

**CANTILEVER STEEL PIPE COLUMN SELECTION TABLE
WITH LATERAL LOAD APPLIED AT TOP**

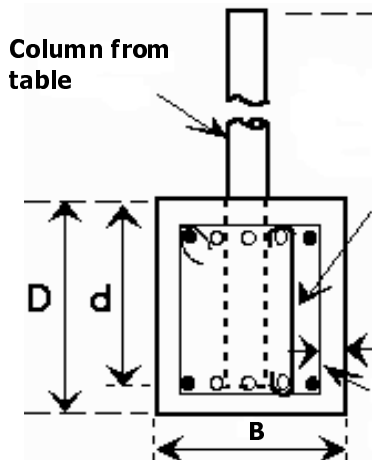
California Building Code 2007 Edition (CBC), NDS 2005

DESIGN CRITERIA (Based on Working Stress Design Method):

Concrete $f'_c = 2500$ psi

Reinforcement $f_y = 40,000$ psi (Deformed)

Steel Pipe Column $F_y = 36$ KSI + 1/3 increase included. Maximum unbraced length is zero.



CROSS-SECTION

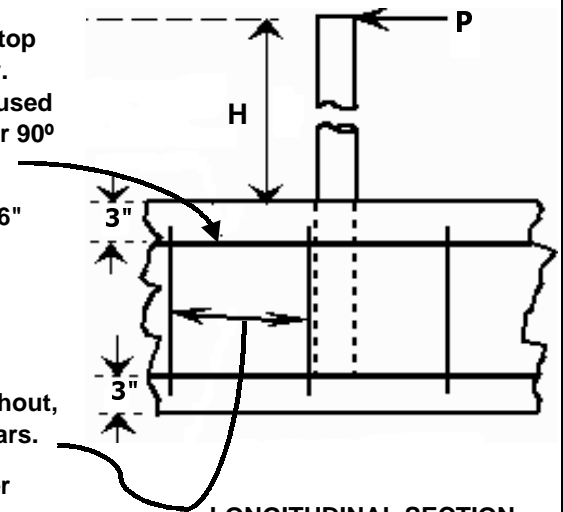
Reinforcement from table at both top and bottom. Space bars uniformly. When an odd number of bars are used at top and bottom, bend center bar 90° around column from each side.

When interior bars are more than 6" from an adjacent longitudinal bar, provide #3 Ties @ 12" o.c.

3" Typ

Provide #3 Ties @ 12" o.c. throughout, around the outside longitudinal bars.

Load "P" is applied to the stronger axis of the column.



LONGITUDINAL SECTION

| Ø PIPE OUTSIDE DIAMETER WALL THICKNESS | | H = COLUMN HEIGHTS IN FEET | | | | | | | | | | GRADE BEAM | | |
|--|------------------------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|------|------------|----|---|
| | | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | SIZE | | | |
| | | MAXIMUM P IN POUNDS (Governed by Deflection = L / 200) | | | | | | | | | | B | D | d |
| 2½ Sch 80 O.D.=2.88" Wall t=0.276" | P Min A _s Re-Bars | 118 0.083 1-#3 | 90 0.073 1-#3 | 71 0.065 1-#3 | 58 0.059 1-#3 | 47 0.052 1-#3 | 40 0.048 1-#3 | 34 0.045 1-#3 | 29 0.041 1-#3 | 25 0.038 1-#3 | 12 | 12 | 9 | |
| 2½ XXS O.D.=2.88" Wall t=0.552" | P Min A _s Re-Bars | 176 0.124 1-#4 | 135 0.109 1-#3 | 107 0.097 1-#3 | 86 0.087 1-#3 | 71 0.079 1-#3 | 60 0.073 1-#3 | 51 0.067 1-#3 | 44 0.062 1-#3 | 38 0.058 1-#3 | 12 | 12 | 9 | |
| 3 Sch 40 O.D.=3.5" Wall t=0.216" | P Min A _s Re-Bars | 186 0.131 1-#4 | 142 0.115 1-#4 | 112 0.102 1-#3 | 91 0.092 1-#3 | 75 0.083 1-#3 | 63 0.076 1-#3 | 53 0.070 1-#3 | 46 0.065 1-#3 | 40 0.061 1-#3 | 12 | 12 | 9 | |
| 3 Sch 80 O.D.=3.5" Wall t=0.3" | P Min A _s Re-Bars | 239 0.169 1-#4 | 183 0.148 1-#4 | 145 0.132 1-#4 | 117 0.118 1-#4 | 97 0.108 1-#3 | 81 0.098 1-#3 | 69 0.091 1-#3 | 59 0.083 1-#3 | 52 0.079 1-#3 | 12 | 12 | 9 | |
| 3 XXS O.D.=3.5" Wall t=0.6" | P Min A _s Re-Bars | 369 0.261 2-#4 | 282 0.228 2-#4 | 223 0.203 2-#3 | 180 0.182 1-#4 | 149 0.166 1-#4 | 125 0.151 1-#4 | 107 0.140 1-#4 | 92 0.130 1-#4 | 80 0.121 1-#4 | 12 | 12 | 9 | |
| 4 Sch 40 O.D.=4.5" Wall t=0.237" | P Min A _s Re-Bars | 445 0.315 2-#4 | 341 0.275 2-#4 | 269 0.244 2-#4 | 218 0.220 2-#3 | 180 0.200 1-#4 | 151 0.183 1-#4 | 129 0.169 1-#4 | 111 0.157 1-#4 | 97 0.147 1-#4 | 12 | 12 | 9 | |
| 4 Sch 80 O.D.=4.5" Wall t=0.337" | P Min A _s Re-Bars | 592 0.418 3-#4 | 453 0.366 2-#4 | 358 0.325 2-#4 | 290 0.293 2-#4 | 239 0.265 2-#4 | 201 0.244 2-#4 | 171 0.224 2-#4 | 148 0.209 2-#3 | 129 0.195 1-#4 | 12 | 12 | 9 | |
| 4 XXS O.D.=4.5" Wall t=0.674" | P Min A _s Re-Bars | 943 0.667 4-#4 | 722 0.583 3-#4 | 570 0.518 3-#4 | 462 0.467 3-#4 | 381 0.423 3-#4 | 320 0.388 2-#4 | 273 0.358 2-#4 | 235 0.332 2-#4 | 205 0.311 2-#4 | 12 | 12 | 9 | |
| 6 Sch 40 O.D.=6.63" Wall t=0.28" | P Min A _s Re-Bars | 1732 0.525 3-#4 | 1326 0.459 3-#4 | 1047 0.408 3-#4 | 848 0.367 2-#4 | 701 0.334 2-#4 | 589 0.306 2-#4 | 502 0.282 2-#4 | 433 0.262 2-#4 | 377 0.245 2-#4 | 18 | 24 | 21 | |
| 6 Sch 80 O.D.=6.63" Wall t=0.432" | P Min A _s Re-Bars | 2496 0.756 4-#4 | 1911 0.662 4-#4 | 1510 0.588 3-#4 | 1223 0.529 3-#4 | 1011 0.481 3-#4 | 849 0.441 3-#4 | 723 0.407 3-#4 | 624 0.378 2-#4 | 543 0.353 2-#4 | 18 | 24 | 21 | |

**DIVISION OF BUILDING AND SAFETY
COUNTY OF VENTURA**

Jim MacDonald

B & S
STD **B-37**
SHEET 1 OF 5

BUILDING OFFICIAL _____

DATE: 01/01/08

**CANTILEVER STEEL TUBE COLUMN SELECTION TABLE
WITH LATERAL LOAD APPLIED AT TOP**

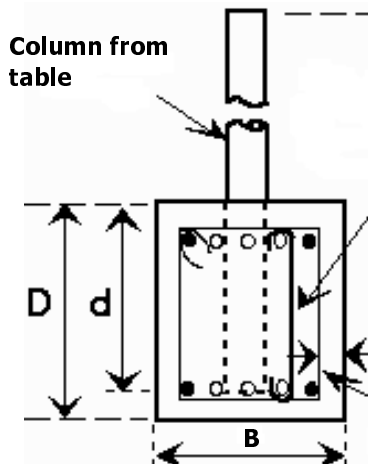
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DESIGN CRITERIA (Based on Working Stress Design Method):

Concrete $f'_c = 2500$ psi

Reinforcement $f_y = 40,000$ psi (Deformed)

Structural Steel (HSS) Tubing Column $F_y = 46$ KSI + 1/3 increase included. Maximum unbraced length is zero.



CROSS-SECTION

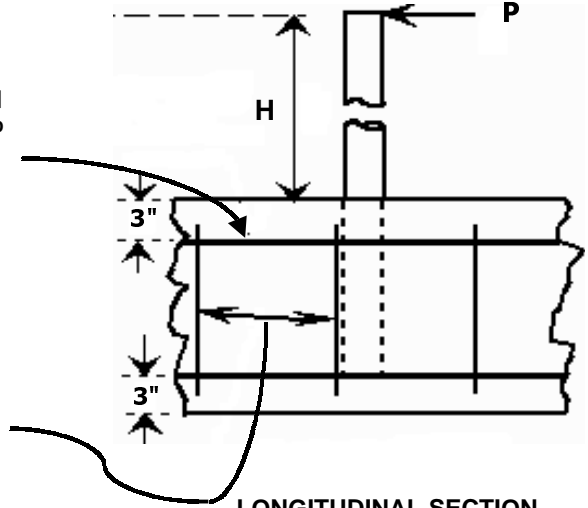
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LONGITUDINAL SECTION

| HSS □ - TUBE COLUMN SIZE INCHES | | H = COLUMN HEIGHTS IN FEET | | | | | | | | | | GRADE BEAM | | |
|---------------------------------------|-----------|--|-------|-------|-------|-------|-------|-------|-------|-------|------|------------|---|---|
| | | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | SIZE | | | |
| | | MAXIMUM P IN POUNDS (Governed by Deflection = L / 200) | | | | | | | | | | B | D | d |
| 2.5x2.5 - 1/4 | P | 100 | 76 | 60 | 49 | 40 | 34 | 29 | 25 | 21 | 12 | 12 | 9 | |
| | Min A_s | 0.071 | 0.061 | 0.055 | 0.049 | 0.044 | 0.041 | 0.038 | 0.035 | 0.032 | | | | |
| | Re-bars | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | | | | |
| 2.5x2.5 - 5/16 | P | 112 | 85 | 67 | 54 | 45 | 38 | 32 | 28 | 24 | 12 | 12 | 9 | |
| | Min A_s | 0.079 | 0.069 | 0.061 | 0.055 | 0.050 | 0.046 | 0.042 | 0.040 | 0.036 | | | | |
| | Re-bars | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | | | | |
| 3x3 - 3/16 | P | 151 | 116 | 91 | 74 | 61 | 51 | 43 | 37 | 33 | 12 | 12 | 9 | |
| | Min A_s | 0.107 | 0.094 | 0.083 | 0.075 | 0.068 | 0.062 | 0.056 | 0.052 | 0.050 | | | | |
| | Re-bars | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | | | | |
| 3x3 - 1/4 | P | 186 | 142 | 112 | 91 | 75 | 63 | 53 | 46 | 40 | 12 | 12 | 9 | |
| | Min A_s | 0.131 | 0.115 | 0.102 | 0.092 | 0.083 | 0.076 | 0.070 | 0.065 | 0.061 | | | | |
| | Re-bars | 1-#4 | 1-#4 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | | | | |
| 3x3 - 5/16 | P | 212 | 162 | 128 | 104 | 86 | 72 | 61 | 53 | 46 | 12 | 12 | 9 | |
| | Min A_s | 0.150 | 0.131 | 0.116 | 0.105 | 0.096 | 0.087 | 0.080 | 0.075 | 0.070 | | | | |
| | Re-bars | 1-#4 | 1-#4 | 1-#4 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | | | | |
| 3.5x3.5 - 3/16 | P | 249 | 191 | 151 | 122 | 101 | 84 | 72 | 62 | 54 | 12 | 12 | 9 | |
| | Min A_s | 0.176 | 0.154 | 0.137 | 0.123 | 0.112 | 0.102 | 0.095 | 0.088 | 0.082 | | | | |
| | Re-bars | 1-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#3 | 1-#3 | 1-#3 | 1-#3 | | | | |
| 3.5x3.5 - 1/4 | P | 310 | 237 | 187 | 152 | 125 | 105 | 90 | 77 | 67 | 12 | 12 | 9 | |
| | Min A_s | 0.219 | 0.191 | 0.170 | 0.153 | 0.139 | 0.127 | 0.118 | 0.109 | 0.101 | | | | |
| | Re-bars | 2-#3 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#3 | | | | |
| 3.5x3.5 - 5/16 | P | 360 | 275 | 217 | 176 | 145 | 122 | 104 | 90 | 78 | 12 | 12 | 9 | |
| | Min A_s | 0.254 | 0.222 | 0.197 | 0.178 | 0.161 | 0.148 | 0.137 | 0.127 | 0.118 | | | | |
| | Re-bars | 2-#4 | 2-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | | | | |
| 4x4 - 3/16 | P | 382 | 293 | 231 | 187 | 155 | 130 | 111 | 95 | 83 | 12 | 12 | 9 | |
| | Min A_s | 0.270 | 0.237 | 0.210 | 0.189 | 0.172 | 0.158 | 0.146 | 0.134 | 0.126 | | | | |
| | Re-bars | 2-#4 | 2-#4 | 2-#3 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | | | | |
| 4x4 - 1/4 | P | 480 | 368 | 290 | 235 | 194 | 163 | 139 | 120 | 104 | 12 | 12 | 9 | |
| | Min A_s | 0.339 | 0.297 | 0.264 | 0.237 | 0.216 | 0.198 | 0.182 | 0.170 | 0.158 | | | | |
| | Re-bars | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#3 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | | | | |

DIVISION OF BUILDING AND SAFETY

COUNTY OF VENTURA

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BUILDING OFFICIAL _____

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SHEET 2 OF 5

DATE: 01/01/08

Effective date Jan 1, 2008

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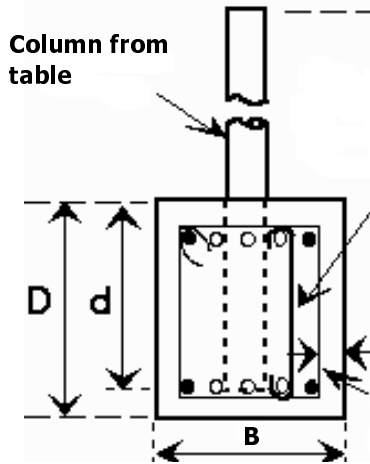
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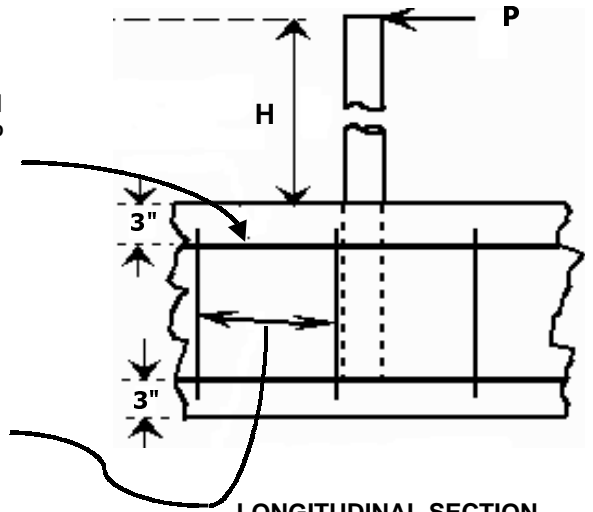
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LONGITUDINAL SECTION

| HSS □ - TUBE COLUMN SIZE INCHES | | H = COLUMN HEIGHTS IN FEET | | | | | | | | | | GRADE BEAM | | |
|---------------------------------------|-----------|--|---------|---------|---------|---------|---------|---------|---------|---------|------|------------|----|---|
| | | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | SIZE | | | |
| | | MAXIMUM P IN POUNDS (Governed by Deflection = L / 200) | | | | | | | | | | B | D | d |
| 4x4 - 5/16 | P | 563 | 431 | 340 | 276 | 228 | 191 | 163 | 140 | 122 | 12 | 12 | 9 | |
| | Min A_s | 0.398 | 0.348 | 0.309 | 0.279 | 0.253 | 0.231 | 0.214 | 0.198 | 0.185 | | | | |
| | Re-bars | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#3 | 1-#4 | 1-#4 | | | | |
| 4x4 - 3/8 | P | 634 | 486 | 384 | 311 | 257 | 216 | 184 | 158 | 138 | 12 | 12 | 9 | |
| | Min A_s | 0.448 | 0.393 | 0.349 | 0.314 | 0.285 | 0.262 | 0.242 | 0.223 | 0.209 | | | | |
| | Re-bars | 3-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#3 | | | | |
| 4x4 - 1/2 | P | 733 | 561 | 443 | 359 | 297 | 249 | 212 | 183 | 159 | 12 | 12 | 9 | |
| | Min A_s | 0.518 | 0.453 | 0.403 | 0.363 | 0.330 | 0.302 | 0.278 | 0.259 | 0.241 | | | | |
| | Re-bars | 3-#4 | 3-#4 | 3-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | | | | |
| 4.5x4.5 - 1/4 | P | 702 | 538 | 425 | 344 | 284 | 239 | 203 | 175 | 153 | 15 | 15 | 12 | |
| | Min A_s | 0.372 | 0.326 | 0.290 | 0.261 | 0.237 | 0.217 | 0.200 | 0.186 | 0.174 | | | | |
| | Re-bars | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#3 | 1-#4 | 1-#4 | 1-#4 | | | | |
| 4.5x4.5 - 3/8 | P | 943.000 | 722.000 | 570.000 | 462.000 | 381.000 | 320.000 | 273.000 | 235.000 | 205.000 | 15 | 15 | 12 | |
| | Min A_s | 0.500 | 0.437 | 0.389 | 0.350 | 0.317 | 0.291 | 0.269 | 0.249 | 0.233 | | | | |
| | Re-bars | 3-#4 | 3-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | | | | |
| 5x5 - 1/4 | P | 986 | 755 | 596 | 483 | 399 | 335 | 285 | 246 | 214 | 18 | 24 | 21 | |
| | Min A_s | 0.299 | 0.261 | 0.232 | 0.209 | 0.190 | 0.174 | 0.160 | 0.149 | 0.139 | | | | |
| | Re-bars | 2-#4 | 2-#4 | 2-#4 | 2-#3 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | | | | |
| 5x5 - 3/8 | P | 1337 | 1024 | 809 | 655 | 541 | 455 | 387 | 334 | 291 | 18 | 24 | 21 | |
| | Min A_s | 0.405 | 0.355 | 0.315 | 0.283 | 0.258 | 0.236 | 0.218 | 0.202 | 0.189 | | | | |
| | Re-bars | 3-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#3 | 2-#3 | 1-#4 | | | | |
| 5x5 - 1/2 | P | 1602 | 1227 | 969 | 785 | 649 | 545 | 464 | 400 | 349 | 18 | 24 | 21 | |
| | Min A_s | 0.485 | 0.425 | 0.377 | 0.340 | 0.309 | 0.283 | 0.261 | 0.242 | 0.227 | | | | |
| | Re-bars | 3-#4 | 3-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | | | | |
| 6x6 - 1/4 | P | 1763 | 1349 | 1066 | 863 | 714 | 599 | 511 | 440 | 383 | 18 | 24 | 21 | |
| | Min A_s | 0.534 | 0.467 | 0.415 | 0.373 | 0.340 | 0.311 | 0.288 | 0.267 | 0.249 | | | | |
| | Re-bars | 3-#4 | 3-#4 | 3-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | | | | |
| 6x6 - 3/8 | P | 2435 | 1864 | 1473 | 1193 | 986 | 828 | 706 | 608 | 530 | 18 | 24 | 21 | |
| | Min A_s | 0.738 | 0.645 | 0.574 | 0.516 | 0.469 | 0.430 | 0.397 | 0.368 | 0.344 | | | | |
| | Re-bars | 4-#4 | 4-#4 | 3-#4 | 3-#4 | 3-#4 | 3-#4 | 2-#4 | 2-#4 | 2-#4 | | | | |

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B-37

SHEET 3 OF 5

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**CANTILEVER STEEL W-SHAPE COLUMN SELECTION TABLE
WITH LATERAL LOAD APPLIED AT TOP**

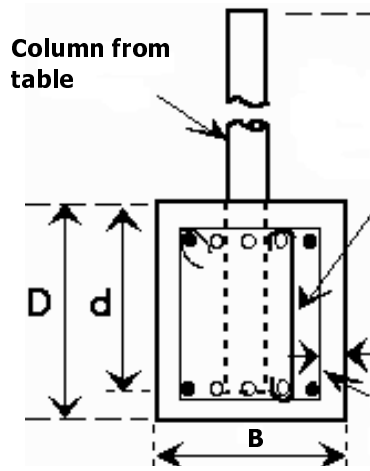
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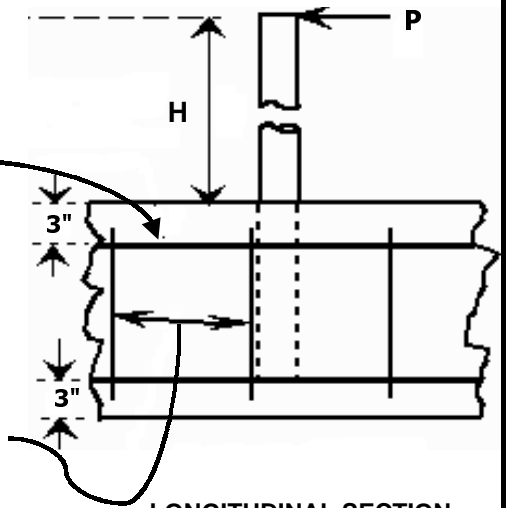
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LONGITUDINAL SECTION

| W-SHAPE COLUMN SIZE | | H = COLUMN HEIGHTS IN FEET | | | | | | | | | GRADE BEAM SIZE | | |
|------------------------|-----------|--|-------|-------|-------|-------|-------|-------|-------|-------|--------------------|----|----|
| | | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | B | D | d |
| | | MAXIMUM P IN POUNDS (Governed by Deflection = L / 200) | | | | | | | | | | | |
| W 4 x 13 | P | 696 | 533 | 421 | 341 | 282 | 237 | 201 | 174 | 151 | 12 | 12 | 9 |
| | Min A_s | 0.492 | 0.431 | 0.383 | 0.344 | 0.313 | 0.287 | 0.264 | 0.246 | 0.229 | | | |
| | Re-Bars | 3-#4 | 3-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | | | |
| W 5 x 16 | P | 1319 | 1010 | 798 | 646 | 534 | 448 | 382 | 329 | 287 | 18 | 24 | 21 |
| | Min A_s | 0.400 | 0.350 | 0.311 | 0.280 | 0.254 | 0.233 | 0.215 | 0.199 | 0.186 | | | |
| | Re-Bars | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#3 | 1-#4 | 1-#4 | | | |
| W 5 x 19 | P | 1621 | 1241 | 980 | 794 | 656 | 551 | 470 | 405 | 353 | 18 | 24 | 21 |
| | Min A_s | 0.491 | 0.430 | 0.382 | 0.344 | 0.312 | 0.286 | 0.264 | 0.245 | 0.229 | | | |
| | Re-Bars | 3-#4 | 3-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | | | |
| W 6 x 9 | P | 1011 | 774 | 611 | 495 | 409 | 344 | 293 | 252 | 220 | 18 | 24 | 21 |
| | Min A_s | 0.306 | 0.268 | 0.238 | 0.214 | 0.195 | 0.179 | 0.165 | 0.153 | 0.143 | | | |
| | Re-Bars | 2-#4 | 2-#4 | 2-#4 | 2-#3 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | 1-#4 | | | |
| W 6 x 12 | P | 1362 | 1043 | 824 | 667 | 551 | 463 | 395 | 340 | 296 | 18 | 24 | 21 |
| | Min A_s | 0.413 | 0.361 | 0.321 | 0.289 | 0.262 | 0.240 | 0.222 | 0.206 | 0.192 | | | |
| | Re-Bars | 3-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#3 | 1-#4 | | | |
| W 6 x 15 | P | 1806 | 1382 | 1092 | 885 | 731 | 614 | 523 | 451 | 393 | 18 | 24 | 21 |
| | Min A_s | 0.547 | 0.478 | 0.425 | 0.383 | 0.348 | 0.319 | 0.294 | 0.273 | 0.255 | | | |
| | Re-Bars | 3-#4 | 3-#4 | 3-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | | | |
| W 6 x 16 | P | 1978 | 1515 | 1197 | 969 | 801 | 673 | 573 | 494 | 430 | 18 | 24 | 21 |
| | Min A_s | 0.599 | 0.525 | 0.466 | 0.419 | 0.381 | 0.350 | 0.322 | 0.299 | 0.279 | | | |
| | Re-Bars | 3-#4 | 3-#4 | 3-#4 | 3-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | | | |
| W 6 x 20 | P | 2558 | 1958 | 1547 | 1253 | 1036 | 870 | 741 | 639 | 557 | 18 | 24 | 21 |
| | Min A_s | 0.775 | 0.678 | 0.603 | 0.542 | 0.493 | 0.452 | 0.417 | 0.387 | 0.362 | | | |
| | Re-Bars | 4-#4 | 4-#4 | 2-#5 | 3-#4 | 3-#4 | 3-#4 | 3-#4 | 2-#4 | 2-#4 | | | |
| W 6 x 25 | P | 3304 | 2529 | 1998 | 1619 | 1338 | 1124 | 958 | 826 | 719 | 18 | 24 | 21 |
| | Min A_s | 1.001 | 0.876 | 0.778 | 0.701 | 0.637 | 0.584 | 0.539 | 0.500 | 0.467 | | | |
| | Re-Bars | 2-#7 | 2-#6 | 4-#4 | 4-#4 | 4-#4 | 3-#4 | 3-#4 | 3-#4 | 3-#4 | | | |

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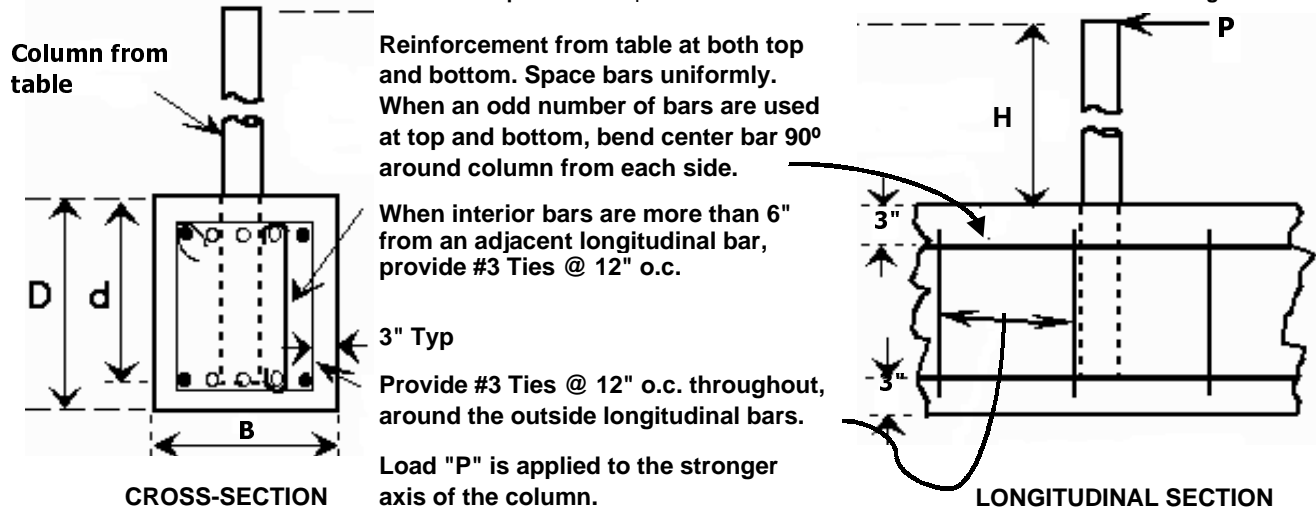
California Building Code 2007 Edition (CBC), NDS 2005

DESIGN CRITERIA (Based on Working Stress Design Method):

Concrete $f'_c = 2500$ psi

Reinforcement $f_y = 40,000$ psi (Deformed)

Structural Steel W-Shape Column $F_y = 36$ KSI + 1/3 increase included. Maximum unbraced length is zero.



| W-SHAPE COLUMN SIZE | | H = COLUMN HEIGHTS IN FEET | | | | | | | | | | GRADE BEAM | | |
|---------------------|-----------|--|-------|-------|-------|-------|-------|-------|-------|-------|------|------------|----|---|
| | | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | SIZE | | | |
| | | MAXIMUM P IN POUNDS (Governed by Deflection = L / 200) | | | | | | | | | | B | D | d |
| W 8 x 10 | P | 1898 | 1453 | 1148 | 930 | 768 | 646 | 550 | 474 | 413 | 24 | 24 | 21 | |
| | Min A_s | 0.575 | 0.503 | 0.447 | 0.402 | 0.366 | 0.335 | 0.309 | 0.287 | 0.268 | | | | |
| | Re-Bars | 3-#4 | 3-#4 | 3-#4 | 3-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | 2-#4 | | | | |
| W 8 x 13 | P | 2441 | 1869 | 1476 | 1196 | 988 | 830 | 707 | 610 | 531 | 24 | 24 | 21 | |
| | Min A_s | 0.740 | 0.647 | 0.575 | 0.518 | 0.470 | 0.431 | 0.398 | 0.370 | 0.345 | | | | |
| | Re-Bars | 4-#4 | 4-#4 | 3-#4 | 3-#4 | 3-#4 | 3-#4 | 2-#4 | 2-#4 | 2-#4 | | | | |
| W 8 x 15 | P | 2959 | 2265 | 1790 | 1450 | 1198 | 1006 | 857 | 739 | 644 | 24 | 24 | 21 | |
| | Min A_s | 0.896 | 0.784 | 0.697 | 0.628 | 0.570 | 0.522 | 0.482 | 0.448 | 0.418 | | | | |
| | Re-Bars | 3-#5 | 4-#4 | 4-#4 | 2-#5 | 3-#4 | 3-#4 | 3-#4 | 3-#4 | 3-#4 | | | | |
| W 8 x 18 | P | 3816 | 2921 | 2308 | 1869 | 1545 | 1298 | 1106 | 954 | 831 | 24 | 24 | 21 | |
| | Min A_s | 1.156 | 1.011 | 0.899 | 0.809 | 0.736 | 0.674 | 0.622 | 0.578 | 0.539 | | | | |
| | Re-Bars | 2-#7 | 2-#7 | 3-#5 | 2-#6 | 4-#4 | 4-#4 | 2-#5 | 3-#4 | 3-#4 | | | | |
| W 8 x 21 | P | 4642 | 3554 | 2808 | 2274 | 1879 | 1579 | 1345 | 1160 | 1010 | 24 | 24 | 21 | |
| | Min A_s | 1.406 | 1.231 | 1.094 | 0.984 | 0.895 | 0.820 | 0.757 | 0.703 | 0.656 | | | | |
| | Re-Bars | 2-#8 | 4-#5 | 2-#7 | 2-#7 | 3-#5 | 2-#6 | 4-#4 | 4-#4 | 4-#4 | | | | |
| W 8 x 24 | P | 5098 | 3903 | 3084 | 2498 | 2064 | 1734 | 1478 | 1274 | 1110 | 24 | 24 | 21 | |
| | Min A_s | 1.544 | 1.351 | 1.201 | 1.081 | 0.983 | 0.901 | 0.832 | 0.772 | 0.721 | | | | |
| | Re-Bars | 2-#8 | 2-#8 | 4-#5 | 2-#7 | 2-#7 | 3-#5 | 2-#6 | 4-#4 | 4-#4 | | | | |
| W 8 x 28 | P | 6041 | 4625 | 3654 | 2960 | 2446 | 2055 | 1751 | 1510 | 1315 | 24 | 24 | 21 | |
| | Min A_s | 1.830 | 1.601 | 1.423 | 1.281 | 1.164 | 1.067 | 0.985 | 0.915 | 0.854 | | | | |
| | Re-Bars | 3-#8 | 4-#6 | 2-#8 | 3-#6 | 2-#7 | 2-#7 | 2-#7 | 3-#5 | 2-#6 | | | | |
| W 8 x 31 | P | 6781 | 5192 | 4102 | 3322 | 2746 | 2307 | 1966 | 1695 | 1476 | 24 | 24 | 21 | |
| | Min A_s | 2.054 | 1.798 | 1.598 | 1.438 | 1.307 | 1.198 | 1.106 | 1.027 | 0.958 | | | | |
| | Re-Bars | 3-#8 | 3-#7 | 4-#6 | 2-#8 | 3-#6 | 2-#7 | 2-#7 | 2-#7 | 2-#7 | | | | |
| W 8 x 35 | P | 7829 | 5994 | 4736 | 3836 | 3170 | 2664 | 2270 | 1957 | 1705 | 24 | 24 | 21 | |
| | Min A_s | 2.372 | 2.075 | 1.845 | 1.660 | 1.509 | 1.384 | 1.277 | 1.186 | 1.107 | | | | |
| | Re-Bars | 4-#7 | 3-#8 | 3-#8 | 4-#6 | 2-#8 | 2-#8 | 3-#6 | 2-#7 | 2-#7 | | | | |
| W 8 x 40 | P | 9000 | 6891 | 5444 | 4410 | 3644 | 3062 | 2609 | 2250 | 1960 | 24 | 24 | 21 | |
| | Min A_s | 2.520 | 2.386 | 2.121 | 1.909 | 1.735 | 1.590 | 1.468 | 1.363 | 1.272 | | | | |
| | Re-Bars | 4-#8 | 4-#7 | 3-#8 | 3-#8 | 4-#6 | 4-#6 | 2-#8 | 2-#8 | 3-#6 | | | | |
| W 8 x 48 | P | 11343 | 8684 | 6862 | 5558 | 4593 | 3859 | 3288 | 2835 | 2470 | 24 | 24 | 21 | |
| | Min A_s | 2.577 | 2.520 | 2.520 | 2.405 | 2.187 | 2.004 | 1.850 | 1.718 | 1.603 | | | | |
| | Re-Bars | 4-#8 | 4-#8 | 4-#8 | 4-#8 | 3-#8 | 3-#8 | 3-#8 | 4-#6 | 4-#6 | | | | |
| W 8 x 58 | P | 14056 | 10761 | 8503 | 6887 | 5692 | 4782 | 4075 | 3514 | 3061 | 24 | 24 | 21 | |
| | Min A_s | 3.194 | 2.794 | 2.520 | 2.520 | 2.520 | 2.484 | 2.293 | 2.129 | 1.987 | | | | |
| | Re-Bars | 4-#9 | 4-#8 | 4-#8 | 4-#8 | 4-#8 | 4-#8 | 3-#8 | 3-#8 | 3-#8 | | | | |
| W 8 x 67 | P | 16768 | 12838 | 10144 | 8216 | 6790 | 5706 | 4861 | 4192 | 3651 | 24 | 24 | 21 | |
| | Min A_s | 3.810 | 3.334 | 2.963 | 2.667 | 2.520 | 2.520 | 2.520 | 2.520 | 2.370 | | | | |
| | Re-Bars | 4-#9 | 4-#9 | 4-#8 | 4-#8 | 4-#8 | 4-#8 | 4-#8 | 4-#8 | 3-#8 | | | | |

**DIVISION OF BUILDING AND SAFETY
COUNTY OF VENTURA**

Jim MacDonald

BUILDING OFFICIAL _____

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SHEET 5 OF 5

DATE: 01/01/08