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DIGITALLY VERIFIED RECORD

DESIGNAGE
Consulting Structural Engineers

STABILITY CERTIFICATE

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

1) The detailed engineering and structure design of the proposed building comprising of ' **Basement – 2 + Ground Floor + 8 Floors** 'at Coimbatore, Tamilnadu, S.No.375/ 1B1 & 376/ 1A; Old T.S No. 103,104pt & 106, New T.S No.2/ 5, 2/ 6 & 3/ 8; Ward No.26(Z), Block No.4 in Villankurchi Village, Coimbatore City Municipal Corporation, Coimbatore North Taluk, Coimbatore District, Tamilnadu has been done by ~~me~~/ us based on the report of geotechnical investigation (soil test) done by M/ s. GeoDesign India Pvt Ltd., Coimbatore, Report No. GEO-G-128-2024-25 Dated 29.08.2024 to 08.09.2024 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 M:30
(ii) The design and analysis have been done using the code of practice for plain and reinforced concrete as per IS 456, design loads as per IS Codes No IS:875 and design of earthquake resistant structure as per IS Code No IS:1893 (2016)

4) The building will be ' **SAFE AND SOUND** ' when used for the purpose for which it is designed.

Designage Consulting Structural Engineers

Pradeep
P. PRADEEP M.Tech

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Annexure – XIV

[See rule 51 (3)]

Form 1

Structural Design Basis Report



(1) This report to accompany the application for Building Developments

Part1	**General Data**		
S.No.	**Description**	**Information**	**Notes**
1.	Site Address	(Old Ts. No.: 103, 106) New TS. NO. : 2/5, 2/6, 3/8, Ward 26(z), Block 4, (SF No.375/1B1 & 376/1A pt), Villankurchi VILLAGE, COIMBATORE North Tlk, DISTRICT	
2	Name of Owner	M/S. GlobusArima Builders Private Limited, Coimbatore	
3	Name of Registered Developer along with the Registration Number		
4	Name of Registered Architect/Engineer along with the Registration Number	Mr .P. PRADEEP CGLRGN/SE/Gr-1/2019/05/007	
5	Name of Registered Structural engineer along with the Registration Number	Mr . P. PRADEEP CGLRGN/SE/Gr-1/2019/05/007	
6	Use of the building	Residential Building	
7	Number of stories above ground (including storeys to be added later, if any)	8 Floors + Terrace	
8	Number of basements below ground level	2 Basement + Ground Floor	
9	Type of structure Load bearing Wall R.C.C. frame R.C.C. frame and Shear Walls Steel frame	RCC Frame & Shear Walls	
10	Soil data Type of soil Design safe bearing capacity	Soft Rock	IS:1893 C1.6.3.5.2 IS: 1904 IS: 1892 IS: 2131 IS: 2720

11	Dead loads (unit weight adopted) • Earth • Water • Brick masonry • Plain cement concrete • Reinforced cement concrete • Floor finish • Other fill materials	 18KN/m3 10KN/m3 18KN/m2 24KN/m3 25 KN/m3 1.5KN/m2 10 KN/m2	IS: 875 Part 1
12	Imposed (live) loads Floor loads Roof loads	 2 KN/m2 1.5KN/m2	IS: 875 Part 2
13	Cyclone/Wind • Speed • Design pressure intensity	 39 m/s 1.52KN/m2	IS: 875 Part 3
14	Seismic zone	Zone III	IS: 1893 (2002)
15	Importance factor	1.2	IS:1893(2002) Table 6
16	Seismic zone factor (Z)	0.16	IS:1893 Table 3
17	Response reduction factor	5.0	IS:1893 Table 7
18	Fundamental natural period – approx.	In x - 0.35 In y - 0.378	IS:1893 C1.7.6
19	Design horizontal acceleration spectrum value (A_h)	0.048	IS: 1893 C1.6.4.2
20	▪ Expansion/Separation Joints	N.A	
21	Building is regular/irregular	Regular	IS 1893

▪ Enclose detailed drawings drawn to scale for each floor

♦ In case terrace garden is provided, indicate additional fill load and live load along with the detailed drawings drawn to scale



Part 2	Load bearing masonry buildings		
Sl.No.	**Description**	**Information**	**Notes**
1	Building category	NA	IS: 4326 C1.7 Read with IS:1893 Zone / Bldg. | II III IV V Ordinary | B C D E Important | C D E E
2	Basement Provided	NA	
3	Number of floors including Ground Floor (all floors including stepped floors in hill slopes)		
4	Type of wall masonry		
5	Type and mix of Mortar		IS: 4326 C1.8.1.2
6	Re: size and position of openings (See note No.[i]) • Minimum distance (b5) • Ratio $(b_1+b_2+b_3)/1_1$ or $(b_6+b_7)/1_2$ • Minimum pier width between consequent opening (b_4) • Vertical distance (h_3) • Ratio of wall height to thickness 4 Ratio of wall length between cross wall to thickness		IS: 4326 Table 4, Fig.7
7	Horizontal seismic band • at plinth level • at window sill level • at lintel level • at ceiling level • at eave level of sloping roof • at top of gable walls	P IP NA	(see note No.2) IS:4326 C1 8.4.6 IS: 4326 C1 8.3 IS: 4326 C1 8.4.2 IS: 4326 C1 8.4.3 IS: 4326 C1 8.4.3 IS: 4326 C1 8.4.4

	• at top of ridge walls		
8	Vertical reinforcing bar at corners and T junction of walls at jambs of doors and window openings	NA	IS: 4326 C1 8.4.8. IS: 4326 C1 8.4.9
9	Integration of prefab roofing/flooring elements through reinforced concrete screed.		IS:4326 C1 9.1.4
10	Horizontal bracings in pitched truss in horizontal plane at the level of ties in the slopes of pitched roofs	NA	

Notes: (i) Information in Item 6 should be given on separate A4 sheets for all walls with large number of openings

(ii) IP indicated "Information Provided"

IP indicates "Information to be provided"

NA indicates "Not Applicable"

Tick mark one box



Part 3	Reinforced concrete framed buildings		
Sl. No.	**Description**	**Information**	**Notes**
1	Type of building • Regular frames • Regular frames with Shear Walls • Irregular frames • Irregular frames with Shear Walls • Soft storey	Regular Frames with Shear walls	IS: 1893 C1 7.1
2	Number of basements	2	
3	Number of floors including ground floor	GF+8 Floors+Terrace	
4	Horizontal floor system • Beams and slabs • Waffles • Ribbed floor • Flat slab with drops • Flat plate without drops	Beams and Slabs	
5	Soil data • Type of soil • Recommended type of foundation -Independent footings -Raft -Piles • Recommended bearing capacity of soil • Recommended type, length, diameter and load capacity of piles • Depth of water table • Chemical analysis of ground water • Chemical analysis of soil	Soft Rock Isolated Footing As Per Soil Report	IS: 1498
6	Foundations Depth below ground level Type Independet Interconnected Raft Piles	6.7 m Isolated Footing	
7	System of interconnecting foundations Plinth beams Foundation beams	Plinth beams	IS: 1893 C1 7.12.1
8	Grades if concrete used in different parts of building		
9	Method of analysis used	Elastic Analysis	

10	Computer software used	ETABS	
11	Torsion included	Yes	IS: 1893 C1 7.9
12	Base shear a. Based on approximate fundamental period b. Based on dynamic analysis c. Ratio of a/b		IS: 1893 Cl. 7.5.3
13	Distribution of seismic forces Along the height of the building.	Refer Sketch	IS:1893 Cl.7.7 (Provide sketch)
14	The Column of soft ground storey specially designed.	NA	IS: 1893 Cl.7.10
15	Clear minimum cover provided in • Footing • Column • Beams • Slabs • Walls	 50mm 40mm 40mm 20mm 40mm	IS: 456 Cl. 26.4
16	Ductile detailing of RC frame • Type of reinforcement used • Minimum dimension of beams • Minimum dimension of columns • Minimum percentage of reinforcement of beams at any cross section • Maximum percentage of reinforcement at any section of beam • Spacing of transverse reinforcement in 2-d length of beams near the ends • Ratio of capacity of beams in shear to capacity of beams in flexure • Maximum percentage of reinforcement in column • Confining stirrups near ends of columns and in beam-column joints Diameter Spacing • Ratio of shear capacity of columns to maximum seismic shearin the storey.	 FE 500 $0.24\frac{\sqrt{fck}}{fy}$ $\frac{0.85/\ bD}{fy}$ 0.04bD 100 mm 0.025 4% 8mm 100 mm c/c NA	 IS: 456 Cl. 5.6 IS: 13920 Cl.6.1 IS: 13920 Cl.7.1.2 IS: 456 Cl.26.5.1(a) IS: 13920 Cl.6.2.1 IS: Cl.26.5.1.1(b) IS: 13920 Cl.6.2.2 IS: 13920 Cl.6.3.5 IS: 456 Cl.26.5.3.1 IS: 13920 Cl. 7.4

17	Does the features require clearance by SDRP Example: High rise building Prefab building Building in hazard prone areas		

Foundation

i. In case raft foundation has been adopted, indicate K value used for analysis of the raft.

ii. Incase pile foundations have been used, give full particulars of the piles, type, dia, length, capacity

iii. In case of high water table, indicate system of countering water pressure, and indicate the existing water table, and that assumed to design foundations.

Idealization for Earthquake analysis

i. In case of composite system of shear walls and rigid frames, give distribution of base shear

in the two systems on the basis of analysis, and that used for design of each system

ii. Indicate the idealization of frames and shear walls adopted in the analysis with the help of sketches.

iii. Submit framing plans of each floor

iv. In case of basements, indicate the system used to contain earth pressures.



Part 4	Buildings in structural steel		
1	Adopted method of design	○ Simple ○ Semi-rigid ○ Rigid	IS:800 Cl 3.4.4 IS:800 Cl.3.4.5 IS:800 Cl.3.5.6
2	Design based on	○ Elastic analysis ○ Plastic analysis	IS: 800 Section-9 SP;6 (6)
3	Floor construction	○ Composite ○ Non composite ○ Boarded	
4	Roof construction	○ Composite ○ Non composite ○ Metal ○ Any other	
5	Horizontal force resisting system adopted	Frames Braced frames Frames & shear walls	Note: Seismic force As per IS:1893 Would depend on system
6	Slenderness ratios maintained	Members defined in Table 3.1, IS:800	IS 800; Cl.3.7
7	Member deflection limited to	Beams, Rafters Crane Girders, Purlins Top of columns	IS:800 Cl.3.13
8	Structural members	o Encased in concrete Not encased	IS: 800 Section-10
9	Proposed material	○ General weld-able ○ High strength ○ Cold formed ○ Tubular	IS: 2062 IS: 8500 IS: 801, 811 IS: 806
10.	Minimum metal thickness Specified for corrosion protection	o Hot rolled sections ○ Cold formed sections ○ Tubes	IS: 800, Cl.3.8 Cl.3.8.1 to Cl.3.8.4 Cl.3.8.5
11.	Structural connections	○ Rivets ○ CT Bolts ○ S H F G Bolts ○ Black Bolts ○ Welding field Shop (Specify welding type proposed) Composite	IS: 800, Section-8 IS: 1929, 2155, 1149 IS 6639, 1367 IS 3757, 4000 IS: 1363, 1367 IS: 816, 814,1395, 7280, 3613, 6419, 6560, 813, 9595



12.	Minimum proposed, method Fire rating with	Rating… hours Method proposed. -In tumescent painting -Spraying -Quilting -Fire retardant boarding	IS: 1641, 1642, 1643

Part-5

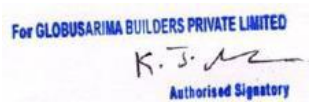
Any special weakness in the building making it vulnerable for stability Related failure and the precaution to be taken during execution/completion and finishing to be indicated.

Part-6

Recommendations of structural Engineer with respect to special requirements needed with respect to structural safety and stability to be taken note of by competent authority feature like incorporation of swimming pool, heavy load on roof, prefabricated structure or any other hazardous features should be included.

NAME- Mr. P. PRADEEP
CGLRGN/SE/Gr-1/2019/05/007





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

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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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