



Government of Nepal

Ministry of Education, Science and Technology
Center For Education and Human Resources Development
Sanothimi, Bhaktapur

1 STOREY-4 ROOM-RCC

STRUCTURAL ANALYSIS AS PER REVISED CODE-NBC

ARCHITECTURE

- A1-GROUND FLOOR PLAN
- A2-TOP FLOOR PLAN
- A3-SECTION, SCHEDULE & ELEVATION
- A4- ELEVATION

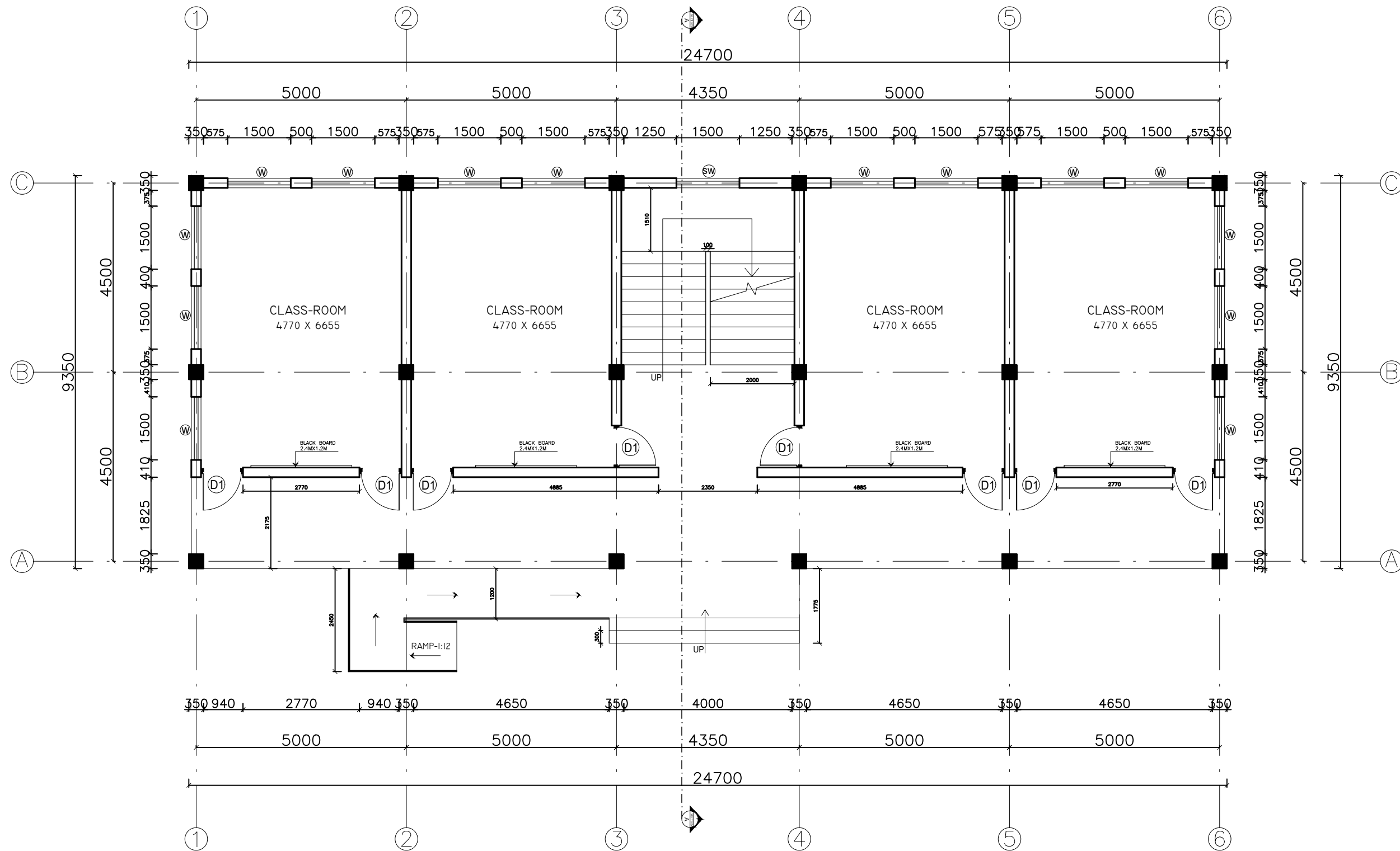
STRUCTURE

- S1-GENERAL NOTES
- S2-GRID NAMING PLAN
- S3-TRENCH PLAN
- S4-FOOTING SECTION
- S5- ELEVATIONAL VIEW
- S6- COLUMN PLAN
- S7- COLUMN DETAILS
- S8- BEAM PLAN
- S9- SLAB PLAN
- S10- BEAM SECTION
- S11- BEAM SECTION
- S12- SLAB SECTION
- S13- SLAB SECTION
- S14- STAIR SECTION
- S15- DETAILS

DATE -2022-04-03

NOTE:-
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GROUND FLOOR PLAN
 230.94Sq.M

PROJECT:- Revised Analysis as per Revised code-
 I STOREY-4 CLASSROOM BUILDING

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SHEET TITLE:-
 GROUND FLOOR PLAN

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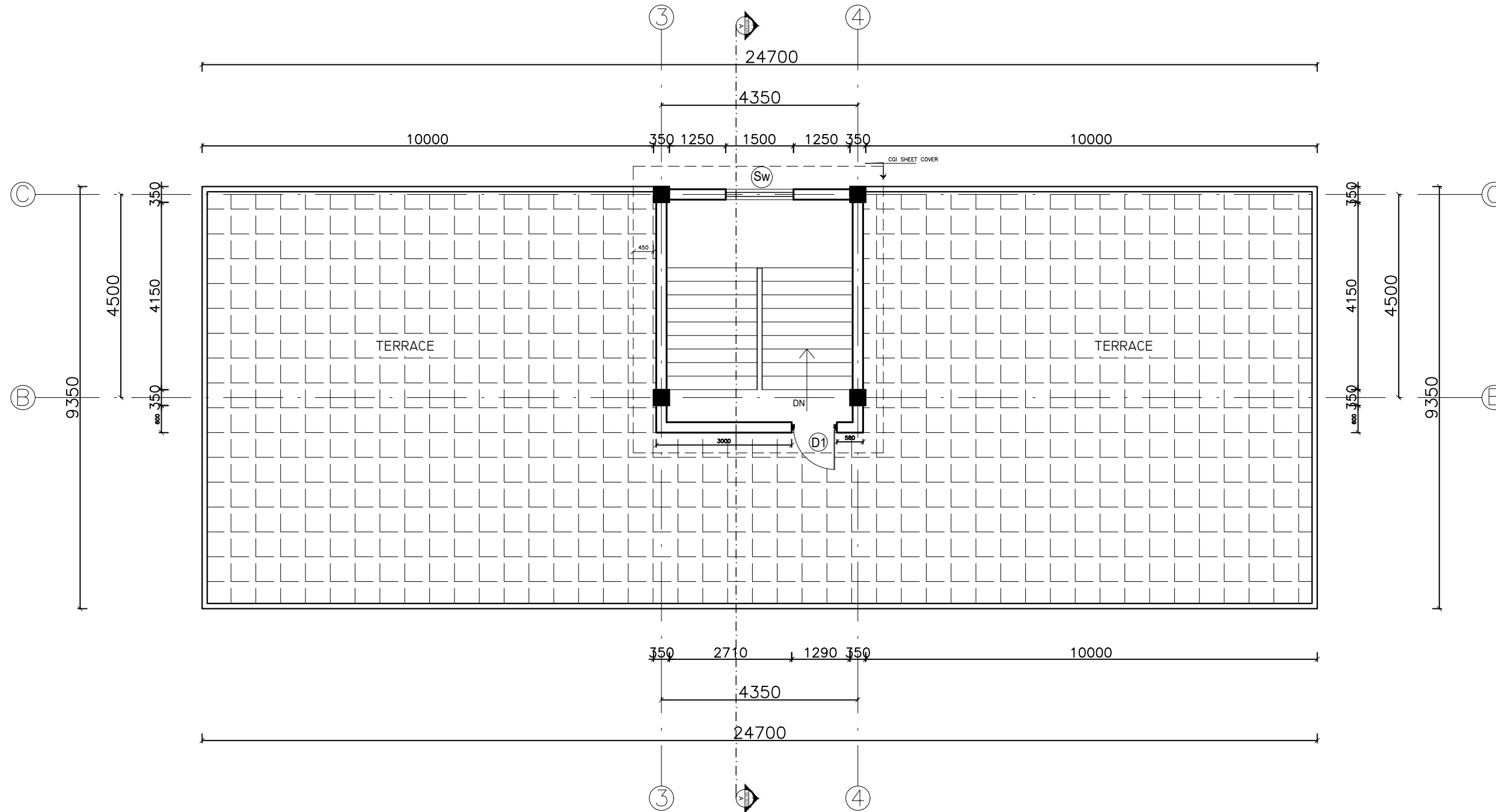
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PAPER SIZE-A3
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 DATE:- 2078

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TOP FLOOR PLAN
 25.04Sq.M

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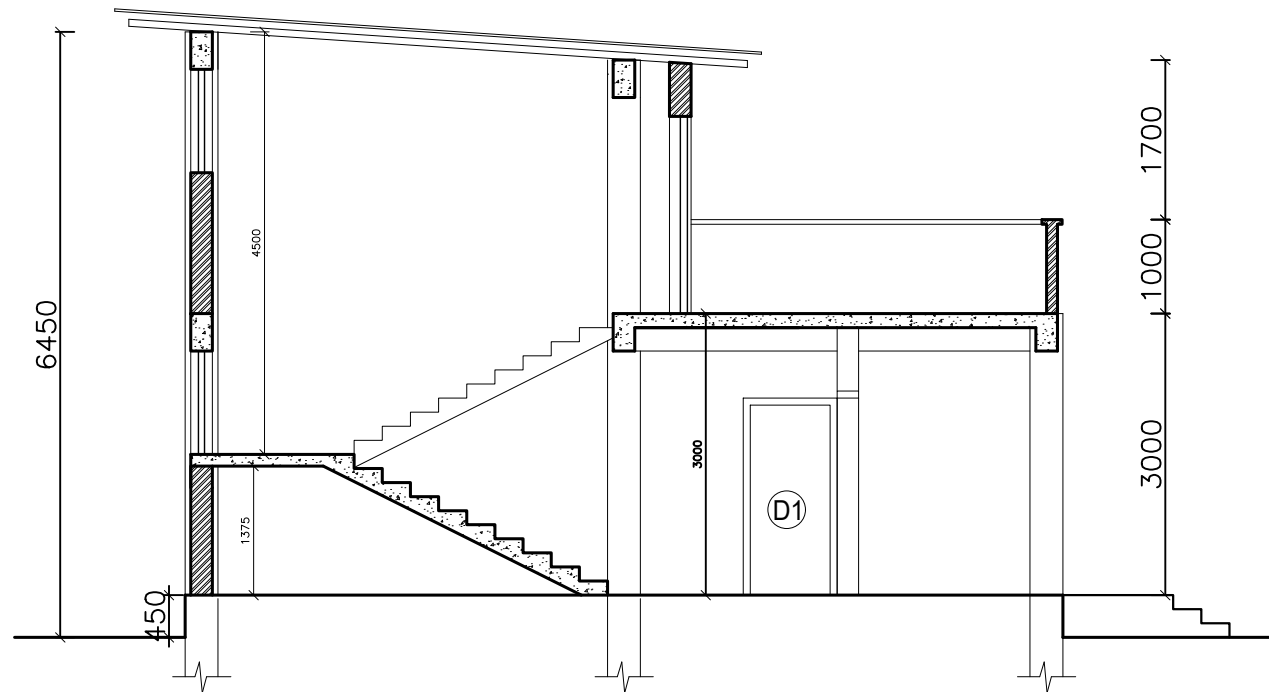
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 TOP FLOOR PLAN

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SECTION AT-AA

OPENING SCHEDULE

S.N.	ITEM	SIZE	COUNT			REMARKS
			GF	FF	TOTAL	
DOOR						
1	DOOR (D1)	1000 X 2100	8	1	9	WOOD
WINDOW						
1	WINDOW (W)	1500 X 1375	14	-	14	WOOD
2	STAIR (SW)	1500 X 1100	1	1	2	WOOD



SIDE ELEVATION



SIDE ELEVATION

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SHEET TITLE:-
 SECTION, ELEVATION, OPENING SCHEDULE

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A-3

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FRONT ELEVATION



BACK ELEVATION

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 ELEVATION

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GENERAL NOTES:

- 1.DO NOT SCALE FROM THE DRAWINGS
- 2.STRUCTURAL DRAWING SHALL BE READ IN CONJUNCTION WITH RELEVANT ARCHITECTURAL AND SERVICES DRAWINGS.
- 3.UNLESS SPECIFIED OTHERWISE,ALL LEVELS SHOWN IN STRUCTURAL DRAWINGS ARE STRUCTURAL LEVELS ONLY.
- 4.DO NOT SCALE FOLLOW WRITTEN DIMENSION ONLY.
- 5.ALL DIMENSION & LEVEL ARE IN FEET INCHES UNLESS NOTED OTHERWISE. ALL DIMENSION TO BE VERIFIED ON SITE & APPROVED BY THE ENGINEER.
- 6.GRADE OF CONCRETE MIX SHALL BE M-20 FOR COLUMNS. M-20 FOR FOOTING,WALLS \MBEAMS,SLABS ETC. UNLESS NOTED OTHERWISE CONFORMING TO NBC 205:2012& IS:456-2000.
- 7.REINFORCEMENT SHALL BE HIGH STRENGTH DEFORMED BARS OF GRADE Fe:500.
- 8.CLEAR COVER TO BARS
 - a.FOR CONCRETE MEMBERS IN CONTACT WITH SOIL = 50 MM
 - b.FOR LONGITUDINAL (VERTICAL) BARS IN COLUMN = 40 MM
 - c.FOR MAIN BARS IN BEAMS = 25 MM
 - d.FOR OUTER BARS IN SLAB = 15 MM/25 MM FOR FREE END.
- 9.BARS IN COLUMNS SHALL BE SPLICED ONLY AT MID HEIGHT OF COLUMN.
- 10.BARS SPLICED IN BEAM SHALL BE AVOIDED IN THE SPAN WHERE INTERMEDIATE BEAM IS CONNECTED AND SHALL BE ONLY AS SHOWN ON DRAWING.
- 11.DEVELOPMENT / LAP LENGTH (Ld.) FOR BARS-60xØ
- 12.TEMP./ DISTRIBUTION REINFORCEMENT FOR SLAB - TMT 8Ø @ 200 C/C
- 13.CLEAR VERTICAL DISTANCE BETWEEN TWO ROWS (LAYERS) OF BARS =25 mm
- 14.PROVIDE SHEAR REINFORCEMENT AT 4" C/C AT LAP LOCATIONS.
- 15.H=CLEAR SPAN OF FLOOR.
- 16.h=H/6 OR 450mm WHICHEVER IS GREATER.
- 17.Z= DEPTH OF BEAM.
- 18.ANY DISCREPANCY NOTED BETWEEN DETAILS IN THE DRAWINGS/ SPECIFICATIONS,THE MATTER SHALL BE BROUGHT TO THE NOTICE OF CONCERNED ENGINEER PRIOR TO CONSTRUCTION AND GOT RECONCILED BEFORE EXECUTION.

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PROJECT:- Revised Analysis as per
Revised code-
I STOREY-4 CLASSROOM BUILDING

CONSULTANT
ALTIUS DESIGN PVT LTD

DESIGNED BY:-
ER.SUJAN SHAKYA

SHEET TITLE:-
GENERAL NOTES

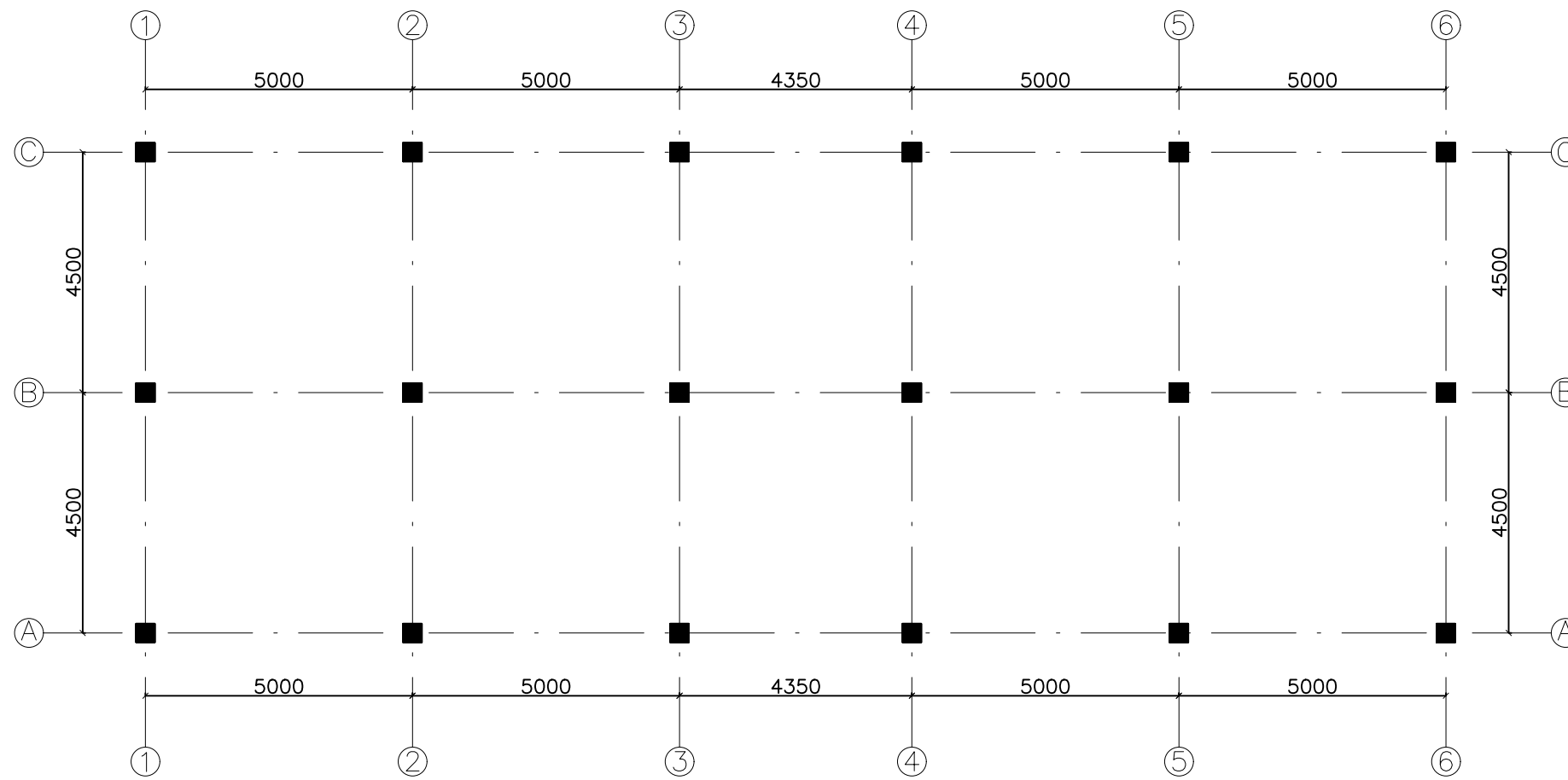
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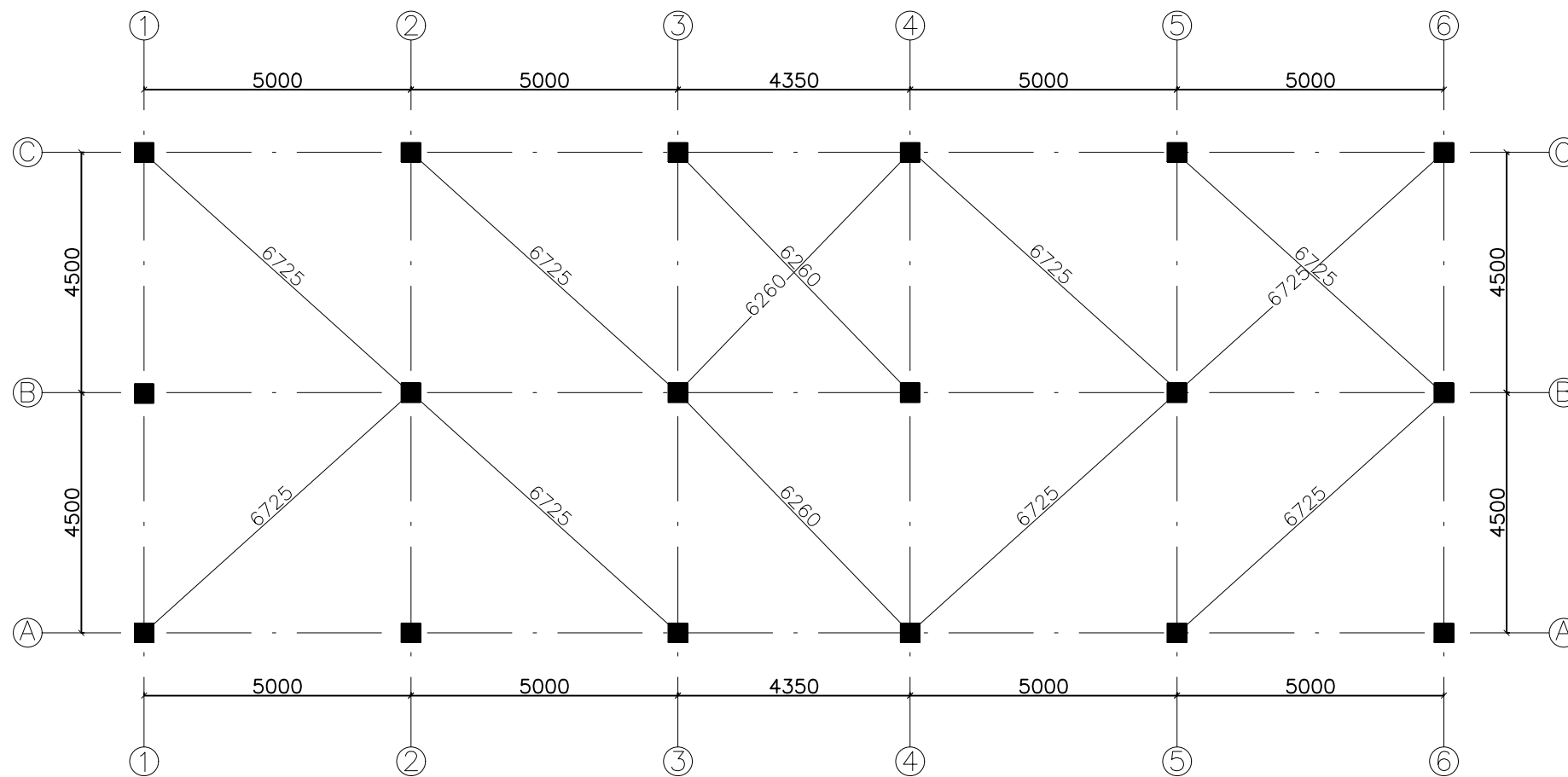
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GRID NAMING PLAN



GRID NAMING PLAN-I

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 ER.SUJAN SHAKYA

SHEET TITLE:-
 GRID NAMING PLAN

RECOMMENDED BY:-

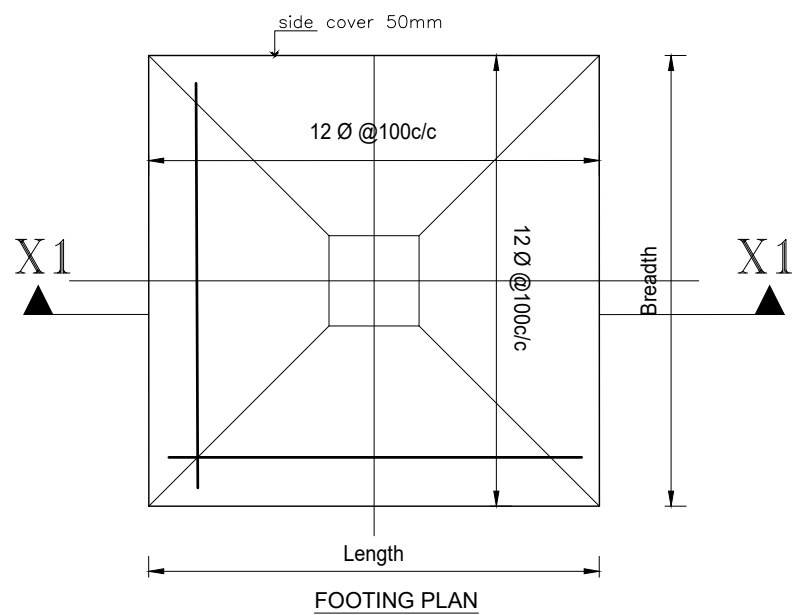
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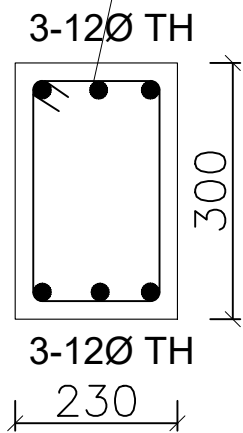
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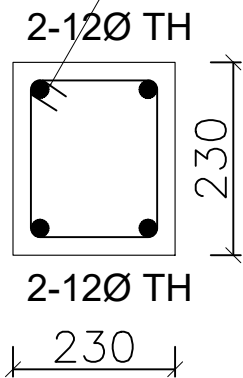


8mmØ 2 legged stirrups @ 6" c/c

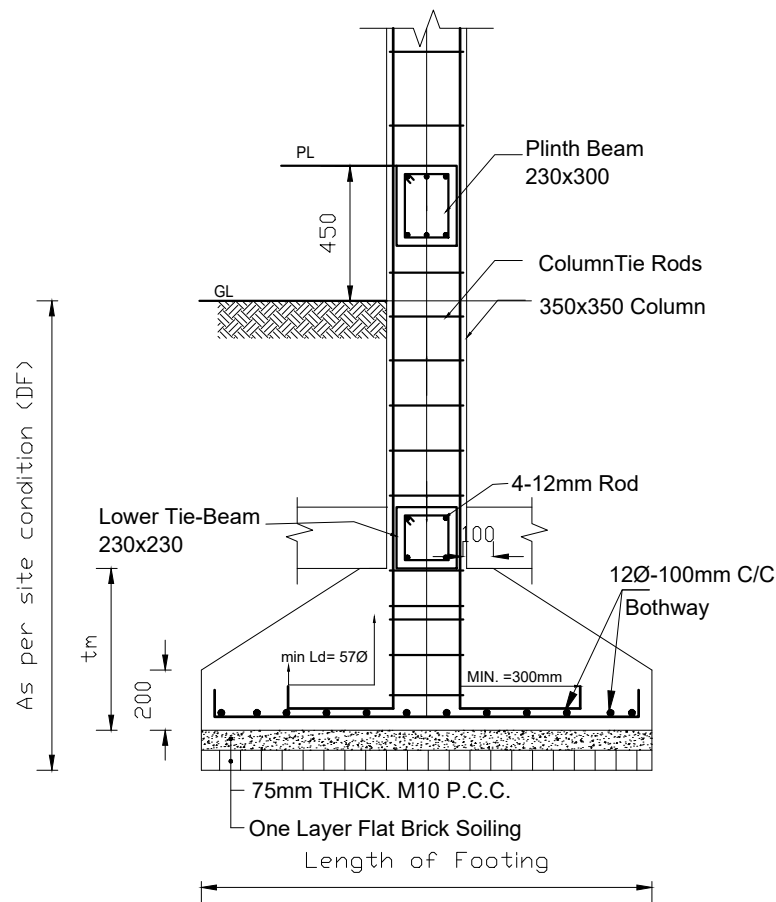


Plinth Tie- Beam

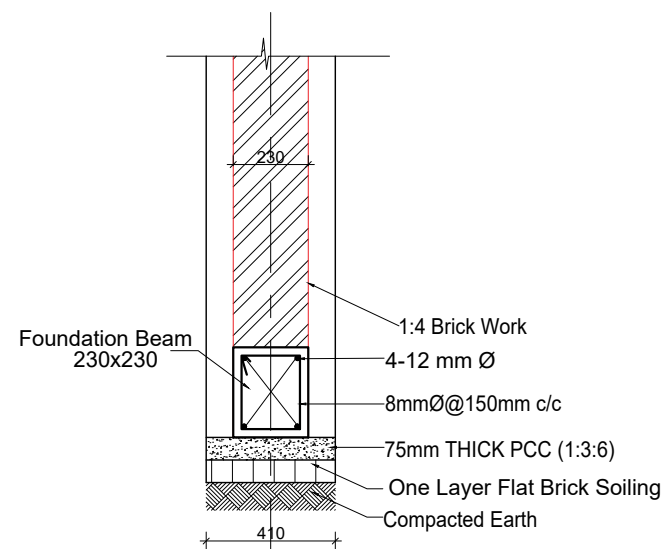
8mmØ 2 legged stirrups @ 6" c/c



Lower Tie- Beam



Typical Section of Footing
SCALE = 1:25



TYPICAL WALL FOUNDATION DETAIL
(Scale= 1:25)

Foundation Size For Weak Soil
(Safe Bearing Capacity-50KN/m²)

Column Type	L(mm)	B(mm)	Max Thickness	Reinforcement Both Ways	Depth-DF (mm)
F1	4100	4100	450	12mm dia. bars @ 150mm c/c	
F2	3500	3500	450	12mm dia. bars @ 150mm c/c	
F3	3200	3200	450	12mm dia. bars @ 150mm c/c	

Foundation Size For Soft Soil
(Safe Bearing Capacity-100KN/m²)

Column Type	L(mm)	B(mm)	Max Thickness	Reinforcement Both Ways	Depth-DF (mm)
F1	3000	3000	450	12mm dia. bars @ 150mm c/c	1500
F2	2500	2500	450	12mm dia. bars @ 150mm c/c	1500
F3	2220	2220	450	12mm dia. bars @ 150mm c/c	1500

Foundation Size For Medium Soil
(Safe Bearing Capacity-150KN/m²)

Column Type	L(mm)	B(mm)	Max Thickness	Reinforcement Both Ways	Depth-DF (mm)
F1	2400	2400	450	12mm dia. bars @ 150mm c/c	1500
F2	2000	2000	450	12mm dia. bars @ 150mm c/c	1500
F3	1900	1900	450	12mm dia. bars @ 150mm c/c	1500

Foundation Size For Hard Soil
(Safe Bearing Capacity-200KN/m²)

Column Type	L(mm)	B(mm)	Max Thickness	Reinforcement Both Ways	Depth-DF (mm)
F1	2100	2100	450	12mm dia. bars @ 150mm c/c	1500
F2	1800	1800	450	12mm dia. bars @ 150mm c/c	1500
F3	1600	1600	450	12mm dia. bars @ 150mm c/c	1500

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I STOREY-4 CLASSROOM BUILDING

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ER.SUJAN SHAKYA

SHEET TITLE:-
FOOTING SECTION

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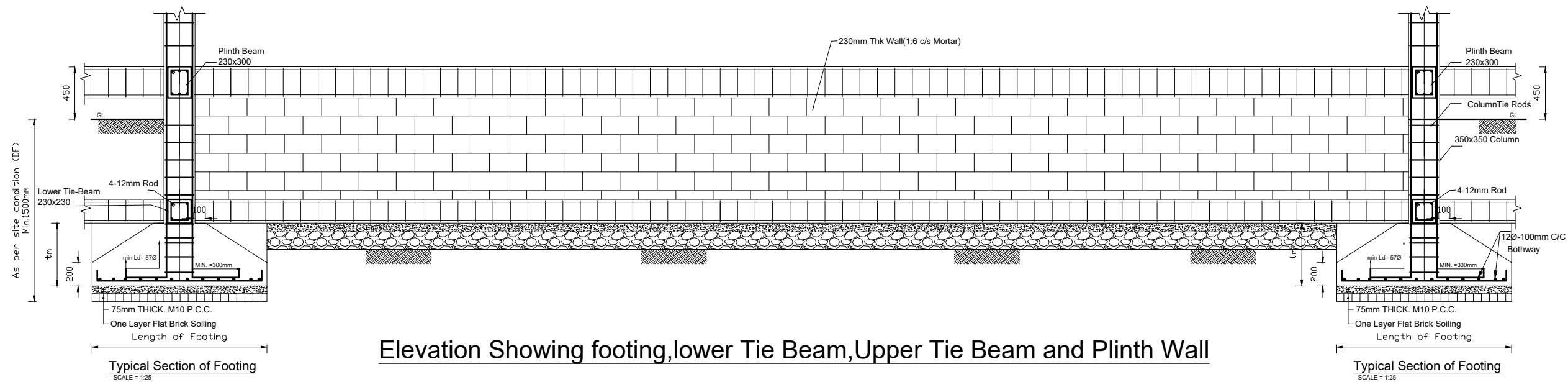
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Elevation Showing footing, lower Tie Beam, Upper Tie Beam and Plinth Wall

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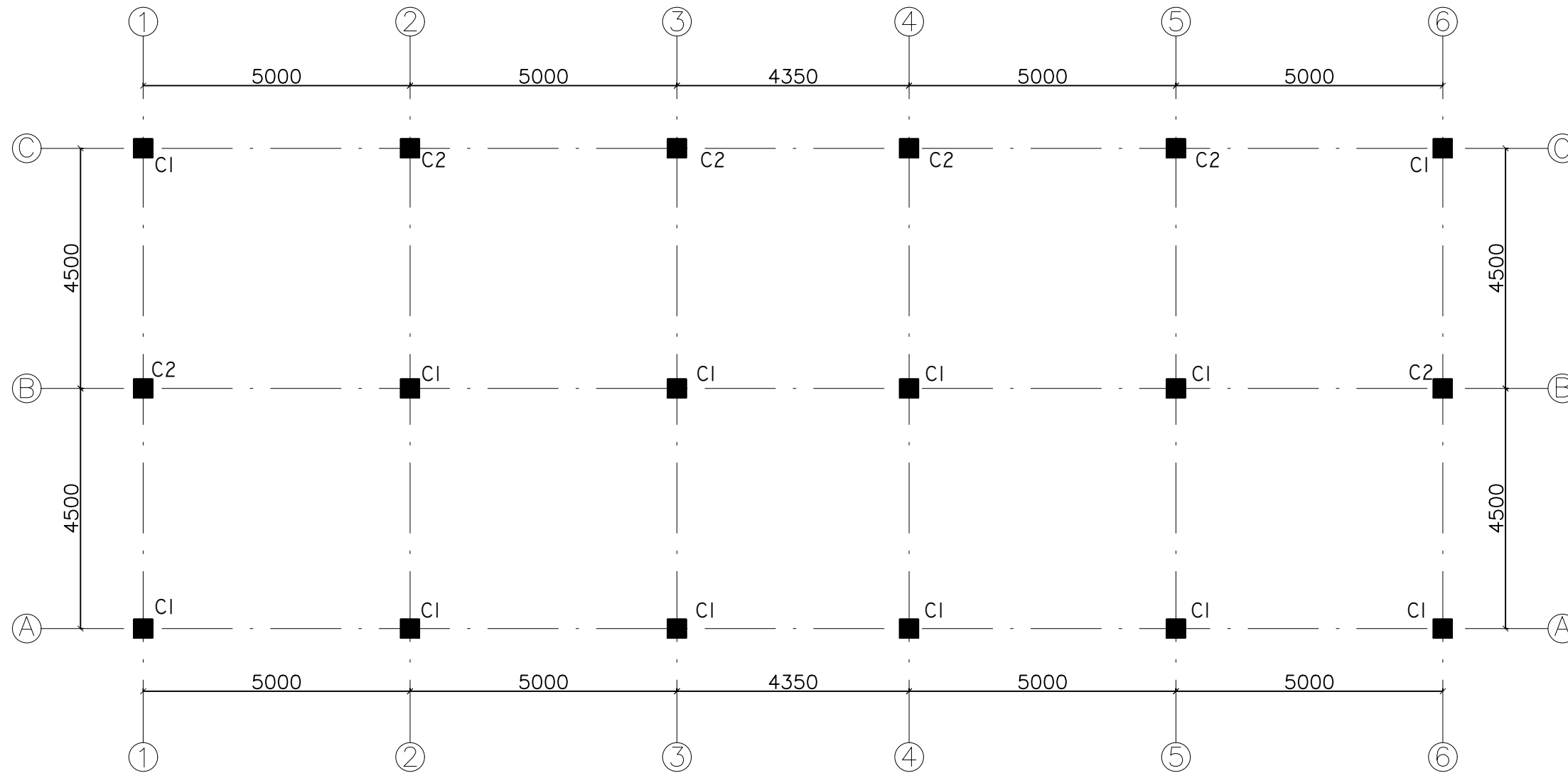
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 FOOTING ELVATIONAL VIEW

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COLUMN PLAN

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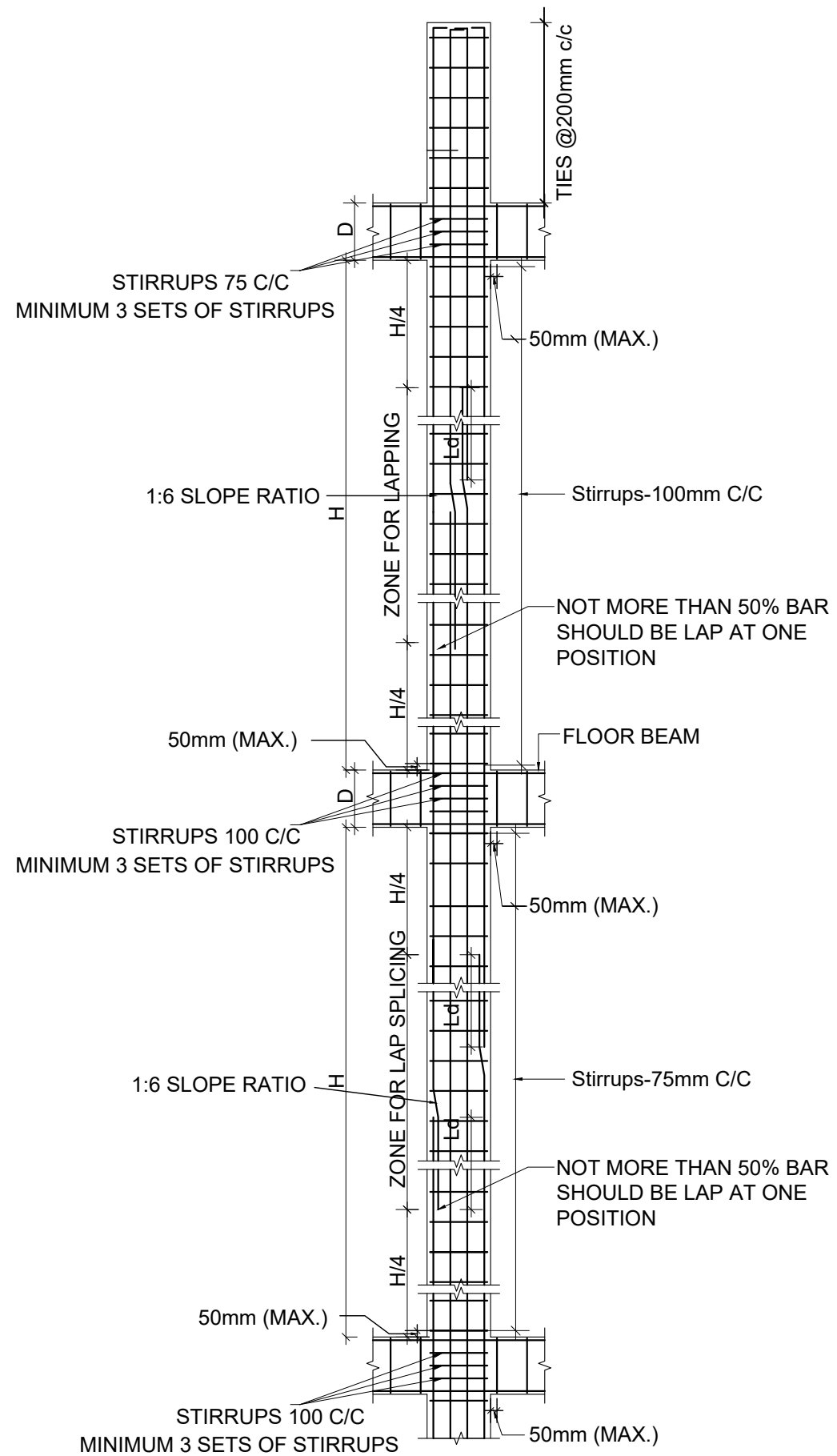
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 COLUMN PLAN

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TYP. COLUMN SHEAR REINFORCEMENT DETAIL

COLUMN DETAILS

FLOOR / TYPE	COLUMN C1	COLUMN C2
GROUND	<p>350 350 4#200+4#200</p>	<p>350 350 12#200</p>
TOP	<p>350 350 4#200+4#160</p>	<p>350 350 4#200+8#160</p>

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 COLUMN DETAILS

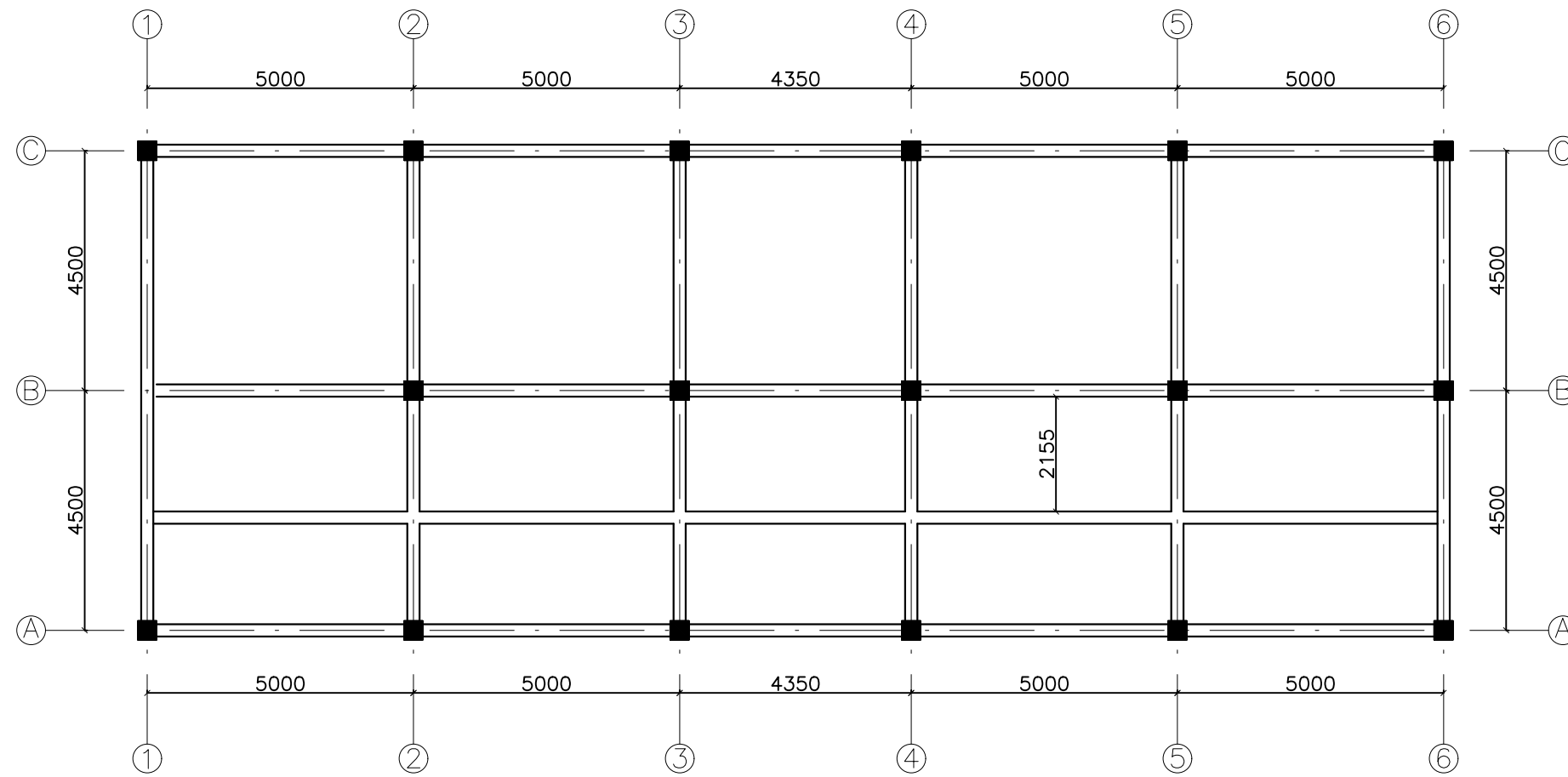
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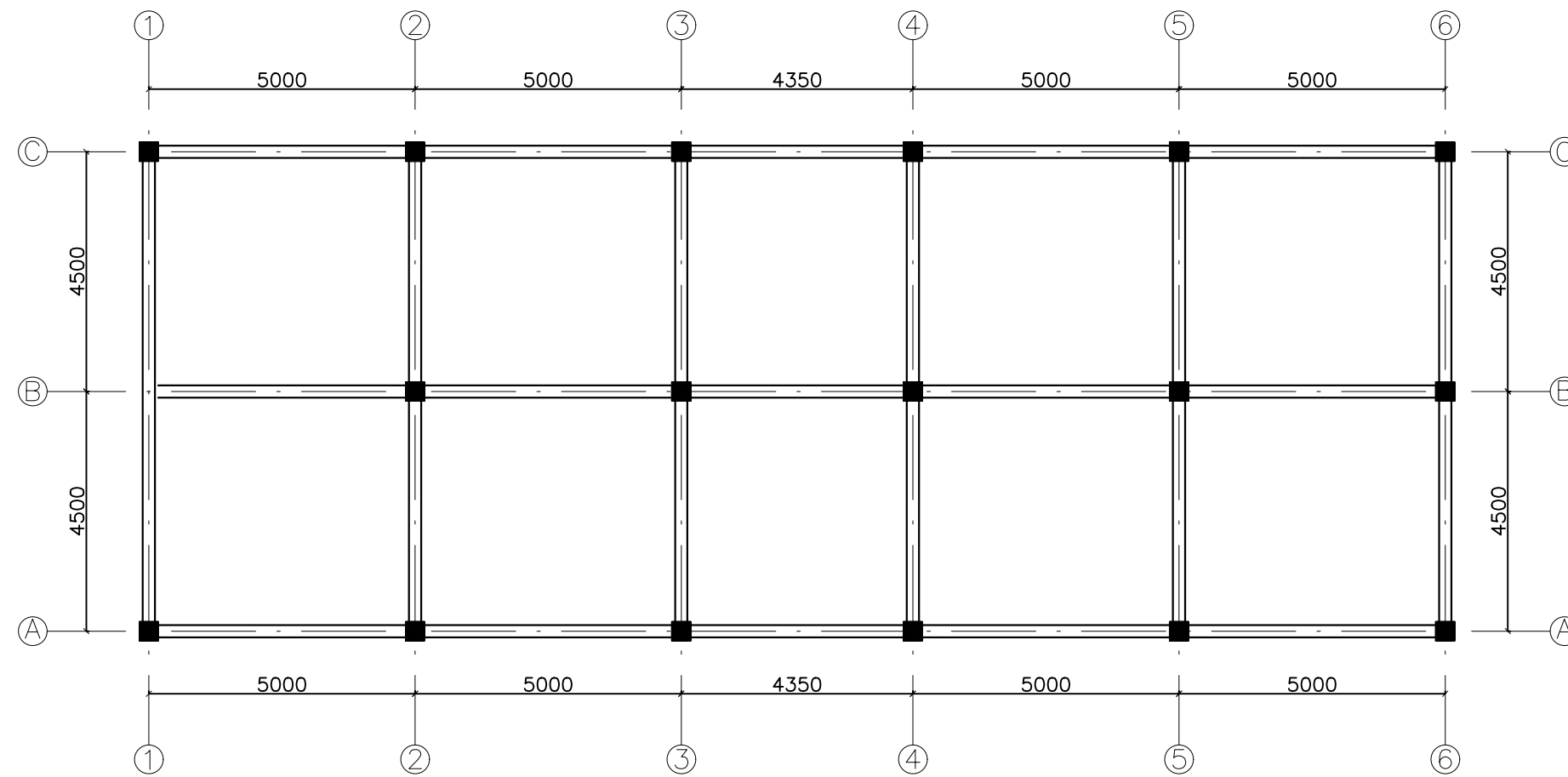
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PLINTH BEAM PLAN



BEAM PLAN-ALL FLOORS

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 BEAM PLAN

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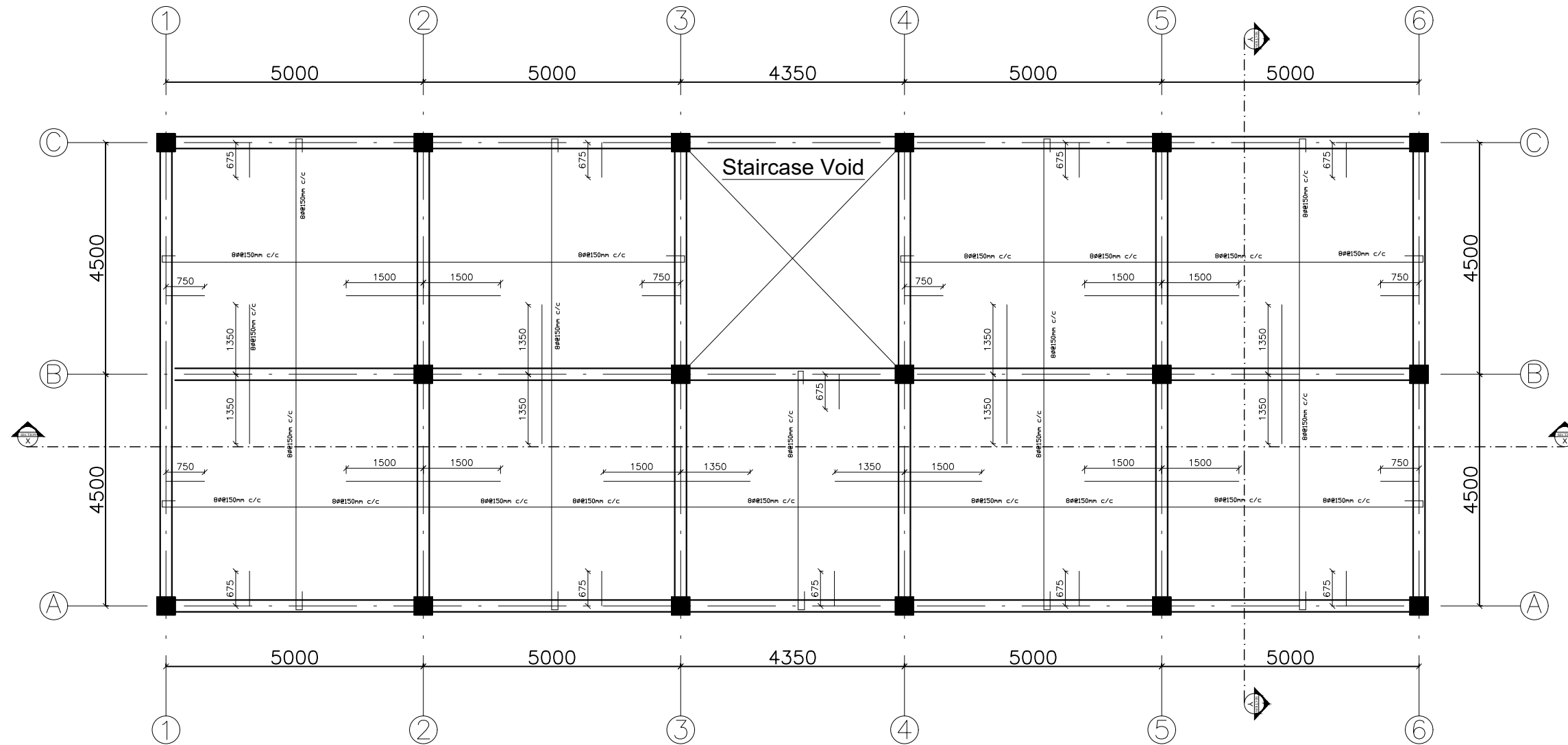
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SLAB PLAN-GROUND AND FIRST FLOOR

Slab Thickness-150mm

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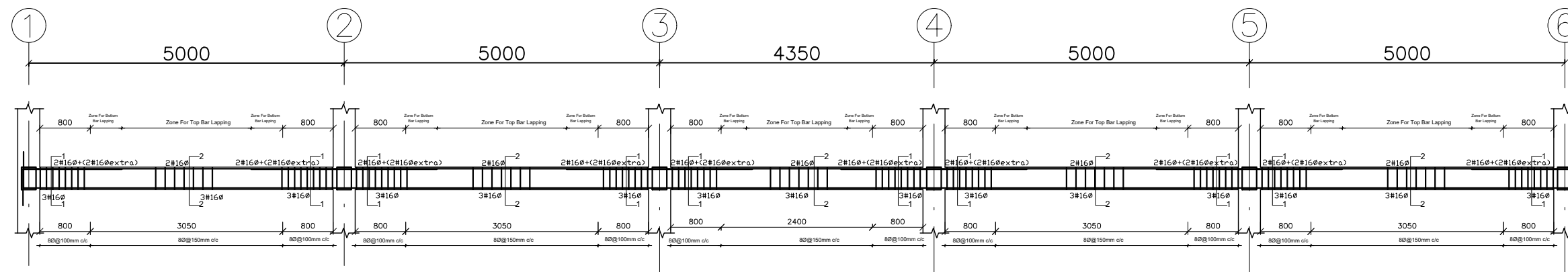
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 SLAB PLAN

RECOMMENDED BY:-

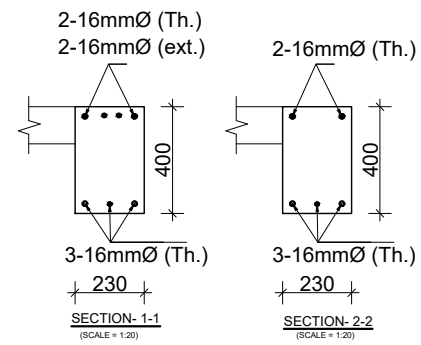
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GROUND FLOOR BEAM ALONG GRID A,B,C



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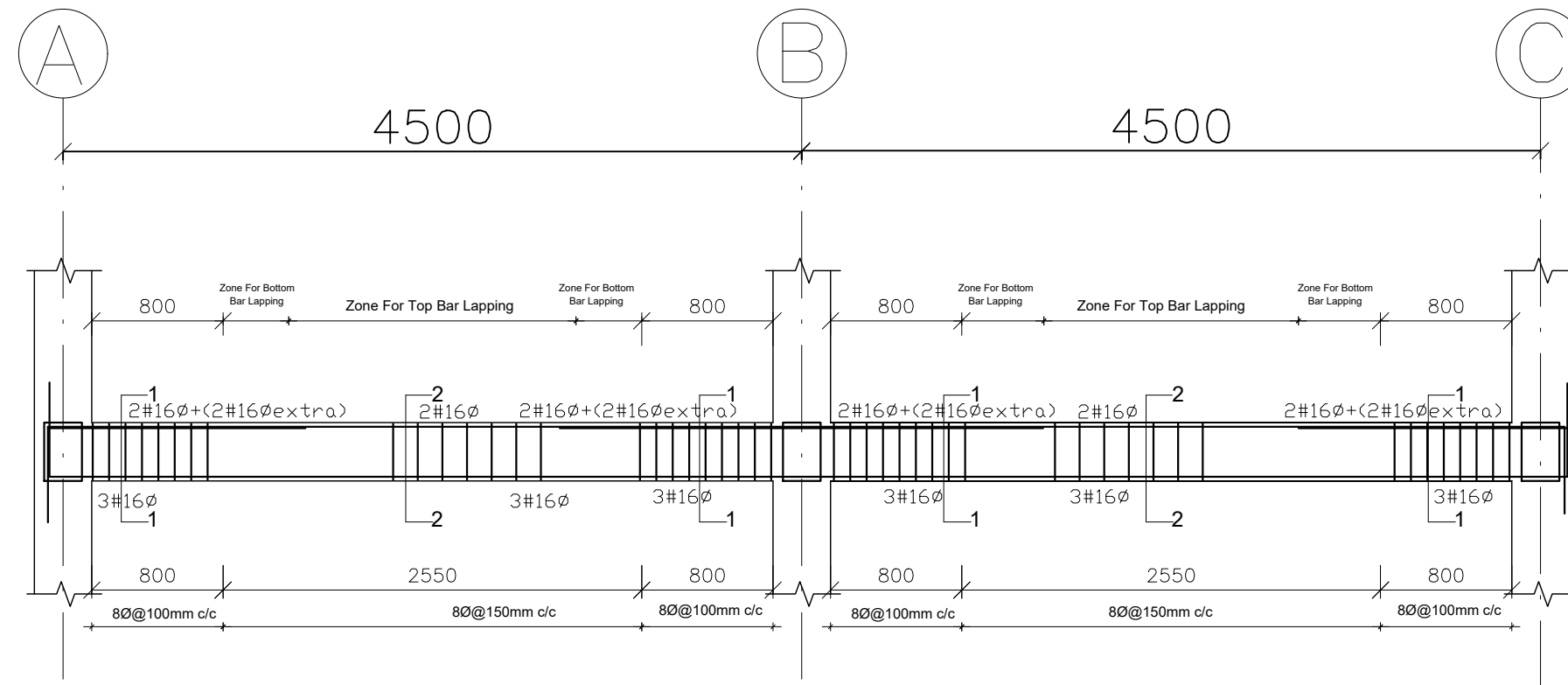
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 BEAM SECTION

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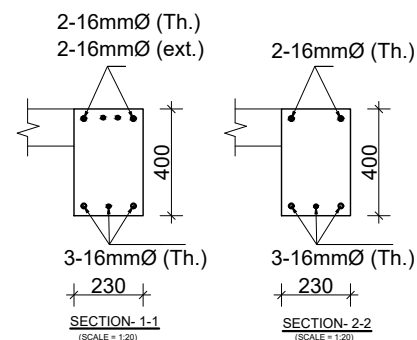
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GROUND FLOOR BEAM ALONG GRID 1,2,3,4,5,6



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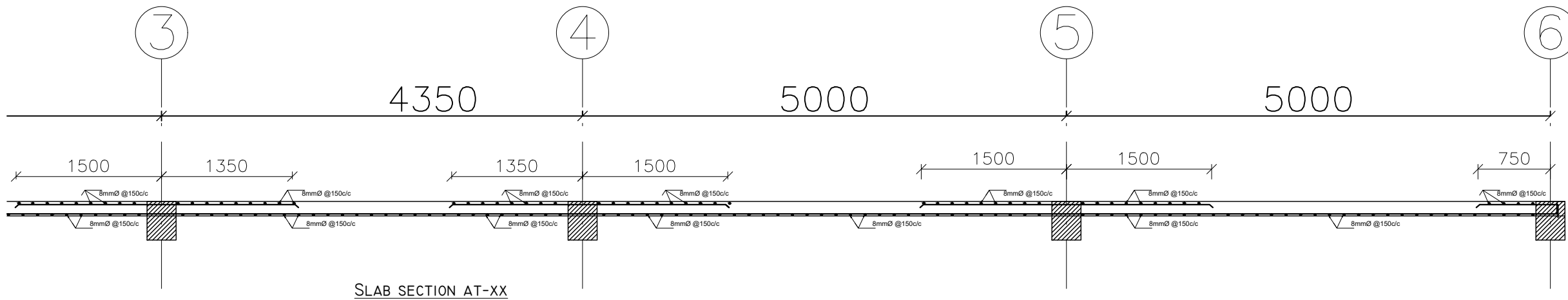
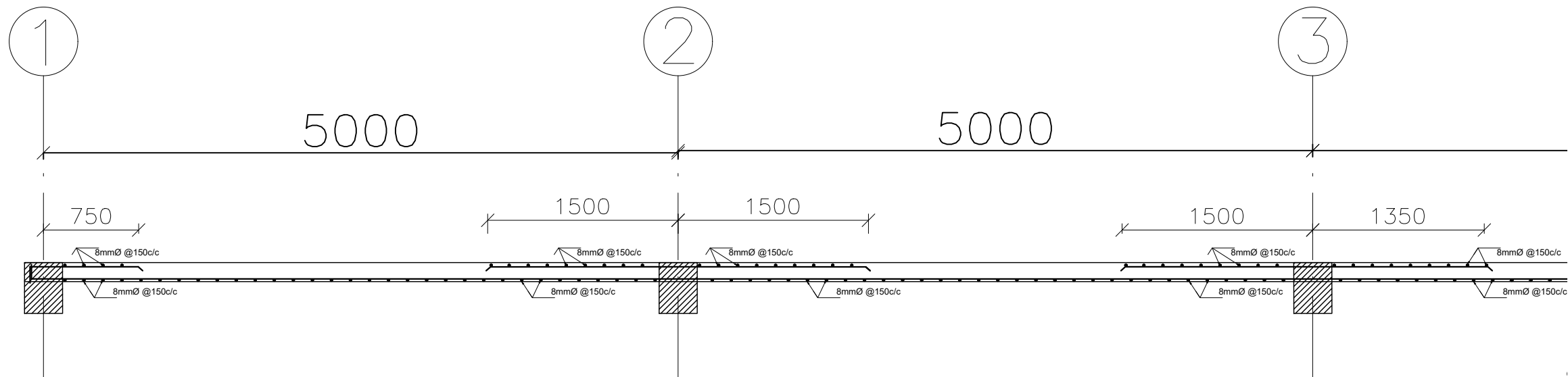
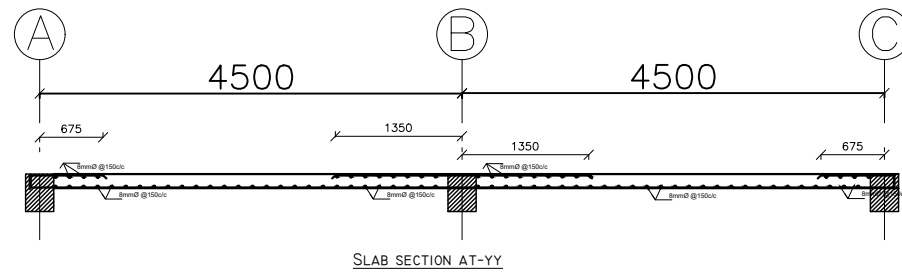
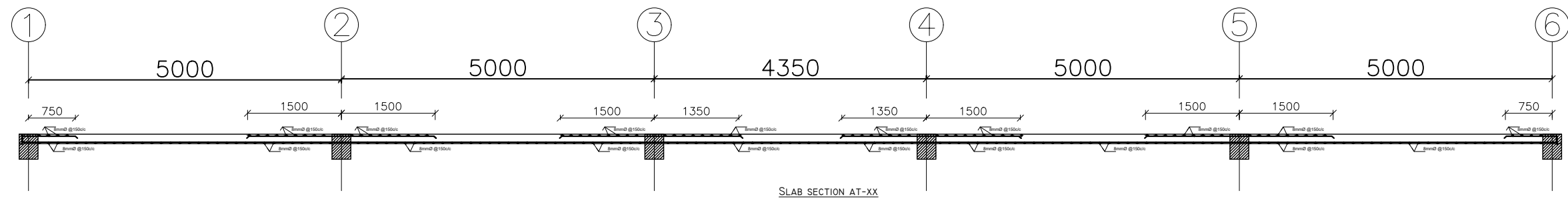
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 BEAM SECTION

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SHEET TITLE:-
 SLAB SECTION

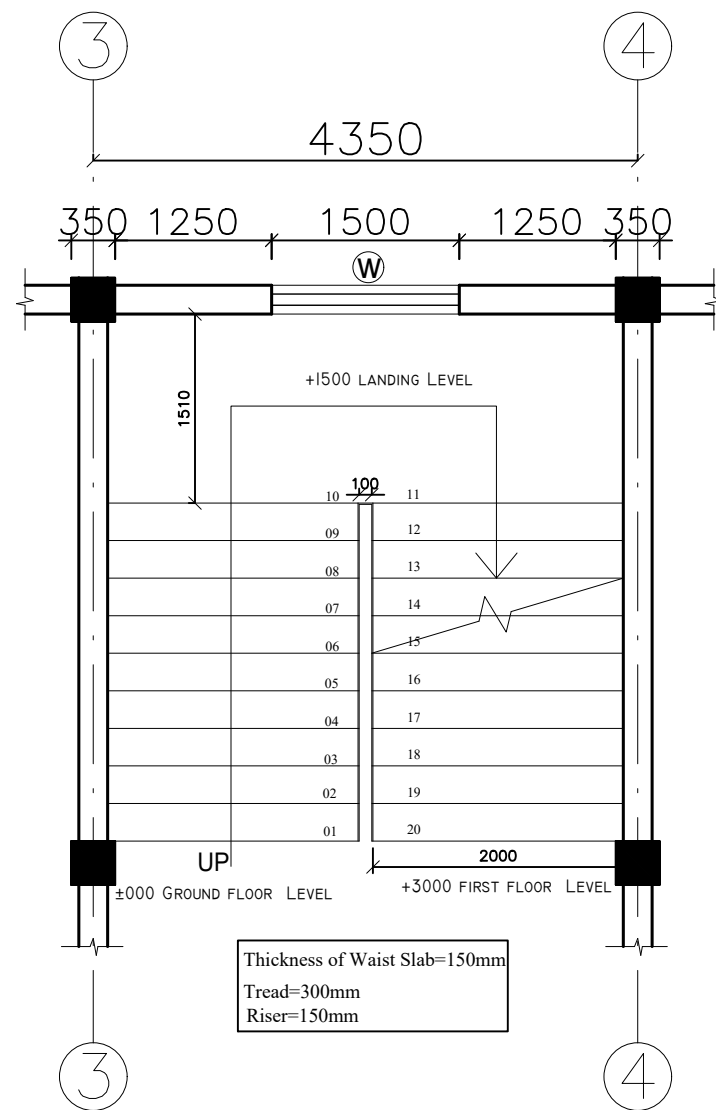
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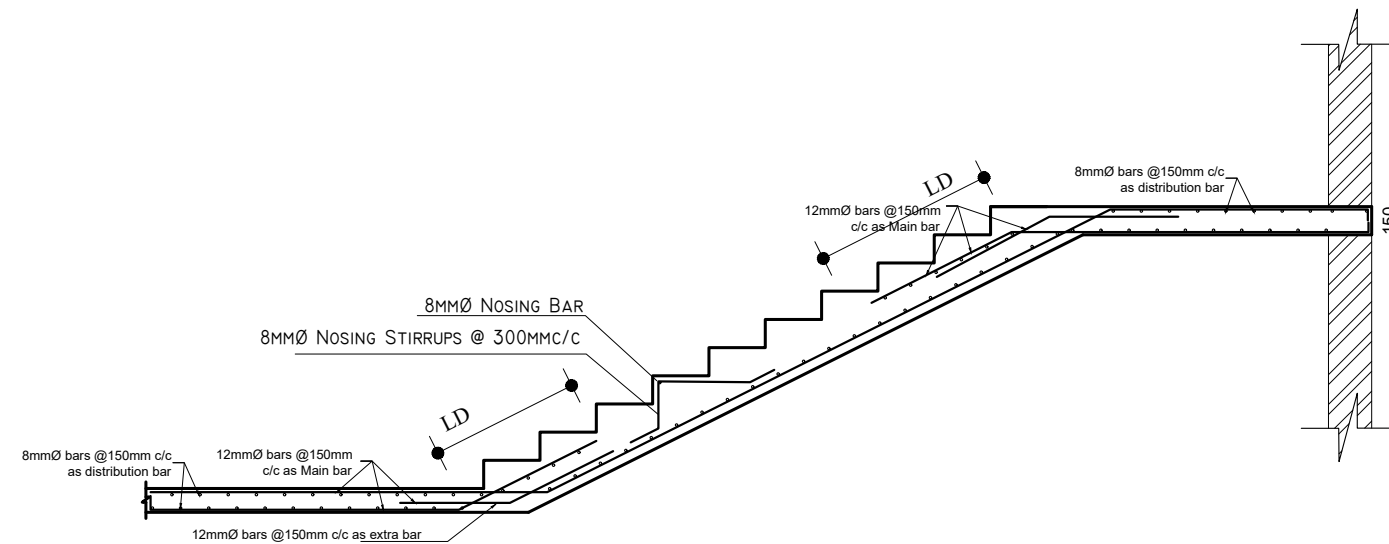
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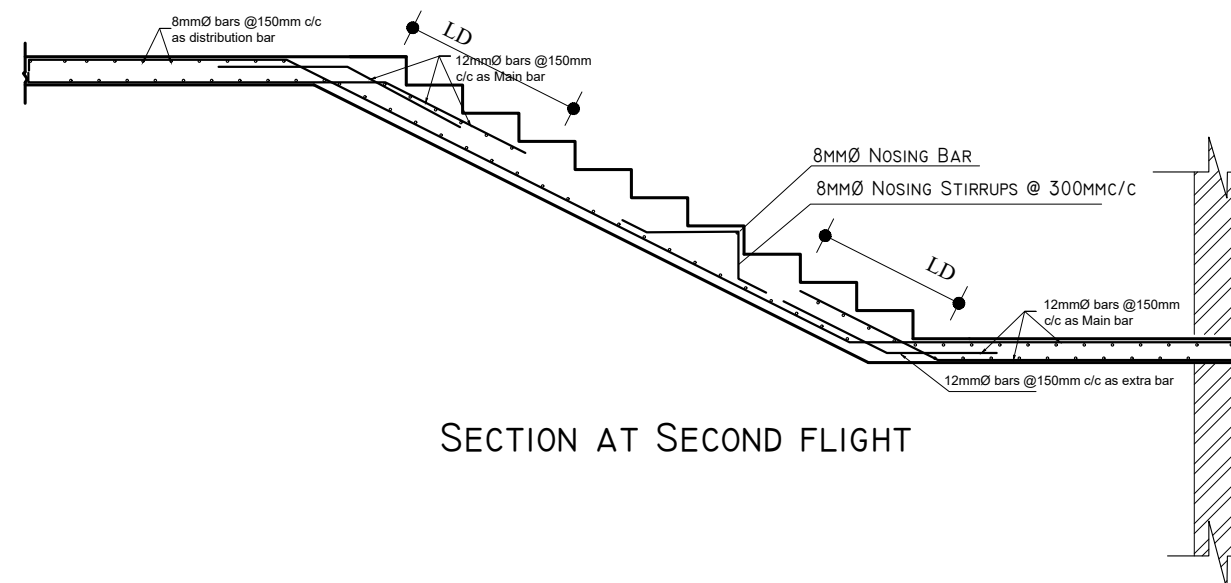


STAIRCASE PLAN

Thickness of Waist Slab=150mm
 Tread=300mm
 Riser=150mm



SECTION AT FIRST FLIGHT



SECTION AT SECOND FLIGHT

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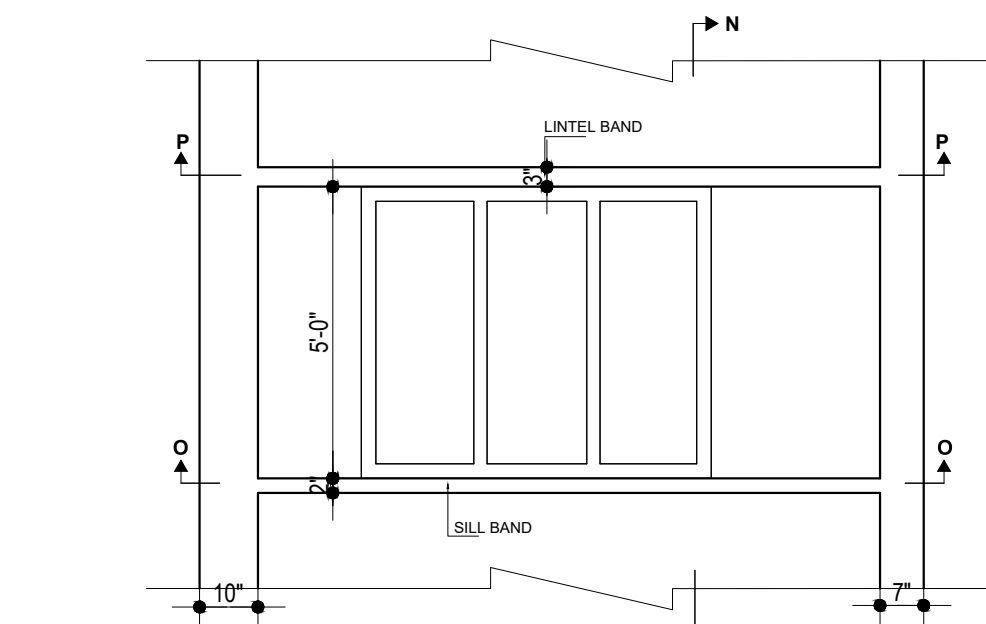
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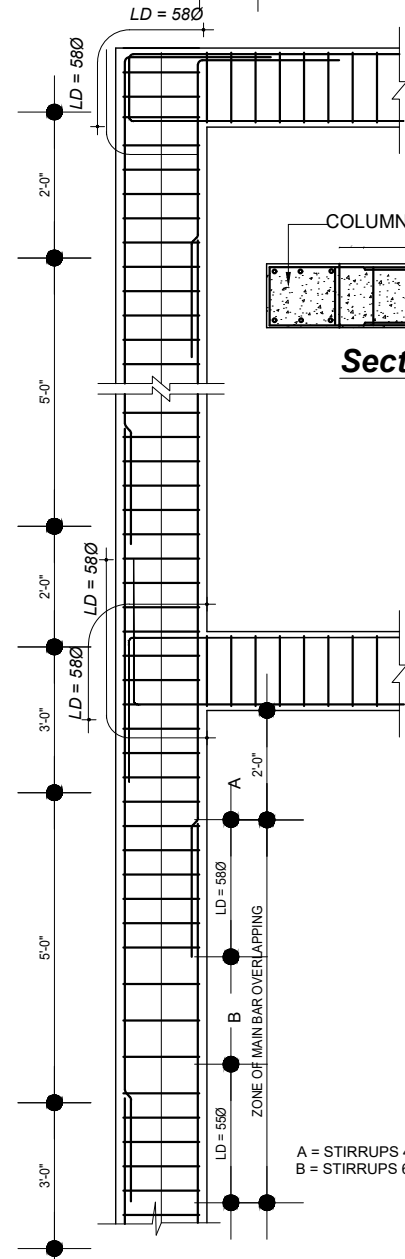
SHEET TITLE:-
 STAIR SECTION

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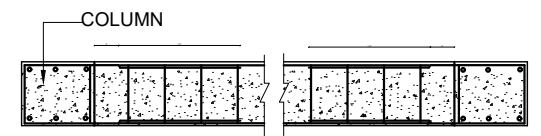
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PAPER SIZE-A3	SCALE:- 1:100 DATE:- 2078 14



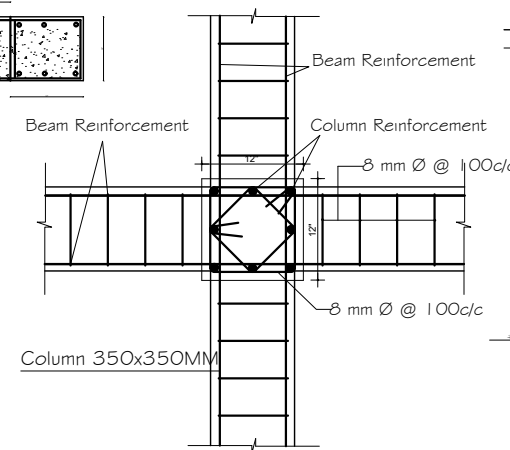
SILL & LINTAL BAND
SCALE :- 1" = 4'-0"



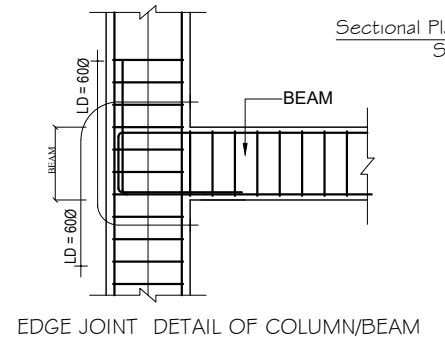
LAPPING DETAIL OF COLUMN
SCALE :- 1" = 2'-0"



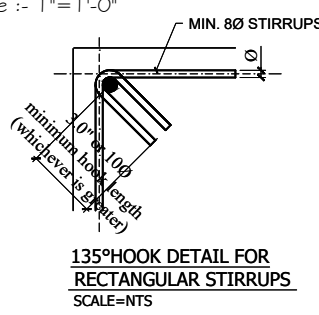
Sectional Plan at C-C
Scale :- 1" = 2'-0"



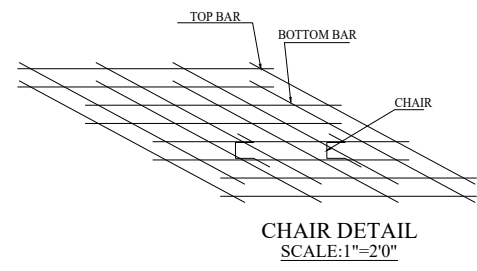
Sectional Plan of Beam Column Joint Detail
Scale :- 1" = 1'-0"



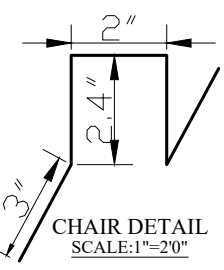
EDGE JOINT DETAIL OF COLUMN/BEAM



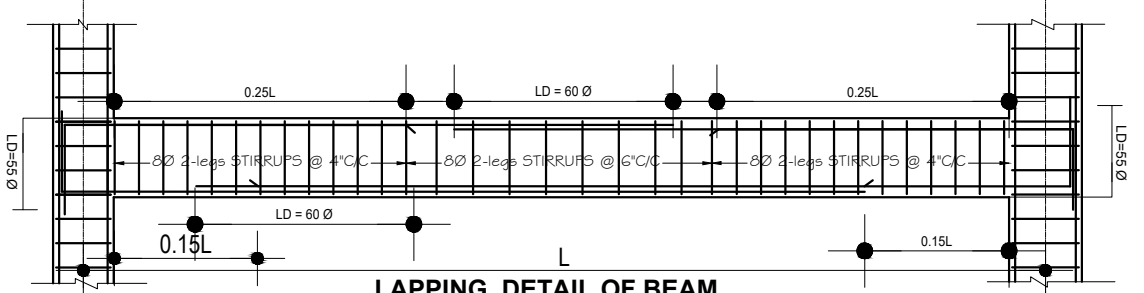
135° HOOK DETAIL FOR RECTANGULAR STIRRUPS
SCALE=NTS



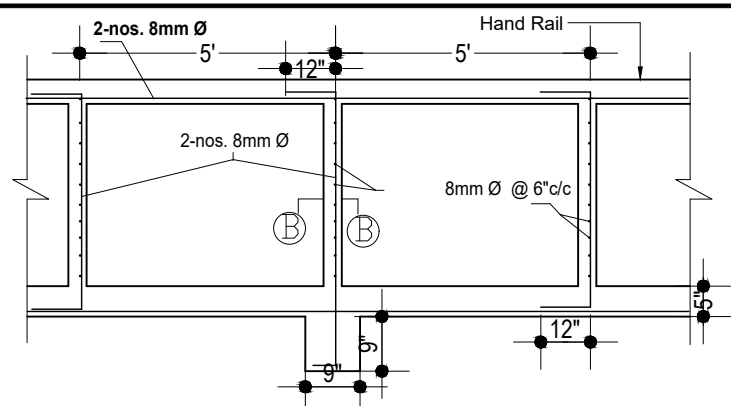
CHAIR DETAIL
SCALE: 1" = 2'-0"



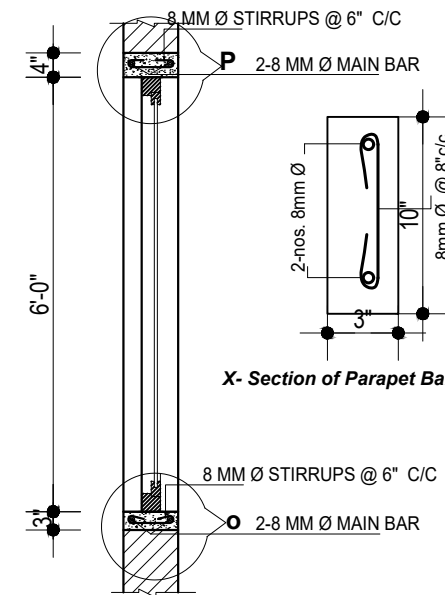
CHAIR DETAIL
SCALE: 1" = 2'-0"



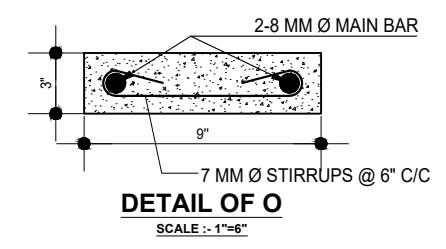
LAPPING DETAIL OF BEAM
SCALE :- 1" = 2'-0"



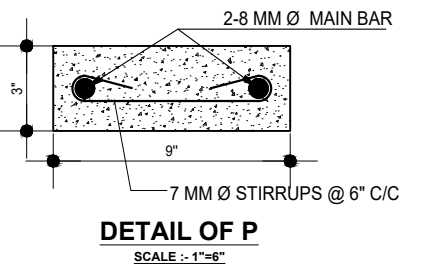
Parapet Wall Tie-up Detail



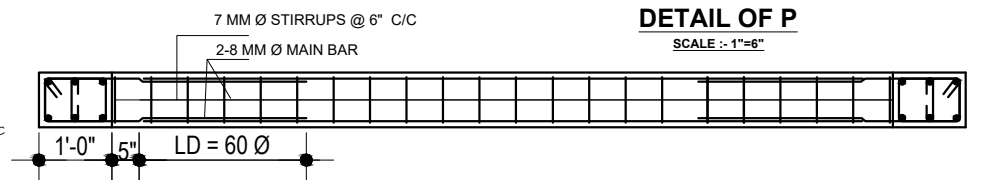
X-Section of Parapet Band at B-B



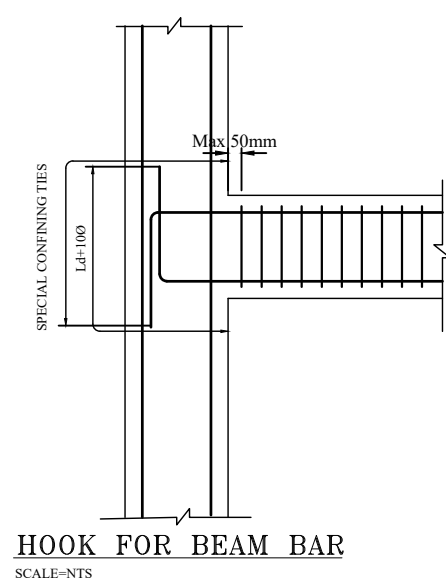
DETAIL OF O
SCALE :- 1" = 6"



DETAIL OF P
SCALE :- 1" = 6"



SECTION AT O-O & P-P
SCALE :- 1" = 2'-0"



HOOK FOR BEAM BAR
SCALE=NTS

NOTE:-
1. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED, DRAWINGS SHALL NOT BE MEASURED.
2. ANY DESCRIENCY IF FOUND SHALL BE REPORTED TO THE SITE ENGINEER.

-Center For Education and Human Resources Development, sanothimi, Bhaktapur

PROJECT:- Revised Analysis as per Revised code-
I STOREY-4 CLASSROOM BUILDING

CONSULTANT
ALTIUS DESIGN PVT LTD

DESIGNED BY:-
ER.SUJAN SHAKYA

SHEET TITLE:-
DETAILS

RECOMMENDED BY:-

APPROVED BY:-

PAPER SIZE-A3 SCALE:- 1:100 DATE:- 2078 SHEET.No
S-14
14