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*****
*
*          STAAD.Pro V8i SELECTseries5          *
*          Version  20.07.10.64                *
*          Proprietary Program of              *
*          Bentley Systems, Inc.               *
*          Date=    DEC 22, 2014               *
*          Time=    18:30: 9                   *
*
*          USER ID:                            *
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1. STAAD SPACE DXF IMPORT OF MODELO 3D FALTANTE.DXF
INPUT FILE: Staad Biblioteca.STD
2. START JOB INFORMATION
3. ENGINEER DATE 22-DEC-14
4. JOB NAME EDIFICIO DE BIBLIOTECAS Y APOYO EDUCATIVO
5. ENGINEER NAME EMEL MULET
6. END JOB INFORMATION
7. INPUT WIDTH 79
8. UNIT METER KN
9. JOINT COORDINATES
10. 1 2.83008 1 0.000366211; 2 2.83008 3.7 0.000366211; 3 7.9502 1 0.000366211
11. 4 7.9502 3.7 0.000366211; 5 11.5032 1 0.000366211; 6 11.5032 3.7 0.000366211
12. 7 16.4314 1 0.000366211; 8 16.4314 3.7 0.000366211; 9 2.83008 1 -4.8772
13. 10 2.83008 4.5 -4.8772; 11 7.9502 1 -4.8772; 12 7.9502 4.5 -4.8772
14. 13 11.5032 1 -4.8772; 14 11.5032 4.5 -4.8772; 15 16.4314 1 -4.8772
15. 16 16.4314 4.5 -4.8772; 17 21.9521 1 -4.8772; 18 21.9521 4.5 -4.8772
16. 66 21.9521 1 0.00012207; 95 21.9521 3.7 -4.8772; 96 2.83008 3.43839 1.59534
17. 98 21.9521 4.88832 -7.24463; 100 16.4314 3.60241 0.595337
18. 102 11.5032 3.43839 1.59534; 104 7.9502 3.43839 1.59534
19. 107 -0.000244141 1 0.000366211; 108 -0.000244141 3.7 0.000366211
20. 109 1.9187 4.5 -4.8772; 110 -0.62793 3.43839 1.59534
21. 111 21.9521 3.7 0.00012207; 118 16.4314 4.8883 -7.24463
22. 119 11.5032 4.8883 -7.24463; 120 7.9502 4.8883 -7.24463
23. 121 21.9521 3.60241 0.595337; 123 13.5518 3.43839 1.59534
24. 124 13.5518 3.7 0.000366211; 146 7.9502 4.64552 -5.7644
25. 147 21.9521 4.64553 -5.7644; 148 1.6853 4.40274 -4.28418
26. 149 21.9521 4.40275 -4.28418; 150 1.10303 4.15995 -2.80396
27. 151 21.9521 4.15996 -2.80396; 152 0.520508 3.91717 -1.32373
28. 153 21.9521 3.91718 -1.32373; 154 -0.0617676 3.67439 0.156494
29. 155 21.9521 3.6744 0.156494; 173 2.83008 0 0.000366211
30. 174 7.9502 0 0.000366211; 175 11.5032 0 0.000366211; 176 16.4314 0 0.000366211
31. 177 2.83008 0 -4.8772; 178 7.9502 0 -4.8772; 179 11.5032 0 -4.8772
32. 180 16.4314 0 -4.8772; 181 21.9521 0 -4.8772; 202 21.9521 0 0.00012207
33. 212 -0.000244141 0 0.000366211; 239 21.9521 4.03241 -2.02647
34. 255 2.83008 3.67439 0.156493; 256 2.83008 3.91717 -1.32373
35. 257 2.83008 4.15995 -2.80396; 258 2.83008 4.40273 -4.28418
36. 259 16.4314 3.67439 0.156492; 260 16.4314 3.91717 -1.32373
37. 261 16.4314 4.15995 -2.80396; 262 16.4314 4.40274 -4.28418
38. 263 16.4314 4.64552 -5.7644; 264 11.5032 3.67439 0.156493
    
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39. 265 11.5032 3.91717 -1.32373; 266 11.5032 4.15995 -2.80396
40. 267 11.5032 4.40273 -4.28418; 268 11.5032 4.64552 -5.7644
41. 269 7.9502 3.67439 0.156493; 270 7.9502 3.91717 -1.32373
42. 271 7.9502 4.15995 -2.80396; 272 7.9502 4.40273 -4.28418
43. 275 13.5518 3.67439 0.156493
44. MEMBER INCIDENCES
45. 1 1 2; 2 3 4; 3 5 6; 4 7 8; 5 9 10; 6 11 12; 7 13 14; 8 15 16; 9 17 95
46. 44 66 111; 79 18 16; 80 16 14; 81 14 12; 82 12 10; 83 10 258; 84 2 4; 85 4 6
47. 86 121 155; 87 118 263; 88 119 268; 89 120 146; 95 107 108; 96 2 108
48. 97 10 109; 98 109 148; 99 6 124; 100 8 111; 111 98 118; 112 118 119
49. 113 119 120; 114 102 104; 115 104 96; 116 96 110; 117 100 121; 119 102 123
50. 120 124 275; 133 146 268; 134 148 258; 135 150 257; 136 152 256; 137 154 255
51. 148 1 173; 149 3 174; 150 5 175; 151 7 176; 152 9 177; 153 11 178; 154 13 179
52. 155 15 180; 156 17 181; 177 66 202; 187 107 212; 189 9 11; 190 11 13
53. 191 13 15; 192 15 17; 242 66 7; 243 7 5; 244 5 3; 245 3 1; 246 1 107
54. 247 9 107; 248 9 1; 249 11 3; 250 13 5; 251 15 7; 252 17 66; 254 95 18
55. 351 255 96; 352 2 255; 353 256 2; 354 257 256; 355 258 257; 356 147 98
56. 357 18 147; 358 149 18; 359 151 149; 360 239 151; 361 153 239; 362 111 153
57. 363 155 111; 364 259 100; 365 8 259; 366 260 8; 367 261 260; 368 262 261
58. 369 16 262; 370 263 16; 371 264 102; 372 6 264; 373 265 6; 374 266 265
59. 375 267 266; 376 14 267; 377 268 14; 378 269 104; 379 4 269; 380 270 4
60. 381 271 270; 382 272 271; 383 12 272; 384 146 12; 386 154 110; 387 108 154
61. 388 152 108; 389 150 152; 390 148 150; 391 124 8; 400 275 123; 429 263 147
62. 430 268 263; 431 262 149; 432 267 262; 433 272 267; 434 258 272; 435 261 151
63. 436 266 261; 437 271 266; 438 257 271; 439 260 153; 440 265 260; 441 270 265
64. 442 256 270; 443 259 155; 444 275 259; 445 264 275; 446 269 264; 447 255 269
65. DEFINE MATERIAL START
66. ISOTROPIC CONCRETE
67. E 1.7872E+007
68. POISSON 0.17
69. DENSITY 23.5616
70. ALPHA 1E-005
71. DAMP 0.05
72. TYPE CONCRETE
73. STRENGTH FCU 21000
74. ISOTROPIC STEEL
75. E 2.05E+008
76. POISSON 0.3
77. DENSITY 76.8195
78. ALPHA 1.2E-005
79. DAMP 0.03
80. TYPE STEEL
81. STRENGTH FY 253200 FU 407800 RY 1.5 RT 1.2
82. END DEFINE MATERIAL
83. MEMBER PROPERTY AMERICAN
84. 1 TO 9 44 95 148 TO 156 177 187 254 PRIS YD 0.25 ZD 0.25
85. MEMBER PROPERTY COLDFORMED AMERICAN
86. 79 TO 89 96 97 99 100 351 TO 384 391 TABLE ST 14CS3.75X075
87. 98 111 TO 117 119 120 133 TO 137 386 TO 390 400 429 TO 446 -
88. 447 TABLE ST 14CS3.75X075
89. MEMBER PROPERTY COLDFORMED AMERICAN
90. 189 TO 192 242 TO 252 PRIS YD 0.35 ZD 0.35
91. CONSTANTS
92. MATERIAL CONCRETE MEMB 1 TO 9 44 95 148 TO 156 177 187 189 TO 192 242 TO 252 -
93. 254
94. MATERIAL STEEL MEMB 79 TO 89 96 TO 100 111 TO 117 119 120 133 TO 137 -

95. 351 TO 384 386 TO 391 400 429 TO 447
96. SUPPORTS
97. 173 TO 181 202 212 FIXED
98. DEFINE COLOMBIAN ACCIDENTAL LOAD
99. ZONE 0.2 I 1 S 1.5
100. SELFWEIGHT 1
101. MEMBER WEIGHT
102. 111 TO 117 119 133 TO 137 429 TO 447 UNI 1.2
103. LOAD 1 SISMO X
104. COLOMBIAN LOAD X 1 ACC 1
105. LOAD 2 SISMO Z
106. COLOMBIAN LOAD Z 1 ACC 1
107. LOAD 3 CV
108. MEMBER LOAD
109. 111 TO 117 119 133 TO 137 429 TO 447 UNI GY -0.75
110. LOAD 4 CM
111. SELFWEIGHT Y -1
112. MEMBER LOAD
113. 111 TO 117 119 133 TO 137 429 TO 447 UNI GY -1.2
114. *COEFICIENTE DE CAPACIDAD DE DISIPACION DE ENERGIA R= 3.375
115. *COMBINACIONES PARA DISEÑO DE LA ESTRUCTURA Y SUPERESTRUCTURA
116. *COMBINACIONES PARA DISEÑO DE VIGAS Y COLUMNAS
117. LOAD COMB 5 1.2 CM + 1.600 CV
118. 4 1.2 3 1.6
119. LOAD COMB 6 1.2 CM + CV + (SX/R + 0,30 SZ/R)
120. 4 1.2 3 1.0 1 0.296 2 0.089
121. LOAD COMB 7 1.2 CM + CV - (SX/R - 0,30 SZ/R)
122. 4 1.2 3 1.0 1 -0.296 2 0.089
123. LOAD COMB 8 1.2 CM + CV + (SX/R - 0,30 SZ/R)
124. 4 1.2 3 1.0 1 0.296 2 -0.089
125. LOAD COMB 9 1.2 CM + CV - (SX/R + 0,30 SZ/R)
126. 4 1.2 3 1.0 1 -0.296 2 -0.089
127. LOAD COMB 10 1.2 CM + CV + (0.3 SX/R + SZ/R)
128. 4 1.2 3 1.0 1 0.089 2 0.296
129. LOAD COMB 11 1.2 CM + CV - (0.3 SX/R - SZ/R)
130. 4 1.2 3 1.0 1 -0.089 2 0.296
131. LOAD COMB 12 1.2 CM + CV + (0.3 SX/R - SZ/R)
132. 4 1.2 3 1.0 1 0.089 2 -0.296
133. LOAD COMB 13 1.2 CM + CV - (0.3 SX/R + SZ/R)
134. 4 1.2 3 1.0 1 -0.089 2 -0.296
135. LOAD COMB 14 0.9 CM + (SX/R + 0,30 SZ/R)
136. 4 0.9 1 0.296 2 0.089
137. LOAD COMB 15 0.9 CM - (SX/R - 0,30 SZ/R)
138. 4 0.9 1 -0.296 2 0.089
139. LOAD COMB 16 0.9 CM + (SX/R - 0,30 SZ/R)
140. 4 0.9 1 0.296 2 -0.089
141. LOAD COMB 17 0.9 CM - (SX/R + 0,30 SZ/R)
142. 4 0.9 1 -0.296 2 -0.089
143. LOAD COMB 18 0.9 CM + (0.3 SX/R + SZ/R)
144. 4 0.9 1 0.089 2 0.296

145. LOAD COMB 19 0.9 CM - (0.3 SX/R - SZ/R)
 146. 4 0.9 1 -0.089 2 0.296
 147. LOAD COMB 20 0.9 CM + (0.3 SX/R - SZ/R)
 148. 4 0.9 1 0.089 2 -0.296
 149. LOAD COMB 21 0.9 CM - (0.3 SX/R + SZ/R)
 150. 4 0.9 1 -0.089 2 -0.296
 151. *COMBINACIONES PARA DISEÑO DE CIMENTACION
 152. *COMBINACIONES DE SERVICIO
 153. LOAD COMB 22 CM + CV
 154. 4 1.0 3 1.0
 155. LOAD COMB 23 CM + 0,75 CV + 0.75 (0.7)(SX + 0,3 SZ)/R
 156. 4 1.0 3 0.75 1 0.156 2 0.047
 157. LOAD COMB 24 CM + 0,75 CV - 0.75 (0.7)(SX - 0,3 SZ)/R
 158. 4 1.0 3 0.75 1 -0.156 2 0.047
 159. LOAD COMB 25 CM + 0,75 CV + 0.75 (0.7)(SX - 0,3 SZ)/R
 160. 4 1.0 3 0.75 1 0.156 2 -0.047
 161. LOAD COMB 26 CM + 0,75 CV - 0.75 (0.7)(SX + 0,3 SZ)/R
 162. 4 1.0 3 0.75 1 -0.156 2 -0.047
 163. LOAD COMB 27 CM + 0,75 CV + 0.75 (0.7)(0,3 SX + SZ)/R
 164. 4 1.0 3 0.75 1 0.047 2 0.13
 165. LOAD COMB 28 CM + 0,75 CV - 0.75 (0.7)(0.3 SX - SZ)/R
 166. 4 1.0 3 0.75 1 -0.047 2 0.156
 167. LOAD COMB 29 CM + 0,75 CV + 0.75 (0.7)(0.3 SX - SZ)/R
 168. 4 1.0 3 0.75 1 0.047 2 -0.156
 169. LOAD COMB 30 CM + 0,75 CV - 0.75 (0.7)(0.3 SX + SZ)/R
 170. 4 1.0 3 0.75 1 -0.047 2 -0.156
 171. LOAD COMB 31 0.6 CM + 0.700 (SX + 0.3 SZ)/R
 172. 4 0.6 1 0.207 2 0.062
 173. LOAD COMB 32 0.6 CM - 0.700 (SX - 0.3 SZ)/R
 174. 4 0.6 1 -0.207 2 0.062
 175. LOAD COMB 33 0.6 CM + 0.700 (SX - 0.3 SZ)/R
 176. 4 0.6 1 0.207 2 -0.062
 177. LOAD COMB 34 0.6 CM - 0.700 (SX + 0.3 SZ)/R
 178. 4 0.6 1 -0.207 2 -0.062
 179. LOAD COMB 35 0.6 CM + 0.700 (0.3 SX + SZ)/R
 180. 4 0.6 1 0.062 2 0.207
 181. LOAD COMB 36 0.6 CM - 0.700 (0.3 SX - SZ)/R
 182. 4 0.6 1 -0.062 2 0.207
 183. LOAD COMB 37 0.6 CM - 0.700 (0.3 SX + SZ)/R
 184. 4 0.6 1 -0.062 2 -0.207
 185. LOAD COMB 38 0.6 CM + 0.700 (0.3 SX - SZ)/R
 186. 4 0.6 1 0.062 2 -0.207
 187. PERFORM ANALYSIS

P R O B L E M S T A T I S T I C S

NUMBER OF JOINTS	77	NUMBER OF MEMBERS	128
NUMBER OF PLATES	0	NUMBER OF SOLIDS	0
NUMBER OF SURFACES	0	NUMBER OF SUPPORTS	11

SOLVER USED IS THE OUT-OF-CORE BASIC SOLVER

ORIGINAL/FINAL BAND-WIDTH= 70/ 13/ 72 DOF
TOTAL PRIMARY LOAD CASES = 4, TOTAL DEGREES OF FREEDOM = 396
TOTAL LOAD COMBINATION CASES = 34 SO FAR.
SIZE OF STIFFNESS MATRIX = 29 DOUBLE KILO-WORDS
REQRD/AVAIL. DISK SPACE = 12.5/ 284756.5 MB

**WARNING: IF THIS UBC/IBC ANALYSIS HAS TENSION/COMPRESSION
OR REPEAT LOAD OR RE-ANALYSIS OR SELECT OPTIMIZE, THEN EACH
UBC/IBC CASE SHOULD BE FOLLOWED BY PERFORM ANALYSIS _CHANGE.

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*****
*
* COLOMBIAN SEISMIC LOAD :
*
* TIME PERIODS FOR X DIRECTION:
* Ta = 0.280 Tb = 0.343 Tuser = 0.000
* TIME PERIOD USED (T) = 0.343
* LOAD FACTOR = 1.000
* DESIGN BASE SHEAR = 0.500 X 447.78 = 223.89 KN
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*
* COLOMBIAN SEISMIC LOAD :
*
* TIME PERIODS FOR Z DIRECTION:
* Ta = 0.280 Tb = 0.279 Tuser = 0.000
* TIME PERIOD USED (T) = 0.280
* LOAD FACTOR = 1.000
* DESIGN BASE SHEAR = 0.480 X 447.78 = 215.16 KN
*
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188. LOAD LIST 1 2
189. PRINT STORY DRIFT

STORY	HEIGHT (METE)	LOAD	DRIFT(CM)		ECCENTRICITY (METE)	RATIO
			X	Z		
BASE=	0.00					
1	0.00	1	0.0000	0.0000	0.0000	L / 999999
		2	0.0000	0.0000	0.0000	L / 999999
2	1.00	1	0.0716	0.0020	0.0000	L / 1396
		2	0.0023	0.0911	0.0000	L / 1098
3	3.44	1	1.5520	0.0054	0.0000	L / 221
		2	-0.7882	1.3614	0.0000	L / 252
4	3.60	1	0.8632	0.0460	0.0000	L / 417
		2	-0.2673	1.6954	0.0000	L / 212
5	3.67	1	0.8336	-0.0258	0.0000	L / 441
		2	-0.1534	1.5751	0.0000	L / 233
6	3.70	1	0.9161	-0.0127	0.0000	L / 404
		2	-0.0695	1.5325	0.0000	L / 241
7	3.92	1	1.9674	0.0785	0.0000	L / 199
		2	-0.0542	1.4582	0.0000	L / 268
8	4.03	1	2.4995	0.1028	0.0000	L / 161
		2	-0.0186	1.4680	0.0000	L / 274
9	4.16	1	2.7378	0.1306	0.0000	L / 152

DXF	IMPORT OF MODELO 3D FALTANTE.DXF				-- PAGE NO.	7
		2	0.0244	1.4386	0.0000	L / 289
10	4.40	1	2.1323	0.0980	0.0000	L / 206
		2	0.1598	1.4257	0.0000	L / 309
11	4.50	1	1.9637	0.0882	0.0000	L / 229
		2	0.3077	1.4489	0.0000	L / 310
12	4.65	1	2.9603	0.0061	0.0000	L / 157
		2	0.6902	1.7538	0.0000	L / 265
13	4.89	1	5.4176	0.0065	0.0000	L / 90
		2	1.7559	1.8578	0.0000	L / 263

190. LOAD LIST 5 TO 21

191. START CONCRETE DESIGN

192. CODE ACI

193. CLB 0.04 MEMB 1 TO 9 44 95

194. CLS 0.04 MEMB 1 TO 9 44 95

195. CLT 0.04 MEMB 1 TO 9 44 95

196. FC 21000 MEMB 1 TO 9 44 95

197. FYMAIN 420000 MEMB 1 TO 9 44 95

198. FYSEC 420000 MEMB 1 TO 9 44 95

199. DESIGN COLUMN 1 TO 9 44 95

=====

COLUMN NO. 1 DESIGN PER ACI 318-08 - AXIAL + BENDING

FY - 420.0 FC - 21.0 MPA, SQRE SIZE - 250.0 X 250.0 MMS, TIED ONLY MINIMUM STEEL IS REQUIRED. AREA OF STEEL REQUIRED = 625.0 SQ. MM

BAR CONFIGURATION REINF PCT. LOAD LOCATION PHI
4 - 16 MM 1.287 5 END 0.650
(PROVIDE EQUAL NUMBER OF BARS ON EACH FACE)
TIE BAR NUMBER 12 SPACING 250.00 MM

=====

COLUMN NO. 2 DESIGN PER ACI 318-08 - AXIAL + BENDING

FY - 420.0 FC - 21.0 MPA, SQRE SIZE - 250.0 X 250.0 MMS, TIED ONLY MINIMUM STEEL IS REQUIRED. AREA OF STEEL REQUIRED = 625.0 SQ. MM

BAR CONFIGURATION REINF PCT. LOAD LOCATION PHI
4 - 16 MM 1.287 5 END 0.650
(PROVIDE EQUAL NUMBER OF BARS ON EACH FACE)
TIE BAR NUMBER 12 SPACING 250.00 MM

=====

COLUMN NO. 3 DESIGN PER ACI 318-08 - AXIAL + BENDING

FY - 420.0 FC - 21.0 MPA, SQRE SIZE - 250.0 X 250.0 MMS, TIED ONLY MINIMUM STEEL IS REQUIRED. AREA OF STEEL REQUIRED = 625.0 SQ. MM

BAR CONFIGURATION	REINF PCT.	LOAD	LOCATION	PHI
4 - 16 MM	1.287	5	END	0.650
(PROVIDE EQUAL NUMBER OF BARS ON EACH FACE)				
TIE BAR NUMBER	12	SPACING	250.00	MM

=====

COLUMN NO. 4 DESIGN PER ACI 318-08 - AXIAL + BENDING

FY - 420.0 FC - 21.0 MPA, SQRE SIZE - 250.0 X 250.0 MMS, TIED
 AREA OF STEEL REQUIRED = 758.7 SQ. MM

BAR CONFIGURATION	REINF PCT.	LOAD	LOCATION	PHI
4 - 16 MM	1.287	12	STA	0.650
(PROVIDE EQUAL NUMBER OF BARS ON EACH FACE)				
TIE BAR NUMBER	12	SPACING	250.00	MM

=====

COLUMN NO. 5 DESIGN PER ACI 318-08 - AXIAL + BENDING

FY - 420.0 FC - 21.0 MPA, SQRE SIZE - 250.0 X 250.0 MMS, TIED
 ONLY MINIMUM STEEL IS REQUIRED.
 AREA OF STEEL REQUIRED = 625.0 SQ. MM

BAR CONFIGURATION	REINF PCT.	LOAD	LOCATION	PHI
4 - 16 MM	1.287	5	END	0.650
(PROVIDE EQUAL NUMBER OF BARS ON EACH FACE)				
TIE BAR NUMBER	12	SPACING	250.00	MM

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COLUMN NO. 6 DESIGN PER ACI 318-08 - AXIAL + BENDING

DXF IMPORT OF MODELO 3D FALTANTE.DXF

-- PAGE NO. 10

FY - 420.0 FC - 21.0 MPA, SQRE SIZE - 250.0 X 250.0 MMS, TIED
 ONLY MINIMUM STEEL IS REQUIRED.
 AREA OF STEEL REQUIRED = 625.0 SQ. MM

BAR CONFIGURATION	REINF PCT.	LOAD	LOCATION	PHI
4 - 16 MM	1.287	5	END	0.650

(PROVIDE EQUAL NUMBER OF BARS ON EACH FACE)
 TIE BAR NUMBER 12 SPACING 250.00 MM

=====

COLUMN NO. 7 DESIGN PER ACI 318-08 - AXIAL + BENDING

FY - 420.0 FC - 21.0 MPA, SQRE SIZE - 250.0 X 250.0 MMS, TIED
 AREA OF STEEL REQUIRED = 661.2 SQ. MM

BAR CONFIGURATION	REINF PCT.	LOAD	LOCATION	PHI
4 - 16 MM	1.287	6	END	0.650

(PROVIDE EQUAL NUMBER OF BARS ON EACH FACE)
 TIE BAR NUMBER 12 SPACING 250.00 MM

=====

COLUMN NO. 8 DESIGN PER ACI 318-08 - AXIAL + BENDING

FY - 420.0 FC - 21.0 MPA, SQRE SIZE - 250.0 X 250.0 MMS, TIED
 ONLY MINIMUM STEEL IS REQUIRED.
 AREA OF STEEL REQUIRED = 625.0 SQ. MM

BAR CONFIGURATION	REINF PCT.	LOAD	LOCATION	PHI
4 - 16 MM	1.287	5	END	0.650

(PROVIDE EQUAL NUMBER OF BARS ON EACH FACE)
 TIE BAR NUMBER 12 SPACING 250.00 MM

=====

COLUMN NO. 9 DESIGN PER ACI 318-08 - AXIAL + BENDING

FY - 420.0 FC - 21.0 MPA, SQRE SIZE - 250.0 X 250.0 MMS, TIED
 ONLY MINIMUM STEEL IS REQUIRED.
 AREA OF STEEL REQUIRED = 625.0 SQ. MM

BAR CONFIGURATION	REINF PCT.	LOAD	LOCATION	PHI
4 - 16 MM	1.287	5	END	0.650

(PROVIDE EQUAL NUMBER OF BARS ON EACH FACE)
 TIE BAR NUMBER 12 SPACING 250.00 MM

=====

COLUMN NO. 44 DESIGN PER ACI 318-08 - AXIAL + BENDING

FY - 420.0 FC - 21.0 MPA, SQRE SIZE - 250.0 X 250.0 MMS, TIED
 ONLY MINIMUM STEEL IS REQUIRED.
 AREA OF STEEL REQUIRED = 625.0 SQ. MM

BAR CONFIGURATION	REINF PCT.	LOAD	LOCATION	PHI
4 - 16 MM	1.287	5	END	0.650

(PROVIDE EQUAL NUMBER OF BARS ON EACH FACE)
 TIE BAR NUMBER 12 SPACING 250.00 MM

=====

COLUMN NO. 95 DESIGN PER ACI 318-08 - AXIAL + BENDING

FY - 420.0 FC - 21.0 MPA, SQRE SIZE - 250.0 X 250.0 MMS, TIED
 ONLY MINIMUM STEEL IS REQUIRED.
 AREA OF STEEL REQUIRED = 625.0 SQ. MM

BAR CONFIGURATION	REINF PCT.	LOAD	LOCATION	PHI
4 - 16 MM	1.287	5	END	0.650

(PROVIDE EQUAL NUMBER OF BARS ON EACH FACE)
TIE BAR NUMBER 12 SPACING 250.00 MM

*****END OF COLUMN DESIGN RESULTS*****

200. END CONCRETE DESIGN
201. FINISH

***** END OF THE STAAD.Pro RUN *****

**** DATE= DEC 22,2014 TIME= 18:30:19 ****

* For technical assistance on STAAD.Pro, please visit *
* <http://selectservices.bentley.com/en-US/> *
* *
* Details about additional assistance from *
* Bentley and Partners can be found at program menu *
* Help->Technical Support *
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