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**M Audisheshaiah
& Sons**

Architects, Engineers & Project Management Consultants

27-05-2019

STRUCTURAL STABILITY CERTIFICATE

This is to certify that the Proposed Construction of Service Apartment at Plot No: 60,61&62, Nehru Nagar, Second Link Road Kottivakkam Chennai-600041. Bearing Old Survey No.317/1(part), New Survey No.317/137(As Per Patta), Of Kottivakkam Village, Tambaram Taluk, Greater Chennai Corporation. Division No:183, Zone:14, has been designed for Stilts + Four Floors according to the following CODE OF PRACTICES.

I.S. 875-1987 CODE OF PRACTICE for Design Loads (Part 1, 2, &3).

I.S. 456-2000 CODE OF PRACTICE for Plain and Reinforced Concrete.

I.S. 1786-1985 CODE OF PRACTICE Specified For High Strength Deformed Steel Bars & Wires For Concrete Reinforcement.

I.S. 1904-1986 CODE OF PRACTICE for Design of Construction Of Foundation In Soils.

I.S. 2911-2010 CODE OF PRACTICE for Design and Construction Of Pile Foundation.

The load coming over the individual column is distributed through the pile foundation for the panel size of 3.4 m x 4.15 m. The columns are laterally stabilized at the raft Beam level with a Tie Beam.

Detailed Foundation, Columns Calculations for a Single Column along with the beam design is enclosed as sample calculations.


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Panel Size for Critical Column 3.4m x 4.15m

Load For Ground Floor

Dead Load of Roof Slab incl. Floor finish = $3.4 \times 4.15 \times [(0.125 \times 25) + 1.5]$ = 65.259 KN
Live Load of Roof slab = $3.4 \times 4.15 \times 2$ = 28.22 KN
Self Weight of Roof Beam = $(3.4 + 4.15) \times 0.23 \times 0.46 \times 25$ = 19.97 KN
9" Brick Work = $(3.4 + 4.15) \times 0.23 \times 2.89 \times 19$ = 95.36 KN
Sub Total = 208.809 KN

Load For Typical Floor STILTS, FIRST, SECOND, THIRD & FOUR

Dead Load of Roof Slab incl. Floor finish = $3.4 \times 4.15 \times [(0.125 \times 25) + 1.5] \times 4$ = 261.04 KN
Live Load of Roof slab = $3.4 \times 4.15 \times 2 \times 4$ = 112.88 KN
Self Weight of Roof Beam = $(3.4 + 4.15) \times 0.23 \times 0.46 \times 25 \times 4$ = 79.88 KN
9" Brick Work = $(3.4 + 4.15) \times 0.23 \times 2.89 \times 19 \times 4$ = 381.41 KN
Sub Total = 835.21 KN

TOTAL LOAD = 1044.019 KN

10% of Self Weight OF Footing = 104.41 KN

TOTAL LOAD = 1148.43 KN

CALCULATION OF BASE SHEAR / SEISMIC FORCES

Height of the Building =	20.21	m
Base dimension =	27.69	m
Seismic Zone =	3	
Zone Factor, Z =	0.16	
Importance Factor, I =	1.2	
Type of Soil =	3	1-Rock, 2-Medium Soil, 3-Soft Soil
		T1 T2 T3
Time period of Structure, T =	0.346	0.715 0.346 0.59
Acceleration Coefficient (Sa/g) =	2.5	
Response Reduction Factor, R =	3	
Seismic Coefficient, A _s =	0.080	(Z * I * Sa) / (2 * R * g)
Total Base Shear, V = A _s * W =	323.08	KN
Base Shear Per Column = (323.08 / 22) =	14.69	KN

HENCE IT IS SAFE

DESIGN OF COLUMN

AXIAL LOAD OF COLUMN (P_u) = 1148.43KN
P_u = (0.4 F_{ck} x A_c) + 0.67 F_y x A_{sc}
(1148.43 x 1.5 x 1000) = (0.4 x 25 x 0.23 x 0.6) + (0.67 x 415 x A_{sc})
1722645 = 1380000 + 278.05A_{sc}
A_{st} = 1233
A_{scmin} = 0.008 x 230 x 600 = 1104

AREA OF STEEL REQUIRED = 1104mm²
AREA OF STEEL PROVIDED = (6)-16Ø = 1198.08mm²
HENCE IT IS SAFE


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DESIGN OF BEAM

Self weight of beam = $0.23 \times 0.46 \times 25 = 2.65$ KN/m
Load from the Slab = $1 \times 0.5 \times 0.5 \times 3.39 \times 8.75 = 7.42$ KN/m
Load from the Slab = $1 \times 0.5 \times 0.5 \times 4.14 \times 8.75 = 9.06$ KN/m
4½ inches Wall = $0.23 \times 19 \times 2.89 = 6.32$ KN/m
TOTAL LOAD = 25.45KN/m

Max.B. M = $WL^2/8 = 25.45 \times 5 \times 5 / 8 = 79.54$
 $Mu/Bd^2 = 79.54 \times 1000 \times 1000 / 230 \times 460 \times 460 = 1.64$
From the table 1 for $Mu/BD^2 = 0.81$ Pt = 0.518
 $0.518 \times 230 \times 460 = 54805 / 100 = 549$ mm²

AREA OF STEEL REQUIRED = 549mm²
AREA OF STEEL PROVIDED = (3) - 16Ø = 604mm²
Hence it is safe

DESIGN OF SLAB

Panel Size = 5 m x 3.39 m
 $Ly/Lx = 4.14 / 3.39 = 1.23$ Hence design two way slab
Type Of Panel = Three edges discontinuous
Negative Moment of Continuous Edges = $0.0724 \times 8.75 \times 1.5 \times 3.39 \times 3.39 = 10.93$
Positive moment at Midspan = $0.0544 \times 8.75 \times 1.5 \times 4.14 \times 4.14 = 8.21$

Area of Steel required = 8# @ 8"c/c
Area of Steel required = 10mm @ 8"c/c for 5" thick Slab.
Hence It is Safe.

DESIGN OF PILE CAP

COLUMN LOAD = 1600KN
NO OF PILE = 2
C/C SPACING OF PILE = 1.25m
REACTION PER PILE = $612 / 42 = 306$ KN
SHEAR STRESS = $(310 \times 1.5 \times 9.8 \times 1000 \times 41.25) / (3450 \times 1525 \times 90)$
Pt Value = 0.396N/mm²
Dia Of Rod Provided = 16mm
Spacing of Rods = 150mm

PROVIDE 2060mm x 840mm PEDASTAL FOR 1066mm HEIGHT TO REDUCE THE SHEAR STRESS

HENCE IT IS SAFE

I certify that the above load calculations, analysis, and design are as per IS.875
Standards & Seismic forces are calculated per IS.1893 for Earthquake resistance structures.

Therefore the Structure is sound and suitable for occupation.


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Project
Client
Site

(Stilt + 4) Residential Building
Mr.K.Praveen
KOTTIVAKKAM

DESIGN OF PILE FOUNDATION

1.0 Type of Installation of Pile

1.1 Geometrical Data

Bored Cast in Situ

Assumed Diameter of pile(D)	:	500.00	mm
Length of Pile	:	12.50	m

1.2 Design of Pile for Vertical Compression

1.2.1 Computation of Skin Friction Resistance:

Layer-I

Layer-I(0m to1.5m)

Type of Strata	:	CLAY	
Thickness of the layer		1.50	m
Surface area(As)		2.36	m ²
Undrained cohesion,Cu	:	0.50	t/m ³
α	:	0.70	
Skin friction(α *Cu*Asi)	:	0.83	t

1.2.1.1

Layer-II

Layer-I(1.5m to7.5m)

Type of Strata	:	SANDY CLAY	
Thickness of the layer		6.00	m
Surface area(As)		9.42	m ²
Undrained cohesion,Cu	:	3.25	t/m ³
α	:	0.50	
Skin friction(α *Cu*Asi)	:	15.31	t

1.2.1.2

Layer-II

Layer-I(7.5m to12.5m)

Type of Strata	:	SOFT ROCK	
Thickness of the layer		5.00	m
Surface area(As)		7.85	m ²
Undrained cohesion,Cu	:	8.75	t/m ³
α	:	0.50	
Skin friction(α *Cu*Asi)	:	34.34	t

1.2.1.2

Layer-III

Layer-I(7.5m to12.5m)

Type of Strata	:	SOFT ROCK	
Thickness of the layer		5.00	m
Surface area(As)		7.85	m ²
Undrained cohesion,Cu	:	17.50	t/m ³
α	:	0.50	
Skin friction(α *Cu*Asi)	:	68.69	t
Ultimate Skin Friction	:	126.6	t


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1.2.2 Computation of End Bearing Resistance:

End Bearing resistance in cohesionless Soils(Q_e) : $A_p(0.5 \cdot D \cdot Y \cdot N_y + P \cdot N_q)$

Foundation Depth from FGL	:	20.00	m
Angle of internal friction at tip	:	36.0	deg
Area of C/S of pile at toe A_p	:	0.20	m^2
Overburden pressure at pile toe	:	6.40	t/m^2
Dia of pile	:	500.00	mm
Submerged unit Wt. of soil (γ_{sub})	:	1.00	
N_Y	:	60.31	
N_q	:	67.00	
End bearing resistance (Q_e)	:	87.2	t

1.3.0 Safe load capacity of pile:

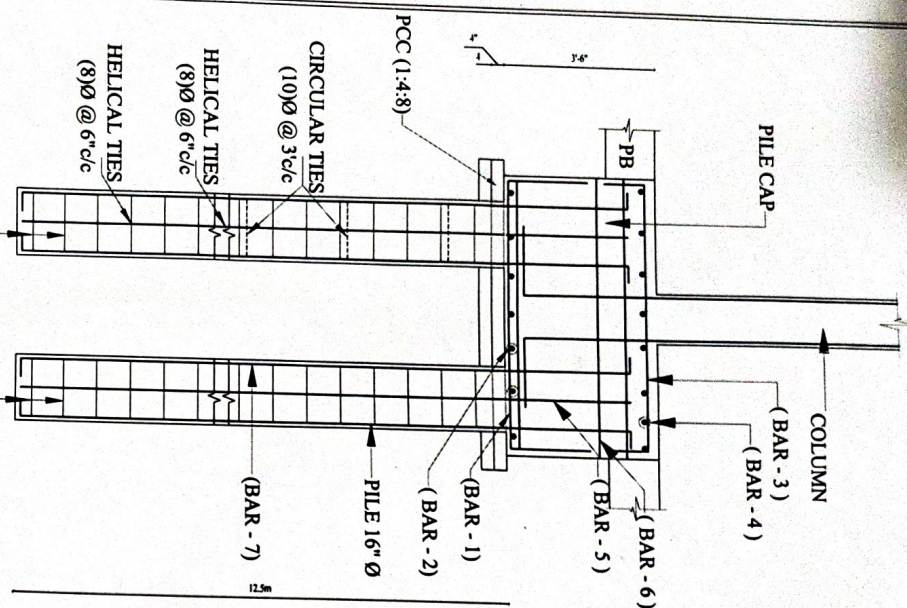
Ultimate Load Carrying Capacity (Q_u)	:	$Q_f + Q_e$	
	:	213.8	t
Selfweight of pile (W_p)	:	0.3	t
Factor of Safety (FOS)	:	2.5	t
Safe Vertical Load Capacity of pile (Q_s)	:	$\{Q_u / FOS\} - W_p$	
	:	85.216425	
RECOMMENDED VERTICAL COMPRESSION CAPACITY, P	:	85	t

I certify that the above load calculations, analysis, and design are as per IS.875 Standards & Seismic forces are calculated per IS 1893 for Earthquake resistance structures.

Therefore the Structure is sound and suitable for occupation.



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PILE TYPICAL SECTION

COLUMN SCHEDULE (M25)									
NAME	COLUMN LOCATIONS	UP TO GROUND FLOOR ROOF	UP TO FIRST FLOOR ROOF	UP TO SECOND FLOOR ROOF	UP TO THIRD FLOOR ROOF & FOURTH FLOOR ROOF	TIES DETAILS	COLUMN TIES	NO OF COLUMNS	
C1	B2-B3-C3	1'-3" (6) - 160	1'-3" (6) - 160	1'-3" (6) - 160	1'-3" (6) - 160	2 2 TIES	80 @ 6" c/c	03	
C2	B4-A4	1'-6" (6) - 160	1'-6" (6) - 160	1'-6" (6) - 160	1'-6" (6) - 160	2 2 TIES	80 @ 6" c/c	02	
C3	A2	1'-9" (4) - 250 (2) - 160	1'-9" (4) - 250 (2) - 160	1'-9" (4) - 250 (2) - 160	1'-9" (4) - 250 (2) - 160	2 2 TIES	80 @ 6" c/c	01	
C4	E4-F4-H4-K4-L4	1'-9" (4) - 200 (2) - 160 (3) - 120	1'-9" (4) - 200 (2) - 160	1'-9" (4) - 200 (2) - 160	1'-9" (4) - 200 (2) - 160	2 2 TIES	80 @ 6" c/c	06	
C5	A1-L1-L2	1'-9" (6) - 250 (3) - 120	1'-9" (6) - 250	1'-9" (6) - 250	1'-9" (6) - 250	2 2 TIES	80 @ 6" c/c	03	
C6	H2-K2	1'-9" (12) - 250 (5) - 120	1'-9" (12) - 250	1'-9" (12) - 250	1'-9" (12) - 250	3 3 TIES	80 @ 6" c/c	02	
C7	C2	1'-9" (12) - 250	1'-9" (12) - 250	1'-9" (12) - 250	1'-9" (12) - 250	3 3 TIES	80 @ 6" c/c	01	
C8	D1-J1-F2	1'-9" (12) - 250 (5) - 120	1'-9" (12) - 250	1'-9" (12) - 250	1'-9" (12) - 250	3 3 TIES	80 @ 6" c/c	03	
C9	G1	1'-9" (18) - 250	1'-9" (18) - 250	1'-9" (18) - 250	1'-9" (18) - 250	4 TIES	80 @ 6" c/c	01	
TOTAL							22		

PILE DETAILS				
NAME	SIZE (mm)	PILE SHAPE	DEPTH (m)	PILE TIES
P1	450	Ø	12.5 (8) - 120	80 @ 6" c/c
P2	500	Ø	12.5 (8) - 120	80 @ 6" c/c
P3	600	Ø	12.5 (10) - 120	80 @ 6" c/c
TOTAL				44

PILE CAP DETAILS (M30)									
NAME	SIZE	PILE CAP DEPTH (D)	NO'S	REINFORCEMENT DETAILS		STIRRUPS			
PC1	2'-4" x 6'-2"	3'-3"	05	160 @ 6" c/c	120 @ 6" c/c	120 @ 9" c/c	120 @ 9" c/c		
PC2	6'-9" x 2'-7 1/2"	3'-3"	09	160 @ 6" c/c	120 @ 6" c/c	120 @ 9" c/c	120 @ 9" c/c		
PC3	8'-0" x 3'-0"	3'-3"	02	160 @ 6" c/c	120 @ 6" c/c	120 @ 9" c/c	120 @ 9" c/c		
PC4	REFER DWG.	3'-3"	02	160 @ 6" c/c	120 @ 6" c/c	120 @ 9" c/c	120 @ 9" c/c		
PC5	9'-1 1/2" x 9'-1 1/2"	3'-3"	01	160 @ 6" c/c	120 @ 6" c/c	120 @ 9" c/c	120 @ 9" c/c		

FOUNDATION REINFORCEMENT DETAILS

DRAWN BY:	SANKARI	DESIGN BY:	VENKAT
CHECKED BY:	VENKAT	SCALE:	NTS
PROJECT NO:	2019	DATE:	24.05.19

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DIRECTION:

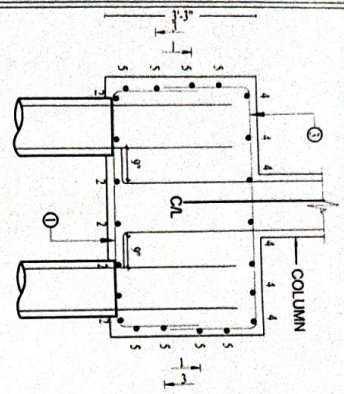
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REVISION NO: R0

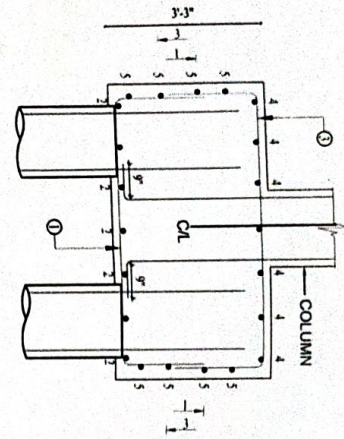
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FOR : MR. K. PRAVEEN

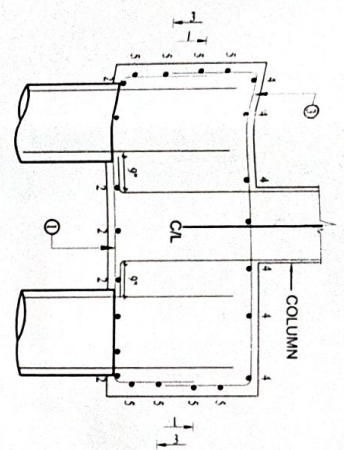
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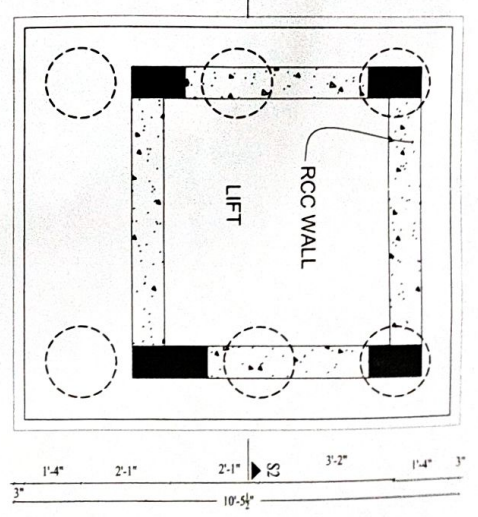
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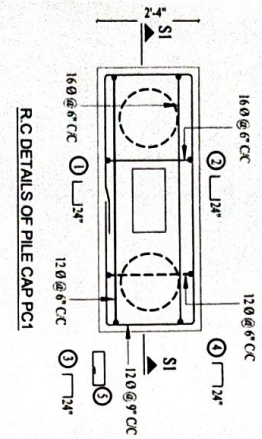
RC DETAILS OF SECTION S1-S1



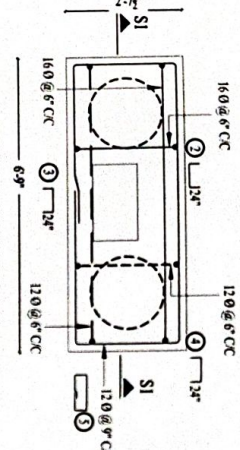
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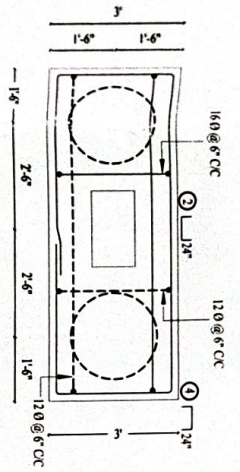
NUM. DETAILS OF PILE CAP PC5



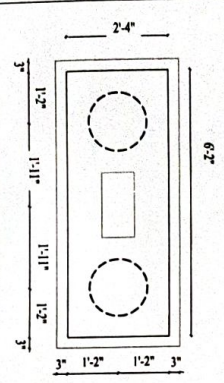
RC DETAILS OF PILE CAP PC1



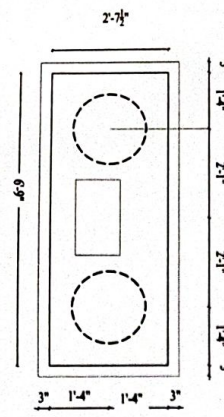
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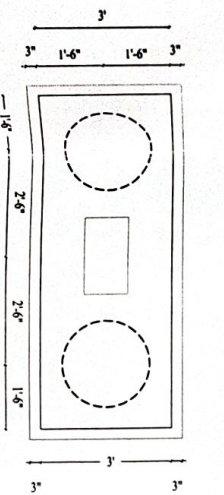
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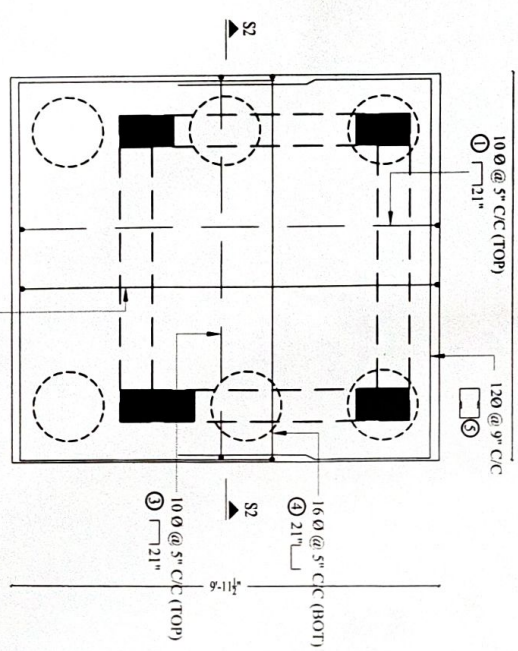
NUM. DETAILS OF PILE CAP PC1



NUM. DETAILS OF PILE CAP PC2



NUM. DETAILS OF PILE CAP PC3



RC DETAILS OF PILE CAP PC5

PILE SECTION DRAWING

DRAWN BY:	SANKARI	DESIGN BY:	VENKAT
CHECKED BY:	VENKAT	SCALE:	NTS
PROJECT NO:	2019	DATE:	24.05.19

PLAN SHOWING THE PROPOSED CONSTRUCTION OF SERVICE APARTMENT AT PLOT : NO : 60, 61 AND 62, NEHRU NAGAR SECOND LINK ROAD KOTTIVAKKAM CHENNAI - 600041. BEARING OLD SURVEY NO. 317/1 (PART), NEW SURVEY NO. 317/137 (AS PER PATTI) OF KOTTIVAKKAM VILLAGE, TAMBARAM TALUK, GREATER CHENNAI CORPORATION. DIV : NO : 183, ZONE : 14

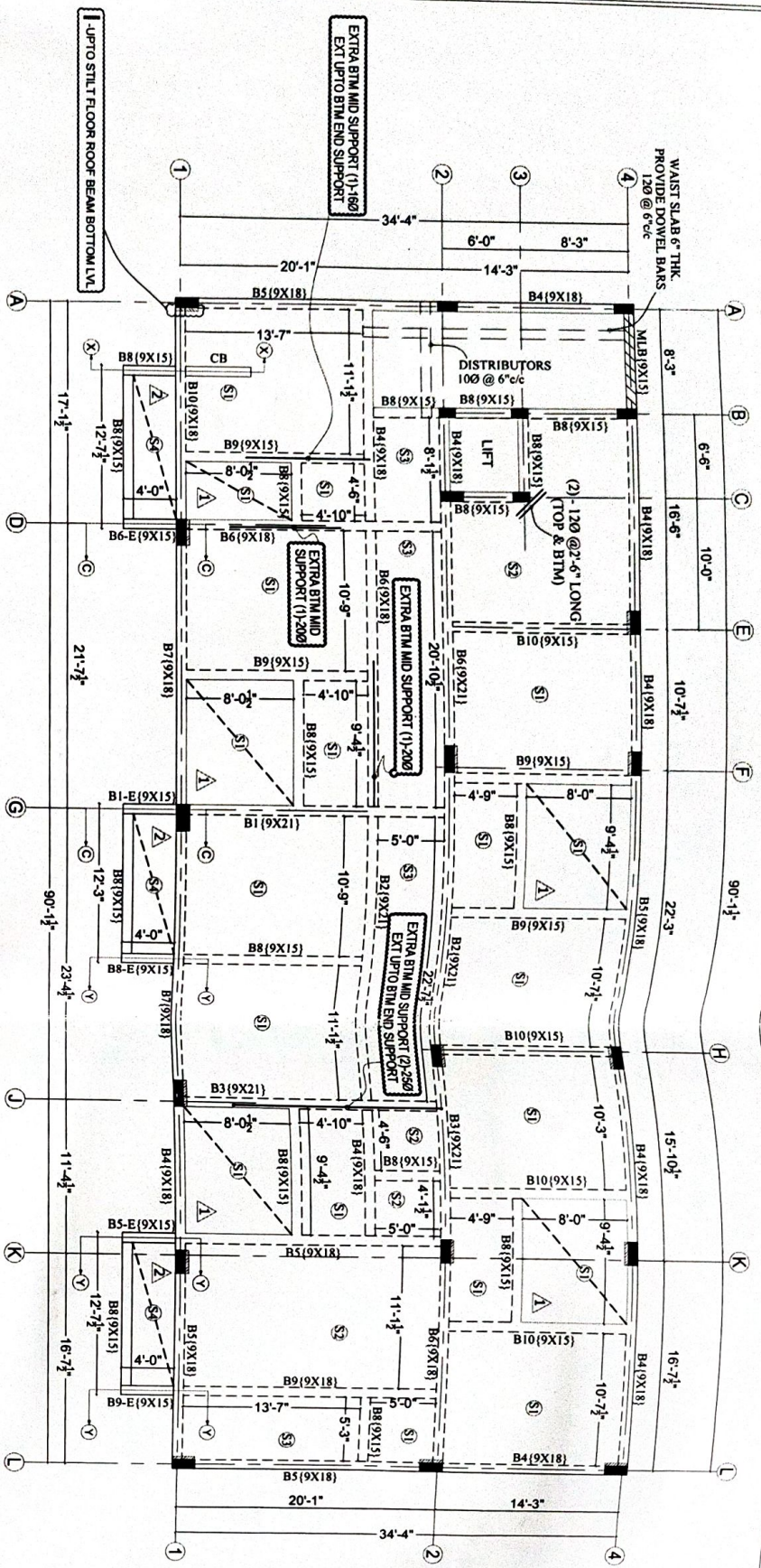
FOR: MR. K. PRAVEEN

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DIRECTION:
REVISION NO: R0
DRAWING NO: ST - 4



SLAB ID.	THICKNESS (INCHES)	REINFORCEMENT		TYPE OF SLAB
		SHORT SPAN	LONG SPAN	
S1	5"	8Ø @ 6" c/c	8Ø @ 8" c/c	TWO WAY
S2	5"	8Ø @ 6" c/c	8Ø @ 6" c/c	TWO WAY
S3	5"	8Ø @ 4" c/c	8Ø @ 8" c/c	ONE WAY
S4	5"	8Ø @ 5" c/c	8Ø @ 8" c/c	ONE WAY

△ SUNKEN BY 3"
△ SUNKEN BY 10"

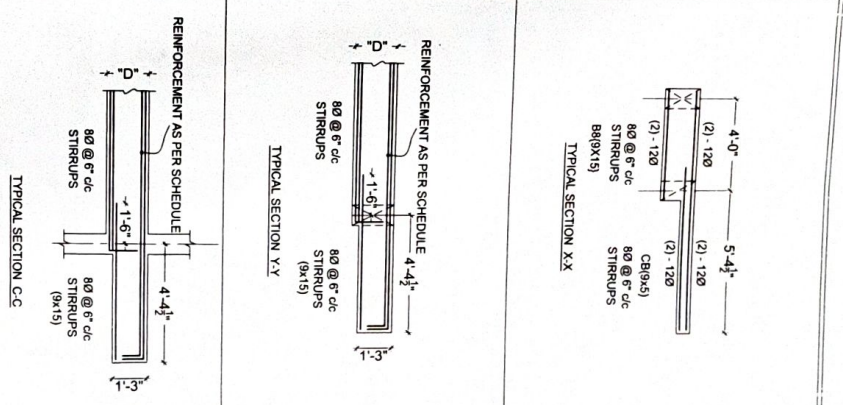
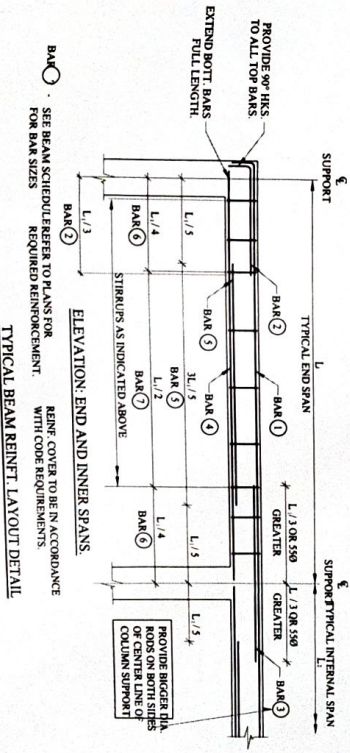
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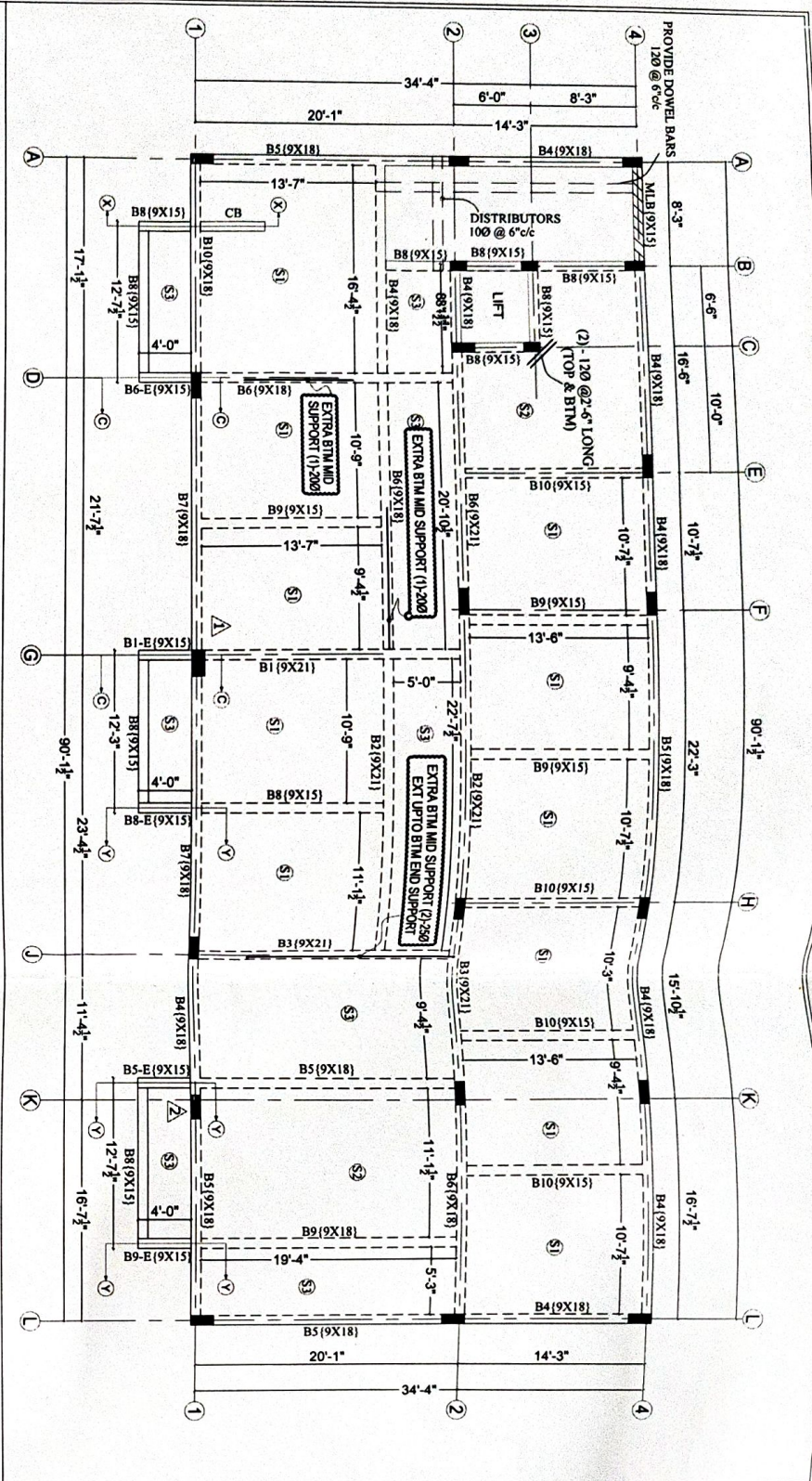
ROOF DRAWING TYPICAL (STILTS, I, II, III)			
DRAWN BY:	NIVEDITHA	DESIGN BY:	VENKAT
CHECKED BY:	VENKAT	SCALE:	NTS
PROJECT NO:	2019	DATE:	24.05.19

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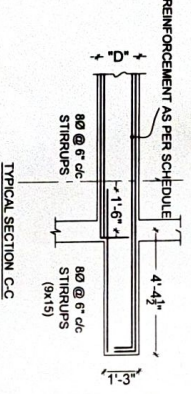
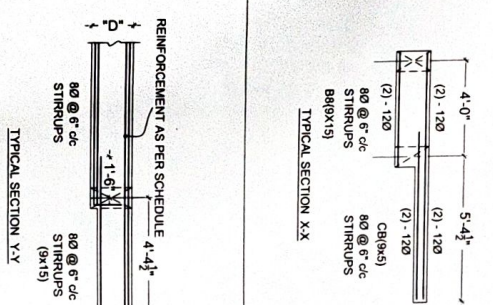
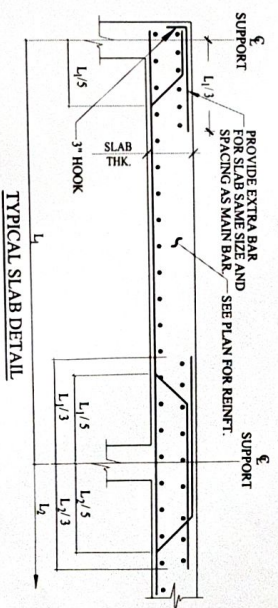
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DIRECTION: S N E W	REVISION NO: R0
DRAWING NO: ST - 6	





ROOF SLAB DETAILS			
SLAB ID.	THICKNESS (INCHES)		TYPE OF SLAB
	SHORT SPAN	LONG SPAN	
S1	5"	80 @ 6" c/c	TWO WAY
S2	5"	80 @ 6" c/c	TWO WAY
S3	5"	80 @ 4" c/c	ONE WAY
S4	5"	80 @ 5" c/c	ONE WAY



PLAN SHOWING THE PROPOSED CONSTRUCTION OF SERVICE APARTMENT AT PLOT : NO : 60, 61 AND 62, NEHRU NAGAR SECOND LINK ROAD KOTTIVAKKAM CHENNAI - 600041, BEARING OLD SURVEY NO. 317/1 (PART), NEW SURVEY NO. 317/137 (AS PER PATT) OF KOTTIVAKKAM VILLAGE, TAMBARAM TALUK, GREATER CHENNAI CORPORATION. DIV : NO : 183, ZONE : 14

FOR : MR. K. PRAVEEN

FINAL FLOOR ROOF DRAWING

DRAWN BY:	NIVEDITHA	DESIGN BY:	VENKAT
CHECKED BY:	VENKAT	SCALE:	NTS
PROJECT NO:	2019	DATE:	24.05.19

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DIRECTION:

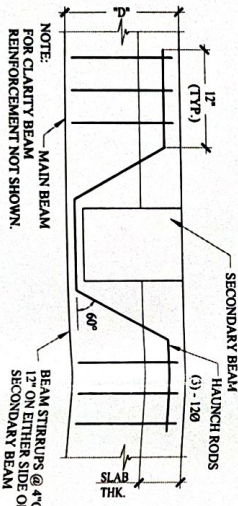
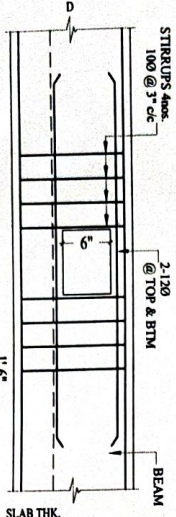
REVISION NO.: R0

DRAWING NO.: ST - 7

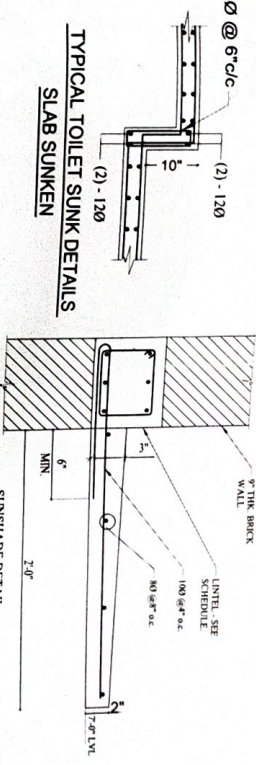
LEGEND:-
B7 - E - BEAM TOP & BOTTOM BARS SHOULD BE EXTENDED
B7 - E(T) - BEAM TOP BARS SHOULD BE EXTENDED

STILT & TYPICAL I, II, III & FINAL FLOOR BEAM DETAILS

NAME	SIZE	TOP			BOTTOM			STIRRUPS	
		BAR - 1	BAR - 2	BAR - 3	BAR - 4	BAR - 5	BAR - 6	BAR - 7	
		CONTINUOUS	L/3 SUP	2L/3 MID	CONTINUOUS	3L/5 MID	L/4 SUP	L/2 MID	
B1	9" x 21"	(2) - 25Ø	(2) - 25Ø	-	(4) - 25Ø	(3) - 16Ø	8Ø @ 6" c/c	8Ø @ 8" c/c	
B2	9" x 21"	(2) - 20Ø	(2) - 25Ø	-	(3) - 20Ø	-	8Ø @ 6" c/c	8Ø @ 8" c/c	
B3	9" x 21"	(2) - 16Ø	(1) - 16Ø (2) - 20Ø (1) - 12Ø	-	(3) - 16Ø	-	8Ø @ 6" c/c	8Ø @ 8" c/c	
B4	9" x 18"	(3) - 12Ø	-	-	(3) - 12Ø	-	8Ø @ 6" c/c	8Ø @ 8" c/c	
B5	9" x 18"	(3) - 12Ø	(2) - 16Ø (1) - 12Ø (2) - 20Ø	-	(2) - 16Ø	(1) - 20Ø	8Ø @ 6" c/c	8Ø @ 8" c/c	
B6	9" x 18"	(2) - 16Ø	(2) - 20Ø (1) - 16Ø	-	(2) - 25Ø	-	8Ø @ 6" c/c	8Ø @ 8" c/c	
B7	9" x 18"	(3) - 12Ø	-	-	(3) - 20Ø	(2) - 20Ø (1) - 12Ø	8Ø @ 6" c/c	8Ø @ 8" c/c	
B8	9" x 15"	(2) - 12Ø	(1) - 12Ø	-	(2) - 12Ø	(1) - 12Ø	8Ø @ 6" c/c	8Ø @ 8" c/c	
B9	9" x 15"	(2) - 12Ø	-	-	(2) - 12Ø	(1) - 16Ø	8Ø @ 6" c/c	8Ø @ 8" c/c	
B10	9" x 15"	(2) - 12Ø	(1) - 16Ø	-	(3) - 12Ø	-	8Ø @ 6" c/c	8Ø @ 8" c/c	
MLB	9" x 15"	(2) - 12Ø	-	-	(2) - 12Ø	-	8Ø @ 6" c/c	8Ø @ 8" c/c	



TYPICAL TOILET SUNK DETAILS SLAB SUNKEN



LINTEL NOTES
(8" MIN. BEARING EACH END.)
WHERE LINTELS ARE INDICATED ON THE ARCHITECTURAL PLANS THEY SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE, UNLESS NOTED OTHERWISE.
1. CONCRETE BLOCK LINTEL SCHEDULE:

OPENING WIDTH	BEAM SIZE	REINFORCEMENT		STIRRUP SIZE
		TOP	BOTTOM	
UP TO 6'-0"	9" x 6"	(2) - 8Ø	(2) - 10Ø	8Ø @ 6" c/c
6'-0" TO 8'-0"	4 1/2" x 6"	(3) - 8Ø	(3) - 10Ø	8Ø @ 6" c/c
8'-0" TO 12'-0"	9" x 9"	(2) - 10Ø	(2) - 12Ø	8Ø @ 6" c/c

NOTE:

1. USE CONCRETE MIX M25 (1:1:2) FOR BEAMS & SLAB.
2. USE STEEL GRADE Fe 500.
3. USE VIBRATOR FOR ALL CONCRETING WORKS.
4. USE MIN. LAP LENGTH OF 55Ø FOR ALL RODS.
5. THE WATER USED FOR CONCRETE SHOULD BE POTABLE (PH-7).
6. REMOVE BENDS IN ALL RODS (EVEN IN 8MM RODS).
7. AVOID LAPPING AT TENSION PORTIONS.
8. THE GAP BETWEEN THE TWO LAYERS OF REINFORCEMENT SHOULD BE MAINTAINED BY PROVIDING SPACER RODS (DISTANCE SHOULD NOT BE MORE THAN DIA. OF BAR OR 1").
9. IN ALL CANTILEVER PORTION THE BEAM TOP RODS SHOULD BE EXTENDED.
10. Ø - INDICATES ROD DIAMETER IN MM.
11. CONCRETE MIX M25 (1:1:2) FOR COLUMN
12. COVER FOR COLUMN 1 1/2"
13. COVER FOR BEAM 1"
14. COVER FOR SLAB 3/4"
15. ALL SLABS ARE 5TK UNLESS OTHERWISE SPECIFIED.
16. ALL SERVICE AREA SLABS SHOULD BE SUNKEN BY 3"
- UNLESS OTHERWISE NOTED.
17. CONCRETING NOT PERMITTED WITHOUT THE PERMISSION / APPROVAL/SITE INSPECTION FROM / BY STRUCTURAL ENGINEER.

ROOF TYPICAL SECTION DRAWING

DRAWN BY:	NIVEDITHA	DESIGN BY:	VENKAT
CHECKED BY:	VENKAT	SCALE:	NTS
PROJECT NO:	2019	DATE:	24.05.19

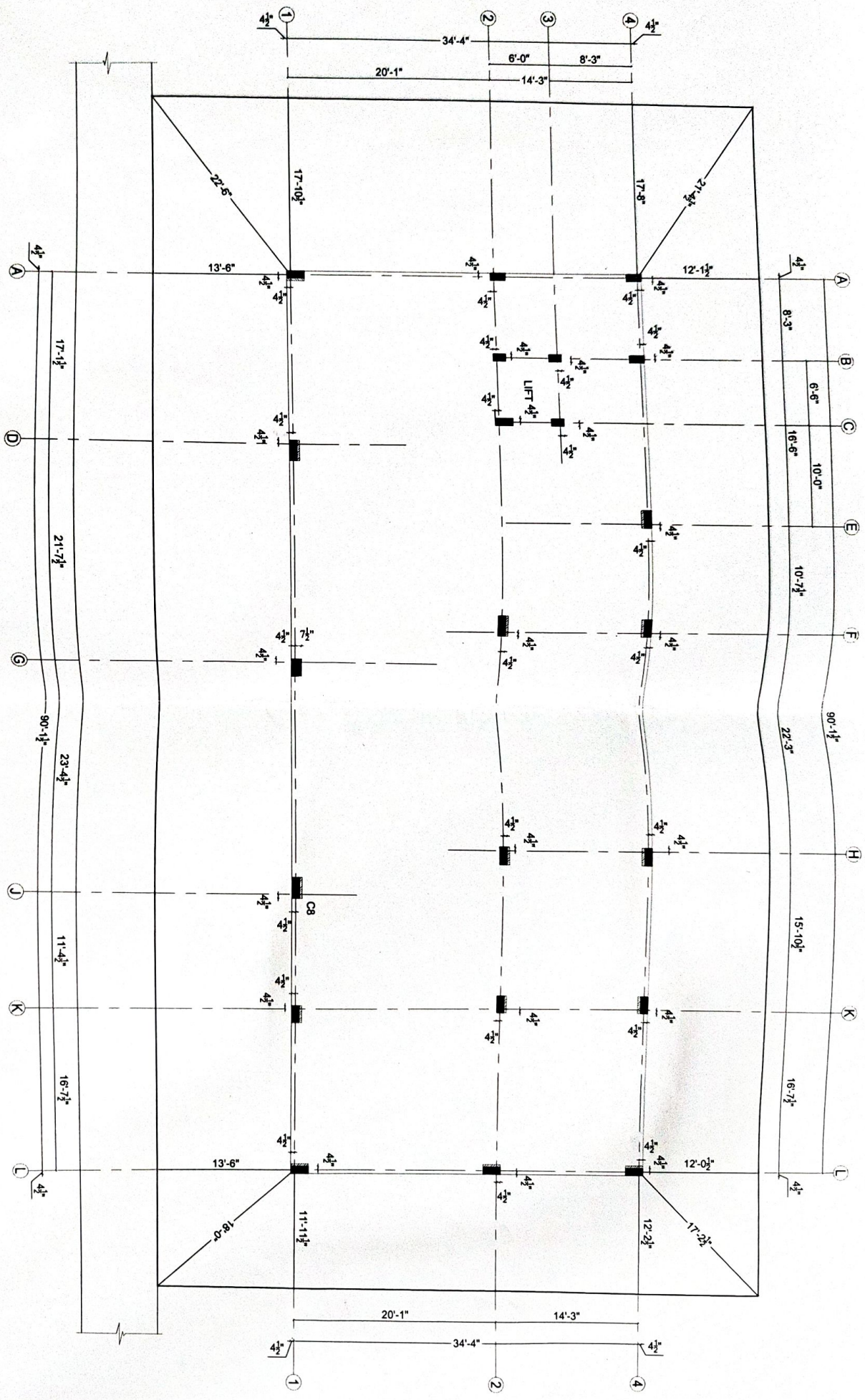
PLAN SHOWING THE PROPOSED CONSTRUCTION OF SERVICE APARTMENT AT PLOT : NO : 60, 61 AND 62, NEHRU NAGAR SECOND LINK ROAD KOTTIVAKKAM CHENNAI - 600041. BEARING OLD SURVEY NO. 317/1 (PART), NEW SURVEY NO. 317/137 (AS PER PATT) OF KOTTIVAKKAM VILLAGE, TAMBARAM TALUK, GREATER CHENNAI CORPORATION. DIV. NO : 183, ZONE : 14

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DIRECTION: S
W
N
E
REVISION NO: R0
DRAWING NO: ST - 8



PLAN SHOWING THE PROPOSED
CONSTRUCTION OF SERVICE APARTMENT AT
PLOT : NO : 60, 61 AND 62, MEHRU NAGAR
SECOND LINK ROAD KOTTIVAKKAM CHENNAI -
600041. BEARING OLD SURVEY NO. 317/1 (PART), NEW SURVEY NO. 317/137 (AS PER
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TAMBARAM TALUK, GREATER CHENNAI
CORPORATION. DIV : NO : 183, ZONE : 14

CENTERLINE DRAWINGWG.

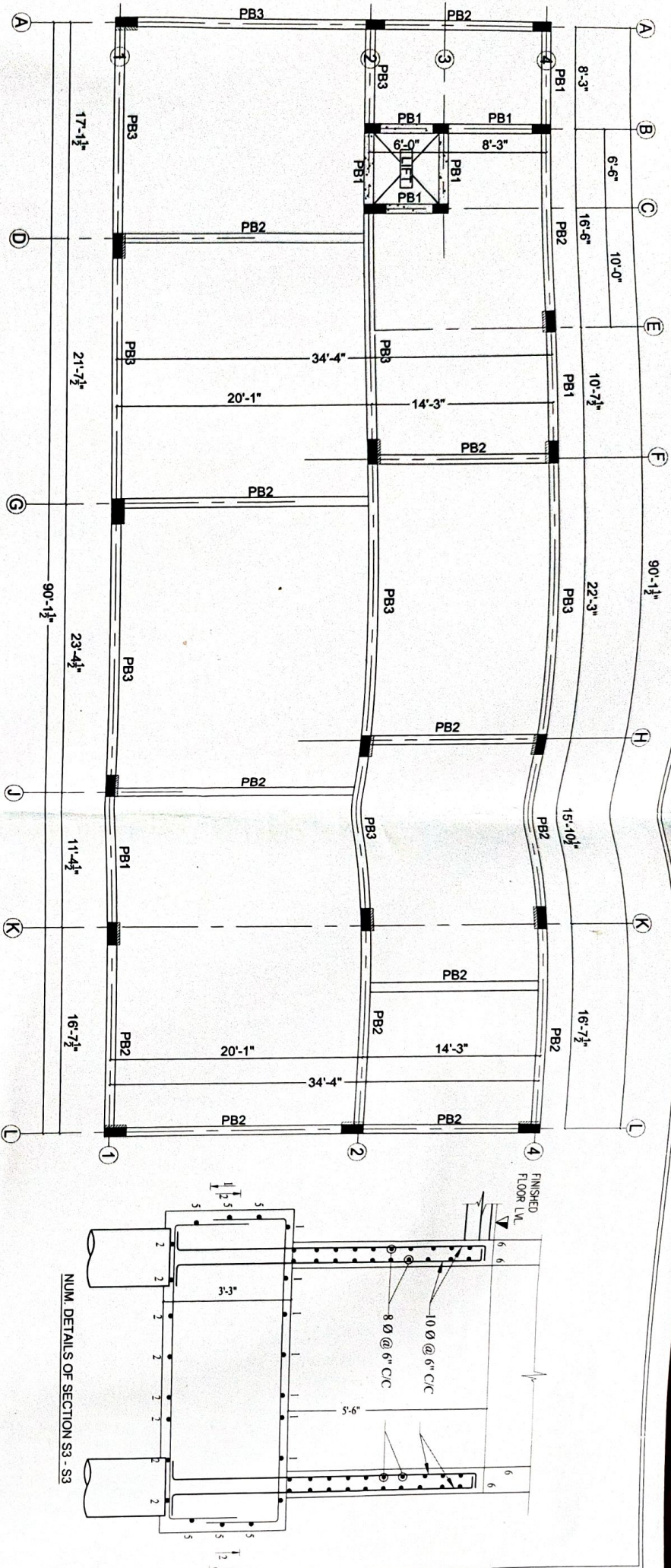
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PROJECT NO:	2019	DATE:	24.05.19

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DIRECTION:

 REVISION NO: R0
 DRAWING NO: ST - 1



PLINTH BEAM DETAILS						
NAME	SIZE	TOP			BOTTOM	
		BAR-1	BAR-2	BAR-3	BAR-4	BAR-5
PB1	9" x 15"	(2) - 12Ø	-	-	(2) - 12Ø	-
PB2	9" x 15"	(2) - 12Ø	(1) - 12Ø	-	(2) - 12Ø	(1) - 12Ø
PB3	9" x 18"	(2) - 16Ø	(1) - 12Ø	-	(2) - 16Ø	(1) - 12Ø

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FOR: MR. K. PRAVEEN

PLINTH BEAM DRAWING

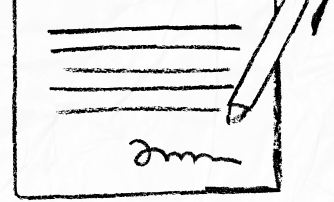
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PROJECT NO:	2019	DATE:	24.05.19

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DIRECTION:

 REVISION NO: R0
 DRAWING NO: ST - 3



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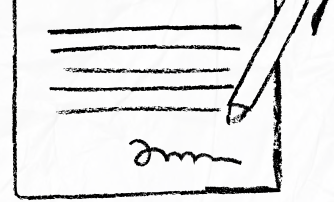
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