



PROJECT TITLE:

CONSTRUCTION OF
DZONGKHAG
EMERGENCY
OPERATION CENTER

DRAWING TITLE:

FOOTING
LAYOUT PLAN

STRUCTURAL
DRAWING

DESIGN BY:

TSUTOMU SAKAKIYAMA

YESHI LOTEY

SONAM TSHEWANG

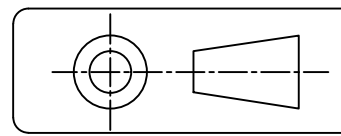
SONAM TOBGAY

NIDUP ZANGMO

TSHERING DORJI

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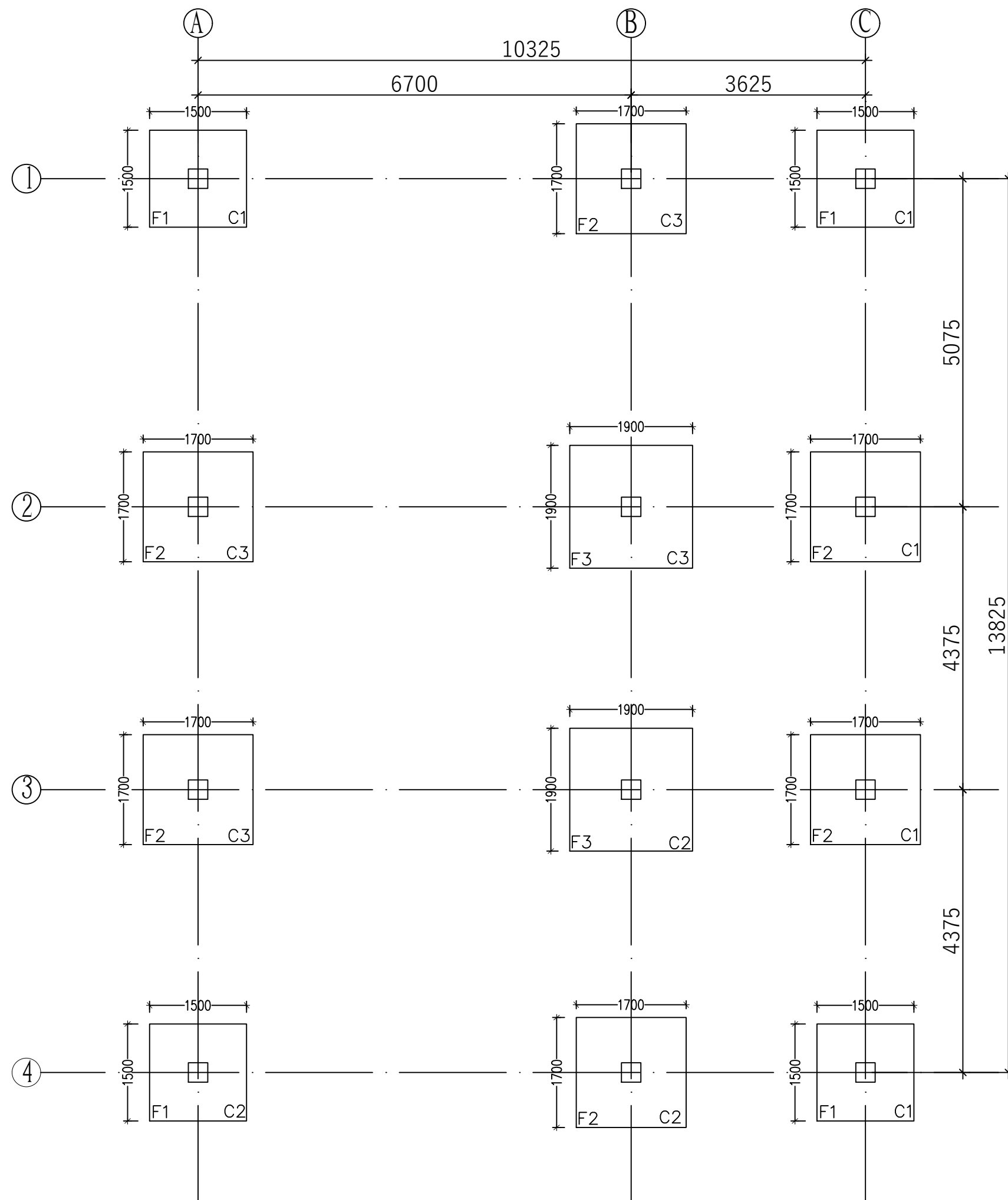
JIGME THINLYE
NAMGYEL
DIRECTOR GENERAL



DATE: 4/02/2020

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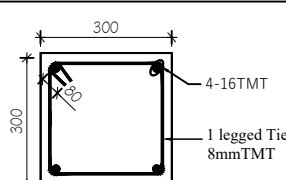
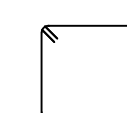
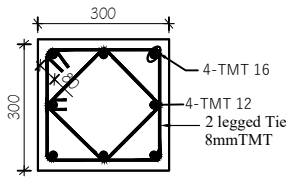
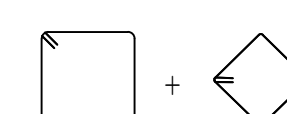
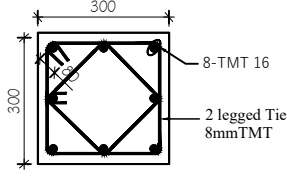
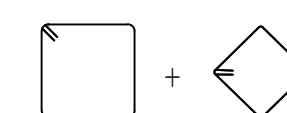
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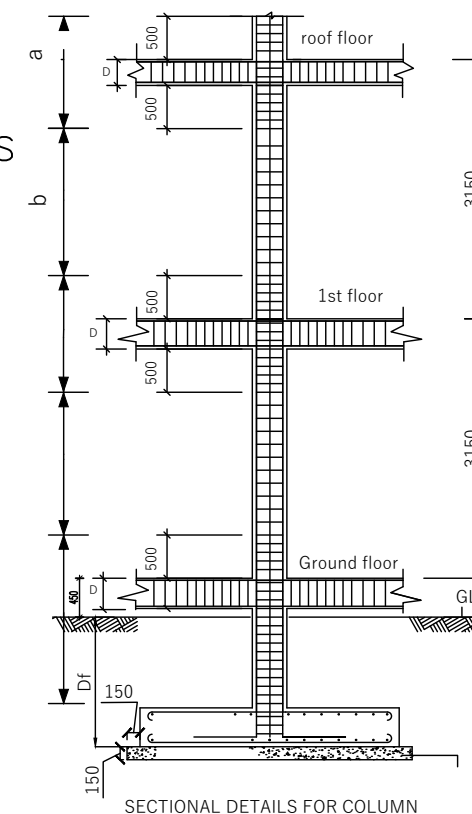


SCHEDULE FOR FOOTING

FOOTING NO.	FOOTING TYPE	Lx	Ly	D	TOP STEEL		BOTTOM STEEL		DEPTH OF FOUNDATION (Df)
					A	B	A	B	
F1	ISOLATED FOOTING	1500	1500	350	10TMT @ 130 C/C	10TMT @ 130 C/C	12TMT @ 120 C/C	12TMT @ 120 C/C	1500
F2	ISOLATED FOOTING	1700	1700	375	10TMT @ 105 C/C	10TMT @ 105 C/C	12TMT @ 115 C/C	12TMT @ 115 C/C	1500
F3	ISOLATED FOOTING	2000	2000	400	10TMT @ 110 C/C	10TMT @ 110 C/C	12TMT @ 100 C/C	12TMT @ 100 C/C	1500

SCHEDULE FOR COLUMN

SL#	COLUMN	SIZE	REINFORCEMENT		SECTIONS	SHAPE OF STIRRUPS	
			LONGITUDINAL	TIES			
				ALONG 'a'			ALONG 'b'
1	C1	300X300	16 TMT, 4 NOS	8 TMT @ 100 C/C	8 TMT @ 150 C/C		
2	C2	300X300	16 TMT, 4 NOS 12 TMT, 4 NOS	8 TMT @ 100 C/C	8 TMT @ 150 C/C		
2	C3	300X300	16 TMT, 8 NOS	8 TMT @ 100 C/C	8 TMT @ 150 C/C		



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COLUMN AND
FOOTING
SCHEDULE

STRUCTURAL
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DESIGN BY:

TSUTOMU SAKAKIYAMA

YESHI LOTEY

SONAM TSHEWANG

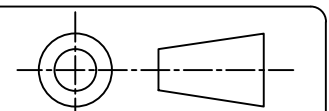
SONAM TOBGAY

NIDUP ZANGMO

TSHERING DORJI

ENDORSED BY:

JIGME THINLYE
NAMGYEL
DIRECTOR GENERAL



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PAGE NO.:02



PROJECT TITLE:

CONSTRUCTION OF
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DRAWING TITLE:

RRM WALL AND
COLUMN
DETAILS

STRUCTURAL
DRAWING

DESIGN BY:

TSUTOMU SAKAKIYAMA

YESHI LOTEY

SONAM TSHEWANG

SONAM TOBGAY

NIDUP ZANGMO

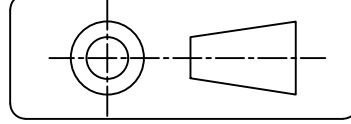
TSHERING DORJI

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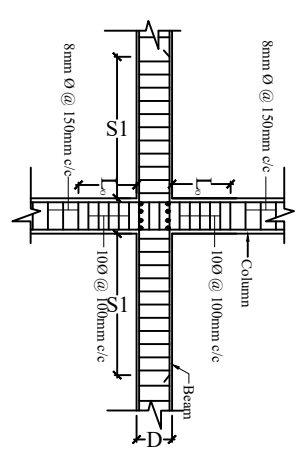
DIRECTOR GENERAL



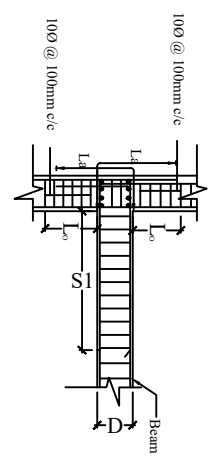
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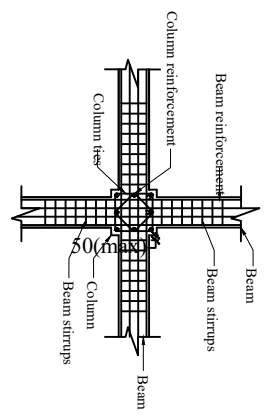
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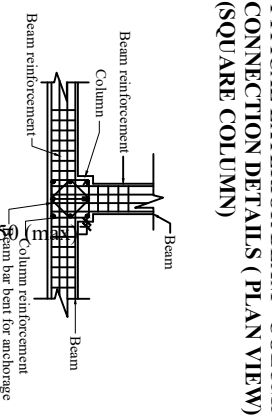
TYPICAL INTERIOR BEAM - COLUMN CONNECTION DETAILS (SIDE VIEW)



TYPICAL EXTERIOR BEAM - COLUMN CONNECTION DETAILS (SIDE VIEW)



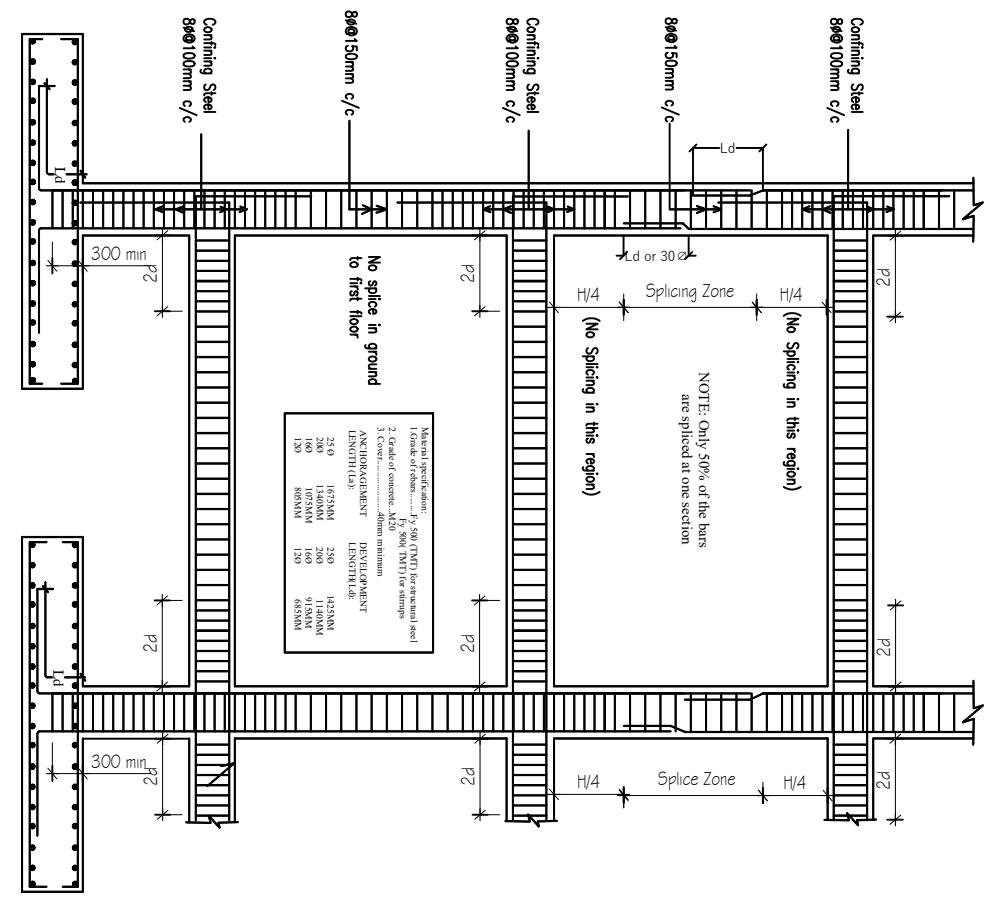
TYPICAL INTERIOR BEAM - COLUMN CONNECTION DETAILS (PLAN VIEW)



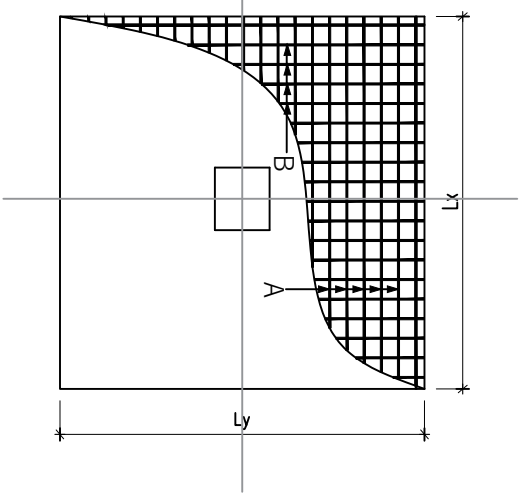
TYPICAL EXTERIOR BEAM - COLUMN CONNECTION DETAILS (PLAN VIEW)

BEAM COLUMN CONNECTION DETAILS

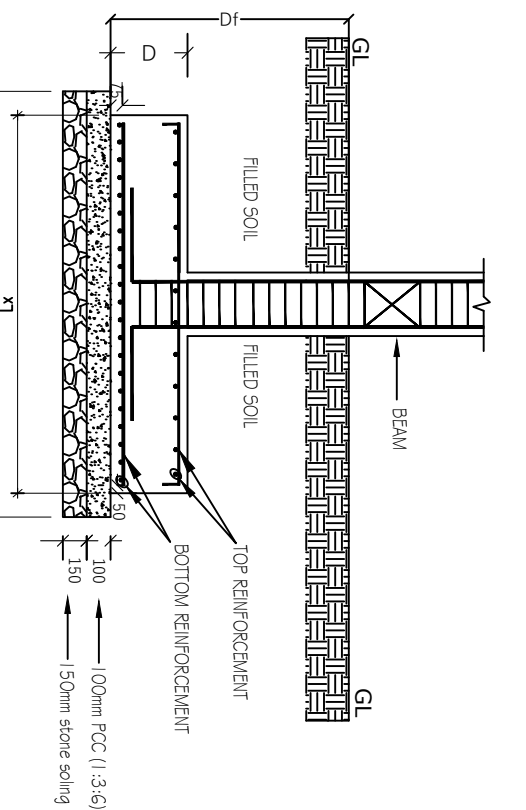
- NOTES:
- SPECIAL CONFINING REINFORCEMENT STEEL WITH 100@100MM OC SHALL CONTINUE UP TO 600MM ON OTHER SIDE FROM THE FACE OF THE SUPPORT.
 - THE SPACING OF REINFORCEMENT OF COLUMN SHALL BE STRAIGHT WITHOUT HOOKS OR BENDS.
 - THE SPACING IN THE COLUMN SHALL BE AWAY FROM THE SUPPORT BY 1H.
 - THE SPACING LENGTH SHALL BE THE DEVELOPMENT LENGTH/10K.
 - STIRRUPS ARE SPACED NO MORE THAN 150MM OC.
 - COVER OF 50MM SHOULD BE MAINTAINED FROM THE COLUMN FACE FOR THE PLACEMENT OF BEAM STIRRUPS.
 - COVER OF 25mm SHOULD BE MAINTAINED FROM THE COLUMN FACE FOR THE PLACEMENT OF BEAM STIRRUPS.
 - COVER OF 50MM SHOULD BE MAINTAINED FROM THE COLUMN FACE FOR THE PLACEMENT OF BEAM STIRRUPS.
 - COVER OF 50MM SHOULD BE MAINTAINED FROM THE COLUMN FACE FOR THE PLACEMENT OF BEAM STIRRUPS.
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TYPICAL COLUMN SECTION AND SPLICING DETAIL

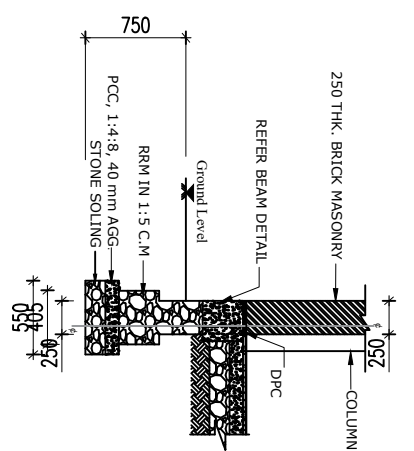


ISOLATED FOOTING REINFORCEMENT PLAN

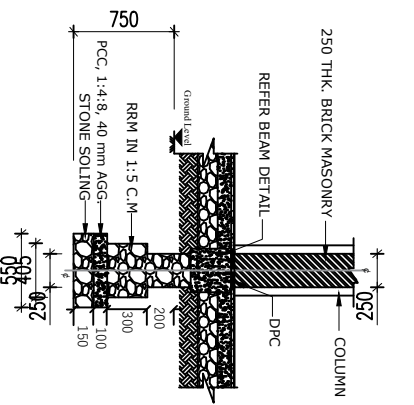


SECTIONAL ELEVATION FOR ISOLATED FOOTING

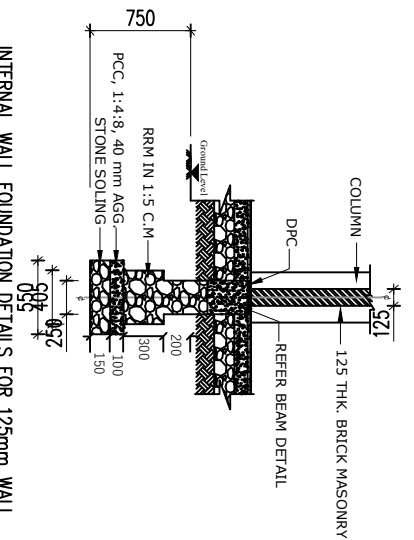
- NOTES:
- FOOTINGS SHOULD BE PLACED AS PER THE LAYOUT PLAN.
 - REFER THE TABLE FOR FOOTING REINFORCEMENT FOR IS DETAILS.
 - GRID FOR THE FOOTING LOCATION SHOULD BE READ FOR ITS LOCATION.
 - ALL THE SOFT, LOOSE SOIL BELOW THE FOOTING SHALL BE REMOVED COMPLETELY AND FILL WITH COMPACTED SAND OR GRAVEL.
 - ALL STRUCTURAL CONCRETE SHALL BE R.C.C. (1:1.5:3 M20) (1:1.5 SAND, 3 AGGREGATE, 20mm AGGREGATE FOR ALL STRUCTURAL ELEMENTS).
 - THE NET SAFE BEARING CAPACITY OF SOIL AT 1.5M BELOW FINISHED GROUND LEVEL IS CONSIDERED AS 150 KNP/CM.
 - REINFORCEMENT SHALL BE HIGH YIELD STRENGTH DEFORMED BARS (4300), CONFORMING TO IS 4342 AND 4328.
 - ALL REINFORCEMENT SHALL BE PROVIDED WITH 100% LAP LENGTH AND ANCHORAGE LENGTH SHALL BE 57 AND 67 TIMES DIA OF BAR FOR HSB BARS RESPECTIVELY.
 - CLEAR COVER TO MAIN REINFORCEMENT SHALL BE AS FOLLOWS: FOOTING = 50 ALL SIDES, 75 BOTTOM; COLUMN = 40 ALL ROUND.
 - UNLESS OTHERWISE NOTED, FOOTINGS + COLUMNS ARE PLACED SIMULTANEOUSLY ABOUT RESPECTIVE GRID LINES.
 - REFER THE BEAM LAYOUT PLAN FOR THE WALL FOOTING REINFORCEMENT.



EXTERNAL WALL FOUNDATION DETAILS FOR 250mm WALL



INTERNAL WALL FOUNDATION DETAILS FOR 250mm WALL



INTERNAL WALL FOUNDATION DETAILS FOR 125mm WALL



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PLINTH BEAM
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TSUTOMU SAKAKIYAMA

YESHI LOTEY

SONAM TSHEWANG

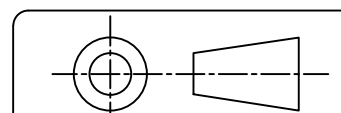
SONAM TOBGAY

NIDUP ZANGMO

TSHERING DORJI

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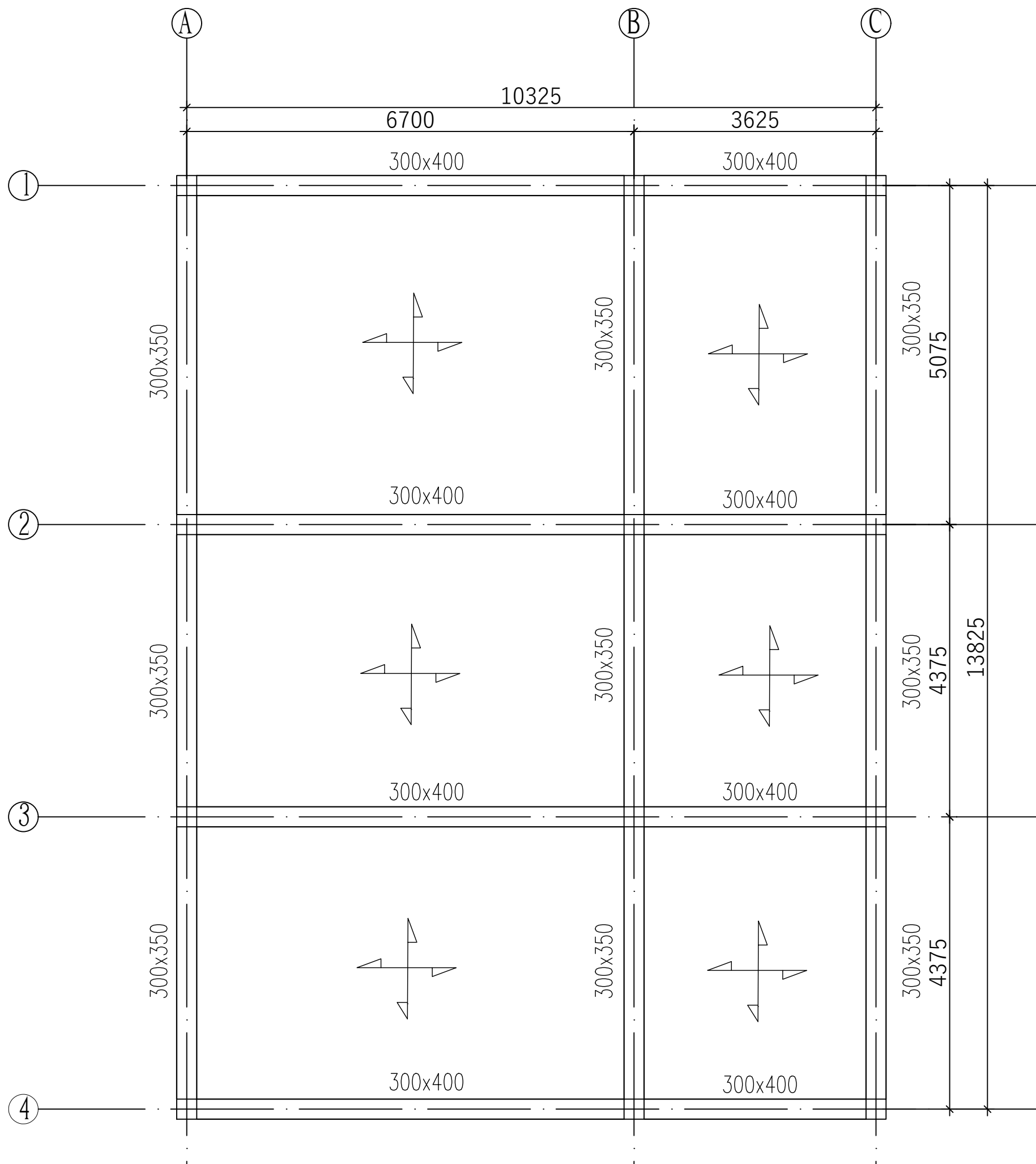
JIGME THINLYE
NAMGYEL
DIRECTOR GENERAL

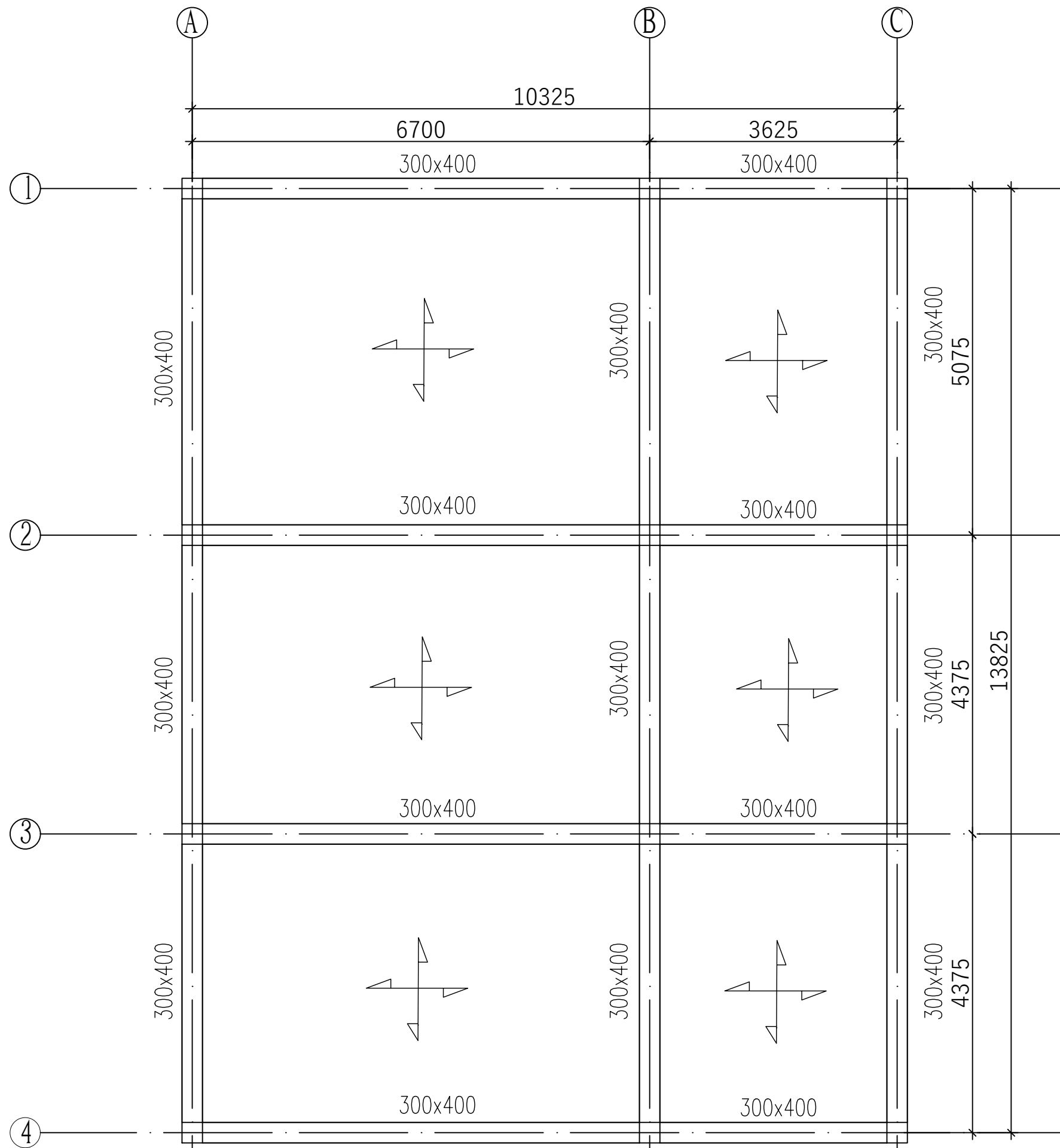


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PAGE NO.:04





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ROOF BEAM
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TSUTOMU SAKAKIYAMA

YESHI LOTEY

SONAM TSEWANG

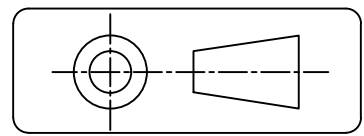
SONAM TOBGAY

NIDUP ZANGMO

TSSHERING DORJI

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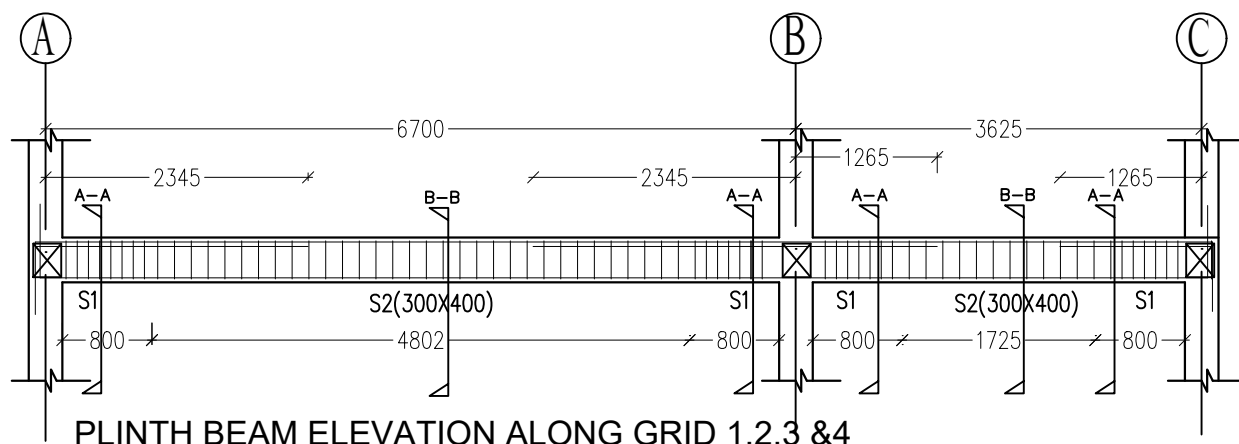
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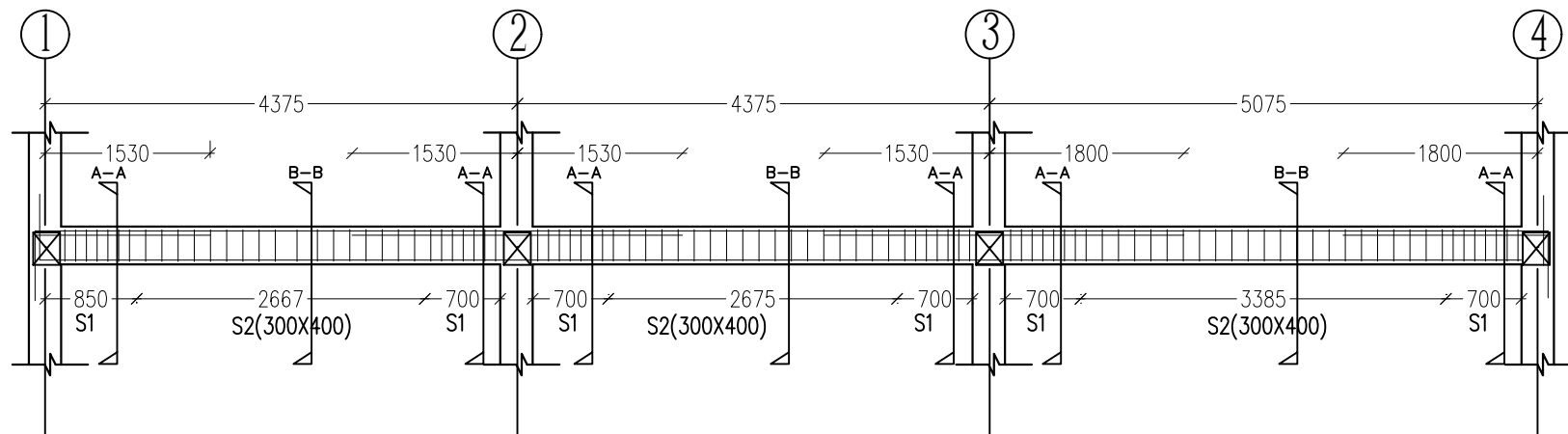
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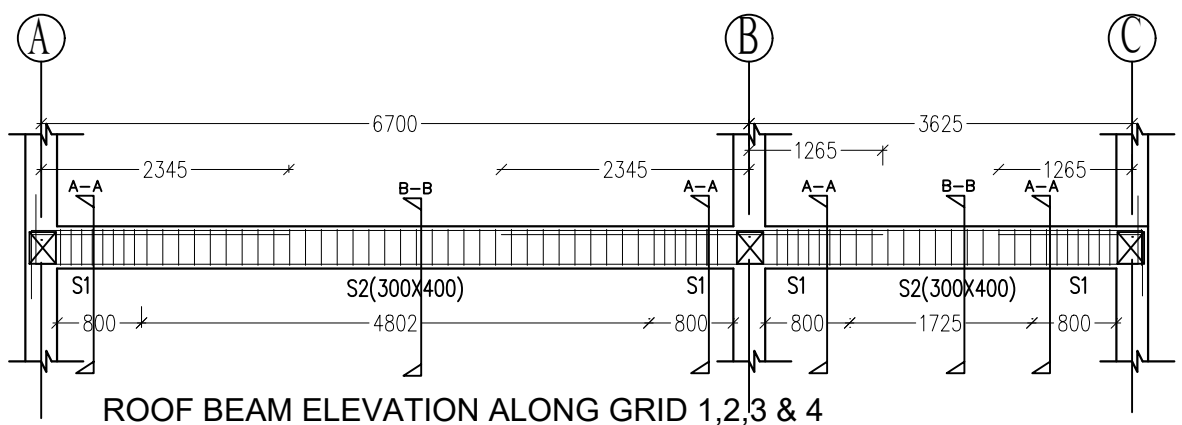
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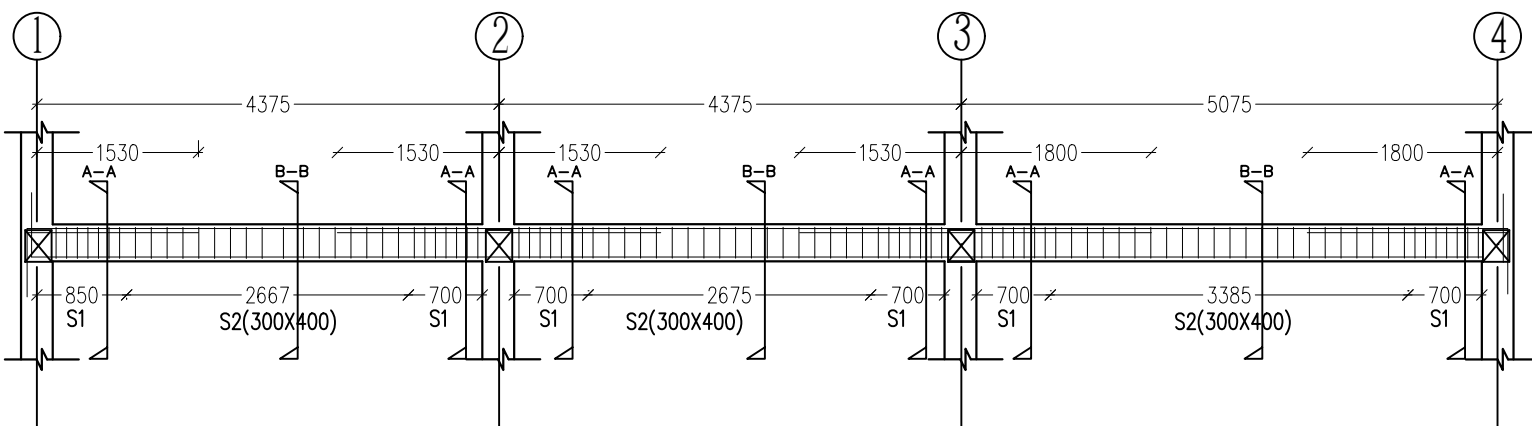
PLINTH BEAM ELEVATION ALONG GRID 1,2,3 & 4



PLINTH BEAM ELEVATION ALONG GRID A,B & C

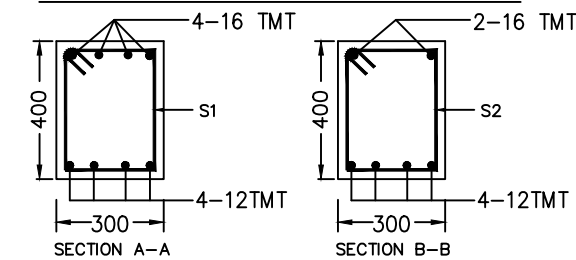


ROOF BEAM ELEVATION ALONG GRID 1,2,3 & 4

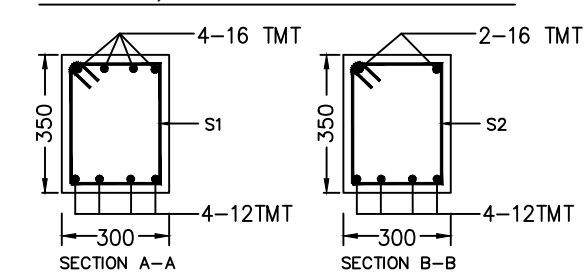


ROOF BEAM ELEVATION ALONG GRID A,B & C

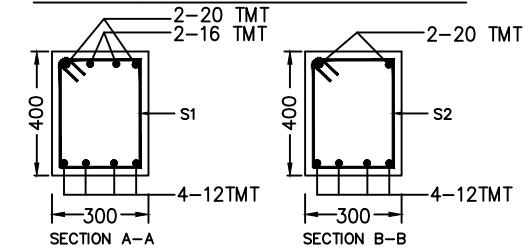
GRID 1,2,3 & 4 BEAM SECTION



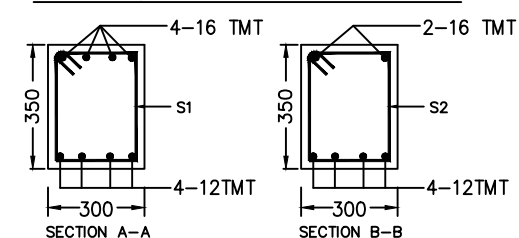
GRID A,B & C BEAM SECTION



GRID 1,2,3 & 4 BEAM SECTION



GRID A,B & C BEAM SECTION



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BEAM DETAILS

STRUCTURAL
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DESIGN BY:

TSUTOMU SAKAKIYAMA

YESHI LOTEY

SONAM TSHEWANG

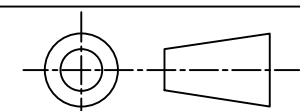
SONAM TOBGAY

NIDUP ZANGMO

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PROJECT TITLE:

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LINTEL DETAILS

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DESIGN BY:

TSUTOMU SAKAKIYAMA

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SONAM TSHEWANG

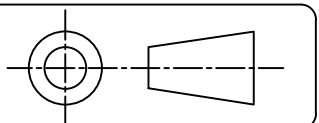
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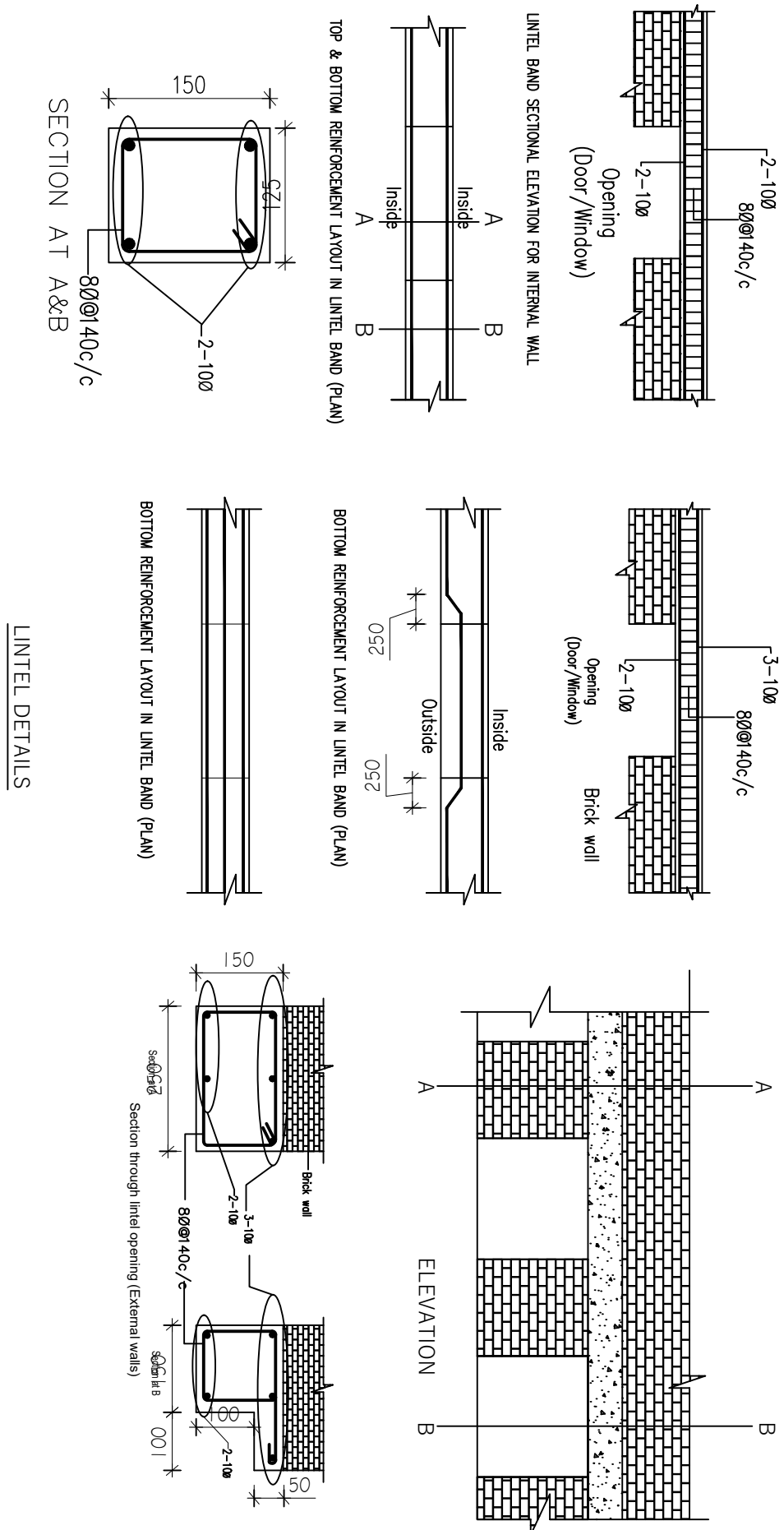
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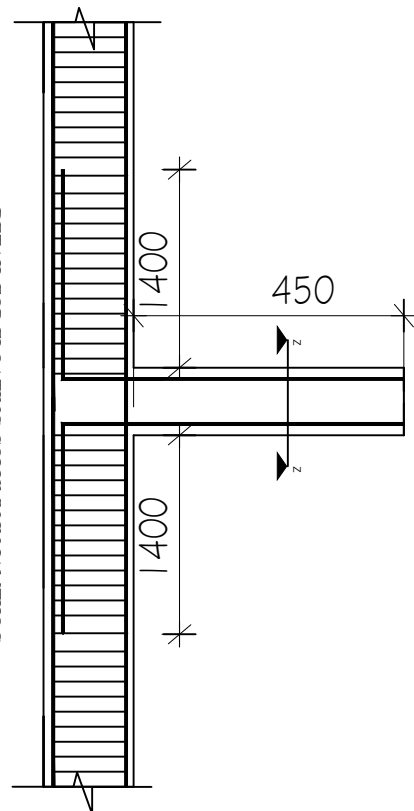
NOTES:

1. The external and internal wall will have a band lintel above the openings.

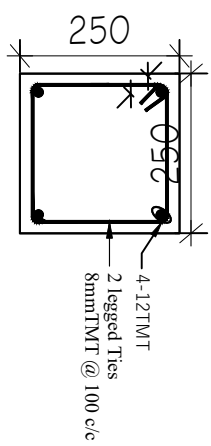
INTERNAL BAND LINTEL DETAILS OVER OPENINGS AND WALLSEXTERNAL BAND LINTEL DETAILS OVER OPENINGS AND WALLS



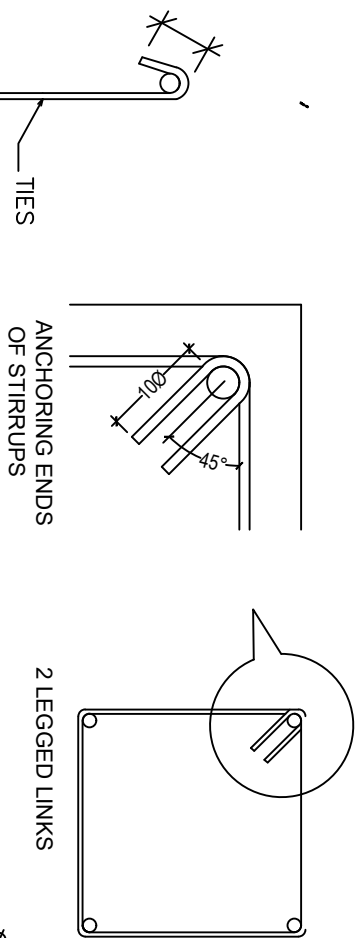
LINTEL DETAILS



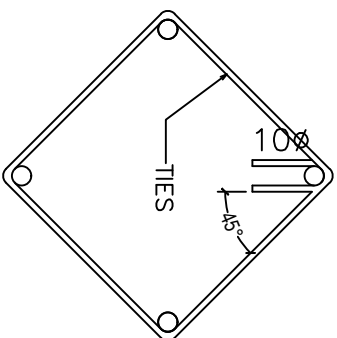
DETAIL FOR FLOATING COLUMN IN JAMTHOG

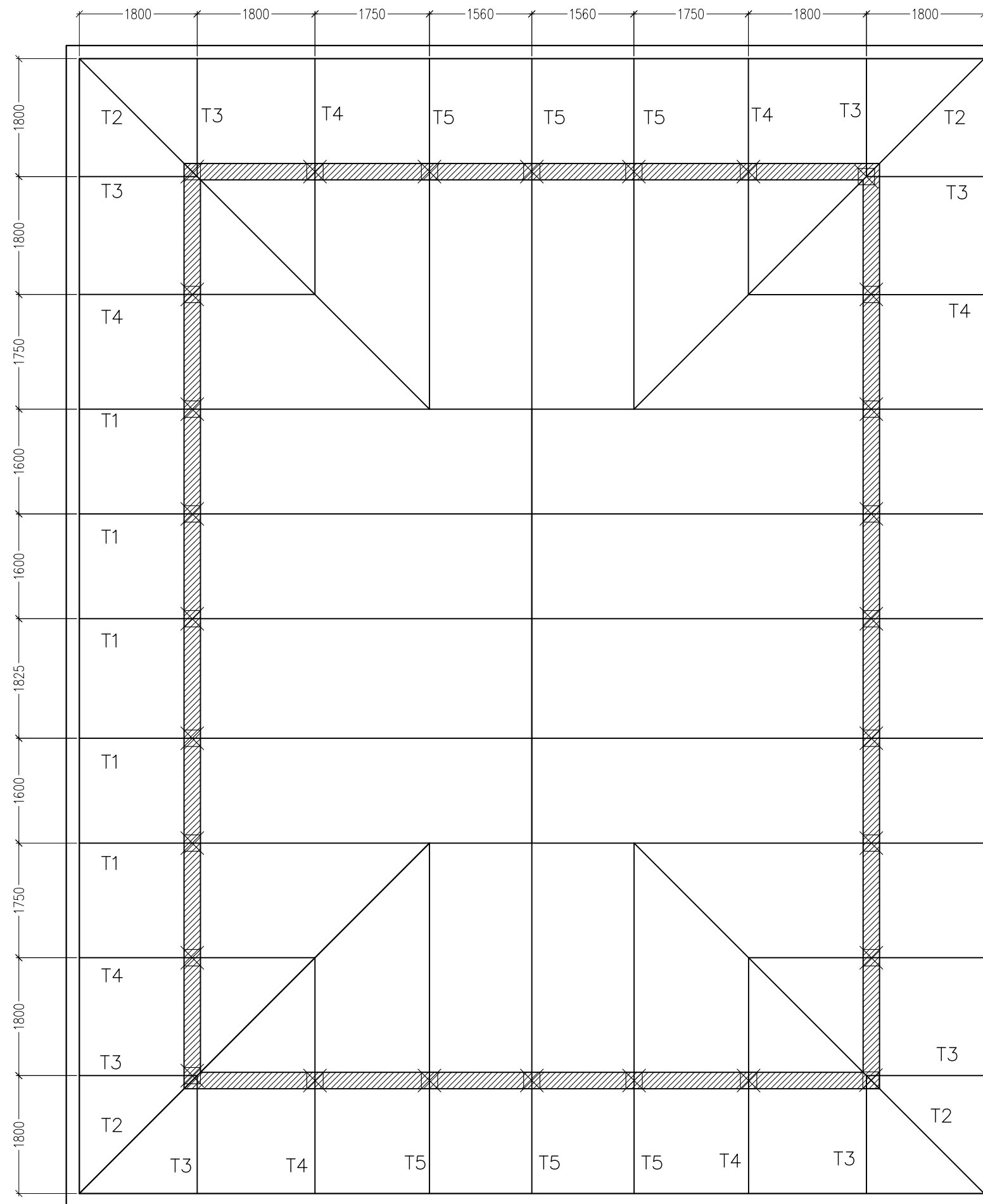


SECTION Z-Z FOR FLOATING COLUMN



Bar Dia.	Development Length (Ld)	Anchorage Length (La)
12Ø	684	804
16Ø	912	1072
20Ø	1140	1340
25Ø	1425	1675





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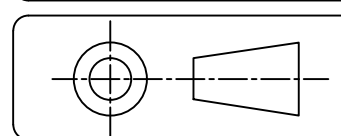
SONAM TOBGAY

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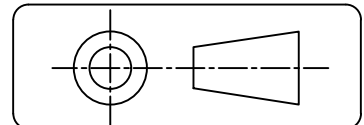
ROOF TRUSS
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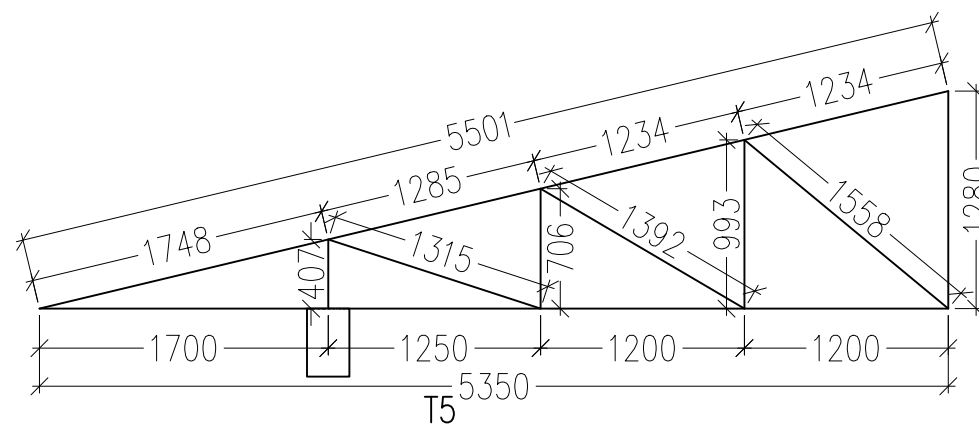
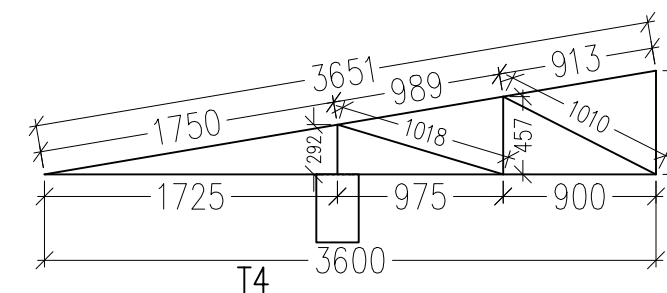
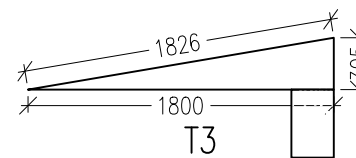
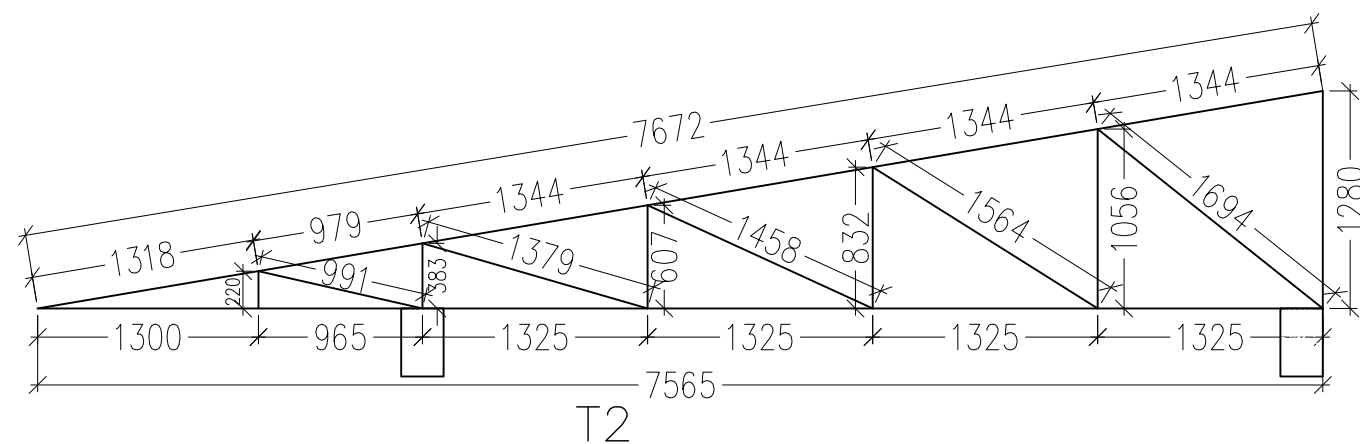
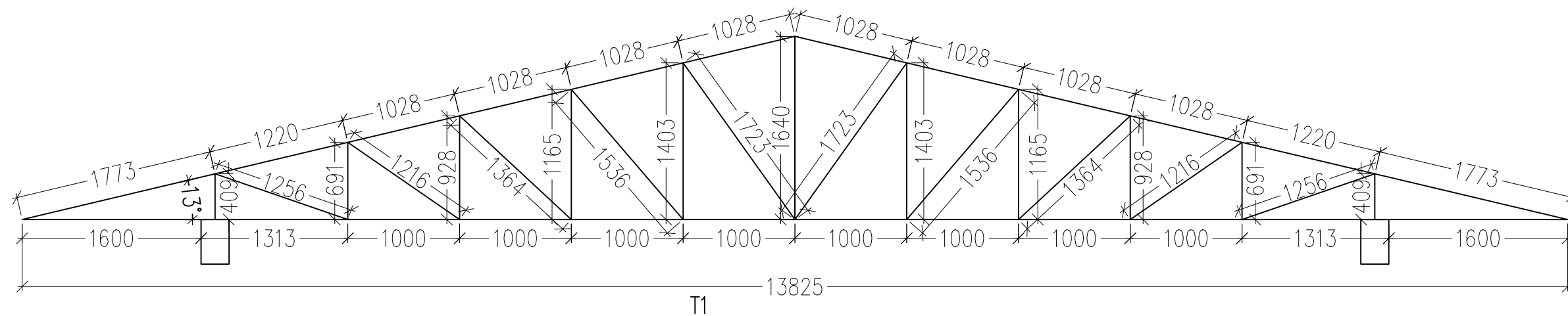
JIGME THINLYE
NAMGYEL
DIRECTOR GENERAL



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TRUSS
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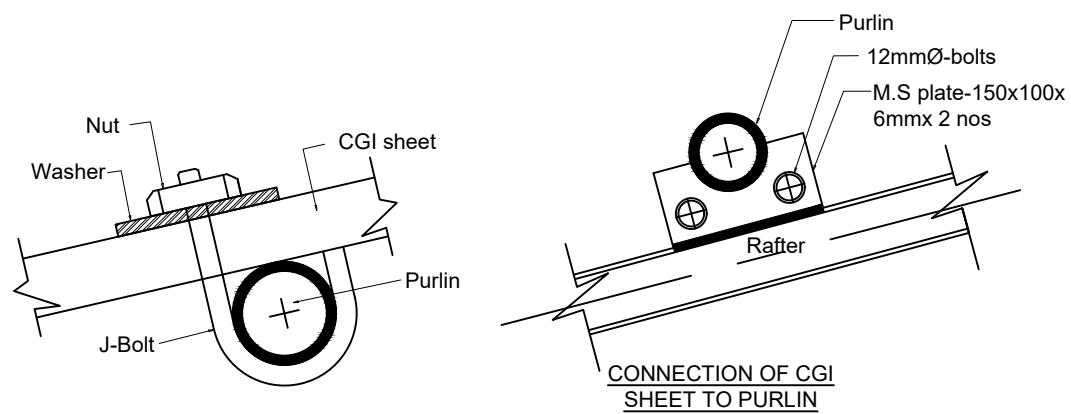
NAMGYEL

DIRECTOR GENERAL

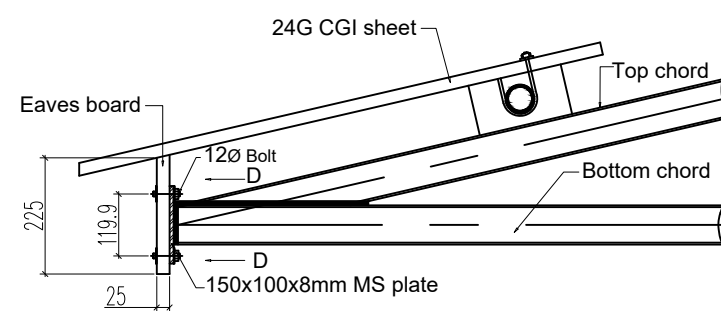
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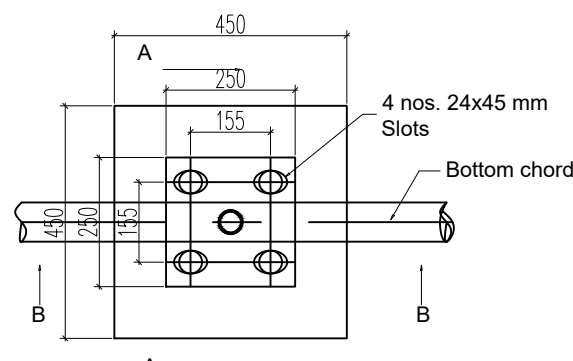
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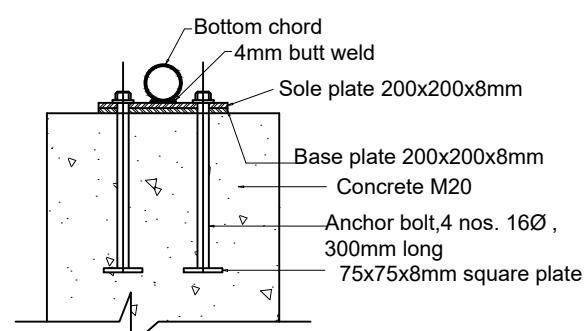
CONNECTION OF CGI SHEET TO PURLIN



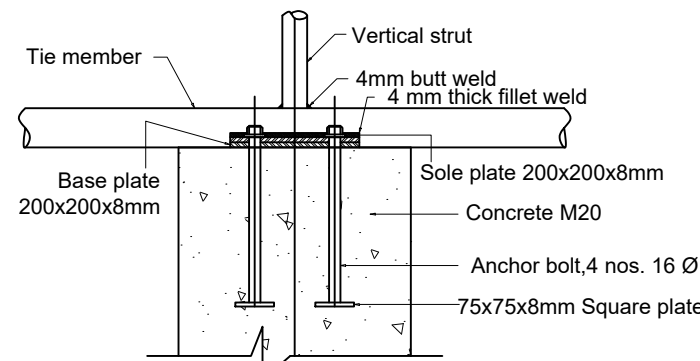
RAFTER AND PURLIN CLEAT JOINING DETAILS



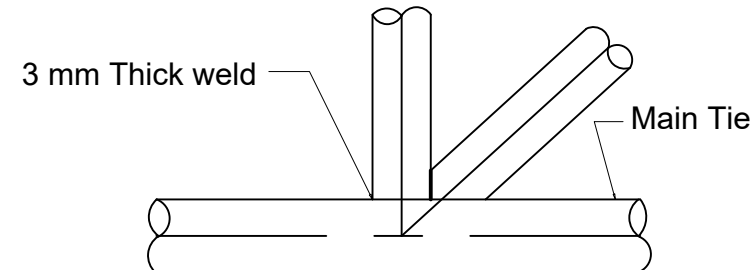
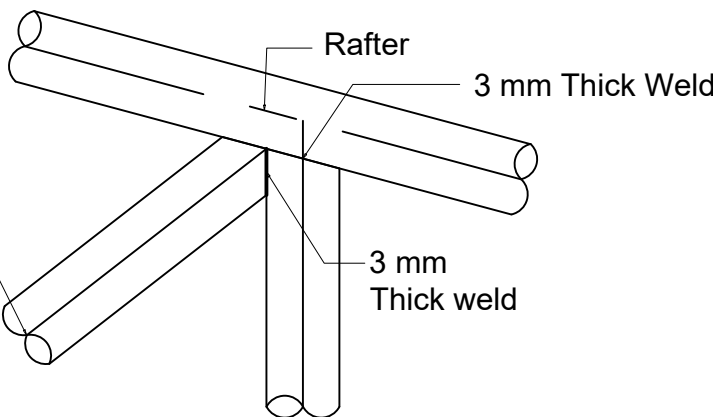
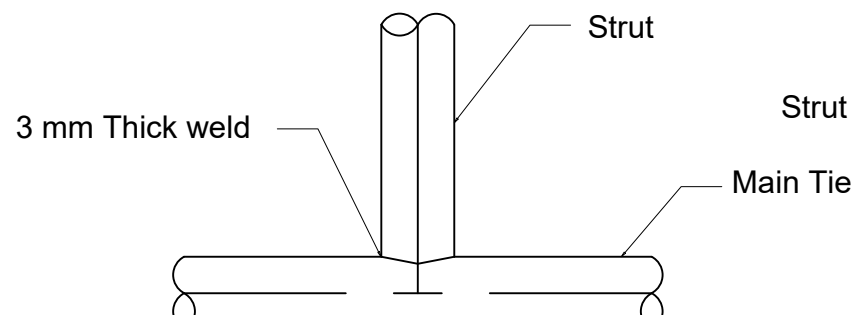
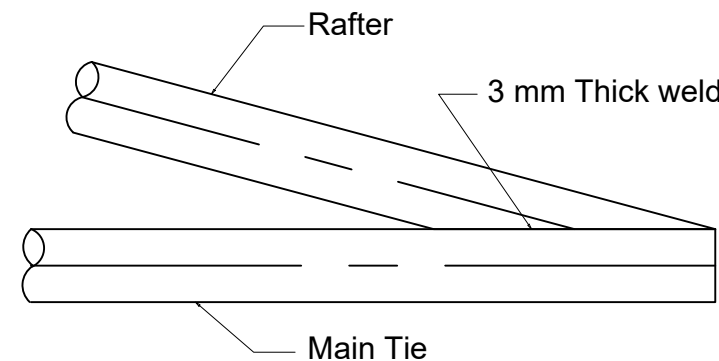
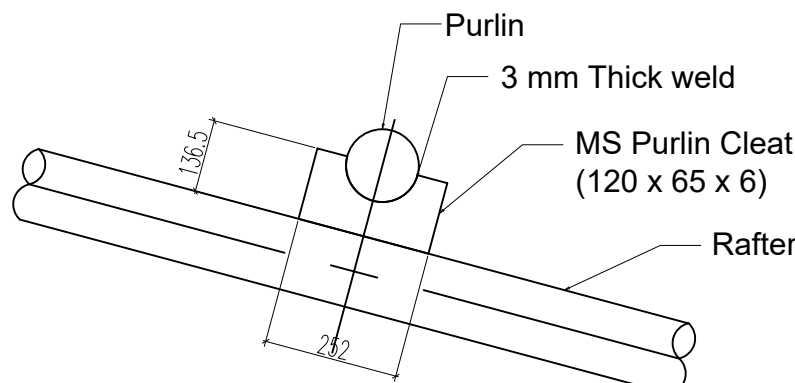
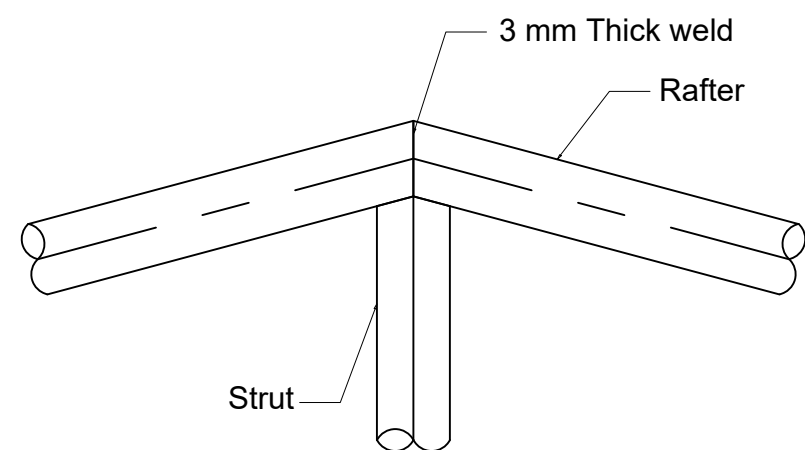
COLUMN PROP-TRUSS HOLDING DOWN DETAILS



SECTION A-A



SECTION B-B



TRUSS MEMBER WELD CONNECTION DETAILS



PROJECT TITLE:

CONSTRUCTION OF
DZONGKHA
EMERGENCY
OPERATION CENTER

DRAWING TITLE:

TRUSS MEMBER
SCHEDULE

STRUCTURAL
DRAWING

DESIGN BY:

TSUTOMU SAKAKIYAMA

YESHI LOTEY

SONAM TSHEWANG

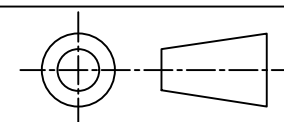
SONAM TOBGAY

NIDUP ZANGMO

TSSHERING DORJI

ENDORSED BY:

JIGME THINLYE
NAMGYEL
DIRECTOR GENERAL



DATE: 4/02/2020

SCALE: 1:100

PAGE NO.:11

TRUSS MEMBER SCHEDULE (ALL TRUSS UPPER ROOF)

Particulars	Outside Diameter (mm)	Class	Thickness
Purlins	60.30	Light	3.25
Rafter	60.30	Medium	4.5
Tie Member	60.30	Medium	4.5
All Sturts	48.30	Medium	3.25