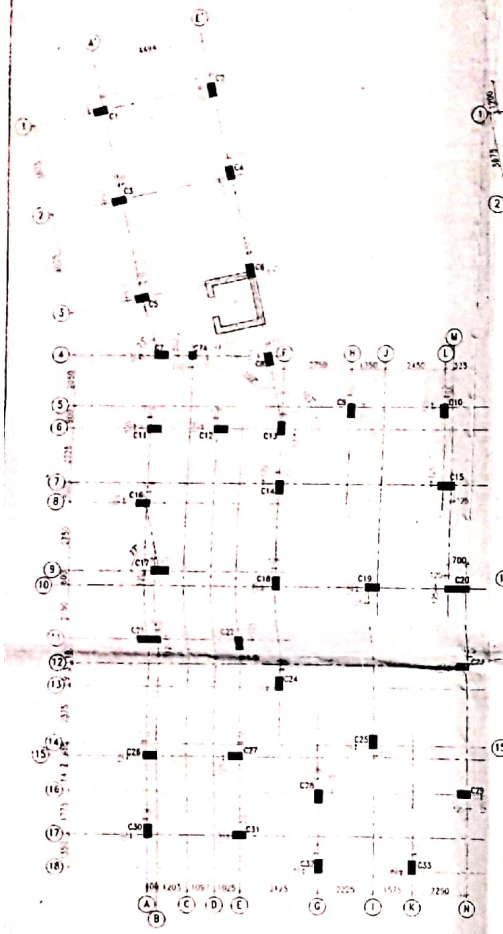
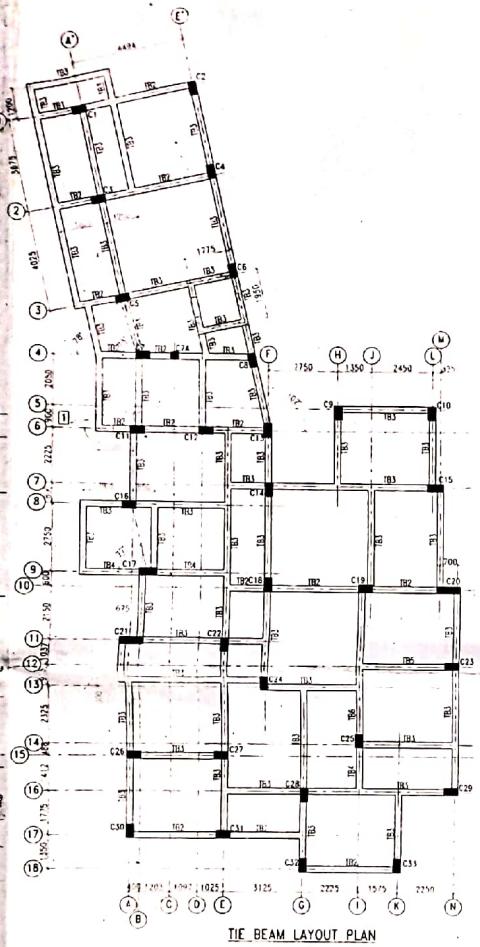
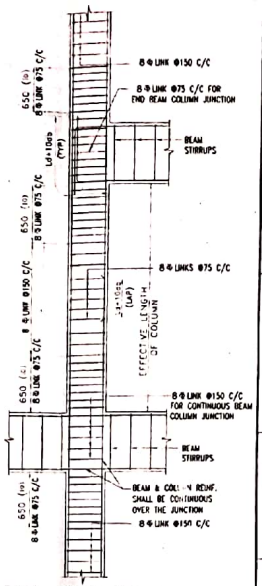


COLUMN LAYOUT PLAN
SCALE - 1:100

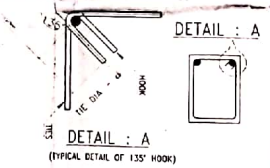


TIE BEAM LAYOUT PLAN
AT LEVEL (+) 0.15 m.
SCALE - 1:100



TYPICAL DUCTILE DETAIL OF
BEAM COLUMN JUNCTION
SCALE 1:25

L = DEVELOPMENT LENGTH IN TENSION
d = DIAMETER OF LONGITUDINAL BAR



DETAIL : A
(TYPICAL DETAIL OF 135° HOOK)

SCHEDULE OF COLUMNS

COLUMN MARKED	NO. OF COLUMNS	COLUMN SIZE (mm x mm)	FOUNDATION TO ROOF AND ABOVE POOP	STIRRUP ARRANGEMENT & SPACING
C1, C2, C3, C4, C6, C7, C8, C9, C10, C11, C12, C13, C14, C16, C18, C19, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33	28	300x550	MAIN RNF. - 10-16Φ	NEAR JUNCTION (10) 8-Φ@75 C/C REST PORTION 8-Φ@150 C/C (3 NO. CLOSED LINK)
C5	01	300x550	MAIN RNF. - 12-16Φ	NEAR JUNCTION (10) 8-Φ@75 C/C REST PORTION 8-Φ@150 C/C (3 NO. CLOSED LINK) (1 NO. OPEN LINK)
C17	01	300x700	MAIN RNF. - 12-16Φ	NEAR JUNCTION (10) 8-Φ@75 C/C REST PORTION 8-Φ@150 C/C (3 NO. CLOSED LINK) (1 NO. OPEN LINK)
C15	D1	300x650	MAIN RNF. - 10-16Φ	NEAR JUNCTION (10) 8-Φ@75 C/C REST PORTION 8-Φ@150 C/C (3 NO. CLOSED LINK)
C20, C21	02	250x1000	MAIN RNF. - 4-16Φ +2-12Φ 6-12Φ 4-16Φ +2-12Φ	NEAR JUNCTION (10) 8-Φ@75 C/C REST PORTION 8-Φ@150 C/C (4 NO. CLOSED LINK) (1 NO. OPEN LINK)
C7A	01	350x350	MAIN RNF. - 8-16Φ	NEAR JUNCTION (10) 8-Φ@75 C/C REST PORTION 8-Φ@150 C/C (2 NOS. CLOSED LINK)
STOOL COLUMNS				
ST1, ST2 (MUNTY ROOM ROOF TO WATER TANK PLATFORM) ST3 (ROOF TO WATER TANK PLATFORM) ST4, ST5, ST6 (ROOF TO LIFT SHAFT COVER)	06	250X250	MAIN RNF. - 4-16Φ	NEAR JUNCTION (10) 8-Φ@75 C/C REST PORTION 8-Φ@150 C/C (1 NO. CLOSED LINK)

NOTES :-

1. UNLESS OTHERWISE STATED ALL CONSTRUCTION ACTIVITIES SHALL BE CARRIED OUT CONFORMING TO RELEVANT (INDIAN) STANDARD CODES OF PRACTICE.
2. 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).
3. ANY DISCREPANCY IN THE STRUCTURAL AND ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE NOTICE OF STRUCTURAL CONSULTANT BEFORE EXECUTION OF WORK.
4. UNLESS OTHERWISE SPECIFIED ALL REINFORCEMENT TO BE USED SHALL BE TMT BARS OF GRADE Fe 500/5000 CONFORMING TO IS-1786-2008.
5. UNLESS OTHERWISE STATED LAP LENGTH OF BARS SHALL BE EQUAL TO THE DEVELOPMENT LENGTH = 50xBAR DIA.
6. CONCRETE NOMINAL COVER TO MAIN REINFORCEMENT SHALL BE AS FOLLOWS:
   - i) COLUMNS : 40 mm
   - ii) BEAMS : 30 mm
   - iii) SLABS : 20 mm
   - iv) WAIST SLAB : 20 mm
   - v) LIFT SHEAR WALL : 20 mm
7. GRADE OF CONCRETE FOR SUPERSTRUCTURE & SUBSTRUCTURE WILL BE M25 AS PER IS:456-2000.
8. VIBRATOR SHALL BE USED F. : PROPER COMPACTION OF CONCRETE AND CURING SHALL BE DONE PROPERLY.
9. DEVELOPMENT LENGTH 50ΦD FOR LAP & SPLICES SHOULD BE PROVIDED AS PER THE PROVISIONS LAID DOWN IN SP34:1987
10. WHEREVER A SUPPORTED MEMBER TERMINATES AT A SUPPORTING MEMBER THE BARS OF THE SUPPORTED MEMBER SHOULD HAVE AN ANCHORAGE OF 50D IN THE SUPPORTING MEMBER.
11. WHEN TWO BEAMS MEET AT A COLUMN LOCATION ALONG THE SAME LINE THE HIGHER REINFORCEMENT AT THE TOP SHOULD BE CONTINUED AT BOTH SIDES.
12. WHEN TWO SLAB PANELS MEET ALONG A COMMON BEAM THEN THE TOP REINFORCEMENT TO BE PROVIDED FOR BOTH THE PANELS SHOULD BE THE HIGHER ONE AMONG THE TABULATED VALUES FOR THE INDIVIDUAL PANELS.

TITLE

STRUCTURAL DRAWING OF PROPOSED G+~~IV~~ V (14-9 ~~15-10~~) STORIED RESIDENTIAL BUILDING OF SH SISIR MANDAL SMT. PRIYANKA MANDAL SMT. HASINA BIBI MR. SAHIDUL ISLAM & SAIFUL ISLAM AT MOUZA REKJOANI J.L. NO. 13 R.S. / L.R. DAG NO. ~~1090~~ 1095, 1096 ~~AND 1637~~ R.S. No. 198 L.R. KHATIAN NO. 3197, 2146, 5276 ~~AND 5282~~ AND 5489; UNDER BISHNUPUR IInd GRAM PANCHAYAT P.S. - P. JARHAT DIST. 24 PRGS (NORTH)

S. Chaudhury

SIG. OF ARCHITECT

CERTIFICATE OF ARCHITECT

I HAD PERSONALLY VERIFIED THE SITE AND HAD FOUND IT TO BE SUITABLE AND IT IS NOT TANK OR FILLED UP LAND.

SIG. OF ARCHITECT

CERTIFICATE OF STRUCTURAL ENGINEER

THE STRUCTURAL DESIGN AND DRAWING OF BOTH FOUNDATION AND SUPERSTRUCTURE OF THE BUILDING HAS BEEN MADE BY ME. CONSIDERING ALL POSSIBLE LOADS INCLUDING THE SEISMIC LOAD AS PER THE NATIONAL BUILDING CODE OF INDIA AND CERTIFIED THAT IT IS SAFE AND STABLE IN ALL RESPECT.

Susmita Choudhury 29/7/19

SUSMITA CHOUDHURY
B.TECH (WBUT)
CIVIL ENGINEER, NKDA
LICENCE NO.- CVER/NKDA/10/00175

SIG. OF STRUCTURAL ENGINEER

SIGNATURE OF THE VETTING AUTHORITY

11/9/19

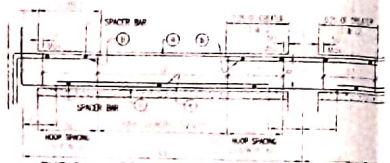
DECLARATION OF OWNER

BHAGAT CONSTRUCTION
Proprietor

SIGNATURE OF OWNER

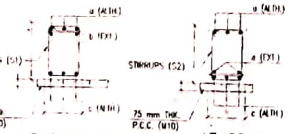
DRAWING TITLE
COLUMN LAYOUT PLAN, COLUMN SCHEDULE & TYPICAL DUCTILE DETAIL OF COLUMN-BEAM JUNCTION , TIE BEAM LAYOUT PLAN AND REINFORCEMENT SCHEDULE

SCALE - 1:100 OR AS SHOWN
DATE - 29.07.2019
SHEET NO. -2 OF 4



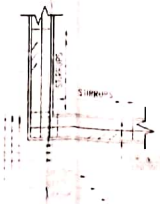
TYPICAL ARRANGEMENT OF
REINFORCEMENT IN TIE BEAM
AS PER SP 34-1987 & 13920-1993

d= EFFECTIVE DEPTH OF BEAM
Ld= DEVELOPMENT LENGTH IN TENSION
Φ= DIAMETER OF LONGITUDINAL BAR



AT SUPPORT AT SPAN

TYPICAL CROSS SECTION OF TIE BEAM



DETAIL-"1"
TYPICAL DETAIL OF BOW GIRDER
IN CANTILEVER PORTION
SCALE N.T.S

SCHEDULE OF TIE BEAMS

BEAM MARKED	BEAM SIZE WIDTH (W) (mm)	BEAM SIZE DEPTH (D) (mm)	TOP REINFORCEMENT ALTERNATE (a)	TOP REINFORCEMENT EXTRA AT SUPPORT (b)	BOTTOM REINFORCEMENT ALTERNATE	BOTTOM REINFORCEMENT EXTRA AT SPAN	STIRRUPS (AT SUPPORT) (S1)	STIRRUPS (AT SPAN) (S2)
TB1	250	400	3-16Φ +3-12Φ	—			2L-8-Φ@100 C/C	2L-8-Φ@200 C/C
TB2	250	400	3-16Φ	—			2L-8-Φ@100 C/C	2L-8-Φ@200 C/C
TB3	250	400	3-12Φ	—			2L-8-Φ@100 C/C	2L-8-Φ@200 C/C
TB4	250	400	3-16Φ +2-12Φ	—			2L-8-Φ@100 C/C	2L-8-Φ@200 C/C
TB5	250	400	3-16Φ	—			2L-8-Φ@100 C/C	2L-8-Φ@200 C/C
TB6	250	400	3-16Φ	2-12Φ			2L-8-Φ@100 C/C	2L-8-Φ@200 C/C

SPECIAL NOTES:
1.0 THIS STRUCTURAL DRAWING IS VALID IF THE ARCHITECTURAL DRAWING IS FOLLOWED USING 200 mm THICK AAC BLOCKS IN EXTERNAL WALLS, 75 &125 mm THICK AAC BLOCKS IN INTERNAL WALLS.
2.0 THIS DRAWING SHOWS A NUMBER OF NON RECTANGULAR SLAB PANELS. SLAB REINFORCEMENTS MUST BE LAID UNDER SUPERVISION OF COMPETENT STRUCTURAL ENGINEER BY CLEARLY IDENTIFYING THE SLAB PANEL BOUNDED BY HIDDEN BEAMS AT PLACES.

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