

GENERAL NOTES

1. GENERAL :

- 1.1 Please do not scale the drawings. Work to written dimensions only.
- 1.2 All dimensions are in millimetres unless otherwise stated.
- 1.3 These notes are to be followed in conjunction with construction drawings and the specifications for civil and structural works.
- 1.4 Drawings shall be read in conjunction with architectural drawings.
- 1.5 Number of reinforcement bars shall not be counted from the drawings.
- 1.6 Structural design is done based on architectural drawing.

2. ABBREVIATIONS AND SYMBOLS :

- | | | | |
|-----|----------------|---|------------------------------------|
| 1. | F | : | Footings. |
| 2. | C | : | Columns. |
| 3. | B | : | Beams. |
| 4. | SBC | : | Safe Bearing Capacity of Soil. |
| 5. | HYSD | : | High Yield Strength Deformed bars. |
| 6. | MS | : | Mild Steel bars. |
| 7. | PCC | : | Plain Cement Concrete. |
| 8. | RCC | : | Reinforced Cement Concrete. |
| 9. | IS | : | Indian Standard. |
| 10. | kN | : | Kilo Newton. |
| 11. | m ³ | : | Cubic Metre. |
| 12. | m | : | Metre. |
| 13. | mm | : | Millimetre. |
| 14. | L | : | Development length of bars. |
| 15. | Db | : | Diameter of bar. |
| 16. | dia | : | Diameter. |
| 17. | > | : | Greater than. |
| 18. | >/ | : | Not greater than. |
| 19. | @ | : | At the rate of. |
| 20. | c/c | : | Centre to centre. |

3. DESIGN CONSIDERATIONS:

3.1 FOUNDATIONS:

- 3.1.1 The SBC of foundation soil is assumed as 200 kN/m² in the design of foundations. If the actual value is less than this, the foundations shall be redesigned. If the actual value is considerably more than assumed, the foundations shall be redesigned to achieve economy.
- 3.1.2 Actual testing of the foundation soil to determine the SBC is strongly suggested.

3.2 LOADS:

- 3.2.1 Dead Loads: The dead loads considered for structural design are weight of slabs, beams, columns, walls and floor finishes. Thickness and materials of walls and floor finishes are taken as per architectural drawing and specifications. Unit weight of materials are taken as below:-
Reinforced Cement Concrete - 25 kN/m³.
Brick Masonry - 20 kN/m³.
Floor Finishes - As per unit weight of the material.
- 3.2.2 Live Loads: Imposed loads on floors due to various services and occupancy of rooms are taken as per IS : 875 (Part - 2) - 1987.
- 3.2.3 Dynamic Loads: Dynamic loads due to earthquake forces are taken as per IS : 1893 (Part - 1) - 2002.
- 3.2.4 Wind Loads & Snow Loads: Wind loads and snow loads are not considered as earthquake load is more prominent.
- 3.2.5 Combination of Loads: Combination of loads (for Limit State Design) are taken as per IS : 1893 (Part - 1) - 2002 in the analysis and design.

3.3 ANALYSIS AND DESIGNS:

- 3.3.1 Analysis and design are carried out using Staadpro Software.
- 3.3.2 Dynamic analysis is done using Response Spectrum Method based on IS : 1893 (Part - 1) - 2002.
- 3.3.3 All sections are designed using Limit State Design Method.
- 3.3.4 Detailments of reinforcements are done as per IS : 13920 - 1993, IS : 456 - 2000, IS : 4326 - 1993 and IS : 2502 - 1963.

4. GENERAL SPECIFICATIONS :

4.1 EARTHWORK AND FOUNDATIONS:

- 4.1.1 Just prefer to laying PCC, the final 400 depth of soil shall be excavated and recompacted to the optimum density.
- 4.1.2 PCC 1:1.5:3 400mm thick shall be laid for levelling course below foundations.

- 4.1.3 Back filling shall be done in layers not exceeding 200mm thickness.
- 4.1.4 All works below ground level shall be executed in dry conditions.
- 4.1.5 Minimum depth of foundation shall be 1.8m below firm ground.

4.2 MATERIALS :

- 4.2.1 All RCC shall be of controlled grade in accordance with IS : 456 - 2000.
- 4.2.2 Minimum grade of concrete shall be M20.
- 4.2.3 Grade of Steel shall be TMT conforming to IS:14786-1979
- 4.2.4 Mild Steel bars if specified shall conform to IS : 432.
- 4.2.5 All bars shall be sheared, flame cutting shall not be permitted. The bars shall be bent cold.

4.3 STRUCTURES :

- 4.3.1 Clear covers shall be maintained as per IS : 456 - 2000 as below :-

Foundations	-	50mm
Columns	-	40mm
Beams	-	25mm
Slabs	-	15mm
Staircases	-	15mm
Chajjas, etc.	-	15mm
- 4.3.2 Lap Splices shall be staggered in such a way that not more than 50% of bars are lapped at one particular section.
- 4.3.3 Lap length of reinforcement bars shall not be less than the following :-

Footings	-	30 x dia. of bar.
Columns	-	24 x dia. of bar.
Beams	-	30 x dia. of bar.
Slabs	-	30 x dia. of bar.
- 4.3.4 Anchorage length of bars shall be maintained as in the drawings.
- 4.3.5 Extension of Hoop length of beam stirrups and lateral ties of column shall be maintained as in the drawings.

PROJECT PROPOSED CMO OFFICE BUILDING AT SAITUAL

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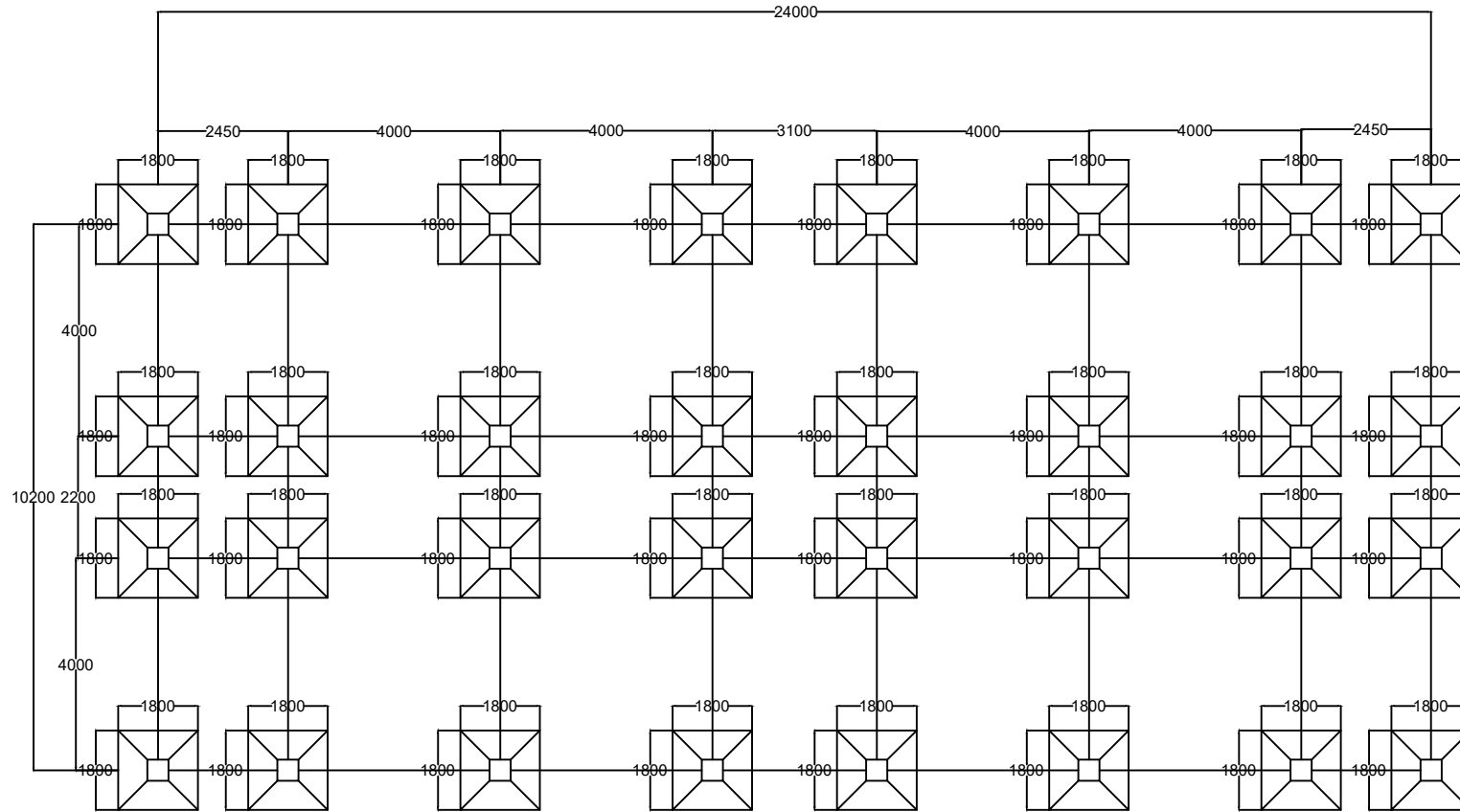
GENERAL SPECIFICATIONS

SCALE : NOT TO SCALE

SHEET No. : 1

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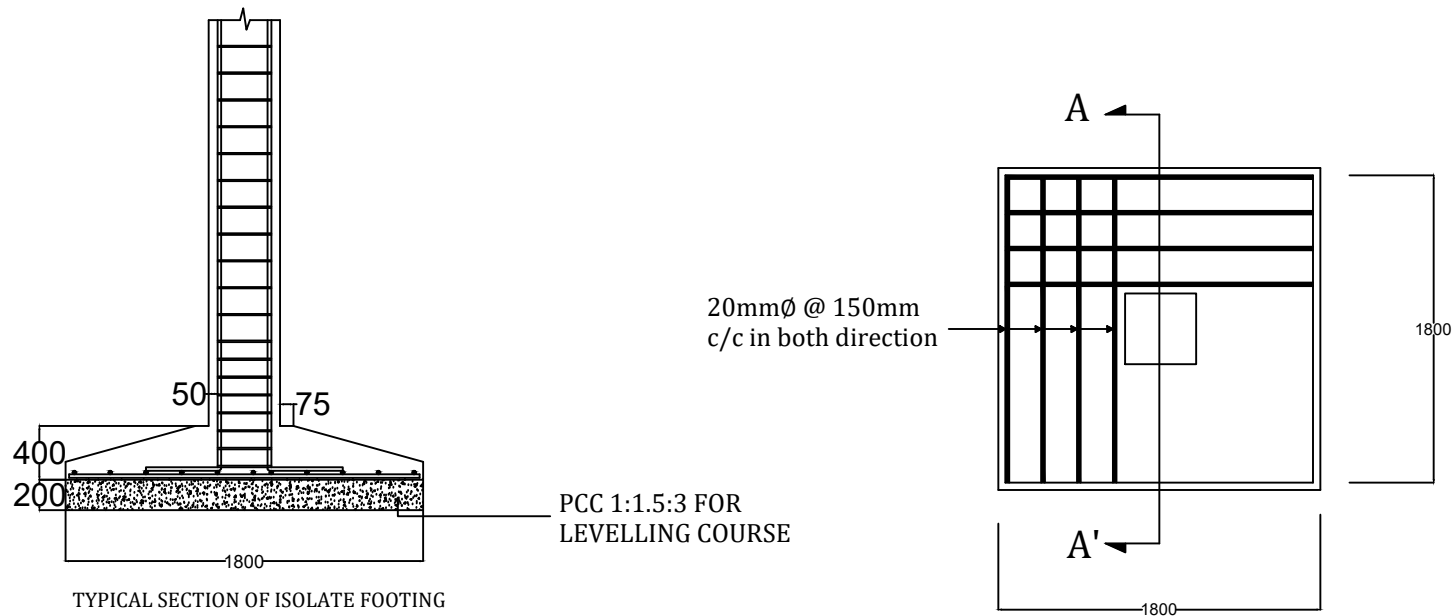
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FOUNDATION LAYOUT

SCALE : NOT TO SCALE

SHEET No. : 2

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TYPICAL SECTION OF ISOLATE FOOTING

PCC 1:1.5:3 FOR
 LEVELLING COURSE

FOOTING DETAIL

FOOTING MARKED	L x B (mm)	T _f (mm)	T _t (mm)	Along 'L'		Along 'B'	
				D ₁	N ₁	D ₂	N ₂
F1	1800 x 1800	200	400	20mmØ	12	20mmØ	12

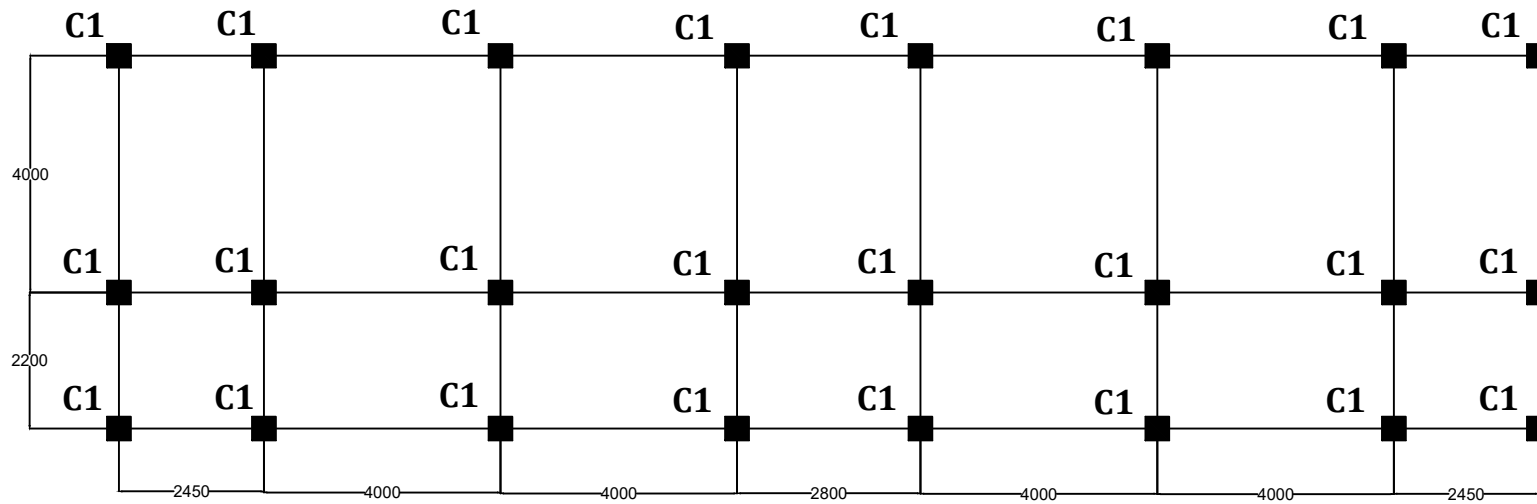
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 FOUNDATION DETAIL

SCALE : NOT TO SCALE

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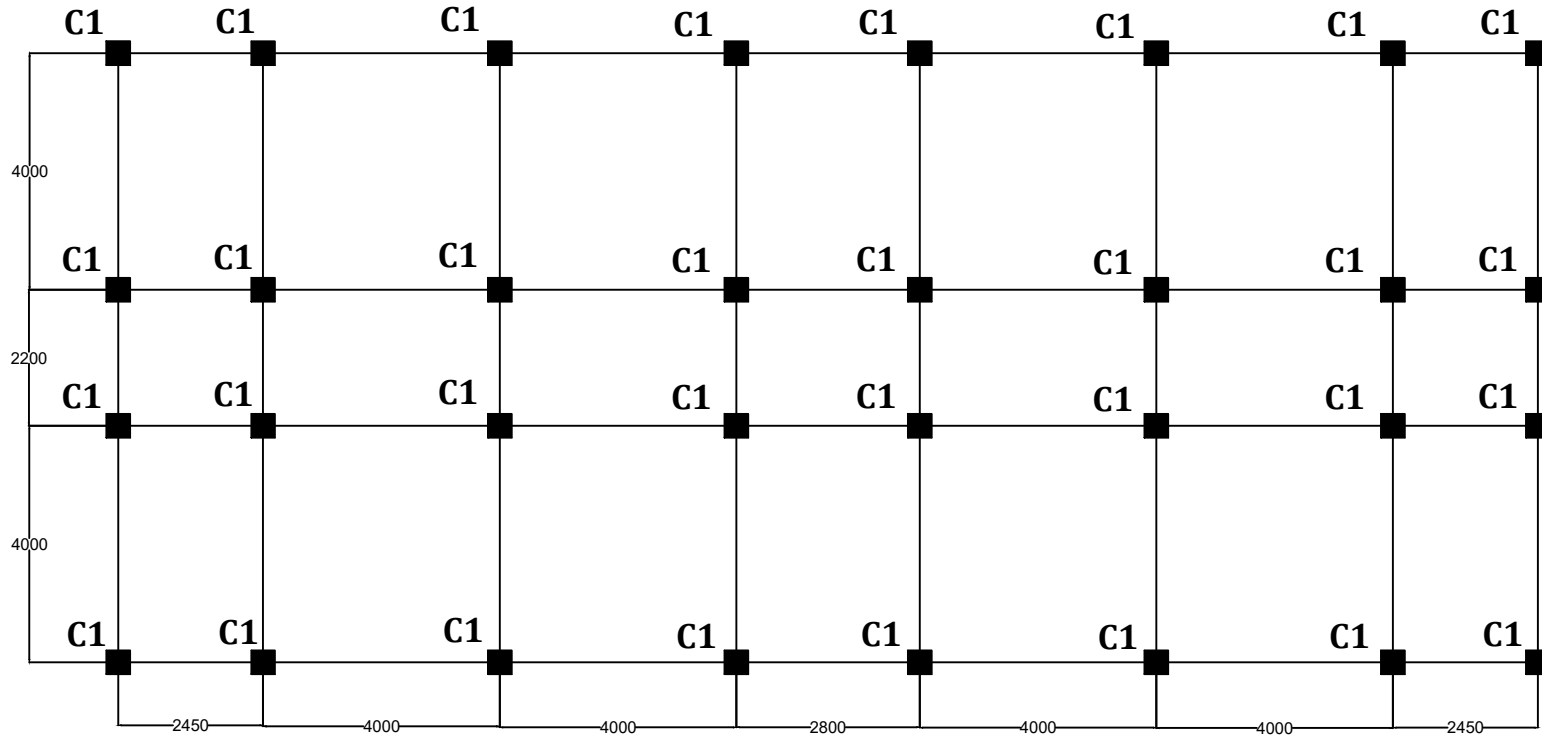
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COLUMN LAYOUT OF BASEMENT
(GROUND FLOOR)

SCALE : NOT TO SCALE

SHEET No. : 4

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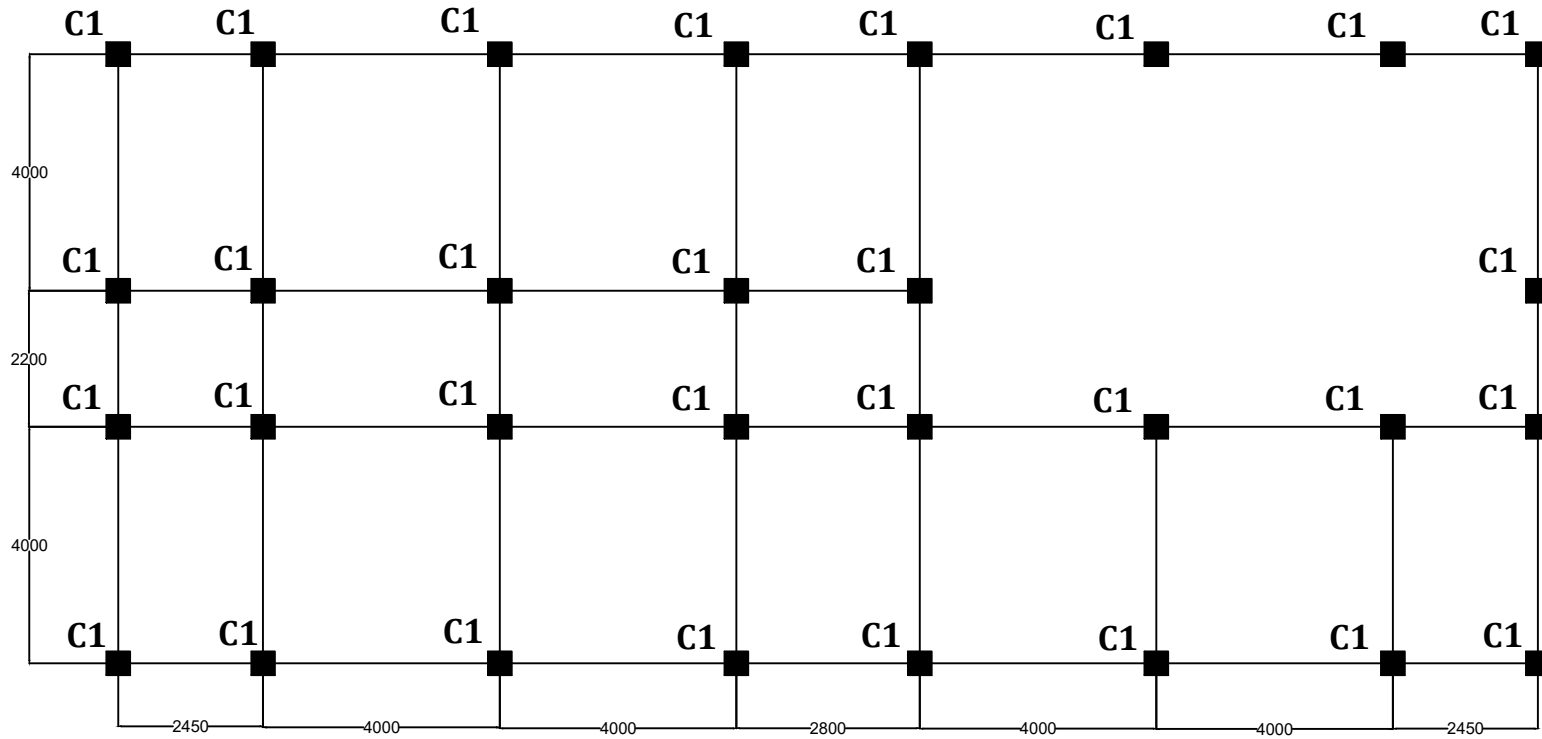
SHEET TITLE :
COLUMN LAYOUT OF 1st, 2nd,
3rd AND 4th FLOOR

SCALE : NOT TO SCALE

SHEET No. : 5

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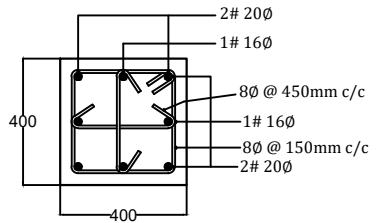
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COLUMN LAYOUT OF ROOFTOP

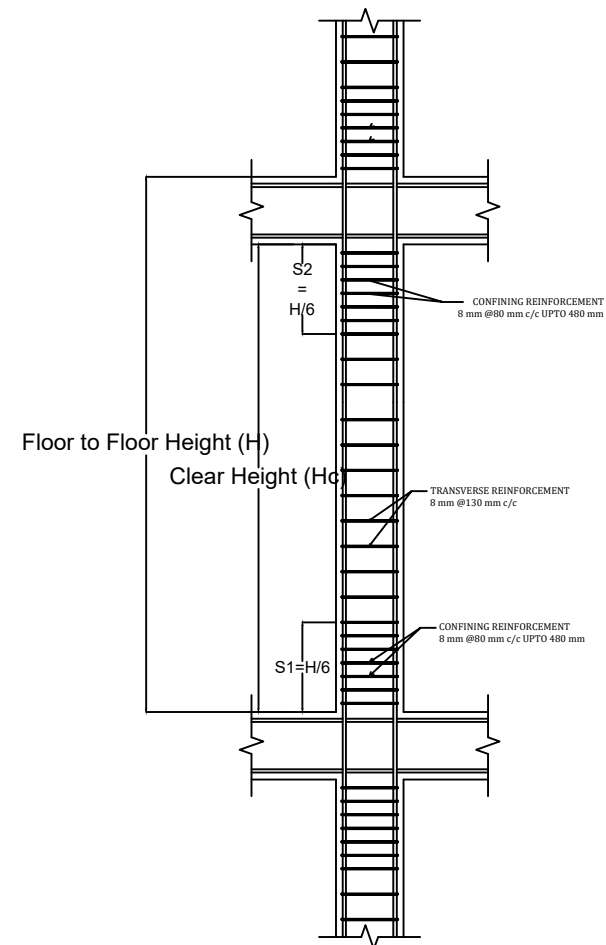
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COLUMN MARKED	DETAIL OF COLUMN SECTION
C1	 <p>2# 20Ø 1# 16Ø 8Ø @ 450mm c/c 1# 16Ø 8Ø @ 150mm c/c 2# 20Ø</p> <p>400 400</p>



TYPICAL CROSS SECTION OF COLUMN

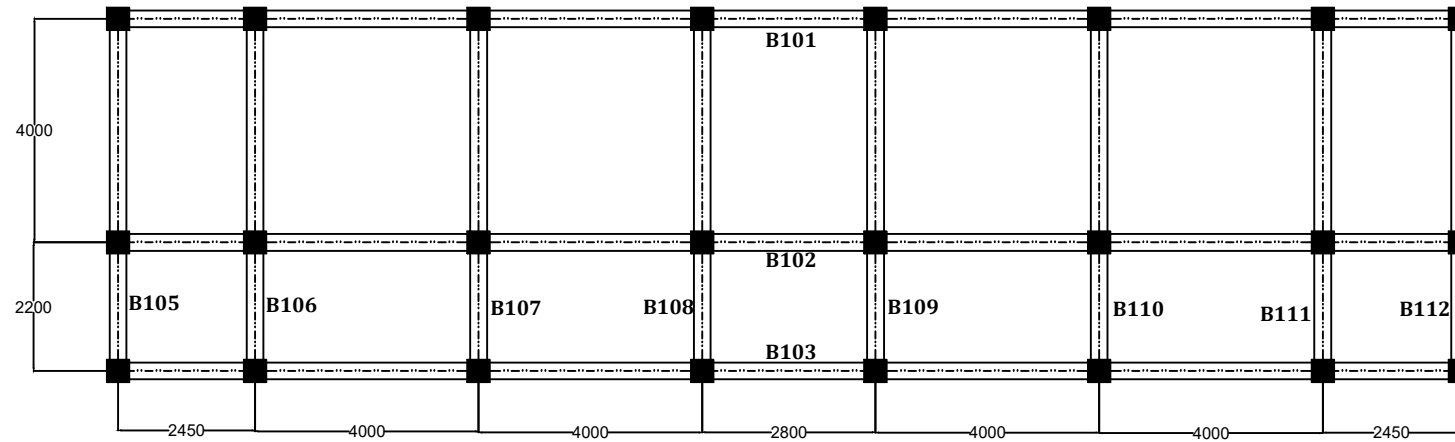
SHEET TITLE :
COLUMN DETAIL

SCALE : NOT TO SCALE

SHEET No. : 7

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SHEET TITLE :

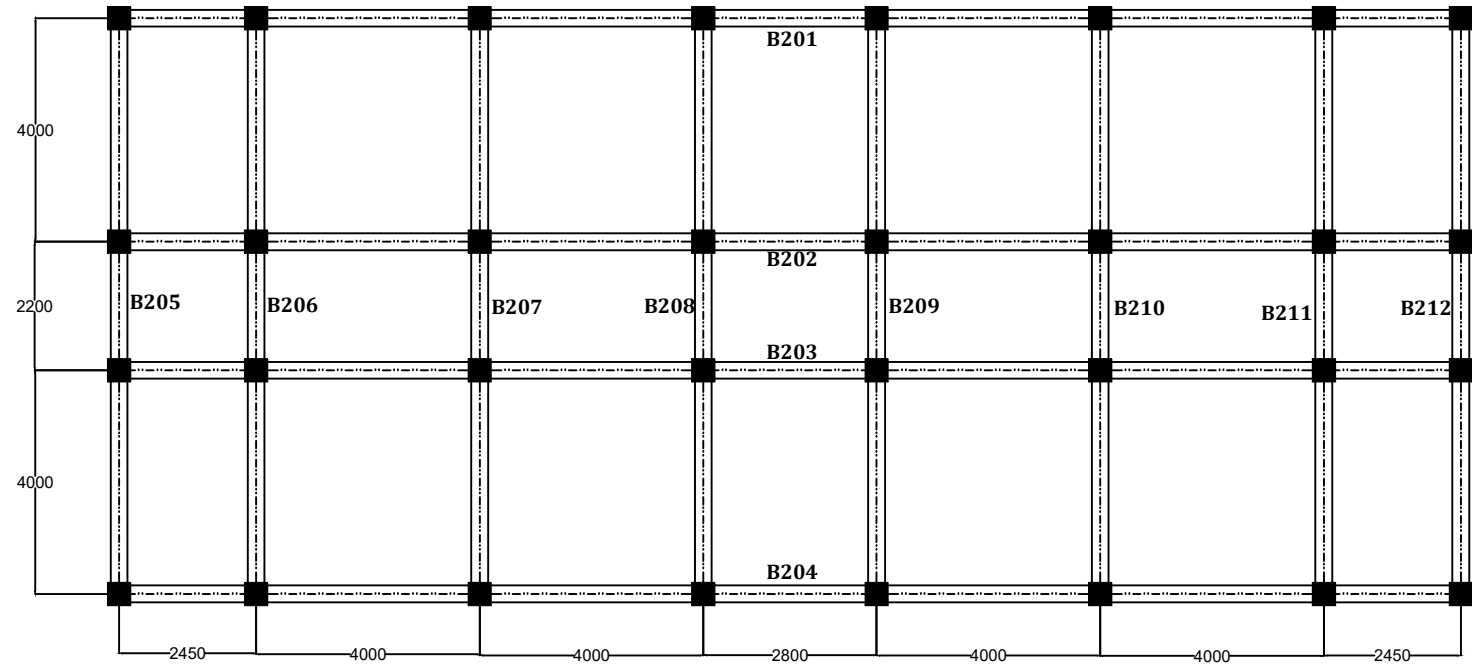
GF BEAM LAYOUT

SCALE : NOT TO SCALE

SHEET No. : 8

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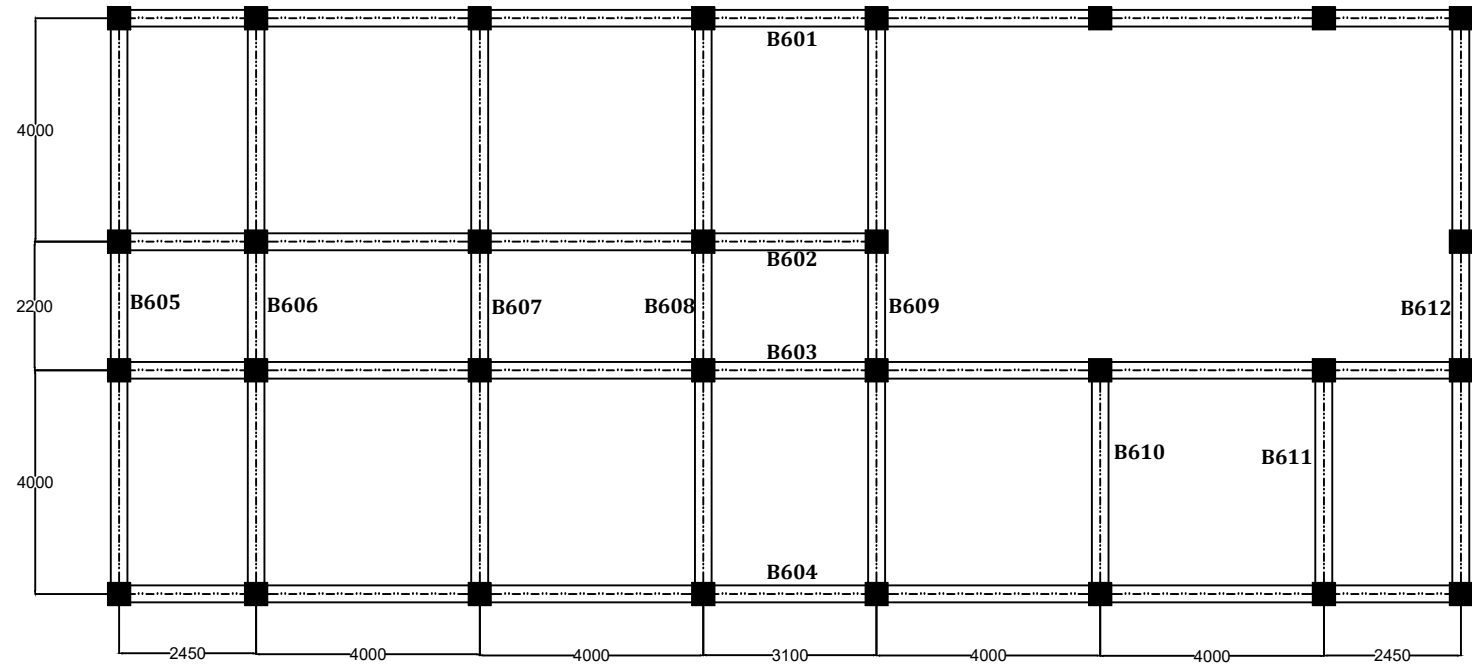
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BEAM LAYOUT OF 1st, 2nd,
3rd AND 4th FLOOR

SCALE : NOT TO SCALE

SHEET No. : 9

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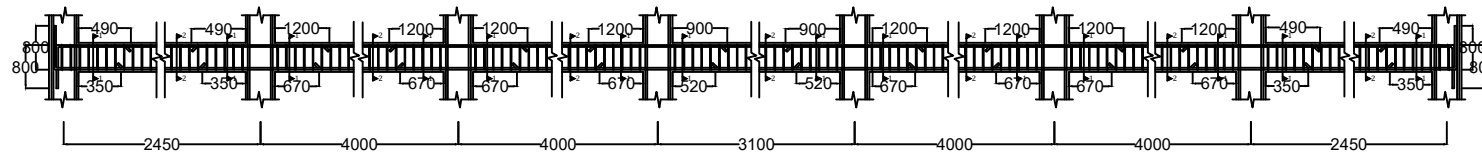
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BEAM LAYOUT OF ROOFTOP

SCALE : NOT TO SCALE

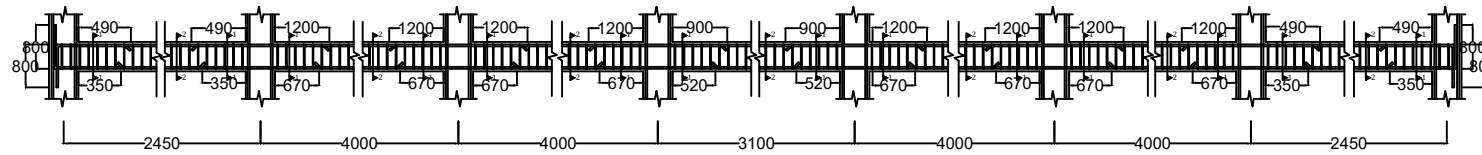
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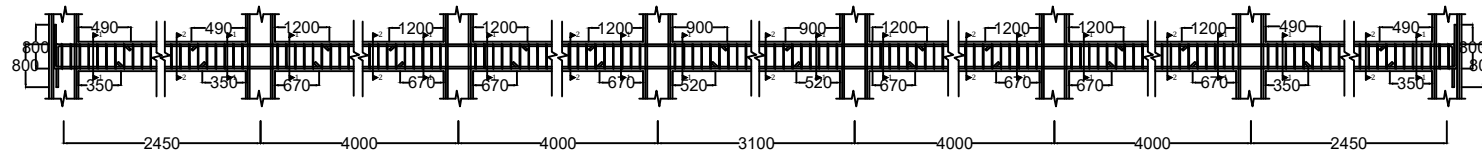
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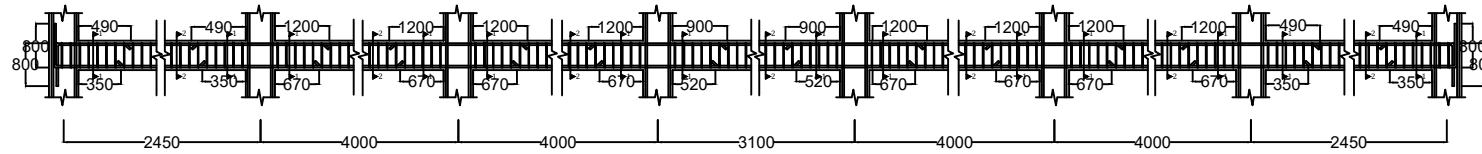
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B101, B201, B301, B401, B501, B601**



**TYPICAL CROSS SECTION OF BEAM
B102, B202, B302, B402, B502**



**TYPICAL CROSS SECTION OF BEAM
B103, B203, B303, B403, B503, B603**



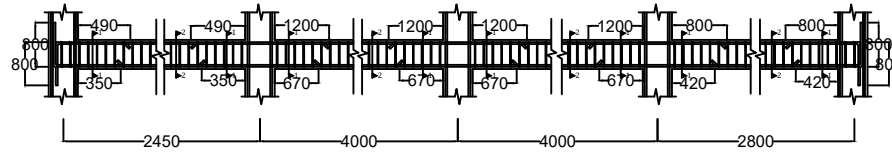
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B204, B304, B404, B504, B604**

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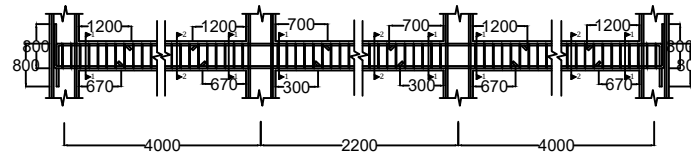
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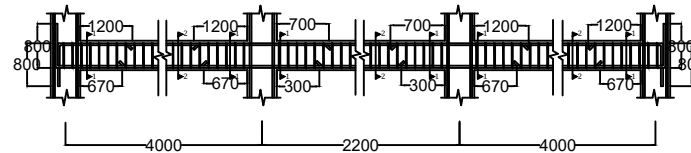
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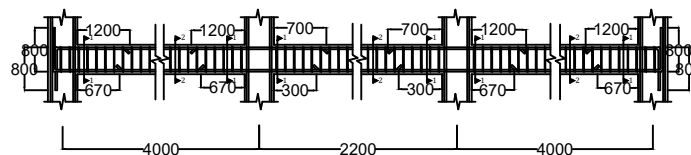
TYPICAL CROSS SECTION OF BEAM B B602



**TYPICAL CROSS SECTION OF BEAM
B205, B305, B405, B505, B605**



**TYPICAL CROSS SECTION OF BEAM
B, B206, B306, B406, B506, B606**



**TYPICAL CROSS SECTION OF BEAM
B207, B307, B407, B507, B607**

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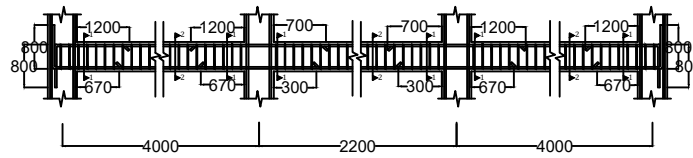
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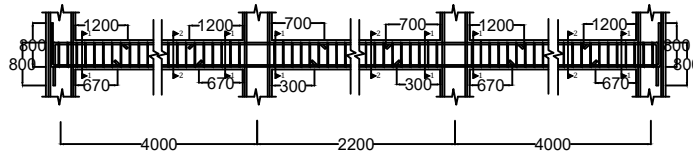
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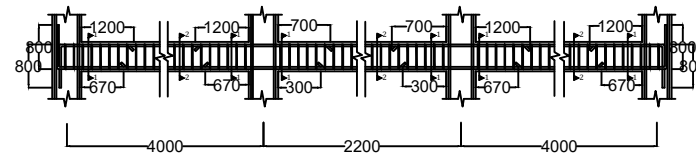
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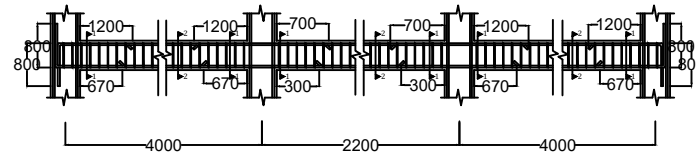
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B208, B308, B408, B508, B608



TYPICAL CROSS SECTION OF BEAM
B209, B309, B409, B409, B509, B609



TYPICAL CROSS SECTION OF BEAM
B210, B310, B410, B510



TYPICAL CROSS SECTION OF BEAM
B211, B311, B411, B511

SHEET TITLE :

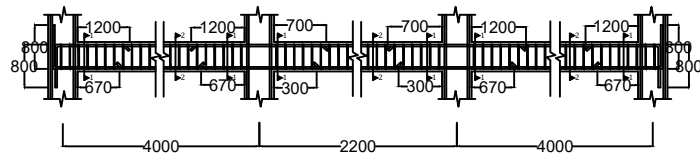
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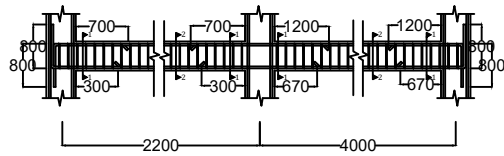
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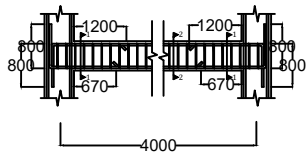
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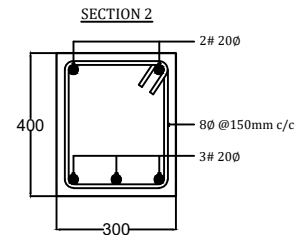
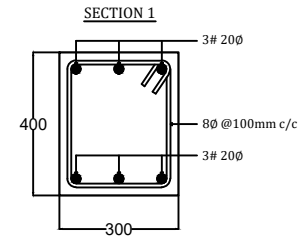
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B212, B312, B412, B512, B612**



**TYPICAL CROSS SECTION OF BEAM B105, B106,
B107, B108, B109, B110, B111, B112**



**TYPICAL CROSS SECTION OF
BEAM B610, B611**



DETAILS OF BEAM SECTION

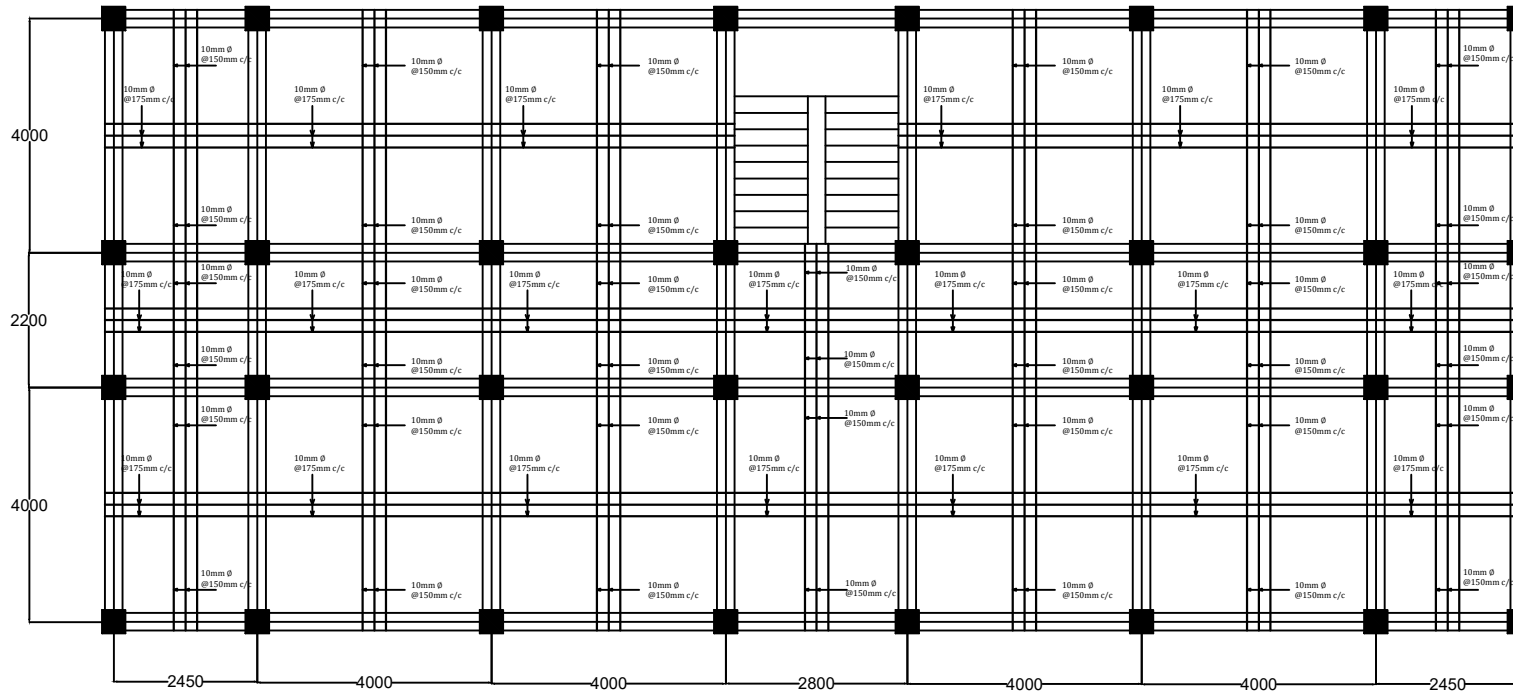
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BEAM DETAIL

SCALE : NOT TO SCALE

SHEET No. : 14

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SLAB (BOTTOM REINFORCEMENT)

SLAB THICKNESS : 150 mm

SHEET TITLE :

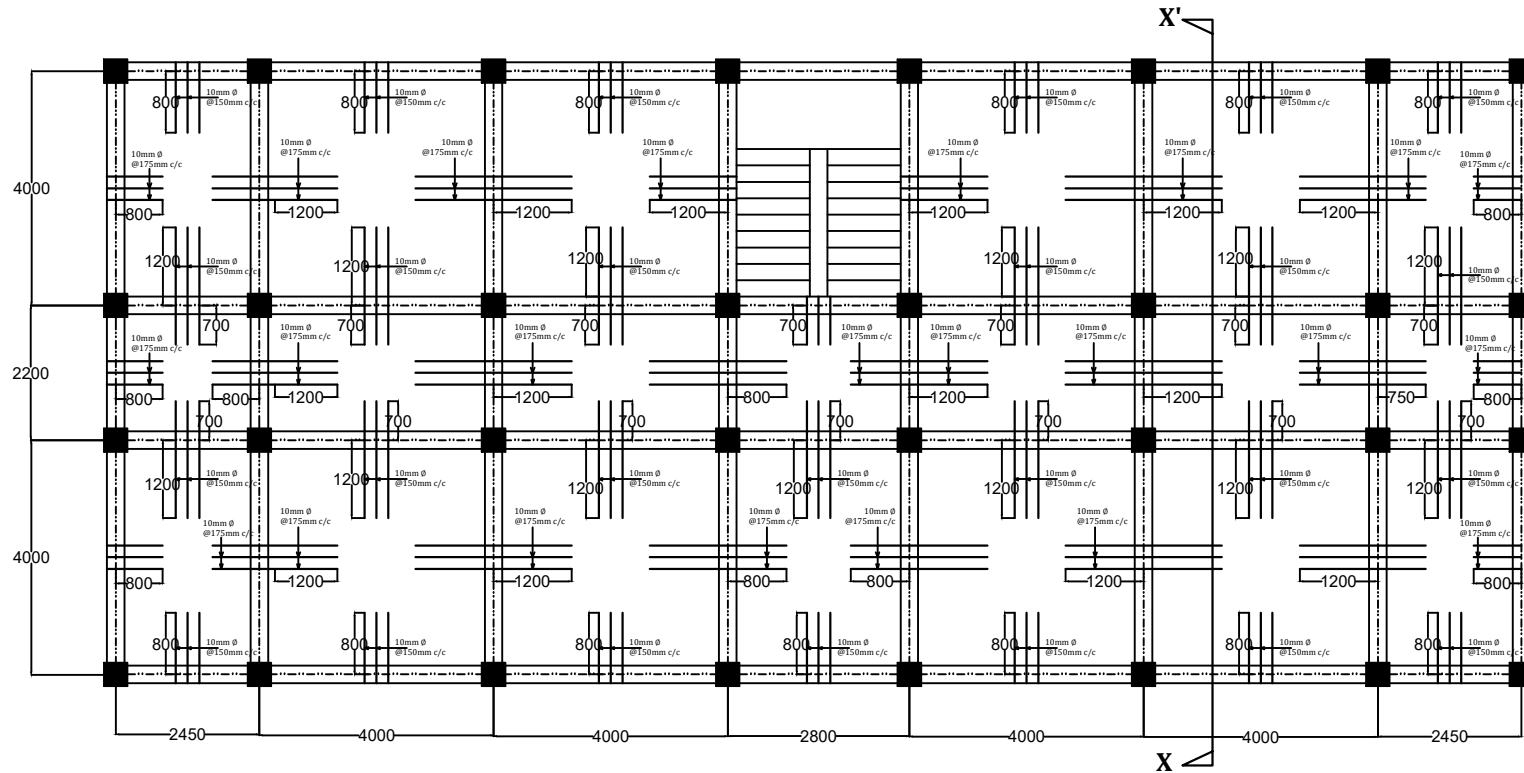
SLAB DETAIL

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SHEET No. : 15

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SLAB (TOP REINFORCEMENT)

SLAB THICKNESS : 150 mm

SHEET TITLE :

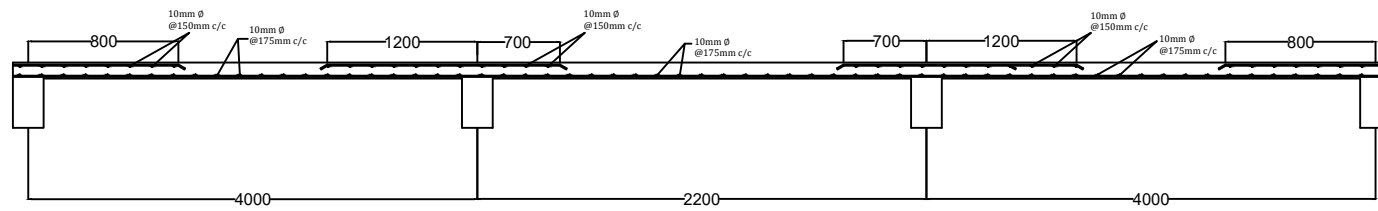
SLAB DETAIL

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SHEET No. : 16

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SECTION @ X-X'

SHEET TITLE :

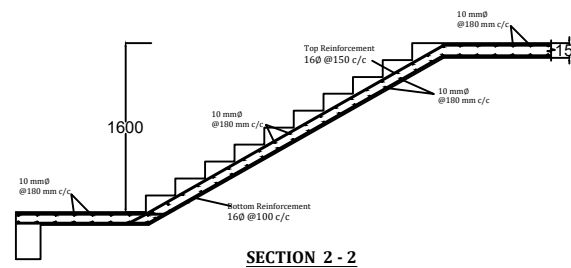
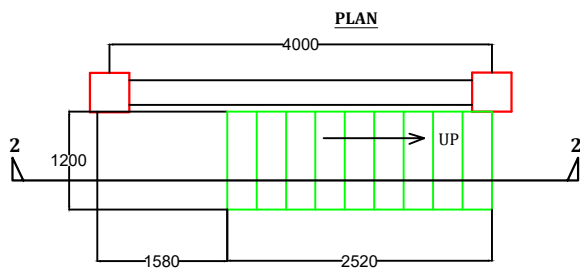
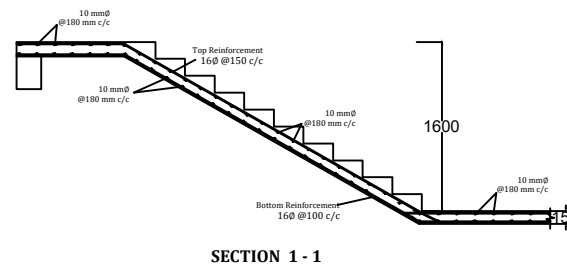
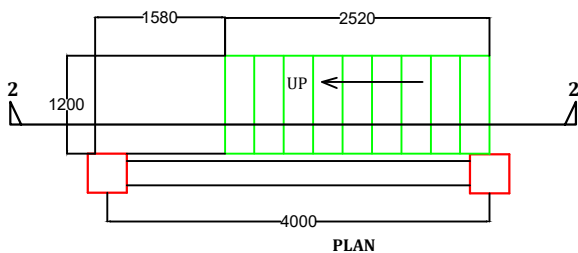
SLAB DETAIL

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SHEET No. : 17

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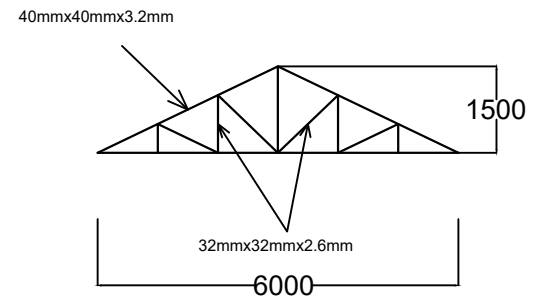
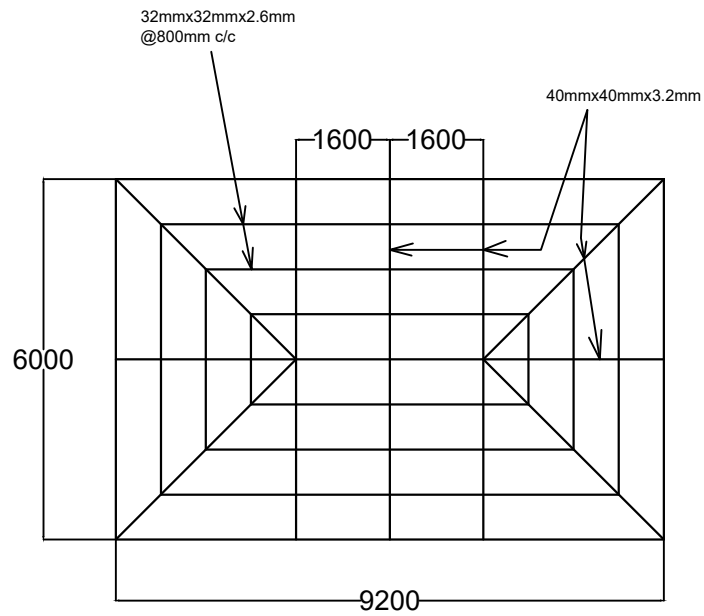
STAIR DETAIL

SCALE : NOT TO SCALE

SHEET No. : 18

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DETAILS OF ROOF TRUSS

SHEET TITLE :

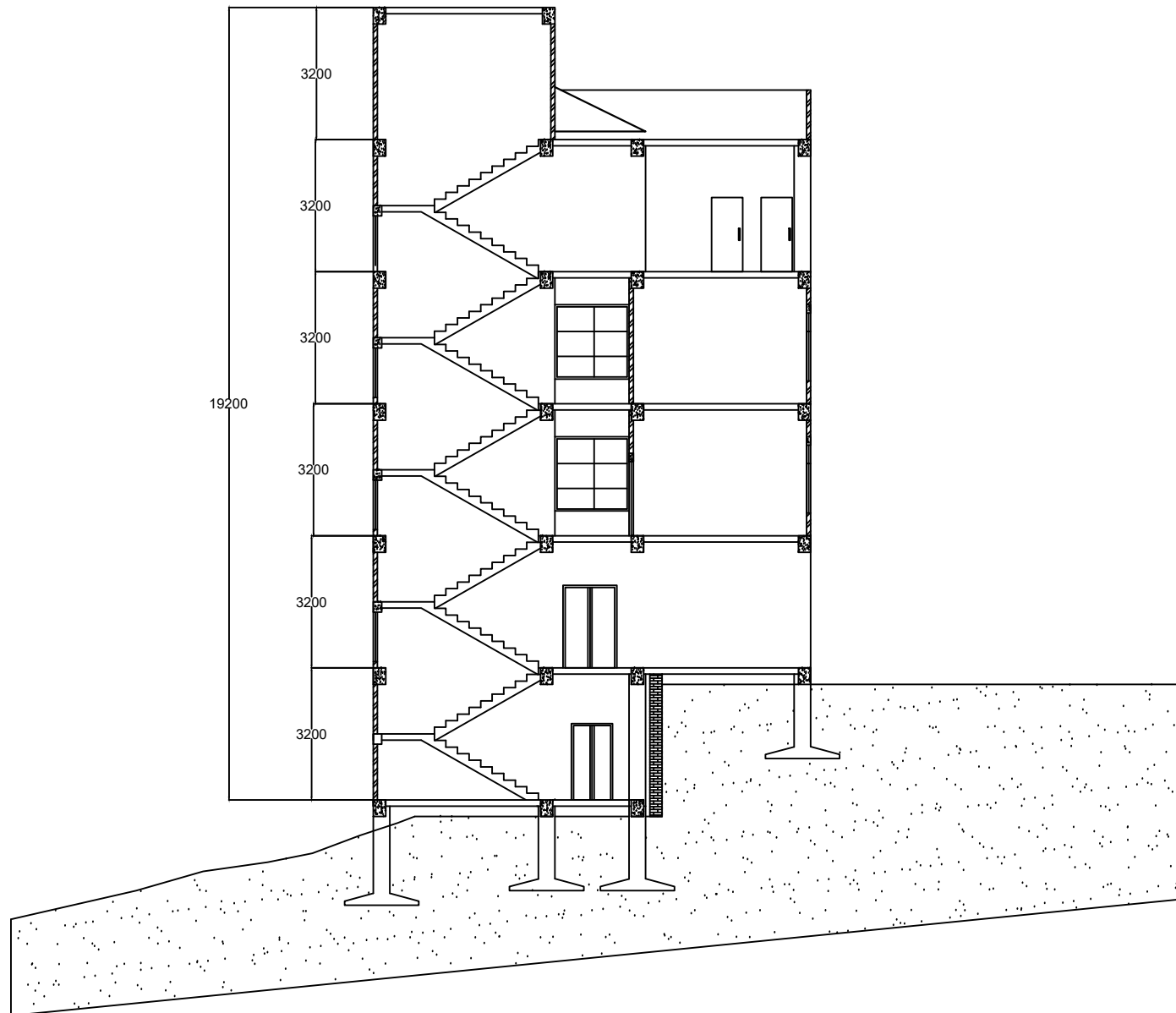
TRUSS DETAIL

SCALE : NOT TO SCALE

SHEET No. : 19

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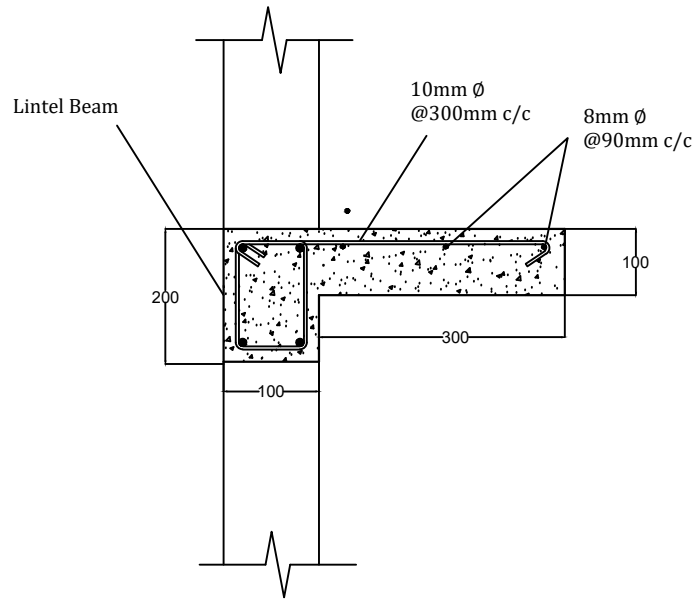
SECTIONAL ELEVATION

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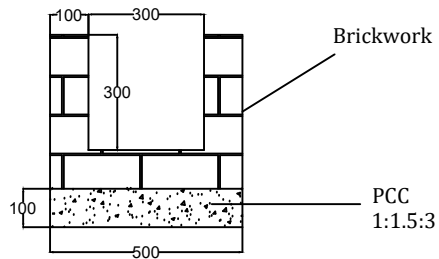
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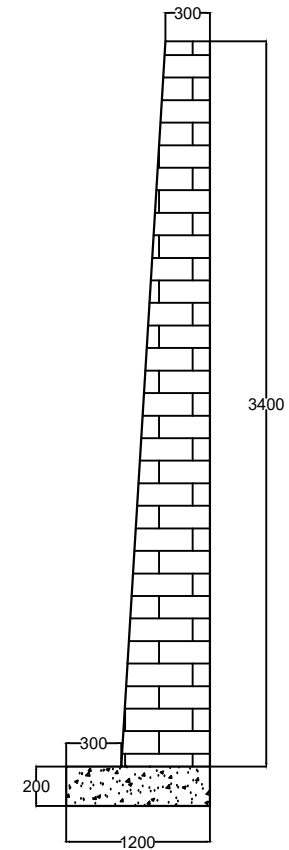
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DETAILS OF CHAJJA



SIDE DRAIN SECTION



DETAILS OF RETAINING WALL

SHEET TITLE :

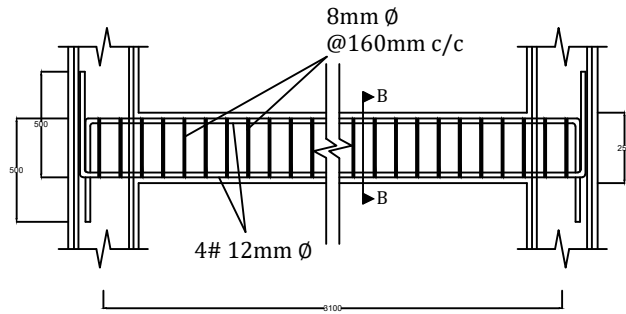
SECTIONS DETAILS

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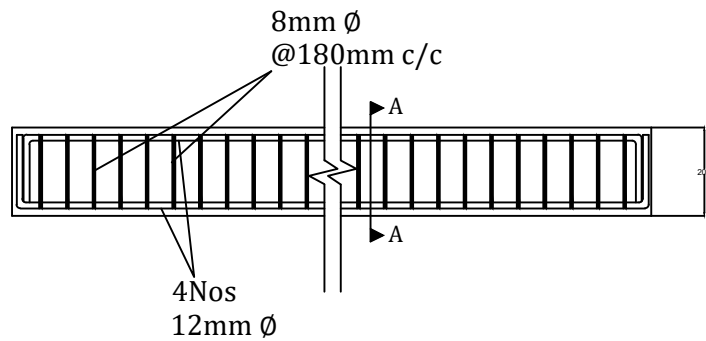
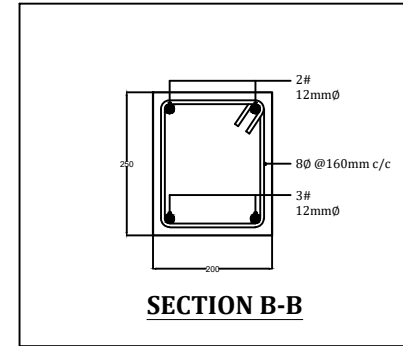
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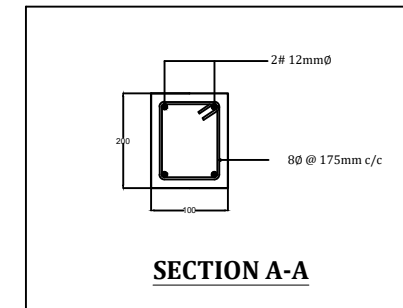
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DETAILS OF LANDING BEAM



DETAILS OF LINTEL BEAM



SHEET TITLE :
BEAM DETAIL

SCALE : NOT TO SCALE

SHEET No. : 22

(C ZOTHANTLUANGA)
Assistant Engineer (CPHC/HWC)
National Health Mission
Mizoram : Aizawl