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OFFICE OF THE EXECUTIVE ENGINEER,
STRUCTURAL QUALITY CONTROL WING,
TAMILNADU URBAN HABITAT DEVELOPMENT BOARD,
KAMARAJAR SALAI, CHENNAI-05.

STABILITY CERTIFICATE

This is to Certify that the registration Reconstruction of (306+2) tenements consisting of 2 blocks adopting partially (S+11) at pillayar koil thottam schemeR.S.NO.3545/1Block no 70 in Chennai Corpn. Dn. No.119 under HFA/AHP/PMAY, Mylapore Taluk, Chennai District, Tamil Nadu which is structurally designed for Partially (S + 11) Floors assuming the live load of 200 Kg/ Sq.m as per IS 875 are designed as per IS 456 Grade of Concrete will be M30 for all structural members. The structure is also designed for the Seismic zone as per IS code. The structure design is Safe, Good, and Sound.

Executive Engineer (A

G. MAHENDIRAN, M.E.,
ASSISTANT EXECUTIVE ENGINEER
REGISTRATION No: SE/I/2024/4/0071
Registered Structural Engineer Grade-I (SE-I)
Tamil Nadu Urban Habitat Development Board
No. 5, Kamarajar Salai, Chennai-600 005.

GENERAL

1) ALL STRUCTURAL KEY PLANS AND DETAILS ARE TO BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECTURAL DRAWINGS, SERVICE DRAWINGS, SPECIFICATIONS, BILLS OF QUANTITIES AND ALL OTHER RELEVANT DOCUMENTS. DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ENGINEER–IN–CHARGE.
2) ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NEITHER THE BARS SHALL BE COUNTED NOR THE DIMENSIONS SCALED FROM THE DRAWING.

FOUNDATIONS

1) FOUNDATIONS ARE DESIGNED FOR THE SBC SPECIFIED IN THE FOUNDATION DRAWING. MIX FOR ALL RCC WORKS SHALL BE AS SPECIFIED IN THE STRUCTURAL DRAWINGS.
2) IF ASSUMED SAFE BEARING CAPACITY OF THE SOIL IS NOT FOUND AT THE SPECIFIED FOUNDING LEVEL, THE SAME SHALL BE BROUGHT TO THE NOTICE OF THE ENGINEER–IN–CHARGE FOR FURTHER DIRECTIONS.
3) FORMATION LEVELS OF FOUNDATIONS SHALL BE DETERMINED BY THE ENGINEER–IN–CHARGE BASED UPON EXISTING ROAD LEVEL, WATER TABLE LEVEL AND REQUIREMENT OF PROVISION OF SERVICES.
4) FOUNDATIONS ARE DESIGNED TO BE AT SAME FOUNDING LEVEL. ANY VARIATIONS IN THE GROUND LEVEL BEYOND 600MM AND THE DIFFERENCE IN LEVEL OF TWO ADJACENT FOOTINGS GREATER THAN HALF OF THE CLEAR DISTANCE BETWEEN THEM SHALL BE BROUGHT TO THE NOTICE OF ENGINEER–IN–CHARGE.
5) ANY LOOSE POCKETS OR PROTUDING BOULDERS SHALL BE REMOVED BEFORE LAYING BED CONCRETE FOR FOUNDATIONS AND SHALL BE LEVELLED BY FILLING WITH PCC.
6) THE TOP LEVEL OF THE GRADE BEAMS OF THE EXTERNAL WALL SHALL BE 150MM BELOW GROUND LEVEL AND OTHER BEAMS OF INTERNAL WALLS SHALL BE 40MM BELOW THE PLINTH LEVEL.

CONCRETE

1) GRADE OF CONCRETE FOR PILE M30 AND M30 FOR OTHER STRUCTURAL ELEMENT, MINIMUM CEMENT CONTENT FOR PILE SHOULD BE 400KG/CUM UNLESS OTHERWISE SPECIFIED.
2) ALL OPENINGS FOR PIPING AND CONDUITS ETC., SHALL BE FORMED IN POSITION BEFORE THE CASTING OF CONCRETE.
3) NO HOLES OR CHASES ARE PERMITTED IN THE STRUCTURAL CONCRETE MEMBERS OTHER THAN AS DETAILED OR APPROVED BY THE ENGINEER–IN–CHARGE.
4) THE CLEAR DEPRESSION OF SLAB FOR BATH, WASHBASIN AND E.W.C SHALL BE 300MM AND FOR I.W.C SHALL BE 500MM. DEPRESSION IN SLAB FOR BALCONY SHALL BE 20MM FROM THE ADJACENT FLOOR LEVELS. NECESSARY PROVISION FOR OUTLETS FROM TRAPS SHALL BE KEPT WHILE CASTING THE BEAMS.
5) WHEN THE SPAN IS MORE THAN 6.00M, PROVIDE CAMBER @ SPAN/250 FOR BEAMS AND SLABS.
6) THE FREE END OF CANTILEVER SLABS OR BEAMS SHALL BE RAISED BY 2% OF THE SPAN. TORSIONAL REINFORCEMENT AT DISCONTINUOUS EDGES OF TWO WAY REINFORCED SLABS SHALL BE AS PER IS 456–2000.
7) ALL CONCRETE IS TO BE CURED BY AN APPROVED METHOD– WATER PONDING, POLYTHENE/HESSIAN SHEET, CURING COMPOUND.

REINFORCEMENT

1) ALL STEEL REINFORCEMENT SHALL BE OF TMT BARS CONFORMING TO IS 1786 WITH MINIMUM YIELD STRESS / 0.2% PROOF STRESS OF 500 N/SQ.MM
2) GRADE FE 500D FOR ALL STRUCTURES DESIGNED FOR SEISMIC RESISTANCE UNDER ZONE–III OF IS 1893–2016.
3) ALL REBARS SHALL BE CUT AND BENT CONFORMING TO THE LATEST EDITION OF IS 1786. MECHANICAL COUPLERS CONFORMING TO IS 16172 SHALL BE USED WHEN LONGITUDINAL STEEL BARS HAVE TO BE CONTINUED FOR BEAM SPANS LARGER THAN THEIR MANUFACTURED LENGTH.
4) WELDING OF REBARS WILL NOT BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER–IN–CHARGE. WELDING OF LINKS, TIES, INSERTS OR OTHER SIMILAR ELEMENTS TO VERTICAL REINFORCEMENT BARS REQUIRED AS PER DESIGN IS NOT PERMITTED, IN ANY SEISMIC ZONE.
5) ALL REBARS ARE TO BE FIRMLY SUPPORTED ON APPROVED CHAIRS OR CONCRETE BLOCKS PLACED AT NOT GREATER THAN 750MM CENTRES BOTH WAYS.
6) NOT MORE THAN 50% OF AREA OF STEEL BARS ON EITHER TOP OR BOTTOM FACE SHALL BE SPLICED AT ANY ONE SECTION. LAPPING OF REBARS SHALL AS FAR AS POSSIBLE BE AWAY FROM THE SECTIONS OF MAXIMUM STRESS AND BE STAGGERED. LAP SPLICES SHALL BE CONSIDERED AS STAGGERED, IF THE CENTRE TO CENTRE DISTANCE OF THE SPLICES IS NOT LESS THAN 1.3 TIMES THE LAP LENGTH.
7) LAP / MECHANICAL COUPLERS / WELDED SPLICES SHOULD NOT BE PROVIDED
   A) WITHIN A JOINT
   B) WITHIN A DISTANCE OF 2D FROM THE COLUMN, WHERE 'D' IS THE EFFECTIVE DEPTH OF THE MEMBER.
   C) WITHIN A DISTANCE 1/4 LENGTH OF MEMBER FROM THE COLUMN.
8) LAP LENGTH INCLUDING ANCHORAGE VALUE OF HOOKS FOR BARS IN FLEXURAL TENSION SHALL BE LD OR 30DIA WHICHEVER IS GREATER. THE STRAIGHT LENGTH OF THE LAP SHALL NOT BE LESS THAN 15DIA OR 200MM. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF THE SMALLER BAR.
9) THE HORIZONTAL DISTANCE BETWEEN TWO PARALLEL MAIN REINFORCING BARS SHALL BE NOT LESS THAN THE DIAMETER OF THE LARGER BAR USED OR 5MM MORE THAN THE NOMINAL MAXIMUM SIZE OF COARSE AGGREGATE USED, WHICHEVER IS GREATER.
10) WHENEVER REINFORCEMENT IS PROVIDED IN TWO LAYERS IN BEAMS, SPACER BAR SHALL BE PROVIDED TO MAINTAIN 25MM GAP OR MAXIMUM DIA OF THE MAIN BAR WHICHEVER IS MORE BETWEEN TWO LAYERS.
11) IN CASE OF CANTILEVER BEAMS / SLABS THE TOP REINFORCEMENT SHALL BE TAKEN BEYOND THE INNER FACE OF THE SUPPORTS TO ATLEAST THE SPAN OF THE CANTILEVER WHEREVER POSSIBLE. IN CASE IT IS NOT POSSIBLE TO ADOPT THE ABOVE SAID PRACTICE, THE REINFORCEMENT SHALL BE PROPERLY ANCHORED INTO THE SUPPORTING MEMBER.
12) LAP / DEVELOPMENT LENGTH FOR MAIN REINFORCEMENT BARS (IN TENSION / COMPRESSION) FOR DIFFERENT GRADES OF CONCRETE MIX SHALL BE AS FOLLOWS:

CONCRETE MIX	Fe 500D (FOR ZONE–III STRUCTURES)
M30	45d (TENSION) & 36d (COMP)

WHERE d IS THE DIAMETER OF THE BAR.

13) WHERE OPENINGS ARE SMALL AND THE SLAB IS NOT SUBJECTED TO ANY SPECIAL TYPE LOADING OR VIBRATION CONDITIONS, THE FOLLOWING GENERAL DETAILING RULES MAY BE FOLLOWED AROUND OPENINGS.
   A) DIAMETER OF TRIMMER BARS SHALL BE SIMILAR TO BIGGER REINFORCING BARS OF THE STRUCTURE THROUGH WHICH THE OPENING IS FORMED.
   B) NO TRIMMER BARS ARE REQUIRED FOR OPENINGS LESS THAN 200MM WIDE. NO REINFORCING BARS SHALL BE CUT BUT THESE SHALL BE ADJUSTED IN POSITION TO AVOID OPENINGS.
   C) TRIMMER BARS SHALL BE NOT LESS THAN THE NOS. OF BARS CUT BY OPENING.
   D) MINIMUM 2 NOS. EACH AT TOP AND BOTTOM AND BAR DIAMETER AS SPECIFED ABOVE BUT NOT LESS THAN 10#.
   E) BOTH PERPENDICULAR AND DIAGONAL TRIMMIMG BARS SHALL BE PROVIDED AS SHOWN IN SKETCHES.
14) WHENEVER THE REINFORCEMENT IS PROJECTED FROM THE STRUCTURAL MEMBERS AS A PROVISION MADE TOWARDS FUTURE EXTENSION OF THE BUILDING THE SAME SHALL BE APPROPRIATELY PROTECTED FROM CORROSION BY TREATING WITH EPOXY AFTER COMPLETELY REMOVING SCALES OR RUST, IF ANY. THIS REINFORCEMENT MAY BE ENCASED IN A CONCRETE MIX OF 1:3:6 OR LEFT EXPOSED OR PROTECTED IN ANY OTHER MANNER AS DIRECTED BY ENGINEER–IN–CHARGE.
15) THE NOMINAL COVER GIVEN BELOW FOR MODERATE EXPOSURE CONDITION SHALL BE MEASURED FROM THE OUTER FACE OF THE STRUCTURAL ELEMENT TO THE STIRRUPS / LINKS.

RAFTS	–60MM	PILES	–50MM	STRIP BEAM	–75MM	FOOTINGS	–60MM	COLUMNS	–40MM
BEAMS	–25MM	SLABS	–25MM	WALLS	–25MM	TANK WALLS	–40MM	TANK BASES	–50MM

WATER AND DRAINAGE LINES WITHIN STRUCTURAL ELEMENTS:

1) THE CONTRACTOR SHALL SUBMIT FOR APPROVAL DETAILS OF EXIT AND ENTRY OF PIPES THROUGH STRUCTURAL ELEMENTS.
2) THESE POINTS ARE TO HAVE ADDITIONAL FUSION BONDED EPOXY COATED REINFORCEMENT PLACED AROUND THE PIPE.

RC WALLS FOR BASEMENTS:

1) IF THE LEVEL OF THE WATER TABLE OR ANY SEEPAGE IS FOUND TO BE WITHIN THE DEPTH OF EXCAVATION, THE SAME SHALL BE BROUGHT TO THE NOTICE OF ENGINEER–IN–CHARGE.
2) 100MM THICK BLINDING CONCRETE OF GRADE M15 IS TO BE PLACED BELOW THE WATER TANKS BASE SLAB.
3) WATER BARS ARE TO BE INCORPORATED IN ALL VERTICAL AND HORIZONTAL JOINTS.
4) ALL WALL KICKERS SHALL BE CAST MONOLITHICALLY WITH THE BASE SLAB.

CONSTRUCTION JOINTS:

1) THESE ARE TO BE PROVIDED AT LOCATIONS OF ZERO OR MINIMUM SHEAR IN BEAMS AND SLABS AND AT LOCATIONS OF MINIMUM STEEL CONGESTION.
2) THESE ARE TO BE PERPENDICULAR TO THE COMPRESSIVE FORCES ACROSS THE JOINT. IN MOST CASES THE JOINTS WILL HAVE TO BE PERPENDICULAR TO THE AXIS OF THE MEMBER.
3) ALL REINFORCING BARS INTERSECTED BY THE CONSTRUCTION JOINTS ARE TO EXTEND THROUGH THE JOINTS WITHOUT INTERCEPTION.
4) VERTICAL JOINTS SHALL BE FORMED WITH TIMBER FORMWORK COATED WITH AN APPROVED SURFACE RETARDER AND THE VERTICAL FACE IS TO BE WASHED TO EXPOSE THE AGGREGATE BEFORE FINAL SET OF THE CONCRTE HAS TAKEN PLACE.
5) HORIZONTAL JOINTS SHALL BE SCRABBLED TO REMOVE ALL LAITANCE AND WEAK CONCRETE BEFORE CONCRETE FOR THE NEXT LIFT IS PLACED. NECESSARY KEYS SHALL BE PROVIDED IN THE APPROVED METHODOLOGY AS REQUIRED BY THE ENGINEER–IN–CHARGE.
6) WATERJET CLEANING AND FLUSHING THE JOINT WITH MORTAR OR GROUT ARE TO PRECEDE THE POURING OF FRESH CONCRETE.

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NOTES:

1. ALL DIMENSIONS ARE IN "mm" UNLESS OTHERWISE SPECIFIED.
2. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED, NEITHER THE DRAWING SHALL BE SCALED OUT NOR THE BARS SHALL BE COUNTED.
3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION.
4. GRADE OF CONCRETE FOR PILE M30(MINIMUM CEMENT CONTENT FOR PILE SHOULD BE 400KG/CUM UNLESS OTHERWISE SPECIFIED) AND M30 FOR OTHER STRUCTURAL ELEMENT.
5. GRADE OF STEEL SHALL BE Fe–500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE / FOOTING = 50MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe–500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe–500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 1300 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+11 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

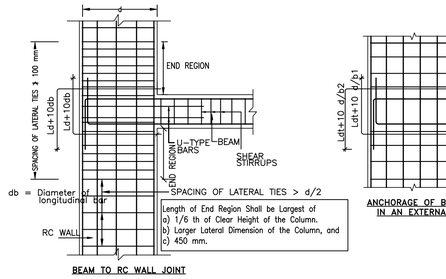
NOTE:	SYMBOL	DESCRIPTION
		NGL NATURAL GROUND LEVEL

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

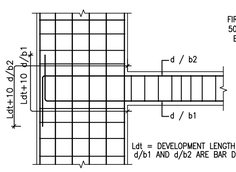
Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

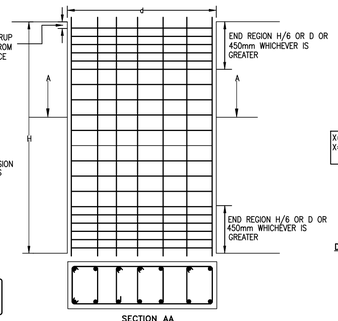
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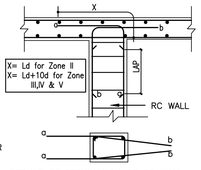
BEAM TO RC WALL JOINT



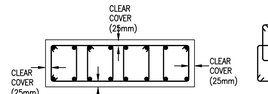
ANCHORAGE OF BEAM BARS IN AN EXTERNAL JOINT



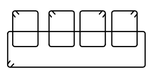
SECTION AA
SPACING OF SHEAR REINFORCEMENT IN RC WALL



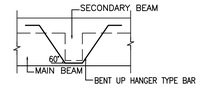
DETAILS OF TERMINATION OF RC WALL BARS INSIDE THE SLAB.



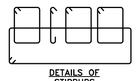
DETAILS OF CLEAR COVER



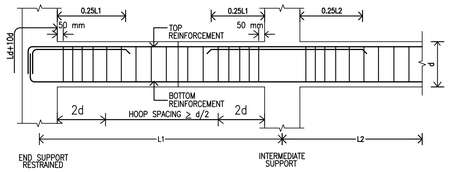
DETAILS OF STIRRUPS



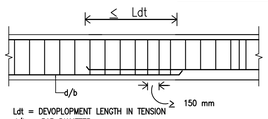
DETAILS AT JUNCTION OF MAIN BEAM AND SECONDARY BEAM



DETAILS OF STIRRUPS



TYPICAL BEAM LONGITUDINAL SECTION

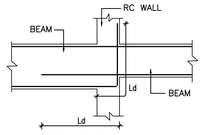


Ldt = DEVOPLOPMENT LENGTH IN TENSION
d/b = BAR DIAMETER

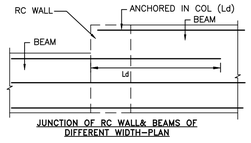
LAP SPLICES SHALL NOT BE PROVIDED
a. WITHIN A JOINT
b. WITHIN A DISTANCE OF 2d FROM JOINT
c. WITHIN A QUARTER LENGTH OF THE MEMBER

(NOT MORE THAN 50% BARS SHALL BE SPLICED AT ONE SECTION)

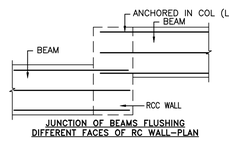
LAP SPLICE IN BEAM



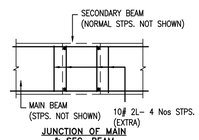
JUNCTION OF RC WALL & BEAMS OF DIFFERENT DEPTHS.



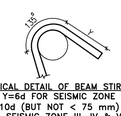
JUNCTION OF RC WALL& BEAMS OF DIFFERENT WIDTH–PLAN



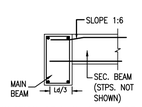
JUNCTION OF BEAMS FLUSHING DIFFERENT FACES OF RC WALL–PLAN



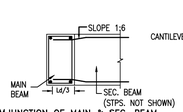
JUNCTION OF MAIN & SEC. BEAM



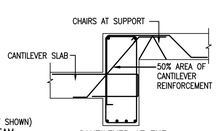
TYPICAL DETAIL OF BEAM STIRRUPS
Y=6d FOR SEISMIC ZONE II
Y=10d (BUT NOT < 75 mm) FOR SEISMIC ZONE III, IV & V



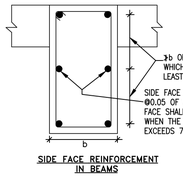
JUNCTION OF MAIN & SEC. BEAM (UNEQUAL DEPTHS)



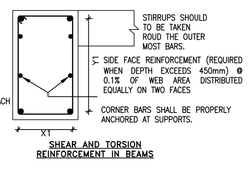
JUNCTION OF MAIN & SEC. BEAM (EQUAL DEPTHS)



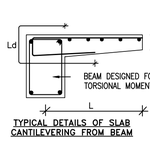
CANTILEVER AT THE TOP OF BEAMS



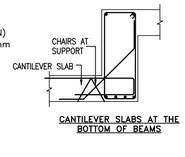
SIDE FACE REINFORCEMENT IN BEAMS



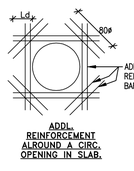
SHEAR AND TORSION REINFORCEMENT IN BEAMS



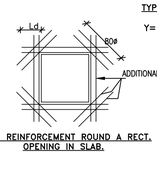
TYPICAL DETAILS OF SLAB CANTILEVERING FROM BEAM



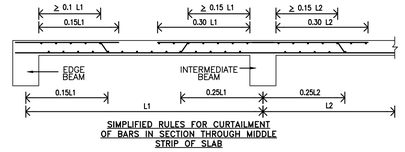
CANTILEVER SLABS AT THE BOTTOM OF BEAMS



ADDL. REINFORCEMENT ALROUND A CIRC. OPENING IN SLAB.



ADDL. REINFORCEMENT ROUND A RECT. OPENING IN SLAB.



SIMPLIFIED RULES FOR CURTAILMENT OF BARS IN SECTION THROUGH MIDDLE STRIP OF SLAB

BEAM WEB REINFORCEMENT

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:
STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU–600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022–23/031/TNUHDB_PKTS

PROJECT TITLE:
RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO:TNUHDB/PKTS/B–01&02/001	SHEET NO:001	REV NO: R0

DRAWING TITLE : GENERAL NOTES

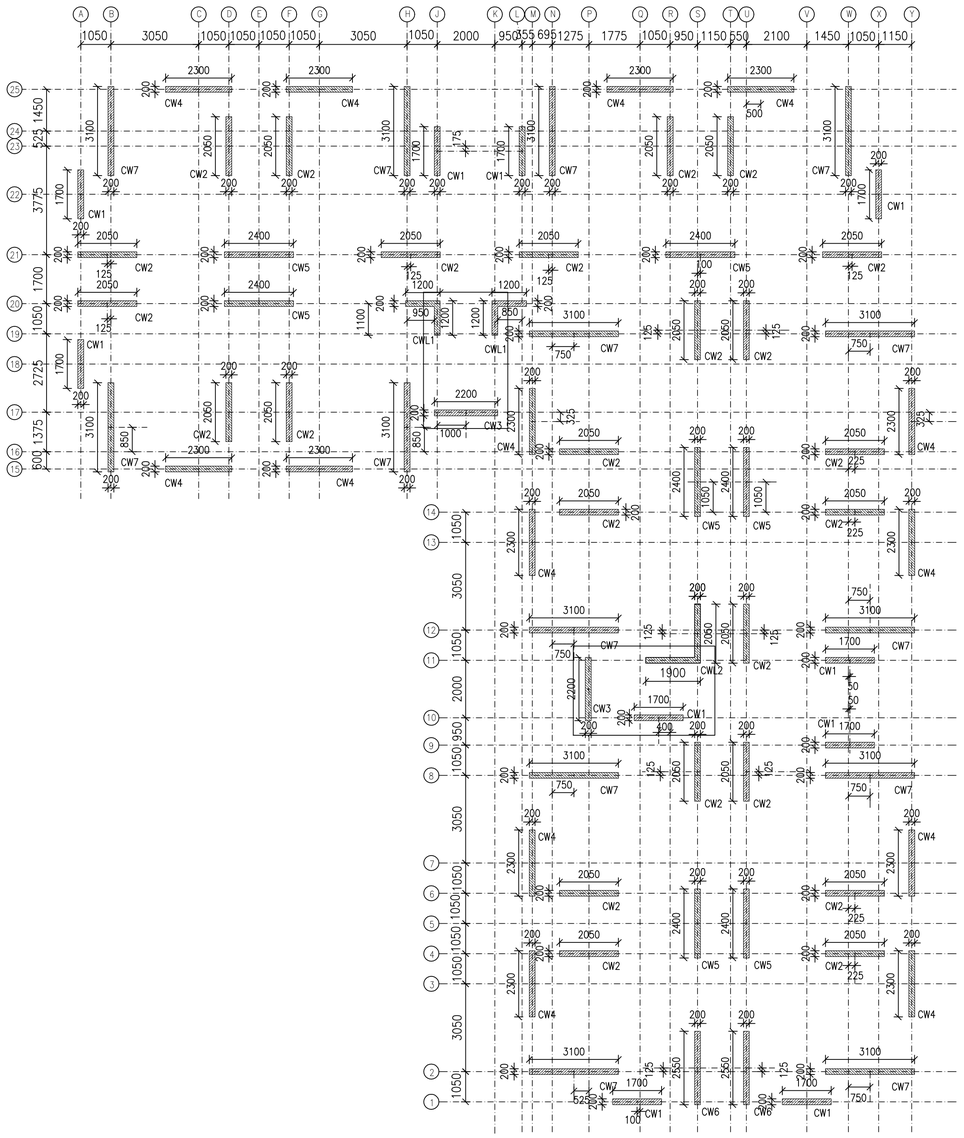
BLOCK NO: 01 & 02	SCALE: NTS	SIZE OF SHEET:A1

ISSUED FOR:

☐PRELIMINARY ☐APPROVAL	☐TENDER ☑CONSTRUCTION	☐INFORMATION	DATE OF ISSUE 21–11–2022

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CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm



RC WALL CENTER LINE LAYOUT

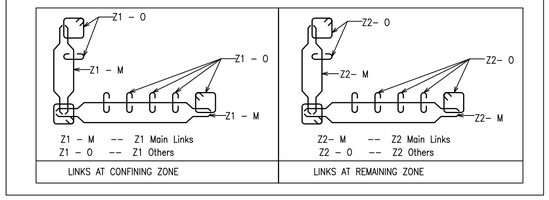
WALL SCHEDULE

RC WALL NAME	RC WALL	NO. OF WALLS
CW1	1700	10
CW2	2050	24
CW3	2200	02
CW4	2300	14
CW5	2400	07
CW6	2550	02
CW7	3100	14
CWL1	1200, 1000, 1200, 200	02
CWL2	1900, 1700, 2050, 200	01
	TOTAL	76

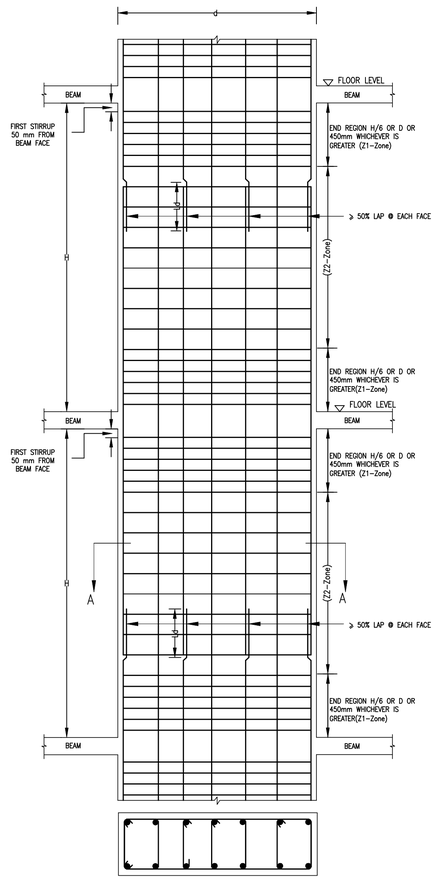
NOTES:

Z1 – SPECIAL CONFINING ZONE AS PER IS-13920

Z2 – REMAINING ZONES AS PER IS 456



LINKS AT CONFINING ZONE	LINKS AT REMAINING ZONE
Z1 – M -- Z1 Main Links Z1 – O -- Z1 Others	Z2– M -- Z2 Main Links Z2 – O -- Z2 Others



LAP SPLICES SHALL NOT BE PROVIDED

a. WITHIN A JOINT
b. WITHIN A DISTANCE OF 2d FROM JOINT
c. WITHIN A QUARTER LENGTH OF THE MEMBER

(NOT MORE THAN 50% BARS SHALL BE SPLICED AT ONE SECTION)

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NOTES:

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2. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED, NEITHER THE DRAWING SHALL BE SCALED OUT NOR THE BARS SHALL BE COUNTED.
3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION.
4. GRADE OF CONCRETE FOR PILE M30(MINIMUM CEMENT CONTENT FOR PILE SHOULD BE 400KG/CUM UNLESS OTHERWISE SPECIFIED) AND M30 FOR OTHER STRUCTURAL ELEMENT.
5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE / FOOTING = 50MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 1300 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+11 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

NOTE:	SYMBOL	DESCRIPTION	
		NGL	NATURAL GROUND LEVEL

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
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PROOF-CHECKING AGENCY:

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STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/031/TNUHDB_PKTS

PROJECT TITLE:

RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO: TNUHDB/PKTS/B-01&02/002	SHEET NO: 002	REV NO: R0

DRAWING TITLE :
RC WALL CENTER LINE LAYOUT

BLOCK NO: 01 & 02	SCALE: NTS	SIZE OF SHEET: A1

ISSUED FOR:

☐ PRELIMINARY ☐ APPROVAL	☐ TENDER ☑ CONSTRUCTION	☐ INFORMATION	DATE OF ISSUE 21-11-2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm

RC WALL REINFORCEMENT SCHEDULE – CW1, CW2, CW3, CW4

		CW1	CW2	CW3	CW4
MACHINE ROOM +41.1m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c	Z1–M –; Z1–O –; Z2–M –; Z2–M –	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c	Z1–M –; Z1–O –; Z2–M –; Z2–M –
	STEEL	12–12Y; 14–12Y	–; –	16–12Y; 18–12Y	–; –
HEADROOM +39.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c	Z1–M –; Z1–O –; Z2–M –; Z2–M –
	STEEL	12–12Y; 14–12Y	16–12Y; 16–12Y	16–12Y; 18–12Y	–; –
SIXTH FLOOR TO TERRACE FLOOR +36.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c
	STEEL	12–12Y; 14–12Y	16–12Y; 16–12Y	16–12Y; 18–12Y	16–12Y; 20–12Y
SECOND FLOOR TO FIFTH FLOOR +18.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c
	STEEL	12–12Y; 14–12Y	16–12Y; 16–12Y	16–12Y; 18–12Y	16–12Y; 20–12Y
FIRST FLOOR +3.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c
	STEEL	12–16Y; 14–12Y	16–16Y; 16–12Y	16–16Y; 18–12Y	16–16Y; 20–12Y
PILE CAP –2.0m lvl	C.S.	M30 : Fe500D , COVER = 25MM; CONFINING ZONE = 500MM	M30 : Fe500D , COVER = 25MM; CONFINING ZONE = 500MM	M30 : Fe500D , COVER = 25MM; CONFINING ZONE = 500MM	M30 : Fe500D , COVER = 25MM; CONFINING ZONE = 500MM
	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c
	C.S.	450; 450; 200; 1700; ●16Y ○12Y	450; 450; 200; 2050; ●16Y ○12Y	450; 450; 200; 2200; ●16Y ○12Y	450; 450; 200; 2300; ●16Y ○12Y
	STEEL	16–16Y; 14–12Y	16–16Y; 16–12Y	16–16Y; 18–12Y	16–16Y; 20–12Y
RC WALL NAME		CW1	CW2	CW3	CW4
TOTAL		10	24	02	14

RC WALL REINFORCEMENT SCHEDULE – CW2

		CW2
MACHINE ROOM +41.1m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c
	STEEL	16–12Y; 38–12Y
HEADROOM +39.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c
	STEEL	16–12Y; 38–12Y
SIXTH FLOOR TO TERRACE FLOOR +36.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c
	STEEL	16–12Y; 38–12Y
SECOND FLOOR TO FIFTH FLOOR +18.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c
	STEEL	16–12Y; 38–12Y
FIRST FLOOR +3.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c
	STEEL	16–16Y; 38–12Y
PILE CAP –2.0m lvl	C.S.	M30 : Fe500D , COVER = 25MM; CONFINING ZONE = 500MM
	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c
	C.S.	200; 600; 1900; 1100; 200; 200; 200; 1250; 600; 2050; ●16Y ○12Y
	STEEL	20–16Y; 34–12Y
RC WALL NAME		CWL2
TOTAL		01

RC WALL REINFORCEMENT SCHEDULE – CWL1

		CWL1
MACHINE ROOM +41.1m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c
	STEEL	12–12Y; 20–12Y
HEADROOM +39.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c
	STEEL	12–12Y; 20–12Y
SIXTH FLOOR TO TERRACE FLOOR +36.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c
	STEEL	12–12Y; 20–12Y
SECOND FLOOR TO FIFTH FLOOR +18.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c
	STEEL	12–12Y; 20–12Y
FIRST FLOOR +3.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c
	STEEL	12–16Y; 20–12Y
PILE CAP –2.0m lvl	C.S.	M30 : Fe500D , COVER = 25MM; CONFINING ZONE = 500MM
	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c
	C.S.	200; 200; 1200; 800; 200; 200; 200; 800; 200; 1200; ●16Y ○12Y
	STEEL	12–16Y; 20–12Y
RC WALL NAME		CWL1
TOTAL		02

RC WALL REINFORCEMENT SCHEDULE – CW5, CW6, CW7

		CW5	CW6	CW7
MACHINE ROOM +41.1m lvl	LINKS	Z1–M –; Z1–O –; Z2–M –; Z2–M –	Z1–M –; Z1–O –; Z2–M –; Z2–M –	Z1–M –; Z1–O –; Z2–M –; Z2–M –
	STEEL	–; –	–; –	–; –
HEADROOM +39.6m lvl	LINKS	Z1–M –; Z1–O –; Z2–M –; Z2–M –	Z1–M –; Z1–O –; Z2–M –; Z2–M –	Z1–M –; Z1–O –; Z2–M –; Z2–M –
	STEEL	–; –	–; –	–; –
SIXTH FLOOR TO TERRACE FLOOR +36.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@130c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@130c/c; Z2–M 8Y@130c/c
	STEEL	16–12Y; 22–12Y	16–12Y; 24–12Y	20–12Y; 26–12Y
SECOND FLOOR TO FIFTH FLOOR +18.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c
	STEEL	16–12Y; 22–12Y	16–12Y; 24–12Y	20–12Y; 26–12Y
FIRST FLOOR +3.6m lvl	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c
	STEEL	16–16Y; 22–12Y	16–16Y; 24–12Y	20–16Y; 26–12Y
PILE CAP –2.0m lvl	C.S.	M30 : Fe500D , COVER = 25MM; CONFINING ZONE = 500MM	M30 : Fe500D , COVER = 25MM; CONFINING ZONE = 500MM	M30 : Fe500D , COVER = 25MM; CONFINING ZONE = 500MM
	LINKS	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c	Z1–M 10Y@100c/c; Z1–O 10Y@100c/c; Z2–M 10Y@100c/c; Z2–M 8Y@100c/c
	C.S.	450; 450; 200; 2400; ●16Y ○12Y	450; 450; 200; 2550; ●16Y ○12Y	600; 600; 200; 3100; ●16Y ○12Y
	STEEL	16–16Y; 22–12Y	16–16Y; 24–12Y	20–16Y; 26–12Y
RC WALL NAME		CW5	CW6	CW7
TOTAL		07	02	14

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6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE / FOOTING = 50MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe–500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe–500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 1300 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+11 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

NOTE:	SYMBOL	DESCRIPTION
		NGL NATURAL GROUND LEVEL

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:
STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU–600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022–23/031/TNUHDB_PKTS

PROJECT TITLE:
RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO:	SHEET NO:	REV NO:
TNUHDB/PKTS/B–01&02/003	003	R0

DRAWING TITLE :
RC WALL REINFORCEMENT DETAILS

BLOCK NO:	SCALE:	SIZE OF SHEET:
01 & 02	NTS	A1

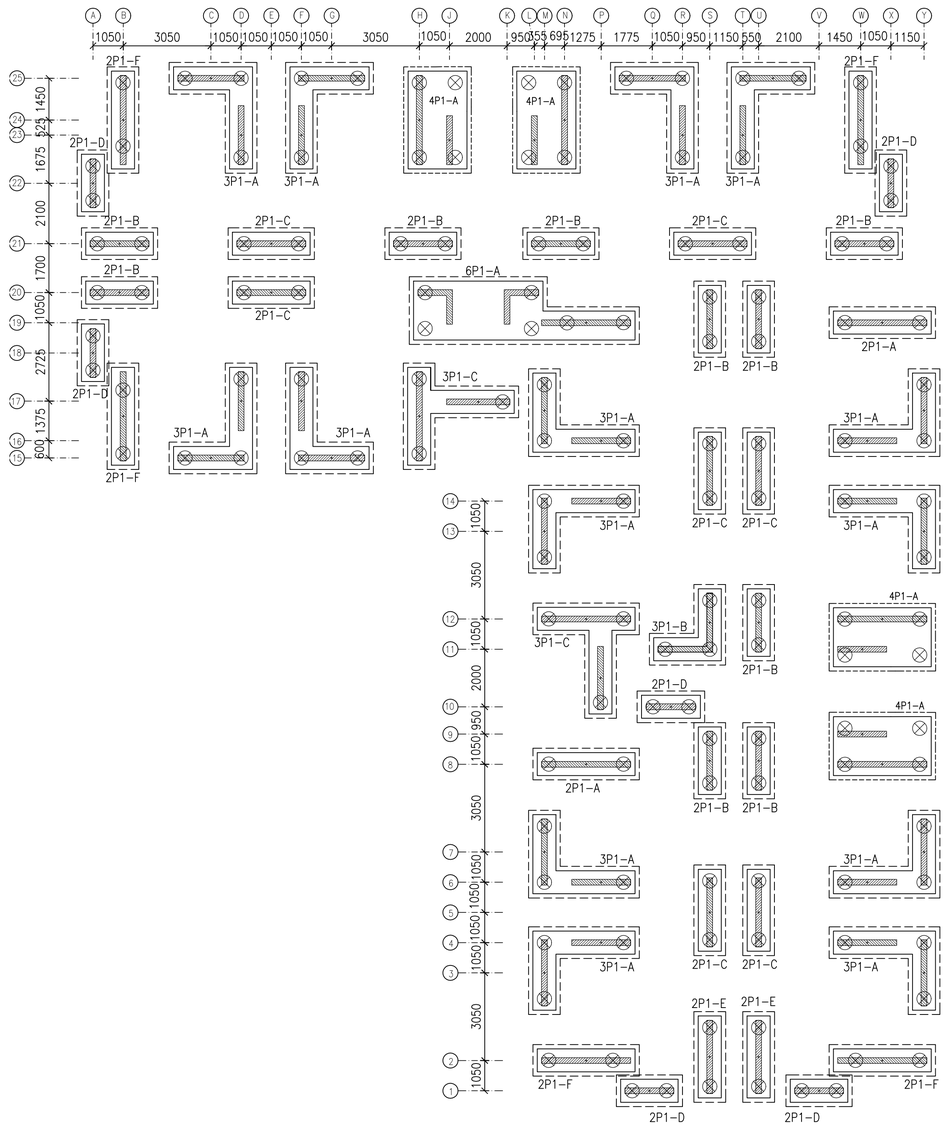
ISSUED FOR:

☐ PRELIMINARY ☐ APPROVAL	☐ TENDER ☑ CONSTRUCTION	☐ INFORMATION

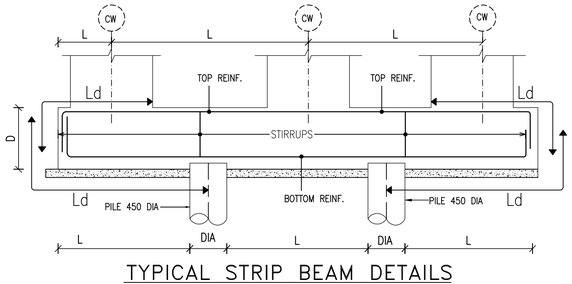
DATE OF ISSUE 21–11–2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

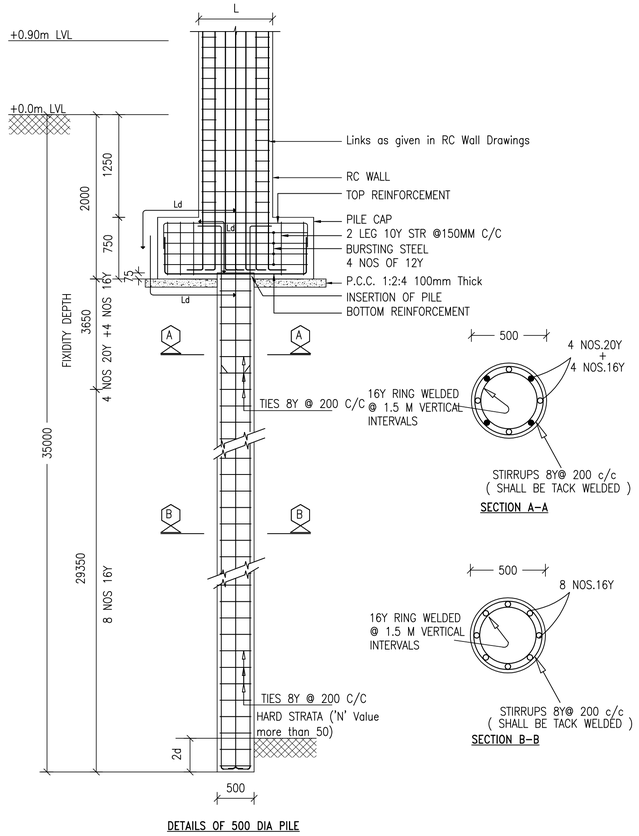
NOTE: ALL DIMENSION ARE IN mm



PILE LAYOUT



TYPICAL STRIP BEAM DETAILS



DETAILS OF 500 DIA PILE

NOTES:

1. ALL DIMENSIONS ARE IN 'MILLI METRES' UNLESS OTHERWISE SPECIFIED. DRAWING SHALL NOT BE SCALED OUT. ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
2. BORED CAST-IN-SITU PILE CONSTRUCTION WORK IN GENERAL SHALL BE CARRIED OUT AS PER I.S. 2911 (PART I/ SEC - 2) 2010.
3. THE MIX FOR THE R.C.C WORKS SHALL BE DESIGN MIX M30 WITH CEMENT CONTENT NOT LESS THAN 400 kg /cu.m OF CONCRETE.
4. THERMO MECHANICALLY TREATED BARS OF GRADE Fe 500D (ELONGATION NOT LESS THAN 16 %) CONFORMING TO I.S. SPECIFICATION 1786 SHALL BE USED FOR BARS MARKED AS Y.
5. REINFORCEMENT BARS SHALL BE TACK WELDED TO THE LATERAL TIES THROUGHOUT THE LENGTH OF THE PILES TO PROVIDE MORE RIGIDITY TO THE CAGE. ROLLER COVER BLOCKS SHALL BE PROVIDED TO THE CAGE AT APPROXIMATELY TWO METRES INTERVALS AND SUITABLY STAGGERED. ONLY ELECTRICAL WELDING IS PERMITTED.
6. CLEAR COVER TO THE MAIN REINFORCEMENT SHALL BE 60 MM FOR PILES .
7. WATER USED FOR ALL CONCRETE WORK SHALL CONFORM TO CLAUSE 5.4 OF IS 456-2000.
8. THE BORED CAST-IN-SITU PILE SHALL REST ON THE HARD STRATA / WEATHERED ROCK LAYER. THE PILE HAS TO BE TAKEN UPTO THE REFUSAL STRATA.
9. THE VERTICAL LOAD TEST MAY BE CONDUCTED TO ASCERTAIN THE ACTUAL SAFE LOAD CARRYING CAPACITY OF THE PILE IRRESPECTIVE OF THE SAFE LOAD MENTIONED AS PER AGREEMENT ITEM OR IN SOIL INVESTIGATION REPORT .AS PER CLAUSE 4.2.3.9 OF IS 2911 - PT - IV. THE TEST SHALL BE CONDUCTED TILL THE SETTLEMENT ATTAINS 12 MM. AS PER CLAUSE 4.2.3.9 OF IS 2911 - PT - IV.
10. THE TENTATIVE SAFE LOAD ON BORED CAST-IN -SITU PILE IS
    (A) 500MM DIA - 130 TONNES

PILE CAP SCHEDULES

SI.NO.	PILE CAP NAME	NOS
1	2P1-A	02
2	2P1-B	10
3	2P1-C	07
4	2P1-D	06
5	2P1-E	02
6	2P1-F	05
7	3P1-A	14
8	3P1-B	01
9	3P1-C	02
10	4P1-A	04
11	6P1-A	01
	TOTAL	54

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NOTES:

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5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
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8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

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		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
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12. THIS BUILDING IS DESIGNED FOR STILT+11 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

NOTE:	SYMBOL	DESCRIPTION
		NGL NATURAL GROUND LEVEL

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:
STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU-600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/031/TNUHDB_PKTS

PROJECT TITLE:
RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO: TNUHDB/PKTS/B-01&02/004	SHEET NO: 004	REV NO: R0

DRAWING TITLE :
PILE LAYOUT

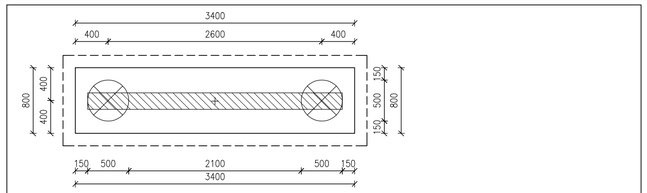
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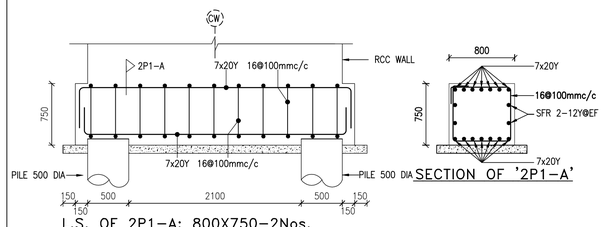
☐ PRELIMINARY ☐ APPROVAL	☐ TENDER ☑ CONSTRUCTION	☐ INFORMATION	DATE OF ISSUE 21-11-2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm

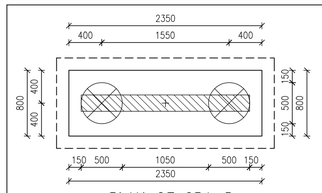


PLAN OF 2P1-A

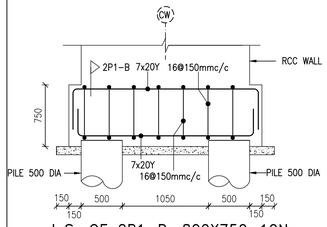


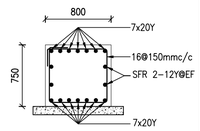
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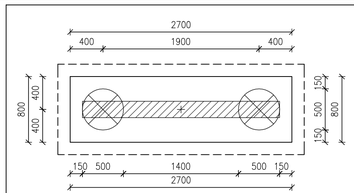
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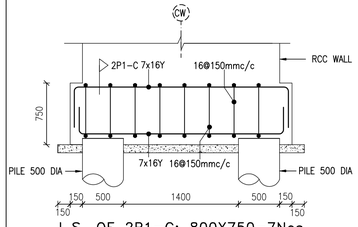


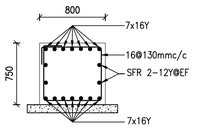
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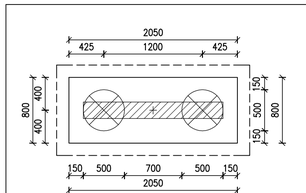
PLAN OF 2P1-C



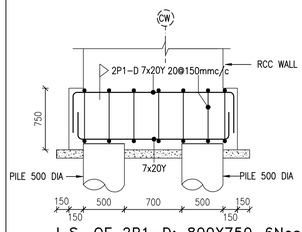


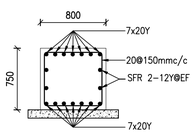
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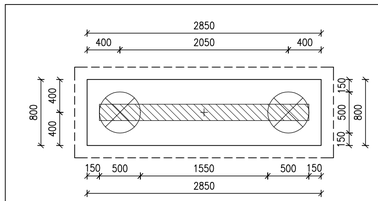
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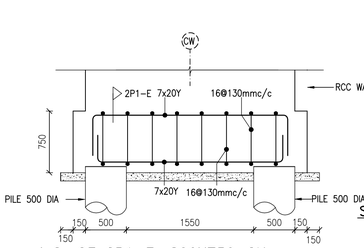


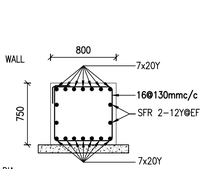
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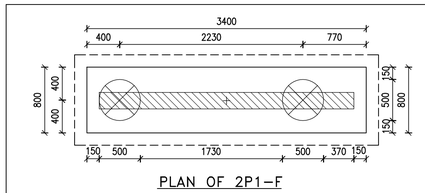
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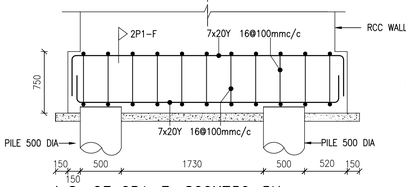


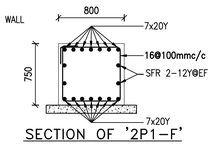
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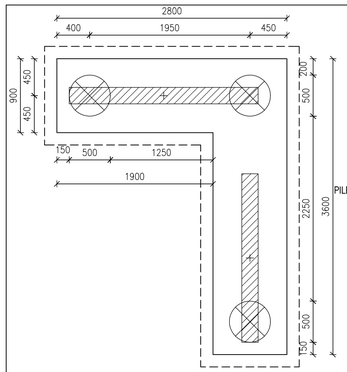
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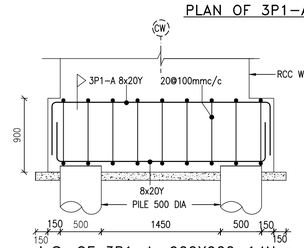


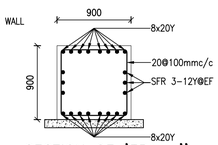
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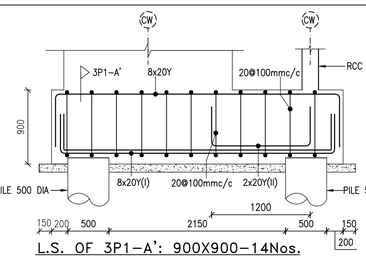
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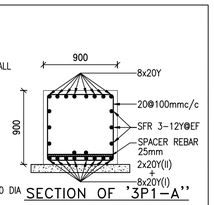




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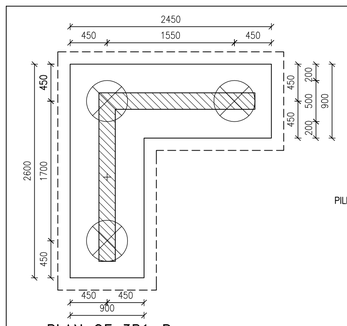
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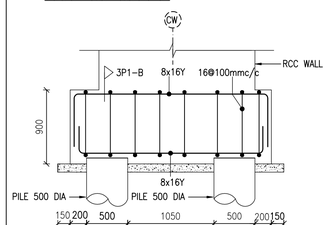


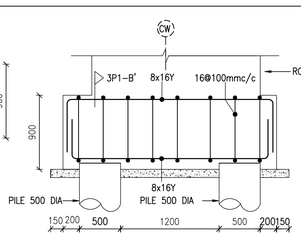
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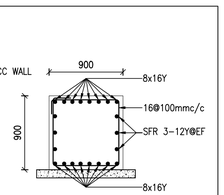
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PLAN OF 3P1-B

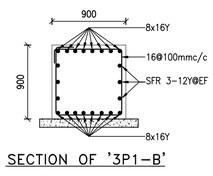






SECTION OF '3P1-B''

L.S. OF 3P1-B': 900X900-1No.



SECTION OF '3P1-B'

L.S. OF 3P1-B: 900X900-1No.

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REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

NOTE:	SYMBOL	DESCRIPTION	
		NGL	NATURAL GROUND LEVEL

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:

STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU-600036

STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/031/TNUHDB_PKTS

PROJECT TITLE:

RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO:	SHEET NO:	REV NO:
TNUHDB/PKTS/B-01&02/005	005	R0

DRAWING TITLE :
PILE CAP REINFORCEMENT DETAILS

BLOCK NO:	SCALE:	SIZE OF SHEET:
01 & 02	NTS	A1

ISSUED FOR:

			DATE OF ISSUE
☐ PRELIMINARY ☐ APPROVAL	☐ TENDER ☑ CONSTRUCTION	☐ INFORMATION	21-11-2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm

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REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

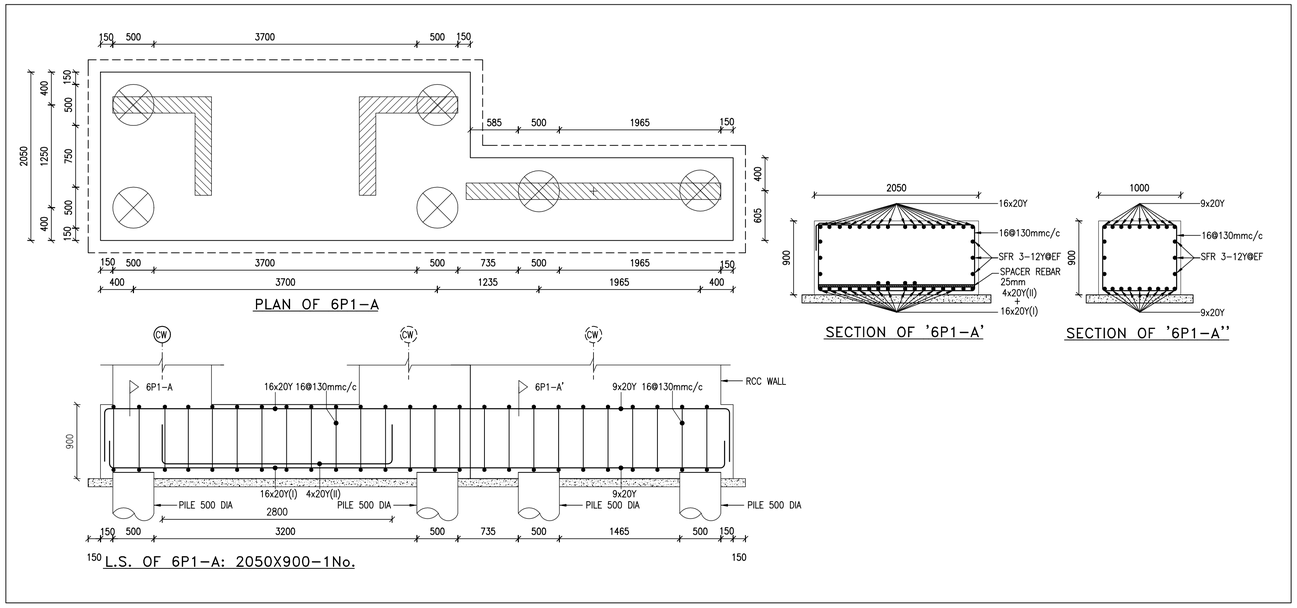
NOTE:	SYMBOL	DESCRIPTION
		NGL — NATURAL GROUND LEVEL

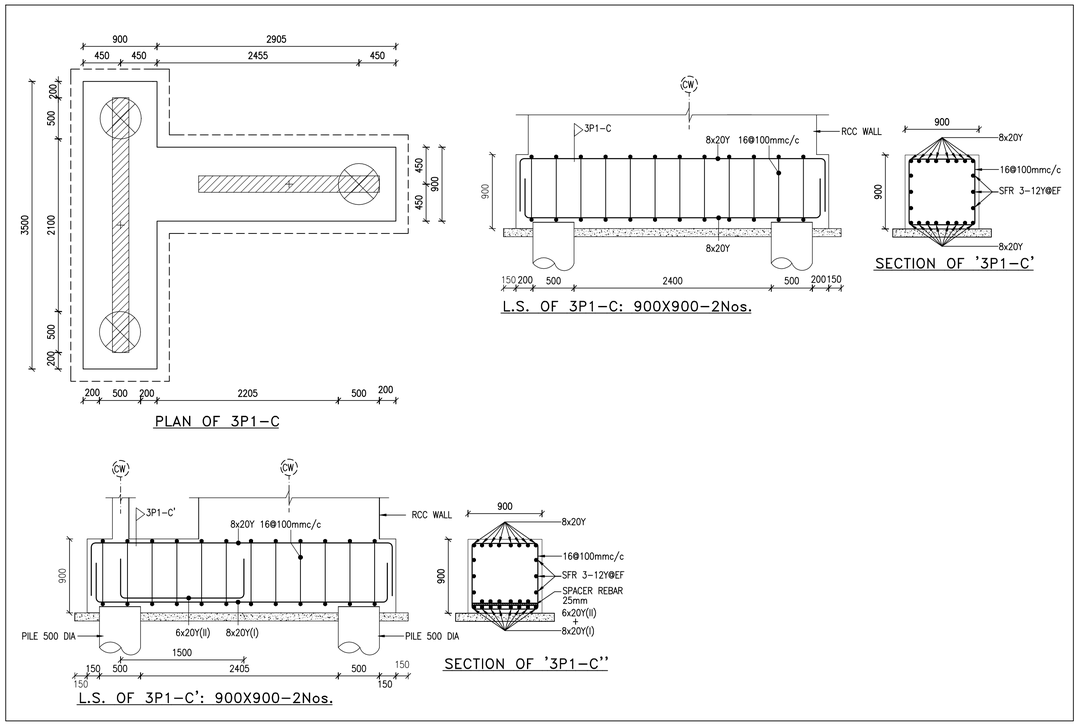
SAFETY AND STRUCTURAL STABILITY CERTIFICATE

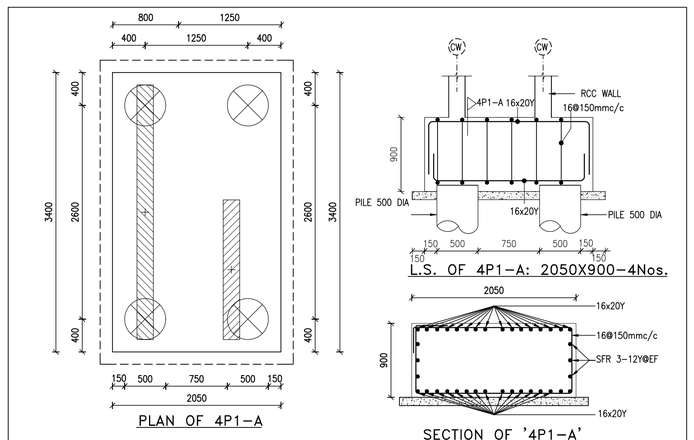
Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

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PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:

STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU-600036

STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/031/TNUHDB_PKTS

PROJECT TITLE:

RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO: TNUHDB/PKTS/B-01&02/006	SHEET NO: 006	REV NO: R0

DRAWING TITLE :
PILE CAP REINFORCEMENT DETAILS

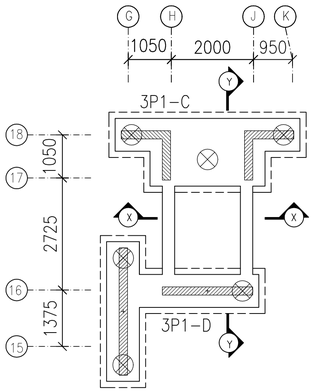
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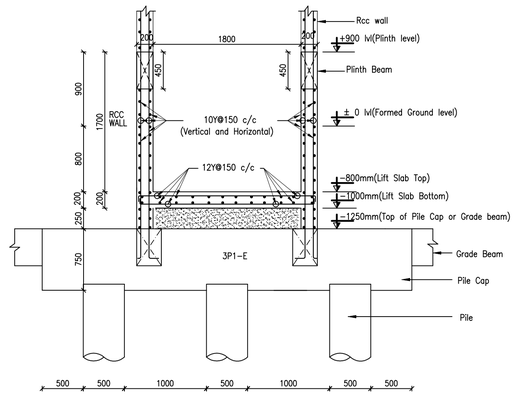
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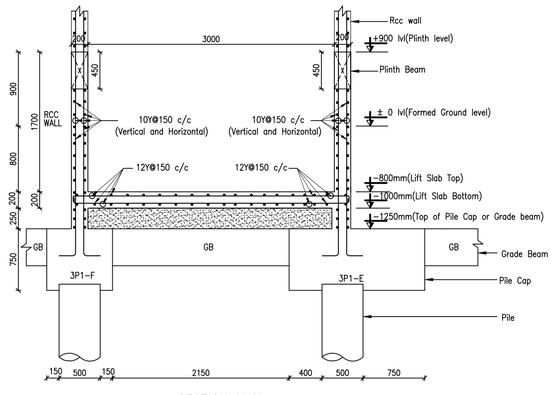
NOTE: ALL DIMENSION ARE IN mm



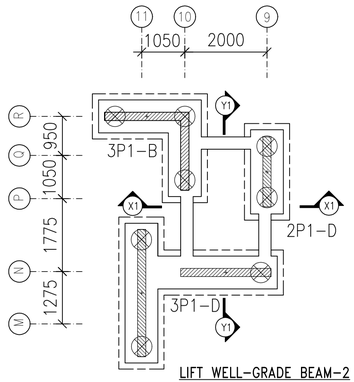
LIFT WELL GRADE BEAM-1
LAYOUT -1250mm LEVEL



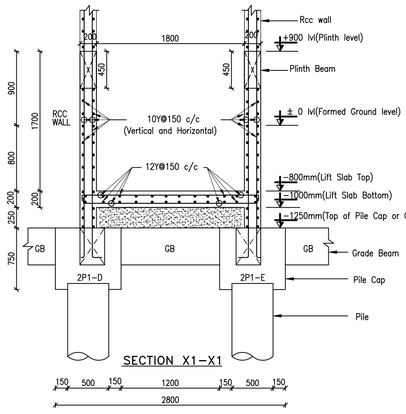
SECTION X-X



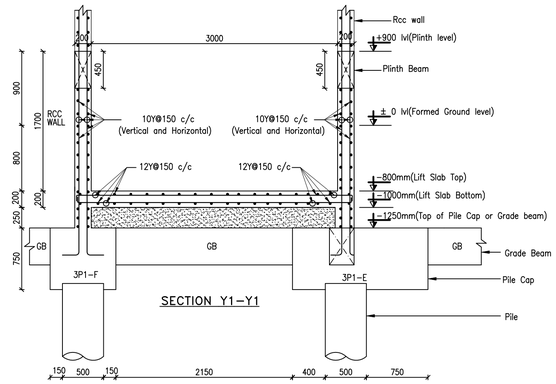
SECTION Y-Y



LIFT WELL-GRADE BEAM-2
LAYOUT -1250mm LEVEL



SECTION X1-X1



SECTION Y1-Y1

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5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE / FOOTING = 50MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 1300 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+11 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

NOTE:	SYMBOL	DESCRIPTION
		NGL NATURAL GROUND LEVEL

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
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PROOF-CHECKING AGENCY:

STRUCTURAL ENGINEERING DEPARTMENT,
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STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/031/TNUHDB_PKTS

PROJECT TITLE:

RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO: TNUHDB/PKTS/B-01&02/007	SHEET NO: 007	REV NO: R0

DRAWING TITLE :
LIFT WELL REINFORCEMENT DETAILS

BLOCK NO: 01 & 02	SCALE: NTS	SIZE OF SHEET: A1

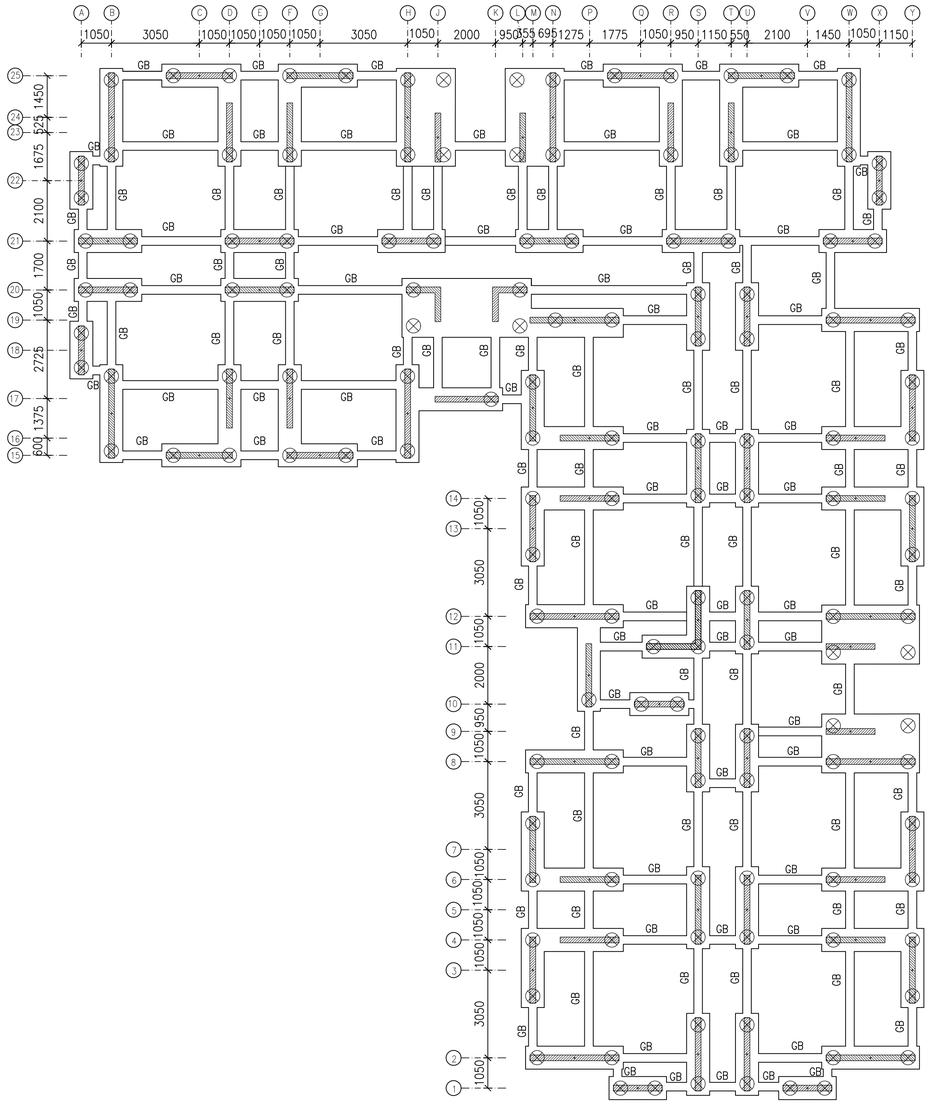
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DATE OF ISSUE 21-11-2022

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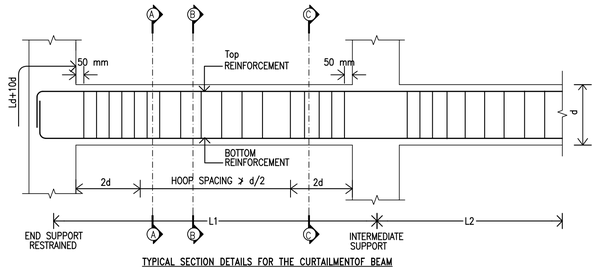
NOTE: ALL DIMENSION ARE IN mm



GRADE BEAM LAYOUT

GRADE BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
GB 300x450	300, 3x20Y, 450, 2L-8Y@100mm c/c, 3x20Y	300, 3x20Y, 450, 2L-8Y@150mm c/c, 3x20Y	300, 3x20Y, 450, 2L-8Y@100mm c/c, 3x20Y



TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM

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M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

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M30	Ld	36d	Where d is Diameter of rod

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REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

NOTE:	SYMBOL	DESCRIPTION	
		NGL	NATURAL GROUND LEVEL

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PROOF-CHECKING AGENCY:

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STRUCTURAL CONSULTANT:

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IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/031/TNUHDB_PKTS

PROJECT TITLE:

RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO:	SHEET NO:	REV NO:
TNUHDB/PKTS/B-01&02/008	008	R0

DRAWING TITLE : GRADE BEAM REINFORCEMENT DETAILS

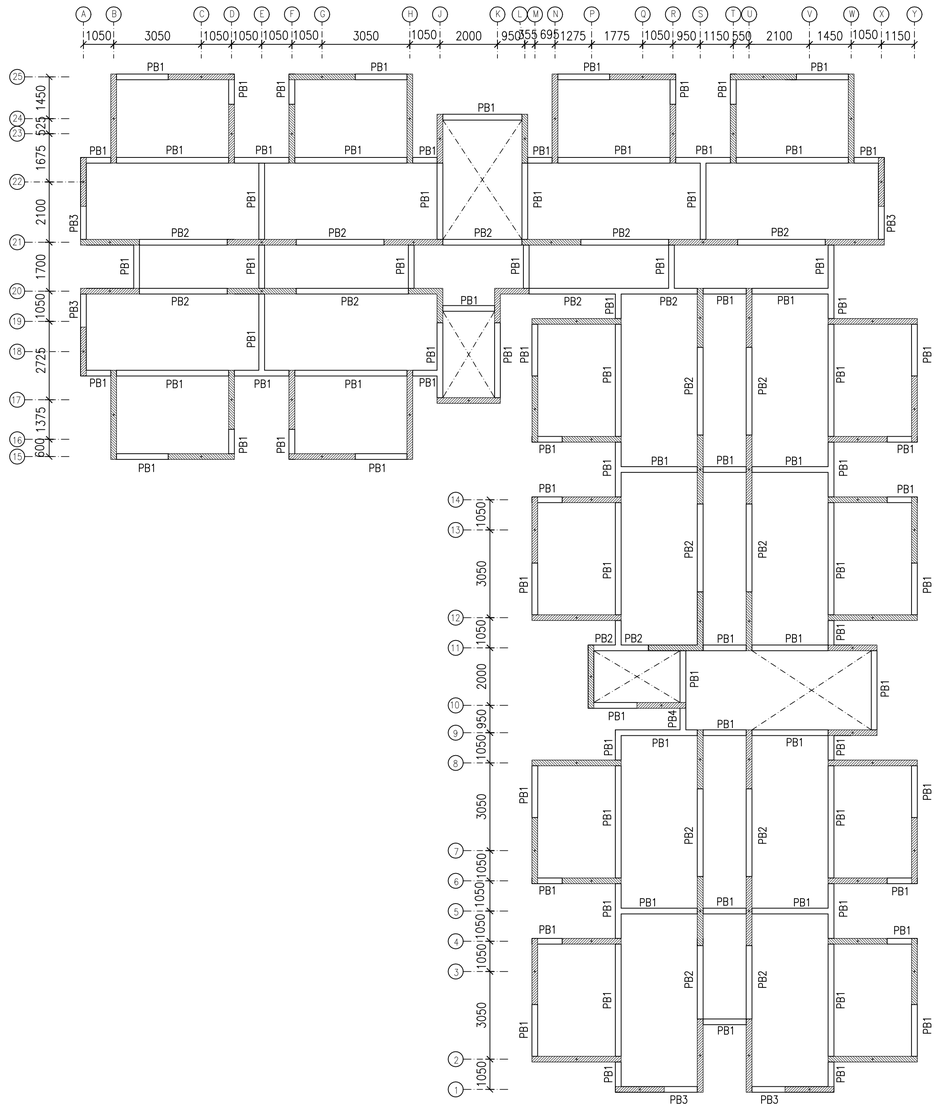
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01 & 02	NTS	A1

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☐ PRELIMINARY	☐ TENDER	☐ INFORMATION	21-11-2022
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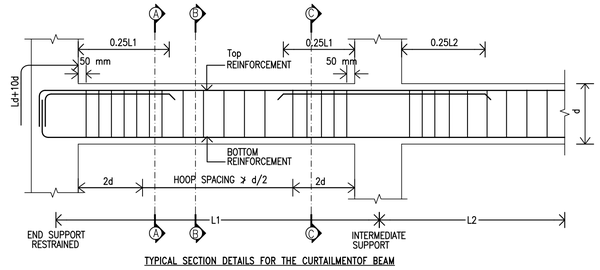
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CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm



PLINTH BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
PB1 200x450	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@125 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y
PB2 200x450	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@150 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y
PB3 200x450	200, 2x16Y(I) + 2x12Y(II), 450, 2L-8Y@100 mm c/c, 2x12Y(II) + 2x16Y(I)	200, 2x16Y(I), 450, 2L-8Y@125 mm c/c, 2x16Y(I)	200, 2x16Y(I) + 2x12Y(II), 450, 2L-8Y@100 mm c/c, 2x12Y(II) + 2x16Y(I)
PB4 200x450	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y



TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM

PLINTH BEAM REINFORCEMENT DETAILS

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		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

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REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

NOTE:	SYMBOL	DESCRIPTION	
		NGL	NATURAL GROUND LEVEL

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THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/031/TNUHDB_PKTS

PROJECT TITLE:
RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO:	SHEET NO:	REV NO:
TNUHDB/PKTS/B-01&02/009	009	R0

DRAWING TITLE :
PLINTH BEAM REINFORCEMENT DETAILS

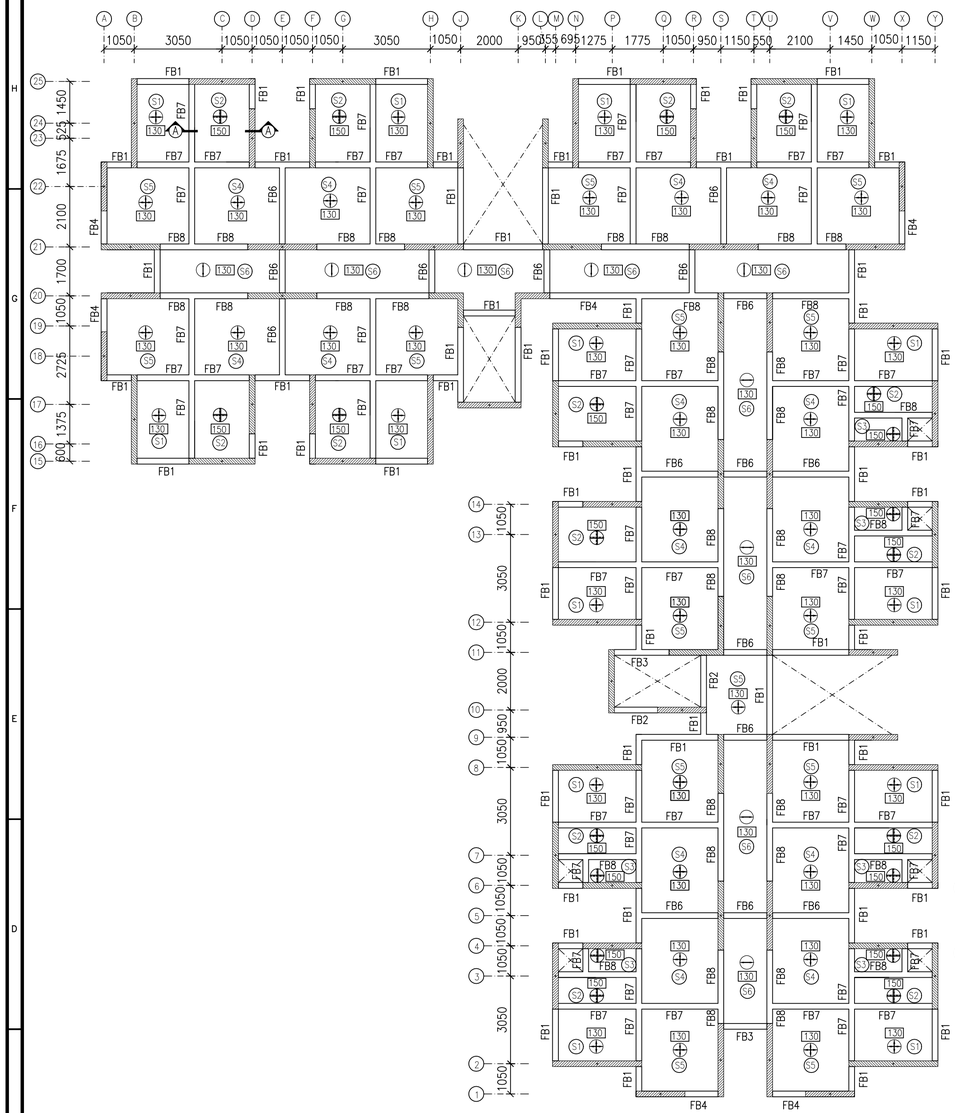
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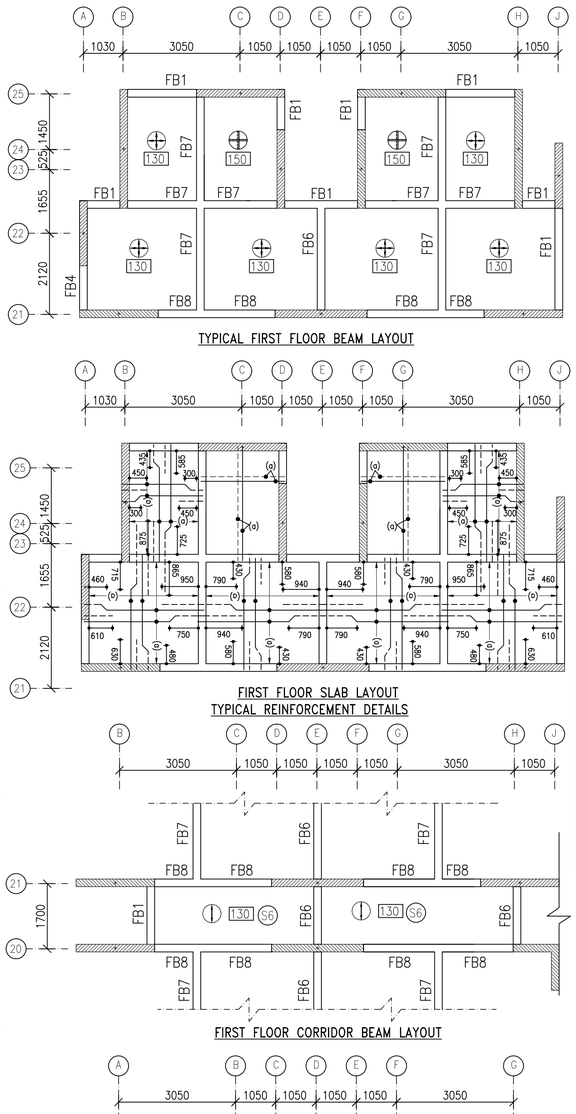
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NOTE: ALL DIMENSION ARE IN mm



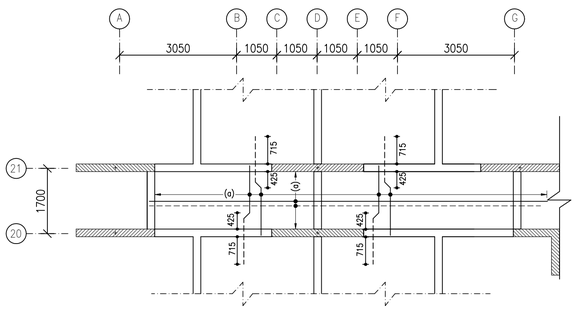
FIRST FLOOR REINFORCEMENT DETAILS



TYPICAL FIRST FLOOR BEAM LAYOUT

FIRST FLOOR SLAB LAYOUT
TYPICAL REINFORCEMENT DETAILS

FIRST FLOOR CORRIDOR BEAM LAYOUT



FIRST FLOOR CORRIDOR SLAB LAYOUT
REINFORCEMENT DETAILS

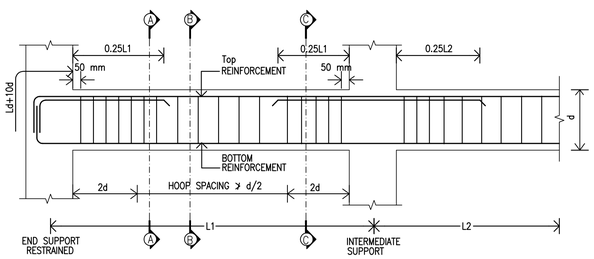
FIRST FLOOR BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
FB1 200x600	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@150mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
FB2 200x600	2x16Y(I); 2x12Y(II); 2L-8Y@100mm c/c; 2x12Y(II); 2x16Y(I)	2x16Y(I); 2x16Y(I); 2L-8Y@150mm c/c; 2x16Y(I); 2x16Y(I)	2x16Y(I); 2x12Y(II); 2L-8Y@100mm c/c; 2x12Y(II); 2x16Y(I)
FB3 200x600	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@125mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
FB4 200x600	2x16Y; 2L-8Y@75mm c/c; 2x16Y	2x16Y; 2L-8Y@75mm c/c; 2x16Y	2x16Y; 2L-8Y@75mm c/c; 2x16Y
FB5 200x600	2x16Y; 2L-10Y@75mm c/c; 2x16Y	2x16Y; 2L-10Y@75mm c/c; 2x16Y	2x16Y; 2L-10Y@75mm c/c; 2x16Y

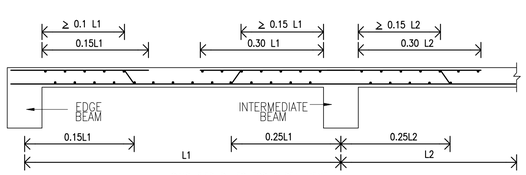
FIRST FLOOR BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
FB6 200x450	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@175mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
FB7 200x450	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@150mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
FB8 200x450	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y

LEGEND:
- ⊕ – Two way slab
- ⊖ – One way slab
- ⊕ – Double Mat slab
- — – Top Bar
- — – Bottom Bar



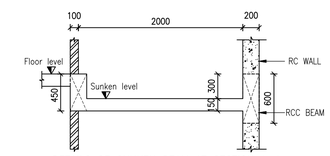
TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM



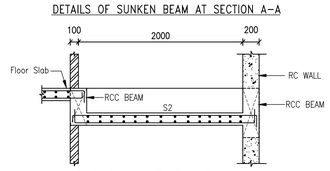
SIMPLIFIED RULES FOR CURTAILMENT
OF BARS IN SECTION THROUGH MIDDLE STRIP OF SLAB

SLAB REINFORCEMENT DETAILS (FIRST FLOOR)

SL NO	SLABS	THICK	MAIN BARS SHORT SPAN (a) DIA	MAIN BARS LONG SPAN (a) DIA	EXTRA BARS OVER SUPPORT(TOP) SHORT SPAN (A') DIA	EXTRA BARS OVER SUPPORT(TOP) LONG SPAN (B') DIA	DISTRIBUTION BAR (TOP & BOTTOM) (C) DIA
1	S1	130	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
2	S2	150	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
3	S3	150	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
4	S4	130	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
5	S5	130	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
6	S6	130	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C



DETAILS OF SUNKEN BEAM AT SECTION A-A



DETAILS OF SUNKEN SLAB AT SECTION A-A

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		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

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M30	Ld	36d	Where d is Diameter of rod

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REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

NOTE:	SYMBOL	DESCRIPTION	
		NGL	NATURAL GROUND LEVEL

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT
DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:
STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU-600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/031/TNUHDB_PKTS

PROJECT TITLE:
RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO: TNUHDB/PKTS/B-01&02/010	SHEET NO: 010	REV NO: R0

DRAWING TITLE :
FIRST FLOOR REINFORCEMENT DETAILS

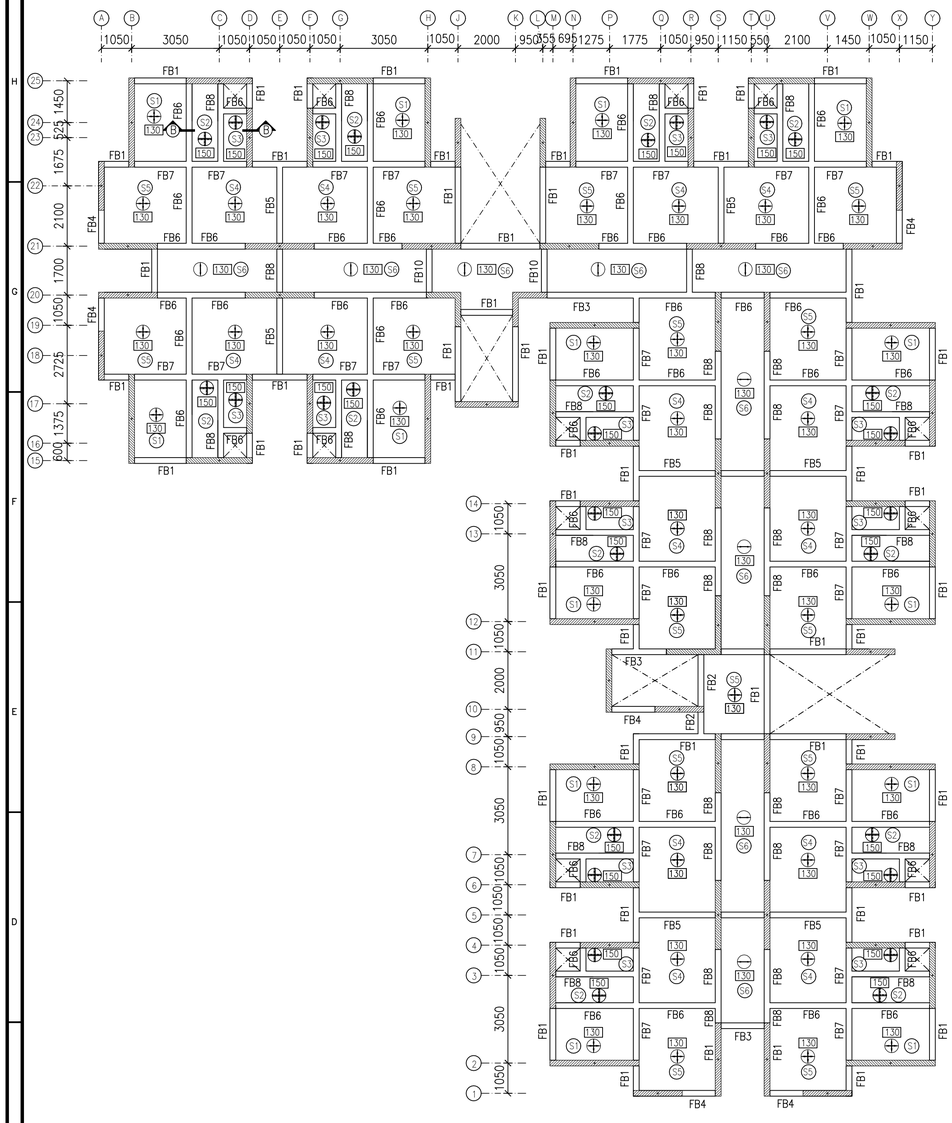
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ISSUED FOR:

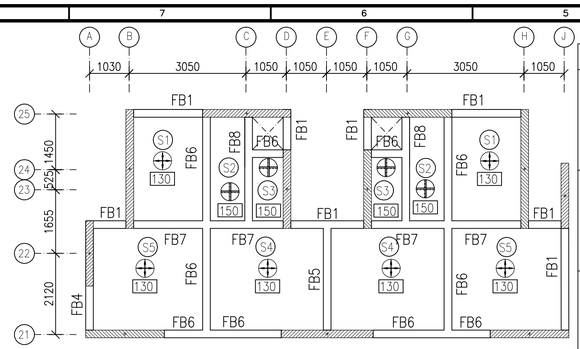
☐ PRELIMINARY ☐ APPROVAL	☐ TENDER ☑ CONSTRUCTION	☐ INFORMATION	DATE OF ISSUE 21-11-2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

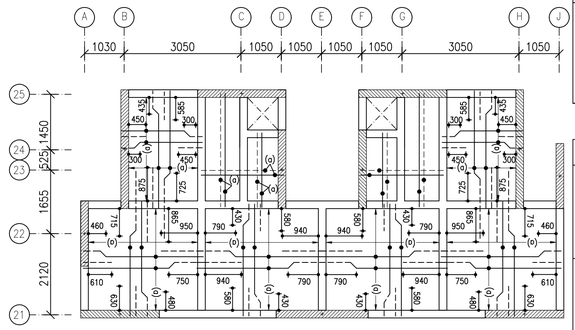
NOTE: ALL DIMENSION ARE IN mm



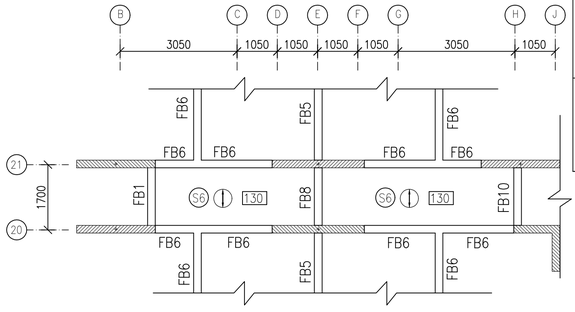
TYPICAL FLOOR REINFORCEMENT DETAILS
(II–IV FLOORS)



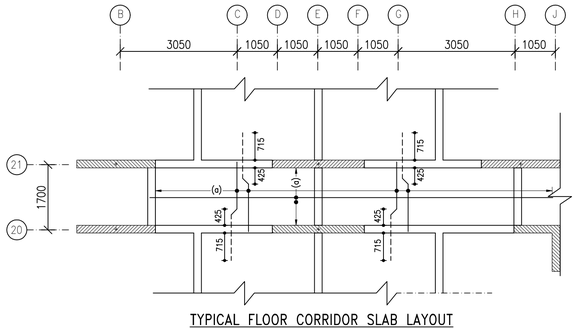
TYPICAL FLOOR BEAM LAYOUT



TYPICAL FLOOR SLAB LAYOUT
REINFORCEMENT DETAILS



TYPICAL FLOOR CORRIDOR BEAM LAYOUT



TYPICAL FLOOR CORRIDOR SLAB LAYOUT
REINFORCEMENT DETAILS

TYPICAL FLOOR BEAM REINFORCEMENT DETAILS

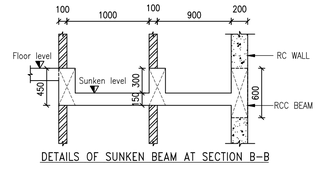
BEAM NAME	SECTION ALONG A–A	SECTION ALONG B–B	SECTION ALONG C–C
FB1 200x600	2x16Y; 2L–8Y@100mm c/c; 2x16Y	2x16Y; 2L–8Y@175mm c/c; 2x16Y	2x16Y; 2L–8Y@100mm c/c; 2x16Y
FB2 200x600	2x16Y; 2L–8Y@100mm c/c; 2x16Y	2x16Y; 2L–8Y@150mm c/c; 2x16Y	2x16Y; 2L–8Y@100mm c/c; 2x16Y
FB3 200x600	2x16Y; 2L–8Y@100mmc/c; 2x16Y	2x16Y; 2L–8Y@100mmc/c; 2x16Y	2x16Y; 2L–8Y@100mmc/c; 2x16Y
FB4 200x600	2x16Y(I) + 2x12Y(II); 2L–8Y@75mm c/c; 2x12Y(II) + 2x16Y(I)	2x16Y(I); 2L–8Y@75mm c/c; 2x16Y(I)	2x16Y(I) + 2x12Y(II); 2L–8Y@75mm c/c; 2x12Y(II) + 2x16Y(I)

TYPICAL FLOOR BEAM REINFORCEMENT DETAILS

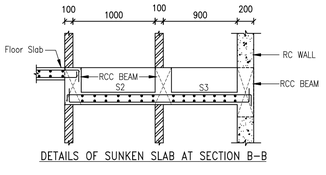
BEAM NAME	SECTION ALONG A–A	SECTION ALONG B–B	SECTION ALONG C–C
FB5 200x450	2x16Y; 2L–8Y@100mm c/c; 2x16Y	2x16Y; 2L–8Y@175mm c/c; 2x16Y	2x16Y; 2L–8Y@100mm c/c; 2x16Y
FB6 200x450	2x16Y; 2L–8Y@100mm c/c; 2x16Y	2x16Y; 2L–8Y@125mm c/c; 2x16Y	2x16Y; 2L–8Y@100mm c/c; 2x16Y
FB7 200x450	2x16Y; 2L–10Y@75mm c/c; 2x16Y	2x16Y; 2L–10Y@75mm c/c; 2x16Y	2x16Y; 2L–10Y@75mm c/c; 2x16Y
FBB 200x450	2x16Y; 2L–8Y@75mm c/c; 2x16Y	2x16Y; 2L–8Y@75mm c/c; 2x16Y	2x16Y; 2L–8Y@75mm c/c; 2x16Y

LEGEND:

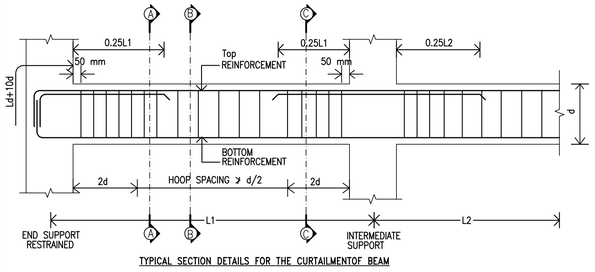
- ⊕ – Two way slab
- ⊖ – One way slab
- ⊕ – Double Mat slab
- —— – Top Bar
- —— – Bottom Bar



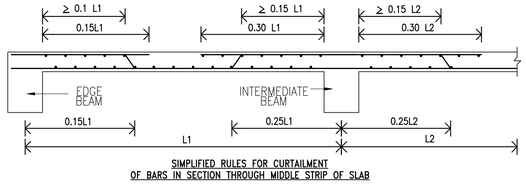
DETAILS OF SUNKEN BEAM AT SECTION B–B



DETAILS OF SUNKEN SLAB AT SECTION B–B



TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM



SIMPLIFIED RULES FOR CURTAILMENT
OF BARS IN SECTION THROUGH MIDDLE STRIP OF SLAB

SLAB REINFORCEMENT DETAILS (TYPICAL FLOOR)

SL NO	SLABS	THICK	MAIN BARS SHORT SPAN (a) DIA	MAIN BARS LONG SPAN (a) DIA	EXTRA BARS OVER SUPPORT(TOP) SHORT SPAN (A') DIA	EXTRA BARS OVER SUPPORT(TOP) LONG SPAN (B') DIA	DISTRIBUTION BAR (TOP & BOTTOM) (c) DIA
1	S1	130	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C
2	S2	150	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C
3	S3	150	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C
4	S4	130	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C
5	S5	130	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C
6	S6	130	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C	(a) –8Y@180 C/C

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NOTES:

1. ALL DIMENSIONS ARE IN "mm" UNLESS OTHERWISE SPECIFIED.
2. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED, NEITHER THE DRAWING SHALL BE SCALED OUT NOR THE BARS SHALL BE COUNTED.
3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION.
4. GRADE OF CONCRETE FOR PILE M30(MINIMUM CEMENT CONTENT FOR PILE SHOULD BE 400KG/CUM UNLESS OTHERWISE SPECIFIED) AND M30 FOR OTHER STRUCTURAL ELEMENT.
5. GRADE OF STEEL SHALL BE Fe–500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE / FOOTING = 50MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe–500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe–500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 1300 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+11 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

NOTE:	SYMBOL	DESCRIPTION
		NGL NATURAL GROUND LEVEL

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:

STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU–600036

STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022–23/031/TNUHDB_PKTS

PROJECT TITLE:

RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO: TNUHDB/PKTS/B–01&02/011	SHEET NO: 011	REV NO: R0

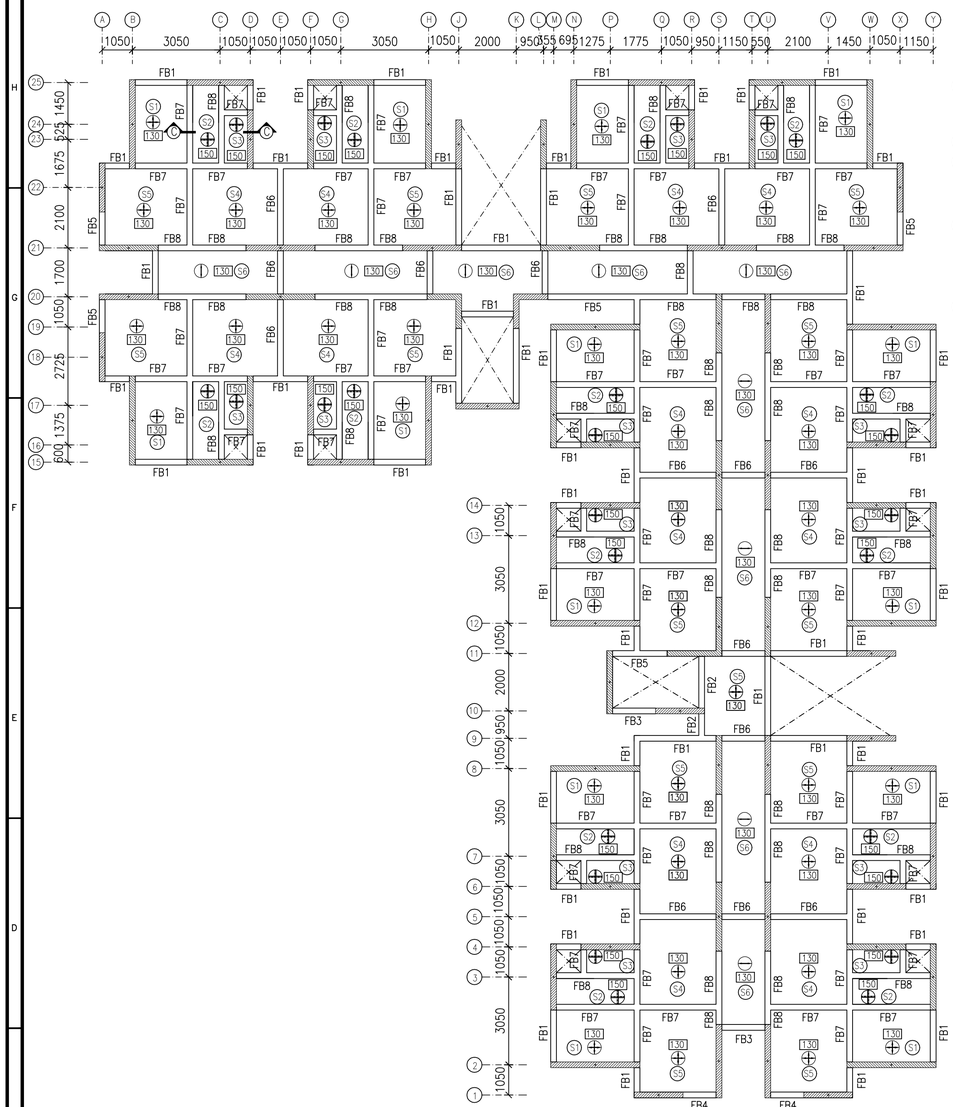
DRAWING TITLE :
TYPICAL FLOOR REINFORCEMENT DETAILS (II–IV FLOORS)

BLOCK NO: 01 & 02	SCALE: NTS	SIZE OF SHEET: A1

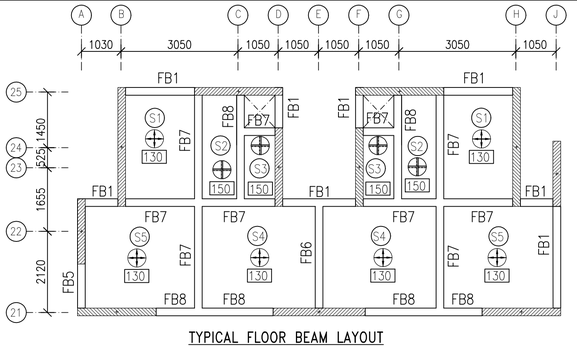
ISSUED FOR:

☐ PRELIMINARY ☐ APPROVAL	☐ TENDER ☑ CONSTRUCTION	☐ INFORMATION	DATE OF ISSUE 21–11–2022
DESIGNED BY:		DRAWN BY:	
CHECKED BY:		APPROVED BY:	

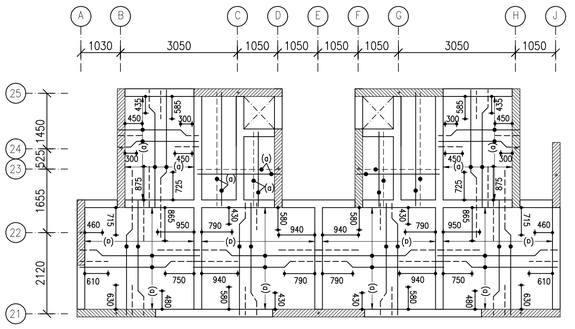
NOTE: ALL DIMENSION ARE IN mm



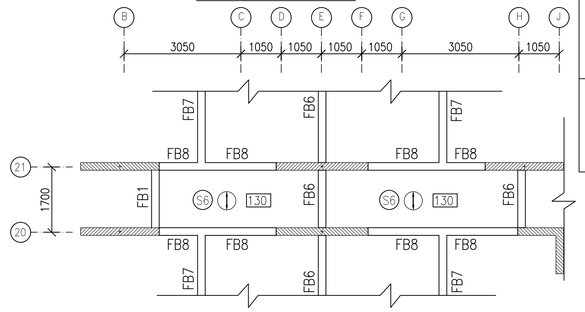
TYPICAL FLOOR REINFORCEMENT DETAILS
(V,VI,VIII,IX&X,XI FLOORS)



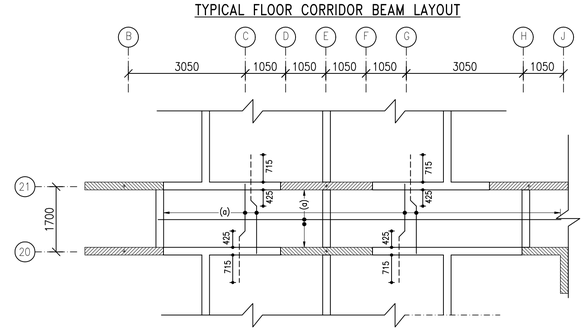
TYPICAL FLOOR BEAM LAYOUT



TYPICAL FLOOR SLAB LAYOUT
REINFORCEMENT DETAILS



TYPICAL FLOOR CORRIDOR BEAM LAYOUT



TYPICAL FLOOR CORRIDOR SLAB LAYOUT
REINFORCEMENT DETAILS

TYPICAL FLOOR BEAM REINFORCEMENT DETAILS

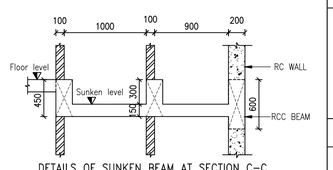
BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
FB1 200x600	2x16Y / 2L-8Y@100mm c/c / 2x16Y	2x16Y / 2L-8Y@175mm c/c / 2x16Y	2x16Y / 2L-8Y@100mm c/c / 2x16Y
FB2 200x600	2x16Y / 2L-8Y@100mm c/c / 2x16Y	2x16Y / 2L-8Y@150mm c/c / 2x16Y	2x16Y / 2L-8Y@100mm c/c / 2x16Y
FB3 200x600	2x16Y / 2L-8Y@75mmc/c / 2x16Y	2x16Y / 2L-8Y@100mmc/c / 2x16Y	2x16Y / 2L-8Y@75mmc/c / 2x16Y
FB4 200x600	2x16Y / 2L-10Y@100mmc/c / 2x16Y	2x16Y / 2L-10Y@100mmc/c / 2x16Y	2x16Y / 2L-10Y@100mmc/c / 2x16Y
FB5 200x600	2x16Y / 2L-8Y@75mmc/c / 2x16Y	2x16Y / 2L-8Y@75mmc/c / 2x16Y	2x16Y / 2L-8Y@75mmc/c / 2x16Y

TYPICAL FLOOR BEAM REINFORCEMENT DETAILS

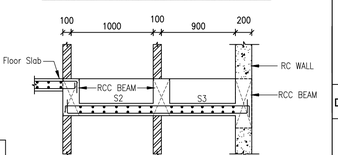
BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
FB5 200x450	2x16Y / 2L-8Y@100mm c/c / 2x16Y	2x16Y / 2L-8Y@175mm c/c / 2x16Y	2x16Y / 2L-8Y@100mm c/c / 2x16Y
FB6 200x450	2x16Y / 2L-8Y@100mm c/c / 2x16Y	2x16Y / 2L-8Y@100mm c/c / 2x16Y	2x16Y / 2L-8Y@100mm c/c / 2x16Y
FB7 200x450	2x16Y / 2L-10Y@100mm c/c / 2x16Y	2x16Y / 2L-10Y@100mm c/c / 2x16Y	2x16Y / 2L-10Y@100mm c/c / 2x16Y

LEGEND:

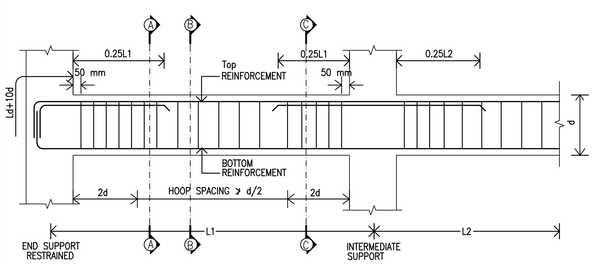
- Two way slab
- One way slab
- Double Mat slab
- Top Bar
- Bottom Bar



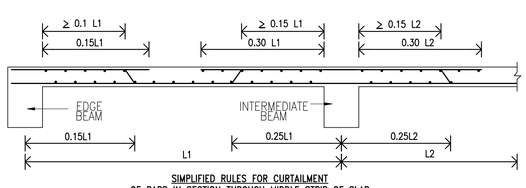
DETAILS OF SUNKEN BEAM AT SECTION C-C



DETAILS OF SUNKEN SLAB AT SECTION C-C



TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM



SIMPLIFIED RULES FOR CURTAILMENT
OF BARS IN SECTION THROUGH MIDDLE STRIP OF SLAB

SLAB REINFORCEMENT DETAILS (TYPICAL FLOOR)

SL NO	SLABS	THICK	MAIN BARS SHORT SPAN (a) DIA	MAIN BARS LONG SPAN (a) DIA	EXTRA BARS OVER SUPPORT(TOP) SHORT SPAN (A') DIA	EXTRA BARS OVER SUPPORT(TOP) LONG SPAN (B') DIA	DISTRIBUTION BAR (TOP & BOTTOM) (C) DIA
1	S1	130	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
2	S2	150	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
3	S3	150	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
4	S4	130	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
5	S5	130	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
6	S6	130	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C

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3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION.
4. GRADE OF CONCRETE FOR PILE M30(MINIMUM CEMENT CONTENT FOR PILE SHOULD BE 400KG/CUM UNLESS OTHERWISE SPECIFIED) AND M30 FOR OTHER STRUCTURAL ELEMENT.
5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE / FOOTING = 50MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 1300 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+11 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SYMBOL	DESCRIPTION
NOTE:	NGL NATURAL GROUND LEVEL

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:
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INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU-600036

STRUCTURAL CONSULTANT:
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MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
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PROJECT CODE: CUBE/B&C/2022-23/031/TNUHDB_PKTS

PROJECT TITLE:
RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO: TNUHDB/PKTS/B-01&02/012	SHEET NO: 012	REV NO: R0

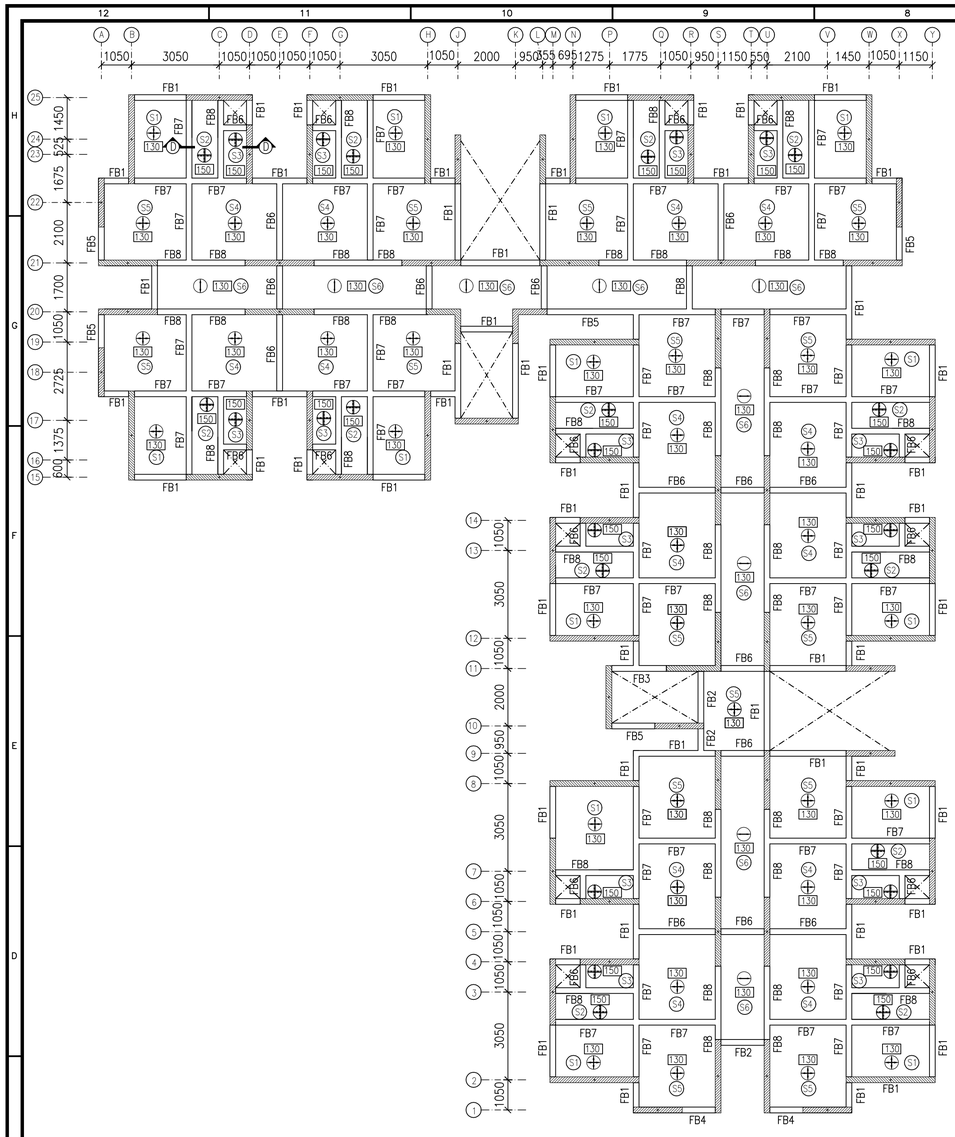
DRAWING TITLE :
TYPICAL FLOOR REINFORCEMENT DETAILS (V,VI,VIII,IX&X,XI FLOORS)

BLOCK NO: 01 & 02	SCALE: NTS	SIZE OF SHEET: A1

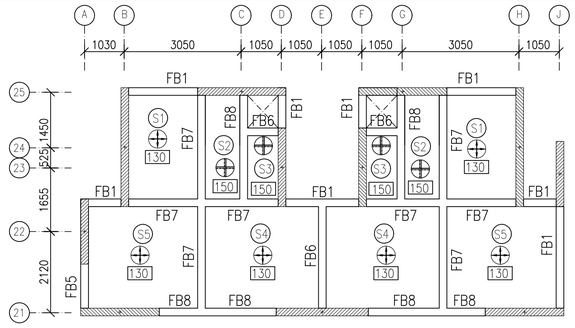
ISSUED FOR:

☐PRELIMINARY ☐APPROVAL	☐TENDER ☑CONSTRUCTION	☐INFORMATION	DATE OF ISSUE 21-11-2022
DESIGNED BY:		DRAWN BY:	
CHECKED BY:		APPROVED BY:	

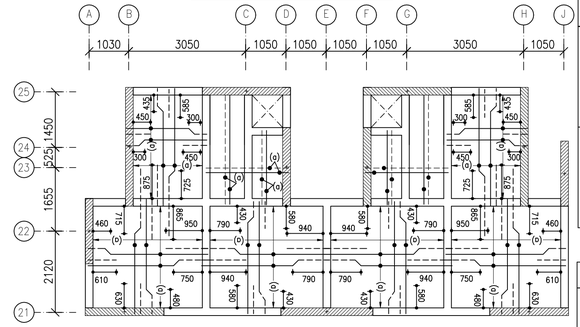
NOTE: ALL DIMENSION ARE IN mm



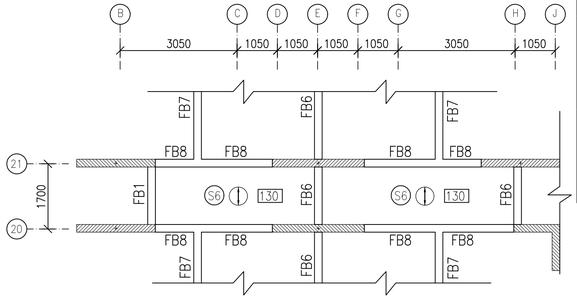
SEVENTH FLOOR REINFORCEMENT DETAILS



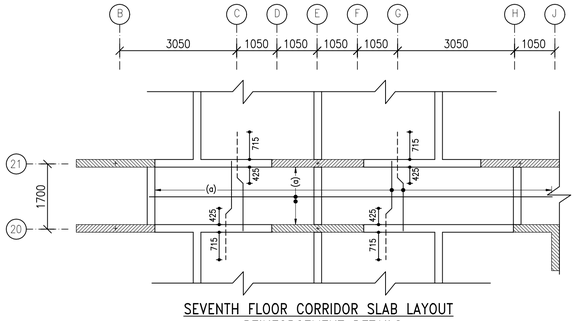
SEVENTH FLOOR BEAM LAYOUT



SEVENTH FLOOR SLAB LAYOUT REINFORCEMENT DETAILS



SEVENTH FLOOR CORRIDOR BEAM LAYOUT



SEVENTH FLOOR CORRIDOR SLAB LAYOUT REINFORCEMENT DETAILS

SEVETH FLOOR BEAM REINFORCEMENT DETAILS

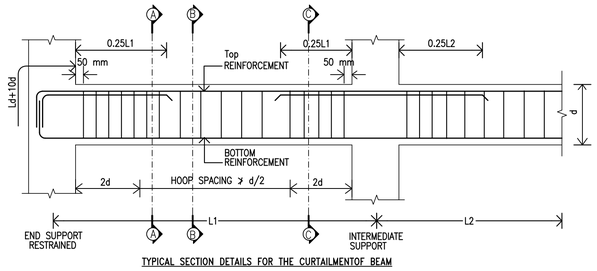
BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
FB1 200x600	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@175mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
FB2 200x600	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@150mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
FB3 200x600	2x16Y; 2L-8Y@75mmc/c; 2x16Y	2x16Y; 2L-8Y@100mmc/c; 2x16Y	2x16Y; 2L-8Y@75mmc/c; 2x16Y
FB4 200x600	2x16Y(I); 2x12Y(II); 2L-8Y@75mm c/c; 2x12Y(II); 2x16Y(I)	2x16Y(I); 2L-8Y@75mm c/c; 2x16Y(I)	2x16Y(I); 2x12Y(II); 2L-8Y@75mm c/c; 2x12Y(II); 2x16Y(I)
FB5 200x600	2x16Y; 2L-10Y@100mm c/c; 2x16Y	2x16Y; 2L-10Y@100mm c/c; 2x16Y	2x16Y; 2L-10Y@100mm c/c; 2x16Y

SEVETH FLOOR BEAM REINFORCEMENT DETAILS

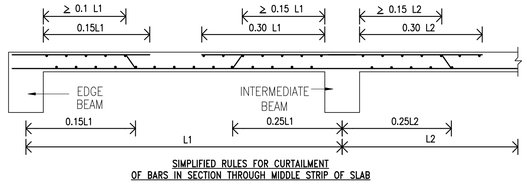
BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
FB6 200x450	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
FB7 200x450	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@125mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
FB8 200x450	2x16Y; 2L-8Y@75mm c/c; 2x16Y	2x16Y; 2L-8Y@75mm c/c; 2x16Y	2x16Y; 2L-8Y@75mm c/c; 2x16Y

LEGEND:

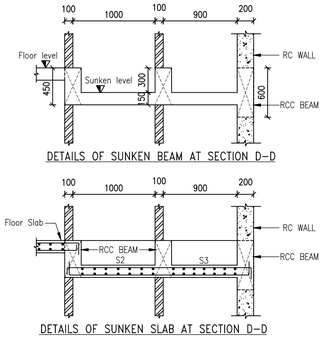
- Two way slab
- One way slab
- Double Mat slab
- Top Bar
- Bottom Bar



TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM



SIMPLIFIED RULES FOR CURTAILMENT OF BARS IN SECTION THROUGH MIDDLE STRIP OF SLAB



DETAILS OF SUNKEN BEAM AT SECTION D-D

DETAILS OF SUNKEN SLAB AT SECTION D-D

SLAB REINFORCEMENT DETAILS (SEVENTH FLOOR)

SL NO	SLABS	THICK	MAIN BARS SHORT SPAN (a) DIA	MAIN BARS LONG SPAN (a) DIA	EXTRA BARS OVER SUPPORT(TOP) SHORT SPAN (A') DIA	EXTRA BARS OVER SUPPORT(TOP) LONG SPAN (B') DIA	DISTRIBUTION BAR (TOP & BOTTOM) (c) DIA
1	S1	130	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
2	S2	150	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
3	S3	150	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
4	S4	130	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
5	S5	130	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C
6	S6	130	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C	(a) -8Y@180 C/C

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NOTES:

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2. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED, NEITHER THE DRAWING SHALL BE SCALED OUT NOR THE BARS SHALL BE COUNTED.
3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION.
4. GRADE OF CONCRETE FOR PILE M30(MINIMUM CEMENT CONTENT FOR PILE SHOULD BE 400KG/CUM UNLESS OTHERWISE SPECIFIED) AND M30 FOR OTHER STRUCTURAL ELEMENT.
5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE / FOOTING = 50MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 1300 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+11 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SYMBOL	DESCRIPTION
NOTE:	NGL NATURAL GROUND LEVEL

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
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NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:

STRUCTURAL ENGINEERING DEPARTMENT,
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CHENNAI, TAMIL NADU-600036

STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/031/TNUHDB_PKTS

PROJECT TITLE:

RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO:	SHEET NO:	REV NO:
TNUHDB/PKTS/B-01&02/013	013	R0

DRAWING TITLE : SEVENTH FLOOR REINFORCEMENT DETAILS

BLOCK NO:	SCALE:	SIZE OF SHEET:
01 & 02	NTS	A1

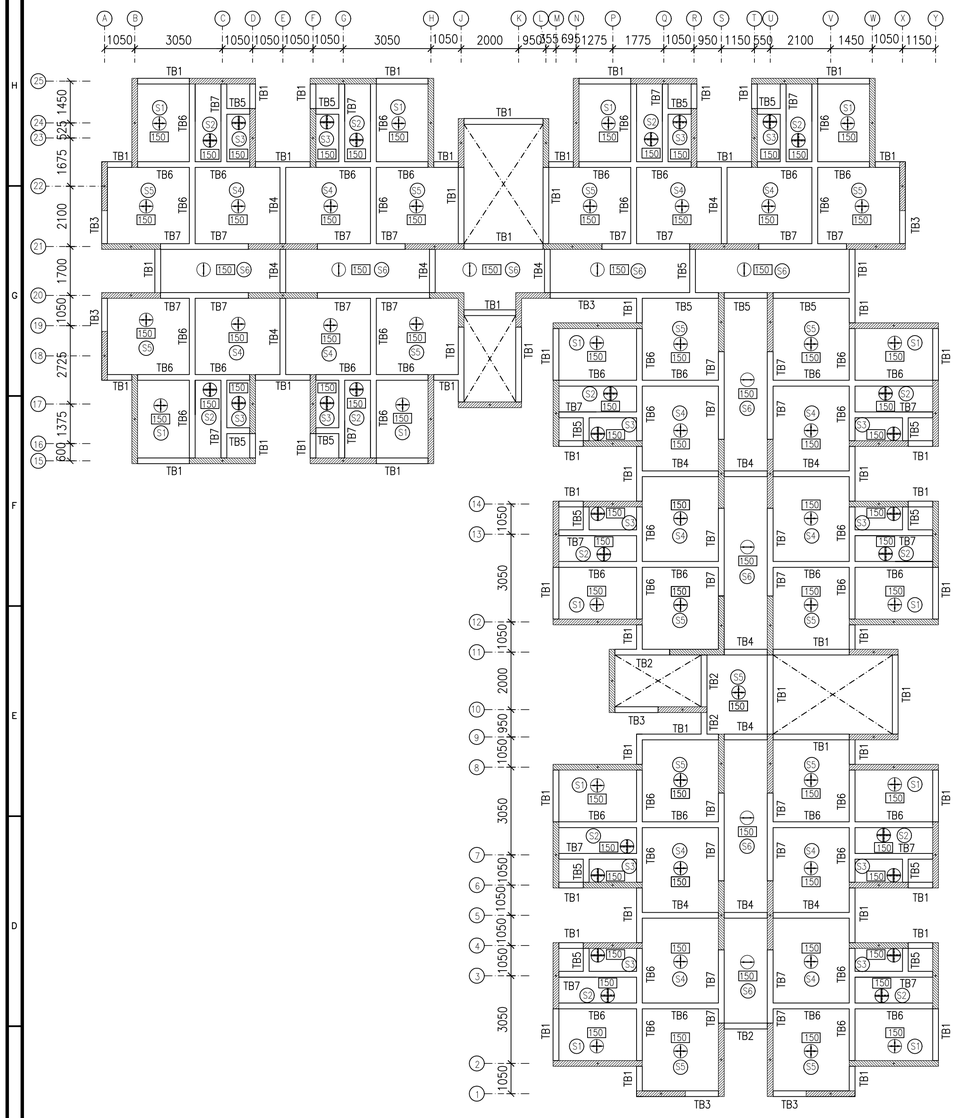
ISSUED FOR:

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☐ APPROVAL ☑ CONSTRUCTION

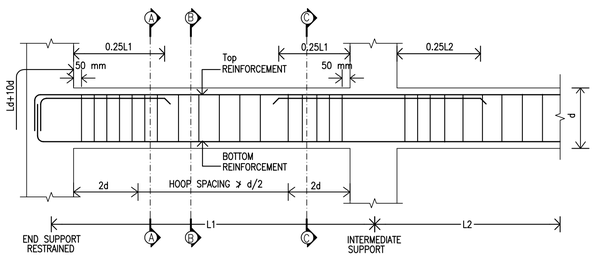
DATE OF ISSUE: 21-11-2022

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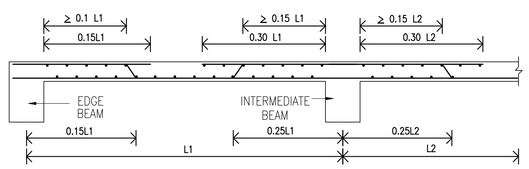
NOTE: ALL DIMENSION ARE IN mm



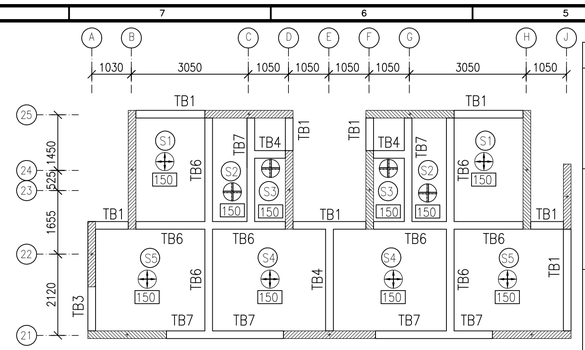
TERRACE FLOOR REINFORCEMENT DETAILS



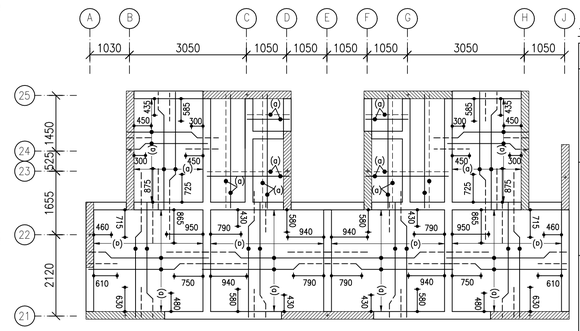
TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM



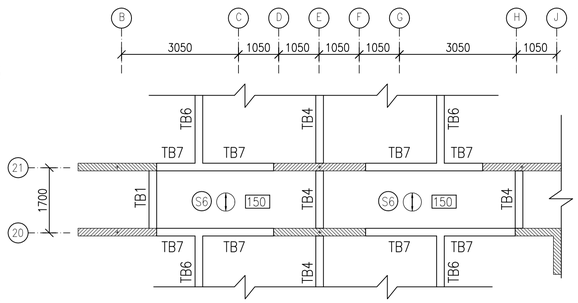
SIMPLIFIED RULES FOR CURTAILMENT
OF BARS IN SECTION THROUGH MIDDLE STRIP OF SLAB



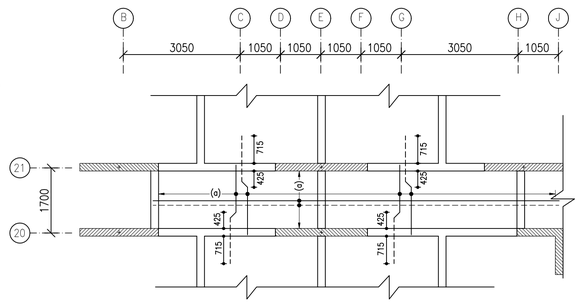
TERRACE FLOOR BEAM LAYOUT



TERRACE FLOOR SLAB LAYOUT REINFORCEMENT DETAILS



TERRACE FLOOR CORRIDOR BEAM LAYOUT



TERRACE FLOOR CORRIDOR SLAB LAYOUT REINFORCEMENT DETAILS

SLAB REINFORCEMENT DETAILS (TERRACE FLOOR)

SL NO	SLABS	THICK	MAIN BARS		EXTRA BARS OVER SUPPORT(TOP)		DISTRIBUTION BAR (TOP & BOTTOM) (C)
			SHORT SPAN (a)	LONG SPAN (a)	SHORT SPAN (A')	LONG SPAN (B')	
			DIA	DIA	DIA	DIA	DIA
1	S1	150	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C
2	S2	150	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C
3	S3	150	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C
4	S4	150	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C
5	S5	150	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C
6	S6	150	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C	(a) -10Y@180 C/C

TERRACE FLOOR BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
TB1 200x600	2x16Y, 2L-8Y@100mm c/c, 2x16Y	2x16Y, 2L-8Y@175mm c/c, 2x16Y	2x16Y, 2L-8Y@100mm c/c, 2x16Y
TB2 200x600	2x16Y, 2L-8Y@100mm c/c, 2x16Y	2x16Y, 2L-8Y@125mm c/c, 2x16Y	2x16Y, 2L-8Y@100mm c/c, 2x16Y
TB3 200x600	2x16Y, 2L-8Y@75mmc/c, 2x16Y	2x16Y, 2L-8Y@75mmc/c, 2x16Y	2x16Y, 2L-8Y@75mmc/c, 2x16Y

TERRACE FLOOR BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
TB4 200x450	2x16Y, 2L-8Y@100mm c/c, 2x16Y	2x16Y, 2L-8Y@100mm c/c, 2x16Y	2x16Y, 2L-8Y@100mm c/c, 2x16Y
TB5 200x450	2x16Y, 2L-8Y@100mm c/c, 2x16Y	2x16Y, 2L-8Y@125mm c/c, 2x16Y	2x16Y, 2L-8Y@100mm c/c, 2x16Y
TB6 200x450	2x16Y(I), 2x12Y(II), 2L-8Y@100mm c/c, 2x12Y(II), 2x16Y(I)	2x16Y(I), 2L-8Y@100mm c/c, 2x16Y(I)	2x16Y(I), 2x12Y(II), 2L-8Y@100mm c/c, 2x12Y(II), 2x16Y(I)
TB7 200x450	2x16Y, 2L-8Y@75mm c/c, 2x16Y	2x16Y, 2L-8Y@75mm c/c, 2x16Y	2x16Y, 2L-8Y@75mm c/c, 2x16Y

LEGEND:

- ⊕ – Two way slab
- ⊖ – One way slab
- ⊕ – Double Mat slab
- —— – Top Bar
- —— – Bottom Bar

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4. GRADE OF CONCRETE FOR PILE M30(MINIMUM CEMENT CONTENT FOR PILE SHOULD BE 400KG/CUM UNLESS OTHERWISE SPECIFIED) AND M30 FOR OTHER STRUCTURAL ELEMENT.
5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE / FOOTING = 50MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 1300 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+11 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

NOTE:	SYMBOL	DESCRIPTION	
		NGL	NATURAL GROUND LEVEL

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:
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INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU-600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/031/TNUHDB_PKTS

PROJECT TITLE:
RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO: TNUHDB/PKTS/B-01&02/014 | SHEET NO: 014 | REV NO: R0

DRAWING TITLE :
TERRACE BEAM REINFORCEMENT DETAILS

BLOCK NO: 01 & 02 | SCALE: NTS | SIZE OF SHEET: A1

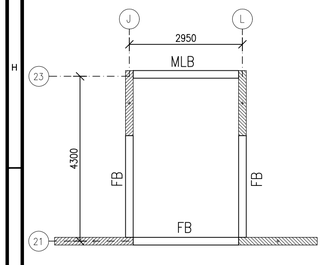
ISSUED FOR:

☐ PRELIMINARY ☐ TENDER ☐ INFORMATION
☐ APPROVAL ☑ CONSTRUCTION

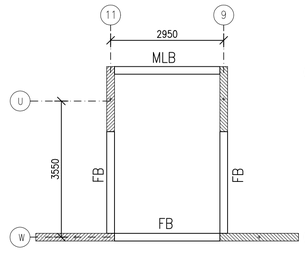
DATE OF ISSUE 21-11-2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

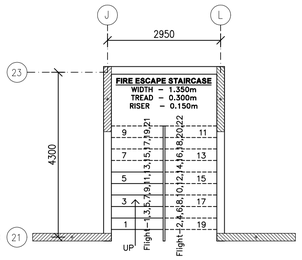
NOTE: ALL DIMENSION ARE IN mm



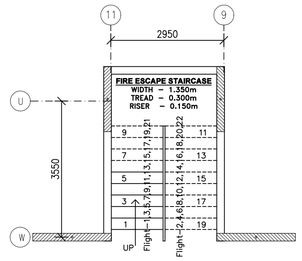
STAIRCASE–BEAM LAYOUT
FOR STAIRCASE–1



STAIRCASE–BEAM LAYOUT
FOR STAIRCASE–2



STAIRCASE–PLAN LAYOUT
FOR STAIRCASE–1



STAIRCASE–PLAN LAYOUT
FOR STAIRCASE–2

LEGEND:

⊕ – Two way slab

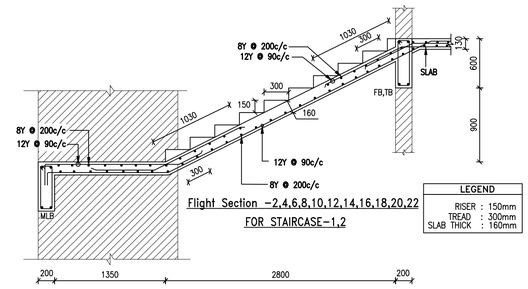
..... – Top Bar

—— – Bottom Bar

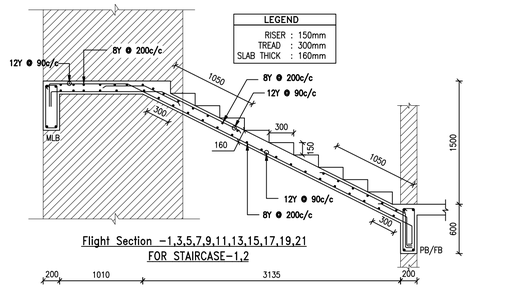
LEGEND:

(a) – 10Y @ 180 c/c

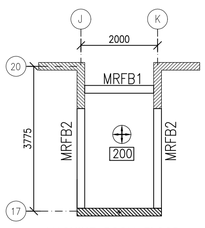
(b) – 12Y @ 180 c/c



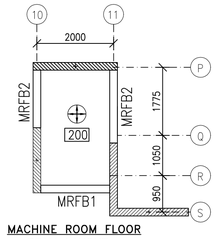
Flight Section –2,4,6,8,10,12,14,16,18,20,22
FOR STAIRCASE–1,2



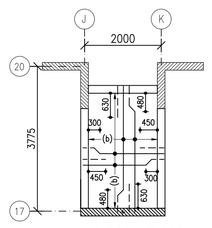
Flight Section –1,3,5,7,9,11,13,15,17,19,21
FOR STAIRCASE–1,2



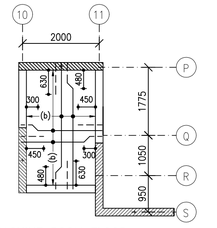
MACHINE ROOM FLOOR
BEAM LAYOUT
FOR LIFT–1



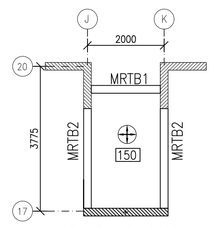
MACHINE ROOM FLOOR
BEAM LAYOUT
FOR LIFT–2



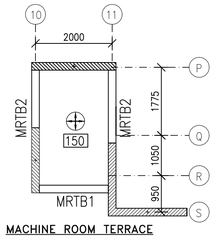
MACHINE ROOM FLOOR
BEAM LAYOUT
FOR LIFT–1



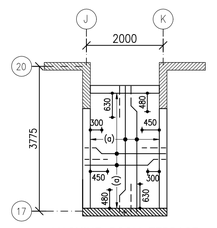
MACHINE ROOM FLOOR
BEAM LAYOUT
FOR LIFT–2



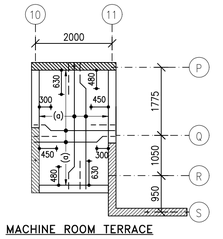
MACHINE ROOM TERRACE
BEAM LAYOUT
FOR LIFT–1



MACHINE ROOM TERRACE
BEAM LAYOUT
FOR LIFT–2



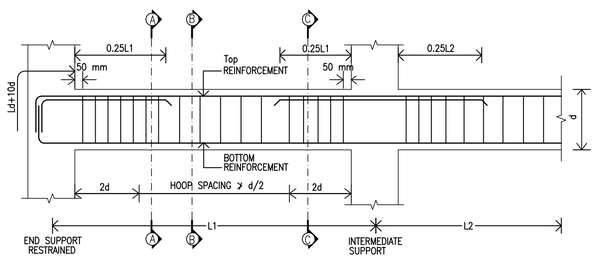
MACHINE ROOM TERRACE
BEAM LAYOUT
FOR LIFT–1



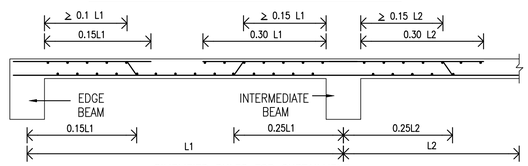
MACHINE ROOM TERRACE
BEAM LAYOUT
FOR LIFT–2

HEAD ROOM, MACHINE ROOM BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A–A	SECTION ALONG B–B	SECTION ALONG C–C
MRFB1 200x450	200, 2x16Y, 450, 2L–8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L–8Y@150 mm c/c, 2x16Y	200, 2x16Y, 450, 2L–8Y@100 mm c/c, 2x16Y
MRFB2 200x450	200, 2x16Y, 450, 2L–8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L–8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L–8Y@100 mm c/c, 2x16Y
MRTB1 200x450	200, 2x16Y, 450, 2L–8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L–8Y@150 mm c/c, 2x16Y	200, 2x16Y, 450, 2L–8Y@100 mm c/c, 2x16Y
MRTB2 200x450	200, 2x16Y, 450, 2L–8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L–8Y@150 mm c/c, 2x16Y	200, 2x16Y, 450, 2L–8Y@100 mm c/c, 2x16Y



TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM



SIMPLIFIED RULES FOR CURTAILMENT
OF BARS IN SECTION THROUGH MIDDLE STRIP OF SLAB

TYPICAL HEADROOM FLOOR BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A–A	SECTION ALONG B–B	SECTION ALONG C–C
HRB1 230x450	200, 2x16Y, 450, 2L–8Y@100mm c/c, 2x16Y	200, 2x16Y, 450, 2L–8Y@150mm c/c, 2x16Y	200, 2x16Y, 450, 2L–8Y@100mm c/c, 2x16Y
HRB2 230x450	200, 2x16Y, 450, 2L–8Y@100mm c/c, 2x16Y	200, 2x16Y, 450, 2L–8Y@100mm c/c, 2x16Y	200, 2x16Y, 450, 2L–8Y@100mm c/c, 2x16Y

TYPICAL MIDLANDING BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A–A	SECTION ALONG B–B	SECTION ALONG C–C
MLB 200x600	200, 2x16Y(I) + 2x12Y(II), 600, 2L–8Y@100 mm c/c, 2x12Y(II) + 2x16Y(I)	200, 2x16Y, 600, 2L–8Y@100 mm c/c, 2x16Y	200, 2x16Y(I) + 2x12Y(II), 600, 2L–8Y@100 mm c/c, 2x12Y(II) + 2x16Y(I)

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3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION.
4. GRADE OF CONCRETE FOR PILE M30(MINIMUM CEMENT CONTENT FOR PILE SHOULD BE 400KG/CUM UNLESS OTHERWISE SPECIFIED) AND M30 FOR OTHER STRUCTURAL ELEMENT.
5. GRADE OF STEEL SHALL BE Fe–500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE / FOOTING = 50MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe–500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe–500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 1300 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+11 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

NOTE: SYMBOL — DESCRIPTION; NGL — NATURAL GROUND LEVEL

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Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

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Proof Checked By:

PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:

STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU–600036

STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022–23/031/TNUHDB_PKTS

PROJECT TITLE:

RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO: TNUHDB/PKTS/B–01&02/015 | **SHEET NO:** 015 | **REV NO:** R0

DRAWING TITLE : STAIRCASE, HEAD ROOM AND MACHINE ROOM REINFORCEMENT DETAILS

BLOCK NO: 01 & 02 | **SCALE:** NTS | **SIZE OF SHEET:** A1

ISSUED FOR:

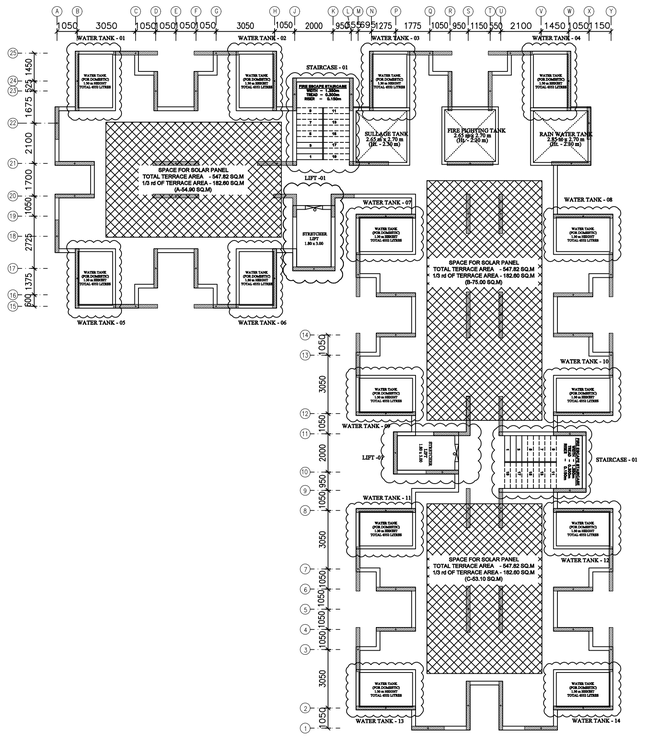
☐ PRELIMINARY ☐ TENDER ☐ INFORMATION
☐ APPROVAL ☑ CONSTRUCTION

DATE OF ISSUE 21–11–2022

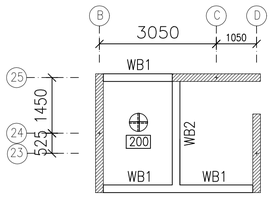
DESIGNED BY: | DRAWN BY:

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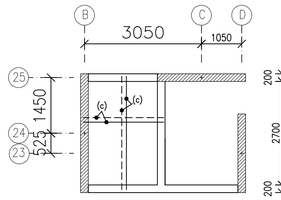
NOTE: ALL DIMENSION ARE IN mm



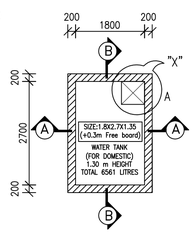
HEADROOM, LIFT & WATER TANK KEY PLAN



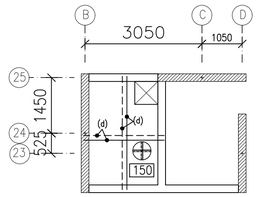
WATER TANK-1,2,3,4,5, 6,7,8,9,10,11,12,13,14 BOTTOM BEAM LAYOUT



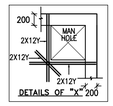
WATER TANK-1,2,3,4,5, 6,7,8,9,10,11,12,13,14 BOTTOM SLAB LAYOUT

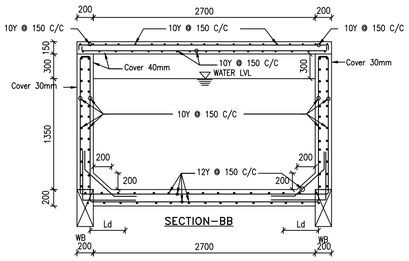


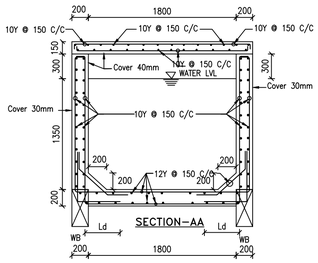
RCC WALL LAYOUT AND MANHOLE DETAILS



WATER TANK-1,2,3,4,5, 6,7,8,9,10,11,12,13,14 TOP SLAB LAYOUT







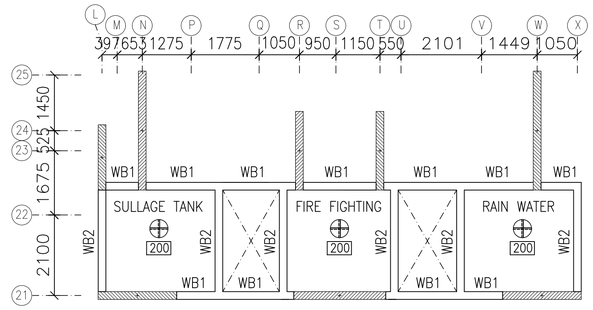
WATER TANK BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
WB1 200x450	200, 2x16Y, 450, 2L-8Y@100mmc/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@150mmc/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100mmc/c, 2x16Y
WB2 200x450	200, 2x16Y, 450, 2L-8Y@75mmc/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@75mmc/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@75mmc/c, 2x16Y

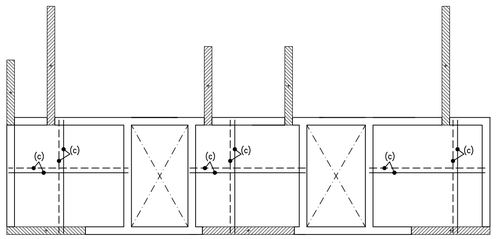
LEGEND:
- ⊕ – Two way slab
- ..... – Top Bar
- —— – Bottom Bar

LEGEND:
- (c) – 12Y @ 150 c/c
- (d) – 10Y @ 150 c/c

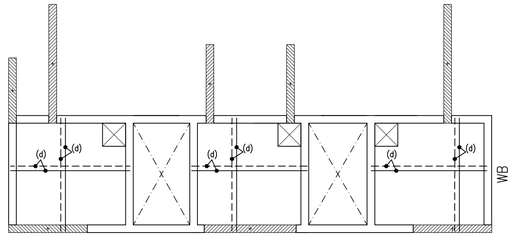
NOTE:
Water tank Inner cover should be 40mm
Water tank Outer cover should be 30mm
The water tank base slab reinforcement and beam top reinforcement shall not be connected to avoid corrosion transfer.



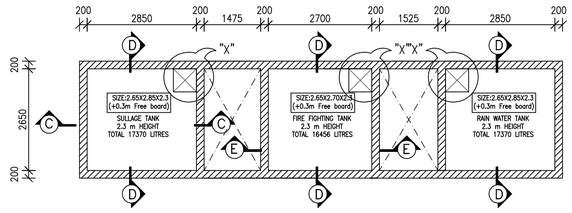
SULLAGE, FIRE FIGHTING, RAIN WATER TANKS BOTTOM BEAM LAYOUT



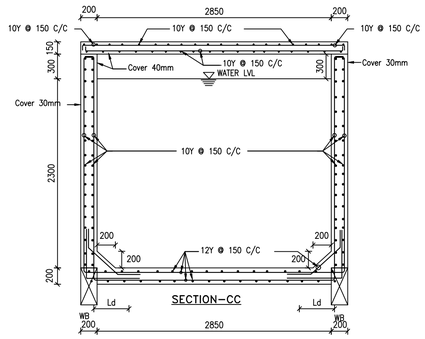
SULLAGE, FIRE FIGHTING, RAIN WATER TANKS BOTTOM SLAB LAYOUT

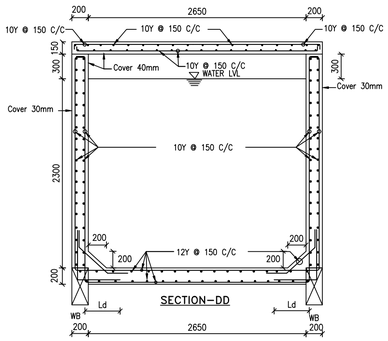


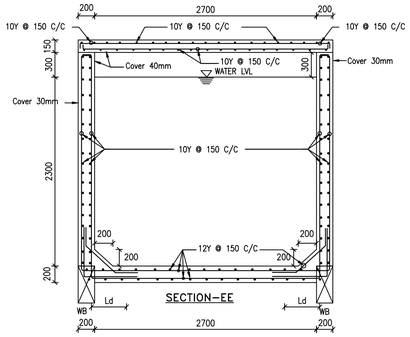
SULLAGE, FIRE FIGHTING, RAIN WATER TANKS TOP SLAB DETAILS



SULLAGE, FIRE FIGHTING, RAIN WATER TANKS RCC WALL LAYOUT & MANHOLE DETAILS







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5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE / FOOTING = 50MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 1300 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+11 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

	SYMBOL	DESCRIPTION	
NOTE:		NGL	NATURAL GROUND LEVEL

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

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PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:
STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU-600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/031/TNUHDB_PKTS

PROJECT TITLE:
RECONSTRUCTION OF 308 RESIDENTIAL DWELLING UNITS (S+11) FLOORS AT PILLAIYAR KOIL THOTTAM, GREATER CHENNAI CORPORATION.

DRAWING NO: TNUHDB/PKTS/B-01&02/016 | **SHEET NO:** 016 | **REV NO:** R0

DRAWING TITLE :
WATER TANK REINFORCEMENT DETAILS

BLOCK NO: 01 & 02 | **SCALE:** NTS | **SIZE OF SHEET:** A1

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DATE OF ISSUE 21-11-2022

DESIGNED BY:	DRAWN BY:
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