



CHENNAI METROPOLITAN DEVELOPMENT AUTHORITY
'Thalamuthu Natarajan Building', No.1, Gandhi Irwin Road,
Egmore, Chennai-600 008.

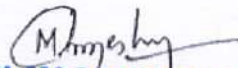
PROFESSIONAL REGISTRATION CERTIFICATE

This is to certify that **Thiru. MAGESHRAJAA. N** has enrolled as **Registered Structural Engineer Grade-I (SE)** with Chennai Metropolitan Development Authority (CMDA) who has the qualification of **M.E., (Structural Engg.)** and experience in the relevant field for **8 years**.

He has been given the Registration No.**SE/GR-I/2022/06/325** on **24.06.2022**. He shall be required to comply with the duties and responsibilities prescribed by the Government of Tamil Nadu in Part-V, "Registration of Professionals", Tamil Nadu Combined Development and Building Rules, 2019 approved vide G.O.(Ms) No.18 MAWS (MA1) Dept. dated 04.02.2019.

This Registration is valid upto **23.06.2027**.



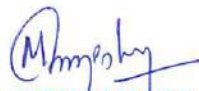

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(A. MEGANATHAN)
Superintendent

DESIGN REPORT
FOR
PROPOSED APARTMENT BUILDING (S+5)
AT, SURVEY NO: 716/3, 716/4, 716/5, 716/1D1,
716/1D2, AGARAM MAIN ROAD,
TIRUVANCHERY, MADAMBAKKAM,
CHENNAI- 600 073

CLIENT: M/s. RUSSEL FOUNDATIONS PVT. LTD.,
AIRFORCE STATION ROAD, EAST TAMBARAM,
CHENNAI – 600 059

AME STRUCTURAL CONSULTANTS
NO: 28, JAWAHARLAL NEHRU STREET,
NEW PERUNGALATHUR,
CHENNAI – 600 063


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CHC-GCC REGISTERED STRUCTURAL ENGINEER GRADE-III (RSE)
(A. N. MAGESH RAO, M.E. (Structural Engineer))

STAAD SPACE

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8347	45.00	0.00
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8379	45.00	0.00
8380	45.00	0.00

SOFT STORY CHECK

VERTICAL STRUCTURAL IRREGULARITIES : SOFT STORY CHECK - IS 1893:2016

STORY	FL. LEVEL IN METE	S T A T U S	
-----	-----	-----	-----
		X	Z
1	6.60	OK	OK
2	9.60	OK	OK
3	12.60	OK	OK
4	15.60	OK	OK
5	18.60	OK	OK
6	21.60	OK	OK

NOTE : NO SOFT STOREY IS DETECTED.


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1. DESIGN ASSUMPTION

a) STRUCTURAL SYSTEM

The structural system for the "PROPOSED RESIDENTIAL APPARTMENT AT TIRUVANCHERY, MADAMBAKKAM, CHENNAI", consists of Stilt + 5 upper floors and OHT. The total height of the building is about 18 m from Ground floor level. The structure is supported on isolated foundation as per the soil test report recommendation.

2. DESIGN LOADS

a) Dead Load:

Dead Load considered on slab: Self Weight + 1.5 kN/m² for Floor Finish.

Wall load	= 5 kN/m (230mm thick)- AAC Block - Outer Wall
Wall load	= 2.5kN/m (115mm thick)- AAC Block- Inner Wall
Wall load (Parapet)	= 2kN/m (230mm thick)
Staircase load	= 10 kN/m (RCC staircase)
Sunken load	= 2.7kN/m ² (Vermiculate)
Water Tank	= 18kN/m ² (1800 mm height)
Floor finish	= 2kN/m ² (Terrace)

b) Roof Live Load:

The super imposed load or otherwise live load is assessed based on the occupancy classifications as per IS = 0.75 kN/m² on Solar panel roof.

Live Load considered on slab	=2 kN/m ²
Live Load considered on slab	=3 kN/m ² (Lobby & Staircase)
Live Load considered on slab	=1.5 kN/m ² (Terrace)

3. EARTHQUAKE LOAD

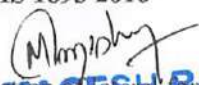
The loading due to earthquake is assessed based on the provisions of IS: 1893(Part-1):2016

Seismic Zone	= III
Table-2 Zone factor (Z)	= 0.16
Table-6 Importance Factor (I)	= 1.2
Table-7 Response Reduction Factor (R)	= 5

Building frame system (SMRF) as per table 7 clause 6.4.2 of IS 1893 2016

Height of building (H) = 9 m

Base dimension of part of the building along the considered direction (D)


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STRUCTURAL SYSTEM

The structural system for the PROPOSED RESIDENTIAL APARTMENT AT THIRUVANCHERY, MADRAS, CHENNAI, consists of stiff + rigid beam and column. The total height of the building is about 18 m from ground level. The structure is supported on isolated foundation as per soil test report recommendation.

DESIGN LOADS

- a) Dead load:
Dead load considering weight of self weight + 1.2 kN/m² for floor slab
Wall load = 2.5 kN/m² (brickwork) + 1.2 kN/m² (plaster) = 3.7 kN/m²
Roof load = 1.2 kN/m² (floor slab) + 0.4 kN/m² (plaster) = 1.6 kN/m²
- b) Live load:
The above values are to be multiplied by 1.5 for safety factor on the live load.
Roof live load = 0.75 kN/m² (as per IS 8750)
Floor live load = 2.0 kN/m² (as per IS 8750)

ENVIRONMENTAL DATA

- The building is located in a coastal area and hence the wind speed is 120 km/h.
- Seismic zone = II
- Soil type = II
- Wind speed = 120 km/h
- Soil type = II

Building frame is of RC type as per IS 456:2000 and IS 1328:2000.

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Fundamental Natural time period

$$T_s = 0.09H/\sqrt{d} \quad \text{from CL - 7.6.2 - IS 1893 (Part-I) 2016}$$

$$S_a/g = \text{from FIG-2 IS 1893 (part-I) 2016}$$

The respective natural time period can be referred from the respective model.

Horizontal Seismic Co-efficient

$$A_h = (Z/2) \times (I/R) \times (S_a/g)$$

Seismic Base Shear

$$V_b = A_h \times W$$

Structure with ductile detailing is considered as per IS: 13920-2016

As per IS: 1893 – 2016, percentage of imposed loads to be considered for seismic weight calculation is mentioned below:

Imposed Uniformity Distributed Floor Load Loads (kN/ m2)	Percentage of Imposed
Up to & including 3.0	25
Above 3.0	50

4. LOAD COMBINATIONS**Strength combinations:**

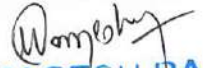
- 1.5DL + 1.5 LL
- 1.5DL (+/-) 1.5 WL/EQ Load
- 1.2DL + 1.2LL (+/-) 1.5 WL/EQ Load
- 0.9DL (+/-) 1.5 WL/EQ Load

Serviceability combinations:

- DL + LL
- DL + 0.8 LL (+/-) 0.8 WL/EQ Load
- DL (+/-) WL/EQ Load

5. ANALYSIS METHOD

The structure is analyzed by static for gravity due to Earthquake loads and its combinations.


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Environmental Protection Agency

U.S. Environmental Protection Agency

Office of Research and Development

U.S. Environmental Protection Agency

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6. DESIGN METHODOLOGY

All structures have been designed according to the Limit State Method as specified in IS: 456-2000 & IS 1893 - 2016. Appropriate loads and its combinations, as per relevant clauses in IS 456:2000 code, for the most unfavorable effects are chosen for design.

7. MATERIALS

The self-weight of the various elements is computed based on the built weight of materials as given below: -

Materials	Unit weight in kN/m ³
Steel	78.5
Plain concrete	24
Reinforced concrete	25
Soil	18
Red brick	19
AAC Block	5.7

8. CONCRETE

All the concrete items for the construction have the following characteristics

Grade of Concrete = M30

Aggregate = 20mm and down size, mechanically crushed Aggregate.

9. STEEL

Steel reinforcement shall be of Grade Fe500, Fe550 conforming to IS: 1786-2008.

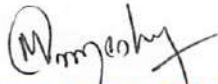
10. COVER TO REINFORCEMENT

The clear cover to main reinforcement shall be as follows.

Footing	= Bottom: 50mm, Sides: 50mm
Slab	= 20mm
Columns	= 40mm
Beams	= 25mm

11. FOUNDATION SYSTEM

Foundation systems are based on recommendations given as per soil investigation report – VCE/23/GIR-011 by M/s. VELTECH CONSULTING ENGINEERS, CHENNAI – 600 073.


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DESIGN SPECIFICATIONS

1. The design shall be in accordance with the following specifications:-
 a) The design shall be in accordance with the following specifications:-
 b) The design shall be in accordance with the following specifications:-

2. MATERIALS

The materials to be used in the design shall be in accordance with the following specifications:-
 a) The materials to be used in the design shall be in accordance with the following specifications:-
 b) The materials to be used in the design shall be in accordance with the following specifications:-

Sl. No.	Material	Quantity
1	Concrete	1000
2	Steel	500
3	Brick	1000
4	Plaster	1000
5	Paint	1000

3. CONSTRUCTION

a) The construction shall be in accordance with the following specifications:-
 b) The construction shall be in accordance with the following specifications:-
 c) The construction shall be in accordance with the following specifications:-

4. FINISH

The finish to be used in the design shall be in accordance with the following specifications:-

5. GENERAL REQUIREMENTS

The following are the general requirements for the design:-
 a) The design shall be in accordance with the following specifications:-
 b) The design shall be in accordance with the following specifications:-
 c) The design shall be in accordance with the following specifications:-

6. CONSTRUCTION SYSTEM

The construction system to be used in the design shall be in accordance with the following specifications:-
 a) The construction system to be used in the design shall be in accordance with the following specifications:-
 b) The construction system to be used in the design shall be in accordance with the following specifications:-

12. CODES & STANDARDS

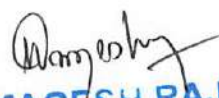
All the design are conforming to the relevant Indian Standards. Some of the relevant Indian Standard Codes, which have been followed for the structural design are given below.

	Description
IS:875 (Part-1)-1987	Code of Practice for Design Loads (Other than Earthquake) for Building and Structures-Unit Weights of Buildings Materials and Stored Material.
IS:875 (Part-2)-1987	Code of Practice for Design Loads (Other than Earthquake) for Building and Structures-Imposed loads
IS:875 (Part-3)-2015	Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures –Wind Load.
IS:456 (Part-1)-2000	Code of Practice for Plain and Reinforced Concrete
IS:1893 (Part-1)-2016	Indian Standard Criteria for Earthquake Resistant Design of Structures.
IS:432 (Part-2)-1982	Specification of Mild Steel and Medium Tensile Steel bars and Hard drawn Steel Wire for concrete reinforcement – Hard drawn Steel Wire.
IS:1786-2008	Specification for High Strength Deformed Steel Bars and Wires for Concrete Reinforcement
IS:1904	Indian Standard Code of practice for Design & Construction foundations in Soil: General Requirements.
IS:1642-1989	Indian Standard Code of practice for Fire Safety Of Buildings (General): Details Of Construction.

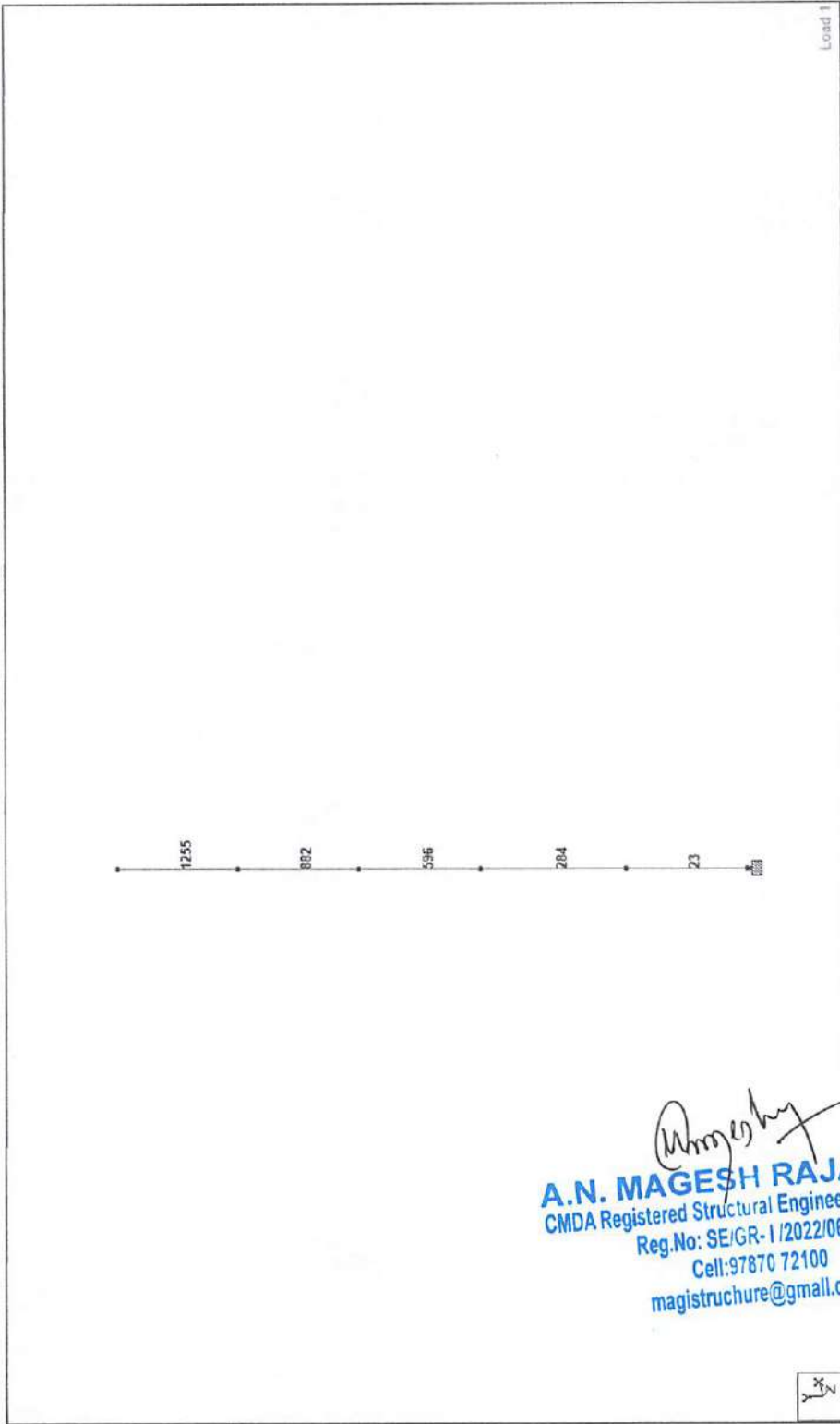
IS: 1786-2008 Specification for High Strength Deformed Steel Bars and Wires for Concrete Reinforcement. IS: 1904 Indian Standard Code of practice for Design & Construction foundations in Soil: General Requirements IS: 1642-1989 Indian Standard Code of practice for Fire Safety of buildings (General): Details of Construction.

13. STRUCTURAL ANALYSIS

The Building structures are analyzed using STAAD for various load combination as per Indian Codes.


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Job Title	Job No.	Sheet No.	Rev
	Part	1	
Client	By	Date	Chd
File	Date Time		
A - BLOCK.std			



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STAAD SPACE

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IS-456 LIMIT STATE DESIGN
COLUMN NO. 1250 DESIGN RESULTS

M25 Fe500 (Main) Fe500 (Sec.)

LENGTH: 500.0 mm CROSS SECTION: 230.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 151 END JOINT: 464 SHORT COLUMN

REQD. STEEL AREA : 2248.02 Sq.mm.

REQD. CONCRETE AREA: 135752.00 Sq.mm.

MAIN REINFORCEMENT : Provide 12 - 16 dia. (1.75%, 2412.74 Sq.mm.)
(Equally distributed)

TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 230 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2370.22 Muz1 : 234.46 Muy1 : 69.20

INTERACTION RATIO: 1.00 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 113

END JOINT: 464 Puz : 2430.14 Muz : 281.68 Muy : 79.99 IR: 0.79

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IS-456 LIMIT STATE DESIGN
COLUMN NO. 1255 DESIGN RESULTS

M25 Fe500 (Main) Fe500 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 450.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 151 END JOINT: 674 SHORT COLUMN


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STAAD SPACE

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REQD. STEEL AREA : 1299.67 Sq.mm.
 REQD. CONCRETE AREA: 162458.44 Sq.mm.
 MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.50%, 1357.17 Sq.mm.)
 (Equally distributed)
 TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

 Puz : 3510.25 Muz1 : 198.30 Muy1 : 144.37

INTERACTION RATIO: 0.99 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

 WORST LOAD CASE: 123
 END JOINT: 674 Puz : 3531.17 Muz : 245.51 Muy : 179.12 IR: 0.87
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IS-456	LIMIT	STATE	DESIGN
COLUMN	NO.	1256	DESIGN RESULTS

M25	Fe500 (Main)	Fe500 (Sec.)
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LENGTH: 3000.0 mm CROSS SECTION: 450.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 147 END JOINT: 675 SHORT COLUMN

REQD. STEEL AREA : 1726.04 Sq.mm.
 REQD. CONCRETE AREA: 215754.56 Sq.mm.
 MAIN REINFORCEMENT : Provide 16 - 12 dia. (0.67%, 1809.56 Sq.mm.)
 (Equally distributed)
 TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

 Puz : 3665.35 Muz1 : 236.88 Muy1 : 171.58

INTERACTION RATIO: 0.99 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

 WORST LOAD CASE: 123
 END JOINT: 675 Puz : 3695.73 Muz : 270.52 Muy : 196.35 IR: 0.94


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IS-456	LIMIT	STATE	DESIGN
COLUMN	NO.	882	DESIGN RESULTS

M25	Fe500 (Main)	Fe500 (Sec.)
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LENGTH: 3000.0 mm CROSS SECTION: 450.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 101 END JOINT: 328 SHORT COLUMN

REQD. STEEL AREA : 1315.35 Sq.mm.
 REQD. CONCRETE AREA: 164418.20 Sq.mm.
 MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.50%, 1357.17 Sq.mm.)
 (Equally distributed)
 TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 3515.96 Muz1 : 287.32 Muy1 : 210.76

INTERACTION RATIO: 0.14 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

Worst Load Case: 101
End Joint: 328 Puz : 3531.17 Muz : 290.87 Muy : 213.01 IR: 0.14

IS-456	LIMIT	STATE	DESIGN
COLUMN	NO.	883	DESIGN RESULTS

M25	Fe500 (Main)	Fe500 (Sec.)
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LENGTH: 3000.0 mm CROSS SECTION: 450.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 102 END JOINT: 329 SHORT COLUMN


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IS-456 L I M I T S T A T E D E S I G N
C O L U M N N O. 596 D E S I G N R E S U L T S

M25 Fe500 (Main) Fe500 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 450.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 101 END JOINT: 170 SHORT COLUMN

REQD. STEEL AREA : 1409.60 Sq.mm.
REQD. CONCRETE AREA: 176199.89 Sq.mm.
MAIN REINFORCEMENT : Provide 8 - 16 dia. (0.60%, 1608.50 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 255 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 3550.24 Muz1 : 282.59 Muy1 : 207.30

INTERACTION RATIO: 0.23 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 101
END JOINT: 170 Puz : 3622.59 Muz : 299.46 Muy : 218.56 IR: 0.21
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IS-456 L I M I T S T A T E D E S I G N
C O L U M N N O. 597 D E S I G N R E S U L T S

M25 Fe500 (Main) Fe500 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 450.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 102 END JOINT: 171 SHORT COLUMN


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STAAD SPACE

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REQD. STEEL AREA : 1236.83 Sq.mm.
 REQD. CONCRETE AREA: 136763.19 Sq.mm.
 MAIN REINFORCEMENT : Provide 12 - 12 dia. (0.98%, 1357.17 Sq.mm.)
 (Equally distributed)
 TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 2002.40 Muz1 : 53.73 Muy1 : 19.30

INTERACTION RATIO: 0.86 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 149
 END JOINT: 2869 Puz : 2046.17 Muz : 82.38 Muy : 27.69 IR: 0.64

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IS-456 LIMIT STATE DESIGN
 COLUMN NO. 284 DESIGN RESULTS

M25 Fe500 (Main) Fe500 (Sec.)

LENGTH: 3600.0 mm CROSS SECTION: 450.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 101 END JOINT: 86 SHORT COLUMN

REQD. STEEL AREA : 1913.23 Sq.mm.
 REQD. CONCRETE AREA: 268086.78 Sq.mm.
 MAIN REINFORCEMENT : Provide 20 - 12 dia. (0.84%, 2261.95 Sq.mm.)
 (Equally distributed)
 TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 3733.44 Muz1 : 228.65 Muy1 : 167.43

INTERACTION RATIO: 0.26 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 101
 END JOINT: 170 Puz : 3860.28 Muz : 259.20 Muy : 189.14 IR: 0.23


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IS-456 LIMIT STATE DESIGN
COLUMN NO. 23 DESIGN RESULTS

M25 Fe500 (Main) Fe500 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 450.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 101 END JOINT: 23 SHORT COLUMN

REQD. STEEL AREA : 1987.70 Sq.mm.
REQD. CONCRETE AREA: 268012.31 Sq.mm.
MAIN REINFORCEMENT : Provide 20 - 12 dia. (0.84%, 2261.95 Sq.mm.)
(Equally distributed)
TIE REINFORCEMENT : Provide 8 mm dia. rectangular ties @ 190 mm c/c

SECTION CAPACITY BASED ON REINFORCEMENT REQUIRED (KNS-MET)

Puz : 3760.52 Muz1 : 216.66 Muy1 : 158.56

INTERACTION RATIO: 0.27 (as per Cl. 39.6, IS456:2000)

SECTION CAPACITY BASED ON REINFORCEMENT PROVIDED (KNS-MET)

WORST LOAD CASE: 101
END JOINT: 23 Puz : 3860.28 Muz : 237.25 Muy : 173.20 IR: 0.24

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IS-456 LIMIT STATE DESIGN
COLUMN NO. 24 DESIGN RESULTS

M25 Fe500 (Main) Fe500 (Sec.)

LENGTH: 3000.0 mm CROSS SECTION: 450.0 mm X 600.0 mm COVER: 40.0 mm

** GUIDING LOAD CASE: 102 END JOINT: 24 SHORT COLUMN

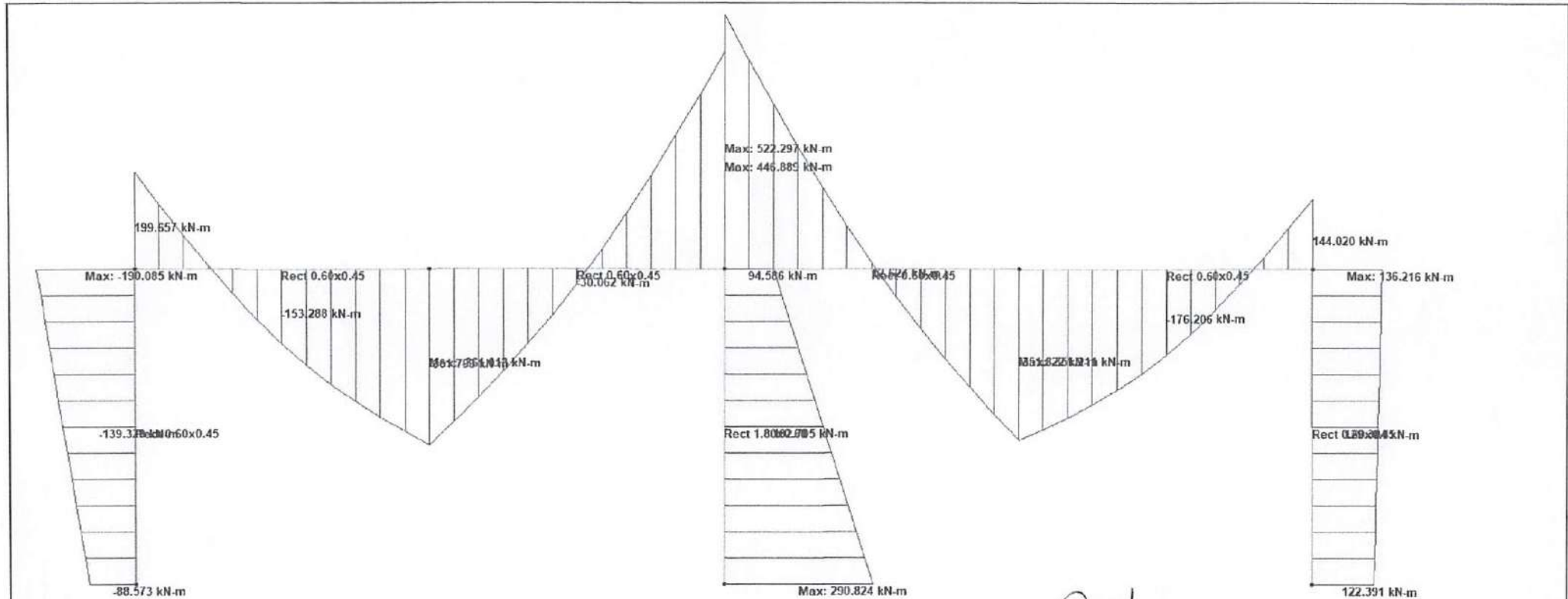

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Job No.	Sheet No.	Rev
	2	
Part	Ref	
By	Date 25-Sep-23	Chd
Date Time 20-Nov-2025 13:31		

Job Title

Client

File A - BLOCK.std



Y
X-Z

Beam

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Load 102 : Bending Z : Displacement
 Moment - kN-m

Bentley

Sheet A-Block

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SFRB-38-GRID-3 to 10

MU/Bd ²	=	4.37	
d	=	517	mm
B	=	450	mm
D	=	600	mm
E-COVER		83	mm
M _u +M _t	=	525.7	kNm
M _u		523	kNm
Pt%-SP16	=	1.2	
Pc%-SP16	=	0.48	
Ast.Req	=	2792	mm ²
Asc	=	1117	mm ²
Mx	=	2	kNm
add Mu1	=	2.7	
25	0	0	mm ²
20	10	3140	mm ²
16	0	0	mm ²
12	0	0	mm ²
Ast.Pro	=	3140	mm ²


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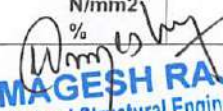
SPRB-38-GRID-3 to 10

MU/BV2	=			
d	=			mm
8	=		450	mm
D	=		600	mm
E-COVER			83	mm
M _u +M _v	=		252.7	kNm
M _u			253	kNm
PR-SPLC	=		1.2	
PR-SPLC	=		0.48	
Asl Red	=			mm ²
Asc	=			mm ²
Mx	=		2	kNm
add MUF	=		2.7	
25		0	0	mm ²
20		10	3140	mm ²
16		0	0	mm ²
12		0	0	mm ²
Asl Pro	=		8140	mm ²

STILT FLOOR ROOF SLAB-S2		BLOCK-A		slab Reff. S2							
INPUT DATA											
Slab			Loads								
Shorter Span	Lx =	2.750 m	Dead Load	DL =	3.75 kN/m ²						
Longer Span	Ly =	4.990 m	Live load	LL =	5.00 kN/m ²						
Thickness of Slab	D =	150 mm	Floor Finishes	FF =	1.50 kN/m ²						
Clear Cover	d' =	20 mm	False Ceilling Load	=	1.00 kN/m ²						
Ly/Lx ratio	k =	1.81 Two-Way Slab	Total Load	w =	11.25 kN/m ²						
Panel Type			Materials								
Basic L/d ratio = 26			Grade of Concrete = 25 N/mm ²								
Edge Condition: = 2			Grade of Reinf. Steel = 500 N/mm ²								
One Short Edge Discontinuous			Young's Modulus E = 2.50E+04 N/mm ²								
DESIGN											
Direction	BM Coefficients (IS:456-2000)	Flexural Design			dia & Required Spacing				Provided Reinforcement		
		Mu	Ast _{req}	Ast _{pro}	8	10	12	16			
		kNm	mm ²	mm ²	mm	mm	mm	mm			
Shorter Span	$\alpha x (-)$ =	0.0650	8.299	155	352	300	300	300	300	8 @ 150	Safe
	$\alpha x (+)$ =	0.0490	6.257	151	352	300	300	300	300	8 @ 150	Safe
Longer Span	$\alpha y (-)$ =	0.0370	4.722	151	352	300	300	300	300	8 @ 150	Safe
	$\alpha y (+)$ =	0.0280	3.573	151	352	300	300	300	300	8 @ 150	Safe
CHECK FOR DEFLECTION											
Area of Steel required = 151 mm ² Area of Steel Provided = 352 mm ² Steel stress of service load = 124.60 N/mm ² Provided reinforcement (%) = 0.28% Modification ratio MF = 2.000 Effective depth required for deflection point of view $d_{req} = 52.88462$ mm Eff. depth provided d = 126 mm Safe											
SLAB SUMMARY											
Shorter Span: Provide T 8 @ 150 mm c/c + 1 T 8 Extra between the two cranked bars Longer Span : Provide T 8 @ 150 mm c/c + 1 T 8 Extra between the two cranked bars											
CHECK FOR SHEAR											
Max Shear Force = 23 KN Actual Shear stress $\tau_v = 0.184$ N/mm ² P_t of Ast = 0.28% Design Shear Stress $\tau_c = 0.38$ N/mm ² Shear is less than Design Shear Stress, Hence Safe against shear											
NOTES											
1. Crank alternate bars at 0.3 times the respective span. 2. Provide 12mm dia chairs at 1000mm c/c in both directions. 3. Provide 5 mm thick cover blocks at 600mm c/c in both directions.											
Reinforcement Summary: Along Shorter Span Provided T8@ 150mm c/c Along Longer Span Provided T8@ 150mm c/c											

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DATA FOOTING TYPE-F7		
Longer dimension of column L	600	mm
Shorter dimension of column B	450	mm
Unfactored axial load P	1850	kN
Unfactored moment in longer direction M1	9	kN-m
Unfactored moment in shorter direction M2	11	kN-m
Net soil bearing capacity	275	kN/m ²
Gross safe bearing capacity	329	kN/m ²
Height of footing below NGL	3	m
Unit weight of soil	18	kN/m ³
Total load on footing	2323	kN
Gross pressures and check for tension		
P1	288	ok
P2	292	ok
P3	299	ok
P4	295	ok
No tension		
Required area	7.1	m ²
Provided area	7.92	m ²
Longer dimension of footing L1	3.30	m
Shorter dimension of footing B1	2.40	m
Overall depth of footing D	825	mm
Effective depth of footing d	775	mm
Edge depth of footing ed	825	mm
Cover to the main reinforcement	50	mm
Grade of concrete fck	25	N/mm ²
Grade of steel fy	550	N/mm ²
Diameter of bars	16	mm
LONGER MOMENTS		
Maximum pressure Pmax	239	kN/m ²
Minimum pressure Pmin	235	kN/m ²
Cantilever length	1.35	m
Average pressure	238	kN/m ²
Moment M11	521	kNm
Effective width for moment	0.69	m
Mu/bd ²	1.88	
Required percentage of steel	0.43	%
Minimum steel area	2376	mm ²
Provided steel area Ast	2330	mm ²
Spacing of reinforcement	200	mm
SHORTER MOMENTS		
Maximum pressure Pmax	239	kN/m ²
Minimum pressure Pmin	232	kN/m ²
Cantilever length	0.98	m
Average pressure	238	kN/m ²
Moment M22	373	kN-m
Effective width for moment	0.94	m
Required percentage of steel	0.23	%
Minimum steel area	3267	mm ²
Provided steel area Ast	1621	mm ²
Spacing of reinforcement	200	mm
CHECK FOR ONE-WAY SHEAR		
Longitudinal Direction		
Effective width at the section	2000	mm
Effective depth at the section	775	mm
Shear Area at the section	1860000	mm ²
Pressure at distance d from the face	238.4	kN/m ²
Shear force at the section	329	kN
Shear stress at the section Tv	0.266	N/mm ²
pt for shear stress	0.128	%


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Allowable shear stress T_c	0.271	ok
Revised pt from shear requirement	0.120	%
Revised area of steel A_{st}	2232	mm ²
Spacing of reinforcement	210.000	mm
Transverse Direction		
Effective width at the section	2118	mm
Effective depth at the section	759	mm
Shear Area at the section	2504700	mm ²
Pressure at distance d from the face	239	kN/m ²
Shear force at the section	145	kN
Shear stress at the section T_v	0.087	N/mm ²
pt for shear stress	0.130	%
Allowable shear stress T_c	0.273	ok
Revised pt from shear requirement	0.120	%
Revised area of steel A_{st}	3006	mm ²
Spacing of reinforcement	220.000	mm
CHECK FOR PUNCHING SHEAR		
Average pressure	234	kN/m ²
Punching shear force	1457	kN
Perimeter at distance d/2	5168	mm
Effective depth at distance d/2	767	mm
Shear area	3963856	mm ²
Shear stress at the section T_v	0.37	N/mm ²
Allowable shear stress T_c	1.25	ok
TRANSFER OF LOAD AT BASE		
Supporting area for bearing (A1)	13135000	mm ²
Loaded area at column base (A2)	270000	mm ²
$\sqrt{A1/A2}$	2	
Actual bearing stress	10.28	N/mm ²
Allowable bearing stress	22.5	ok


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Basic Load Cases

Primary Load Cases

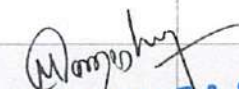
Number	Name	Type
1	EQX	Seismic-H
2	EQZ	Seismic-H
3	DEAD	Dead
4	LIVE	Live
5	TEMP MINI	Temperature
6	TEMPMAX	Temperature

Reference Load Cases

Number	Name	Type
R1	REF LOAD CASE 1	Dead

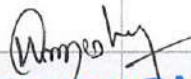
Combination Load Cases

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
101	1.5(DL+LL)	3	DEAD	1.500
		4	LIVE	1.500
102	1.5(DL+LL+TLMAX)	3	DEAD	1.500
		4	LIVE	1.500
		6	TEMPMAX	1.000
103	1.5(DL+LL)+TLMIN	3	DEAD	1.500
		4	LIVE	1.500
		5	TEMP MINI	1.000
104	1.2DL+1.2LL+1.2EQX+0.36EQZ+TLMIN	3	DEAD	1.200
		4	LIVE	1.200
		1	EQX	1.200
		2	EQZ	0.360
		5	TEMP MINI	1.000
105	1.2DL+1.2LL-1.2EQX+0.36EQZ+TLMIN	3	DEAD	1.200
		4	LIVE	1.200
		1	EQX	1.200
		2	EQZ	0.360
		5	TEMP MINI	1.000


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Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
106	1.2DL+1.2LL+1.2EQX-0.36EQZ+TLMIN	3	DEAD	1.200
		4	LIVE	1.200
		1	EQX	1.200
		2	EQZ	-0.360
		5	TEMP MINI	1.000
107	1.2DL+1.2LL-1.2EQX-0.36EQZ+TLMIN	3	DEAD	1.200
		4	LIVE	1.200
		1	EQX	-1.200
		2	EQZ	-0.360
		5	TEMP MINI	1.000
108	1.2DL+1.2LL+1.2EQZ+0.36EQX+TLMIN	3	DEAD	1.200
		4	LIVE	1.200
		2	EQZ	1.200
		1	EQX	0.360
		5	TEMP MINI	1.000
109	1.2DL+1.2LL-1.2EQZ+0.36EQX+TLMIN	3	DEAD	1.200
		4	LIVE	1.200
		2	EQZ	-1.200
		1	EQX	0.360
		5	TEMP MINI	1.000
110	1.2DL+1.2LL+1.2EQZ-0.36EQX+TLMIN	3	DEAD	1.200
		4	LIVE	1.200
		2	EQZ	1.200
		1	EQX	-0.360
		5	TEMP MINI	1.000
111	1.2DL+1.2LL-1.2EQZ-0.36EQX+TLMIN	3	DEAD	1.200


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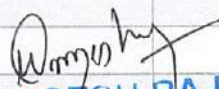
Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
111	1.2DL+1.2LL-1.2EQZ-0.36EQX+TLMIN	4	LIVE	1.200
		2	EQZ	-1.200
		1	EQX	-0.360
		5	TEMP MINI	1.000
112	1.2DL+1.2LL+1.2EQX+0.36EQZ+TLMAX	3	DEAD	1.200
		4	LIVE	1.200
		1	EQX	1.200
		2	EQZ	0.360
		6	TEMPMAX	1.000
113	1.2DL+1.2LL-1.2EQX+0.36EQZ+TLMAX	3	DEAD	1.200
		4	LIVE	1.200
		1	EQX	-1.200
		2	EQZ	0.360
		6	TEMPMAX	1.000
114	1.2DL+1.2LL+1.2EQX-0.36EQZ+TLMAX	3	DEAD	1.200
		4	LIVE	1.200
		1	EQX	1.200
		2	EQZ	-0.360
		6	TEMPMAX	1.000
115	1.2DL+1.2LL-1.2EQX-0.36EQZ+TLMAX	3	DEAD	1.200
		4	LIVE	1.200
		1	EQX	-1.200
		2	EQZ	-0.360
		6	TEMPMAX	1.000
116	1.2DL+1.2LL+1.2EQZ+0.36EQX+TLMAX	3	DEAD	1.200
		4	LIVE	1.200


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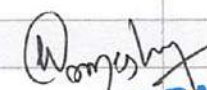
Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
116	1.2DL+1.2LL+1.2EQZ+0.36EQX+TLMAX	2	EQZ	1.200
		1	EQX	0.360
		6	TEMPMAX	1.000
117	1.2DL+1.2LL-1.2EQZ+0.36EQX+TLMAX	3	DEAD	1.200
		4	LIVE	1.200
		2	EQZ	-1.200
		1	EQX	0.360
		6	TEMPMAX	1.000
118	1.2DL+1.2LL+1.2EQZ-0.36EQX+TLMAX	3	DEAD	1.200
		4	LIVE	1.200
		2	EQZ	1.200
		1	EQX	-0.360
		6	TEMPMAX	1.000
119	1.2DL+1.2LL-1.2EQZ-0.36EQX+TLMAX	3	DEAD	1.200
		4	LIVE	1.200
		2	EQZ	-1.200
		1	EQX	-0.360
		6	TEMPMAX	1.000
120	1.5DL+1.5EQX+0.45EQZ+TLMIN	3	DEAD	1.500
		1	EQX	1.500
		2	EQZ	0.450
		5	TEMP MINI	1.000
121	1.5DL-1.5EQX+0.45EQZ+TLMIN	3	DEAD	1.500
		1	EQX	-1.500
		2	EQZ	0.450
		5	TEMP MINI	1.000
122	1.5DL+1.5EQX-0.45EQZ+TLMIN	3	DEAD	1.500
		1	EQX	1.500
		2	EQZ	-0.450


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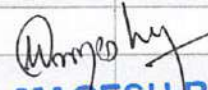
Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
122	1.5DL+1.5EQX-0.45EQZ+TLMIN	5	TEMP MINI	1.000
123	1.5DL-1.5EQX-0.45EQZ+TLMIN	3	DEAD	1.500
		1	EQX	-1.500
		2	EQZ	-0.450
		5	TEMP MINI	1.000
124	1.5DL+1.5EQZ+0.45EQX+TLMIN	3	DEAD	1.500
		2	EQZ	1.500
		1	EQX	0.450
		5	TEMP MINI	1.000
125	1.5DL-1.5EQZ+0.45EQX+TLMIN	3	DEAD	1.500
		2	EQZ	-1.500
		1	EQX	0.450
		5	TEMP MINI	1.000
126	1.5DL+1.5EQZ-0.45EQX+TLMIN	3	DEAD	1.500
		2	EQZ	1.500
		1	EQX	-0.450
		5	TEMP MINI	1.000
127	1.5DL-1.5EQZ-0.45EQX+TLMIN	3	DEAD	1.500
		2	EQZ	-1.500
		1	EQX	-0.450
		5	TEMP MINI	1.000
128	1.5DL+1.5EQX+0.45EQZ+TLMAX	3	DEAD	1.500
		1	EQX	1.500
		2	EQZ	0.450
		6	TEMPMAX	1.000
129	1.5DL-1.5EQX+0.45EQZ+TLMAX	3	DEAD	1.500
		1	EQX	-1.500
		2	EQZ	0.450
		6	TEMPMAX	1.000
130	1.5DL+1.5EQX-0.45EQZ+TLMAX	3	DEAD	1.500
		1	EQX	1.500
		2	EQZ	-0.450
		6	TEMPMAX	1.000
131	1.5DL-1.5EQX-0.45EQZ+TLMAX	3	DEAD	1.500
		1	EQX	-1.500


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Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
131	1.5DL-1.5EQX-0.45EQZ+TLMAX	2	EQZ	-0.450
		6	TEMPMAX	1.000
132	1.5DL+1.5EQZ+0.45EQX+TLMAX	3	DEAD	1.500
		2	EQZ	1.500
		1	EQX	0.450
		6	TEMPMAX	1.000
133	1.5DL-1.5EQZ+0.45EQX+TLMAX	3	DEAD	1.500
		2	EQZ	-1.500
		1	EQX	0.450
		6	TEMPMAX	1.000
134	1.5DL+1.5EQZ-0.45EQX+TLMAX	3	DEAD	1.500
		2	EQZ	1.500
		1	EQX	-0.450
		6	TEMPMAX	1.000
135	1.5DL-1.5EQZ-0.45EQX+TLMAX	3	DEAD	1.500
		2	EQZ	-1.500
		1	EQX	-0.450
		6	TEMPMAX	1.000
136	0.9DL+1.5EQX+0.45EQZ+TLMIN	3	DEAD	0.900
		1	EQX	1.500
		2	EQZ	0.450
		5	TEMP MINI	1.000
137	0.9DL-1.5EQX+0.45EQZ+TLMIN	3	DEAD	0.900
		1	EQX	-1.500
		2	EQZ	0.450
		5	TEMP MINI	1.000
138	0.9DL+1.5EQX-0.45EQZ+TLMIN	3	DEAD	0.900
		1	EQX	1.500
		2	EQZ	-0.450
		5	TEMP MINI	1.000
139	0.9DL-1.5EQX-0.45EQZ+TLMIN	3	DEAD	0.900
		1	EQX	-1.500
		2	EQZ	-0.450
		5	TEMP MINI	1.000
140	0.9DL+1.5EQZ+0.45EQX+TLMIN	3	DEAD	0.900

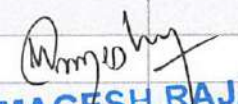

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Combination Load Cases Cont.			
Case	Combination of Items	Priority LC Name	Priority
101	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	1
102	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	2
103	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	3
104	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	4
105	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	5
106	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	6
107	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	7
108	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	8
109	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	9
110	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	10
111	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	11
112	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	12
113	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	13
114	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	14
115	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	15
116	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	16
117	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	17
118	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	18
119	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	19
120	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	20
121	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	21
122	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	22
123	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	23
124	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	24
125	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	25
126	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	26
127	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	27
128	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	28
129	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	29
130	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	30
131	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	31
132	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	32
133	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	33
134	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	34
135	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	35
136	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	36
137	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	37
138	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	38
139	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	39
140	1.50L + 1.50L + 1.50L + 1.50L	TEMP MAX	40

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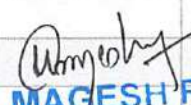
Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
140	0.9DL+1.5EQZ+0.45EQX+TLMIN	2	EQZ	1.500
		1	EQX	0.450
		5	TEMP MINI	1.000
141	0.9DL-1.5EQZ+0.45EQX+TLMIN	3	DEAD	0.900
		2	EQZ	-1.500
		1	EQX	0.450
		5	TEMP MINI	1.000
142	0.9DL+1.5EQZ-0.45EQX+TLMIN	3	DEAD	0.900
		2	EQZ	1.500
		1	EQX	-0.450
		5	TEMP MINI	1.000
143	0.9DL-1.5EQZ-0.45EQX+TLMIN	3	DEAD	0.900
		2	EQZ	-1.500
		1	EQX	-0.450
		5	TEMP MINI	1.000
144	0.9DL+1.5EQX+0.45EQZ+TLMAX	3	DEAD	0.900
		1	EQX	1.500
		2	EQZ	0.450
		6	TEMPMAX	1.000
145	0.9DL-1.5EQX+0.45EQZ+TLMAX	3	DEAD	0.900
		1	EQX	-1.500
		2	EQZ	0.450
		6	TEMPMAX	1.000
146	0.9DL+1.5EQX-0.45EQZ+TLMAX	3	DEAD	0.900
		1	EQX	1.500
		2	EQZ	-0.450
		6	TEMPMAX	1.000
147	0.9DL-1.5EQX-0.45EQZ+TLMAX	3	DEAD	0.900
		1	EQX	-1.500
		2	EQZ	-0.450
		6	TEMPMAX	1.000
148	0.9DL+1.5EQZ+0.45EQX+TLMAX	3	DEAD	0.900
		2	EQZ	1.500
		1	EQX	0.450
		6	TEMPMAX	1.000


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Combination Load Cases Cont...

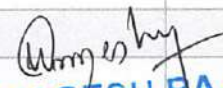
Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
149	0.9DL-1.5EQZ+0.45EQX+TLMAX	3	DEAD	0.900
		2	EQZ	-1.500
		1	EQX	0.450
		6	TEMPMAX	1.000
150	0.9DL+1.5EQZ-0.45EQX+TLMAX	3	DEAD	0.900
		2	EQZ	1.500
		1	EQX	-0.450
		6	TEMPMAX	1.000
151	0.9DL-1.5EQZ-0.45EQX+TLMAX	3	DEAD	0.900
		2	EQZ	-1.500
		1	EQX	-0.450
		6	TEMPMAX	1.000
201	DL+LL	3	DEAD	1.000
		4	LIVE	1.000
202	DL+LL+TLMIN	3	DEAD	1.000
		4	LIVE	1.000
		5	TEMP MINI	1.000
203	DL+LL+TLMAX	3	DEAD	1.000
		4	LIVE	1.000
		6	TEMPMAX	1.000
204	DL+EQX+0.3EQZ+TLMIN	3	DEAD	1.000
		1	EQX	1.000
		2	EQZ	0.300
		5	TEMP MINI	1.000
205	DL-EQX+0.3EQZ+TLMIN	3	DEAD	1.000
		1	EQX	-1.000
		2	EQZ	0.300
		5	TEMP MINI	1.000
206	DL+EQX-0.3EQZ+TLMIN	3	DEAD	1.000
		1	EQX	1.000
		2	EQZ	-0.300
		5	TEMP MINI	1.000
207	DL-EQX-0.3EQZ+TLMIN	3	DEAD	1.000
		1	EQX	1.000
		2	EQZ	-0.300


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Job No.	Sheet No.	Rev
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Job Title	Part	Ref
Client	By	Date 25-Sep-23 Chd
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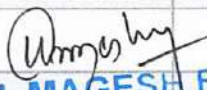
Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
207	DL-EQX-0.3EQZ+TLMIN	5	TEMP MINI	1.000
208	DL+EQZ+0.3EQX+TLMIN	3	DEAD	1.000
		2	EQZ	1.000
		1	EQX	0.300
		5	TEMP MINI	1.000
209	DL-EQZ+0.3EQX+TLMIN	3	DEAD	1.000
		2	EQZ	-1.000
		1	EQX	0.300
		5	TEMP MINI	1.000
210	DL+EQZ-0.3EQX+TLMIN	3	DEAD	1.000
		2	EQZ	1.000
		1	EQX	-0.300
		5	TEMP MINI	1.000
211	DL-EQZ-0.3EQX+TLMIN	3	DEAD	1.000
		2	EQZ	-1.000
		1	EQX	-0.300
		5	TEMP MINI	1.000
212	DL+EQX+0.3EQZ+TLMAX	3	DEAD	1.000
		1	EQX	1.000
		2	EQZ	0.300
		6	TEMPMAX	1.000
213	DL-EQX+0.3EQZ+TLMAX	3	DEAD	1.000
		1	EQX	-1.000
		2	EQZ	0.300
		6	TEMPMAX	1.000
214	DL+EQX-0.3EQZ+TLMAX	3	DEAD	1.000
		1	EQX	1.000
		2	EQZ	-0.300
		6	TEMPMAX	1.000
215	DL-EQX-0.3EQZ+TLMAX	3	DEAD	1.000
		1	EQX	-1.000
		2	EQZ	1.000
		6	TEMPMAX	1.000
216	DL+EQZ+0.3EQX+TLMAX	3	DEAD	1.000
		2	EQZ	1.000


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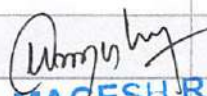
Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
216	DL+EQZ+0.3EQX+TLMAX	1	EQX	0.300
		6	TEMPMAX	1.000
217	DL-EQZ+0.3EQX+TLMAX	3	DEAD	1.000
		2	EQZ	-1.000
		1	EQX	0.300
		6	TEMPMAX	1.000
218	DL+EQZ-0.3EQX+TLMAX	3	DEAD	1.000
		2	EQZ	1.000
		1	EQX	-0.300
		6	TEMPMAX	1.000
219	DL-EQZ-0.3EQX+TLMAX	3	DEAD	1.000
		2	EQZ	-1.000
		1	EQX	-0.300
		6	TEMPMAX	1.000
220	DL+0.8LL+0.8EQX+0.24EQZ+TLMIN	3	DEAD	1.000
		4	LIVE	0.800
		1	EQX	0.800
		2	EQZ	0.240
		5	TEMP MINI	1.000
221	DL+0.8LL-0.8EQX+0.24EQZ+TLMIN	3	DEAD	1.000
		4	LIVE	0.800
		1	EQX	-0.800
		2	EQZ	0.240
		5	TEMP MINI	1.000
222	DL+0.8LL+0.8EQX-0.24EQZ+TLMIN	3	DEAD	1.000
		4	LIVE	0.800
		1	EQX	0.800
		2	EQZ	0.240
		5	TEMP MINI	1.000
223	DL+0.8LL-0.8EQX-0.24EQZ+TLMIN	3	DEAD	1.000


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Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
223	DL+0.8LL-0.8EQX-0.24EQZ+TLMIN	4	LIVE	0.800
		1	EQX	-0.800
		2	EQZ	-0.240
		5	TEMP MINI	1.000
224	DL+0.8LL+0.8EQZ+0.24EQX+TLMIN	3	DEAD	1.000
		4	LIVE	0.800
		2	EQZ	0.800
		1	EQX	0.240
		5	TEMP MINI	1.000
225	DL+0.8LL-0.8EQZ+0.24EQX+TLMIN	3	DEAD	1.000
		4	LIVE	0.800
		2	EQZ	-0.800
		1	EQX	0.240
		5	TEMP MINI	1.000
226	DL+0.8LL+0.8EQZ-0.24EQX+TLMIN	3	DEAD	1.000
		4	LIVE	0.800
		2	EQZ	0.800
		1	EQX	-0.240
		5	TEMP MINI	1.000
227	DL+0.8LL-0.8EQZ-0.24EQX+TLMIN	3	DEAD	1.000
		4	LIVE	0.800
		2	EQZ	-0.800
		1	EQX	-0.240
		5	TEMP MINI	1.000
228	DL+0.8LL+0.8EQX+0.24EQZ+TLMAX	3	DEAD	1.000
		4	LIVE	0.800


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Job No.		Sheet No.	Rev
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Combination Load Cases Cont...

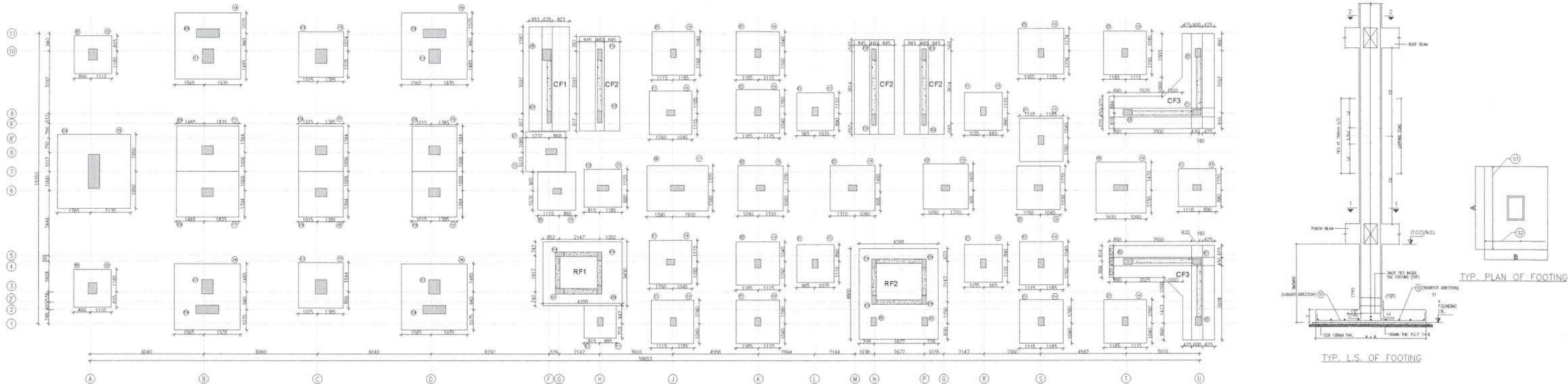
Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
228	DL+0.8LL+0.8EQX+0.24EQZ+TLMAX	1	EQX	0.800
		2	EQZ	0.240
		6	TEMPMAX	1.000
229	DL+0.8LL-0.8EQX+0.24EQZ+TLMAX	3	DEAD	1.000
		4	LIVE	0.800
		1	EQX	-0.800
		2	EQZ	0.240
		6	TEMPMAX	1.000
230	DL+0.8LL+0.8EQX-0.24EQZ+TLMAX	3	DEAD	1.000
		4	LIVE	0.800
		1	EQX	0.800
		2	EQZ	-0.240
		6	TEMPMAX	1.000
231	DL+0.8LL-0.8EQX-0.24EQZ+TLMAX	3	DEAD	1.000
		4	LIVE	0.800
		1	EQX	-0.800
		2	EQZ	-0.240
		6	TEMPMAX	1.000
232	DL+0.8LL+0.8EQZ+0.24EQX+TLMAX	3	DEAD	1.000
		4	LIVE	0.800
		2	EQZ	0.800
		1	EQX	0.240
		6	TEMPMAX	1.000
233	DL+0.8LL-0.8EQZ+0.24EQX+TLMAX	3	DEAD	1.000
		4	LIVE	0.800
		2	EQZ	-0.800


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Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
233	DL+0.8LL-0.8EQZ+0.24EQX+TLMAX	1	EQX	0.240
		6	TEMPMAX	1.000
234	DL+0.8LL+0.8EQZ-0.24EQX+TLMAX	3	DEAD	1.000
		4	LIVE	0.800
		2	EQZ	0.800
		1	EQX	-0.240
		6	TEMPMAX	1.000
235	DL+0.8LL-0.8EQZ-0.24EQX+TLMAX	3	DEAD	1.000
		4	LIVE	0.800
		2	EQZ	-0.800
		1	EQX	-0.240
		6	TEMPMAX	1.000


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COLUMN SCHEDULE :

SL.NO	COLUMN TYPE	GRID	SECTION 1-1 (UPTO STILT FLOOR ROOF LVL.)	SECTION 2-2 (UPTO FIRST FLOOR ROOF LVL.)	SECTION 3-3 (ABOVE FIRST FLOOR ROOF LVL.)	NOS.
1	C1	H1,J1,K1,L1,M1,N1,O1,P1,Q1,R1,S1,T1,U1,V1,W1,X1,Y1,Z1	450 8-T20 T8 AT 175 C/C	450 8-T20 T8 AT 175 C/C	450 8-T16 T8 AT 175 C/C	18
2	C2	K4,K9,M6,Q6,S6,U1,V10	450 8-T20 T8 AT 175 C/C	450 8-T20 T8 AT 175 C/C	450 8-T16 T8 AT 175 C/C	7
3	C3	K6,S10,T4,T9,T10	450 4-T25 T8 AT 175 C/C	450 4-T25 T8 AT 175 C/C	450 8-T20 T8 AT 175 C/C	5
4	C4	N1,P1,G3	450 4-T25 T8 AT 175 C/C	450 4-T25 T8 AT 175 C/C	450 4-T25 T8 AT 175 C/C	3
5	C5	G6	450 4-T20 T8 AT 175 C/C	450 4-T20 T8 AT 175 C/C	450 4-T20 T8 AT 175 C/C	1
6	C6	J6,T6	750 4-T25 T8 AT 175 C/C	750 4-T25 T8 AT 175 C/C	750 14-T20 T8 AT 175 C/C	2
7	C7	F8	600 6-T20 T8 AT 175 C/C	600 6-T20 T8 AT 175 C/C	600 6-T20 T8 AT 175 C/C	1
8	C8	F10	600 8-T20 T8 AT 175 C/C	600 8-T20 T8 AT 175 C/C	600 8-T20 T8 AT 175 C/C	1
9	C9	A3,A10	600 8-T25 T8 AT 175 C/C	600 8-T25 T8 AT 175 C/C	600 8-T25 T8 AT 175 C/C	2

LAYOUT OF COLUMN AND FOOTING

BLOCK-A

SL.NO	COLUMN TYPE	GRID	SECTION 1-1 (UPTO STILT FLOOR ROOF LVL.)	SECTION 2-2 (UPTO FIRST FLOOR ROOF LVL.)	SECTION 3-3 (ABOVE FIRST FLOOR ROOF LVL.)	NOS.
10	C10	B6,B8,C6,C8,D6,D8	600 18-T25 T8 AT 175 C/C	600 18-T25 T8 AT 175 C/C	600 18-T20 T8 AT 175 C/C	6
11	C11	B3,B10,C3,C11,D3,D10	750 12-T25 T8 AT 175 C/C	750 12-T25 T8 AT 175 C/C	750 16-T20 T8 AT 175 C/C	6
12	C12	F9,H9,H10,N9',N10,P9',F10	600 4-T20 T8 AT 175 C/C	600 4-T20 T8 AT 175 C/C	600 4-T20 T8 AT 175 C/C	7
13	C13	H6	600 8-T20 T8 AT 175 C/C	600 4-T20 T8 AT 175 C/C	600 4-T20 T8 AT 175 C/C	1
14	C14	G3,G5,H3,H5,N2',N4',P2',P4	450 8-T20 T8 AT 175 C/C	450 8-T20 T8 AT 175 C/C	450 8-T20 T8 AT 175 C/C	8

SL.NO	COLUMN TYPE	GRID	SECTION 1-1 (UPTO STILT FLOOR ROOF LVL.)	SECTION 2-2 (UPTO FIRST FLOOR ROOF LVL.)	SECTION 3-3 (ABOVE FIRST FLOOR ROOF LVL.)	NOS.
15	C15	A7	1800 20-T20 T10 AT 175 C/C	1800 20-T20 T10 AT 175 C/C	1800 20-T16 T10 AT 175 C/C	1

FOOTING SCHEDULE :

SL.NO	FOOTING TYPE	GRID	FOOTING SIZE	SECTION 1-1 (UPTO STILT FLOOR ROOF LVL.)	SECTION 2-2 (UPTO FIRST FLOOR ROOF LVL.)	SECTION 3-3 (ABOVE FIRST FLOOR ROOF LVL.)	NOS.
1	F1	H1	1700 1700 450	T10 125	T10 125	- - -	1
2	F2	A3,A10,G6,H6,L4,L9,R4,R9,U6	2000 2000 525	T10 100	T10 100	- - -	9
3	F3	F8	2100 2100 600	T10 100	T10 100	- - -	1
4	F4	J1,J4,J6,J10,K1,K4,K9,K10,S1,S4,S6,S9,T1,T10	2300 2300 675	T12 125	T12 125	- - -	14
5	F5	C3,C6,C8,C10,D6,D8,K6,M6,Q6,S10	2400 2400 675	T12 100	T12 100	- - -	10
6	F6	T6	2700 2700 750	T16 125	T16 125	- - -	1
7	F7	B6,B8,J6	2400 3300 825	T16 125	T16 125	T10 150	3
8	F8	(B2,B3),(B10,B11),(D2,D3),(D10,D11)	3500 3500 925	T16 150	T16 150	T10 150	4
9	F9	A7	3900 3900 1000	T16 125	T16 125	T10 150	1
10	CF1	(F9,F10)	5500 2150	REFER SEPERATE DRAWING FOR R.C DETAIL			1
11	CF2	(H9,H10),(N9',N10),(P9',P10)	5000 2100	REFER SEPERATE DRAWING FOR R.C DETAIL			3
12	CF3	(T4,U1,U4),(T9,U9,U10)		REFER SEPERATE DRAWING FOR R.C DETAIL			2
13	RF1	(G3,G5,H3,H5)	4200 3400	REFER SEPERATE DRAWING FOR R.C DETAIL			1
14	RF2	(N2,N2',N4,P2',P4)	4200 4800	REFER SEPERATE DRAWING FOR R.C DETAIL			1

SL.NO	COLUMN TYPE	GRID	SECTION 1-1 (UPTO STILT FLOOR ROOF LVL.)	SECTION 2-2 (UPTO FIRST FLOOR ROOF LVL.)	SECTION 3-3 (ABOVE FIRST FLOOR ROOF LVL.)	NOS.
C16	C16	B2,B11,D2,D11	1200 16-T20 T10 AT 175 C/C	1200 16-T20 T10 AT 175 C/C	1200 16-T20 T10 AT 175 C/C	4

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GRID - E REMOVED

NOTES:
1. ALL DIMENSIONS ARE IN MM & M
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE LATEST ARCHITECTURAL DRAWING
3. GRADE OF CONCRETE SHALL BE M30 U.O.S
4. CLEAR COVER FOR REINFORCEMENTS SHALL BE AS FOLLOWS:
a) FOR FOOTINGS - 50mm b) FOR COLUMNS - 40mm
5. T - DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1786-1985

NOTES:
6. LAP LENGTH SHALL BE 45 TIMES DIA. OF BAR AND SHALL BE KEPT STAGGERED.
7. FOOTING SHOULD BE FOUNDATION AT 3m BELOW G.L OR AT THE LEVEL WHERE THE SOIL HAS THE CAPACITY OF 275KN/M² (AS PER SOIL REPORT)
8. STRUCTURAL ENGINEER'S RESPONSIBILITY IS LIMITED TO DESIGN & ISSUING OF STRUCTURAL DRAWING ONLY.
9. RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER
10. FOUNDATION DESIGN FOR SLT-4.5 WITH AAC BLOCK 6.5KN/Cum

REVISION HISTORY

DRAWN : EZHILAN

DESIGN : AGILAN

DATE : 01.04.2024

DRAWING TITLE
LAYOUT & R.C DET. OF
FOOTING & COLUMN
BLOCK - A

ISSUED FOR: CONSTRUCTION

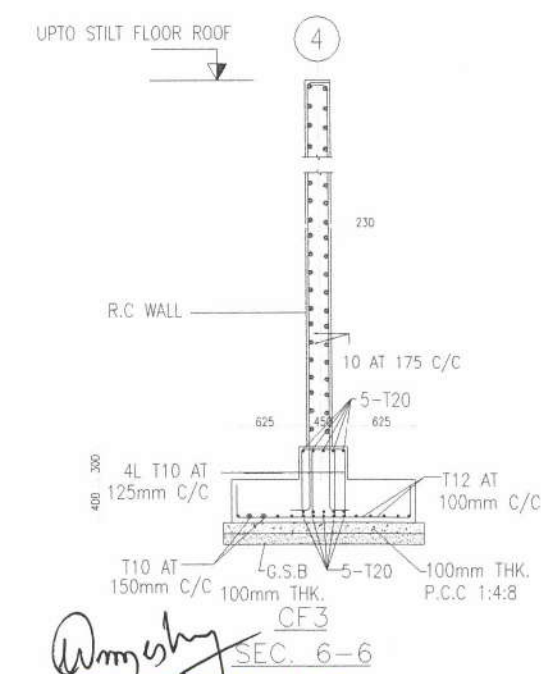
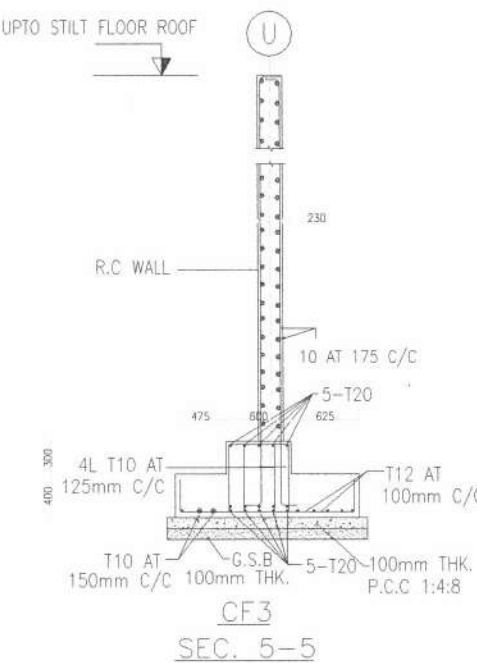
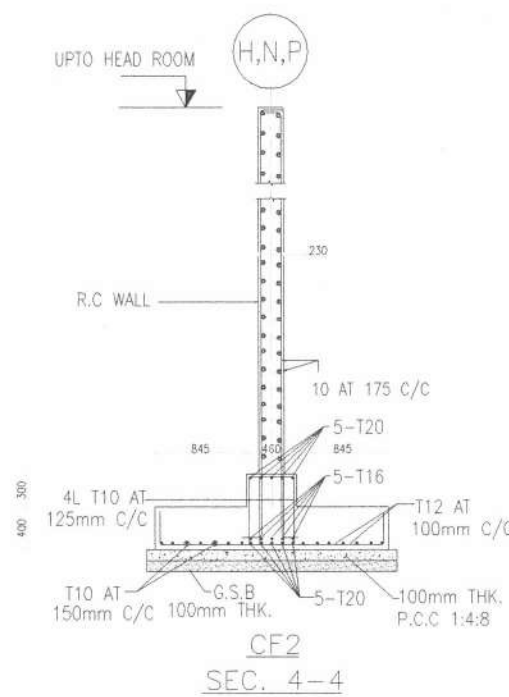
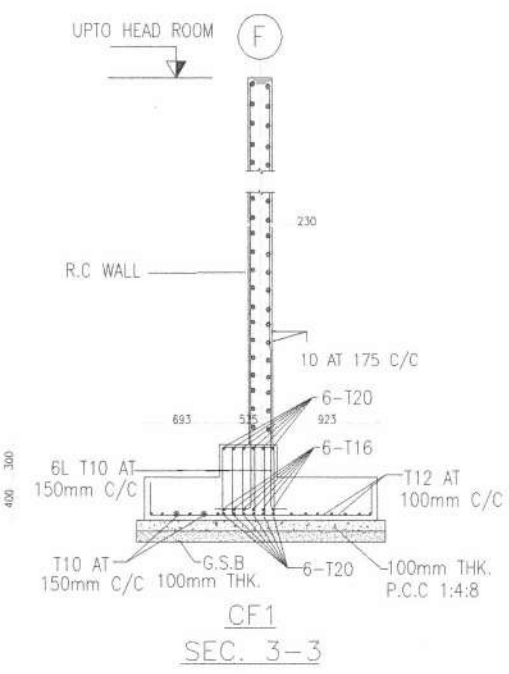
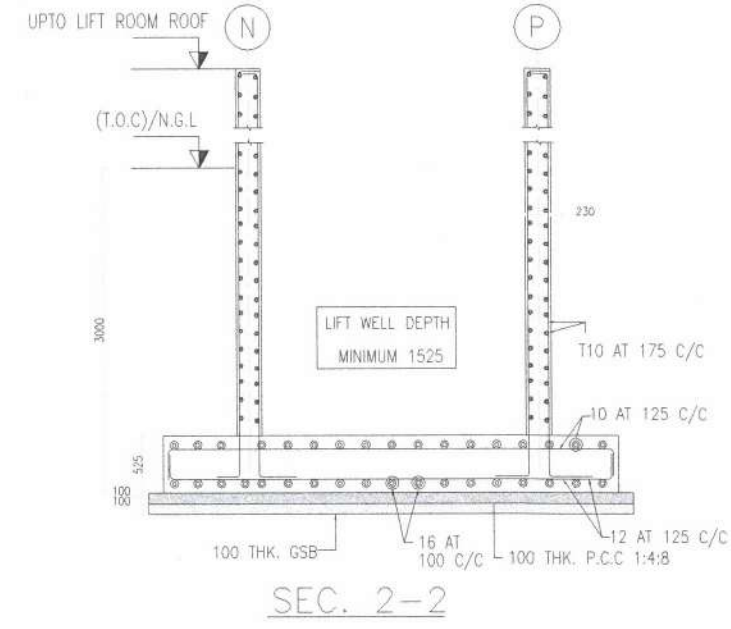
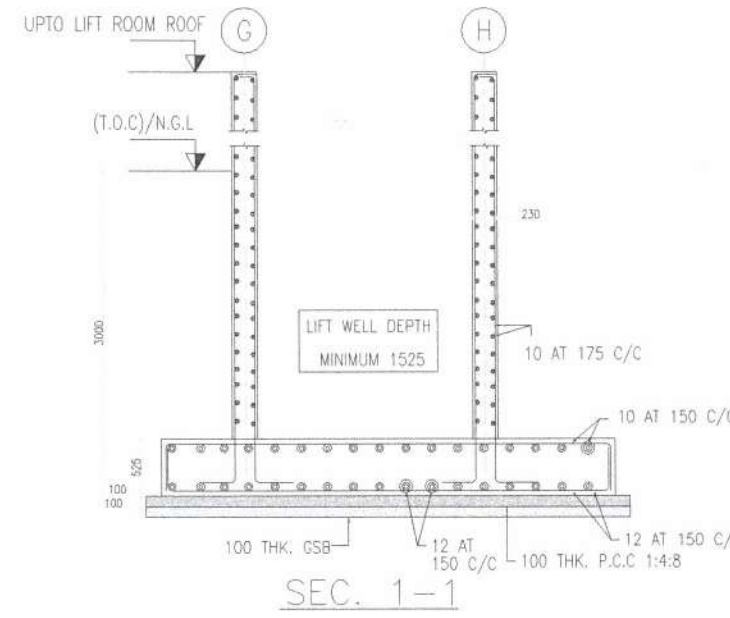
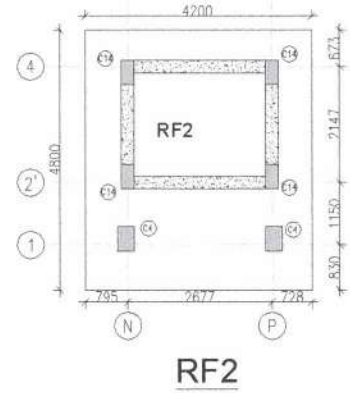
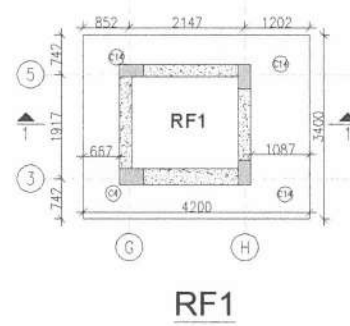
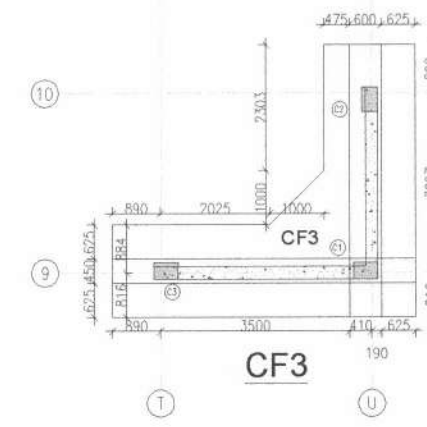
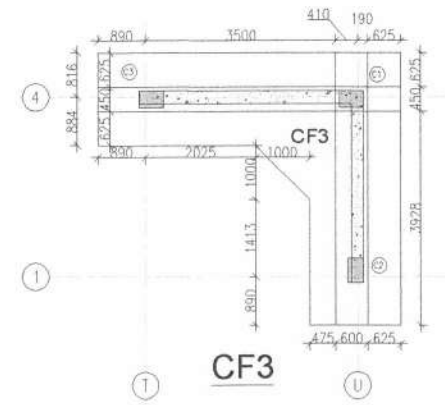
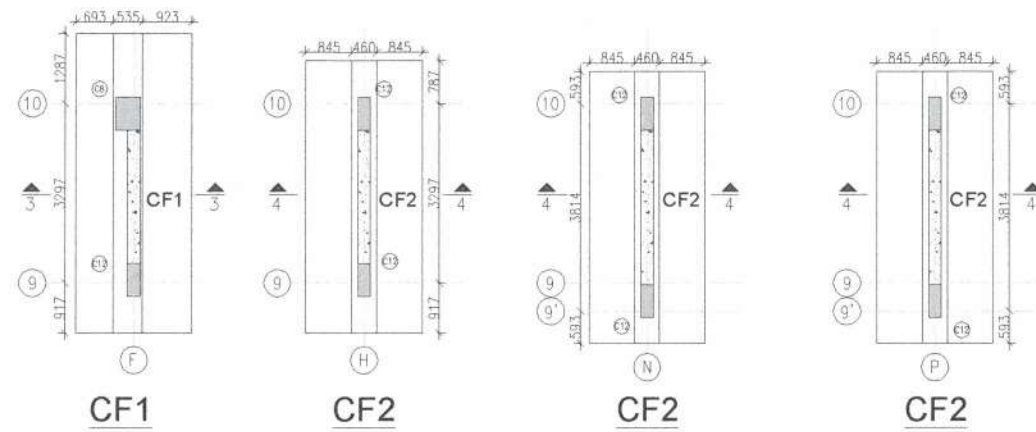
DRG. NO: ST-02-T C-A-58-2023

CLIENT: RUSSEL FOUNDATION

PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

REFERENCE: -

AME
STRUCTURAL CONSULTANTS
NO.28, JAWAHARLAL NEHRU ST.,
PERUNGALATHUR, CHENNAI-600 083
PH: 9840127487, 8760031198



LAYOUT & R.C DET. OF RAFT & COMBINED FOOTING BLOCK - A

A.N. MAGESH RAJA, M.E.,
CMDA Registered Structural Engineer Grade-I (RSE)
Reg.No: SE/GR-1/2022/06/325
Cell: 97870 72100
magistreehouse@gmail.com

NOTES:
1. ALL DIMENSIONS ARE IN MM & M
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE LATEST ARCHITECTURAL DRAWING
3. GRADE OF CONCRETE SHALL BE M30 U.O.S
4. CLEAR COVER FOR REINFORCEMENT SHALL BE AS FOLLOWS:
a) FOR FOOTINGS - 50mm, b) FOR COLUMNS - 40mm
5.7- DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1786-1985.

NOTES:
6. LAP LENGTH SHALL BE 45 TIMES DIA. OF BAR AND SHALL BE KEPT STAGGERED.
7. FOOTING SHOULD BE FOUNDED AT 3m BELOW G.L OR AT THE LEVEL WHERE THE SOIL HAS THE CAPACITY OF 275KN/M² (AS PER SOIL REPORT)
8. STRUCTURAL ENGINEERS RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF STRUCTURAL DRAWING ONLY.
9. RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER
10. FOUNDATION DESIGN FOR SILT+5 WITH AAC BLOCK 6.5KN/Cubm

REVISION HISTORY
3.
2.
1.

DRAWN : EZHILAN
DESIGN : AGILAN
DATE : 01.04.2024

DRAWING TITLE
LAYOUT & R.C DET. OF
FOOTING & COLUMN
BLOCK - A
ISSUED FOR: CONSTRUCTION

DRG. NO: ST-03-T C-A-58-2023
CLIENT: RUSSEL FOUNDATION
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

REFERENCE: -

AME
STRUCTURAL CONSULTANTS
NO:28, JAWAHARLAL NEHRU ST,
PERUNGALATHUR, CHENNAI-600 063
PH: 9840127487, 8760031198



LAYOUT OF PLINTH BEAM
BLOCK-A


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 Reg.No: SE/GR-I/2022/06/325
 Cell: 97870 72100
 magistruchure@gmail.com

NOTES:

1. ALL DIMENSIONS ARE IN MM.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST ARCHITECTURAL DRAWINGS.
3. GRADES OF CONCRETE SHALL BE AS PER IS 456:2000.
4. CLEAR COVER FOR REINFORCEMENT SHALL BE AS PER IS 456:2000.
5. 5. SPACINGS BETWEEN REINFORCEMENT SHALL NOT BE MORE THAN 16 TIMES OF MAX. SIZE OF AGGREGATE OR 160 MM, WHICHEVER IS LESS.
6. LAY LENGTHS SHALL BE AS PER IS 456:2000.
7. TOP BARS OF BEAMS SHALL BE LAPSPED AT MID SPAN AND NOT NEAR SUPPORTS.
8. BOTTOM BARS SHALL BE LAPSPED AT ONE THIRD SPAN.
9. STRUCTURAL ENGINEER'S RESPONSIBILITY LIMITED TO DESIGN & CHECKING OF STRUCTURAL DRAWINGS ONLY.
10. RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR/OWNER.

REVISION HISTORY
3.
2.
1.

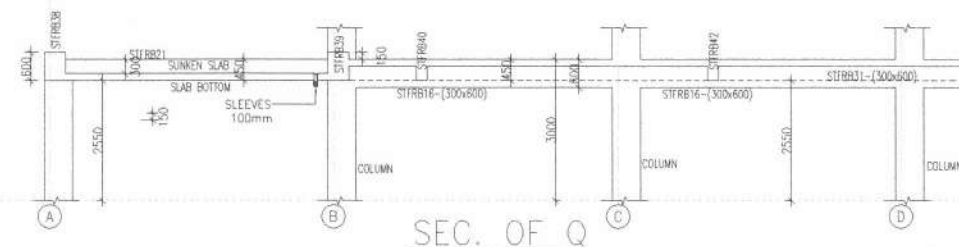
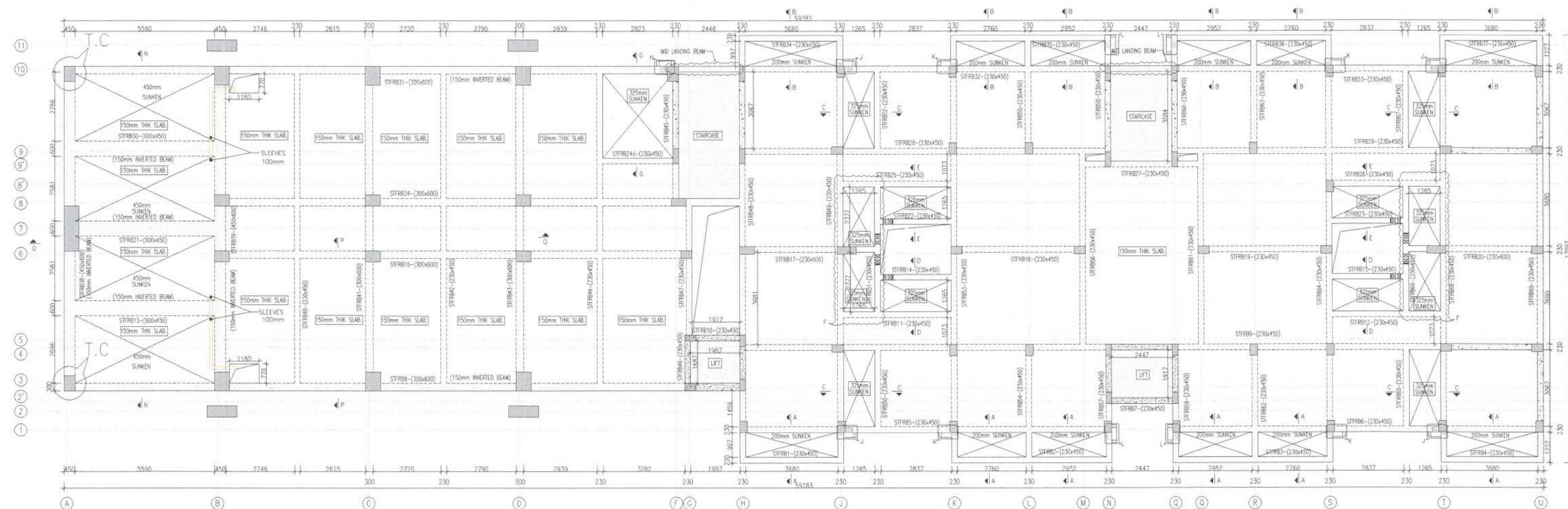
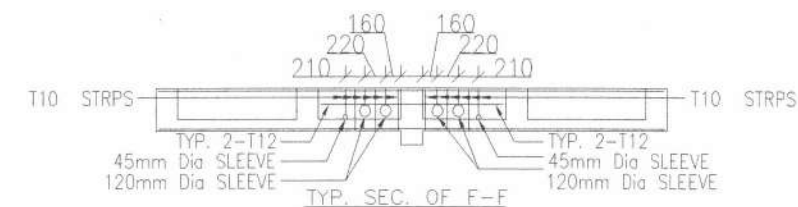
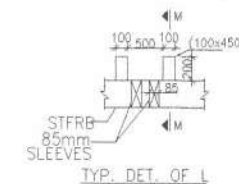
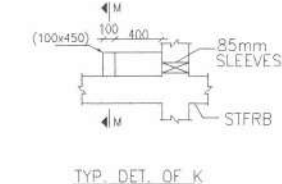
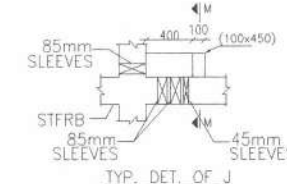
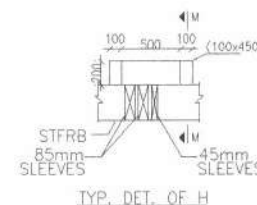
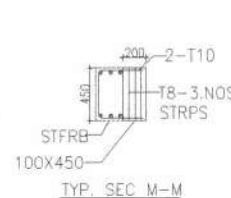
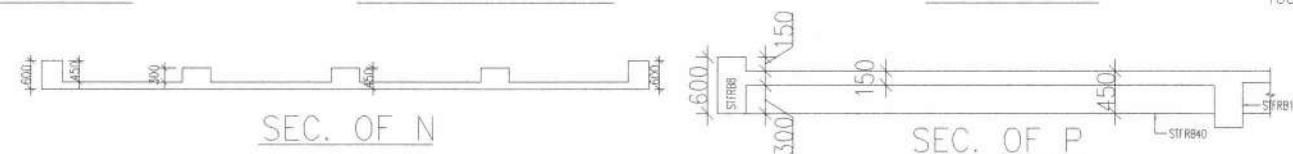
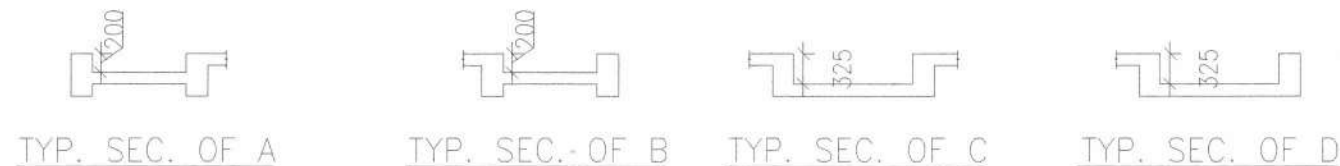
DRAWN : EZHILAN
DESIGN : AGILAN
DATE : 25.04.2024

DRAWING TITLE
LAYOUT & R.C DET. OF
PLINTH BEAM
BLOCK - A
ISSUED FOR: CONSTRUCTION

DRG. NO: ST-05-T C-A-58-2023
CLIENT: RUSSEL FOUNDATION
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

REVISION: R-0
REFERENCE: -


AME
 STRUCTURAL CONSULTANTS
 NO.28, JAWAHARLAL NEHRU ST,
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 Cell: 97870 72100
 magistructure@gmail.com

*T.C- TERMINATED COLUMN

NOTES:

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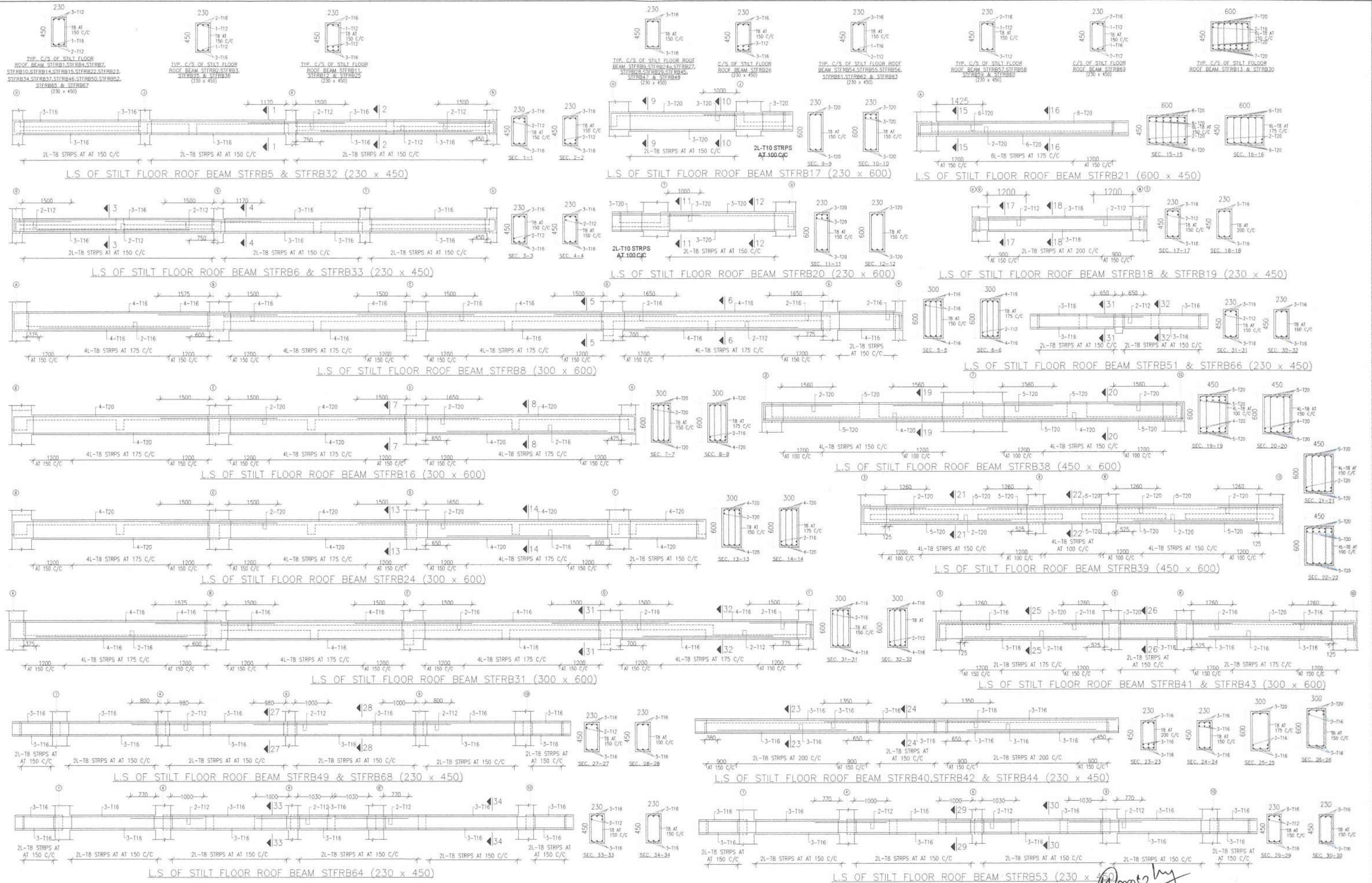
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1.
REVISION HISTORY

DRAWN : G.EZHILAN
 DESIGN : G.AGILAN
 CHECKED : G.AGILAN
 DATE : 31.07.2024

DRAWING TITLE
 LAYOUT OF STILT FLOOR
 ROOF BEAM
 ISSUED FOR: CONSTRUCTION

DRG. NO: ST-06-T C-A-58-2023
 CLIENT: RUSSEL FOUNDATION
 PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY
 REVISION: R-1
 REFERENCE: -

AME
 STRUCTURAL CONSULTANTS
 NO:28, JAWAHARLAL NEHRU ST,
 PERUNGALATHUR, CHENNAI-600 063
 PH: 9840127487, 8760031198



NOTES:

- ALL DIMENSIONS ARE IN MM & M
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE LATEST ARCHITECTURAL DRAWING
- GRADE OF CONCRETE SHALL BE M30 U.O.S
- CLEAR COVER FOR REINFORCEMENTS SHALL BE AS FOLLOWS:
- BEAM - 25mm
- T - DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1786-1985.

NOTES:

- LAP LENGTH SHALL BE 45 TIMES DIA. OF BAR AND SHALL BE KEPT STAGGERED
- TOP BARS OF BEAMS AND SLABS TO BE LAPPED AT MID ZONE AND NOT NEAR SUPPORTS
- BOTTOM BARS TO BE LAPPED AT END ONE THIRD SPAN
- STRUCTURAL ENGINEERS RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF STRUCTURAL DRAWING ONLY
- RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER
- SUNKEN SHOULD BE FILL WITH LIGHT WEIGHT MATERIAL

REVISION HISTORY

NO.	DESCRIPTION
3.	
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DRAWN : G.EZHILAN

DESIGN : G.AGILAN

CHECKED : G.AGILAN

DATE : 03.07.2024

DRAWING TITLE

R.C DET.OF STILT FLOOR ROOF BEAM

ISSUED FOR: CONSTRUCTION

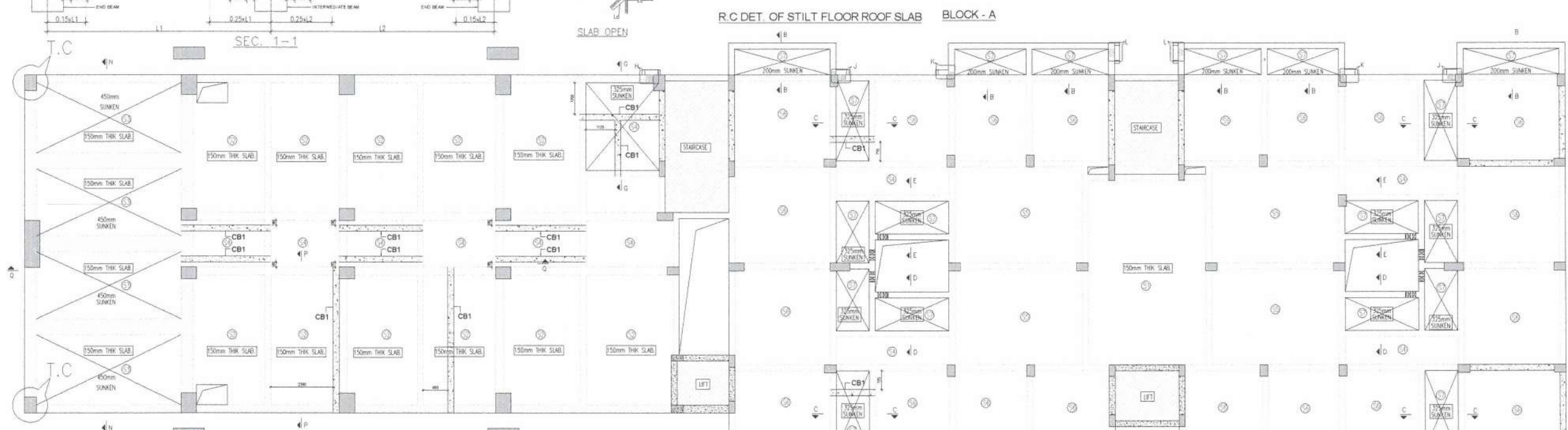
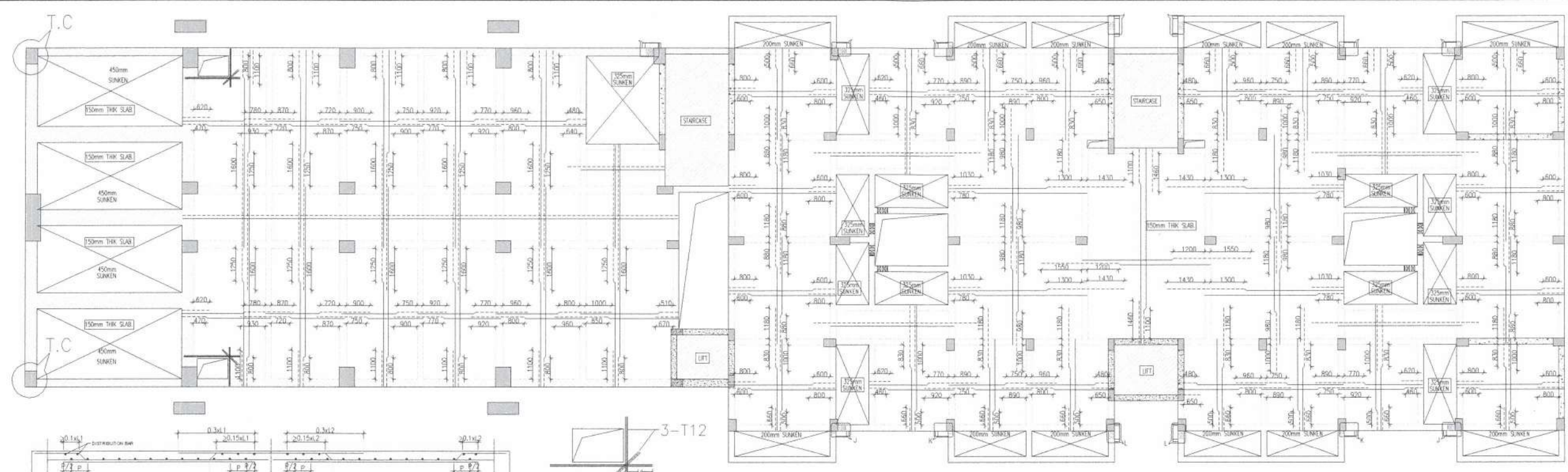
DRG. NO: ST-07-T C-A-58-2023

CLIENT: RUSSEL FOUNDATION

PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

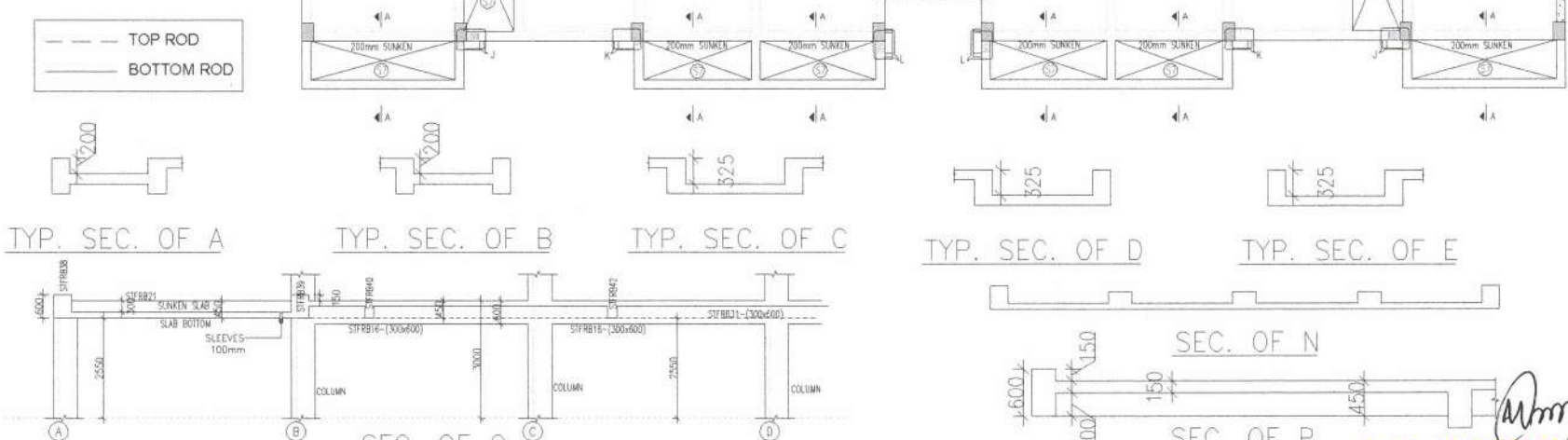
A.N. MAGESH RAJA, M.E.,
 CHBA Registered Structural Engineer Grade-I (RSE)
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 Cell: 97870 72100
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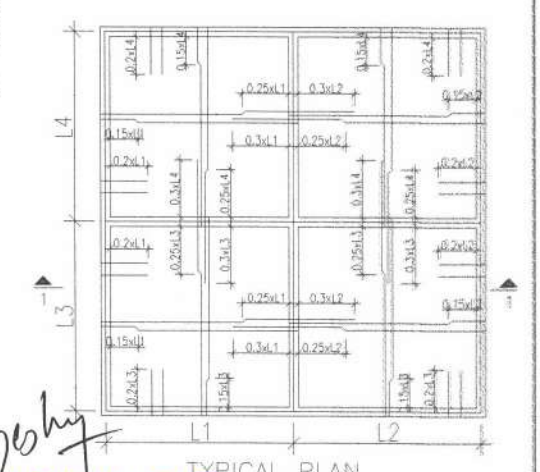
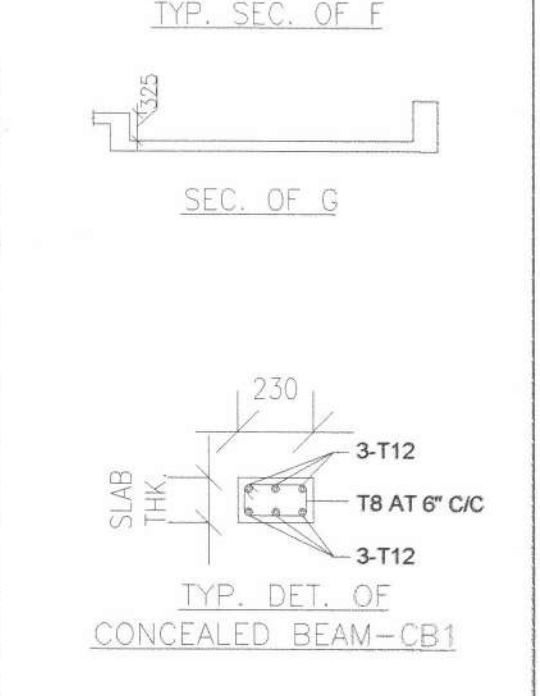
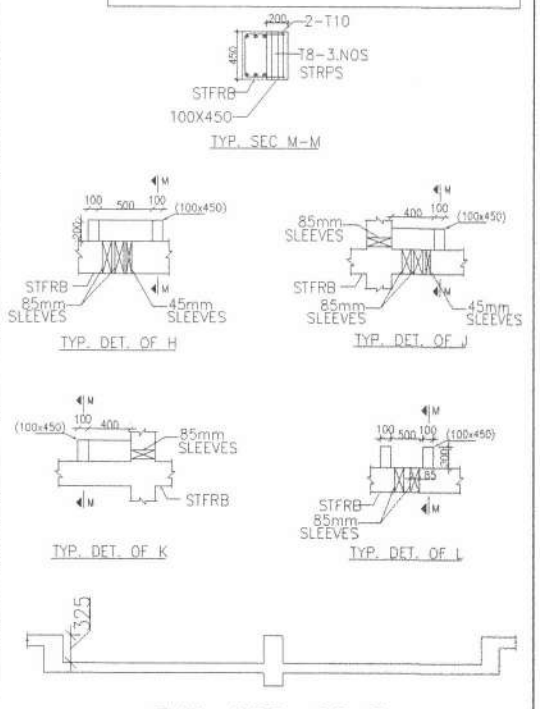


S. NO.	SLAB ID	THICKNESS	REINFORCEMENT
1	S1 (TWO WAY)	150	T10 AT 150 C/C (SHORTER) T8 AT 150 C/C (LONGER)
2	S2 (TWO WAY)	150	T8 AT 150 C/C (SHORTER) T8 AT 150 C/C (LONGER)
3	S3 (DOUBLE MAT)	150	T10 AT 100 C/C (SHORTER) T8 AT 150 C/C (LONGER)
4	S4 (DOUBLE MAT)	150	T8 AT 150 C/C (DOUBLE MAT)
5	S5 (TWO WAY)	125	T8 AT 100 C/C (SHORTER) T8 AT 150 C/C (LONGER)
6	S6 (TWO WAY)	125	T8 AT 150 C/C (BOTH WAYS)
7	S7 (DOUBLE MAT)	125	T8 AT 150 C/C (SHORTER) T8 AT 175 C/C (LONGER)

(PROVIDE T8 AT 8" C/C AS DISTRIBUTOR BARS WHEREVER NECESSARY)



*T.C- TERMINATED COLUMN



NOTES:
1. ALL DIMENSIONS ARE IN MM & M
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE LATEST ARCHITECTURAL DRAWING
3. GRADE OF CONCRETE SHALL BE M30 U.O.S
4. CLEAR COVER FOR REINFORCEMENTS SHALL BE AS FOLLOWS:
a) SLAB - 20mm
5. T- DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1786-1986.

NOTES:
6. LAP LENGTH SHALL BE 45 TIMES DIA. OF BAR AND SHALL BE KEPT STAGGERED.
7. TOP BARS OF BEAMS AND SLABS TO BE LAPPED AT MID ZONE AND NOT NEAR SUPPORTS.
8. BOTTOM BARS TO BE LAPPED AT END ONE THIRD SPAN
9. STRUCTURAL ENGINEERS RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF STRUCTURAL DRAWING ONLY
10. RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER
11. SUNKEN SHOULD BE FILL WITH LIGHT WEIGHT MATERIAL

REVISION HISTORY

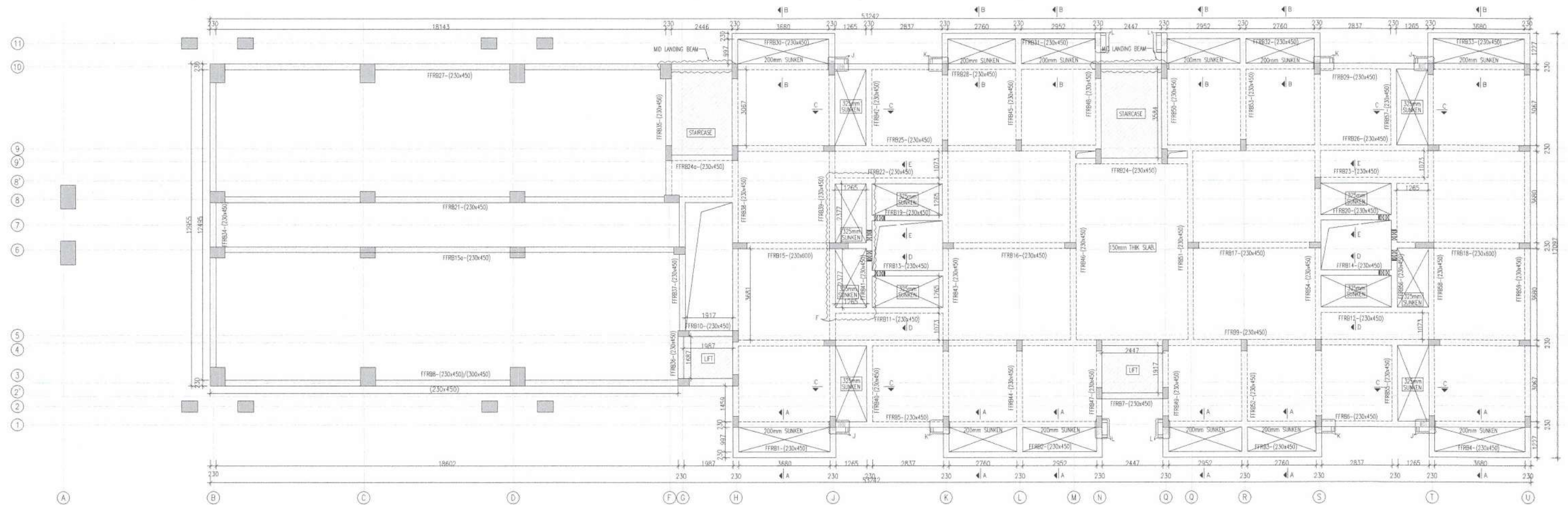
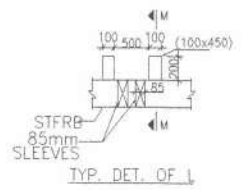
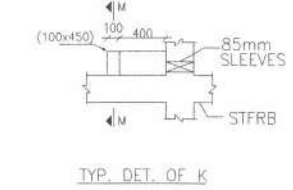
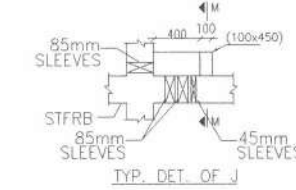
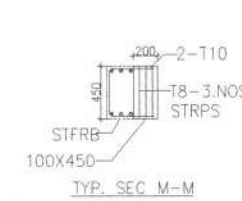
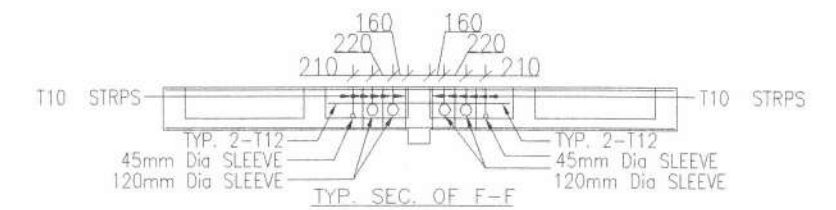
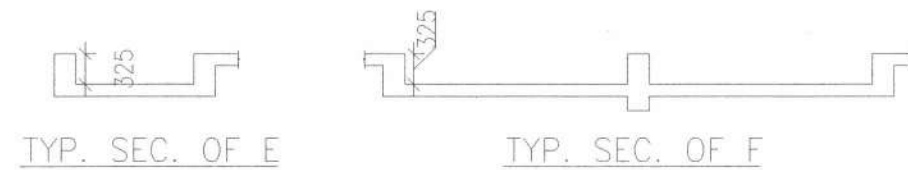
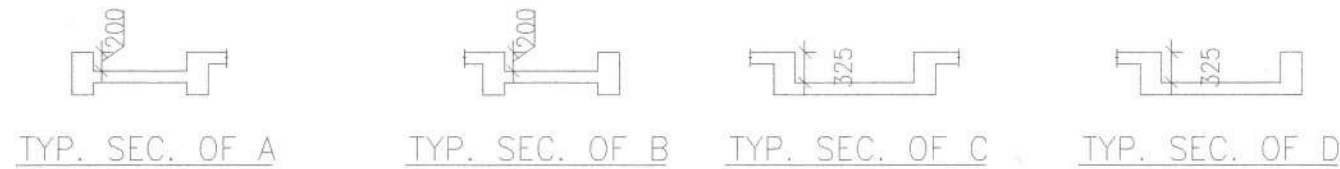
DRAWN : G.EZHILAN
DESIGN : G.AGILAN
CHECKED : G.AGILAN
DATE : 31.07.2024

DRAWING TITLE
R.C DET. OF STILT FLOOR ROOF SLAB
ISSUED FOR: CONSTRUCTION

DRG. NO: ST-08-T C-A-58-2023
CLIENT: RUSSEL FOUNDATION
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

A.N. MAGESH RAJA, M.E.,
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Reg.No: SE/GR-1/2022/06/325
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AME
STRUCTURAL CONSULTANTS
NO:28, JAWAHARLAL NEHRU ST,
PERUNGALATHUR, CHENNAI-600 063
PH: 9840127487, 8760031198



LAYOUT OF FIRST FLOOR ROOF BEAM
BLOCK - A

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A.N. MAGESH RAJA, M.E.,
 CMDA Registered Structural Engineer Grade-I (RSE)
 Reg.No: SE/GR-1/2022/06/325
 Cell: 97870 72100
 magistrature@gmail.com.

NOTES:

NOTES:

3.
2.
1.
REVISION HISTORY

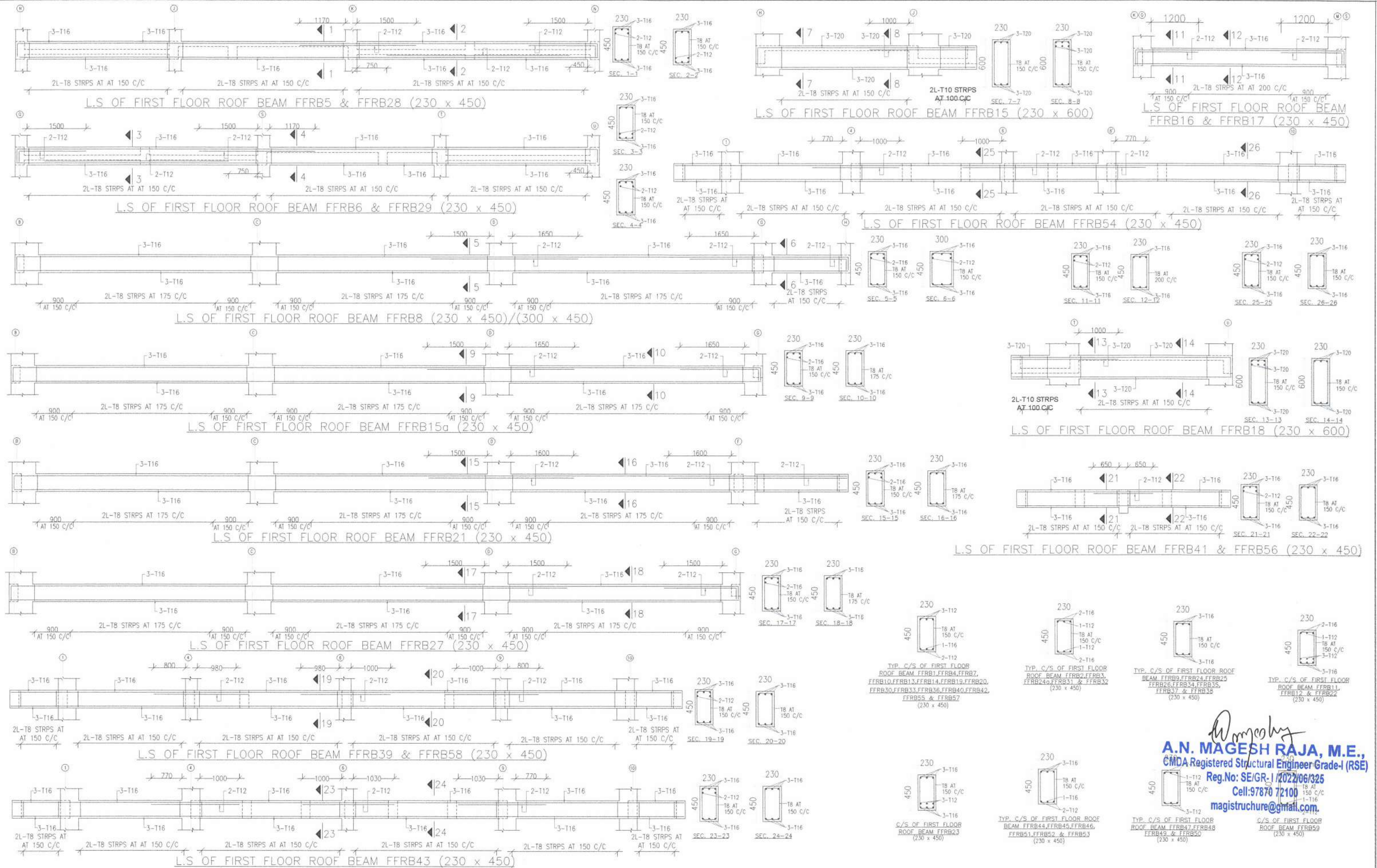
DRAWN : G.EZHILAN
 DESIGN : G.AGILAN
 CHECKED : G.AGILAN
 DATE : 31.08.2024

DRAWING TITLE
 LAYOUT OF FIRST FLOOR
 ROOF BEAM
 ISSUED FOR: CONSTRUCTION

DRG. NO: ST-10-T C-A-58-2023
 CLIENT: RUSSEL FOUNDATION
 PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

REVISION: R-0
 REFERENCE: -

AME
 STRUCTURAL CONSULTANTS
 NO.28, JAWAHARLAL NEHRU ST,
 PERUNGALATHUR, CHENNAI-600 063
 PH: 9840127487, 8760031198



NOTES:

1. ALL DIMENSIONS ARE IN MM & M
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE LATEST ARCHITECTURAL DRAWING
3. GRADE OF CONCRETE SHALL BE M30 U/O/S
4. CLEAR COVER FOR REINFORCEMENTS SHALL BE AS FOLLOWS:
a) BEAM - 25mm
5. T- DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1786-1985.

NOTES:

6. LAP LENGTH SHALL BE 45 TIMES DIA. OF BAR AND SHALL BE KEPT STAGGERED
7. TOP BARS OF BEAMS AND SLABS TO BE LAPPED AT MID ZONE AND NOT NEAR SUPPORTS.
8. BOTTOM BARS TO BE LAPPED AT END ONE THIRD SPAN
9. STRUCTURAL ENGINEERS RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF STRUCTURAL DRAWINGS ONLY
10. RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER
11. SUNKEN SHOULD BE FILL WITH LIGHT WEIGHT MATERIAL

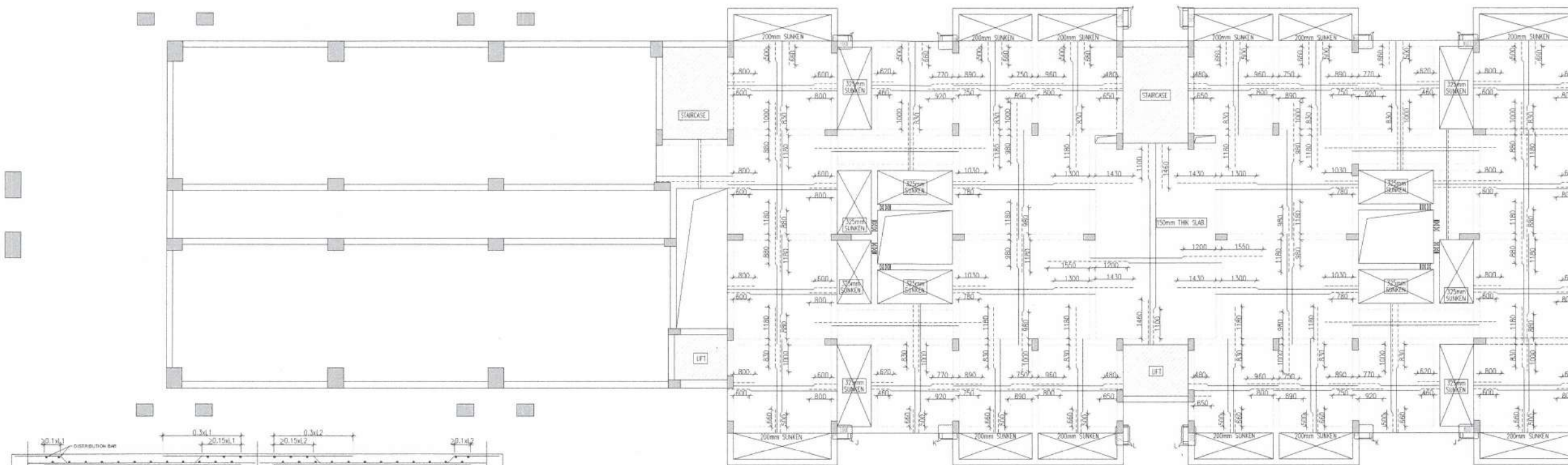
REVISION HISTORY

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1.	

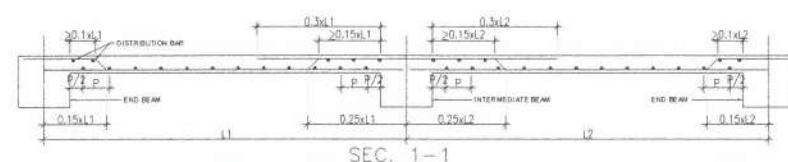
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DESIGN : G.AGILAN		CLIENT: RUSSEL FOUNDATION	REFERENCE: -
CHECKED : G.AGILAN		PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY	
DATE : 03.09.2024	ISSUED FOR: CONSTRUCTION		



AME
STRUCTURAL CONSULTANTS
NO:28, JAWAHARLAL NEHRU ST,
PERUNGALATHUR, CHENNAI-600 063
PH: 9840127487, 8760031198



R.C DET. OF FIRST FLOOR ROOF SLAB BLOCK - A

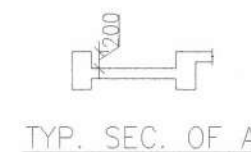


SEC. 1-1

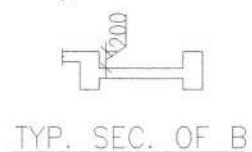
S. NO.	SLAB ID	THICKNESS	REINFORCEMENT
1	S1 (TWO WAY)	150	T10 AT 150 C/C (SHORTER) T8 AT 150 C/C (LONGER)
2	S2 (TWO WAY)	125	T10 AT 150 C/C (SHORTER) T8 AT 150 C/C (LONGER)
3	S3 (DOUBLE MAT)	150	T10 AT 100 C/C (SHORTER) T8 AT 150 C/C (LONGER)
4	S4 (DOUBLE MAT)	125	T8 AT 150 C/C (DOUBLE MAT)
5	S5 (TWO WAY)	125	T8 AT 100 C/C (SHORTER) T8 AT 150 C/C (LONGER)
6	S6 (TWO WAY)	125	T8 AT 150 C/C (BOTH WAYS)
7	S7 (DOUBLE MAT)	125	T8 AT 150 C/C (SHORTER) T8 AT 175 C/C (LONGER)

(PROVIDE T8 AT 8" C/C AS DISTRIBUTOR BARS WHEREVER NECESSARY)

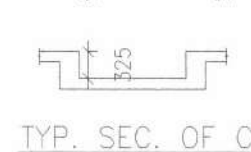
--- TOP ROD
— BOTTOM ROD



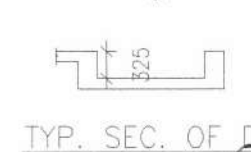
TYP. SEC. OF A



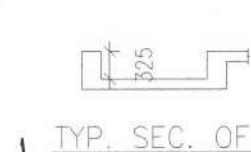
TYP. SEC. OF B



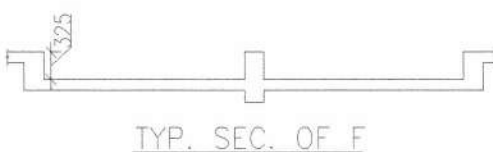
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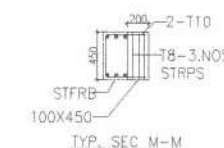
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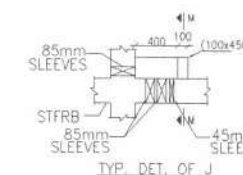
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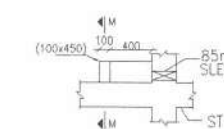
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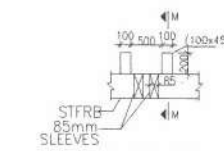
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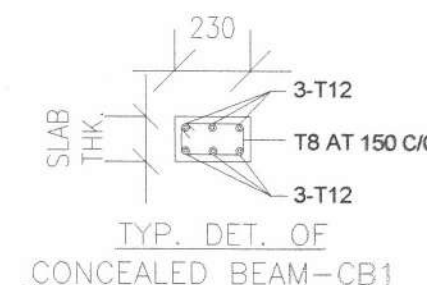
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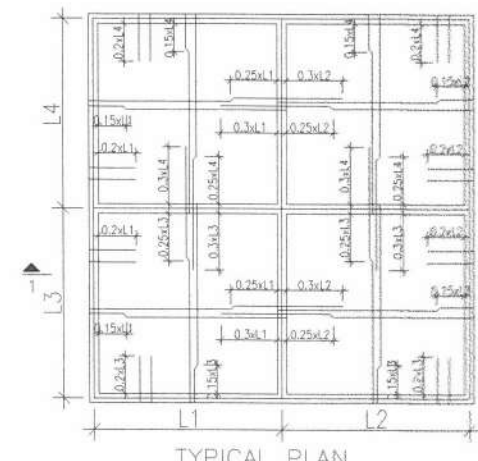
TYP. DET. OF K



TYP. DET. OF L



TYP. DET. OF CONCEALED BEAM-CB1



TYPICAL PLAN

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NOTES:

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- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE LATEST ARCHITECTURAL DRAWING
- GRADE OF CONCRETE SHALL BE M30 U.O.S
- CLEAR COVER FOR REINFORCEMENTS SHALL BE AS FOLLOWS:
a) SLAB - 20mm
- T- DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1798-1985.

NOTES:

- LAP LENGTH SHALL BE 45 TIMES DIA. OF BAR AND SHALL BE KEPT STAGGERED.
- TOP BARS OF BEAMS AND SLABS TO BE LAPPED AT MID ZONE AND NOT NEAR SUPPORTS.
- BOTTOM BARS TO BE LAPPED AT END ONE THIRD SPAN
- STRUCTURAL ENGINEERS RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF CONSTRUCTION ONLY
- RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER
- SUNKEN SHOULD BE FILL WITH LIGHT WEIGHT MATERIAL

3.
2.
1.

REVISION HISTORY

DRAWN : G.EZHILAN

DESIGN : G.AGILAN

CHECKED : G.AGILAN

DATE : 31.08.2024

DRAWING TITLE
R.C DET. OF FIRST FLOOR
ROOF SLAB

ISSUED FOR: CONSTRUCTION

DRG. NO: ST-12-T-C-A-58-2023

CLIENT: RUSSEL FOUNDATION

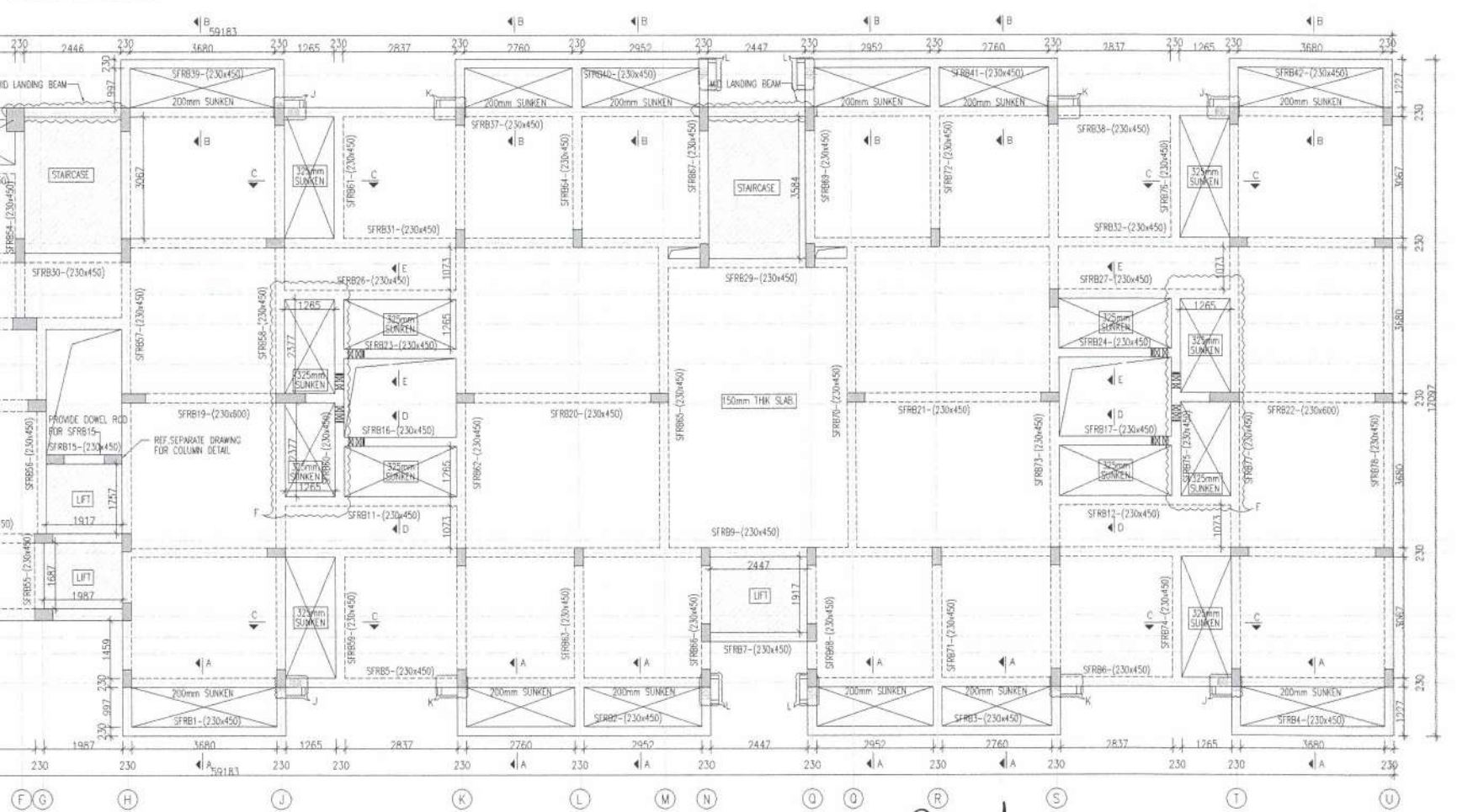
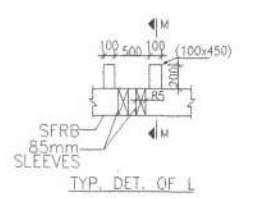
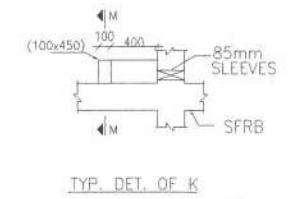
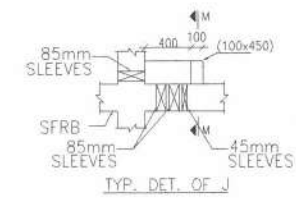
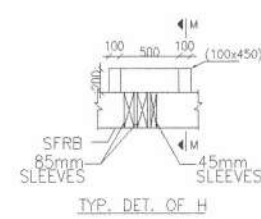
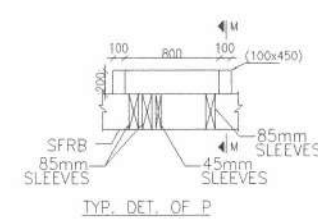
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

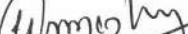
REVISION: R-0

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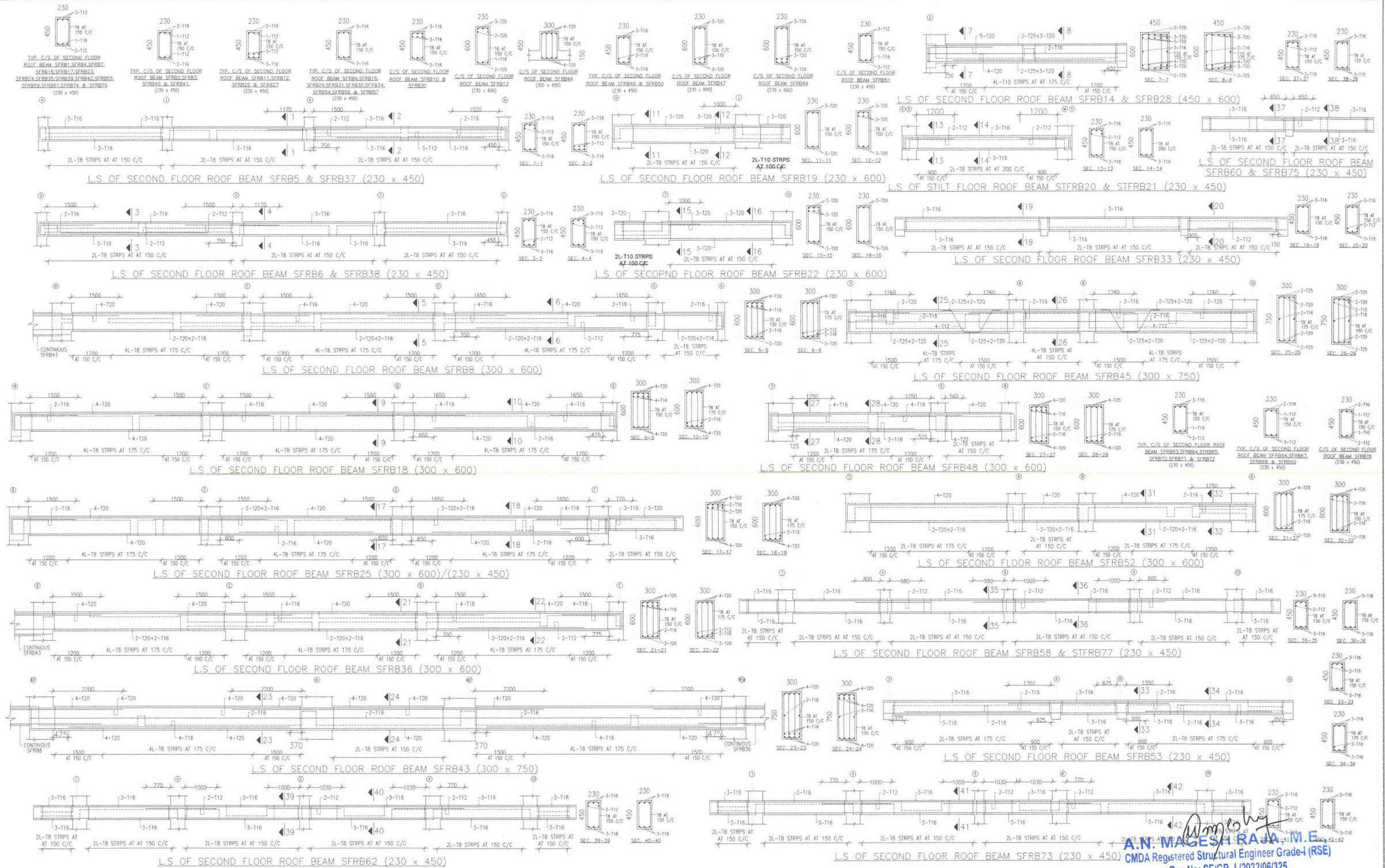


AME
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PERUNGALATHUR, CHENNAI-600063
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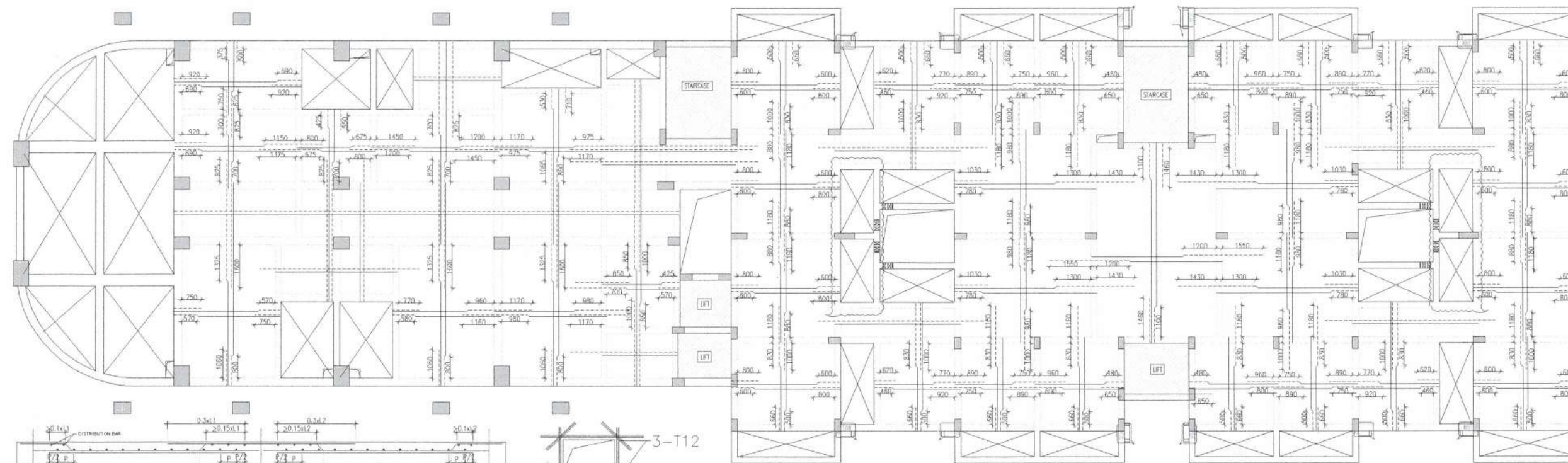



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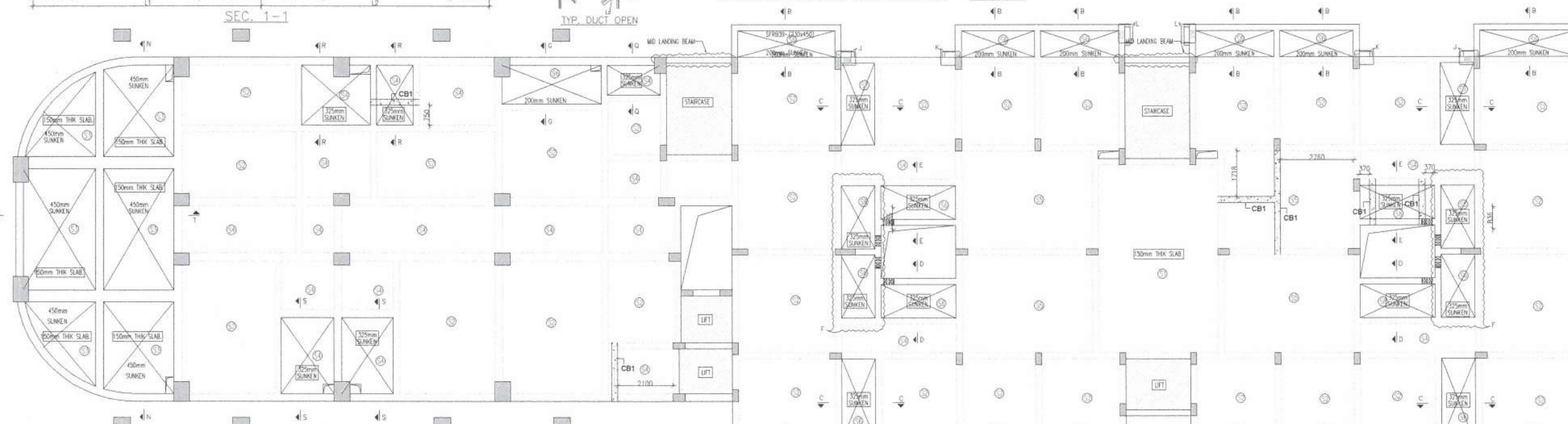
NOTES:	NOTES:	3. 2. 1. REVISION HISTORY	DRAWN : G.EZHILAN	DRAWING TITLE LAYOUT OF SECOND FLOOR ROOF BEAM	DRG. NO: ST-13-T C-A-58-2023	magistructure@gmail.com. REVISION: R-4	 AME STRUCTURAL CONSULTANTS NO.28, JAWAHARLAL NEHRU ST, PERUNGALATHUR, CHENNAI-600 063 PH: 9840127487, 8760031198
			DESIGN : G.AGILAN		CLIENT: RUSSEL FOUNDATION	REV. DATE: 21.11.2024	
			CHECKED : G.AGILAN				
			DATE : 30.09.2024	ISSUED FOR: CONSTRUCTION	PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY		



NOTES: - ALL DIMENSIONS ARE IN MM & M - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE LATEST ARCHITECTURAL DRAWING - GRADE OF CONCRETE SHALL BE M30 U/O/S - CLEAR COVER FOR REINFORCEMENTS SHALL BE AS FOLLOWS: 4) BEAM - 25mm 5) T- DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1786-1986.	NOTES: - LAP LENGTH SHALL BE 46 TIMES DIA. OF BAR AND SHALL BE KEPT STAGGERED - TOP BARS OF BEAMS AND SLABS TO BE LAPPED AT MID ZONE AND NOT NEAR SUPPORTS. - BOTTOM BARS TO BE LAPPED AT END ONE THIRD SPAN - STRUCTURAL ENGINEERS RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF STRUCTURAL DRAWING ONLY - RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER - SUNKEN SHOULD BE FILL WITH LIGHT WEIGHT MATERIAL	3. 2. 1. REVISION HISTORY	DRAWN : G.EZHILAN DESIGN : G.AGILAN CHECKED : G.AGILAN DATE : 21.10.2024	DRAWING TITLE R.C DET.OF SECOND FLOOR ROOF BEAM ISSUED FOR: CONSTRUCTION	DRG. NO: ST-14-T C-A-58-2023 CLIENT: RUSSEL FOUNDATION PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY	REVISION: R-2 REV. DATE: 19.11.2024	A.N. MAGESH RAJA, M.E. CMDA Registered Structural Engineer Grade-I (RSE) Reg.No: SE/GR-I/2022/06/325 Cell:97870 72100 magistructure@gmail.com AME STRUCTURAL CONSULTANTS NO:28, JAWAHARLAL NEHRU ST, PERUNGALATHUR, CHENNAI-600 063 PH: 9840127487, 8760031198
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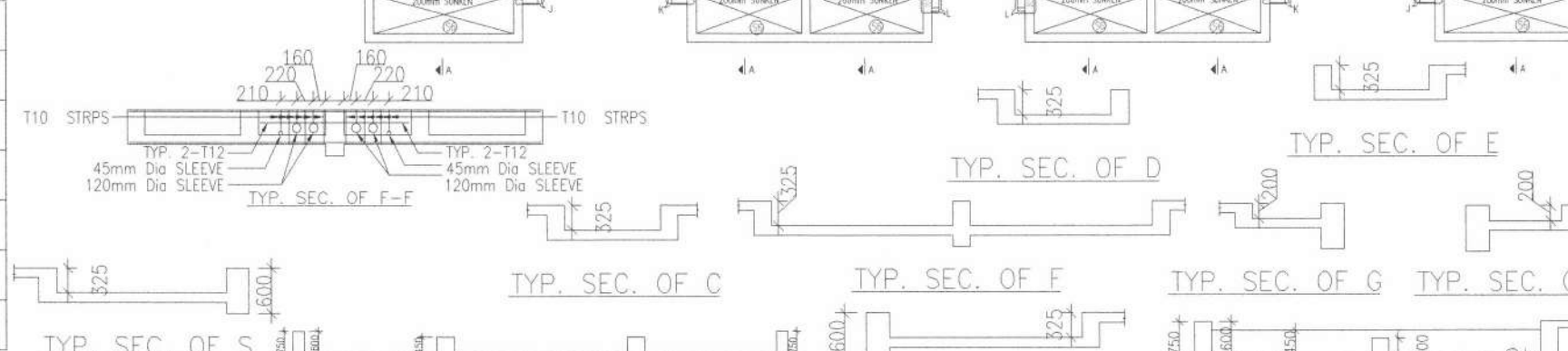
LAYOUT OF SECOND FLOOR ROOF BEAM BLOCK - A



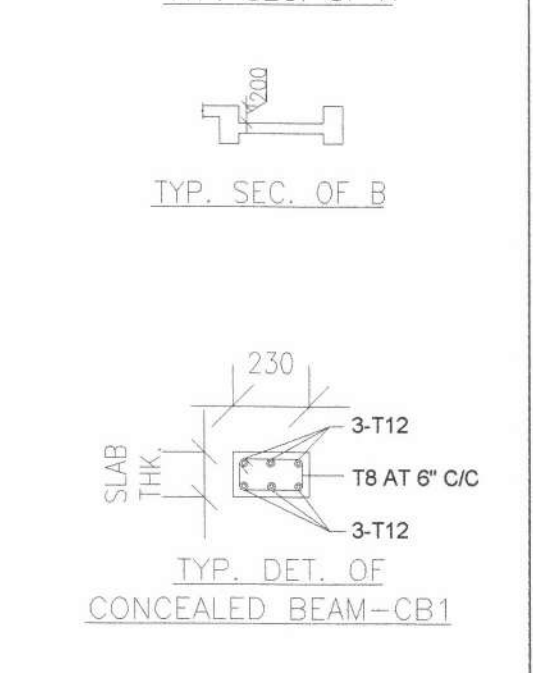
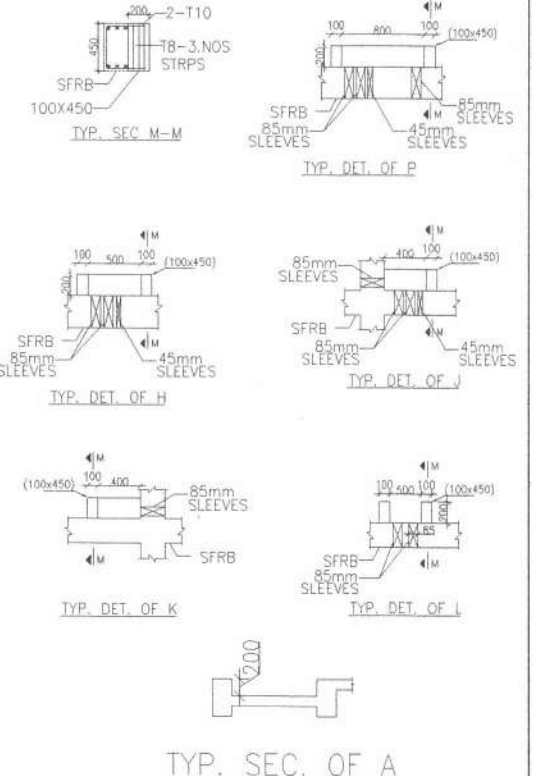
LAYOUT OF SECOND FLOOR ROOF SLAB BLOCK - A

S. NO.	SLAB ID	THICKNESS	REINFORCEMENT
1	S1 (TWO WAY)	150	T10 AT 150 C/C (SHORTER ROD) T8 AT 150 C/C (LONGER ROD)
2	S2 (TWO WAY)	125	T8 AT 150 C/C (BOTHWAYS)
3	S3 (DOUBLE MAT)	150	T10 AT 125 C/C (SHORTER ROD) T8 AT 125 C/C (LONGER ROD)
4	S4 (DOUBLE MAT)	125	T8 AT 150 C/C (DOUBLE MAT)
5	S5 (TWO WAY)	125	T8 AT 125 C/C (SHORTER ROD) T8 AT 150 C/C (LONGER ROD)
6	S6 (DOUBLE MAT)	125	T8 AT 150 C/C (SHORTER ROD) T8 AT 175 C/C (LONGER ROD)

(PROVIDE T8 AT 8" C/C AS DISTRIBUTOR BARS WHEREVER NECESSARY)



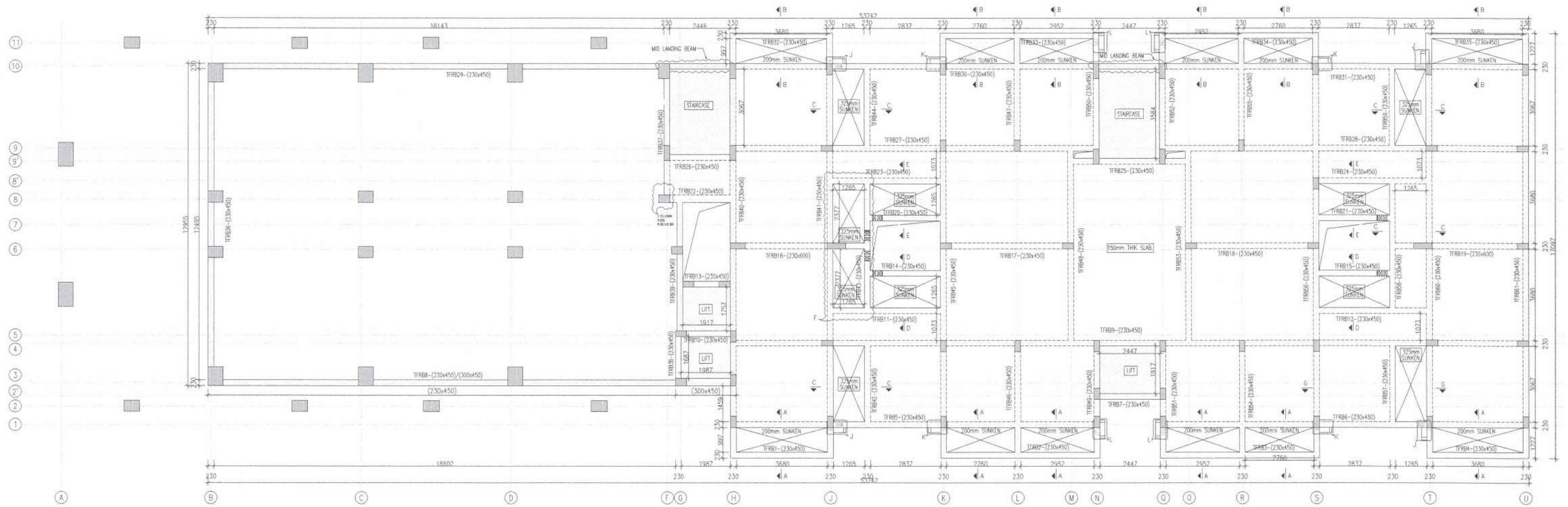
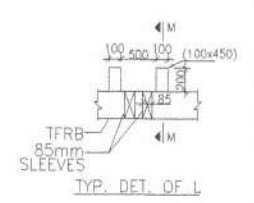
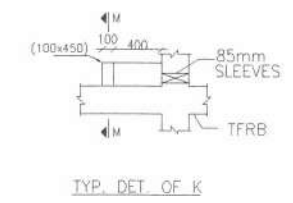
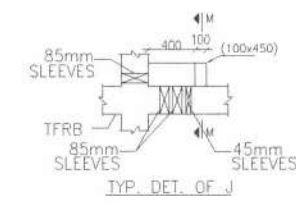
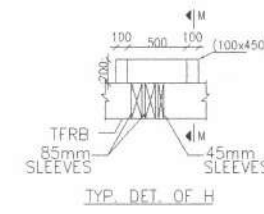
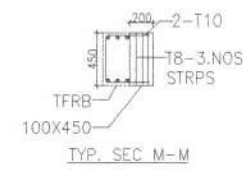
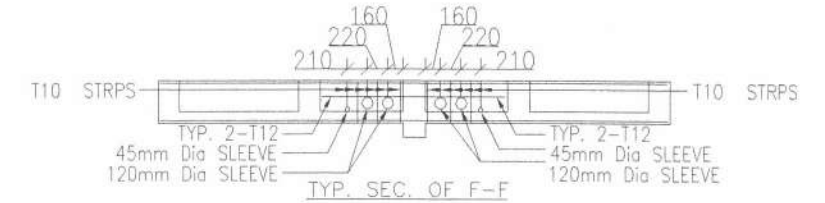
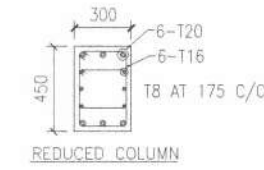
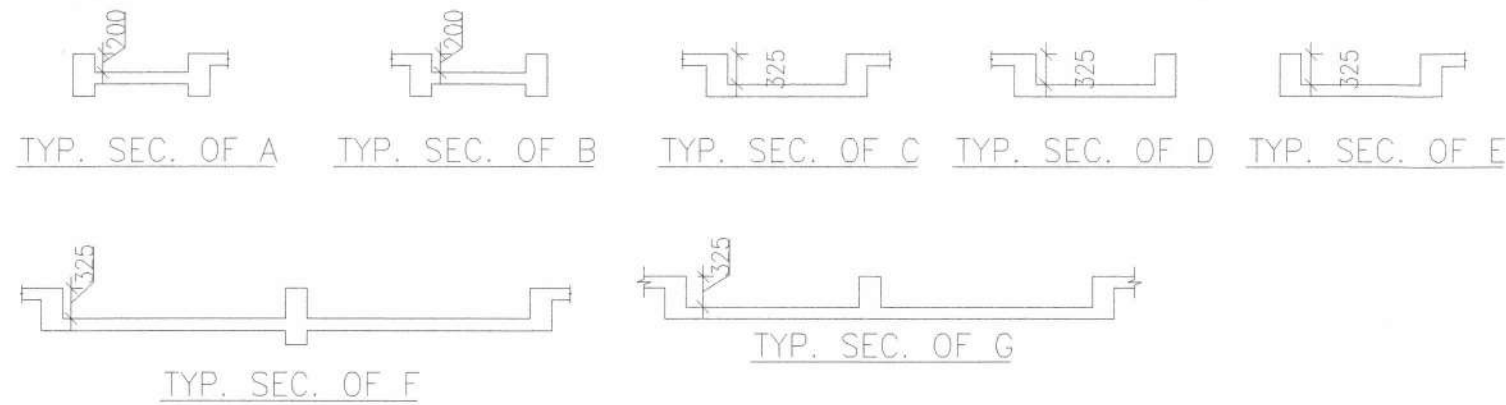
LAYOUT OF SECOND FLOOR ROOF SLAB BLOCK - A



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PERUNGALATHUR, CHENNAI-600 063
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NOTES: 1. ALL DIMENSIONS ARE IN MM & M 2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE LATEST ARCHITECTURAL DRAWING 3. GRADE OF CONCRETE SHALL BE M30 U.O.S 4. CLEAR COVER FOR REINFORCEMENTS SHALL BE AS FOLLOWS: a) SLAB - 20mm 5. T- DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1786-1986.	NOTES: 6. LAP LENGTH SHALL BE 45 TIMES DIA. OF BAR AND SHALL BE KEPT STAGGERED. 7. TOP BARS OF BEAMS AND SLABS TO BE LAPPED AT MID ZONE AND NOT NEAR SUPPORTS. 8. BOTTOM BARS TO BE LAPPED AT END ONE THIRD SPAN 9. STRUCTURAL ENGINEERS RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF STRUCTURAL DRAWING ONLY 10. RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER 11. SUNKEN SHOULD BE FILL WITH LIGHT WEIGHT MATERIAL	3. 2. 1. REVISION HISTORY	DRAWN : G.EZHILAN	DRAWING TITLE	DRG. NO: ST-15-T C-A-58-2023	REVISION: R-4
			DESIGN : G.AGILAN			
			CHECKED : G.AGILAN	R.C DET. OF SECOND FLOOR ROOF SLAB	CLIENT: RUSSEL FOUNDATION	REV. DATE: 21.11.2024
			DATE : 30.09.2024			



LAYOUT OF THIRD FLOOR ROOF BEAM
BLOCK - A

Ampathy
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Cell:97870 72100
magistructure@gmail.com.

NOTES:

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REVISION HISTORY

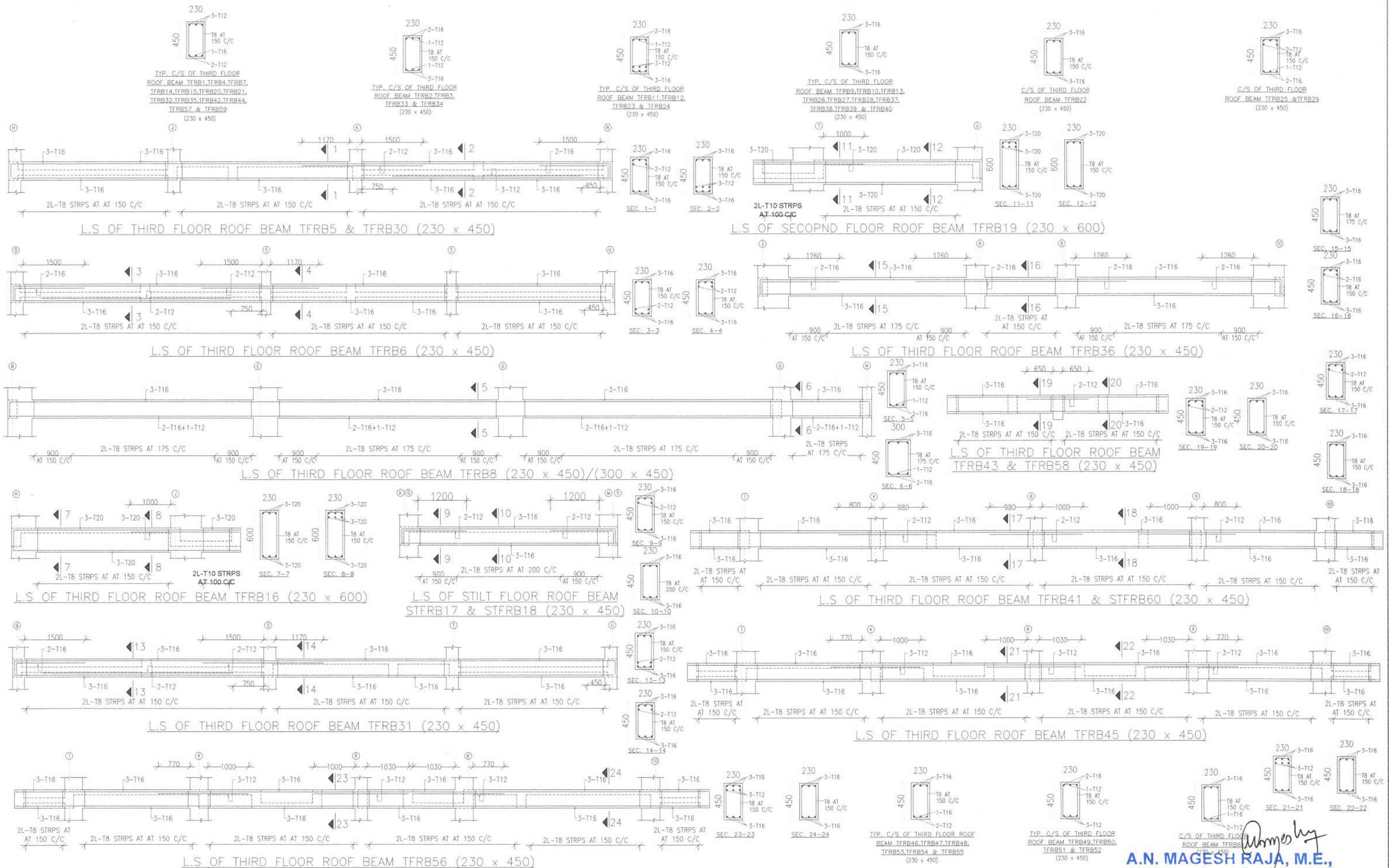
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DATE : 04.01.2025

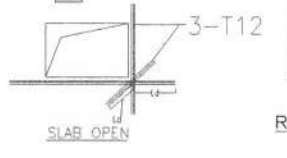
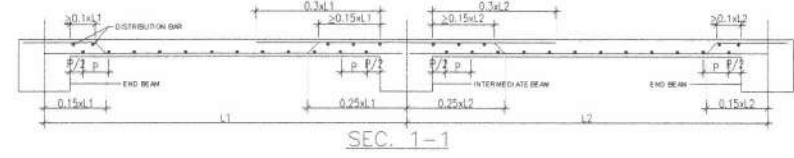
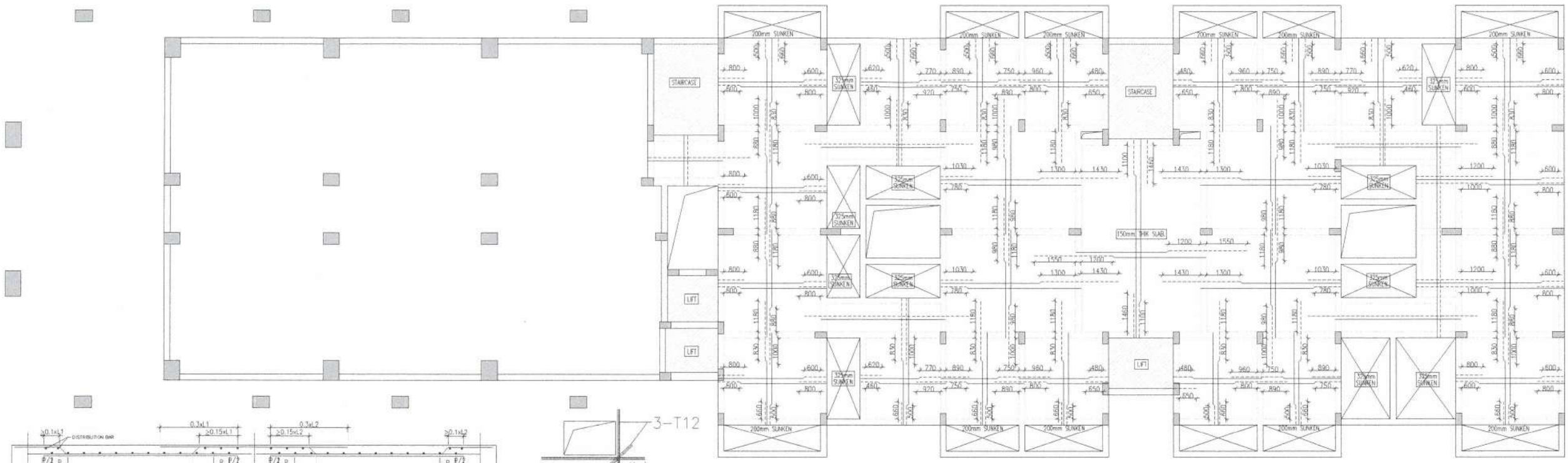
DRAWING TITLE
LAYOUT OF THIRD FLOOR
ROOF BEAM
ISSUED FOR: CONSTRUCTION

DRG. NO: ST-17-T C-A-58-2023
CLIENT: RUSSEL FOUNDATION
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

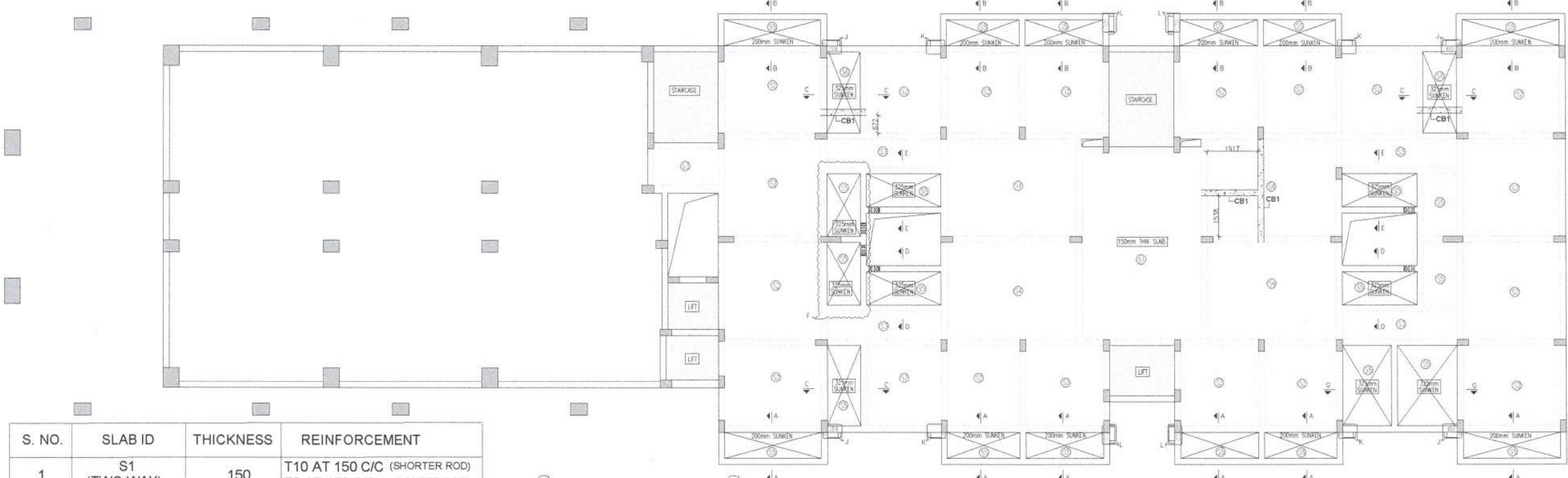
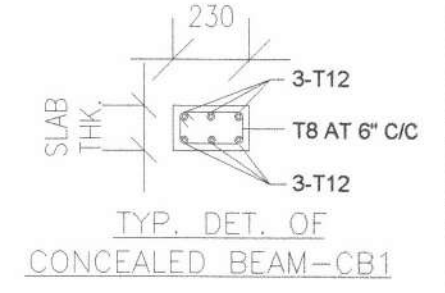
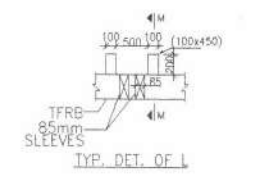
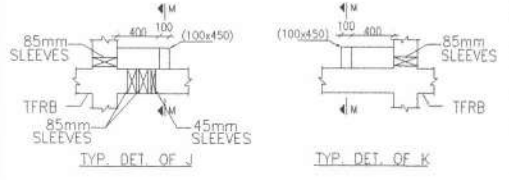
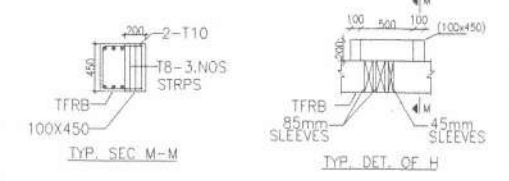
REVISION: R-0
REV. DATE: -

AME
STRUCTURAL CONSULTANTS
NO:28, JAWAHARLAL NEHRU ST,
PERUNGALATHUR, CHENNAI-600 063
PH: 9840127487, 8760031198



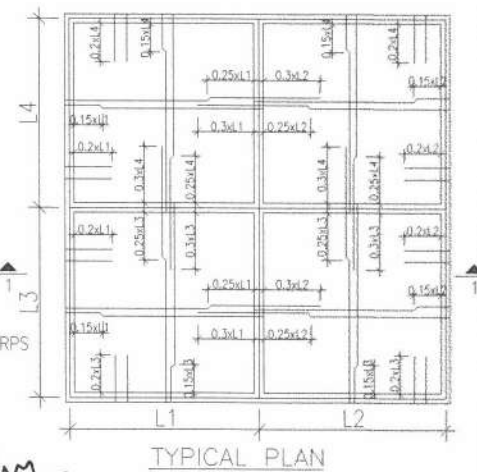
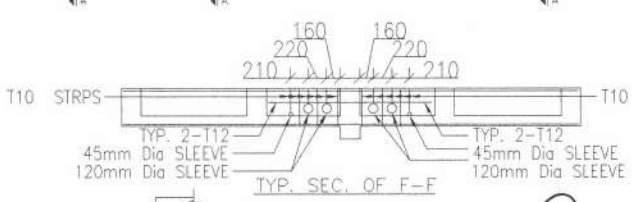
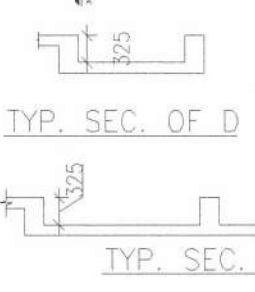
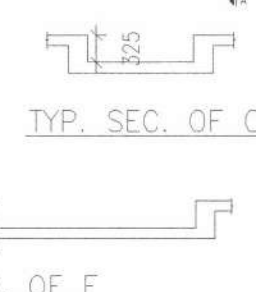
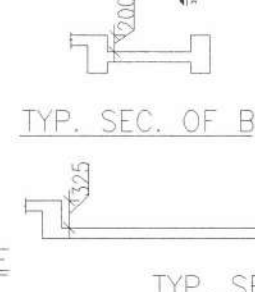
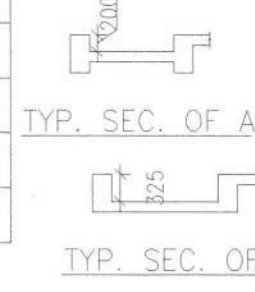


R.C DET. OF THIRD FLOOR ROOF SLAB BLOCK - A



S. NO.	SLAB ID	THICKNESS	REINFORCEMENT
1	S1 (TWO WAY)	150	T10 AT 150 C/C (SHORTER ROD) T8 AT 150 C/C (LONGER ROD)
2	S2 (TWO WAY)	125	T8 AT 150 C/C (BOTH WAYS)
3	S3 (DOUBLE MAT)	125	T8 AT 150 C/C (DOUBLE MAT)
4	S4 (TWO WAY)	125	T8 AT 100 C/C (SHORTER ROD) T8 AT 150 C/C (LONGER ROD)
5	S5 (DOUBLE MAT)	125	T8 AT 150 C/C (SHORTER ROD) T8 AT 175 C/C (LONGER ROD)

(PROVIDE T8 AT 8" C/C AS DISTRIBUTOR BARS WHEREVER NECESSARY)



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a) SLAB - 20mm
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9. STRUCTURAL ENGINEERS RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF STRUCTURAL DRAWING ONLY
10. RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER
11. SUNKEN SHOULD BE FILL WITH LIGHT WEIGHT MATERIAL

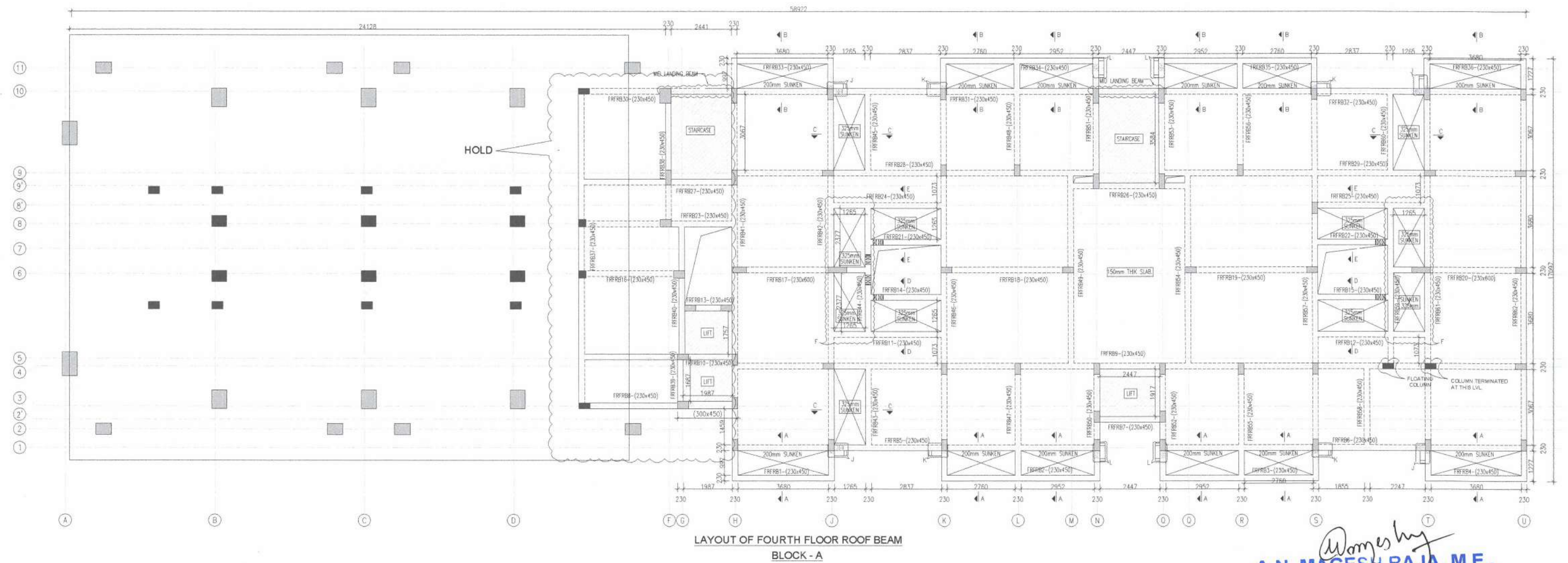
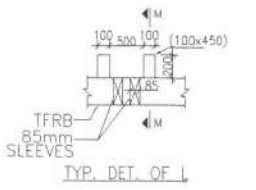
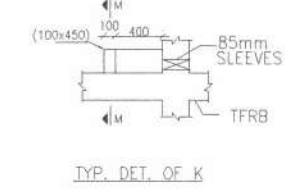
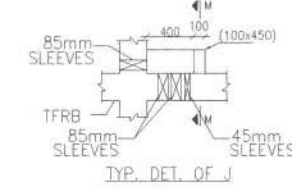
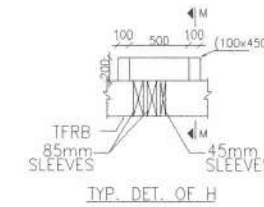
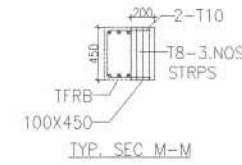
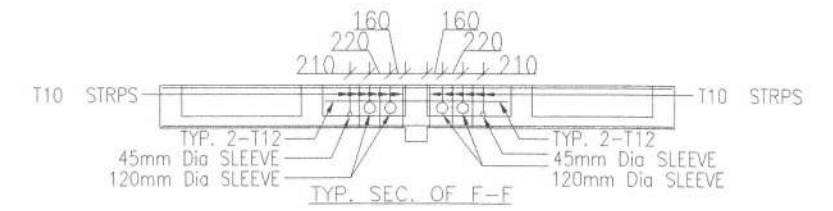
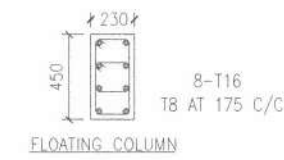
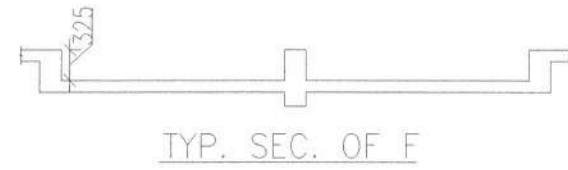
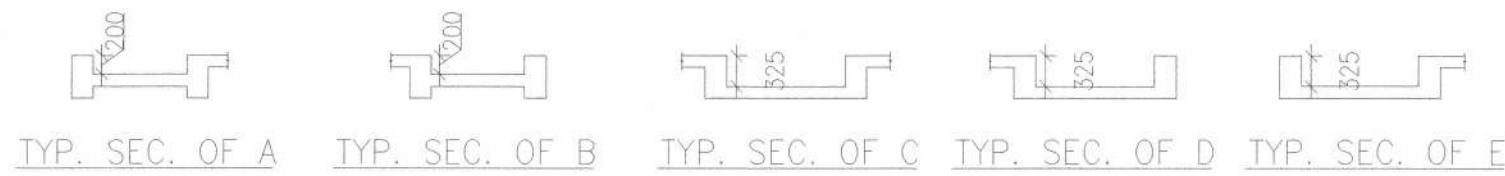
DRAWN : G.EZHILAN
DESIGN : G.AGILAN
CHECKED : G.AGILAN
DATE : 04.01.2025

DRAWING TITLE
R.C DET. OF THIRD FLOOR ROOF SLAB
ISSUED FOR: CONSTRUCTION

DRG. NO: ST-19-T C-A-58-2023
CLIENT: RUSSEL FOUNDATION
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

REVISION: R-0
REV. DATE: -

REVISION HISTORY
3.
2.
1.



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STRUCTURAL CONSULTANTS
NO.28, JAWAHARLAL NEHRU ST,
PERUNGALATHUR, CHENNAI-600 063
PH: 9840127487, 8760031198

NOTES:

NOTES:

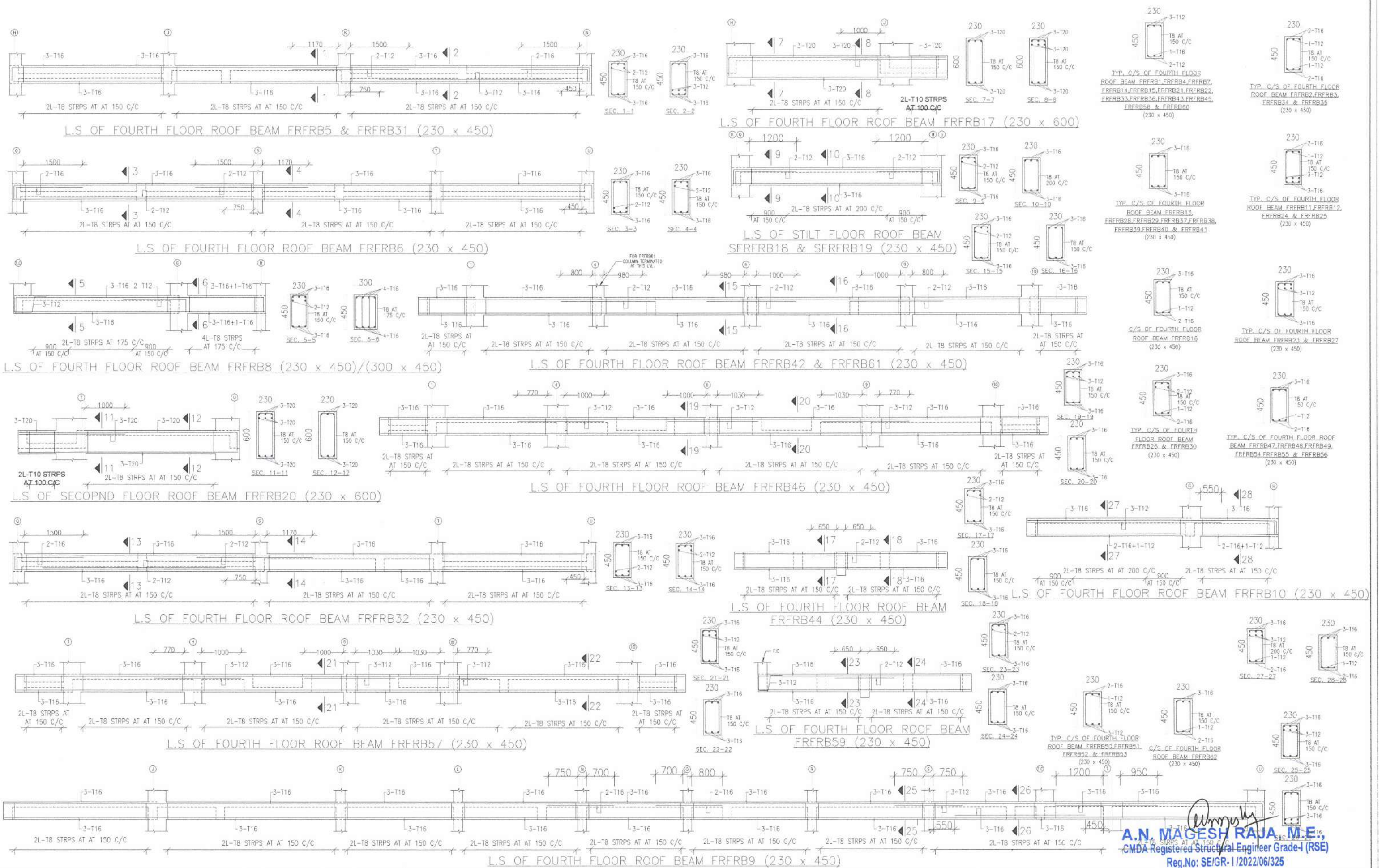
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1.
REVISION HISTORY

DRAWN : G.EZHILAN
DESIGN : G.AGILAN
CHECKED : G.AGILAN
DATE : 10.02.2025

DRAWING TITLE
LAYOUT OF FOURTH FLOOR
ROOF BEAM
ISSUED FOR: CONSTRUCTION

DRG. NO: ST-20-T C-A-58-2023
CLIENT: RUSSEL FOUNDATION
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

REVISION: R-0
REV. DATE: -



NOTES:

1. ALL DIMENSIONS ARE IN MM & M
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE LATEST ARCHITECTURAL DRAWING
3. GRADE OF CONCRETE SHALL BE M30 U.O.S
4. CLEAR COVER FOR REINFORCEMENTS SHALL BE AS FOLLOWS:
5. BEAM - 25mm
6. T- DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1786-1985.

NOTES:

6. LAP LENGTH SHALL BE 45 TIMES DIA. OF BAR AND SHALL BE KEPT STAGGERED.
7. TOP BARS OF BEAMS AND SLABS TO BE LAPPED AT MID ZONE AND NOT NEAR SUPPORTS.
8. BOTTOM BARS TO BE LAPPED AT END ONE THIRD SPAN
9. STRUCTURAL ENGINEERS RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF STRUCTURAL DRAWING ONLY
10. RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER
11. SUNKEN SHOULD BE FILL WITH LIGHT WEIGHT MATERIAL

REVISION HISTORY

NO.	REVISION
3.	
2.	
1.	

DRAWN : G.EZHILAN

DESIGN : G.AGILAN

CHECKED : G.AGILAN

DATE : 10.02.2025

DRAWING TITLE

R.C DET.OF FOURTH FLOOR ROOF BEAM

ISSUED FOR: CONSTRUCTION

DRG. NO: ST-21-T C-A-58-2023

CLIENT: RUSSEL FOUNDATION

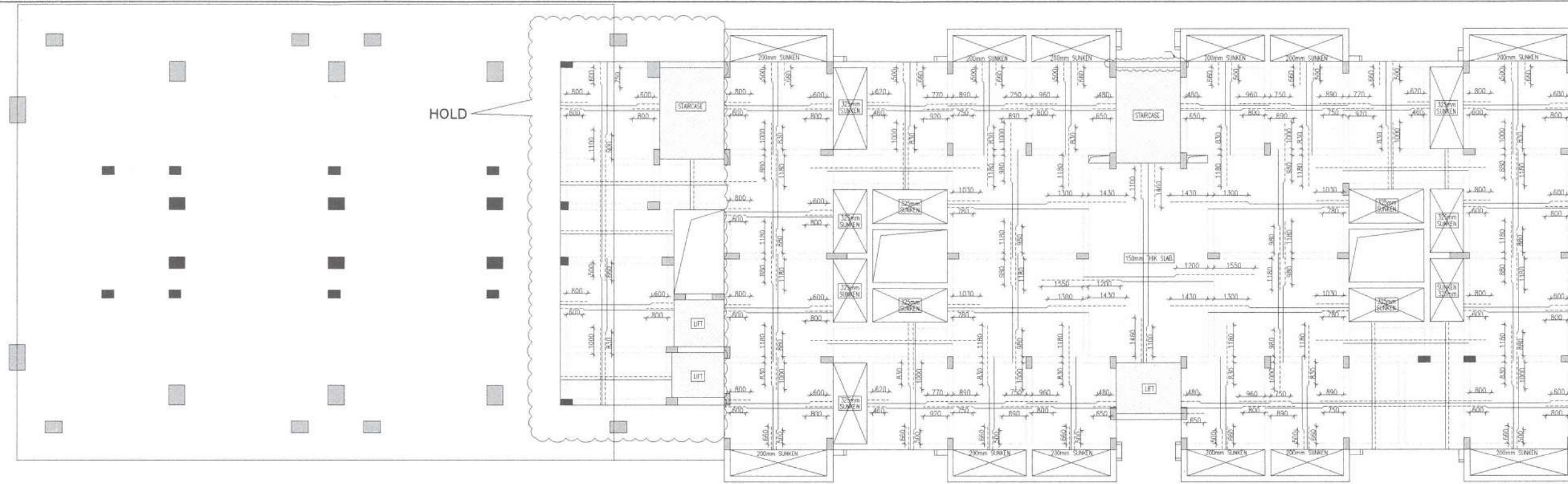
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

REVISION: R-0

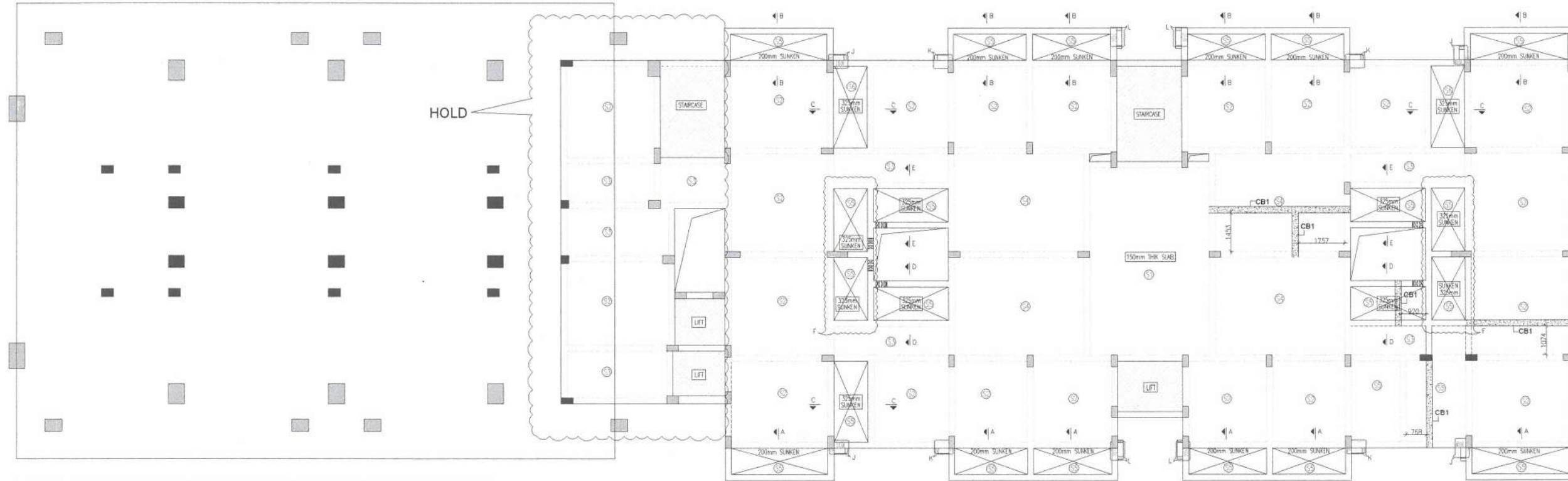
REV. DATE: -

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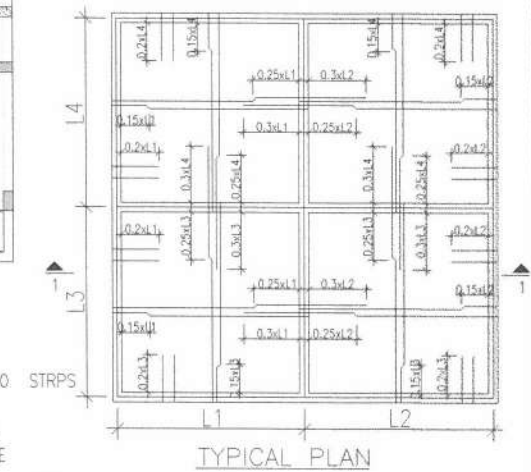
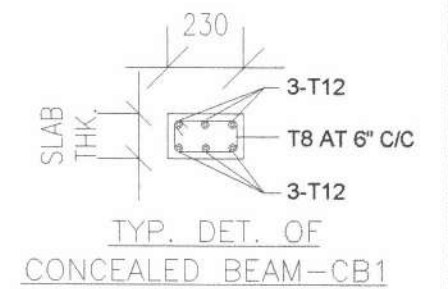
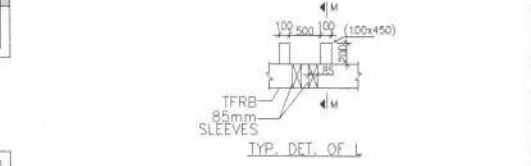
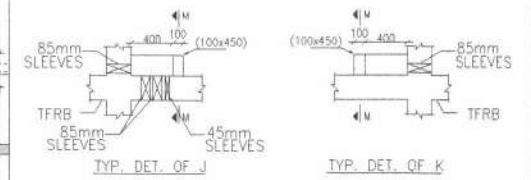
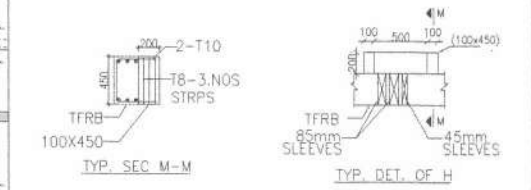
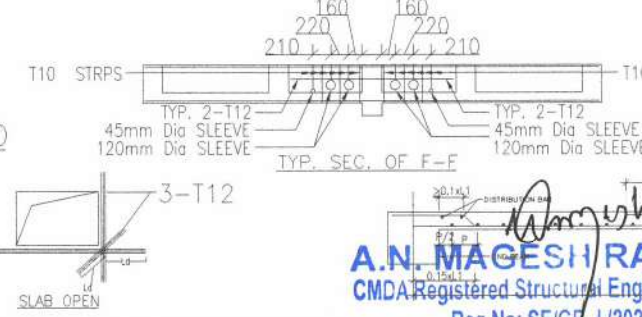
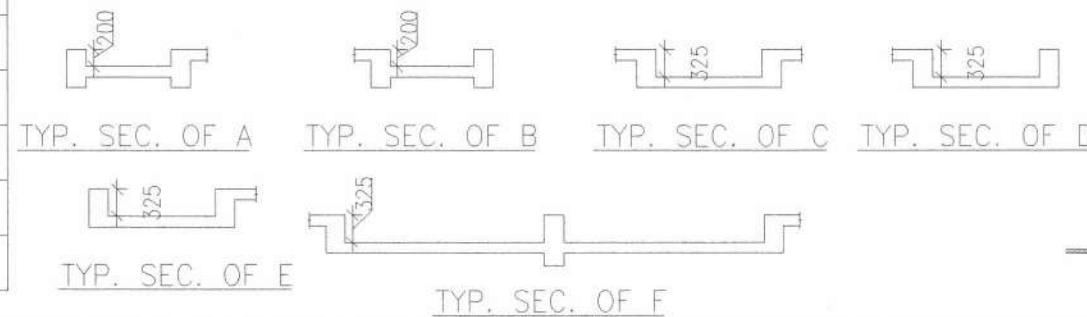
AME
 STRUCTURAL CONSULTANTS
 NO:28, JAWAHARLAL NEHRU ST,
 PERUNGALATHUR, CHENNAI-600 063
 PH: 9840127487, 8760031198



R.C DET. OF FOURTH FLOOR ROOF SLAB BLOCK - A



S. NO.	SLAB ID	THICKNESS	REINFORCEMENT
1	S1 (TWO WAY)	150	T10 AT 150 C/C (SHORTER ROD) T8 AT 150 C/C (LONGER ROD)
2	S2 (TWO WAY)	125	T8 AT 150 C/C (BOTH WAYS)
3	S3 (DOUBLE MAT)	125	T8 AT 150 C/C (DOUBLE MAT)
4	S4 (TWO WAY)	125	T8 AT 100 C/C (SHORTER ROD) T8 AT 150 C/C (LONGER ROD)
5	S5 (DOUBLE MAT)	125	T8 AT 150 C/C (SHORTER ROD) T8 AT 175 C/C (LONGER ROD)



(PROVIDE T8 AT 8" C/C AS DISTRIBUTOR BARS WHEREVER NECESSARY)

NOTES:

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- GRADE OF CONCRETE SHALL BE M30 U.O.S
- CLEAR COVER FOR REINFORCEMENTS SHALL BE AS FOLLOWS:
a) SLAB - 20mm
- T - DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1786-1985.

NOTES:

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- 3.
- 2.
- 1.

REVISION HISTORY

DRAWN : G.EZHILAN
DESIGN : G.AGILAN
CHECKED : G.AGILAN
DATE : 10.02.2025

DRAWING TITLE
R.C DET. OF FOURTH FLOOR
ROOF SLAB
ISSUED FOR: CONSTRUCTION

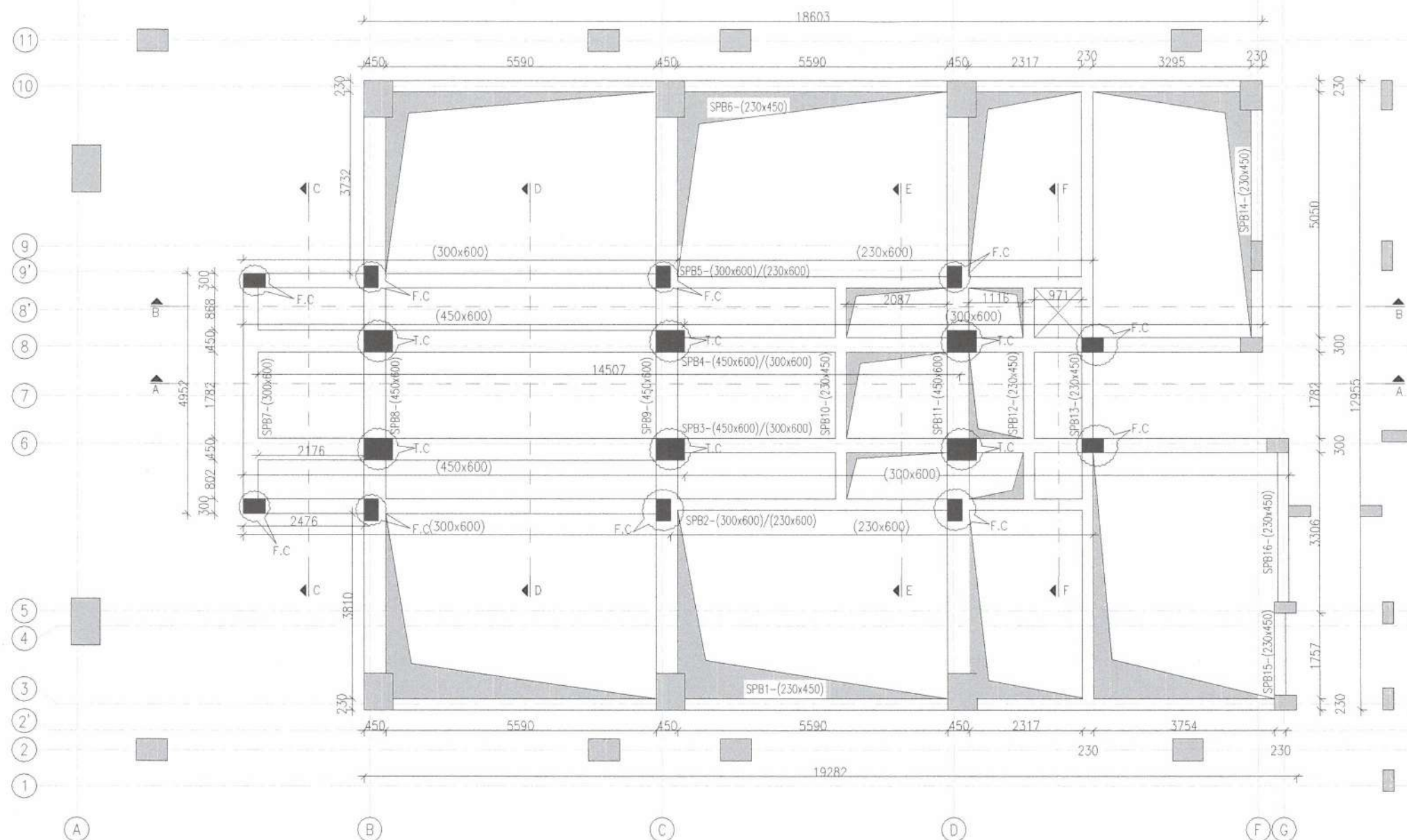
DRG. NO: ST-22-T C-A-58-2023
CLIENT: RUSSEL FOUNDATION
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

REVISION: R-0
magistrature@gmail.com.

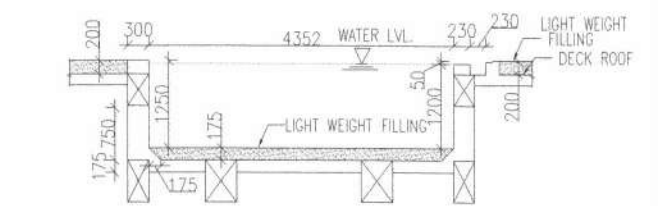
REV. DATE: -

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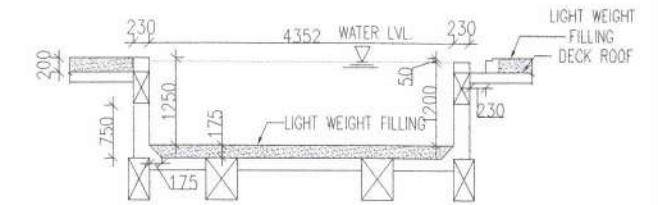
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PERUNGALATHUR, CHENNAI-600 063
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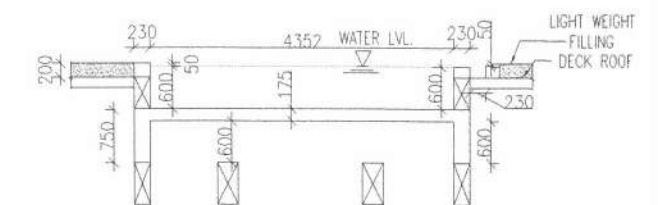
LAYOUT OF SWIMMING POOL BEAM BLOCK - A



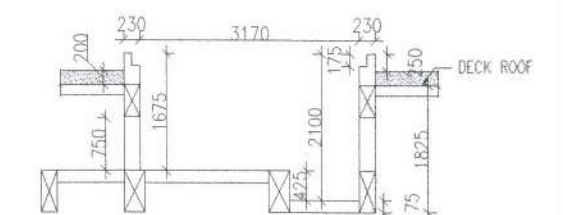
SEC. C - C



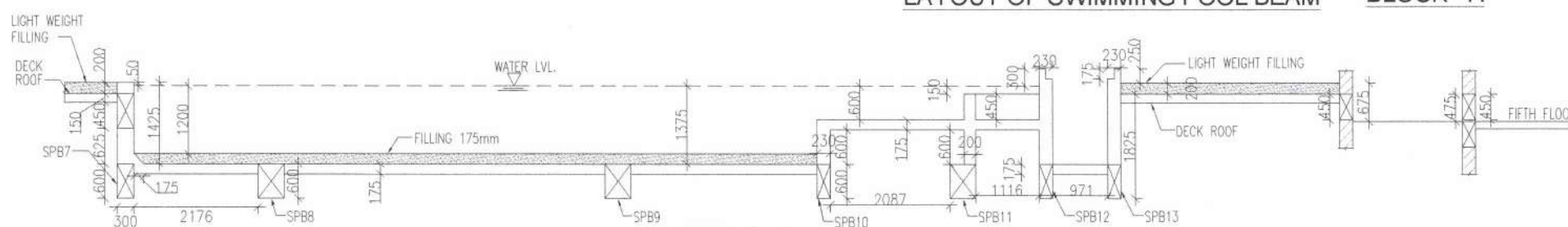
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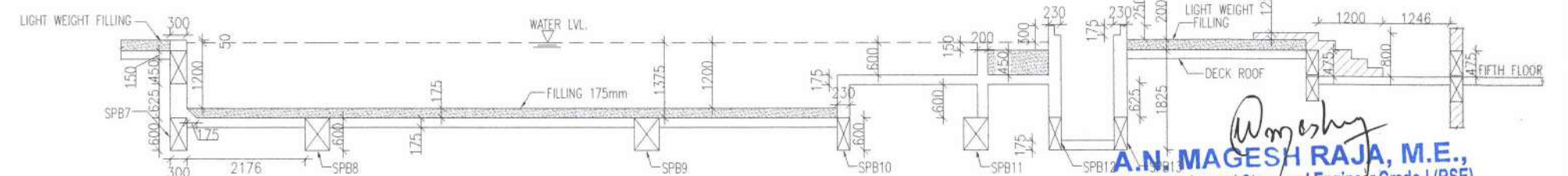
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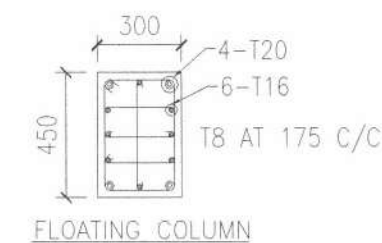
SEC. F - F



SEC. A - A



SEC. B - B



FLOATING COLUMN

NOTES:

NOTES:

3.
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1.
REVISION HISTORY

DRAWN : G.EZHILAN
DESIGN : G.AGILAN
CHECKED : G.AGILAN
DATE : 24.02.2025

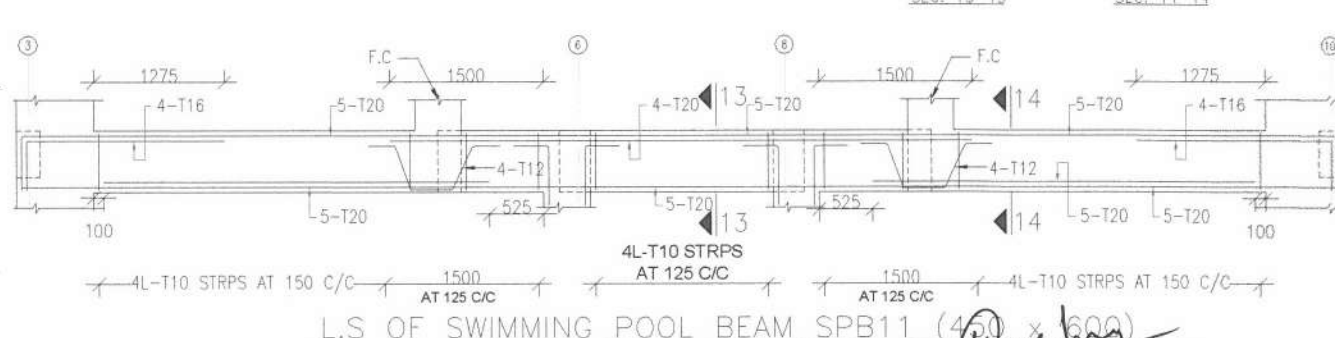
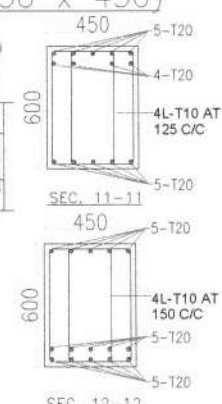
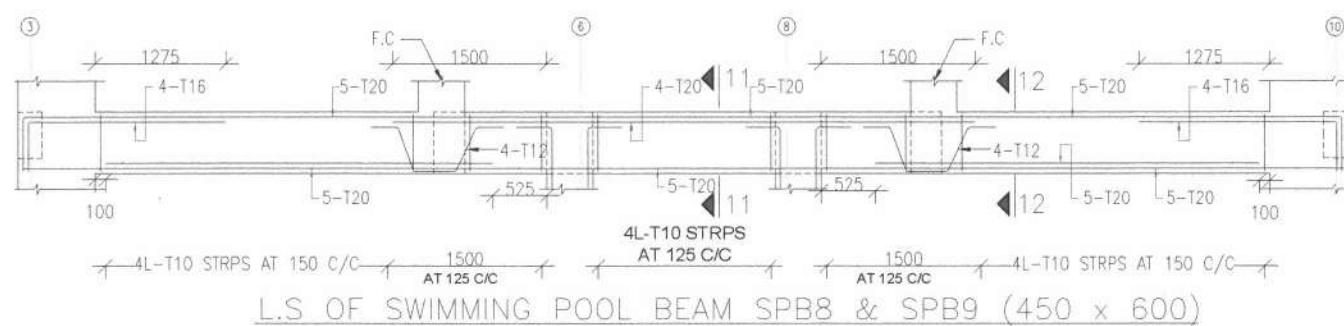
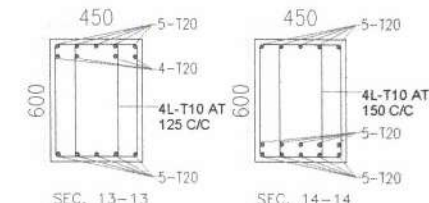
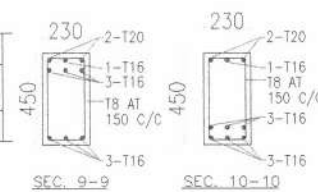
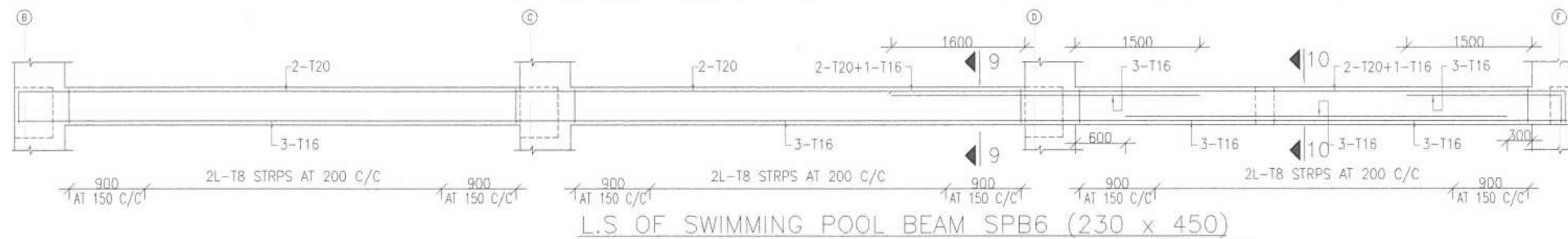
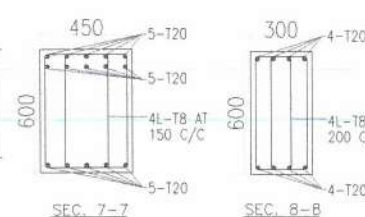
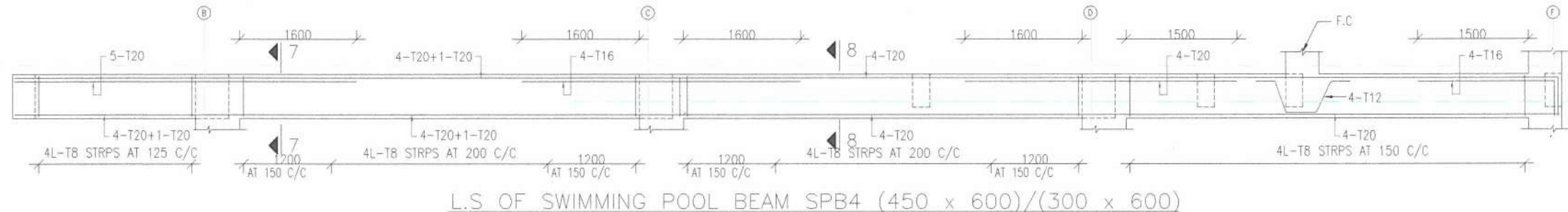
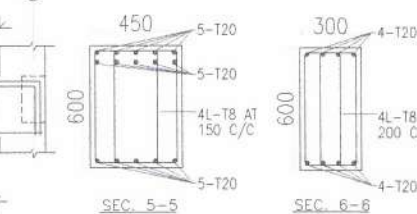
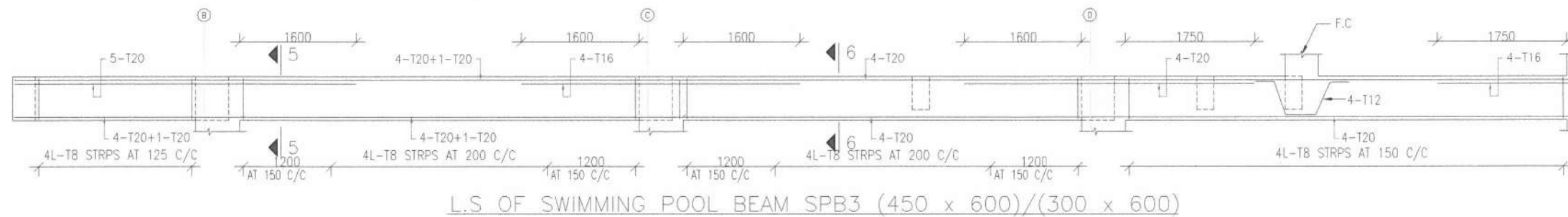
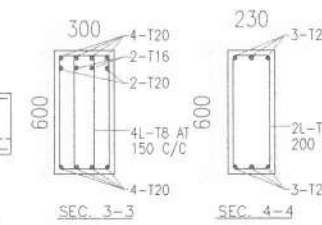
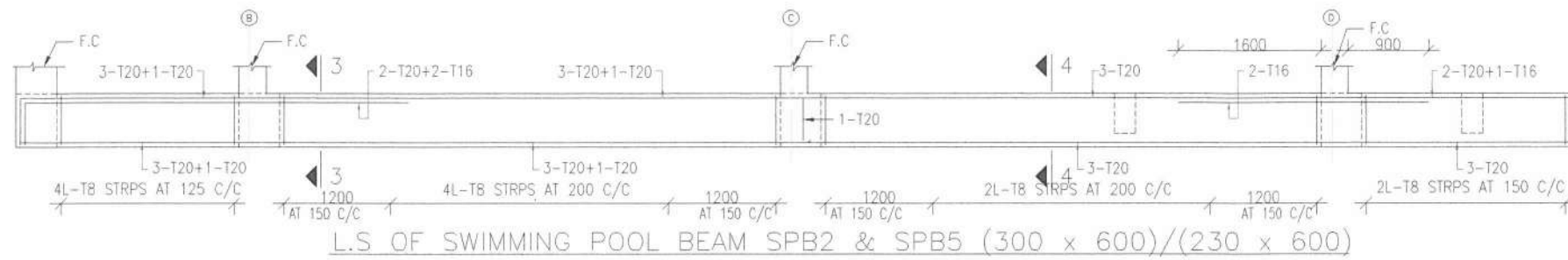
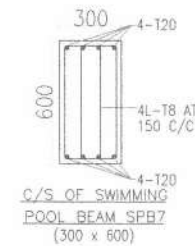
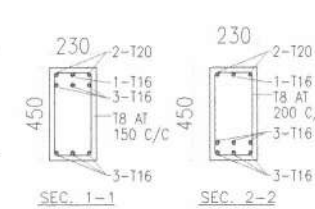
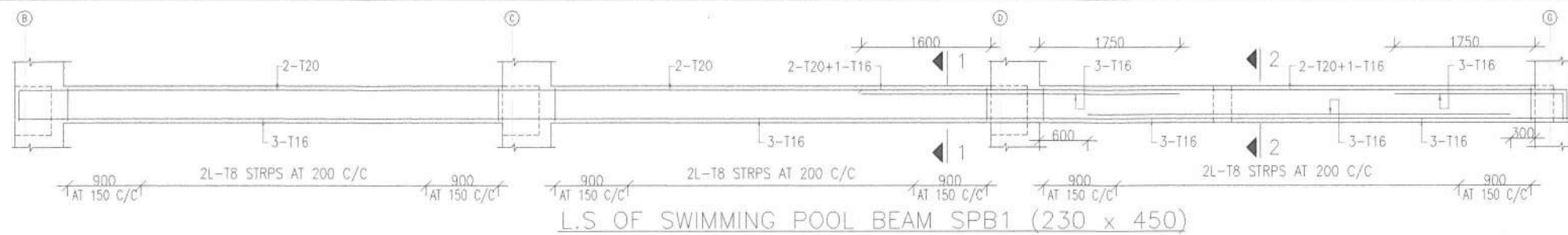
DRAWING TITLE
LAYOUT OF SWIMMING
POOL BEAM
ISSUED FOR: CONSTRUCTION

DRG. NO: ST-23-T C-A-58-2023
CLIENT: RUSSEL FOUNDATION
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

REVISION: R-1
REV. DATE: 10.03.2025

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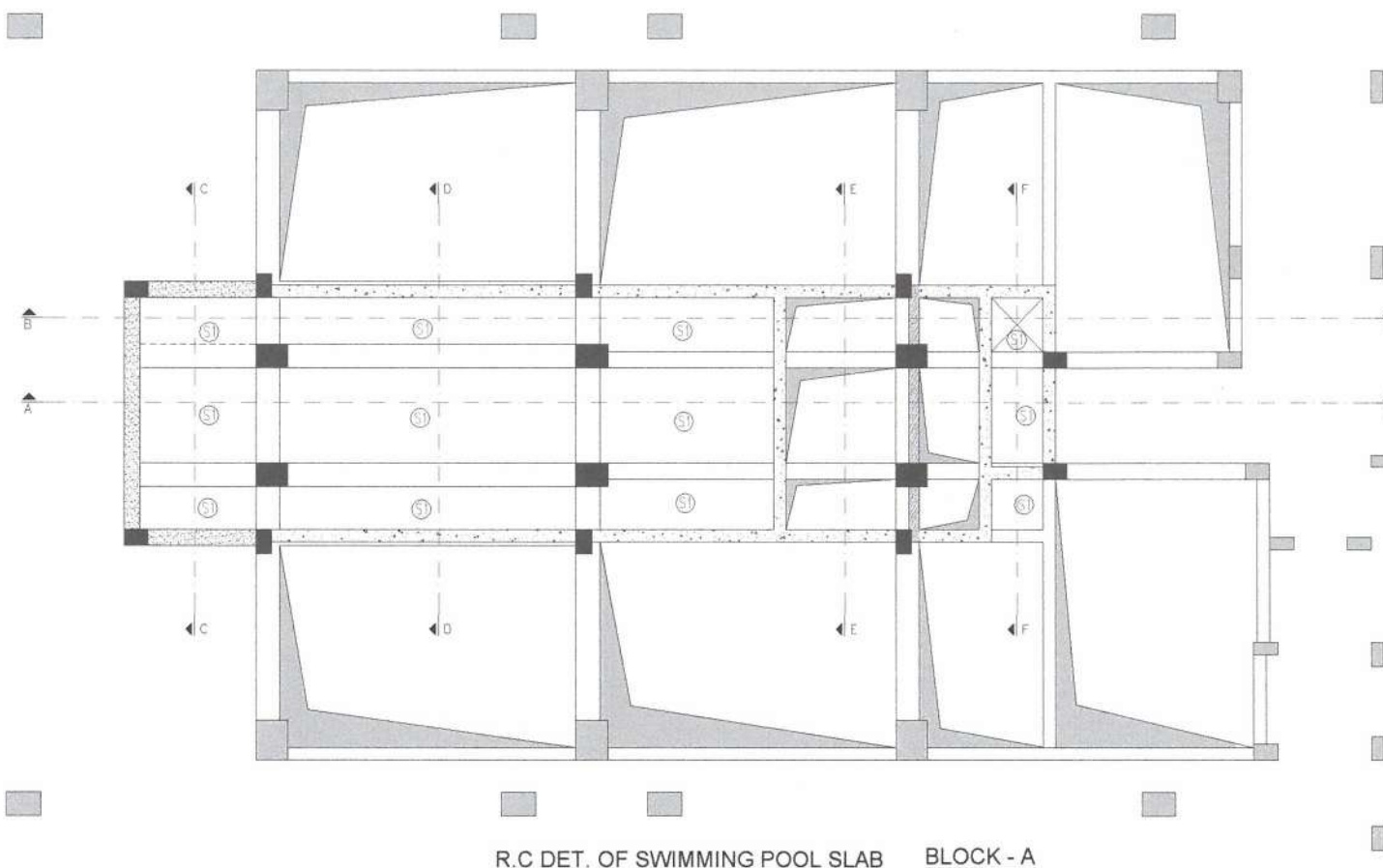
REVISION HISTORY

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DESIGN : G.AGILAN
CHECKED : G.AGILAN
DATE : 10.03.2025

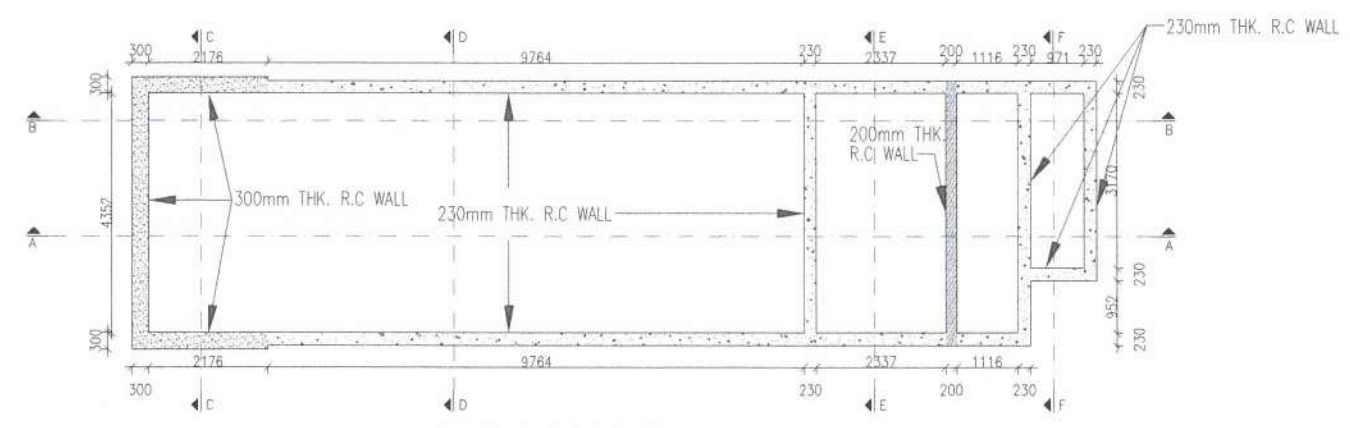
DRAWING TITLE
R.C DET.OF SWIMMING POOL BEAM
ISSUED FOR: CONSTRUCTION

DRG. NO: ST-24-T C-A-58-2023
CLIENT: RUSSEL FOUNDATION
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

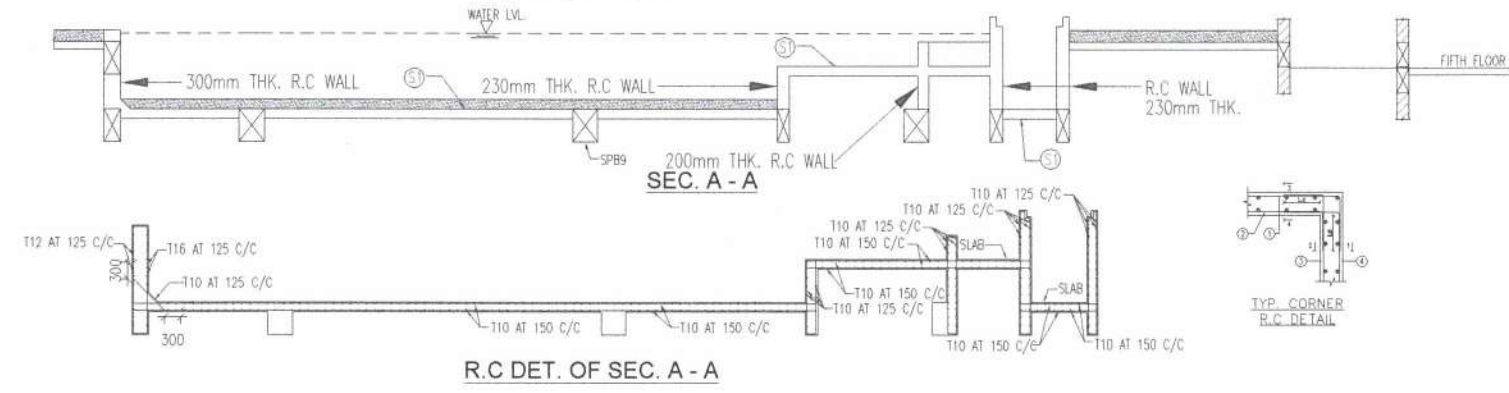
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REV. DATE:



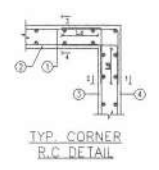
R.C DET. OF SWIMMING POOL SLAB BLOCK - A



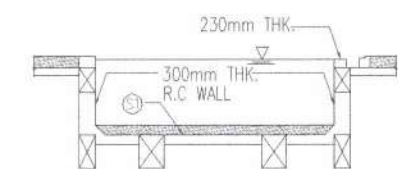
LAYOUT OF R.C WALL



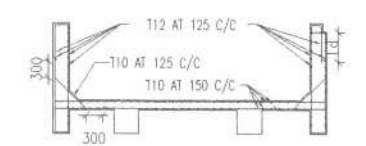
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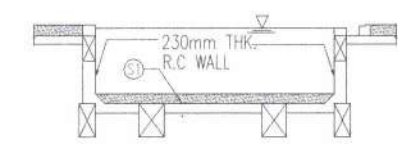
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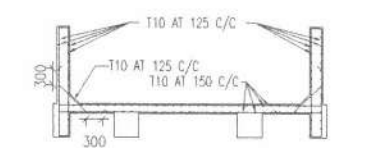
SEC. C - C



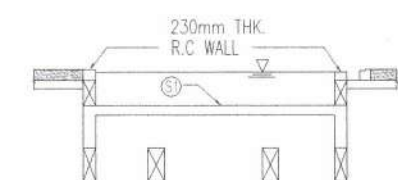
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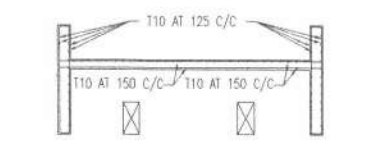
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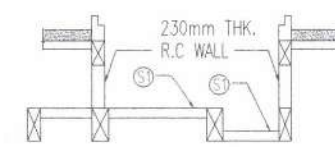
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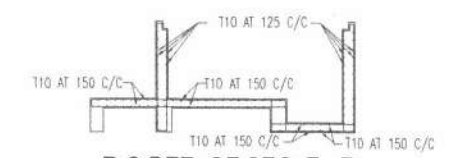
SEC. E - E



R.C DET. OF SEC. E - E



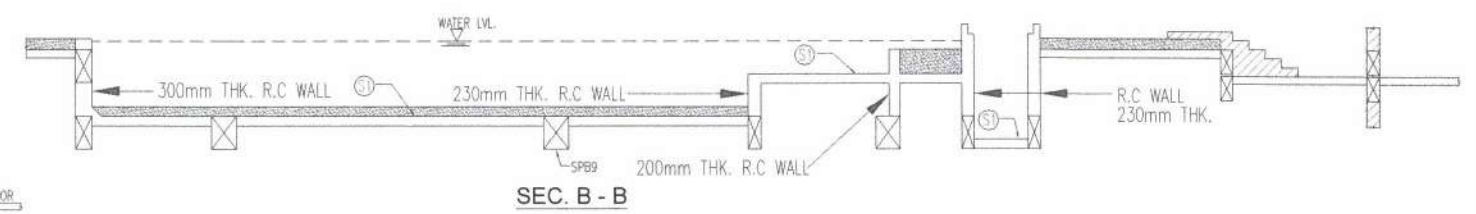
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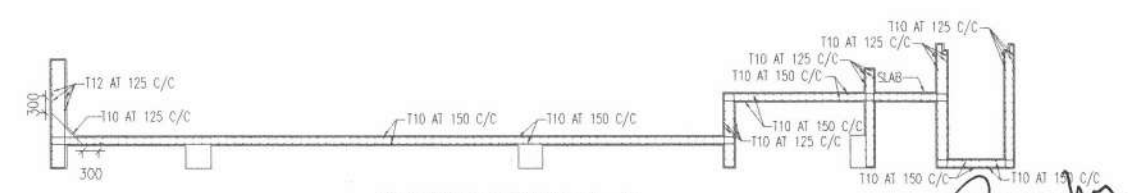
R.C DET. OF SEC. F - F

S. NO.	SLAB ID	THICKNESS	REINFORCEMENT
1	S1 (DOUBLE MAT)	175	T10 AT 150 C/C (BOTH WAYS)

(PROVIDE T8 AT 8" C/C AS DISTRIBUTOR BARS WHEREVER NECESSARY)



SEC. B - B



R.C DET. OF SEC. A - A

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 a) SLAB - 20mm b) R.C WALL - 25mm
 5. T- DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1786-1985.

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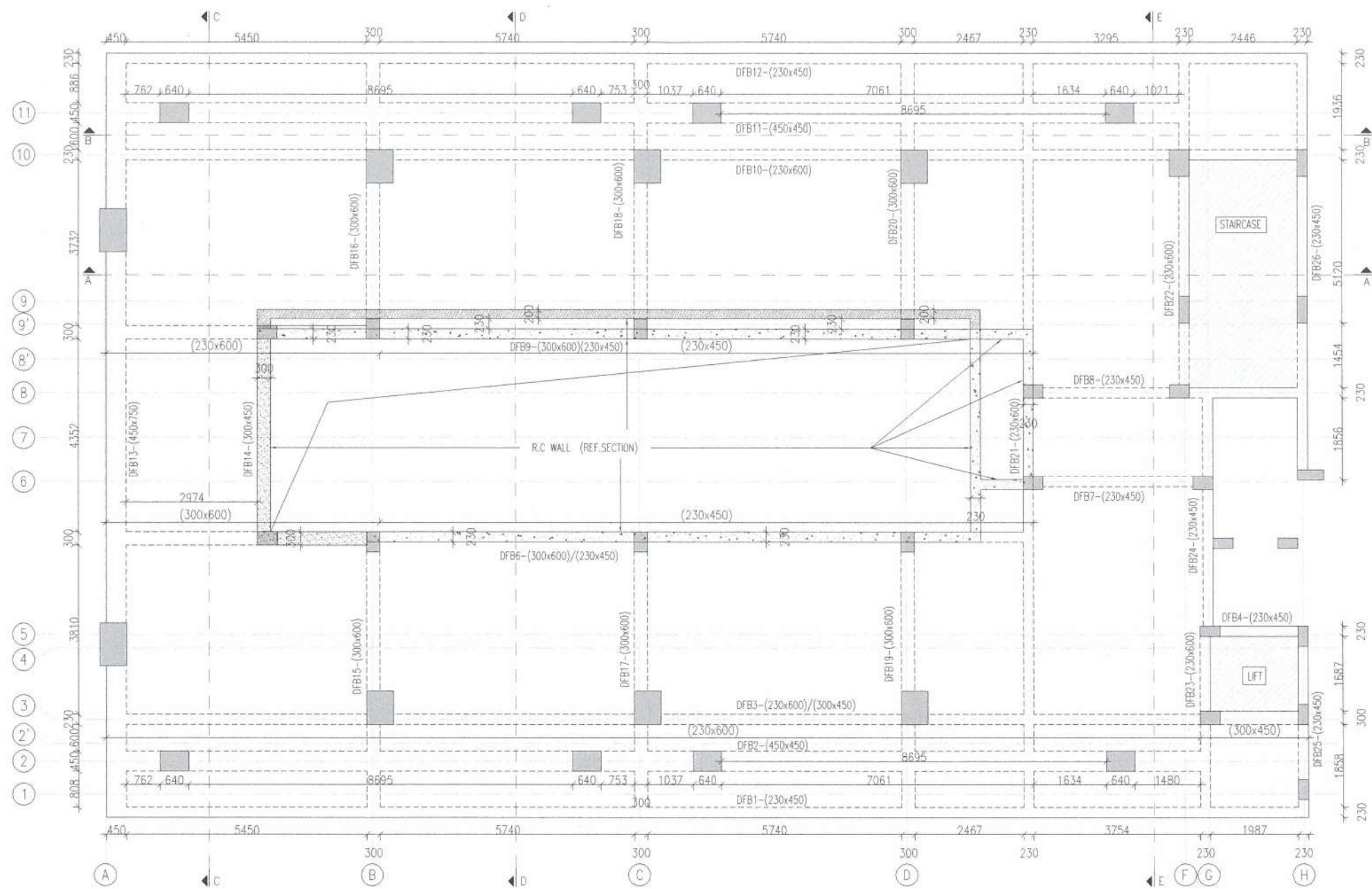
REVISION HISTORY
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DRAWN : G.EZHILAN
DESIGN : G.AGILAN
CHECKED : G.AGILAN
DATE : 24.02.2025

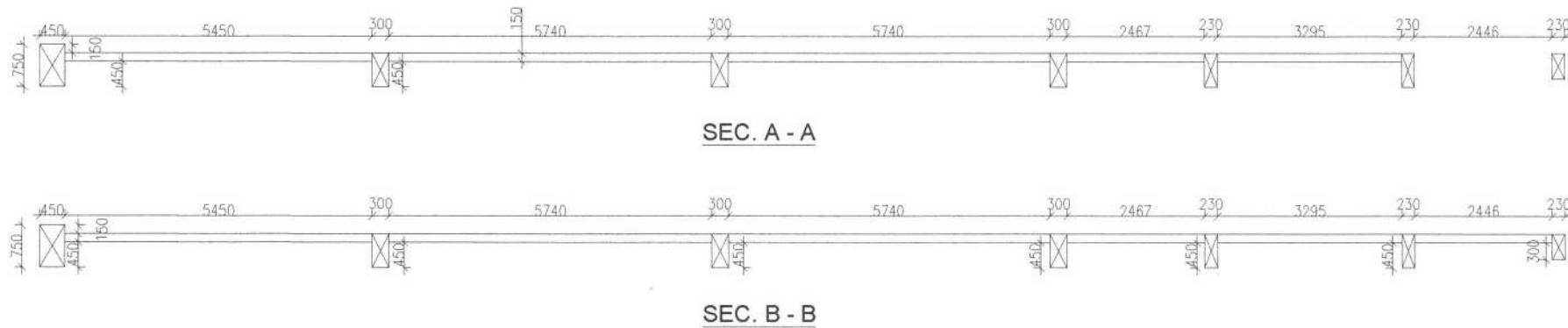
DRAWING TITLE
 R.C DET. OF SWIMMING POOL SLAB
ISSUED FOR: CONSTRUCTION

DRG. NO: ST-25-T C-A-58-2023
CLIENT: RUSSEL FOUNDATION
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

REVISION: R-1
REV. DATE: 10.03.2025



LAYOUT OF DECK ROOF BEAM
BLOCK - A



SEC. C - C

SEC. D - D

SEC. E - E

Amey
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*-DFB5-NOT USED

NOTES:

NOTES:

3.
2.
1.
REVISION HISTORY

DRAWN : G.EZHILAN
DESIGN : G.AGILAN
CHECKED : G.AGILAN
DATE : 21.02.2025

DRAWING TITLE
LAYOUT OF DECK
ROOF BEAM

ISSUED FOR: CONSTRUCTION

DRG. NO: ST-26-T C-A-58-2023

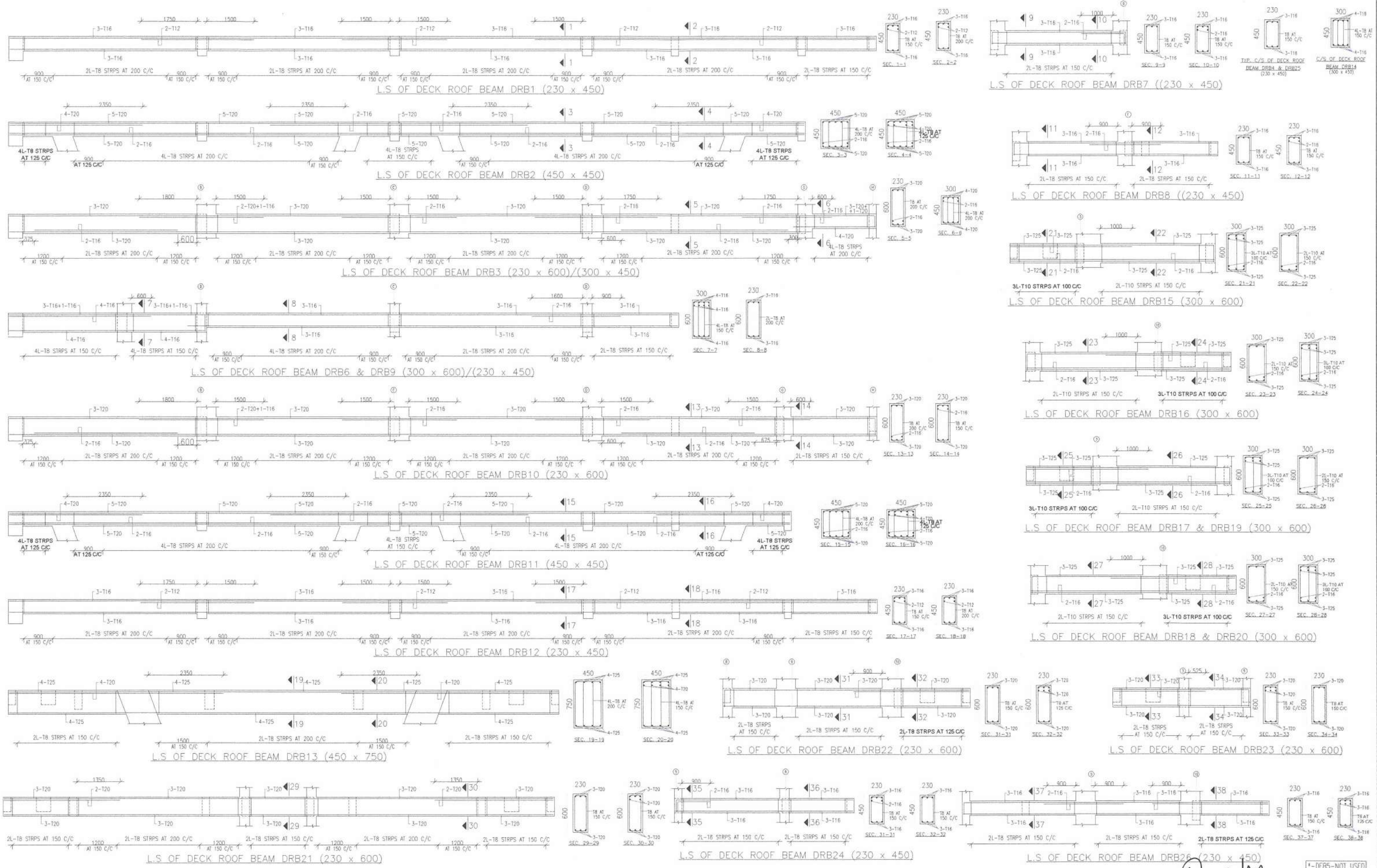
CLIENT: RUSSEL FOUNDATION

PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

REVISION: R-1

REV. DATE: 01.03.2025

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3. GRADE OF CONCRETE SHALL BE M30 U.O.S
4. CLEAR COVER FOR REINFORCEMENTS SHALL BE AS FOLLOWS:
5. T: DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1786-1985.

NOTES:

6. LAP LENGTH SHALL BE 45 TIMES DIA. OF BAR AND SHALL BE KEPT STAGGERED.
7. TOP BARS OF BEAMS AND SLABS TO BE LAPPED AT MID ZONE AND NOT NEAR SUPPORTS.
8. BOTTOM BARS TO BE LAPPED AT END ONE THIRD SPAN
9. STRUCTURAL ENGINEERS RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF STRUCTURAL DRAWING ONLY
10. RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER
11. SUNKEN SHOULD BE FILL WITH LIGHT WEIGHT MATERIAL

REVISION HISTORY

NO.	REVISION
3.	
2.	
1.	

DRAWN : G.EZHILAN

DESIGN : G.AGILAN

CHECKED : G.AGILAN

DATE : 11.03.2025

DRAWING TITLE

R.C DET.OF DECK ROOF BEAM

ISSUED FOR: CONSTRUCTION

DRG. NO: ST-27-T C-A-58-2023

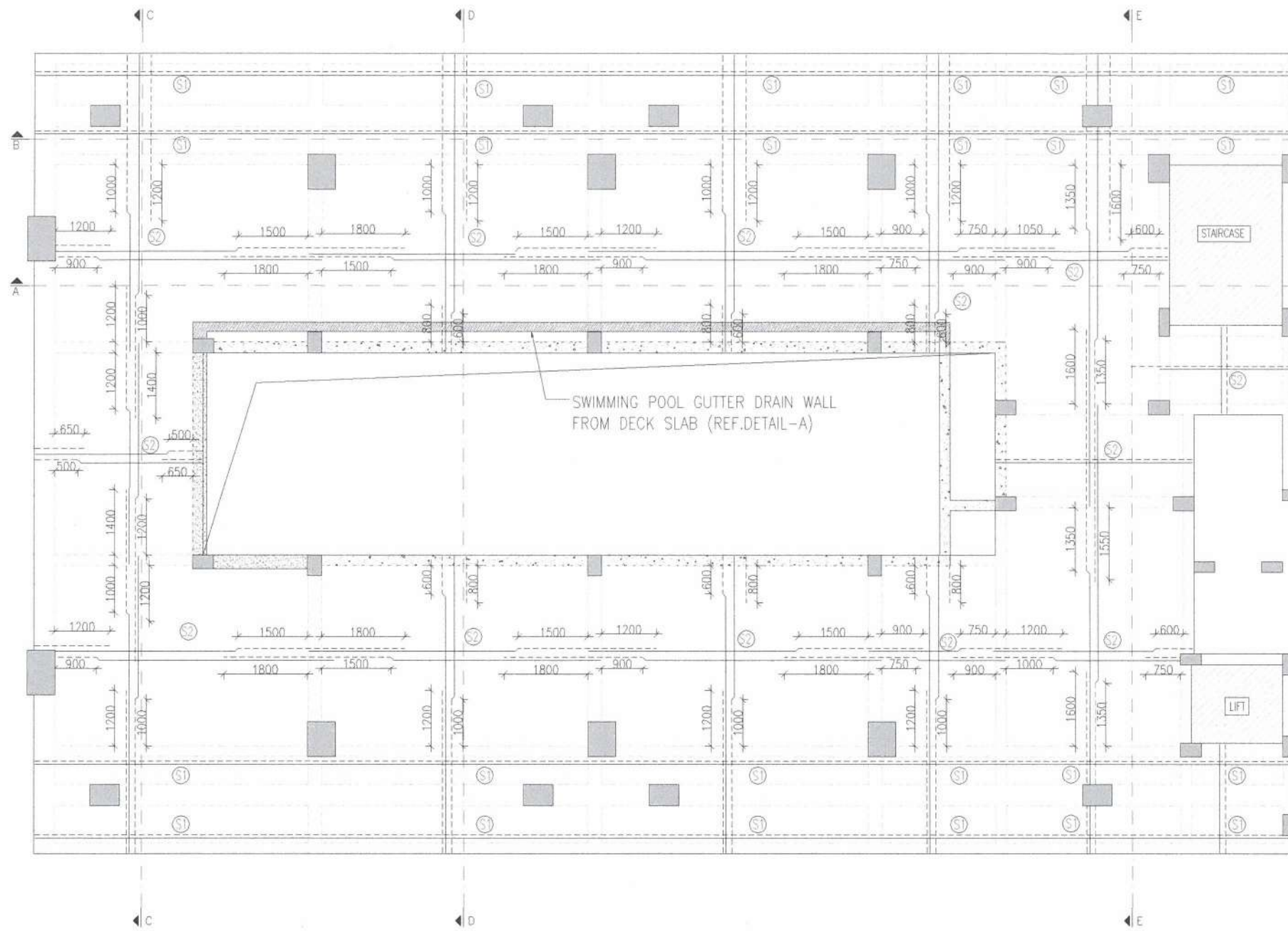
CLIENT: RUSSEL FOUNDATION

PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

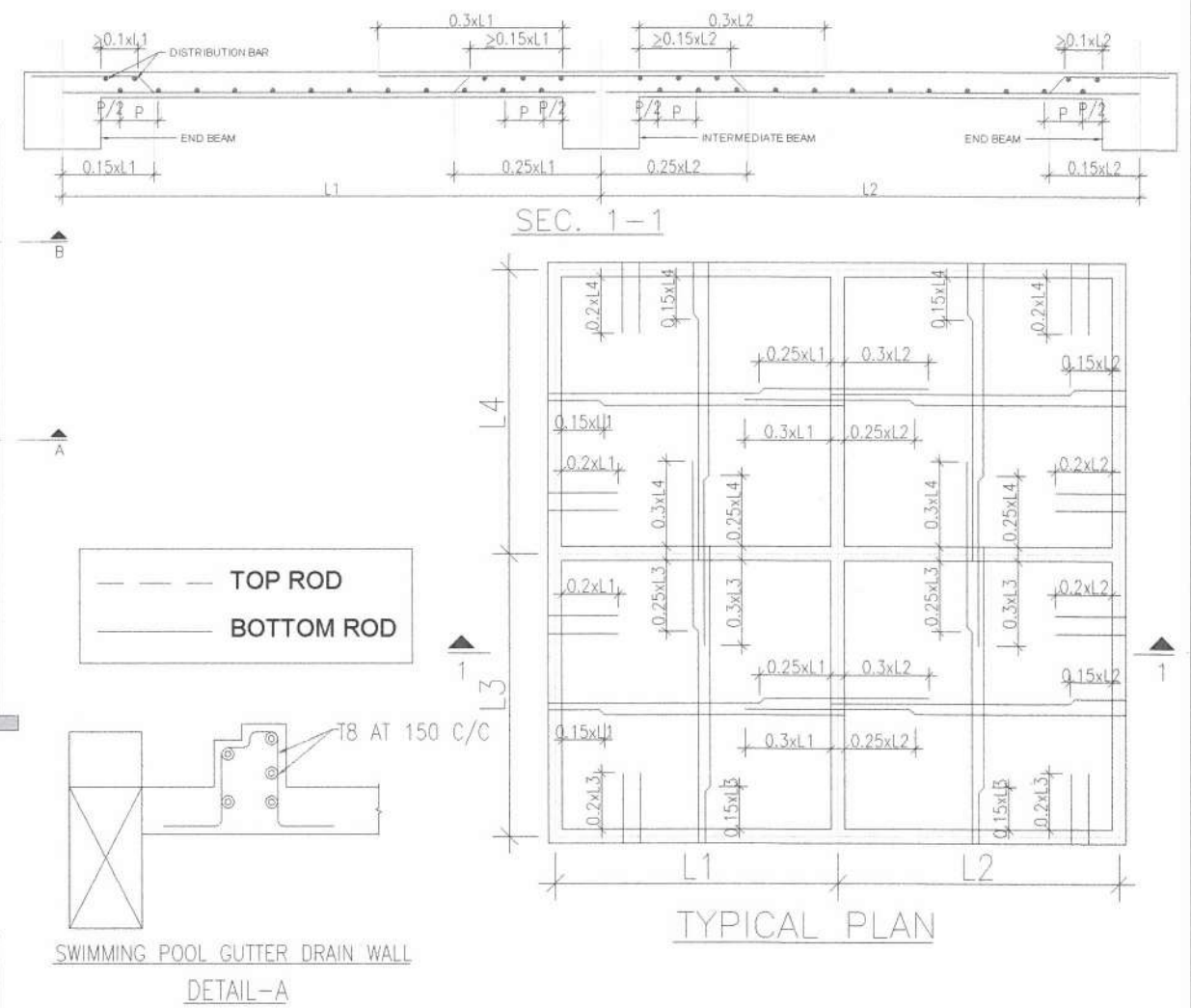
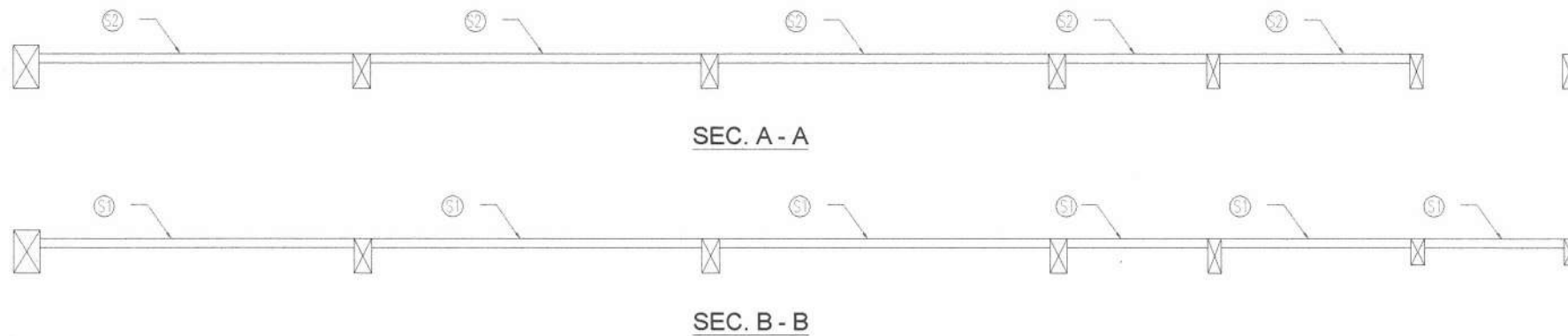
REVISION: R-0

REV. DATE: -

A.N. MAGESH RAJA M.E.,
CMAA Registered Structural Engineer (Grade I)
Reg.No: SE/GR-1/2022/10-21
Cell: 97970 11000
NO.28, JAWAHARLAL NEHRU ST,
MAGISTRATE COLONY, CHENNAI-600 063
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R.C DET. OF DECK ROOF SLAB
BLOCK - A



S. NO.	SLAB ID	THICKNESS	REINFORCEMENT
1	S1 (DOUBLE MAT)	150	T8 AT 150 C/C (SHORTER ROD) T8 AT 175 C/C (LONGER ROD)
2	S2 (TWO WAY)	150	T8 AT 150 C/C (BOTH WAYS)

(PROVIDE T8 AT 8" C/C AS DISTRIBUTOR BARS WHEREVER NECESSARY)

NOTES:
1. ALL DIMENSIONS ARE IN MM & M
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE LATEST ARCHITECTURAL DRAWING
3. GRADE OF CONCRETE SHALL BE M30 U.O.S
4. CLEAR COVER FOR REINFORCEMENTS SHALL BE AS FOLLOWS:
a) SLAB - 20mm b) R.C WALL - 25mm
5. T- DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1786-1985.

NOTES:
6. LAP LENGTH SHALL BE 45 TIMES DIA. OF BAR AND SHALL BE KEPT STAGGERED.
7. TOP BARS OF BEAMS AND SLABS TO BE LAPPED AT MID ZONE AND NOT NEAR SUPPORTS.
8. BOTTOM BARS TO BE LAPPED AT END ONE THIRD SPAN
9. STRUCTURAL ENGINEERS RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF STRUCTURAL DRAWING ONLY
10. RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER
11. SUNKEN SHOULD BE FILL WITH LIGHT WEIGHT MATERIAL

REVISION HISTORY
3.
2.
1.

DRAWN : G.EZHILAN
DESIGN : G.AGILAN
CHECKED : G.AGILAN
DATE : 25.02.2025

DRAWING TITLE
R.C DET. OF DECK
ROOF SLAB

ISSUED FOR: CONSTRUCTION

DRG. NO: ST-28-T C-A-58-2023

CLIENT: RUSSEL FOUNDATION

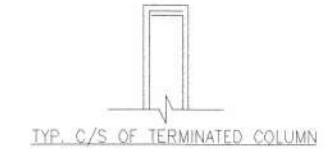
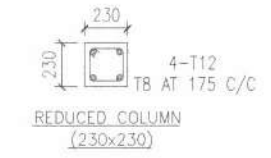
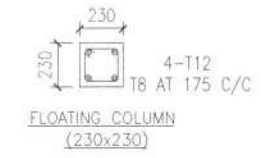
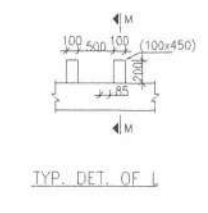
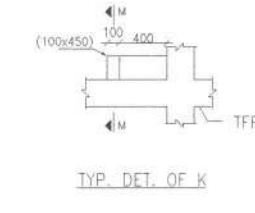
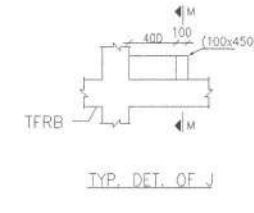
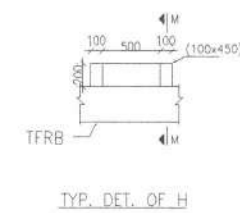
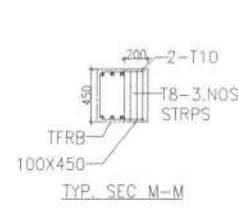
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

REVISION: R-0

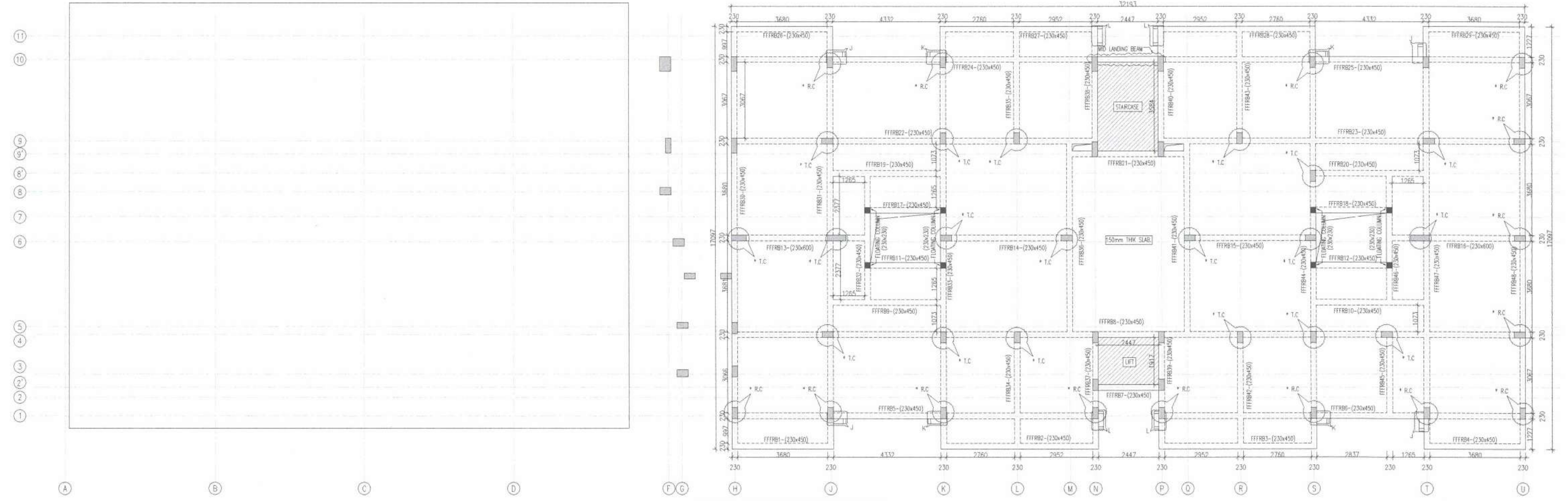
REV. DATE: -

A.N. MAGESH RAJA, M.E.,
CMDA RSE
Reg.No: SE/GR-1/2022/06/325
Cell:97870 72100
magistructure@gmail.com.

AME
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NO:28, JAWAHARLAL NEHRU ST,
PERUNGALATHUR, CHENNAI-600 063
PH: 9840127487, 8760031198



* T.C - TERMINATED COLUMN
* R.C - COLUMN SIZE REDUCED FROM THIS ROOF TOP UPTO PARAPET LEVEL



LAYOUT OF FIFTH FLOOR ROOF BEAM
BLOCK - A

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NO:28, JAWAHARLAL NEHRU ST,
PERUNGALATHUR, CHENNAI-600 063
PH: 9840127487, 8760031198

NOTES:

NOTES:

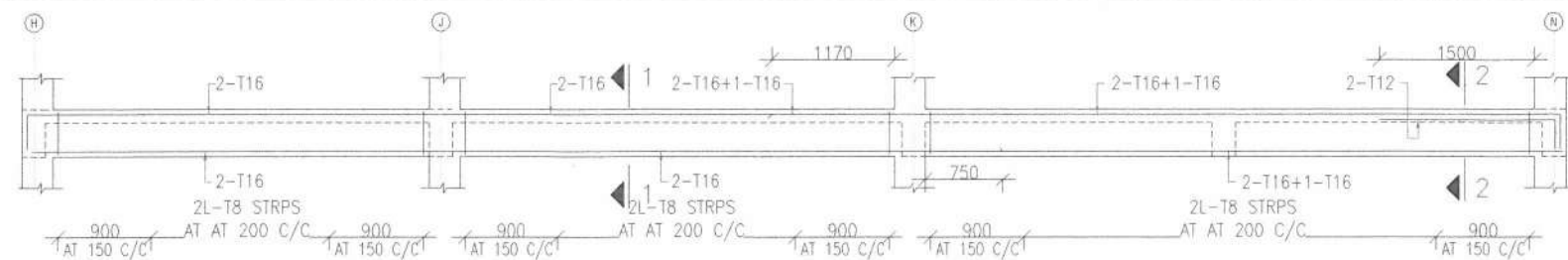
3.
2.
1.
REVISION HISTORY

DRAWN : G.EZHILAN
DESIGN : G.AGILAN
CHECKED : G.AGILAN
DATE : 10.03.2025

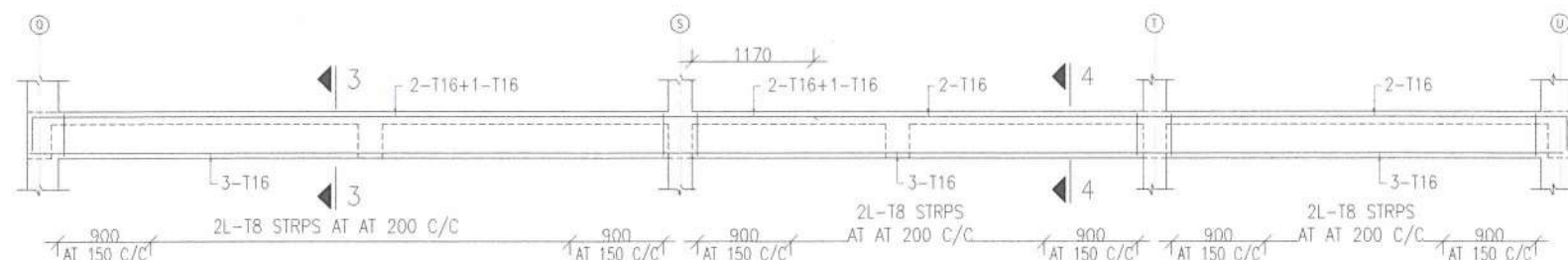
DRAWING TITLE
LAYOUT OF FIFTH FLOOR
ROOF BEAM
ISSUED FOR: CONSTRUCTION

DRG. NO: ST-26-T C-A-58-2023
CLIENT: RUSSEL FOUNDATION
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

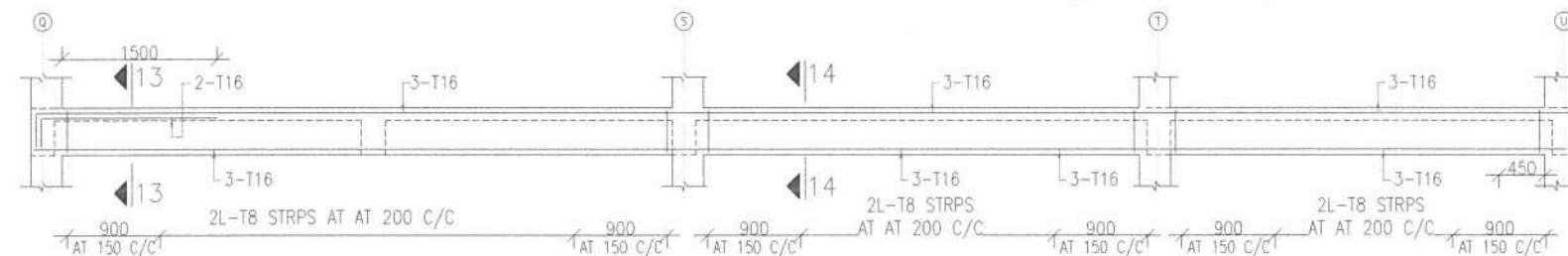
REVISION: R-0
REV. DATE: -



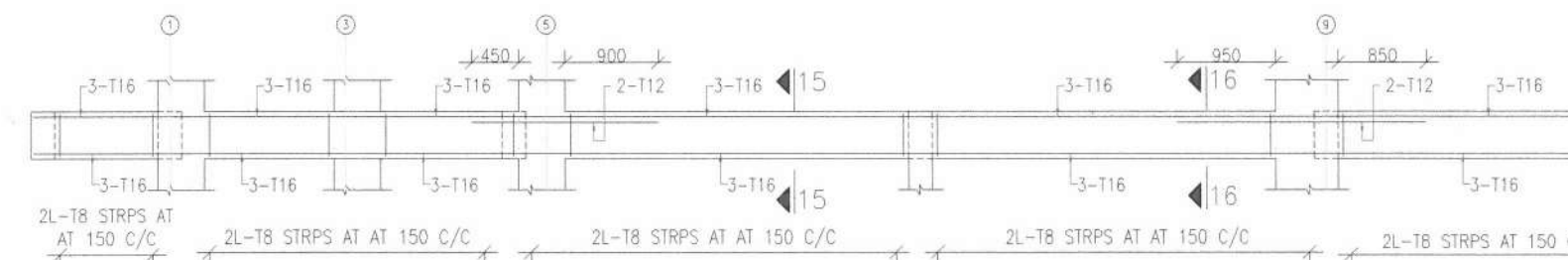
L.S OF FIFTH FLOOR ROOF BEAM FFRB5 & FFRB24 (230 x 450)



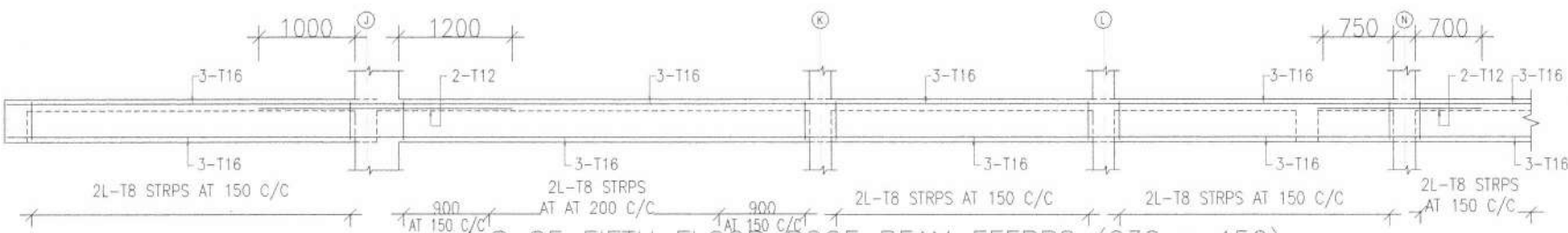
L.S OF FIFTH FLOOR ROOF BEAM FFRB6 (230 x 450)



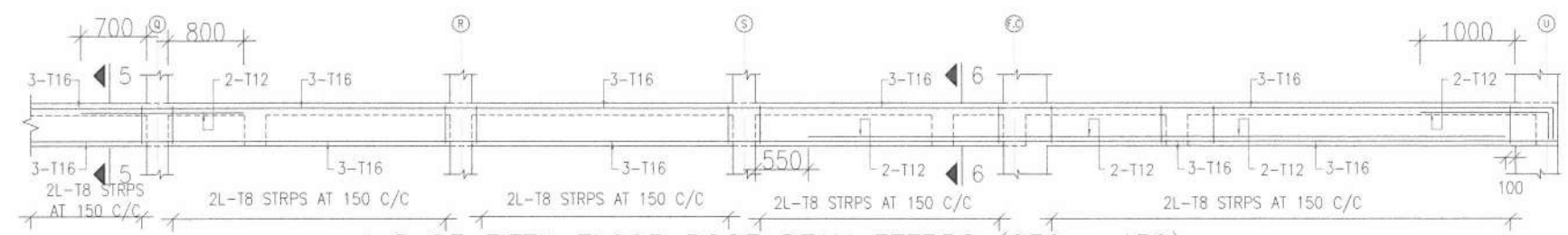
L.S OF FIFTH FLOOR ROOF BEAM FFRB25 (230 x 450)



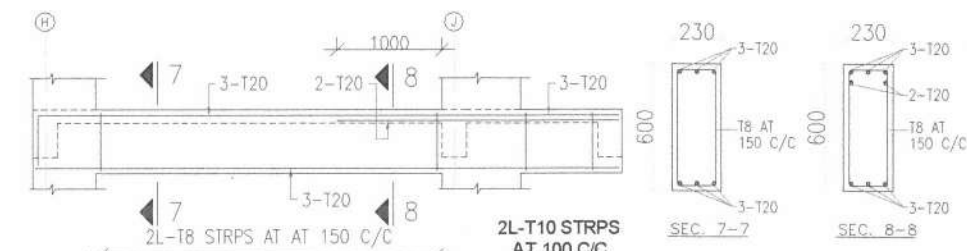
L.S OF FIFTH FLOOR ROOF BEAM FFRB30 (230 x 450)



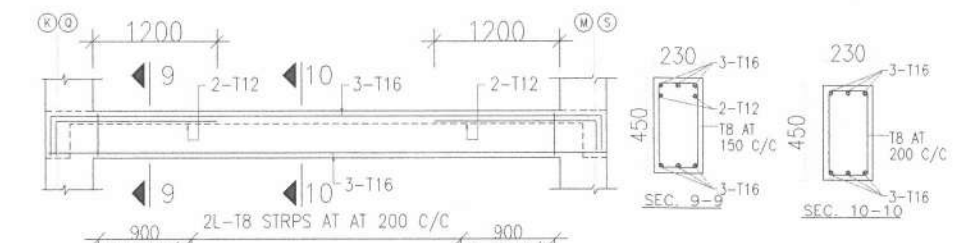
L.S OF FIFTH FLOOR ROOF BEAM FFRB8 (230 x 450)



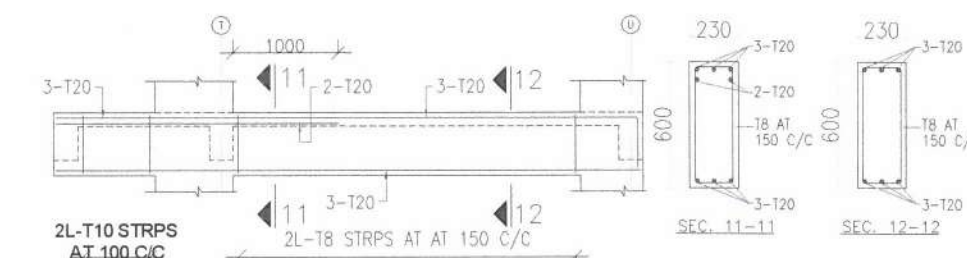
L.S OF FIFTH FLOOR ROOF BEAM FFRB8 (230 x 450)



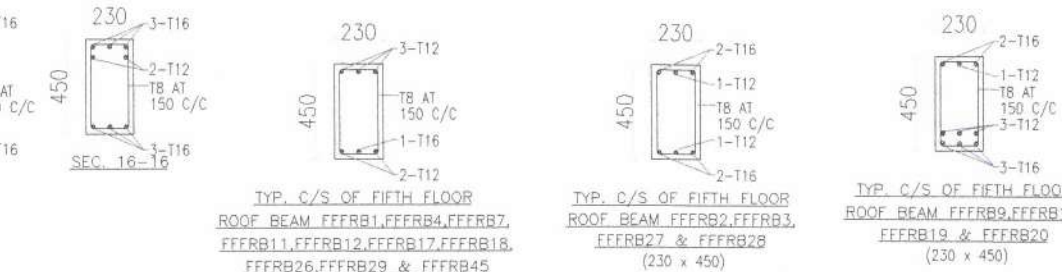
L.S OF FIFTH FLOOR ROOF BEAM FFRB13 (230 x 600)



L.S OF STILT FLOOR ROOF BEAM SFFFRB14 & SFFFRB15 (230 x 450)



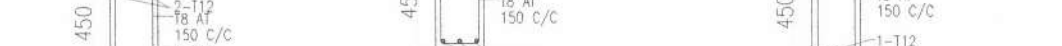
L.S OF SECOND FLOOR ROOF BEAM FFRB16 (230 x 600)



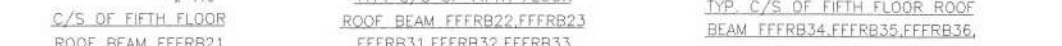
TYP. C/S OF FIFTH FLOOR ROOF BEAM FFRB1, FFRB4, FFRB7, FFRB11, FFRB12, FFRB17, FFRB18, FFRB26, FFRB29, & FFRB45 (230 x 450)



TYP. C/S OF FIFTH FLOOR ROOF BEAM FFRB2, FFRB3, FFRB27, & FFRB28 (230 x 450)



TYP. C/S OF FIFTH FLOOR ROOF BEAM FFRB19 & FFRB20 (230 x 450)



TYP. C/S OF FIFTH FLOOR ROOF BEAM FFRB22, FFRB23, FFRB31, FFRB32, FFRB33, FFRB37, FFRB38, FFRB39, FFRB40, FFRB44, FFRB46, & FFRB47 (230 x 450)



TYP. C/S OF FIFTH FLOOR ROOF BEAM FFRB34, FFRB35, FFRB36, FFRB41, FFRB42, & FFRB43 (230 x 450)



TYP. C/S OF FIFTH FLOOR ROOF BEAM FFRB48 (230 x 450)

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NOTES:
1. ALL DIMENSIONS ARE IN MM & M
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE LATEST ARCHITECTURAL DRAWING
3. GRADE OF CONCRETE SHALL BE M30 U.O.S
4. CLEAR COVER FOR REINFORCEMENTS SHALL BE AS FOLLOWS:
a) BEAM - 25mm
5. T: DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 600 N/mm² CONFORMING TO IS: 1786-1985.

NOTES:
6. LAP LENGTH SHALL BE 45 TIMES DIA. OF BAR AND SHALL BE KEPT STAGGERED.
7. TOP BARS OF BEAMS AND SLABS TO BE LAPPED AT MID ZONE AND NOT NEAR SUPPORTS.
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10. RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER
11. SUNKEN SHOULD BE FILL WITH LIGHT WEIGHT MATERIAL

REVISION HISTORY

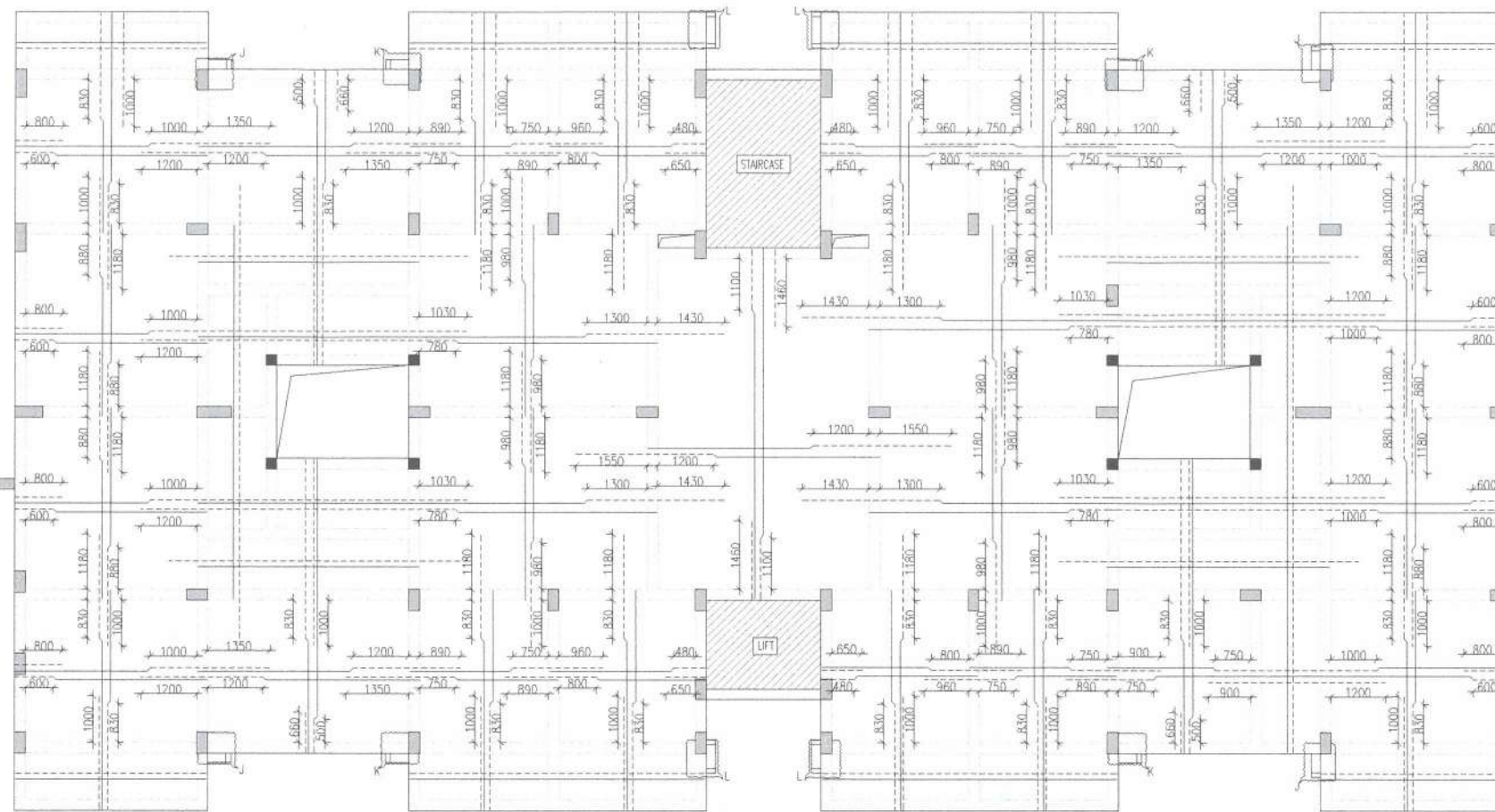
DRAWN : G.EZHILAN
DESIGN : G.AGILAN
CHECKED : G.AGILAN
DATE : 12.02.2025

DRAWING TITLE
R.C DET.OF FIFTH FLOOR ROOF BEAM
ISSUED FOR: CONSTRUCTION

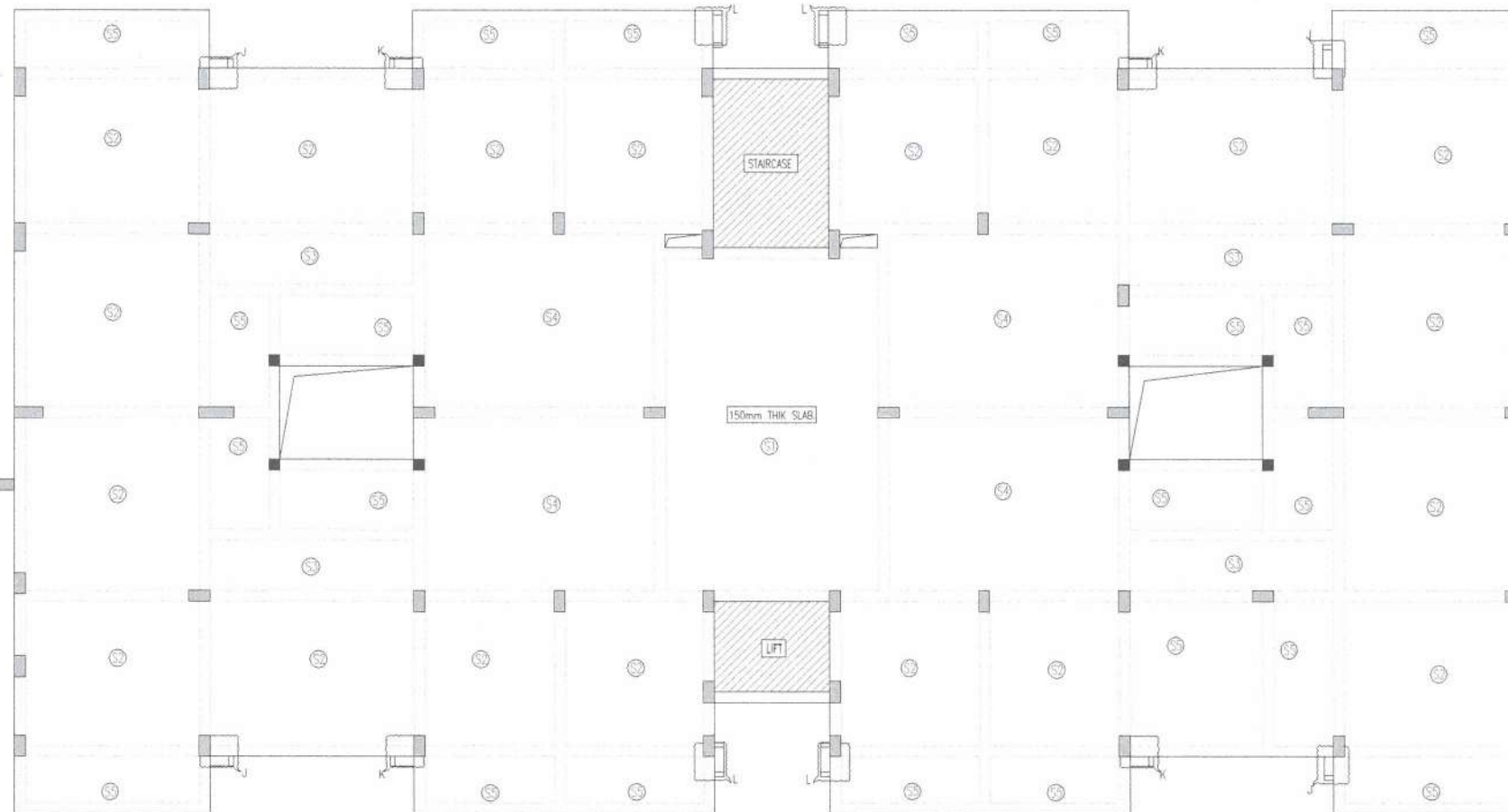
DRG. NO: ST-27-T C-A-58-2023
CLIENT: RUSSEL FOUNDATION
PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY

REVISION: R-0
REV. DATE: -

AME
STRUCTURAL CONSULTANTS
NO:28, JAWAHARLAL NEHRU ST,
PERUNGALATHUR, CHENNAI-600 063
PH: 9840127487, 8760031198



R.C DET. OF FIFTH FLOOR ROOF SLAB BLOCK - A



NOTES:

1. ALL DIMENSIONS ARE IN MM & M
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE LATEST ARCHITECTURAL DRAWING
3. GRADE OF CONCRETE SHALL BE M30 U.O.S
4. CLEAR COVER FOR REINFORCEMENTS SHALL BE AS FOLLOWS:
a) SLAB - 20mm
5. T- DENOTES HIGH TENSILE STRENGTH DEFORMED BARS HAVING TENSILE STRENGTH NOT LESS THAN 500 N/mm² CONFORMING TO IS: 1798-1985.

NOTES:

6. LAP LENGTH SHALL BE 45 TIMES DIA. OF BAR AND SHALL BE KEPT STAGGERED.
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8. BOTTOM BARS TO BE LAPPED AT END ONE THIRD SPAN
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10. RESPONSIBILITY OF CONSTRUCTION LIES WITH CONTRACTOR / OWNER
11. SUNKEN SHOULD BE FILL WITH LIGHT WEIGHT MATERIAL

3.
2.
1.

REVISION HISTORY

DRAWN : G.EZHILAN

DESIGN : G.AGILAN

CHECKED : G.AGILAN

DATE : 16.02.2025

DRAWING TITLE
R.C DET. OF FIFTH FLOOR
ROOF SLAB

ISSUED FOR: CONSTRUCTION

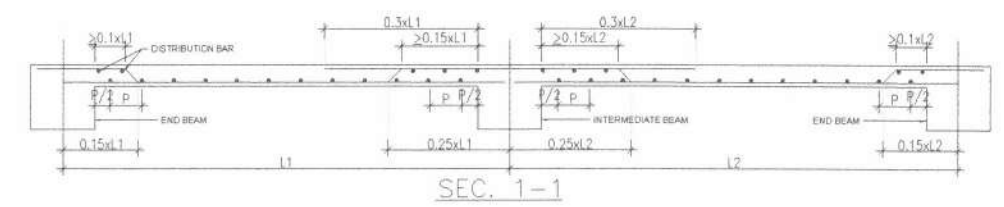
DRG. NO: ST-28-T C-A-58-2023

REVISION: R-0

CLIENT: RUSSEL FOUNDATION

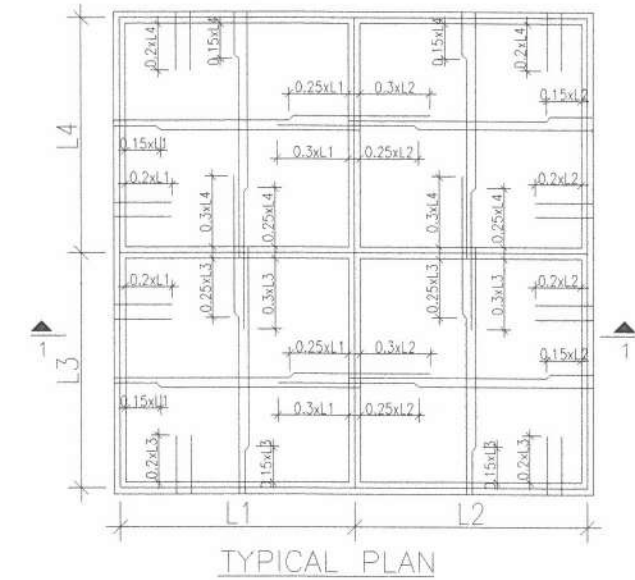
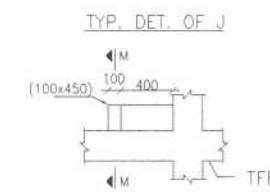
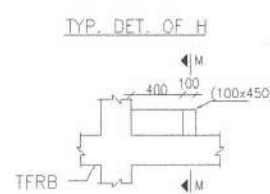
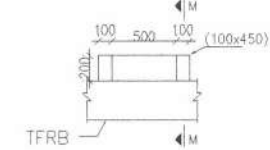
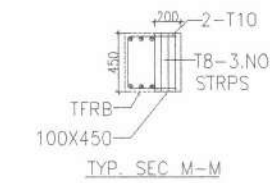
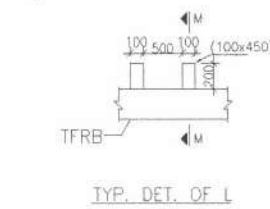
REV. DATE:-

PROJECT: PROPOSED RESIDENTIAL BUILDING AT THIRUVANCHERY



S. NO.	SLAB ID	THICKNESS	REINFORCEMENT
1	S1 (TWO WAY)	150	T10 AT 150 C/C (SHORTER ROD) T8 AT 150 C/C (LONGER ROD)
2	S2 (TWO WAY)	125	T8 AT 150 C/C (BOTH WAYS)
3	S3 (DOUBLE MAT)	125	T8 AT 150 C/C (DOUBLE MAT)
4	S4 (TWO WAY)	125	T8 AT 100 C/C (SHORTER ROD) T8 AT 150 C/C (LONGER ROD)
5	S5 (DOUBLE MAT)	125	T8 AT 150 C/C (SHORTER ROD) T8 AT 175 C/C (LONGER ROD)

(PROVIDE T8 AT 8" C/C AS DISTRIBUTOR BARS WHEREVER NECESSARY)



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