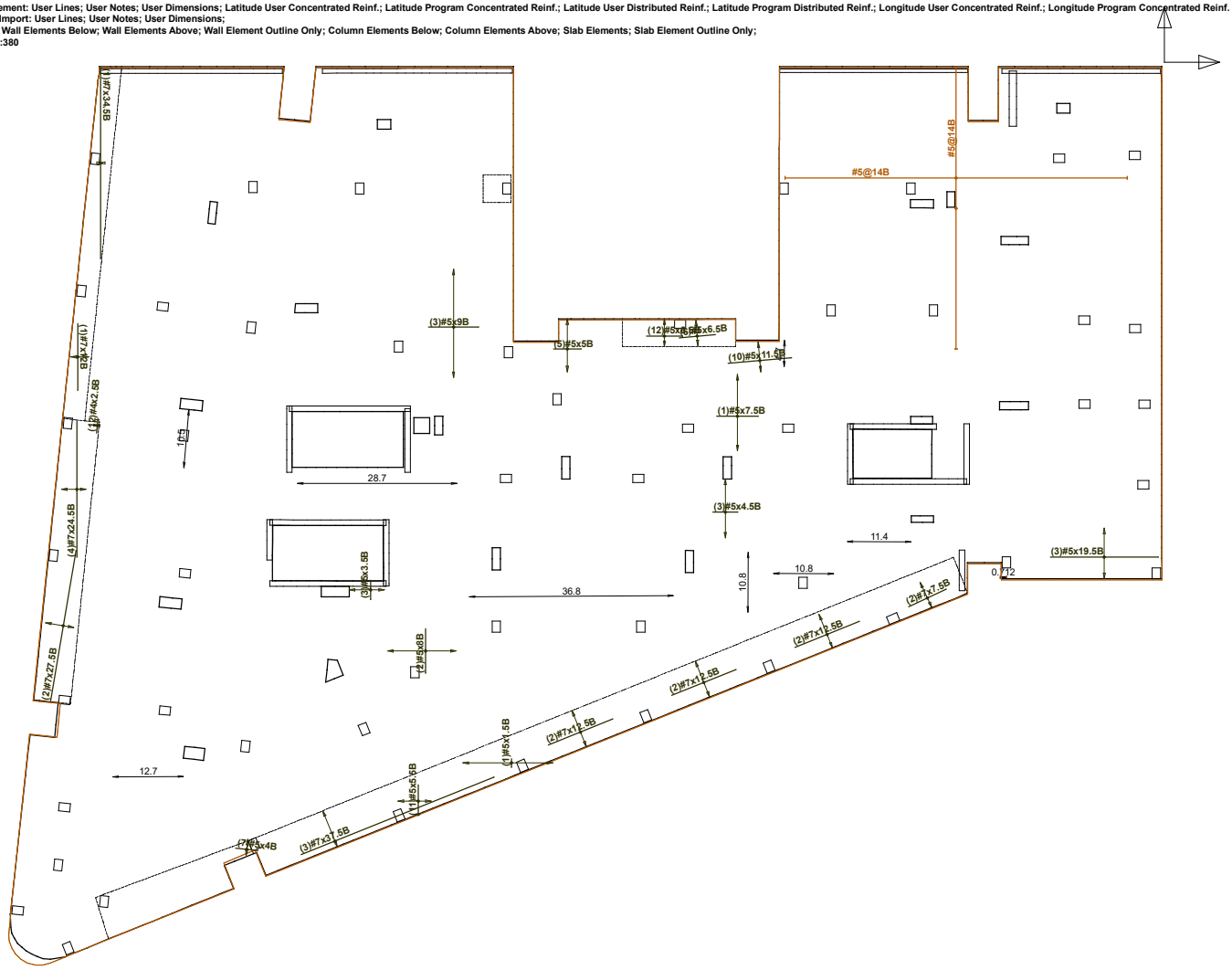
# Reinforcement: Top Bars Plan

**Reinforcement: Latitude User Concentrated Reinf.; Longitude User Concentrated Reinf.; Latitude Program Concentrated Reinf.; Longitude Program Concentrated Reinf.; Top Face Concentrated Reinf.; Both Faces Concentrated Reinf.; Concentrated Reinf. Descriptions; Concentrate**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



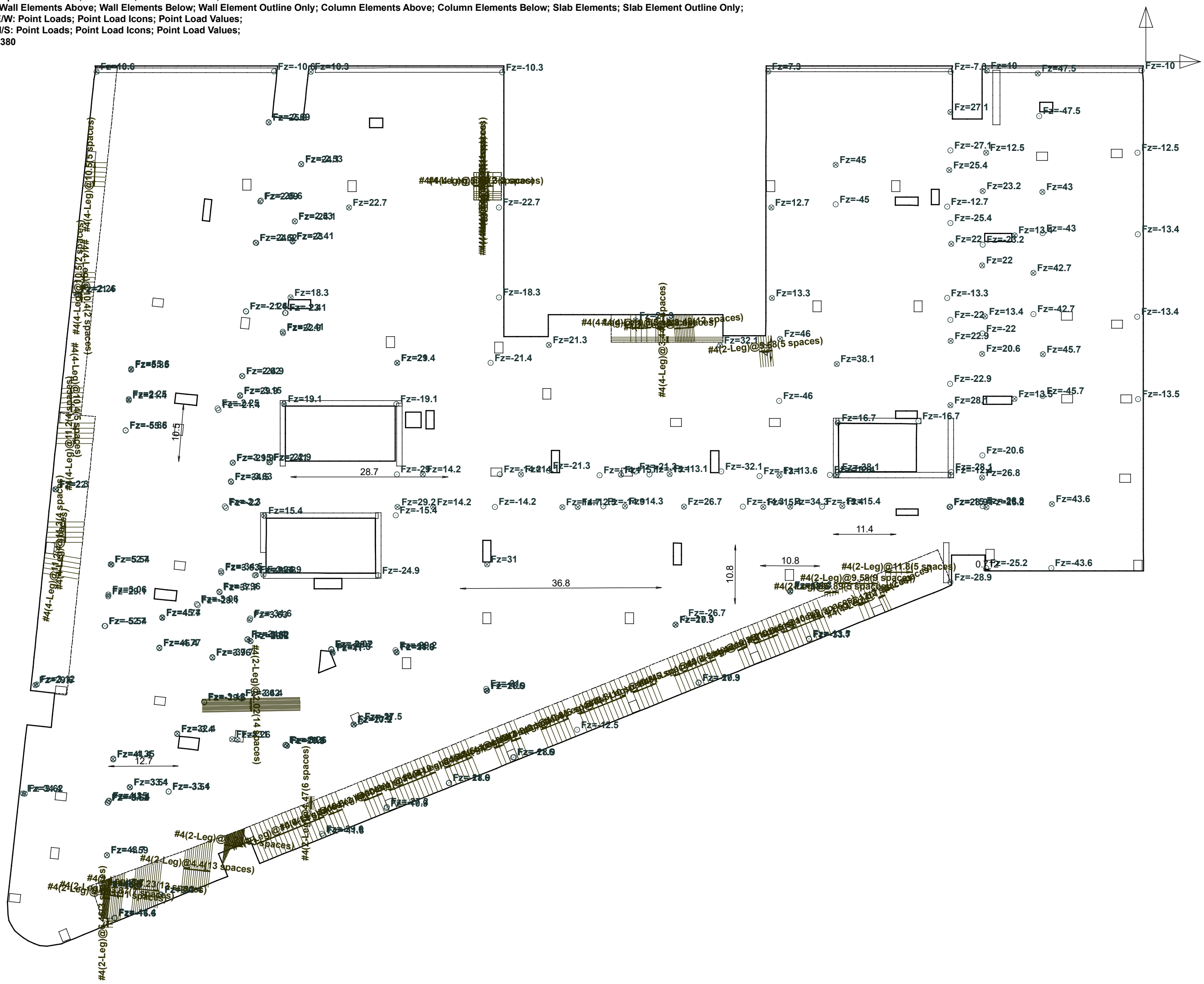
# Reinforcement: Bottom Bars Plan

**Reinforcement: User Lines; User Notes; User Dimensions; Latitude User Concentrated Reinf.; Latitude Program Concentrated Reinf.; Latitude User Distributed Reinf.; Latitude Program Distributed Reinf.; Longitude User Concentrated Reinf.; Longitude Program Concentrated Reinf.**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



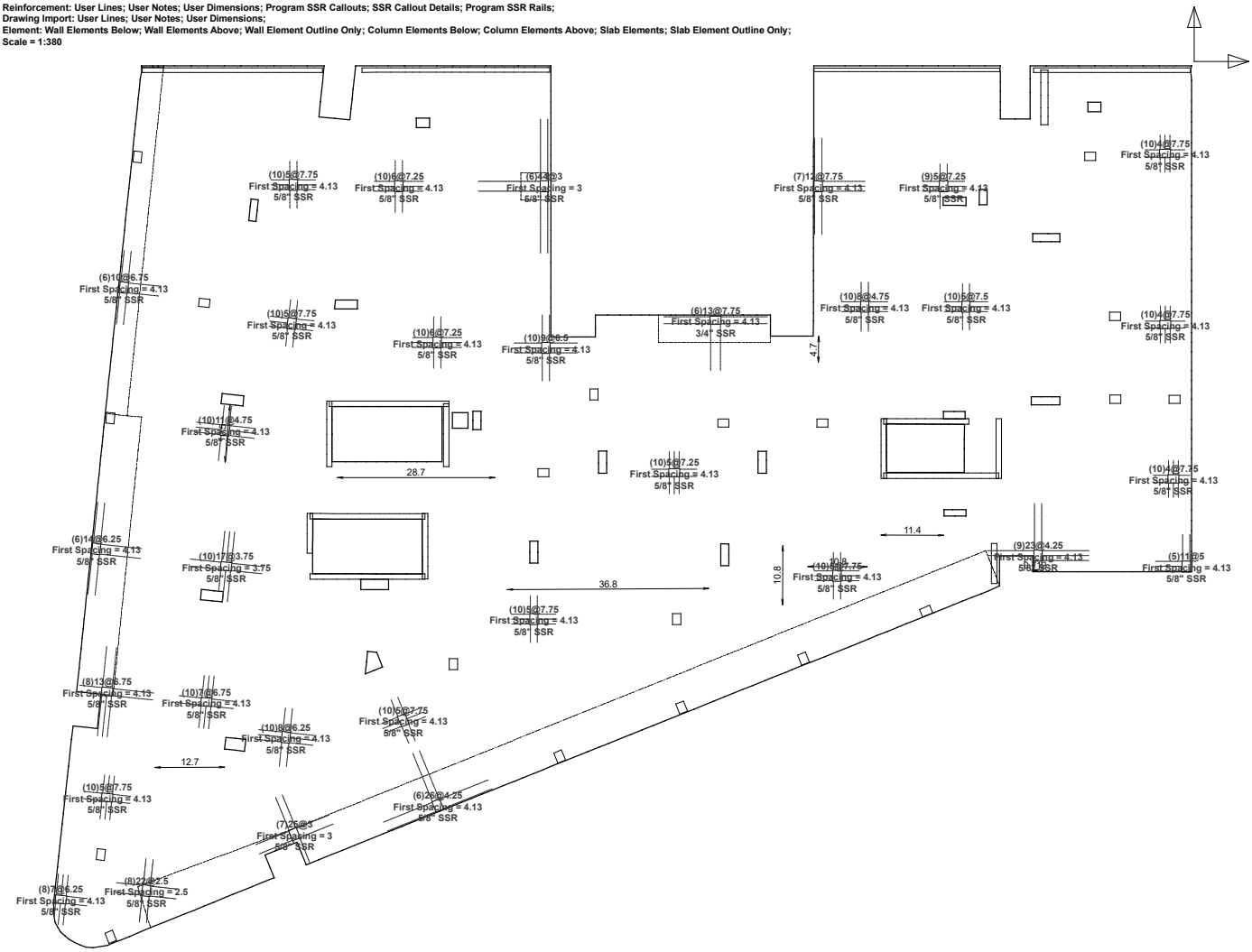
# Reinforcement: Shear Bars Plan

**Reinforcement: Latitude User Transverse Reinf.; Longitude User Transverse Reinf.; Latitude Program Transverse Reinf.; Longitude Program Transverse Reinf.; Transverse Reinf. Descriptions; Transverse Reinf. Extent; Latitude User Individual Transverse Bars; Longitude User Indi**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Seismic E/W: Point Loads; Point Load Icons; Point Load Values;**
**Seismic N/S: Point Loads; Point Load Icons; Point Load Values;**
**Scale = 1:380**



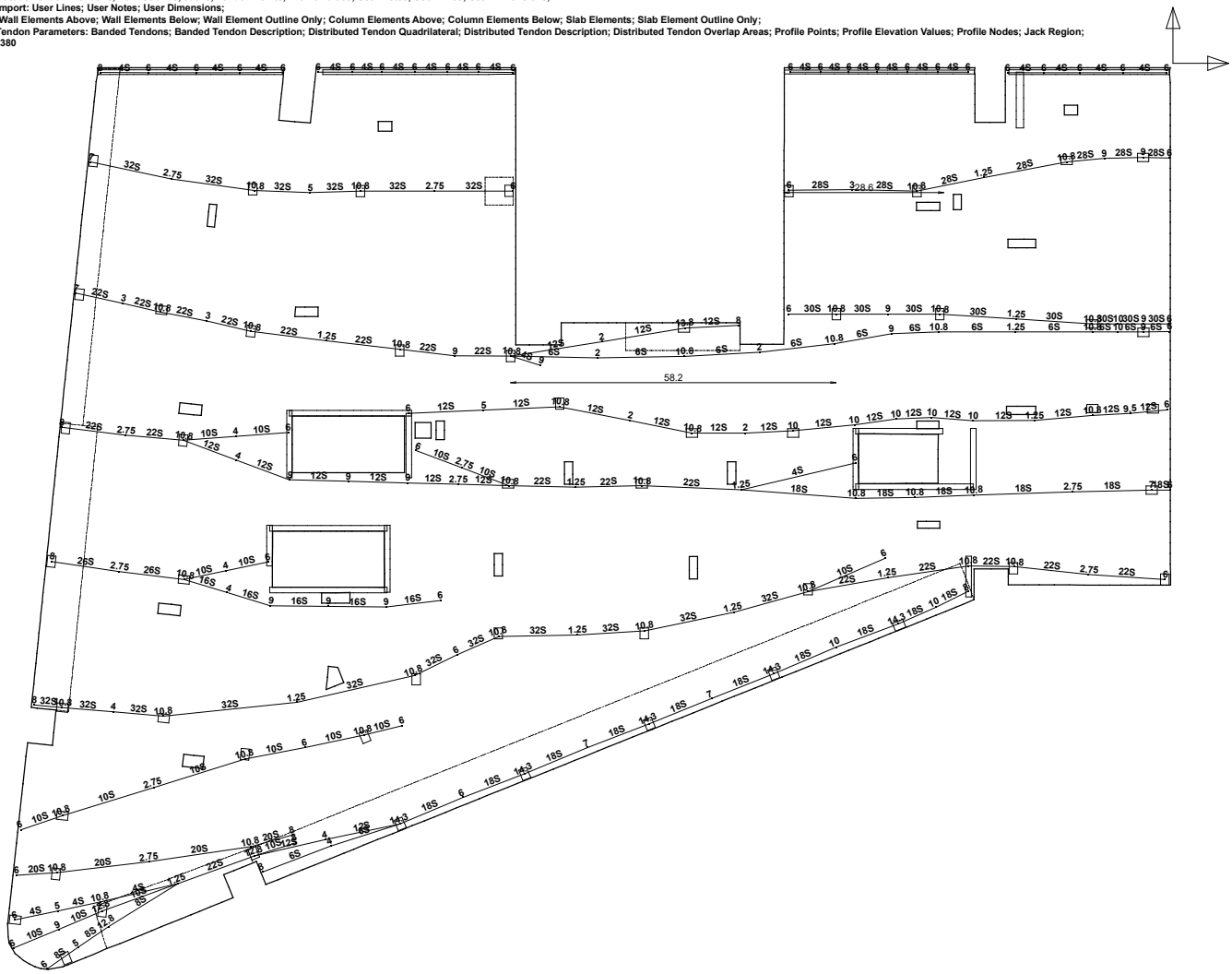
# Reinforcement: SSR Plan

**Reinforcement: User Lines; User Notes; User Dimensions; Program SSR Callouts; SSR Callout Details; Program SSR Rails;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



# Manual Latitude Tendon: Standard Plan

**Manual Latitude Tendon: Tendons; Num Strands; Jacks; Tendon Points; Profile Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Latitude Tendon Parameters: Banded Tendons; Banded Tendon Description; Distributed Tendon Quadrilateral; Distributed Tendon Description; Distributed Tendon Overlap Areas; Profile Points; Profile Elevation Values; Profile Nodes; Jack Region;**
**Scale = 1:380**

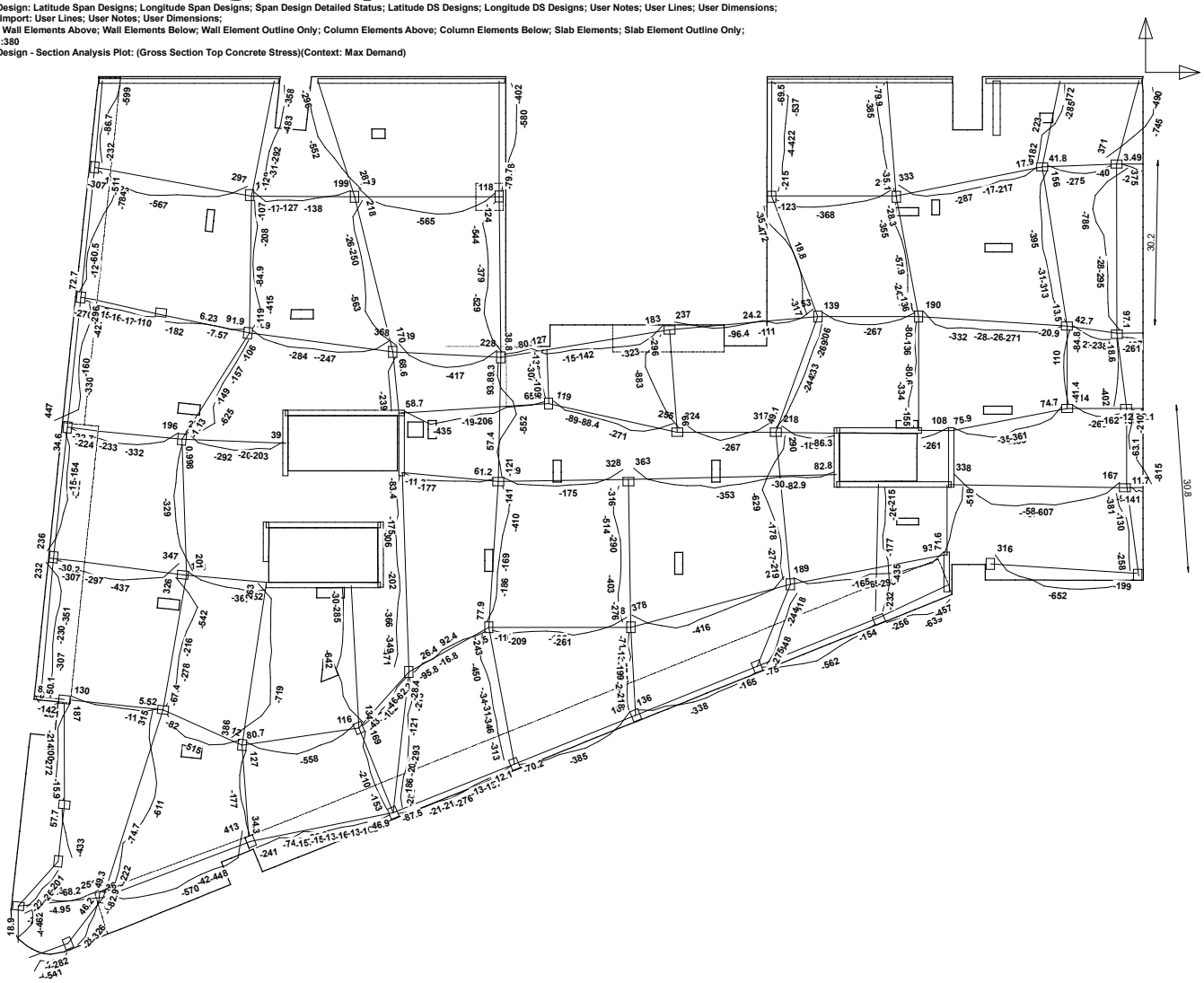


# Manual Longitude Tendon: Standard Plan

**Manual Longitude Tendon: Tendons; Num Strands; Jacks; Tendon Points; Profile Values; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Longitude Tendon Parameters: Banded Tendons; Banded Tendon Description; Distributed Tendon Quadrilateral; Jack Region; Distributed Tendon Description; Distributed Tendon Overlap Areas; Profile Points; Profile Elevation Values; Profile Nodes;**
**Manual Latitude Tendon: Tendons;**
**Scale = 1:380**

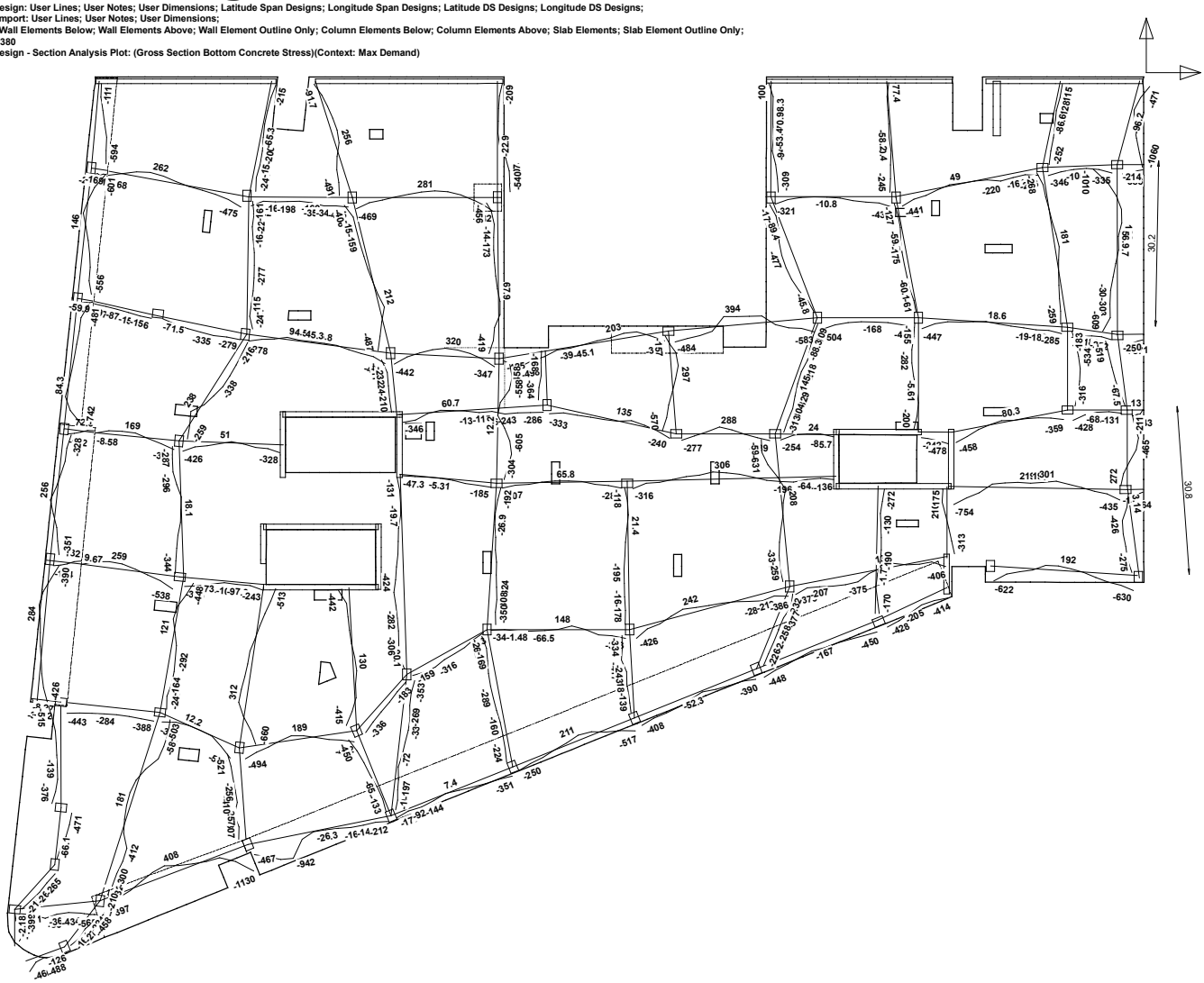
# Service Design: Top Stress Plan

**Service Design: Latitude Span Designs; Longitude Span Designs; Span Design Detailed Status; Latitude DS Designs; Longitude DS Designs; User Notes; User Lines; User Dimensions;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**
**Service Design - Section Analysis Plot: (Gross Section Top Concrete Stress)(Context: Max Demand)**



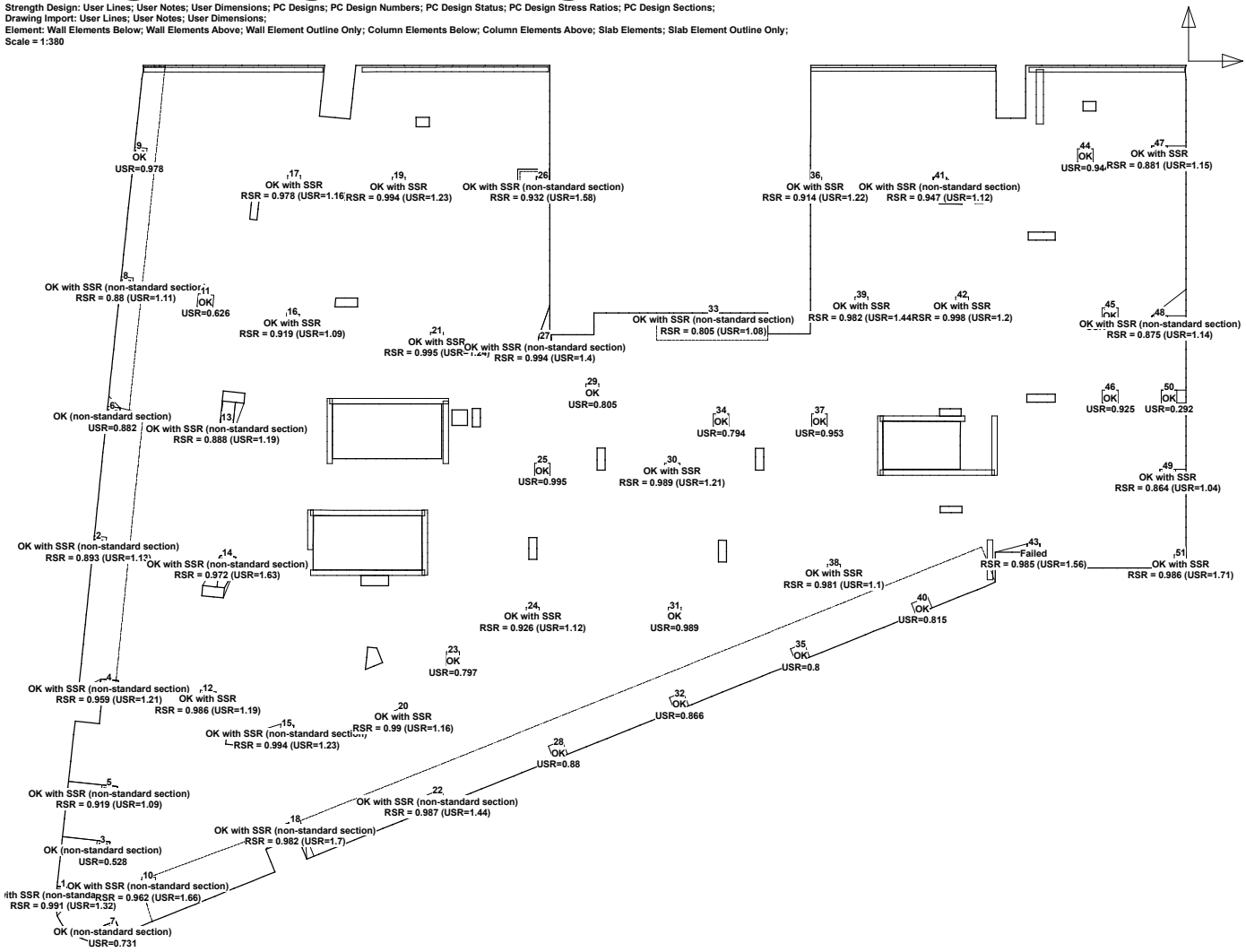
# Service Design: Bottom Stress Plan

**Service Design: User Lines; User Notes; User Dimensions; Latitude Span Designs; Longitude Span Designs; Latitude DS Designs; Longitude DS Designs;**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**
**Service Design - Section Analysis Plot: (Gross Section Bottom Concrete Stress)(Context: Max Demand)**



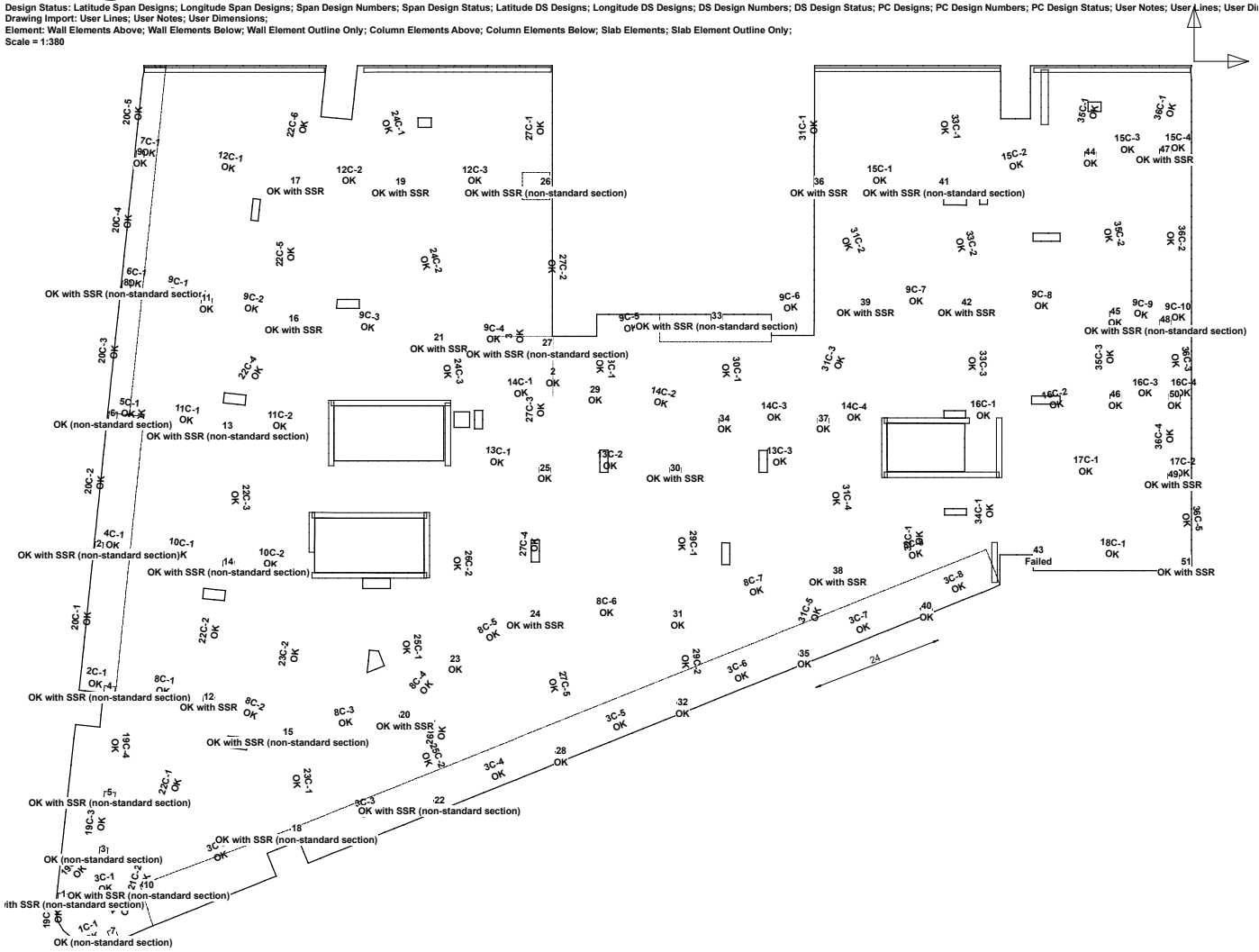
# Strength Design: Punching Shear Status Plan

Strength Design: User Lines; User Notes; User Dimensions; PC Designs; PC Design Numbers; PC Design Status; PC Design Stress Ratios; PC Design Sections;
Drawing Import: User Lines; User Notes; User Dimensions;
Element: Wall Elements Below; Wall Elements Above; Wall Element Outline Only; Column Elements Below; Column Elements Above; Slab Elements; Slab Element Outline Only;
Scale = 1:380



# Design Status: Status Plan

**Design Status: Latitude Span Designs; Longitude Span Designs; Span Design Numbers; Span Design Status; Latitude DS Designs; Longitude DS Designs; DS Design Numbers; DS Design Status; PC Designs; PC Design Numbers; PC Design Status; User Notes; User Lines; User Di**
**Drawing Import: User Lines; User Notes; User Dimensions;**
**Element: Wall Elements Above; Wall Elements Below; Wall Element Outline Only; Column Elements Above; Column Elements Below; Slab Elements; Slab Element Outline Only;**
**Scale = 1:380**



This Wall in File: P:\2018\18-T066 (18th & Salmon)\Engineering\Calculations\Models\Foundation\retain

**RetainPro (c) 1987-2017, Build 11.17.11.03**
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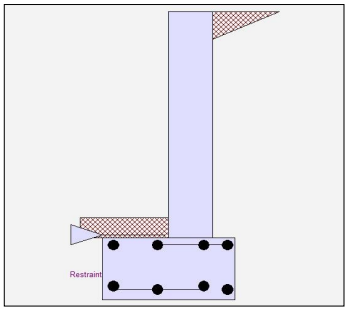
# Cantilevered Retaining Wall

Code: IBC 2015,ACI 318-14,ACI 530-13

## Criteria

| | | |
|---|---|---|
| Retained Height | = | 5.50 ft |
| Wall height above soil | = | 0.00 ft |
| Slope Behind Wall | = | 0.00 |
| Height of Soil over Toe | = | 6.00 in |
| Water height over heel | = | 0.0 ft |




## Load Factors

| | |
|---|---|
| Building Code | IBC 2015,ACI |
| Dead Load | 1.200 |
| Live Load | 1.600 |
| Earth, H | 1.600 |
| Wind, W | 1.000 |
| Seismic, E | 1.000 |

## Soil Data and Lateral Earth Pressure

| | | | | | | |
|---|---|---|---|---|---|---|
| Allow Soil Bearing | = | 2,000.0 psf | Soil Density, Heel | = | 110.00 | pcf |
| Equivalent Fluid Pressure Method | | | Soil Density, Toe | = | 0.00 | pcf |
| At-Rest Heel Pressure | = | 32.0 psf/ft | Footing\|\|Soil Friction | = | 0.400 | |
| | = | | Soil height to ignore for passive pressure | = | 12.00 | in |
| Passive Pressure | = | 250.0 psf/ft | | | | |

## Surcharge Loads

| | | | | | |
|---|---|---|---|---|---|
| Surcharge Over Heel | = | 100.0 psf | Surcharge Over Toe | = | 0.0 |
| Used To Resist Sliding & Overturning | | | Used for Sliding & Overturning | | |

## Axial Load Applied to Stem

| | | | | | | |
|---|---|---|---|---|---|---|
| Axial Dead Load | = | 100.0 lbs | Axial Load Eccentricity | = | 0.0 | in |
| Axial Live Load | = | 0.0 lbs | | | | |

## Lateral Load Applied to Stem

| | | |
|---|---|---|
| Lateral Load | = | 0.0 #/ft |
| ...Height to Top | = | 2.50 ft |
| ...Height to Bottom | = | 1.50 ft |
| Load Type | = | Seismic (E) (Service Level) |

## Wind on Exposed Stem

| | | |
|---|---|---|
| Wind on Exposed Stem (Service Level) | = | 0.0 psf |

## Adjacent Footing Load

| | | | | | |
|---|---|---|---|---|---|
| Adjacent Footing Load | = | 0.0 lbs | Footing Type | | Line Load |
| Footing Width | = | 0.00 ft | Base Above/Below Soil | | |
| Eccentricity | = | 0.00 in | at Back of Wall | = | 0.0 ft |
| Wall to Ftg CL Dist | = | 0.00 ft | Poisson's Ratio | = | 0.300 |

## Wall Design Summary

**Stability Ratios**

| | | | |
|---|---|---|---|
| Overturning | = | 1.61 | OK |
| Slab Resists All Sliding ! | | | |

**Soil Bearing**

| | | | |
|---|---|---|---|
| Total Bearing Load | = | 1,953 lbs | |
| ...resultant ecc. | = | 9.04 in | |
| Soil Pressure @ Toe | = | 1,743 psf | OK |
| Soil Pressure @ Heel | = | 0 psf | OK |
| Allowable | = | 2,000 psf | |
| Soil Pressure Less Than Allowable | | | |
| ACI Factored @ Toe | = | 2,440 psf | |
| ACI Factored @ Heel | = | 0 psf | |
| Footing Shear @ Toe | = | 2.9 psi | OK |
| Footing Shear @ Heel | = | 3.0 psi | OK |
| Allowable | = | 94.9 psi | |

## Sliding

### Resisting Forces

| Vertical Forces | Force | |
|---|---|---|
| Soil Over Heel | 302.5 | lbs |
| Sloped Soil Over Heel | 0.0 | |
| Surcharge Over Heel | 50.0 | |
| Adjacent Footing Load | 0.0 | |
| Axial Dead Load on Stem | 100.0 | |
| Axial Live Load on Stem * | Omit | |
| Soil Over Toe | 0.0 | |
| Surcharge Over Toe | 0.0 | |
| Stem Weight(s) | 825.0 | |
| Earth @ Stem Transitions | 0.0 | |
| Footing Weight | 675.0 | |
| Key Weight | 0.0 | |
| Vert. Component ** | 0.0 | |
| **Total Vertical Loads** | 1,952.5 | lbs |

### Sliding Forces

| Lateral Forces | Force | |
|---|---|---|
| * Heel Active Pressure | 784.0 | lbs |
| Surcharge over Heel | 155.6 | |
| Adjacent Footing | 0.0 | |
| Surcharge Over Toe | 0.0 | |
| Load @ Stem Above Soil | 0.0 | |
| Added Lateral Load | 0.0 | |
| Seismic Load | 0.0 | |
| Seismic-Self-weight | 0.0 | |
| Lateral on Key | 0.0 | |
| **Totals =** | 939.6 | lbs |

*Includes water table effect

* Axial live load NOT included in total displayed , or used for overturning or sliding resistance, but is included for soil pressure calculations.

## Sliding Calcs

Lateral Sliding Force = 939.6 lbs

Vertical component of active lateral soil pressure IS NOT considered in the calculation of soil bearing pressures.

## Overturning

### Resisting Moments

| Resisting Moments | Force | | Distance | | Moment | |
|---|---|---|---|---|---|---|
| Soil Over Heel | 302.5 | lbs | 2.75 | ft | 831.9 | ft-# |
| Sloped Soil Over Heel | 0.0 | | | | | |
| Surcharge Over Heel | 50.0 | | 2.75 | | 137.5 | |
| Adjacent Footing Load | 0.0 | | | | | |
| Axial Dead Load on Stem | 100.0 | | 2.00 | | 200.0 | |
| Axial Live Load on Stem * | 0.0 | | | | | |
| Soil Over Toe | 0.0 | | 0.75 | | | |
| Surcharge Over Toe | 0.0 | | | | | |
| Stem Weight(s) | 825.0 | | 2.00 | | 1,650.0 | |
| Earth @ Stem Transitions | 0.0 | | | | | |
| Footing Weight | 675.0 | | 1.50 | | 1,012.5 | |
| Key Weight | 0.0 | | 0.50 | | | |
| Vert. Component | 0.0 | | | | | |
| **Total Vertical Loads** | 1,952.5 | lbs | | | | |
| **Resisting Moment** | | | | | **3,831.9** | ft-# |
| **Eccentricity** | | | | | **9.0** | in |

* Axial live load NOT included in total displayed, or used for overturning or sliding resistance, but is included for soil pressure calculations.

## Overturning

### Overturning Moments

| Overturning Moments | Force | | Distance | | Moment | |
|---|---|---|---|---|---|---|
| Heel Active Pressure | 784.0 | lbs | 2.33 | ft | 1,829.3 | ft-# |
| Surcharge over Heel | 155.6 | | 3.50 | | 544.4 | |
| Adjacent Footing | 0.0 | | | | | |
| Surcharge Over Toe | 0.0 | | | | | |
| Load @ Stem Above Soil | 0.0 | | | | | |
| Added Lateral Load | 0.0 | | | | | |
| Seismic Load | 0.0 | | | | | |
| Seismic-Self-weight | 0.0 | | | | | |
| **Totals =** | 939.6 | lbs | | | | |
| **Overturning Moment** | | | | | 2,373.8 | ft-# |

## Stem Design Summary

| | | | Bottom |
|---|---|---|---|
| | | | Stem OK |
| **Design Height Above Ftg** | ft | = | 0.00 |
| Wall Material Above "Ht" | | = | Concrete |
| Design Method | | = | LRFD |
| Thickness | | = | 12.00 |
| Rebar Size | | = | # 7 |
| Rebar Spacing | | = | 12.00 |
| Rebar Placed at | | = | Edge |
| **Design Data** | | | |
| fb/FB + fa/Fa | | = | **0.085** |
| **Total Force @ Section** | | | |
| Service Level | lbs | = | |
| Strength Level | lbs | = | 1,030.4 |
| **Moment....Actual** | | | |
| Service Level | ft-# | = | |
| Strength Level | ft-# | = | 2,123.7 |
| Moment.....Allowable | | = | 24,863.0 |
| **Shear.....Actual** | | | |
| Service Level | psi | = | |
| Strength Leve | psi | = | 9.0 |
| Shear.....Allowable | psi | = | 106.1 |
| Anet | in2 | = | |
| Rebar Depth 'd' | in | = | 9.56 |
| **Masonry Data** | | | |
| f'm | psi | = | |
| Fs | psi | = | |
| Solid Grouting | | = | |
| Modular Ratio 'n' | | = | |
| Wall Weight | psf | = | 150.0 |
| Short Term Factor | | = | |
| Equiv. Solid Thick. | | = | |
| Masonry Block Type | | = | Medium Weight |
| Masonry Design Method | | = | ASD |
| **Concrete Data** | | | |
| f'c | psi | = | 5,000.0 |
| Fy | psi | = | 60,000.0 |

## Concrete Stem Rebar Area Details

| Bottom Stem | Vertical Reinforcing | Horizontal Reinforcing | |
|---|---|---|---|
| As (based on applied moment) : | 0.051 in2/ft | | |
| (4/3) * As : | 0.0679 in2/ft | Min Stem T&S Reinf Area 1.584 in2 | |
| 3sqrt(f'c)bd/fy : 3sqrt(5000)(12)(9.5625)/60000 | 0.4057 in2/ft | Min Stem T&S Reinf Area per ft of stem Height : 0.288 in2/ft | |
| 0.0018bh : 0.0018(12)(12) : | 0.2592 in2/ft | Horizontal Reinforcing Options : | |
| | ========== | One layer of : | Two layers of : |
| Required Area : | 0.2592 in2/ft | #4@ 8.33 in | #4@ 16.67 in |
| Provided Area : | 0.6 in2/ft | #5@ 12.92 in | #5@ 25.83 in |
| Maximum Area : | 2.4384 in2/ft | #6@ 18.33 in | #6@ 36.67 in |

## Footing Design Results

| | | Toe | Heel | |
|---|---|---|---|---|
| Factored Pressure | = | 2,440 | 0 | psf |
| Mu' : Upward | = | 2,133 | 0 | ft-# |
| Mu' : Downward | = | 378 | 145 | ft-# |
| Mu: Design | = | 1,755 | 145 | ft-# |
| Actual 1-Way Shear | = | 2.92 | 3.01 | psi |
| Allow 1-Way Shear | = | 50.60 | 50.60 | psi |

| | | |
|---|---|---|
| Toe Reinforcing | = | # 8 @ 12.00 in |
| Heel Reinforcing | = | # 6 @ 16.00 in |
| Key Reinforcing | = | None Spec'd |

Other Acceptable Sizes & Spacings

Toe: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm

Heel: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm

Key: Slab Resists Sliding - No Force on Key

| | | |
|---|---|---|
| Min footing T&S reinf Area | 1.17 | in2 |
| Min footing T&S reinf Area per fc | 0.39 | in2 /ft |

| If one layer of horizontal bars: | If two layers of horizontal bars: |
|---|---|
| #4@ 6.17 in | #4@ 12.35 in |
| #5@ 9.57 in | #5@ 19.14 in |
| #6@ 13.58 in | #6@ 27.16 in |

## Tilt

### Horizontal Deflection at Top of Wall due to settlement of soil

(Deflection due to wall bending not considered)

| | | |
|---|---|---|
| Soil Spring Reaction Modulus | 250.0 | pci |
| Horizontal Defl @ Top of Wall (approximate only) | 0.089 | in |

The above calculation is not valid if the heel soil bearing pressure exceeds that of the toe, because the wall would then tend to rotate into the retained soil.

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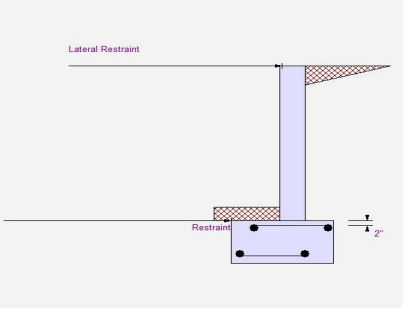
# Restrained Retaining Wall

Code: IBC 2015,ACI 318-14,ACI 530-13

## Criteria

| | | | |
|---|---|---|---|
| Retained Height | = | 5.50 | ft |
| Wall height above soil | = | 0.00 | ft |
| Total Wall Height | = | 5.50 | ft |
| Top Support Height | = | 5.50 | ft |
| Slope Behind Wall | = | 0.00 | |
| Height of Soil over Toe | = | 6.00 | in |




## Load Factors

| | |
|---|---|
| Building Code | IBC 2015,ACI 318-14,ACI 530-13 |
| Dead Load | 1.200 |
| Live Load | 1.600 |
| Earth, H | 1.600 |
| Wind, W | 1.000 |
| Seismic, E | 1.000 |

## Soil Data

| | | | |
|---|---|---|---|
| Allow Soil Bearing | = | 2,000.0 | psf |
| Equivalent Fluid Pressure Method | | | |
| At-rest Heel Pressure | = | 32.0 | psf/ft |
| | = | | |
| Passive Pressure | = | 250.0 | psf/ft |
| Soil Density | = | 110.00 | pcf |
| Footing\|\|Soil Frictior | = | 0.400 | |
| Soil height to ignore for passive pressure | = | 12.00 | in |

## Surcharge Loads

| | | | |
|---|---|---|---|
| Surcharge Over Heel | = | 250.0 | psf |
| >>>Used To Resist Sliding & Overturning | | | |
| Surcharge Over Toe | = | 0.0 | psf |
| Used for Sliding & Overturning | | | |

## Axial Load Applied to Stem

| | | | |
|---|---|---|---|
| Axial Dead Load | = | 100.0 | lbs |
| Axial Live Load | = | 0.0 | lbs |
| Axial Load Eccentricity | = | 0.0 | in |

## Uniform Lateral Load Applied to Stem

| | | | |
|---|---|---|---|
| Lateral Load | = | 44.0 | #/ft |
| ...Height to Top | = | 3.80 | ft |
| ...Height to Bottom | = | 2.80 | ft |
| Load Type | = | Seismic (E) (Strength Level) | |
| Wind on Exposed Stem | = | 0.0 | psf |

## Adjacent Footing Load

| | | | |
|---|---|---|---|
| Adjacent Footing Load | = | 0.0 | lbs |
| Footing Width | = | 0.00 | ft |
| Eccentricity | = | 0.00 | in |
| Wall to Ftg CL Dist | = | 0.00 | ft |
| Footing Type | Line Load | | |
| Base Above/Below Soil at Back of Wall | = | 0.0 | ft |
| Poisson's Ratio | = | 0.300 | |

## Earth Pressure Seismic Load

| | | | |
|---|---|---|---|
| $K_h$ Soil Density Multiplier | = | 1.980 | g |
| Added seismic per unit area | = | 0.0 | psf |

## Stem Weight Seismic Load

| | | | |
|---|---|---|---|
| $F_p$ / $W_p$ Weight Multiplier | = | 0.000 | g |
| Added seismic per unit area | = | 0.0 | psf |

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# Restrained Retaining Wall

Code: IBC 2015,ACI 318-14,ACI 530-13

## Design Summary

| | | | |
|---|---|---|---|
| Total Bearing Load | = | 2,120 | lbs |
| ...resultant ecc. | = | 5.25 | in |
| Soil Pressure @ Toe | = | 707 | psf OK |
| Soil Pressure @ Heel | = | 707 | psf OK |
| Allowable | = | 2,000 | psf |
| Soil Pressure Less Than Allowable | | | |
| ACI Factored @ Toe | = | 106 | psf |
| ACI Factored @ Heel | = | 1,590 | psf |
| Footing Shear @ Toe | = | 0.3 | psi OK |
| Footing Shear @ Heel | = | 0.1 | psi OK |
| Allowable | = | 94.9 | psi |
| **Reaction at Top** | = | 386.7 | lbs |
| **Reaction at Bottom** | = | 949.4 | lbs |

**Sliding Calcs**

Lateral Sliding Force = 949.4 lbs

Vertical component of active lateral soil pressure IS NOT considered in the calculation of Sliding Resistance.

## Concrete Stem Construction

Thickness = 8.00 in
Wall Weight = 100.0 psf
Stem is FREE to rotate at top of footing

Fy = 60,000 psi
f'c = 4,000 psi

| | | @ Top Support | Mmax Between Top & Base | @ Base of Wall |
|---|---|---|---|---|
| | | Stem OK | Stem OK | Stem OK |
| **Design Height Above Ftg** | = | 5.50 ft | 2.58 ft | 0.00 ft |
| Rebar Size | = | # 5 | # 5 | # 5 |
| Rebar Spacing | = | 12.00 in | 12.00 in | 12.00 in |
| Rebar Placed at | = | Center | Center | Center |
| Rebar Depth 'd' | = | 4.00 in | 4.00 in | 4.00 in |
| **Design Data** | | | | |
| fb/FB + fa/Fa | = | 0.000 | 0.194 | 0.000 |
| Mu....Actual | = | 0.0 ft-# | 1,018.5 ft-# | 0.0 ft-# |
| Mn * Phi.....Allowable | = | 5,261.1 ft-# | 5,261.1 ft-# | 5,261.1 ft-# |
| Shear Force @ this height | = | 607.1 lbs | | 853.9 lbs |
| Shear.....Actual | = | 12.65 psi | | 17.79 psi |
| Shear.....Allowable | = | 94.87 psi | | 94.87 psi |

**Other Acceptable Sizes & Spacings:**

| | | |
|---|---|---|
| Toe: # 8 @ 18.00 in | -or- | Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm |
| Heel: # 6 @ 16.00 in | -or- | Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm |
| Key: Slab Resists Sliding | -or- | Slab Resists Sliding - No Force on |

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**Restrained Retaining Wall** Code: IBC 2015,ACI 318-14,ACI 530-13

## Concrete Stem Rebar Area Details

| Top Support | Vertical Reinforcing | Horizontal Reinforcing | |
|---|---|---|---|
| As (based on applied moment) : | 0 in2/ft | | |
| (4/3) * As : | 0 in2/ft | Min Stem T&S Reinf Area 1.056 in2 | |
| 200bd/fy : 200(12)(4)/60000 : | 0.16 in2/ft | Min Stem T&S Reinf Area per ft of stem Height : 0.192 in2/ft | |
| 0.0018bh : 0.0018(12)(8) : | 0.1728 in2/ft | Horizontal Reinforcing Options : | |
| | ========== | One layer of : | Two layers of : |
| Required Area : | 0.1728 in2/ft | #4@ 12.50 in | #4@ 25.00 in |
| Provided Area : | 0.31 in2/ft | #5@ 19.38 in | #5@ 38.75 in |
| Maximum Area : | 0.867 in2/ft | #6@ 27.50 in | #6@ 55.00 in |

| Mmax Between Ends | Vertical Reinforcing | Horizontal Reinforcing | |
|---|---|---|---|
| As (based on applied moment) : | 0.0615 in2/ft | | |
| (4/3) * As : | 0.082 in2/ft | Min Stem T&S Reinf Area 0.560 in2 | |
| 200bd/fy : 200(12)(4)/60000 : | 0.16 in2/ft | Min Stem T&S Reinf Area per ft of stem Height : 0.192 in2/ft | |
| 0.0018bh : 0.0018(12)(8) : | 0.1728 in2/ft | Horizontal Reinforcing Options : | |
| | ========== | One layer of : | Two layers of : |
| Required Area : | 0.1728 in2/ft | #4@ 12.50 in | #4@ 25.00 in |
| Provided Area : | 0.31 in2/ft | #5@ 19.38 in | #5@ 38.75 in |
| Maximum Area : | 0.867 in2/ft | #6@ 27.50 in | #6@ 55.00 in |

| Base Support | Vertical Reinforcing | Horizontal Reinforcing | |
|---|---|---|---|
| As (based on applied moment) : | 0 in2/ft | | |
| (4/3) * As : | 0 in2/ft | Min Stem T&S Reinf Area 0.496 in2 | |
| 200bd/fy : 200(12)(4)/60000 : | 0.16 in2/ft | Min Stem T&S Reinf Area per ft of stem Height : 0.192 in2/ft | |
| 0.0018bh : 0.0018(12)(8) : | 0.1728 in2/ft | Horizontal Reinforcing Options : | |
| | ========== | One layer of : | Two layers of : |
| Required Area : | 0.1728 in2/ft | #4@ 12.50 in | #4@ 25.00 in |
| Provided Area : | 0.31 in2/ft | #5@ 19.38 in | #5@ 38.75 in |
| Maximum Area : | 0.867 in2/ft | #6@ 27.50 in | #6@ 55.00 in |

## Footing Strengths & Dimensions

| | | | |
|---|---|---|---|
| Toe Width | = | 1.50 | ft |
| Heel Width | = | 1.50 | |
| Total Footing Width | = | 3.00 | |
| Footing Thickness | = | 18.00 | in |
| Key Width | = | 12.00 | in |
| Key Depth | = | 0.00 | in |
| Key Distance from Toe | = | 2.00 | ft |
| f'c | = | 4,000 | psi |
| Fy | = | 60,000 | psi |
| Footing Concrete Density | = | 150.00 | pcf |
| Min. As % | = | 0.0018 | |

Cover @ Top = 2.00 in @ Btm.= 3.00 in

## Footing Design Results

| | | Toe | Heel |
|---|---|---|---|
| Factored Pressure | = | 106 | 1,590 psf |
| Mu' : Upward | = | 398 | 581 ft-# |
| Mu' : Downward | = | 378 | 485 ft-# |
| Mu: Design | = | 20 | -96 ft-# |
| Actual 1-Way Shear | = | 0.26 | 0.06 psi |
| Allow 1-Way Shear | = | 94.87 | 94.87 psi |

Min footing T&S reinf Area 1.17 in2
Min footing T&S reinf Area per fc 0.39 in2 /ft
If one layer of horizontal bars: If two layers of horizontal bars:
#4@ 6.17 in
#5@ 9.57 in
#6@ 13.58 in

## Summary of Forces on Footing : Slab RESISTS sliding, stem is PINNED at footing

**Forces acting on footing soil pressure**

(taking moments about front of footing to find eccentricity)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Surcharge Over Heel | = | 208.3 | lbs | 2.58 | ft | 538.2 | ft-# |
| Axial Dead Load on Stem | = | 100.0 | lbs | 1.83 | ft | 183.3 | ft-# |
| Soil Over Toe | = | 82.5 | lbs | 0.75 | ft | 61.9 | ft-# |
| Adjacent Footing Load | = | | lbs | | ft | | ft-# |
| Surcharge Over Toe | = | | lbs | | ft | | ft-# |
| Stem Weight | = | 550.0 | lbs | 1.83 | ft | 1,008.3 | ft-# |
| Soil Over Heel | = | 504.2 | lbs | 2.58 | ft | 1,302.4 | ft-# |
| Footing Weight | = | 675.0 | lbs | 1.50 | ft | 1,013.0 | ft-# |
| **Total Vertical Force** | = | 2,120.0 | lbs | Moment | = | 4,107.2 | ft-# |

| | | |
|---|---|---|
| **Net Mom. at Stem/Ftg Interface =** | **-927.2** | **ft-#** |
| **Allow. Mom. @ Stem/Ftg Interface =** | **3,288.2** | **ft-#** |
| **Allow. Mom. Exceeds Applied Mom.?** | **Yes** | |

Vertical component of active lateral soil pressure IS NOT considered in the calculation of soil bearing pressures.

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# Concrete Beam

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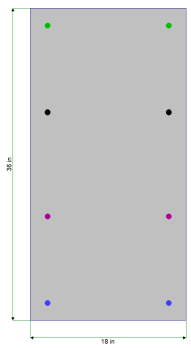
DESCRIPTION: Grade Beam Under Retaining Wall

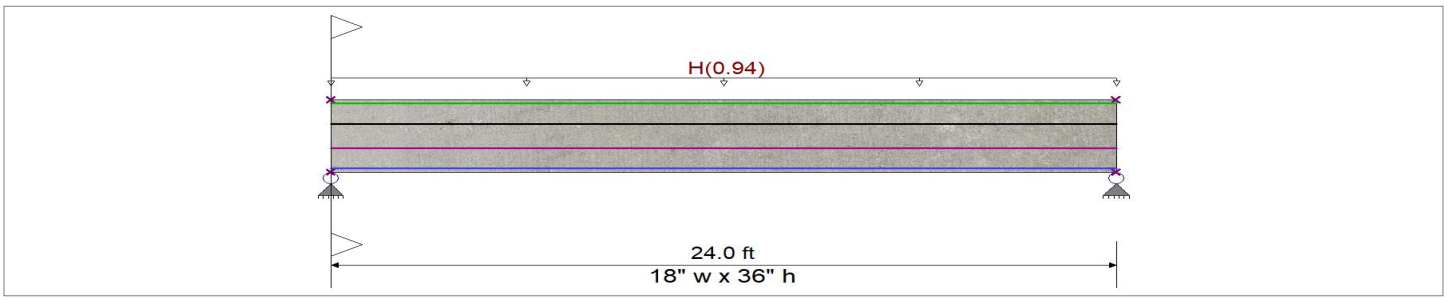
## CODE REFERENCES

Calculations per ACI 318-11, IBC 2012, CBC 2013, ASCE 7-10
Load Combination Set : ASCE 7-16

## Material Properties

| | | | | | |
|---|---|---|---|---|---|
| f'c | = | 4.0 ksi | $\phi$ Phi Values | Flexure : | 0.90 |
| fr = f'c$^{1/2}$ * 7.50 | = | 474.342 psi | | Shear : | 0.750 |
| $\psi$ Density | = | 145.0 pcf | $\beta_1$ | = | 0.850 |
| $\lambda$ LtWt Factor | = | 1.0 | | | |
| Elastic Modulus | = | 3,122.0 ksi | Fy - Stirrups | | 40.0 ksi |
| fy - Main Rebar | = | 60.0 ksi | E - Stirrups | = | 29,000.0 ksi |
| E - Main Rebar | = | 29,000.0 ksi | Stirrup Bar Size # | | 3 |
| | | | Number of Resisting Legs Per Stirrup | = | 2 |






## Cross Section & Reinforcing Details

Rectangular Section, Width = 18.0 in, Height = 36.0 in
Span #1 Reinforcing....
2-#5 at 2.0 in from Bottom, from 0.0 to 24.0 ft in this span
2-#5 at 12.0 in from Bottom, from 0.0 to 24.0 ft in this span
2-#5 at 2.0 in from Top, from 0.0 to 24.0 ft in this span
2-#5 at 12.0 in from Top, from 0.0 to 24.0 ft in this span

Load for Span Number 1
Uniform Load : H = 0.940 k/ft, Tributary Width = 1.0 ft

## DESIGN SUMMARY

**Design OK**

| | | | |
|---|---|---|---|
| Maximum Bending Stress Ratio = | **0.685** : 1 | Maximum Deflection | |
| Section used for this span | **Typical Section** | Max Downward Transient Deflection | 0.032 in Ratio = 8970 >=360. |
| Mu : Applied | 128.592 k-ft | Max Upward Transient Deflection | 0.000 in Ratio = 0 <360.0 |
| Mn * Phi : Allowable | 187.632 k-ft | Max Downward Total Deflection | 0.032 in Ratio = 8970 >=180. |
| Location of maximum on span | 12.022 ft | Max Upward Total Deflection | 0.000 in Ratio = 0 <180.0 |
| Span # where maximum occurs | Span # 1 | | |

## Vertical Reactions

Support notation : Far left is #1

| Load Combination | Support 1 | Support 2 |
|---|---|---|
| Overall MAXimum | 11.280 | 11.280 |
| Overall MINimum | 6.768 | 6.768 |
| +D+H | 11.280 | 11.280 |
| +D+L+H | 11.280 | 11.280 |
| +D+Lr+H | 11.280 | 11.280 |
| +D+S+H | 11.280 | 11.280 |
| +D+0.750Lr+0.750L+H | 11.280 | 11.280 |
| +D+0.750L+0.750S+H | 11.280 | 11.280 |
| +D+0.60W+H | 11.280 | 11.280 |
| +D+0.750Lr+0.750L+0.450W+H | 11.280 | 11.280 |
| +D+0.750L+0.750S+0.450W+H | 11.280 | 11.280 |
| +0.60D+0.60W+0.60H | 6.768 | 6.768 |
| +D+0.70E+0.60H | 6.768 | 6.768 |

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# Concrete Beam

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DESCRIPTION: Grade Beam Under Retaining Wall

## Vertical Reactions

Support notation : Far left is #1

| Load Combination | Support 1 | Support 2 |
|---|---|---|
| +D+0.750L+0.750S+0.5250E+H | 11.280 | 11.280 |
| +0.60D+0.70E+H | 11.280 | 11.280 |
| D Only | | |
| Lr Only | | |
| L Only | | |
| S Only | | |
| W Only | | |
| E Only | | |
| H Only | 11.280 | 11.280 |

## Detailed Shear Information

| Load Combination | Span Number | Distance (ft) | 'd' (in) | Vu (k) Actual | Vu (k) Design | Mu (k-ft) | d*Vu/Mu | Phi*Vc (k) | Comment | Phi*Vs (k) | Phi*Vn (k) | Spacing (in) Req'd | Spacing (in) Suggest |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +1.20D+L+0.20S+E+1.90H | 1 | 0.00 | 34.00 | 21.43 | 21.43 | 0.00 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 0.26 | 34.00 | 20.96 | 20.96 | 5.56 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 0.52 | 34.00 | 20.50 | 20.50 | 11.00 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 0.79 | 34.00 | 20.03 | 20.03 | 16.31 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 1.05 | 34.00 | 19.56 | 19.56 | 21.50 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 1.31 | 34.00 | 19.09 | 19.09 | 26.57 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 1.57 | 34.00 | 18.62 | 18.62 | 31.52 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 1.84 | 34.00 | 18.15 | 18.15 | 36.34 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 2.10 | 34.00 | 17.68 | 17.68 | 41.04 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 2.36 | 34.00 | 17.22 | 17.22 | 45.62 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 2.62 | 34.00 | 16.75 | 16.75 | 50.07 | 0.95 | 57.36 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.4 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 2.89 | 34.00 | 16.28 | 16.28 | 54.40 | 0.85 | 57.13 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.1 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 3.15 | 34.00 | 15.81 | 15.81 | 58.61 | 0.76 | 56.93 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.9 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 3.41 | 34.00 | 15.34 | 15.34 | 62.70 | 0.69 | 56.77 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.8 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 3.67 | 34.00 | 14.87 | 14.87 | 66.66 | 0.63 | 56.63 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.6 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 3.93 | 34.00 | 14.41 | 14.41 | 70.50 | 0.58 | 56.50 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 4.20 | 34.00 | 13.94 | 13.94 | 74.22 | 0.53 | 56.39 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.4 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 4.46 | 34.00 | 13.47 | 13.47 | 77.81 | 0.49 | 56.30 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.3 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 4.72 | 34.00 | 13.00 | 13.00 | 81.28 | 0.45 | 56.21 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.2 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 4.98 | 34.00 | 12.53 | 12.53 | 84.63 | 0.42 | 56.13 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.1 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 5.25 | 34.00 | 12.06 | 12.06 | 87.86 | 0.39 | 56.06 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.1 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 5.51 | 34.00 | 11.59 | 11.59 | 90.96 | 0.36 | 56.00 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.0 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 5.77 | 34.00 | 11.13 | 11.13 | 93.94 | 0.34 | 55.94 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.9 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 6.03 | 34.00 | 10.66 | 10.66 | 96.79 | 0.31 | 55.88 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.9 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 6.30 | 34.00 | 10.19 | 10.19 | 99.53 | 0.29 | 55.83 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.8 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 6.56 | 34.00 | 9.72 | 9.72 | 102.14 | 0.27 | 55.78 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.8 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 6.82 | 34.00 | 9.25 | 9.25 | 104.63 | 0.25 | 55.74 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.7 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 7.08 | 34.00 | 8.78 | 8.78 | 106.99 | 0.23 | 55.70 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.7 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 7.34 | 34.00 | 8.32 | 8.32 | 109.24 | 0.22 | 55.66 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.7 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 7.61 | 34.00 | 7.85 | 7.85 | 111.36 | 0.20 | 55.62 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.6 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 7.87 | 34.00 | 7.38 | 7.38 | 113.35 | 0.18 | 55.59 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.6 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 8.13 | 34.00 | 6.91 | 6.91 | 115.23 | 0.17 | 55.55 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.6 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 8.39 | 34.00 | 6.44 | 6.44 | 116.98 | 0.16 | 55.52 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 8.66 | 34.00 | 5.97 | 5.97 | 118.60 | 0.14 | 55.49 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 8.92 | 34.00 | 5.50 | 5.50 | 120.11 | 0.13 | 55.46 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 9.18 | 34.00 | 5.04 | 5.04 | 121.49 | 0.12 | 55.43 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.4 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 9.44 | 34.00 | 4.57 | 4.57 | 122.75 | 0.11 | 55.40 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.4 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 9.70 | 34.00 | 4.10 | 4.10 | 123.89 | 0.09 | 55.37 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.4 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 9.97 | 34.00 | 3.63 | 3.63 | 124.90 | 0.08 | 55.35 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.3 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 10.23 | 34.00 | 3.16 | 3.16 | 125.79 | 0.07 | 55.32 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.3 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 10.49 | 34.00 | 2.69 | 2.69 | 126.56 | 0.06 | 55.30 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.3 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 10.75 | 34.00 | 2.23 | 2.23 | 127.21 | 0.05 | 55.27 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.3 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 11.02 | 34.00 | 1.76 | 1.76 | 127.73 | 0.04 | 55.25 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.2 | 0.0 | 0.0 |

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Title Block" selection.
Title Block Line 6

Project Title:
Engineer:
Project ID:
Project Descr:

Printed: 8 OCT 2019, 11:09PM

# Concrete Beam

File = P:\2018\1LXLCE~P\EHTEC6~Q\C7A4YC~F\Models\FNHN3S~U\lateral distribution to piles.ec6 .
Software copyright ENERCALC, INC. 1983-2019, Build:12.19.8.30 .

Lic. # : KW-06002304 FROELICH CONSULTING ENGINEERS

DESCRIPTION: Grade Beam Under Retaining Wall

## Detailed Shear Information

| Load Combination | Span Number | Distance (ft) | 'd' (in) | Vu (k) Actual | Vu (k) Design | Mu (k-ft) | d*Vu/Mu | Phi*Vc (k) | Comment | Phi*Vs (k) | Phi*Vn (k) | Spacing (in) Req'd | Spacing (in) Suggest |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +1.20D+L+0.20S+E+1.90H | 1 | 11.28 | 34.00 | 1.29 | 1.29 | 128.13 | 0.03 | 55.22 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.2 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 11.54 | 34.00 | 0.82 | 0.82 | 128.40 | 0.02 | 55.20 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.2 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 11.80 | 34.00 | 0.35 | 0.35 | 128.56 | 0.01 | 55.17 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.2 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 12.07 | 34.00 | -0.12 | 0.12 | 128.59 | 0.00 | 55.16 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.2 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 12.33 | 34.00 | -0.59 | 0.59 | 128.50 | 0.01 | 55.19 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.2 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 12.59 | 34.00 | -1.05 | 1.05 | 128.28 | 0.02 | 55.21 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.2 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 12.85 | 34.00 | -1.52 | 1.52 | 127.94 | 0.03 | 55.23 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.2 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 13.11 | 34.00 | -1.99 | 1.99 | 127.48 | 0.04 | 55.26 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.3 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 13.38 | 34.00 | -2.46 | 2.46 | 126.90 | 0.05 | 55.28 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.3 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 13.64 | 34.00 | -2.93 | 2.93 | 126.19 | 0.07 | 55.31 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.3 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 13.90 | 34.00 | -3.40 | 3.40 | 125.36 | 0.08 | 55.33 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.3 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 14.16 | 34.00 | -3.86 | 3.86 | 124.41 | 0.09 | 55.36 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.4 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 14.43 | 34.00 | -4.33 | 4.33 | 123.34 | 0.10 | 55.39 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.4 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 14.69 | 34.00 | -4.80 | 4.80 | 122.14 | 0.11 | 55.42 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.4 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 14.95 | 34.00 | -5.27 | 5.27 | 120.82 | 0.12 | 55.44 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.4 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 15.21 | 34.00 | -5.74 | 5.74 | 119.37 | 0.14 | 55.47 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 15.48 | 34.00 | -6.21 | 6.21 | 117.81 | 0.15 | 55.50 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 15.74 | 34.00 | -6.68 | 6.68 | 116.12 | 0.16 | 55.54 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 16.00 | 34.00 | -7.14 | 7.14 | 114.30 | 0.18 | 55.57 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.6 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 16.26 | 34.00 | -7.61 | 7.61 | 112.37 | 0.19 | 55.60 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.6 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 16.52 | 34.00 | -8.08 | 8.08 | 110.31 | 0.21 | 55.64 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.6 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 16.79 | 34.00 | -8.55 | 8.55 | 108.13 | 0.22 | 55.68 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.7 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 17.05 | 34.00 | -9.02 | 9.02 | 105.83 | 0.24 | 55.72 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.7 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 17.31 | 34.00 | -9.49 | 9.49 | 103.40 | 0.26 | 55.76 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.8 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 17.57 | 34.00 | -9.95 | 9.95 | 100.85 | 0.28 | 55.81 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.8 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 17.84 | 34.00 | -10.42 | 10.42 | 98.18 | 0.30 | 55.86 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.9 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 18.10 | 34.00 | -10.89 | 10.89 | 95.38 | 0.32 | 55.91 | Vu < PhiVc/2 | lot Reqd 11.4 | 55.9 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 18.36 | 34.00 | -11.36 | 11.36 | 92.46 | 0.35 | 55.97 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.0 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 18.62 | 34.00 | -11.83 | 11.83 | 89.42 | 0.37 | 56.03 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.0 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 18.89 | 34.00 | -12.30 | 12.30 | 86.26 | 0.40 | 56.10 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.1 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 19.15 | 34.00 | -12.77 | 12.77 | 82.97 | 0.44 | 56.17 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.2 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 19.41 | 34.00 | -13.23 | 13.23 | 79.56 | 0.47 | 56.25 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.3 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 19.67 | 34.00 | -13.70 | 13.70 | 76.03 | 0.51 | 56.34 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.3 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 19.93 | 34.00 | -14.17 | 14.17 | 72.37 | 0.55 | 56.45 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.4 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 20.20 | 34.00 | -14.64 | 14.64 | 68.59 | 0.60 | 56.56 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.6 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 20.46 | 34.00 | -15.11 | 15.11 | 64.69 | 0.66 | 56.69 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.7 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 20.72 | 34.00 | -15.58 | 15.58 | 60.67 | 0.73 | 56.85 | Vu < PhiVc/2 | lot Reqd 11.4 | 56.8 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 20.98 | 34.00 | -16.04 | 16.04 | 56.52 | 0.80 | 57.03 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.0 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 21.25 | 34.00 | -16.51 | 16.51 | 52.25 | 0.90 | 57.24 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.2 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 21.51 | 34.00 | -16.98 | 16.98 | 47.86 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 21.77 | 34.00 | -17.45 | 17.45 | 43.34 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 22.03 | 34.00 | -17.92 | 17.92 | 38.71 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 22.30 | 34.00 | -18.39 | 18.39 | 33.94 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 22.56 | 34.00 | -18.86 | 18.86 | 29.06 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 22.82 | 34.00 | -19.32 | 19.32 | 24.05 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 23.08 | 34.00 | -19.79 | 19.79 | 18.92 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 23.34 | 34.00 | -20.26 | 20.26 | 13.67 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 23.61 | 34.00 | -20.73 | 20.73 | 8.29 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |
| +1.20D+L+0.20S+E+1.90H | 1 | 23.87 | 34.00 | -21.20 | 21.20 | 2.80 | 1.00 | 57.48 | Vu < PhiVc/2 | lot Reqd 11.4 | 57.5 | 0.0 | 0.0 |

## Maximum Forces & Stresses for Load Combinations

| Load Combination Segment | Span # | Location (ft) along Beam | Bending Stress Results ( k-ft ) Mu : Max | Phi*Mnx | Stress Ratio |
|---|---|---|---|---|---|
| MAXimum BENDING Envelope | | | | | |
| Span # 1 | 1 | 24.000 | 128.59 | 187.63 | 0.69 |

# Concrete Beam

File = P:\2018\1LXLCE~P\EHTEC6~Q\C7A4YC~F\Models\FNHN3S~U\lateral distribution to piles.ec6 .
Software copyright ENERCALC, INC. 1983-2019, Build:12.19.8.30 .

Lic. # : KW-06002304 FROELICH CONSULTING ENGINEERS

DESCRIPTION: Grade Beam Under Retaining Wall

| Load Combination Segment | Span # | Location (ft) along Beam | Bending Stress Results ( k-ft ) Mu : Max | Phi*Mnx | Stress Ratio |
|---|---|---|---|---|---|
| +1.40D+1.60H | | | | | |
| Span # 1 | 1 | 24.000 | 108.29 | 187.63 | 0.58 |
| +1.20D+0.50Lr+1.60L+1.60H | | | | | |
| Span # 1 | 1 | 24.000 | 108.29 | 187.63 | 0.58 |
| +1.20D+1.60L+0.50S+1.60H | | | | | |
| Span # 1 | 1 | 24.000 | 108.29 | 187.63 | 0.58 |
| +1.20D+1.60Lr+L+1.60H | | | | | |
| Span # 1 | 1 | 24.000 | 108.29 | 187.63 | 0.58 |
| +1.20D+1.60Lr+0.50W+1.60H | | | | | |
| Span # 1 | 1 | 24.000 | 108.29 | 187.63 | 0.58 |
| +1.20D+L+1.60S+1.60H | | | | | |
| Span # 1 | 1 | 24.000 | 108.29 | 187.63 | 0.58 |
| +1.20D+1.60S+0.50W+1.60H | | | | | |
| Span # 1 | 1 | 24.000 | 108.29 | 187.63 | 0.58 |
| +1.20D+0.50Lr+L+W+1.60H | | | | | |
| Span # 1 | 1 | 24.000 | 108.29 | 187.63 | 0.58 |
| +1.20D+L+0.50S+W+1.60H | | | | | |
| Span # 1 | 1 | 24.000 | 108.29 | 187.63 | 0.58 |
| +0.90D+W+1.60H | | | | | |
| Span # 1 | 1 | 24.000 | 108.29 | 187.63 | 0.58 |
| +1.20D+L+0.20S+E+1.90H | | | | | |
| Span # 1 | 1 | 24.000 | 128.59 | 187.63 | 0.69 |
| +0.90D+E+0.90H | | | | | |
| Span # 1 | 1 | 24.000 | 60.91 | 187.63 | 0.32 |

## Overall Maximum Deflections

| Load Combination | Span | Max. "-" Defl (in) | Location in Span (ft) | Load Combination | Max. "+" Defl (in) | Location in Span (ft) |
|---|---|---|---|---|---|---|
| H Only | 1 | 0.0321 | 12.000 | | 0.0000 | 0.000 |