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SOIL EXPLORATION AND FOUNDATION REPORT

FOR THE PROPOSED BUILDING

AT

SURVEY NOS. 197, 198/1, 198/2, 227/3, 228/1A2, 228/1B2,

228/4, 228/5 &232/1A1

NOOKAMPALAYAM MAIN ROAD

PERUMBAKKAM VILLAGE

TAMBARAM TALUK

CHENGALPATTU DISTRICT

CHENNAI

PROJECT NO. TJE/002472/2022

T.J.ENGINEERS

SOIL EXPLORATION AND FOUNDATION DESIGN DIVISION
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For SARADEUZ INFRASTRUCTURES PRIVATE LIMITED

Director

T.J. ENGINEERS CHENNAI-42

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For SARADEUZ INFRASTRUCTURES PRIVATE LIMITED

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EXPLORATION REPORT

PROJECT NO. TJE/002472/2022

1.INTRODUCTION:

M/S SARADEUZ INFRASTRUCTURES PRIVATE LIMITED has proposed to construct a Ground Floor +Two Floors & Ground Floor + Five Floors Building at Survey Nos. 197, 198/1, 198/2, 227/3, 228/1A2, 228/1B2, 228/4, 228/5 & 232/1A1, Nookampalayam Main Road, Perumbakkam Village, Tambaram Taluk, Chengalpattu District, Chennai-600 100. The soil investigation work was entrusted to T.J. Engineers by the promoter. The location is shown in Fig No.1. The object of the soil exploration work done is to determine the soil properties of the proposed area and to arrive at a most suitable type of foundation system for the proposed structure.

2.0 SCOPE OF WORK

The Scope of Work includes the following

Boreholes

- Drilling of borehole at the proposed borehole locations as per the direction of the client.
- Collection of disturbed and undisturbed soil samples and carrying out the relevant laboratory test on soils.
- Conducting of standard penetration test (SPT) within the borehole at every 1.00m depth interval or as required.
- Collection of soil sample from bore hole.
- Preparation of geotechnical investigation Report.

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3.0. LOCATION & NUMBER OF BORE HOLES

For this purpose five bore holes were bored up to maximum depth of 7.00m below existing ground level. The bore hole location is shown in Fig No.1 and bore log details are given in Fig No. 2,3,4,5&6. The bore holes were terminated in the Very Dense Sandy Gravel (Disintegrated Rock) layer.

4.0. GEOTECHNICAL INVESTIGATIONS

4.1. Filed Investigations of Boreholes

Rotary drilling boring technique was adopted for boring in this area. The Standard penetration tests were conducted at change of layers and at specified intervals, commencing the test at 1.00m below the existing ground level. The relative density of different soil layers obtained from the N-Values are given in the Fig No. 2,3,4,5&6. Disturbed and un disturbed samples were collected from all the layers for visual observation, classification tests and strength characteristics of the soil layers.

Standard Penetration Test (SPT)

Standard Penetration Tests were conducted using a split spoon sampler, as per relevant codal provision (IS: 2131 – 1981). The SPT is generally conducted in sandy and completely weathered rock strata till 45 cm penetration with number of blows recorded for every 15 cm penetration. The number of blows required for first 15 cm in neglected. The blows for last 30 cm penetration or refusal 'N' value of 100 whichever is earlier is taken as the 'N' value. In the clayey strata, when driving of sampling tube is not possible, SPT was conducted to know the consistency of the soil strata and to retrieve the disturbed soil sample. The soil samples obtained in the split spoon sampler are carefully packed in

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polythene bags for testing in the laboratory. The SPT values obtained at every 1.00m interval are given in the bore logs.

4.2. Grain Size Analysis

Combined sieve and hydrometer analyses were conducted on the various samples collected. The results are given in Table-1a, 1b. Based on the proportion of the different soil constituents, the soil is classified.

4.3. Laboratory Tests for Borehole samples

The following laboratory tests were conducted on collected Soil Samples.

I. Moisture Content as per IS: 2720 (Part 2)

II. Specific Gravity as per IS: 2720 (Part 2)

III. Sieve Analysis as per IS: 2720 (Part 4)

IV. Hydrometer Analysis as per IS: 2720 (Part 4)

V. Liquid Limit as per IS: 2720 (Part 5)

VI. Plastic Limit as per IS: 2720 (Part 5)

VII. Swelling Index as per IS: 2720 (Part 40)

5.0.BORE LOG DATA

The Summary of bore hole log data for BH-01, BH-02, BH-03, BH-04 & BH-05 is given in Fig No. 2,3,4,5&6. Bore hole location is given in Fig.1.

6.0.LABORATORY TEST RESULTS

The laboratory test results of boreholes samples are presented in Table-1a, 1b and Table-2a, 2b.

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7.0.GROUND WATER TABLE

The ground water table was **encountered at the depth of 7.50m** below the existing ground level at the time of soil exploration.

8.0.SUB SOIL PROFILE

From the visual identification from field test results, it is concluding that soil strata is not similar in BH-01, BH-02, BH-03, BH-04 & BH-05 location.

In BH-01 Location the soil strata is made-up of two distinctive layers

i. Stiff to Very Stiff Sandy Silty Clay, 0.00m to 3.60m SPT's N = 11-25

ii. Very Dense Sandy Gravel, 3.60m to 7.00m SPT's N = >100

In BH-02 Location the soil strata is made-up of four distinctive layers

i. Loose Silty Sand, 0.00m to 1.80m SPT's N = 10

ii. Hard Sandy Silty Clay, 1.80m to 2.90m SPT's N = 30

iii. Dense to Very Dense Silty Clayey Gravelly Sand, 2.90m to 5.00m SPT's N = 36->100

iv. Very Dense Sandy Gravel, 5.00m to 6.00mSPT's N = >100

In BH-03 Location the soil strata is made-up of five distinctive layers

i. Medium Dense Silty Sand, 0.00m to 1.80m SPT's N = 13

ii. Very Stiff Sandy Silty Clay, 1.80m to 2.90m SPT's N = 19

iii. Medium Dense Silty Clayey Sand, 2.90m to 3.80m SPT's N = 26

iv. Very Dense Clayey Silty Sandy Gravel, 3.80m to 5.00m SPT's N = >100

v. Very Dense Sandy Gravel, 5.00m to 6.00mSPT's N = >100

In BH-04 Location the soil strata is made-up of five distinctive layers

i. Medium Dense Silty Sand, 0.00m to 1.80m SPT's N = 14

ii. Very Stiff Sandy Silty Clay, 1.80m to 2.80m SPT's N = 17

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iii. Medium Dense Silty Clayey Sand, 2.80m to 3.70m SPT's N = 27

iv. Very Dense Clayey Silty Sandy Gravel, 3.70m to 5.50m SPT's N = >100

v. Very Dense Sandy Gravel, 5.50m to 7.00mSPT's N = >100

In BH-05 Location the soil strata is made-up of four distinctive layers

i. Medium Dense Silty Sand, 0.00m to 1.80m SPT's N = 12

ii. Very Stiff Sandy Silty Clay, 1.80m to 2.80m SPT's N = 22

iii. Very Dense Clayey Silty Sandy Gravel, 2.80m to 5.00m SPT's N = >100

iv. Very Dense Sandy Gravel, 5.00m to 7.00mSPT's N = >100

The soil profile details are presented in the Bore logs, Presented in Fig. 2,3,4,5&6.

9.0 FOUNDATION ANALYSIS

From the bore log data at from 0.00m to 1.80m loose to medium dense Silty Sand layer is present. From 1.80m to 2.90m very stiff to hard Sandy Silty Clay layer is present, and this layer has got swelling character. From 2.90m to 5.00m/5.50m medium dense to very dense Silty Clayey Gravelly Sand/Silty Clayey Sand/ Clayey Silty Sandy Gravelly layer is present. Below 5.00m/5.50m very dense Sandy Gravel (Disintegrated Rock) layer is seen.

The soil in the shallow depth is fair to adopt open foundation system. For the proposed structure the foundation can be **Isolated Footing or Continuous Strip Footing or Raft Foundation.** The foundation can be placed at the minimum **depth of 2.10m** below the exiting ground level (Ground level at the time of soil investigation). The existing ground level was same as the road level at BH-01 location and at BH-02, BH-03, BH-04 & BH-05 location the existing ground level was 1.00m lower than the road level, at the time of soil investigation.

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9.1. COMPUTATION OF THE SAFE BEARING CAPACITY AT 2.10m DEPTH

Based on the standard penetration test value the ultimate net bearing capacity (q_u) could be calculated from the following formula.

$q_u = 1.2\ C\ Nc + \gamma\ D_f\ N_q$

The minimum observed N-Value is taken as 19 from Fig. 2,3,4,5&6.

The corresponding bearing capacity factors are,

$Nc = 5.7$

$N_q = 1$

Where,

C = Un drained shear strength = 8.67 t/m^2

γ = Unit weight of the soil = 1.50 t/m^3

γ' = Submerged unit weight of the soil = 0.50 t/m^3

D_f = Depth of footing = 2.10 m

D_w = Depth of water table = 7.50 m

Substitute all the above values in the formula,

$q_u = 1.2 \times 8.67 \times 5.7 + 1.50 \times 2.10 \times 1$

$= 59.302 + 3.15 = 62.452\ t/m^2$

Safe bearing capacity could be considered with a factor of safety of 2.5

Hence, safe bearing capacity $q_s = 62.452/2.50 = 24.980\ t/m^2$. Say 25.00 t/m^2.

Therefore, safe bearing capacity of the soil at 2.10m is 25.00 t/m^2

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9.2. SETTLEMENT ANALYSIS FOR THE INTENSITY OF 25.00 t/m ^{2}

LAYER -1, SANDY SILTY CLAY

The Consolidation Settlement of the Clay layer can be calculated using the following formula.

$$S_1 = (C_c / 1 + e_0)\, H \quad \text{Log}_{10}(\sigma'_0 + \Delta\sigma / \sigma'_0)$$

Where

C_c = Coefficient of compression index
= 0.25

e_0 = The initial void ratio
= 1.30

H =The thickness of the compressible clay layer
= 1.70m

σ'_0 = The original effective over burden pressure at the centre of the clay layer
= 4.425 t/m^2

$\Delta\sigma$ = The stress increases at the centre of the clay layer due to foundation loads (or) pressure
= 1.602 t/m^2

S_1 = (0.25 /1+1.30) 1.70 Log_{10} (4.425 + 1.602 /4.425)
= 0.108 x 1.70 x 0.1341
= 0.02462m
= 2.462mm

TOTAL SETTLEMENT

= 2.462mm < 50mm

The maximum allowable settlement as per IS: 1904-1986 for R.C.C structure with Isolated footing foundation is 50mm- 75mm.**The settlement is within the permissible limit. Hence it is Safe**

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10.0. CONCLUSIONS

1. Soil in the shallow depth is fair to adopt open foundation system.
2. The foundation can be **Isolated Footing** or **Continuous Strip Footing (Inverted T Beam)** or **Raft Foundation.**
3. The **foundation** can be placed at the **minimum depth** of **2.10m** below existing ground level, existing ground level considered as the ground level at the time of soil investigation. The existing ground level was same as the road level at BH-01 location and at BH-02, BH-03, BH-04 & BH-05 location the existing ground level was 1.00m lower than the road level, at the time of soil investigation.
4. The **Safe Bearing Capacity** of the soil at **2.10m depth is 25.00 t/m^2**.
5. The **minimum width** of footing should be maintained as **1.00m** to avoid any punching shear failure and to achieve suggested SBC.
6. The shallow foundation should rest on **natural un disturbed strata.**
7. All the foundation should rest on 100 mm thick 1:4:8 concrete mat, over 100mm thick river sand or M sand layer. The foundation bed should be well compacted by ramming before laying sand layer.
8. **If isolated footing provided**, it is advisable to provide **plinth beam** connecting all column on both direction, **continuous belt beam** at floor level, **continuous sill slab**, **Continuous lintel beam connecting monolithically with column**.
9. All suggested foundation recommendations and precautions should be adopted while undertaking the design aspects and construction activities.

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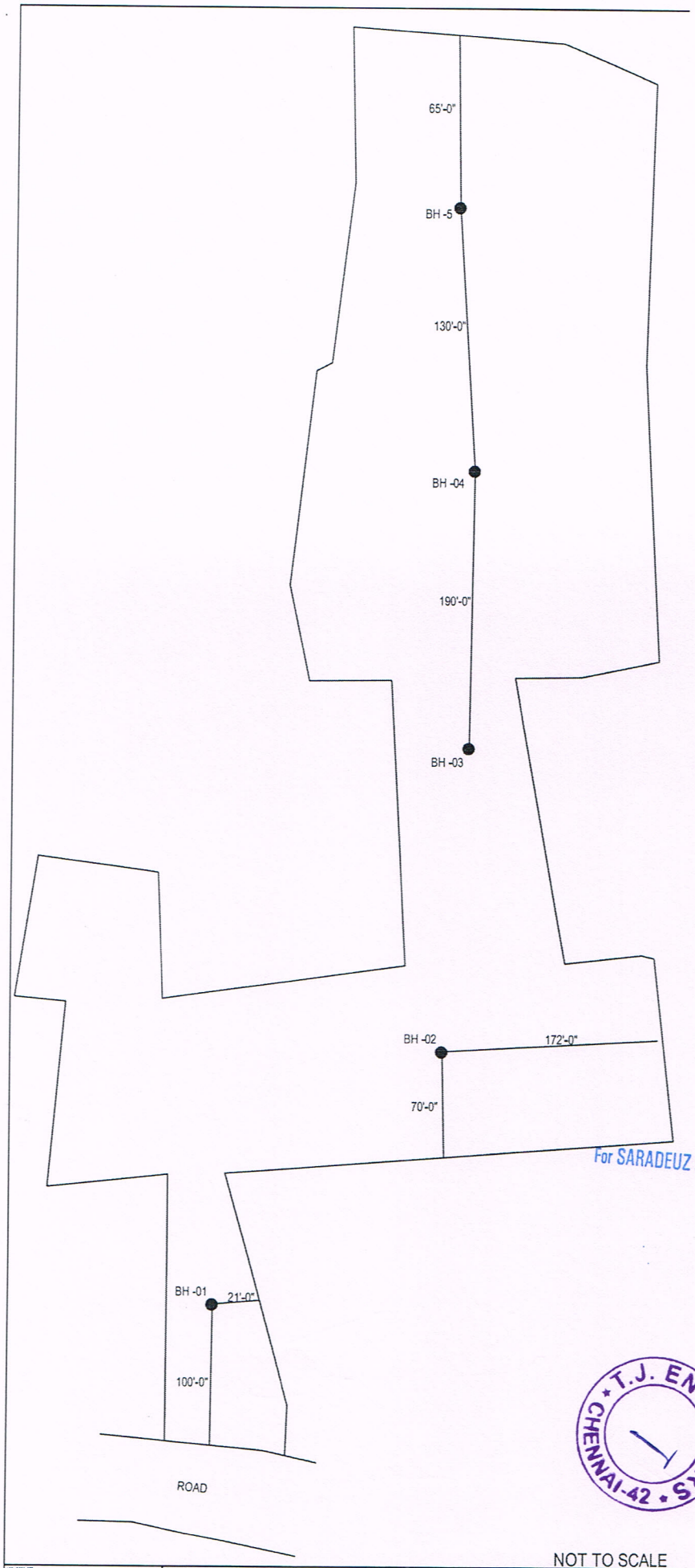
Director

For T.J. Engineers

29 - 09 -2022

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DTCP Reg. No: CGLRGN/RGTE/2019/07/010
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For SARADEUZ INFRASTRUCTURES PRIVATE LIMITED

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NOT TO SCALE

CLIENT:-	PROJECT:-		
M/S SARADEUZ INFRASTRUCTURES PRIVATE LIMITED CHENNAI.	PROPOSED BUILDING AT SURVEY NOS. 197, 198/1, 198/2, 227/3, 228/1A2, 228/1B2, 228/4, 223/5 & 223/1A1,NOOKAMPALAYAM MAIN ROAD, PERUMBAKKAM VILLAGE, TAMBARAM TALUK, CHENGALPATTU DISTRICT, CHENNAI-600 100.	SITE PLAN FIG.1	T.J. ENGINEERS Soil Investigation and Foundation Design Advisors T.J. HOUSE PLOT NO. 4, ANNA NAGAR, 1ST STREET, VELACHERY, CHENNAI-42. tjengineers1998@gmail.com OFF: 044-42334194

BORE LOG

PROJECT : Proposed Building at Survey Nos. 197, 198/1, 198/2, 227/3, 228/1A2, 228/1B2, 228/4, 228/5 & 232/1A1, Nookampalayam Main Road, Perumbakkam Village, Tambaram Taluk, Chengalpattu District, Chennai-600 100.

BORE HOLE NO : B.H:01

TYPE OF BORING : Rotary Drilling

DATE OF COMMENCEMENT : 23 - 09 - 2022

DATE OF COMPLETION : 23 - 09 - 2022

G.W.L : 7.60m (wel)

Depth below G.L	Soil profile	Description of soil	Thickness of layer	Depth at witch samples are collected		Standard penetration testdata			Graphical representation of penetration resistance
				D.S	U.D.S	Depth at witch test is conducted	N-Value	Relative density/ Consistency	10 20 30 40 50
0.00			3.60						
1.00		Sandy Silty Clay-SSLC1 (White Whitish Gray)				1.00	11	Stiff	
2.00						2.00	16	Very Stiff	
3.00						3.00	25	Very Stiff	
				3.60					
4.00		Sandy Gravel-SG1 (Disintegrated Rock) (Grayish Brown)				4.00	>100	Very Dense	
5.00						5.00	>100	Very Dense	
6.00						6.00	>100	Very Dense	
7.00						7.00	>100	Very Dense	
8.00									

Remark: All Dimensions in meters

End of Boring

FIG: 2

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BORE LOG

PROJECT : Proposed Building at Survey Nos. 197, 198/1, 198/2, 227/3, 228/1A2, 228/1B2, 228/4, 228/5 & 232/1A1, Nookampalayam Main Road, Perumbakkam Village, Tambaram Taluk, Chengalpattu District, Chennai-600 100.

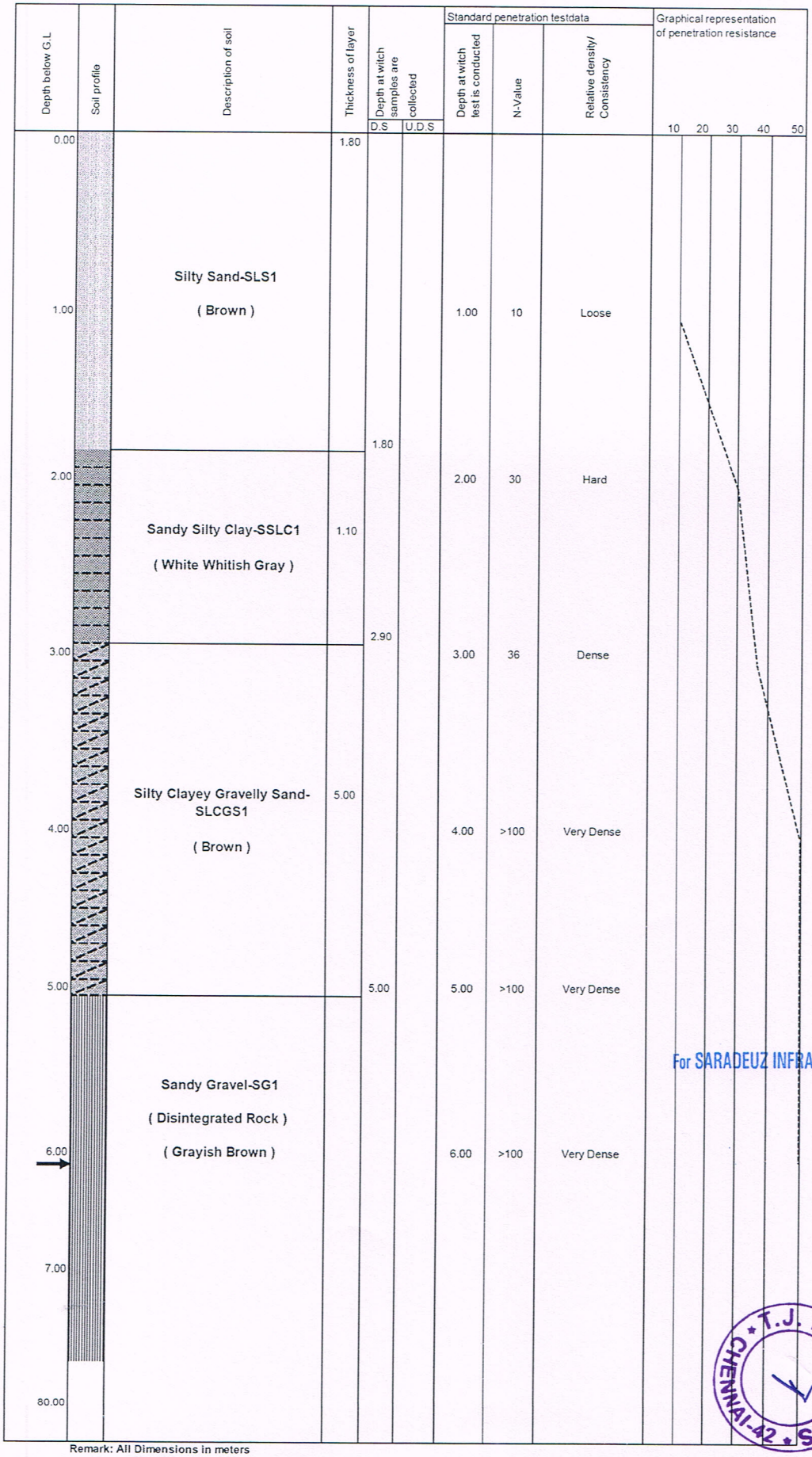
BORE HOLE NO : B.H:02

TYPE OF BORING : Rotary Drilling

DATE OF COMMENCEMENT: 23 - 09 - 2022

DATE OF COMPLETION : 23 - 09 - 2022

G.W.L : 7.60m (Well)



Remark: All Dimensions in meters

→ End of Boring

FIG: 3

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BORE LOG

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BORE HOLE NO : B.H:03

TYPE OF BORING : Rotary Drilling

DATE OF COMMENCEMENT: 23 - 09 - 2022

DATE OF COMPLETION : 24 - 09 - 2022

G.W.L : 7.60m (Well)

Depth below G.L	Soil profile	Description of soil	Thickness of layer	Depth at witch samples are collected D.S	Depth at witch samples are collected U.D.S	Standard penetration testdata: Depth at witch test is conducted	N-Value	Relative density/ Consistency
0.00		Silty Sand-SLS1 (Brown)	1.80					
1.00						1.00	13	Medium Dense
				1.80				
2.00		Sandy Silty Clay-SSLC1 (White Whitish Gray)	1.10			2.00	19	Very Stiff
				2.90				
3.00		Silty Clayey Sand-SLCS1 (Gray Whitish Yellowish Brown)	0.90			3.00	26	Medium Dense
				3.80				
4.00		Clayey Silty Sandy Gravel-CSLSG1 (Brown)	1.20			4.00	>100	Very Dense
5.00				5.00		5.00	>100	Very Dense
		Sandy Gravel-SG1 (Disintegrated Rock) (Grayish Brown)						
6.00						6.00	>100	Very Dense
7.00								
8.00								

Graphical representation of penetration resistance: 10 20 30 40 50

Remark: All Dimensions in meters

End of Boring

FIG: 4

For SARADEUZ INFRASTRUCTURES PRIVATE LIMITED

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BORE LOG

PROJECT : Proposed Building at Survey Nos. 197, 198/1, 198/2, 227/3, 228/1A2, 228/1B2, 228/4, 228/5 & 232/1A1, Nookampalayam Main Road, Perumbakkam Village, Tambaram Taluk, Chengalpattu District, Chennai-600 100.

BORE HOLE NO : B.H:04

TYPE OF BORING : Rotary Drilling

DATE OF COMMENCEMENT: 24 - 09 - 2022

DATE OF COMPLETION : 24 - 09 - 2022

G.W.L : 7.60m (Well)

Depth below G.L	Soil profile	Description of soil	Thickness of layer	Depth at witch samples are collected D.S	Depth at witch samples are collected U.D.S	Standard penetration testdata: Depth at witch test is conducted	N-Value	Relative density/ Consistency
0.00								
		Silty Sand-SLS1 (Brown)	1.80			1.00	14	Medium Dense
1.00				1.80				
2.00		Sandy Silty Clay-SSLC1 (White Whitish Gray)	1.00			2.00	17	Very Stiff
				2.80				
3.00		Silty Clayey Sand-SLCS1 (Gray Whitish Yellowish Brown)	0.90			3.00	27	Medium Dense
				3.70				
4.00		Clayey Silty Sandy Gravel-CSLSG1 (Brown)	1.80			4.00	>100	Very Dense
5.00						5.00	>100	Very Dense
				5.50				
6.00		Sandy Gravel-SG1 (Disintegrated Rock) (Grayish Brown)				6.00	>100	Very Dense
7.00						7.00	>100	Very Dense
8.00								

Graphical representation of penetration resistance: 10 20 30 40 50

Remark: All Dimensions in meters

End of Boring

FIG: 5

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BORE LOG

PROJECT : Proposed Building at Survey Nos. 197, 198/1, 198/2, 227/3, 228/1A2, 228/1B2, 228/4, 228/5 & 232/1A1, Nookampalayam Main Road, Perumbakkam Village, Tambaram Taluk, Chengalpattu District, Chennai-600 100.

BORE HOLE NO : B.H:05

TYPE OF BORING : Rotary Drilling

DATE OF COMMENCEMENT: 24 - 09 - 2022

DATE OF COMPLETION : 24 - 09 - 2022

G.W.L : 7.60m (Well)

Depth below G.L	Soil profile	Description of soil	Thickness of layer	Depth at witch samples are collected D.S	Depth at witch samples are collected U.D.S	Standard penetration testdata: Depth at witch test is conducted	N-Value	Relative density/ Consistency	Graphical representation of penetration resistance
0.00									10 20 30 40 50
		Silty Sand-SLS1 (Brown)	1.80			1.00	12	Medium Dense	
1.00				1.80					
2.00		Sandy Silty Clay-SSLC1 (White Whitish Gray)	1.00			2.00	22	Very Stiff	
				2.80					
3.00		Clayey Silty Sandy Gravel-CSLSG1 (Brown)	2.20			3.00	>100	Very Dense	
4.00						4.00	>100	Very Dense	
5.00				5.00		5.00	>100	Very Dense	
		Sandy Gravel-SG1 (Disintegrated Rock) (Grayish Brown)				6.00	>100	Very Dense	
6.00									
7.00						7.00	>100	Very Dense	
8.00									

Remark: All Dimensions in meters

→ End of Boring

FIG: 6

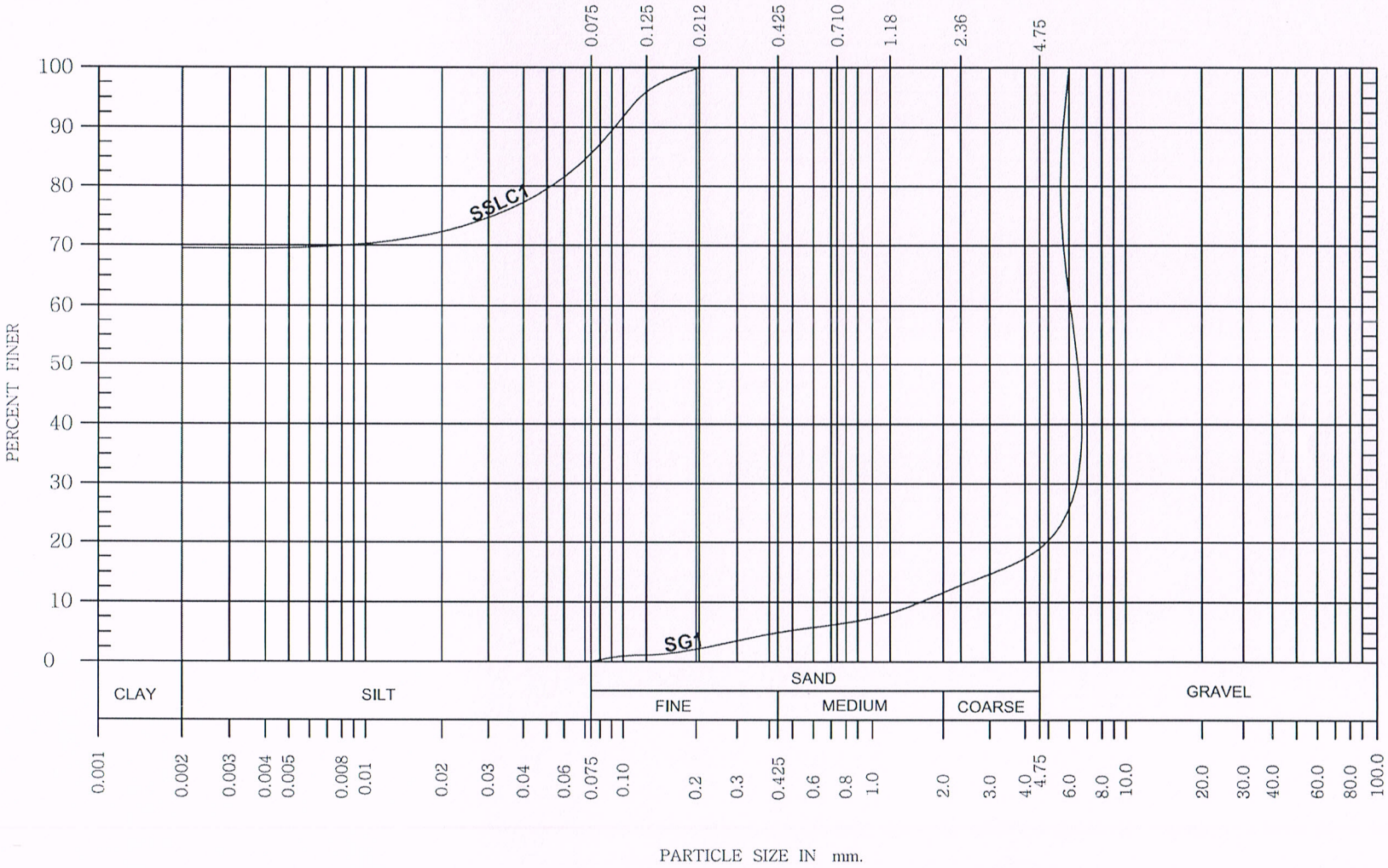
For SARADEUZ INFRASTRUCTURES PRIVATE LIMIT

Direct

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soil exploration & foundation design division

Project: Proposed Building at Survey Nos. 197, 198/1, 198/2, 227/3, 228/1A2, 228/1B2, 228/4, 228/5 & 232/1A1, Nookampalayam Main Road, Perumbakkam Village, Tambaram Taluk, Chengalpattu District, Chennai-600 100.



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FIG. 7 GRAIN SIZE DISTRIBUTION CURVE-BH-01

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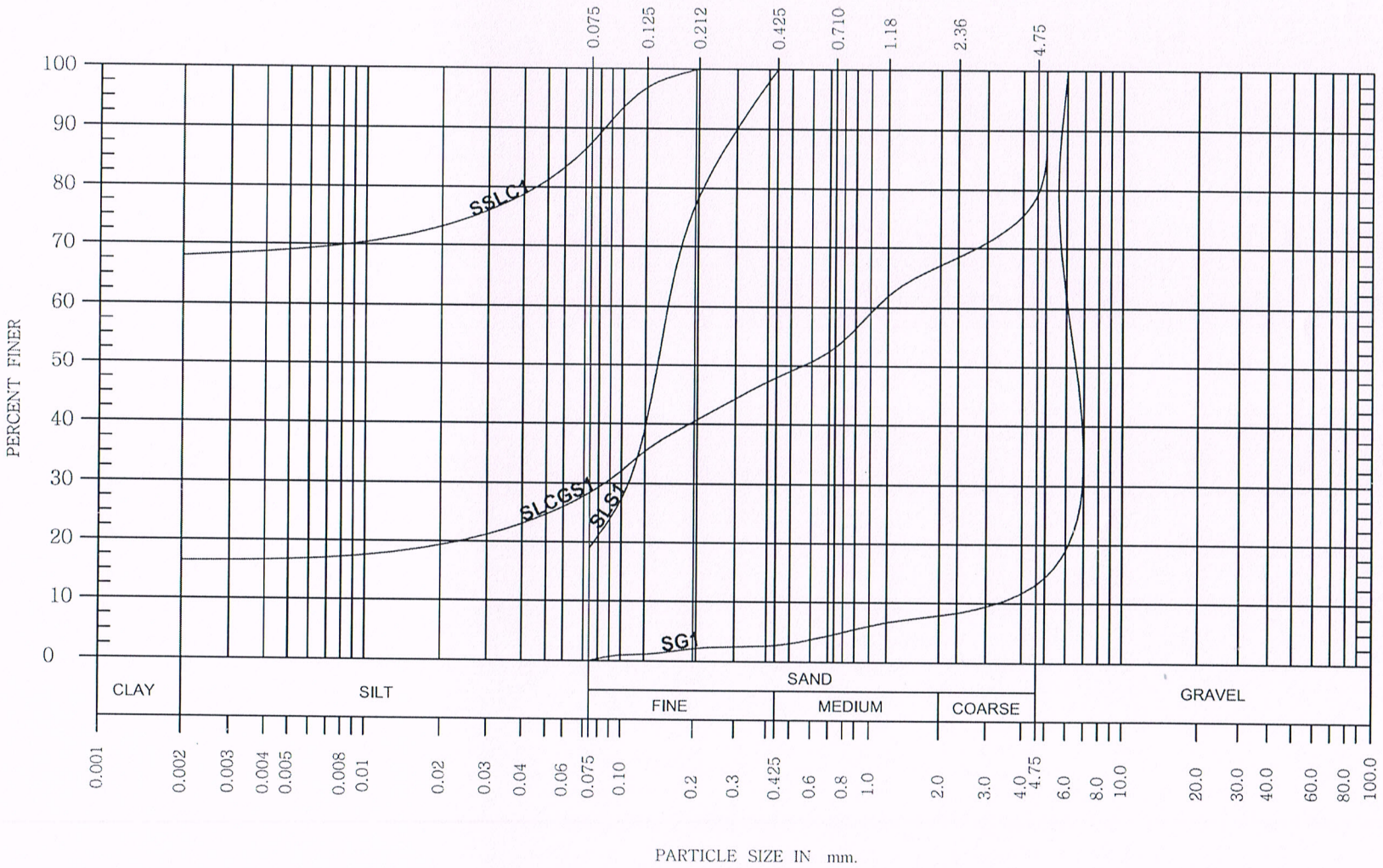


FIG. 8 GRAIN SIZE DISTRIBUTION CURVE-BH-02

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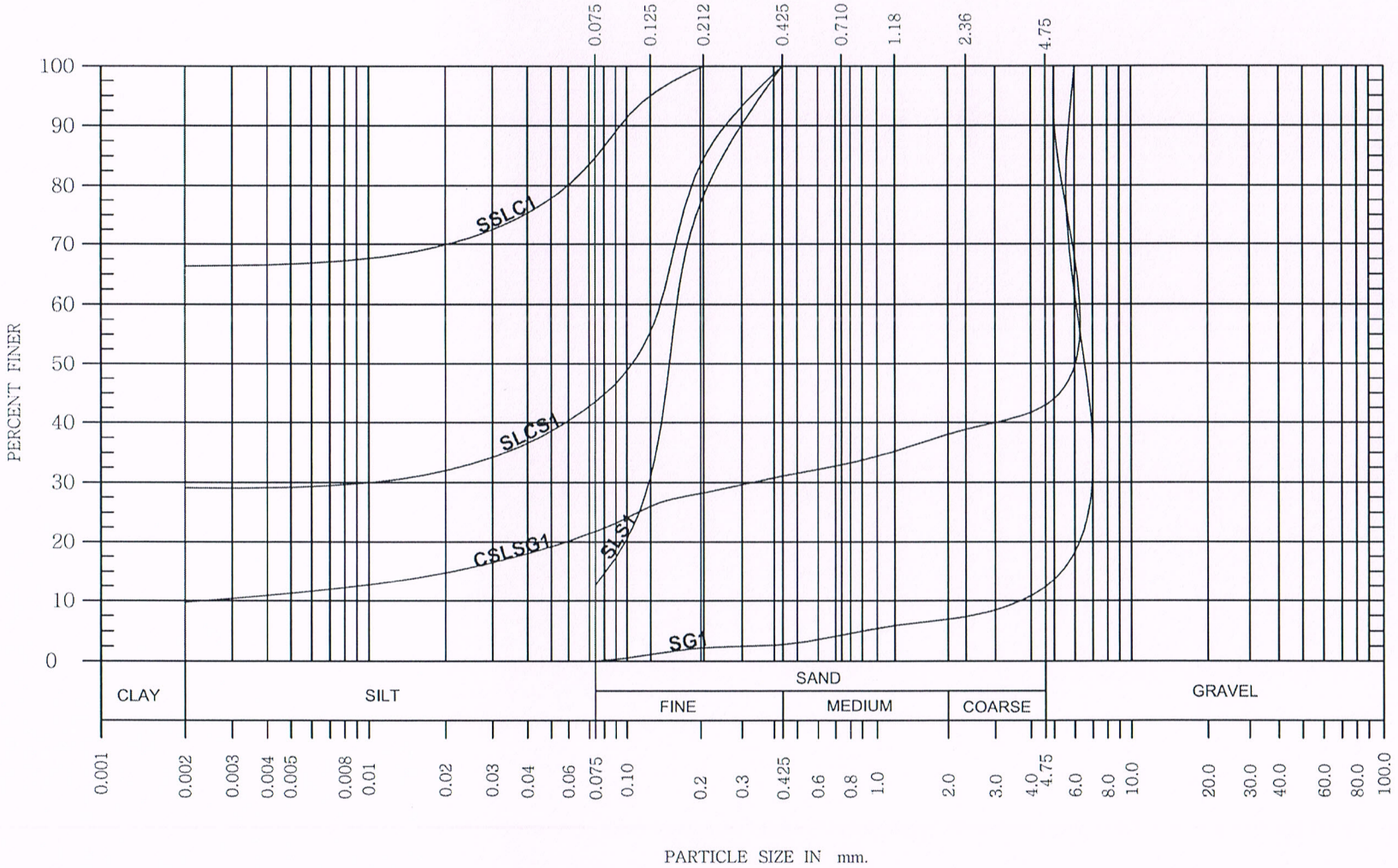


FIG. 9 GRAIN SIZE DISTRIBUTION CURVE-BH-03

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soil exploration & foundation design division

Project: Proposed Building at Survey Nos. 197, 198/1, 198/2, 227/3, 228/1A2, 228/1B2, 228/4, 228/5 & 232/1A1, Nookampalayam Main Road, Perumbakkam Village, Tambaram Taluk, Chengalpattu District, Chennai-600 100.

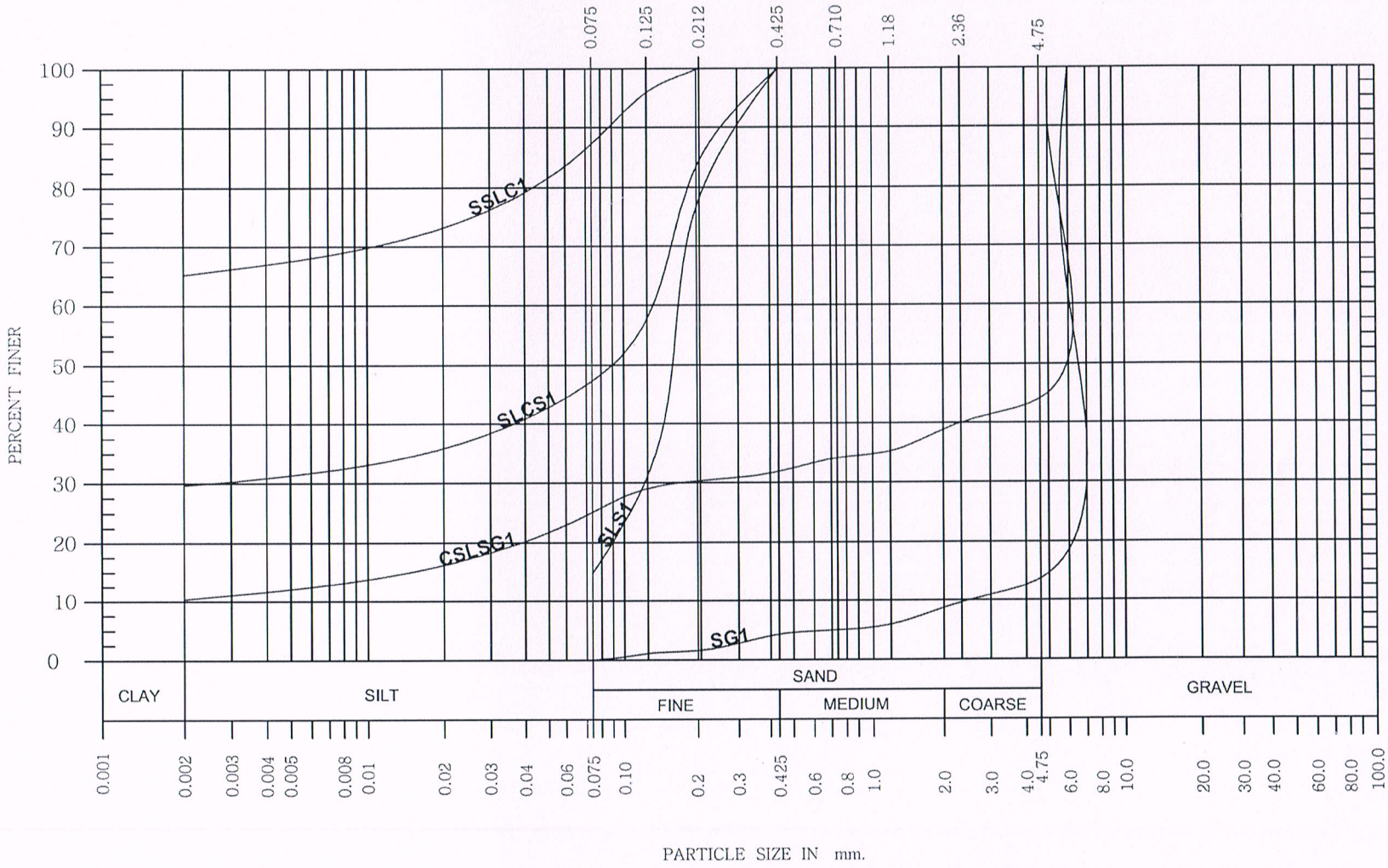


FIG. 10 GRAIN SIZE DISTRIBUTION CURVE-BH-04

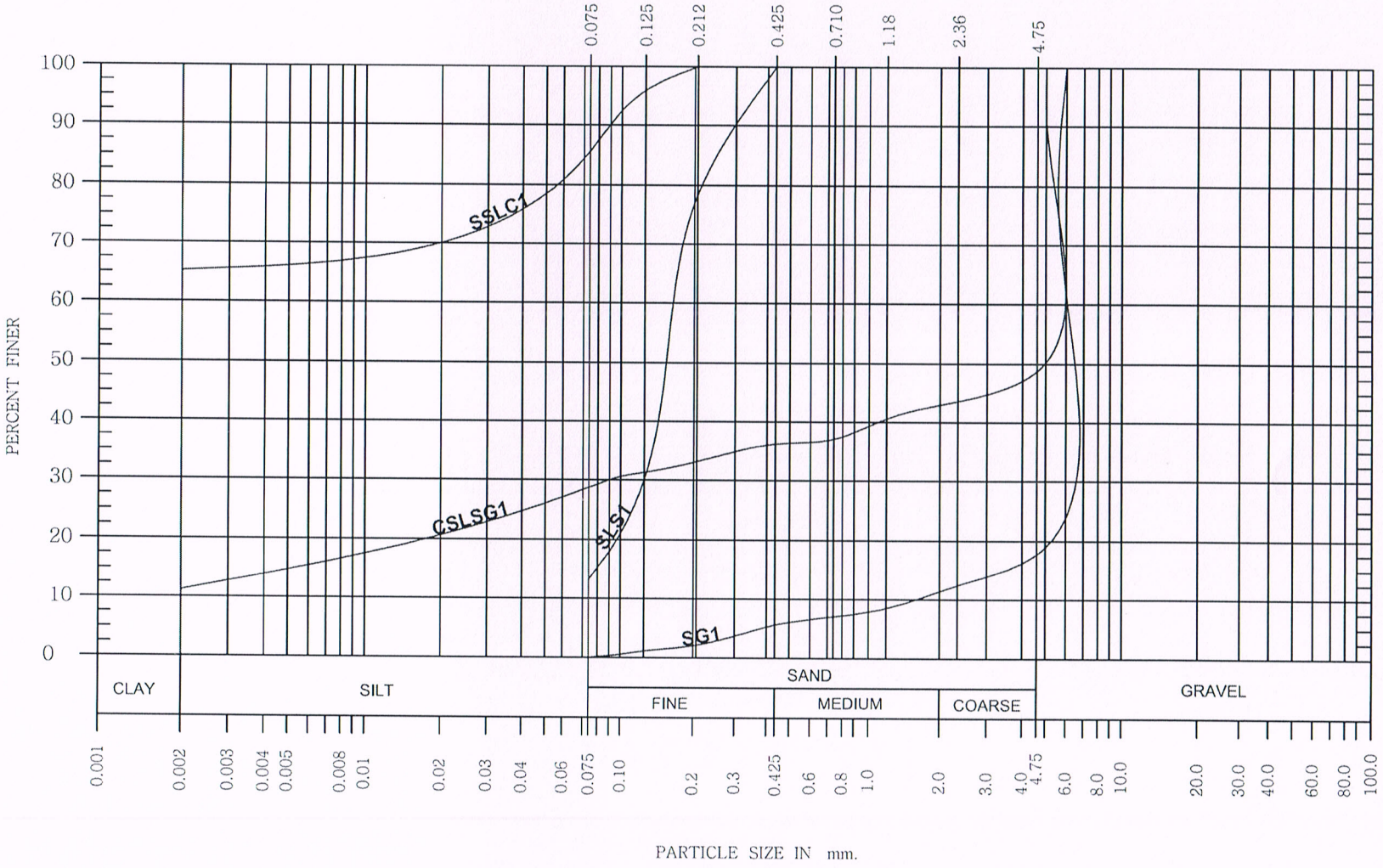
T.J. ENGINEERS CHENNAI-42

For SARADEUZ INFRASTRUCTURES PRIVATE LIMITED

Director

T.J. ENGINEERS
soil exploration & foundation design division

Project: Proposed Building at Survey Nos. 197, 198/1, 198/2, 227/3, 228/1A2, 228/1B2, 228/4, 228/5 & 232/1A1, Nookampalayam Main Road, Perumbakkam Village, Tambaram Taluk, Chengalpattu District, Chennai-600 100.



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FIG. 11 GRAIN SIZE DISTRIBUTION CURVE-BH-05

LABORATARY TEST RESULTS

TABLE-1a

B.H. No	Layer thickness	Soil classification	Depth of sample collected		SP. gravity	%of free swell	Grain size distribution				Remarks
			DS / SPT	UDS			Clay	Silt	Sand	Gravel	
	m		m	m		%	%	%	%	%	
1	0.00 - 3.60	Sandy Silty Clay-SSLC1	1.00	_	2.65	35	68	18	14	0	_
	3.60 - 7.00	Sandy Gravel-SG1	7.00	_	2.63	_	0	0	18	82	_
2	0.00 - 1.80	Silty Sand-SLS1	1.00	_	2.63	_	0	18	82	0	_
	1.80 - 2.90	Sandy Silty Clay-SSLC1	2.00	_	2.65	35	67	20	13	0	_
	2.90 - 5.00	Silty Clayey Gravelly Sand-SLCGS1	3.00	_	2.64	_	16	12	51	21	_
	5.00 - 6.00	Sandy Gravel-SG1	6.00	_	2.63	_	0	0	14	86	_
3	0.00 - 1.80	Silty Sand-SLS1	1.00	_	2.63	_	0	13	87	0	_
	1.80 - 2.90	Sandy Silty Clay-SSLC1	3.00	_	2.65	34	66	19	15	0	_
	2.90 - 3.80	Silty Clayey Sand-SLCGS1	3.00	_	2.64	_	28	16	56	0	_
	3.80 - 5.00	Clayey Silty Sandy Gravel-CSLSG1	4.00	_	2.64	_	9	13	21	57	_
	5.00 - 6.00	Sandy Gravel-SG1	6.00	_	2.63	_	0	0	13	87	_

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LABORATARY TEST RESULTS

TABLE-1b

B H No	Layer thickness	Soil classification	Depth of sample collected		SP. gravity	%of free swell	Grain size distribution				Remarks
			DS / SPT	UDS			Clay	Silt	Sand	Gravel	
	m		m	m		%	%	%	%	%	
4	0.00 - 1.80	Silty Sand-SLS1	1.00	_	2.63	_	0	15	85	0	_
	1.80 - 2.80	Sandy Silty Clay-SSLC1	2.00	_	2.65	34	65	22	13	0	_
	2.80 - 3.70	Silty Clayey Sand-SLCGS1	3.00	_	2.64	_	29	18	53	0	_
	3.70 - 5.50	Clayey Silty Sandy Gravel-CSLSG1	4.00	_	2.64	_	11	14	19	56	_
	5.50 - 7.00	Sandy Gravel-SG1	7.00	_	2.63	_	0	0	14	86	_
5	0.00 - 1.80	Silty Sand-SLS1	1.00	_	2.63	_	0	14	86	0	_
	1.80 - 2.80	Sandy Silty Clay-SSLC1	2.00	_	2.65	35	65	21	14	0	_
	2.80 - 5.00	Clayey Silty Sandy Gravel-CSLSG1	3.00	_	2.64	_	12	16	20	52	_
	5.00 - 7.00	Sandy Gravel-SG1	7.00	_	2.63	_	0	0	17	83	_

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LABORATARY TEST RESULTS

TABLE -2a

B.H No	Layer thickness	Soil classification	Depth of sample collected		LL	PL	Bulk density	Consolidation Parameters		Shear Strength Parmeters		Remarks
			DS / SPT	UDS				e_o	Cc	Cu	ø	
	m		m	m	%	%	t/m^3			t/m^2	degree	
1	0.00 - 3.60	Sandy Silty Clay-SSLC1	1.00	_	67	23	1.50	1.30	0.25	8.67	_	_
	3.60 - 7.00	Sandy Gravel-SG1	7.00	_	_	_	1.60	_	_	_	40	_
2	0.00 - 1.80	Silty Sand-SLS1	1.00	_	_	_	1.52	_	_	_	30	_
	1.80 - 2.90	Sandy Silty Clay-SSLC1	2.00	_	66	23	1.50	1.28	0.23	13.69	_	_
	2.90 - 5.00	Silty Clayey Gravelly Sand-SLCGS1	3.00	_	_	_	1.55	_	_	_	37	_
	5.00 - 6.00	Sandy Gravel-SG1	6.00	_	_	_	1.60	_	_	_	41	_
3	0.00 - 1.80	Silty Sand-SLS1	1.00	_	_	_	1.52	_	_	_	32	_
	1.80 - 2.90	Sandy Silty Clay-SSLC1	3.00	_	65	22	1.51	1.30	0.25	8.69	_	_
	2.90 - 3.80	Silty Clayey Sand-SLCGS1	3.00	_	_	_	1.55	_	_	_	36	_
	3.80 - 5.00	Clayey Silty Sandy Gravel-CSLSG1	4.00	_	_	_	1.58	_	_	_	38	_
	5.00 - 6.00	Sandy Gravel-SG1	6.00	_	_	_	1.61	_	_	_	41	_

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LABORATARY TEST RESULTS

TABLE -2b

B.H No	Layer thickness	Soil classification	Depth of sample collected		LL	PL	Bulk density	Consolidation Parameters		Shear Strength Parmeters		Remarks
			DS / SPT	UDS				e_o	Cc	Cu	Ø	
	m		m	m	%	%	t/m³			t/m²	degree	
4	0.00 - 1.80	Silty Sand-SLS1	1.00	_	_	_	1.53	_	_	_	33	_
	1.80 - 2.80	Sandy Silty Clay-SSLC1	2.00	_	64	22	1.51	1.30	0.25	8.67	_	_
	2.80 - 3.70	Silty Clayey Sand-SLCGS1	3.00	_	_	_	1.55	_	_	_	34	_
	3.70 - 5.50	Clayey Silty Sandy Gravel-CSLSG1	4.00	_	_	_	1.58	_	_	_	39	_
	5.50 - 7.00	Sandy Gravel-SG1	7.00	_	_	_	1.61	_	_	_	41	_
5	0.00 - 1.80	Silty Sand-SLS1	1.00	_	_	_	1.51	_	_	_	31	_
	1.80 - 2.80	Sandy Silty Clay-SSLC1	2.00	_	64	22	1.52	1.30	0.25	10.10	_	_
	2.80 - 5.00	Clayey Silty Sandy Gravel-CSLSG1	3.00	_	_	_	1.58	_	_	_	38	_
	5.00 - 7.00	Sandy Gravel-SG1	7.00	_	_	_	1.61	_	_	_	41	_

FOR SARADEUZ INFRASTRUCTURES PRIVATE LIMITED

Director

T.J. ENGINEERS * CHENNAI-42 *



our services doesn't just end there

Buying & Selling Services

Property Buying Assistance, Property Selling Support, Market Price Analysis, Owner Outreach and Negotiation.

Legal & Documentation Services

Certified EC, Patta, legal opinions, property verification, due diligence, litigation solutions, and legal heir certificates.

Property Development & Approvals

Building plan approvals, construction, layout and sub-division approvals, zone conversion, and occupancy certification.

NRI & Investment Services

Escrow Services, Rentals, Litigation Solutions, Property Valuation and Property Management

Compliance & Special Services

Demolition, Vaasthu checks, regularization of unauthorized buildings, and office space solutions.



empowering your real estate decisions with smart tools

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Guideline Value, Apartment Composite Value, Stamp Duty & Registration Fees Calculator, Building Value Calculator, Capital Gains Calculator, Area Unit Converter, Length Unit Converter

Ownership, Compliance & Legal Verification

Encumbrance Certificate (EC) Search, Find Your SRO, Temple Property Check, WAQF Property Check, View Patta/Chitta, View FMB, Patta Analyzer, EC Analyzer

Zoning & Land Use Analysis

Land Use Zone Finder, CRZ Zone Check, Aquifer Zone Check, CBA Check, EWS Check, Road Width Check, Proposed Road Widening Check, FSI Calculator

Property Documentation & Workflow Tools

Forms & Templates, Document Generator, Document Translation, Dictionary

Vastu & Property Management Tools

Home Vastu Shastra, Plot Vastu Shastra, Property Management

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