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THE PROPOSED CONSTRUCTION OF STILT FLOOR + 3 FLOORS RESIDENTIAL BUILDING (12.0M HEIGHT) WITH 15 DWELLING UNITS AT KUBERAN NAGAR EXTN 8TH STREET, MADIPAKKAM, CHENNAI, COMPRISED IN SURVEY NO: 133/2, 133/5 (AS PER DOCUMENT) SURVEY NO:133/54 (AS PER PATTa) OF MADIPAKKAM VILLAGE, SHOLINGANALLUR 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/m ²
Floor finish	=	2.0kN/m ²
Live load	=	2.0kN/m ²

		7.0kN/m ²



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Reg. No. RSE100382019
Reg. No. CGLRGN/SE/GR-1/2019/06/012

3.0 SOIL DETAILS

Based on Soil Test Report Pile Foundation is adopted.

4.0 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

4.2.1 MINIMUM COVER

Slab	25 mm
Beam	30 mm
Columns	40 mm
Foundations	50 mm

Structure will be sound and stable when used for the purpose for which it is designed.


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*          STAAD.Pro CONNECT Edition
*          Version 22.10.00.153
*          Proprietary Program of
*          Bentley Systems, Inc.
*          Date=   MAR 21, 2024
*          Time=   18:39:32
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3. JOB NAME THE PROPOSED CONSTRUCTION OF STILT FLOOR + 3 FLOORS RESIDENTIAL
4. *BUILDING (12.0M HEIGHT) WITH 15 DWELLING UNITS AT KUBERAN NAGAR EXTN 8TH
5. *STREET, MADIPAKKAM, CHENNAI, COMPRISED IN SURVEY NO: 133/2, 133/5 (AS PER
6. *DOCUMENT) SURVEY NO:133/54 (AS PER PATT) OF MADIPAKKAM VILLAGE, SHOLINGANALLU
7. *TALUK, WITHIN THE LIMITS OF GREATER CHENNAI CORPORATION.
8. ENGINEER NAME SURESH
9. CHECKER NAME SURESH
10. APPROVED NAME SURESH
11. ENGINEER DATE 3/21/2024
12. CHECKER DATE 3/21/2024
13. APPROVED DATE 3/21/2024
14. END JOB INFORMATION
15. INPUT WIDTH 79
16. UNIT METER KN
17. JOINT COORDINATES
18. 1 -8.1 -1.45 0; 25 -8.1 -4.45 0; 26 -5.46 -1.45 0; 27 -5.46 -4.45 0
19. 36 -8.1 1.55 0; 37 -5.46 1.55 0; 66 -14.3 -1.45 0; 67 -14.3 -4.45 0
20. 68 -14.3 1.55 0; 69 -17.6 -1.45 0; 70 -17.6 -4.45 0; 71 -17.6 1.55 0
21. 72 -8.1 4.55 0; 73 -5.46 4.55 0; 74 -14.3 4.55 0; 75 -17.6 4.55 0
22. 76 -8.1 7.55 0; 77 -5.46 7.55 0; 78 -14.3 7.55 0; 79 -17.6 7.55 0
23. MEMBER INCIDENCES
24. 39 1 25; 40 1 26; 41 25 27; 42 26 27; 55 1 36; 56 26 37; 61 36 37; 111 66 67
25. 112 66 1; 113 67 25; 114 66 68; 115 68 36; 116 69 70; 117 69 66; 118 70 67
26. 119 69 71; 120 71 68; 121 36 72; 122 37 73; 123 72 73; 124 68 74; 125 74 72
27. 126 71 75; 127 75 74; 128 72 76; 129 73 77; 130 76 77; 131 74 78; 132 78 76
28. 133 75 79; 134 79 78
29. DEFINE MATERIAL START
30. ISOTROPIC CONCRETE
31. E 2.17185E+07
32. POISSON 0.17
33. DENSITY 23.5616
34. ALPHA 1E-05
35. DAMP 0.05
36. END DEFINE MATERIAL
37. MEMBER PROPERTY INDIAN
38. 40 41 61 112 113 115 117 118 120 123 125 127 130 132 134 PRIS YD 0.6 ZD 0.2

```


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STAAD SPACE

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39. MEMBER PROPERTY INDIAN
 40. 39 42 55 56 111 114 116 119 121 122 124 126 128 129 131 133 PRIS YD 0.6 ZD 0.2
 41. CONSTANTS
 42. MATERIAL CONCRETE ALL
 43. SUPPORTS
 44. 25 27 67 70 FIXED
 45. DEFINE 1893 LOAD
 46. ZONE 0.16 RF 3 I 1 SS 2 ST 1 DM 0.5
 47. MEMBER WEIGHT
 48. 39 TO 42 55 56 61 111 TO 134 UNI -14.5
 49. 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.

50. TYPE 1
 51. INT 0.673 1.03335 1.3537 1.65375 HEIG 10 30 50 100
 52. EXP 1 JOINT 1 25 TO 27 36 37 66 TO 79
 53. LOAD 1 LOADTYPE NONE TITLE SLX1
 54. 1893 LOAD X 1
 55. LOAD 2 LOADTYPE NONE TITLE SLZ1
 56. 1893 LOAD Z 1
 57. LOAD 3 LOADTYPE DEAD TITLE DL
 58. SELFWEIGHT Y -1
 59. MEMBER LOAD
 60. 40 61 112 115 117 120 123 125 127 130 132 134 UNI GY -25
 61. LOAD 4 LOADTYPE LIVE TITLE LL
 62. MEMBER LOAD
 63. 40 61 112 115 117 120 123 125 127 130 132 134 UNI GY -15
 64. LOAD 7 LOADTYPE WIND TITLE WLZ1
 65. WIND LOAD Z 1 TYPE 1
 66. LOAD 8 LOADTYPE WIND TITLE WLZ2
 67. WIND LOAD Z -1 TYPE 1
 68. LOAD COMB 9 1.5(DL+LL)
 69. 3 1.5 4 1.5
 70. LOAD COMB 10 1.2(DL+LL+SLX)
 71. 3 1.2 4 1.2 1 1.2
 72. LOAD COMB 11 1.2(DL+LL+SLZ)
 73. 3 1.2 4 1.2 2 1.2
 74. LOAD COMB 14 1.2(DL+LL+WLZ1)
 75. 3 1.2 4 1.2 7 1.2
 76. LOAD COMB 15 1.2(DL+LL+WLZ2)
 77. 3 1.2 4 1.2 8 1.2



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78. LOAD COMB 16 1.5(DL+SLX)
 79. 3 1.5 1 1.5
 80. LOAD COMB 17 1.5(DL+SLZ)
 81. 3 1.5 2 1.5
 82. LOAD COMB 20 1.5(DL+WLZ1)
 83. 3 1.5 7 1.5
 84. LOAD COMB 21 1.5(DL+WLZ2)
 85. 3 1.5 8 1.5
 86. LOAD COMB 22 0.9DL+1.5SLX
 87. 3 0.9 1 1.5
 88. LOAD COMB 23 0.9DL+1.5SLZ
 89. 3 0.9 2 1.5
 90. LOAD COMB 26 0.9DL+1.5WLZ1
 91. 3 0.9 7 1.5
 92. LOAD COMB 27 0.9DL+1.5WLZ2
 93. 3 0.9 8 1.5
 94. PERFORM ANALYSIS

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

NUMBER OF JOINTS	20	NUMBER OF MEMBERS	31
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 = 96
 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 = 0.48356 SEC *
 * SA/G PER 1893= 1.250, LOAD FACTOR= 1.000 *
 * VB PER 1893= 0.0333 X 1576.15= 52.54 KN *
 * *


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-- PAGE NO. 4

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*****
* UNITS - KN    METE                               *
* TIME PERIOD FOR Z 1893 LOADING =    0.48356 SEC    *
* SA/G PER 1893=    1.250, LOAD FACTOR= 1.000        *
* VB PER 1893=    0.0333 X    1576.15=    52.54 KN    *
*                                                     *
*****
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95. FINISH

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

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* For technical assistance on STAAD.Pro, please visit *
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*                                                     *
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* Bentley and Partners can be found at program menu  *
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Ref

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Chd Suresh

Client

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Y
Z-X

1.445 kN

0.308 kN

0.621 kN

0.361 kN

Load 1


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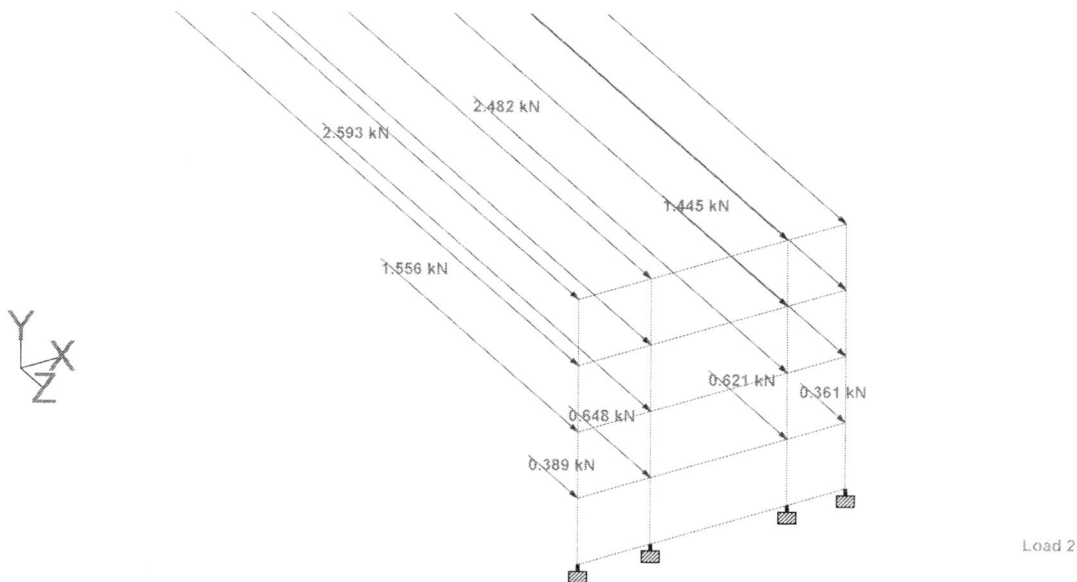
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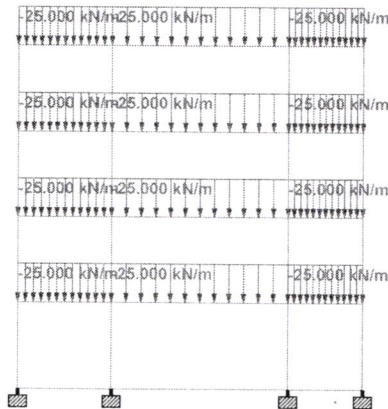
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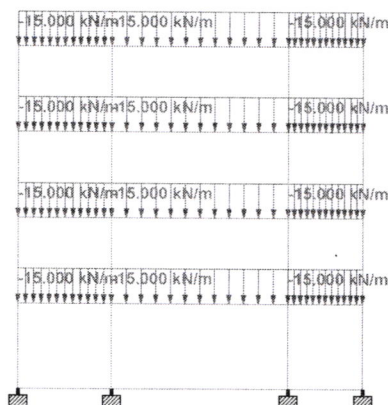
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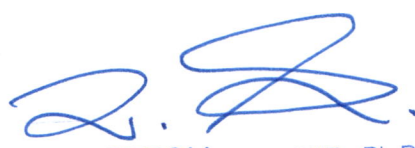
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Z-X



Load 4


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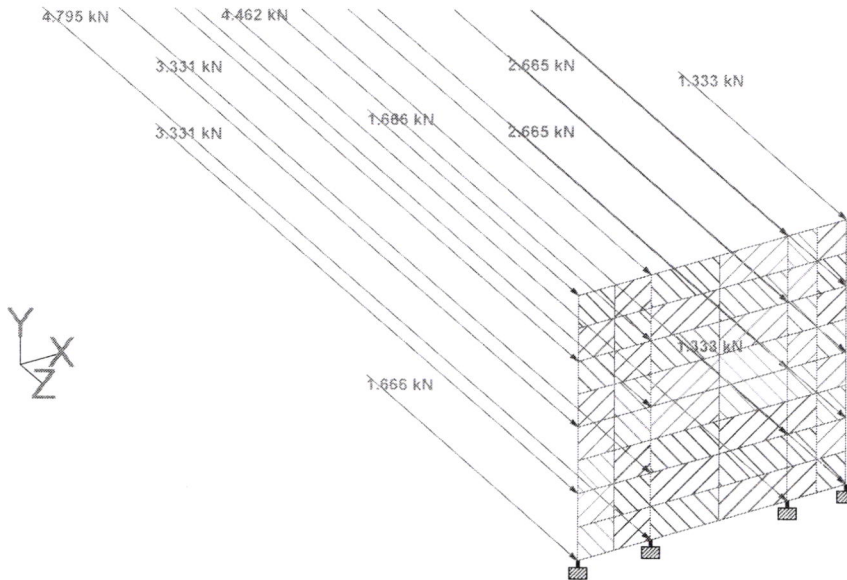
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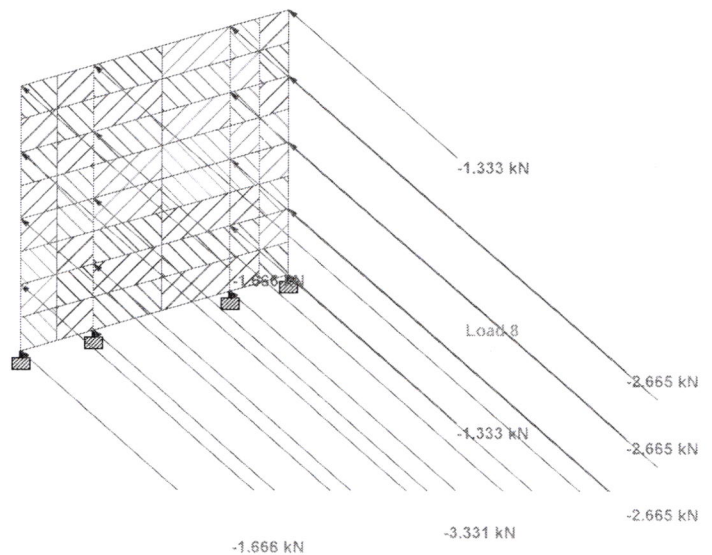
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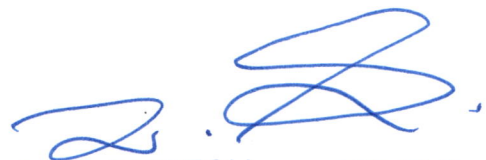
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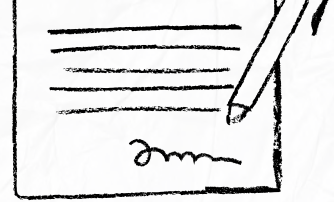
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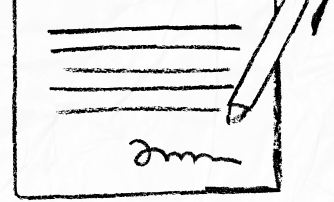
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