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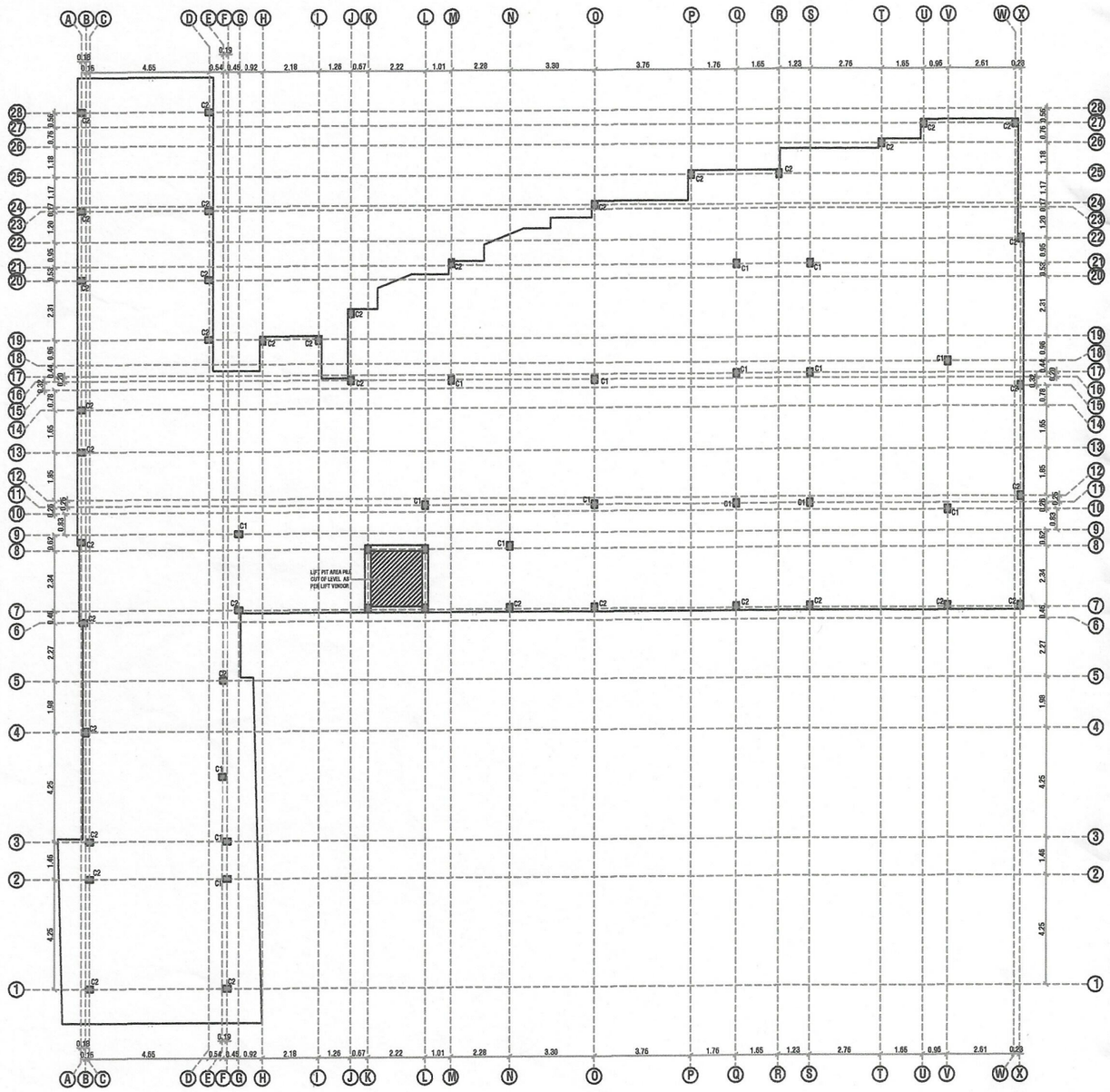
3/350/2 Mettukuppam,
OMR Thoraipakkam,
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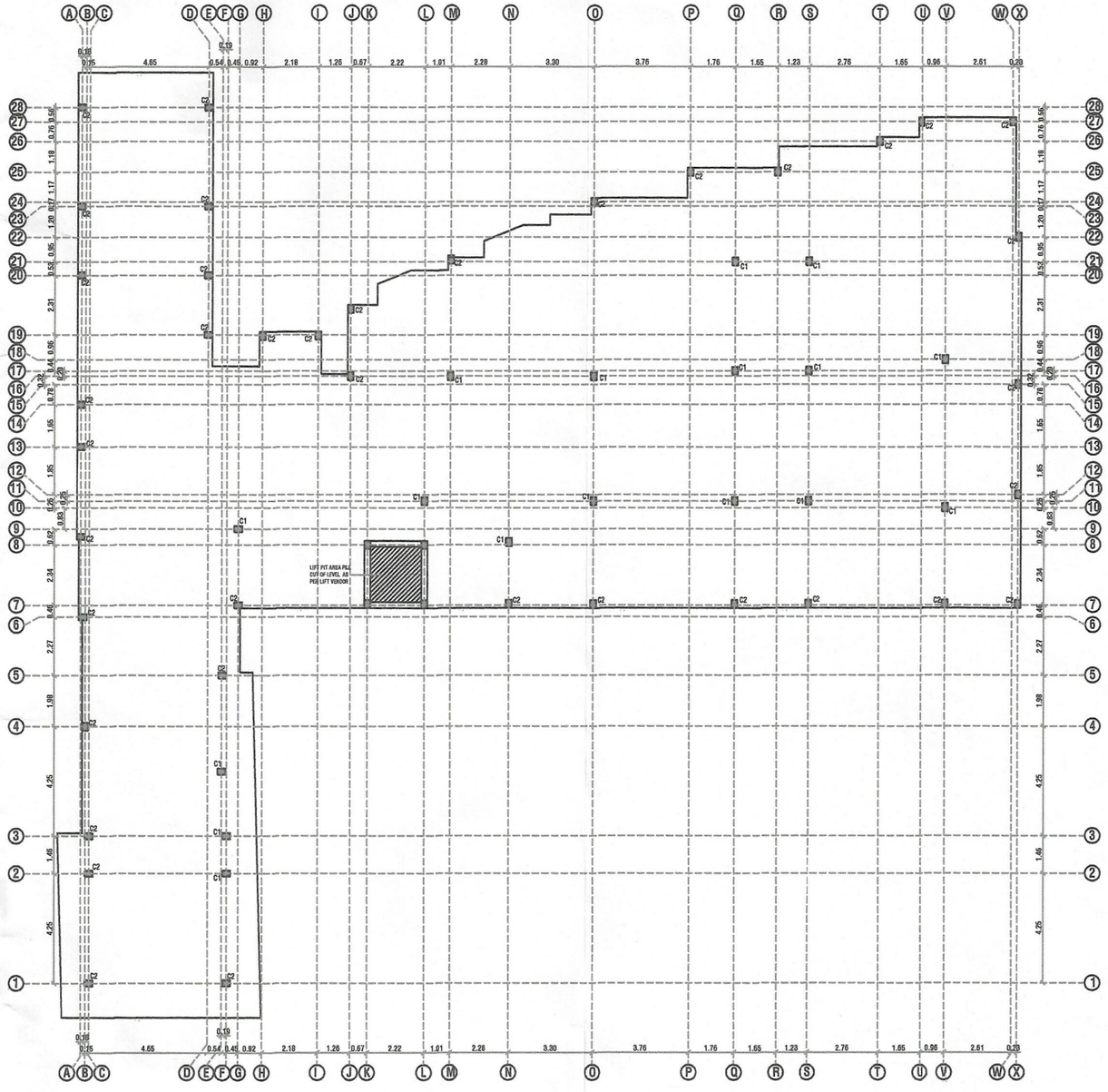
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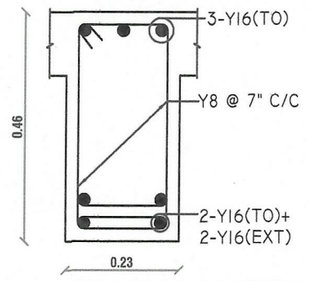
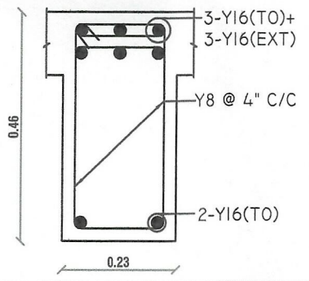
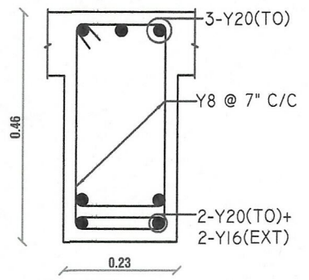
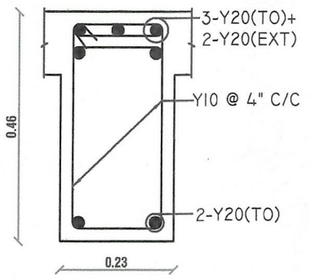
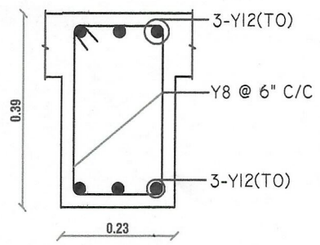
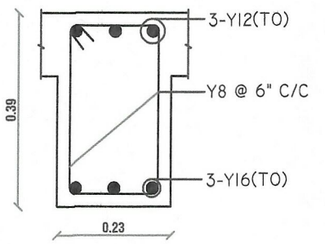
LAYOUT OF COLUMN - STILT FLOOR & FIRST FLOOR ROOF BEAM



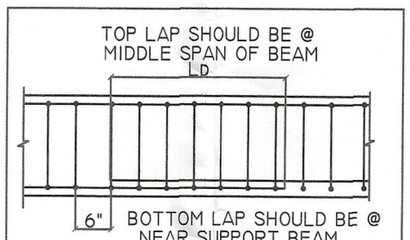
LAYOUT OF COLUMN - SECOND FLOOR & THIRD FLOOR ROOF BEAM

R. Mani Kandan

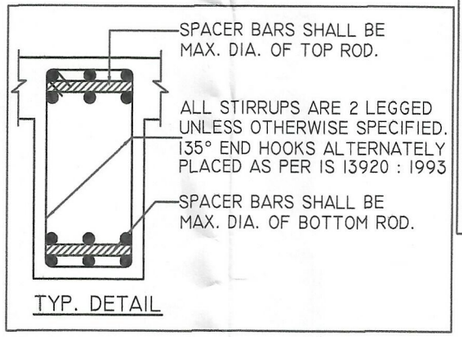
R. MANIKANDAN, M.Tech, [Structures]
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Chennai - 600 083.
Ph: 044-48597100 Cell: 9790751378.

NAME	MID SPAN	END SUPPORT
B1 (0.23 X 0.46)		
B2 (0.23 X 0.46)		
B3 (0.23 X 0.39)		

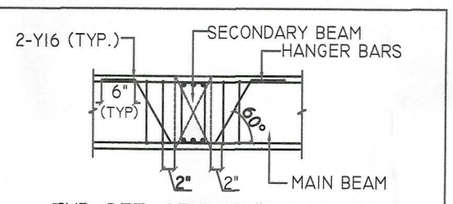
BEAM SCHEDULE		
SL.NO	NAME	SIZE
01	B1	0.23 X 0.39
02	B2	0.23 X 0.45
03	B3	0.23 X 0.39



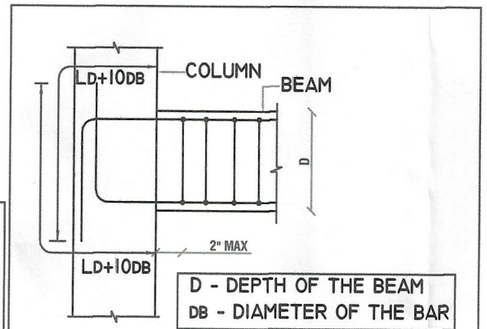
TYP. LAP SPLICE IN BEAM



TYP. DETAIL

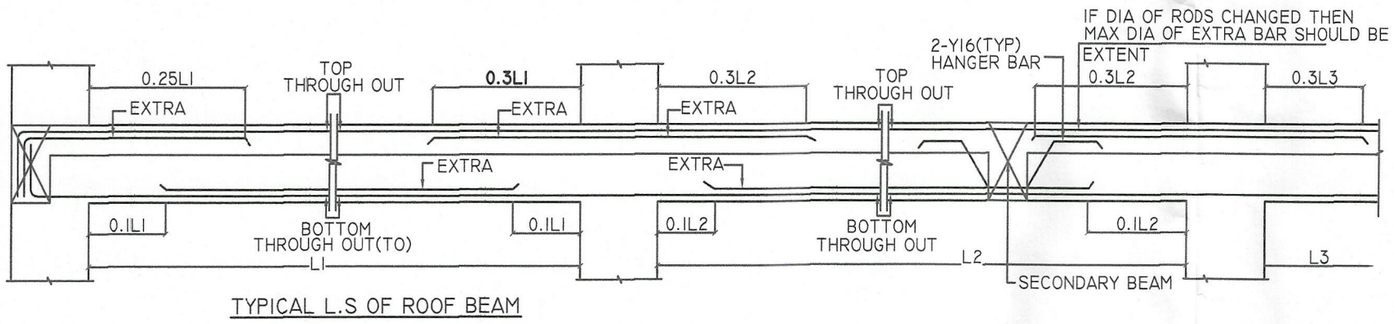


TYP. DET. OF HANGER BARS IN MAIN BEAM AT SECONDARY BEAM JUNCTION

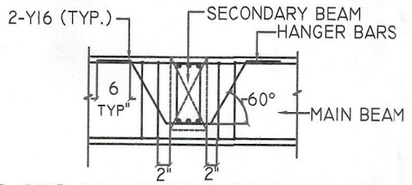


D - DEPTH OF THE BEAM
DB - DIAMETER OF THE BAR

TYP. EXTERNAL JOINT DETAIL AT BEAM-COLUMN JUNCTION



TYPICAL L.S OF ROOF BEAM



TYP. DET. OF HANGER BARS IN MAIN BEAM AT SECONDARY BEAM JUNCTION (VARY DEPTH)

GENERAL NOTES:

REMOVAL OF FORMWORK(SHUTTERING) :

SHUTTERING OF ANY PART OF THE STRUCTURE SHALL NOT BE REMOVED UNTIL THE CONCRETE ATTAINS 70% THE SPECIFIED STRENGTH OF CONCRETE. HOWEVER THE FOLLOWING MINIMUM PERIOD (AFTER FINAL POUR) SHALL BE ALLOWED BEFORE REMOVAL OF SHUTTERING AS PER CLAUSE 11.3.1, IS 456:2000

A) VERTICAL SIDE OF SHUTTERING OF COLUMNS,WALLS

LAP JOINTS FOR REINFORCEMENT BARS :

I) AT ANY CROSS SECTION OF THE MEMBER,NOT MORE THAN 50% THE BARS SHALL BE LAPPED.

II) LAPS SHALL BE STAGGERED WITH A MINIMUM CENTRE TO CENTRE DISTANCE OFI.3 TIMES LAP LENGTH OF THE BAR FOR TENSION & COMPRESSION MEMBERS.

III) DEVELOPMENT LENGTH (LD) SHALL BE AS PER (SP:34-1999) TABLE BELOW:

A) DEVELOPMENT LENGTH FOR COLUMN BARS -40D
B) DEVELOPMENT LENGTH FOR BEAM BARS -50D

IV) LAPS IN COLUMNS SHALL BE PROVIDED AT MID HEIGHT OF FLOOR AND NOT AT SLAB LEVEL .

VII) DETAILING OF REBARS SHALL CONFIRM TO SP-34 & IS 13920

EXCAVATION AND BACKFILL

I) BACKFILL FOR FOUNDATIONS AND PITS SHALL BE PLACED EVENLY LAYERS OF 300 MM THICKNESS AND SHALL BE WELL COMPACTED. THE FILL SHALL CONTAIN NO STONES WITH A DIAMETER GREATER THAN 100 MM. THE DEGREE OF COMPACTION OF BACKFILL SHALL BE 95% OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT OBTAINED BY THE MODIFIED PROCTOR COMPACTION TEST.

II) UNSUITABLE MATERIALS LIKE ROCKS/ EXISTING FOOTINGS ARE DETECTED BELOW FOUNDATION LEVEL IN AREAS OF CUT SHALL BE EXCAVATED TO FIRM GROUND. THE RESULTANT EXCAVATION SHALL BE FILLED TO THE REQUIRED LEVELS WITH MASS CONCRETE GRADE M10. ALSO WHEREVER EXCAVATION OCCURS BELOW THE FOUNDATION LEVEL STATED ON THE DESIGN DRAWING THE RESULTING VOID SHALL BE BACK FILLED WITH MASS CONCRETE GRADE-10.

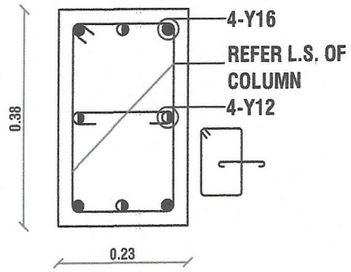
III) BEFORE CASTING FOUNDATIONS, ANY IMMEDIATE OR ADJACENT AREAS OF DISTURBED OR SOFT SOIL MUST BE REMOVED AND REPLACED WITH MASS CONCRETE OF GRADE 10

IV) A LAYER OF BLINDING CONCRETE 100 MM THICK SHALL BE PLACED UNDER ALL FOUNDATIONS. BLINDING CONCRETE SHALL HAVE A CHARACTERISTIC STRENGTH OF 10 N/MM AT 28 DAYS.

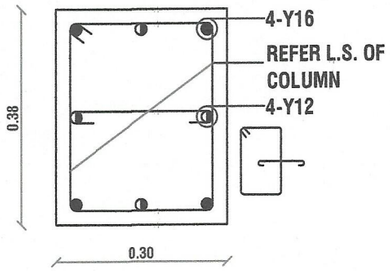
GENERAL NOTES:

1. ALL DIMENSIONS ARE IN FOOT UNITS.
2. CONCRETE GRADE SHALL BE M25 CONFIRMING TO IS 456:2000
3. GRADE OF REINFORCEMENT MARKED THUS (Y) SHALL BE Fe 500 CONFIRMING TO IS 1786-2008
4. CLEAR COVER FOR REINFORCEMENT
   A) BEAM = 1" B) SLAB = 3/4"
5. THIS DRG. READ IN CONJECTION WITH ARCH.DRGS.
6. STRUCTURAL ENGINEER RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF STRUCTURAL DRAWING ONLY
7. ONUS OF CONSTRUCTION LIES WITH CONTRACTOR/OWNER

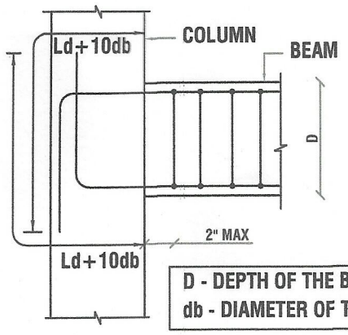
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C.S. OF COLUMN "C2"
(0.23 X 0.38)
(STILT TO TOP)



C.S. OF COLUMN "C2"
(0.30 X 0.38)
(UP TO STILT)



D - DEPTH OF THE BEAM
db - DIAMETER OF THE BAR

TYP. EXTERNAL JOINT DETAIL AT BEAM-COLUMN JUNCTION

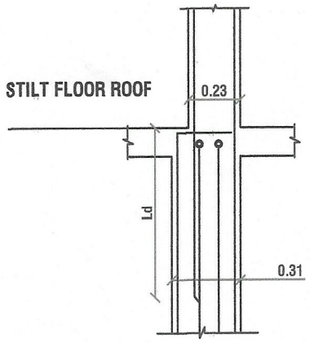
NOTE:

N.G.L - NATURAL GROUND LEVEL.

S.F.R - STILT FLOOR ROOF.

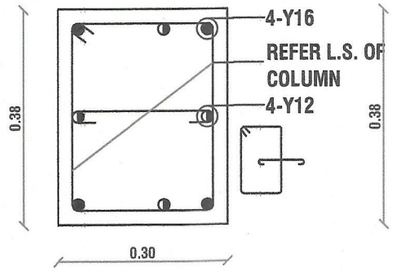
COLUMN SCHEDULE

S.NO.	NAME	SIZE	
		UPTO STILT ROOF	STILT ROOF TO TOP
1.	C1	0.30 X 0.38	0.23 x 0.38
2.	C2	0.30 X 0.38	0.23 X 0.38
3.	C3	0.23 X 0.23	0.23 X 0.23

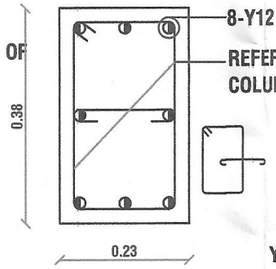


TYPICAL COLUMN REDUCTION DETAILS

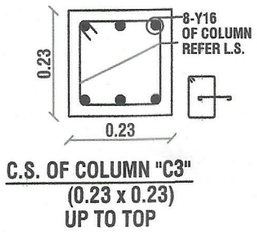
ALL HOOKS SHOULD BE BENT TO AN ANGLE OF 135° WITH A LENGTH NOT LESS THAN 75 MM



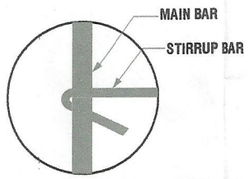
C.S. OF COLUMN "C1"
(0.30 X 0.38)
(UP TO TOP)



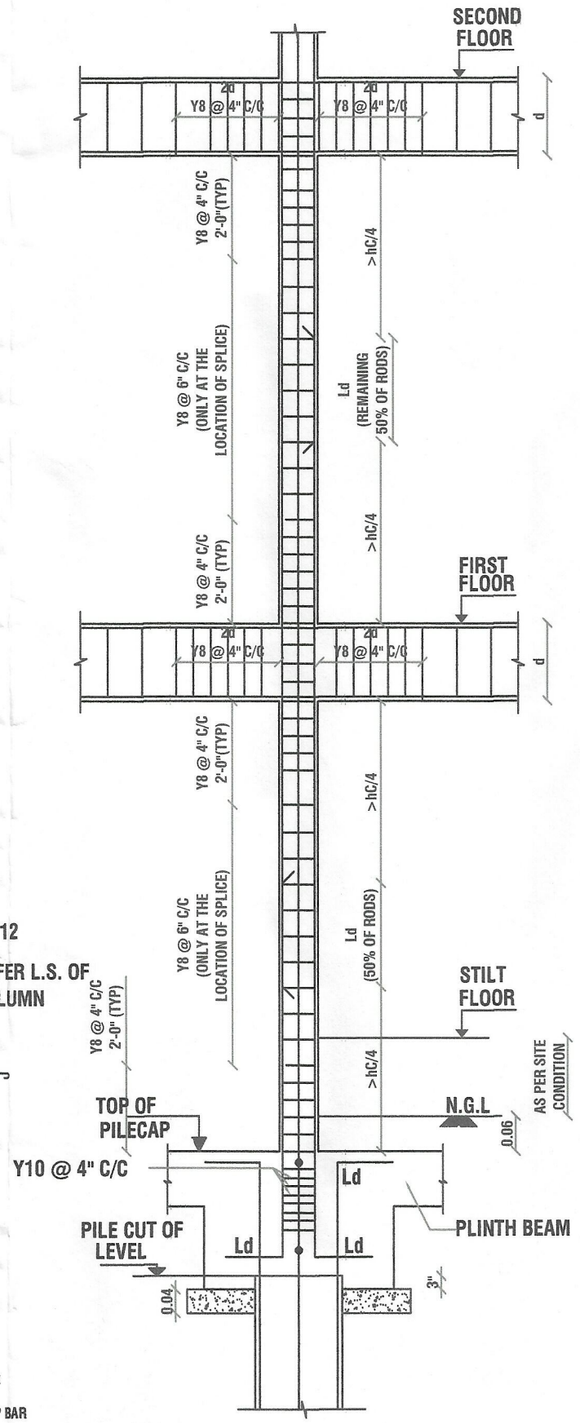
C.S. OF COLUMN "C1"
(0.23 X 0.38)
(STILT TO TOP)



C.S. OF COLUMN "C3"
(0.23 x 0.23)
UP TO TOP



HOOK DETAIL



COLUMN AND PILECAP JUNCTION
(ALTERNATE RODS TO BE LAPPED IN ALTERNATE FLOORS)
(AS PER SEISMIC DETAILING CODE IS:13920)

GENERAL NOTES:

REMOVAL OF FORMWORK(SHUTTERING) :

SHUTTERING OF ANY PART OF THE STRUCTURE SHALL NOT BE REMOVED UNTIL THE CONCRETE ATTAINS 70% THE SPECIFIED STRENGTH OF CONCRETE. HOWEVER THE FOLLOWING MINIMUM PERIOD (AFTER FINAL POUR) SHALL BE ALLOWED BEFORE REMOVAL OF SHUTTERING AS PER CLAUSE 11.3.1, IS 456:2000

A) VERTICAL SIDE OF SHUTTERING OF COLUMNS,WALLS

LAP JOINTS FOR REINFORCEMENT BARS :

I) AT ANY CROSS SECTION OF THE MEMBER,NOT MORE THAN 50 % THE BARS SHALL BE LAPPED.

II) LAPS SHALL BE STAGGERED WITH A MINIMUM CENTRE TO CENTRE DISTANCE OF1.3 TIMES LAP LENGTH OF THE BAR FOR TENSION & COMPRESSION MEMBERS.

III) DEVELOPMENT LENGTH (Ld) SHALL BE AS PER (SP:34-1999) TABLE BELOW:

A) DEVELOPMENT LENGTH FOR COLUMN BARS -40D
B) DEVELOPMENT LENGTH FOR BEAM BARS -50D

IV) LAPS IN COLUMNS SHALL BE PROVIDED AT MID HEIGHT OF FLOOR AND NOT AT SLAB LEVEL .

VII) DETAILING OF REBARS SHALL CONFIRM TO SP-34 & IS 13920

EXCAVATION AND BACKFILL

I) BACKFILL FOR FOUNDATIONS AND PITS SHALL BE PLACED EVENLY LAYERS OF 300 MM THICKNESS AND SHALL BE WELL COMPACTED. THE FILL SHALL CONTAIN NO STONES WITH A DIAMETER GREATER THAN 100 MM. THE DEGREE OF COMPACTION OF BACKFILL SHALL BE 95% OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT OBTAINED BY THE MODIFIED PROCTOR COMPACTION TEST.

II) UNSUITABLE MATERIALS LIKE ROCKS/ EXISTING FOOTINGS ARE DETECTED BELOW FOUNDATION LEVEL IN AREAS OF CUT SHALL BE EXCAVATED TO FIRM GROUND. THE RESULTANT EXCAVATION SHALL BE FILLED TO THE REQUIRED LEVELS WITH MASS CONCRETE GRADE M10. ALSO WHEREVER EXCAVATION OCCURS BELOW THE FOUNDATION LEVEL STATED ON THE DESIGN DRAWING THE RESULTING VOID SHALL BE BACK FILLED WITH MASS CONCRETE GRADE-10.

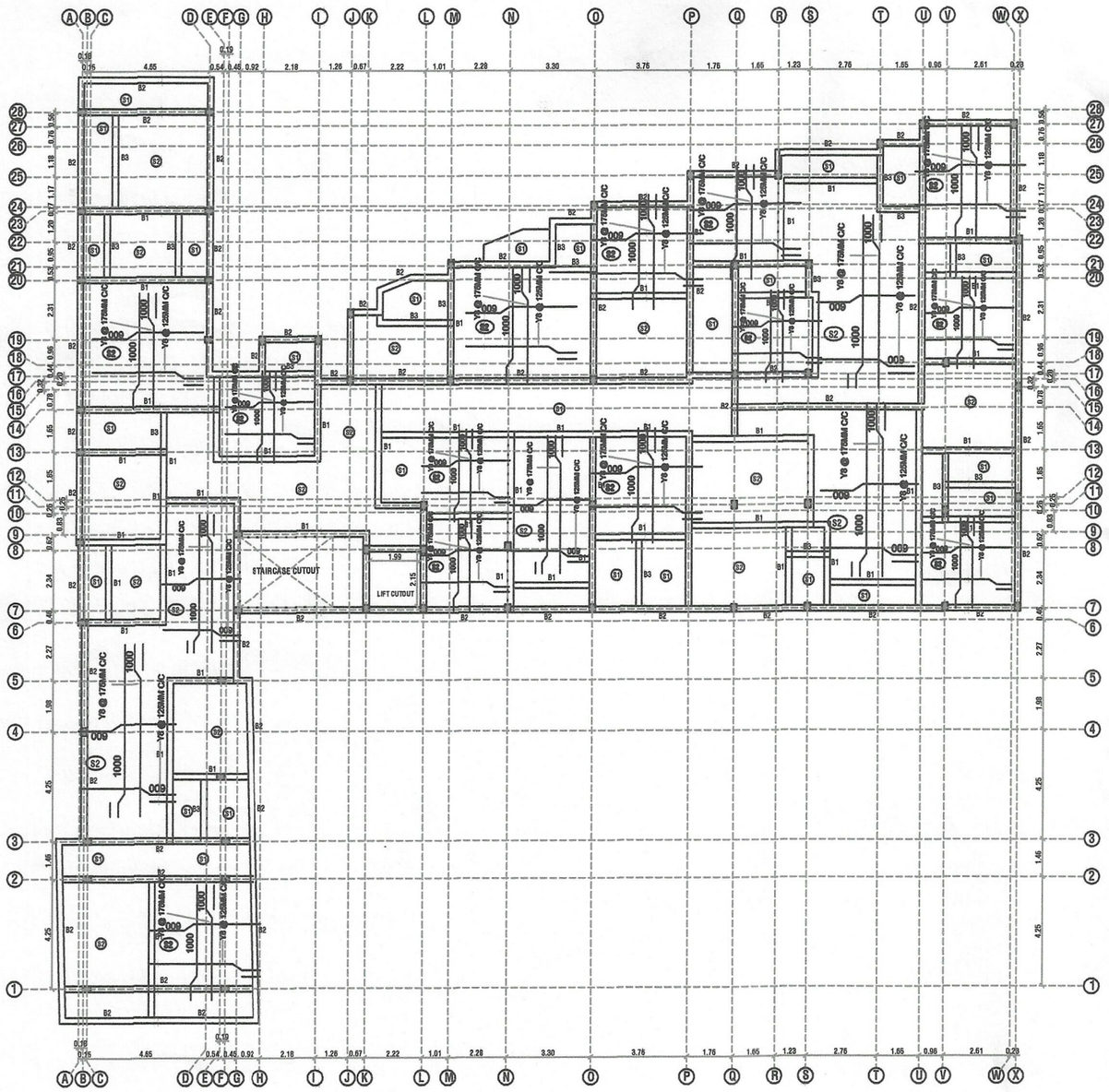
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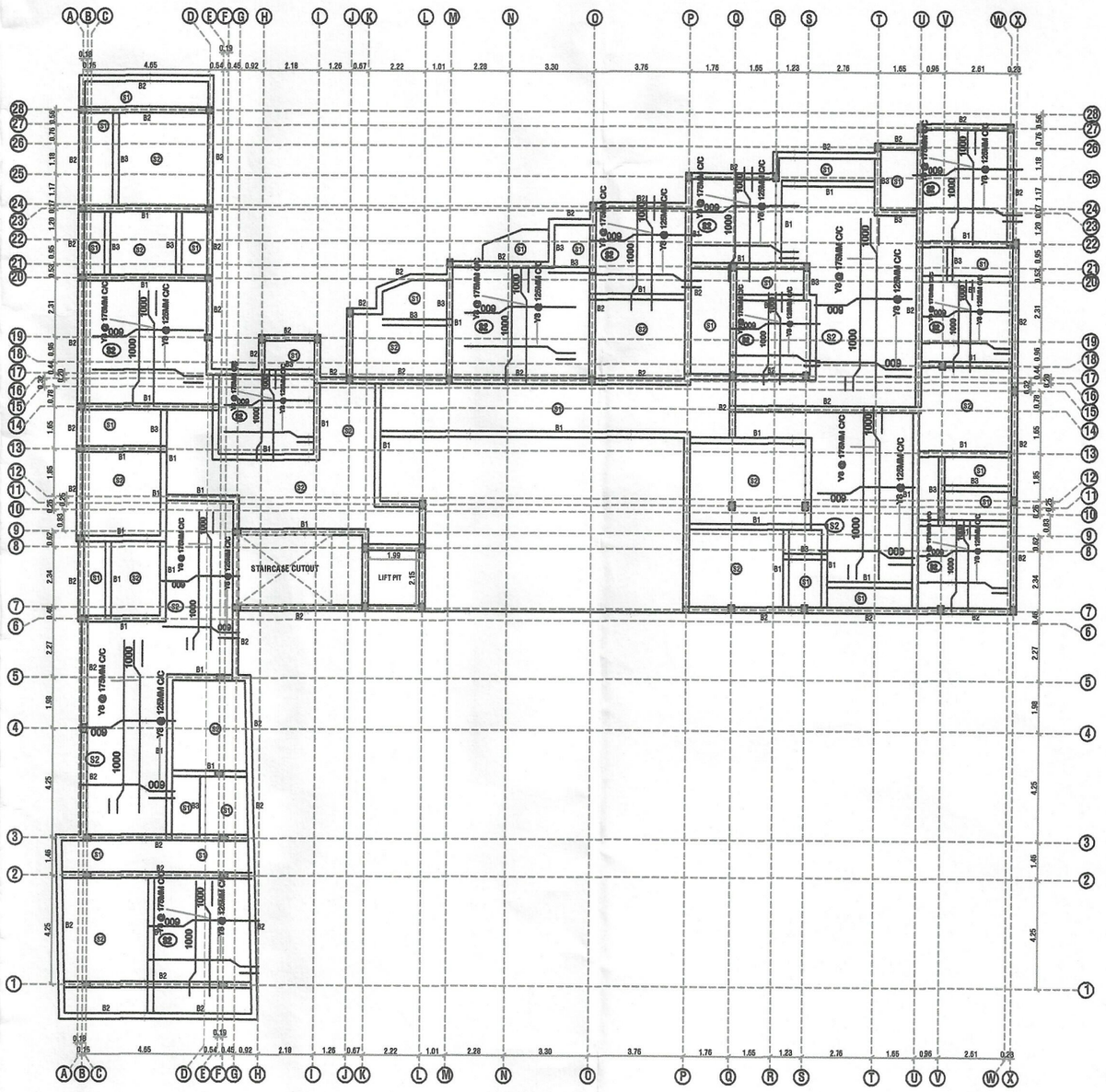
GENERAL NOTES:

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2. CONCRETE GRADE SHALL BE M25 CONFIRMING TO IS 456:2000
3. GRADE OF REINFORCEMENT MARKED THUS (Y) SHALL BE Fe 500 CONFIRMING TO IS 1786-2008
4. CLEAR COVER FOR REINFORCEMENT
   A) COLUMN = 1½ "
5. THIS DRG. READ IN CONJECTION WITH ARCH.DRGS.
6. COLUMNS AND FOOTINGS ARE DESIGNED FOR S+3 FLOOR LOADS
7. STRUCTURAL ENGINEER RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF STRUCTURAL DRAWING ONLY
8. ONUS OF CONSTRUCTION LIES WITH CONTRACTOR/OWNER

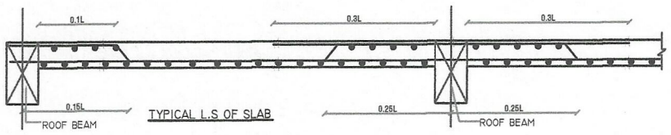
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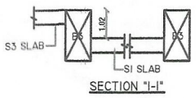


LAYOUT OF GROUND & FIRST FLOOR ROOF BEAM



LAYOUT OF SECOND & THIRD FLOOR ROOF BEAM





NOTE:

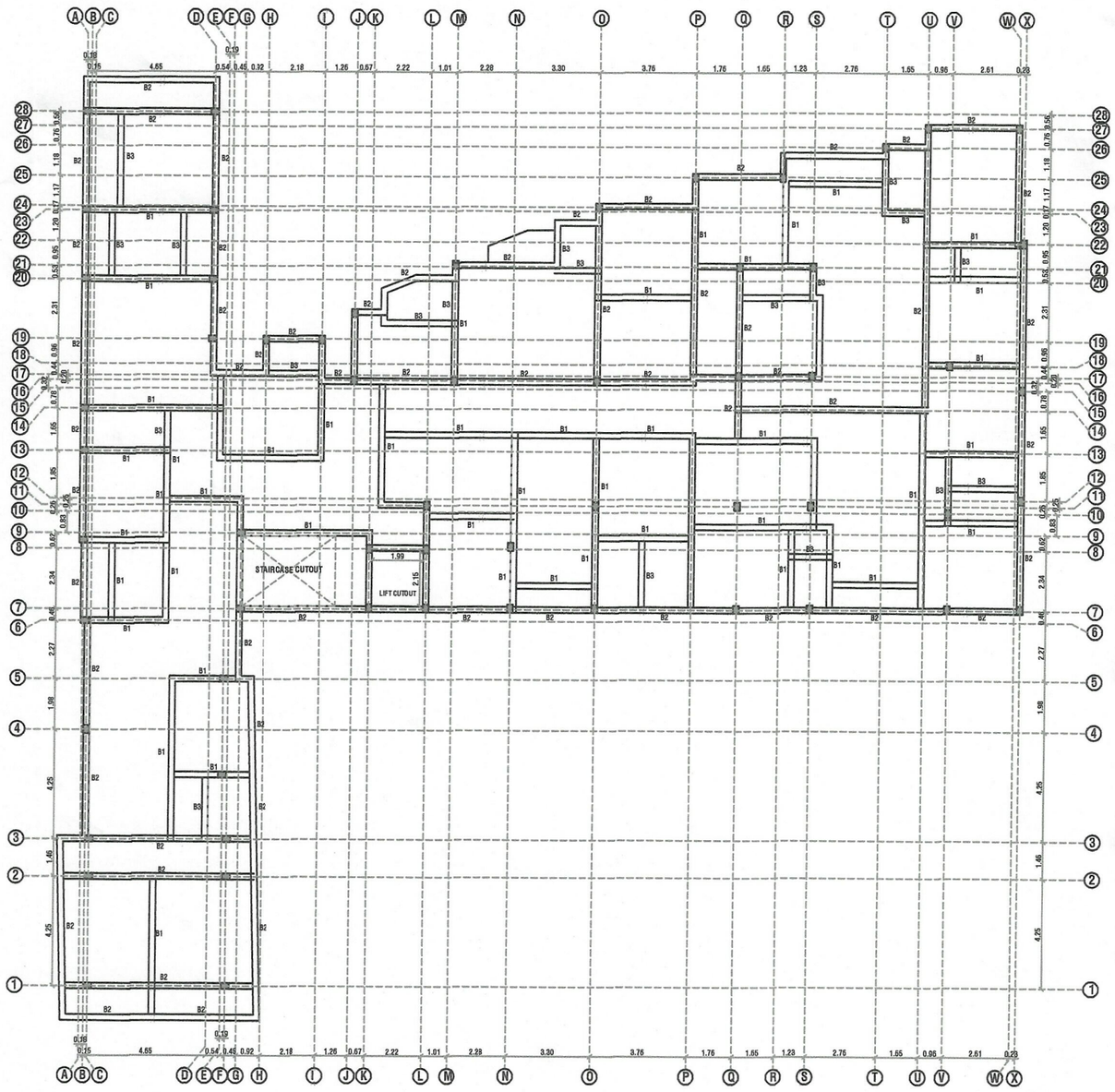
SLAB SUNK BY 0'-10"

PROVIDE Y8 @ 8" C/C AS DISTRIBUTORS WHERE EVER REQUIRED

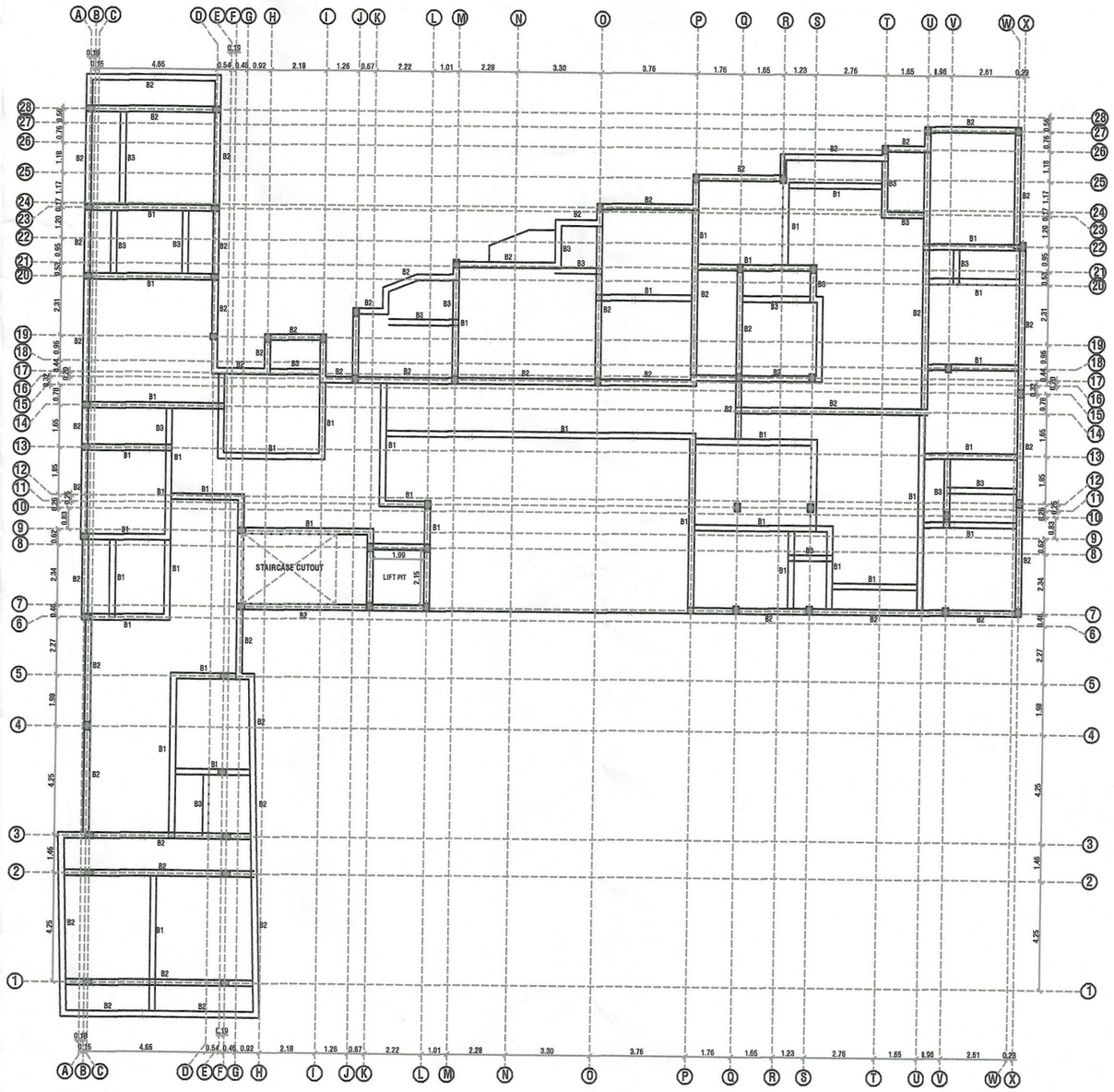
BEAM SCHEDULE		
SL.NO	NAME	SIZE
01	B1	230 x 450
02	B2	230 x 450
03	B3	230 x 390

SLAB SCHEDULE		
SL.NO	NAME	THICK
01	S1	150 THK.
02	S2	150 THK.
03	S3	150 THK.

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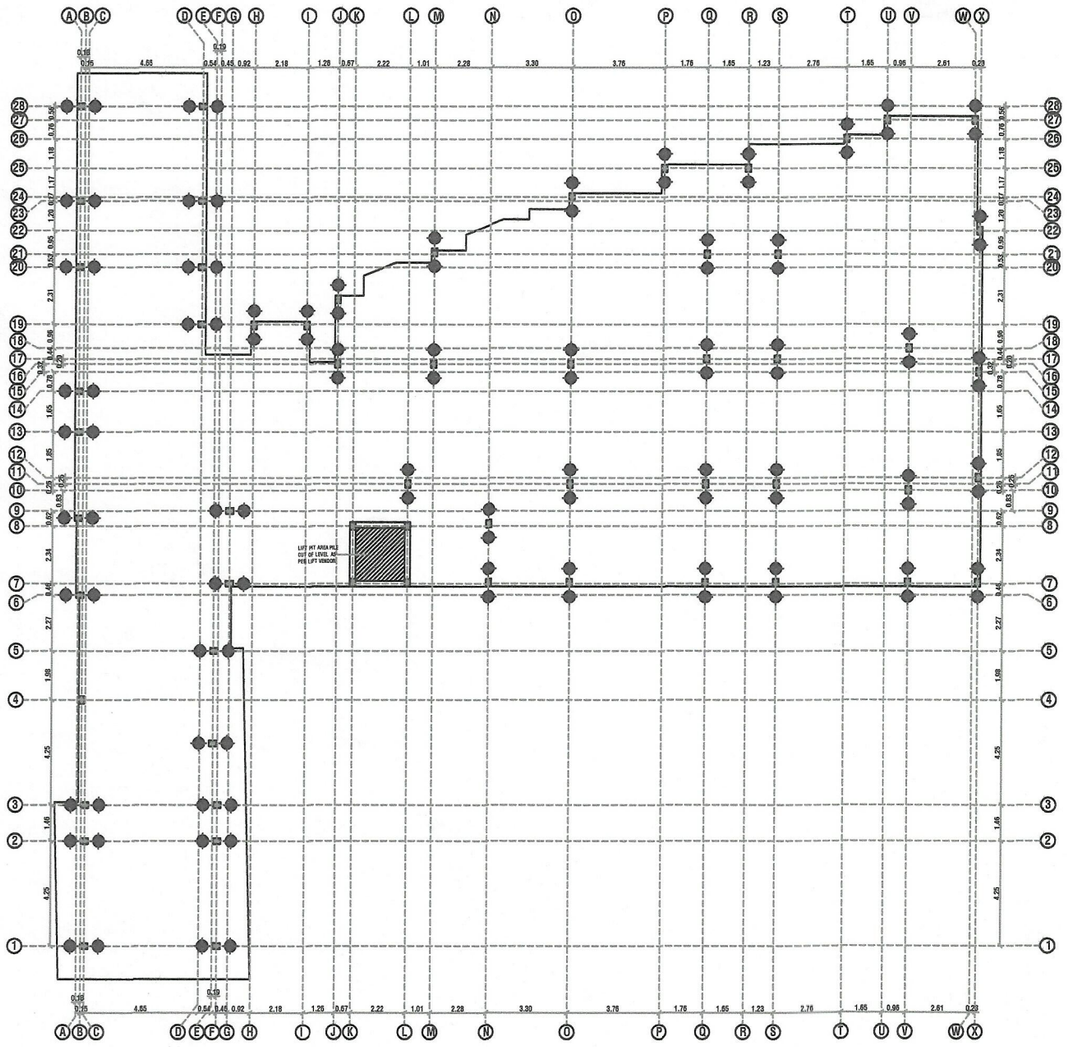
LAYOUT OF GROUND & FIRST FLOOR ROOF BEAM



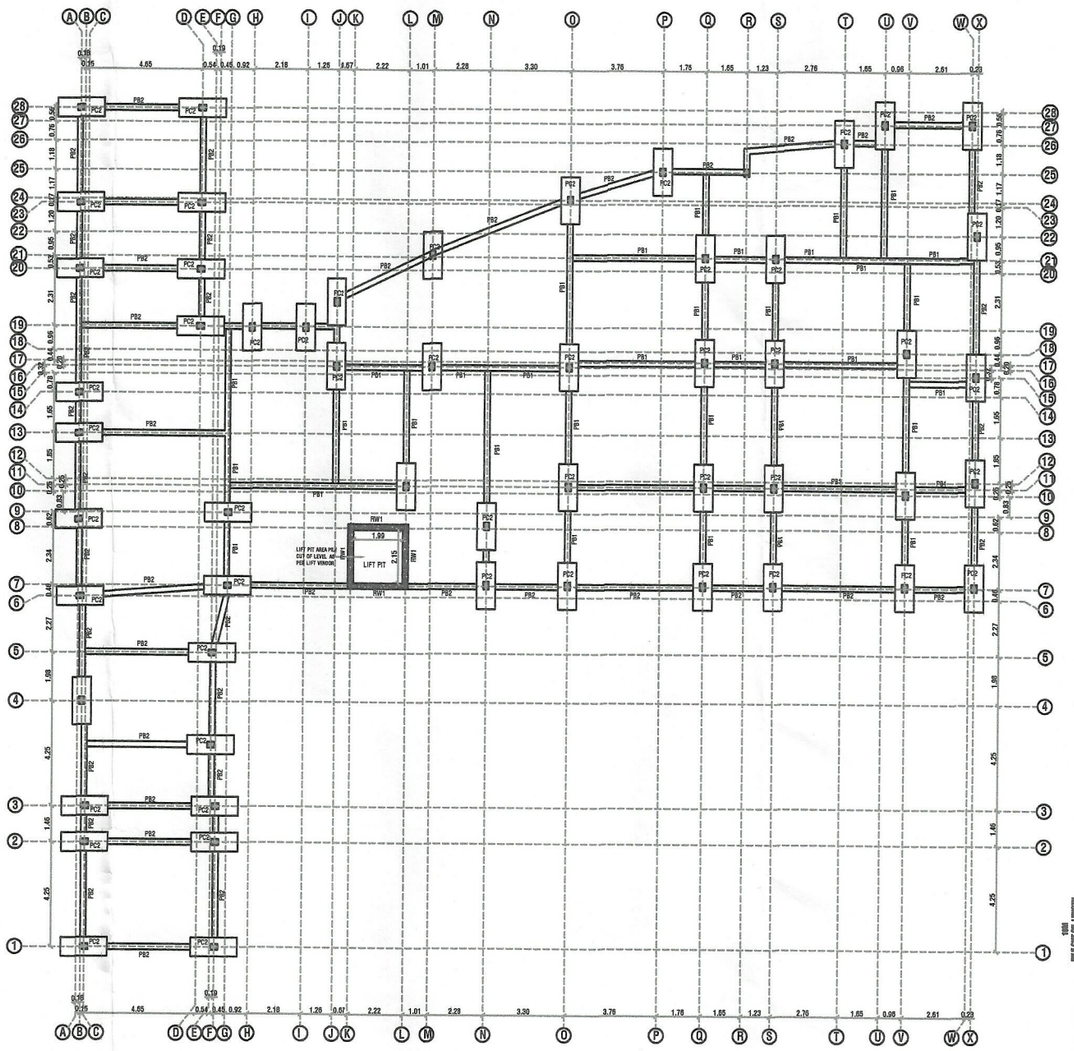
LAYOUT OF SECOND & THIRD FLOOR ROOF BEAM

R. Manikandan

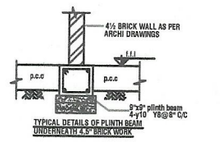
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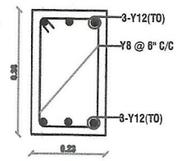
LAYOUT OF PILE



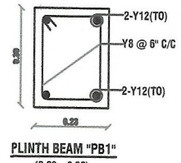
LAYOUT OF PILECAP & PLINTH BEAM



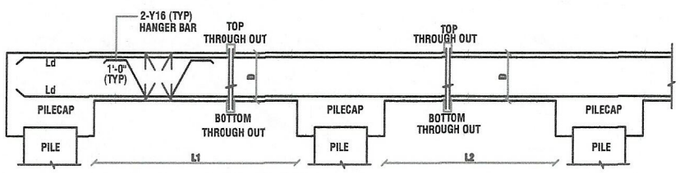
TYPICAL DETAILS OF PLINTH BEAM UNDERNEATH 9"x9" BRICK WORK



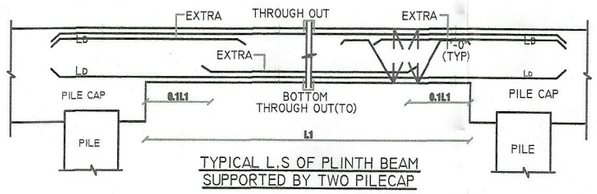
PLINTH BEAM "PB2"
(0.23 x 0.38)



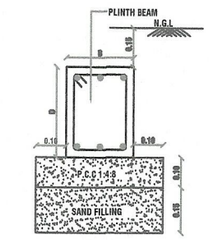
PLINTH BEAM "PB1"
(0.23 x 0.30)



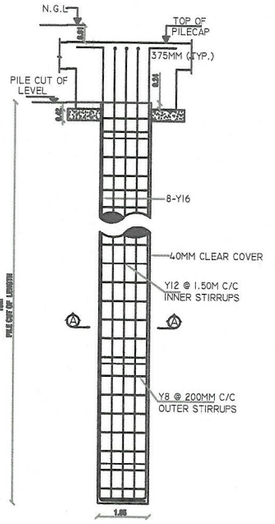
TYPICAL L.S CONTINUES PLINTH BEAM



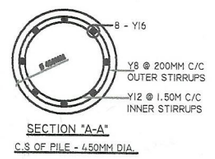
TYPICAL L.S OF PLINTH BEAM SUPPORTED BY TWO PILECAP



TYPICAL DETAIL OF PLINTH BEAM



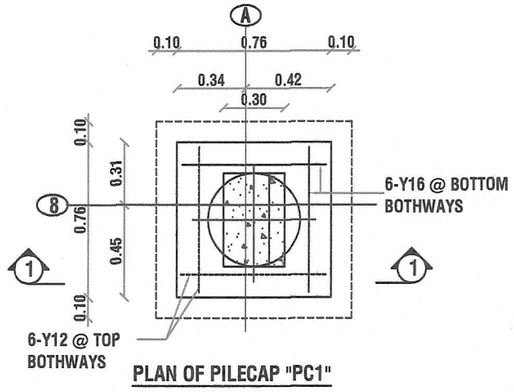
L.S OF 1'-6" DIA. PILE



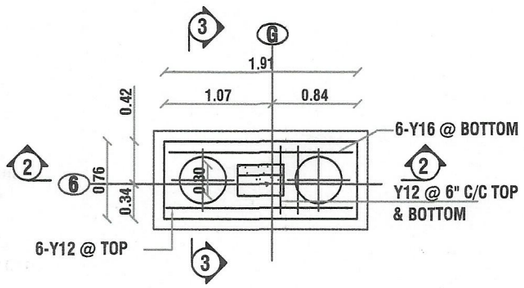
SECTION "A-A"
C.S OF PILE - 450MM DIA.

R. Manikandan

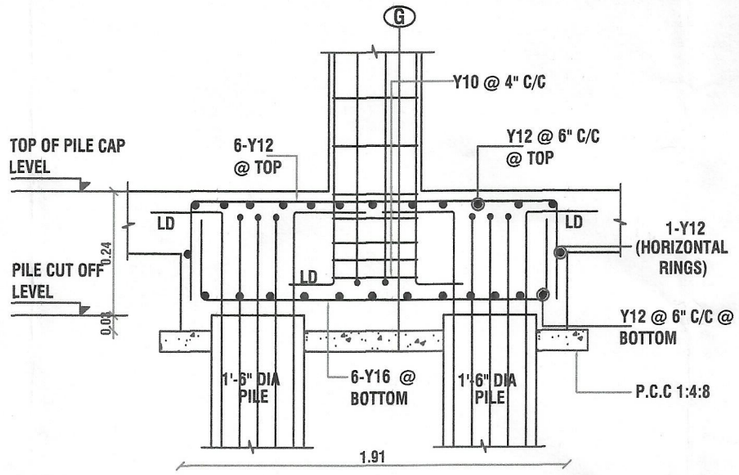
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#13/27, 67th Street, R.V.Nagar, Ashok Nagar,
Chennai - 600 083.
Ph: 044-48597100 Cell: 9790751378.



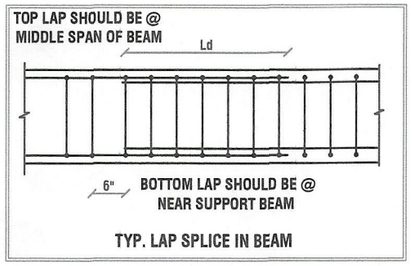
PLAN OF PILECAP "PC1"
(0.76 X 0.76)



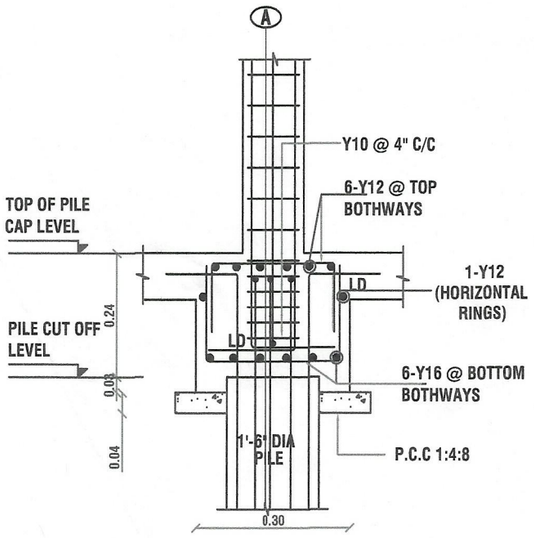
PLAN OF PILECAP "PC2"
(1.90 X 0.76)



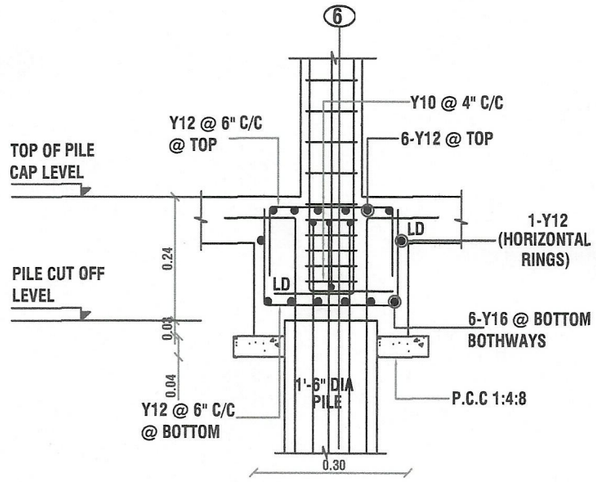
SECTION "2-2"



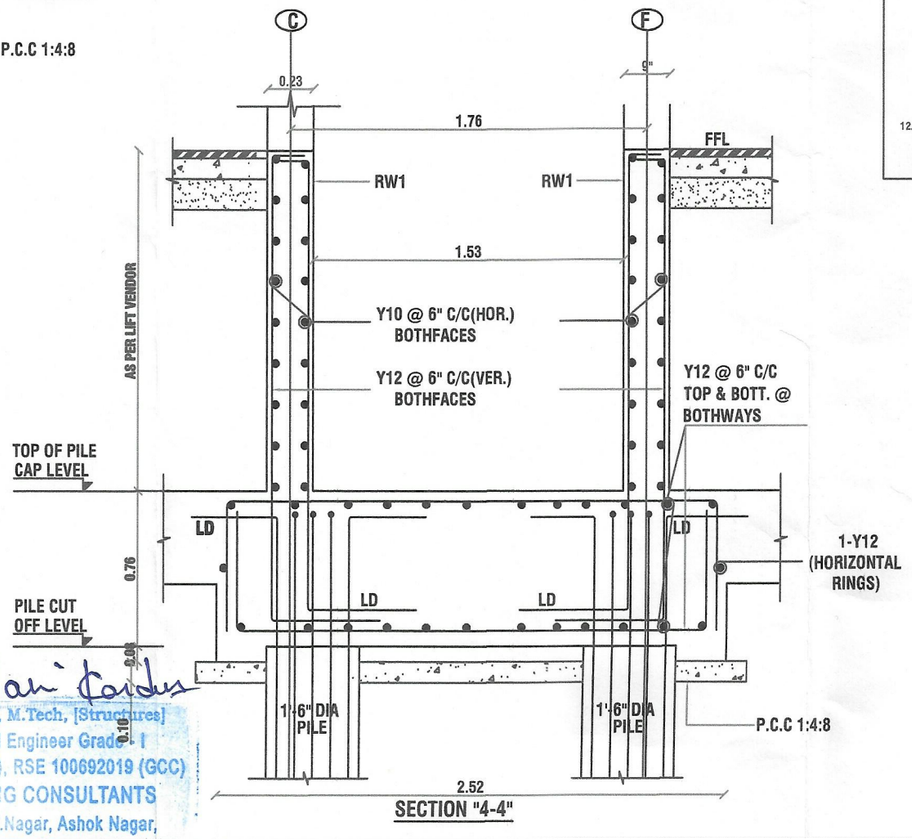
TYP. LAP SPLICE IN BEAM



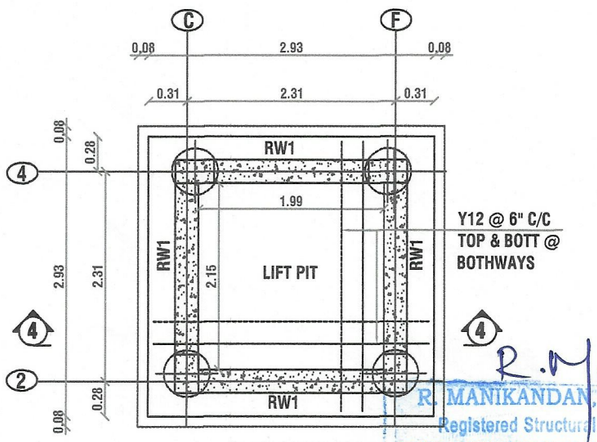
SECTION "1-1"



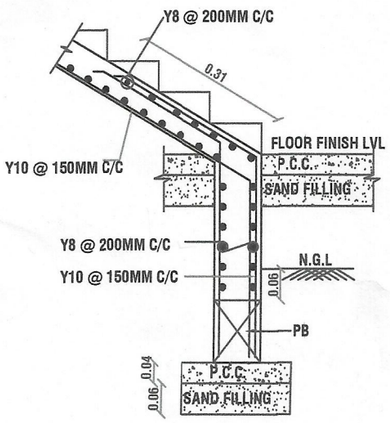
SECTION "3-3"



SECTION "4-4"



PLAN OF PILECAP
(2.93 X 2.93)



TYP. DETAIL OF
STAIRCASE DOWELS

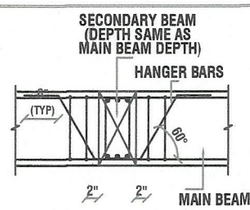
NOTE:

N.G.L - NATURAL GROUND LEVEL.

F.F.L - FLOOR FINISH LEVEL

PILECAP SCHEDULE:

S.NO	NAME	SIZE
01.	PC1	0.75 X 0.75 X 0.60
02.	PC2	1.91 X 0.75 X 0.60



TYP. DET. OF HANGER BARS IN MAIN BEAM
AT SECONDARY BEAM JUNCTION

GENERAL NOTES:

REMOVAL OF FORMWORK(SHUTTERING) :

SHUTTERING OF ANY PART OF THE STRUCTURE SHALL NOT BE REMOVED UNTIL THE CONCRETE ATTAINS 70 % THE SPECIFIED STRENGTH OF CONCRETE. HOWEVER THE FOLLOWING MINIMUM PERIOD (AFTER FINAL POUR) SHALL BE ALLOWED BEFORE REMOVAL OF SHUTTERING AS PER CLAUSE 11.3.1, IS 456:2000

A) VERTICAL SIDE OF SHUTTERING OF COLUMNS,WALLS

LAP JOINTS FOR REINFORCEMENT BARS :

i) AT ANY CROSS SECTION OF THE MEMBER,NOT MORE THAN 50 % THE BARS SHALL BE LAPPED.

ii) LAPS SHALL BE STAGGERED WITH A MINIMUM CENTRE TO CENTRE DISTANCE OF1.3 TIMES LAP LENGTH OF THE BAR FOR TENSION & COMPRESSION MEMBERS.

iii) DEVELOPMENT LENGTH (Ld) SHALL BE AS PER (SP:34-1999) TABLE BELOW:

a) DEVELOPMENT LENGTH FOR COLUMN BARS -40D
b) DEVELOPMENT LENGTH FOR BEAM BARS -50D

iv) LAPS IN COLUMNS SHALL BE PROVIDED AT MID HEIGHT OF FLOOR AND NOT AT SLAB LEVEL .

Vii) DETAILING OF REBARS SHALL CONFIRM TO SP-34 & IS 13920

EXCAVATION AND BACKFILL

I) BACKFILL FOR FOUNDATIONS AND PITS SHALL BE PLACED EVENLY LAYERS OF 300 mm THICKNESS AND SHALL BE WELL COMPACTED. THE FILL SHALL CONTAIN NO STONES WITH A DIAMETER GREATER THAN 100 mm. THE DEGREE OF COMPACTION OF BACKFILL SHALL BE 95% OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT OBTAINED BY THE MODIFIED PROCTOR COMPACTION TEST.

11) UNSUITABLE MATERIALS LIKE ROCKS/ EXISTING FOOTINGS ARE DETECTED BELOW FOUNDATION LEVEL IN AREAS OF CUT SHALL BE EXCAVATED TO FIRM GROUND. THE RESULTANT EXCAVATION SHALL BE FILLED TO THE REQUIRED LEVELS WITH MASS CONCRETE GRADE M10. ALSO WHEREVER EXCAVATION OCCURS BELOW THE FOUNDATION LEVEL STATED ON THE DESIGN DRAWING THE RESULTING VOID SHALL BE BACK FILLED WITH MASS CONCRETE GRADE-10.

III) BEFORE CASTING FOUNDATIONS, ANY IMMEDIATE OR ADJACENT AREAS OF DISTURBED OR SOFT SOIL MUST BE REMOVED AND REPLACED WITH MASS CONCRETE OF GRADE 10

IV) A LAYER OF BLINDING CONCRETE 100 mm THICK SHALL BE PLACED UNDER ALL FOUNDATIONS. BLINDING CONCRETE SHALL HAVE A CHARACTERISTIC STRENGTH OF 10 N/mm AT 28 DAYS.

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN FOOT UNITS.
2. CONCRETE GRADE SHALL BE M25 CONFIRMING TO IS 456:2000
3. GRADE OF REINFORCEMENT MARKED THUS (Y) SHALL BE Fe 500 CONFIRMING TO IS 1786-2008
4. THIS DRG. READ IN CONJECTION WITH ARCH.DRGS.
5. PILE CARRYING CAPACITY
   A. 450MM DIA. -320kN. (As per Geographical Report)
6. COLUMNS ARS DESIGNED FOR S+3 FLOORS LOAD ONLY.
7. ROUTINE TESTS OF 1.5 TIMES DESIGN CAPACITY ON ONE PILES OF 450MM DIA IS TO BE CARRIED OUT.
8. THIS DRG. READ IN CONJECTION WITH ARCH.DRGS.
9. Clear cover to the main steel
   A) R.C. COLUMN = 1½" e) BEAM = 1"
   b) PILE = 2"
   c) PILECAP BOTTOM = 3"
   d) PILE CAP SIDES & TOP = 2"
10. STRUCTURAL ENGINEER RESPONSIBILITY IS LIMITED TO DESIGN & ISSUAL OF STRUCTURAL DRAWING ONLY
11. ONUS OF CONSTRUCTION LIES WITH CONTRACTOR/OWNER
12. DEVELOPMENT LENGTH (Ld) SHALL BE AS PER (SP:34-1999) TABLE BELOW:

DEVELOPMENT LENGTH FOR COLUMNS	= 40d
DEVELOPMENT LENGTH FOR BEAMS	= 50d

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Property Documentation & Workflow Tools

Forms & Templates, Document Generator, Document Translation, Dictionary

Vastu & Property Management Tools

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