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DESIGN BASIS REPORT

1. DESIGN ASSUMPTION

a) STRUCTURAL SYSTEM

The structural design of the proposed residential building S+4. Plot No: A-53, Hindu Colony, Nanganallur, Chennai – 600 061.

2. DESIGN LOADS

a) Imposed loads

The imposed loads that are envisaged to act permanently (wherever applicable) are as following:-

Item	Intensity in KN/m^2 of plan area
Floor finish	1.5

The superimposed load or otherwise live load is assessed based on the occupancy classifications as per IS: 875 (Part-2)-1987 and are listed as below.

Name of Structure	Occupancy Classification	UDL (KN/m^2)
Residential Buildings	All rooms, Kitchens, Toilet and Bath Rooms	2.00
Residential Buildings	Corridors, Passages & Staircases	3.00
Residential Buildings	Roof with Access	1.50

For NAAGHAPPA SHELTERS

PARTNER

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3. DESIGN METHODOLOGY

All structures have been designed according to the Limit State Method as specified inIS: 456-2000. Appropriate loads and its combinations, as per relevant clauses in IS 456:2000 code, for the most unfavorable effects are chosen for design.

4. MATERIALS

The self-weight of the various elements are computed based on the built weight of materials as given below:-

Materials	**Unit Weight in KN/m^3**
Steel	78.50
Plain Concrete	24.00
Reinforced Concrete	25.00
Soil	18.00
Water	10.00
Block(Concrete Blocks)	18.00

5. CONCRETE

All the concrete items for the construction have the following characteristics

Grade of Concrete = M25 for Column, Beams, and Slabs.
M25 for Foundations.

Aggregate = 20mm and down size, mechanically crushed Aggregate.

6. STEEL.

Steel reinforcement shall be of Grade Fe500 conforming to IS: 1786-1985

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7. EXPOSURE CONDITION

Structural elements below Plinth level and Exterior External faces of walls are designedfor Moderate exposure condition and internal faces of walls, floor beams and slabs aredesigned for mild exposure condition as per Table 16 of IS 456-2000.

8. COVER TO REINFORCEMENT

The clear cover to main reinforcement shall be as follows.

Foundations	=	Bottom: 50mm, Sides: 50mm
Slab	=	20mm
Columns	=	40mm for min thk 225, 25mm for min thk 150
Plinth Beams	=	25mm
Floor Beams	=	25mm or diameter of largest bar, whichever is greater.

9. FOUNDATION SYSTEM

Foundation systems are based on recommendations given as per soil investigation report provided, by **Abide Landmark Surveyors at Chennai.**

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For NAAGHAPPA SHELTERS

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Design of Isolated Footing with Moment

Support No = **F1**

1 Design Forces From STAAD =

1. Axial Load on column	=	1550 KN
2. Bending moment along x-x, Mx	=	50 KN.m
3. Bending moment along y-y, My	=	50 KN.m

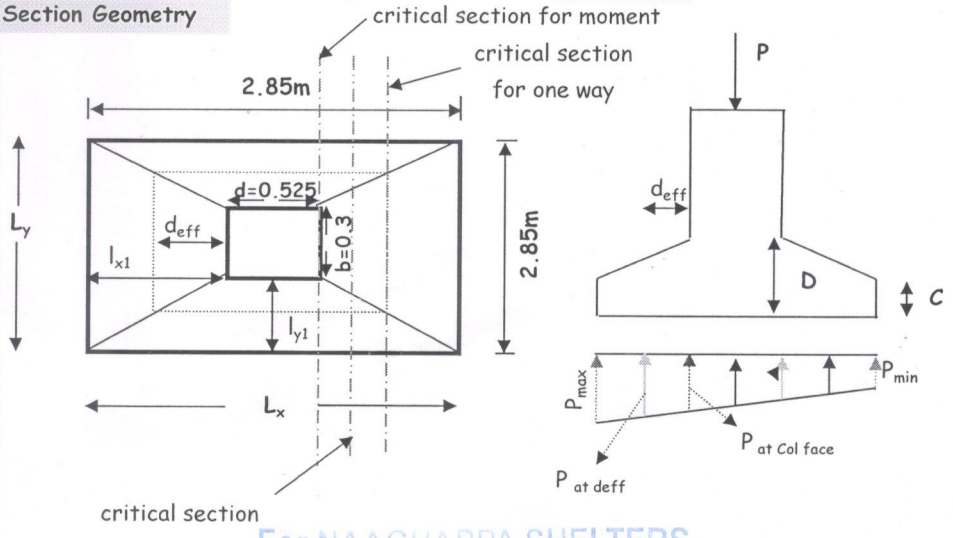
2 Design Datas

3. Compressive strength of Concrete, Fck	=	25 N/mm^2
4. Yield Strength of steel, Fy	=	500 N/mm^2
5.Diameter of Reinforcement, (x-direction)	=	12 mm
6.Diameter of Reinforcement, (y-direction)	=	12 mm
7. Clear cover to the reinforcement, C	=	40 mm
8. Safe bearing capacity of soil, SBC	=	210 KN/m^2
7 Type of Footing	=	Rectangular
8 Size of pedastal/Column	=	b x d
	=	0.3 x 0.525 m

2 Assume trial size of footing

Area of footing	=	Total Load/SBC
Self Wt. of footing		
(Assume 10% of column load	=	124 KN
		0
Total Load	=	1674 KN
Area of footing required	=	1674 / 210
	=	7.97 m^2
Size Required	B =	**2.3** m
	L =	**3.45** m
Size Provided	B =	2.85 m
	L =	2.85 m
Area of Footing Provided	=	**8.1225** m^2
		8.1225 > 7.97
		O.K

3 Section Geometry

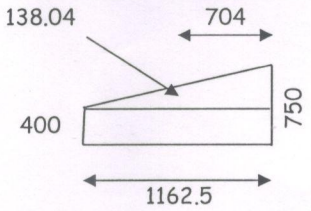


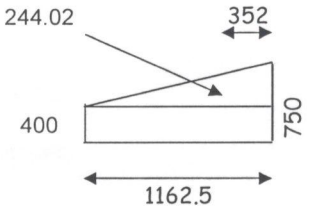
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for two way





l_{x1} = $(L_x-d)/2$
= (2.85 - 0.525)/2
= **1.1625** m

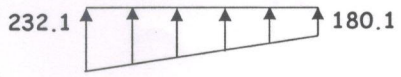
l_{y1} = $(L_y-d)/2$
= (2.85 - 0.3)/2
= **1.275** m

Assume Overall depth of footing, D = 750 mm
Depth at free end, C = 400 mm
d_{eff} at critical moment section = 704 mm
d_{eff} at critical one way shear section = 492.04 mm
d_{eff} at critical two way shear section = 598.02 mm

4 Check for Soil Pressure

A) Along X direction

Eccentricity, e_{xx} = (M_{xx}/P)
= 50 / 1674
= 0.03 m



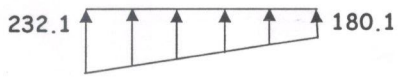
$L_x/6$ = 0.475 m
0.475>0.03
$e_{xx} < L_x/6$

Maximum Pressure, Pmax = P/A(1+6e/B)
= 1674/8.1225(1 + 6 x (0.03+0.03)/2.85)
= **232.1** KN/m^2
232.1>210

Minimum Pressure, Pmin = P/A(1-6e/B)
= 1674/8.1225(1 - 6 x (0.03+0.03/2.85)
= **180.1** KN/m^2
= 180.1<210
Safe

B) Along Y direction

Eccentricity, e_{yy} = (M_{yy}/P)
= 50 / 1674
= 0.03 m



$L_x/6$ = 0.475 m
0.475>0.03
$e_{xx} < L_y/6$

Maximum Pressure, Pmax = (P/A(1+6e/B)
= 1674/8.1225(1 + 6 x (0.03+0.03)/2.85)
= **232.1** KN/m^2
232.1>210

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J. Jayalakshmi
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Minimum Pressure, Pmin

= P/A(1-6e/B)
= 1674/8.1225(1 - 6 x (0.03+0.03)/2.85)
= **180.1** KN/m^2
= 180.1<210
Safe

5 **Bending moment calculations**

S.No	Direction	Pmax(net)	Pmin(net)	P at face of the column	Moment, KN/m
1	x	216.83	164.83	186.04	135.26
2	y	216.83	164.83	188.09	165.49

6 **Check for depth (Moment consideratin)**

Mu.lim = (0.36 x Fck x (xu.max/d) x (1- 0.42(xu.max/d)) x bd^2
xu.max/d = 0.48
Mu.lim = 3.45 bd^2
d,reqd = (Mu.lim/Qb)$^{1/2}$
= (165490000/(3.45 x 1000))$^{1/2}$
= **219.02** mm
219.02 < 704
O.K

7 **Calculation of Reinforcement**

S. N	Direction	Mu/bd^2	pt from SP16	pt, min	pt,provided	Ast, mm^2
1	x	0.27	0.063	0.12	0.120	844.8
2	y	0.33	0.077	0.12	0.120	844.8

pt = 100Ast/bd
Ast = (pt/100)xbd

8 **Spacing of reinforcement**

Spacing, mm		Spacing provided, mm	Ast provided, mm^2
Actual	Minimum		
120	300	150	753.6
120	300	150	753.6

Spacing = (ast x 1000)/Ast

where,
ast= C/s area of bar
Ast=Area of reinforcement provided

pt.max, Provided = 0.107 %

9 **Check for one way shear**

S.No	Direction	Pmax(net)	Pmin(net)	P at critical 1way shear Xn	Shear, KN
1	x	216.83	164.83	173.2	77.49
2	y	216.83	164.83	175.25	103.04

Nominal Shear stress, tv = Vu/bd
= 103040/1000 x 492.04
= 0.21 N/mm^2
pt.max, Provided = 0.107 %
Allowable shear stress, tc (for pt,max) = 0.2496 N/mm^2
tv < tc

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O.K

10 **Check for two way Shear**

Punching Shear,Vu = Net upward pressure x $(A_F - A_c)$
= 1519.94 KN

Punching Shear stress, = Vu/perimeter at critical section*d_{eff}
= 0.5691 N/mm^2

Allowable Stress = $0.25(fck)^{1/2}$
= 1.25 N/mm^2

O.K

11 **Check for bearing stress**

Actual bearing stress, = 2325 KN

Limiting bearing stress @ Column - footing interface, fbr,max = $0.45\ fck\ (A1/A2)^{1/2}$

A1 = 362500 mm^2

$(A1/A2)^{1/2}$ = 1

fbr,max = 11.25 N/mm^2

Limiting bearing stress @ Column - footing interface, fbr,max = $0.45\ fck\ (A1/A2)^{1/2}$

A1 = 8122500 mm^2

A2 = 362500 mm^2

$(A1/A2)^{1/2}$ = 2

fbr,max = 22.5 N/mm^2

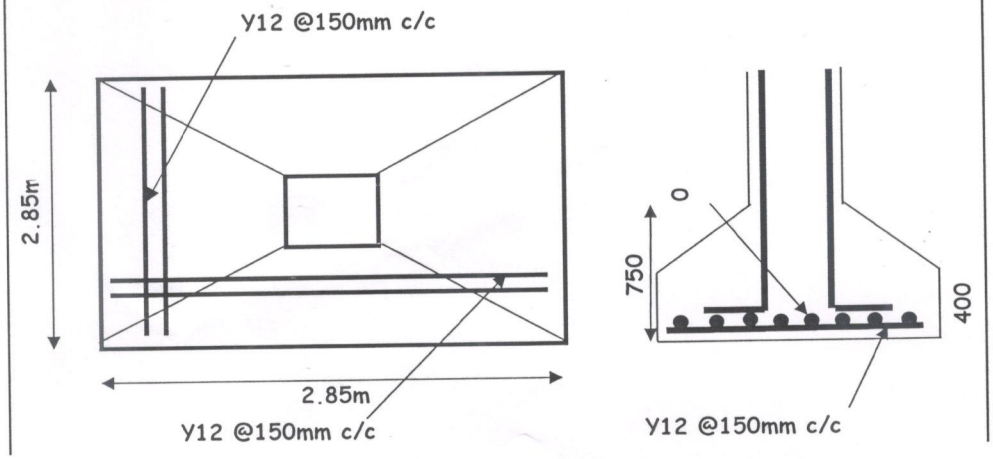
Limiting Bearing resistance, Fbr = 4078.1 KN

4078.125>2325

= O.K

11 **Reinforcement Details**

Direction	Reinforcement
X	Y12 @150mm c/c
Y	Y12 @150mm c/c



For NAAGHAPPA SHELTERS

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Design of column with Biaxial Moment — SHORT COLUMN

The values are Displayed in Blue color are the Input values

Column No = C1, STAAD - 17

1 Design Forces From STAAD

Load Case = 100

1. Axial Load on column	=	2325 KN		
2. Bending moment along x-x, Mux	=	50 KN.m	Load Case =	111
3. Bending moment along y-y, Muy	=	35 KN.m	Load Case =	110

2 Design Datas

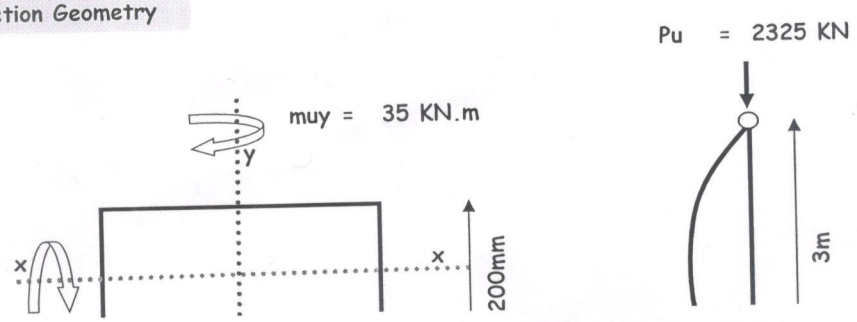
1. Compressive strength of Concrete, Fck	=	25 N/mm^2
2. Yield Strength of steel, Fy	=	500 N/mm^2
3.Diameter of Longitudinal Reinforcement,	=	20 mm
4.Diameter of lateral Reinforcement,	=	8 mm
5. Clear cover to the reinforcement, C	=	40 mm
6. Type of column	=	Rectangular
7. Size of Column	=	b x d
	=	200 x 525 mm
8. Unsupported Length of Column along x-x,L_x	=	3 m
9. Unsupported Length of Column along y-y,Ly	=	3 m
10. Effective length factor,	=	1
11. Effective Length of Column, along x-x, L_x	=	3 m
12. Effective Length of Column, along y-y, Ly	=	3 m

2 Check for leff/D

Effective length,lex/Lateral dimensions = L_{ex} / D
= 5.71
= 5.71< 12
= Short Column

Effective length,ley/Lateral dimensions = L_{ex} / b
= 15
= 15>12
= Long Column

3 Section Geometry

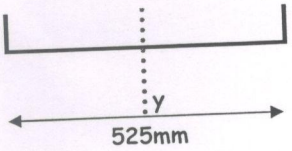


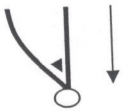
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mux = 50 KN.m





4 Check for Minimum Eccentricity

As

Applied eccentricties

ex = Mux/Pu
= 50/2325
= 21.505 mm

ey = Muy/Pu
= 35/2325
= 15.054 mm

Minimum eccenticity

e_{xx} = (lex/500)+(D/30)
= (3000/500) + (525/30)
= 23.5 mm or 20 mm
= 23.5 mm

e_{yy} = (ley/500)+(D/30)
= (3000/500) + (200/30)
= 12.667 mm or 20 mm
= 20 mm

5 Moment due to Eccentricity

m_{uex} = Pu x e_{xx}
= (2325x23.5)/1000
= 54.64 KN.m

m_{uey} = Pu x e_{yy}
= (2325x12.67)/1000
= 46.5 KN.m

6 Design Moment

mux = Mux or muex
= **54.64** KN.m

muy = Mux or muey
= **46.5** KN.m

7 Calculation of Longitudinal reinforcement

Assume percentage of reinforcement = 3 %

Asc, required = 3/100x 200x525

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	=	3150 mm^2
No of bars	=	11 Nos
Asc, Provided	=	3454 mm^2
pt, provided	=	3.29 %

Moment Capacity Along x Direction

(Pu/fck b D)	=	(2325000/25 x 200 x 525)
	=	0.89
p/fck	=	3.29/25
	=	0.13
d'/D	=	40/525
	=	0.08

From interaction chart, SP16 [chart 48]

$Mux1/fck\ b\ D^2$	=	0.1
Mux1	=	0.1 x 200x525x525x25
	=	137.81 KN.m

Moment Capacity Along y Direction

(Pu/fck b D)	=	(2325000/25 x 200 x 525)
	=	0.89
p/fck	=	3.29/25
	=	0.1316
b'/D	=	40/200
	=	0.2

From interaction chart, SP16 [chart 50]

$Muy1/fck\ b\ D^2$	=	0.1
Muy1	=	0.1 x 200x525x200x25
	=	52.5 KN.m

8 **Check for Moment Capcity**

$$(Mux/Mux1)^{an} + (Muy/Muy1)^{an} < 1$$

Puz	=	(0.45 fck.Ac) +(0.75 fy -0.45fck)Asc
Ac	=	105000 mm^2
Puz	=	2437.6425 KN
Pu/Puz	=	0.954
an	=	2

For an v

$(Mux/Mux1)^{an} + (Muy/Muy1)^{an}$	=	0.942
		0.942< 1
		O.K

For NAAGHAPPA SHELTERS

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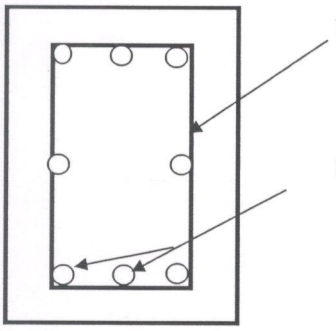
PARTNER

9 Calculation of Lateral Reinforcement

Spacing of ties

1. Least Lateral Dimensions of column	=	200 mm
2. Sixteen times the least dia of Longi bar	=	320 mm
3. 300mm	=	300 mm
Adopt Spacing	=	200 mm

10 Details



No of bars = 20mm 11 Nos

For NAAGHAPPA SHELTERS

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Design of Rectangular Beam

The values which are Displayed in Red color are the Input values

Beam No = 1 From Staad (Envelope value)

Design Forces From STAAD

From Staad ,

1	Top moment, Mut	=	90	kNm	load case
2	Bottom moment, Mub	=	60	kNm	
3	Shear force, Vu	=	88	kN	

Design data

1. Span	=	4.7	m	
2. Size of the beam	=	b x	D	
		200	525	
3. Compressive strength of concrete, fck	=	25	N/mm²	
4. Yield strength of concrete, fy	=	500	N/mm²	
5. Clear cover, c	=	25	mm	
6. Effective depth of the beam, d	=	490	mm	
7. d'	=	43		
8. Max Diameter of top Main reinforcement, dbt	=	20	mm	
9. Max Diameter of bottom Main reinforcement, dbb	=	20	mm	
10. Factor for checking eff depth, F	=	0.133	(Based on ste	

Check for depth

As per 456:2000

d = √Mu,max/(F*fck*b)

= _/90/0.133x25x200

d = 367.8836 mm Ok Hen

As per 13920:1993

width/depth ratio	=	0.380952	Satisfied
width of the member	=	200	ok
Depth/span ratio	=	0.111702	Satisfied

Design of Top Reinforcement

Mu/b*d²	=	1.874	N/mm²	d'/d
R lim	=	3.345		fsc
Mu lim	=	160.6269		

Singly Reinf

Pt lim	=	0.9475		
Pt	=	0.48		Pc
Pt (Final)	=	0.48		Ast lim
Required Ast1	=	466.6589	mm²	Required Asc2

Bar dia	16	16		Bar dia
Nos.	5	0		Nos.
Provided Ast	=	1005	mm²	Provided Asc

Provided Reinf OK

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Min As required	=	166.6	mm²	0.85*b*d/fy
Max As	=	4200	mm²	
Provided Asc	=	1407.434	mm²	< Max As, Hence ok

Hence Safe

Design of Bottom Reinforcement

Mu/b*d² = 1.249 N/mm²

Singly Reinf

Pt = 0.31 Pc

Pt (Final) = 0.31 Ast lim

Required Ast1 = 299.7374 mm² Required Asc2

Bar dia	16	16	Bar dia
Nos.	5	0	Nos.
Provided Ast =		1005	mm² Provided Asc

Provided Reinf OK

Min As required	=	166.6	mm²	0.85*b*d/fy
Max As	=	4200	mm²	
Provided Asc	=	1407.434	mm²	< Max As, Hence ok

Hence Safe

Check for Shear

Shear Stress, τv = Vu/b*d

τv = 0.90 N/mm²

ζ = 100*Ast req/b*d

0.476183

From Table 19, IS 456:2000

B = 2.83

τc = 0.65 N/mm²

From Table 20, IS 456:2000

$\tau c,max$ = 3.1 N/mm²

Provide shear Reinforcement as per IS 456:2000

Safe in Shear,No need to revise the beam sizes

Design of Vertical Shear Reinforcement

Vus	=	24500	N	
Diameter of Shear reinforcement	=	8		
Number of legged stirrups	=	2		
Area of shear Reinforcement, Asv	=	100.531	mm²	
Spacing of Stirrups, Sv	=	0.87*fy*Asv*d/Vus		
	=	875	mm	

Spacing of Shear Reinforcement

1	0.75*d	=	367.5	mm	(As per Cl 26.5.1.5 of IS 456:
2	300	=	300	mm	

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Spacing as per IS 456:2000	=	300	mm
As per 13920:1993			
2*d distance from supports	=	0.98	m
Spacing	=	123	mm

Provide 122.5 mm c/c spacing for 0.98 m from support on either side

Remaining Distance	=	2.74	m
Spacing	=	245	mm

Provide 245 mm c/c spacing for 2.74 m in mid span

Check for Side face Reinforcement

Not required

Area of reinforcement	=	0	mm²
No of bars	=	4	
Spacing of bars	=	0	mm
Dia of bar	=	12	mm
Area Provided	=	452.3893	mm²

Check for Deflection

l/d provided			=	9.59	mm			
(l/d)basic			=	20	mm	As per IS 456:2000 Cl		
Modification factors								
k1	fs	=	86.46	pt	=	0.48	k1	= 1
k2				pc	=	0	k2	= 1
k3							k3	= 1
l/d max			=	20	mm			

Safe in deflection

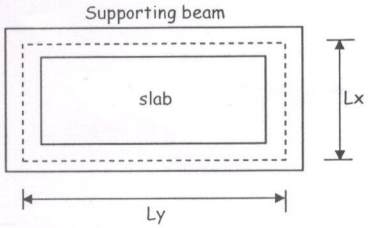
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J. Jayalakshmi

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	Design of Two way Slab	The values are Displayed in Blue color are the Input values	References

1 Design Datas



1. Eff. Shorter span between c/c support, Lx	=	3.3	m	(Eff. Span,As per IS456:2000, clause 22.2 (b))
2. Eff.Longer span between c/c support, Ly	=	3.4	m	
3. Compressive strength of Concrete, Fck	=	25	N/mm^2	
4. Yield Strength of steel, Fy	=	500	N/mm^2	
5.Diameter of Reinforcement, (Shoter span)	=	10	mm	
6.Diameter of Reinforcement, (Longer span)	=	10	mm	
7. Fire resistance in hours	=	1.5	hrs	(Nominal cover, As per IS456:2000, Table 16A, clauses 21.4 and 26.4.3 and Fig 1
8. Nominal cover to the reinforcement, C	=	20	mm	

2 Assume trial depth of slab

Span/depth, ratio l/d (Basic value)	=	26		(Span/depth ratio,As per IS:456:2000, Clause 23.2.1)
Assume modification factor, M.F	=	1.5		
depth of slab	=	(Span/B.V x M.F)		
	=	(3.3 x 1000) / (26 x 1.5)		
	=	84.62	mm	
Overall depth required, D	=	(d+cc+1/2 dia of bars)		
	=	84.62 + 20+ 10 /2		
	=	109.62	mm	
	=	**150**	mm	
Eff. Depth,d	=	125	mm	

3 Load Calculations

Unit weight of Concrete	=	25	KN/m^3
Dead load of Slab	=	3.75	KN/m^2
Floor finishes	=	2	KN/m^2
Partitions	=	0	KN/m^2
Extra loads due to filling, surki , etc., if any	=	0	KN/m^2
Live Load	=	2	KN/m^2
Total Load	=	7.75	KN/m^2
Design Load	=	11.625	KN/m^2

4 Calculation of Bending Moment

Edge condition of Slab	=	9 9.Four Edges discontineous		Edge conditions,As per IS456:2000, D-1.1and 24.4.1
Ly/Lx, ratio	=	3.4 / 3.3		
	=	1.0303		
	=	**The slab is Two way Slab**		

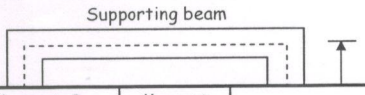
For NAAGHAPPA SHELTERS

J. Jayalakshmi

PARTNER

Design of Two way Slab | The values are Displayed in Blue color are the Input values | **References**

1 Design Datas



S.No	Direction & Sign	Moment Co-efficients	Moment KN.m	
1	X - Negative	0	0	(alpha x * wu *lx^2)
2	X - Positive	0.058	7.34	(alpha x * wu *lx^2)
3	Y- Negative	0	0	(alpha y * wu *lx^2)
4	Y- Positive	0.056	7.09	(alpha y * wu *lx^2)

(B.M co-eff frommAnnex D, clause D.1.1, IS:456:2000)

M,max = 7.34 KN/m

5 Effective depth required

Mu.lim = (0.36 x Fck x (xu.max/d) x (1-0.42(xu.max/d)) x bd^2

xu.max/d = 0.46

Mu.lim = 3.34 bd^2

d,reqd = (Mu.lim/Qb)$^{1/2}$

= (7340000 / (3.34 x 1000))$^{1/2}$

= 46.88 mm

46.88 < 125

O.K

(IS:456:2000, Annex G, clause G.1.1.c)

6 Reinforcement Calculations

S. N	Dn & Sign	Mu/bd^2	pt from SP16	pt, min	pt,provided	Ast, mm^2
1	x -ve	0	0	0.12	0.12	150
2	x +ve	0.47	0.11	0.12	0.12	150
3	y -ve	0	0	0.12	0.12	150
4	y +ve	0.45	0.105	0.12	0.12	150

pt = 100Ast/bd

Ast = (pt/100)xbd

(Minimum reinforcement of slab shall be provide as per IS456:2000, clause 26.5.2.1)

7 Spacing of reinforcement

Spacing, mm		Spacing provided, mm	Ast provided, mm^2
Actual	Maximun		
523.33	300	150	523.33
523.33	300	150	523.33
523.33	300	150	523.33
523.33	300	150	523.33

Spacing = (ast x 1000)/Ast

where,
ast= C/s area of bar
Ast=Area of reinforcement provided

max distance of tension reinforcement bars 3d or 300mm which ever is less
As per IS:456:2000, Clause 26.3.3.b

8 Check for deflection

close

close

lx/d, Actual = 26.4

l/d, Max = B.V x M.F

pt, = 100Ast/bd

= 0.4187

fs = 0.58x fyx(Ast required/Ast provided)

fs = 83.122 N/mm^2

Modification Factor = 3.9

l/d, Max = 3.9 X 26

= 101.4

101.4>26.4

O.K

From Fig 4, IS456:2000

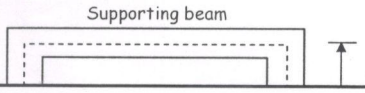
For NAAGHAPPA SHELTERS

J. Jayalakshmi.

PARTNER

	Design of Two way Slab	The values are Displayed in Blue color are the Input values	References

1 **Design Datas**



9 **Torsional Reinforcement**

As per IS456:2000, ANNEX D, clause D-1.8

		lx		ly	
Size of torsinal reinforcement mesh (lx/5 and ly/5)	=	660	x	680	mm
Ast required to resist the torsion	=	3/4 times of mid-span Ast			
	=	112.5	mm^2		
dia of torsional reinforcement	=	8	mm		
Spacing required	=	446	mm		
Spacing Provided	=	200	mm		
No of layers	=	4	Nos (Each 2 top and bottom)		

NOTE:

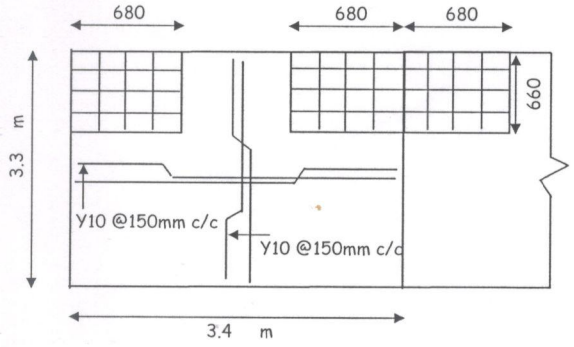
1. Torsion reinforcement shall be provided at any corner where the slab is simply supprted on both edges meeting at that corner

2. Torsion reinforcement equal to half that described above shall be provided a at corner contained by edges over only one of which the slab is continuous

3. Torsion reinforcements need not be provided at any corner contained by edges over both of which the slab is continuous

9 **Reinforcement Details**

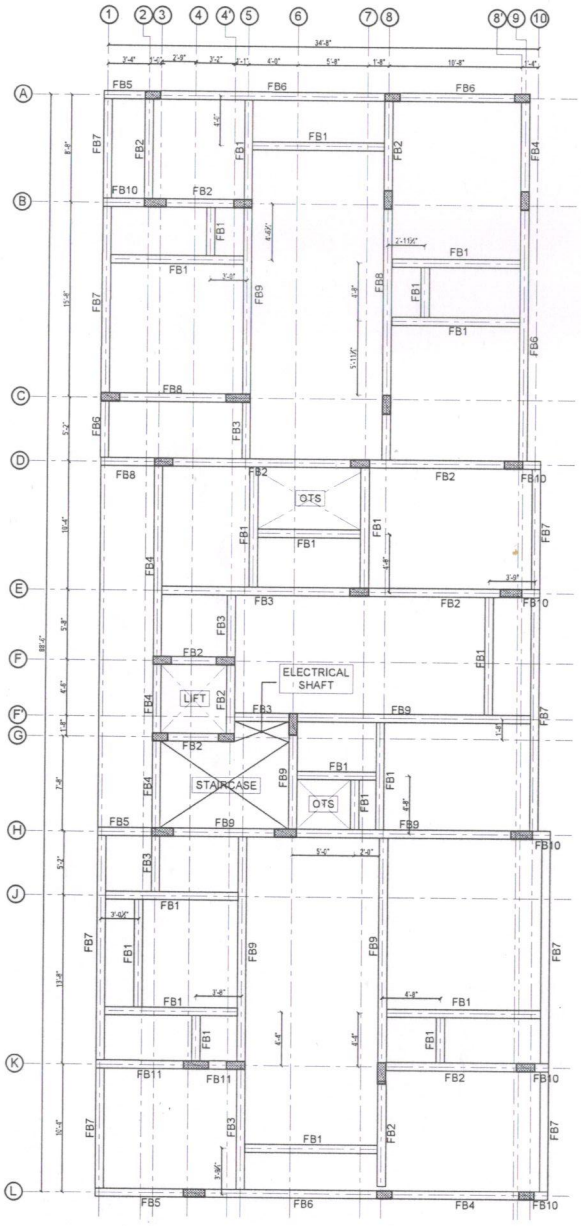
Direction	Reinforcement
X	Y10 @150mm c/c
Y	Y10 @150mm c/c



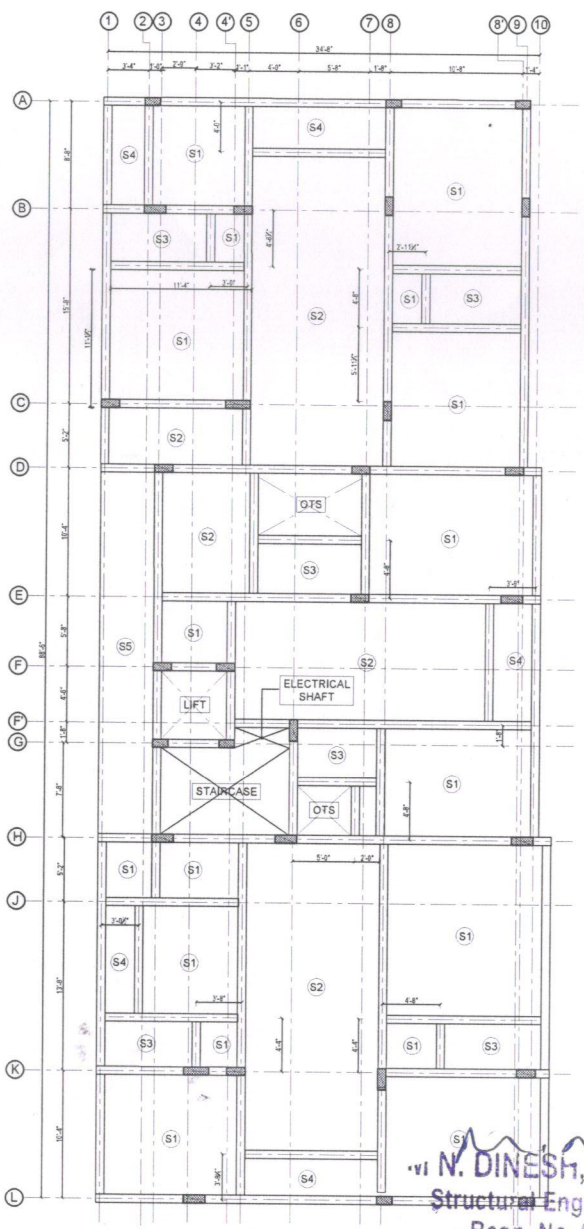
For NAAGHAPPA SHELTERS

J. Jayalakshmi

PARTNER



TYPICAL FLOOR ROOF BEAM LAYOUT



TYPICAL FLOOR ROOF BEAM LAYOUT

For NAAGHAPPA SHELTERS

J. Jayalakshmi

PARTNER

LEGEND :-

RC COLUMN

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FOR SLABS	20 mm OR BAR DIA WHICHEVER IS GREATER

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WHERE 'd' IS THE DIA OF THE SMALLER BAR.

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4.10 BUILDING DESIGNED FOR STILT + 4 FLOORS

4.11 BUILDING DESIGNED FOR VERTICAL LOADS ONLY.

REV	DESCRIPTION	DATE	BY	CHD.
R0	ISSUED FOR APPROVAL	27.09.24	VIGNESH	CSU

AMENDMENT

CLIENT:
M/S. NAAGHAPPA SHELTERS

STRUCTURAL CONSULTANT:
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Chennai, 600 094
Email: svcengineers07@gmail.com
Ph: +919865858089

PROJECT:
PROPOSED RESIDENTIAL BUILDING
AT NANGANALLUR

DRAWING TITLE:
TYPICAL FLOOR ROOF BEAM & SLAB LAYOUT

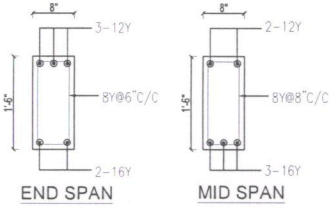
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DATE : 29.09.2023 | CHKD : CSU

DRAWING NO:
STR - 04

REV
R0

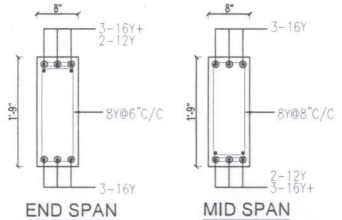
N. DINESH, B.E.,(CIVIL),M.E.,(STRUC.)
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295



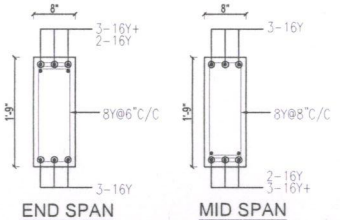
END SPAN MID SPAN

C.S OF FLOOR BEAM FB1(8"x1'6")



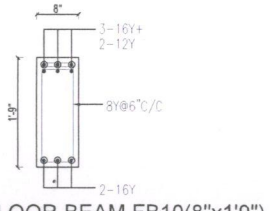
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C.S OF FLOOR BEAM FB4(8"x1'9")

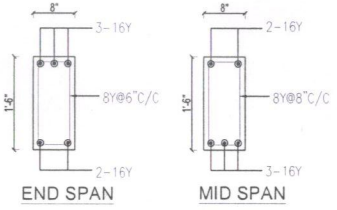


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C.S OF FLOOR BEAM FB7(8"x1'9")

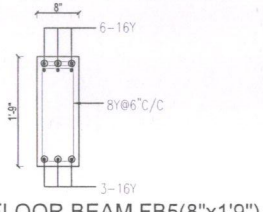


C.S OF FLOOR BEAM FB10(8"x1'9")
(CANTILEVER BEAM)

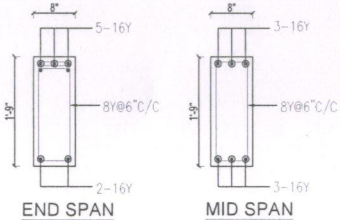


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C.S OF FLOOR BEAM FB2(8"x1'6")

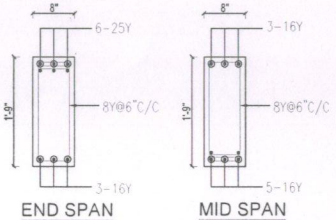


C.S OF FLOOR BEAM FB5(8"x1'9")
(CANTILEVER BEAM)



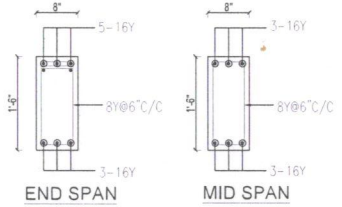
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C.S OF FLOOR BEAM FB9(8"x1'9")



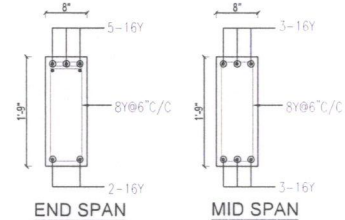
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C.S OF FLOOR BEAM FB6(8"x1'9")



END SPAN MID SPAN

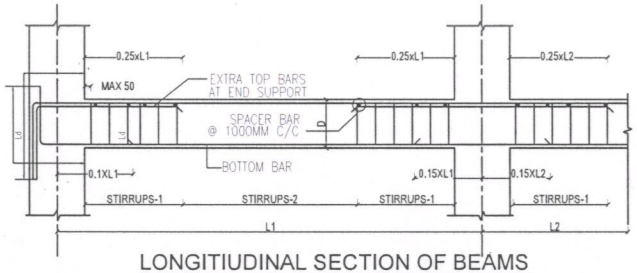
C.S OF FLOOR BEAM FB3(8"x1'6")



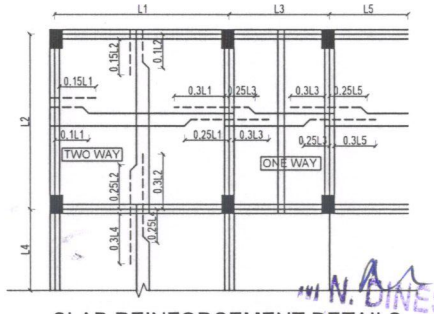
END SPAN MID SPAN

C.S OF FLOOR BEAM FB6(8"x1'9")

SLAB SCHEDULE					
SLAB No.	Thickness	SHORTER SPAN		LONGER SPAN	
		BOTTOM	TOP	BOTTOM	TOP
S1	6"	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C
S2 (ONE WAY)	6"	10Y @ 6" C/C	10Y @ 6" C/C	8Y @ 6" C/C	–
S3 (SUNKEN)	6"	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C
S4 (SUNKEN)	6"	10Y @ 6" C/C	10Y @ 6" C/C	8Y @ 6" C/C	–
S5 (CANTILEVER)	6"	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C	–



LONGITIUDINAL SECTION OF BEAMS



SLAB REINFORCEMENT DETAILS

TOP ROD
BOTTOM ROD

For NAAGHAPPA SHELTERS
PARTNER

N. DINESH, B.E.,(CIVIL),M.E.,(STRUC.)
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LEGEND -
RC COLUMN

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REV	DESCRIPTION	DATE	BY	CHD.
R0	ISSUED FOR APPROVAL	27.09.24	VIGNESH	CSU

AMENDMENT

CLIENT:
M/S. NAAGHAPPA SHELTERS

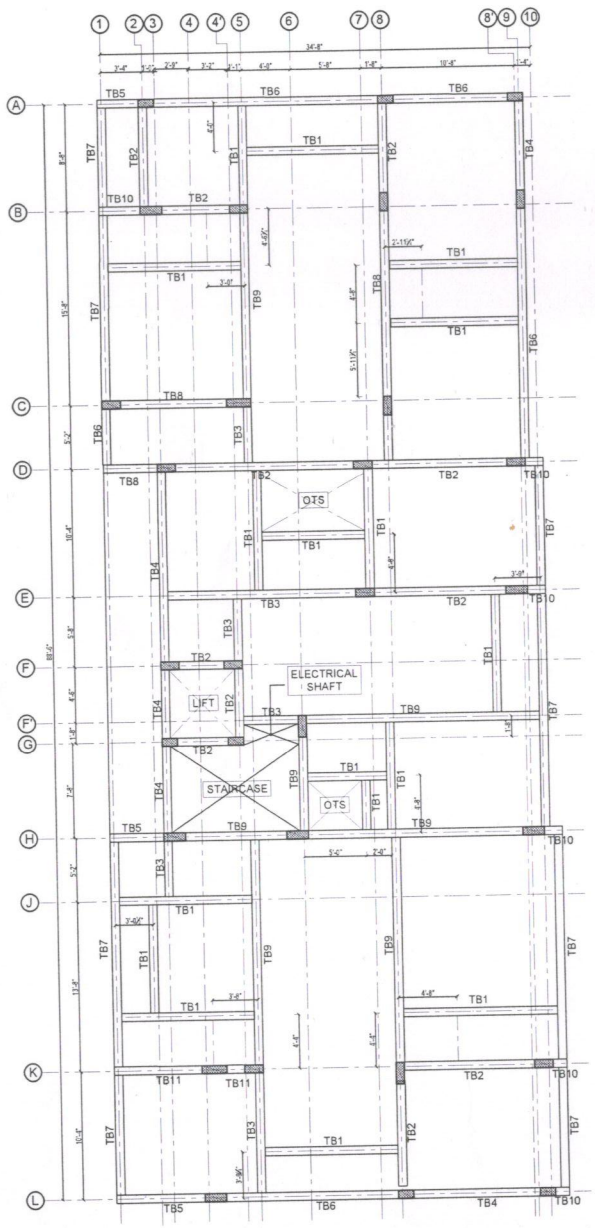
STRUCTURAL CONSULTANT:
SV CONSULTANTS
Old no.10,New no.16,Padmanabha Nagar,
Main Road, Choolaimedu,
Chennai, 600 094
Email: svcengineers07@gmail.com
Ph: +919865858089

PROJECT:
PROPOSED RESIDENTIAL BUILDING
AT NANGANALLUR

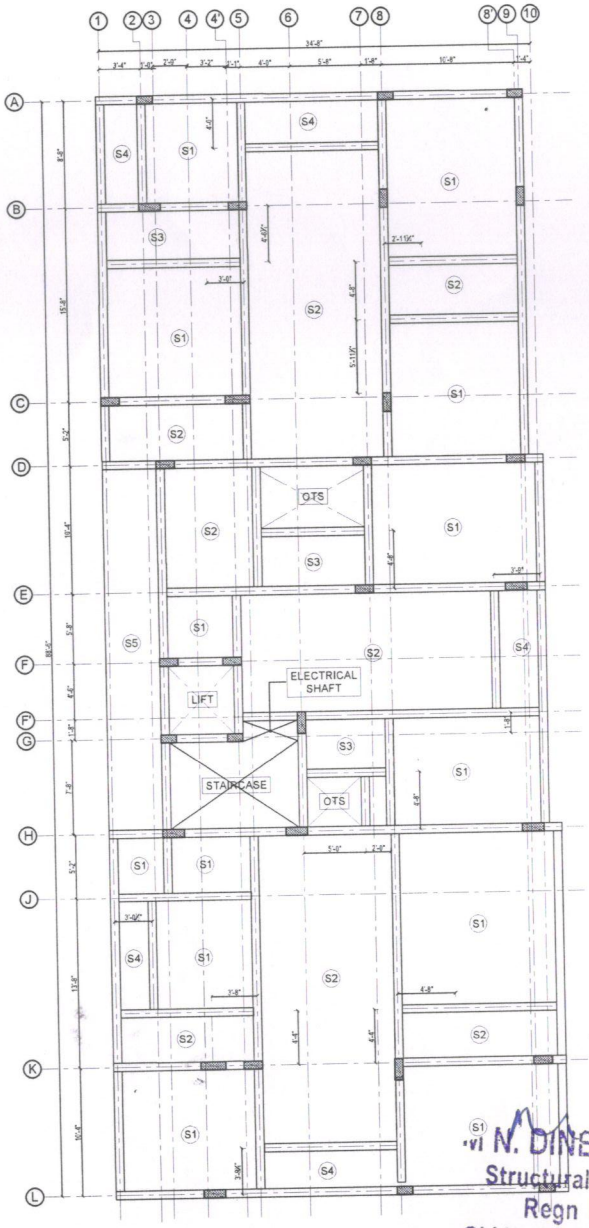
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TYPICAL FLOOR ROOF BEAM & SLAB DETAILS

SCALE : 1" : 12" | DRAWN : VIGNESH | REV
DATE : 28.09.2023 | CHKD : CSU | R0

DRAWING NO.
STR - 05



TERRACE FLOOR ROOF BEAM LAYOUT



TERRACE FLOOR ROOF BEAM LAYOUT

LEGEND -
RC COLUMN

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REV	DESCRIPTION	DATE	BY	CHD.
R0	ISSUED FOR APPROVAL	27.09.24	VIGNESH	CSU

AMENDMENT

CLIENT:
M/S. NAAGHAPPA SHELTERS

STRUCTURAL CONSULTANT:
SV CONSULTANTS
Old no.10,New no.16,Padmanabha Nagar,
Main Road, Choolaimedu,
Chennai, 600 094
Email: svcengineers07@gmail.com
Ph: +919865858089

PROJECT:
PROPOSED RESIDENTIAL BUILDING
AT NANGANALLUR

DRAWING TITLE:
TERRACE FLOOR ROOF BEAM & SLAB LAYOUT

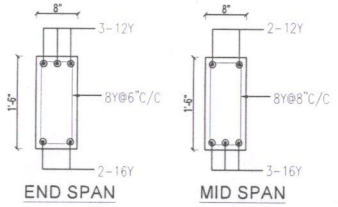
SCALE: 1" = 12" | DRAWN : VIGNESH | CHKD : CSU | DATE: 27.09.2023

DRAWING NO: STR - 06

REV: R0

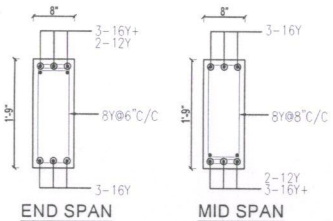
For NAAGHAPPA SHELTERS
J. Jayalakshmi
PARTNER

N. DINESH, B.E., (CIVIL), M.E., (STRUC.)
Structural Engineer (Grade-I), CMDA
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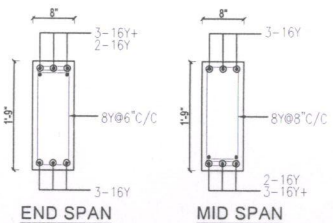
END SPAN MID SPAN

C.S OF TERRACE BEAM TB1(8"x1'6")



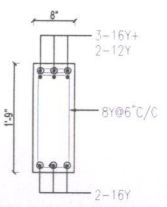
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C.S OF TERRACE BEAM TB4(8"x1'9")

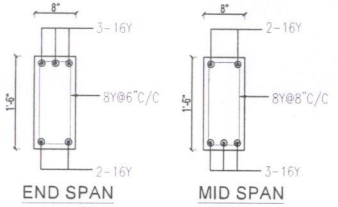


END SPAN MID SPAN

C.S OF TERRACE BEAM TB7(8"x1'9")

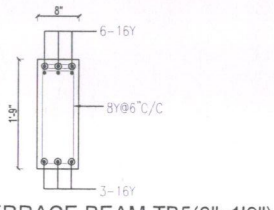


C.S OF TERRACE BEAM TB10(8"x1'9")
(CANTILEVER BEAM)

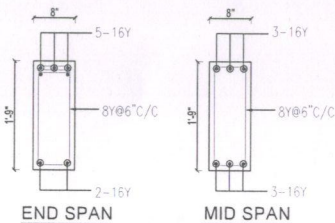


END SPAN MID SPAN

C.S OF TERRACE BEAM TB2(8"x1'6")

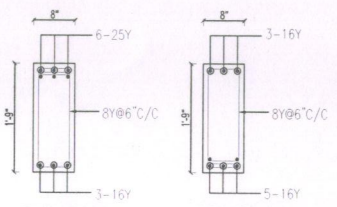


C.S OF TERRACE BEAM TB5(8"x1'9")
(CANTILEVER BEAM)



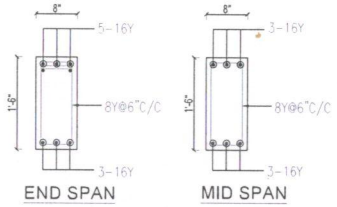
END SPAN MID SPAN

C.S OF TERRACE BEAM TB9(8"x1'9")



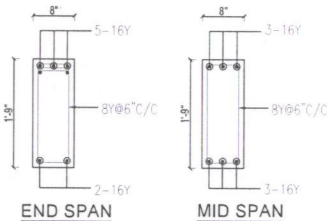
END SPAN MID SPAN

C.S OF TERRACE BEAM TB6(8"x1'9")



END SPAN MID SPAN

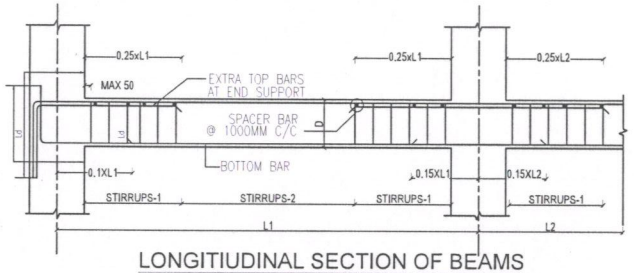
C.S OF TERRACE BEAM TB3(8"x1'6")



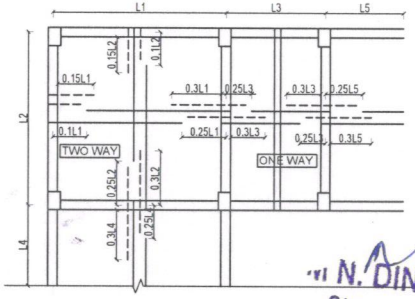
END SPAN MID SPAN

C.S OF TERRACE BEAM TB6(8"x1'9")

SLAB SCHEDULE					
SLAB No.	Thickness	SHORTER SPAN		LONGER SPAN	
		BOTTOM	TOP	BOTTOM	TOP
S1	6"	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C
S2 (ONE WAY)	6"	10Y @ 6" C/C	10Y @ 6" C/C	8Y @ 6" C/C	–
S3 (SUNKEN)	6"	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C
S4 (SUNKEN)	6"	10Y @ 6" C/C	10Y @ 6" C/C	8Y @ 6" C/C	–
S5 (CANTILEVER)	6"	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C	–



LONGITIUDINAL SECTION OF BEAMS



SLAB REINFORCEMENT DETAILS

TOP ROD
BOTTOM ROD

LEGEND :-
RC COLUMN

1.0 GENERAL NOTES
1. ALL DIMENSIONS ARE IN FOOT & INCHES.

3.0 CONCRETE WORKS
3.1 UOS MINIMUM CLEAR COVER TO MAIN REINFT. SHALL BE AS FOLLOWS:

ITEM	COVER
FOR FOOTING	50 mm
FOR COLUMNS	40 mm
FOR BEAMS	30 mm OR BAR DIA WHICHEVER IS GREATER
FOR SLABS	20 mm OR BAR DIA WHICHEVER IS GREATER

4.0 REINFORCEMENT
4.1 'Y' DENOTES HYSD BARS (Fy 550) CONFORMING TO IS : 1786.
'F' DENOTES POUND BARS (MS) CONFORMING TO IS : 432 (PART -I).
4.2 LAPS FOR HYSD BARS SHALL BE AS FOLLOWS EXCEPT FOR CIRCUMFERENTIAL REINFT.OF SILOS,
WHERE 'd' IS THE DIA OF THE SMALLER BAR

GRADE OF CONC.	LAP LENGTH
M25	50 x d

FOR PLAIN BARS THE ABOVE VALUES SHOULD BE INCREASED BY 60%.
4.4 LAPS SHALL BE STAGGERED SUCH THAT NOT MORE THAN 50% OF STEEL IS LAPPED AT ANY LOCATION.
4.5 TOP BARS IN BEAMS & SLABS SHALL BE LAPPED AT MID SPAN AND NOT AT SUPPORT ZONE.
4.6 BOTTOM BARS IN BEAMS & SLABS SHALL BE LAPPED AT END ONE THIRD SPAN.
4.7 COL. REINFT. LAPS SHALL BE STAGGERED & DONE JUST ABOVE BEAM COL. INTERSECTIONS UOS.
4.8 ALL HOOKS, BENDS AND LAPS SHALL BE AS PER IS : 2502 UNLESS OTHERWISE INDICATED.
4.9 REINFT. SHALL BE SUITABLY ADJUSTED AT SITE TO CLEAR POCKETS, BOLTS, OPENINGS, CUTOUTS.
4.10 BUILDING DESIGNED FOR STILT + 4 FLOORS
4.11 BUILDING DESIGNED FOR VERTICAL LOADS ONLY.

REV	DESCRIPTION	DATE	BY	CHD.
R0	ISSUED FOR APPROVAL	27.09.24	VIGNESH	CSU

AMENDMENT

CLIENT:
M/S. NAAGHAPPA SHELTERS

STRUCTURAL CONSULTANT:
SV CONSULTANTS
Old no.10,New no.16,Padmanabha Nagar,
Main Road, Choolaimedu,
Chennai. 600 094
Email: svcengineers07@gmail.com
Ph: +919865858089

PROJECT:
PROPOSED RESIDENTIAL BUILDING
AT NANGANALLUR

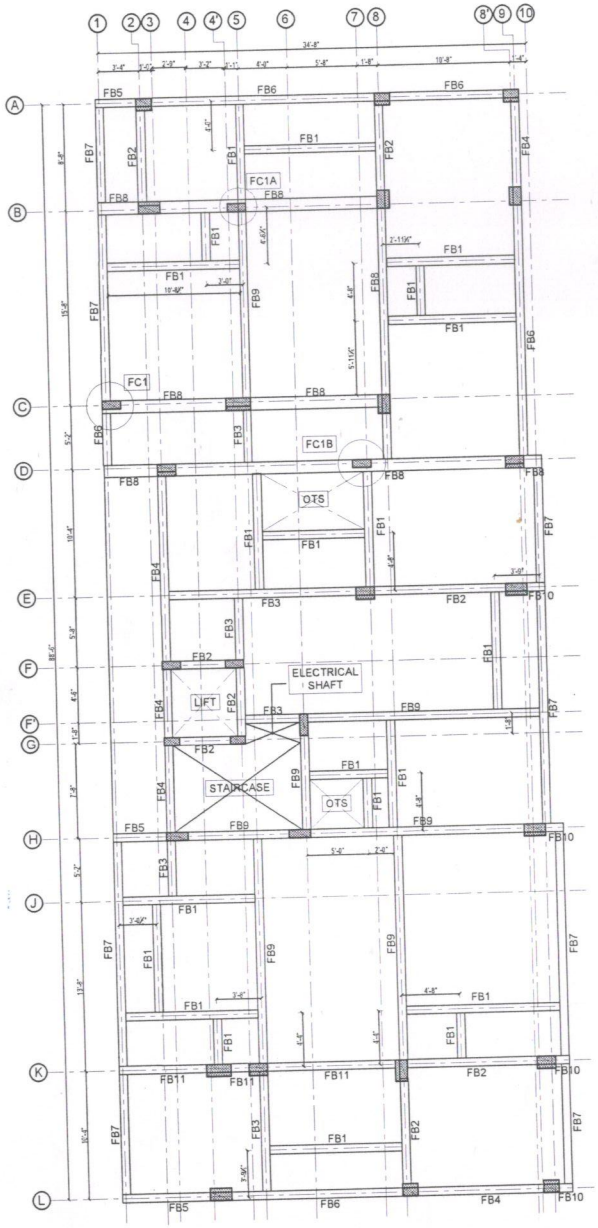
DRAWING TITLE:
TERRACE FLOOR ROOF BEAM & SLAB DETAILS

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DATE : 26.09.2023	CHKD : CSU	
DRAWING NO: STR - 07		R0

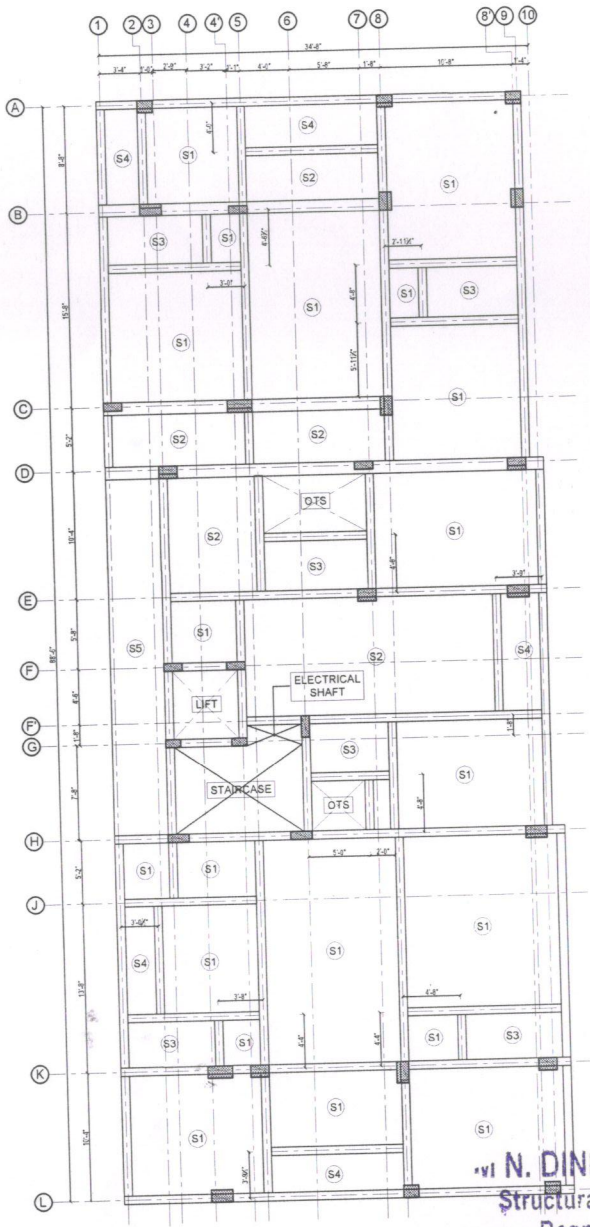
For NAAGHAPPA SHELTERS
PARTNER

N. DINESH, B.E., F.I.V.I., M.E., STRUC.
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289



STILT FLOOR ROOF BEAM LAYOUT



STILT FLOOR ROOF BEAM LAYOUT

For NAAGHAPPA SHELTERS

J. Jayalalit.

PARTNER

LEGEND :-

RC COLUMN

1.0 GENERAL NOTES

1. ALL DIMENSIONS ARE IN FOOT & INCHES

3.0 CONCRETE WORKS

3.1 UOS MINIMUM CLEAR COVER TO MAIN REINFT. SHALL BE AS FOLLOWS:

ITEM	COVER
FOR FOOTING:	50 mm
FOR COLUMNS	40 mm
FOR BEAMS	30 mm OR BAR DIA WHICHEVER IS GREATER
FOR SLABS	20 mm OR BAR DIA WHICHEVER IS GREATER

4.0 REINFORCEMENT

4.1 Y DENOTES HYSD BARS (Fe 550) CONFORMING TO IS : 1786.
R DENOTES ROUND BARS (MS) CONFORMING TO IS : 432 (PART -I).

4.2 LAPS FOR HYSD BARS SHALL BE AS FOLLOWS EXCEPT FOR CIRCUMFERENTIAL REINFT.OF SLOS,

WHERE 'd' IS THE DIA OF THE SMALLER BAR.

GRADE OF CONC.	LAP LENGTH
M25	50 x d

FOR PLAIN BARS THE ABOVE VALUES SHOULD BE INCREASED BY 60%.

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REV	DESCRIPTION	DATE	BY	CHD.
R0	ISSUED FOR APPROVAL	27.09.24	VIGNESH	CSU

AMENDMENT

CLIENT:
M/S. NAAGHAPPA SHELTERS

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Email: svcengineers07@gmail.com
Ph: +919865858089

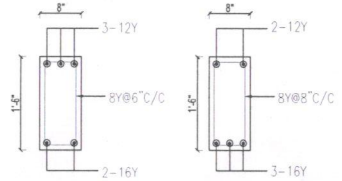
PROJECT:
PROPOSED RESIDENTIAL BUILDING
AT NANGANALLUR

DRAWING TITLE:
STILT FLOOR ROOF BEAM & SLAB LAYOUT

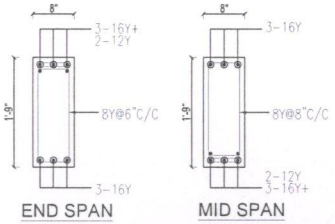
SCALE : 1/4"
DRAWN : VIGNESH
CHKD : CSU
REV
DRAWING NO.
STR - 04
R0

M N. DINESH, B.E.,(CIVIL),M.E.,(STRUC.)
Structural Engineer (Grade-I), CMDA
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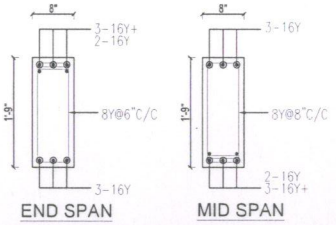
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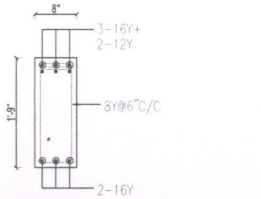
C.S OF FLOOR BEAM FB1(8"x1'6")



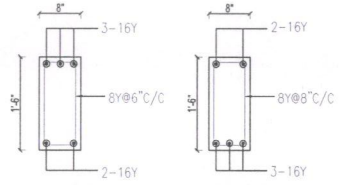
C.S OF FLOOR BEAM FB4(8"x1'9")



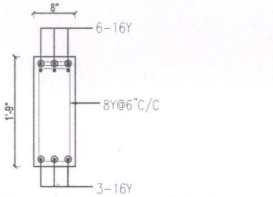
C.S OF FLOOR BEAM FB7(8"x1'9")



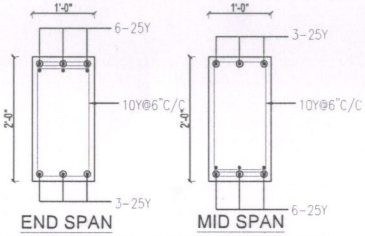
C.S OF FLOOR BEAM FB10(8"x1'9")
(CANTILEVER BEAM)



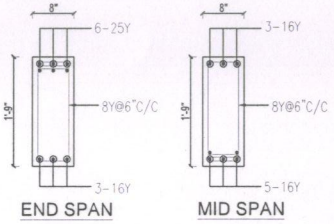
C.S OF FLOOR BEAM FB2(8"x1'6")



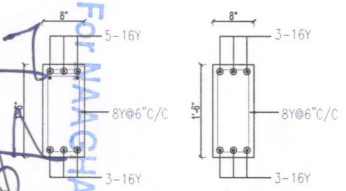
C.S OF FLOOR BEAM FB5(8"x1'9")
(CANTILEVER BEAM)



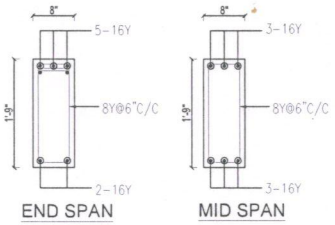
C.S OF FLOOR BEAM FB8(8"x2'0")



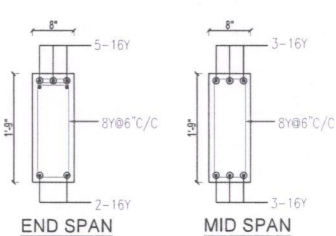
C.S OF FLOOR BEAM FB6(8"x1'9")



C.S OF FLOOR BEAM FB3(8"x1'6")

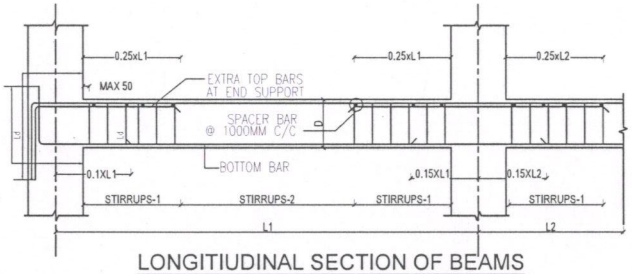


C.S OF FLOOR BEAM FB6(8"x1'9")

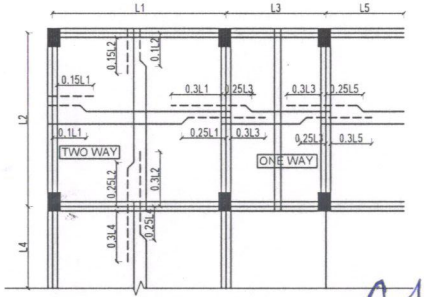


C.S OF FLOOR BEAM FB9(8"x1'9")

SLAB SCHEDULE					
SLAB No.	Thickness	SHORTER SPAN		LONGER SPAN	
		BOTTOM	TOP	BOTTOM	TOP
S1	6"	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C
S2 (ONE WAY)	6"	10Y @ 6" C/C	10Y @ 6" C/C	8Y @ 6" C/C	–
S3 (SUNKEN)	6"	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C
S4 (SUNKEN)	6"	10Y @ 6" C/C	10Y @ 6" C/C	8Y @ 6" C/C	–
S5 (CANTILEVER)	6"	10Y @ 6" C/C	10Y @ 6" C/C	10Y @ 6" C/C	–



LONGITIUDINAL SECTION OF BEAMS



SLAB REINFORCEMENT DETAILS

TOP ROD
BOTTOM ROD

LEGEND :-
RC COLUMN

1.0 GENERAL NOTES
1. ALL DIMENSIONS ARE IN FOOT & INCHES

3.0 CONCRETE WORKS
3.1 UOS MINIMUM CLEAR COVER TO MAIN REINFT. SHALL BE AS FOLLOWS.

ITEM	COVER
FOR FOOTING	50 mm
FOR COLUMNS	40 mm
FOR BEAMS	30 mm OR BAR DIA WHICHEVER IS GREATER
FOR SLABS	20 mm OR BAR DIA WHICHEVER IS GREATER

4.0 REINFORCEMENT

4.1 Y DENOTES HYSD BARS (Fe 550) CONFORMING TO IS : 1786.
R DENOTES ROUND BARS (MS) CONFORMING TO IS : 432 (PART -I).

4.2 LAPS FOR HYSD BARS SHALL BE AS FOLLOWS EXCEPT FOR CIRCUMFERENTIAL REINFT.OF SLOG.
WHERE 'd' IS THE DIA OF THE SMALLER BAR.

GRADE OF CONC.	LAP LENGTH
M25	50 x d

FOR PLAIN BARS THE ABOVE VALUES SHOULD BE INCREASED BY 60%.

4.4 LAPS SHALL BE STAGGERED SUCH THAT NOT MORE THAN 50% OF STEEL IS LAPPED AT ANY LOCATION.

4.5 TOP BARS IN BEAMS & SLABS SHALL BE LAPPED AT MID SPAN AND NOT AT SUPPORT ZONE.

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4.7 COL. REINFT. LAPS SHALL BE STAGGERED & DONE JUST ABOVE BEAM COL. INTERSECTIONS UOS.

4.8 ALL HOOKS, BENDS AND LAPS SHALL BE AS PER IS : 2502 UNLESS OTHERWISE INDICATED.

4.9 REINFT. SHALL BE SUITABLY ADJUSTED AT SITE TO CLEAR POCKETS, BOLTS, OPENINGS, CUTOUTS.

4.10 BUILDING DESIGNED FOR STILT + 4 FLOORS

4.11 BUILDING DESIGNED FOR VERTICAL LOADS ONLY

REV	DESCRIPTION	DATE	BY	CHD.
R0	ISSUED FOR APPROVAL	27.09.24	VIGNESH	CSU

AMENDMENT

CLIENT:
M/S. NAAGHAPPA SHELTERS

STRUCTURAL CONSULTANT:
SV CONSULTANTS
Old no.10,New no.16,Padmanabha Nagar,
Main Road, Choolaimedu,
Chennai. 600 094
Email: svcengineers07@gmail.com
Ph: +919865858089

PROJECT:
PROPOSED RESIDENTIAL BUILDING
AT NANGANALLUR

DRAWING TITLE:
STILT FLOOR ROOF BEAM & SLAB DETAILS

SCALE : 1" : 12" | DRAWN : VIGNESH | CHKD : CSU | DATE : 27.09.2023

DRAWING NO.
STR - 05

REV
R0

For NAAGHAPPA SHELTERS
PARTNER

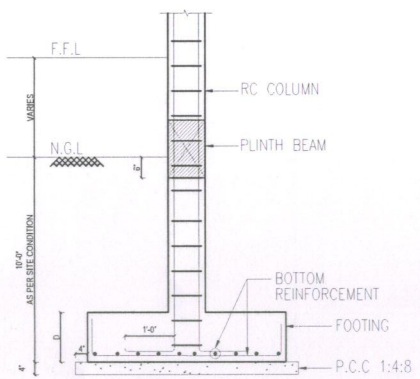
DINESH, B.E.,(CIVIL),M.E.,(STRUC.)
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Mob: 9840448767 Email: dineshiitb5@gmail.com

COLUMN SCHEDULE UPTO STILT FLOOR ROOF

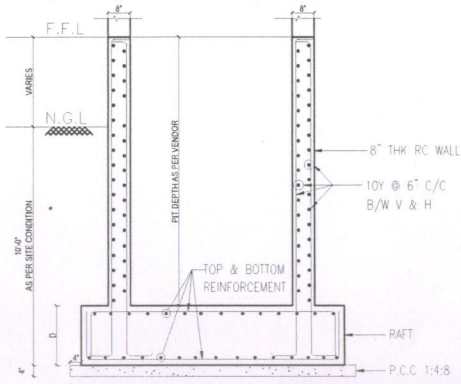
S.No	COL. TYPE	COLUMN SIZE	REINF. VERTICALS	COLUMN SHAPE	LATERAL TIES	TIES PROFILE
1.	C1	1'-0"x1'-3"	• 8Nos-16Y • 3Nos-12Y		8Y @ 6" C/C	
2.	C1a	1'-0"x1'-3"	• 4Nos-16Y • 4Nos-12Y • 3Nos-12Y		8Y @ 6" C/C	
3.	C2	1'-0"x1'-6"	• 8Nos-12Y • 3Nos-12Y		8Y @ 6" C/C	
4.	C2a	1'-0"x1'-6"	• 4Nos-20Y • 4Nos-16Y • 3Nos-12Y		8Y @ 6" C/C	
5.	C2b	1'-0"x1'-6"	• 8Nos-20Y • 3Nos-12Y		8Y @ 6" C/C	
6.	C3	0'-8"x1'-3"	• 8Nos-12Y		8Y @ 6" C/C	
7.	C4	0'-8"x1'-6"	• 8Nos-12Y		8Y @ 6" C/C	
8.	C5	0'-8"x1'-9"	• 10Nos-16Y		8Y @ 6" C/C	
9.	C5A	0'-8"x1'-9"	• 10Nos-20Y		8Y @ 6" C/C	
10.	C6	1'-0"x1'-9"	• 10Nos-20Y • 3Nos-12Y		8Y @ 6" C/C	
11.	C6A	1'-0"x1'-8"	• 10Nos-16Y • 3Nos-12Y		8Y @ 6" C/C	
12.	C7	1'-0"x2'-0"	• 10Nos-20Y • 3Nos-12Y		8Y @ 6" C/C	
13.	C8	1'-0"x1'-9"	• 8Nos-20Y • 3Nos-12Y		8Y @ 6" C/C	
14.	SC	1'-0"x1'-0"	• 8Nos-12Y		8Y @ 6" C/C	

COLUMN SCHEDULE ABOVE STILT FLOOR ROOF

S.No	COL. TYPE	COLUMN SIZE	REINF. VERTICALS	COLUMN SHAPE	LATERAL TIES	TIES PROFILE
1.	C1	0'-8"x1'-3"	• 8Nos-16Y		8Y @ 6" C/C	
2.	C1a	0'-8"x1'-3"	• 4Nos-16Y • 4Nos-12Y		8Y @ 6" C/C	
3.	C2	0'-8"x1'-6"	• 8Nos-12Y		8Y @ 6" C/C	
4.	C2a	0'-8"x1'-6"	• 4Nos-20Y • 4Nos-16Y		8Y @ 6" C/C	
5.	C2b	0'-8"x1'-6"	• 8Nos-20Y		8Y @ 6" C/C	
6.	C3	0'-8"x1'-3"	• 8Nos-12Y		8Y @ 6" C/C	
7.	C4	0'-8"x1'-6"	• 8Nos-12Y		8Y @ 6" C/C	
8.	C5	0'-8"x1'-9"	• 10Nos-16Y		8Y @ 6" C/C	
9.	C5A	0'-8"x1'-9"	• 10Nos-20Y		8Y @ 6" C/C	
10.	C6	0'-8"x1'-9"	• 10Nos-20Y		8Y @ 6" C/C	
11.	C6A	0'-8"x1'-9"	• 10Nos-16Y		8Y @ 6" C/C	
12.	C7	0'-8"x2'-0"	• 10Nos-20Y • 3Nos-12Y		8Y @ 6" C/C	
13.	C8	0'-8"x1'-9"	• 8Nos-20Y		8Y @ 6" C/C	
	13.	C8	1'-0"x1'-9"	• 8Nos-20Y • 3Nos-12Y		8Y @ 6" C/C
14.	FC1	0'-8"x1'-6"	• 8Nos-16Y		8Y @ 6" C/C	
	14.	SC	1'-0"x1'-0"	• 8Nos-12Y		8Y @ 6" C/C
15	FC1A	0'-8"x1'-6"	• 4Nos-16Y • 4Nos-12Y		8Y @ 6" C/C	

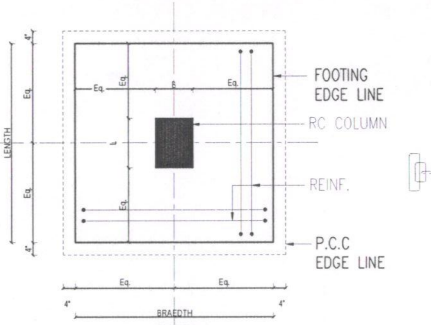


SECTION A-A

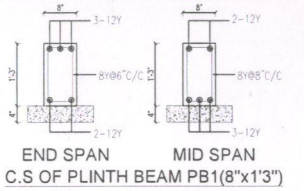


LIFT WELL SECTION DETAILS

SECTION B-B

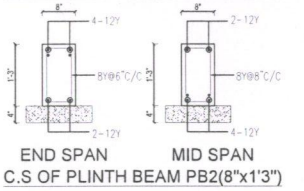


PLAN OF TYPICAL FOOTING



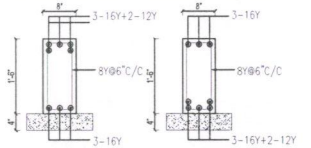
END SPAN MID SPAN

C.S OF PLINTH BEAM PB1(8"x1'3")



END SPAN MID SPAN

C.S OF PLINTH BEAM PB2(8"x1'3")



END SPAN MID SPAN

C.S OF PLINTH BEAM PB3(8"x1'6")

LEGEND -
RC COLUMN

1.0 GENERAL NOTES
1. ALL DIMENSIONS ARE IN FOOT & INCHES

3.0 CONCRETE WORKS
3.1 UOS MINIMUM CLEAR COVER TO MAIN REINFT. SHALL BE AS FOLLOWS:

ITEM	COVER
FOR FOOTING	50 mm
FOR COLUMNS	40 mm
FOR BEAMS	30 mm OR BAR DIA WHICHEVER IS GREATER
FOR SLABS	20 mm OR BAR DIA WHICHEVER IS GREATER

4.0 REINFORCEMENT

4.1 Y DENOTES HYSD BARS (Fe 550) CONFORMING TO IS : 1786.
R DENOTES ROUND BARS (MS) CONFORMING TO IS : 432 (PART -I).

4.2 LAPS FOR HYSD BARS SHALL BE AS FOLLOWS EXCEPT FOR CIRCUMFERENTIAL REINFT.OF SILOS,
WHERE 'd' IS THE DIA OF THE SMALLER BAR

GRADE OF CONC.	LAP LENGTH
M25	50 x d

FOR PLAIN BARS THE ABOVE VALUES SHOULD BE INCREASED BY 60%.

4.4 LAPS SHALL BE STAGGERED SUCH THAT NOT MORE THAN 50% OF STEEL IS LAPPED AT ANY LOCATION.

4.5 TOP BARS IN BEAMS & SLABS SHALL BE LAPPED AT MID SPAN AND NOT AT SUPPORT ZONE.

4.6 BOTTOM BARS IN BEAMS & SLABS SHALL BE LAPPED AT END ONE THIRD SPAN.

4.7 COL. REINFT. LAPS SHALL BE STAGGERED & DONE JUST ABOVE BEAM COL. INTERSECTIONS UOS.

4.8 ALL HOOKS, BENDS AND LAPS SHALL BE AS PER IS : 2502 UNLESS OTHERWISE INDICATED.

4.9 REINFT. SHALL BE SUITABLY ADJUSTED AT SITE TO CLEAR POCKETS, BOLTS, OPENINGS, CUTOUTS,

4.10 BUILDING DESIGNED FOR STILT + 4 FLOORS

4.11 BUILDING DESIGNED FOR VERTICAL LOADS ONLY.

REV	DESCRIPTION	DATE	BY	CHD.
R1	ISSUED FOR CONSTRUCTION	26.08.24	VIGNESH	CSU
R0	ISSUED FOR CONSTRUCTION	19.08.24	VIGNESH	CSU

AMENDMENT

CLIENT:
M/S. NAAGHAPPA SHELTERS

STRUCTURAL CONSULTANT:
SV CONSULTANTS
Old no.10,New no.16,Padmanabha Nagar,
Main Road, Choolaimedu,
Chennai. 600 094
Email: svcengineers07@gmail.com
Ph: +919865858089

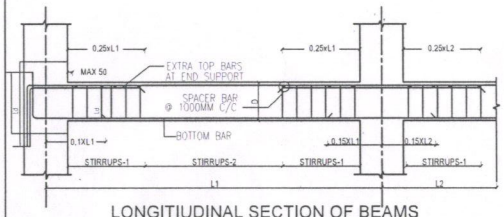
PROJECT:
PROPOSED RESIDENTIAL BUILDING
AT NANGANALLUR

DRAWING TITLE:
COLUMN , FOOTING & PLINTH BEAM DETAILS

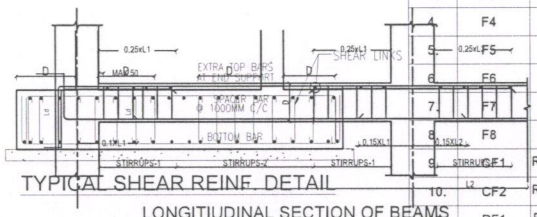
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DATE : 20.08.2023	CHKD : CSU	
DRAWING NO: STR - 03		R1

FOOTING SCHEDULE

Sl.No	FOOTING TYPE	FOOTING SIZE	FOOTING DEPTH	FOOTING REINF. AT BOTTOM		FOOTING REINF. AT TOP	
				LONG SPAN	SHORT SPAN	LONG SPAN	SHORT SPAN
1.	F1	4'-3"x4'-3"	1'-0"	12Y @ 7" C/C	12Y @ 7" C/C	-	-
2.	F2	4'-9"x4'-9"	1'-3"	12Y @ 7" C/C	12Y @ 7" C/C	-	-
3.	F3	6'-3"x6'-3"	1'-9"	12Y @ 6" C/C	12Y @ 6" C/C	-	-
4.	F4	7'-0"x7'-0"	1'-10"	12Y @ 6" C/C	12Y @ 6" C/C	-	-
5.	F5	7'-9"x7'-9"	2'-3"	12Y @ 6" C/C	12Y @ 6" C/C	-	-
6.	F6	8'-9"x8'-9"	2'-6"	12Y @ 6" C/C	12Y @ 6" C/C	-	-
7.	F7	9'-6"x9'-6"	2'-6"	12Y @ 6" C/C	12Y @ 6" C/C	-	-
8.	F8	8'-0"x8'-0"	2'-3"	12Y @ 6" C/C	12Y @ 6" C/C	-	-
9.	CF1	REFER LAYOUT	2'-6"	12Y @ 6" C/C	12Y @ 6" C/C	12Y @ 6" C/C	12Y @ 6" C/C
10.	CF2	REFER LAYOUT	2'-6"	12Y @ 5" C/C	12Y @ 5" C/C	12Y @ 5" C/C	12Y @ 5" C/C
11.	RF1	REFER LAYOUT	2'-6"	12Y @ 5" C/C	12Y @ 5" C/C	12Y @ 5" C/C	12Y @ 5" C/C
12.	RF1	REFER LAYOUT	2'-6"	16Y @ 5" C/C	16Y @ 5" C/C	16Y @ 5" C/C	16Y @ 5" C/C



LONGITUDINAL SECTION OF BEAMS

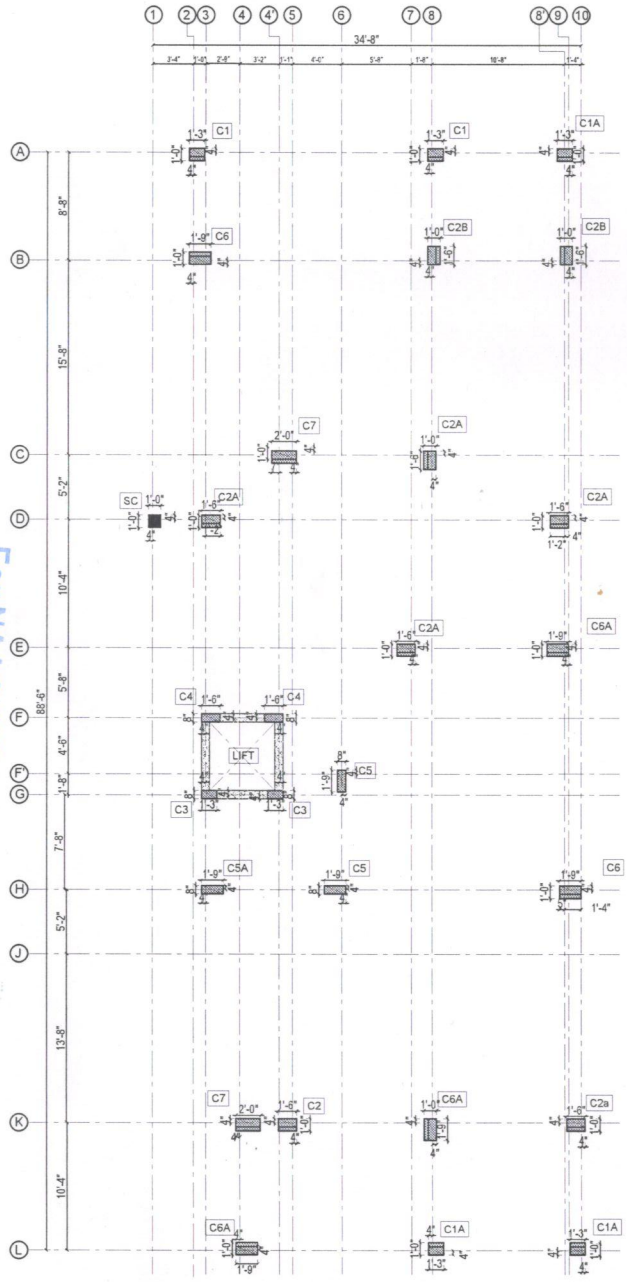


TYPICAL SHEAR REINF. DETAIL

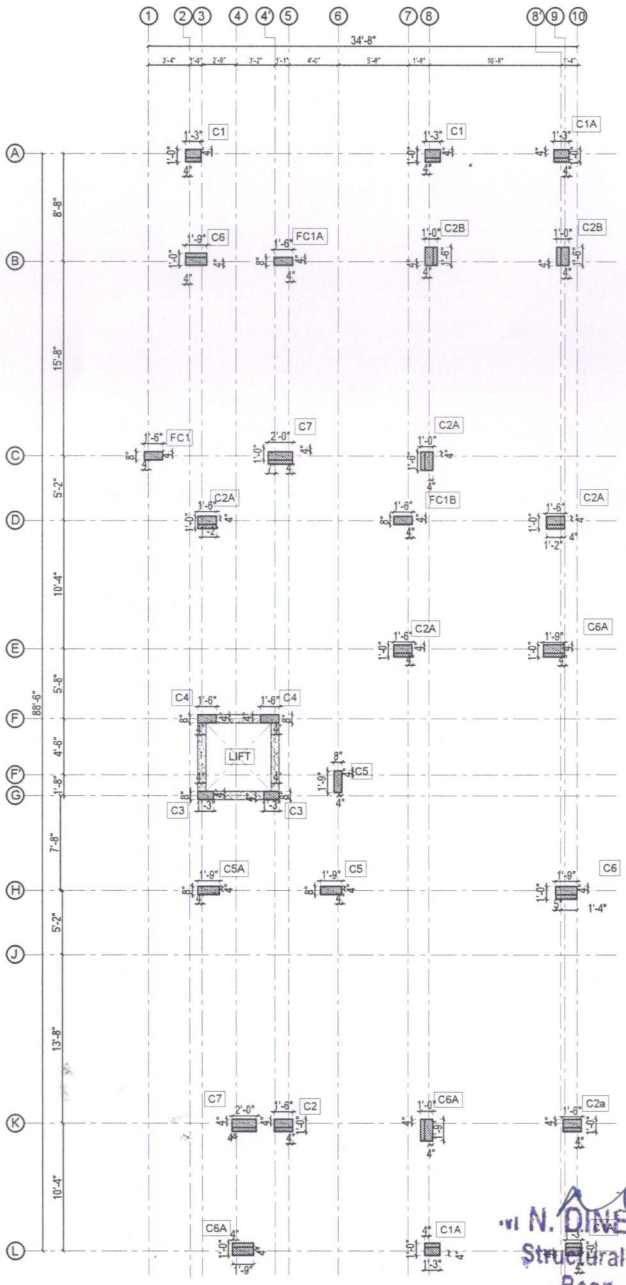
LONGITUDINAL SECTION OF BEAMS

For NAAGHAPPA SHELTERS
PARTNER

N. DINESH, B.E.,(CIVIL),M.E.,(STRUCT.)
Structural Engineer (Grade-I) CMDA
Regn No.S.E/GR-I/19/21067
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Mob: 9940449767 Email: dineshiitb@gmail.com



COLUMN LAYOUT UPTO STILT FLOOR ROOF



COLUMN LAYOUT ABOVE STILT FLOOR ROOF

LEGEND -

RC COLUMN

1.0 GENERAL NOTES

1. ALL DIMENSIONS ARE IN FOOT & INCHES

3.0 CONCRETE WORKS

3.1 UOS MINIMUM CLEAR COVER TO MAIN REINFT. SHALL BE AS FOLLOWS :

ITEM	COVER
FOR FOOTING	50 mm
FOR COLUMNS	40 mm
FOR BEAMS	30 mm OR BAR DIA WHICHEVER IS GREATER
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4.0 REINFORCEMENT

4.1 Y DENOTES HYSD BARS (Fe 550) CONFORMING TO IS : 1786.
R DENOTES ROUND BARS (MS) CONFORMING TO IS : 432 (PART -I).

4.2 LAPS FOR HYSD BARS SHALL BE AS FOLLOWS EXCEPT FOR CIRCUMFERENTIAL REINFT.OF SILOS,

WHERE 'd' IS THE DIA OF THE SMALLER BAR.

GRADE OF CONC	LAP LENGTH
M25	50 x d

FOR PLAIN BARS THE ABOVE VALUES SHOULD BE INCREASED BY 60%.

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4.8 ALL HOOKS, BENDS AND LAPS SHALL BE AS PER IS : 2502 UNLESS OTHERWISE INDICATED.

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4.10 BUILDING DESIGNED FOR STILT + 4 FLOORS

4.11 BUILDING DESIGNED FOR VERTICAL LOADS ONLY.

REV	DESCRIPTION	DATE	BY	CHD.
R1	REVISED AS PER ARCH DWG	26.08.24	VIGNESH	CSU
R0	ISSUED FOR CONSTRUCTION	19.08.24	VIGNESH	CSU

AMENDMENT

CLIENT:
M/S. NAAGHAPPA SHELTERS

STRUCTURAL CONSULTANT:
SV CONSULTANTS
Old no.10,New no.16,Padmanabha Nagar,
Main Road, Choolaimedu,
Chennai, 600 094
Email: svcengineers07@gmail.com
Ph: +919865858089

PROJECT:
PROPOSED RESIDENTIAL BUILDING
AT NANGANALLUR

DRAWING TITLE
COLUMN LAYOUTS

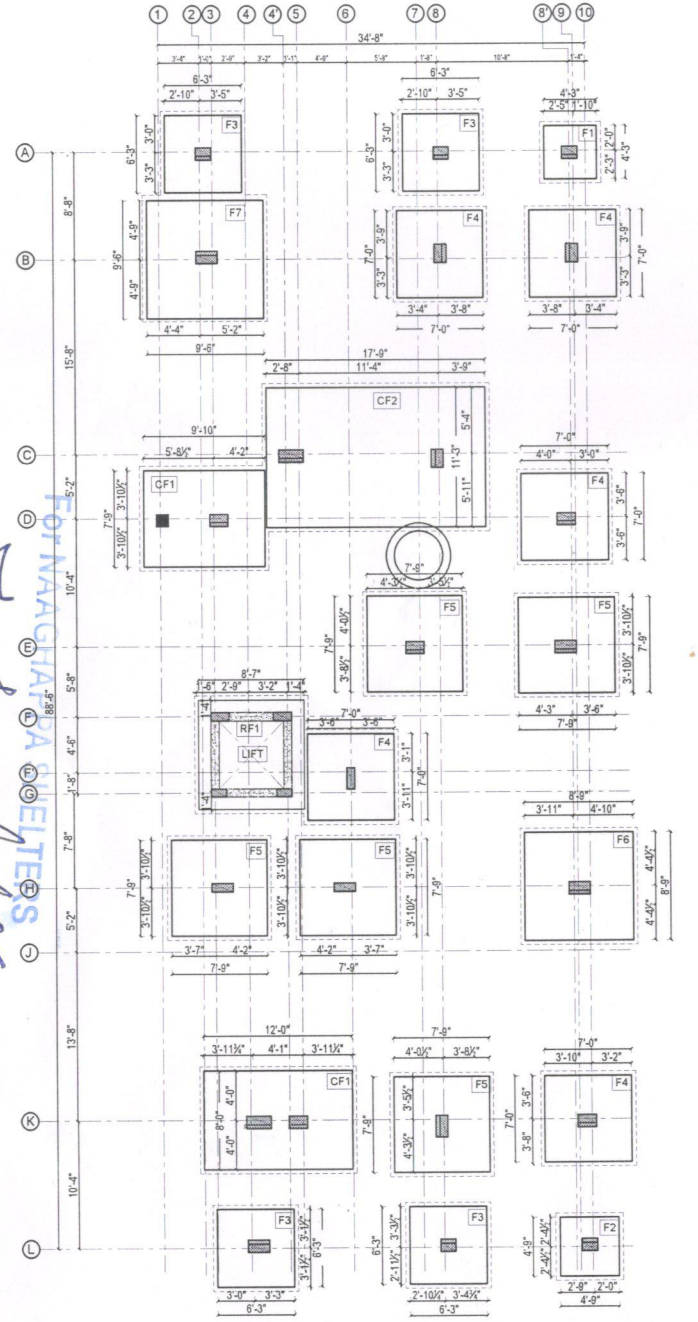
SCALE : 1/4"	DRAWN : VIGNESH	REV
DATE : 26.08.2024	CHKD : CSU	R1

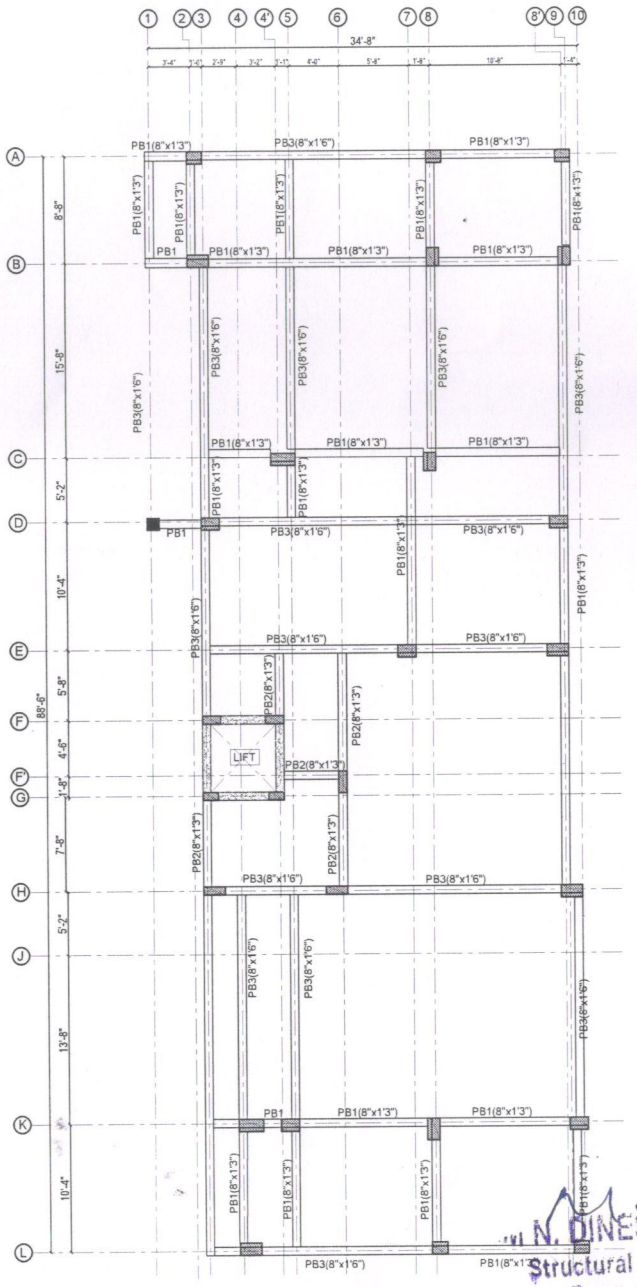
STR - 02

For NAAGHAPPA SHELTERS
PARTNER

N. DINESH, B.E.,(CIVIL)., M.E.,(STRUC).,
Structural Engineer (Grade-I), CMDA
Regn. No. S.E/GR-I/19/03/067
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Mob: 9840449767 Email: dineshiitb5@gmail

2947





LEGEND :
RC COLUMN

1.0 GENERAL NOTES
1. ALL DIMENSIONS ARE IN FOOT & INCHES.

2.0 SAFE BEARING CAPACITY
1. S.B.C IS CONSIDERED AS 210kN/m2 AT A DEPTH OF 3m FROM N.G.L AS PER SOIL REPORT

3.0 CONCRETE WORKS
3.1 UOS MINIMUM CLEAR COVER TO MAIN REINFT. SHALL BE AS FOLLOWS:

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REV	DESCRIPTION	DATE	BY	CHD.
R1	REVISED AS PER ARCH DWG	26.08.24	VIGNESH	CSU
R0	ISSUED FOR CONSTRUCTION	19.08.24	VIGNESH	CSU

AMENDMENT

CLIENT:
M/S. NAAGHAPPA SHELTERS

STRUCTURAL CONSULTANT:
SV CONSULTANTS
Old no.10,New no.16,Padmanabha Nagar,
Main Road, Choolaimedu,
Chennai. 600 094
Email: svcengineers07@gmail.com
Ph: +919865858089

PROJECT:
PROPOSED RESIDENTIAL BUILDING
AT NANGANALLUR

DRAWING TITLE:
FOOTING & PLINTH BEAM LAYOUT

SCALE : 1" : 12"	DRAWN : VIGNESH
DESIGNED :	CHECKED : CSU
DRAWING NO. :	SIR NO. :

REV
R1

For NAAGHAPPA SHELTERS
PARTNER

N. DINESH, B.E., (CIVIL), M.E., (STRUC.)
Structural Engineer (Grade-I), CMDA
Regn No. S.E/GR-I/19/03/067
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