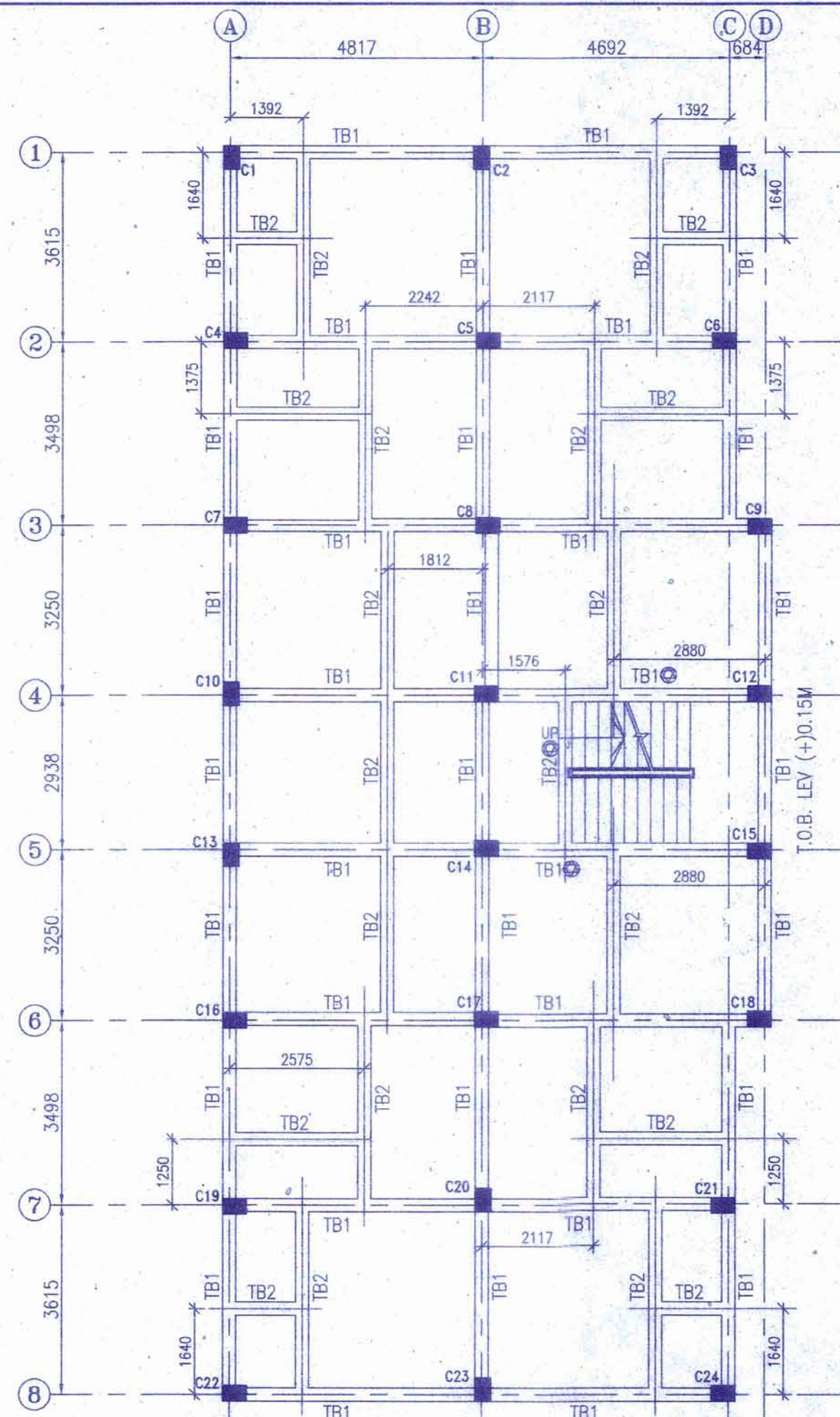
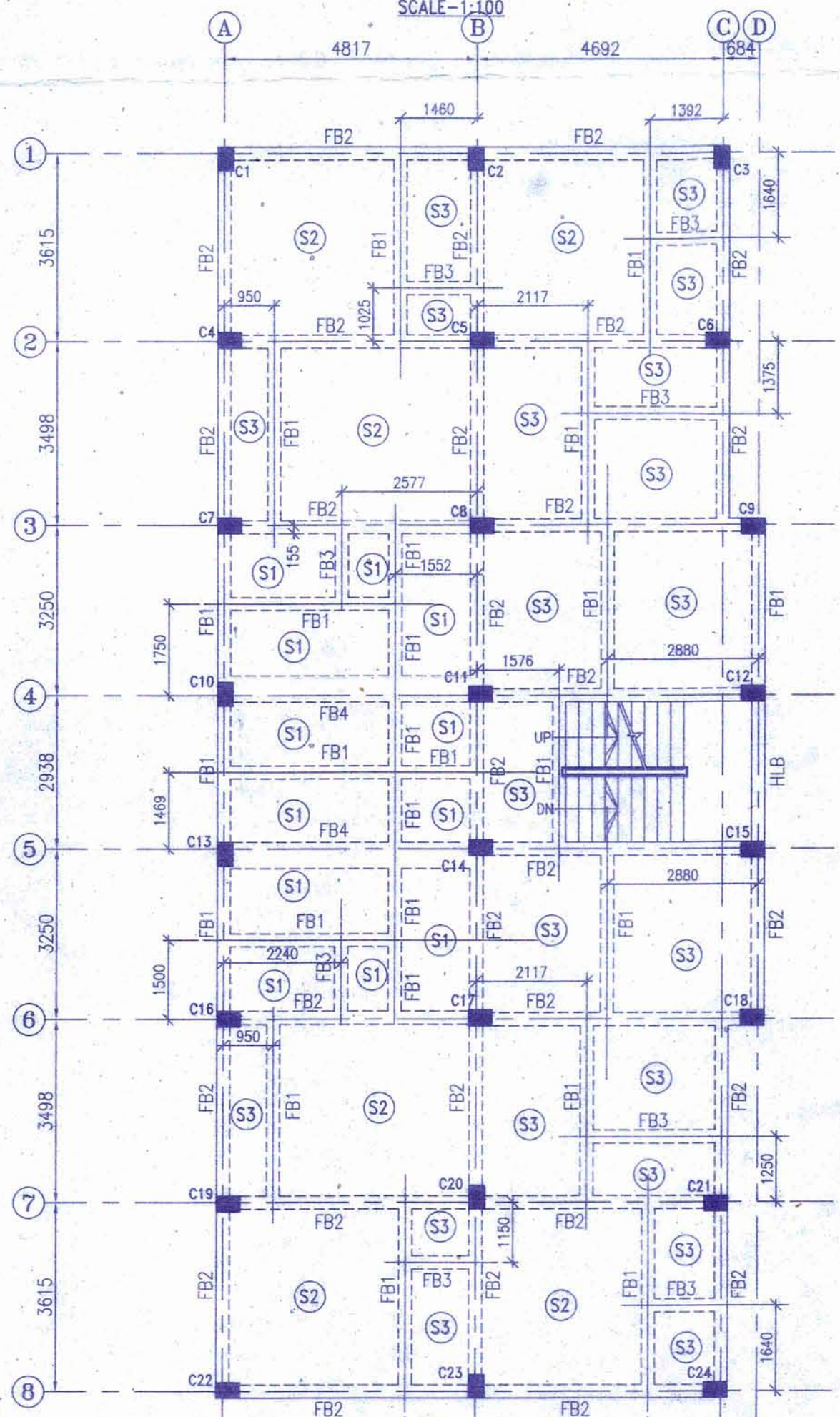


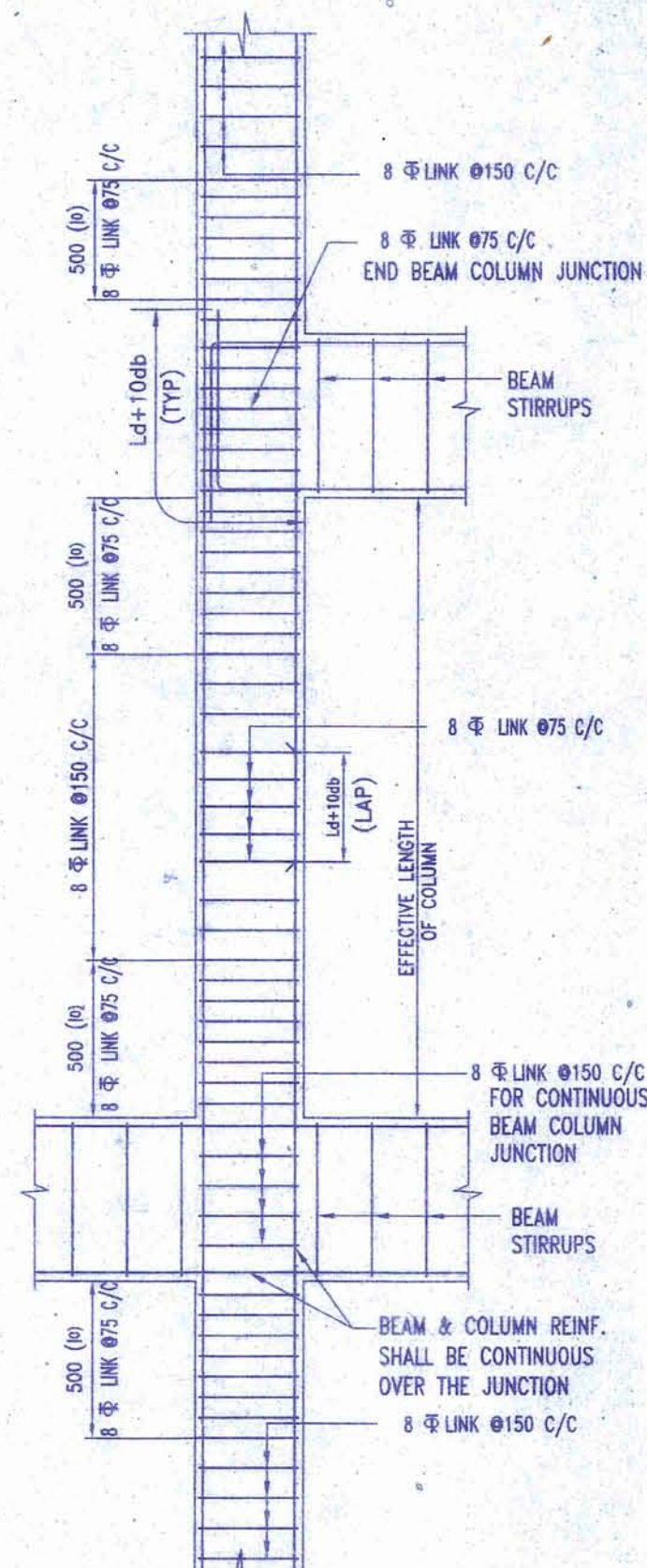
COLUMN LAYOUT PLAN  
SCALE-1:100



TIE BEAM LAYOUT PLAN  
AT LEVEL (+)0.750  
SCALE 1:100

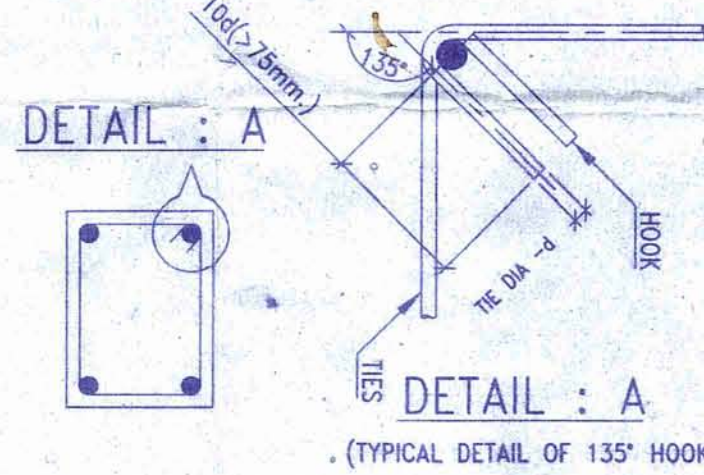


FIRST AND SECOND FLOOR SLAB AND  
BEAM LAYOUT PLAN AT LEVEL  
(+3.75m. (+)6.75  
S1 MARKED SLABS ARE 150 MM THICK  
S2 MARKED SLABS ARE 125MM THICK  
S3 MARKED SLABS ARE 115MM THICK  
SCALE 1:100



TYPICAL DUCTILE DETAIL OF  
BEAM COLUMN JUNCTION  
SCALE 1:25

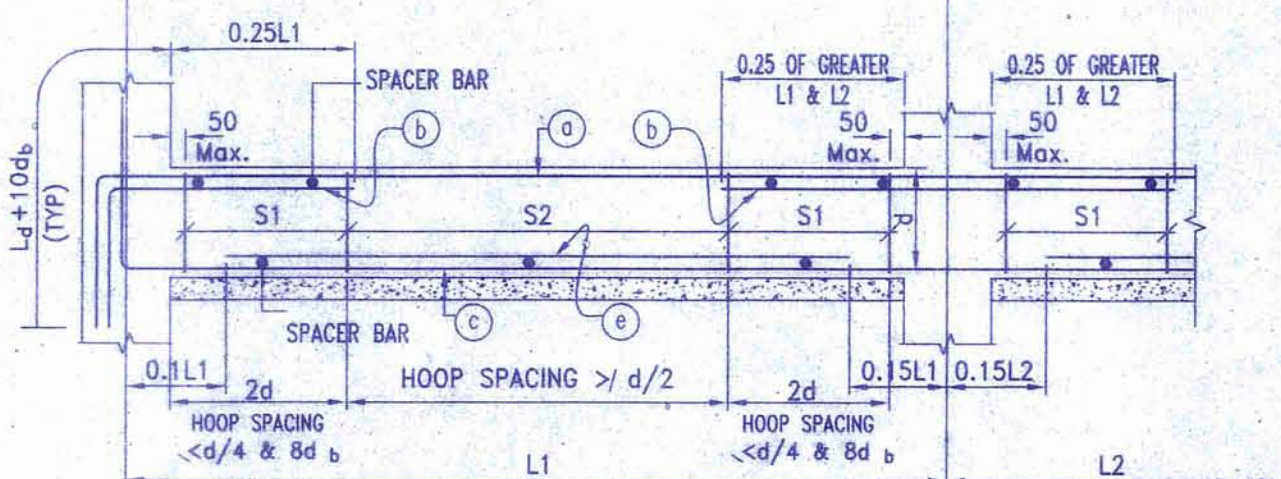
$l_d$  = DEVELOPMENT LENGTH IN TENSION  
 $\phi$  = DIAMETER OF LONGITUDINAL BAR



SCHEDULE OF COLUMNS					
COLUMN MARKED	NOS. OF COLUMNS	COLUMN SIZE (mm x mm)	FOUNDATION TO ROOF & ABOVE ROOF	STIRRUP ARRANGEMENT & SPACING	
				NEAR JUNCTION (10)	REST PORTION
C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C16, C17, C19, C20, C21, C22, C23, C24	18	300x450	 MAIN RNF.:- 4-16 $\phi$ +6-12 $\phi$	8 $\phi$ 075 C/C (3 NOS. CLOSED LINK)	8 $\phi$ 0150 C/C (3 NOS. CLOSED LINK)
C11, C12, C13, C14, C15, C18	06	300x450	 MAIN RNF.:- 10-16 $\phi$	8 $\phi$ 075 C/C (3 NOS. CLOSED LINK)	8 $\phi$ 0150 C/C (3 NOS. CLOSED LINK)
STOOL COLUMN					
ST1, ST2 (ROOF TO WATER TANK PLATFORM SLAB)	02	250x250	 MAIN RNF.:- 4-16 $\phi$	8 $\phi$ 0150 C/C (1 NO. CLOSED LINK)	

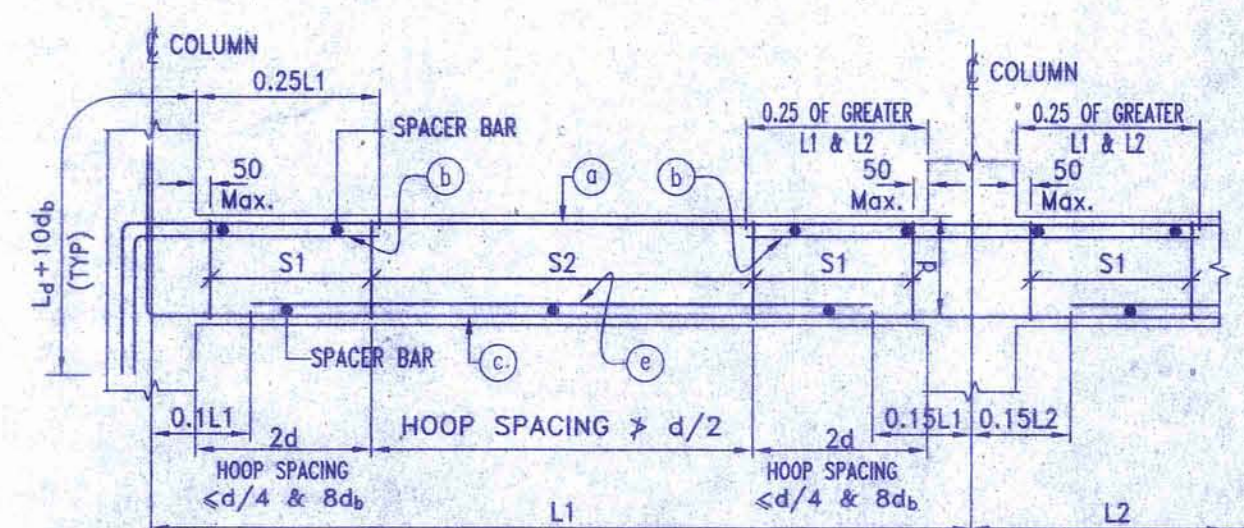
SCHEDULE OF TIE BEAMS								
BEAM MARKED	BEAM SIZE		TOP REINFORCEMENT		BOTTOM REINFORCEMENT		STIRRUPS	
	WIDTH (mm)	DEPTH (mm)	ALTHROUGH	EXTRA AT SUPPORT	ALTHROUGH	EXTRA AT SPAN	(AT SUPPORT)	(AT SPAN)
TB1	250	450	3-16 $\phi$	-	3-16 $\phi$	-	2L-8 $\phi$ 0100 C/C	2L-8 $\phi$ 0200 C/C
TB2	250	400	3-16 $\phi$	-	3-16 $\phi$	-	2L-8 $\phi$ 0100 C/C	2L-8 $\phi$ 0200 C/C

SCHEDULE OF TYPICAL (1st & 2nd) FLOOR BEAMS								
BEAM MARKED	BEAM SIZE		TOP REINFORCEMENT		BOTTOM REINFORCEMENT		STIRRUPS	
	WIDTH (mm)	DEPTH (mm)	ALTHROUGH	EXTRA AT SUPPORT	ALTHROUGH	EXTRA AT SPAN	(AT SUPPORT)	(AT SPAN)
FB1	250	450	3-16 $\phi$	-	3-16 $\phi$	-	2L-8 $\phi$ 0100 C/C	2L-8 $\phi$ 0200 C/C
FB2	250	450	3-16 $\phi$	2-16 $\phi$	3-16 $\phi$	2-16 $\phi$	2L-8 $\phi$ 0100 C/C	2L-8 $\phi$ 0200 C/C
FB3	250	400	3-16 $\phi$	-	3-16 $\phi$	-	2L-8 $\phi$ 0100 C/C	2L-8 $\phi$ 0200 C/C
FBA (WOODEN BEAM)	500	250	5-20 $\phi$	-	5-20 $\phi$	-	4L-10 $\phi$ 0100 C/C	4L-10 $\phi$ 0100 C/C
HLB	250	450	3-16 $\phi$	-	3-16 $\phi$	-	2L-8 $\phi$ 0100 C/C	2L-8 $\phi$ 0200 C/C

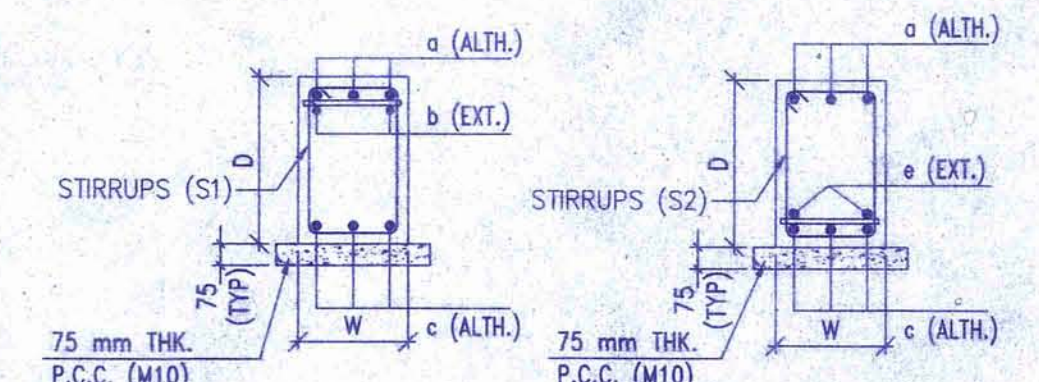


TYPICAL ARRANGEMENT OF REINFORCEMENT IN TIE BEAM  
AS PER SP 34-1987 & 13920-1998

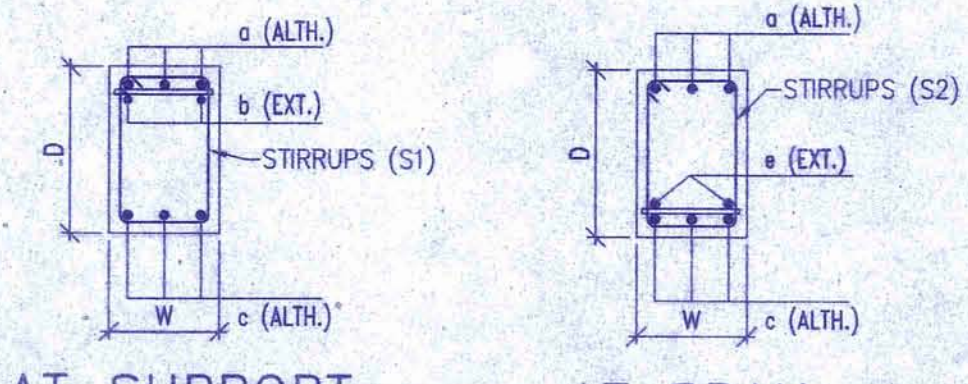
$d$  = EFFECTIVE DEPTH OF BEAM  
 $L_d$  = DEVELOPMENT LENGTH IN TENSION  
 $\phi$  = DIAMETER OF LONGITUDINAL BAR



TYPICAL ARRANGEMENT OF REINFORCEMENT IN BEAM



AT SUPPORT AT SPAN  
TYPICAL CROSS SECTION OF TIE BEAM



AT SUPPORT AT SPAN  
TYPICAL CROSS SECTION OF BEAM

- NOTES :
- UNLESS OTHERWISE STATED ALL CONSTRUCTION ACTIVITIES SHALL BE CARRIED OUT CONFORMING TO RELEVANT (INDIAN) STANDARD CODES OF PRACTICE
  - ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS ARE IN METER. EXCEPT OTHERWISE MENTIONED ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED. ALL LEVELS GIVEN IN STRUCTURAL DRAWINGS ARE IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS AND INDICATE STRUCTURAL LEVEL ONLY (WITHOUT FINISH).
  - ANY DISCREPANCY IN THE STRUCTURAL AND ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE NOTICE OF STRUCTURAL CONSULTANT BEFORE EXECUTION OF WORK.
  - UNLESS OTHERWISE SPECIFIED ALL REINFORCEMENT TO BE USED SHALL BE TMT BARS OF GRADE Fe-500/5000 CONFORMING TO IS-1786-2008.
  - UNLESS OTHERWISE STATED LAP LENGTH OF BARS SHALL BE EQUAL TO THE DEVELOPMENT LENGTH = 60xBAR DIA.
  - CONCRETE NOMINAL COVER TO MAIN REINFORCEMENT SHALL BE AS FOLLOWS:
    - i) COLUMNS : 40 mm
    - ii) BEAMS : 30 mm
    - iii) SLABS : 20 mm
  - GRADE OF CONCRETE FOR SUPERSTRUCTURE & SUBSTRUCTURE WILL BE M25 AS PER IS:456:2000.
  - VIBRATOR SHALL BE USED FOR PROPER COMPACTION OF CONCRETE AND CURING SHALL BE DONE PROPERLY.
  - DEVELOPMENT LENGTH 50XD FOR LAP & SPLICES SHOULD BE PROVIDED AS PER THE PROVISIONS LAID DOWN IN SP34:1987
  - WHEREVER A SUPPORTED MEMBER TERMINATES AT A SUPPORTING MEMBER THE BARS OF THE SUPPORTED MEMBER SHOULD HAVE AN ANCHORAGE OF 60D IN THE SUPPORTING MEMBER.
  - WHEN TWO BEAMS MEET AT A COLUMN LOCATION ALONG THE SAME LINE THE HIGHER REINFORCEMENT AT THE TOP SHOULD BE CONTINUED AT BOTH SIDE.
  - IN ALL CANTILEVER SLAB WITHOUT PERIPHERAL BEAMS THE TOP REINFORCEMENT PARALLEL TO THE CANTILEVER SPAN SHOULD BE CONTINUED UP TO ATLEAST 1.5 TIMES THE CANTILEVER SPAN WITHIN THE ADJACENT SLAB.

SPECIAL NOTES:  
THIS STRUCTURAL DRAWING IS VALID IF THE ARCHITECTURAL DRAWING IS FOLLOWED USING 250 mm THICK AAC BLOCKS IN EXTERNAL WALLS & 125 mm THICK AAC BLOCKS IN INTERNAL WALLS

TITLE  
STRUCTURAL DRAWINGS OF PROPOSED G+2 STORIED RESIDENTIAL (APARTMENT) BUILDING OF SRI KALO BARAN MONDAL AND SRI TARUN KARAK OVER R.S. PLOT NO. - 1102, MOUZA - BHADUR, J.L. NO- 42, P.S. ANDAL, DIST- PASCHIM BARDHAMAN.

SIGNATURE OF OWNER  
Tarun Karak  
Kalo Baran Mondal

SIGNATURE OF L.B.S./ENGINEER/ARCHITECT

SIGNATURE OF STRUCTURAL ENGINEER  
VIJAYA SINGH  
DMC REGISTERED  
LIC NO. - DMC/BPD/60  
VJAYA SINGH MAZUMDER  
Consulting Architect  
DMC Registered (DMC/BPD/60)  
833202166, 9476426106

SIGNATURE OF VETTING AUTHORITY  
S. Choudhury  
21/9/2020  
SUSMITA CHOUDHURY  
B.TECH (WBUT)  
CIVIL ENGINEER, NKDA  
LICENCE NO. - CVER/NKDA/10/00175

CHECKED & SETTER  
DR. DIPANKAR CHAKRABORTY  
STRUCTURAL ENGINEER  
PROFESSOR & HOD, CIVIL ENGINEERING DEPARTMENT  
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Andal Panchayat Samity  
Paschim Bardhaman  
Junior Engineer (W.R.D.D.)  
Andal Development Block  
Paschim Bardhaman

DRAWING DETAILS  
COLUMN LAYOUT PLAN & REINFORCEMENT DETAILS, TIE, TYPICAL FLOOR BEAM AND SLAB LAYOUT PLAN & REINFORCEMENT DETAILS. DUCTILE DETAIL  
SCALE-1:100 OR AS SHOWN  
DATE- 21.09.2020  
SHEET 2 OF 3