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DIGITALLY VERIFIED RECORD

B & W STRUCTURAL DESIGN CONSULTANT

181/64 GANDHI ROAd , VELACHERRY
9677044466, 044-43237175 BWSTRUCTURALDESIGN@GMAIL.COM

STABILITY CERTIFICATE

(To be furnished while filing application for registration of building)

The detailed engineering and structure design of the proposed building comprising of **Stilt + 4 floors at Plot No.2,3,4, and 5 , RR VEL AVENUE Old SF No.225/1C New SF No.225/1B, Vadavalli Village , Perur Taluk, Coimbatore District** has been done by me/us based on the report of geotechnical investigation (soil test) done by **GEODESIGN INDIA PRIVATE LIMITED Report No.GEO-163-2022-2023 Dated 02.12.2022** and considering the functional requirement of the building.

2. It is certified that among other factors, the proposed building has been designed to resist earthquake. I/We have checked various parameters and found that the proposed building would be safe.

3. I/We further certify that:

(i) The minimum grade of concrete is M25

(ii) The design and analysis has been done using the code of practice for plain and reinforced concrete as per IS 456, design loads as per IS Codes No.IS875 and design of earthquake resistant structure as per IS Code No.IS1897 IS4326

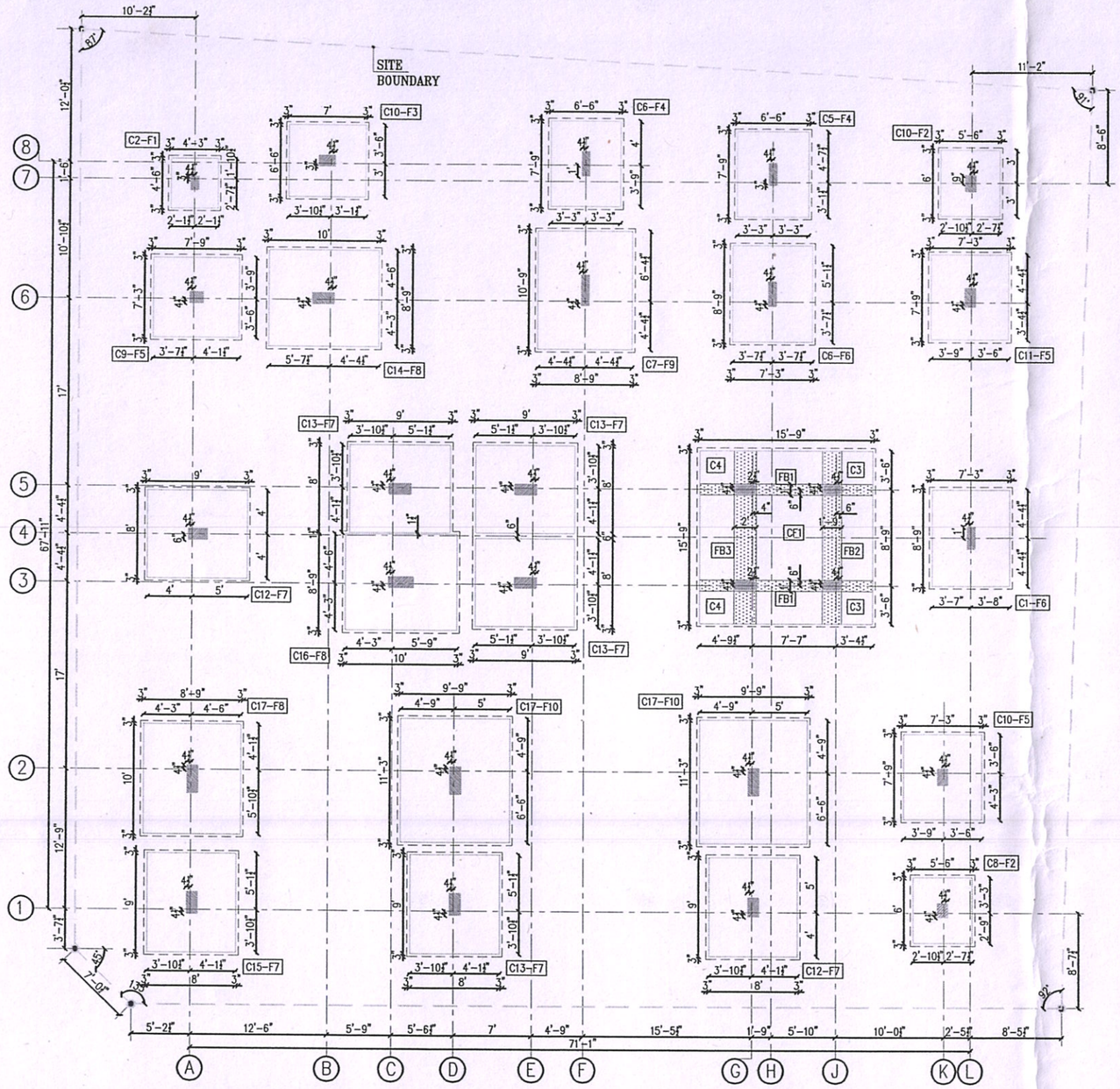
4. The building will be safe and sound when used for the purpose for which it is designed.

Stamp and Signature

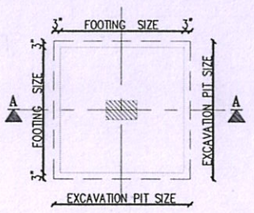
N. TAMILVANAN, M.E.(STRUCT.,)
Registration Structural Engineer GRADE-I (SE)
(DTCP) REG. No. CGLRGN/SE/GR-I/2019/10/46
B&W STRUCTURAL DESIGN CONSULTANT
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bwstructuraldesign@gmail.com

Encl.: Structural Design Calculation

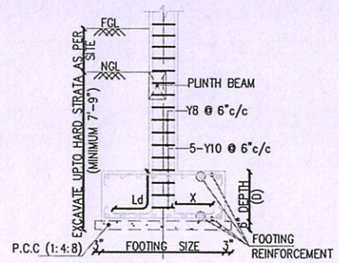
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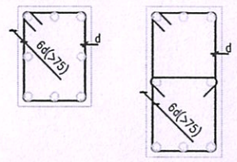
COLUMN & FOOTING LAYOUT



PLAN -TYPICAL FLAT FOOTING
(N.T.S)



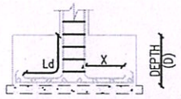
SECTION A-A
(N.T.S)



TYPICAL COLUMN HOOK DETAILS

FOOTING BEAM DETAILS

S No	Beam No	Beam Size	Beam Reinforcement Detail
1	FB1	12"x24"	6 – Y16 Y10 @ 4"c/c 6 – Y16
2	FB2	21"x24"	8 – Y16 Y10 @ 4"c/c (4 LEGGED) 8 – Y16
3	FB3	24"x24"	10 – Y16 Y10 @ 4"c/c (4 LEGGED) 10 – Y16



TYPICAL COLUMN Ld HORIZONTAL DISTANCE (X) SECTION

HORIZONTAL DISTANCE (X) OF COLUMN Ld:

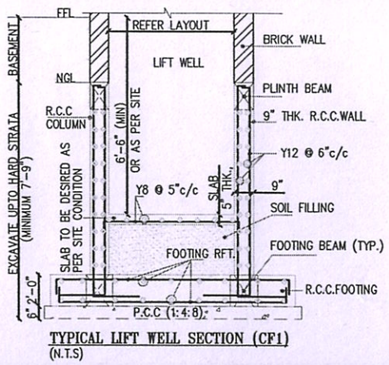
DIA OF BAR (COLUMN)	FOOTING DEPTH (BS: 16 (H25 & ABOVE))	12"&15"	18"&21"	24"&27"	30"&33"	36"&39"
	12ϕ	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
	16ϕ	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
	20ϕ	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
	25ϕ	1'-0"	1'-0"	1'-6"	1'-6"	1'-6"
	32ϕ	1'-6"	1'-6"	1'-6"	2'-0"	1'-6"

COLUMN TERMINATION DETAILS

S No	Grid No	Termination Level
1	K-1	First Floor (Ground Floor Roof)

COLUMN ROTATION DETAILS

S No	Grid No	Rotation Level/ Degree
1	A-2 B-8 D-2 G-1 G-2 K-2	From First Floor / BY 90°



TYPICAL LIFT WELL SECTION (CF1)
(N.T.S)

GENERAL NOTES

1. THIS DRAWING SHOULD BE READ ALONG WITH ARCHITECTURAL DRAWINGS.
2. ALL DIMENSIONS ARE IN FEET & INCHES.
3. ALL STRUCTURAL CONCRETE SHALL BE OF M25(1:1:2) GRADE CONFORMING TO IS:456.
4. ALL REINFORCEMENTS SHALL BE H.Y.S.D. BARS(FE 500 GRADE FY 500) CONFORMING TO IS: 1786.
5. THE CLEAR COVER FOR REINFORCEMENT SHALL BE 2" FOR FOOTINGS, BEAMS & FOR COLUMNS. IT IS CONSIDERED AS 2cms(3/4") BY 2 - 5 BELOW PLIN & DESIGNED FOR G+8 FLOORS ONLY.
6. LAP LENGTH SHALL BE 1.5 FOR ALL BARS.
7. NOT MORE THAN 50% OF REINFORCEMENT SHALL BE LAPPED AT ANY PARTICULAR JUNCTION.
8. THIS DRAWING IS NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
9. THE SITE IN-CHARGE SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCEMENT OF WORKS AND ANY DISCREPANCIES SHALL BE REPORTED TO THE STRUCTURAL ENGINEER BEFORE EXECUTION.
10. SUITABLE PRECAUTION SHOULD BE TAKEN CARE IN SITE TO AVOID EARTH SLIDING DURING EARTH WORKS EXCAVATION AND EXECUTION OF FOOTING.
11. DURING EXCAVATION, IF ANY LOOSE POCKETS OF THE SOIL ENCOUNTERED IT SHALL BE REMOVED & BACKFILLED WITH A LEVELLING COURSE OF CONCRETE. THEN THE CONSTRUCTION OF FOUNDATION CAN BE CARRIED OUT.

Ld FOR VARIOUS DIA OF BAR

DIA OF BAR	10ϕ	12ϕ	16ϕ	20ϕ	25ϕ	28ϕ
TENSION Ld	0.5'	0.6'	0.8'	1.0'	1.4'	1.6'
COMPRESSION Ld	0.4'	0.5'	0.7'	0.8'	1.1'	1.3'

LEGENDS

- FULL HEIGHT COLUMN
- COLUMN TERMINATES @ FIRST FLOOR
- FOOTING BEAM

ABBREVIATIONS

N.G.L – NATURAL GROUND LEVEL
F.G.L – FORMED GROUND LEVEL
F.F.L – FINISHED FLOOR LEVEL
Ld – DEVELOPMENT LENGTH

REF	DESCRIPTION	BY	DATE
	REVISIONS		

CLIENT:
Agaram Design Studio.

PROJECT:
Mr.Vinayagam Apartment at Vadavalli.

TITLE:
Column & Footing Layout & Details(1-2).

DSGN	DRWN	CHKD	APPD	DATE	SHEET	SCALE
HG	BK	SKAK	SKAK	03.01.24	A2	1":8"

DWG. NO: MTIAL-122-103-RC-116-R0

STRUCTURAL CONSULTANT

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COLUMN DETAILS (CONT.,)

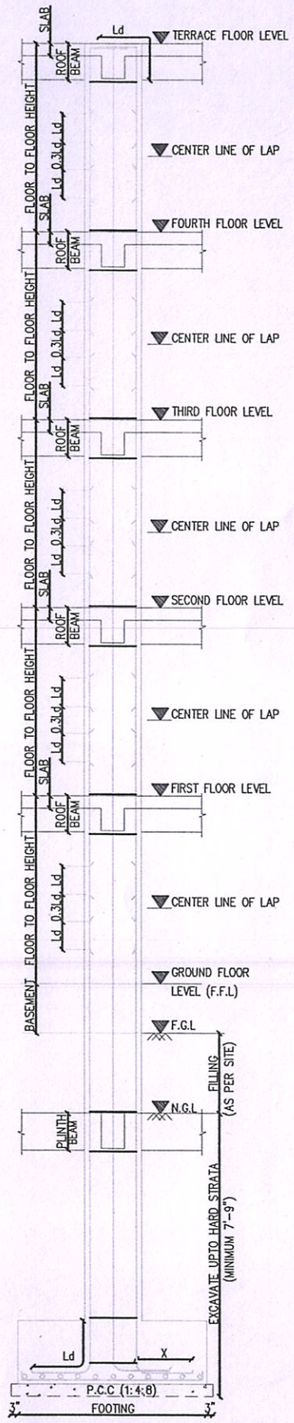
S No	Column No	Up To First Floor: Column Size	Column Reinforcement Detail	Rings Detail (R–Ring)	Hooks Detail (H–Hook)	From First Floor: Column Size	Column Reinforcement Detail	Rings Detail (R–Ring)	Hooks Detail (H–Hook)
5	C1	8½" x 24"	8 – Y20 + 4 – Y16 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1	9" x 24"	8 – Y20 + 4 – Y16 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1
6	C5	9" x 24"	12 – Y16 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1	9" x 21"	12 – Y16 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1
7	C6	9" x 27"	12 – Y20 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1, H–2	9" x 21"	10 – Y20 @ Y8 @ 6"c/c	R–1, R–2, R–3	–N.A.–
8	C7	9" x 33"	16 – Y20 @ Y8 @ 6"c/c	R–1, R–2, R–3, R–4	H–1, H–2, H–3	9" x 24"	12 – Y20 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1
9	C9	12" x 15"	8 – Y16 @ Y8 @ 6"c/c	R–1	H–1	9" x 15"	8 – Y16 @ Y8 @ 6"c/c	R–1	–N.A.–
10	C10	12" x 18"	12 – Y16 @ Y8 @ 6"c/c	R–1	H–2, H–1	9" x 18"	12 – Y16 @ Y8 @ 6"c/c	R–1	H–1
11	C11	12" x 21"	12 – Y16 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–2, H–1	9" x 21"	12 – Y16 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1
12	C12	12" x 21"	10 – Y20 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1	9" x 21"	10 – Y20 @ Y8 @ 6"c/c	R–1, R–2, R–3	–N.A.–
13	C13	12" x 24"	8 – Y20 + 4 – Y16 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1, H–2	9" x 24"	8 – Y20 + 4 – Y16 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1
14	C14	12" x 24"	12 – Y20 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1, H–2	9" x 24"	12 – Y20 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1
15	C15	12" x 24"	14 – Y20 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1, H–2, H–3	9" x 24"	14 – Y20 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1, H–2
16	C16	12" x 27"	8 – Y20 + 4 – Y16 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1, H–2, H–3	9" x 27"	8 – Y20 + 4 – Y16 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1, H–2, H–3
17	C17	12" x 30"	14 – Y20 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1, H–2, H–3, H–4	9" x 30"	14 – Y20 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1, H–2, H–3, H–4

COLUMN DETAILS

S No	Column No	Column Size	Column Reinforcement Detail	Rings Detail (R–Ring)	Hooks Detail (H–Hook)
1	C2	9" x 15"	8 – Y16 @ Y8 @ 6"c/c	R–1	–N.A.–
2	C3	9" x 18"	12 – Y16 @ Y8 @ 6"c/c	R–1	H–1
3	C4	9" x 21"	8 – Y20 + 4 – Y16 @ Y8 @ 6"c/c	R–1, R–2, R–3	H–1
4	C8	12" x 15"	8 – Y16 @ Y8 @ 6"c/c	R–1	H–1

FOOTING DETAILS

S No	Footing No	Footing Size	Excavation Pit Size	Footing Depth(D)	Footing Rft., Detail: Bottom Rft.,	Top Rft.,
1	F1	4'–6" x 4'–3"	5'–0" x 4'–9"	15"	Y10 @ 6"c/c Both Ways	–N.A–
2	F2	6'–0" x 5'–6"	6'–6" x 6'–0"	18"	Y10 @ 5"c/c Both Ways	–N.A–
3	F3	7'–0" x 6'–6"	7'–6" x 7'–0"	21"	Y10 @ 4"c/c Both Ways	–N.A–
4	F4	7'–9" x 6'–6"	8'–3" x 7'–0"	21"	Y10 @ 4"c/c Both Ways	–N.A–
5	F5	7'–9" x 7'–3"	8'–3" x 7'–9"	24"	Y10 @ 4"c/c Both Ways	–N.A–
6	F6	8'–9" x 7'–3"	9'–3" x 7'–9"	24"	Y10 @ 4"c/c Both Ways	–N.A–
7	F7	9'–0" x 8'–0"	9'–6" x 8'–6"	24"	Y12 @ 5"c/c Both Ways	–N.A–
8	F8	10'–0" x 8'–9"	10'–6" x 9'–3"	27"	Y12 @ 5"c/c Both Ways	Y10 @ 4"c/c Both Ways
9	F9	10'–9" x 8'–9"	11'–3" x 9'–3"	27"	Y12 @ 4"c/c Both Ways	Y10 @ 4"c/c Both Ways
10	F10	11'–3" x 9'–9"	11'–9" x 10'–3"	33"	Y12 @ 4"c/c Both Ways	Y10 @ 4"c/c Both Ways
11	CF1	15'–9" x 15'–9"	16'–3" x 16'–3"	24"	Y10 @ 4"c/c Both Ways	–N.A–



TYPICAL COLUMN SECTION
(N.T.S)

REF	DESCRIPTION	BY	DATE
REVISIONS			

CLIENT: Agaram Design Studio.

PROJECT: Mr.Vinayagam Apartment at Vadavalli.

TITLE: Column & Footing Layout & Details(2-2).

DSGN	DRWN	CHKD	APPD	DATE	SHEET	SCALE
HG	BK	SKAK	SKAK	03.01.24	A2	1":8"

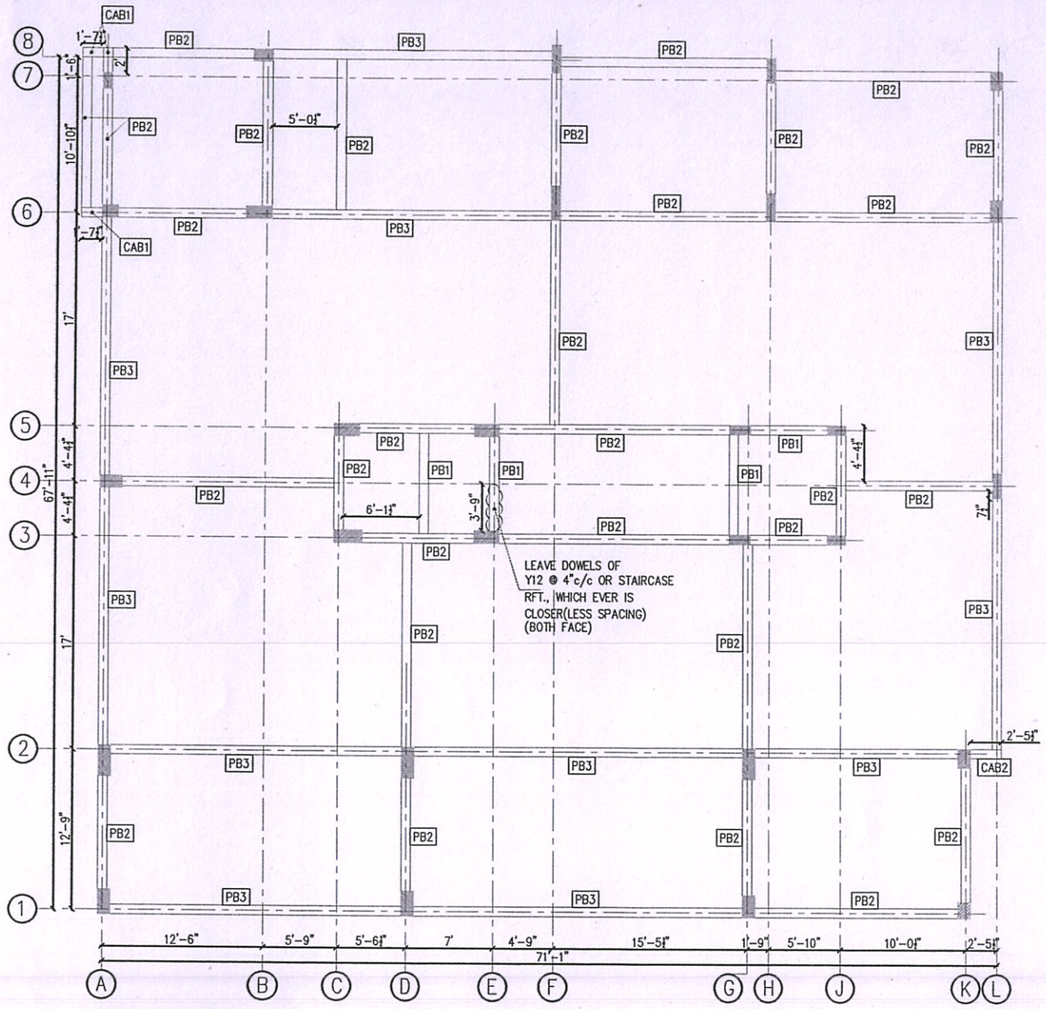
DWG. NO: MTA-22-03-RC-117-R0

STRUCTURAL CONSULTANT

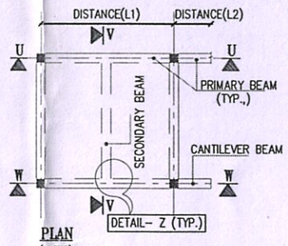
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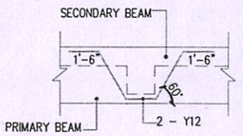
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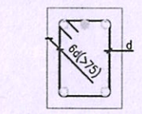
PLINTH BEAM LAYOUT



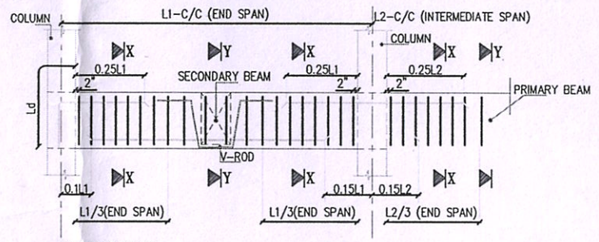
PLAN
(N.T.S)



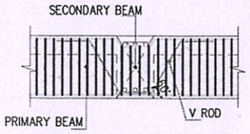
DETAIL - Z
(V-ROD DETAILS)
(N.T.S)



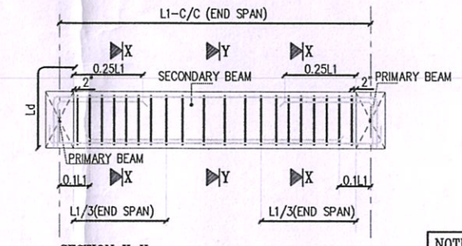
TYPICAL BEAM HOOK DETAILS



SECTION U-U
TYPICAL BEAM SECTION
(N.T.S)

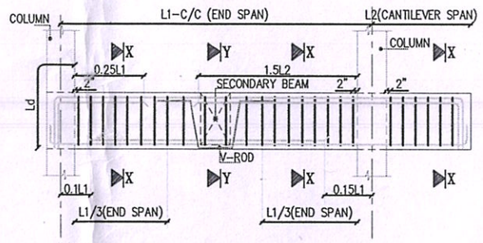


TYPICAL PRIMARY SECONDARY BEAM JUNCTION DETAIL
(N.T.S)



SECTION V-V
TYPICAL BEAM SECTION
(N.T.S)

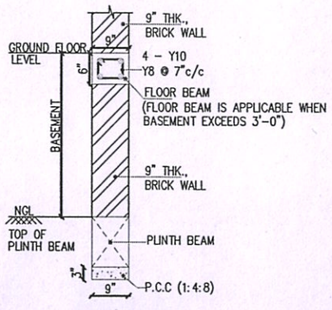
NOTE-2
*FOR SECTIONS XX & YY REFER BEAM DETAILS



SECTION W-W
TYPICAL CANTILEVER BEAM SECTION
(N.T.S)

PLINTH BEAM DETAILS

S No	Beam No	Beam Size	Section @ XX End span	Section @ YY Mid span
1	PB1	9"x12"	2 - Y12 + 1 - Y10 (EXT)* Y8 @ 6"c/c 2 - Y12	2 - Y12 Y8 @ 8"c/c 2 - Y12 + 1 - Y10 (EXT)*
2	PB2	9"x15"	2 - Y12 + 2 - Y10 (EXT)* Y8 @ 6"c/c 2 - Y12	2 - Y12 Y8 @ 8"c/c 2 - Y12 + 2 - Y10 (EXT)*
3	PB3	9"x18"	2 - Y12 + 2 - Y10 (EXT)* Y8 @ 6"c/c 2 - Y12	2 - Y12 Y8 @ 8"c/c 2 - Y12 + 2 - Y10 (EXT)*
4	CAB1	9"x15"	2 - Y12 + 2 - Y10* Y8 @ 6"c/c 2 - Y12	
5	CAB2	9"x18"	2 - Y12 + 2 - Y10* Y8 @ 6"c/c 2 - Y12	



TYPICAL PLINTH BEAM SECTION
(N.T.S)

NOTE
* BRICK WORK SHALL NOT BE MORE THAN 10'-6" FROM PLINTH BEAM TOP (INCLUDING BASEMENT 1'-0")
* PLINTH BEAMS ARE CONNECTING MEMBER ONLY AND THESE BEAMS CANNOT CARRY ANY MAJOR BRICK WALL LOADS.

COLUMN TERMINATION DETAILS

S No	Grid No	Termination Level
1	K-1	First Floor (Ground Floor Roof)

COLUMN ROTATION DETAILS

S No	Grid No	Rotation Level/ Degree
1	B-8 A-2 D-2 C-2 K-2	From First Floor / BY 90°

GENERAL NOTES
1. THIS DRAWING SHOULD BE READ ALONG WITH ARCHITECTURAL DRAWINGS.
2. ALL DIMENSIONS ARE IN FEET & INCHES.
3. ALL STRUCTURAL CONCRETE SHALL BE OF M25(1:1.5) GRADE CONFORMING TO IS:456.
4. ALL REINFORCEMENTS SHALL BE H.Y.S.D. BARS OF GRADE Fy 500 CONFORMING TO IS:1786.
5. THE CLEAR COVER FOR REINFORCEMENT SHALL BE FOR PLINTH BEAM.
6. LAP LENGTH SHALL BE Ld FOR ALL BARS.
7. NOT MORE THAN 50% OF REINFORCEMENT SHALL BE LAPPED AT ANY PARTICULAR JUNCTION.
8. SPACER BAR TO BE PROVIDED IN BETWEEN TWO LAYERS OF REINFORCEMENT OF SAME DIAMETER, 2NOS AT EVERY 1000 C/C.
9. THIS DRAWING IS NOT TO BE SCALED ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
10. THE SITE IN-CHARGE SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCEMENT OF WORKS AND ANY DISCREPANCIES SHALL BE REPORTED TO THE STRUCTURAL ENGINEER BEFORE EXECUTION.

Ld FOR VARIOUS DIA OF BAR

DIA OF BAR	10ø	12ø	16ø	20ø	25ø	32ø
TENSION Ld	47cm	57cm	75cm	94cm	118cm	151cm

LEGENDS
- FULL HEIGHT COLUMN
- COLUMN TERMINATES @ FIRST FLOOR

ABBREVIATIONS
Ld - DEVELOPMENT LENGTH
CAB - CANTILEVER BEAM

REF	DESCRIPTION	BY	DATE
	REVISIONS		

CLIENT:
Agaram Design Studio.

PROJECT:
Mr.Vinayagam Apartment at Vadavalli.

TITLE:
Plinth Beam Layout & Details.

DSGN	DRWN	CHKD	APPD	DATE	SHEET	SCALE
SP	SP	SKAK	SKAK	03.01.24	A2	1"=8"

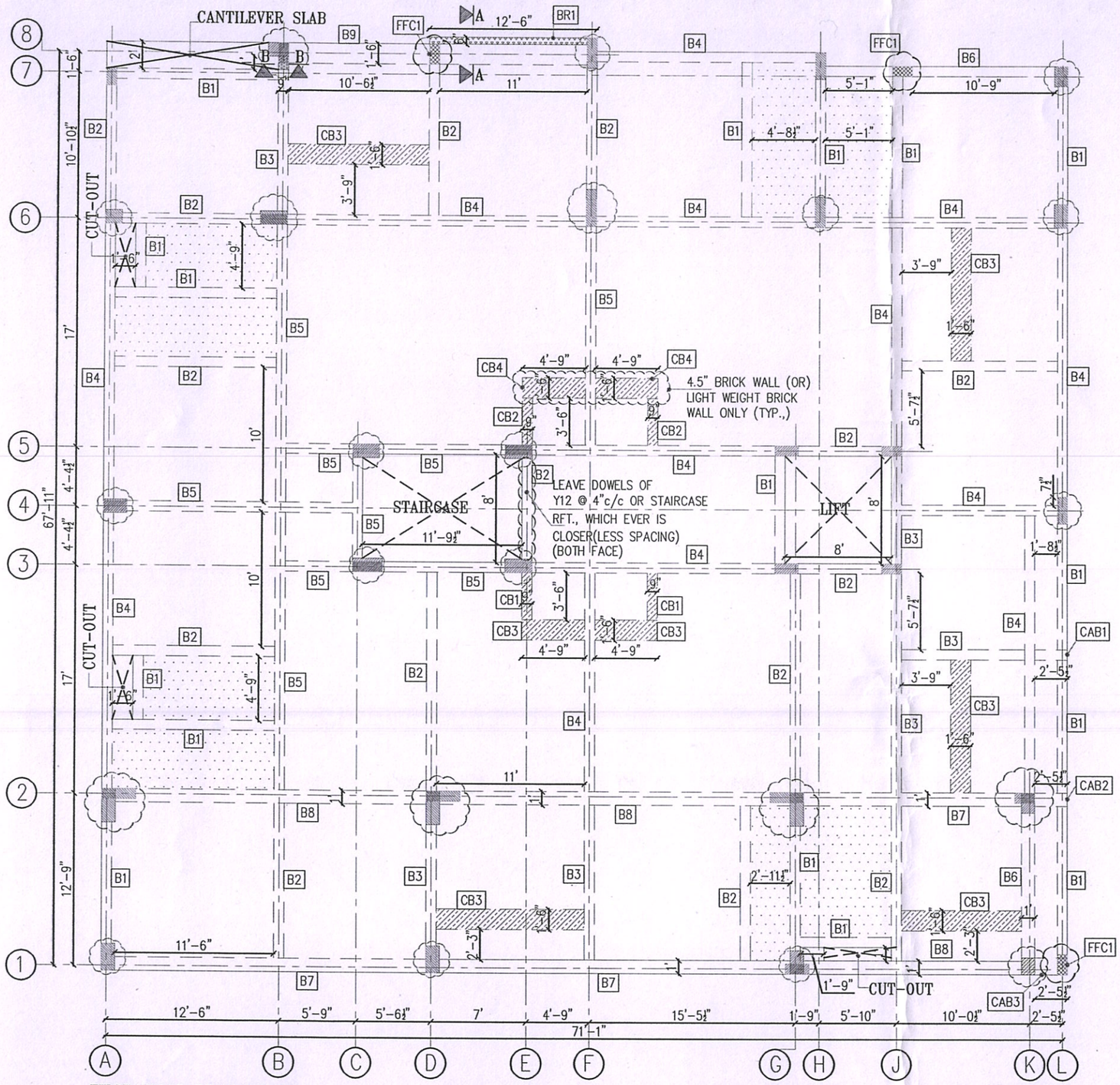
DWG. NO: MTA-222-031-RCC-108-R0

STRUCTURAL CONSULTANT

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Registered Structural Engineer GRADE-I (SE)
(DTCP) G. No. CGLRGN/SE/GR-I/2019/10/46
B&W STRUCTURAL DESIGN CONSULTANT
181/... Gandhi Road, Velachery, Chennai - 42.
Ph: 9677044466, 044 - 43237175
bwstructuraldesign@gmail.com

N

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SCOPE IS LIMITED TO THE DESIGN/DRAWING AS PER THE BIS CODAL PROVISION & IS NOT LIABLE FOR CONSTRUCTION/MATERIAL QUALITY & SAFE CONSTRUCTION PRACTICE.



COLUMN ROTATION DETAILS

S No	Grid No	Rotation Level/ Degree
1	B-8 A-2 D-2 G-2 K-2	From First Floor / BY 90°

COLUMN TERMINATION DETAILS

S No	Grid No	Termination Level
1	K-1	First Floor (Ground Floor Roof)

LEGENDS

- COLUMN TERMINATE @ FIRST FLOOR
- COLUMN SIZE REDUCTION FROM FIRST FLOOR
- COLUMN SIZE INCREASED FROM FIRST FLOOR
- FLOATING COLUMN FROM FIRST FLOOR
- COLUMN ROTATED FROM FIRST FLOOR

PRE CAMBERS FOR BEAMS

* PRE CAMBERS OF 0.4% OF THE SPAN BE PROVIDED FOR ALL HORIZONTAL STRUCTURAL MEMBERS SPAN EXCEEDING 5M (1.5M FOR CANTILEVER) AND FLOATING COLUMN SEATING BEAMS.

GENERAL NOTES

1. THIS DRAWING SHOULD BE READ ALONG WITH ARCHITECTURAL DRAWINGS.
2. ALL DIMENSIONS ARE IN FEET & INCHES.
3. ALL STRUCTURAL CONCRETE SHALL BE OF M25(1:1:2) GRADE CONFORMING TO IS:456.
4. ALL REINFORCEMENT(S) SHALL BE H.Y.S.D. BARS OF GRADE Fe 500 CONFORMING TO IS:1786.
5. THE CLEAR COVER FOR REINFORCEMENT SHALL BE ½" FOR SLAB AND 1" FOR BEAM.
6. LAP LENGTH SHALL BE Ld FOR ALL BARS.
7. NOT MORE THAN 50% OF REINFORCEMENT SHALL BE LAPPED AT ANY PARTICULAR JUNCTION.
8. THIS DRAWING IS NOT TO BE SCALED ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
9. MINIMUM DEPTH OF SUNKEN SHALL BE 10".
10. ALL SLABS SHALL BE PROVIDED WITH 10Ø DISTRIBUTORS @ Y8 @ 8" C/C.
11. SPACER BAR TO BE PROVIDED IN BETWEEN TWO LAYERS OF REINFORCEMENT OF SAME DIA(MIN.,20mm) AT EVERY 1000 C/C.
12. THE SITE IN-CHARGE SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCEMENT OF WORKS AND ANY DISCREPANCIES SHALL BE REPORTED TO THE STRUCTURAL ENGINEER BEFORE EXECUTION.

Ld FOR VARIOUS DIA OF BAR

DIA OF BAR	10ø	12ø	16ø	20ø	25ø	32ø
TENSION Ld	1'-9"	2'-0"	2'-9"	3'-3"	4'-0"	5'-3"

LEGENDS

- FULL HEIGHT COLUMN
- COLUMN TERMINATES @ FIRST FLOOR
- FLOATING COLUMN FROM FIRST FLOOR
- SUNKEN SLAB
- CONCEALED BEAM

ABBREVIATIONS

Ld – DEVELOPMENT LENGTH
CAB – CANTILEVER BEAM
CB – CONCEALED BEAM
N.T.S – NOT TO SCALE
BR – BRACKET

REF	DESCRIPTION	BY	DATE

REVISIONS

CLIENT:
Agaram Design Studio.

PROJECT:
Mr.Vinayagam Apartment at Vadavalli.

TITLE:
First Floor Slab, Beam Layout & Details(1-3).

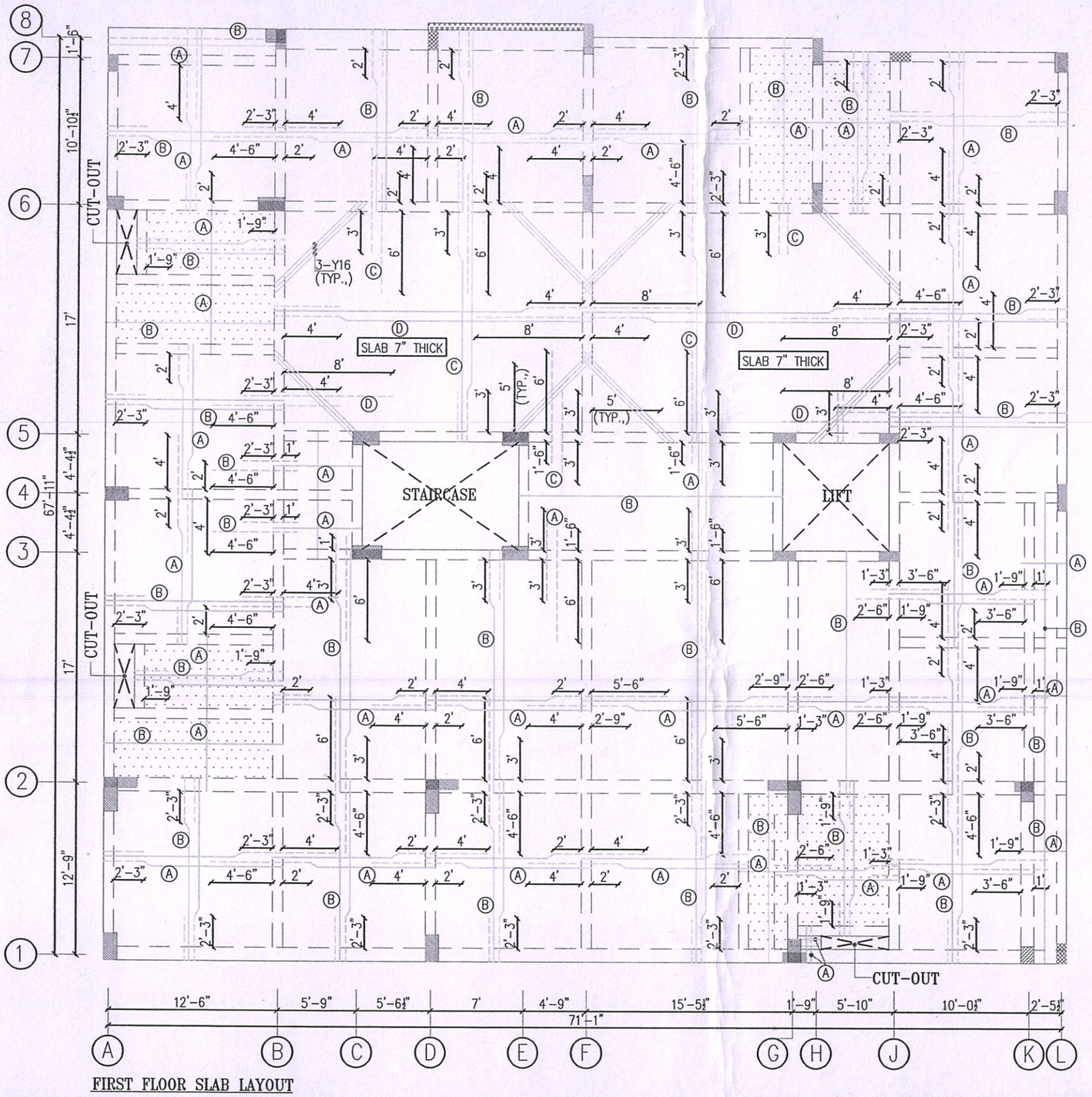
DSGN	DRWN	CHKD	APPD	DATE	SHEET	SCALE
SP	SP	SKAK	SKAK	03.01.24	A3	1":8"

DWG. NO: MTA-22-03-RC-09-R0

STRUCTURAL CONSULTANT

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FIRST FLOOR SLAB LAYOUT

GENERAL NOTES

1. THIS DRAWING SHOULD BE READ ALONG WITH ARCHITECTURAL DRAWINGS.
2. ALL DIMENSIONS ARE IN FEET & INCHES.
3. ALL STRUCTURAL CONCRETE SHALL BE OF M25(1:1:2) GRADE CONFORMING TO IS:456.
4. ALL REINFORCEMENTS SHALL BE H.Y.S.D. BARS OF GRADE Fe 500 CONFORMING TO IS:1786.
5. THE CLEAR COVER FOR REINFORCEMENT SHALL BE ½" FOR SLAB AND 1" FOR BEAM.
6. LAP LENGTH SHALL BE Ld FOR ALL BARS.
7. NOT MORE THAN 50% OF REINFORCEMENT SHALL BE LAPPED AT ANY PARTICULAR JUNCTION.
8. THIS DRAWING IS NOT TO BE SCALED ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
9. MINIMUM DEPTH OF SUNKEN SHALL BE 10".
10. ALL SLABS SHALL BE PROVIDED WITH TOP DISTRIBUTORS OF Y8 @ 8" C/C.
11. SPACER BAR TO BE PROVIDED IN BETWEEN TWO LAYERS OF REINFORCEMENT OF SAME DIA(MIN.,20mm) AT EVERY 1000 C/C.
12. THE SITE INCHARGE SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCEMENT OF WORKS AND ANY DISCREPANCIES SHALL BE REPORTED TO THE STRUCTURAL ENGINEER BEFORE EXECUTION.

Ld FOR VARIOUS DIA OF BAR

DIA OF BAR	10ø	12ø	16ø	20ø	25ø	32ø
TENSION Ld	1'-9"	2'-0"	2'-9"	3'-3"	4'-0"	5'-3"

LEGENDS

- – FULL HEIGHT COLUMN
- – COLUMN TERMINATES @ FIRST FLOOR
- – FLOATING COLUMN FROM FIRST FLOOR
- – SUNKEN SLAB

ABBREVIATIONS

Ld – DEVELOPMENT LENGTH

REF	DESCRIPTION	BY	DATE

REVISIONS

CLIENT:
Agaram Design Studio.

PROJECT:
Mr.Vinayagam Apartment at Vadavalli.

TITLE:
First Floor Slab, Beam Layout & Details(2-3).

DSGN	DRWN	CHKD	APPD	DATE	SHEET	SCALE
SP	SP	SKAK	SKAK	03.01.24	A3	1":8"

DWG. NO: MTA-22-03-RC-110-R0

STRUCTURAL CONSULTANT

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SCOPE IS LIMITED TO THE DESIGN/DRAWING AS PER THE BIS CODAL PROVISION & IS NOT LIABLE FOR CONSTRUCTION/MATERIAL QUALITY & SAFE CONSTRUCTION PRACTICE.

BEAM DETAILS

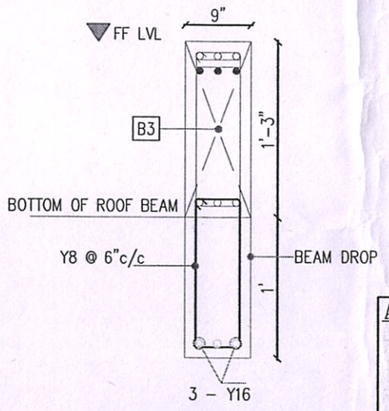
S No	Beam No	Beam Size	Section @ XX End span	Section @ YY Mid span
1	B1	9"x15"	2 – Y12 + 2 – Y12 (EXT) Y8 @ 7"c/c 2 – Y12	2 – Y12 Y8 @ 8"c/c 2 – Y12 + 2 – Y12 (EXT)
2	B2	9"x15"	2 – Y16 + 3 – Y12 (EXT) Y8 @ 6"c/c 2 – Y16	2 – Y16 Y8 @ 7"c/c 2 – Y16 + 3 – Y12 (EXT)
3	B3	9"x15"	3 – Y16 + 3 – Y16 (EXT) Y8 @ 6"c/c 3 – Y16	3 – Y16 Y8 @ 7"c/c 3 – Y16 + 3 – Y16 (EXT)
4	B4	9"x18"	3 – Y16 + 3 – Y16 (EXT) Y8 @ 4"c/c 3 – Y16	3 – Y16 Y8 @ 4"c/c 3 – Y16 + 3 – Y16 (EXT)
5	B5	9"x21"	4 – Y16 + 3 – Y16 (EXT) Y10 @ 4"c/c 4 – Y16	4 – Y16 Y10 @ 5"c/c 4 – Y16 + 3 – Y16 (EXT)
6	B6	9"x30"	4 – Y20 + 3 – Y20 (EXT) Y10 @ 5"c/c 4 – Y20	4 – Y20 Y10 @ 5"c/c 4 – Y20 + 3 – Y20 (EXT)
7	B7	12"x24"	3 – Y16 + 3 – Y16 (EXT) Y8 @ 6"c/c 3 – Y16	3 – Y16 Y8 @ 7"c/c 3 – Y16 + 3 – Y16 (EXT)
8	B8	12"x30"	3 – Y20 + 3 – Y20 (EXT) Y10 @ 6"c/c 3 – Y20	3 – Y20 Y10 @ 6"c/c 3 – Y20 + 3 – Y20 (EXT)
9	B9	18"x27"	5 – Y20 + 5 – Y20 (EXT) Y10 @ 4"c/c 5 – Y20	5 – Y20 Y10 @ 5"c/c 5 – Y20 + 5 – Y20 (EXT)

BEAM DETAILS (CONT..)

S No	Beam No	Beam Size	Section @ XX End span	Section @ YY Mid span
10	CAB1	9"x12"	3 – Y16 Y8 @ 7"c/c 3 – Y12	
11	CAB2	12"x18"	3 – Y16 Y8 @ 7"c/c 3 – Y16	
12	CAB3	12"x30"	6 – Y20 Y10 @ 6"c/c (4–Legged) 3 – Y20	
13	CB1	9"x5"	3 – Y12 Y8 @ 6"c/c 3 – Y12	
14	CB2	9"x7"	3 – Y12 Y8 @ 6"c/c 3 – Y12	
15	CB3	18"x5"	5 – Y12 Y8 @ 6"c/c 5 – Y12	
16	CB4	18"x7"	5 – Y12 Y8 @ 6"c/c 5 – Y12	

FLOATING COLUMN DETAILS

S No	Column No	Column Size	Column Reinforcement Detail	Rings Detail (R–Ring)	Hooks Detail (H–Hook)	V–ROD
1	FFC1	9" x 18"	12 – Y16 Y8 @ 6"c/c	R–1	H–1	3 – Y16



SECTION B–B
(N.T.S)

SLAB DETAILS

THICKNESS :5" (UNLESS NOTED)

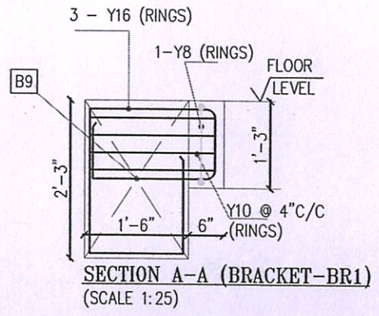
A	Y8 @ 6"C/C
B	Y8 @ 7"C/C
C	Y10 @ 4"C/C
D	Y10 @ 5"C/C

LIVE LOAD SCHEDULE

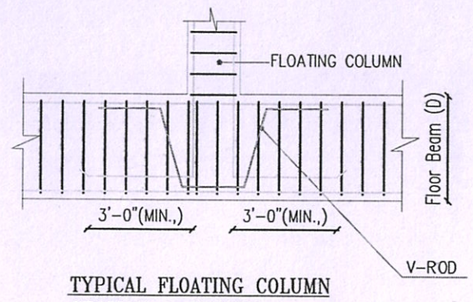
DESCRIPTION	LIVE LOAD (kN/m²)
FIRST FLOOR	2

ABBREVIATION

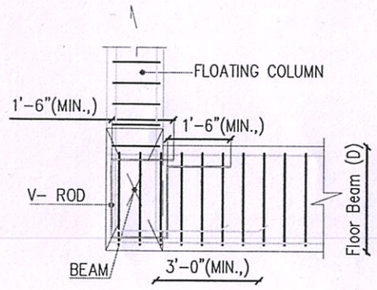
LD – DEVELOPMENT LENGTH
CAB – CANTILEVER BEAM
CB – CONCEALED BEAM
FFC – FIRST FLOOR FLOATING COLUMN
N.T.S – NOT TO SCALE



SECTION A–A (BRACKET–BR1)
(SCALE 1:25)



TYPICAL FLOATING COLUMN SECTION @ CENTER
(N.T.S)



TYPICAL FLOATING COLUMN SECTION @ CORNER
(N.T.S)

REF	DESCRIPTION	BY	DATE
	REVISIONS		

CLIENT:
Agaram Design Studio.

PROJECT:
Mr.Vinayagam Apartment at Vadavalli.

TITLE:
First Floor Slab, Beam Layout & Details(3-3).

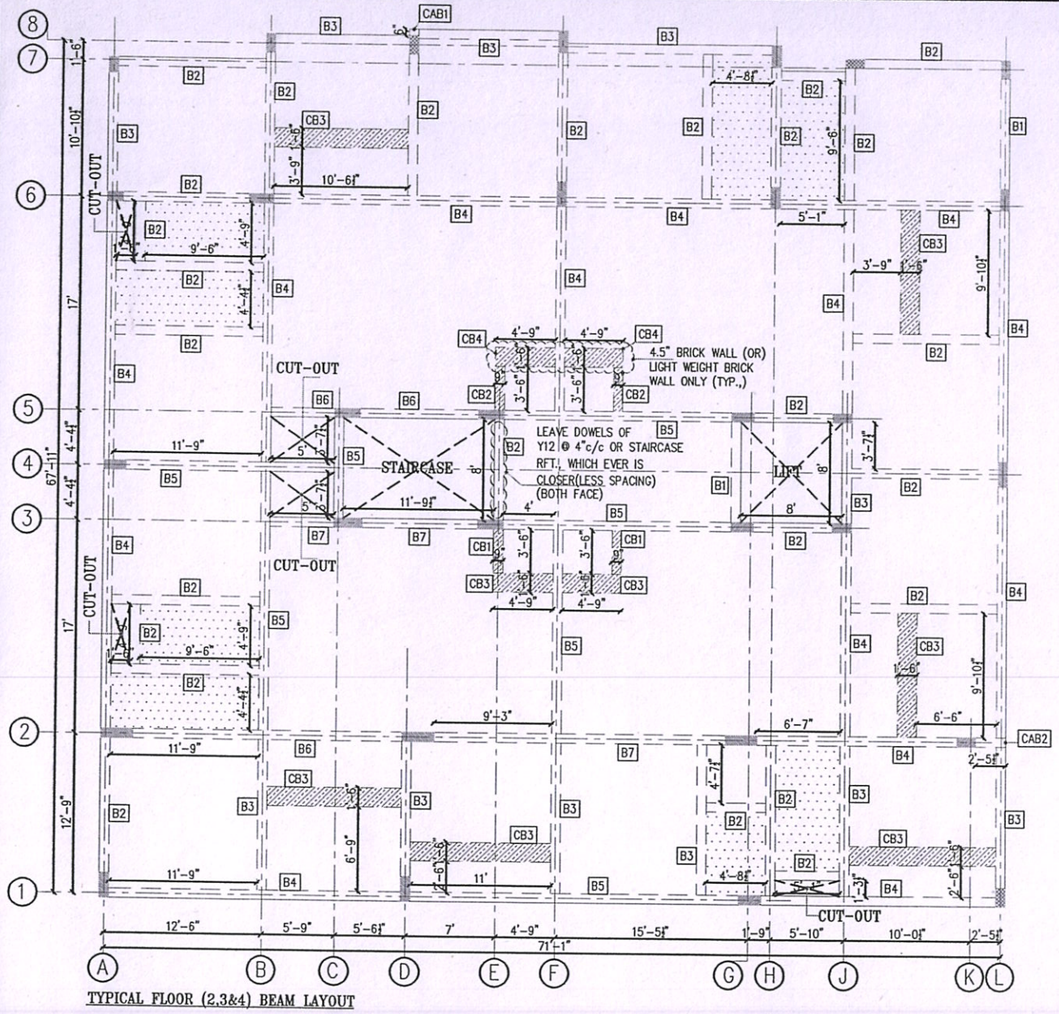
DSGN	DRWN	CHKD	APPD	DATE	SHEET	SCALE
SP	SP	SKAK	SKAK	03.01.24	A3	1":8"

DWG. NO: MTA-222-03-RC-111-R0

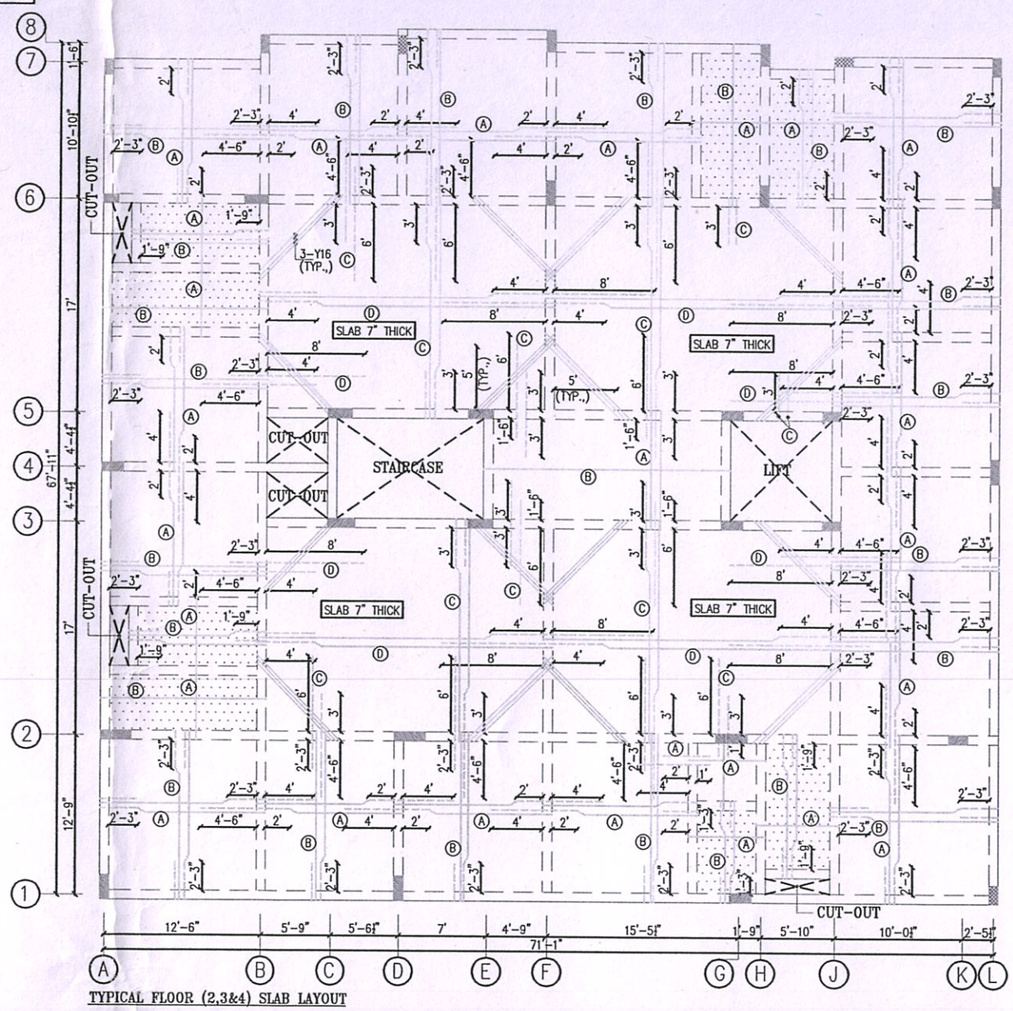
STRUCTURAL CONSULTANT

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TYPICAL FLOOR (2,3&4) BEAM LAYOUT



TYPICAL FLOOR (2,3&4) SLAB LAYOUT

BEAM DETAILS

S No	Beam No	Beam Size	Section @ XX	Section @ YY Mid span
1	B1	9"x12"		3 – Y12 Y8 @ 7"c/c 3 – Y12
2	B2	9"x15"	3 – Y12 + 3 – Y12 (EXT) Y8 @ 7"c/c 3 – Y12	3 – Y12 Y8 @ 7"c/c 3 – Y12 + 3 – Y12 (EXT)
3	B3	9"x15"	3 – Y16 + 3 – Y12 (EXT) Y8 @ 7"c/c 3 – Y16	3 – Y16 Y8 @ 7"c/c 3 – Y16 + 3 – Y12 (EXT)
4	B4	9"x18"	4 – Y16 + 3 – Y16 (EXT) Y8 @ 5"c/c 4 – Y16	4 – Y16 Y8 @ 6"c/c 4 – Y16 + 3 – Y16 (EXT)
5	B5	9"x21"	3 – Y20 + 3 – Y16 (EXT) Y8 @ 4"c/c 3 – Y20	3 – Y20 Y8 @ 4"c/c 3 – Y20 + 3 – Y16 (EXT)
6	B6	9"x21"	4 – Y20 + 3 – Y20 (EXT) Y8 @ 4"c/c 4 – Y20	4 – Y20 Y8 @ 4"c/c 4 – Y20 + 3 – Y20 (EXT)

BEAM DETAILS (CONT..)

S No	Beam No	Beam Size	Section @ XX	Section @ YY Mid span
7	B7	9"x27"	4 – Y20 + 3 – Y20 (EXT) Y8 @ 6"c/c 4 – Y20	4 – Y20 Y8 @ 7"c/c 4 – Y20 + 3 – Y20 (EXT)
8	CAB1	9"x15"		3 – Y12 Y8 @ 6"c/c 3 – Y12
9	CAB2	9"x18"		4 – Y16 Y8 @ 6"c/c 4 – Y16
10	CB1	9"x5"		3 – Y12 Y8 @ 6"c/c 3 – Y12
11	CB2	9"x7"		3 – Y12 Y8 @ 6"c/c 3 – Y12
12	CB3	18"x5"		5 – Y12 Y8 @ 6"c/c 5 – Y12
13	CB4	18"x7"		5 – Y12 Y8 @ 6"c/c 5 – Y12

SLAB DETAILS

THICKNESS :5" (UNLESS NOTED)	
A	Y8 @ 6"C/C
B	Y8 @ 7"C/C
C	Y10 @ 4"C/C
D	Y10 @ 5"C/C

LIVE LOAD SCHEDULE

DESCRIPTION	LIVE LOAD (kN/m²)
2,3,4th FLOOR	2

PRE CAMBERS FOR BEAMS

* PRE CAMBERS OF 0.4% OF THE SPAN BE PROVIDED FOR ALL HORIZONTAL STRUCTURAL MEMBERS (SPAN EXCEEDING 5M (1.5M FOR CANTILEVER) AND FLOATING COLUMN SEATING BEAMS.

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2. ALL DIMENSIONS SHOULD BE CHECKED AT SITE BEFORE CONSTRUCTION.
3. ALL REINFORCEMENTS SHALL BE HYSD BARS OF GRADE Fe 500 CONFORMING TO IS 1786.
4. THE SPLICES PROVIDED FOR REINFORCEMENT SHALL BE AT MID LENGTH OF COLUMN AND AT MID SPAN OF BEAM.
5. NO LENGTH SHALL BE LESS THAN 30% OF REINFORCEMENT SHALL BE LAPPED AT ANY PARTICULAR SECTION.
6. THIS DRAWING IS NOT TO BE SCALED ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
7. MINIMUM DEPTH OF SUNKEN SHALL BE 150 MM.
8. ALL SLABS SHALL BE PROVIDED WITH TOP REINFORCEMENT OF Y8 @ 6" C/C.
9. A SPACER BAR TO BE PROVIDED IN BETWEEN TWO LAYERS OF REINFORCEMENT OF SAME DIA(MIN. 12mm) AT EVERY 1000 C/C.
10. THE SITE IN-CHARGE SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCEMENT OF WORKS AND ANY DISCREPANCIES SHALL BE REPORTED TO THE STRUCTURAL ENGINEER BEFORE EXECUTION.

Ld FOR VARIOUS DIA OF BAR

DIA OF BAR	10ø	12ø	16ø	20ø	25ø	32ø
TENSION Ld	40	48	64	80	100	128

LEGENDS

- FULL HEIGHT COLUMN
- FLOATING COLUMN FROM FIRST FLOOR
- SUNKEN SLAB
- CONCEALED BEAM

ABBREVIATIONS

Ld – DEVELOPMENT LENGTH
CAB – CANTILEVER BEAM
CB – CONCEALED BEAM
N.T.S. – NOT TO SCALE

REF	DESCRIPTION	BY	DATE
REVISIONS			

CLIENT:
Agaram Design Studio.

PROJECT:
Mr.Vinayagam Apartment at Vadavalli.

TITLE:
Typical Floor (2,3&4) Slab, Beam Layout & Details.

DSGN	DRWN	CHKD	APPD	DATE	SHEET	SCALE
RR	RR	MS	SKAK	03.01.24	A2	1"=8"

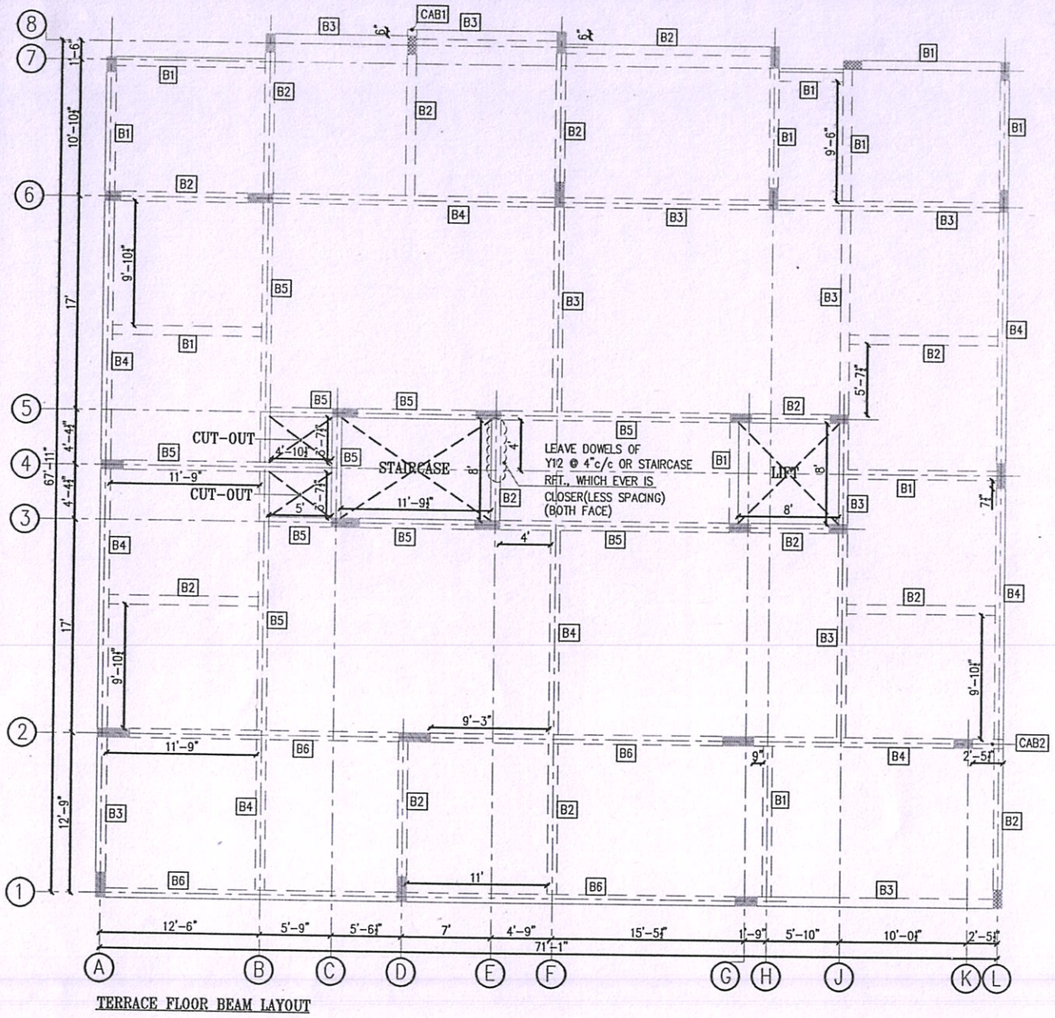
DWG. NO. MTA-221-013-RC-112-R0

STRUCTURAL CONSULTANT

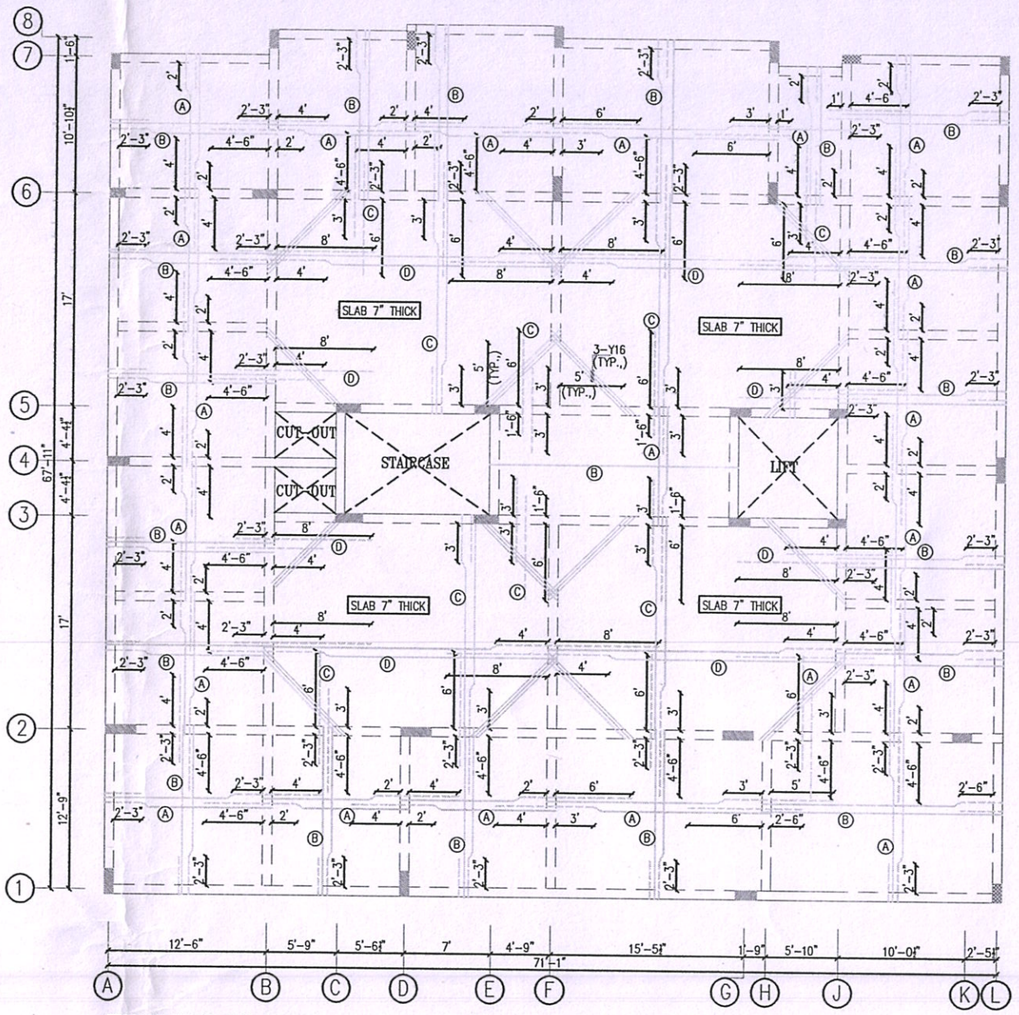
N. TAMILVANAN, M.E.(STRUCT.,)
Registration Structural Engineer GRADE-I (SE)
(DTP) REG. No. CGLRGN/SE/GR-I/2019/10746
BW STRUCTURAL DESIGN CONSULTANT
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bwstructuraldesign@gmail.com

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TERRACE FLOOR BEAM LAYOUT



TERRACE FLOOR SLAB LAYOUT

BEAM DETAILS

S No	Beam No	Beam Size	Section @ XX	Section @ YY Mid span
1	B1	9"x12"	3 – Y12 Y8 @ 7"c/c 3 – Y12	
2	B2	9"x15"	2 – Y12 + 2 – Y12 (EXT) Y8 @ 7"c/c 2 – Y12	2 – Y12 Y8 @ 8"c/c 2 – Y12 + 2 – Y12 (EXT)
3	B3	9"x15"	3 – Y16 + 3 – Y12 (EXT) Y8 @ 7"c/c 3 – Y16	3 – Y16 Y8 @ 8"c/c 3 – Y16 + 3 – Y12 (EXT)
4	B4	9"x18"	3 – Y16 + 3 – Y12 (EXT) Y8 @ 7"c/c 3 – Y16	3 – Y16 Y8 @ 8"c/c 3 – Y16 + 3 – Y12 (EXT)

BEAM DETAILS (CONT.,)

S No	Beam No	Beam Size	Section @ XX	Section @ YY Mid span
5	B5	9"x18"	4 – Y16 + 3 – Y16 (EXT) Y8 @ 7"c/c 4 – Y16	4 – Y16 Y8 @ 8"c/c 4 – Y16 + 3 – Y16 (EXT)
6	B6	9"x21"	3 – Y20 + 3 – Y16 (EXT) Y8 @ 4"c/c 3 – Y20	3 – Y20 Y8 @ 5"c/c 3 – Y20 + 3 – Y16 (EXT)
7	CAB1	9"x15"	4 – Y12 Y8 @ 6"c/c 2 – Y12	
8	CAB2	9"x18"	3 – Y16 Y8 @ 7"c/c 3 – Y16	

SLAB DETAILS

THICKNESS :5" (UNLESS NOTED)

A	Y8	@	6"C/C
B	Y8	@	7"C/C
C	Y10	@	4"C/C
D	Y10	@	5"C/C

LIVE LOAD SCHEDULE

DESCRIPTION	LIVE LOAD (kN/m²)
TERRACE FLOOR	2

PRE CAMBERS FOR BEAMS

PRE CAMBERS OF 0.4% OF THE SPAN SHALL BE PROVIDED FOR ALL HORIZONTAL STRUCTURAL MEMBERS SPAN EXCEEDING 5M (1.5M FOR CANTILEVER) AND FLOATING COLUMN SUPPORTING BEAMS.

GENERAL NOTES

ALL DIMENSIONS ARE IN FEET & INCHES.
ALL STRUCTURAL CONCRETE SHALL BE OF GRADE M30 (CONCRETE MIX DESIGN SHALL BE AS PER IS 10262-2019) UNLESS OTHERWISE NOTED.
THE SLAB COVER FOR REINFORCEMENT SHALL BE 20 MM FOR SLAB AND 25 MM FOR BEAM.
LAP LENGTH SHALL BE 50 FOR ALL BARS.
NOT MORE THAN 50% OF REINFORCEMENT SHALL BE LAPPED AT ANY PARTICULAR JUNCTION.
THIS DRAWING IS NOT TO BE SCALED ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
ALL SLABS SHALL BE PROVIDED WITH TOP REINFORCEMENT OF 8 MM Φ @ 6" C/C DISTRIBUTION OF 12 MM Φ @ 6" C/C SPACED BAR TO BE PROVIDED IN BETWEEN TWO LAYERS OF REINFORCEMENT OF SAME DIAMETER BOTH AT EVERY 1000 C/C.
THE SITE IN-CHARGE SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCEMENT OF WORKS AND ANY DISCREPANCIES SHALL BE REPORTED TO THE STRUCTURAL ENGINEER BEFORE EXECUTION.

Ld FOR VARIOUS DIA OF BAR

DIA OF BAR	8	10	12	16	20	25	32
TENSION Ld	400	500	600	800	1000	1250	1600

LEGENDS

FULL HEIGHT COLUMN
FLOATING COLUMN FROM FIRST FLOOR

ABBREVIATIONS

Ld – DEVELOPMENT LENGTH
CAB – CANTILEVER BEAM
N.T.S – NOT TO SCALE

REF	DESCRIPTION	BY	DATE

REVISIONS

CLIENT:
Agaram Design Studio.

PROJECT:
Mr.Vinayagam Apartment at Vadavalli.

TITLE:
Terrace Floor Slab, Beam Layout & Details.

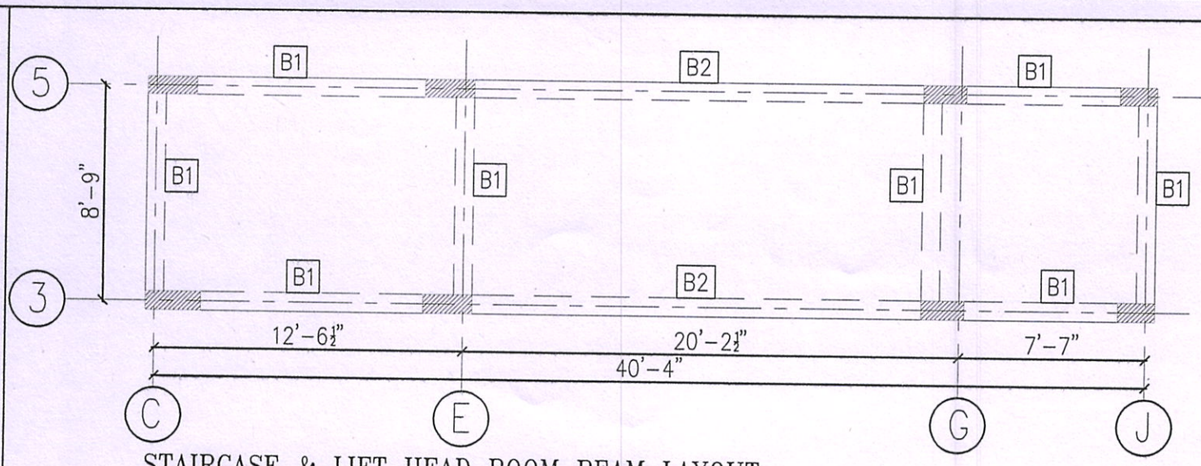
DSGN	DRWN	CHKD	APPD	DATE	SHEET	SCALE
RR	RR	MS	SKAK	03.01.24	A2	1":8"

DWG. NO: MTA-22-03-RC-113-R0

STRUCTURAL CONSULTANT

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bwstructuraldesign@gmail.com

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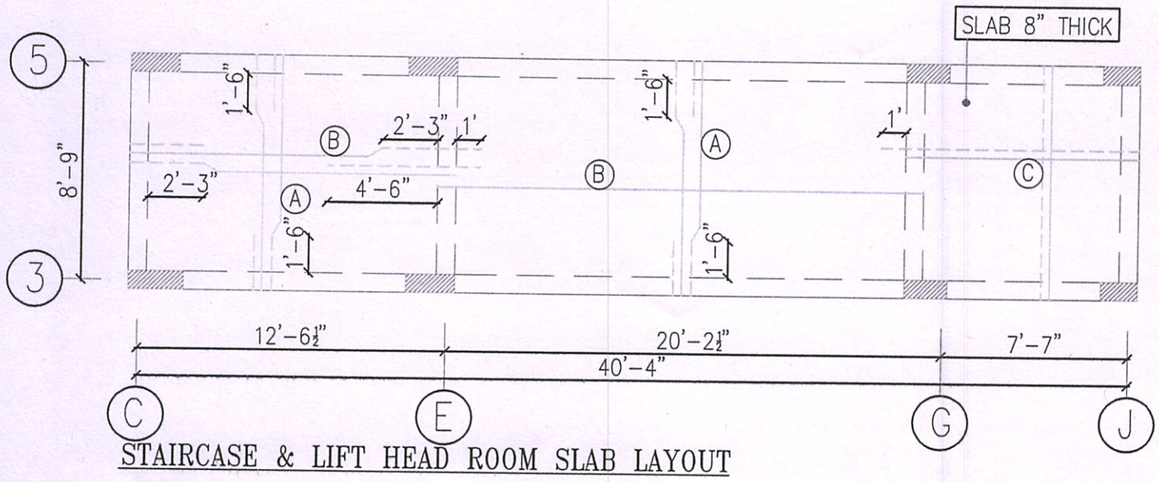
STAIRCASE & LIFT HEAD ROOM BEAM LAYOUT

SLAB DETAILS

THICKNESS : 5" (UNLESS NOTED)		
A	Y8	@ 6"C/C
B	Y8	@ 7"C/C
C	Y12	@ 4"C/C

LEGENDS

▨ – FULL HEIGHT COLUMN



STAIRCASE & LIFT HEAD ROOM SLAB LAYOUT

ABBREVIATIONS

Ld – DEVELOPMENT LENGTH
N.T.S – NOT TO SCALE

BEAM DETAILS

S No	Beam No	Beam Size	Section @ XX	Section @ YY Mid span
1	B1	9"x12"	3 – Y12 Y8 @ 7"c/c 3 – Y12	
2	B2	9"x15"	2 – Y12 + 2 – Y12 (EXT) Y8 @ 7"c/c 2 – Y12	2 – Y12 2 – Y12 + 2 – Y12 (EXT)

LIVE LOAD SCHEDULE

DESCRIPTION	LIVE LOAD (kN/m²)
STAIRCASE HEADROOM	5

GENERAL NOTES

1. THIS DRAWING SHOULD BE READ ALONG WITH ARCHITECTURAL DRAWINGS.
2. ALL DIMENSIONS ARE IN FEET & INCHES.
3. ALL STRUCTURAL CONCRETE SHALL BE OF M25(1:1.2) GRADE CONFORMING TO IS:456.
4. ALL REINFORCEMENT(Y) SHALL BE H.Y.S.D. BARS OF GRADE Fe 500 CONFORMING TO IS:1786.
5. THE CLEAR COVER FOR REINFORCEMENT SHALL BE ½" FOR SLAB AND 1" FOR BEAM.
6. LAP LENGTH SHALL BE Ld FOR ALL BARS.
7. NOT MORE THAN 50% OF REINFORCEMENT SHALL BE LAPPED AT ANY PARTICULAR JUNCTION.
8. THIS DRAWING IS NOT TO BE SCALED ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
9. ALL SLABS SHALL BE PROVIDED WITH TOP DISTRIBUTORS OF Y8 @ 8" C/C.
10. SPACER BAR TO BE PROVIDED IN BETWEEN TWO LAYERS OF REINFORCEMENT OF SAME DIA(MINI.,20mm) AT EVERY 1000 C/C.
11. THE SITE IN-CHARGE SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCEMENT OF WORKS AND ANY DISCREPANCIES SHALL BE REPORTED TO THE STRUCTURAL ENGINEER BEFORE EXECUTION.

Ld FOR VARIOUS DIA OF BAR

DIA OF BAR	10ø	12ø	16ø	20ø	25ø	32ø
TENSION Ld	1'-9"	2'-0"	2'-9"	3'-3"	4'-0"	5'-3"

N

REF.	DESCRIPTION	BY	DATE
REVISIONS			

CLIENT:
Agaram Design Studio.

PROJECT:
Mr.Vinayagam Apartment at Vadavalli.

TITLE:
Staircase, Lift Headroom Slab & Beam Layout and Details.

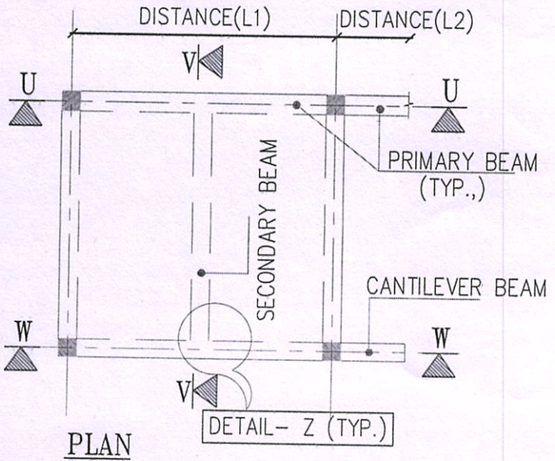
DSGN	DRWN	CHKD	APPD	DATE	SHEET	SCALE
RR	RR	MS	SKAK	23.09.23	A3	1":8"

DWG. NO: MTA-22-03-RC-14-R0

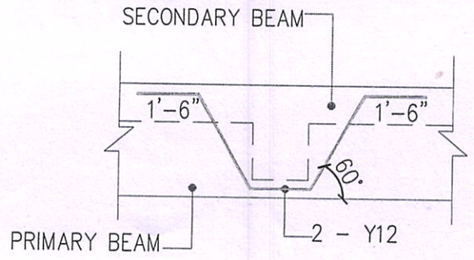
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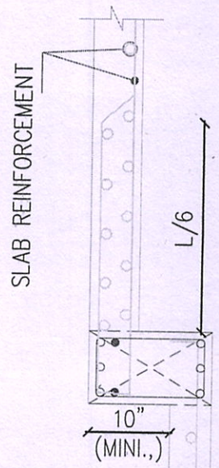
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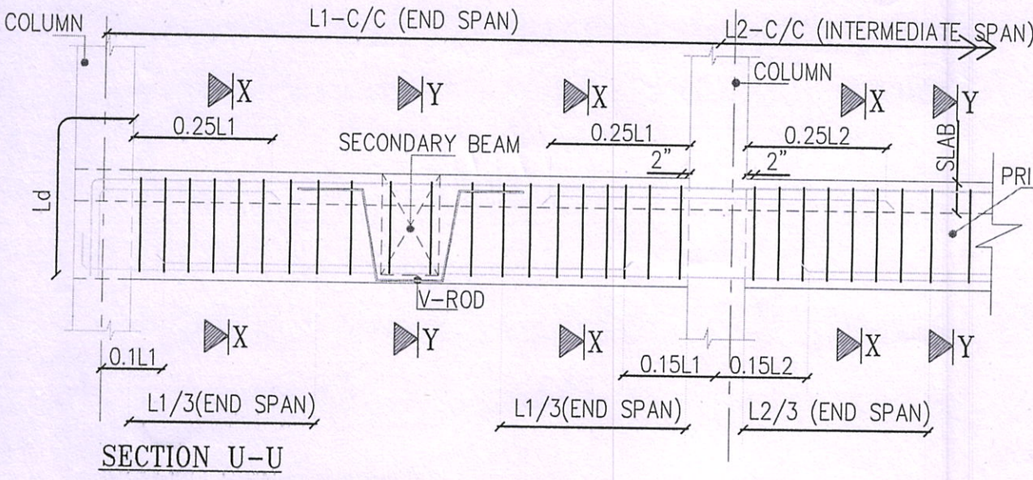


PLAN
(N.T.S)

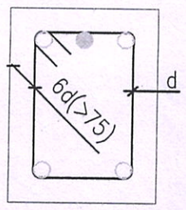


DETAIL - Z
(V-ROD DETAILS)
(N.T.S)

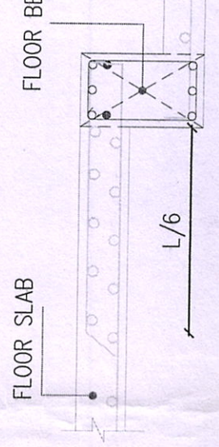




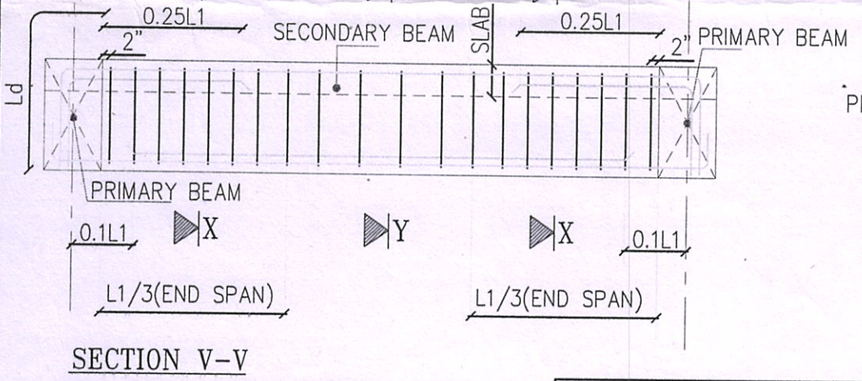
SECTION U-U
TYPICAL BEAM SECTION
(N.T.S)



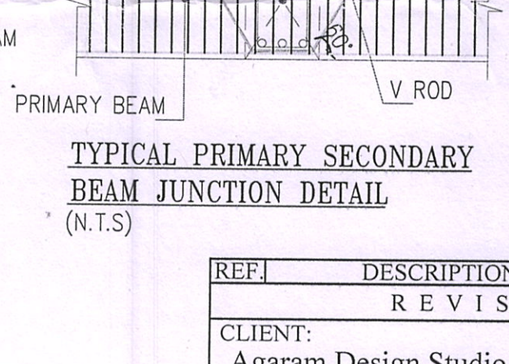
TYPICAL BEAM
HOOK DETAILS



TYPICAL SUNKEN SLAB SECTION
(N.T.S)

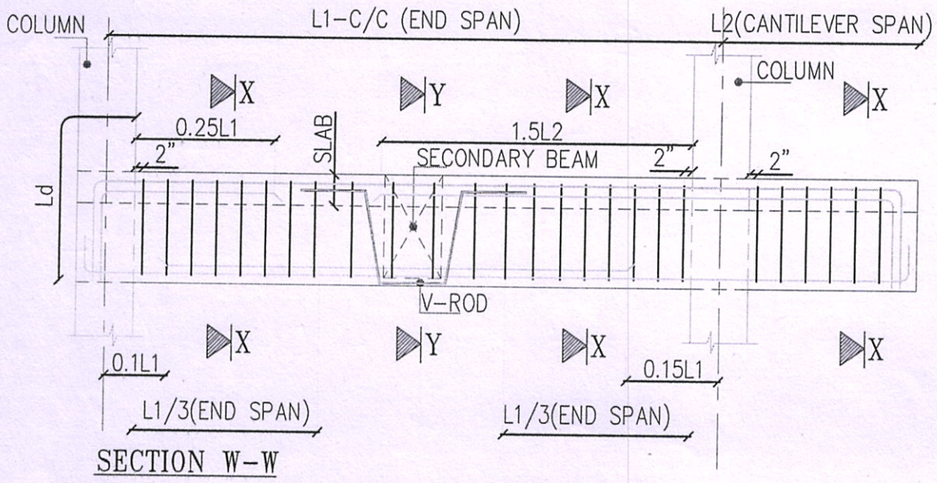


SECTION V-V
TYPICAL BEAM SECTION
(N.T.S)



TYPICAL PRIMARY SECONDARY
BEAM JUNCTION DETAIL
(N.T.S)

ABBREVIATION	
Ld	- DEVELOPMENT LENGTH
N.T.S	- NOT TO SCALE



SECTION W-W
TYPICAL CANTILEVER BEAM SECTION
(N.T.S)

NOTE
*FOR SECTIONS XX & YY REFER BEAM DETAILS

REF.	DESCRIPTION	BY	DATE
	REVISIONS		

CLIENT:
Agaram Design Studio.

PROJECT:
Mr.Vinayagam Apartment at Vadavalli.

TITLE:
Typical Roof Beam Sections and Layout.

DSGN	DRWN	CHKD	APPD	DATE	SHEET	SCALE
RR	RR	MS	SKAK	03.01.24	A2	1":8"

DWG. NO: MTA-22-03-RC-15-R0

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THE LANDLENS SUITE

Eight ways to know a piece of land before you pay for it.

This report covers one part of the picture. These cover the rest, drawn from the same government records, for any property in Tamil Nadu.

LandLens One
Ask anything about a property and get an answer grounded in live government records, with the sources shown.
/landlens/one

Verify My Land
Every record check run on one property and returned as a single report.
/landlens/verify-my-land

Legal Opinion
An advocate's written opinion on the title, built on the records we pull for it.
/landlens

One Map
Every layer on one map: the parcel, its boundary, zoning, water bodies and what sits around it.
/landlens/one/map

PriceMap
What land actually changed hands for around this plot, taken from the registered deeds.
/landlens/pricemap

Build Scope
What you are allowed to build here: floor space, height, coverage and setbacks.
/landlens/build-scope

Property Tracker
Watch a property and hear about it when something new is registered against it.
/landlens/property-tracker

Deal Room
Run the transaction in one place: documents, stamping, signatures and the parties.
/landlens/deal-room

FREE TOOLS · NO ACCOUNT NEEDED

Twenty-four checks you can run yourself, at no cost.

Records and verification

The registers themselves, read for you.

- Encumbrance Certificate
- Patta and Chitta
- Field Measurement Sketch
- EC Analyzer
- Bank charge check
- Court case search
- Seller background check
- Approval check by survey

Value and duty

What it is worth and what it costs to register.

- Guideline value by street
- Guideline value by survey
- Stamp duty and registration fees
- Capital gains
- Floor space index
- Area unit converter

Zoning and land use

What the plan says can happen on this land.

- Land use zone finder
- CMDA land use check
- Coastal regulation zone
- Master plan check
- Water bodies finder
- Airport height clearance

Registers and directories

Who holds it, and which office keeps the record.

- Find your registering office
- Temple property check
- Waqf property check
- RERA register

Every free tool
/tools

Services we run for you
/services

The LandLens suite
/landlens/one

Verified RealEstate™

Every claim in this document traces back to a government record.

- Legal opinions, due diligence and title verification
- Building plan, layout and sub-division approvals
- Completion and occupancy certificates, regularisation
- Escrow, negotiation and NRI property management
- Land survey, soil testing, architecture and construction

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Prepared from the registers named on the page each finding sits on. Where a register could not be read, this document says so in its place rather than leaving the gap to be read as a clean result.