Verified RealEstate™

Your trusted partner for buying, selling, and managing property, ensuring hassle-free service with 100% transparency.

3/350/2 Mettukuppam,
OMR Thoraipakkam,
Chennai, India

hello@verified.realestate
+91 9996 12 9996

Official Property Record

Digitally Verified Record - Powered by Verified RealEstate™



C.KANNAN, M.E. (Structure)
STRUCTURAL ENGINEER

Door .21, plot No. 257- W, Flat No. 2B
"Utopia Apartments" 2nd Floor,
4th Main Road, Indira Nagar,
Chennai- 600 020
Mobile: 9841249815
Email: kannankds2007@gmail.com

07-10-2024

STRUCTURAL STABILITY CERTIFICATE

It is certified that the Proposed Residential Building At Door No: 13(6), Jaganathan Road , Nungambakkam , Chennai-600034. R.S.No: 121/10, Block No: 20 Of Nungambakkam Village, Greater Chennai Corporation , Division : 113, Zone : 09. Having Stilt plus Five upper floors is designed to resist earthquake. Check has been made and found safe and I hereby certify that,

1. The minimum column width is 300 in stilt floor areas
2. The minimum grade of concrete is M25.
3. The design analysis using the code of practice for loading Standards as per IS-875 Part I to III and seismic force as per one code IS 1893, is carried out.

The Structure is safe and sound when used for the purpose for which it is designed.

C. KANNAN, B.E., M.E, (Structure)
Structural Engineer,
CMDA Reg. No: SE/I/2024/2/0047
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

THE PROPOSED RESIDENTIAL BUILDING AT DOOR NO: 13(6), JAGANATHAN ROAD , NUNGAMBAKKAM ,CHENNAI-600034. R.S.NO: 121/10, BLOCK NO: 20 OF NUNGAMBAKKAM VILLAGE, GREATER CHENNAI CORPORATION , DIVISION : 113, ZONE : 09.

GENERAL NOTE ON STRUCTURAL DESIGN.

1.0 GENERAL.

1.1 DESIGN BASIS

The proposed residential building consists of Stilt plus Five upper floors.

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

1.2 CODES AND STANDARDS

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

1. I.S. 456 - 2000
2. I.S. 875 - Part I to III
3. I.S.1893 - 2016

2.0 BASIC CIVIL DESIGN LOADS

2.1 DEAD LOADS & LIVE LOADS

Typical slab dead load is calculated as follows

Self weight of slab	=	3.25kN/m²
Floor finish	=	2.0kN/m²
Live load	=	2.0kN/m²
		7.25kN/m²

C. KANNAN, B.E., M.E, (Structure)
Structural Engineer,
CMDA Reg. No: SE/I/2024/2/0047
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

3.0 SOIL DETAILS

Based on soil test report Pile Foundation is adopted.

DESIGN METHODS

General design and detailing of concrete members/elements are done conforming to the provisions of I.S: 456 and other relevant I.S codes. Limit State method is followed for the design.

Seismic Zone III load is taken into account for the analysis. The predominant direction of vibration is horizontal. Relevant combination of forces has been taken into account.

4.1

Load Combination	Ultimate Limit Load	Serviceability Limit State
DL+LL+WL Or DL+LL+EL	1.2DL+1.2LL+1.2WL Or 1.2DL+1.2LL+1.2EL	DL+LL+WL or DL+LL+EL

4.3 **MINIMUM COVER**

Slab	15 mm
Beam	25 mm
Columns	40 mm
Foundations	50 mm

The Structure is safe and sound when used for the purpose for which it is designed.

C. KANNAN, B.E., M.E, (Structure)
Structural Engineer,
CMDA Reg. No: SE/I/2024/2/0047
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

```
**************************************************
*                                                *
*          STAAD.Pro CONNECT Edition             *
*          Version  22.12.00.142                 *
*          Proprietary Program of                *
*          Bentley Systems, Inc.                 *
*          Date=    OCT  7, 2024                 *
*          Time=    12:32:56                     *
*                                                *
*  Licensed to: C.Kannan                         *
**************************************************
```

```
    1. STAAD SPACE
INPUT FILE: D:\LOGESH\STABILITY CERTIFICATE\CHAITANYA - JEGANATHAN STRE.. .STD
    2. START JOB INFORMATION
    3. ENGINEER DATE 10/7/2024
    4. JOB NAME PROPOSED RESIDENTIAL BUILDING AT DOOR NO: 13(6), JAGANATHAN ROAD , -
    5. NUNGAMBAKKAM , CHENNAI-600034. R.S.NO: 121/10, BLOCK NO: 20 OF NUNGAMBAKKAM -
    6. VILLAGE, GREATER CHENNAI CORPORATION , DIVISION : 113, ZONE : 09
    7. ENGINEER NAME KANNAN
    8. CHECKER NAME KANNAN
    9. APPROVED NAME KANNAN
   10. CHECKER DATE 10/7/2024
   11. APPROVED DATE 10/7/2024
   12. END JOB INFORMATION
   13. INPUT WIDTH 79
   14. SET NL 250
   15. UNIT MMS KN
   16. JOINT COORDINATES
   17. 1 0 0 0; 6 0 0 9700; 7 0 0 11550; 165 0 0 3100; 227 0 3000 0; 229 0 3000 9700
   18. 230 0 3000 11550; 273 0 3000 3100; 276 0 6000 0; 278 0 6000 9700
   19. 279 0 6000 11550; 322 0 6000 3100; 325 0 9000 0; 327 0 9000 9700
   20. 328 0 9000 11550; 371 0 9000 3100; 374 0 12000 0; 376 0 12000 9700
   21. 377 0 12000 11550; 420 0 12000 3100; 423 0 15000 0; 425 0 15000 9700
   22. 426 0 15000 11550; 469 0 15000 3100; 472 0 18000 0; 474 0 18000 9700
   23. 475 0 18000 11550; 518 0 18000 3100; 521 0 -2000 0; 523 0 -2000 9700
   24. 524 0 -2000 11550; 567 0 -2000 3100
   25. MEMBER INCIDENCES
   26. 2 1 165; 3 165 6; 4 6 7; 170 1 227; 172 6 229; 173 7 230; 216 165 273
   27. 219 227 276; 221 229 278; 222 230 279; 265 273 322; 268 276 325; 270 278 327
   28. 271 279 328; 314 322 371; 317 325 374; 319 327 376; 320 328 377; 363 371 420
   29. 366 374 423; 368 376 425; 369 377 426; 412 420 469; 415 423 472; 417 425 474
   30. 418 426 475; 461 469 518; 464 1 521; 466 6 523; 467 7 524; 510 165 567
   31. 514 227 273; 515 273 229; 516 229 230; 682 276 322; 683 322 278; 684 278 279
   32. 850 325 371; 851 371 327; 852 327 328; 1018 374 420; 1019 420 376
   33. 1020 376 377; 1186 423 469; 1187 469 425; 1188 425 426; 1354 472 518
   34. 1355 518 474; 1356 474 475
   35. DEFINE MATERIAL START
   36. ISOTROPIC CONCRETE
   37. E 21.7185
   38. POISSON 0.17
```

C. KANNAN, B.E., M.E, (Structure)
Structural Engineer,
CMDA Reg. No: SE/I/2024/2/0047
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

```
39. DENSITY 2.35616E-08
40. ALPHA 1E-05
41. DAMP 0.05
42. G 9.28139
43. TYPE CONCRETE
44. STRENGTH FCU 0.027579
45. END DEFINE MATERIAL
46. MEMBER PROPERTY
47. 2 TO 4 514 TO 516 682 TO 684 850 TO 852 1018 TO 1020 1186 TO 1188 -
48. 1354 TO 1356 PRIS YD 600 ZD 200
49. 170 172 173 216 219 221 222 265 268 270 271 314 317 319 320 363 366 368 369 -
50. 412 415 417 418 461 464 466 467 510 PRIS YD 600 ZD 200
51. CONSTANTS
52. BETA 90 MEMB 170 172 173 216 219 221 222 265 268 270 271 314 317 319 320 363 -
53. 366 368 369 412 415 417 418 461 464 466 467 510
54. MATERIAL CONCRETE ALL
55. SUPPORTS
56. 521 523 524 567 FIXED
57. DEFINE IS1893 2016 LOAD
58. ZONE 0.16 RF 5 I 1.2 SS 1 ST 1 DM 0.05 DT 2000
59. SELFWEIGHT 1
60. MEMBER WEIGHT
61. 2 TO 4 514 TO 516 682 TO 684 850 TO 852 1018 TO 1020 1186 TO 1188 -
62. 1354 TO 1356 UNI 0.045 0 0
63. 2 TO 4 514 TO 516 682 TO 684 850 TO 852 1018 TO 1020 1186 TO 1188 -
64. 1354 TO 1356 UNI 0.015 0 0
65. UNIT METER KN
66. 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.

67. TYPE 1 WIND 1
68. <! STAAD PRO GENERATED DATA DO NOT MODIFY !!!
69. CUSTOM:PARAMS
70. !> END GENERATED DATA BLOCK
71. INT 1.35 1.49 1.68 HEIG  10  15  18
72. EXP 1 JOINT 1 6 7 165 227 229 230 273 276 278 279 322 325 327 328 371 374 -
73. 376 377 420 423 425 426 469 472 474 475 518 521 523 524 567
74. LOAD 1 LOADTYPE SEISMIC-H  TITLE EQ +X
75. 1893 LOAD X 1
76. LOAD 2 LOADTYPE SEISMIC-H  TITLE EQ -X
77. 1893 LOAD X -1.
78. LOAD 3 LOADTYPE SEISMIC-H  TITLE EQ +Z
79. 1893 LOAD Z 1
80. LOAD 4 LOADTYPE SEISMIC-H  TITLE EQ -Z
```

STAAD SPACE -- PAGE NO. 3

```
  81. 1893 LOAD Z -1.
  82. LOAD 5 LOADTYPE WIND  TITLE WIND +X
  83. WIND LOAD X 1 TYPE 1
  84. LOAD 6 LOADTYPE WIND  TITLE WIND -X
  85. WIND LOAD -X 1 TYPE 1
  86. LOAD 7 LOADTYPE WIND  TITLE WIND +Z
  87. WIND LOAD Z 1 TYPE 1
*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.
  88. LOAD 8 LOADTYPE WIND  TITLE WIND -Z
  89. WIND LOAD -Z 1 TYPE 1
*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.
  90. LOAD 9 LOADTYPE LIVE  TITLE LIVE LOAD
  91. MEMBER LOAD
  92. 2 TO 4 514 TO 516 682 TO 684 850 TO 852 1018 TO 1020 1186 TO 1188 -
  93. 1354 TO 1356 UNI GY -15
  94. LOAD 10 LOADTYPE DEAD  TITLE DEAD LOAD
  95. SELFWEIGHT Y -1
  96. MEMBER LOAD
  97. 2 TO 4 514 TO 516 682 TO 684 850 TO 852 1018 TO 1020 1186 TO 1188 -
  98. 1354 TO 1356 UNI GY -45
  99. LOAD COMB 11 1.5(DL+IL)
 100. 9 1.5 10 1.5
 101. LOAD COMB 12 1.2(DL+IL+ELX)
 102. 9 1.5 10 1.2 1 1.2
 103. LOAD COMB 13 1.2(DL+IL-ELX)
 104. 9 1.2 10 1.2 2 1.2
 105. LOAD COMB 14 1.2(DL+IL+ELZ)
 106. 9 1.2 10 1.2 3 1.2
 107. LOAD COMB 15 1.2(DL+IL-ELZ)
 108. 9 1.2 10 1.2 4 1.2
 109. LOAD COMB 16 1.2(DL+IL+WLX)
 110. 9 1.2 10 1.2 5 1.2
 111. LOAD COMB 17 1.2(DL+IL-WLX)
 112. 10 1.2 6 1.2
 113. LOAD COMB 18 1.2(DL+IL+WLZ)
 114. 9 1.2 10 1.2 7 1.2
 115. LOAD COMB 19 1.2(DL+IL-WLZ)
 116. 9 1.2 10 1.2 8 1.2
 117. LOAD COMB 20 1.5(DL+ELX)
 118. 9 1.5 10 1.5 1 1.5
 119. LOAD COMB 21 1.5(DL-ELX)
```

```
120. 9 1.5 10 1.5 2 1.5
121. LOAD COMB 22 1.5(DL+ELZ)
122. 9 1.5 10 1.5 3 1.5
123. LOAD COMB 23 1.5(DL-ELZ)
124. 10 1.5 4 1.5
125. LOAD COMB 24 1.5(DL+WLX)
126. 10 1.5 5 1.5
127. LOAD COMB 25 1.5(DL-WLX)
128. 10 1.5 6 1.5
129. LOAD COMB 26 1.5(DL+WLZ)
130. 10 1.5 7 1.5
131. LOAD COMB 27 1.5(DL-WLZ)
132. 10 1.5 8 1.5
133. LOAD COMB 28 0.9 DL+ELX
134. 10 0.9 1 1.5
135. LOAD COMB 29 0.9 DL-ELX
136. 10 0.9 2 1.5
137. LOAD COMB 30 0.9 DL+ELZ
138. 10 0.9 3 1.5
139. LOAD COMB 31 0.9 DL-ELZ
140. 10 0.9 4 1.5
141. LOAD COMB 32 0.9 DL+WLX
142. 10 0.9 5 1.5
143. LOAD COMB 33 0.9 DL-WLX
144. 10 0.9 6 1.5
145. LOAD COMB 34 0.9 DL+WLZ
146. 10 0.9 7 1.5
147. LOAD COMB 35 0.9 DL-WLZ
148. 10 0.9 8 1.5
149. PERFORM ANALYSIS PRINT ALL

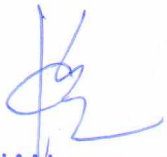

         P R O B L E M   S T A T I S T I C S
         -----------------------------------

  NUMBER OF JOINTS         32  NUMBER OF MEMBERS      49
  NUMBER OF PLATES          0  NUMBER OF SOLIDS        0
  NUMBER OF SURFACES        0  NUMBER OF SUPPORTS      4

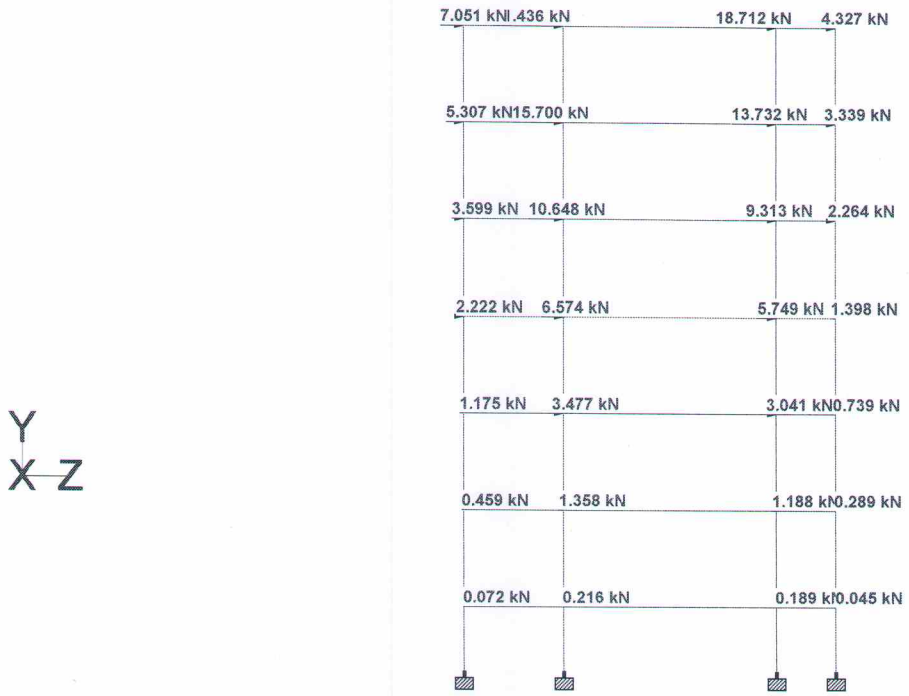
        Using 64-bit analysis engine.

        SOLVER USED IS THE IN-CORE ADVANCED MATH SOLVER

TOTAL      PRIMARY LOAD CASES =    10, TOTAL DEGREES OF FREEDOM =     168
TOTAL LOAD COMBINATION  CASES =    25  SO FAR.
```

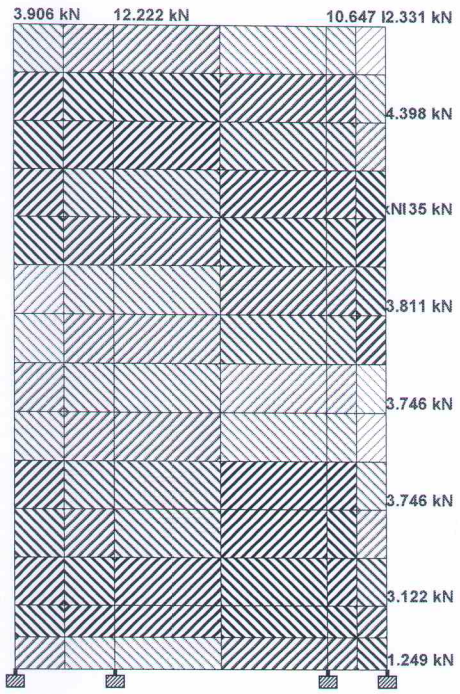


C. KANNAN, B.E., M.E, (Structure)
Structural Engineer,
CMDA Reg. No: SE/I/2024/2/0047
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.



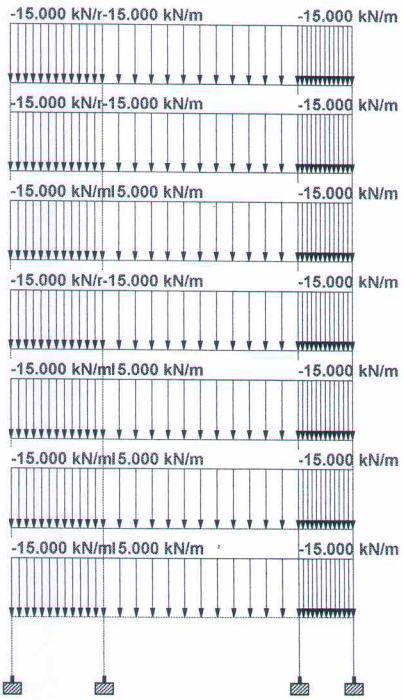
Load 3

C. KANNAN, B.E., M.E, (Structure)
Structural Engineer,
CMDA Reg. No: SE/I/2024/2/0047
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

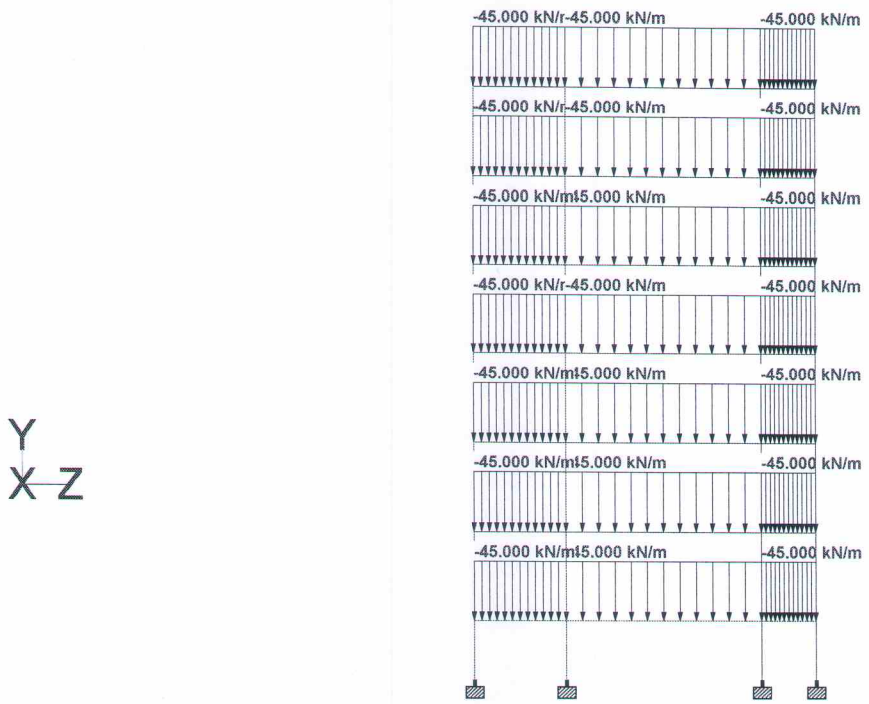

3.906 kN
12.222 kN
10.647 kN
2.331 kN
4.398 kN
3.135 kN
3.811 kN
3.746 kN
3.746 kN
3.122 kN
1.249 kN

Y
X Z

Load 5


-15.000 kN/r-15.000 kN/m
-15.000 kN/m
-15.000 kN/r-15.000 kN/m
-15.000 kN/m
-15.000 kN/m5.000 kN/m
-15.000 kN/m
-15.000 kN/r-15.000 kN/m
-15.000 kN/m
-15.000 kN/m5.000 kN/m
-15.000 kN/m
-15.000 kN/m5.000 kN/m
-15.000 kN/m
-15.000 kN/m5.000 kN/m
-15.000 kN/m
Y
X Z

Load 9



Load 10

C. KANNAN, B.E., M.E, (Structure)
Structural Engineer,
CMDA Reg. No: SE/I/2024/2/0047
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.



our services doesn't just end there

Buying & Selling Services

Property Buying Assistance, Property Selling Support, Market Price Analysis, Owner Outreach and Negotiation.

Legal & Documentation Services

Certified EC, Patta, legal opinions, property verification, due diligence, litigation solutions, and legal heir certificates.

Property Development & Approvals

Building plan approvals, construction, layout and sub-division approvals, zone conversion, and occupancy certification.

NRI & Investment Services

Escrow Services, Rentals, Litigation Solutions, Property Valuation and Property Management

Compliance & Special Services

Demolition, Vaasthu checks, regularization of unauthorized buildings, and office space solutions.



empowering your real estate decisions with smart tools

Property Valuation & Cost Estimation

Guideline Value, Apartment Composite Value, Stamp Duty & Registration Fees Calculator, Building Value Calculator, Capital Gains Calculator, Area Unit Converter, Length Unit Converter

Ownership, Compliance & Legal Verification

Encumbrance Certificate (EC) Search, Find Your SRO, Temple Property Check, WAQF Property Check, View Patta/Chitta, View FMB, Patta Analyzer, EC Analyzer

Zoning & Land Use Analysis

Land Use Zone Finder, CRZ Zone Check, Aquifer Zone Check, CBA Check, EWS Check, Road Width Check, Proposed Road Widening Check, FSI Calculator

Property Documentation & Workflow Tools

Forms & Templates, Document Generator, Document Translation, Dictionary

Vastu & Property Management Tools

Home Vastu Shastra, Plot Vastu Shastra, Property Management

Verified RealEstate™

We're honored to be part of your real estate journey

3/350/2 Mettukuppam,
OMR Thoraipakkam,
Chennai, India

hello@verified.realestate
+91 9996 12 9996
www.verified.realestate