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RE REGULATORY RECORD

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DIGITALLY VERIFIED RECORD

DIRECTORATE OF TOWN AND COUNTRY PLANNING

(Government of Tamil Nadu)
(807 Anna Salai, Chennai 600 002)

TIRUCHIRAPPALLI DISTRICT TOWN AND COUNTRY PLANNING

(Kajamalai Main road, Kajamalai, Tiruchy 620 023)

PROFESSIONAL REGISTRATION CERTIFICATE

This is to certify that **Mr.J.RAGHAVENDIRAN** has enrolled as **REGISTERED STRUCTURAL ENGINEER GRADE-II** with this office who has the qualification of **DEGREE OF BACHELOR OF ENGINEERING., in CIVIL ENGINEERING** and experience in the relevant field for 33 years.

He has been given the Registration **No.SE.Gr-II/DTCP/TRICHY/JULY-2024/21 From 23.07.2024.**

He shall be required to comply with the duties and responsibilities prescribed by the Government of Tamil Nadu in Part V, "Registration of Professionals", Tamil Nadu Combined Development and Building Rules 2019, approved vide G.O (Ms) No.18 MAWS (MA1) Department dated 4.2.2019.

NOTE

Certificate is issued based on documents submitted by the candidate for Qualification and experience.

This Registration is valid up to 22.07.2029



16 JUL 2024

16/7/24

Joint Director/Member Secretary(F.A.C),
District Town And Country Planning,
TiruchirappalliDistrict.

VENUS BUILDERS

j.raghavendiran,b.e.,d.c.m.,f.i.v.,
structural consultant,
builder & valuer,
venus builders,
no:83,1st floor,aanandam nagar,
3rd cross, behind ammaiyappa
nagar,vayalur road,
trichy-17.
cell:98424 45699

Date: 08-08-2026

STABILITY CERTIFICATE

(To be furnished while filing application for registration of building)

The detailed engineering and structure design of the proposed building comprising of Stilt + 5 floors at PLOT NO: 511, DOOR NO: 37/9, T.S. NO: 28 (OLD S.F.NO:105/1A) ,WARD: AH, BLOCK NO: 25, SHANMUGAM STREET, DR.K.K.NAGAR, K.SATHANUR VILLAGE ZONE IV,TIRUCHIRAPPALLI CITY CORPORATION has been done by me/us based on the report of geotechnical investigation (soil test) done by TIME INSTITUTE FOR MATERIALS TESTING Report No. TIME/46/SOIL TEST/JULY/2022 Dated 30 JULY 2022 and considering the functional requirement of the building.

2. It is certified that among other factors, the proposed building has been designed to resist earthquake. I/We have checked various parameters and found that the proposed building would be safe.

3. I/We further certify that:

(i) The minimum grade of concrete is M20

(ii) The design and analysis has been done using the code of practice for plain and reinforced concrete as per IS 456, design loads as per IS Codes No 875 and design of earthquake resistant structure as per IS Code No 1893.

4. The building will be safe and sound when used for the purpose for which it is designed.

Stamp and Signature

J.RAGHAVENDIRAN,B.E.,F.I.V
REGISTERED STRUCTURAL ENGINE
No:83, 1st Floor, Aanandam Nag
3rd Cross, Behind Ammayyappa Na
Vayalur Road, Trichy- 620 017
M:98424 45699, 63817 5532
SE.Gr - II / DTCP / TRICHY / JULY-2024 / 21

Encl.: Structural Design Calculation

VENUS BUILDERS

j.raghavendiran,b.e.,d.c.m.,f.i.v.,
structural consultant,
builder & valuer,
venus builders,
no:83,1st floor,aanandam nagar,
3rd cross, behind ammaiyappa nagar,vayalur road,
trichy-17.
cell:98424 45699

COLUMN AND FOUNDATION DESIGN FOR REVISED PLAN SHOWING PROPOSED CONSTRUCTION OF AFFORDABLE RESIDENTIAL APARTMENT BUILDING AFTER DEMOLISHING THE EXISTING BUILDING AT PLOT NO: 511, DOOR NO: 37/9, T.S. NO: 28 (OLD S.F.NO:105/1A) ,WARD: AH, BLOCK NO: 25, SHANMUGAM STREET, Dr.K.K.NAGAR, K.SATHANUR VILLAGE ZONE IV, TRIUCHIRAPPALLAI CITY CORPORATION.

The column and foundation shall be designed for the maximum critical span of (18') 5.49m

DESIGN:

Live load	-	300Kg/m^2
Dead load	-	(1.00x1.00x0.13x2400) =312Kg/m^2
Live load + Dead load		=612Kg/m^2
Load to be transferred to the Beam	-	1x4.54x612x1=2778.48Kg/m (Or) 2779Kg/m
Load to be taken by column for the span of 5.49m	-	2779x 5.49m = 15256.71Kg/floor

Since the proposed building will have S+5.

The column shall be designed for 6 floors.

Hence the total load taken by a critical column - 6x 15256.71Kg/floor
= 91540.26Kg/2 =91540Kg

Wall load calculation:

Wall Load considered by only 5 Floors

- 2000x0.23x3.05x5.49

- 7702.47Kg/floor
- 5x7702.47Kg/floor

Hence the total load taken by a critical column = 38512.35Kg

Total Load Taken by Column = 91540Kg + 38512Kg

= 130052Kg (Say 130052Kg)

= 130Tons

Assuming Self weight of column & foundation @ 10%

Total load taken by a column 13Tons.

Using R.C.C. M20 mix concrete and Fe 550 steel.

Assuming area of column Ac

Area of column main rod 1.5% of Ac

$Pu = 0.4 \times 200 \times Ac + 0.67 \times fy \times Ast$

$130052 = 0.4 \times 200 \times (Ac-0.015Ac) + 0.67 \times 5500 \times 0.015Ac$

$130052 = 78.8Ac + 55.275Ac$

$134.1Ac = 130052$

$Ac = 969.81\ cm^2$

Hence Provided Column Size as 23 cm x 45 cm

Area of column $Ac = 23 \times 45 = 1035cm^2$

$>969.81cm^2$

Hence safe.

Ast. Required $1.5/ 100 \times 969.81 = 14.55cm^2$

Hence provided 12 nos of 20mm dia bars

$20mm = 12X\ 3.14 = 37.68cm^2$

$= 37.68\ cm^2 > 14.55\ cm^2$

Hence Safe

FOUNDATION:

From soil test report the safe bearing capacity of soil can be taken as $30T/m^2$

Size of footing $143T/30T\ m^2 = 4.77m^2$

Provide isolated footing to the size of 2.18m x 2.18m

Hence area of footing provided = 2.25m x 2.25m = $5.06m^2$

$5.06\ m^2 > 4.77m^2$

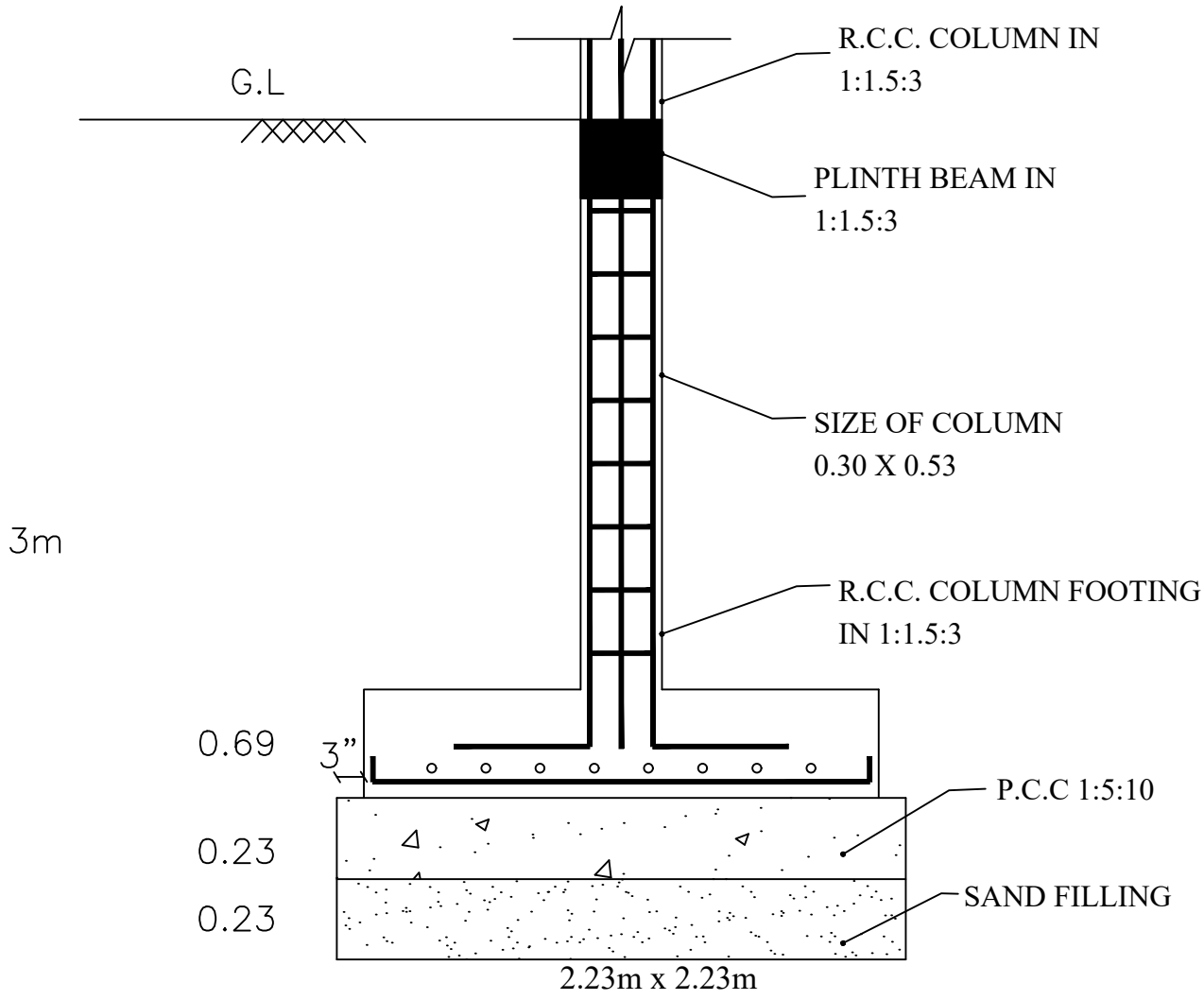
Hence Safe.

REVISED PLAN SHOWING THE PROPOSED CONSTRUCTION OF AFFORDABLE RESIDENTIAL APARTMENT BUILDING AFTER DEMOLISHING THE EXISTING BUILDING AT PLOT NO: 511, DOOR NO: 37/9, T.S. NO: 28 (OLD S.F.NO:105/1A) ,WARD: AH, BLOCK NO: 25, SHANMUGAM STREET, Dr.K.K.NAGAR, K.SATHANUR VILLAGE ZONE IV, TRIUCHIRAPPALLAI CITY CORPORATION.

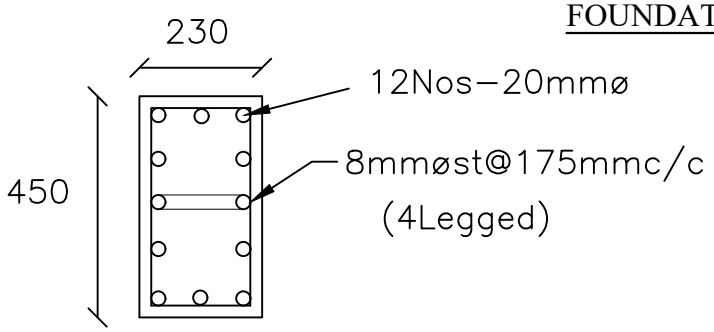
LOAD CALCULATIONS AS PER IS 875

Sl.No	Description	Length in 'm'		Width in 'm'		Depth in 'm'		Sp.Wt	Total Load in KN
1	LOADING ON SLAB/Sq.m Input								
	Thickness of Slab	0.13		m					
	Live Load	3		KN/m^2					
	Self Weight of Slab	1	x	1	x	0.13	x	24	3.12
	Live Load	1	x	1	x	1	x	3	3
	Floor finish load	1	x	1	x	1	x	2	2
							Total Load		8.12 KN/m^2
2	LOADING ON OUTER BEAM/M Input								
	Slab Length for distribution of load	5.49	m						
	Width of Beam	0.23	m						
	Depth of Beam	0.45	m						
	Thick&Height of Brick Wall	0.23	m			3.05	m		
	Self Weight of Beam	1	x	0.23	x	0.45	x	24	2.49
	Brick wall Weight	1	x	0.23	x	3.05	x	20	14.03
	Load from Slab	4.54	x	0.5	x	1	x	8.12	18.43
							Total		34.95 KN/M
3	LOADING ON INNER BEAM/M								
	Slab Length for distribution of load	5.49	m						
	Width of Beam	0.23	m						
	Depth of Beam	0.45	m						
	Thick&Height of Brick Wall	0.23	m			3.05	m		
	Self Weight of Beam	1	x	0.23	x	0.45	x	24	2.49
	Brick wall Weight	1	x	0.23	x	3.05	x	20	14.03
	Load from Slab	4.54	x	1	x	1	x	8.12	36.86
							Total		53.38 KN/M

REVISED PLAN SHOWING THE PROPOSED CONSTRUCTION OF AFFORDABLE RESIDENTIAL APARTMENT BUILDING AFTER DEMOLISHING THE EXISTING BUILDING AT PLOT NO: 511, DOOR NO: 37/9, T.S. NO: 28 (OLD S.F.NO:105/1A) ,WARD: AH, BLOCK NO: 25, SHANMUGAM STREET, Dr.K.K.NAGAR, K.SATHANUR VILLAGE ZONE IV, TRIUCHIRAPPALLAI CITY CORPORATION.



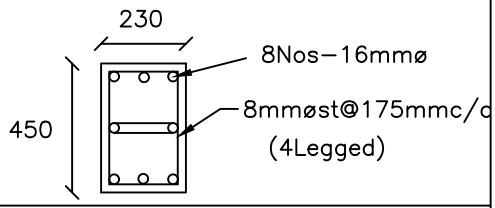
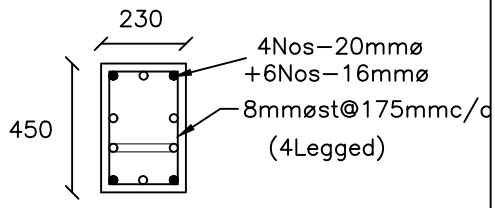
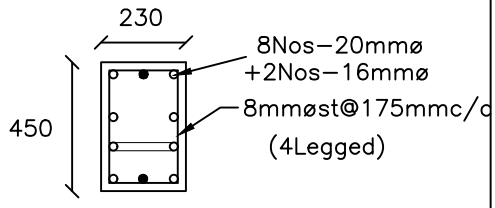
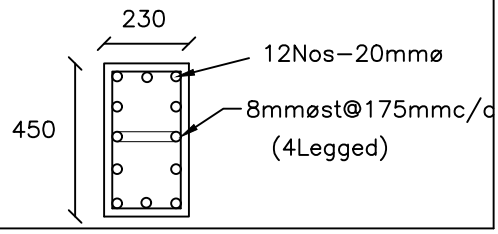
FOUNDATION DETAILS



COLUMN DESIGN

STRUCTURAL CONSULTANT:
J.RAGHAVENDIRAN, B.E., D.C.M., F.I.V.,
VENUS BUILDERS,
NO:83, 1st FLOOR, AANANDAM NAGAR,3rd CROSS, BEHIND AMMAYAPPA NAGAR, VAYALUR ROAD,TRICHY - 17.
CELL : 98424 - 45699

REVISED PLAN SHOWING THE PROPOSED CONSTRUCTION OF AFFORDABLE RESIDENTIAL APARTMENT BUILDING AFTER DEMOLISHING THE EXISTING BUILDING AT PLOT NO: 511, DOOR NO: 37/9, T.S. NO: 28 (OLD S.F.NO:105/1A) ,WARD: AH, BLOCK NO: 25, SHANMUGAM STREET, Dr.K.K.NAGAR, K.SATHANUR VILLAGE ZONE IV, TRIUCHIRAPPALLAI CITY CORPORATION.

COLUMN TYPE	C/S OF COLUMN
TYPE 1	
TYPE 2	
TYPE 3	
TYPE 4	

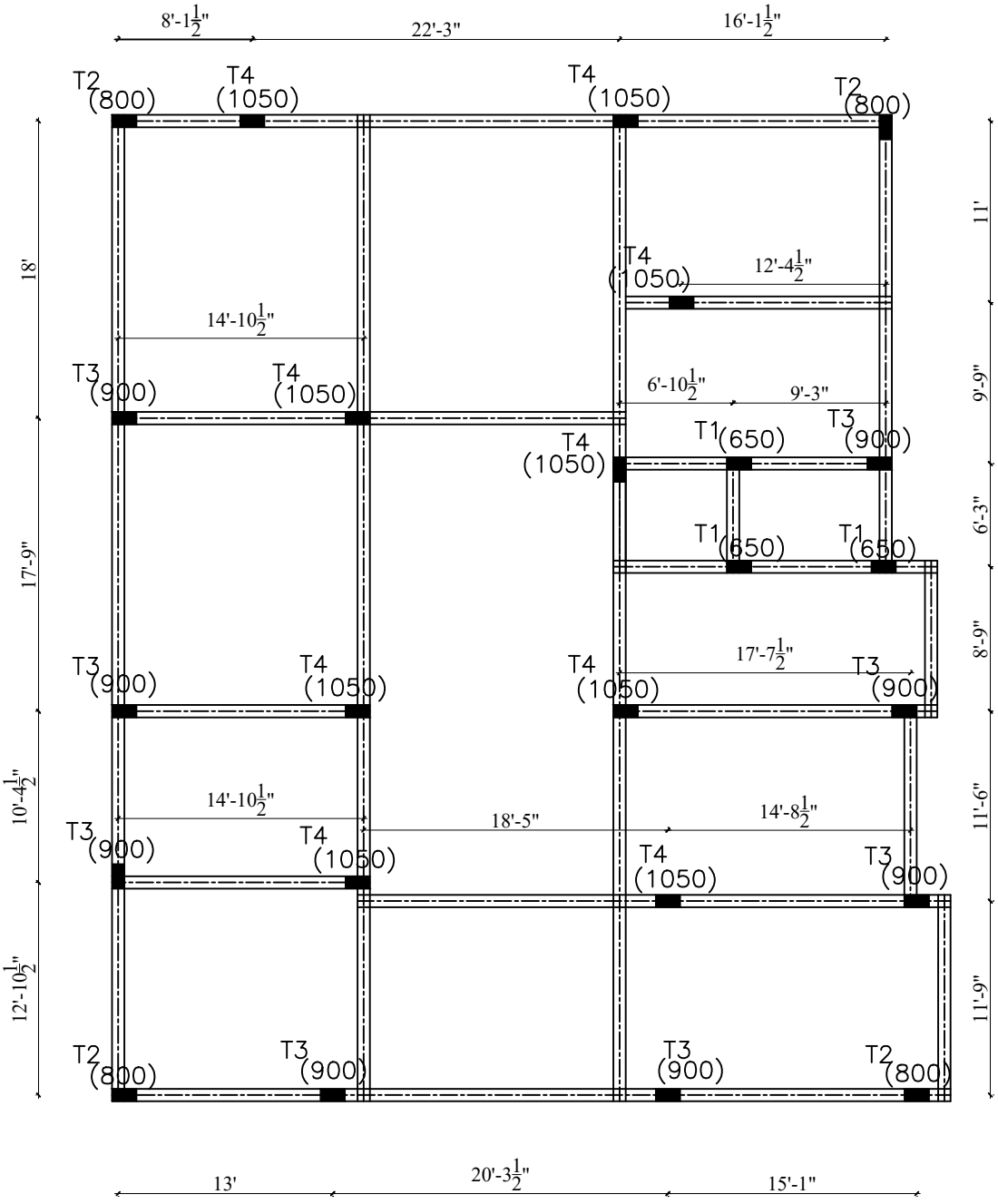
NOTE:

Structure Engineer Takes no Responsibility in the Violation /Deviation of setback &FSI Norms in the DCR

NOTE:

RCC MIX	- M20
REINFORCEMENT	- Fe415
CLEAR COVER FOR COLUMN	= 40mm
CLEAR COVER FOR COLUMN FOOTING	= 50mm

STRUCTURAL CONSULTANT:
J.RAGHAVENDIRAN, B.E., D.C.M., F.I.V.,
VENUS BUILDERS,
NO:83, 1st FLOOR, AANANDAM NAGAR,3rd CROSS, BEHIND AMMAYAPPA NAGAR, VAYALUR ROAD,TRICHY - 17.
CELL : 98424 - 45699



Load on Plinth beam:

Wall Thickness = 230 TK

Wall height = 3.05m

Beam Size = 230x450

Self weight of beam = 2.58KN/m.

Wall Loads acting on plinth beam = 0.23x 19 x 3.05m =13.329 KN/m

Total Loads on plinth beam = 15.909 KN/m

STRUCTURAL CONSULTANT:

J.RAGHAVENDIRAN, B.E., D.C.M., F.I.V.,

VENUS BUILDERS,

NO:83, 1st FLOOR,AANANDAM NAGAR

3rd CROSS, BEHIND AMMAYAPPA NAGAR,

VAYALUR ROAD, TRICHY - 17.

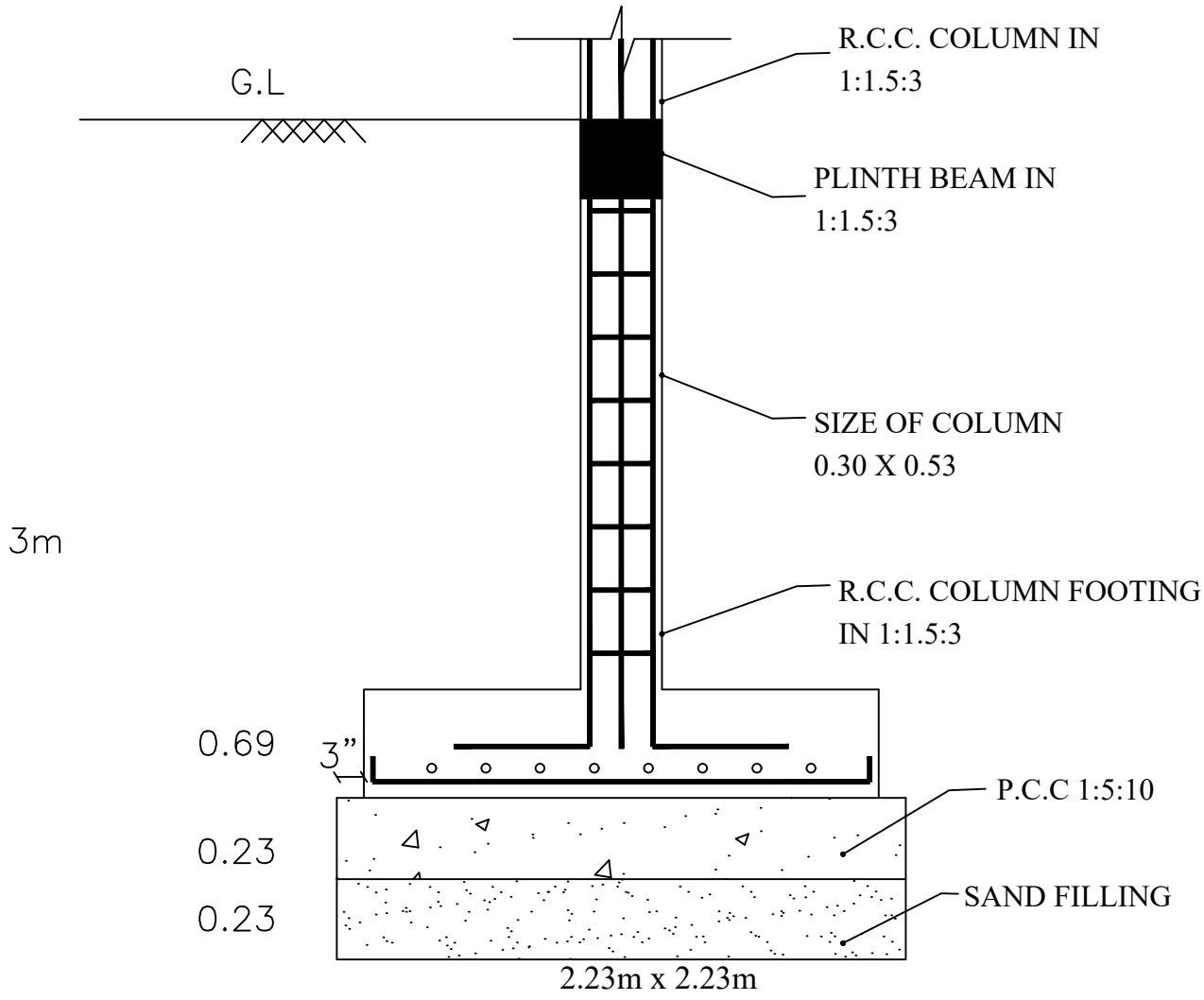
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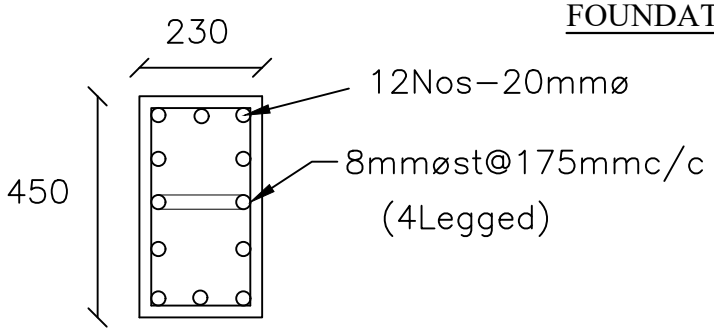
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	Live Load	1	x	1	x	1	x	3	3
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							Total Load		8.12 KN/m^2
2	LOADING ON OUTER BEAM/M Input								
	Slab Length for distribution of load	5.49	m						
	Width of Beam	0.23	m						
	Depth of Beam	0.45	m						
	Thick&Height of Brick Wall	0.23	m			3.05	m		
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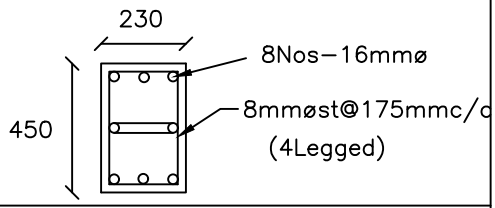
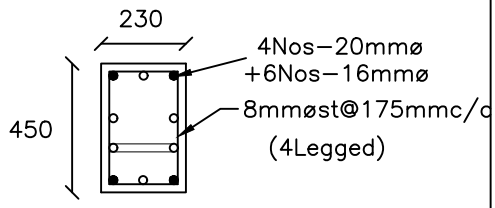
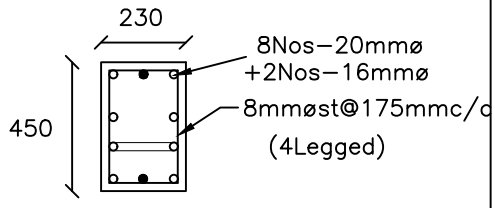
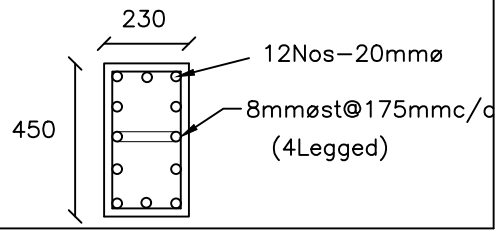
FOUNDATION DETAILS



COLUMN DESIGN

STRUCTURAL CONSULTANT:
J.RAGHAVENDIRAN, B.E., D.C.M., F.I.V.,
VENUS BUILDERS,
NO:83, 1st FLOOR, AANANDAM NAGAR,3rd CROSS, BEHIND AMMAYAPPA NAGAR, VAYALUR ROAD,TRICHY - 17.
CELL : 98424 - 45699

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COLUMN TYPE	C/S OF COLUMN
TYPE 1	
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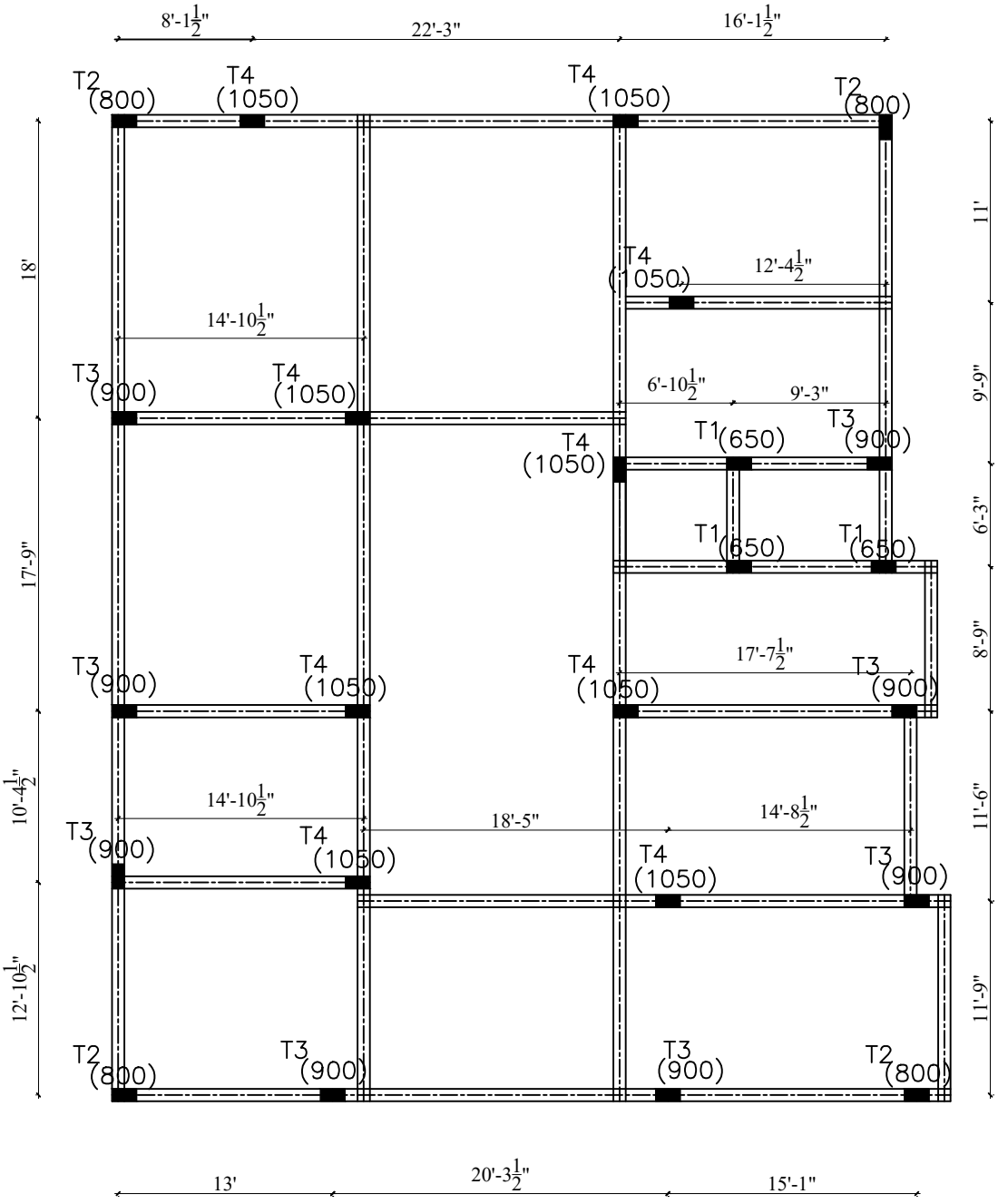
NOTE:

Structure Engineer Takes no Responsibility in the Violation /Deviation of setback &FSI Norms in the DCR

NOTE:

RCC MIX	- M20
REINFORCEMENT	- Fe415
CLEAR COVER FOR COLUMN	= 40mm
CLEAR COVER FOR COLUMN FOOTING	= 50mm

STRUCTURAL CONSULTANT:
J.RAGHAVENDIRAN, B.E., D.C.M., F.I.V.,
VENUS BUILDERS,
NO:83, 1st FLOOR, AANANDAM NAGAR,3rd CROSS, BEHIND AMMAYAPPA NAGAR, VAYALUR ROAD,TRICHY - 17.
CELL : 98424 - 45699



Load on Plinth beam:

Wall Thickness = 230 TK

Wall height = 3.05m

Beam Size = 230x450

Self weight of beam = 2.58KN/m.

Wall Loads acting on plinth beam = 0.23x 19 x 3.05m =13.329 KN/m

Total Loads on plinth beam = 15.909 KN/m

STRUCTURAL CONSULTANT:

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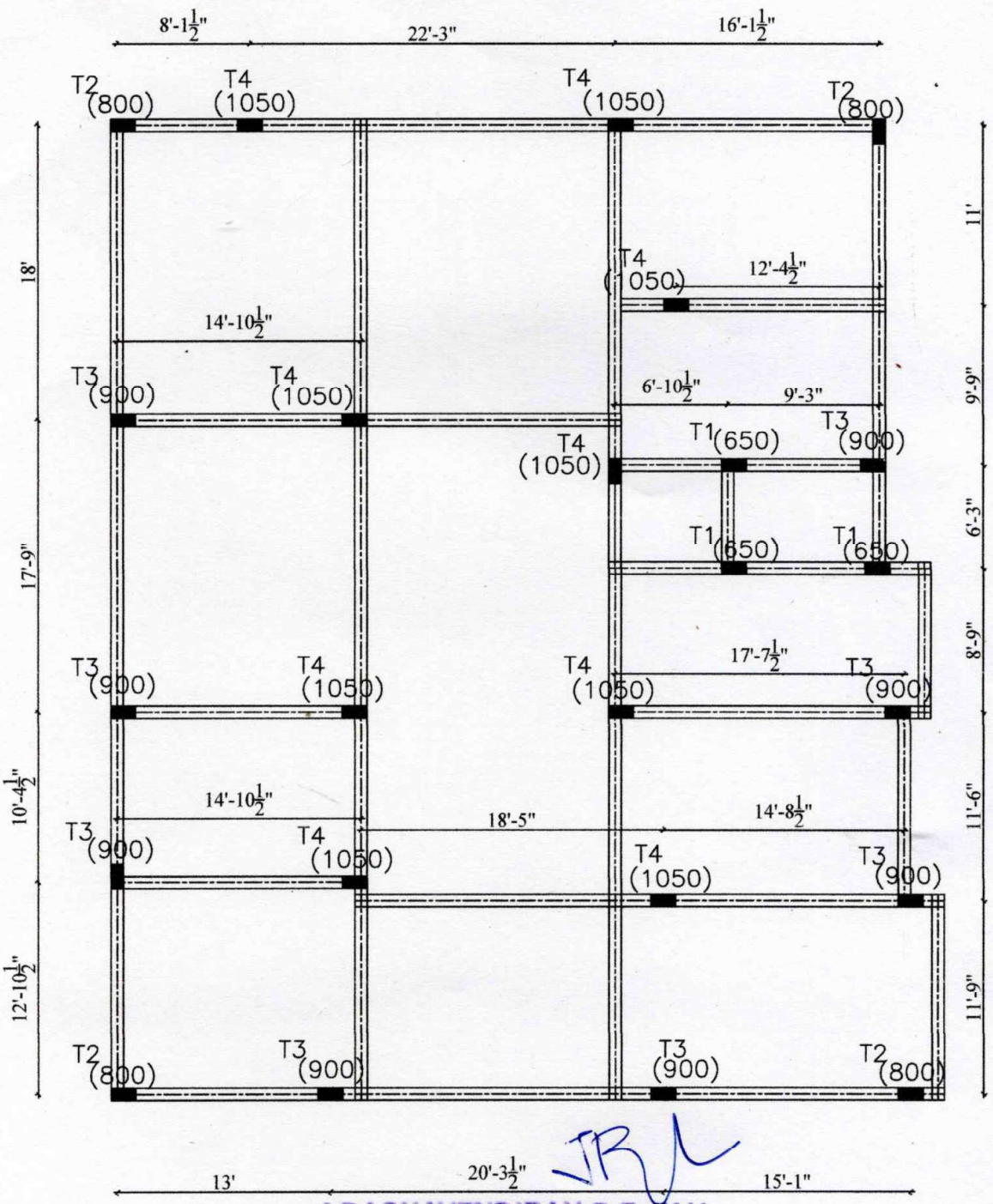
VENUS BUILDERS,

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3rd CROSS, BEHIND AMMAYAPPA NAGAR,

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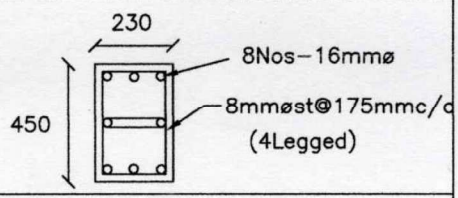
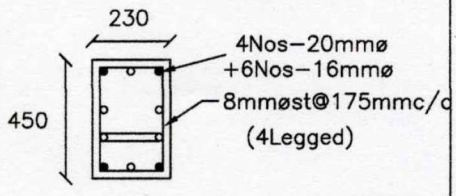
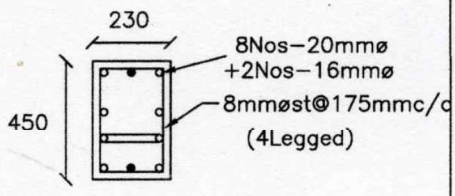
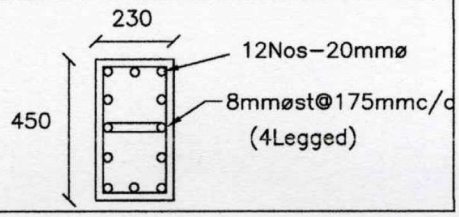
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J.RAGHAVENDIRAN,B.E.,F.I.V.,
REGISTERED STRUCTURAL ENGINEER
No:83, 1st Floor, Aanandam Nagar,
3rd Cross, Behind Ammayyappa Nagar,
Vayalur Road, Trichy- 620 017
M:98424 45699, 63817 55326
SE.Gr - II / DTCP / TRICHY / JULY-2024 / 21

STRUCTURAL CONSULTANT:
J.RAGHAVENDIRAN, B.E., D.C.M., F.I.V.,
VENUS BUILDERS,
NO:83, 1st FLOOR,AANANDAM NAGAR
3rd CROSS, BEHIND AMMAYAPPA NAGAR,
VAYALUR ROAD, TRICHY - 17.
CELL : 98424 - 45699

REVISED PLAN SHOWING THE PROPOSED CONSTRUCTION OF AFFORDABLE RESIDENTIAL APARTMENT BUILDING AFTER DEMOLISHING THE EXISTING BUILDING AT PLOT NO: 511, DOOR NO: 37/9, T.S. NO: 28 (OLD S.F.NO:105/1A) ,WARD: AH, BLOCK NO: 25, SHANMUGAM STREET, Dr.K.K.NAGAR, K.SATHANUR VILLAGE ZONE IV, TRIUCHIRAPPALLAI CITY CORPORATION.

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J.RAGHAVENDIRAN, B.E., F.I.V.,
VENUS BUILDERS,
NO:83, 1st FLOOR, AANANDAM NAGAR,3rd CROSS, BEHIND AMMAYAPPA NAGAR, VAYALUR ROAD,TRICHY - 17.
CELL : 98424 - 45699

JR

J.RAGHAVENDIRAN,B.E.,F.I.V.,
REGISTERED STRUCTURAL ENGINEER
No:83, 1st Floor, Aanandam Nagar,
rd Cross, Behind Ammayyappa Nagar,
Vayalur Road, Trichy- 620 017
M:98424 45699, 63817 55326
SE.Gr - II / DTCP / TRICHY / JULY-2024 / 21

REVISED PLAN SHOWING THE PROPOSED CONSTRUCTION OF AFFORDABLE RESIDENTIAL APARTMENT BUILDING AFTER DEMOLISHING THE EXISTING BUILDING AT PLOT NO: 511, DOOR NO: 37/9, T.S. NO: 28 (OLD S.F.NO:105/1A) ,WARD: AH, BLOCK NO: 25, SHANMUGAM STREET, Dr.K.K.NAGAR, K.SATHANUR VILLAGE ZONE IV, TRIUCHIRAPPALLAI CITY CORPORATION.

LOAD CALCULATIONS AS PER IS 875

Sl.No	Description	Length in 'm'		Width in 'm'		Depth in 'm'		Sp.Wt	Total Load in KN
1	LOADING ON SLAB/Sq.m Input								
	Thickness of Slab	0.13		m					
	Live Load	3		KN/m^2					
	Self Weight of Slab	1	x	1	x	0.13	x	24	3.12
	Live Load	1	x	1	x	1	x	3	3
	Floor finish load	1	x	1	x	1	x	2	2
							Total Load		8.12 KN/m^2
2	LOADING ON OUTER BEAM/M Input								
	Slab Length for distribution of load	5.49	m						
	Width of Beam	0.23	m						
	Depth of Beam	0.45	m						
	Thick&Height of Brick Wall	0.23	m			3.05	m		
	Self Weight of Beam	1	x	0.23	x	0.45	x	24	2.49
	Brick wall Weight	1	x	0.23	x	3.05	x	20	14.03
	Load from Slab	4.54	x	0.5	x	1	x	8.12	18.43
							Total		34.95 KN/M
3	LOADING ON INNER BEAM/M								
	Slab Length for distribution of load	5.49	m						
	Width of Beam	0.23	m						
	Depth of Beam	0.45	m						
	Thick&Height of Brick Wall	0.23	m			3.05	m		
	Self Weight of Beam	1	x	0.23	x	0.45	x	24	2.49
	Brick wall Weight	1	x	0.23	x	3.05	x	20	14.03
	Load from Slab	4.54	x	1	x	1	x	8.12	36.86
							Total		53.38 KN/M

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STABILITY CERTIFICATE
FORM-A

1. Applicant : Mr.Shahjahan
   Mrs.Malika Bee

2. Location of site : Revised Plan showing the proposed construction of affordable residential apartment building after demolishing the existing building at Plot no: 511, Door no: 37/9, T.S. no: 28 (old S.F no:105/1a) ,Ward: AH, Block No: 25, Shanmugam Street, Dr.K.K.Nagar, K.Sathanur Village Zone IV, Triuchirappallai City Corporation.

3. Year of Construction : Proposed Building

4. Approximate cost of Construction as Per current rates : Rs.4,34,40,000/-

5. Purpose for which the Building is to be proposed : Residential Building

6. Details of Construction of the Building
   (Particulars of the foundation soil, Specification of the various parts under)

1. Foundation	:	RCC framed Structure, Isolated Footing
2. Basement	:	RCC Column& Plinth beam in 1:1.5:3 mix & Brick Wall CM 1:6
3. Super Structure	:	RCC Column With Brick Wall in CM 1:6
4. Floor and Roof Stilt, First, Second Third, Fourth& Fifth	:	RCC Roof with Ceramic tiles Flooring

7. Period for which License required : Proposed Building

8. No of persons to accommodate : 50 Persons

Hence I certify that this structure consisting of Stilt+5 floors in Affordable residential Apartment Building consisting of 30units will be Safe, Stable and Sound.

ENGINEER

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REGISTERED STRUCTURAL ENGINEER
No:83, 1st Floor, Aanandam Nagar
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SE.Gr-II / DTCP / TRICHY / JULY-2024 / 21

FORM-B

Form of Certificate of structural soundness under sub-section (4) of the Tamil Nadu public buildings (Licensing) Act 1965.

(Tamil Nadu Act13 of 1965) referred it is rule 4 of the Tamil Nadu public buildings (Licensing) rules 1966.

Since the building is a proposed one, this Certificate is not issued.

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REGISTERED STRUCTURAL ENGINEE
No:83, 1st Floor, Aanandam Nagar
3rd Cross, Behind Ammayyappa Nag
Vayalur Road, Trichy- 620 017
M:98424 45699, 63817 **ENGINEER**
SE,Gr - II / DTCP / TRICHY / JULY-2024 / 21

STATEMENT TO ACCOMPANY THE CERTIFICATE OF STRUCTURAL SOUNDNESS

1. Location of the building : Revised Plan showing the proposed construction of affordable residential apartment building after demolishing the existing building at Plot no: 511, Door no: 37/9, T.S. no: 28 (old S.F no:105/1a) ,Ward: AH, Block No: 25, Shanmugam Street, Dr.K.K.Nagar, K.Sathanur Village Zone IV, Triuchirappallai City Corporation.

2. Age of the Building : Proposed Building

3. Purpose for which the Building Will be Structurally Sound : Residential Building

4. The period for which the Building Will be Structurally Sound : Proposed Building

5. Number of persons to accommodate : 50 persons

6. Remarks : Proposed Framed structure with RCC 1:2:4 Column ,Beams ,Slabs With Brick Walls in CM 1:6

ENGINEER

J.RAGHAVENDIRAN,B.E.,F.I.V.,
REGISTERED STRUCTURAL ENGINEER
No:83, 1st Floor, Aanandam Nagar
3rd Cross, Behind Ammayyappa Na
Vayalur Road, Trichy- 620 017
M:98424 45699, 63817 553
SE.Gr - II / DTCP / TRICHY / JULY-2024 / 21

FORM-C

(C Form of Certificate of structural soundness under sub-section (4) of section 4 of the Tamil Nadu public buildings (Licensing) Act 1965.

(Tamil Nadu Act13 of 1965) referred to in rule 4 of the Tamil Nadu public buildings (Licensing rule 1966).

1. FOUNDATION

i. Depth below ground level : 1.5 m from Ground Level

ii. Nature of soil at which the foundation rest : Soft Rock

iii. Safe bearing Capacity of the soil met with at foundation : 30 T /m^2

iv. Load to be transmitted by foundation : 40 T /m^2

2. SUPER STRUCTURE

i. Maximum stress in the most Critical section of masonry : 75 Kg / cm^2

Permissible maximum stress in Masonry : 100 Kg / cm^2

ii. Maximum stress in the most Critical section RCC Structure : 90 Kg / cm^2

Safe maximum permissible stress in RCC Structure : 150 Kg / cm^2

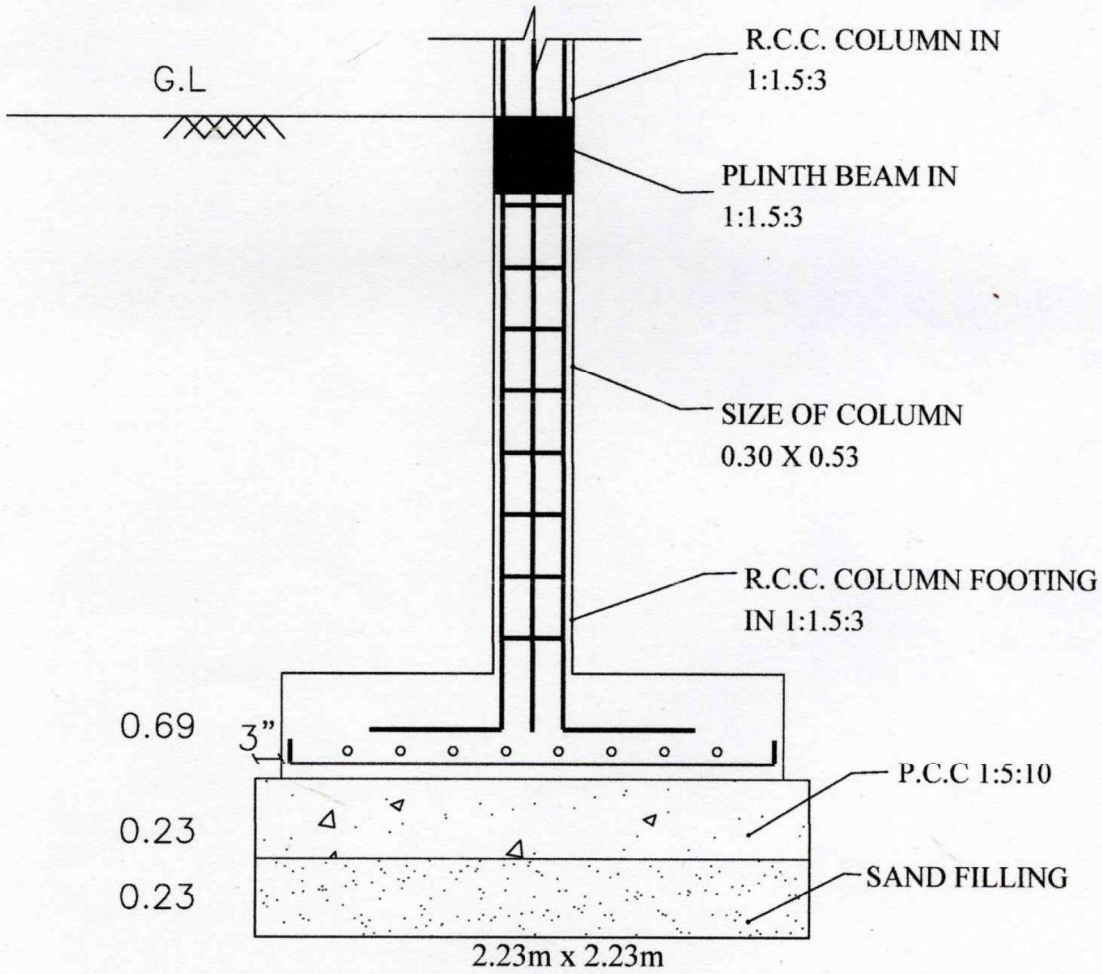
This is stated the building will be designed to take seismic force and other loads as per the relevant Indian Standard codes.

J.RAGHAVENDIRAN,B.E.,F.I.V.
REGISTERED STRUCTURAL ENGINEER
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3rd Cross, Behind Ammayyappa Nagar,
Vayalur Road, Trichy- 620 017
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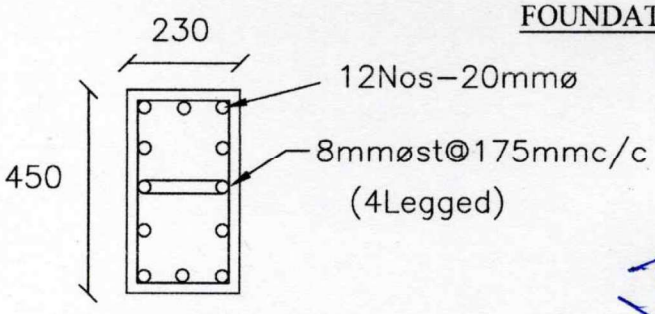
ENGINEER

SE Gr-II / DTCP / TRICHY / JULY-2024 / 21

REVISED PLAN SHOWING THE PROPOSED CONSTRUCTION OF AFFORDABLE RESIDENTIAL APARTMENT BUILDING AFTER DEMOLISHING THE EXISTING BUILDING AT PLOT NO: 511, DOOR NO: 37/9, T.S. NO: 28 (OLD S.F.NO:105/1A) ,WARD: AH, BLOCK NO: 25, SHANMUGAM STREET, Dr.K.K.NAGAR, K.SATHANUR VILLAGE ZONE IV, TRIUCHIRAPPALLAI CITY CORPORATION.



FOUNDATION DETAILS



COLUMN DESIGN

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REGISTERED STRUCTURAL ENGINEER
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3rd Cross, Behind Ammayyappa Nag.
Vayalur Road, Trichy- 620 017
M:98424 45699, 63817 553[illegible]
SE.Gr - II / DTCP / TRICHY / JULY-2024 / 21

STRUCTURAL CONSULTANT:
J.RAGHAVENDIRAN, B.E., D.C.M., F.I.V.,
VENUS BUILDERS,
NO:83, 1st FLOOR, AANANDAM NAGAR,3rd CROSS, BEHIND AMMAYAPPA NAGAR, VAYALUR ROAD,TRICHY - 17.
CELL : 98424 - 45699

VENUS BUILDERS

j.raghavendiran,b.e.,d.c.m.,f.i.v.,
structural consultant,
builder & valuer,
venus builders,
no:83,1st floor,aanandam nagar,
3rd cross, behind ammaiyappa
nagar,vayalur road,
trichy-17.
cell:98424 45699

COLUMN AND FOUNDATION DESIGN FOR REVISED PLAN SHOWING PROPOSED CONSTRUCTION OF AFFORDABLE RESIDENTIAL APARTMENT BUILDING AFTER DEMOLISHING THE EXISTING BUILDING AT PLOT NO: 511, DOOR NO: 37/9, T.S. NO: 28 (OLD S.F.NO:105/1A) ,WARD: AH, BLOCK NO: 25, SHANMUGAM STREET, Dr.K.K.NAGAR, K.SATHANUR VILLAGE ZONE IV, TRIUCHIRAPPALLAI CITY CORPORATION.

The column and foundation shall be designed for the maximum critical span of (18') 5.49m

DESIGN:

Live load	-	300Kg/m^2
Dead load	-	(1.00x1.00x0.13x2400) =312Kg/m^2
Live load + Dead load		=612Kg/m^2
Load to be transferred to the Beam	-	1x4.54x612x1=2778.48Kg/m (Or) 2779Kg/m
Load to be taken by column for the span of 5.49m	-	2779x 5.49m = 15256.71Kg/floor

Since the proposed building will have S+5.

The column shall be designed for 6 floors.

Hence the total load taken by a critical column - 6x 15256.71Kg/floor
= 91540.26Kg/2 =91540Kg

Wall load calculation:

Wall Load considered by only 5 Floors

- 2000x0.23x3.05x5.49

- 7702.47Kg/floor
- 5x7702.47Kg/floor

Hence the total load taken by a critical column = 38512.35Kg

Total Load Taken by Column = 91540Kg + 38512Kg

= 130052Kg (Say 130052Kg)

= 130Tons

Assuming Self weight of column & foundation @ 10%

Total load taken by a column 13Tons.

Using R.C.C. M20 mix concrete and Fe 550 steel.

Assuming area of column Ac

Area of column main rod 1.5% of Ac

$Pu = 0.4 \times 200 \times Ac + 0.67 \times fy \times Ast$

$130052 = 0.4 \times 200 \times (Ac-0.015Ac) + 0.67 \times 5500 \times 0.015Ac$

$130052 = 78.8Ac + 55.275Ac$

$134.1Ac = 130052$

$Ac = 969.81\ cm^2$

Hence Provided Column Size as 23 cm x 45 cm

Area of column $Ac = 23 \times 45 = 1035cm^2$

$>969.81cm^2$

Hence safe.

Ast. Required $1.5/ 100 \times 969.81 = 14.55cm^2$

Hence provided 12 nos of 20mm dia bars

$20mm = 12X\ 3.14 = 37.68cm^2$

$= 37.68\ cm^2 > 14.55\ cm^2$

Hence Safe

FOUNDATION:

From soil test report the safe bearing capacity of soil can be taken as $30T/m^2$

Size of footing $143T/30T\ m^2 = 4.77m^2$

Provide isolated footing to the size of 2.18m x 2.18m

Hence area of footing provided = 2.25m x 2.25m = $5.06m^2$

$5.06\ m^2 > 4.77m^2$

Hence Safe.

J.RAGHAVENDIRAN,B.E.,F.I.V.,
REGISTERED STRUCTURAL ENGINEER
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M:98424 45699, 63817 553
SE.Gr-II / DTCP / TRICHY / JULY-2024 / 2

VENUS BUILDERS

j.raghavendiran,b.e.,d.c.m.,f.i.v.,
structural consultant,
builder & valuer,
venus builders,
no:83,1st floor,aanandam nagar,
3rd cross, behind ammaiyappa
nagar,vayalur road,
trichy-17.
cell:98424 45699

Date: 08-08-2026

STABILITY CERTIFICATE

(To be furnished while filing application for registration of building)

The detailed engineering and structure design of the proposed building comprising of Stilt + 5 floors at PLOT NO: 511, DOOR NO: 37/9, T.S. NO: 28 (OLD S.F.NO:105/1A) ,WARD: AH, BLOCK NO: 25, SHANMUGAM STREET, DR.K.K.NAGAR, K.SATHANUR VILLAGE ZONE IV,TIRUCHIRAPPALLI CITY CORPORATION has been done by me/us based on the report of geotechnical investigation (soil test) done by TIME INSTITUTE FOR MATERIALS TESTING Report No. TIME/46/SOIL TEST/JULY/2022 Dated 30 JULY 2022 and considering the functional requirement of the building.

2. It is certified that among other factors, the proposed building has been designed to resist earthquake. I/We have checked various parameters and found that the proposed building would be safe.

3. I/We further certify that:

(i) The minimum grade of concrete is M20

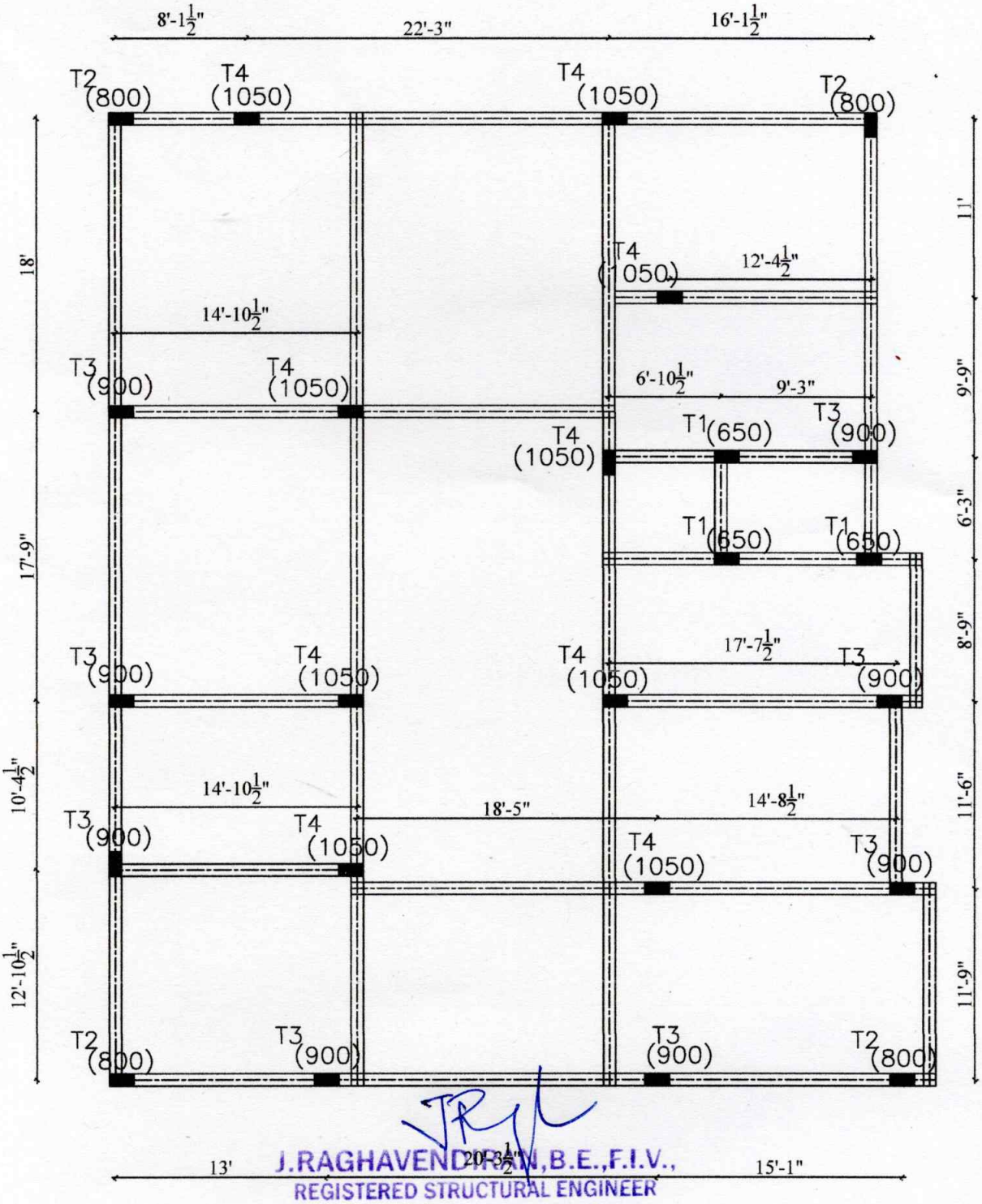
(ii) The design and analysis has been done using the code of practice for plain and reinforced concrete as per IS 456, design loads as per IS Codes No 875 and design of earthquake resistant structure as per IS Code No 1893.

4. The building will be safe and sound when used for the purpose for which it is designed.

Stamp and Signature

J.RAGHAVENDIRAN,B.E.,F.I.V
REGISTERED STRUCTURAL ENGINE
No:83, 1st Floor, Aanandam Naga
3rd Cross, Behind Ammayyappa Na
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M:98424 45699, 63817 5532
SE.Gr - II / DTCP / TRICHY / JULY-2024 / 21

Encl.: Structural Design Calculation



Load on Plinth beam:

Wall Thickness = 230 TK

Wall height = 3.05m

Beam Size = 230x450

Self weight of beam = 2.58KN/m.

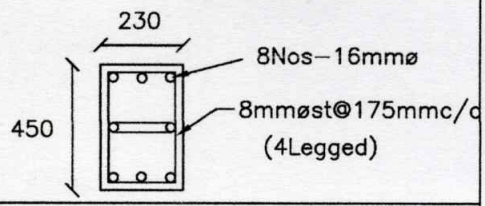
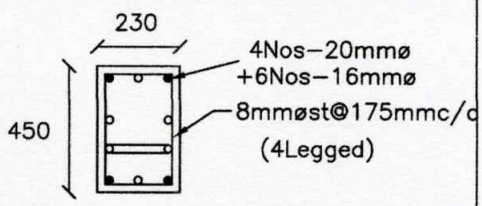
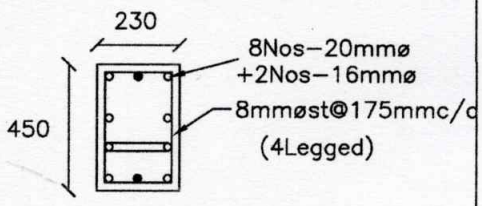
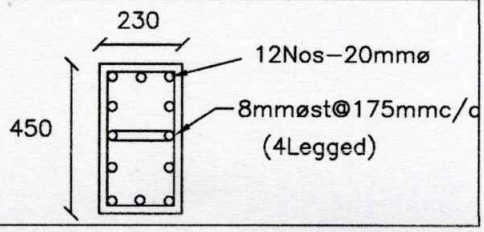
Wall Loads acting on plinth beam = 0.23x 19 x 3.05m =13.329 KN/m

Total Loads on plinth beam = 15.909 KN/m

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STRUCTURAL CONSULTANT:
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COLUMN TYPE	C/S OF COLUMN
TYPE 1	
TYPE 2	
TYPE 3	
TYPE 4	

NOTE:

Structure Engineer Takes no Responsibility in the Violation /Deviation of setback &FSI Norms in the DCR

NOTE:

RCC MIX	- M20
REINFORCEMENT	- Fe415
CLEAR COVER FOR COLUMN	= 40mm
CLEAR COVER FOR COLUMN FOOTING	= 50mm

STRUCTURAL CONSULTANT:
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SE.Gr - II / DTCP / TRICHY / JULY-2024 / 21

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	Live Load	3		KN/m^2					
	Self Weight of Slab	1	x	1	x	0.13	x	24	3.12
	Live Load	1	x	1	x	1	x	3	3
	Floor finish load	1	x	1	x	1	x	2	2
							Total Load		8.12 KN/m^2
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	Slab Length for distribution of load	5.49	m						
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	Depth of Beam	0.45	m						
	Thick&Height of Brick Wall	0.23	m			3.05	m		
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							Total		34.95 KN/M
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SE.Gr-II/DTCP/TRICHY/JULY-2024/24

STABILITY CERTIFICATE
FORM-A

1. Applicant : Mr.Shahjahan
Mrs.Malika Bee

2. Location of site : Revised Plan showing the proposed construction of affordable residential apartment building after demolishing the existing building at Plot no: 511, Door no: 37/9, T.S. no: 28 (old S.F no:105/1a) ,Ward: AH, Block No: 25, Shanmugam Street, Dr.K.K.Nagar, K.Sathanur Village Zone IV, Triuchirappallai City Corporation.

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(Particulars of the foundation soil, Specification of the various parts under)

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3. Super Structure	:	RCC Column With Brick Wall in CM 1:6
4. Floor and Roof Stilt, First, Second Third, Fourth& Fifth	:	RCC Roof with Ceramic tiles Flooring

7. Period for which License required : Proposed Building

8. No of persons to accommodate : 50 Persons

Hence I certify that this structure consisting of Stilt+5 floors in Affordable residential Apartment Building consisting of 30units will be Safe, Stable and Sound.

ENGINEER

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REGISTERED STRUCTURAL ENGINEER
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3rd Cross, Behind Ammayyappa Nagar,
Vayalur Road, Trichy- 620 017
Mob:98424 45699, 63817 55326

SE.Gr-III / DTCP / TRICHY / JULY-2024 / 21

FORM-B

Form of Certificate of structural soundness under sub-section (4) of the Tamil Nadu public buildings (Licensing) Act 1965.

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REGISTERED STRUCTURAL ENGINEER
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3rd Cross, Behind Ammayyappa Nagar.
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M:98424 45699, 63817 55326
SE.Gr - II / DTCP / TRICHY / JULY-2024 / 21

ENGINEER

STATEMENT TO ACCOMPANY THE CERTIFICATE OF STRUCTURAL SOUNDNESS

1. Location of the building : Revised Plan showing the proposed construction of affordable residential apartment building after demolishing the existing building at Plot no: 511, Door no: 37/9, T.S. no: 28 (old S.F no:105/1a) ,Ward: AH, Block No: 25, Shanmugam Street, Dr.K.K.Nagar, K.Sathanur Village Zone IV, Triuchirappallai City Corporation.

2. Age of the Building : Proposed Building

3. Purpose for which the Building Will be Structurally Sound : Residential Building

4. The period for which the Building Will be Structurally Sound : Proposed Building

5. Number of persons to accommodate : 50 persons

6. Remarks : Proposed Framed structure with RCC 1:2:4 Column ,Beams ,Slabs With Brick Walls in CM 1:6

ENGINEER

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REGISTERED STRUCTURAL ENGINEER
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FORM-C

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1. FOUNDATION

i. Depth below ground level : 1.5 m from Ground Level

ii. Nature of soil at which the foundation rest : Soft Rock

iii. Safe bearing Capacity of the soil met with at foundation : 30 T /m^2

iv. Load to be transmitted by foundation : 40 T /m^2

2. SUPER STRUCTURE

i. Maximum stress in the most Critical section of masonry : 75 Kg / cm^2

Permissible maximum stress in Masonry : 100 Kg / cm^2

ii. Maximum stress in the most Critical section RCC Structure : 90 Kg / cm^2

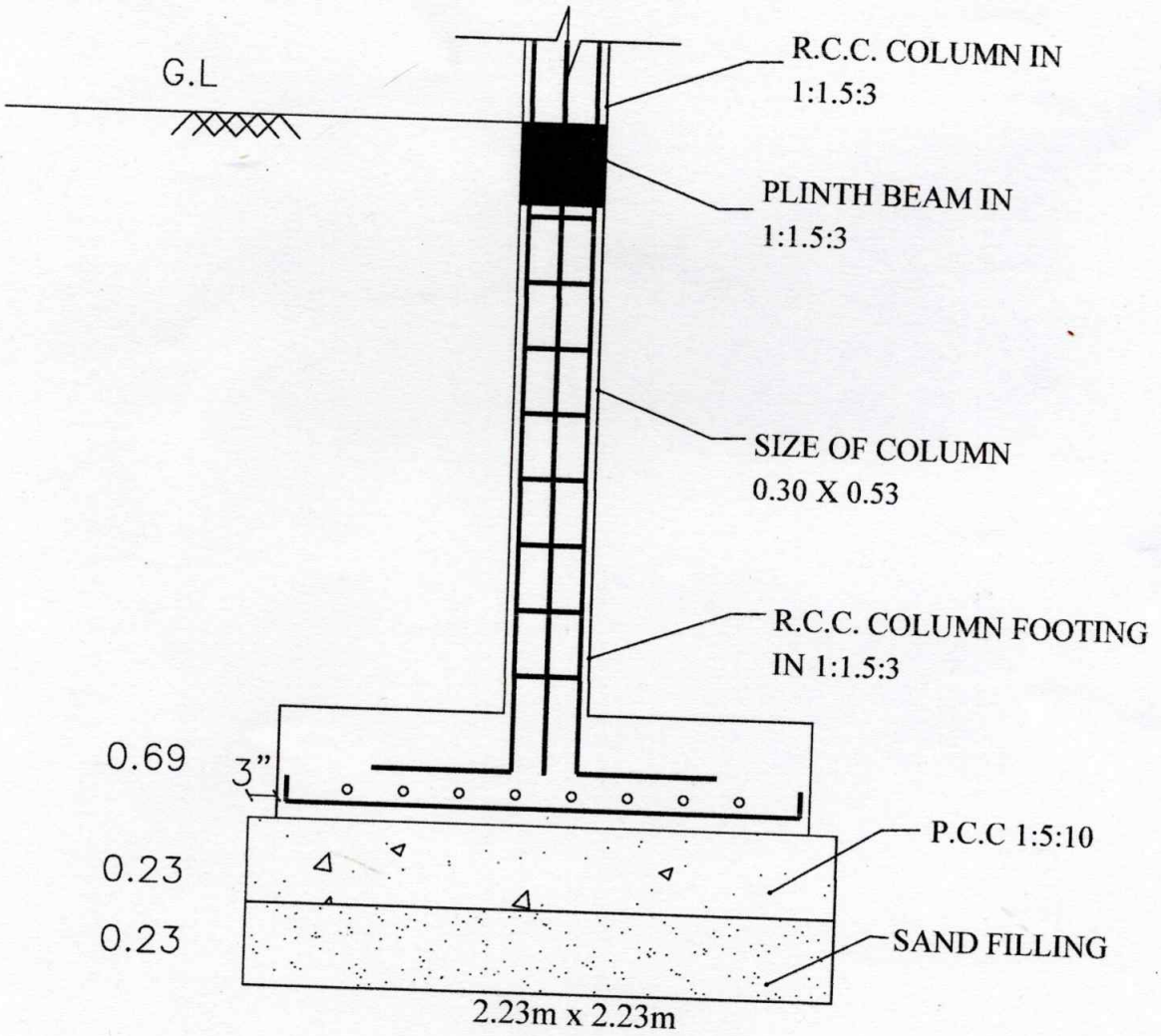
Safe maximum permissible stress in RCC Structure : 150 Kg / cm^2

This is stated the building will be designed to take seismic force and other loads as per the relevant Indian Standard codes.

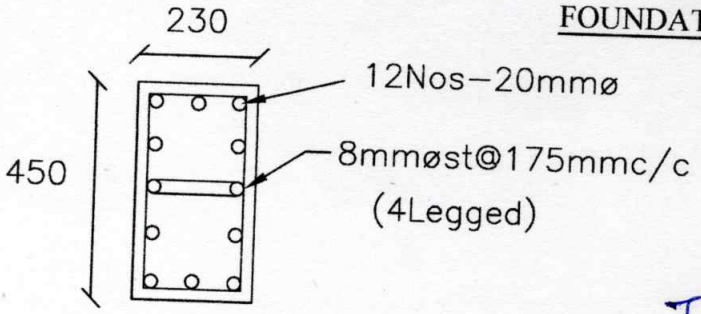
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ENGINEER

REVISED PLAN SHOWING THE PROPOSED CONSTRUCTION OF AFFORDABLE RESIDENTIAL APARTMENT BUILDING AFTER DEMOLISHING THE EXISTING BUILDING AT PLOT NO: 511, DOOR NO: 37/9, T.S. NO: 28 (OLD S.F.NO:105/1A) ,WARD: AH, BLOCK NO: 25, SHANMUGAM STREET, Dr.K.K.NAGAR, K.SATHANUR VILLAGE ZONE IV, TRIUCHIRAPPALLAI - CITY CORPORATION.



FOUNDATION DETAILS



COLUMN DESIGN

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STRUCTURAL CONSULTANT:
J.RAGHAVENDIRAN, B.E., D.C.M., F.I.V.,
VENUS BUILDERS,
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VENUS BUILDERS

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COLUMN AND FOUNDATION DESIGN FOR REVISED PLAN SHOWING PROPOSED CONSTRUCTION OF AFFORDABLE RESIDENTIAL APARTMENT BUILDING AFTER DEMOLISHING THE EXISTING BUILDING AT PLOT NO: 511, DOOR NO: 37/9, T.S. NO: 28 (OLD S.F.NO:105/1A) ,WARD: AH, BLOCK NO: 25, SHANMUGAM STREET, Dr.K.K.NAGAR, K.SATHANUR VILLAGE ZONE IV, TRIUCHIRAPPALLAI CITY CORPORATION.

The column and foundation shall be designed for the maximum critical span of (18') 5.49m

DESIGN:

Live load	-	300Kg/m^2
Dead load	-	(1.00x1.00x0.13x2400) =312Kg/m^2
Live load + Dead load		=612Kg/m^2
Load to be transferred to the Beam	-	1x4.54x612x1=2778.48Kg/m (Or) 2779Kg/m
Load to be taken by column for the span of 5.49m	-	2779x 5.49m = 15256.71Kg/floor

Since the proposed building will have S+5.

The column shall be designed for 6 floors.

Hence the total load taken by a critical column - 6x 15256.71Kg/floor = 91540.26Kg/2 =91540Kg

Wall load calculation:

Wall Load considered by only 5 Floors

- 2000x0.23x3.05x5.49

- 7702.47Kg/floor
- 5x7702.47Kg/floor

Hence the total load taken by a critical column = 38512.35Kg

Total Load Taken by Column = 91540Kg + 38512Kg

= 130052Kg (Say 130052Kg)

= 130Tons

Assuming Self weight of column & foundation @ 10%

Total load taken by a column 13Tons.

Using R.C.C. M20 mix concrete and Fe 550 steel.

Assuming area of column Ac

Area of column main rod 1.5% of Ac

$Pu = 0.4 \times 200 \times Ac + 0.67 \times fy \times Ast$

$130052 = 0.4 \times 200 \times (Ac - 0.015Ac) + 0.67 \times 5500 \times 0.015Ac$

$130052 = 78.8Ac + 55.275Ac$

$134.1Ac = 130052$

$Ac = 969.81\ cm^2$

Hence Provided Column Size as 23 cm x 45 cm

Area of column $Ac = 23 \times 45 = 1035cm^2$

$> 969.81cm^2$

Hence safe.

Ast. Required $1.5/100 \times 969.81 = 14.55cm^2$

Hence provided 12 nos of 20mm dia bars

$20mm = 12X\ 3.14 = 37.68cm^2$

$= 37.68\ cm^2 > 14.55\ cm^2$

Hence Safe

FOUNDATION:

From soil test report the safe bearing capacity of soil can be taken as $30T/m^2$

Size of footing $143T/30T\ m^2 = 4.77m^2$

Provide isolated footing to the size of 2.18m x 2.18m

Hence area of footing provided = 2.25m x 2.25m = $5.06m^2$

$5.06\ m^2 > 4.77m^2$

Hence Safe.

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cell:98424 45699

Date: 08-08-2026

STABILITY CERTIFICATE

(To be furnished while filing application for registration of building)

The detailed engineering and structure design of the proposed building comprising of Stilt + 5 floors at PLOT NO: 511, DOOR NO: 37/9, T.S. NO: 28 (OLD S.F.NO:105/1A) ,WARD: AH, BLOCK NO: 25, SHANMUGAM STREET, DR.K.K.NAGAR, K.SATHANUR VILLAGE ZONE IV,TIRUCHIRAPPALLI CITY CORPORATION has been done by me/us based on the report of geotechnical investigation (soil test) done by TIME INSTITUTE FOR MATERIALS TESTING Report No. TIME/46/SOIL TEST/JULY/2022 Dated 30 JULY 2022 and considering the functional requirement of the building.

2. It is certified that among other factors, the proposed building has been designed to resist earthquake. I/We have checked various parameters and found that the proposed building would be safe.

3. I/We further certify that:

(i) The minimum grade of concrete is M20

(ii) The design and analysis has been done using the code of practice for plain and reinforced concrete as per IS 456, design loads as per IS Codes No 875 and design of earthquake resistant structure as per IS Code No 1893.

4. The building will be safe and sound when used for the purpose for which it is designed.

Stamp and Signature

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Encl.: Structural Design Calculation

THE LANDLENS SUITE

Eight ways to know a piece of land before you pay for it.

This report covers one part of the picture. These cover the rest, drawn from the same government records, for any property in Tamil Nadu.

LandLens One
Ask anything about a property and get an answer grounded in live government records, with the sources shown.
/landlens/one

Verify My Land
Every record check run on one property and returned as a single report.
/landlens/verify-my-land

Legal Opinion
An advocate's written opinion on the title, built on the records we pull for it.
/landlens

One Map
Every layer on one map: the parcel, its boundary, zoning, water bodies and what sits around it.
/landlens/one/map

PriceMap
What land actually changed hands for around this plot, taken from the registered deeds.
/landlens/pricemap

Build Scope
What you are allowed to build here: floor space, height, coverage and setbacks.
/landlens/build-scope

Property Tracker
Watch a property and hear about it when something new is registered against it.
/landlens/property-tracker

Deal Room
Run the transaction in one place: documents, stamping, signatures and the parties.
/landlens/deal-room

FREE TOOLS · NO ACCOUNT NEEDED

Twenty-four checks you can run yourself, at no cost.

Records and verification

The registers themselves, read for you.

- Encumbrance Certificate
- Patta and Chitta
- Field Measurement Sketch
- EC Analyzer
- Bank charge check
- Court case search
- Seller background check
- Approval check by survey

Value and duty

What it is worth and what it costs to register.

- Guideline value by street
- Guideline value by survey
- Stamp duty and registration fees
- Capital gains
- Floor space index
- Area unit converter

Zoning and land use

What the plan says can happen on this land.

- Land use zone finder
- CMDA land use check
- Coastal regulation zone
- Master plan check
- Water bodies finder
- Airport height clearance

Registers and directories

Who holds it, and which office keeps the record.

- Find your registering office
- Temple property check
- Waqf property check
- RERA register

Every free tool
/tools

Services we run for you
/services

The LandLens suite
/landlens/one

Verified RealEstate™

Every claim in this document traces back to a government record.

- Legal opinions, due diligence and title verification
- Building plan, layout and sub-division approvals
- Completion and occupancy certificates, regularisation
- Escrow, negotiation and NRI property management
- Land survey, soil testing, architecture and construction

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Prepared from the registers named on the page each finding sits on. Where a register could not be read, this document says so in its place rather than leaving the gap to be read as a clean result.