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UNIVERSAL CONSULTANTS

16-07-2024

CERTIFICATE

It is certified that the Proposed construction of High Rise Building with 36.0m height consisting of Extended Basement Floor Part (Pump Room & Pit Parking) + Stilt Floor Part (Pit Parking) / Ground Floor Part (Double height Lobby) + 11 Floors Residential Building (Gym, Multi-Purpose Hall & Games Room at 1st Floor Level) with 28 Dwelling Units availing with Premium FSI at Old Door No. 20L (Part), New Door No. 09, 10 & 11, Greenways Road (Dr. D.G.S.Dhinakran Salai), Raja Annamalai Puram, Chennai-600 028 comprised in Old S. No. 13, New R.S. No. 4274/12, 4274/13, 4274/14, 4274/42 & 4274/43 in Block No. 93 of Mylapore Village, Mylapore Taluk within the Limits of Greater Chennai Corporation is designed to resist earth quake. Check has been made and found safe and I hereby certify that,

1. The minimum grade of concrete is M25.

2. The design analysis using the code of practice for loading Standards as per IS-875 Part I to V and seismic force as per code IS 1893, is carried out.

   The building will be Structural safe and sound when used for the purpose for which it is designed.

(SURESH.J)

Dr. J. SURESH, M.E., MIE., Ph.D.
Structural Engineer
Plot No. 555, VGP Layout, Mullai Street,
Uthandi, Chennai - 600 119.
Reg. No. SE/GR-I/19/02/003
Reg. No. RSE100382019
Reg. No. CGLRGN/SE/GR-1/2019/06/012

16-07-2024

THE PROPOSED CONSTRUCTION OF HIGH RISE BUILDING WITH 36.0M HEIGHT CONSISTING OF EXTENDED BASEMENT FLOOR PART (PUMP ROOM & PIT PARKING) + STILT FLOOR PART (PIT PARKING) / GROUND FLOOR PART (DOUBLE HEIGHT LOBBY) + 11 FLOORS RESIDENTIAL BUILDING (GYM, MULTI-PURPOSE HALL & GAMES ROOM AT 1ST FLOOR LEVEL) WITH 28 DWELLING UNITS AVAILING WITH PREMIUM FSI AT OLD DOOR NO. 20L (PART), NEW DOOR NO. 09, 10 & 11, GREENWAYS ROAD (DR. D.G.S.DHINAKRAN SALAI), RAJA ANNAMALAI PURAM, CHENNAI-600 028 COMPRISED IN OLD S. NO. 13, NEW R.S. NO. 4274/12, 4274/13, 4274/14, 4274/42 & 4274/43 IN BLOCK NO. 93 OF MYLAPORE VILLAGE, MYLAPORE TALUK WITHIN THE LIMITS OF GREATER CHENNAI CORPORATION

GENERAL NOTE ON STRUCTURAL DESIGN.

1.0 GENERAL.

1.1 DESIGN BASIS

The design of this building is carried out based on frame analysis using design software.

1.2 CODES AND STANDARDS

All structural design is carried out conforming to the provisions in National Building Code of India and other relevant Indian Codes and Standards.

1. I.S. 456
2. I.S. 875 - Part I to V
3. I.S.1893
4. I.S.13920

2.0 BASIC CIVIL DESIGN LOADS

2.1 DEAD LOADS & LIVE LOADS

Typical slab dead load is calculated as follows

Self weight of slab	=	3 0kN/m²
Floor finish	=	2.0kN/m²
Live load	=	2.0kN/m²
		7.0kN/m²

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PAGE NO. 1

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*                                                *
*  Licensed to: Universal Consultants            *
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     2. START JOB INFORMATION
     3. JOB NAME THE REVISED PLANNING PERMISSION APPLICATION FOR THE PROPOSED
     4. *CONSTRUCTION OF HIGH RISE BUILDING WITH 36.0M HEIGHT CONSISTING OF EXTENDED
     5. *BASEMENT FLOOR PART (PUMP ROOM & PIT PARKING) + STILT FLOOR PART (PIT PARKING)
     6. */ GROUND FLOOR PART (DOUBLE HEIGHT LOBBY) + 11 FLOORS RESIDENTIAL BUILDING
     7. *(GYM, MULTI-PURPOSE HALL & GAMES ROOM AT 1ST FLOOR LEVEL) WITH 28 DWELLING
     8. *UNITS AVAILING WITH PREMIUM FSI AT OLD DOOR NO. 20L (PART), NEW DOOR NO. 09, 1
     9. *& 11, GREENWAYS ROAD (DR. D.G.S.DHINAKRAN SALAI), RAJA ANNAMALAI PURAM, CHENNA
    10. *-600 028 COMPRISED IN OLD S. NO. 13, NEW R.S. NO. 4274/12, 4274/13, 4274/14,
    11. *4274/42 & 4274/43 IN BLOCK NO. 93 OF MYLAPORE VILLAGE, MYLAPORE TALUK WITHIN
    12. *THE LIMITS OF GREATER CHENNAI CORPORATION APPLIED BY M/S. ALTIS PROPERTIES
    13. *PVT.LTD., REPRESENTED BY ITS DIRECTOR THIRU. ATUL GUPTA GPA FOR
    14. *G. VASANTHI& 4 OTHERS.
    15. ENGINEER NAME SURESH
    16. CHECKER NAME SURESH
    17. APPROVED NAME SURESH
    18. ENGINEER DATE 7/16/2024
    19. CHECKER DATE 7/16/2024
    20. APPROVED DATE 7/16/2024
    21. END JOB INFORMATION
    22. INPUT WIDTH 79
    23. UNIT METER KN
    24. JOINT COORDINATES
    25. 1 -10.26 -1.45 0; 25 -10.26 -4.45 0; 26 -5.46 -1.45 0; 27 -5.46 -4.45 0
    26. 36 -10.26 1.55 0; 37 -5.46 1.55 0; 66 -14.44 -1.45 0; 67 -14.44 -4.45 0
    27. 68 -14.44 1.55 0; 69 -19.54 -1.45 0; 70 -19.54 -4.45 0; 71 -19.54 1.55 0
    28. 72 -10.26 4.55 0; 73 -5.46 4.55 0; 74 -14.44 4.55 0; 75 -19.54 4.55 0
    29. 76 -10.26 7.55 0; 77 -5.46 7.55 0; 78 -14.44 7.55 0; 79 -19.54 7.55 0
    30. 80 -10.26 10.55 0; 81 -5.46 10.55 0; 82 -14.44 10.55 0; 83 -19.54 10.55 0
    31. 84 -10.26 13.55 0; 85 -5.46 13.55 0; 86 -14.44 13.55 0; 87 -19.54 13.55 0
    32. 88 -10.26 16.55 0; 89 -5.46 16.55 0; 90 -14.44 16.55 0; 91 -19.54 16.55 0
    33. 92 -10.26 19.55 0; 93 -5.46 19.55 0; 94 -14.44 19.55 0; 95 -19.54 19.55 0
    34. 96 -10.26 22.55 0; 97 -5.46 22.55 0; 98 -14.44 22.55 0; 99 -19.54 22.55 0
    35. 100 -10.26 25.55 0; 101 -5.46 25.55 0; 102 -14.44 25.55 0; 103 -19.54 25.55 0
    36. 104 -10.26 28.55 0; 105 -5.46 28.55 0; 106 -14.44 28.55 0; 107 -19.54 28.55 0
    37. 108 -10.26 31.55 0; 109 -5.46 31.55 0; 110 -14.44 31.55 0; 111 -19.54 31.55 0
    38. MEMBER INCIDENCES
```

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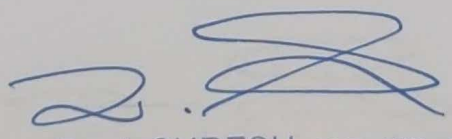
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41. 119 69 71; 120 71 68; 121 36 72; 122 37 73; 123 72 73; 124 68 74; 125 74 72
42. 126 71 75; 127 75 74; 128 72 76; 129 73 77; 130 76 77; 131 74 78; 132 78 76
43. 133 75 79; 134 79 78; 135 76 80; 136 77 81; 137 80 81; 138 78 82; 139 82 80
44. 140 79 83; 141 83 82; 142 80 84; 143 81 85; 144 84 85; 145 82 86; 146 86 84
45. 147 83 87; 148 87 86; 149 84 88; 150 85 89; 151 88 89; 152 86 90; 153 90 88
46. 154 87 91; 155 91 90; 156 88 92; 157 89 93; 158 92 93; 159 90 94; 160 94 92
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49. 174 102 100; 175 99 103; 176 103 102; 177 100 104; 178 101 105; 179 104 105
50. 180 102 106; 181 106 104; 182 103 107; 183 107 106; 184 104 108; 185 105 109
51. 186 108 109; 187 106 110; 188 110 108; 189 107 111; 190 111 110
52. DEFINE MATERIAL START
53. ISOTROPIC CONCRETE
54. E 2.17185E+07
55. POISSON 0.17
56. DENSITY 23.5616
57. ALPHA 1E-05
58. DAMP 0.05
59. END DEFINE MATERIAL
60. MEMBER PROPERTY INDIAN
61. 40 41 61 112 113 115 117 118 120 123 125 127 130 132 134 137 139 141 144 146 -
62. 148 151 153 155 158 160 162 165 167 169 172 174 176 179 181 183 186 188 -
63. 190 PRIS YD 0.5 ZD 0.2
64. MEMBER PROPERTY INDIAN
65. 39 42 55 56 111 114 116 119 121 122 124 126 128 129 131 133 135 136 138 140 -
66. 142 143 145 147 149 150 152 154 156 157 159 161 163 164 166 168 170 171 173 -
67. 175 177 178 180 182 184 185 187 189 PRIS YD 0.6 ZD 0.2
68. CONSTANTS
69. MATERIAL CONCRETE MEMB 39 TO 42 55 56 61 111 TO 190
70. SUPPORTS
71. 25 27 67 70 FIXED
72. DEFINE 1893 LOAD
73. ZONE 0.16 RF 3 I 1 SS 2 ST 1 DM 0.5
74. MEMBER WEIGHT
75. 39 TO 42 55 56 61 111 TO 190 UNI -14.5
76. DEFINE WIND LOAD

*** NOTE: If any floor diaphragm is present in the model Wind Load definition
          should be defined after Floor Diaphragm definition. Otherwise wind
          load generation may be unsuccessful during analysis.

77. TYPE 1
78. INT 0.673 1.03335 1.3537 1.65375 HEIG  10  30  50  100
79. EXP 1 JOINT 1 25 TO 27 36 37 66 TO 111
80. LOAD 1 LOADTYPE NONE  TITLE SLX1
81. 1893 LOAD X 1
82. LOAD 2 LOADTYPE NONE  TITLE SLZ1
83. 1893 LOAD Z 1
```

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```
 84. LOAD 3 LOADTYPE DEAD  TITLE DL
 85. SELFWEIGHT Y -1 LIST ALL
 86. MEMBER LOAD
 87. 40 61 112 115 117 120 123 125 127 130 132 134 137 139 141 144 146 148 151 -
 88. 153 155 158 160 162 165 167 169 172 174 176 179 181 183 186 188 -
 89. 190 UNI GY -25
 90. LOAD 4 LOADTYPE LIVE  TITLE LL
 91. MEMBER LOAD
 92. 40 61 112 115 117 120 123 125 127 130 132 134 137 139 141 144 146 148 151 -
 93. 153 155 158 160 162 165 167 169 172 174 176 179 181 183 186 188 -
 94. 190 UNI GY -15
 95. LOAD 7 LOADTYPE WIND  TITLE WLZ1
 96. WIND LOAD Z 1 TYPE 1
 97. LOAD 8 LOADTYPE WIND  TITLE WLZ2
 98. WIND LOAD Z -1 TYPE 1
 99. LOAD COMB 9 1.5(DL+LL)
100. 3 1.5 4 1.5
101. LOAD COMB 10 1.2(DL+LL+SLX)
102. 3 1.2 4 1.2 1 1.2
103. LOAD COMB 11 1.2(DL+LL+SLZ)
104. 3 1.2 4 1.2 2 1.2
105. LOAD COMB 14 1.2(DL+LL+WLZ1)
106. 3 1.2 4 1.2 7 1.2
107. LOAD COMB 15 1.2(DL+LL+WLZ2)
108. 3 1.2 4 1.2 8 1.2
109. LOAD COMB 16 1.5(DL+SLX)
110. 3 1.5 1 1.5
111. LOAD COMB 17 1.5(DL+SLZ)
112. 3 1.5 2 1.5
113. LOAD COMB 20 1.5(DL+WLZ1)
114. 3 1.5 7 1.5
115. LOAD COMB 21 1.5(DL+WLZ2)
116. 3 1.5 8 1.5
117. LOAD COMB 22 0.9DL+1.5SLX
118. 3 0.9 1 1.5
119. LOAD COMB 23 0.9DL+1.5SLZ
120. 3 0.9 2 1.5
121. LOAD COMB 26 0.9DL+1.5WLZ1
122. 3 0.9 7 1.5
123. LOAD COMB 27 0.9DL+1.5WLZ2
124. 3 0.9 8 1.5
125. PERFORM ANALYSIS
```



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

NUMBER OF JOINTS	52	NUMBER OF MEMBERS	87
NUMBER OF PLATES	0	NUMBER OF SOLIDS	0
NUMBER OF SURFACES	0	NUMBER OF SUPPORTS	4

Using 64-bit analysis engine.

SOLVER USED IS THE IN-CORE ADVANCED MATH SOLVER

TOTAL PRIMARY LOAD CASES = 6, TOTAL DEGREES OF FREEDOM = 288
TOTAL LOAD COMBINATION CASES = 13 SO FAR.

**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.

```
*********************************************************
* UNITS - KN    METE                                    *
* TIME PERIOD FOR X 1893 LOADING =    1.10227 SEC       *
* SA/G PER 1893=    0.617, LOAD FACTOR= 1.000           *
* VB PER 1893=    0.0165 X     4742.08=      78.01 KN   *
*                                                       *
*********************************************************
```

```
*********************************************************
* UNITS - KN    METE                                    *
* TIME PERIOD FOR Z 1893 LOADING =    1.10227 SEC       *
* SA/G PER 1893=    0.617, LOAD FACTOR= 1.000           *
* VB PER 1893=    0.0165 X     4742.08=      78.01 KN   *
*                                                       *
*********************************************************
```

126. FINISH

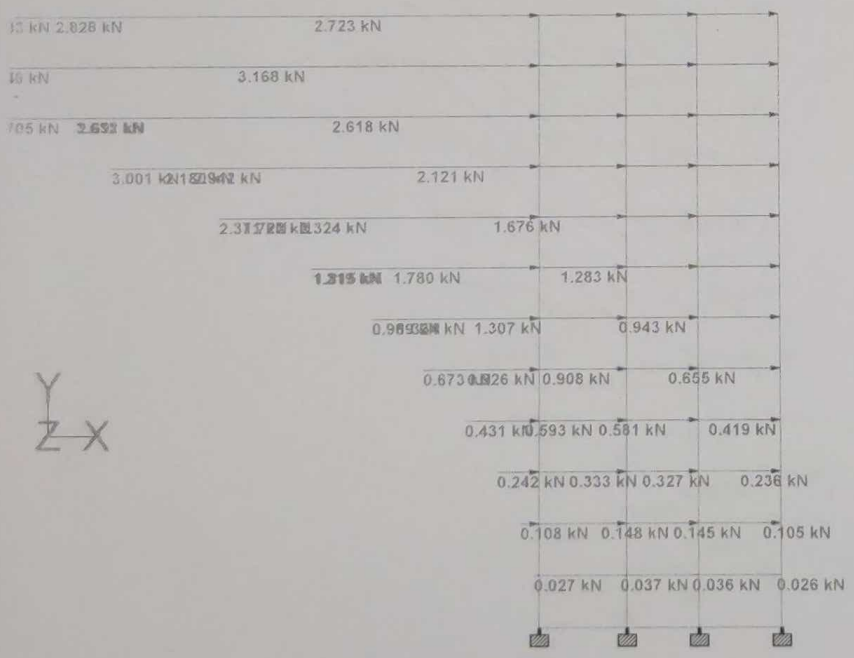
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