

DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

For

Ordinary Earth Quarry – 1.76.0 Ha

at

**S.F.No.101/2 of
Kondalankuppam Village,
Vanur Taluk, Viluppuram District, Tamil Nadu**

**Project Proponent
Tmt. T. Jayapraba,
D/o. Thirunavukarasu,
No.4, Subramaniam Koil Street,
Sellaperumalpet,
Pondicherry District.**

**Project termed under schedule 1(a)
Category B₁ (Cluster Mining)
Baseline Period: December 2025, January & February 2026**

***Environmental Consultant & Laboratory Details:*
Ecotech Labs Private Limited**



**No.48, 2nd Main Road,
Ram Nagar South Extension,
Pallikaranai, Chennai-600100.**

**March
2026**

Date:

From

Tmt. T. Jayapraba,
D/o. Thirunavukarasu,
No.4, Subramaniyar Koil Street,
Sellaperumalpet,
Pondicherry District.

To

The District Environmental Engineer
Tamilnadu Pollution Control Board,
District Collectorate Master Plan Complex,
Backside of Taluk Office, Villupuram – 605 602.

Sir,

Sub: Public Hearing for “Tmt. T. Jayapraba Ordinary Earth Quarry” over a total extent of 1.76.0 Ha in S.F. Nos: 101/2 of Kondalankuppam Village, Vanur Taluk and Viluppuram District, Tamilnadu State – Request to conduct Public Hearing – Reg.

Ref: ToR issued by SEIAA vide ToR Identification No. TO25B0108TN5766652N Dated: 12.12.2025 and File No: 12836/2025.

With Reference to the above subject, I propose to establish “Tmt. T. Jayapraba Ordinary Earth Quarry” over a total extent of 1.76.0 Ha in S.F. Nos: 101/2 of Kondalankuppam Village, Vanur Taluk and Viluppuram District, Tamilnadu State.

In this regard, we had obtained the Terms of Reference (ToR) from State Environmental Impact Assessment Authority (SEIAA), Tamil Nadu for conducting EIA studies vide letter cited in reference. Further, we have prepared the draft EIA report complying with all the conditions imposed in the TOR issued.

I herewith submitting hard & soft copies of Draft EIA Report, Executive Summaries (English & Tamil) along with necessary enclosures towards conducting public hearing for “Tmt. T. Jayapraba Ordinary Earth Quarry” over a total extent of 1.76.0 Ha in S.F. Nos: 101/2 of Kondalankuppam Village, Vanur Taluk and Viluppuram District, Tamilnadu State.

We have also enclosed a Demand Draft for Rs. /- vide DD No _____
dated _____ as initial Public Hearing fee and agree to pay the difference amount
in the publication cost.

We kindly request the TNPCB to make the necessary arrangements for conducting the public
hearing for the Ordinary Earth Quarry.

Thanking you,

Yours Sincerely,

Authorized Signatory

Tmt. T. Jayapraba,
D/o. Thirunavukarasu,
No.4, Subramaniyar Koil Street,
Sellaperumalpet,
Pondicherry District.

UNDERTAKING

I, Tmt. T. Jayapraba, undertaking that the Draft Environmental Impact Assessment (EIA) Report for Ordinary Earth Quarry over an extent of 1.76.0 Ha at S.F. No 101/2 of Kondalankuppam Village, Vanur Taluk, Villupuram District, Tamilnadu State under project category B1 and Schedule S.No.1(a)

TOR issued by the State Expert Appraisal Committee, TN vide Letter No. ToR Identification No: TO25B0108TN5766652N Dated: 12.12.2025

I, hereby assure that all the information and data provided in the EIA report is accurate, true and correct and owns responsibility for the same.

Place: Villupuram

Yours faithfully

Date:

Tmt. T. Jayapraba

Plot No.48A, 2nd Main Road,
Ram Nagar, South Extension,
Pallikarantal, Chennai - 600 100.
GST NO. 33AADCE6103A22H
PAN NO. AADCE6103A



Eco Tech Labs Pvt Ltd

Cell No. 98400 87542
Email : info@ecotechlabs.in
Website : www.ecotechlabs.in
CIN : U74900TN2014PTC094895

UNDERTAKING

I, Dr. A. Dhamodharan, Managing Director, confirms that this Draft EIA Report of Ordinary Earth Quarry over an extent of 1.76.0 Ha at S.F. No 101/2 of Kondalankuppam Village, Vanur Taluk, Villupuram District, Tamilnadu State has been prepared at M/s. Ecotech Labs Pvt. Ltd., Chennai.

I also confirm that I shall be fully accountable for any misleading information mentioned in this Report.

Signature:

Name: Dr. A. Dhamodharan

Designation: Managing Director

Name of the EIA Consultant Organization: M/s. Ecotech Labs Pvt Ltd., Chennai.

NABET Certificate No: NABET/EIA/25-28/RA 0400

Date:

Place: Chennai

**Declaration by Experts contributing to the EIA of Ordinary Earth Quarry – 1.76.0 Ha by
Tmt. T. Jayapra S.F.No.101/2 of Kondalankuppam Village, Vanur Taluk, Villupuram
District, Tamil Nadu State**

I, hereby, certify that I was a part of the EIA team in the following capacity that developed the above EIA.

EIA Coordinator: Dr. A. Dhamodharan



Dr. A. DHAMODHARAN
(NABET APPROVED EIA COORDINATOR)
NABET/EIA/23-28 / RA 0408
Environmental Consultant
Eco Tech Labs Pvt. Ltd
Plot No. 48A, 2nd Main Road, Ram Nagar South Extension,
Pallikaranai, Chennai - 600 100.

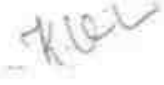
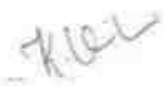
Signature:

Period of involvement: 01.03.2022 to till now

Contact information: M/s. Ecotech Labs Pvt Ltd.,
No.48, 2nd Main Road, Ram Nagar South Extension,
Pallikaranai, Chennai – 600100.

S. No.	Functional areas	Name of the experts	Involvement (period and task)	Signature & date
1	AP	Mrs. K. Vijayalakshmi	1. Selection of Baseline Monitoring stations based on the wind direction 2. Interpretation of Baseline data by comparing it with standards prescribed by CPCB against the type of area 3. Identification of sources of air pollution and suggesting mitigation measures to minimize impact <i>Period: March 2022 – Till now</i>	
2	WP	Dr. A. Dhamodharan	1. Selection of baseline Monitoring Locations for Ground water analysis and also identifying nearest surface water to be studied. 2. Interpretation of baseline data collected 3. Identification of impacts based on the baseline study conducted and also to the ground water and nearby surface water due to the proposed project 4. Preparation of suitable and appropriate mitigation plan. <i>Period: March 2022 – Till now</i>	

3	SHW	Dr. A. Dhamodharan	1. Identification of nature of solid waste generated 2. Categorization of the generated waste and estimating the quantity of waste to be generated based on the per capita basis. Identification of impacts of SHW on Environment 3. Suggesting suitable mitigation measures by recommending appropriate disposal method for each category of waste generated 4. Top soil and refuse management Period: March 2022 – Till now	
4	SE	Mr. S. Pandian	1. Primary data collection through the census questionnaire 2. Obtaining Secondary data from authenticated sources and incorporating the same in EIA report. 3. Impact assessment & proposing suitable mitigation plan 4. CSR budget allocation by discussing with the local body and allotting the same for need based activity. Period: March 2022 – Till now *Involves Public Hearing	
5	EB	Dr. A. Dhamodharan	1. Primary data collection through field survey and sheet observation for ecology and biodiversity 2. Secondary Collection through various authenticated sources 3. Prediction of anticipated impacts and suggesting appropriate mitigation measures. Period: March 2022 – Till now	
6	HG	Dr. T. P. Natesan	1. Study of existing surface drainage arrangements in the core and buffer zone, impact due to mining on these drainage courses and suggestion of mitigative measures 2. Determination of groundwater use pattern, development of rainwater harvesting program. Storm water management through garland drainage system. Period: March 2022 – Till now	

7	GEO	Dr. T. P. Natesan	1. Field survey for assessing regional and local geology, aquifer distribution, Determination of groundwater use pattern, development of rainwater harvesting program. <i>Period: March 2022 – Till now</i>	
8	SC	Dr. A. Dhamodharan	1. Interpretation of baseline report 2. Identification of possible impacts on soil, prediction of soil conservation and suggesting suitable mitigation measures. <i>Period: March 2022 – Till now</i>	
9	AQ	Mrs. K. Vijayalakshmi	1. Collection of Meteorological data for the baseline study period 2. Plotting wind rose plot and thereby selecting the monitoring locations based on the wind pattern 3. Estimation of sources of air emissions and air quality modeling is done 4. Interpretation of the results obtained 5. Identification of the impacts and suggesting suitable mitigation measures. <i>Period: March 2022 – Till now</i>	
10	NV	Mrs. K. Vijayalakshmi	1. Selection of monitoring locations 2. Interpretation of baseline data 3. Prediction of impacts due to noise pollution and suggestion of appropriate mitigation measures <i>Period: May 2022 – Till now</i>	
11	LU	Dr. T. P. Natesan	1. Collection of Remote sensing satellite data to study the land use pattern. 2. Primary field survey and limited field verification for land categorization in the study area 3. Preparation of Land use map using Satellite data for 10km radius around the project site. <i>Period: March 2022 – Till now</i>	
12	RH	Mrs. K. Vijayalakshmi	1. Identification of the risk 2. Interpreting consequence contours 3. Suggesting risk mitigation measures <i>Period: March 2022 – Till now</i>	

Declaration by the Head of the accredited consultant organization/ authorized person

I, Dr. A. Dhamodharan, hereby confirm that the above-mentioned experts prepared the Draft EIA report on the mining project at Survey Numbers. S.F.No.101/2 of Kondalankuppam Village, Vanur Taluk, Villupuram District. I also confirm that the consultant organization shall be fully accountable for any misleading information mentioned in this statement.

Signature:



Name: Dr. A. Dhamodharan

Designation: Managing Director

Name of the EIA consultant organization: M/s. Eco Tech Labs Private Limited

NABET Certificate No. & Issue Date: NABET/EIA/25-28/RA 0400

DRAFT EIA REPORT

Project	Ordinary Earth Quarry – 1.76.0 Ha by Tmt. T. Jayapraba	Draft EIA Report
Project Proponent	Tmt. T. Jayapraba	
Project Location	Kondalankuppam Village, Vanur Taluk, Viluppuram District	

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ABBREVIATION

LU –Land use

AP – Air Pollution monitoring, prevention and control

AQ- Meteorology, Air quality modeling and prediction

WP – Water pollution monitoring, prevention and control

EB- Ecology and Biodiversity

NV- Noise & Vibration

SE- Socio-economics

HG- Hydrology, ground water and water conservation

GEO –Geology

RH – Risk assessment and hazards management

SHW –Solid and Hazardous waste management

SC- Soil conservation

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EXECUTIVE SUMMARY

1. Project Background:

The Proposed project total extent area is 1.76.0 Ha, it is Patta land (Consent registered) S.F.No.101/2 (1.76.0) of Kondalankuppam Village, Vanur Taluk and Viluppuram District, Tamilnadu State for a period of 01 year. The category of project is B1 Cluster, it is an Ordinary Earth quarry. The lease area exhibits plain terrain.

The quarry operation is proposed to carry out with conventional open cast semi mechanized mining. The proposed project is mining of Ordinary Earth Quarry which is hard and compact in nature. Since, it is mined at shallow depth of 2.0m (Below ground level) benching is not required. The Gravel is removed by a system of hydraulic Excavator and Tipper combination.

The quarry operation is proposed up to depth of 2.0 m (Below ground level). Geological Resources of earth is estimated at 88,000m³ /1,76,000 Ts of depth 5.0m BGL. The Mineable Reserve of earth is estimated to 27,984m³/ 55,968Ts of depth 2.0m BGL. The proposed quarry area should maintain a safety distance of 10.0m for adjoining patta land and 7.5m for Government Poramboke land from the lease applied quarry area as indicated in precise area communication letter and relevant mining laws in force.

The precise area communication letter was received from Assistant Director, Department of Geology and Mining, Viluppuram District has passed an order vide R.c.No. A/G&M/51/2025, dated 04.08.2025 for lease period of 03 years and The Mining Plan was approved by the Assistant Director, Geology & Mining, , Viluppuram vide letter Rc.No. A/G&M/84/2025 dated 16.07.2025 for the period of 01 year.

The project area does not fall in Hill Area Conservation Authority region. There is no interstate boundary, CRZ zone, Western Ghats, notified Bird sanctuaries as per Wildlife Protection Act 1972, within the radius of 15Km. The project does not require huge amount of water for quarry operation and

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total water requirement is 2.0 KLD. Drinking water is available from the nearby source through tanker supply.

The project cost is about Rs. Rs. 24,81,360/- (Rupees Twenty-Four lakh eighty-one thousand three hundred sixty Rupees Only). EMP (Environmental Management Plan) Cost is about Rs. 23,02,620/- (Twenty-three Lakh and Two Thousand six hundred Twenty Rupees Only).

2. Nature & Size of the Project

The Ordinary Earth Quarry over an extent of 1.76.0 Hectares land is located at Kondalankuppam Village of Vanur Taluk, Villupuram District.

Mineral intends to quarry	: Ordinary Earth
District	: Villupuram
Taluk	: Vanur
Village	: Kondalankuppam
S. F. Nos.	: 101/2
Extent	: 1.76.0 Hectares

Table 1: Brief Description of the Project

S. No	Particulars	Details
1	Latitude	12°02'04.95"N to 12°02'09.61"N
2	Longitude	78°41'03.58"E to 78°41'08.94"E
3	Site Elevation above MSL	The altitude of the lease area is 75.0m above MSL.
4	Topography	Plain Terrain with gentle slope
5	Land use of the site	Patta land (Consent registered)
6	Extent of lease area	1.76.0 Ha
7	Nearest highway	➤ NH-32 Chidambaram — Nagapattinam road – 8.5 Km, NE ➤ SH-136 Vandavasi — Pondicheery road – 2.5 Km, N
8	Nearest railway station	➤ Vikravandi Railway Station – 16 km, W.
9	Nearest airport	➤ Pondicheery Airport – 17 Km, SE
10	Nearest town / city	➤ Town - Villupuram - 24 Km, SW

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		➤ City - Villupuram - 24 Km, SW ➤ District – Villupuram - 24 Km, SW
11	Rivers / Canal / Dam	➤ Sankarabarani River – 4.0 Km, S ➤ Pambai River – 9.6 Km, S ➤ Gingee River – 9.9 Km, SW ➤ Chettipattu Small Dam – 4.29 kms, SW ➤ Sankarabarani Reservoir – 3.18 kms, S
12	Lake	➤ Katterikuppam Lake – 3.3 kms, SE ➤ Ambuzkukai Lake – 4.07 Kms, NW ➤ Pudukuppam Lake – 4.5 Kms, SE ➤ Eraiyur Lake – 4.8 Kms, NW ➤ Korakkeni Lake – 5.5 Kms, W ➤ Kunnam Lake – 5.54 kms, NW ➤ Nemili Lake – 5.6 Kms, W ➤ Vanur Lake – 5.8 Kms, E ➤ Perumbakkam Lake – 7.3 Kms, NW ➤ Ponnampundi Lake – 7.3 Kms, NW ➤ Murukkam Lake – 7.59 Kms, N ➤ Agaram Lake – 7.6 Kms, NE ➤ Thoravi Lake – 7.74 kms, E ➤ Mannadipet Pond – 7.8 kms, SW ➤ Konamangalam Lake – 7.9 kms, NW ➤ Pulichapallam Lake – 8.04 kms, E ➤ Parikakalpattu Lake – 8.3 Kms, NW ➤ Kanniyam Lake – 8.5 Kms, NW ➤ Thaludhali Lake – 8.5 kms, NW ➤ Thaludhali Kulam – 8.6 kms, NW ➤ Veedur Lake – 8.7 Kms, NW ➤ Terkunam Lake – 9.5 Kms, N

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		➤ Purana Singa Lake – 9.64 Kms, SW ➤ Sompet Lake – 9.6 kms, SW ➤ Kumalam Lake – 9.9 kms, SW ➤ Oussudu Lake – 9.9 Kms, SE ➤ Kilyanur Lake – 10.02 Kms, NE
13	Hills / valleys	Nil in 15 km radius
14	Archaeological places/Monuments	➤ National Petrified/Fossil Wood Park, Thiruvakkarai – 3.5 km, SW
15	National parks / Wildlife Sanctuaries	➤ Oussudu Lake Bird Sanctuary, 12.5 Km, SE
16	Reserved / Protected Forests	Nil
17	Seismicity	Proposed Lease area come under Seismic zone-III (Moderate risk area)
18	Defense Installations	Nil in 15 Km radius

3. Need for the Project

- ❖ Ordinary Earth mined will be mainly used for country & Chamber bricks manufacturing and also for filling building construction sites and construction of Road work.
- ❖ After quarrying the excavated area shall be levelled and used for cultivation purpose/ agricultural field in future.
- ❖ No damage to the land is caused, no reclamation or back filling is required.

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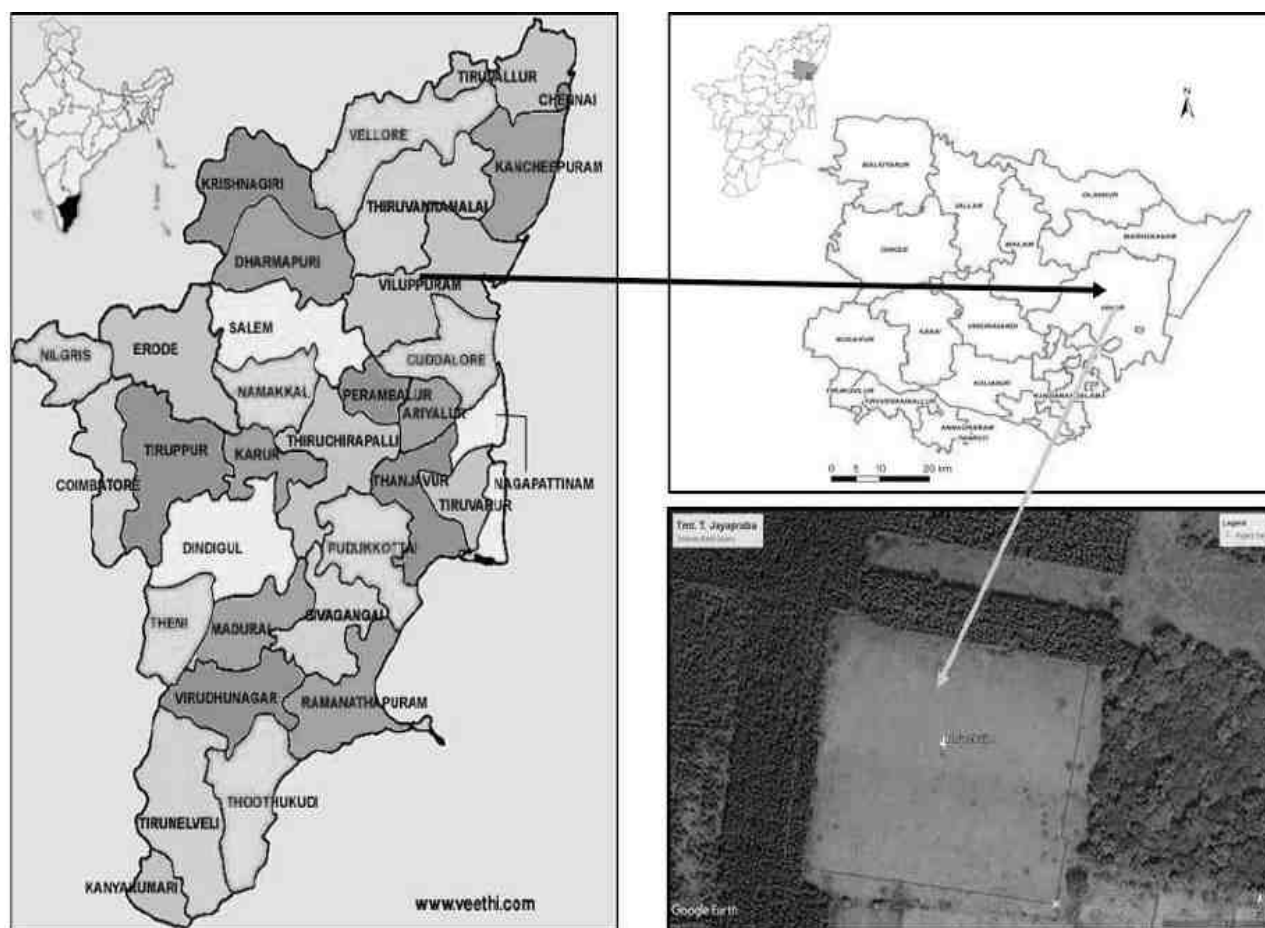


Figure 1: Location Map of the Project Site

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Figure 2: Google Image of the Project Site

4. Topography

The lease applied area is exhibits almost plain terrain topography covered with Ordinary Earth which does not sustain any type of vegetation due to the topography of the land. The altitude of the area is 75.0m (Maximum) from MSL, the slope of the area is gentle towards Southeastern side. Please refer the Topography, Geological plan and sections.

The general geological sequences of the rocks in this area are given below:

	AGE	FORMATION
↑	Recent	- Alluvium, Ordinary Earth
	-----	Unconformity -----
	Archaean	- Charnockite & Peninsular Gneiss Complex

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5. Geological Resources

The geological reserves have been calculated based on the cross-section method

Table 2. Geological resources

Geological Resources					
Hectares	Area in Sq.m	Depth in (m)	Ordinary Earth m³	Bulk density	Ordinary Earth in (Ts)
1.76.0	10,000	5.0	88,000	2	1,76,000

Table 2(a) Mineable resources

Mineable Reserves						
Section	Length	Width in (m)	Depth in (m)	Ordinary Earth m³	Bulk Density	Ordinary Earth in (Ts)
XY - AB	132	106	2.0	27,984	2	55,968
Total				27,984		55,968

Table 3. Year wise Production Plan

Production Schedule is proposed an average production of 27,984m³/55,968Ts (4,664 Lorry Loads) of Ordinary Earth up to a depth of 2.0m below ground level for the lease period of (One) 1 Year only.

(Total Period :1 Year, Mining Plan proposed Period: (One) 1 Year) only

Production quantity per day (1Load=6m³approx) (1Year=260 Working days)

Ordinary Earth quantity = 27,984m³ / 4,664 Loads

= 27,984 m³ / 260 days (1 Year)

= 108m³ or 18 Lorry Loads per day

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6. Mining

Opencast Mining

It is semi mechanized being a loose sedimentary topsoil and soft in nature, the Ordinary Earth is removed by a system of hydraulic Excavator and Tipper combination. After removal, the material is being loaded in the tippers and transported to the used for filling and leveling purpose.

Process Description

- The reserves and resources are arrived based upon the Geological investigation
- Removal of Ordinary Earth by Excavators and directly Loaded into Tippers.
- Removal of Ordinary Earth by Excavators
- Loading of Ordinary Earth By Excavators Into Tippers.

7. Water Requirement

Total water requirement for the mining project is 2.0 KLD. Domestic water will be sourced from nearby Kondalankuppam Village and other water will be sourced from nearby road tankers supply.

Table 4. Water Balance

Purpose	Quantity	Sources
Drinking Water	1.0 KLD	Packaged Drinking water vendors are available in Kondalankuppam village which is about 0.55 km SW
Afforestation & Green belt	0.5 KLD	Other domestic activities through road tankers supply
Dust suppression Sprinkling	0.5 KLD	From road tankers supply
Total	2.0 KLD	

8. Manpower

Total manpower required for the project is approximately 22 persons. Workers will be from nearby villages.

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Table 5. Man Power Requirement

S.No.	Levels & Details		Persons
1.	Skilled	Operators- Excavator & Jackhammer	2 Nos
2.	Semi – skilled	Drivers	6 Nos
3.	Unskilled	Musdoor/Labours, Cleaners & Watch man	12 Nos
4	Management & Supervisory staff	Mines Foreman (with valid statutory qualification)	1 No
		Mines Mate (with valid statutory qualification)	1 No
		Blaster	1 No
Total			22 Nos

No child less than 18 years will be entertained during quarrying operations.

9. Solid Waste Management

Table 6 Solid Waste Management

S. No	Type	Quantity	Disposal Method
1	Organic	3.96 kg/day	Municipal bin including food waste
2	Inorganic	5.94 kg/day	TNPCB authorized recyclers

As per CPCB guidelines: MSW per capita/day =0.45 kg/day

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Table 7. 500m Radius Cluster Mine

1. Existing quarries:							
S. No.	Name of the Lessee/Permit Holder	Name of the Mineral	Taluk & Village	S.F. Nos.	Extent in Hect.	Lease Period	Remarks
1.	Thiru.S.Devamani S/o.Subramani, Mariyamman Kovil Street, Kadagampattu Village, Vanur Taluk, Viluppuram District"	Red Earth	Vanur Taluk Kondalankuppam village	6/12 70/58 70/6 70/7B 70/8 88/2	0.95.0 0.28.5 0.55.0 0.23.0 0.65.0 0.39.0 Total 3.05.5	06.10.2022 to 05.10.2025	-
2	Thiru B. Venkatakrishnan, S/o.Balaraman, No.25, 2nd Cross Street, Kurumbapet, Housing Board, Puducherry - 605009	Ordinary Earth	Vanur Taluk Kondalankuppam Village	70/2 70/3 70/4 70/5A 71/3	0.11.0 0.10.0 0.64.0 0.30.5 0.38.0 1.53.50	23.02.2024 to 22.02.2026	-
3.	Thiru S. Vasantharaj, S/o.Selvaraj, No.477, MG Road, Ramakrishna Nagar, Muthiyalpet,	Ordinary Earth	Vanur Taluk Kondalankuppam Village	71/2 86 8/1	0.93.5 1.00.0 1.93.5 3.87.0	06.02.2025 to 05.02.2027	-

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	Puduchery.						

Proposed Area:

1.	Tmt.T. Jayapraba, D/o.Thirunavukarasu, No.4, Subramaniyar Koil Street, Sellaperumalpet, Pondicherry - 605 008.	Ordinary Earth	Vanur Taluk Kondalankuppam Village	101/2	1.76.0	-

Abandoned quarries:

-----NIL-----

The Total extent of the Existing / Lease expired / Proposed quarries is **10.22.00 Ha**

10. Land Requirement

The total extent area of the project is 1.76.0 Ha, Patta land in Kondalankuppam Village of Vanur Taluk, Villupuram District.

Table 8 Land Use Breakup

S. No.	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)
1.	Quarrying Pit	Nil	1.39.92
2.	Unutilized	1.76.0	0.36.08
	Total	1.76.0 Ha	1.76.0 Ha

11. Human Settlement

There are no habitations within 500m radius. There are villages located in this area within 5 km radius of the quarry.

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Table 9 Habitation

S. No	Name of the Village	Approximate distance	Direction from lease applied area	Approximate population
1.	Ramanathapuram	2.0Km	North – East	390
2.	Sandhai Pudukuppam	1.2Km	South – East	440
3.	Kadagampattu	1.3Km	South – West	200
4.	Thollamur	2.0Km	North – West	450

12. Power Requirement

The proposed ordinary earth quarrying does not require any power supply for the quarrying operation.

13. Scope of the Baseline Study

This chapter contains information on existing environmental scenario on the following parameters.

1. Micro – Meteorology
2. Water Environment
3. Air Environment
4. Noise Environment
5. Soil / Land Environment
6. Biological Environment
7. Socio-economic Environment

13.1 Micro – Meteorology

Meteorology plays a vital role in affecting the dispersion of pollutants, once discharged into the atmosphere. Since meteorological factors show wide fluctuations with time, meaningful interpretation can be drawn only from long-term reliable data.

- i) Average Minimum Temperature: 18°C to 23°C
- ii) Average Maximum Temperature: 37°C to 42°C
- iii) Average Annual Rainfall of the area: 600 to 800 mm

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13.2 Air Environment

Ambient air monitoring was carried out on monthly basis in the surrounding areas of the Mine Lease area to assess the ambient air quality at the source. To know the ambience air quality at a larger distance i.e. in the study area of 5 km. radius, air quality survey has been conducted at 7 locations. Major air pollutants like Particulate Matter (PM₁₀), Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) were monitored, and the results are summarized below.

The baseline levels of PM₁₀ (65-36 µg/m³), PM_{2.5} (33-13 µg/m³), SO₂ (20-4 µg/m³), NO₂ (51-11 µg/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from December 2025 to February 2026.

13.3 Noise Environment

The maximum Day noise and Night noise were found to be 54 dB(A) and 43 dB(A) respectively in Project site. The minimum Day Noise and Night noise were 54 dB (A) and 44 dB(A) respectively, which was observed in Veeran Temple, Avadaiyarpattu. The observed values are all well within the Standards prescribed by CPCB.

13.4 Water Environment

- The average pH ranges from 7.04 – 7.85.
- TDS value varied from 225 mg/l to 1082 mg/l
- Hardness varied from 104 to 712 mg/l
- Chloride varied from 41.3 to 210 mg/l

13.5 Land Environment

The analysis results show that the majority of soil in the project and surrounding area is slightly alkaline in nature and pH value ranges from 7.52 to 8.31 with organic matter 0.17 to 1.05 %. The concentration of Nitrogen, Phosphorus & Potassium has been found to be in good amount in the soil samples.

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13.6 Biological Environment

The proposed Mining lease area is mostly dry barren ground with small shrubs and bushes. No specific endangered flora & fauna exist within the mining lease area.

14. Rehabilitation/ Resettlement

- The overall land of mine is Patta land. There is no displacement of the population within the project area and adjacent nearby area. Social development of nearby villages will be considered in this project.
- The mine area does not cover any habitation. Hence the mining activity does not involve any displacement of human settlement.

15. Greenbelt Development

1. The development of greenbelt in the peripheral buffer zone of the mine area.
2. Green belt has been recommended as one of the major components of Environmental Management Plan, which will improve ecology, environment and quality of the surrounding area.
3. Local trees like Neem, Vilvam, Panai, etc will be planted along the lease boundary and avenues as well as over non-active dumps at a rate of 215 trees per annum with interval of 5m.
4. The rate of survival expected to be 80% in this area

Table.10 Plantation/ Afforestation Program

Name of species proposed	Survival	No of species
Neem, Vilvam, Vaagai, Eachai, Naval, Mantharai, Magizha Maram, Vila Maram, Poo Marudhu, Panai, Marudha maram, Thandri, Sengondrai, Poovarasu, Pungam, Sandhana Vembu, Uva, Uzha, Illuppai, Sarakondrai, Puthranjivi, etc.,	80%	900
Total		900

16. Anticipated Environmental Impacts

16.1 Air Environment and Mitigation Measures

1. Water sprinkling will be done on the roads & unpaved roads.
2. Proper mitigation measures like water sprinkling will be adopted to control dust emissions.

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3. Plantation will be carried out on approach roads, solid waste site & nearby my premises.
4. To control the emissions regular preventive maintenance of equipments will be carried out.

16.2 Noise Environment and Mitigation Measures

1. Periodical monitoring of ambient noise will be done as per CPCB guidelines.
2. No other equipment except the transportation vehicles and excavator for loading will be allowed.
3. Noise generated by these equipments shall be intermittent and does not cause much adverse impact

17. Responsibilities for Environmental Management Cell (EMC)

The responsibilities of the EMC include the following:

- i. Environmental Monitoring of the surrounding area
- ii. Developing the green belt/Plantation
- iii. Ensuring minimal use of water
- iv. Proper implementation of pollution control measures

18. Environmental Monitoring Program

A monitoring schedule with respect to Ambient Air Quality, Water & Wastewater Quality, Noise Quality as per Tamil Nadu State Pollution Control Board (TNPCB), shall be maintained.

19. Project Cost

The total project cost is Rs. 24,81,360/- for deployment of machinery and creation of infrastructural facilities like approach road, mine office / Workers Shed, First Aid Room etc., including electrifications and water supply.

Table .11 Project Cost details

S. No.	Description	Cost (Rs.)
1	Fixed Asset Cost	21,77,360/-
2	Expenditure	3,04,000/-
	Total	24,81,360`/-

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The project cost is about Rs. 24,81,360/- (Twenty-four Lakhs and Eighty-one Thousand Three hundred sixty Rupees Only).

The EMP (Environmental Management Plan) Cost is about Rs. 23,02,620/- (Twenty-three Lakhs and Two Thousand six hundred Twenty Rupees Only).

20. Corporate Environmental Responsibility

The Corporate Environment Responsibility (CER) fund will be provided to the below activity.

Table 12 CER Cost

S.No.	CER Activity	CER value (Rs)
1.	Government Middle School, Ranganathapuram Village, Vanur Tk, Villupuram Dt 2.85 Km, NE (Total strength 90 students) Providing facilities are: Basic amenities such as Environmental awareness books (Tamil) in Library for students, Green Belt development, RO water purifiers, Hygienic Toilet and maintenance of toilet up to lease period.	1,00,000/-
Total		1,00,000/-

21. Benefits of the Project

- There is positive impact on socio-economics of people living in the villages. Mining operations in the subject area has positive impact by providing direct and indirect jobs opportunities
- The project is environmentally compatible, financially viable and would be in the interest of construction industry thereby indirectly benefiting the masses.
- Quarrying in this area is not going to have any negative impact on the social or cultural life of the villagers in the near vicinity.

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1 Introduction

1.1 PREAMBLE

Environment Impact Assessment (EIA) is a process used to identify the environmental, social & economic impacts of a project prior to decision making. It aims to predict environmental impacts at an early stage of project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the prediction options to the proponent. By using EIA, both environmental & economic benefits can be achieved. By considering environmental effects - prediction & mitigation, early benefits in project planning, protection of the environment, optimum utilization of resources, thus saving overall time & cost of the project.

1.2 GENERAL INFORMATION ON MINING OF MINERALS

The major portion of Villupuram district is covered by mineral deposits like silica sand, limestone, black granite and blue metal. Silica sand is found in Agaram Reserve Forest in Tindivanam Taluk. Fine Clay deposits are found in large numbers in Tindivanam Taluk. Inferior grade sedimentary limestone deposits are found in Vanur Taluk. Gingee, Tindivanam, Tirukkivilur, Ulundurpettai, Vanur and Villupuram taluks have rich sources of export quantity of black granite. Multi-coloured granites are found in Gingee and Villupuram Taluks.

Silica sand is quartz that over time, through the work of water and wind, has been broken down into tiny granules. Generally, it is an assemblage of Silica grains. Silica is the name given to a group of minerals composed solely of Silicon and Oxygen. It is formed by natural weathering of Sandstone and Quartzite or by process of floatation. It occurs in Villupuram, Nagapattinam, Kanchipuram and Cuddalore districts.

Black Granite is the commercial term of basic rock known geologically as Dolerite. It is used mainly as monuments, markers, slabs and tiles after cutting and polishing. Hence, unlike other major minerals where chemical composition plays an important role in the end use, Black Granite is concerned with the physical characteristics such as color, grain size, texture, presence or absence of natural impurities, cracks play a vital role in the export market. If the material is more fine grained with uniform texture and colour background, the value increases. Black Granite deposits of export quality are located mainly in the districts of Dharmapuri,

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Villupuram, Salem, Erode, Vellore, Krishnagiri and Tiruvannamalai. The commercial varieties of Black Granite are Dharmapuri Black, Kunnam Black, Yellikaradu Black, Paithur Black.

The occurrences of limestone, limeshells, clay and reh salt are reported from the district. The polymetal sulphide deposit occurrence, eleven kilometers southwest of Mamandur, in the granulite terrain has been extensively studied by way of mapping, sampling, geophysical surveys and drilling by GSI, BGML and by Tamilnadu Government (UNDP Programme). The polymetal deposit includes area of copper, lead and silver. The district forms the hub for exploitation of dimensional stone viz., granite deposit in the country. The world-famous black granite. Dykes of Kunnam area, Vanur taluk are rated at par with the Swedish “EBONY” black. WNW-ESE and NE-SW dykes swarm between Mailam- Perumbakkam – Kunnam – Thiruvakkarai – V.Parangini village is considered to be the potential zone for the exploitation of industrial granites. In addition, the district is also noted for multi-colored granite occurrences of Gingee area. Gypsum occurs in the eastern flank of Kaliveli tank near Marakkanam, Limeshells are locally recovered from the coastal lagoons of Marakkanam. Reh salt (sodium Sulphate and carbonate) occur near the eastern flanks of Kaliveli near Marakkanam.

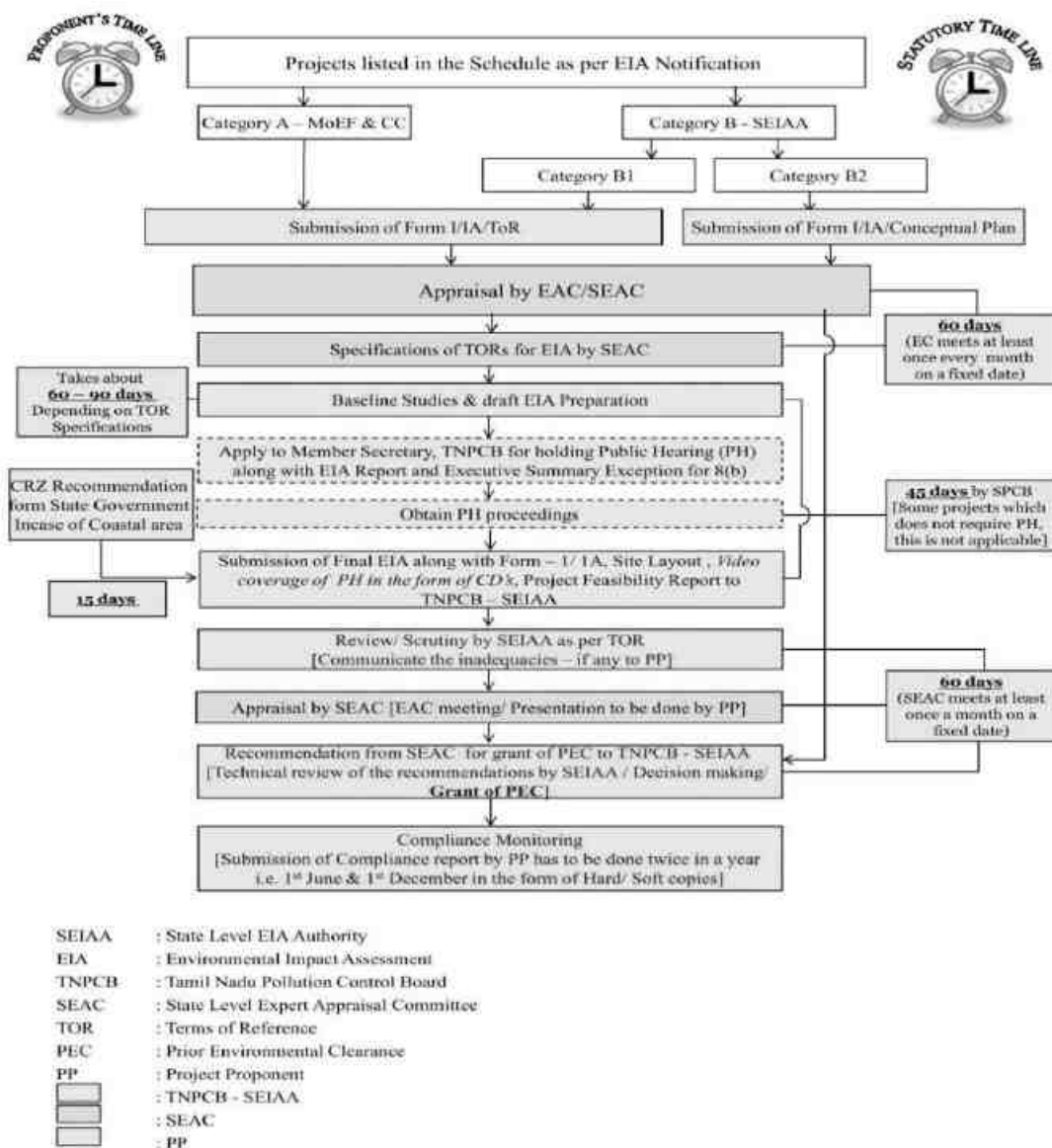
Hilly, undulated terrain like Kommedu, Mattaparai of Gingee Taluk, Mookkanur of Sankarapuram, Karadi of Tirukoilur, Ammanampakkam of Tindivanam are being mined for multi-Colour Granite. The elevated hilly and undulating terrain around Thiruvakkarai, Kunnam, Semangalam, Siruvanoor, Karasanur, Perumbakkam and Kondalankuppam of Vanur Taluk, Udaiyanatham, Malligaipattu, Kangeyanur, Siruvalai, Muttathur, Vengamur, Hanumanthapuram, Kaanai and Kunnathur of Villupuram Taluk, Eraiyanur, Varagupattu, Adasal, Nagar and Sirvadi of Tindivanam Taluk, Pothuvai-Pazhavalam, Nagalampattu, Sathaputhur, Padipallam, Thatchampattu, Valathi, Irumpuli, Sathaputhur, Sorathuperiyan kuppam of Gingee Taluk. Blue metal is being mined from undulating, barren or agricultural field areas of Thiruvakkarai, Kondalankuppam, Thenkodipakkam, Nemili, Murukkam, Thollamur, Ulagapuram, Peravur of Vanur Taluk, Nalmukkal, Algaiyapakkam, T.Nallalam, Keelarungunam, Vilangampadi, Kunnappakkam, Yenthur, Chokkanthangal, Keelsiviri, Brammadesam, Keelsevur, Madavanthangal, Perumkkal of Marakkanam and Tindivanam Taluk, Gingeeputhur and Nangathur of Villupuram Taluk, Poondi and Ulagalampoondi of Vikkiravandi Taluk.

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1.3 ENVIRONMENTAL CLEARANCE

As per EIA Notification, 2006 and its subsequent amendments (O.M vide No.F.No.L - 11011/175/2018-IA-II(M) Govt of India MOEF&CC on December 12th, 2018) project comes under category B1 cluster & schedule 1(a) under item 1

The proposed project is categorized under Category “B1” 1(a) (Cluster) - {Mining of Minerals} as the 500m radius area is more than 5 Ha including the mine lease area. Hence, the project will be considered at SEAC, Tamil Nadu.



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1.4 TERMS OF REFERENCE (TOR)

The ToR has been issued by SEIAA TN vide ToR Identification No. TO25B0108TN5766652N Dated: 12.12.2025 and File No:12836. 43 additional ToR points were recommended by SEAC TN in addition to the Standard ToR Points. The replies for the same were addressed in this report.

1.5 POST ENVIRONMENTAL CLEARANCE MONITORING

1.5.1 *Methodology adopted*

Post project monitoring will be carried out as per conditions stipulated in environmental clearance letter issued by SEIAA, consent issued by SPCB as well as according to CPCB guidelines. The lease area is considered as core zone and the area lying within 10 km radius from the lease boundary is considered as buffer zone, where some impacts may be observed on physical and biological environment. In the buffer zone slight impact may be observed and that too is occasional.

Table 1-1: Post Environmental Clearance Monitoring

S. No.	Description	Frequency of Monitoring
1.	Ambient Air Quality Monitoring	Quarterly/ Half Yearly
2.	Water level & Quality Monitoring	Quarterly/ Half Yearly
3.	Noise Level Monitoring	Quarterly/ Half Yearly
4.	Soil Quality Monitoring	Yearly
5.	Medical Check-up	Yearly

1.6 GENERIC STRUCTURE OF THE EIA DOCUMENT

Chapter 1: Introduction. This chapter contains general information on the mining of minerals, major sources of environmental impacts in respect of mining projects and details of environmental clearance process.

Chapter 2: Project Description. In this chapter the proponent should also furnish detailed description of the proposed project, such as the type of the project, need for the project, project location, layout, project activities during construction and operational phases, capacity of the project, project operation i.e., land availability, utilities (power and water supply) and infrastructure facilities such as roads, railways, housing

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and other requirements. If the project site is near a sensitive area, it is to be mentioned clearly why an alternative site could not be considered. The project implementation schedule estimated cost of development as well as operation etc should be also included.

Chapter 3: Analysis of Alternatives (Technology and Site). This chapter gives details of various alternatives both in respect of location of site and technologies to be deployed, in case the initial scoping exercise considers such a need.

Chapter 4: Description of Environment. This chapter should cover baseline data in the project area and study area.

Chapter 5: Impact Analysis and mitigation measures. This chapter describes the anticipated impacts on the environment and mitigation measures. The method of assessment of impacts including studies carried out, modelling techniques adopted to assess the impacts where pertinent should be elaborated in this chapter. It should give details of the impacts on the baseline parameters, both during the construction and operational phases and suggests the mitigation measures to be implemented by the proponent.

Chapter 6: Environmental Monitoring Program. This chapter should cover the planned environmental monitoring program. It should also include the technical aspects of monitoring the effectiveness of mitigation measures.

Chapter 7: Additional Studies. This chapter should cover the details of the additional studies required in addition to those specified in the ToR and which are necessary to cater to more specific issues applicable to the particular project.

Chapter 8: Project Benefits. This chapter should cover the benefits accruing to the locality, neighborhood, region and nation as a whole. It should bring out details of benefits by way of improvements in the physical infrastructure, social infrastructure, employment potential and other tangible benefits.

Chapter 9: Environmental Cost Benefit Analysis. This chapter should cover on Environmental Cost Benefit Analysis of the project.

Chapter 10: Environmental Management Plan. This chapter should comprehensively present the Environmental Management Plan (EMP), which includes the administrative and technical setup, summary matrix of EMP, and the cost involved to implement the EMP, both during the construction and operational phase and provisions made towards the same in the cost estimates of project construction and operation. This chapter should also describe the proposed post-monitoring scheme as well as inter-organizational arrangements for effective implementation of the mitigation measures.

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Chapter 11: Summary and Conclusions. This chapter gives the summary of the full EIA report condensed to ten A-4 size pages at the maximum. It should provide the overall justification for implementation of the project and should explain how the adverse effects have been mitigated.

Chapter 12: Disclosure of Consultants. This chapter should include the names of the consultants engaged with their brief resume and nature of consultancy rendered.

1.7 DETAILS OF PROJECT PROPONENT

Project Proponent : Tmt .T. Jayapraba
Status of the Proponent : Private & Individual
Proponent's Name & Address : D/o. Thirunavukarasu,
No.4, Subramaniam Koil Street,
Sellaperumalpet,
Pondicherry– 605 008.

1.8 BRIEF DESCRIPTION OF THE PROJECT

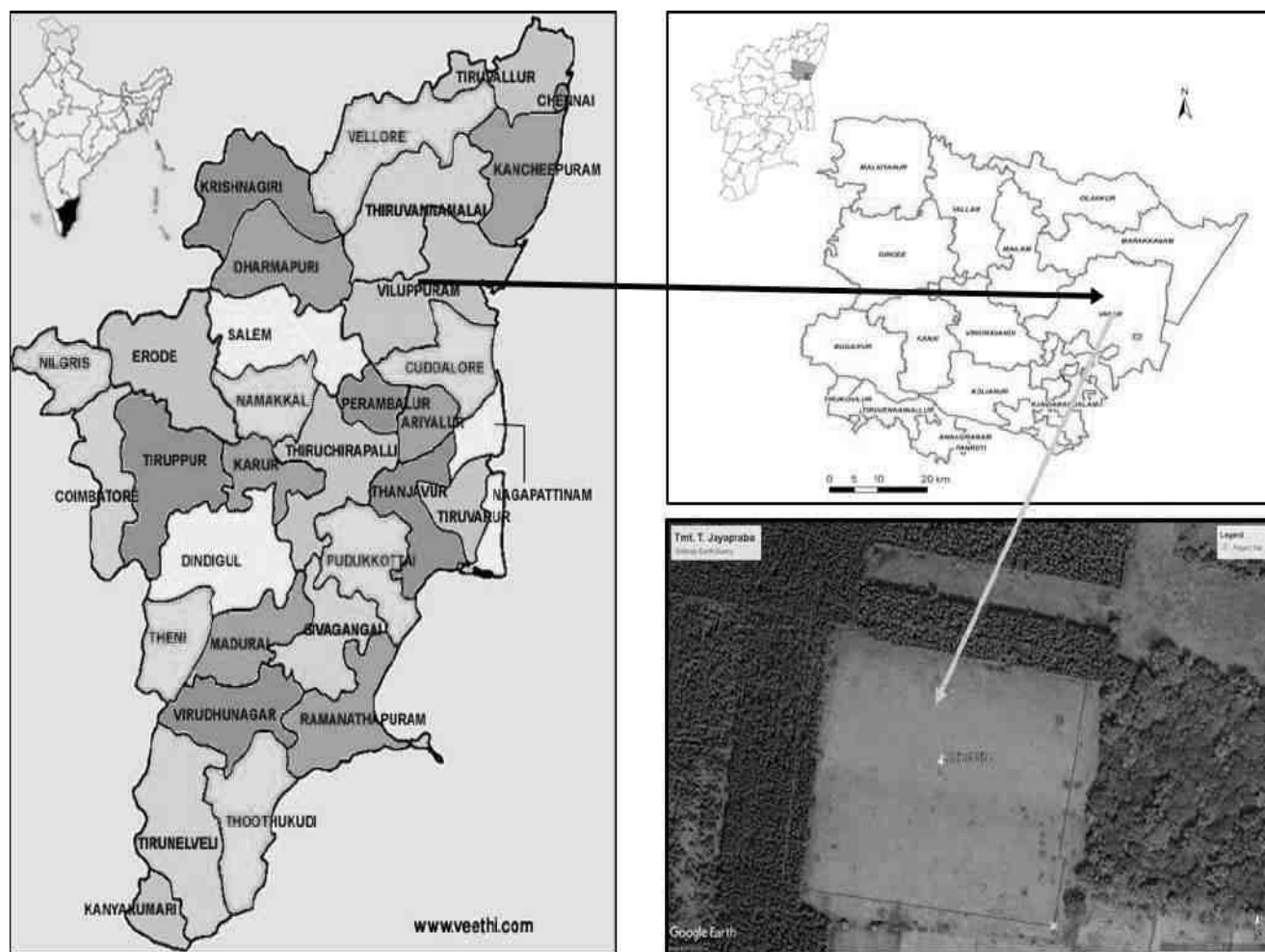
1.8.1 Project Nature, Size & Location

As per EIA Notification, 2006 and its subsequent amendments (O.M vide No.F.No. L-11011/175/2018-IA-II(M) Government of India MoEF & CC on December 12th 2018) project comes under category B1 cluster & schedule 1(a) under item 1.

Proposed proposal pertains to Ordinary Earth mining project by open cast semi- mechanized method on allotted mine lease area at Kondalankuppam Village, Vanur Taluk of Villupuram District, Tamil Nadu. It is a Plain terrain with gentle slope. The total allotted mine lease for the proposed project is 1.76.0 Ha with their maximum production capacity i.e 55,968Ts of Ordinary Earth for the period of one year only.

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Figure 1.1: Location Map of the Project site



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Project Location	Kondalankuppam Village, Vanur Taluk, Viluppuram District	

2 Project Description

This chapter furnishes detailed descriptions of the proposed project, such as the type of the project, need for the project, project location, layout, project activities during mining, capacity of the project, project operation i.e., land availability, utilities (power and water supply) and infrastructure facilities such as roads, railways, housing and other requirements. The project implementation schedule estimated cost for carrying out entire mining activity is included.

2.1 GENERAL

Proposed proposal pertains to ordinary earth mining project by open cast semi- mechanized method on allotted mine lease area at Kondalankuppam Village, Vanur Taluk of Villupuram District, Tamil Nadu. It is a Plain terrain with gentle slope. We have obtained fresh mining plan from 2025 to 2026 from Department of Geology and Mining, Villupuram District for 1.76.0 Ha land area in the S.F.Nos. 101/2 for a proposed mining depth of 2.0m below ground level and one year production of 55,968 Ts of Ordinary Earth.

Type of the project:

As per EIA Notification, 2006 and its subsequent amendments (O.M vide No.F.No. L-11011/175/2018-IA-II(M) Government of India MoEF & CC on December 12th, 2018) project comes under category B1 cluster & schedule 1(a) under item 1. The project required to be appraised at state level by State Environment Impact Assessment Authority, Tamil Nadu. Environment Clearance study will involve preparation of draft EIA report on the basis of baseline & impact assessment study is carried out. Also, before appraisal, under 7(III) of EIA notification 2006, the project involves Public Consultation and the same will be conducted under SPCB (TN) in Villupuram District. The proceedings of the same will be incorporated in the Final EIA Report.

The mines within 500m radius from the project site are listed below.

Table 2-1: Quarry within 500m Radius

Project	Ordinary Earth Quarry – 1.76.0 Ha by Tmt. T. Jayapraba	Draft EIA Report
Project Proponent	Tmt. T. Jayapraba	
Project Location	Kondalankuppam Village, Vanur Taluk, Viluppuram District	

1. Existing quarries:

S. No.	Name of the Lessee/Permit Holder	Name of the Mineral	Taluk & Village	S.F. Nos.	Extent in Hect.	Lease Period	Remarks
1.	Thiru.S.Devamani S/o.Subramani, Mariyamman Kovil Street, Kadagampattu Village, Vanur Taluk, Viluppuram District"	Red Earth	Vanur Taluk Kondalankuppam village	6/12 70/58 70/6 70/7B 70/8 88/2	0.95.0 0.28.5 0.55.0 0.23.0 0.65.0 0.39.0 Total 3.05.5	06.10.2022 to 05.10.2025	-
2	Thiru B. Venkatakrishnan, S/o.Balaraman, No.25, 2nd Cross Street, Kurumbapet, Housing Board, Puducherry - 605009	Ordinary Earth	Vanur Taluk Kondalankuppam Village	70/2 70/3 70/4 70/5A 71/3	0.11.0 0.10.0 0.64.0 0.30.5 0.38.0 1.53.50	23.02.2024 to 22.02.2026	-
3.	Thiru S. Vasantharaj, S/o.Selvaraj, No.477, MG Road, Ramakrishna Nagar, Muthiyalpet, Puduchery.	Ordinary Earth	Vanur Taluk Kondalankuppam Village	71/2 86 8/1	0.93.5 1.00.0 1.93.5 3.87.0	06.02.2025 to 05.02.2027	-

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Proposed Area:

1.	Tmt.T. Jayapraba, D/o.Thirunavukarasu, No.4, Subramaniyar Koil Street, Sellaperumalpet, Pondicherry - 605 008.	Ordinary Earth	Vanur Taluk Kondalankuppam Village	101/2	1.76.0	-

Abandoned quarries:

-----NIL-----

The Total extent of the Existing / Lease expired / Proposed quarries is 10.22.0 Ha

2.1.1 Need for the project:

The said project plays a significant role in the domestic as well as infrastructural market. To achieve a huge infrastructure being envisaged by Government of India, particularly Ordinary Earth will be used for filling and leveling of low-lying areas road project and other infrastructure development work in and around the district.

Since Villupuram, a city known for its small-scale industries and also the soil in the area near project site is not very fertile, making it unsuitable for carrying out agricultural activities. The topography near the project area is dry lands showing only less chance for crop growth and development of vegetation. Rocks and minerals of economic importance found to occur in Villupuram District are Black Granite, Rough Stone, Red soil, Gravel and Pebbles.

As a result of developmental activities and market demand for minor minerals, mining minor minerals is vital. In addition to that, geological reserves of ordinary earth are abundant in the project area, which is evident from the mine activities carried out in the nearby sites.

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2.2 BRIEF DESCRIPTION OF THE PROJECT

Table 2-2 Salient Features of the Project

S. No.	Description	Details
1	Project Name	Ordinary Earth Quarry – 1.76.0 ha
2	Proponent	Tmt. T. Jayapraba
3	Mining Lease Area Extent	1.76.0 Ha
4	Location	S.F.Nos. 101/1 of Kondalankuppam Village, Vanur Taluk, Villupuram District.
5	Latitude	12°02'04.95"N to 12°02'09.61"N
6	Longitude	78°41'03.58"E to 78°41'08.94"E
7	Topography	Plain Terrain with gentle slope
8	Site Elevation above MSL	The altitude of the lease area is 75.0m above MSL.
9	Topo sheet No.	57-P/12
10	Minerals of Mine	Ordinary Earth Quarry
11	Proposed production of Mine	55,968 Ts of Gravel
12	Ultimate depth of Mining	2.0 m below ground level
13	Method of Mining	Open cast semi- mechanized mining
14	Water demand	2.0 KLD
15	Source of water	Water will be supplied through tankers supply
16	Man power	22 Nos.
17	Mining Lease	Precise area communication from The Assistant Director, Dept. of Geology & Mining, Viluppuram vide Rc.No. A/G&M/84/2025 dated 16.07.2025.
18	Mining Plan Approval	Mining Plan was approved by The Assistant Director, Dept. of Geology & Mining, Viluppuram vide Rc.No. A/G&M/84/2025 dated 02.09.2025.
19	Production details	Geological reserves: 1,76,000 Ts of Ordinary Earth. Proposed recoverable reserves: 55,968 Ts of Ordinary Earth.

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20	Boundary Fencing	7.5 m barrier all along the boundary for adjacent patta lands and 10 m safety distance for Govt. Lands. Fencing will be provided.
21	Disposal of overburden	There is no overburden in the lease applied area
22	Ground water	The ground Water Level is noticed at the depth of 17m to 19m below Ground Level by monitoring nearby bore holes, during the climatic conditions. The quarry operation is proposed up to a depth of 2.0m. Hence the quarrying operation may not affect the ground water in any manner.
23	Habitations within 300m radius of the Project Site	There is no Habitation within 300m radius of the project site.
24	Drinking water	Water will be supplied through tankers from Kondalankuppam village which is about 0.55 km SW from the project site.

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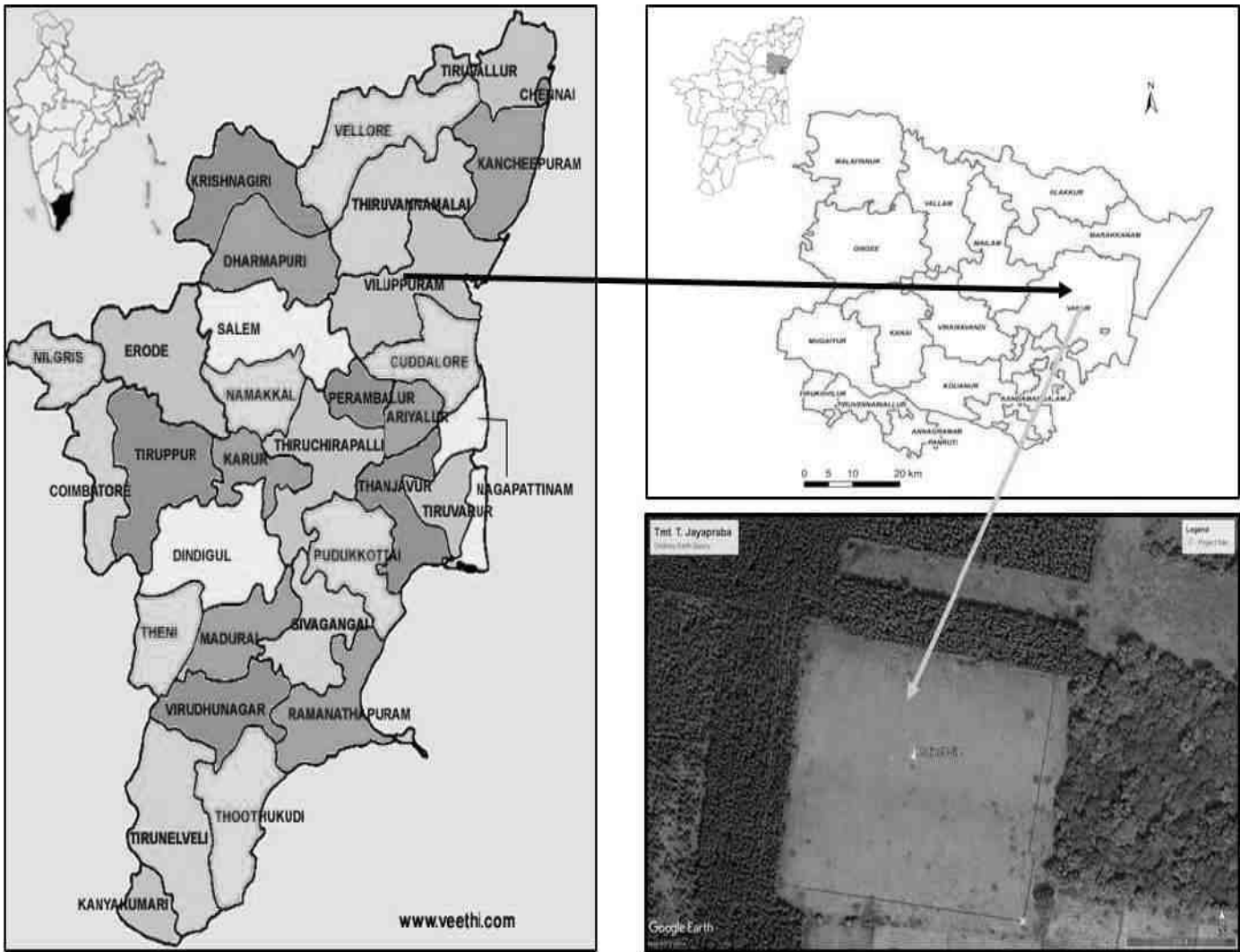


Figure 2.1: Location Map of the Project Site

Project	Ordinary Earth Quarry – 1.76.0 Ha by Tmt. T. Jayapraha	Draft EIA Report
Project Proponent	Tmt. T. Jayapraha	
Project Location	Kondalankuppam Village, Vanur Taluk, Viluppuram District	



Figure 2.2: Google Earth Image and Coordinates of the Project Site

2.2.1 Site Connectivity:

The site is connected to the roadways as follows.

- NH-32 Chidambaram — Nagapattinam road – 8.5 Km, NE
- SH-136 Vandavasi— Pondicheery road – 2.5 Km, N
- The Nearest Railway head is Vikravandi rail Station – 16 km, W.
- Pondicheery Airport – 17.0 Km, SE

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Figure 2.3: Site Connectivity

2.3 LOCATION DETAILS:

Table 2-3: Location Details

S. No	Particulars	Details
1.	Latitude	12°02'04.95"N to 12°02'09.61"N
2.	Longitude	78°41'03.58"E to 78°41'08.94"E
3.	Site Elevation above MSL	The altitude of the lease area is 75.0m above MSL.
4.	Topography	Plain Terrain
5.	Land use of the site	Patta land (Consent registered)
6.	Extent of lease area	1.76.0 Ha

<i>Project</i>	<i>Ordinary Earth Quarry – 1.76.0 Ha by Tmt. T. Jayapraba</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Tmt. T. Jayapraba</i>	
<i>Project Location</i>	<i>Kondalankuppam Village, Vanur Taluk, Viluppuram District</i>	

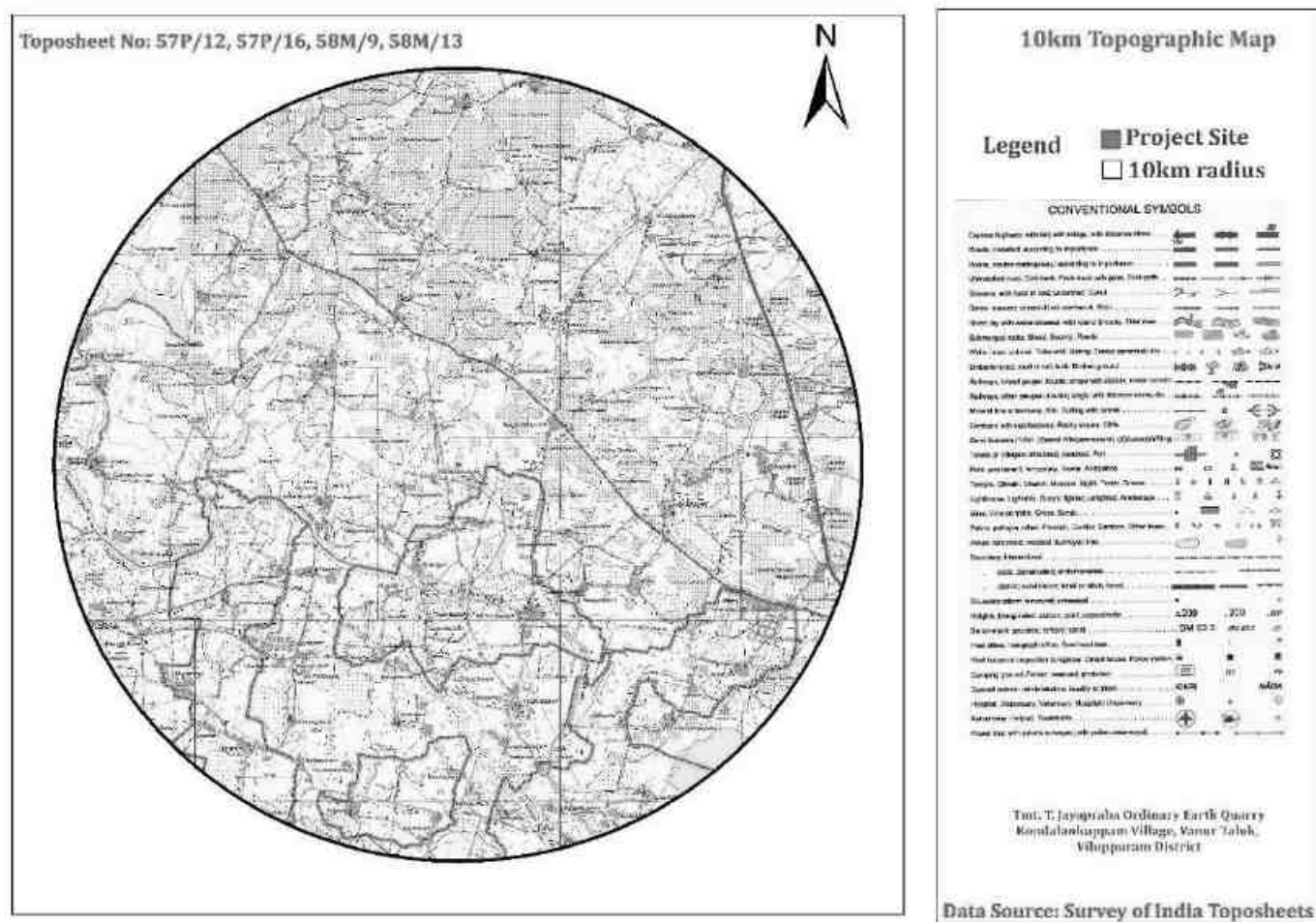


Figure 2.4: Topo Map of Project Site

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Figure 2.5: Environmental Sensitivity within 15 km radius

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2.3.1 Site Photographs

The site photographs of the project site are as follows



Figure 2.6: Site Photographs

2.3.2 Land Use Breakup of the Mine Lease Area

The Mine Lease area is Plain terrain with gentle slope. The land use pattern of the mine lease area as follows.

Table 2-4: Land use pattern

S. No.	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)
1.	Quarrying Pit	Nil	1.39.92
2.	Unutilized	1.76.0	0.36.08
	Total	1.76.0 Ha	1.76.0 Ha

2.3.3 Human Settlement

There are no habitations within the radius of 300m. The nearby habitations are as follows

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Table 2-5: Habitation

S. No	Name of the Village	Approximate distance	Direction from lease applied area	Approximate population
1.	Ramanathapuram	2.0Km	North – East	390
2.	Sandhai Pudukuppam	1.2Km	South – East	440
3.	Kadagampattu	1.3Km	South – West	200
4.	Thollamur	2.0Km	North – West	450

2.4 LEASEHOLD AREA

The Ordinary Earth Quarry over a total extent of 1.76.0 Ha is a Patta land (Consent registered). The lease area falls in S.F No: 101/2 of Kondalankuppam Village, Vanur Taluk, Villuppuram District. There is no reserve forest or protected forest land within the lease area. There is neither human settlement within 300m radius from the lease area.

2.5 GEOLOGY

The greater part of the district is covered by rocks belonging to Archaean age comprising the Charnockite group, the Migmatite complex, Sathyamangalam group and the Bhavani group and the alkali complex of Proterozoic age. West of Kallakurichi (Southwestern part of the district), the area comprises the Charnockite Group of rocks, viz., Charnockite, pyroxene-granulite and garnetiferous gabbro. West of Tirailleur (Central part of the district) and east of the Charnockite terrain (i.e., Kallakurichi area) the Migmatite complex is made up of Hornblende-Biotite gneiss. Pink Augen gneiss and pink migmatite with younger intrusions of Tindivanam and Gingee Granites (2250 Ma) and basic dykes (Proterozoic). The Migmatite Complex forms the major country rock of the area covering more than sixty percent and extending towards east upto Vikravandi, South of Gingee. Epidote-hornblende gneiss (Proterozoic age) occurs as small isolated outcrops. Dolerite dykes form the youngest basic intrusives traversing both Charnockites as well as the migmatite country equally. Overlying the Archaeans are the marine fossiliferous Upper, Cretaceous and Palaeogene Formations occurring in two separate sub basins separated by thick cover of alluvial sediments deposited by Gadilam and Pennaiyar Rivers. The two sub basins are recognized as Vridhachalam sub-basin and

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Pondicherry sub-basin. In Vridhachalam sub-basin, the marine Upper Cretaceous sediments are divisible into four formations viz., Parur formation, Patti formation, Mattur formation and Alladi formation. The Parur formation is not exposed in the district. The Patti formation comprises fossiliferous sandy limestone and Calcareous shale. Mattur formation and Alladi formation are chiefly composed of argillaceous sandstone and shales with pockets of fossiliferous limestone. The Pondicherry sub-basin is partly exposed in the eastern part of Villupuram district and the Upper Cretaceous sediments are divisible into Vanur Formation, comprising argillaceous sandstone with hard bands of calcareous sandstone and Nesal formation comprising fossiliferous shale, siltstone and bands of shell limestone. The Palaeocene rocks, overlying the Upper Cretaceous Formations, are divided into Karasur formation comprising fossiliferous limestone with calcareous shale and Manaveli Formation comprising siltstone and fine-grained argillaceous sandstone and recognized as Putturai Group. The Tertiary rocks comprise the Cuddalore Formation, consisting of cobbly and pebbly sandstone, mottled sandstone, ferruginous sandstone with bands and lenses of clay besides lignite seams. This formation contains large quantities of fossil wood around Thiruvakkarai which have been declared and maintained as National Fossil wood Park by G.S.I. These are overlain by the Quaternary fluvial, marine and Aeolian formations along the coast as well as river courses.

The terrain displays much structural complexity due to the multiple deformation it has suffered. A number of prominent shear zones have been recognized viz, N-S shear zone, east of Gingee town and NNE-SSW to ENE-WSW among which the one trending NNE-SSW near the eastern foot of the Kalvarayan hills SW of Kallakurichi is the most striking.

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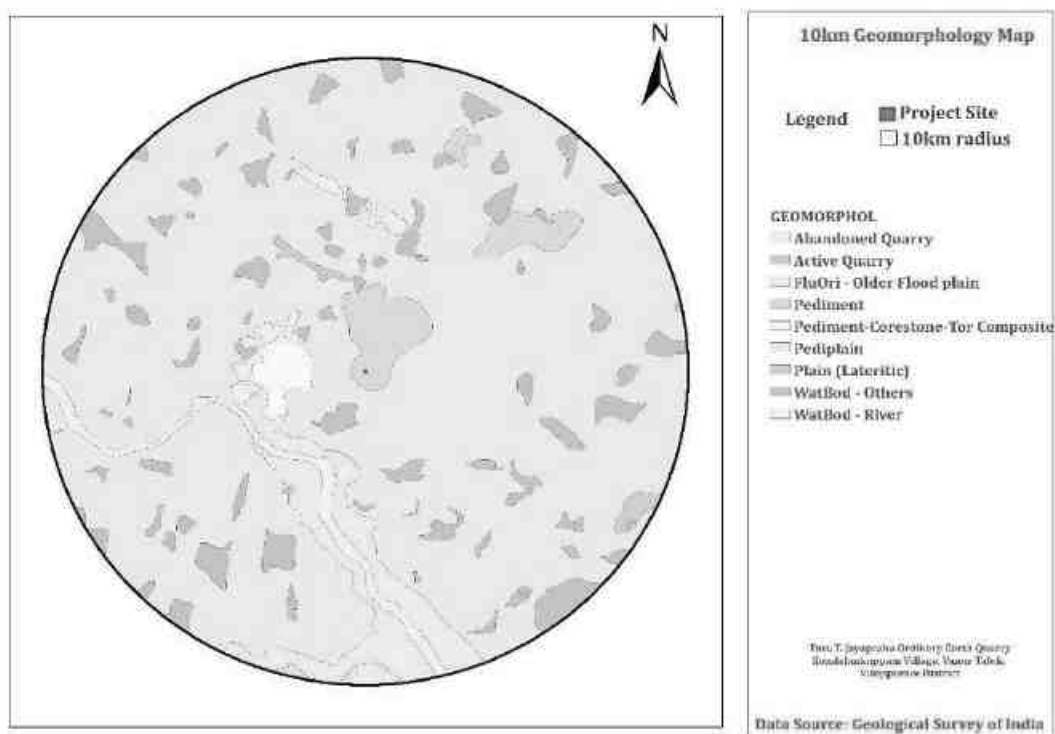


Figure 2.7: Geomorphology

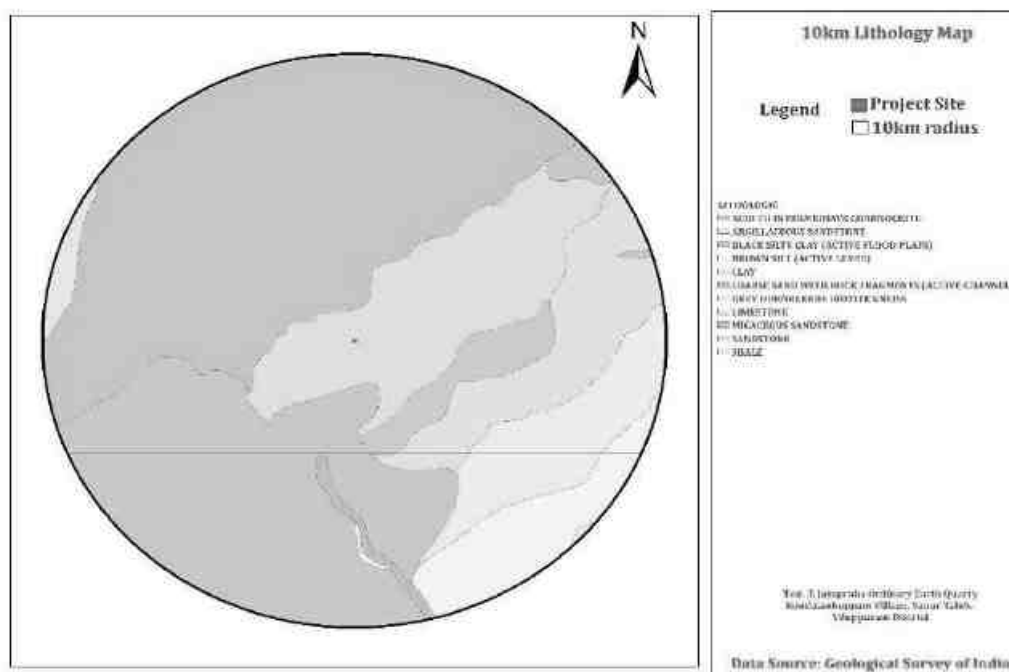


Figure 2.8 Lithology

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2.6 QUALITY OF RESERVES:

The mining lease area is 1.76.0 Ha, with production capacity of 55,968 Ts of Gravel. Due to significant role in the domestic as well as infrastructural market, making the mining of ordinary earth along with associated minor minerals is economically viable.

Table 2-6: Details of Mining

S. No	Particulars	Details
1	Method of Mining	Open Cast semi- mechanized
2	Geological Reserves	1,76,000 Ts of Ordinary Earth
3	Recoverable Reserves	55,968 Ts of Ordinary Earth
4	Proposed Production	55,968 Ts of Ordinary Earth
5	Elevation Range of the Mine Site	The altitude of the lease area is 75.0m above MSL.

2.6.1 *Estimation of Reserves*

The practical method of the systematic geological mapping and delineation of Ordinary Earth (Charnockite) within the field was done and careful evaluation of body luster, physical properties, engineering properties, commercial aspects, etc. The Topographical, Geological plan and sections demarcated the commercial marketable Ordinary Earth (Charnockite) deposit has been prepared in 1:1000 scale and the estimated balance Geological Reserves as 1,76,000 Ts of Ordinary Earth.

2.6.2 *Geological Reserves*

Ordinary Earth:

Geological Resources are estimated at 1,76,000 Ts of Ordinary Earth.

Table 2-7: Geological Reserves

Geological Resources					
Hectares	Area in Sq.m	Depth in (m)	Ordinary Earth m ³	Bulk density	Ordinary Earth in (Ts)
1.76.0	10,000	5.0	88,000	2	1,76,000

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2.6.3 Mineable Reserves

The Mineable Reserves are calculated by deducting the safety distance of 7.5m to adjacent patta land at the rate of 100% recovery up to the permissible depth. Total Depth – 2.0 m.

Table 2-8: Mineable Reserves

Mineable Reserves						
Section	Length	Width in (m)	Depth in (m)	Ordinary Earth m ³	Bulk Density	Ordinary Earth in (Ts)
XY - AB	132	106	2.0	27,984	2	55,968
Total				27,984		55,968

2.6.4 Year wise Production Plan

The proposed rate of production of Recoverable Reserves is estimated 55,968 Ts of Ordinary Earth up to depth of 2.0m (Max) for the 1 Year only.

Table 2-9: Year wise Production Plan

Production Schedule is proposed an average production of 27,984m³/55,968Ts (4,664 Lorry Loads) of Ordinary Earth up to a depth of 2.0m below ground level for the lease period of (One) 1 Year only.

(Total Period :1 Year, Mining Plan proposed Period: (One) 1 Year) only

Production quantity per day (1Load=6m³approx) (1Year=260 Working days)

Ordinary Earth quantity = 27,984m³ / 4,664 Loads

= 27,984 m³ / 260 days (1 Year)

= 108m³ or 18 Lorry Loads per day

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2.7 TYPE OF MINING

The quarry operation is proposed to carry out with conventional open cast semi mechanized mining. The proposed project is mining of Ordinary Earth Quarry which is hard and compact in nature. Since, it is mined at shallow depth of 2.0m (Below ground level) benching is not required. The Ordinary Earth is removed by a system of hydraulic Excavator and Tipper combination.

2.7.1 *Method of Working:*

The ordinary earth is proposed to quarry with conventional Open cast semi-mechanized method with slope of 45°. The quarry operation involves Excavator and Tipper for Loading & transportation of ordinary earth to the country & Chamber bricks manufacturing and also for filling building construction sites and construction of Road work.

2.7.2 *Overburden*

There is no over burden in the lease applied area.

2.7.3 *Machineries to be used*

Type of machinery proposed for quarrying operation for the entire project is listed below.

Table 2-10: List of Machineries used

Type	Nos	Dia of hole	Size / Capacity	Make	Motive power
Tipper	3	-	10/20 T	Tata Tipper	Diesel Drive
Hydraulic Excavator	2	-	0.90m ³	Tata Hitachi – 210	Diesel Drive

2.7.4 *Blasting:*

2.7.4.1 **Blasting Pattern:**

The ordinary earth is proposed to quarry with conventional Open cast semi-mechanized method. It is being loose soil in nature No drilling or blasting is proposed for this type of Ordinary Earth quarrying operation, it is an ecofriendly quarrying operation.

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2.7.4.2 Drilling & Blasting:

No drilling or blasting is proposed for this type of Ordinary Earth quarrying operation; it is an ecofriendly quarrying operation.

2.7.4.3 Types of Explosives to be used:

No drilling or blasting is proposed for this type of Ordinary Earth quarrying operation; it is an ecofriendly quarrying operation.

2.7.4.4 Measures to minimize ground vibration due to blasting:

No drilling or blasting is proposed for this type of Ordinary Earth quarrying operation; it is an ecofriendly quarrying operation.

2.7.4.5 Storage & Safety measures taken during blasting:

No drilling or blasting is proposed for this type of Ordinary Earth quarrying operation; it is an ecofriendly quarrying operation.

2.8 MAN POWER REQUIREMENTS

The manpower requirement to meet out the production Schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations is as follows.

Table 2-11: Man Power Requirements

S. No	Levels & Details		Persons
1.	Skilled	Operators- Excavator & Jackhammer	2 Nos
2.	Semi – skilled	Drivers	6 Nos
3.	Unskilled	Musdoor/Labours, Cleaners & Watch man	12 Nos
4.	Management & Supervisory staff	Mines Foreman (with valid statutory qualification)	1 No
		Mines Mate (with valid statutory qualification)	1 No
Total			22 Nos

No child less than 18 years will be entertained during quarrying operations.

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2.8.1 Water Requirement

Total water requirement for the mining project is 2.0 KLD. Domestic water will be sourced from nearby Kondalankuppam village and other water will be sourced from nearby road tankers supply.

Table 2-12: Water Requirement

Purpose	Quantity	Sources
Drinking Water	1.0 KLD	Packaged Drinking water vendors are available in Kondalankuppam village which is about 0.55 km SW from the project site.
Afforestation & Green belt	0.5 KLD	Other domestic activities through road tankers supply
Dust suppression Sprinkling	0.5 KLD	From road tankers supply
Total	2.0 KLD	

2.9 PROJECT IMPLEMENTATION SCHEDULE

The implementation schedule of the proposed Mine Lease of Tmt. T. Jayapraba (1.76.0 ha) is as follows.

Table 2-15: Mining Schedule

Mining Schedule		
Activity	Dec 26	Dec 27
Site Clearance		
1 Year Production – 55,968 Ts of Ordinary Earth		

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2.10 SOLID WASTE MANAGEMENT

Table 2-13: Solid Waste Management

S. No	Type	Quantity	Disposal Method
1	Organic	3.96 kg/day	Municipal bin including food waste
2	Inorganic	5.94 kg/day	TNPCB authorized recyclers

As per CPCB guidelines: MSW per capita/day = 0.45 kg/day

2.11 MINE DRAINAGE

Depth of water table (based on nearby wells and water bodies)

The water table is noticed at the depth of 17m to 19m below ground level is nearby borehole of this area, and the climatic fluctuations during the Rainy season 17m below ground level and the summer season 19m below ground level of this area.

Mining operation is shallow depth in nature and confined to a depth of 2.0m below ground level, it does not arise.

2.12 POWER REQUIREMENT

This ordinary earth quarry project does not require huge water and electricity for the project.

10 Litre diesel per hour for excavator for mining and loading for Ordinary earth needed

2.13 PROJECT COST

(a) Fixed Asset Cost

1. Land cost	=	Rs. 12,32,000/-
2. Machinery to be used	=	Rs. 4,47,360/-
3. Rest shelter	=	Rs. 2,50,000/-
4. Drinking Water	=	Rs.48,000/-
5. other items (Levelling)	=	Rs.2,00,000/-

(b) Expenditure :-

1. Expenditure	=	Rs. 3,04,000/-

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Total Project Cost (a+b) is about Rs. 24,81,360/- (Twenty-four Lakhs and Eighty-one Thousand Three hundred sixty Rupees Only).

2.14 GREENBELT

1. The development of greenbelt in the peripheral buffer zone of the mine area.
2. Green belt has been recommended as one of the major components of Environmental Management plan, which will improve ecology, environment and quality of the surrounding area.
3. Local trees like, Neem, Vilvam Vaagai, Naval etc will be planted along the lease boundary and avenues as well as over non-active dumps at a rate of 240 trees per annum with interval 5m.
4. The rate of survival expected to be 80% in this area.

Table. 2-17 Plantation/ Afforestation Program

Name of species proposed	Survival	No of species
Neem, Vilvam, Vaagai, Eachai, Naval, Mantharai, Magizha Maram, Vila Maram, Poo Marudhu, Panai, Marudha maram, Thandri, Sengondrai, Poovarasu, Pungam, Sandhana Vembu, Uva, Uzha, Illuppai, Sarakondrai, Puthranjivi, etc.,	80%	900
Total		900

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3 Description of the Environment

3.1 GENERAL:

The method of mining for extracting ordinary earth is required to be selected in such a manner to ensure sustainable development. Mining activities invariably affect the existing environmental status of the site. It has both adverse and beneficial effects. In order to maintain the environmental commensuration with the mining operation, it is essential to undertake studies on the existing environmental scenario and assess the impact on different environmental components. This would help in formulating suitable management plans and sustainable resource extraction.

To understand the existing environmental scenario, Baseline data helps in identification, prediction and evaluation of impacts in Environmental Impact assessment. Through field study, baseline data are collected considering various factors of the project. This includes-

- Physical- the area, the soil properties, the geological characteristics, the topography, etc
- Chemical- water, air, noise and soil pollution levels, etc.
- Biological- the biodiversity of the area, types of flora and fauna, species richness, species distribution, types of ecosystems, presence or absence of endangered species and/or sensitive ecosystems etc.
- Socioeconomic- demography, social structure, economic conditions, developmental capabilities, displacement of locals, etc.

3.1.1 *Study Area:*

The study area for the mining projects is as follows:

- Mine lease area as the “core zone”
- A study area of 10 km radius from the project boundary is designated as buffer Zone and for the study of Socio-economic status, 10 km radius from the boundary limits of the mine lease area has been selected.

We have obtained Terms of Reference from SEIAA vide ToR Identification No: TO25B0108TN5766652N Dated: 12.12.2025. The baseline monitoring is carried out from December 2025 to February 2026, and the analysis is briefed in the EIA report. The proponent has engaged M/s. Ecotech labs Pvt. Ltd to carry out the existing baseline study.

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3.1.2 Instruments Used

The following instruments were used at the site for baseline data collection.

1. Respirable Dust Sampler with attachment for gaseous Pollutants, Envirotech APM 460, APM411.
2. Fine Particulate Matter (FPM) Sampler, APM 550
4. Sound Level Meter Model SL-4010
5. 2000 series watchdog automatic weathering monitoring station

3.1.3 Baseline Data Collection Period:

The baseline data is collected in accordance with the CPCB Guidelines. The Baseline study is carried out from December 2025 to February 2026.

3.1.4 Frequency of Monitoring

Table 3-1: Frequency of Sampling and Analysis

Attributes	Sampling	Frequency
Air environment – Meteorological (wind speed, wind direction, rainfall, humidity, temperature)	Project site	1 hourly continuous
Air environment – Pollutants PM 10 PM 2.5 SO ₂ NO _x Lead in PM	7 locations	24 hourly twice a week 4 hourly. Twice a week, One non-monsoon season 8 hourly, twice a week 24 hourly, twice a week
Noise	7 locations	24 hourly Once in 7 locations
Water (Ground water) pH, Temperature, Turbidity, Magnesium Hardness, Total Alkalinity, Chloride, Sulphate,	7 locations	Once in 7 locations

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Fluoride, Nitrate, Sodium, Potassium, Salinity, Total nitrogen, Total Coliforms, Fecal Coliforms		
Water (surface water) pH, Temperature, Turbidity, Magnesium Hardness, Total Alkalinity, Chloride, Sulphate, Fluoride, Nitrate, Sodium, Potassium, Salinity, Total nitrogen, Total Coliforms, Fecal Coliforms	Sample from nearby lakes/river	One-time Sampling
Soil (Organic matter, Texture, pH, Electrical Conductivity, Permeability, Water holding capacity, Porosity)	7 locations	Once in 7 locations
Ecology and biodiversity Study	Study area covering 10 km radius	One-time Sampling
Socio- Economic study (Population, Literacy Level, employment, Infrastructure like school, hospitals & commercial establishments)	Villages around 10 km radius	One-time Sampling

3.1.5 Secondary data Collection

Apart from the primary data, Secondary data is also used for the collection; collation; synthesis and interpretation

- Flora & Faunal Study

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- Land use study
- Demography and socio-economic analysis
- Meteorological data, from Indian Meteorological Department (IMD)

3.1.6 Study area details

Table 3-2 Study area details

S. No	Description	Details	Source
1.	Project Location	S.F.No.101/2 of Kondalankuppam Village, Vanur Taluk, Viluppuram District, Tamil Nadu.	Field Study
2.	Latitude & Longitude	Latitude: 12°02'04.95"N to 12°02'09.61"N Longitude: 78°41'03.58"E to 78°41'08.94"E	Topo Sheet
3.	Topo Sheet No.	57 P/12	Survey of India Toposheet
4.	Mine Lease Area	1.76.0 Ha	--
Demography in the study area (as per Census 2011)			
5.	Total Population	353	Census Survey of India
6.	Total Number of Households	96	
7.	Maximum Temperature (°C)	37.6	IMD
8.	Minimum Temperature (°C)	20	
9.	Ecological Sensitive Areas - Wetlands, watercourses or other waterbodies, coastal zones, biospheres, mountains, forests	❖ Katterikuppam Lake – 3.3 kms, SE ❖ Ambuzkukai Lake – 4.07 Kms, NW ❖ Pudukuppam Lake – 4.5 Kms, SE ❖ Eraiyur Lake – 4.8 Kms, NW ❖ Korakkeni Lake – 5.5 Kms, W ❖ Kunnam Lake – 5.54 kms, NW ❖ Nemili Lake – 5.6 Kms, W ❖ Vanur Lake – 5.8 Kms, E	Google Earth/Field Study

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		❖ Perumbakkam Lake – 7.3 Kms, NW ❖ Ponnampundi Lake – 7.3 Kms, NW ❖ Murukkam Lake – 7.59 Kms, N ❖ Agaram Lake – 7.6 Kms, NE ❖ Thoravi Lake – 7.74 kms, E ❖ Mannadipet Pond – 7.8 kms, SW ❖ Konamangalam Lake – 7.9 kms, NW ❖ Pulichapallam Lake – 8.04 kms, E ❖ Parikakalpattu Lake – 8.3 Kms, NW ❖ Kanniyam Lake – 8.5 Kms, NW ❖ Thaludhali Lake – 8.5 kms, NW ❖ Thaludhali Kulam – 8.6 kms, NW ❖ Veedur Lake – 8.7 Kms, NW ❖ Terkunam Lake – 9.5 Kms, N ❖ Purana Singa Lake – 9.64 Kms, SW ❖ Sompeta Lake – 9.6 kms, SW ❖ Kumalam Lake – 9.9 kms, SW ❖ Oussudu Lake – 9.9 Kms, SE ❖ Kilyanur Lake – 10.02 Kms, NE	
10.	Densely Populated area	Viluppuram - 24 km - SW	

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11.	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)				Google Earth/ Field Study
		S. No.	Places	Dist. From Project Site	
		Schools & Colleges			
		1	Govt High School, Kondalankuppam	0.70 km, SW	
		2	Govt High School, Semangalam	4.33 km, NE	
		3	Govt High School, Vanur	5.88 Km, E	
		Hospitals			
		1.	Primary Health Centre, Kunnam	5.56 Km, NW	
		2.	Vanur Govt Hospital, Vanur	5.88 Km, E	
		3.	Pombur govt Hospital	8.89 Km, W	
		Worship Places			
		1.	Pillayar Kovil ,Kondalankuppam	0.70 Km, SW	
		2.	Murugan Kovil, Sandhai Pudukuppam	1.49 km, S	
		3.	Shri varnamuthi Mariamman kovil, Ranganthapuram.	2.55 Km, NE	

3.1.7 Site Connectivity:

The site is connected to the roadways as follows.

- NH-32 Chidambaram — Nagapattinam road – 8.5 Km, NE
- SH-136 Vandavasi— Pondicheery road – 2.5 Km, N
- The Nearest Railway head is Vikravandi rail Station – 16 km, W.
- Pondicheery Airport – 17.0 Km, SE

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Figure 3.1: Site Connectivity

3.2 LAND USE ANALYSIS

3.2.1 Land Use Classification

Land Use / Land Cover - Land Use refers to man's activity and the various uses, which are carried on land. Land Cover refers to natural vegetation, water bodies, rock/soil, artificial cover and others, resulting due to land transformation. The present Land Use/Land Classification map is developed with following objectives. The main objective of the study is to classify the different land use within 10 km from the project boundary.

3.2.2 Methodology

Information about land use and land cover is important for many planning and management activities concerning the surface of the earth (Agarwal and Garg, 2000). Land use refers to man's activities on land, which are directly related to land (Anderson et al., 1976). The land use and the land cover determine the infiltration capacity. Barren surfaces are poor retainers of water as compared to grasslands and forests, which not only hold water for longer periods on the surface, but at the same time allow it to percolate down.

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The terms ‘land use’ and ‘land cover’ (LULC) are often used to describe maps that provide information about the types of features found on the earth’s surface (land cover) and the human activity that is associated with them (land use). Satellite remote sensing is being used for determining different types of land use classes as it provides a means of assessing a large area with limited time and resources. However, satellite images do not record land cover details directly and they are measured based on the solar energy reflected from each area on the land. The amount of multi spectral energy in multi wavelengths depends on the type of material at the earth’s surface and the objective is to associate particular land cover with each of these reflected energies, which is achieved using either visual or digital interpretation. In the present study the task is to study in detail the land use and land cover in and around the project site. The study envisages different LULC around the proposed project area and the procedure adopted is as below.

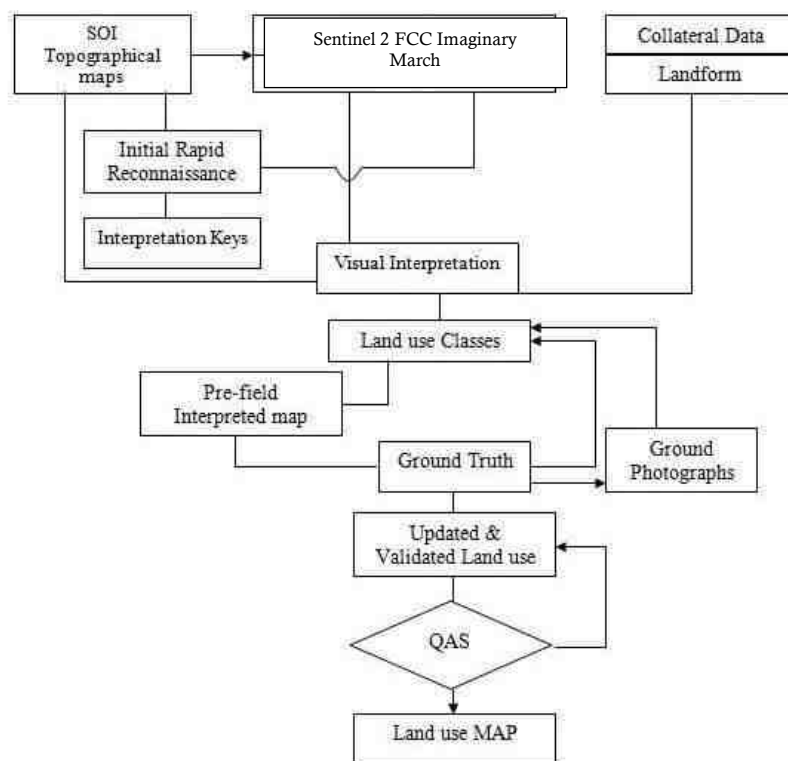


Figure 3.2 Flow Chart showing Methodology of Land use mapping

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3.2.3 *Satellite Data*

Sentinal 2 multispectral satellite data of 2020 was utilized for the present study. Details of satellite data is given below. The rectification of imagery was carried out on to bring the digital data on the earth coordinate system by means of ground control point (GCP) assignments/SOI topo sheets.

3.2.4 *Scale of mapping*

Considering the user defined scale of mapping, 1:50000 Sentinal 2 data was used for Land use / Land cover mapping of 10 km radius for proposed site. The description of the land use categories for 10 km radius and the statistics is given for 10 km radius.

3.2.5 *Interpretation Technique*

Standard on screen visual interpretation procedure was followed. The various Land use / Land cover classes interpreted along with the SOI topographical maps during the initial rapid reconnaissance of the study area. The physiognomic expressions conceived by image elements of color, tone, texture, size, shape, pattern, shadow, location and associated features are used to interpret the FCC imagery. Image interpretation keys were developed for each of the LU/LC classes in terms of image elements.

June 2016 FCC imagery (Digital data) of the study area was interpreted for the relevant land use classes. On screen visual interpretation coupled with supervised image classification techniques are used to prepare the land use classification.

1. Digitization of the study area (10 km radius from the proposed site) from the topo maps
2. In the present study the sentinal satellite image and SOI topo sheets of 57P/8, 57P/9, 57P/16, 57P/11, 57P/9 have been procured and interpreted using the ERDAS imaging and ARC-GIS software adopting the necessary interpretation techniques.
3. Satellite data interpretation and vectorization of the resulting units
4. Adopting the available guidelines from manual of LULC mapping using Satellite imagery (NRSA, 1989)
5. Field checking and ground truth validation
6. Composition of final LULC map

The LULC Classification has been done at three levels where level -I being the broad classification about the land covers that is Built-up land, agriculture land, waste land, wetlands, and water bodies. These are followed by level II where built-up land is divided into towns/cities as well villages. The agriculture land is

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divided into different classes such as cropland, Fallow, Plantation, while wastelands are broadly divided into, Land with scrub and without Scrub and Mining and Industrial wasteland. The wetlands are classified into inland wetlands, coastal wetlands and islands. The water bodies are classified further into River/stream, Canal, Tanks and Bay. In the present study level II classification has been undertaken. The SOI Topo map is presented in Annexure and Satellite imagery of 10 km radius from the project site is presented Annexure

3.2.6 Field Verification

Field verification involved collection, verification and record of the different surface features that create specific spectral signatures / image expressions on FCC. In the study area, doubtful areas identified in course of interpretation of imagery is systematically listed and transferred on to the corresponding SOI topographical maps for ground verification. In addition to these, traverse routes were planned with reference to SOI topographical maps to verify interpreted LU/LC classes in such a manner that all the different classes are covered by at least 7 sampling areas, evenly distributed in the area. Ground truth details involving LU/LC classes and other ancillary information about crop growth stage, exposed soils, landform, nature and type of land degradation are recorded and the different land use classes are taken the Land use map is presented in Annexure

3.2.7 Description of the Land Use / land cover classes

3.2.7.1 Water

Areas where water was predominantly present throughout the year; may not cover areas with sporadic or ephemeral water, contain little to no sparse vegetation, no rock outcrops nor built up features like docks; examples: rivers, ponds, lakes, oceans, flooded salt plains.

3.2.7.2 Trees

Any significant clustering of tall (~15-m or higher) dense vegetation, typically with a closed or dense canopy; examples: wooded vegetation, clusters of dense tall vegetation within savannas, plantations, swamp or mangroves (dense/tall vegetation with ephemeral water or canopy too thick to detect water underneath).

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3.2.7.3 Grass

Open areas covered in homogenous grasses with little to no taller vegetation; wild cereals and grasses with no obvious human plotting (i.e., not a plotted field); examples: natural meadows and fields with sparse to no tree cover, open savanna with few to no trees, parks/golf courses/lawns, pastures.

3.2.7.4 Flooded vegetation

Mix of small clusters of plants or single plants dispersed on a landscape that shows exposed soil or rock; scrub-filled clearings within dense forests that are clearly not taller than trees; examples: moderate to sparse cover of bushes, shrubs and tufts of grass, savannas with very sparse grasses, trees or other plants

3.2.7.5 Crops

Human planted/plotted cereals, grasses, and crops not at tree height; examples: corn, wheat, soy, fallow plots of structured land.

3.2.7.6 Scrub/Shrub

Mix of small clusters of plants or single plants dispersed on a landscape that shows exposed soil or rock; scrub-filled clearings within dense forests that are clearly not taller than trees; examples: moderate to sparse cover of bushes, shrubs and tufts of grass, savannas with very sparse grasses, trees or other plants

3.2.7.7 Built Area

Human-made structures; major road and rail networks; large homogenous impervious surfaces including parking structures, office buildings and residential housing; examples: houses, dense villages / towns / cities, paved roads, asphalt.

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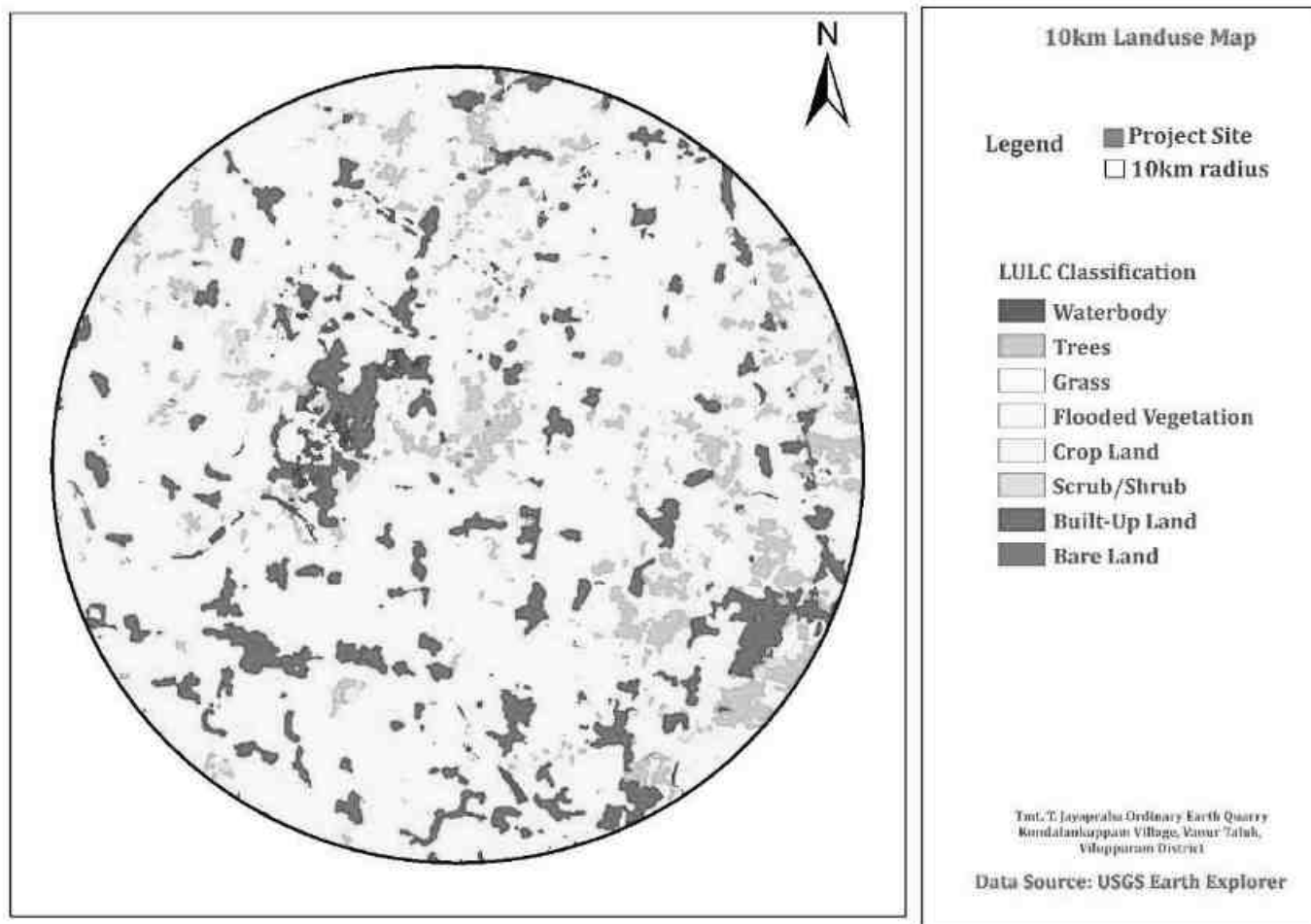


Figure 3.3 Land use classes around 10 km radius from the project site

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3.2.7.8 Different Land use classes around 10 km radius from the project site

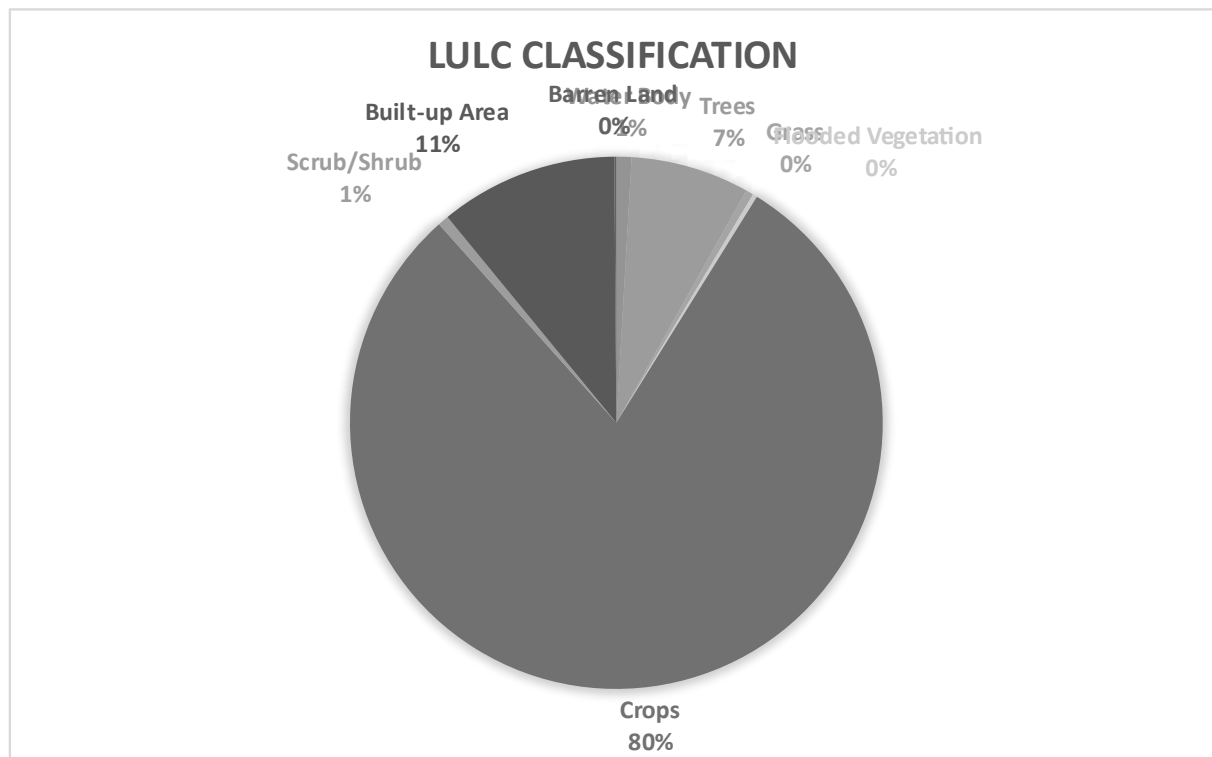


Figure 3.4 Land use pattern

Table 3-3 Land use pattern

Sl. No	Categories	Area in Sq.m
1	Water Body	2.9
2	Trees	22.79
3	Grass	1.45
4	Flooded Vegetation	0.87
5	Crops	251.84
6	Scrub/Shrub	2.11
7	Built Area	34.21
8	Barren Land	0.4

3.3 WATER ENVIRONMENT

3.3.1 *Contour & Drainage*

The project site is 75.0 m AMSL. The drainage pattern within 10 km of the project site is dendritic.

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3.3.2 Geomorphology

The residual hills and denudational hills are common in Tirukoilur and Gingee Taluks. Structural hills are noticed in the western part of the district. Shallow pediments and buried pediments are common in the central part of the district. Coastal areas have older and younger flood plains and also beach landforms at places. The ground slope is gentle towards coast. The valley fill near Villupuram is thick, which forms main ground water discharge zone. Lineaments are restricted to parts of Sankarapuram areas and productive fractures are noticed in select pockets. The crystalline sedimentary contact fault is having sympathetic fractures in hard rocks but mostly they are dry fractures.

Soils

The soil in the district are mostly forest soils and red soil. Alluvial soils are found in eastern side bordering coast. Black soils are confined to low ground in select pockets in Vanur Taluk.

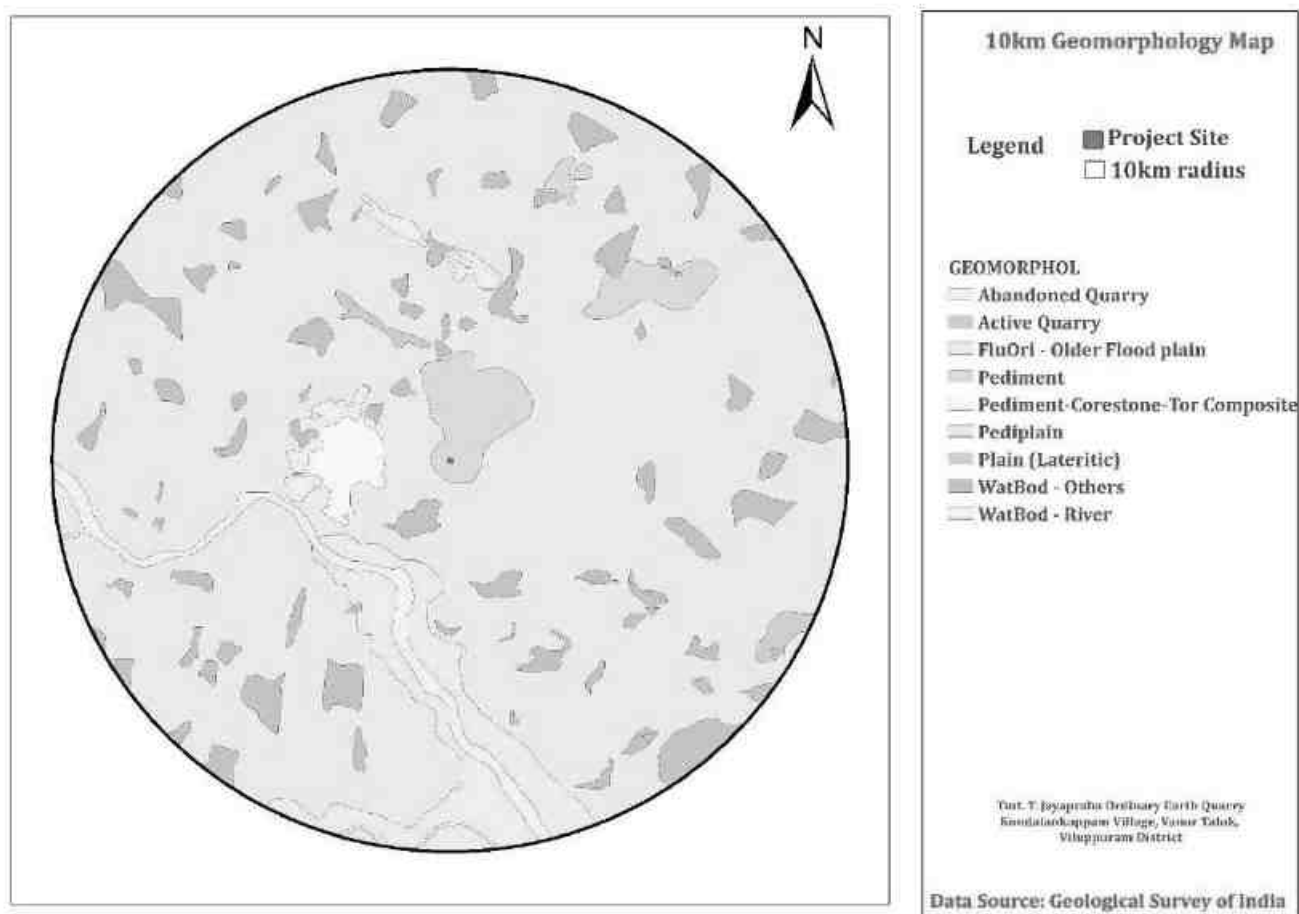


Figure 3.5 Geomorphology within 10km from the project site

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3.3.3 Geology:

The greater part of the district is covered by rocks belonging to Archaean age comprising the Charnockite group, the Migmatite complex, Sathyamangalam group and the Bhavani group and the alkali complex of Proterozoic age. Southwestern part of the district, the area comprises the Charnockite Group of rocks, viz., Charnockite, pyroxene-granulite and garnetiferous gabbro. West of Tirukoilur (Central part of the district) and east of the Charnockite terrain the Migmatite complex is made up of Hornblende-Biotite gneiss. Pink Augen gneiss and pink migmatite with younger intrusions of Tindivanam and Gingee Granites (2250 Ma) and basic dykes (Proterozoic). The Migmatite Complex forms the major country rock of the area covering more than sixty percent and extending towards east up to Vikravandi, South of Gingee. Epidote-hornblende gneiss (Proterozoic age) occurs as small, isolated outcrops. Dolerite dykes form the youngest basic intrusive traversing both Charnockites as well as the migmatite country equally. Overlying the Archaeans are the marine fossiliferous Upper, Cretaceous and Palaeogene Formations occurring in two separate sub basins separated by thick cover of alluvial sediments deposited by Gadilam and Pennaiyar Rivers. The two sub basins are recognized as Vridhachalam sub-basin and Pondicherry sub-basin. In Vridhachalam sub-basin, the marine Upper Cretaceous sediments are divisible into four formations viz., Parur formation, Patti formation, Mattur formation and Alladi formation. The Parur formation is not exposed in the district. The Patti formation comprises fossiliferous sandy limestone and Calcareous shale. Mattur formation and Alladi formation are chiefly composed of argillaceous sandstone and shales with pockets of fossiliferous limestone. The Pondicherry sub-basin is partly exposed in the eastern part of Villupuram district and the Upper Cretaceous sediments are divisible into Vanur Formation, comprising argillaceous sandstone with hard bands of calcareous sandstone and Nesal formation comprising fossiliferous shale, siltstone and bands of shell limestone. The Palaeocene rocks, overlying the Upper Cretaceous Formations, are divided into Karasur formation comprising fossiliferous limestone with calcareous shale and Manaveli Formation comprising siltstone and fine-grained argillaceous sandstone and recognized as Putturai Group. The Tertiary rocks comprise the Cuddalore Formation, consisting of cobbly and pebbly sandstone, mottled sandstone, ferruginous sandstone with bands and lenses of clay besides lignite seams. This formation contains large quantities of fossil wood around Thiruvakkarai which have been declared and maintained as National Fossil wood Park by G.S.I. These are overlain by the Quarternary fluvial, marine and Aeolian formations along the coast as well as river courses. The terrain displays much structural complexity due to the multiple deformation it has suffered. A number of

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prominent shear zones have been recognized viz, N-S shear shone, east of Gingee town and NNE-SSW to ENE-WSW among which the one trending NNE-SSW near the eastern foot of the Kalrayan hills SW of Kallakurichi is the most striking. (GSI – Villupuram District Resource Map).

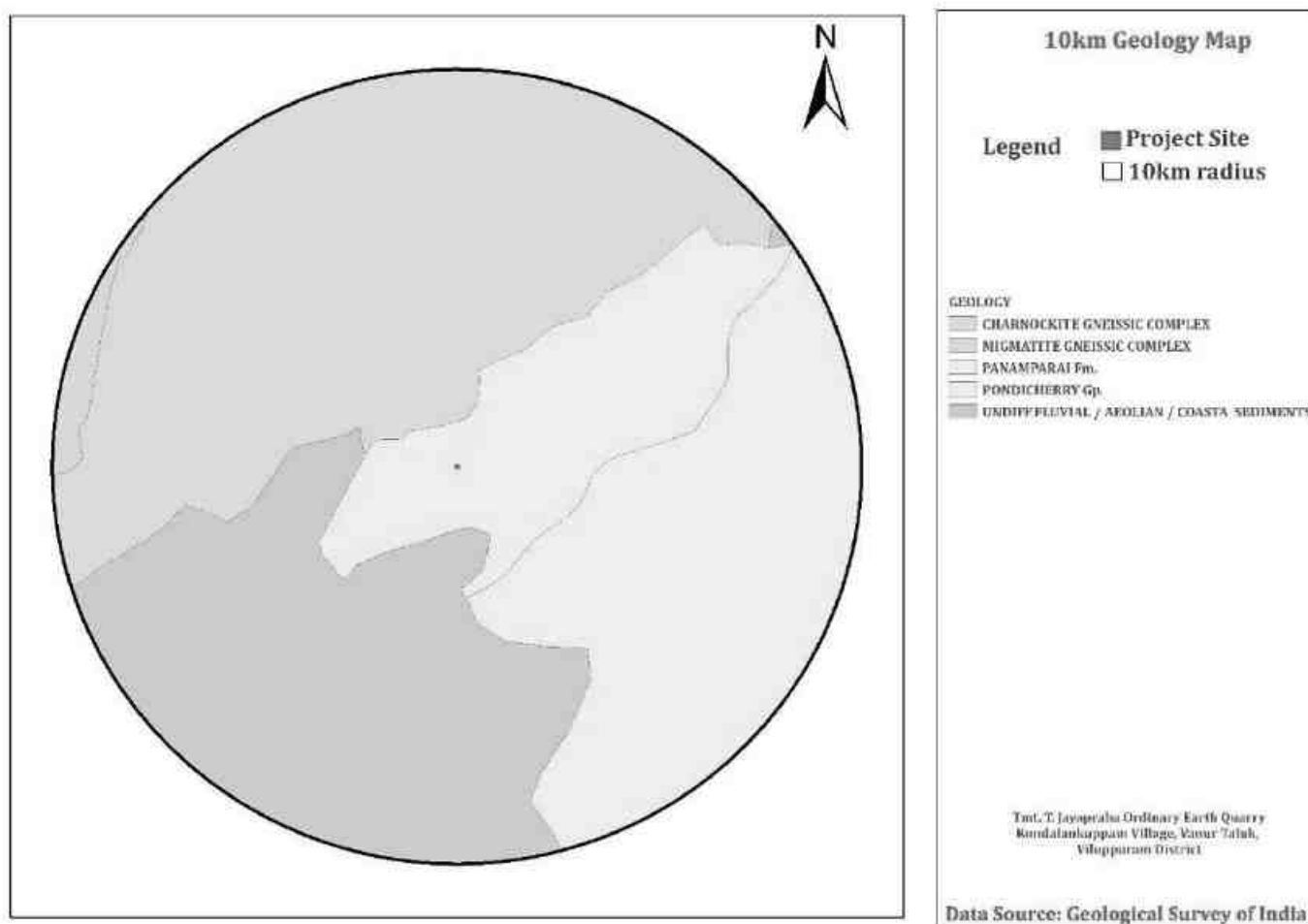


Figure 3.6 Geology within 10km from the project site

3.3.4 Hydrogeology

Villupuram district is underlain by crystalline metamorphic complex in the western part of the district and sedimentary tract in eastern side. The thickness of sediments exceeds 600m near southern part of the district. Groundwater occurs under phreatic and semi-confined conditions in consolidated formations, which comprises weathered and fractured granites, gneisses and chanockites whereas in unconsolidated sedimentary rocks the groundwater occurs in phreatic, semi-confined conditions in Vanur sandstone, Kadapperi kuppam formation and Turuvai Limestone.

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The district has rocky outcrops in major part of Sankarapuram and Tirukoilur taluks. The weathering is highly erratic, and the depth of abstraction structures is controlled by the intensity of weathering and fracturing. The depth of wells varies from 6.64 to 17m BGL and water levels in observation wells tapping shallow aquifers varied from 0.74 to 9.7 m BGL during pre-monsoon (May 2006) and it varies from 0.7 to 4.45 m BGL during post monsoon (January 2007).

During pre-monsoon, the depth to water levels in the range of > 2 to 5 m BGL in major part of the district, in the range of > 5 – 10 m BGL in western and southeastern parts of the district and range of 0-2 m BGL were recorded in two isolated pockets. During post monsoon the depth to water levels range of > 2 to 5 m BGL exists in major part of the district, range of 0 – 2 m BGL prevails in central and northeastern parts of the district and range of > 5 – 10 m BGL were recorded in two isolated pockets in the southwestern and northwestern parts of the district.

The depth to piezometric surface ranged from 2.8 to 11.25 m BGL during pre-monsoon and 0.5 to 6.35 m BGL during post monsoon.

The groundwater is being developed by means of dug wells, bore wells and tube wells. The diameter of the well is in the range of 7 to 10 m and depth of dug wells range from 15 to 18 m BGL depending on the weathered thickness and joints. The dug wells yield up to 1 lps in summer months and few wells remain dry. The yield is adequate for irrigation for one or two more crops in monsoon period. The yield of bore wells in favorable locations varies from < 1 to 6 lps. The valley fills, intersection of lineaments, particularly, in the western parts along the foothills of Kalrayan hills are reported to have potential pockets suitable for dug wells and bore wells. The area of contact between crystalline and sedimentary formations has variable yield prospects. The cretaceous formations are very compact, and yield prospects are low. The dug wells of 6 m diameter and 10 m BGL depth in sandy tracts give about 3.5 lps. The yield of tube wells in the sedimentary formation ranges from 2.4 to 37 lps.

Long Term Fluctuations

The long-term water level fluctuation for the period of (1998-2007) indicates rise in water level in the range of 0.003 to 0.63 m/year whereas the fall in the water level ranges between 0.014 and 0.31 m/year.

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Aquifer Parameters

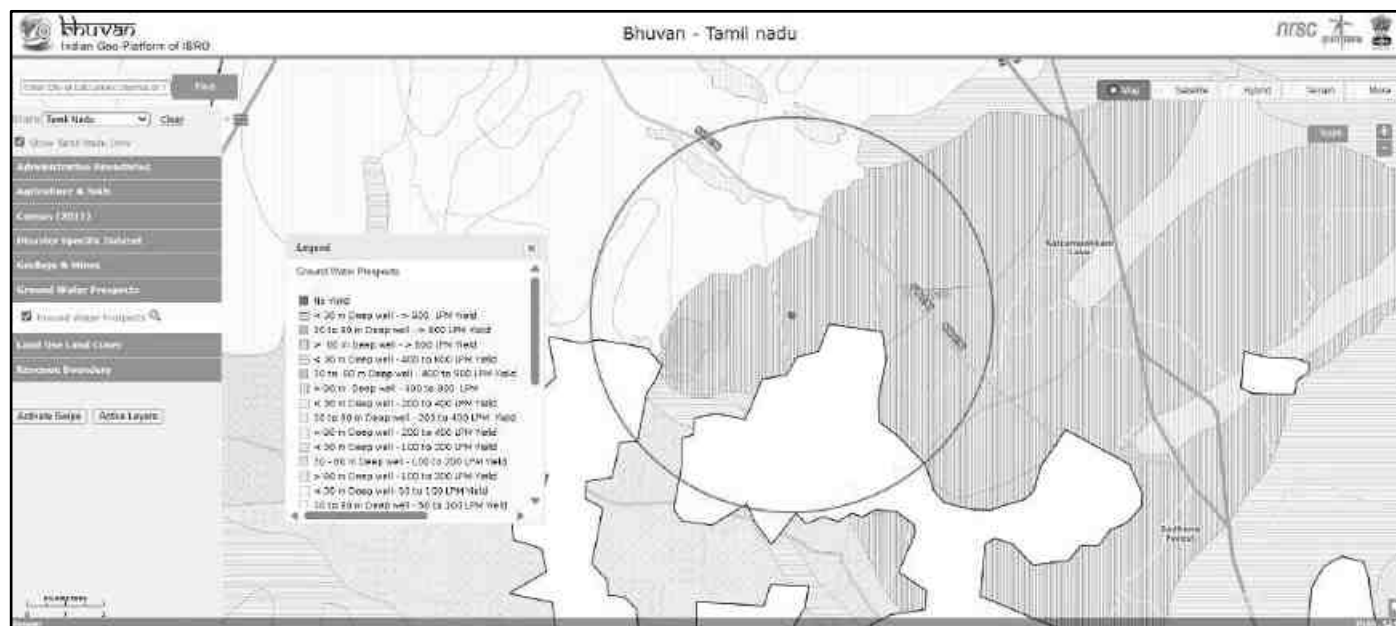
The transmissivity values of fractured aquifers range from < 1 to $141 \text{ m}^2/\text{day}$ and Storativity varies between 2.84×10^{-5} and 8.9×10^{-3} . The transmissivity of sedimentary formation varies from 21 to $748 \text{ m}^2/\text{day}$ and Storativity is in the order of 2.75×10^{-3} .

Groundwater Quality

Ground water in phreatic aquifers in Villupuram district is, in general, colorless, odorless and slightly alkaline in nature. The specific electrical conductance of ground water in phreatic zone ($\mu\text{S}/\text{cm}$ at 25°C) during May 2006 was in the range of 770 to 3650 in the district. Conductance below 750 has been observed only in select pockets of the district.

It is observed that the ground water is suitable for drinking and domestic uses in respect of all the constituents except total hardness and nitrate. In about 40% of samples, nitrates concentration is above permissible limits of $100 \text{ mg}/\text{l}$. The incidence of high total hardness is attributed to the composition of litho units constituting the aquifers in the district, whereas nitrate pollution is most likely due to the use of fertilizers and other improper waste disposal.

Sodium Adoption Ration values range from 1.7 to 4.4 with an average value of 3.25 in the district. This implies that no alkali hazard is anticipated to crops.



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Figure 3.7 Ground water prospects within 5 km radius of the project site

3.3.5 Ground water quality monitoring

Ground water quality monitoring is done in the following locations and analysis will be done for physical, chemical & Biological parameters.

Table 3-4 Ground water Quality Analysis

Environmental Parameters: Ground water Quality Analysis	
Monitoring Period	December 2025 to February 2026
Design Criteria	Based on the Environmental settings in the study area
Monitoring Locations	Project site – GW1 Eraiyur Bus stop – GW2 Poncos High. Sec. School – GW3 Sandhai Pudukuppam Bus stop – GW4 Lakshmi Narayanar Temple – GW5 Post office Katrampakkam – GW6 Sri Varadharaja Perumal Sannathi - – GW7
Methodology	Water Samples were collected in 7 Liter fresh cans as per IS 3025 Part I and transported to the laboratory in Iceboxes
Frequency of Monitoring	Once in a season

3.3.5.1 Sampling Procedure

Quality of ground water was compared with IS: 10500: 1991 (Reaffirmed 1993 With Amendment NO - 3 July 2010) for drinking purposes. Water samples were collected as Grab sample from five sampling locations in a 5-liter plastic jerry can and 250 ml sterilized clean glass/pet bottle for complete physico-chemical and bacteriological tests respectively. The samples were analyzed as per standard procedure / method given in IS: 3025 (Revised Part) and standard method for examination of water and wastewater Ed. 21st, published jointly by APHA.

Table 3-5: Standard Procedure

S. No	Parameters	Test Method
1	pH (at 25°C)	IS:3025(P -11)1983 RA: 2012

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2	Electrical Conductivity	IS:3025(P -14) 2013
3	Colour	IS:3025 (P -4)1983 RA: 2012
4	Turbidity	IS:3025(P -10)1984 RA: 2012
5	Total Dissolved Solids	APHA 22 nd Edn.2012-2540-C
6	Total Suspended Solids	IS:3025(P-17)-1984 RA:2012
7	Total Hardness as CaCO ₃	APHA 22 nd Edn.2012-2340-C
8	Calcium as Ca	APHA 22 nd Edn.2012.3500 Ca-B
9	Magnesium as Mg	APHA 22 nd Edn.2012-3500 Mg-B
10	Chloride as Cl	IS:3025(P -32)-1988 RA: 2014
11	Sulphate as SO ₄	APHA 22 nd Edn.2012-4500 SO ₄ -E
12	Total Alkalinity as CaCO ₃	APHA 22 nd Edn.2012-2320-B
13	Iron as Fe	IS:3025(P -53):2003 RA: 2014
14	Silica as SiO ₂	IS:3025(P -35)1988 RA: 2014
15	Fluoride as F	APHA 22 nd Edn.2012-4500-F-D
16	Nitrate as NO ₃	IS:3025(P -34):1988 RA: 2014
17	Sodium as Na	IS:3025(P -45):1993 RA: 2014
18	Potassium as K	IS:3025(P -45):1993 RA: 2014
19	Coliform	IS: 1622:1981:RA:2014
20	E. coli	IS: 1622:1981:RA:2014

Table 3-6 Ground water sampling results

S. No	Parameters	Units	GW 1	GW 2	GW 3	GW 4	GW 5	GW 6	GW 7
1	pH (at 25°C)	-	7.33	7.16	7.04	7.32	7.85	7.37	7.76
2	Electrical Conductivity	µS/cm	946	1412	298	383	1718	1518	598
3	Colour	Hazen Unit	BQL (LOQ:5)	BQL (LOQ:5)	BQL (LOQ:5)	BQL (LOQ:5)	BQL (LOQ:5)	BQL (LOQ:5)	BQL (LOQ:5)
4	Turbidity	NTU	BQL (LOQ:1)	BQL (LOQ:1)	BQL (LOQ:1)	BQL (LOQ:1)	10	BQL (LOQ:1)	BQL (LOQ:1)
5	Total Dissolved Solids	mg/L	561	765	168	225	1082	835	335
6	Total Suspended Solids	mg/L	BQL (LOQ:2)	BQL (LOQ:2)	BQL (LOQ:2)	BQL (LOQ:2)	6.0	BQL (LOQ:2)	BQL (LOQ:2)

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7	Total Hardness as CaCO ₃	mg/L	394	424	109	192	712	536	164
8	Calcium Hardness as CaCO ₃	mg/L	226	178	68.0	81	488	147	142
9	Magnesium Hardness as MgCO ₃	mg/L	168	246	41.0	111.0	224	388	22
10	Calcium as Ca	mg/L	90.8	71.3	27.2	32.4	196	59	56.9
11	Magnesium as Mg	mg/L	40.9	59.8	9.97	26.9	53.9	94.3	5.35
12	Chloride as Cl	mg/L	25.5	134	41.3	53.6	210	171	58.7
13	Sulphate as SO ₄	mg/L	139	71.0	5.17	6.63	112	96.0	13.4
14	Total Alkalinity as CaCO ₃	mg/L	361	439	63.4	58.8	464	373	192
15	Iron as Fe	mg/L	BQL(LOQ: 0.1)	BQL(LO Q:0.1)	BQL(LOQ :0.1)	BQL(LOQ :0.1)	0.278	BQL(LO Q:0.1)	BQL(LO Q:0.1)
16	Silica as SiO ₂	mg/L	25.5	31.6	9.58	9.75	39.8	19	27.7
17	Fluoride as F	mg/L	1.21	0.95	BQL(L OQ:0.2)	0.75	1.11	0.59	1.468
18	Nitrate as NO ₃	mg/L	BQL(LOQ :1)	3.53	14.6	BQL(LO Q:1)	25.9	BQL(LO Q:1)	BQL(LO Q:1)
19	Potassium as K	mg/L	1.72	9.22	1.70	5.41	9.0	1.6	1.3
20	Sodium as Na	mg/L	22.2	120	36.50	48.1	185	166.1	51.5

3.3.6 Interpretation of results:

3.3.6.1 Physical parameters of water:

The basic physical parameters of water include

Colour:

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Value observed in Project Site (True/Apparent Color): BQL (LOQ:5).

Acceptable and permissible limits: 5 Hazen units and 15 Hazen units respectively. The value in the project site is as same as the acceptable limits prescribed by IS 10500: 2012 (referred as “*Standards*” from herein).

pH:

Value observed in the Project Site: 7.33

Acceptable and permissible limits: 6.5-8.5. The pH value is the measure of acid – base equilibrium. The value of pH in the project site clearly indicates that water is slightly neutral in nature.

Turbidity:

Value observed in the Project Site: BQL(LOQ:1)

Acceptable and permissible limits: 1 NTU & 5 NTU respectively. The value of turbidity generally indicates the presence of phytoplanktons and other sediments. The value in the project site indicates the water is slightly turbid.

Total Dissolved Solids:

Value observed in the Project Site: 561 mg/L.

Acceptable and permissible limits: 500 mg/L and 2000 mg/L respectively.

The TDS is the presence of inorganic salts and small amounts of organic matter present in the water. This is mainly due to the result of surface runoff as the cations and anions in the topsoil is carried away by the water. The value in the project site indicates the water is less turbid.

3.3.6.2 Chemical parameters of water:

The chemical parameters of the drinking water include,

Calcium:

Value observed in the Project Site: 90.8 mg/L.

Acceptable and permissible limits: 75mg/L and 200 mg/L respectively.

Calcium is the essential macronutrient. The value of the calcium is within the prescribed permissible standards. The higher level of calcium may cause hardening in domestic equipment and will also reduce detergent efficiency. Higher levels of calcium will lead to constipation, gas, and bloating. Apart from that,

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extra calcium may also increase the risk of kidney stones. If the calcium deposit in blood is high, it may lead to hypercalcemia.

Magnesium:

Value observed in the Project Site: 40.9 mg/L.

Acceptable and permissible limits: 30 mg/L and 100 mg/L respectively.

The value of Magnesium in the project site is higher than acceptable limit and less than the permissible limit.

The increase in the level of magnesium will cause diarrhea and vomiting in children.

Chloride

Value observed in the project site: 25.5 mg/L.

Acceptable and permissible limits: 250 mg/L and 1000 mg/L respectively.

The chloride level in the project site is within the acceptable and permissible limit. If the level of chloride is more, it may cause galvanic and pitting corrosion, increases level of metals. It imparts bitter taste to the water.

Total Alkalinity as CaCO₃:

Value observed in the project site: 361 mg/L.

Acceptable and permissible limits: 200 mg/L and 600 mg/L respectively.

Total Alkalinity is the measure of the concentration of all alkaline substances dissolved in the water which includes carbonates, bicarbonates and hydroxides. The value of the total alkalinity is slightly greater in the project site, which will impart soda taste to the water.

Hardness:

Value observed in the Project Site: 394 mg/L.

Acceptable and permissible limits: 200 mg/L and 600 mg/L respectively.

The value of Hardness in the project site is higher than acceptable limit but within the permissible limit. The increase in the level of hardness may cause corrosion and scaling problems, increased soap consumption and it also contributes to the salty taste of water.

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3.3.7 Surface Water Analysis

Surface water samples were taken from **(Ragnathapuram village pond & Eraiyur Lake- Surface water)**. The results are summarized below.

Table 3-7 Surface Water Sample Results

S. No	Parameters	Units	Ragnathapuram village pond	Eraiyur Lake
1	pH (at 25°C)	-	7.42	7.65
2	Electrical Conductivity	µS/cm	331	543
3	Colour	Hazen Unit	BQL(LOQ:5)	BQL(LOQ:5)
4	Turbidity	NTU	BQL(LOQ:1)	BQL(LOQ:1)
5	Total Dissolved Solids	mg/L	215	308
6	Total Suspended Solids	mg/L	BQL(LOQ:2)	BQL(LOQ:2)
7	Total Hardness as CaCO ₃	mg/L	106	164
8	Calcium Hardness as CaCO ₃	mg/L	51.8	140
9	Magnesium Hardness as CaCO ₃	mg/L	54.7	24.0
10	Calcium as Ca	mg/L	20.8	56.1
11	Magnesium as Mg	mg/L	13.3	5.83
12	Chloride as Cl	mg/L	66.1	75.3
13	Sulphate as SO ₄	mg/L	6.39	10.4
14	Total Alkalinity as CaCO ₃	mg/L	103	130
15	Iron as Fe	mg/L	0.117	0.128
16	Silica as SiO ₂	mg/L	2.3	6.55
17	Fluoride as F	mg/L	0.39	1.35
18	Nitrate as NO ₃	mg/L	1.12	1.88
19	Potassium as K	mg/L	3.65	4.70
20	Sodium as Na	mg/L	55.5	66.1
21	Total Kjeldahl Nitrogen	mg/L	6.65	11.9
22	Biochemical Oxygen Demand @ 27°C	mg/L	5.95	7.1
23	Chemical Oxygen Demand	mg/L	20.6	30.3

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Inference: The surface water quality is compared with the CPCB Water Quality Criteria against A, B, C, D & E class of water. From the test result, it is found that both the water does not fit Class A (Drinking Water Source without conventional treatment but after disinfection). But they can be used for outdoor bathing as it meets the requirements shown for class B water.

3.3.8 *Climatology & Meteorology:*

Climate and meteorology of a place can play an important role in the implementation of any developmental project. Meteorology is also the key to understand local air quality as there is an essential relationship between meteorology and atmospheric dispersion involving wind in the broadest sense of the term.

The year may broadly be divided into four seasons:

Winter season	:	December to February
Pre-monsoon season	:	March to May
Monsoon season	:	June to September
Post-monsoon season	:	October to November

i) Climate

High temperature throughout the year. Generally, a dry and hot climate prevails in the district. The district receives the rainfall under the influence of northeast monsoon and southwest monsoon. The heaviest rainfall in the district used to be received under northeast monsoon in the month of October to December as 341.39 mm (in 2018), 532.65 mm (in 2017) and 936.39 mm (in 2015).

ii) Temperature

The average daily temperature ranges from a maximum of 32.7°C to a minimum of 24 °C

iii) Rainfall

The rainfall data for the Villupuram district has been shown below from the year 2014 to 2021. The highest annual rainfall was put at 1935.2 mm during 2021 and the normal rainfall of 985 mm for the district.

VILLUPURAM DISTRICT -NORMAL AND ACTUAL RAINFALL

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Project Proponent	Tmt. T. Jayapraba	
Project Location	Kondalankuppam Village, Vanur Taluk, Viluppuram District	

Year	Actual Rainfall (Unit in mm)
2014	980.42
2015	1390.25
2016	563.68
2017	1066.9
2018	727.5
2019	906.3
2020	1137.7
2021	1935.2
2022	908.6
2023 (Up to Sep 16)	427.5
Normal Rainfall	337

Source: District survey report & TWAD Board, Villupuram & IMD

Meteorological Data

The meteorological data – Temperature, rainfall, Wind Speed, Wind direction are recorded through AWS by setting it up in the site.

vi) Wind Rose Diagram

The wind rose denotes a class of diagrams designed to display the distribution of wind direction at a given location over a period of time. Wind roses are also useful as they project a large quantity of data in a simple graphical plot.

The wind speed & wind direction data are taken, and wind rose is plotted for December 2025 to February 2026.

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Project Proponent	Tmt. T. Jayapraba	
Project Location	Kondalankuppam Village, Vanur Taluk, Viluppuram District	

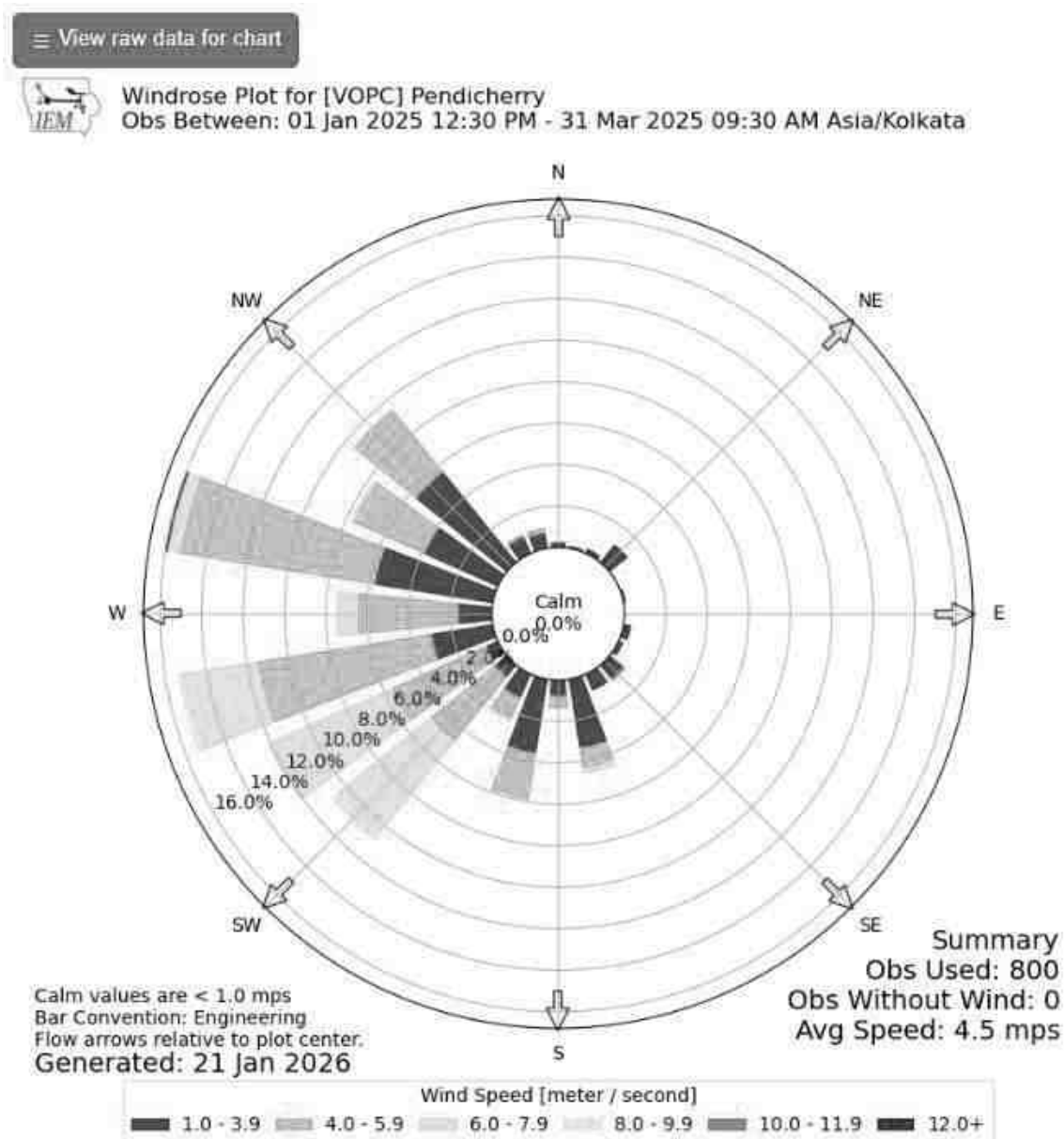


Figure 3.8 Wind rose

3.3.9 Selection of Sampling Locations:

Six Monitoring locations along with the project site are selected based on Wind Direction & Wind Speed. All the monitoring locations are chosen in the downwind direction.

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3.4 AMBIENT AIR QUALITY

Table 3-8: Selection of Sampling Location

Environmental Parameters: <i>Ambient Air</i>			
Monitoring Period	December 2025 to February 2026		
Design Criteria	The monitoring stations are selected based on factors like topography/terrain, prevailing meteorological conditions like predominant wind direction (December 2025 to January 2026), etc., play a vital role in the selection of air sampling stations. Based on these criteria, 5 air sampling stations were selected in the area as shown below.		
Monitoring Locations	Location & Code	Distance (km)	Direction
	Project Site	--	--
	Eraiyr Bus stop	4.01 km	Upwind WNW
	Poncos High. Sec. School	2.27 km	Downwind ESE
	Sandhai Pudukuppam Bus stop	1.59 km	Crosswind S
	Lakshmi Narayanar Temple	5.79 km	Crosswind N
	Post office Katrampakkam	7.53 km	Crosswind NE
	Sri Varadharaja Perumal Sannathi	3.70 Km	Crosswind SW
Methodology	Respirable Particulate Matter (PM10) - Gravimetric (IS 5182: Part 23:2006) Particulate Matter PM2.5 - Gravimetric (Fine particulate matter) Sulphur Dioxide - Calorimetric (West & Gaeke Method) (IS 5182: Part 02: 2001) Nitrogen Dioxide - Calorimetric (Modified Jacob & Hocheiser Method) (IS 5182: Part 06:2006)		
Frequency of Monitoring	2 days in a week, 4 weeks in a month for 3 months in a season.		

3.4.1 *Ambient Air Quality: Results & Discussion*

The test results of the ambient air quality monitored in project site and other four locations is summarized below.

Project	Ordinary Earth Quarry – 1.76.0 Ha by Tmt. T. Jayapraba	<i>Draft EIA Report</i>
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Project Location	Kondalankuppam Village, Vanur Taluk, Viluppuram District	

Code	Locations	PM 10 (µg/m ³)				PM 2.5 (µg/m ³)				NOx (µg/m ³)				SO2 (µg/m ³)			
		Min	Max	Avg	98 Percentile	Min	Max	Avg	98 Percentile	Min	Max	Avg	98 Percentile	Min	Max	Avg	98 Percentile
AAQ 1	Project Site	36	51	43.8	50.6	14	23	17.9	22.08	5	11	7.6	10.54	36	51	43.8	50.54
AAQ 2	Eraiur Bus stop	49	63	56.7	62.6	21	30	25.8	30	8	18	12.7	17.54	17	30	23.8	29.54
AAQ 3	Poncos High. Sec. School	40	54	47.6	54	14	24	19.7	24	6	11	9.0	11	11	22	17.0	22
AAQ 4	Sandhai Pudukuppam Bus stop	54	65	58.8	64.1	22	33	26.5	32.08	12	20	15.0	19.54	23	35	26.9	34.08
AAQ 5	Lakshmi Narayanar Temple	46	56	52.1	56	19	26	23.1	25.54	7	14	10.6	14	12	23	17.7	22.54
AAQ 6	Post office Katrampakkam	49	57	53.2	56.6	19	25	22.0	25	6	14	8.8	13.08	16	28	21.4	27.54
AAQ 7	Sri Varadharaja Perumal Sannathi	39	51	44.0	50.1	13	23	18.1	23	4	11	7.6	10.54	11	23	15.3	21.62
NAAQ Standards - Residential Area		100 (µg/m ³)				60(µg/m ³)				80 (µg/m ³)				80 (µg/m ³)			

Table 3-9 Ambient Air Quality

Project	Ordinary Earth Quarry – 1.76.0 Ha by Tmt. T. Jayapraba	Draft EIA Report
Project Proponent	Tmt. T. Jayapraba	
Project Location	Kondalankuppam Village, Vanur Taluk, Villupuram District	

3.4.2 Interpretation of ambient air quality:

To assess the impact, AAQ were monitored in project site and four locations.

Observation:

The Maximum value of PM₁₀ (65 (µg/m³), PM_{2.5} (33 (µg/m³), SO_x (20 (µg/m³), NO_x (51 (µg/m³) is observed in different places.

Inference:

The monitoring results for PM₁₀, PM_{2.5}, Sox, NO_x was found to be high in Temple area which is due to existing mining activity.

The observed values are all well within the Standards prescribed by NAAQ.

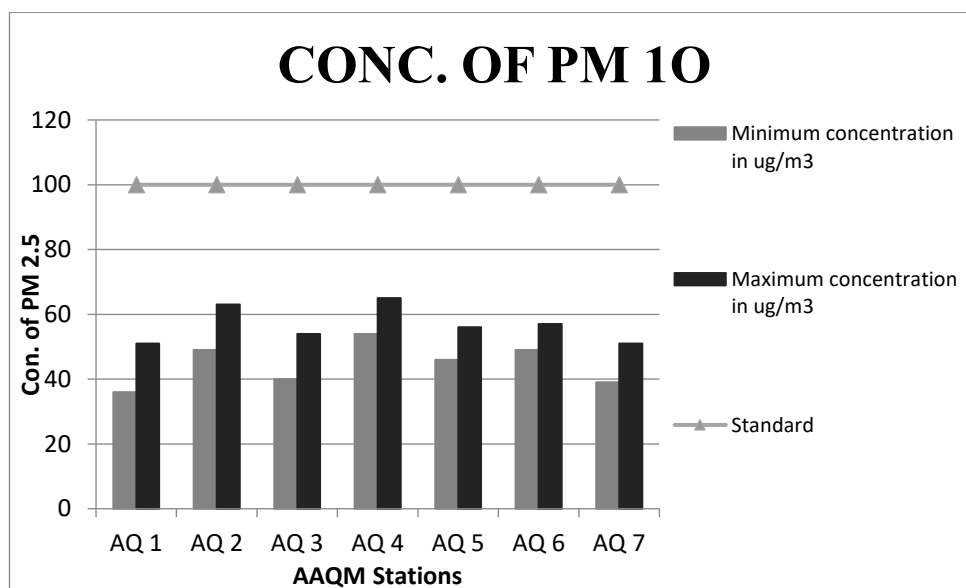


Figure 3.9 Concentration of PM₁₀ (µg/m³) in Study Area

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Project Proponent	Tmt. T. Jayapraba	
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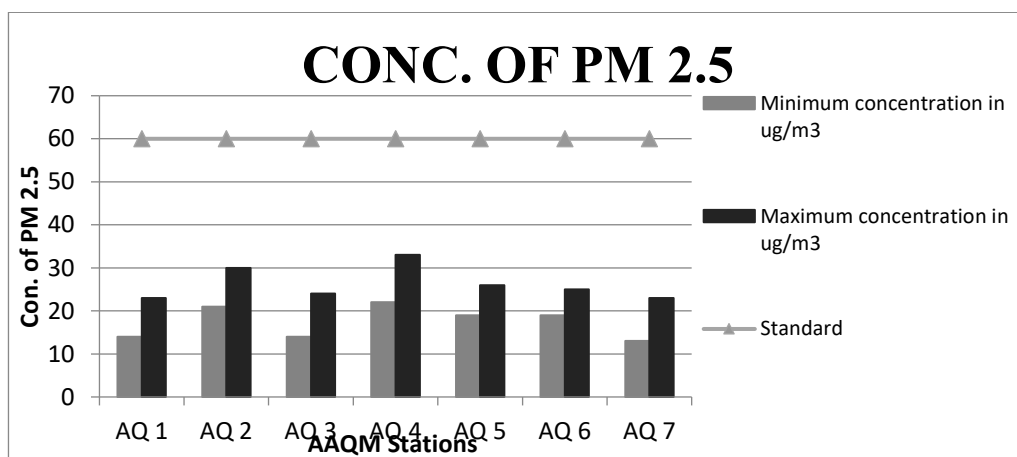


Figure 3.10 Concentration of PM2.5 ($\mu\text{g}/\text{m}^3$) in Study Area

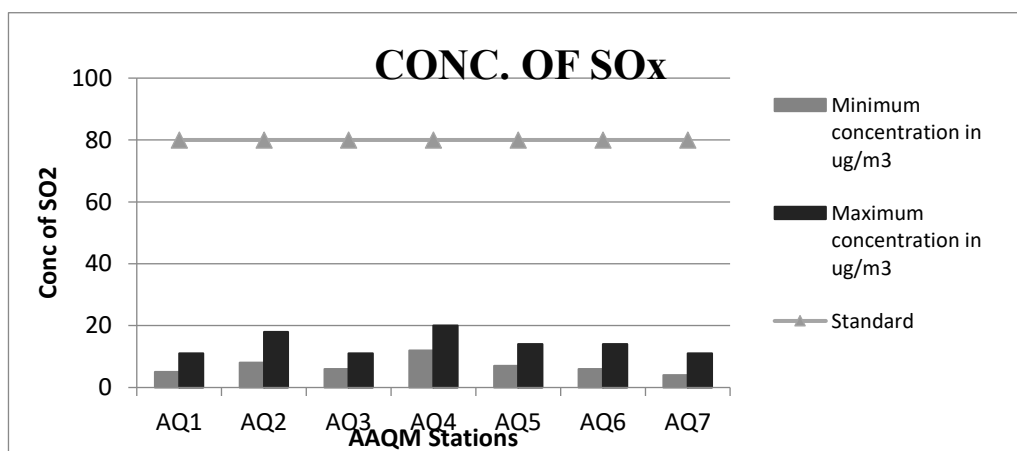


Figure 3.11 Concentration of SO_x ($\mu\text{g}/\text{m}^3$) in Study Area

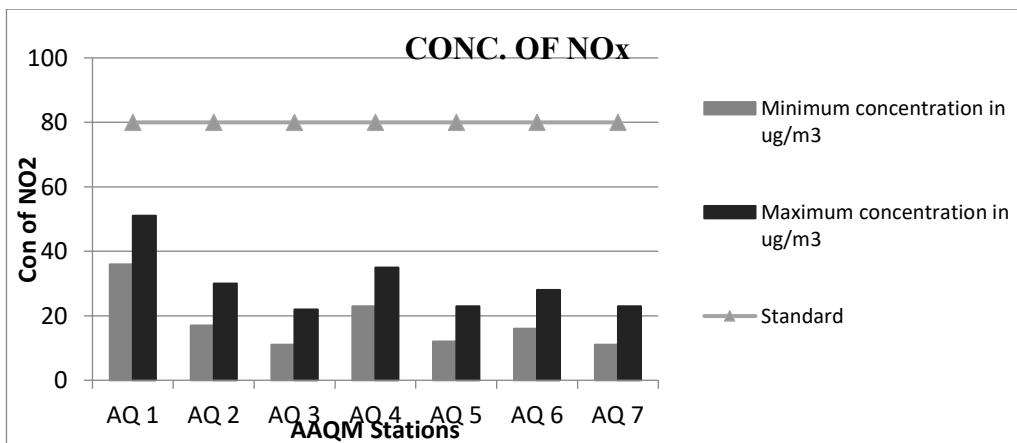


Figure 3.12 Concentration of NO_x ($\mu\text{g}/\text{m}^3$) in Study Area

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Project Location	Kondalankuppam Village, Vanur Taluk, Villupuram District	

3.5 NOISE ENVIRONMENT:

Table 3-10 Noise Analysis

Environmental Parameters: <i>Noise Analysis</i>	
Monitoring Period	December to February 2026
Design Criteria	Based on the Sensitivity of the area
Monitoring Locations	Project Site - N 1 Eraiur Bus stop – N 2 Poncos High. Sec. School – N 3 Sandhai Pudukuppam Bus stop – N 4 Lakshmi Narayanar Temple – N 5 Post office Katrampakkam – N 6 Sri Varadharaja Perumal Sannathi - – N 7
Methodology	Noise level measurements were taken at the selected locations using noise level meter both during day and nighttime. Noise level measurements were taken continuously for 24 hours at hourly intervals
Frequency of Monitoring	Noise samples were collected from 7 locations - Once in a season

Ambient Noise Levels are monitored in the chosen 7 Locations including the project Site and the monitoring results are summarized below

3.5.1 *Day Noise Level (Leq day)*

Table 3-11 Day Noise Level (Leq day)

Location	Leq day in dB(A)		
	Max	Min	Average
Project Site	54	43	50
Eraiur Bus stop	51	41	48
Poncos High. Sec. School	55	45	52
Sandhai Pudukuppam Bus stop	59	48	54
Lakshmi Narayanar Temple	57	47	53

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Post office Katrampakkam	59	48	54
Sri Varadharaja Perumal Sannathi	62	54	58

3.5.2 Night Noise Level (Leq Night)

Table 3-12 Night Noise Level (Leq Night)

Location	Leq Night in dB(A)		
	Max	Min	Average
Project Site	43	35	38
Eraiur Bus stop	43	36	39
Poncos High. Sec. School	44	36	40
Sandhai Pudukuppam Bus stop	46	39	42
Lakshmi Narayanar Temple	45	37	41
Post office Katrampakkam	46	39	42
Sri Varadharaja Perumal Sannathi	51	44	48

Observation:

The maximum Day noise and Night noise were found to be 54 dB(A) and 43 dB(A) respectively in Project site. The minimum Day Noise and Night noise were 54 dB (A) and 35 dB(A) respectively, which was observed in Veeran Temple, Avadaiyarpattu. The observed values are all well within the Standards prescribed by CPCB.

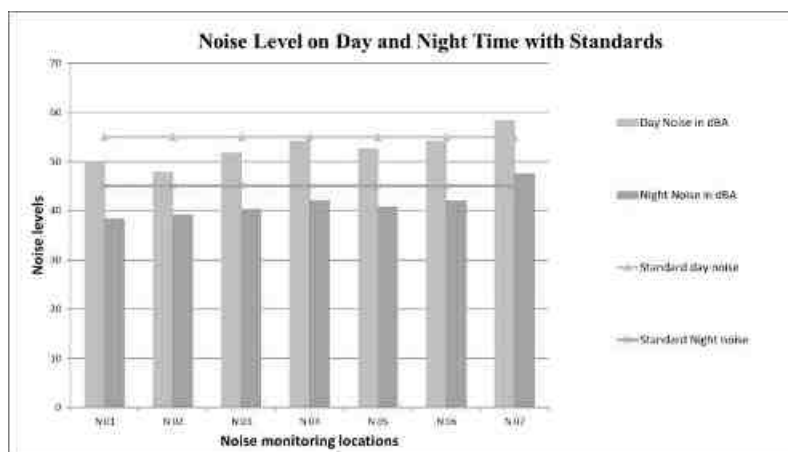


Figure 3.13 Concentration of NO_x (µg/m³) in Study Area

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3.6 SOIL ENVIRONMENT

Soil environment is studied for 10 km radius from the project site. The 5 km radius image shows that the soil is not affected by any kind of erosion.

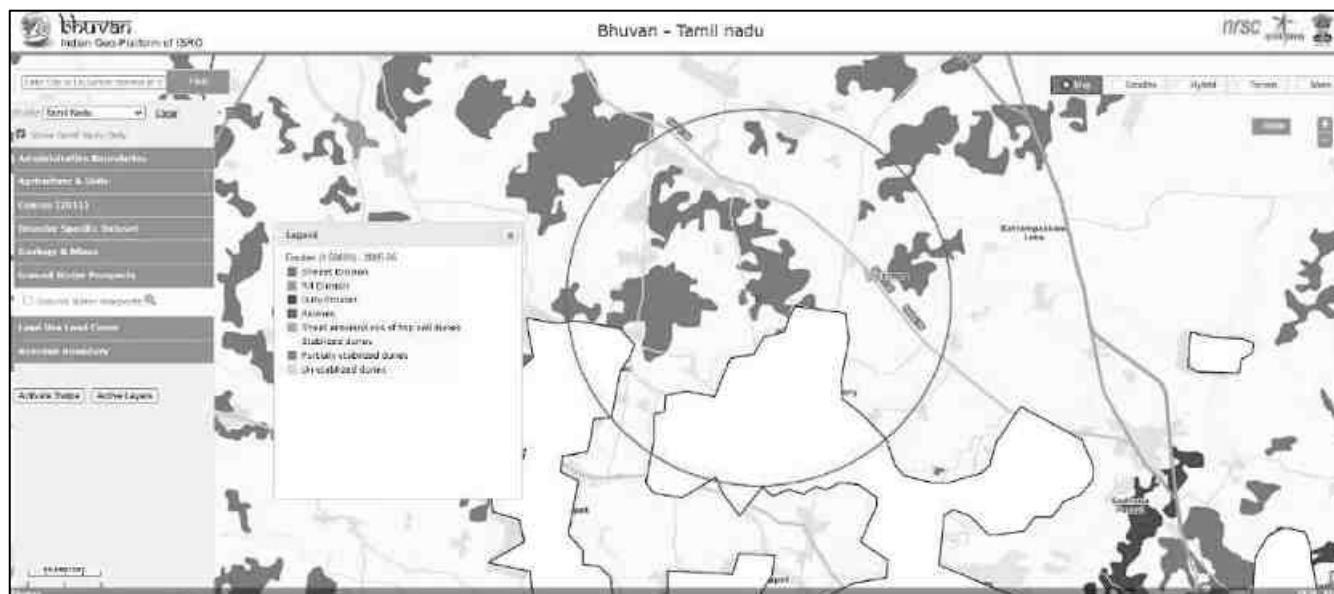


Figure 3.14 Soil Erosion pattern within 5 km radius of the project site

3.6.1 Baseline Data:

The present study of the soil quality establishes the baseline characteristics which will help in future in identifying the incremental concentrations if any, due to the operation Phase of the proposed project. The sampling locations have been identified with the following objectives:

- To determine the impact of proposed project on soil characteristics and
- To determine the impact on soils more importantly from agricultural productivity point of view.

Table 3-13 Soil Quality Analysis

Environmental Parameters: <i>Soil Quality Analysis</i>	
Monitoring Period	December 2025 – February 2026
Design Criteria	Based on the environmental settings of the study area
Monitoring Locations	Project Site - SQ 1 Eraiur Bus stop – SQ 2

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	Poncos High. Sec. School – SQ 3 Sandhai Pudukuppam Bus stop – SQ 4 Lakshmi Narayanar Temple – SQ 5 Post office Katrampakkam – SQ 6 Sri Varadharaja Perumal Sannathi – SQ7
Methodology	Composite soil samples using sampling augers and field capacity apparatus
Frequency of Monitoring	Soil samples were collected from 7 locations Once in a season

To assess the soil quality of the study area, 7 monitoring stations were selected, and the results are summarized below.

Table 3-14 Soil Quality Analysis

Parameters	Unit	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
pH (at 25°C)	-	7.52	8.11	7.65	7.77	7.88	8.31	7.65
Specific Electrical Conductivity	mS/cm	1.12	0.21	0.31	0.39	0.378	0.59	0.365
Water Holding Capacity	ml/l	6.65	5.3	6.3	5.65	7.27	5.3	6.15
Chloride	g/cm ³	155	125	90.5	99.9	74.6	71.8	102
Soluble Calcium	mg/kg	102	92.6	121	110	90.8	103	136
Soluble Sodium	mg/kg	365	415	475	502	422	530	385
Soluble Potassium	mg/kg	288	377	421	263	244	270	393
Organic matter	%	0.78	0.17	0.21	0.35	0.32	1.05	0.196
Soluble Magnesium	mg/kg	55.5	35.5	65.6	71.6	40.2	70.1	50.3
Total Soluble Sulphates	%	306	65.6	55.5	63.2	142	89.4	61.1
Cation Exchange Capacity	mg/kg	15.5	16.6	17.7	16.3	15.5	13.2	15.5
Carbonate	mg/kg	NIL	NIL	NIL	NIL	NIL	10.2	NIL

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Bicarbonate	mg/kg	133	53.3	58.8	52.5	110	31.9	60.6
Total Kjeldahl Nitrogen	%	0.97	0.22	0.19	0.17	0.31	0.14	0.17
Bulk Density	meq/100g	1.16	1.65	1.45	1.19	1.28	1.17	1.33
Phosphorous	meq/kg	108	117	101	93.6	122	92.5	96.9
Sand	%	61	60	66	75	55	70	62.8
Clay	mg/kg	14	15	14	15	18	10	16
Silt	mg/kg	25	25	20	10	27	20	21.2
SAR	mg/kg	7.23	9.3	8.6	9.2	9.28	9.9	7.2
Silicon	%	0.091	0.033	0.025	0.041	0.095	0.102	0.132

3.6.1.1 Physical Properties:

Regular cultivation practices increase the bulk density of soils thus inducing compaction. This results in reduction in water percolation rate and penetration of roots through soils. Soils with low bulk density have favorable physical conditions whereas those with high bulk density exhibit poor physical conditions for agriculture crops. The bulk density of the soil in the study area ranged between 1.16 to 1.65 meq/100g which indicates favorable physical condition for plant growth. The water holding capacity was found in the range of 5.3 ml/l to 7.27 ml/l.

3.6.1.2 Chemical Properties:

Chemical characteristics of soils include pH, exchangeable cations and fertility status in the form of NPK values and organic matter. The value of the pH ranges from 7.52 to 8.31, which indicates majority of pH of the soil is slightly alkaline. The soil in the project site is sodic in nature, which challenges because they tend to have very poor structure which limits or prevents water infiltration and drainage. The organic matter varies from 0.17 to 1.05 %, which indicates the soil is slightly unfertile.

3.7 ECOLOGY AND BIODIVERSITY

Ecology and Biodiversity is studied for 10 km radius around the project site. Project site and 2 km around the project site is considered as core zone and from 2 km to 10 km radius, it is considered as buffer zone.

- Primary field survey is carried out for the assessment of flora and fauna in the core zone

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- Secondary data from Journals/Literature were studied and compiled to understand the species present in the buffer zone

3.7.1 *Methods available for floral analysis:*

3.7.1.1 **Plot Sampling Methods**

- Quadrat – 2D shape (e.g. square or rectangle, or other shape) used as a sampling unit
- Transect
 - Line transects feature only a length dimension, usually defined by a tape stretched across the area to be sampled.
 - Belt transects have a width as well as length.
 - Pace-transects are established when the observer strides along an imaginary line across the sample site and uses their foot placement to determine specific sampling points.

3.7.1.2 **Plot less Sampling Methods**

- Closest individual method - Distance is measured from each random point to the nearest individual.
- Nearest neighbour method - Distance is measured from an individual to its nearest neighbour.
- Random pairs method - Distance is measured from one individual to another on the opposite side of the sample point.
- Point-centered quarter (PCQ) method - Distance is measured from the sampling point to the nearest individual in each quadrat.

3.7.2 *Field study & Methodology adopted:*

To assess the suitability of the methodology, random field survey was done. Field survey was conducted around 2 km radius from the project site, and five locations were chosen based on the species density. Quadrat method is chosen for the proposed study as compared to other sampling methods, because they are relatively simple to use. Quadrat plots are uniform in size and shape and distributed randomly throughout the sample area, which makes the study design straightforward. They are also one of the most affordable techniques because they require very few materials.

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3.7.3 Study outcome:

Phyto-sociological parameters, such as **Density, Frequency, Basal Area, Abundance and Importance Value Index** of individual species (Trees) were determined in randomly placed quadrats of different sizes in the study area. Relative frequency, relative basal area and relative density were calculated and the sum of these three represented Importance Value Index (IVI) for various species. For shrubs, herbs and grasses, **Density, Frequency, Relative Density & Relative Frequency were found.**

Sample plots were selected in such a way to get maximum representation of different types of vegetation and plots were laid out in different part of the study area of 2 km radius. Analysis of the vegetation will help in determining the relative importance of each species in the study area and to reveal if any economically valuable species is threatened in the process.

Table 3-15 Calculation of Density, Frequency (%), Dominance, Relative Density, Relative Frequency, Relative Dominance & Important Value Index

Parameters	Formula
Density	Total No. of individuals of species/ Total No. of Quadrats used in sampling
Frequency (%)	(Total No. of Quadrats in which species occur/ Total No. of Quadrats studied) * 100
Dominance	Total Basal Area /Total area sampled
Abundance	Total No. of individuals of species/ No. of Quadrats in which they occur
Relative Density	(Total No. of individuals of species/Sum of all individuals of all species) * 100
Relative Frequency	(Total No. of Quadrats in which species occur/ Total No. of Quadrats occupied by all species) * 100
Relative Dominance	Dominance of a given species/Total Dominance of all species
Important Value Index	Relative Density + Relative Frequency + Relative Dominance

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Table 3-16 Tree Species in the core Zone

S. No.	Scientific Name	Local Name	Total No. of species	Total of Quadrants with species	Total No. of Quadrants	Density	Frequency (%)	Abundance	Dominance	Relative Density	Relative Frequency	Relative Dominance	IVI	IUCN Conservation Status
1	Ficus Carica	Athi Maram	2	2	6	0.33	33.33	1	0.28	1.68	2.17	4.45	8.31	Least Concern
2	Cocos nucifera	Thennai	10	6	6	1.67	100.0	1.67	0.15	8.40	6.52	2.39	17.32	Not assessed
3	Azadirachta indica	Veppam	17	6	6	2.83	100.0	2.83	0.13	14.29	6.52	1.98	22.79	Not assessed
4	Tamarindus indica	Puli	10	6	6	1.67	100.0	1.66	0.20	8.40	6.52	3.09	18.02	Not assessed
5	Mangifera indica	Mamaram	7	6	6	1.17	100.0	1.16	0.07	5.88	6.52	1.11	13.52	Data insufficient
6	Morinda pubescens	Nuna	6	6	6	1.00	100.0	1	0.24	5.04	6.52	3.74	15.31	Not assessed
7	Couroupita guianensis	Nagalingam	5	3	6	0.83	50.00	1.67	0.14	4.20	3.26	2.18	9.64	Not assessed
8	Bombax ceiba	Sittan	4	4	6	0.67	66.67	1	0.08	3.36	4.35	1.27	8.98	Not assessed
9	Acacia nilotica	Karuvelai	4	4	6	0.67	66.67	1	0.28	3.36	4.35	4.45	12.16	Least Concern
10	Bambusa vulgaris	Moongil	4	4	6	0.67	66.67	1	0.50	3.36	4.35	7.92	15.63	Not assessed
11	Syzygium cumini	naval	5	1	6	0.83	16.67	5	0.11	4.20	1.09	1.79	7.07	Not assessed
12	Carica papaya	Papaya	3	3	6	0.50	50.00	1	0.09	2.52	3.26	1.43	7.21	Not assessed
13	Psidium guajava	Guava	3	3	6	0.50	50.00	1	0.23	2.52	3.26	3.61	9.39	Not assessed
14	Cassia siamea	ManjalKonrai	3	2	6	0.50	33.33	1.5	0.07	2.52	2.17	1.11	5.81	Least Concern
15	Ficus religiosa	Arasa maram	3	3	6	0.50	50.00	1	0.09	2.52	3.26	1.35	7.13	Not assessed

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16	Musa paradise	Vaazhai	3	3	6	0.50	50.00	1	0.08	2.52	3.26	1.19	6.97	Not assessed
17	Prosopis juliflora	Vaelikaruvai	3	3	6	0.50	50.00	1	0.21	2.52	3.26	3.34	9.13	Not assessed
18	Tectona grandis	Thekku	3	3	6	0.50	50.00	1	0.12	2.52	3.26	1.88	7.66	Not assessed
19	Thespesia populnea	Poovarasam	3	3	6	0.50	50.00	1	0.15	2.52	3.26	2.39	8.18	Not assessed
20	Causuarina equisetifolia	Savukku	2	2	6	0.33	33.33	1	0.21	1.68	2.17	3.34	7.20	Not assessed
21	Alstonia scholaris	Elilaipalai	2	2	6	0.33	33.33	1	0.27	1.68	2.17	4.31	8.16	Least Concern
22	Anacardium occidentale	Cashew	1	1	6	0.17	16.67	1	0.44	0.84	1.09	6.96	8.88	Not assessed
23	Artocarpus heterophyllus	Palaa	2	2	6	0.33	33.33	1	0.18	1.68	2.17	2.85	6.70	Not assessed
24	Aegle marmelos	Vilvam	1	1	6	0.17	16.67	1	0.16	0.84	1.09	2.50	4.43	Not assessed
25	Delonix elata	Perungondrai	1	1	6	0.17	16.67	1	0.17	0.84	1.09	2.62	4.54	Least Concern
26	Pithecellobium dulce	Kodukapuli	1	1	6	0.17	16.67	1	0.14	0.84	1.09	2.18	4.11	Not assessed
27	Citrus medica	Elumichai	2	2	6	0.33	33.33	1	0.23	1.68	2.17	3.61	7.46	Not assessed
Total			110	83					5.02					

Table 3-17 Shrubs in the Core Zone

S. No.	Scientific Name	Local Name	Total No. of species	Total of Quadrants with species	Total No. of Quadrants	Density	Frequency (%)	Abundance	Relative Density	Relative Frequency	IUCN Conservation Status
1	Jatropagossypifolia	Kaatamanaku	32	17	24	1.17	0.71	1.65	14.43	17.17	Not Assessed
2	Calotropis gigantea	Erukam	16	12	24	0.58	0.50	1.17	7.22	12.12	Not Assessed

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3	Tabernaemontanadivaricata	Crepe Jasmine	4	3	24	0.13	0.13	1	1.55	3.03	Not Assessed
4	Catharanthus roseus	Nithyakalyani	4	3	24	0.13	0.13	1	1.55	3.03	Not Assessed
5	Datura metal	Ummattangani	7	4	24	0.21	0.17	1.25	2.58	4.04	Not Assessed
6	Robiniapseudoacacia	Black locust	15	5	24	0.71	0.21	3.4	8.76	5.05	Least Concern
7	Acalypha indica	Kuppaimeni	18	8	24	0.83	0.33	2.5	10.31	8.08	Not Assessed
8	Stachytarpheaurticifolia	Rat tail	13	9	24	0.63	0.38	1.67	7.73	9.09	Not Assessed
9	Woodfordiafruticosa	Velakkai	4	3	24	0.13	0.13	1	1.55	3.03	Least Concern
10	Hibiscus rosa sinensis	Sembaruthi	3	2	24	0.13	0.08	1.5	1.55	2.02	Not Assessed
11	Lantana camara	Unnichi	8	6	24	0.38	0.25	1.5	4.64	6.06	Not Assessed
12	Parthenium hysterophorous	Vishapoond	45	13	24	2.08	0.54	3.85	25.77	13.13	Not Assessed
13	Euphorbia geniculata	Amman Pacharisi	5	3	24	0.13	0.13	1	1.55	3.03	Not Assessed

Table 3-18 Herbs & Grasses in the core zone

S. No.	Scientific Name	Local Name	Total No. of species	Total of Quadrants with species	Total No. of Quadrants	Density	Frequency (%)	Abundance	Relative Density	Relative Frequency	IUCN Conservation status
1	Helicteresisora	Valampuri	4	2	30	0.07	0.07	1	0.79	2.15	Not assessed
2	Tridax procumbens	Vettukaayathalai	7	4	30	0.17	0.13	1.25	1.98	4.30	Not assessed
3	Heraculem spondylium	Hog Weed	19	10	30	0.67	0.33	2	7.94	10.75	Not assessed
4	Tridax procumbens	Cuminipachai	18	4	30	0.50	0.13	3.75	5.95	4.30	Not assessed
5	Senna occidentalis	Nattamsakarai	30	4	30	0.83	0.13	6.25	9.92	4.30	Not assessed
6	Plumbago zeylanica	Chittiramoolam	12	3	30	0.10	0.10	1	1.19	3.23	Not assessed

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7	Scrophularia nodosa	Sarakkothini	18	7	30	0.50	0.23	2.14	5.95	7.53	Not assessed
8	Viburnum dentatum	Viburnum	7	5	30	0.17	0.17	1	1.98	5.38	Least concern
9	Cynodondactylon	Arugu	15	6	30	0.40	0.20	2	4.76	6.45	Not assessed
10	Euphorbia hirta	Amman Pacharisi	7	4	30	0.17	0.13	1.25	1.98	4.30	Not assessed
11	Sida cordifolia	Maanikham	50	4	30	1.50	0.13	11.25	17.86	4.30	Not assessed
12	Sida acuta	Malaidangi	12	3	30	0.33	0.10	3.33	3.97	3.23	Not assessed
13	Laportea canadensis	Peruganchori	28	20	30	1.00	0.67	1.5	11.90	21.51	Not assessed
14	Sporobolus fertilis	Giant Parramatta Grass	10	4	30	0.30	0.13	2.25	3.57	4.30	Not assessed
15	Tephrosia purpurea	Kavali	23	4	30	0.67	0.13	5	7.94	4.30	Not assessed

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3.7.4 Calculation of species diversity by Shannon – wiener Index, Evenness and richness by Margalef:

Biodiversity index is a quantitative measure that reflects how many different type of species, there are in a dataset, and simultaneously takes into account how evenly the basic entities (such as individuals) are distributed among those types of species. The value of biodiversity index increases both when the number of types increases and when evenness increases. For a given number of type of species, the value of a biodiversity index is maximized when all type of species is equally abundant. Interpretation of Vegetation results in the study area is given below.

Table 3-19 Calculation of species diversity

Description	Formula
Species diversity – Shannon – Wiener Index	$H = \sum [(p_i) * \ln(p_i)]$ Where p_i : Proportion of total sample represented by species i : number of individuals of species i / total number of samples
Evenness	$H/H_{\max}$ $H_{\max} = \ln(s) =$ maximum diversity possible $S =$ No. of species
Species Richness by Margalef	$RI = S - 1 / \ln N$ Where S = Total Number of species in the community N = Total Number of individuals of all species in the community

3.7.5 Calculation of species diversity by Shannon – wiener Index, Evenness and richness by Margalef for trees

i. Species Diversity

Scientific Name	Common Name	No. of Species	Pi	ln (Pi)	Pi x ln (Pi)
Ficus Carica	Athi Maram	2	0.018182	-4.00733	-0.07286
Cocos nucifera	Thennai	10	0.090909	-2.3979	-0.21799
Azadirachta indica	Veppam	17	0.154545	-1.86727	-0.28858
Tamarindus indica	Puli	10	0.090909	-2.3979	-0.21799
Mangifera indica	Mamaram	7	0.063636	-2.75457	-0.17529
Morinda pubescens	Nuna	6	0.054545	-2.90872	-0.15866
Couroupita guianensis	Nagalingam	5	0.045455	-3.09104	-0.1405

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Bombax ceiba	Sittan	4	0.036364	-3.31419	-0.12052
Acacia nilotica	Karuvelai	4	0.036364	-3.31419	-0.12052
Bambusa vulgaris	Moongil	4	0.036364	-3.31419	-0.12052
Syzygium cumini	naval	5	0.045455	-3.09104	-0.1405
Carica papaya	Papaya	3	0.027273	-3.60187	-0.09823
Psidium guajava	Guava	3	0.027273	-3.60187	-0.09823
Cassia siamea	ManjalKonrai	3	0.027273	-3.60187	-0.09823
Ficus religiosa	Arasa maram	3	0.027273	-3.60187	-0.09823
Musa paradise	Vaazhai	3	0.027273	-3.60187	-0.09823
Prosopis juliflora	Vaelikaruvai	3	0.027273	-3.60187	-0.09823
Tectona grandis	Thekku	3	0.027273	-3.60187	-0.09823
Thespesia populnea	Poovarasam	3	0.027273	-3.60187	-0.09823
Causuarina equisetifolia	Savukku	2	0.018182	-4.00733	-0.07286
Alstonia scholaris	Elilaipalai	2	0.018182	-4.00733	-0.07286
Anacardium occidentale	Cashew	1	0.009091	-4.70048	-0.04273
Artocarpus heterophyllus	Palaa	2	0.018182	-4.00733	-0.07286
Aegle marmelos	Vilvam	1	0.009091	-4.70048	-0.04273
Delonix elata	Perungondrai	1	0.009091	-4.70048	-0.04273
Pithecellobium dulce	Kodukapuli	1	0.009091	-4.70048	-0.04273
Citrus medica	Elumichai	2	0.018182	-4.00733	-0.07286
Total		110			-3.02215005

H (Shannon Diversity Index) =3.02

Shrubs

Scientific Name	Common Name	No. of Species	Pi	ln (Pi)	Pi x ln (Pi)
Jatropagossypifolia	Kaatamanaku	32	0.183908	-1.69332	-0.31142
Calotropis gigantea	Erukam	16	0.091954	-2.38647	-0.21945
Tabernaemontanadivaricata	Crepe Jasmine	4	0.022989	-3.77276	-0.08673
Catharanthus roseus	Nithyakalyani	4	0.022989	-3.77276	-0.08673
Datura metal	Ummattangani	7	0.04023	-3.21315	-0.12926
Robiniapseudoacacia	Black locust	15	0.086207	-2.45101	-0.21129
Acalypha indica	Kuppaimeni	18	0.103448	-2.26868	-0.23469
Stachytarphaeurticifolia	Rat tail	13	0.074713	-2.59411	-0.19381
Woodfordiafruticosa	Velakkai	4	0.022989	-3.77276	-0.08673
Hibiscus rosa sinensis	Sembaruthi	3	0.017241	-4.06044	-0.07001
Lantana camara	Unnichi	8	0.045977	-3.07961	-0.14159
Parthenium hysterophorous	Vishapoondur	45	0.258621	-1.35239	-0.34976
Euphorbia geniculata	Amman Pacharisi	5	0.028736	-3.54962	-0.102
Total		174			-2.2234

H (Shannon Diversity Index) =2.22

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Herbs

Scientific Name	Common Name	No. of Species	Pi	ln (Pi)	Pi x ln (Pi)
Helicteresisora	Valampuri	4	0.015385	-4.17439	-0.06422
Tridax procumbens	Vettukaayathalai	7	0.026923	-3.61477	-0.09732
Heraculem spondylium	Hog Weed	19	0.073077	-2.61624	-0.19119
Tridax procumbens	Cuminipachai	18	0.069231	-2.67031	-0.18487
Senna occidentalis	Nattamsakarai	30	0.115385	-2.15948	-0.24917
Plumbago zeylanica	Chittiramoolam	12	0.046154	-3.07577	-0.14196
Scrophularia nodosa	Sarakkothini	18	0.069231	-2.67031	-0.18487
Viburnum dentatum	Viburnum	7	0.026923	-3.61477	-0.09732
Cynodondactylon	Arugu	15	0.057692	-2.85263	-0.16457
Euphorbia hirta	Amman Pacharisi	7	0.026923	-3.61477	-0.09732
Sida cordifolia	Maanikham	50	0.192308	-1.64866	-0.31705
Sida acuta	Malaidangi	12	0.046154	-3.07577	-0.14196
Laportea canadensis	Peruganchori	28	0.107692	-2.22848	-0.23999
Sporobolus fertilis	Giant Parramatta Grass	10	0.038462	-3.2581	-0.12531
Tephrosia purpurea	Kavali	23	0.088462	-2.42519	-0.21454
Total		260			-2.51

H (Shannon Diversity Index) =2.51

i. Species diversity calculation

Details	H	Hmax	Evenness	Species Richness (Margalef)
Trees	3.02	3.36	0.89	5.95
Shrubs	2.22	2.56	0.86	2.32
Herbs	2.51	2.70	0.92	2.51

From the above, it can be interpreted that herb community has higher diversity. While the tree community shows less diversity. It is also observed that most of the quadrates have controlled generation of plant species with older strands. Higher herb species diversity can be interpreted as a greater number of successful species and a more stable ecosystem where more ecological niches are available, environmental change is less likely to be damaging to the ecosystem. Species richness is high for herb community when compared with tree and shrubs.

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3.7.6 *Floral study in the Buffer Zone:*

Economically important Flora of the study area

Agricultural crops: Paddy, Maize are the main crop grown. Different fruits like Banana, papaya, mangoes, Guava and vegetables like brinjal, drumsticks, onion, Coriander also grown by the local people.

Medicinal species: The nearby area is also endowed with several medicinal species which are commonly available in the shrub forest and wastelands. The common medicinal species of the region are *Asparagus racemosus* (satamulli), *Aegle marmelos* (golden apple), *Azadirachta indica* (Neem) etc.

Rare and endangered floral species: There are no rare or endangered or threatened (RET) species of in the study area. During the vegetation survey, there are no any species which are endangered or threatened under IUCN (International Union for Conservation of Nature and Natural resources) guidelines.

3.7.7 *Faunal Communities*

Both direct and indirect observation methods were used to survey the fauna.

- Point Survey Method: Observations were made on each site for 15 minutes duration.

Roadside Counts: The observer traveled by motor vehicle from site to site, all sightings were recorded (this was done both in the day and nighttime). An index of abundance of each species was also established.

Pellet and Track Counts: All possible animal tracks and pellets were identified and recorded (South Wood, 1978).

Additionally, survey of relevant literature was also done to consolidate the list of fauna distributed in the buffer zone.

Based on the Wildlife Protection Act, 1972 (WPA 1972, Anonymous. 1991, Upadhyay 1995, Chaturvedi and Chaturvedi 1996) species were short-listed as Schedule II or I and considered herein as endangered species. Species listed in Ghosh (1994) are considered as Indian Red List species.

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Methodology Adopted:

Point Survey method was adopted for this development project where observations were made in each site for 15 minutes duration (10 times).

Study in the core zone:

Point Survey method was adopted for the study within 2 km radius and the following species were observed.

Mammals: No wild mammalian species was directly sighted during the field survey. Discussion with local villagers located around the study area also could not confirm presence of any wild animal in that area. Three stripped Palm Squirrel, Common Indian Hare, Common mongoose, Common Mouse etc were observed during primary survey.

Avifauna: Since birds are considered to be the indicators for monitoring and understanding human impacts on ecological systems (Lawton, 1996) attempt was made to gather quantitative data on the avifauna by walk through survey within the entire study area and surrounding areas. From the primary survey, a total of 26 species of avifauna were identified and recorded in the study area. The diversity of avifauna from this region was found to be quite high and encouraging.

The list of fauna species found in the study area is mentioned in Table below.

Table 3-20 List of fauna species

Scientific Name	Common Name	Schedule of wildlife protection act	IUCN conservation status
Mammals			
Funambulus pennanti	Palm Squirrel	IV	Least Concern
Mus rattus	Indian rat	IV	Not listed
Bandicota bengalensis	Indian mole rat	IV	Least Concern
Funambulus palmarum	Three stripped palm squirrels	IV	Least Concern
Herestes edwardsii	Common Mongoose	IV	Not listed
Mus musculus	Common Mouse	IV	Least Concern
Bandicota indica	Rat	IV	Least Concern
Lepus nigricollis	Indian Hare	IV	Least Concern
Felis catus	Cat	Not listed	Not listed
Canis lupus familiaris	Indian dog	Not listed	Not listed

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Bos Indicus	Indian Cow	Not listed	Not listed
Bubalus bubalis	Buffalo	I	Not listed
Sus scrofa domesticus	Domestic pig	Not listed	Not listed
Birds			
Milvus migrans	Black kite	IV	Least concern
Saxicoloides fulicatus	Indian Robin	IV	Least concern
Pycnonotus cafer	Red vented Bulbul	IV	Least concern
Phragmaticola aedon	Thick billed warbler	IV	Least concern
Pericrocotus cinnamomeus	Small Minivet	IV	Least concern
Eudynamys scolopaceus	Koel	IV	Least concern
Psittacula krameni	Rose ringed parakeet	IV	Least concern
Dicrurus marcocercus	Black drongo	IV	Least concern
Columba livia	Rock pigeon	IV	Least concern
Corvus splendens	House crow	IV	Least concern
Alcedo atthis	Small blue kingfisher	IV	Least concern
Cuculus canorus	Common Cuckoo	IV	Least concern
Reptiles & Amphibians			
Chameleon zeylanicum	Chameleon	IV	Not listed
Calotes versicolor	Common garden lizard	II	Not listed
Bungarus caeruleus	Common krait	IV	Not listed
Ophisops leschenaultia	Snake eyed lizard	--	Not listed
Bufo melanostictus	Toad	IV	Least concern
Ptyas mucosa	Rat snakes	IV	Least concern
Hemidactylus sp.	House lizard	--	Not listed
Butterflies			
Danaus chrysippus	Plain Tiger	--	Not listed
Papilio demoleus	Common lime	--	Not listed
Euploea core	Common crow	--	Least concern
Danaus genutia	Common tiger	--	Not listed
Eurema brigitta	Small grass yellow	--	Least concern

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3.8 DEMOGRAPHY AND SOCIO ECONOMICS

The demography survey study is done within 10km radius from the project site.

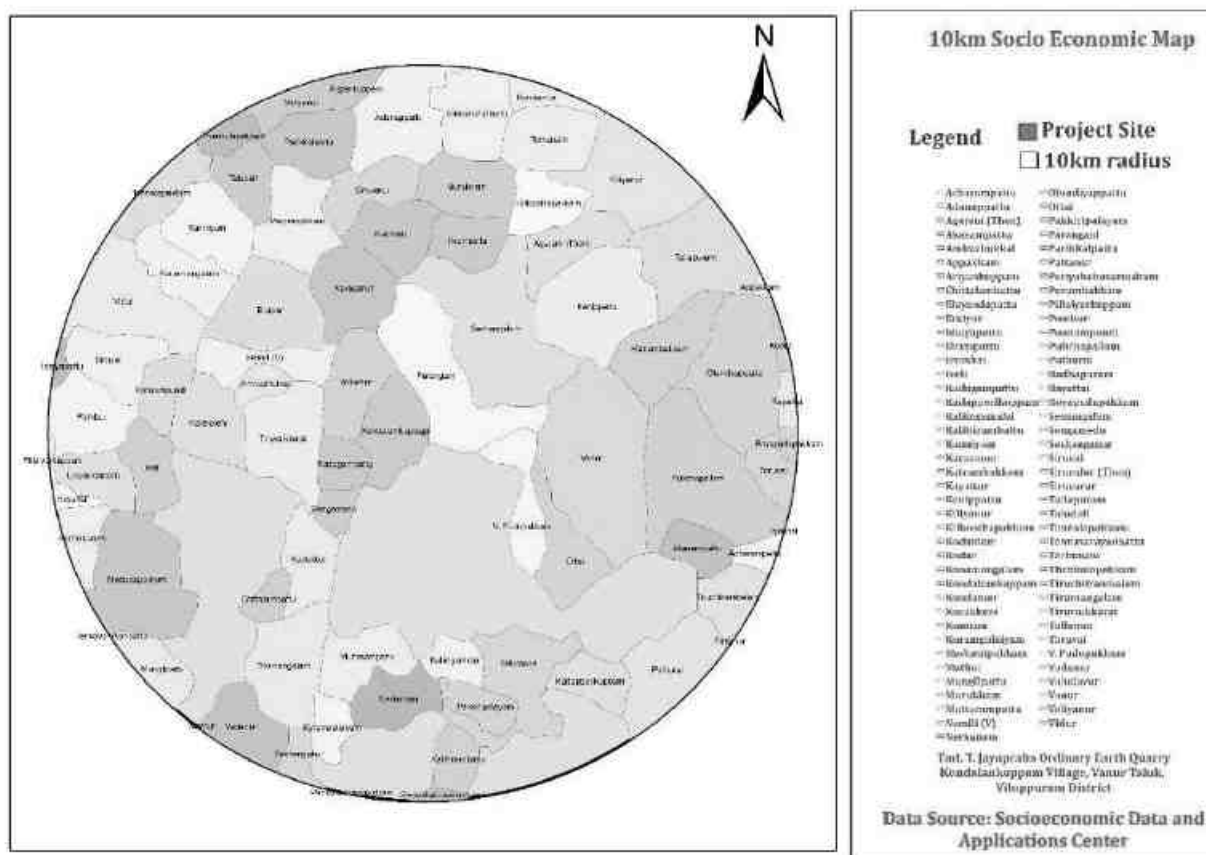


Figure 3.15 Socio Economic map surrounding the project site.

The population, Household, Sex ratio, Literacy rate, SC, ST details for all the villages in the study area is listed below:

Table 3-21: Demography Survey Study

Source: Census of India, 2011

Villages	Household	Population	Sex Ratio		Literacy Rate		SC	ST
			Male	Female	Male	Female		
Adanappattu	439	1929	998	931	790	607	662	85

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Agaram (Then)	110	518	263	255	200	161	485	0
Ambuzhukkai	134	558	294	264	224	153	124	22
Anganikuppam	102	403	204	199	151	111	0	0
Annamputhur	324	1480	769	711	586	414	903	0
Ariyankuppam	121	546	279	267	215	165	44	0
Aruvapakkam	378	1641	825	816	626	441	838	0
Athikuppam	111	448	223	225	173	105	173	0
Avadaiyarpattu	435	1936	986	950	680	519	1610	172
Chendur	652	2885	1454	1431	986	725	1176	0
Chinnanerkunam	755	3230	1598	1632	1132	939	865	41
Chinnavalavanur	81	424	197	227	155	119	422	0
Chittalambattu	631	2736	1376	1360	1072	902	1060	0
Chittani	518	2149	1043	1106	737	602	560	12
Elayandapattu	294	1121	565	556	416	306	63	0
Eraiyr	740	3257	1656	1601	1085	779	950	0
Ezhaoi	145	669	332	337	246	190	301	0
Ganapathipattu	353	1462	727	735	556	408	327	0
Idaiyapattu	181	794	407	387	302	227	322	0
Ilvampattu	179	743	384	359	281	195	522	1
Iveli	348	1440	716	724	506	392	470	0
Kadagampattu	144	601	315	286	269	193	0	0
Kalavay (Then)	427	1748	895	853	667	441	661	0
Kallakolathur	307	1368	709	659	491	349	785	141
Kanniyam	195	919	474	445	338	237	487	0
Karasanur	683	2862	1458	1404	1084	744	539	32
Katrambakkam	435	1887	941	946	625	469	1607	45
Kayattur	396	1564	802	762	523	353	414	70
Kenippattu	184	723	350	373	271	215	188	0
Kiledayalam	762	3455	1762	1693	1309	979	1915	20

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Kiliyanur	1464	6334	3181	3153	2305	1806	3507	316
Kilkoothapakkam	300	1242	614	628	474	393	785	174
Kilsithamur	336	1669	832	837	617	489	1329	0
Kodippakkam (Ten)	401	1738	896	842	714	539	904	20
Kodukkur	588	2581	1272	1309	920	742	1533	0
Kolliyankunam	351	1577	761	816	532	470	1391	0
Konamangalam	227	907	455	452	354	278	436	1
Kondalamkuppam	96	353	175	178	144	126	97	0
Kondamur	468	1915	959	956	750	606	912	0
Korakkeni	218	906	489	417	362	232	361	0
Kunnam	401	1742	873	869	630	492	414	9
Kuralur	211	816	416	400	307	206	257	9
Kuttampundi	376	1513	777	736	570	396	294	47
Kutteripattu	788	3229	1589	1640	1270	1101	653	13
Maduraipakkam	1149	4889	2436	2453	1739	1349	1724	13
Mailam	1078	4632	2354	2278	1765	1442	666	165
Murukkam	173	787	395	392	266	213	422	24
Muttarampattu	401	1730	842	888	589	520	1300	0
Nallamur	308	1214	603	611	444	311	268	9
Nedumozhianur	1102	4549	2252	2297	1579	1165	1558	11
Nemili (V)	266	1238	627	611	471	364	544	0
Ommandur	615	2594	1308	1286	844	617	932	49
Ottai	407	1704	862	842	630	452	746	20
Padirapuliyur	925	4202	2115	2087	1391	1175	2621	93
Palapattu	139	592	289	303	219	174	351	36
Parangani	773	3393	1684	1709	1203	1002	697	203
Parikkalpattu	248	1077	548	529	422	355	779	0
Peradikuppam (Kil)	103	483	251	232	194	153	365	0
Perani	567	2530	1289	1241	913	680	1155	11

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Perumbakkam	501	2357	1199	1158	878	662	1708	0
Pillaiyarkuppam	167	712	350	362	185	141	636	63
Pombur	961	3994	2004	1990	1531	1241	1456	121
Ponnampundi	132	565	289	276	214	161	154	0
Radhapuram	780	3453	1735	1718	1273	1009	1238	0
Reddikuppam	65	213	105	108	87	73	0	0
Salai (Vikravandi)	418	1773	885	888	693	551	1103	9
Semangalam	863	3635	1859	1776	1348	983	1361	0
Sengamedu	234	1063	521	542	391	328	745	35
Seyyaduvinnan	231	930	480	450	368	243	240	0
Siruvai	454	1752	886	866	608	471	813	0
Siruvalur (Then)	369	1589	815	774	644	461	0	43
Siruvanur	518	2285	1160	1125	810	611	1479	7
Tailapuram	1101	4388	2206	2182	1696	1385	1404	16
Taludali	517	2257	1153	1104	879	664	301	14
Tennalapakkam	352	1569	810	759	623	446	1263	0
Terkunam	630	2602	1279	1323	980	774	343	71
Thenkulapakkam	219	1022	523	499	412	301	529	0
Tirumangalam	1367	5786	2899	2887	2239	1715	1178	15
Tiruvaikkarai	738	3220	1627	1593	1052	852	911	90
Tollamur	332	1419	731	688	496	330	916	31
V. Pudupakkam	596	2441	1208	1233	935	775	522	0
Vanur	1190	5161	2649	2512	2067	1638	2518	93
Velangampadi	243	1040	502	538	329	267	495	21
Veliyanur	281	1267	647	620	452	365	711	0
Vengai	264	1346	673	673	441	381	1212	0
Vettukkadu	419	1746	892	854	721	570	442	0
Vidur	1405	5748	2861	2887	1883	1405	3122	8
Vikravandi	2735	12022	6037	5985	4868	4088	3840	145

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3.9 TRAFFIC IMPACT ASSESSMENT

Traffic data collected continuously for 24 hours by visual observation and counting of vehicles under three categories, viz., heavy motor vehicles, light motor vehicles and two/three wheelers. As traffic densities on the roads are high, two skilled persons were deployed simultaneously at each station during each shift- one person on each of the two directions for counting the traffic. At the end of each hour, fresh counting and recording were undertaken. Total numbers of vehicles per hour under the three categories were determined.

The local road will be connected to SH 136, and the excavated ordinary earth will be distributed to those in need.



Figure 3.16: Site Connectivity

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Table 3-22: No. of Vehicles per Day

S. No	Vehicles Distribution	Number of Vehicles Distribution/Day	Passenger Car Unit (PCU)	Total Number of Vehicle in PCU
		SH-136	-	SH-136
1	Cars	1035	1	1035
2	Buses	458	3	1374
3	Trucks	376	3	1128
4	Two wheelers	1330	0.5	665
5	Three wheelers	623	1.5	935
Total		3822	-	5137

Table 3-23: Existing Traffic Scenario and LOS

Road	V (Volume in PCU/hr)	C (Capacity in PCU/hr)	Existing V/C Ratio	LOS
SH 136	5137/24=214	563	0.38	B

Note: The existing level may be “Very Good” for SH-136.

V/C	LOS	Performance
0.0-0.2	A	Excellent
0.2-0.4	B	Very Good
0.4-0.6	C	Good/ Average/ Fair
0.6-0.8	D	Poor
0.8-1.0	E	Very Poor

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4 Anticipated Environmental Impacts & Mitigation Measures

This chapter describes the anticipated impacts on the environment and mitigation measures. The method of assessment of impacts including studies carried out, modeling techniques adopted to assess the impacts where pertinent should be elaborated in this chapter. It should give details of the impact on the baseline parameters, both during the construction and operational phases, and suggests the mitigation measures to be implemented by the proponent.

4.1 INTRODUCTION

An environmental impact is defined as any change to the environment, whether adverse or beneficial, resulting from a facility's activities, products, or services. The anticipation of the possible & potential Environmental impact due to the proposed project is a key step in EIA. Based on the impacts assessed, appropriate mitigation measures should be adopted to maintain the environment with less or no damage.

Environmental Impacts can be grouped into Primary impacts & Secondary Impacts

Primary Impacts: These impacts are directly attributed by the project

Secondary Impacts: These are those which are induced by primary impacts and include the associated investments and changed patterns of social and economic activities by the action.

Assessment of impacts is done for the following Environmental Parameters:

- Land Environment
- Water Environment
- Air Environment
- Noise Environment
- Biological Environment
- Socio Economic Environment

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4.2 LAND ENVIRONMENT:

Aspect	Impact	Mitigation Measures
<i>Mining of ordinary earth</i>	The proposed 1.76.0 Ha mine located in Kondalankuppam Village having 1,76,000 Ts of ordinary earth for a period of 1 year. The quarry operation is proposed to carry out with conventional open cast semi-mechanized mining with. At the end of 1 years, mining lease area will be converted into ultimate pit. The main impact of open cast mining on land-use is land degradation. The land is bound to be excavated for mining of Ordinary Earth Quarry. Impact on soil of the study area will be minimal as there are no wastewater generated, heavy metal infusion, stack emissions. Impact due to transformation of terrain characteristics over the large area results in soil degradation.	The proposed project site is not prone to any kind of soil erosion (Source: Bhuvan). In addition, garland drainage of 1m x 1m will be provided to avoid storm water run- off. It is proposed to plant 900 No's of local tree species (Neem, Vilvam Vaagai, Pungam, Magizha maram, Eachai, etc.) along the roads, outer periphery of the mining area which enhances the binding property of the soil. It is proposed to improve the affected land wherever possible for better land use, so as to support vegetation and creation of water reservoir in the ultimate pit after quarrying. There is no over burden in the lease applied area. The source of dust generation is majorly due to excavation, loading & unloading of the mined-out mineral, the impact will be mitigated by water sprinkling regularly once in 3 hours.

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	Solid waste will be generated from the mining activity as there will be refuse also generation of domestic waste. If it is not properly managed, may cause odor and health problem to the workers.	After removal of minerals, undulating portion will be created. Excavated area or ultimate pit at the end of the mine period will be filled and levelled for cultivation. Two tier tree belts will be planted along the safety distance. The 100% recovery is achieved by extracting the entire mineable reserve. Hence there will be no refuse generation due to the mining activity. Apart from that, a very meagre quantity of domestic waste will be generated in the project, which will be handed over to the local body on daily basis.

4.3 WATER ENVIRONMENT:

Aspect	Impact	Mitigation Measures
<i>Loading and unloading, Transportation of the excavated mineral.</i>	The mining in the area may cause ground water contamination due to intersection of the water table and mine runoff.	The water table will not be intersected during mining, as the ultimate depth is limited up to 2 m below ground level, whereas the ground water table is at 17-19 m below ground level during summer and 19 m below ground level during rainy seasons. The municipal wastewater will be disposed into septic tanks of 5 cum and soak pit.

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	The ground water depletion may occur due to mining activity Improper management of Domestic wastewater in the Mine lease may create unhygienic conditions in the site thereby causing health impacts to the labours.	No chemicals consisting of toxic elements will be used for carrying out mining activity. The ground water table is at a depth of 17m to 19m BGL, the mining operation will not affect the aquifer. The ultimate pit at the end of the mining operation will be levelled and use for cultivation. Further, the run-off water will be stored in sumps and after proper treatment; water will be used in the mining operation for dust suppression. Provision of urinals/Latrines along with septic tank followed by soak pit arrangement will be provided in the Mine Lease area for the proper management of wastewater

4.4 AIR ENVIRONMENT:

Aspect	Impact	Mitigation Measures
Loading and unloading, Transportation of the excavated mineral.	Impacts during Operation Phase	Mitigation Measures during Operation Phase It is proposed to plant 900 Nos of local species (with 215 No's each year) along the haul roads,

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	During mining operation, fugitive dust and other air pollutants like particulate matter (PM₁₀ & PM_{2.5}) will be generated. The main source of pollutants arises due to excavation .2 No. of Tippers will be used for loading and unloading, 2 No of Excavator (0.90m³ bucket capacity (with rock breaker attachment) will be used for excavation of the mineral which contributes to the generation of fugitive dust. <u>Effect on Human</u> • Adverse effect on human health of working	outer periphery within the lease area to prevent the impact of dust in consultation with Forest department for the plantation of trees (Neem, Magizham, Tamarind, Elandhai, Mantharai, Vilvam, etc.,) in two tier to combat air pollution and with herbs (Nerium) in between the tree species. Planning transportation routes of the mined-out mineral, so as to reach the nearest paved roads (an approach road) by shortest route connecting to Kondalankuppam village road. Alternatively, gravelled road may be constructed between mine lease area and nearest paved road connectivity. The speed of trucks plying on the haul road will be limited to 20km/hr to avoid generation of dust. The trucks will be covered by tarpaulin. Overloading will be avoided.

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	labourers and neighbouring villagers like effect on breathing and respiratory system, damage to lung tissue, influenza or asthma. - Dust generation due to loading and unloading of mineral and due to transportation can also affect the workers as well as nearby villagers. <u>Effect on Plants</u> - Stomatal index may be minimized due to dust deposit on leaf.	Personal Protective Equipments (PPEs) like eye goggles, dust mask, leather gloves, safety shoes & boots will be provided to the workers engaged at dust generation points like excavation and loading points. 0.5 KLD of water will be proposed for sprinkling on unpaved roads to avoid dust generation during transportation.

Air Quality Modeling:

The AERMOD is actually a modeling system with three separate components:

- AERMOD (AERMIC Dispersion Model),
- AERMAP (AERMOD Terrain Preprocessor)
- AERMET (AERMOD Meteorological Preprocessor)

4.4.1 Source Characterization

A detailed listing of all emission sources and their corresponding modelling input release parameters and emission rates is listed this report. A general description of how each source type was treated is presented below.

The emission Sources from the proposed operation are

Point Sources:

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Point sources for mining operations typically include dust collectors, hot water heaters, and emergency generator(s). Since at the present project the following sources are anticipated.

1. Hydraulic excavator – 0.90 Cum Bucket Capacity
2. Tipper
3. Excavating with Accessories

Road Sources:

A road network was developed to depict the anticipated haul truck routes and truck discharge locations during the mine operations. The anticipated emissions from the road sources and corresponding anticipated impact during the monitoring period of March to May 2022 emissions were estimated. Emissions due to haul road and general plant traffic on the unpaved road network were modelled as volume sources. The model volume source parameter for the haul roads initially utilized USEPA developed emission factors for hauling trucking. The haul road sources utilized source to source spacing of 6 meters along the simulated haul roads. The initial lateral dimension of the sources were set to 3m were used as an input to replicate a 2-truck travel adjacent for a typical mining scenario.

The parameters considered for the hauling operation include the following,

- size of haul trucks commonly used
- degree of dust control/compaction of permanent haul roads

Other fugitive particulate emission sources:

Other fugitive particulate emission sources that were modelled as volume sources include the following:

- Fugitive emissions from trucks unloading at the primary crusher were represented by a single volume source. The release height was set to 0 meters (dump pocket is at grade level).

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- Fugitive emissions due to wind erosion are not considered as the mining area is predominately rocky surface with minimal wind erosion. If a wind erosion is anticipated to occur, it would be localized.
- Fugitive emissions from transfer points were represented by single volume sources. The release heights for these sources were set to the actual height of the truck transfer process.

Post Project Scenario

Emissions from operations will result from process equipment and mining operations. Process equipment was modeled at maximum capacity. Emissions from mining were based upon the mining rate and haul truck travel necessary to transport the stones and waste from the pit to the storage area.

Predicted maximum ground level concentrations considering micro meteorological data from December 2025 to February 2026 are superimposed on the maximum baseline concentrations obtained during the study period to estimate the post project scenario, which would prevail at the post operational phase. The overall scenario with predicted concentrations over the maximum baseline concentrations is shown in the following table along with isopleths.

Table 4-1 Emission Factors for uncontrolled mining

Activity	Emission Factor		References	
Ordinary Earth handling	Scraper	0.029 Kg TSPM/ average time between spray application	USEPA (2008)	Jose I. Huertas & Dumar A. Camacho & Maria E. Huertas, Standardized emissions inventory methodology for open-pit mining areas, Environmental
	Bulldozing	15.048 kg PM10/ Hr excavation	USEPA (2008)	

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	Loading	2.3237E-04 kg PM10/ average time between spray application	USEPA (2006a)	Science Pollution Research, 2012.
	Haulage	0.69718 kg PM10/VKT	USEPA (2006a) Cowherd (1988)	
	Loading	1.00E-4 lbs PM10/ Ton produce		

4.5 NOISE ENVIRONMENT:

Aspect	Impact	Mitigation Measures
<i>Loading and unloading, Transportation of the excavated mineral.</i>	Usage of Equipments (Excavator, Tipper, Jack Hammer), Machinery and trucks used for transportation will generate noise. Noise from the machinery can cause hypertension, high stress level, hearing loss, sleep disturbance etc due to prolonged exposure.	- The machinery will be maintained in good running condition so that noise will be reduced to minimum possible level. - Awareness will be imparted to the workers once in six months about the permissible noise level and effect of maximum exposure to those levels. Adequate silencers will be provided in all the diesel engines of vehicles. - It will be ensured that all transportation vehicles carry a valid PUC Certificates.

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	Number of vehicles will be increased due to the proposed mining activity hence vehicle may collate which may result in unwanted sound and can also cause impact on human health like breathing and respiratory system, damage to lung tissue, influenza or asthma.	• Speed of trucks entering or leaving the mine will be limited to moderate speed (20km/hr) to prevent undue noise from empty vehicles. The noise generated by the machinery will be reduced by proper lubrication of the machinery and other equipments. • It is proposed to plant 900 Nos. of local species (Neem, Mandharai, Athi, Tamarind, Panai, Vilvam, etc...) to reduce the impact of noise in the study area. The development of green belts around the periphery of the mine will be implemented to attenuate noise. • The trucks will be diverted on two roads viz. SH 136 and a District Road to avoid traffic congestion. • Health check-up camps will be organized once in six months. • Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas. • Provision of quiet areas, where employees can get relief from workplace noise.

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4.6 BIOLOGICAL ENVIRONMENT:

Aspect	Impacts	Mitigation Measures
Site Clearance	Loss of habitat due to site clearance which may lead to ecological disturbance.	The proposed mining lease is already dry land hence no site clearance is required. Only few shrubs and herbs like parthenium sp., prosopis juliflora were present.
Planting of trees	Development of afforestation in the mine lease area will have a positive impact as the land was initially a barren.	10 m safety distance will be provided all along the boundary of the mine lease area and safety. Around 0.36.08 Ha (Unutilized area will be used for greenbelt activity) of land is utilized for greenbelt development (900 Nos – 1 year). This will attract avifauna thus enhancing the existing ecological environment.

4.7 SOCIO ECONOMIC ENVIRONMENT:

Aspect	Impact	Mitigation Measures
Proposed implementation of Mining activity	Land acquisition for the implementation of the project may result in loss of assets, which in return will make	The proposed project is a Patta land (Consent registered) of <i>Tmt. T. Jayapraba</i> and the land is

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	the PAP to shift, losing their normal routine and livelihood	vacant where there is no human settlement within 300m radius. Hence the project does not involve Rehabilitation and resettlement
Loading and Transportation of the mined out mineral	The mining activities may cause dust emission, noise pollution thereby causing disturbance to the local habitat	No human activity is envisaged near the project site. The nearest human settlement is observed in Kondalankuppam village, which is 0.55 km, E from site
Grazing and Rearing activities in the nearby villages	The Grazing and rearing of local animals like Sheep, Goat and cows is observed in the nearby villages, which may be affected due to the project as the movement of the vehicles may affect/injure the animals	It is proposed to use gravelled road and nearest paved road and preferred not to use unpaved roads. In addition to that, the speed of trucks will be limited to 20km/hr to avoid any accidents.
Employment opportunity	The project will improve the livelihood of the local people	After the development of the proposed mine, it will improve the livelihood of local people and also provide the direct and indirect employment opportunities. The ordinary earth for the infrastructural development and construction in the area will be made available from the local markets at reasonably lower price.
Corporate Environmental Responsibility	The proposed project will help in natural resource augmentation & Community resource development.	As a part of CER i.e, 1 Lakhs will be allocated. Govt Middle School. Ranganathapuram, Vanur Tk, Villupuram Dt (Total strength 90 students)

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		Providing facilities are: • Basic amenities such as Environmental awareness books (Tamil) in Library for students, Green Belt development, RO water purifiers, Hygienic Toilet and maintenance of toilet up to lease period.

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4.8 OTHER IMPACTS:

S. No	Aspect	Impact	Mitigation measure
1.	Risk due to the proposed mining	Accidents may occur in the mine area	Proper PPE kit (Safety jacket, Helmet, Safety Shoes, Gloves) etc will be provided to each and every employee in the mine lease concerning the safety of each labour
2.	Screening of Labors	Labors will be checked for health condition before employing them in mining activity	All the labours will be checked and screened for health before employing them. After employing them, periodical medical checkups will be held once in every six months.

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5 Analysis Of Alternatives

5.1 GENERAL

Analysis of alternatives is a significant aspect in planning and designing any project. Cost benefit analysis should be worked out along with other parameters while choosing an alternative in such a way that the production is maximum and the mining operation is environmentally friendly and cost effective. The mine plan and mine closure plan have been approved by the Deputy Director, Department of Mining and Geology, Villupuram District prior to submission of the Form-1 and PFR.

ToR issued by the SEIAA-TN vide ToR Identification No. TO25B0108TN5766652N Dated: 12.12.2025. The study for alternative analysis involves in-depth examination of sites and technology.

5.1.1 *Analysis for Alternative Sites and Mining Technology*

5.1.1.1 Alternative Site

The proposed project is the mining of Ordinary earth Quarry and is proposed after prospecting the area. In other words, these can be implemented in the mineral available zone. Since the mining block has been allotted in principle by the State Government, there is no case for studying and exploring any other site as an alternative.

5.1.1.2 Alternative Technology

The open cast mining could be manual/semi-mechanized/mechanized depending upon the geological and topographical setup of the mineral (ROM) to be won and the daily/annual targeted production.

Table 5-1: Alternative for Technology and other Parameters

S.No	Particulars	Alternative option I	Alternative option II	Remarks
1.	Technology	Opencast semi mechanized mining	Opencast mechanized Mining	Opencast semi mechanized Involving excavators for removing earth are preferred. Benefits:

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				Material is soft so excavators were enough for the mining process.
2.	Employment	Local employment.	Outsource employment	Local employment is preferred Benefits: Provides employment to local people along with financial benefits No residential building/ housing is required.
3.	Labour transportation	Public transport	Private transport	Local labours will be deployed from Kondalankuppam village so they will either reach mine site by bicycle or by foot. Benefits: Cost of transportation of labors will be negligible
4.	Material transportation	Public transport	Private transport	Material will be transported through trucks/trolleys on the contract basis Benefits: It will give indirect employment.
5.	Water	Tanker supplier	Ground water	Tanker supply will be preferred. Water will be sourced from Kondalankuppam village which is 0.55 km, SW from site

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6 Environmental Monitoring Program

6.1 GENERAL:

This chapter covers the planned environmental monitoring program. It also includes the technical aspects of monitoring the effectiveness of mitigation measures.

Monitoring is important to measure the efficiency of control measures. Post project monitoring of environmental parameters is of key importance to assess the status of environment. The monitoring program will serve as an indicator for identifying environmental degradation due to operation of the project and help in selecting appropriate mitigation measures to safeguard the environment.

Regular monitoring is as important as control of pollution since the efficacy of control measures can only be determined by monitoring. The project proponent has awarded **M/s. Ecotech Labs Pvt Ltd** for carrying out the post project environmental monitoring (PPM) and timely compliance report submission to various regulatory authorities.

Therefore, regular monitoring programme of environmental parameters is essential to take into account the changes in the environmental quality. The objectives of monitoring are to: -

- Verify effectiveness of planning decisions.
- Measure effectiveness of operational procedures.
- Confirm statutory and corporate compliance; and
- Identify unexpected changes.

Table 6-1: Environmental Monitoring Programme

Parameters	Sampling	Frequency	Location
Air environment – Pollutants PM 10 PM 2.5 SO ₂	7 locations	24 hourly twice a week 4 hourly. Twice a week, One non monsoon season	Project site, Eraiyur Bus stop, Poncos High. Sec. School, Sandhai Pudukuppam Bus stop, Lakshmi Narayanar Temple,

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NO _x		8 hourly, twice a week 24 hourly, twice a week	Post office Katrampakkam, Sri Varadharaja Perumal Sannathi
Noise	7 locations	24 hourly Once in 7 locations	Project site, Eraiyur Bus stop, Poncos High. Sec. School, Sandhai Pudukuppam Bus stop, Lakshmi Narayanar Temple, Post office Katrampakkam, Sri Varadharaja Perumal Sannathi
Water (Ground water) • pH • Temperature • Turbidity • Magnesium - Hardness • Total Alkalinity • Chloride • Sulphate • Fluoride • Nitrate • Sodium • Potassium • Salinity • Total nitrogen • Total Coliforms • Fecal Coliforms	7 locations	Once in 7 locations	Project site, Eraiyur Bus stop, Poncos High. Sec. School, Sandhai Pudukuppam Bus stop, Lakshmi Narayanar Temple, Post office Katrampakkam, Sri Varadharaja Perumal Sannathi

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Water (surface water) • pH • Temperature • Turbidity • Magnesium - Hardness • Total Alkalinity • Chloride • Sulphate • Fluoride • Nitrate • Sodium • Potassium • Salinity • Total nitrogen • Total Coliforms • Fecal Coliforms	Sample from nearby lakes/river	One time Sampling	Ragnathapuram village pond and Eraiyur Lake
Soil (Organic matter, Texture, pH, Electrical Conductivity, Permeability, Water holding capacity, Porosity)	7 locations	Once in 7 locations	Project site, Eraiyur Bus stop, Poncos High. Sec. School, Sandhai Pudukuppam Bus stop, Lakshmi Narayanar Temple, Post office Katrampakkam, Sri Varadharaja Perumal Sannathi
Ecology and biodiversity Study	Study area covering 10 km radius	One time Sampling	

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Socio- Economic study (Population, Literacy Level, employment, Infrastructure like school, hospitals & commercial establishments)	Villages around 5 km radius	One time Sampling	

Table 6-2: Monitoring Schedule during Mining

S. No.	Attributes	Parameters	Frequency	Location
1	Ambient Air Quality at Mine Site & Fugitive Dust Sampling	PM 10 PM 2.5 SO ₂ NO _x	Once in a Month	Project Site
2	Ground water Quality	Drinking Water Parameters, As per IS - 10500: 2012	Half yearly	Project Site
3	Surface Water Quality	Class will be assessed as per the CPCB Guidelines	Half yearly	Project Site
4	Soil Quality	(Organic matter, Texture, pH, Electrical Conductivity, Permeability, Water holding capacity, Porosity)	Half yearly	Project Site
5	Noise Level Monitoring	Noise level in dB(A) Quarterly/half yearly	Half yearly	Project Site

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7 Additional Studies

7.1 GENERAL

This chapter covers the details of the additional studies viz. Risk assessment, Disaster Management, Public Hearing, Rehabilitation and Resettlement.

7.1.1 *Public Hearing:*

As the proposed mining project falls under 1(a), Category B1 – Cluster Mining includes
Existing Quarries Thiru.S.Devamani– 3.05.5 Ha, Thiru B.Venkatakrishnan – 1.53.50 Ha,
Thiru S.Vasantharaj – 3.87.0 Ha
Proposed Quarries – Tmt.T. Jayapraba – 1.76.0 Ha
Abandoned Quarries – NIL

The Total extent of the Existing / Proposed quarries is about 10.22.00 Ha

Hence under 7(III) of EIA notification 2006 and its subsequent amendments, the project involves the Public Consultation and the same will be conducted under SPCB (TN) in Viluppuram District. The proceedings of the same will be incorporated in the Final EIA Report.

7.1.2 *Risk assessment:*

For mining projects to be successful, it should meet not only the production requirements but also maintain the highest safety standards for all the workers. The industry has to identify the hazards, assess the associated risks and bring the risks to tolerable level regularly. Mining has considerable safety risk to miners. Unsafe conditions and practices in mines lead to a number of accidents and causes loss and injury to human lives, damages the property, interrupt production etc. Risk assessment is a systematic method of identifying and analyzing the hazards associated with an activity and establishing a level of risk. The hazards cannot be completely eliminated, and thus there is a need to define and estimate an accident risk level possible to be presented either in quantitative or qualitative way.

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7.1.3 Identification of Hazard

7.1.3.1 Blasting Pattern:

No drilling or blasting is proposed for this type of Ordinary Earth quarrying operation; it is an ecofriendly quarrying operation.

7.1.3.2 Drilling and Blasting:

No drilling or blasting is proposed for this type of Ordinary Earth quarrying operation; it is an ecofriendly quarrying operation.

a. Types of explosives to be used:

No drilling or blasting is proposed for this type of Ordinary Earth quarrying operation; it is an ecofriendly quarrying operation.

b. Measures proposed to minimize ground vibration due to Blasting:

No drilling or blasting is proposed for this type of Ordinary Earth quarrying operation; it is an ecofriendly quarrying operation.

Heavy Machineries: The following heavy machineries will be used in the proposed area:

- For Mining – Excavator of 0.90 Cum Bucket capacity of 2 Nos.
- Loading Equipment – Excavator of 0.90 Cum Bucket Capacity (with Bucket attachment)
- Transportation (includes within the mine and mine to destination) – Tipper 3 No of 10/20 T capacity

a. Risk:

Most of the accidents during transport of mined out minerals using other heavy vehicles are often attributed to mechanical failures and human errors.

b. Mitigation measures to minimize the risk

- At the time of loading no person will be allowed within the swing radius of the excavation.
- The dumpers/ trucks will stand near the loading equipment and fully brake when the muck is filled in it.

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- The truck would be brought to a lower level so that the loading operation suits to the ergonomic condition of the workers.
- The workers will be provided with helmets, gloves and safety boots; loading and unloading operations will be carried out only during daylight
- All the mining machinery will be regularly maintained and checked such as brakes, lights and horns to keep in the efficient working order.

7.1.4 General Precautionary measures for the Risk involved in the proposed mine:

- In order to take care of above hazard/disaster, the following control measures will be adopted:
- All safety precautions and provisions of Mine Act, 1952, Metalliferous Mines Regulation, 1961 and Mines Rules, 1955 will be strictly followed during all mining operations;
- Entry of unauthorized persons will be prohibited.
- Firefighting and first-aid provisions in the ECC and mining area;
- Provisions of all the safety appliances such as safety boot, helmets, goggles etc. will be made available to the workers (18 Nos.) and regular inspection for their use;
- In case of eventuality, first aid will be given by the senior safety officer in the mine area initially to the injured person. The safety officer will give notice of accident as per Rule-23 of Mines Act-1952;
- The safety officer (common for 3 mines within 500m radius) will be responsible for coordination between management district authorities/DGMS etc. Regarding general safety as per Rule-181 of MMR 1961, “No person shall negligently or willfully do anything likely to endanger life or limb in the mine, or negligible or willfully omit to do anything necessary for the safety of the mine or of the persons employed there in”. The workers will be provided with protective footwear and safety helmets.
- Cleaning of mine faces will be regularly done;
- Handling of explosives, charging and blasting will be carried out by highly skilled labors only;
- Regular maintenance and testing of all mining equipment as per manufacturer’s guidelines;
- Suppression of dust by sprinkling water on the haulage roads;

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7.1.5 Safety Team:

The effective implementation of compliance of Safety Rules/ Statutory Provisions will be ensured. The safety officer will be engaged, meeting the requirement of Mines Act and their duties and responsibilities. The safety officer will be responsible for identification of the hazardous conditions and unsafe acts of workers and advice on corrective actions, conduct safety audit, organize training programs and provide professional expert advice on various issues related to occupational safety and health. Organizing safety training will be conducted to employees and contractor labors periodically.

7.1.6 Emergency Control Centre

The emergency control center will be provided to handle the emergency. The site main controller, key personnel and the senior officers of the fire and police services will attend it. The center will be equipped to receive and transmit information and directions from and to the incident controller and other areas of the works, as well as outside. The emergency control center will be sited in an area of minimum risk. This common Emergency control center will be used for the mines around the 500m radius

7.2 DISASTER MANAGEMENT

The possible risks in the case of stone along with associated minor minerals mining projects are fly rock, vibration failure of pit, slope and waste dump, accidents due to transportation. Mining and allied activities are associated with several potential hazards to both the employees and the public at large. Safety of the mine and the employees is taken care of by the mining rules & regulations, which are well defined with laid down procedure for safety, which when scrupulously followed, safety is ensured not only to manpower but also to machines & working environment.

7.2.1 Emergency Management Plan For Proposed Mines On Site- Offsite Emergency Preparedness Plan:

The emergency plan delineates the procedures for dealing with accidents or unexpected events and natural calamities arising from mining activity. An experience of any accidents that have occurred in other manufacturing/mining projects is considered preparing this plan. This

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Emergency plan should be periodically reviewed and modified. It should also be changed based on the observations of emergency mock drills and experience of handling actual emergencies.

Major objectives of this onsite – offsite emergency plan are:

- To take necessary proactive and preventive actions to avoid emergencies.

The main aim of any emergency plan should be to prevent emergency situations.

To train the manpower to handle the emergencies of the following nature:

- Onsite (Within ML boundary)
- Offsite (Outside ML boundary)

7.2.1 Onsite off-site emergency Plan:

1- Emergency on account of:

- Fire
- Explosion
- Major accidents involving man-made collapse of the mining edges.
- Snake bites, attack by honeybees or attack by wild animals.

2- Disaster due to natural calamities like:

- Flood/ heavy rains which can involve natural landslides.
- Earth quake
- Cyclone
- Lightening

7.2.2 Emergency Plan:

- The mining operations should be immediately stopped in case of any emergency. A siren will be sounded during emergency time.
- An emergency assembly point will be created and all the workers will guide visitors or contractors to approach assembly point.
- Emergency vehicle (Ambulance) will be available in the nearby place, in proximity to the three mines and will rush to the emergency control center at the blowing of emergency siren. The driver of emergency vehicle will follow the instructions of Incident Controller/Site Main Controller.
- Workers will be trained for the precautions to be taken during natural disasters like heavy rain, floods, earthquake and cyclone.

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- All escape routes from mines to the assembly point or any other safe location will be made and the escape plan will be displayed in many places in the mine area

7.2.3 *Emergency Control:*

- Shut down of mining operations: Raising the alarm or siren followed by immediate safe shut down of the power supply, and isolation of affected areas.
- Treatment of injured: First aid and hospitalization of injured persons
- Protection of environment and property: During mitigation, efforts will be made to prevent impacts on environment and property to the extent possible.
- Preserving all evidences and records: This will be done to enable a thorough investigation of the true causes of the emergency.
- Ensuring safety of personnel prior to restarting of operations: Efforts required will be made to ensure that work environment is safe prior to restarting the work.

7.3 NATURAL RESOURCE CONSERVATION

There are no natural resources within the premises. The conservation strategies for energy will be followed in the proposed mine lease area. The pollutants of the mine will be minimized by adopting appropriate mitigation measures as mentioned in Chapter 5 to prevent the effects on nearest water bodies. No surface runoff from the project site will be let into the nearest water bodies.

7.4 RESETTLEMENT AND REHABILITATION:

The proposed Mine lease area is Patta land (Consent registered). There is no displacement of the population within the project area and adjacent nearby area and hence Rehabilitation & Resettlement is not applicable.

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8 Project Benefits

8.1 GENERAL

This chapter covers the benefits accruing to the locality, neighborhood, region and nation as a whole. It brings out the details of benefits by way of improvements in the physical infrastructure, social infrastructure, employment potential and other tangible benefits.

8.1.1 *Physical Benefits*

The opening of the proposed project will enhance the following physical infrastructure facilities in the adjoining areas:

Market: Generating useful economical resource for construction. Due to demand supply chain, excavated minerals (Ordinary Earth) will sell in the market in the affordable price.

Infrastructure: The excavated ordinary earth will be used for *filling and leveling of low lying areas for road project*.

Enhancement of Green Cover & Green Belt Development: As a part of reclamation plan, native tree species will be planted along the safety boundary of the mine lease area. A suitable combination of trees that can grow fast and also have good leaf cover will be adopted to develop the green belt. It is proposed to plant 900 native species along with some fruit bearing and medicinal trees during the mining plan period.

8.2 SOCIAL BENEFITS

The mining in the area will create rural employment. During site visit, it has been observed that the economic conditions of the villages in the study area is quite normal. After the development of the proposed mine, it will improve the livelihood of local people and also provide indirect employment opportunities. The Ordinary Earth for the infrastructural development and construction purpose in the area will be made available from the local markets at reasonably lower prices.

As a part of CER, i.e., 1 Lakhs will be allocated. The detailed agenda, which is to be executed, has been framed. The salient features of the programmes are as follows:

<i>Project</i>	<i>Ordinary Earth Quarry – 1.76.0 Ha by Tmt. T. Jayapraba</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Tmt. T. Jayapraba</i>	
<i>Project Location</i>	<i>Kondalankuppam Village, Vanur Taluk, Villupuram District</i>	

We have obtained consent letter from the Headmaster, Government Middle School, Ranganathapuram Village, Vanur Tk, Villupuram Dt (**Total strength 90 students**)

For Providing facilities are:

- Installation Basic amenities such as Environmental awareness books (Tamil) in Library for students, Green Belt development, RO water purifiers, Hygienic Toilet and maintenance of toilet up to lease period.

8.3 PROJECT COST / INVESTMENT DETAILS

Project Cost

(a) Fixed Asset Cost

1. Land cost	=	Rs. 12,32,000/-
2. Machinery to be used	=	Rs. 4,47,360/-
3. Rest shelter	=	Rs. 2,50,000/-
4. Drinking Water	=	Rs. 48,000/-
5. Other items (Levelling)	=	Rs. 2,00,000/-

(b) Expenditure:-

= Rs. 3,04,000/-

Total Project Cost (a+b) = Rs. 24,81,360/- (Twenty-Four Lakhs and Eighty-one Thousand Three hundred sixty Rupees Only).

<i>Project</i>	<i>Ordinary Earth Quarry – 1.76.0 Ha by Tmt. T. Jayapraba</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Tmt. T. Jayapraba</i>	
<i>Project Location</i>	<i>Kondalankuppam Village, Vanur Taluk, Villupuram District</i>	

9 Environmental Management Plan

9.1 INTRODUCTION

This chapter comprehensively presents the Environmental Management Plan (EMP), which includes the administrative and technical setup, summary matrix of EMP, and the cost involved to implement the EMP, during various Mining activities and provisions made towards the same in the cost estimates of project. This chapter describes the proposed monitoring scheme as well as inter-organizational arrangements for effective implementation of the mitigation measures.

9.2 SUBSIDENCE

Mining will be carried out by opencast semi-mechanized mining method as per mining plan approved by Department of Mining and Geology, Villupuram. Subsidence/slope failures are not envisaged because there are no loose strata overlying the deposit (mineral to be excavated). The individual bench slope has been proposed to be kept at 45° from horizontal. Moreover, all safety standards/ safeguards will be implemented as per guidelines prescribed by Director General of Mines Safety.

9.3 MINE DRAINAGE

9.3.1 *Storm water Management*

The following measures will be taken with respect to the prevailing site conditions.

- Storm water drains with silt traps of size 1m x 1m will be suitably constructed all along the periphery of the pit area to collect the run-off from the mine area and divert into the pit.
- All measures will be taken not to disturb the existing drainage pattern adjacent to the mine lease area.
- The storm water collected from the mine area will be utilized for dust suppression on haul roads, plantation within the premises, etc.,

9.3.2 *Drainage*

Local workers will be deployed for the project. But urinals and Latrines will be provided and the same will be connected to septic tank followed by soak pit arrangement. No domestic waste will be

<i>Project</i>	<i>Ordinary Earth Quarry – 1.76.0 Ha by Tmt. T. Jayapraba</i>	<i>Draft EIA Report</i>
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<i>Project Location</i>	<i>Kondalankuppam Village, Vanur Taluk, Villupuram District</i>	

deposited into the nearby area. Regular checking will be carried out to find any blockage due to silting or accumulation of loose materials. The drains will also be checked for any damage in lining / stone pitching, etc.

9.3.3 Administrative and Technical Setup

The Environment Management Plan (EMP) will consist of all mitigation measures for each component of the environment due to the activities increased during mining operation to minimize adverse environmental impacts resulting from the activities of the project.

To carry out the above activities, Tmt. T. Jayapraba will work in association with M/s. Ecotech Labs Pvt Ltd.

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Table 9-1: Impacts and mitigation measures

S. No	Impacts on Environment	Activity /Aspect	Anticipated impacts	Mitigation measures
1.	Air	Fugitive Emission	During mining operation, fugitive dust and other air pollutants like particulate matter (PM10 & PM 2.5) will be generated.	Planting of trees along the safety distance of the Mine Lease Area Water will be sprinkled in the site as dust suppression measure.
2.	Water	Wastewater Generation	Improper management of Domestic wastewater in the Mine lease may create unhygienic conditions in the site thereby causing health impacts to the labors	Provision of urinals/Latrines along with septic tanks followed by soak pit arrangement will be provided in the Mine Lease area for the proper management of wastewater.
3.	Noise	Mining activities like drilling, blasting, loading and transportation	Noise from machinery can cause hypertension, high stress level, hearing loss, sleep disturbance etc due to prolonged exposure. Apart from Mining activities like drilling, blasting may generate noise	Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas.
4.	Land	Improper management of Storm water Runoff	Storm water Runoff may result in Soil Erosion	Garland drainage of 1m x 1m will be provided to avoid storm water run- off.
5.	Social Responsibility	Mining workers	Unhygienic site sanitation facilities may cause health damage to workers.	The objective is to ensure health and safety of the workers with effective provisions for the basic

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				facilities of sanitation, drinking water, safety of equipments or machinery etc. The following will be done in the site ✓ By complying with the safety procedures, norms and guidelines (as applicable) as outlined in the National Building Code of India, Bureau of Indian Standards. ✓ Provide adequate number of decentralized latrines and urinals ✓ Providing Septic tank along with Soak pit arrangement ✓ Providing First Aid room, conducting frequent health checkups to labor and conducting free medical camps ✓ Providing safety helmet, Gloves, Jacket & Boots ✓ Providing measures to prevent fires. Fire fighting extinguishers and buckets of sand will

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				be provided in the construction site
6.	Building materials resource conservation	Building Material consumption	Use of farfetched construction materials than the locally available construction materials may lead to over exploitation of natural resources & increase in carbon footprint.	• Use of locally available construction materials.

Table 9-2: Budgetary Allocation for EMP during Mining

	Mitigation Measure	Provision for Implementation	Capital	Recurring
Air Environment	Compaction, gradation and drainage on both sides for Haulage Road	Rental Dozer & drainage construction on haul road @ Rs. 10,000/- per hectare; and yearly maintenance @ Rs. 10,000/- per hectare	17600	17600
	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tankers	Fixed Sprinkler Installation and New Water Tanker Cost for Capital; and Water Sprinkling (thrice a day) Cost for recurring	200000	50000
	Muffle blasting – To control fly rocks during blasting	Blasting face will be covered with sandbags / steel mesh / old tyres / used conveyor belts	0	0

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	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	Dust extractor @ Rs. 25,000/- per unit deployed as capital & @ Rs. 2500 per unit recurring cost for maintenance	0	0
	No overloading of trucks/ tippers/ tractors	Manual Monitoring through Security guard	0	500000
	Stone carrying trucks will be covered by tarpaulin	Monitoring if trucks will be covered by tarpaulin	0	10000
	Enforcing speed limits of 20 km/hr within ML area	Installation of Speed Governors @ Rs. 5000/- per Tipper/Dumper deployed	15000	1500
	Regular monitoring of exhaust fumes as per RTO norms	Monitoring of Exhaust Fumes by Manual Labour	0	5000
	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	Provision for 2 labours @ Rs.10,000/labour (Contractual) per Hectare	0	35200
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	50000	20000
Noise Environment	Source of noise will be during operation of transportation vehicles, HEMM for this proper maintenance will be done at regular intervals.	Provision made in Operating Cost	0	0
	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done	Provision made in Operating Cost	0	0

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	Adequate silencers will be provided in all the diesel engines of vehicles.	Provision made in Operating Cost	0	0
	It will be ensured that all transportation vehicles carry a fitness certificate.	Provision made in Operating Cost	0	0
	Safety tools and implements that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	0	0
	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Provision made in Operating Cost	0	0
	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.	Blowing Whistle by Mining Mate / Blaster / Compentent Person	0	0
	Provision for Portable blaster shed	Installation of Portable blasting shelter	0	0
	NONEL Blasting will be practiced controlling Ground vibration and fly rocks	Rs. 30/- per 6 Tonnes of Blasted Material	0	0
Waste Management	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency	25000	20000
		Installation of dust bins	5000	2000

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	Bio toilets will be made available outside mine lease on the land of owner itself	Provision made in Operating Cost	0	0
Mine Closure	1. Progressive Closure Activity - Surface Runoff Management	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	0	0
	2. Progressive Closure Activity Barbed Wire Fencing to quarry area will be Provisioned	Per Hectare fencing Cost @ Rs. 2,00,000/- with Maintenance of Rs 10,000/- per annum	200000	10000
	3. Progressive Closure Activity Green belt development - 500 trees per one hectare - (200 Inside Lease Area & 300 Outside Lease Area)	Site clearance, preparation of land, digging of pits/trenches, soil amendments, transplantation of saplings @ 200 per plant (capital) for plantation inside the lease area and @ 30 per plant maintenance (recurring)	70400	10560
		Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	158400	15840
	4. Implementation of Final Mine Closure Activity as per Approved Mining Plan on Last Year.	For Final Closure activities 15% of the proposed closure cost will be spent during final mine closure stage - Last year	69780	0

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	5. Contribution towards Green Fund. As per TNMMCR 1959, Rule 35 A	The Contribution towards Green Funds @ 10% of Seigniorage fee are indicated as part of EMP Budget and not necessarily implemented in the Project Site	156710	0
	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	Fixed Display Board at the Quarry Entrance as permanent structure mentioning Environmental Conditions	10000	1000
	Air, Water, Noise and Soil Quality sampling every 6 Months for Compliance Report of EC Conditions	Submission of 2 Half Yearly Compliance - Lab Monitoring Report as per CPCB norms	0	50000
Implementation of EC, Mining Plan & DGMS Condition	Workers will be provided with Personal Protective Equipment's	Provision of PPE @ Rs. 4000/- per employee with recurring based on wear and tear (say, @ Rs. 1000/- per employee)	88000	22000
	Health check up for workers will be provisioned	IME & PME Health check up @ Rs. 1000/- per employee	0	22000
	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0	3520
	Slope Stability Action Plan	Slope Stability action plan in the end of fourth year plan period	0	0
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000

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	No parking will be provided on the transport routes. Separate provision on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	Parking area with shelter and flags @ Rs. 50,000/- per hectare project and Rs. 10,000/- as maintenance cost	50000	10000
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30000	5000
	Implementation as per Mining Plan and ensure safe quarry working	Mines Manager (1 st Class / 2 nd Class / Mine Foreman) under regulation 34 / 34 (6) of MMR, 1961 and Mining Mate under regulation 116 of MMR,1961 @ 40,000/- for Manager & @ 25,000/- for Foreman / Mate	0	560000
Total (Rs)			929400	1373220
Grand Total (Rs)			2302620	

The EMP (Environmental Management Plan) Cost is about Rs.23,02,620/- (Twenty three Lakh Two Thousand and Six hundred twenty Rupees Only).

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10 Summary & Conclusion

This chapter summarizes the overall justification for implementation of the project and explains how the potential impacts are mitigated.

10.1 INTRODUCTION

Tmt. T. Jayapraba site is a cluster of three mining projects. The individual lease area is 4.31.0 Ha of Ordinary Earth Quarry located at S.F.No.101/2 (1.76.0) of Kondalankuppam Village, Vanur Taluk, Villupuram District, Tamil Nadu.

10.2 PROJECT OVERVIEW

Table 10-1: Project Overview

S. No.	Description	Details
1	Project Name	Ordinary Earth Quarry – 1.76.0 Ha
2	Proponent	Tmt. T. Jayapraba
3	Mining Lease Area Extent	1.76.0 Ha
4	Location	S.F.No.101/2 of Kondalankuppam Village, Vanur Taluk, Villupuram District.
5	Latitude	12°02'04.95"N to 12°02'09.61"N
6	Longitude	78°41'03.58"E to 78°41'08.94"E
7	Topography	Plain Terrain with gentle slope
8	Site Elevation above MSL	The altitude of the lease area is 75.0m above MSL.
9	Topo Sheet No.	57 - P/12
10	Minerals of Mine	Ordinary Earth Quarry
11	Proposed production of Mine	55,968 Ts of Gravel
12	Ultimate depth of Mining	2.0m below ground level
13	Method of Mining	Open cast semi- mechanized mining
14	Water demand	2.0 KLD
15	Source of water	Water will be supplied through tankers supply

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16	Manpower	22 Nos.
17	Mining Lease	The Proponent has obtained Precise area communication letter received from The Assistant Director, Dept. of Geology & Mining, Viluppuram vide R Rc.No. A/G&M/84/2025 dated 16.07.2025.
18	Mining Plan Approval	Mining Plan was approved by The Assistant Director, Dept. of Geology & Mining, Viluppuram vide Rc.No. A/G&M/84/2025 dated 02.09.2025.
19	Production details	Geological reserves: 1,76,000 Ts of Ordinary Earth Quarry Proposed year wise recoverable reserves: 55,968 Ts of Ordinary Earth Quarry.
20	Boundary Fencing	Since it is 2.0 m depth ordinary Earth quarry Fencing not required.
21	Disposal of overburden	There is no over burden in the lease applied area.
22	Ground water	The ground Water Level is noticed at the depth of 17m to 19m below Ground Level by monitoring nearby bore holes, during the climatic conditions, the fluctuation of water level is 17m in Rainy seasons and 18m in summer seasons of this quarry area. The quarry operation is proposed up to a depth of 2.0 m Hence the quarrying operation may not affect the ground water in any manner.
23	Habitations within 500m radius of the Project Site	There is no Habitation within 300m radius of the project site.
24	Drinking water	Water will be supplied through tankers from Kondalankuppam village, which is 0.55 km, South West of the area

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10.3 JUSTIFICATION OF THE PROPOSED PROJECT

The said project plays a significant role in the domestic as well as infrastructural market. To achieve a huge infrastructure being envisaged by Government of India, particularly for filling and leveling of low lying areas for road project and other infrastructure development work in and around the district.

Ordinary earth is one of the most commonly used natural materials in construction and land development. It is widely used for earth filling, leveling of land, and formation of embankments in various infrastructure works. Ordinary earth – soil excavated from the ground and used for its natural compaction and stability properties – is generally used for site development, road embankments, foundation filling, and landscaping purposes. It is also utilized in agricultural land improvement, construction of bunds, and preparation of sub-grade layers for roads and buildings.

In districts like Villupuram in Tamil Nadu, ordinary earth is frequently used for local infrastructure development such as village roads, residential layouts, and land leveling activities. It plays an important role in providing a stable base for construction works and improving land usability. Large quantities of ordinary earth are used in road formation, filling low-lying areas, and other civil engineering works that support rural and urban development.

Table 10-2: Anticipate Impacts & Appropriate Mitigation Measures

S. No.	Potential Impact	Mitigation Measure
1	The main impact in the air environment is dust emission during various mining activities such excavation, loading and transportation. The dust emission may affect the quality of ambient air in the and around the mine area. The increased emission may cause respiratory & Cardiovascular problems in human health	Proper mitigation measures like water sprinkling on haul roads will be adopted to control dust emissions. To control the emissions regular preventive maintenance of equipments will be carried out on contractual basis. Plantation will be carried out along approach roads & mine premises.

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2	Waste water will be generated due to mining activity and from other domestic activities. These may contaminate the ground water leading to ground water. The mining activity may affect the ground water table.	No waste water will be generated from the mining activity of minor minerals as the project only involves lifting of over burden from mine site. The wastewater generated from the domestic activity will be disposed off safely through the proposed septic tank. Mining will not intersect ground water table. Hence the water table will not be impacted due to the proposed project
3	Noise will be generated in the mine area during various mining activities such as excavation. During transportation of the mined out mineral, there may be noise generation due to the movement of vehicles. This may impact the health condition of the workers by creating headache	Periodical monitoring of noise will be done. No other equipments except the transportation vehicles and Excavator (as & when required) for loading will be allowed at site. Noise generated by these equipments shall be intermittent and does not cause much adverse impact. Plantation will be carried out along approach roads. The plantation minimizes propagation of noise and also arrest dust.
4	Solid waste will be generated from the mining activity as there will be refuse after 95% recovery and also generation of domestic waste	The 100% recovery is achieved by extracting the entire mineable reserve. Hence there will be no refuse generation due to the mining activity. Apart from that, a very meagre quantity of domestic waste will be generated in the project, which will be handed over to the local body on daily basis.

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5	During mining activities, there are chances of workers getting health issues or may be prone to accidents	Dust masks will be provided as additional personal protection equipment to the workers working in the dust prone area. Periodical trainings will be conducted to create awareness about the occupational health hazards due to activities like blasting, drilling, excavation Workers health related problem if any, will be properly addressed.

<i>Project</i>	<i>Ordinary Earth Quarry – 1.76.0 Ha by Tmt. T. Jayapraba</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Tmt. T. Jayapraba</i>	
<i>Project Location</i>	<i>Kondalankuppam Village, Vanur Taluk, Villupuram District</i>	

11 Disclosure of Consultant

11.1 INTRODUCTION

This chapter presents the details of the environmental consultants engaged, their background and the brief description of the key personnel involved in the project. Specific studies on the mining project have been carried out by engaging engineers/experts of Ecotech Labs Pvt. Ltd, Chennai. Ecotech Labs Pvt. Ltd (ETL), Chennai is NABET accredited consultancy organization. ETL is equipped with in-house, spacious laboratory, accredited by NABL (National Accreditation Board for Testing & Calibration Laboratories), Department of Science & Technology, Government of India and MoEF & CC.

11.2 ECO TECH LABS PVT. LTD – ENVIRONMENT CONSULTANT

Eco Tech Labs Pvt. Ltd is a multi-disciplinary testing and research laboratory in India. Eco Tech labs provide high quality services in environmental consultancy, engineering solutions, chemical and microbiological laboratory analysis of food, water and environment (Air, Water, Soil) with highest accuracy.

The Quality policy

- We at Eco Tech Labs Pvt. Ltd. engaged in providing Environmental consulting services and we are committed to strengthen our capabilities in all areas of our operations in line with customer requirements & expectations, applicable legal requirements & stakeholders expectations.
- We are committed to establish and maintain Quality Management System (QMS) for continual improvement in processes and Services
- We are committed to provide customized solutions in realistic, time bound and cost effective to achieve highest degree of customer satisfaction and Environmental improvement.

<i>Project</i>	<i>Ordinary Earth Quarry – 1.76.0 Ha by Tmt. T. Jayapraba</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Tmt. T. Jayapraba</i>	
<i>Project Location</i>	<i>Kondalankuppam Village, Vanur Taluk, Villupuram District</i>	

- We shall establish, maintain & periodically review our documented management systems, objectives and performance in consultation with our employees and prevailing best practices.
- Effective communication of organization's policy and objectives to employees and seeking feedbacks from all our employees and concerned stakeholders for continual improvement.

ANNEXURE-I

**STANDARD TOR CONDITIONS WITH
ADDITIONAL TOR POINTS**



File No: 12836
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA),
TAMIL NADU)



Dated: 12/12/2025



To,

Tmt. JAYAPRABA
D/O THIRUNAVUKARASU, NO. 4, SUBRAMANIYAR KOVIL STREET, SELLAPERUMALPET,
PUDUCHERRY - 605008.
jayapraba286@gmail.com

Subject: Grant of Terms of Reference along with Public Hearing under the provision of the EIA Notification 2006-regarding.

Sir/Madam,

Sub: SEIAA, TN - Proposed Ordinary Earth Quarry over an extent of 1.76.0 Ha in S.F. No. 101/2 of Kondalankuppam Village, Vanur Taluk, Viluppuram District, Tamil Nadu by Tmt. T. Jayapraba - under project category – “B1” and Schedule S.No.1(a) “Mining of Minerals Projects” of EIA Notification, 2006, as amended – **ToR issued along with Public Hearing** - preparation of EIA report – Regarding.

Ref: 1. Online proposal No. SIA/TN/MIN/554298/2025 Dated 07.10.2025.

2. Your application submitted for Terms of Reference dated:08.10.2025.

3. Minutes of the 640th SEAC meeting held on 10.11.2025.

4. Minutes of the 921st SEIAA meeting held on 24.11.2025.

5. Minutes of the 928th SEIAA meeting held on 03.12.2025.

2. The particulars of the proposal are as below:

(i) TOR Identification No.	TO25B0108TN5766652N
(ii) File No.	12836
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	Tmt. T. Jayapraba Ordinary Earth Quarry
(viii) Name of Company/Organization	JAYAPRABA
(ix) Location of Project (District, State)	VILLUPURAM, TAMIL NADU
(x) Issuing Authority	SEIAA
(xi) Applicability of General Conditions	no
(xii) Applicability of Specific Conditions	no

1. In view of the particulars given in the Para 1 above, the project proposal inter alia including Form-1 (Part A and B) were submitted to the SEIAA for an appraisal by the SEAC under the provision of EIA notification 2006 and its subsequent amendments.
2. The above-mentioned proposal has been considered by SEIAA in the meeting held on 03.12.2025. The minutes of the meeting and all the Application and documents submitted [viz. Form-1 Part A, Part B] are available on PARIVESH portal which can be accessed by scanning the QR Code above.
3. The State Expert Appraisal Committee (SEAC), based on the information & clarifications provided by the project proponent and after detailed deliberations on all technical aspects recommended the proposal for grant of Terms of Reference with public hearing under the provision of EIA Notification, 2006 and as amended thereof subject to the stipulation of specific and general conditions as detailed in Annexure (2).
4. The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the SEAC hereby decided to issue the following Terms of Reference with public hearing for instant proposal of **Tmt. T. Jayaprabha** under the provisions of EIA Notification, 2006 and as amended thereof.
5. The Ministry/SEIAA-TN reserves the right to stipulate additional conditions, if found necessary.
6. The Terms of Reference with public hearing to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/Regulations or Statutes, as applicable, to the project.
7. This issues with the approval of the Competent Authority.
8. The TORs with public hearing prescribed shall be valid for a period of three years from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

Copy To

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
5. The District Collector, Viluppuram District.
6. Stock File.

Annexure 1

Specific Terms of Reference s for (Mining Of Minerals)

1. Seiaa Specific Conditions :

S. No	Terms of Reference
1.1	After detailed discussions, the Authority accepts the recommendation of SEAC-I and decided to grant Terms of Reference (ToR) along with the public hearing for the quantity of 27,984 m³ of Ordinary Earth up to the ultimate depth of 2m BGL as per the approved mining plan, under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC-I & normal conditions & SEIAA Specific & Standard conditions .

2. Seac Conditions - Site Specific

S. No	Terms of Reference
2.1	1. A Cluster Management Committee (CMC) shall be constituted including all the mines in the cluster as Committee Members for the effective management of the mining operation in the cluster through systematic & scientific approach with appointment of statutory personnel, appropriate environmental monitoring, good maintenance of haul roads and village/panchayat roads, authorized blasting operation etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal: (i) Copy of the agreement forming CMC. (ii) The Organization chart of the Committee with defining the role of the members (iii) The 'Standard Operating Procedures' (SoP) executing the planned activities. 2. The PP shall install the CCTV camera for the continuous surveillance of mining activity & furnish the photographic/video graphic evidence along with the EIA report.

3. Seac Standard Conditions

S. No	Terms of Reference
3.1	1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (i) Original pit dimension (ii) Quantity achieved Vs EC Approved Quantity (iii) Balance Quantity as per Mineable Reserve calculated. (iv) Mined out Depth as on date Vs EC Permitted depth (v) Details of illegal/illicit mining (vi) Violation in the quarry during the past working. (vii) Quantity of material mined out outside the mine lease area (viii) Condition of Safety zone/benches (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m. 2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site. 3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc. 4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry. 5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report. 6. The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site. 7. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.

S. No	Terms of Reference
	8. However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level. 9. The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent. 10. The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site. 11. The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences. 12. If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines, 13. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines? 14. Quantity of minerals mined out. · Highest production achieved in any one year · Detail of approved depth of mining. · Actual depth of the mining achieved earlier. · Name of the person already mined in that leases area. · If EC and CTO already obtained, the copy of the same shall be submitted. · Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches. 15. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone). 16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc., 17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan. 18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same. 19. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment. 20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. 21. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study. 22. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health,

S. No	Terms of Reference
	biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind. 23. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted. 24. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given. 25. Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided. 26. Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered. 27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided. 28. Impact on local transport infrastructure due to the Project should be indicated. 29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity. 30. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific. 31. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible. 32. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner. 33. Taller/one year old Saplings raised in appropriate size of bags, preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner 34. A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period. 35. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period. 36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed. 37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations. 38. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining

S. No	Terms of Reference
	activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation. 39. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given. 40. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc. 41. If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB. 42. The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine. 43. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.

4. Seiaa Standard Conditions :

S. No	Terms of Reference
4.1	<u>Cluster Management Committee</u> 1. Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry. 2. The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc., 3. The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines. 4. Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network. 5. The committee shall deliberate on risk & emergency management plan, fire safety & evacuation plan and sustainable development goals pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan. 6. The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the Environmental policy devised shall be given in detail in the EIA Report. 7. The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner. 8. The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity. <u>Agriculture & Agro-Biodiversity</u> 9. Impact on surrounding agricultural fields around the proposed mining Area. 10. Impact on soil flora & vegetation around the project site. 11. Details of type of vegetation including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetation all along the boundary of the proposed mining area shall committed mentioned in EMP. 12. The Environmental Impact Assessment should study the agro-biodiversity, agro- forestry, horti-cultural plantations, the natural ecosystem, the soil micro flora, fauna and soil seed banks and

S. No	Terms of Reference
	suggest measures to maintain the natural Ecosystem. 13. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services. 14. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock. <u>Forests</u> 15. The project proponent shall detailed study on impact of mining on Reserve forests and free ranging wildlife. 16. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna. 17. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection. 18. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site. <u>Water Environment</u> 19. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period. 20. Erosion Control measures. 21. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas. 22. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir. 23. The project proponent shall study and furnish the details on potential fragmentation impact on natural Environment, by the activities. 24. The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts. 25. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components. 26. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites. 27. The EIA shall include the impact of mining activity on the following: - Hydrothermal/Geothermal effect due to destruction in the Environment. - Bio-geochemical processes and its foot prints including Environmental stress. - Sediment geochemistry in the surface streams. <u>Energy</u> 28. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished. <u>Climate Change</u> 29. The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities. 30. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock, soil health and physical, chemical & biological soil features. 31. Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood. <u>Mine Closure Plan</u>

S. No	Terms of Reference
	32. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued. <u>EMP</u> 33. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued and the scope for achieving SDGs. 34. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan. <u>Risk Assessment</u> 35. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining. <u>Disaster Management Plan</u> 36. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued. <u>Others</u> 37. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc. 38. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan. 39. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the Environment. The ecological risks and impacts of plastic & microplastics on aquatic Environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.

Standard Terms of Reference for (Mining of minerals)

1.

S. No	Terms of Reference
1.1	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994
1.2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given
1.3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee
1.4	All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/toposheet, topographic sheet, geomorphology and geology of the areashould be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone)

S. No	Terms of Reference
1.5	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics
1.6	Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority
1.7	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report
1.8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided
1.9	The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period
1.10	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given
1.11	Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given
1.12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the State Expert Appraisal Committees
1.13	Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished
1.14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated
1.15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given

S. No	Terms of Reference
1.16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted
1.17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished
1.18	A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled- I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost
1.19	Proximity to Areas declared as Critically Polluted or the Project areas likely to come under the Aravali Range, (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered
1.20	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority)
1.21	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report
1.22	One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given

S. No	Terms of Reference
1.23	Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map
1.24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated
1.25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided
1.26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided
1.27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided
1.28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished
1.29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out
1.30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same
1.31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution
1.32	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines
1.33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in

S. No	Terms of Reference
	the EIA Report
1.34	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report
1.35	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed
1.36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations
1.37	Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation
1.38	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project
1.39	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project
1.40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given
1.41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out
1.42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report
1.43	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc
1.44	Besides the above, the below mentioned general points are also to be followed:- a) All documents to be properly referenced with index and continuous page numbering. b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated. c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project. d) Where the documents provided are in a language other than English, an English translation should be provided. e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted. f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed. g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission

S. No	Terms of Reference
	should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation. h) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable. i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area



STANDARD TERMS OF REFERENCE

- 1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
- 2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
- 3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
- 4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
- 5) Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
- 6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
- 7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
- 8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The

proposed safeguard measures in each case should also be provided.

- 9) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
- 10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
- 11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
- 12) Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
- 13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of Net Present Value (NPV) and Compensatory Afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
- 14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
- 15) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
- 16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
- 17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from

the Standing Committee of National Board of Wildlife and copy furnished.

- 18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.
- 19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.
- 20) Similarly, for Coastal Projects, a CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease with respect to CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
- 21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
- 22) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The

location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

- 23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of Vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
- 24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
- 25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
- 26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
- 27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
- 28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
- 29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
- 30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.

- 31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
- 32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
- 33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
- 34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
- 35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
- 36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
- 37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
- 38) Detailed Environmental Management Plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the

proposed Project.

- 39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
- 40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
- 41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- 42) A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
- 43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
- 44) Besides the above, the below mentioned general points are also to be followed:-
 - a) Executive Summary of the EIA/EMP Report
 - b) All documents to be properly referenced with index and continuous page numbering.
 - c) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
 - d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
 - e) Where the documents provided are in a language other than English, an English translation should be provided.
 - f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
 - g) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF&CC vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.
 - h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the ToR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

- i) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the Environment Clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
- j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

In addition to the above, the following shall be furnished:-

The Executive summary of the EIA/EMP report in about 8-10 pages should be prepared incorporating the information on following points:

1. Project name and location (Village, District, State, Industrial Estate (if applicable)).
2. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes.
3. Measures for mitigating the impact on the environment and mode of discharge or disposal.
4. Capital cost of the project, estimated time of completion.
5. The proponent shall furnish the contour map of the water table detailing the number of wells located around the site and impacts on the wells due to mining activity.
6. A detailed study of the lithology of the mining lease area shall be furnished.
7. Details of village map, "A" register and FMB sketch shall be furnished.
8. Detailed mining closure plan for the proposed project approved by the Geology of Mining department shall be submitted along with EIA report.
9. Obtain a letter /certificate from the Assistant Director of Geology and Mining standing that there is no other Minerals/resources like sand in the quarrying area within the approved depth of mining and below depth of mining and the same shall be furnished in the EIA report.
10. EIA report should strictly follow the Environmental Impact Assessment Guidance Manual for Mining of Minerals published February 2010.
11. Detail plan on rehabilitation and reclamation carried out for the stabilization and restoration of the mined areas.
12. The EIA study report shall include the surrounding mining activity, if any.
13. Modeling study for Air, Water and noise shall be carried out in this field and incremental

increase in the above study shall be substantiated with mitigation measures.

14. A study on the geological resources available shall be carried out and reported.
15. A specific study on agriculture & livelihood shall be carried out and reported.
16. Impact of soil erosion, soil physical chemical and biological property changes may be assumed.
17. Site selected for the project - Nature of land - Agricultural (single/double crop), barren, Govt./ private land, status of its acquisition, nearby (in 2-3 km.) water body, population, within 10km other industries, forest, eco-sensitive zones, accessibility, (note - in case of industrial estate this information may not be necessary)
18. Baseline environmental data - air quality, surface and ground water quality, soil characteristic, flora and fauna, socio-economic condition of the nearby population
19. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
20. Likely impact of the project on air, water, land, flora-fauna and nearby population
21. Emergency preparedness plan in case of natural or in plant emergencies
22. Issues raised during public hearing (if applicable) and response given
23. CER plan with proposed expenditure.
24. Occupational Health Measures
25. Post project monitoring plan
26. The project proponent shall carry out detailed hydro geological study through intuitions/NABET Accredited agencies.
27. A detailed report on the green belt development already undertaken is to be furnished and also submit the proposal for green belt activities.
28. The proponent shall propose the suitable control measure to control the fugitive emissions during the operations of the mines.
29. A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
30. Reserve funds should be earmarked for proper closure plan.
31. A detailed plan on plastic waste management shall be furnished. Further, the proponent should strictly comply with, Tamil Nadu Government Order (Ms) No.84 Environment and forests (EC.2) Department dated 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986. In this connection, the project proponent has to furnish the action plan.

Besides the above, the below mentioned general points should also be followed:-

- a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
- b. All documents may be properly referenced with index, page numbers and continuous page numbering.
- c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
- d. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF& CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
- e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website <http://www.moef.nic.in/> may be referred.
 - After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
 - The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
 - The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29th August, 2017.

TOR Reply of Proposed Ordinary Earth Quarry Over an Extent of 1.76.0 Ha

COMPLIANCE OF TOR CONDITIONS

Point wise compliance of ToR points issued by SEIAA, TN vide TOR Identification No. TO25B010TN5766652N Dated 12.12.2025 for Mining of Minor Minerals in the Mine of “Ordinary Earth Quarry” Lease Over an Extent of 1.76.0 Ha at S.F.No.101/2 (1.76.0) of Kondalankuppam Village, Vanur Taluk, Villupuram District, Tamilnadu State.

STANDARD TERMS OF REFERENCE

ToR Ref.	Description	Response	Page Ref. in EIA Report
1.	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification, 1994 came into force w.r.t. the highest production achieved prior to 1994.	This is a fresh mining project of ordinary earth quarry. Precise Area Communication Letter received from The Assistant Director, Department of Geology and Mining, Villupuram vide letter R.c.No. A/G&M/84/2025, dated 16.07.2025. Mining Plan was approved by The Deputy Director, Geology & Mining, Villupuram vide R.c.No. A/G&M/84/2025, dated 02.09.2025, Proposed Production of Ordinary Earth for one year is proposed in the EIA/EMP in chapter no-2.	Chapter 2 Table No.2.2 Page No.36
2	A copy of document in support of the fact that the Proponent is the rightful lessee of the mine should be given.	The mine lease area of 1.76.0 hectare in Kondalankuppam Village for Ordinary Earth quarry approved by The Deputy Director, Department of Geology and Mining, Villupuram District vide letter A/G&M/84/2025, dated 02.09.2025.	Annexure III

TOR Reply of Proposed Ordinary Earth Quarry Over an Extent of 1.76.0 Ha

3	All documents including approved mine plan, EIA and public hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management and mining technology and should be in the name of the lessee.	All the documents i.e., Mining Plan, EIA and public hearing are compatible with each other in terms of ML area production levels, waste generation and its management and mining technology are compatible with one another. The mining plan of the project site has been submitted to The Deputy Director, Dept. of Geology & Mining, Villupuram District	Annexure-VI Chapter- II
4	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/toposheet should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	Details of coordinates of all corners of proposed mining lease area have been incorporated in mining plan and Chapter 2 of EIA/ EMP Report.	Chapter-2, Fig no. 2.2 Page. no. 36
5	Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, important water bodies, streams and rivers and soil characteristics	Topo map as attached in Chapter 2	Chapter-2, Fig no. 2.4 Page. no. 41
6	Details about the land proposed for mining activities should be given with information as to whether conforms to the land use policy of the state; land diversion for mining should have approval from State land use board or the concerned authority	Details about the land proposed for mining activities should be given Chapter 2.	Chapter 2

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7	It should be clearly stated whether the proponent company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non- compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large may also be detailed in the EIA report.	Noted.	
8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.	It is an open cast mining project. Excavation details are incorporated in chapter 2.	Chapter 2 Page no.50
9	The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the	Study area comprises of 10 km radius from the mine lease boundary. Key Plan showing core zone (ML area).	Chapter-2 Fig no. 2.5

TOR Reply of Proposed Ordinary Earth Quarry Over an Extent of 1.76.0 Ha

	EIA such as waste generation etc should be for the life of the mine / lease period.		Page no.42
10	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Land Use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, National park, migratory routes of fauna, water bodies, human settlements and other ecological features have been prepared and incorporated in Chapter 2 of EIA/ EMP Report. There are no wildlife sanctuary and national park, migratory routes of fauna in the study area.	Chapter 2, Table no. 2.4 Page no.43
11	Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.	There is no overburden in the applied lease area	Chapter-2, Page no.50
12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as	Complied. The proposed mining lease area is not falling under forest land.	

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	mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.		
13	Status of forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.	The proposed mining lease area is not falling under forest land.	
14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.	Not Applicable. There is no involvement of forest land in the project area.	
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	Details of flora have been discussed in Chapter-3 of the EIA/EMP Report.	Chapter-3 Pg No. 90
16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly detailed mitigative measures required, should be worked out with cost implications and submitted.	There is a relatively poor sighting of animals in the core and buffer areas of the mining lease. No significant impact is anticipated.	

TOR Reply of Proposed Ordinary Earth Quarry Over an Extent of 1.76.0 Ha

17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant Reserves/ (existing as well as proposed), if any, within 10km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the State Wildlife Department/Chief Wildlife Warden under the Wildlife (Protection) Act, 1972 and copy furnished.	There is a wildlife sanctuaries named Oussudu Lake Bird Sanctuary located at a distance of 12.5 kms, SE from the project site.	Executive Summary Page No: 13
18	A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.	Details biological study (flora & fauna) within 10 km radius of the project site have been incorporated in Chapter-3 of EIA/ EMP Report. No flora & fauna listed in scheduled I have been found in study area so there is no need of conservation plan. However, all care will be taken for protection of flora & fauna, if any in the lease hold area.	Chapter – 3 Pg No. 90

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19	Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.	The proposed mining lease area is not falling under critically polluted area.	
20	Similarly, for coastal projects, A CRZ map duly authenticated by one of the authorized agencies Similarly, for coastal projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority)	There is no Coastal Zone within 15km radius of the project site.	
21	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need-based	There is no Rehabilitation and resettlement is involved. Land classified as Patta land (consent registered).	

TOR Reply of Proposed Ordinary Earth Quarry Over an Extent of 1.76.0 Ha

	sample survey, family wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village located in the mine lease area will be shifted or not. The issues relating to shifting of Village including their R&R and socio-economic aspects should be discussed in the report.		
22	One season (non-monsoon) and (Summer Season), (Post monsoon) primary baseline data on ambient air quality CPCB Notification of 2009 water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500m of the mine lease in the pre-dominant downwind direction. The	Baseline data collected during winter Season (December 2025 to February 2026) has been incorporated in EIA/EMP report. The key plan of monitoring station has been discussed in Chapter 3 Locations of the monitoring stations have been selected keeping in view the pre-dominant downwind direction and location of the sensitive receptors and also that they represent whole of the study area.	Chapter 3

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	mineralogical composition of PM10, particularly for free silica, should be given.		
23	Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing predominant wind direction may also be indicated on the map.	Air quality modelling & Impact of Air quality will be furnished in Final EIA report Transportation of mineral during operation of mines will be done by road & SH-136 through dumpers and the impact of movement of vehicles are incorporated in EIA/EMP report. Air quality modelling & Impact of Air quality will be furnished in Final EIA report.	Chapter-4 Page No.112
24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.	Total water requirement: 2.0 KLD Dust Suppression: 0.5 KLD Domestic Purpose: 1.0 KLD Plantation :0.5 KLD Domestic Water will be sourced from nearby Kondalankuppam village which is about 0.55 km SW from the project site.	Chapter 2 Page No.52
25	Necessary clearance from the Competent Authority for drawl of	Not Applicable Water will be taken from nearby villages	Chapter-2

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	requisite quantity of water for the Project should be provided.		Page No.52
26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	At the last stage of mining operation, almost complete area will be worked to restore the land to its optimum reclamation for future use as water reservoir.	
27	Impact of the project on the water quality, both surface and groundwater should be assessed and necessary safeguard measures, if any required, should be provided.	Impact of the project on the water quality & its mitigation measures has been incorporated in Chapter-4 of EIA/EMP report.	Chapter-4 Page No.111
28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.	Maximum working depth: 2 m BGL The ground Water Level is noticed at the depth of 17m to 19m below Ground Level by monitoring nearby bore hole, during the climatic conditions, the fluctuations of water level are 75m in Rainy seasons and 19 m in summer seasons of this quarry area. The quarry operation is proposed up to a depth of 2m. Hence the quarrying operation may not affect the ground water in any manner.	Chapter-2 Page no. 36 Table No. 2.2
29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.	There is no any stream crossing in the proposed quarry	Executive Summary

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30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.	Highest elevation: 75 m from MSL Depth: 2 m BGL	Chapter 2 Table no. 2.2 Page no. 36
31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant pollution	Green Belt Development plan is proved given in Chapter 2.	Chapter-2
32	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the	Impact on local transport infrastructure due to the project has been assessed. There shall not be much impact on local transport. Traffic density from the proposed mining activity has been incorporated in EIA/EMP report.	Chapter-3 Page No.107

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	infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project proponent shall conduct impact of Transportation study as per Indian Road Congress Guidelines		
33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA report.	Adequate infrastructure & other facilities shall be provided to the mine workers. Details are given in chapter-2 of EIA/EMP	Chapter-2
34	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.	Conceptual post mining land use and Reclamation and restoration sectional plates are given in Mining Plan followed by Scheme of mining.	Mining plates Annexure VI
35	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre- placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project in the mining area may be detailed	Suitable measure will be adopted to minimize occupational health impacts of the project. The project shall have positive impact on local environment. Details are given in chapter 10 of EIA/EMP.	Chapter-10 Pg No. 147
36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	Suitable measure will be adopted to minimize occupational health impacts of the project.	Chapter 10 Pg No. 149

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37	Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	Suitable measures have been discussed in Chapter 4	Chapter-4 Pg No. 119
38	Detailed environmental management plan to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.	Environment Management Plan has been described in detail in Chapter-9 of the EIA/EMP Report.	Chapter-9 Pg No. 139
39	Public hearing points raised and commitment of the project proponent on the same along with time bound action plan to implement the same should be provided and incorporated in the final EIA/EMP Report of the Project.	Public Hearing proceedings will be furnished in Final EIA report	
40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the project should be given.	Not applicable No litigation is pending against the project in any court.	

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41	The cost of the project (capital cost and recurring cost) as well as the cost towards implementation of EMP should clearly be spelt out.	<table><tr><th>S. No</th><th>Description</th><th>Cost</th></tr><tr><td>1</td><td>Fixed Asset Cost</td><td>21,77,360/-</td></tr><tr><td>2</td><td>Expenditure</td><td>3,04,000/-</td></tr><tr><td></td><td>Total</td><td>24,81,360/-</td></tr></table> Total EMP cost is about Rs. 23,02,620/-	S. No	Description	Cost	1	Fixed Asset Cost	21,77,360/-	2	Expenditure	3,04,000/-		Total	24,81,360/-	Chapter-8 Pg No. 136
S. No	Description	Cost													
1	Fixed Asset Cost	21,77,360/-													
2	Expenditure	3,04,000/-													
	Total	24,81,360/-													
42	A Disaster Management Plan shall be prepared and included in the EIA/EMP Report.	Disaster Management and Risk Assessment has been incorporated in Chapter-7	Chapter-7 Pg No. 132												
43	Benefits of the project if the project is implemented should be spelt out. The benefits of the project shall clearly indicate environmental, social economic, employment potential etc.	Benefits of the project has incorporated	Chapter-8 Pg No. 135												
44	Besides the above, the below mentioned general points are also to be followed:														
(a)	Executive Summary of the EIA/EMP report	Complied	Executive Summary of EIA Report is given from page No.10-25												
(b)	All documents to be properly referenced with index and continuous page numbering.	Complied													

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(c)	Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.	Complied	
(d)	Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF & CC NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the project.	Complied	
(e)	Where the documents provided are in a language other than English, an English translation should be provided.	Complied	
(f)	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	The complete questionnaire has been prepared	
(g)	While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF vide O.M. No. J- 11013/41/2006-IA. II(I) dated 4th August 2009, which are available on the website of this Ministry, should also be followed.	The EIA report has been prepared and complying with the circular issued by MoEF vide O.M. No. J-11013/41/2006-IA. II(I) dated 4th August 2009.	
(h)	Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post	There are no changes in prepared EIA as per submitted Form-1 & PFR	

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	Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation		
(i)	As per the circular no. J- 11011/618/2010-IA. II(I) dated 30.5.2012, report on the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project by the Regional Office of Ministry of Environment & Forests, if applicable.	Will be complied after grant environment clearance from SEIAA, Tamilnadu	
(j)	The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections (iii) sections of mine pit and external dumps, if any clearly showing the features of the adjoining area.	All Sectional Plates of Quarry is enclosed in Mining Plan.	

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Additional ToR Compliance – SEAC

SEAC Conditions – Site Specific

S. No	ToR Condition	Compliance
1.	A Cluster Management Committee (CMC) shall be constituted including all the mines in the cluster as Committee Members for the effective management of the mining operation in the cluster through systematic & scientific approach with appointment of statutory personnel, appropriate environmental monitoring, good maintenance of haul roads and village/panchayat roads, authorized blasting operation etc. The PP shall submit the following details in the form of an Affidavit during the EIA appraisal: (i) Copy of the agreement forming CMC. (ii) The Organization chart of the Committee with defining the role of the members (iii) The ‘Standard Operating Procedures’ (SoP) executing the planned activities.	Noted and complied. All the proponents in the cluster are discussed in Chapter-2, Page number-34
2.	The PP shall install the CCTV camera for the continuous surveillance of mining activity & furnish the photographic/video graphic evidence along with the EIA report.	Agree to comply.

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SEAC Standard Conditions

S.No.	Condition	Compliance
1.	In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (i) Original pit dimension (ii) Quantity achieved Vs EC Approved Quantity (iii) Balance Quantity as per Mineable Reserve calculated. (iv) Mined out Depth as on date Vs EC Permitted depth (v) Details of illegal/illicit mining (vi) Violation in the quarry during the past working. (vii) Quantity of material mined out outside the mine lease area (viii) Condition of Safety zone/benches (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.	It is a fresh quarry.
2.	Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site	We have obtained certificate from the VAO, No.65, Kondalankuppam village, Vanur Taluk and the same has attached as Annexure – VII of the EIA report.
3.	The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether	The enumeration study will be carried out and it will be attached in final EIA presentation.

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	it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.	
4.	The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc., are located within 1 km of the proposed quarry	The hydrological report for the water bodies of 1 km will be submitted during Final EIA presentation.
5.	The Proponent shall carry out Biodiversity study through reputed institution and the same shall be included in EIA Report.	The biodiversity study will be included in Final EIA Report
6.	The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.	We will furnish the DFO letter during the final EIA appraisal meeting.
7.	In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall prepare and submit an 'Action Plan' for carrying out the realignment of the benches in the proposed quarry lease after it is approved by the concerned Asst. Director of Geology and Mining during the time of appraisal for obtaining the EC.	Agree to comply.
8.	However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level.	

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9.	The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.	It is open cast semi mechanized mining method no blasting and drilling.
10.	The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30m from the blast site.	Noted. Agree to comply.
11.	The EIA Coordinator shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and Photographic evidence.	Complied. The photographs are attached in EIA report.
12.	If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines,	It is a fresh quarry.
13	What was the period of the operation and stoppage of the earlier mines with the last work permit issued by the AD/DD mines?	It is a fresh quarry.
14.	Quantity of minerals mines out. • Highest production achieved in any one year. • Details of approved depth of mining. • Actual depth of the mining achieved earlier. • Name of the person already mined in that leases area. • If EC and CTO already obtained, the copy of the same shall be submitted.	It is a fresh quarry.

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	Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.	
15.	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological feature of the study area (core and buffer zone)	Complied. All corners with coordinates of the mine lease area have attached with EIA report in chapter 2
16.	The Project Proponent shall carry out Drone video survey covering survey covering the cluster, green belt, fencing etc.,	Drone video survey will be submitted in final EIA appraisal meeting.
17.	The proponent shall furnish the photographs of adequate fencing, green belt along the periphery including the replantation of existing trees and safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.	Complied. The photographs of fencing and green belt will be attached as per SEAC recommendation and submitted in Final EIA presentation.
18.	The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment and the remedial measures for the same.	The details of Geological reserves, Mineable reserves and Year wise production reserves are tabulated in Chapter 2. The mining methodology and impacts are followed as on prescribed norms by Government.
19.	The PP shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and	Complied. Manpower requirements table attached in EIA report chapter 2

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	systematically in order to ensure safety and to protect the environment.	
20.	The PP shall conduct the hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface Water bodies such as rivers, tanks, canals, ponds etc., within 1km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD/TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.	Hydro geological study report will be submitted along final EIA presentation.
21.	The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study.	The proponent has furnished the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study details attached in EIA report chapter 3.
22.	The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.	Noted. Agree to comply.

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23.	Rainwater harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.	Noted. Agree to comply.
24.	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given	Current land use of the study area has attached in EIA report chapter 3. Operational and post operational land use will be submitted.
25.	Details of the land for storage of Overburden/Waste dump (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.	There is no over burden in the lease applied area.
26.	Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered	Noted
27.	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	The ultimate pit at the end of the mining operation will be used for rainwater storage, the stored water will be used for green belt development and further the stored water will be used for domestic purposes (other than drinking) after proper treatment.

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28.	Impact on local transport infrastructure due to the Project should be indicated.	Traffic impact assessment has given in EIA report chapter 3.
29.	A tree survey study shall be carried out (nos., name of the species, diameter, etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.	No tree species were found inside the project site. only few shrubs and thorny bushes were present. Tree survey study details given in EIA report chapter 3.
30.	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.	Noted. The mine plan and mine closure plan has been approved by the Assistant Director, Department of Mining and Geology, Villupuram District
31.	As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.	Noted. Agree to comply
32.	The purpose of green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.	Noted. Agree to comply
33.	Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted as per the advice of local forest authorities/ botanist/Horticulturist with regard to site specific	The green belt plan enclosed with mining plates in Annexure VI

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	choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meter wide and in between blocks in an organized manner.	
34.	A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.	Disaster management plan has prepared and enclosed in Chapter 7.
35.	A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report fir the complete life of the proposed quarry (or) till the end of the lease period.	Risk assessment and management plan has prepared and enclosed in chapter 7.
36.	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational Health impacts of the project have prepared and incorporated in Environmental management plan.
37.	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	Suitable measure will be adopted to minimize occupational health impacts of the project.
38.	The Socio-economic studies should be carried out within a 5km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated.	The socio-economic study has been discussed in chapter 3.

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	As far as possible, quantitative dimensions may be given with time frames for implementation.	
39.	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given	No litigation is pending against the project in any court.
40.	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.,	Benefits of the project has incorporated in EIA report chapter 8
41.	If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB	It is a fresh quarry. So, certified compliance report is not needed.
42.	The PP shall prepare the EMP for the entire life/lease of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.	Noted. Agree to comply.
43.	Concealing any factual information or submission of false/fabricated data and failure to comply with any of the Condition mentioned above may result in withdrawal of this Terms of conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.	Noted.

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SEIAA Standard Condition

S.No.	Condition	Compliance
Cluster Management Committee		
1.	Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry	Noted and complied. All the proponents in the cluster is discussed in Chapter 2, Page number-34.
2.	The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc.,	Green belt development, water sprinkling, tree plantation is discussed in chapter 2, Page number-54
3.	The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.	Agreed to comply.
4	Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.	Agreed to comply. It will be furnished in final EIA report.
5.	The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan	Risk management plan is discussed in Chapter-7, page number-129
6.	The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in	Agreed to comply.

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	accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.	It will be furnished in final EIA appraisal meeting.
7.	The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.	Agreed to comply. It will be furnished in final EIA appraisal meeting.
8.	The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public in the vicinity.	Agreed to comply.
Agriculture & Agro-Biodiversity		
9.	Impact on surrounding agricultural fields around the proposed mining area.	There are no agricultural fields around the proposed mining area
10.	Impact on soil flora & vegetation around the project site	Impact on soil flora & vegetation around the project site discussed in Chapter 3-page number 108
11.	Details of type of vegetation no.of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.	Type of vegetation no. of trees & shrubs is discussed in Chapter 3-page number-104
12.	The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.	The biodiversity has been studied and discussed in chapter 3 – Pg No. 101
13.	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	Noted. Agree to comply.

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14.	The PP shall study and furnish the impact on plantations in adjoining Patta lands, Horticulture, Agriculture and livestock.	There is no plantation surrounding 500m from project site. Hence there won't be any impact in adjoining patta lands, Horticulture, Agriculture and livestock.
Forests		
15.	The PP shall detailed study on impact of mining on Reserve forests free ranging wildlife.	There is no Reserve Forest within 1 km radius of the Project Site. Hence our project will not cause any damage to reserve forest.
16.	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	The biological environment impacts, and its mitigation measures has been given in Chapter 4
17.	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.	There is no existing trees in the project site and surrounding the project site. Only thorny shrubs were present.
18.	The EIA should study impact on protected areas, Reserve forests, National parks, Corridors and Wildlife pathways, near project site.	There is no Reserve Forest within 1 km radius of the Project Site. Hence our project will not cause any damage to reserve forest. There is no protected areas, National Parks, Corridors and Wildlife pathways near project site within 10 km radius.
Water Environment		
19.	Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc., within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data and	The hydro-geological study will be conducted and submitted in final EIA report.

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	documentation in this regard may be provided, covering the entire mine lease period.	
20.	Erosion Control Measures	Complied. Erosion details have been attached in Chapter 3. Greenbelt will be planted to avoid and control erosion.
21.	Detailed study shall be carried out regard to impact of mining around the proposed mine lease area on the nearby villages, Waterbodies/Rivers, & any ecological fragile areas.	The detailed study will be carried out and will be furnished in the Final EIA Report.
22.	The project proponent shall study impact on fish habitats and the food WEB/food chain in the water body and reservoir.	There is no water bodies within 1km radius, The seasonal pond located 50m south from the project site. Water gets stagnant only during rainy season. Hence there won't be much impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.
23.	The PP shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.	Noted and will be complied in Final EIA report.
24.	The PP shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site and archaeological sites possible landform changes visual and aesthetic impacts	Noted. Agree to comply.
25.	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.	The soil erosion map 5km surrounding the project site has been given in chapter 3. The soil samples have been collected surrounding the project site and physical,

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		chemical components and microbial components study has been carried out and the results are tabulated in chapter 3
26.	The Environmental Impact Assessment should study on wetlands, water bodies, river streams, lakes and farmer sites.	The water environment impacts and its mitigation measures has been given in Chapter 4
27.	The EIA shall include the impact of mining activity on the following: a) Hydrothermal/Geothermal effect due to destruction in the Environment. b) Bio-geochemical processes and its footprints including Environmental stress. c) Sediment geochemistry in the surface streams.	
Energy		
28.	The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilize the energy shall be furnished	Agreed to Comply.
Climate Change		
29.	The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks, and temperature reduction including control of other emission and climate mitigation activities.	Noted and will be complied in Final EIA report.
30.	The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock, soil health and physical, chemical & biological soil features	Noted and will be complied with in Final EIA report.

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31.	Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood.	
Mine Closure Plan		
32.	Detailed mine closure plan covering the entire mine lease period as per precise area communication order issued.	Mine closure plan has been attached along with mining plates as Annexure VI.
EMP		
33.	Detailed Environment Management plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.	Environment Management Plan has been described in detail in Chapter 10 of the Draft EIA/EMP Report.
34.	The EIA should hold detailed study on EMP with budget for green belt development and mine closure plan including disaster management plan.	The EMP details has been given in Chapter 8
Risk Assessment		
35.	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of mining.	A Risk Assessment and management Plan will be prepared and included in the final EIA/EMP Report.
Disaster Management Plan		
36.	To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazard & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.	Disaster Management and Risk Assessment has be incorporated in Chapter-7

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Others		
37.	The project proponent shall furnish VAO Certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, structures, railway lines, roads, water bodies such as streams, Odai, vari, canal, channel, river, lake, pond, tank, etc.	Obtained and same has been attached as Annexure.
38.	As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.	Noted and public hearing details will be included along with final EIA report.
39.	The PP shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impact of plastic & microplastic on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.	There will not be any plastic and microplastic pollution due to mining activity. Also, we ensure that we won't use any single use plastics in the project site.

ANNEXURE-II

PRECISE AREA COMMUNICATION LETTER

அறிவிப்பு

பொருள்: கனிமங்களும் குவாரிகளும் - சிறுகனிமம் - சாதாரண மண் - விழுப்புரம் மாவட்டம் - வானூர் வட்டம் - கொண்டலாங்குப்பம் கிராமம் - பட்டா புல எண்கள்: 101/2 (1.76.0), 83/7 (0.16.0), 89/4 (0.39.0), 83/6பி1 (0.27.12) ஆகியவற்றில் 2.58.12 ஹெக்டேர் பரப்பளவில் பத்தாண்டுகளுக்கு சாதாரண மண் வெட்டியெடுக்க குவாரி குத்தகை அனுமதி கோரி திருமதி. ஜெயபிரபா த-பெ. திருநாவுக்கரசு என்பவர் விண்ணப்பம் செய்தது - உரிமம் வழங்க பரிந்துரை செய்து அறிக்கை வரப்பெற்றது - புலத்தணிக்கை மேற்கொள்ளப்பட்டது - குவாரி குத்தகை உரிமம் வழங்க புல எண்.101/2 - 1.76.0 ஹெக்டேர் பரப்பினை தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டம் மற்றும் சுற்றுச்சூழல் தாக்கமதிப்பீட்டு ஆணைய இசைவினை பெற்று சமர்ப்பிக்கக் கோருதல் - தொடர்பாக.

- பார்வை:**
1. திருமதி.ஜெயபிரபா த/பெ திருநாவுக்கரசு, நெ.4. சுப்பிரமணியர் கோயில் தெரு, செல்லப் பெருமாள் பேட்டை, புதுச்சேரி, என்பவர் விண்ணப்ப நாள்: 22.04.2025.
 2. இவ்வலுவலக கடிதம் ந.க.எண்.அ/புசு/84/2025 நாள்.28.04.2025.
 3. வருவாய் கோட்டாட்சியர், விழுப்புரம் கடித எண்.ந.க.அ4/1548/2025, நாள். 09.06.2025.
 4. விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநர் அவர்களின் புலத்தணிக்கை அறிக்கை நாள்: 15.07.2025.

புதுச்சேரி மாநிலம், செல்லப்பெருமாள்பேட்டை, நெ.4, சுப்பிரமணியர் கோயில் தெரு என்ற முகவரியில் வசிக்கும் திருமதி. ஜெயபிரபா த-பெ. திருநாவுக்கரசு என்பவர் விழுப்புரம் மாவட்டம், வானூர் வட்டம், கொண்டலாங்குப்பம் கிராமம், பட்டா புல எண்கள்: 101/2 (1.76.0), 83/7 (0.16.0), 89/4 (0.39.0), 83/6பி1 (0.27.12) ஆகியவற்றின் மொத்த பரப்பு 2.58.12 ஹெக்டேர் பரப்பளவில் மூன்றாண்டுகளுக்கு சாதாரண மண் வெட்டியெடுப்பது தொடர்பாக 1959-ஆம் ஆண்டு தமிழ்நாடு சிறுவகை கனிமச் சலுகை விதிகள், விதி எண். 19-ன் கீழ் குவாரி பணி செய்ய உரிமம் வழங்கிட கோரி பார்வை 1-ல் காணும் இணையவழி (Online) விண்ணப்பத்துடன் தொடர்புடைய ஆவணங்களை இணைத்து சமர்ப்பித்துள்ளார்.

2) மேற்படி விண்ணப்பம் தொடர்பாக நில இருப்பு அறிக்கை பார்வை(2)-ல் கோரப்பட்டதை தொடர்ந்து, பார்வை(3)-ல் கண்டுள்ளவாறு விழுப்புரம் வருவாய் கோட்டாட்சியரிடமிருந்து வரப்பெற்ற விசாரணை பரிசீலனை செய்யப்பட்டதில், விழுப்புரம் மாவட்டம், வானூர் வட்டம், கொண்டலாங்குப்பம் கிராமம், பட்டா புல எண்கள்: 101/2 (1.76.0), 83/7 (0.16.0), 89/4 (0.39.0), 83/6பி1 (0.27.12) ஆகியவற்றின் மொத்த பரப்பு 2.58.12 ஹெக்டேர் பரப்பளவில் மூன்றாண்டுகளுக்கு சாதாரண மண் வெட்டியெடுக்க

திருமதி.ஜெயப்பிரபா த/பெ திருநாவுக்கரசு என்பவர் செம்மண் குவாரி 03 ஆண்டுகள் நடத்திக் கொள்ள எனக்கு எவ்வித ஆட்சேபணையும் இல்லை என உறுதிமொழி ஆவணம் சமர்ப்பித்துள்ளதாகவும் தெரிவித்துள்ளார்.

நான்கு எல்லை விவரம் பின்வருமாறு:-

வ.எண்	புல எண்/பரப்பு	எல்லைகள்
1.	101/2 (1.76.00)	வடக்கில் புல எண் 83/6C, 82/6 பட்டா நிலம்
		தெற்கில் புல எண் 101/3A,4 பட்டா நிலம்
		கிழக்கில் புல எண் 99/1A1B, 100/1 பட்டா நிலம்
		மேற்கில் புல எண் 101/1 பட்டா நிலம்
2.	83/7 (0.16.00)	வடக்கில் புல எண் 83/5 பட்டா நிலம்
		தெற்கில் புல எண் 83/6C பட்டா நிலம்
		கிழக்கில் புல எண் 89/3,4, 99/1A பட்டா நிலம்
		மேற்கில் புல எண் 83/6A,6B,6C பட்டா நிலம்
3.	89/4 (0.39.00)	வடக்கில் புல எண் 89/3 பட்டா நிலம்
		தெற்கில் புல எண் 99/1A,2 பட்டா நிலம்
		கிழக்கில் புல எண் 90/9 பட்டா நிலம்
		மேற்கில் புல எண் 83/7 பட்டா நிலம்
4.	83/6B1 (0.27.12)	வடக்கில் புல எண் 83/6A பட்டா நிலம்
		தெற்கில் புல எண் 83/6B பட்டா நிலம்
		கிழக்கில் புல எண் 83/7 பட்டா நிலம்
		மேற்கில் புல எண் 82/5 பட்டா நிலம்

விழுப்புரம் மாவட்டம், வானூர் வட்டம், நெயிலி குறுவட்டம், கொண்டலாங்குப்பம் கிராம சர்வே எண்கள்: 101/2 -1.76.00, 83/7 -0.16.00, 89/4 - 0.39.00, 83/6B1 -0.27.12 (பட்டா எண் 633 & 634) தற்போது திரு.பரமேஸ்வர ராஜா த/பெ திருநாவுக்கரசு என்பவர் பெயரில் உரிமை உள்ளதாகவும், தனது சகோதரியும் மனுதாரருமான திருமதி. ஜெயப்பிரபா த/பெ திருநாவுக்கரசு என்பவர் செம்மண் குவாரி 3 ஆண்டுகள் நடத்திக் கொள்ள தனக்கு எவ்வித ஆட்சேபணையும் இல்லை என நோட்டரி பப்ளிக் முன்னிலையில் பெற்ற ஆணை உறுதி ஆவணம் சமர்ப்பித்துள்ளதாகவும் தெரிவித்துள்ளார். குவாரி அமையவுள்ள புலன்களை சுற்றி 7.5 மீட்டர் அளவிற்கு பாதுகாப்பு இடைவெளி ஏற்படுத்தப்பட்டு புல வரைபடத்தில் காட்டப்பட்டுள்ளதாகவும், குவாரி குத்தகை கோரும் புல எண்கள்: 101/2 - 1.76.00, 83/7 - 0.16.00 89/4 - 0.39.00, 83/6B1 -0.27.12 மேற்படி புல எண்ணில் இருந்து எடுக்கப்படும் எனவும், கனிமத்தை எடுத்துச் செல்ல கரசானூர் - புதுகுப்பம் சாலை வழியாக புல எண் 113/4 (கன்னிய குட்டை), 114 வாய்க்கால் வழியாகவும், மற்றும் பட்டா நிலங்களான 101/4, 104/11A சாலையை அடைய பாதை வசதி உள்ளது எனவும், மேற்படி பட்டா நிலங்களை பயன்படுத்திக் கொள்ள பட்டாதாரர்களிடமிருந்து உறுதி மொழி ஆவணம் பெறப்பட்டுள்ளது எனவும்,

குவாரி குத்தகை கோரியுள்ள புலங்களில் இருந்து குடியிருப்பு பகுதிகள் எனில் 300 மீட்டர் சுற்று வட்டாரத்திற்குள் ஏதுமில்லை எனவும், மின்கம்பி பாதைகளுக்கும் /

மதாஸைபேசு பாதைகளுக்கும் குத்தகை கோரும் புலங்களுக்கும் அடைய 20 ம இடைவெளியில் ஏதுமில்லை எனவும், குவாரி குத்தகை வழங்க ஆட்சேபணை ஏதுமில்லை என்பது கிராம நிர்வாக அலுவலர் விசாரணையில் தெரியவருகிறது எனவும், குவாரி குத்தகை கோரும் பகுதிக்கு பாதை வசதி குறித்து, மேலே இவ்வறிக்கையில் தெரிவிக்கப்பட்டுள்ளதாகவும், வட்டாட்சியரால் கையொப்பமிடப்பட்ட தெளிவாக உள்ள புலவரைபடம் மற்றும் கூட்டு புலவரைபடம் மற்றும் கிராமகணக்கு ஆவணங்களின் நகல்களும் இணைக்கப்பட்டுள்ளது எனவும், குத்தகைதாரர் குவாரி அனுமதி கோரும் புல எண்களில், குறிப்பிட்ட புலங்களில், புலத்தின் ஒரு பகுதியில் மட்டும் குவாரி செய்ய அனுமதி வேண்டும் பட்சத்தில் அந்த குறிப்பிட்ட பகுதியை புல வரைபடத்தில் அளவுகளுடன் வரையறுத்து காட்டப்பட்டுள்ளது எனவும், உரிமை கோரும் புல எண்களில் புதியதாக குவாரிப்பணி செய்ய உரிமம் தற்போது கோரப்படுகிறது எனவும், உரிமம் கோரும் இடத்திற்கு அருகே எவ்வித அரசு நிலம் இல்லை எனவும், அரசாணை எண்.295, தொழில்துறை (MMC.1) நாள்: 03.11.2021-ன்படி குவாரி குத்தகை உரிமம் கோரும் பகுதியானது தொல்லியல் / புராதான / வரலாற்று சின்னங்கள் ஆகியவை ஏதுமில்லை எனவும், தேசிய பூங்காக்கள், வன விலங்கு சரணாலயம், புலிகள் காப்பகம், யானை வழித்தடங்கள், காப்புக்காடுகள் ஏதுமில்லை எனவும், இப்புல எண்களில் கோவில், மகுதி, கிருத்துவ ஆலையங்கள் போன்ற வழிபாட்டு தலங்கள் ஏதுமில்லை எனவும், கல்கட்டிடம், கிணறு, புராதனச்சின்னங்கள், இடுகாடு மற்றும் சுடுகாடு போன்றவை ஏதுமில்லை எனவும் தெரிவித்துள்ளார். எனவே, விண்ணப்பதாரர் திருமதி. ஜெயபிரபா த-பெ. திருநாவுக்கரசு என்பவருக்கு விழுப்புரம் மாவட்டம், வானூர் வட்டம், கொண்டலாங்குப்பம் கிராமம், பட்டா புல எண்கள்: 101/2 (1.76.00), 83/7 (0.16.00), 89/4 (0.39.00), 83/6B1 (0.27.12) ஆகியவற்றின் மொத்தபரப்பு 2.58.12 ஹெக்டேர் பரப்பளவில் மூன்று ஆண்டுகளுக்கு சாதாரண மண் வெட்டியெடுக்க குவாரி குத்தகை அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

3) பார்வை (4)-ல் காணும் விழுப்புரம் புவியியல் மற்றும் சுரங்கத்துறை, துணை இயக்குநர் அவர்களின் தொழில்நுட்ப அறிக்கையில், விழுப்புரம் மாவட்டம், வானூர் வட்டம், கொண்டலாங்குப்பம் கிராமம், பட்டா புல எண்கள்: 101/2 (1.76.0), 83/7 (0.16.0), 89/4 (0.39.0), 83/6B1 (0.27.12) ஆகியவை பட்டா எண்கள்: 633 மற்றும் 634-ன்படி திரு. பரமேஸ்வர ராஜா த-பெ. திருநாவுக்கரசு என்பவர் பெயரில் கிராமக் கணக்கில் தாக்கலாகியுள்ளது எனவும், இப்புலன்களை தனது சகோதரியாகிய திருமதி. ஜெயபிரபா த-பெ. திருநாவுக்கரசு என்பவர் சாதாரண மண் குவாரி அமைத்துக் கொள்ள 03 ஆண்டுகளுக்கு ஆட்சேபணை ஏதுமில்லையென தெரிவித்து இருவரும் சம்மதித்து எழுதிக் கொண்ட உறுதிமொழி ஆவணம் சமர்ப்பிக்கப்பட்டுள்ளது எனவும், எனவே, விண்ணப்பதாரர் மேற்படி நிலத்தில் குவாரி செய்ய தகுதியுடையவர் ஆவார் எனவும்,

குத்தகை அனுமதி வழங்க உள்ள நிலத்தில் சக்குபந்தி விவரம் கீழ்க்கண்டவாறு அமைந்துள்ளதாக தெரிவித்துள்ளார்.

நான்கு எல்லை விவரம்.

வ. எண்	புல எண் / பரப்பு	எல்லைகள்	
1.	101/2 1.76.0	வடக்கு	புல எண்கள். 83/6பி, 82/6 பட்டா நிலம்
		தெற்கு	புல எண்கள். 101/3ஏ, 101/4 பட்டா நிலம்
		கிழக்கு	புல எண்கள். 99/1ஏ1பி, 100/1 பட்டா நிலம்
		மேற்கு	புல எண்கள். 101/1 பட்டா நிலம்
2.	83/7 0.16.0	வடக்கு	புல எண்கள். 83/5 பட்டா நிலம்
		தெற்கு	புல எண்கள். 83/6சி பட்டா நிலம்
		கிழக்கு	புல எண்கள். 89/3, 89/4, 99/1ஏ பட்டா நிலம்
		மேற்கு	புல எண்கள். 83/6ஏ, 83/6பி, 83/6சி பட்டா நிலம்
3.	89/4 0.39.0	வடக்கு	புல எண்கள். 89/3 பட்டா நிலம்
		தெற்கு	புல எண்கள். 99/1ஏ, 99/2 பட்டா நிலம்
		கிழக்கு	புல எண்கள். 90/9 பட்டா நிலம்
		மேற்கு	புல எண்கள். 83/7 பட்டா நிலம்
4.	83/6பி1 0.27.12	வடக்கு	புல எண்கள். 83/6ஏ பட்டா நிலம்
		தெற்கு	புல எண்கள். 83/6பி2 பட்டா நிலம்
		கிழக்கு	புல எண்கள். 83/7 பட்டா நிலம்
		மேற்கு	புல எண்கள். 82/5 பட்டா நிலம்

மேற்படி, அனுமதி கோரும் புலங்கள் சமதளப்பரப்பாக காணப்படுகிறது எனவும், இப்புலங்களில் 02 மீட்டர் ஆழத்தில் சாதாரண மண் காணப்படுகிறது எனவும், இவற்றில் சர்வே எண்: 101/2 - 1.76.0 ஆனது ஒரு தனி புலமாகவும், மற்ற சர்வே எண்களான 83/7, 89/4, 83/6பி1 ஆகிய புலங்கள் ஒருங்கிணைந்த புலங்களாகவும் காணப்பட்டது எனவும், மேலும், மேற்படி தனி புலமாக காணப்படும் புலத்தின் பரப்பு 1.76.0 ஹெக்டேர் (4.35 ஏக்கர்) உள்ளதாகவும், மற்ற புலங்களின் பரப்பு 0.82.12 ஹெக்டேர் (2.03 ஏக்கர்) உள்ளதாகவும், எனவே, விண்ணப்பதாரர் அனுமதி கோரும் புல எண்களில் அதிக பரப்பு கொண்ட புலமான சர்வே எண்: 101/2 - 1.76.0 ஹெக்டேர் பரப்பினை மட்டும் ஓராண்டு காலத்திற்கு சாதாரண மண் குவாரி செய்ய குத்தகை உரிமம் வழங்குவதற்கு தகுதியான புலமாக கருதலாம் எனவும்,

மேலும், சாதாரண மண் குவாரி குத்தகை அனுமதி வழங்க கோரும் புல எண்: 101/2 - 1.76.0 ஹெக்டேர்-க்கு 170 மீட்டர் தொலைவில் சர்வே எண். 102/1-ல் இந்து இருளர் இன மக்களுக்கு குடியிருப்பு ஏற்படுத்தப்பட்டுள்ளது எனவும், இதனை தவிர 50 மீட்டர் சுற்றளவில் அங்கீகரிக்கப்பட்ட குடியிருப்பு வீடுகள் மற்றும் தொல்லியல் துறைக்கு சொந்தமான பகுதிகள் ஏதும் இல்லை எனவும், புலங்களை சுற்றி வீடுகள், கிணறு, கோயில், சமாதி, விலையுயர்ந்த மரங்கள், வழிபாட்டுஸ்தலங்கள், நினைவு சின்னங்கள், புராதன சின்னங்கள் ஏதுமில்லை எனவும், குவாரி குத்தகை கோரும் புலங்களில் உயர்வழுத்த மற்றும் தாழ்வழுத்த மின்கம்பிகள் செல்லவில்லை எனவும், மேலும், பிரஸ்தாப புலத்திற்கு சென்று வர போதிய பாதை வசதி உள்ளது எனவும், இப்பாதைக்கு வலது புறம் சர்வே எண்: 113/4-ல் கன்னிய குட்டை என்ற நீர்நிலையும், இடது புறம் சர்வே எண். 114/-ல் விவசாய

நிலங்களுக்கு செல்லும் வாய்க்காலும் அமைய பெற்றுள்ளதாகவும், இவை அனைத்தும் பிரஸ்தாப புலத்திலிருந்து 300 மீட்டருக்கு அப்பால் அமையப் பெற்றுள்ளது எனவும்,

எனவே, புதுச்சேரி மாநிலம், செல்லப்பெருமாள்பேட்டை, நெ.4 சுப்ரமணியர் கோயில் தெரு என்ற முகவரியில் வசிக்கும் திருமதி. ஜெயபிரபா த-பெ. திருநாவுக்கரசு என்பவருக்கு, விழுப்புரம் மாவட்டம், வானூர் வட்டம், கொண்டலாங்குப்பம் கிராமம், பட்டா புல எண்கள்: 101/2 - 1.76.0 ஹெக்டேர் பரப்பளவில் 02 மீட்டர் ஆழத்திற்கு சாதாரண மண் வெட்டியெடுக்க 1959-ம் ஆண்டு தமிழ்நாடு சிறு கனிம சலுகை விதிகளில் விதி 19 (1) மற்றும் 33-ன்படி குத்தகை ஒப்பந்தப் பத்திரம் நிறைவேற்றும் நாளிலிருந்து ஓராண்டு காலத்திற்கு கீழ்க்கண்ட நிபந்தனைகளுக்குட்பட்டு 1959 தமிழ்நாடு சிறுகனிம சலுகை விதிகள் விதி 41 மற்றும் 42-ன்படி சுரங்கத்திட்டம் மற்றும் மாநில சுற்றுப்புற சூழல் தடையின்மை சமர்ப்பித்த பின்னர் குவாரி குத்தகை உரிமம் வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

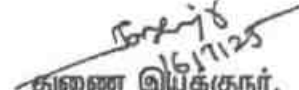
சாதாரண மண் போன்ற கனிமங்கள் குவாரி செய்வதற்கு உரிமம் வழங்கும் முன் தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி எண்கள்.41 மற்றும் 42-ன்படி ஒப்புதல் பெறப்பட்ட சுரங்கத்திட்ட அறிக்கை மற்றும் சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணைய தடையின்மைச் சான்று பெறப்பட வேண்டும்.

எனவே, விழுப்புரம் வருவாய் கோட்டாட்சியரின் பரிந்துரை மற்றும் துணை இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, விழுப்புரம் புலத்தணிக்கையின் அடிப்படையில் தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி எண்கள்.19(1) மற்றும் 33-ன்படி திருமதி. ஜெயபிரபா த-பெ. திருநாவுக்கரசு என்பவருக்கு விழுப்புரம் மாவட்டம், வானூர் வட்டம், கொண்டலாங்குப்பம் கிராமம், பட்டா புல எண்கள்: 101/2 - 1.76.0 ஹெக்டேர் பரப்பளவில் சாதாரண மண் குவாரி செய்ய ஓராண்டு காலத்திற்கு குத்தகை உரிமம் வழங்க அரிதியிட்ட பரப்பாக கருதி கீழ்க்கண்ட நிபந்தனைகளுக்குட்பட்டு அறிவிப்பு செய்யப்படுகிறது.

1. விண்ணப்ப புலங்களின் அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும் மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி மேற்கொள்ளப்பட வேண்டும்.
2. குவாரிப்பணி மேற்கொள்ளும் போது அருகிலுள்ள பட்டா மற்றும் அரசு புறம்போக்கு நிலங்களுக்கு எவ்வித இடையூறும் இல்லாமல் குவாரிப்பணி செய்ய வேண்டும்.
3. பிரஸ்தாப புலத்திற்கு அருகிலுள்ள நீர்நிலைகள் பாதிக்கா வண்ணம் மனுதாரர் தனது சொந்த செலவிலேயே பாதை வசதி அமைத்துக் கொள்ள வேண்டும்.
4. பொதுமக்களுக்கோ, அருகில் உள்ள பட்டாதாரர்களுக்கோ எவ்வித தீங்குமின்றி பாதுகாப்பு ஏற்பாடுகள் செய்து குவாரிப்பணி மேற்கொள்ளப்பட வேண்டும்.
5. குவாரிப்பணி தொடங்கும் முன் விண்ணப்பபுலத்தினை சுற்றி வேலி கற்கள் நட், முள்வேலி அமைக்கப்படவேண்டும்.

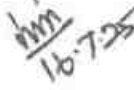
6. குவாரி குத்தகை வழங்கும் முன்பு விண்ணப்பித்துள்ள இடத்தினை DGPS சர்வே பணி மேற்கொண்டு அதன் அறிக்கையை சமர்ப்பிக்க வேண்டும்.
7. குழந்தை தொழிலாளர்களை வேலைக்கு அமர்த்தல் கூடாது.

மேலும், விண்ணப்பதாரர் இவ்வறிவிப்புகிடைக்கப் பெற்ற 90 தினங்களுக்குள் வரைவு சுரங்க திட்டம் அறிக்கை தயார் செய்து துணை இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, விழுப்புரம் முன்பு சமர்ப்பிக்க அறிவுறுத்தப்படுகிறது.


துணை இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
விழுப்புரம்.

பெறுநர்

திருமதி. ஜெயபிரபா,
த/பெ திருநாவுக்கரசு,
நெ.4. சுப்பிரமணியர் கோயில் தெரு,
செல்லப் பெருமாள் பேட்டை,
புதுச்சேரி.


16-7-25

ANNEXURE-III
MINING PLAN APPROVED LETTER

From
R.Jayanthi, M.Sc., P.G.D.G.,
Deputy Director,
Geology and Mining,
Viluppuram.

To
Tmt.T.Jayapraba,
D/o.Thirunavukarasu,
No.4, Subramaniyar Koil Street,
Sellaperumalpet,
Pondicherry - 605 008.

Rc.No.A/G&M/84/2025 Dated 02.09.2025

Sub: Mines & Minerals - Minor Mineral - Ordinary Earth -
Viluppuram District - Vanur Taluk - Kondalankuppam
Village - over an extent of 1.76.0 hectares of patta land -
S.F.No. 101/2 - Quarry lease application preferred by
Tmt.T.Jayapraba, D/o.Thirunavukarasu - Precise area
communicated - Submission of mining plan for approval
- Approved - Regarding.

- Ref: 1. Quarry lease application dated 22.04.2025 preferred
by Tmt.T.Jayapraba, D/o.Thirunavukarasu, No.4,
Subramaniyar Koil Street, Sellaperumalpet,
Pondicherry - 605 008.
2. Deputy Director, Geology and Mining, Viluppuram
Letter Rc.No.A/G&M/84/2025, Dated 16.07.2025.
3. Mining Plan submitted by Tmt.T.Jayapraba,
D/o.Thirunavukarasu Dated 12.08.2025.

In the reference 2nd cited, it has been communicated that over an extent of 1.76.0 hectares of Patta land in S.F.No. 101/2 of Kondalankuppam Village, Vanur Taluk, Villupuram District as precise area for grant of quarry lease for quarrying Ordinary Earth for a period of 1 year to Tmt.T.Jayapraba, D/o.Thirunavukarasu with a direction to produce on Mining Plan for approval and to obtain Environment Clearance in respect of the precise area as per Rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959.

2. Accordingly, the applicant has submitted the draft mining plan prepared by the Qualified Person for approval vide reference 3rd cited.

3. The draft mining plan submitted in respect of the precise area has been examined with reference to the provisions of Rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959 and the followings are observed.

- i) The Boundary Co-Ordinates (GPS readings) for the entire boundary pillars (9 Nos.) of the area have been incorporated and shown in the mining plan.
- ii) All the conditions stipulated in the Deputy Director, Geology and Mining, Viluppuram letter Rc.No.A/G&M/84/2025 dated 16.07.2025.

iii) The available geological and minable reserves as follows.

Depth in Mts.	Geological reserves in MT.	Minal Reserves in MT.
5. m.	Ordinary Earth : 1,76,000	Ordinary Earth : 55,968

3. In the light of the above, in exercise of the powers confirmed under Rule 41 (7) of Tamil Nadu Minor Mineral Concession Rules, 1959 the mining plan in respect of Ordinary Earth quarry to Tmt.T.Jayapraha, D/o.Thirunavukarasu is approved subject to the following conditions.

- (i) The mining plan is approved without prejudice to any other Law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- (ii) This approval of the mining plan does not in any way imply the approval of the Government in terms or any other provisions of the Mines and Minerals (Development and Regulation) Amended Act, 2015, or any other connected laws including Forest Conservation Act, 1980, Forest Conservation Rules, 1981, Environment Protection Act, 1986, Explosives Act, 1884 (Central Act IV of 1884) and the Rules made there under and the Tamil Nadu Minor Mineral Concession Rules, 1959.
- (iii) The mining plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.

Encl: Two copies of Approved Mining Plan.

BRN
21/9/25
Deputy Director,
Dept. of Geology and Mining,
Viluppuram.

Copy to:

hms
2.9.25
The Director of Geology and Mining, Chennai-32.

ANNEXURE-IV
500M Radius letter

From
R.Jayanthi, M.Sc., P.G.D.G.,
Deputy Director,
Geology and Mining,
Viluppuram.

To
Tmt.T.Jayapraba,
D/o.Thirunavukarasu,
No.4, Subramaniyar Koil Street,
Sellaperumalpet,
Pondicherry - 605 008.

Rc.No.A/G&M/84/2025 Dated 02.09.2025

Sub: Mines & Minerals - Minor Mineral - Ordinary Earth -
Viluppuram District - Vanur Taluk - Kondalankuppam
Village - over an extent of 1.76.0 hectares of patta land -
S.F.No. 101/2 - Quarry lease application preferred by
Tmt.T.Jayapraba, D/o.Thirunavukarasu - Details of
quarries situated within 500 meter radial distance -
furnished - Regarding.

Ref: 1. Deputy Director, Geology and Mining,
Viluppuram Letter Rc.No.A/G&M/84/2025,
Dated 16.07.2025.
2. Representation of Tmt.T.Jayapraba,
D/o.Thirunavukarasu Dated 12.08.2025.

With reference to your letter in the reference 2nd cited, the details of
existing, proposed and abandoned quarries located within 500 mts. radial
distance from the periphery of the proposed Ordinary Earth quarry over an
extent of 1.76.0 hectares of Patta land in S.F.No.101/2 of Kondalankuppam
Village, Vanur Taluk, Villupuram District are as follows.

1. Existing quarries:

Sl. No.	Name of the lessee / permit holder	Name of the Mineral	Taluk & Village	S.F. Nos.	Extent (in hecets)	Lease period	Remarks
1.	Thiru.S.Devamani , S/o.Subramani, No.2A/68, Mariyamman Kovil Street, Kadagampattu Village, Vanur Taluk, Viluppuram District.	Red Earth	Vanur Taluk Kondalankuppam Village	69/2 70/5B 70/6 70/7B 70/8 88/2	0.95.0 0.28.5 0.55.0 0.23.0 0.65.0 <u>0.39.0</u> 3.05.5	06.10.2022 to 05.10.2025	-
2.	Thiru B. Venkatakrishnan, S/o.Balaraman, No.25, 2nd Cross Street, Kurumbapet, Housing Board, Puducherry - 605009	Ordinary Earth	Vanur Taluk Kondalankuppam Village	70/2 70/3 70/4 70/5A 71/3	0.11.0 0.10.0 0.64.0 0.30.5 <u>0.38.0</u> 1.53.50	23.02.2024 to 22.02.2026	-

3.	Thiru S. Vasantharaj, S/o.Selvaraj, No.477, MG Road, Ramakrishna Nagar, Muthiyalpet, Puduchery.	Ordinary Earth	Vanur Taluk Kondalankuppam Village	71/2 86 8/1	0.93.5 1.00.0 <u>1.93.5</u> 3.87.0	06.02.2025 to 05.02.2027	

Proposed Area :

Sl. No.	Name of the lessee / permit holder	Name of the Mineral	Taluk & Village	S.F. Nos.	Extent (in hecets)	Remarks
1.	Tmt.T.Jayapraba, D/o.Thirunavukarasu, No.4, Subramaniyar Koil Street, Sellaperumalpet, Pondicherry - 605 008.	Ordinary Earth	Vanur Taluk Kondalankuppam Village	101/2	1.76.0	.

III. Abandoned quarries :

Sl. No.	Name of the lessee / permit holder	Name of the Mineral	Taluk & Village	S.F. Nos.	Extent (in hecets)	Lease period	Remarks
NIL							

[Signature]
24/9/25
Deputy Director,
Dept. of Geology and Mining,
Viluppuram.

[Signature]
24/9/25

ANNEXURE-V

**PATTA, FMB, A REGISTER, VILLAGE MAP,
ADANGAL & CONSENT REGISTERED DOCUMENT**

17/07/2025, 16:00

வட்டாட்சியர் அலுவலக இணைய சேவை - நில உரிமை விபரங்கள்



தமிழ்நாடு அரசு

வருவாய் மற்றும் பேரிடர் மேலாண்மைத் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : விழுப்புரம்

வட்டம் : வாலூர்

வருவாய் கிராமம் : கொண்டாவங்குப்பம்

பட்டா எண் : 622

உரிமையாளர்கள் பெயர்

1. திருநாவுக்கரசு

தந்தை

பரமேஸ்வரராவா

புல எண்	உட்பிரிவு	புன்செய்		நல்செய்		மற்றவை		குறிப்புகரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
101	2	1 - 76.00	7.39	--	--	--	--	2025/0103/07/418032- ----- Digitally signed: CHARLINE A Zonal Deputy Tahsildar 25/03/2025 09:57:38 PM
		1 - 76.00	7.39					

குறிப்பு :



- மேற்கண்ட தகவல் / சான்றுதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் S/07/02/065/00633/70552 என்ற குறிப்பு எண்ணை உள்ளிடு செய்து உறுதி செய்துகொள்ளவும்.
- இந்த தகவல்கள் 17-07-2025 அன்று 04:00:20 PM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பிசி கேமராவின் 2D barcode படிப்பான் மூலம் டிஜித்தல் 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

மாவட்டம் : விழுப்புரம்

வட்டம் : வானூர்

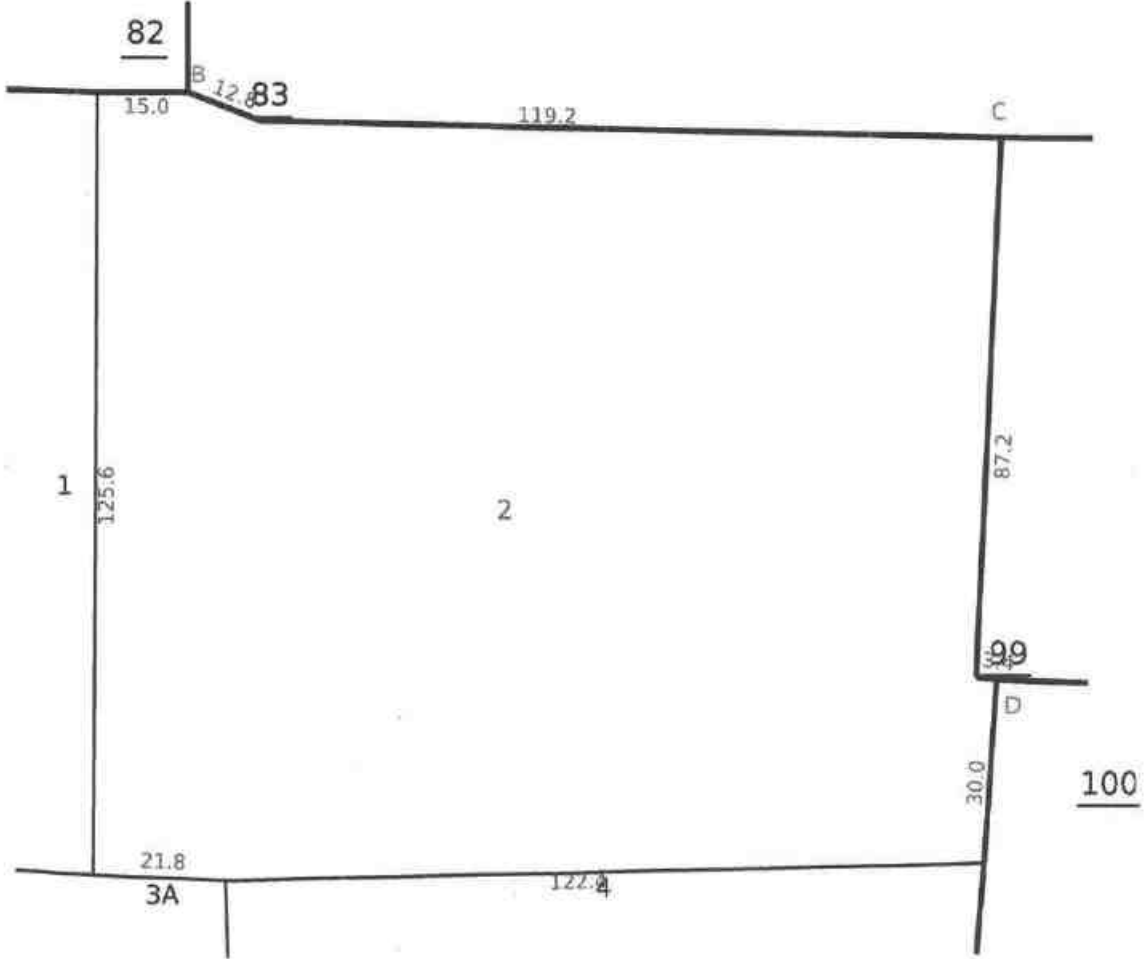
கிராமம் : கொண்டாலங்குப்பம் [65]



புல எண் : 101/2

பரப்பளவு : எக்டர் 00.50 சதுர 76.00

அளவு : 1 : 1184



AS. Lakshmikanthan, M.Sc.,
Qualified Person.

Signed By Tahsildar

Name of approver : vana

Date of Approval : 24-06-2017



Date of Issue: 18-07-2025 15:40:27

226

அ-பதிவேடு விவரங்கள் - ஊரகம்



மாவட்டம் : விழுப்புரம்

வட்டம் : வானூர்

கிராமம் : கொண்டாலங்குப்பம்

1. புல எண்	101	9. மண் வயனமும் ரகமும்	8 - 2
2. உட்பிரிவு எண்	2	10. மண் தரம்	5
3. பழைய புல உட்பிரிவு எண்	104-3 4,8,6,8	11. தீர்வை (ரூ - ஹெ)	4.20
4. பகுதி	-	12. பரப்பு (ஹெக்டேர் - ஏர்)	1 - 76.00
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	7.39
6. நிலத்தின் வகை	பஞ்சை	14. பட்டா எண்	633
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இரு போகமா	-	16. பெயர்	1.பரமேஸ்வரராஜா

குறிப்பு:



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து
 1. பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற
 இணைய தளத்தில் 07/02/065/101/2/20552 என்ற குறிப்பு எண்ணை உள்ளீடு
 செய்து உறுதி செய்துகொள்ளவும்.

1	2	3	4	5	6	7	8	9	10																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								



தமிழ்நாடு தமிழ்நாடு TAMILNADU

BK 664709
H/W/சென்னை

M. பரமேஸ்வரி

L.No 9/2010/MYM

முதலி, கீழ்க்கண்ட, தமிழ்நாடு

9516
20-5-2025சென்னை
புதுச்சேரி

சென்னை

குத்தகை சுவணம்

2025-ஆம் ஆண்டு மே மாதம் 30-ஆம் தேதி (30-05-2025) புதுச்சேரி மாநிலம், புதுச்சேரி - 605 008, லாஸ்பேட்டை, செல்லபெருமாள் பேட்டை, ஐய்யனார் கோவில், சுப்ரமணியர் கோவில் வீதி, நெ.4 என்கிற முகவரியில் வசிக்கும் காலஞ்சென்ற திரு.திருநாவுக்கரசு அவர்களின் குமாரர் திரு.T.பரமேஸ்வராஜா (இந்திய அரசு, ஆதார் அட்டை எண்.6021 4172 7528, அலைபேசி எண்.9843094326) - 1வது பார்ட்டி,

புதுச்சேரி மாநிலம், புதுச்சேரி - 605 008, லாஸ்பேட்டை, செல்லபெருமாள் பேட்டை, ஐய்யனார் கோவில், சுப்ரமணியர் கோவில் வீதி, நெ.4 என்கிற முகவரியில் வசிக்கும் காலஞ்சென்ற திரு.திருநாவுக்கரசு அவர்களின் குமாரத்தி திருமதி.ஜெயபிரமா (இந்திய அரசு, ஆதார் அட்டை எண்.4859 1230 7303, அலைபேசி எண்.9488510766) -2வது பார்ட்டி, ஆகிய நாங்கள் இரு பார்ட்டிகளும் சேர்ந்து சம்மதித்து எழுதிக் கொண்ட குத்தகை சுவணம்.

1வது பார்ட்டி

சென்னை

2வது பார்ட்டி

T. Jayapriya

2025 3965

புதுச்சேரி	சென்னை	ஆவணம்
தொகைகள் கொண்டது		
சென்னை		
சென்னை		





தமிழ்நாடு தமிழ்நாடு TAMILNADU

9517 0000/1
2025

செவ்வாறு
4/9/2025

BK 664708

M. பரமேஸ்வரி

L.No 9/2010/MYM

முதலி, கனியலூர், தமிழ்நாடு

- 2 -

என்னவென்றால், இதனடியில் சொத்து விபரத்தில் கண்ட சொத்தைப் பொறுத்து, திரு.சுந்தரமூர்த்தி அவர்களிடமிருந்து, நம்மில் 1வது பார்ட்டி T.பரமேஸ்வரராஜா அவர்கள் 08.03.2025 தேதியில் சுயமாய் கிரையம் பெற்று மேற்படி ஆவணம் வானூர் சார்பதிவகத்தில் மேற்படி ஆவணம் 1புத்தகம், 2025-ஆம் வருடத்திய 1609-ஆம் நெம்பராகப் பதிவாகி உள்ளது.

மேற்கூறிய ஆவணப்படி நம்மில் 1வது பார்ட்டிக்கு சொந்தமான கீழ்க்கண்ட சொத்து விபரத்தில் கண்டுள்ள சொத்தினை, 1வது பார்ட்டி குத்தகைக்கு விடுவதாகவும், 2-வது பார்ட்டி ஐந்து (5) வருடத்திற்கு, குத்தகைக்கு பெற்றுக் கொள்வதாகவும் ஒப்புக் கொண்டு, நாம் நமக்குள் மேற்படி 5 வருடத்திற்கு மொத்தமாக குத்தகை கரார் தீர்த்துக் கொண்டு தொகை ரூபாய்.3,00,000/- (ரூபாய் மூன்று இலட்சம் மட்டும்). இவ்விதமாக 5 வருடங்களுக்கு 2-வது பார்ட்டி அரசு நிர்ணயத்துள்ளபடி அரசு அனுமதி பெற்று செம்மண் வெட்டி எடுத்துக்கொள்ள 1வது பார்ட்டி சம்மதிக்கிறார்கள்.

மேற்படி குத்தகை காலம் முடியும் வரை கீழ்க்கண்ட சொத்தினில் அரசு நிர்ணயிக்கும் ஆறுத்திற்கு செம்மண் வெட்டி எடுத்து தன் சொந்த செலவில் வெளியேற்றிக் கொள்ள நம்மில் 2வது பார்ட்டி ஒப்புக் கொள்கிறார். கீழ்க்கண்ட சொத்திற்குண்டான

1வது பார்ட்டி

[Signature]

2வது பார்ட்டி

T. *[Signature]*

1	புத்தகம்	வருடத்திய	அலகம்
2	வருடத்திய	அலகம்	வானூர்



2 SEP 2025
விழுப்புரம்
மற்றும் கரகம்



தமிழ்நாடு தமிழ்நாடு TAMILNADU

9518 ரூபி
3005-2025

பெரிய
புத்தூர்

DM 195850
M. பரமேஸ்வரி
L.No 9/2010/MYM
முதலி, கீரியூர், தமிழ்நாடு

- 3 -

வரியை 1வது பார்ட்டியே செலுத்திக் கொள்ள வேண்டியது. இதற்கு மாத வாடகை இல்லை. இந்தப்படி நாங்கள் இருபார்ட்டிகளும் சேர்ந்து சம்மதித்து எழுதிக் கொண்ட குத்தகை ஆவணம்.

சொத்து விவரம்

திண்டிவனம் பதிவு மாவட்டம், வானூர் சார் பதிவு அலுவலகம், கடகம்பட்டு ஊராட்சி எல்லைக்குட்பட்ட கொண்டலாக்குறம் கிராமத்தில், பட்டா எண்.633, அயன் புஞ்சை புதிய சர்வே எண்.101/2 - 1.76.0 ஏர்ஸ் பூரா, பழைய சர்வே எண்கள்.104/3 - ஏக்கர் 1.60 செண்டு, 104/4 - ஏக்கர் 0.78 செண்டு, 104/5 - ஏக்கர் 1.08 செண்டு, 104/6 - ஏக்கர் 0.56 செண்டு, 104/8 - ஏக்கர் 0.28 செண்டு, ஆக மொத்தம் ஏக்கர் 4.30 செண்டு, நான்கு ஏக்கர் முப்பது செண்டு நிலமும்,

பட்டா எண்.634, அயன் புஞ்சை புதிய சர்வே எண்.83/6B1 - 0.27.12 ஏர்ஸ் பூரா, பழைய சர்வே எண்.83/- ஏக்கர் 2.57 செண்டில், ஜீவா நிலத்திற்கு வடக்கு, மேற்கு, கிழக்கு, பழனி நிலத்திற்கு தெற்கு, இதன் மத்தியில் ஏக்கர் 0.67 செண்டு, அறுபத்து ஏழு செண்டு நிலமும்,

1வது பார்ட்டி

[Signature]

2வது பார்ட்டி

[Signature]

புத்தூர்	வந்திய	அழகன்
3	11	11
வாஸுதர்		





தமிழ்நாடு தமிழ்நாடு TAMILNADU

959/959
20-5-2025

சுயேச்சை
புத்திரம்

DM 195851
M. பரமேஸ்வரி
L.No 9/2010/MYM
முதுனி, கீரியனூர், தமிழ்நாடு

- 4 -

பட்டா எண்.633, அயன் புஞ்சை புதிய சர்வே எண்.83/7 - 0.16.0 ஏர்ஸ் பூரா, பழைய சர்வே எண்.84/8 - ஏக்கர் 0.40 செண்டு, நாற்பது செண்டு நிலமும்,

பட்டா எண்.633, அயன் புஞ்சை புதிய சர்வே எண்.89/4 - 0.39.0 ஏர்ஸ் பூரா, பழைய சர்வே எண்.91/3 - ஏக்கர் 0.97 செண்டு, தொண்ணூற்றி ஏழு செண்டு நிலமும்,

சேர்த்து மொத்தம் ஹெக் 2.58.12 ஏர்ஸ் கொண்ட ஏக்கர் 6.34 செண்டு, ஆறு ஏக்கர் முப்பத்து நான்கு செண்டு மட்டும் இந்த குத்தகை ஆவணத்திற்குட்பட்டது.

சொத்தானது நீதிநிலைப் பகுதியில் அமையப் பெறவில்லை என்பதற்கான சான்று/ உறுதிமொழி (Declaration) (நீதிபேரணை எண். 22163/2018-ல் வழங்கப்பட்ட தீர்ப்புரையை களீன்க.

இந்த ஆவணத்தில் கண்ட சொத்தானது நீதிநிலைகள், நீர்வழிப்பாதைகள், நீரிடிப்பு பகுதிகளில் கட்டுப்படவில்லை என சான்றளிக்கிறோம். மேலும் இதனில் தங்களுக்கு

1வது பார்ட்டி

[Signature]

2026	3968
புத்திரம்	வழி
4	11
சுயேச்சை	
மேலூர்	

2வது பார்ட்டி

T. சுவாமிநாதன்





தமிழ்நாடு தமிழ்நாடு TAMILNADU

9520 ரூபாய்
30-5-2025
நெய்வேலி
புதுச்சேரி

DM 195852
M. பரமேஸ்வரி
L.No 9/2019/MYM
முதலி, கீசியனூர், தமிழ்நாடு

-5-

தவறான தகவல் அல்லது சான்று அளிக்கப்பட்டதாக பின்னாளில் கண்டுபிடிக்கப்பட்டால் அதனால் நான்/நாங்கள் சட்ட பூர்வ நடவடிக்கைகளுக்கு உட்படுத்தப்படுவோம் என்பதையும் அறிவேன்/அறிவோம்.

1வது பார்ட்டி

[Signature]

2வது பார்ட்டி

[Signature]

சாட்சிகள் :

1. *[Signature]* நிர்மலாதேவி க.பெ. திருநாவுக்கரசு, நெ.4, சுப்ரமணியர் கோவில் வீதி, செல்லப்பெருமாள்பேட்டை, புதுச்சேரி-605 008. (இந்திய ஆதார் அடையாள அட்டை எண்.6723 3684 5555)

2. *[Signature]* சிவராஜ் த.பெ. கணபதி, நெ.18, சுப்ரமணியர் கோவில் வீதி, லாஸ்பேட்டை, புதுச்சேரி-605 008. (இந்திய ஆதார் அடையாள அட்டை எண்.8930 7831 4885)

ஆவணம் தயார் செய்து வரைவு

செய்தவர் :- T.மாணிக்கம்.

2025	30/5/25
புதுச்சேரி	செய்தவர்
11	மாணிக்கம்
செய்தவர்	மாணிக்கம்
வாரியர்	வாரியர்



மாநில ஆவண எழுத்தர் உரிமம் எண்.அ.791/திவம்/1991. தானிய



1899ம் ஆண்டு இந்திய முத்திரைச் சட்டம் 42வது பிரிவின் கீழான சான்று

2025ம் ஆண்டு வரிசை எண் 3380

புதுச்சேரி மாநிலம், புதுச்சேரி - 605 008, லாஸ்பேட்டை, செல்லபெருமான பேட்டை, ஐய்யனார் கோவில் கப்ரமணியர் கோவில் விதி, நெ.4, புதுச்சேரி, இந்தியா, 605008-ல் வசிக்கும் திருமதி ஜெயபிரபா என்பவரிடமிருந்து எழுந்தாறு மட்டும், இந்த ஆவணத்திற்காக இந்திய முத்திரைச் சட்டம் 41வது பிரிவின் படி குறைவாயிருக்கட்டணம் வசூலிக்கப்பட்டது என நான் இதன் மூலம் சான்றளிக்கிறேன்

சார்பதிவாளர் : வானூர்
நாள் 30/05/2025

சார்பதிவாளர் : மத்திய இந்திய முத்திரைச் சட்டம் பிரிவு
41ன் படி ஆட்சியர்

2025 ஆம் ஆண்டு மே மாதம் 30ம் தேதி பி.பி. 01:19 மணியளவில் வானூர் சார்பதிவாளர் அலுவலகத்தில் தூக்கல் செய்து கட்டணம் ₹ 3,310/- செலுத்தியவர்

இடது பெருவிரல்



R. Jayaraj

கூடுதல் விவரங்கள் ஆவண வாசகத்தில்
உள்ளபடி

எழுதிக் கொடுத்ததாக ஒப்புக் கொண்டவர்
இடது பெருவிரல்



R. Jayaraj

"சம்மதத்துடன் கூடிய ஆதார் அங்கீகாரம்" என்ற
வழி இந்த நபரின் அடையாளம் விரல் ரேகை
மூலம் ஆதார் ஆணையத்துடன்
சரிபார்க்கப்பட்டது. ஒப்பீட்டு எண் :
UKC 89068540a58418c0915448ba466d64aa818bdcc
(Details from UIDAI : Parameswararaja C/O:
Tirunavoucarassou, 21-11-1978, xxxxxxxx7528)



எழுதி வாங்கியதாக ஒப்புக் கொண்டவர்
இடது பெருவிரல்



R. Jayaraj

"சம்மதத்துடன் கூடிய ஆதார் அங்கீகாரம்" என்ற
வழி இந்த நபரின் அடையாளம் விரல் ரேகை
மூலம் ஆதார் ஆணையத்துடன்
சரிபார்க்கப்பட்டது. ஒப்பீட்டு எண் :
UKC 2120253364191c808548e781557b6a426561
(Details from UIDAI : Jayaprabha C/O: Jayaprabha, 21-11-1978, xxxxxxxx7528)



R/வானூர்/புத்தகம்-1/3985/2025

06-1980, XXXXXXX7303)

- 2 SEP 2025

2025 ஆம் ஆண்டு மே மாதம் 30ம் நாள்

விழுப்புரம்

சார்பதிவாளர்
வானூர்

R/வானூர்/புத்தகம்-1/3985/2025 எண்ணாகப் பதிவு செய்யப்பட்டது

நாள்: 30/05/2025

வானூர்

சார்பதிவாளர்

2025 3985

பதிவு	வானூர்	ஆவணம்
7	11	சார்பதிவாளர்
சார்பதிவாளர்		

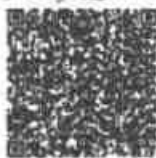




இந்திய அரசாங்கம்
Unique Identification Authority of India
Government of India

புதிய அட்டைகளைப் / Enrolment No.: 1111/00049/48223

To
ஜெயபிரகாஷ்
Jayapraba
D/O Thirunavukarasu
4 Subramaniam Koli Street
Sellaperumalpet
Pondicherry
Pondicherry 605006



உங்கள் ஆதார் எண் / Your Aadhaar No. :

4859 1230 7303

ஆதார் - சாதாரண மனிதனின் அதிகாரம்



भारत सरकार
GOVERNMENT OF INDIA



ജ്ഞാപനം
Jyothsna
പിറന്നതുകൾ / Year of Birth : 1980
പെണ്മനുഷ്യൻ / Female



4859 1230 7303

ஆ. தார் - சாதாரண மனிதனின் அதிகாரம்



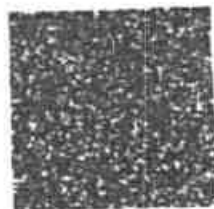
Government of India

Unique Identification Authority of India

உள்ளுமுகு/Enrolment No.: 2726/51680/84215

To
Urgandowayyiggin
Parameswararaja
C/O: Tirunavuccressou
04
Subramaniam Koil Street
Iyyanar Koil
Seelaperumalpet
Lawspet
Puducherry Puducherry - 605008
9843094326

Signature_____mild



உங்கள் ஆதார் எண் / Your Aadhaar No. :

6021 4172 7528
VID : 9149 0071 7530 6190

எனது சூதார், எனது அடையாளம்



GOVERNMENT OF INDIA



பரமேஸ்வரராஜா
பரமேஸ்வரராஜா
தேதா தா/DOE: 21/11/1978
பால/ MALE

Week Ending: 5/6/19 27911

6021 4172 7528

YTD : 9149 0071 7530 6190

எனது ஆதார், எனது அடையாளம்

7. ფაქტები

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செய்த நாள்: 11-06-2018
இதன் மூலம் உத்தரவு எண்: 11-06-2018
பொது இயக்குநர்,
மாண்புமிகு கல்வித்துறை,
கேள்விகள் மற்றும் வினாக்கள்,
மாண்புமிகு கல்வித்துறை,
கேள்விகள் மற்றும் வினாக்கள்,
மாண்புமிகு கல்வித்துறை,





இந்திய அரசாங்கம்
Union Identification Authority of India

பதிவு ஆகை எண் / Enrollment No.: 1111/00097/06482

To
க சிவராஜ்
C Sivaraaj
S/O Canabady
18 Subramaniyar Koil street
Lawspet
Lawspet Pondicherry
Pondicherry 605008
9944236725

23/09/2011
24645343

UG24645343674

உங்கள் ஆதார் எண் / Your Aadhaar No. :
8930 7831 4885
ஆதார் - சதாரண மனிதனின் அதிகாரம்


க சிவராஜ்
C Sivaraaj
பிறந்த வருடம் / Year of Birth 1988
ஆண் / Male

8930 7831 4885

2020

Swamy

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2025 3965

1	செய்தியை	அரசவை
11	செய்தியை	அரசவை
11	செய்தியை	அரசவை

Handwritten signature

T. Lakshmi



ANNEXURE-VI
MINING PLAN REPORT & PLATES

MINING PLAN FOR KONDALANKUPPAM ORDINARY EARTH QUARRY

Lease in Consent Patta land

Period: (One) 1 Year only



(Prepared under 19(1) & 20 Tamilnadu Minor Mineral Concession Rules,
and amended Minor Mineral Conservation and Development Rules, 2010)

LOCATION OF THE LEASE APPLIED AREA

EXTENT : 1.76.0 Ha
S.F.NO : 101/2
VILLAGE : KONDALANKUPPAM
TALUK : VANUR
DISTRICT : VILUPPURAM
STATE : TAMIL NADU

APPLICANT

TMT.T.JAYAPRABA,
D/o. Thirunavukarasu,
No.4, Subramaniyar Koil Street,
Sellaperumalpet,
Pondicherry- 605 008.

Prepared by
A.S.LAKSHMIKANTHAN, M.Sc.,
Qualified Person,
Regd.officer D.No.4/160 A3, 11th Street,
MVS Nagar, Majara-Kollapatty,
Near Aavin Dairy, Steel Plant Road,
Salem-636 030, Tamilnadu
Cell: 94866 63162, 9842663162
e-mail: lakshmikanthan.as@gmail.com
info.gssalem@gmail.com

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3.0	General Information	12
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5.0	Geology and Mineral Reserves	14
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LIST OF ANNEXURES



S.No	Description	Annexure No
1	Precise Area Communication Letter issued from the Deputy Director, Geology & Mining	
2	FMB Sketch with Measurement	II
3	Land Documents (Patta, A-Register & Adangal)	III
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LIST OF PLATES

S.No	Description	Plate No	Scale
1	Location Plan	I	Not to scale
2	Key Plan	II	Not to scale
3	Topo Sketch of Quarry Lease area for 10Km Radius.	III	1:1,00,000
4	Satellite Imagery Map	IV	1:10,000
5	Environmental Plan	V	1:10,000
6	Quarry Lease and Surface Plan	VI	Plan-1:1,000
7	Topography, Geological Plan & Section Year wise Development, Production Plan & Sections	VII & VII-A	Plan-1:1,000 Sec Hor-1:1,000; Ver-1:100
8	Conceptual Plan and Section	VIII & VIII - A	Plan-1:1,000 Sec Hor-1:1,000; Ver-1:100



CONSENT LETTER FROM THE MINE OWNER

The Mining Plan in respect of **Ordinary Earth quarry** over an extent of **1.76.0** hectares in **Consent Patta land** at S.F.No.101/2 (1.76.0) of **Kondalankuppam** Village, **Vanur** Taluk, **Viluppuram** District and Tamil Nadu State has been prepared by Thiru.A.S.Lakshmikanthan, M.Sc., Qualified Person,

I request the Deputy Director, Department of Geology and Mining, Viluppuram District to make further correspondence regarding modifications of the Mining Plan with the said Qualified Person on this following address.

**A.S.LAKSHMIKANTHAN, M.Sc.,
Qualified Person**

Regd.office. No. 4/160 A3, IInd Street,
MVS Nagar, Near Aavin Dairy,
Steel Plant Road, M.Kollappatty,
Salem-636 030, Tamilnadu
Cell- 94866 63162 , 98426 63162,
email- lakshmikanthan.as @gmail.com,
info.gssalem @gmail.com

I hereby undertake that all modifications so made in the Mining Plan by the Qualified Person may be deemed to have been made with my knowledge and Own and shall be acceptable to me and building on me in all respects.

T. Jayapraba

Signature of the Applicant

(T.Jayapraba)

Place : Pondicherry

Date : 07.08.2025.

Tmt.T.Jayapraba,
D/o. Thirunavukarasu,
No.4, Subramaniyar Koil Street,
Sellaperumalpet,
Pondicherry- 605 008.



DECLARATION

The Mining Plan in respect of **Ordinary Earth quarry** over an extent of 1.76.0Ha in Consent Patta land at S.F.No.101/2 (1.76.0) of Kondalankuppam Village, Vanur Taluk, Viluppuram District and Tamil Nadu State have been prepared with my consultation and I have understood the contents and agree to implement the same in accordance with the Mining Laws.

x *T. Jayapraba*

Signature of the Applicant
(T.Jayapraba)

Place: Pondicherry

Date: 07.08.2025.

A.S.LAKSHMIKANTHAN, M.Sc.,
Qualified Person,
Regd.office. No. 4/160 A3, IInd Street,
MVS Nagar, Majara Kollapatty,
Near Aavin Dairy, Steel Plant Road,
Salem-636 030, Tamilnadu



CERTIFICATE

This is to certify that, the provisions of Minor Minerals Conservation and Development Rules, 2010 (MMCDR) have been observed in the Mining Plan for the grant of **Ordinary Earth quarry** lease over an extent of 1.76.0 Ha in Consent Patta land at S.F.No.101/2 (1.76.0) of Kondalankuppam Village, Vanur Taluk, Viluppuram District, Tamil Nadu State applied by **Thiru. T.Jayapraba,**

Wherever specific permission / exemptions / relaxations or approvals are required, the applicant will approach the concerned authorities of State and Central Government for granting such permissions etc.

It is also certified that information furnished in the above Mining Plan are true and correct to the best of my knowledge.

Certified

Signature of Qualified Person

AS. Lakshmikanthan, M.Sc.,
Qualified Person.

Place : Salem-30

Date : 06.08.2025.

QUALIFIED PERSON CERTIFICATE



Certified that I, A.S.LAKSHMIKANTHAN, M.Sc., Regd.off No. D.No. 4/160
A3, IInd Street, MVS Nagar, Near Aavin Dairy, Steel Plant Road,
Salem District - 636 030, Tamilnadu State.

I am a Post graduate in Geology (M.Sc., Geology) from Periyar University and more than five years of experience in mining Field.

Rule 15(1)(a) and (b) of Minerals (Other than Atomic, Hydro Carbons Energy Minerals) concession Rules 2016 stipulates the eligibility for preparing Mining Plans as "(1)(a) a post graduate degree in Geology granted by a university established" and (1)(b) "Professional experience of five years of working in a supervisory capacity in the field of mining after obtaining the degree". Since my qualification and experience are satisfied the Rule (1)(a) and (1)(b) of 15 of the Said Rules, I am eligible to prepare Mining Plans for both Major and Minor Minerals.

Accordingly I prepared this Mining Plan in respect of **Ordinary Earth Quarry** over an extent of 1.76.0 Ha in Consent Patta land at S.F.No.101/2 (1.76.0) of Kondalankuppam Village, Vanur Taluk, Viluppuram District, and Tamilnadu State. Since the Mining Plan is prepared as per the provisions contained in Rule 15(1) (a) and (b) of Minerals (Other than Atomic, Hydro Carbons Energy Minerals) concession Rules 2016, the same may be approved by the Competent Authority.

Certified

Signature of Qualified Person

**AS. Lakshmikanthan, M.Sc.,
Qualified Person.**

Place: Salem

Date: 06.08.2025.

MINING PLAN FOR KONDALANKUPPAM ORDINARY EARTH QUARRY

Over an extent of 1.76.0Ha in Consent Patta land at S.F.No.101/1 (1.76.0) of Kondalankuppam Village, Vanur Taluk, Viluppuram District for a period of (One) 1 Year only.

(Prepared under 19(1) & 20 Tamilnadu Minor Mineral Concession Rules, 1959 and amended Tamil Nadu Minor Mineral Conservation and Development Rules, 2010)



1.0. INTRODUCTION

The present Mining Plan and Environmental Management Plan are prepared for **Tmt.T.Jayapraba**, D/o. Thirunavukarasu, No.4, Subramaniyar Koil Street, Sellaperumalpet, Pondicherry- 605 008. The excavated Ordinary Earth is used for filling and leveling of low lying areas for road projects and other infrastructure development work in and around the district.

1. The application was meritoriously processed by the Deputy Director, G&M, Viluppuram Dt and passed an order vide Rc.No. A/G&M/84/2025 dated 16.07.2025 to obtain an Approved Mining Plan and Environmental Clearance from the State Level Environment Impact Assessment Authority, Tamil Nadu as per the order of the Hon'ble Supreme Court of India in I.A.No 12-13/2011 in S.L.P.No. 19628-19629 of 2009 etc., dt. 27.02.2012 the Ministry of Environment and Forest office Memorandum Dt 18.05.2012.
2. Geological Resources is estimated at 88,000m³ /17,600Ts and Mineable Reserves is estimated at 27,984m³ /**55,968Ts** of Ordinary Earth after leaving necessary the safety distance of 7.5m to adjacent Patta Lands from the boundary of lease applied area as indicated in precise area communication letter and relevant mining laws in force.
3. **Production Schedule** is proposed an average production of **27,984m³ /55,968Ts** (4,664 Lorry Loads) of **Ordinary Earth** upto a depth of 2.0m below ground level for the lease period of (One) 1 Year only.

ENVIRONMENTAL PARAMETERS



i. Forest Conservation Act, 1980:

There is no Reserved Forest around 10Km Radius from the lease applied area.

ii. Interstate Boundary:

There is Pondicherry Interstate Boundary is 650m Radius from the lease applied area.

iii. Wildlife (Protection) Act, 1972:

The area does not attract the Wild Life Sanctuary around 10Km radius from the lease applied area.

iv. The Coastal Regulation Zone (CRZ) Notification 2011:

There is no Coastal Regulation Zone around 10Km Radius from the lease applied area.

Bay of Bengal - 20.1Km - E

v. Infrastructure around 500m radius :

Table No: 1

S.No	Description	Distance from boundary of Quarry site (m)	Direction
1	Approach Road	320m	S
2	Water Bodies (River, Urani, Pond, Odai etc.,	---	---
3	Habitation	200m	W
4	LT / HT - Line	---	---

As per the guide lines enumerated by the MoEF, GOI,



1. The burrowing /excavation activity is restricted to an optimum depth below general ground level at the mining site. The Mining Plan is prepared considering the depth of mining as 2.0m below the ground level. This mining operation is well within the norms of operation laid by the Ministry.
2. The burrowing /excavation activity is restricted to a minimum depth 2.0m above ground water level at the mining site. The ground water level in this area ranges from 17m to 19m below ground level. The mining operation will not affect the water level in the area.
3. The burrowing/excavation activity shall not alter the natural drainage pattern of the area.
4. The burrowed/excavated pit shall be restored by the project proponent for useful cultivation purpose.
5. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed extraction.
6. A minimum distance of 15m from any civil structure shall be kept from the periphery of any excavation area.
7. No Historical monuments, Archeological place of interest, Place of Worship, Reserved Forest, Social Forest, Wildlife Sanctuary, etc are found near the quarry site.
8. The excavation is proposed for an average depth of 2.0m below the ground level. On completion of mining activity, the area will be used for cultivation purpose.
9. There would not be any adverse impact on the existing environment due to the mining activity.

Therefore the project seeks clearance only from State Level Environmental Impact Assessment Authority (SEIAA), under B2 Category.

In addition, Tamilnadu Minor Mineral Conservation and Development Rules 2010 and other circulars and the Terms & Conditions laid down by the District Collector in the Precise letter **Rc.No. A/G&M/84/2025 dated 16.07.2025** (Copy Enclosed) are strictly followed while computing the Geological and Mineable reserve estimation.

2.0. EXECUTIVE SUMMARY



The area applied for Ordinary Earth quarry lease over an extent of 1.76.0 in Consent Patta land in S.F.No.101/2 (1.76.0) of Kondalankuppam Village, Vanur Taluk, Viluppuram District.

- a. Village Panchayat - Kondalankuppam
- b. Panchayat Union - Vanur
- c. The proposed total Mineable Reserves = $27,984\text{m}^3$ / 55,968Ts of Ordinary Earth.
- d. The proposed quantity of Reserves (level of Production) to be mined = **$27,984\text{m}^3$ / 55,968Ts of Ordinary Earth** for a period of (One) 1 Year only.
- e. Topography of the area - The area exhibits Plain Topography
- f. Total extent of the area - **1.76.0 Ha**
- g. Proposed Period of mining - (One) 1 Year only.
- h. Proposed Depth of mining - **2.0m** below ground level.
- i. It is a Fresh lease application.
- j. Method of mining (level of mechanization)
Opencast Semi mechanized method is proposed without drilling and blasting.
- k. Type of machineries used in the quarry
Machineries like Excavator 0.90m^3 of bucket capacity and Tippers 10 Tons capacity are proposed for quarrying operation.
- l. The quantity of Diesel consumption is about = 4660 Liters of HSD for the entire lease period of life of the quarry.
- m. No trees are uprooted due to mining operations.
- n. Around 22 employees are proposed to be deployed for the quarrying operation.

Kondalankuppam Village (Topo sheet No 57-P/12) SEP 2025



Table No: 2

BOUNDARY CO-ORDINATES		
LABEL	LATITUDE	LONGITUDE
1	12° 02' 05.5657" N	79° 41' 03.5864" E
2	12° 02' 09.6169" N	79° 41' 04.1424" E
3	12° 02' 09.5385" N	79° 41' 04.6316" E
4	12° 02' 09.3580" N	79° 41' 05.0131" E
5	12° 02' 08.7218" N	79° 41' 08.9433" E
6	12° 02' 05.9325" N	79° 41' 08.4103" E
7	12° 02' 05.9078" N	79° 41' 08.5199" E
8	12° 02' 04.9531" N	79° 41' 08.3117" E
9	12° 02' 05.4663" N	79° 41' 04.2929" E
WGS - 84 DATUM		

The Mining plan and Environment Management Plan is prepared by incorporating the conditions stipulated in the precise area communication and by the considering all the parameters required for the safe and systematic quarrying operations in order to excavate **27,984m³ /55,968Ts** of Ordinary Earth for a period of (One) 1 Year only.

3.0. GENERAL INFORMATION:



3.1. Name of the Applicant with Address

Name : **Tmt.T.Jayapraba,**
Address : D/o. Thirunavukarasu,
No.4, Subramaniyar Koil Street,
Sellaperumalpet,
Pondicherry- 605 008.
District : Pondicherry
State : Tamil Nadu
Pin code : 605 008
Phone no : 94427 21499

3.2. Status of the Applicant

The applicant is a Private Individual.

3.3. Mineral which the Applicant Intends To Mine

Ordinary Earth only

3.4. Precise area communication letter No.

Precise area communication letter issued from the Deputy Director, G&M, Viluppuram vide Rc.No.A/G&M/84/2025 dated 16.07.2025

3.5. Period of permission / lease granted

The applicant has applied permission for (One) 1 Year only.

The Deputy Director, G&M, consider grant for a lease period of (One) 1 Year only.

3.6. Name and Address of the QP preparing Mining Plan

Name : **A.S.LAKSHMIKANTHAN, M.Sc.,**
Address : Regd.office. No. 4/160 A3, IInd Street,
MVS Nagar, Majara Kollapatty,
Near Aavin Dairy, Steel Plant Road,
Salem-636 030, Tamilnadu.
Mobile Number : **9486663162 , 98426 63162**
e-mail : lakshmikanthan.as@gmail.com
Info.gssalem@gmail.com

4.0. LOCATION:

Table No: 3

State	Tamil Nadu
District	Viluppuram
Taluk	Vanur
Village	Kondalankuppam
S.F.Nos	101/2
Extent in (Ha)	1.76.0 Ha

**Details of Existence Infrastructures nearby approximate distance**

Table No: 4

S.No	Description	Place	Distance (Km)	Direction
1	Bus stand	Thollamur	2.0	Northwestern
2	Post Office	Thollamur	1.5	Northwestern
3	Government School	Thollamur	3.0	Northwestern
4	Government Hospital	Thollamur	3.0	Northwestern
5	Ambulance	Thollamur	3.0	Northwestern
6	Police Station	Vanur	5.0	Southeastern
7	Fire service	Vanur	5.0	Southeastern
8	Railway Station	Vikravandi	16.0	Western
9	Airport	Pondicheery	17	Southeastern
10	Seaport	Chennai	134	Northeastern

a. Classification of the Area (Ryotwari / Poramboke / others)

Consent Patta land and non-agricultural land

b. Ownership / Occupancy of the applied area (Surface rights)

- ❖ It is a Patta Land registered in the name of the applicant Thiru.T.Parameshwara Raja at S.F.No.101/2 vide Patta No. 633 & 634.
- ❖ The applicant has got surface rights. Please refer Annexure-III

c. Toposheet No. with Latitude and Longitude

Toposheet No : 57 -P/ 12
Latitude : 12°02'04.95"N to 12°02'09.61"N
Longitude : 78°41'03.58"E to 78°41'08.94"E



PART - A

5.0. GEOLOGY AND MINERAL RESERVES

**5.1. Brief description of the Topography and general Geology of the area
(with plans)**

The lease applied area is exhibits almost plain terrain topography covered with Ordinary Earth which does not sustain any type of vegetation due to the topography of the land. The altitude of the area is 75.0m (Maximum) from MSL, the slope of the area is gentle towards Southeastern side. Please refer the Topography, Geological plan and sections (Plate No -VII).

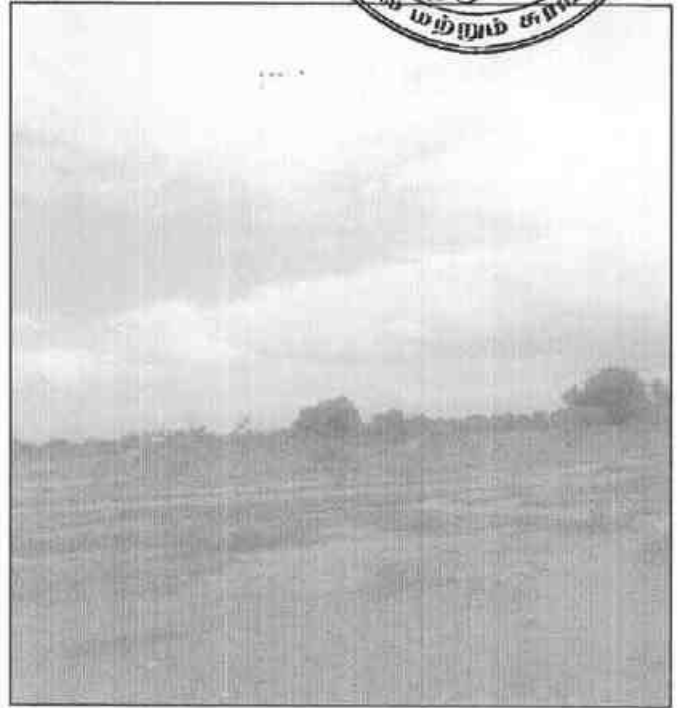
The General Geological succession of the area is given as under.

Age	Formation
Recent to Sub recent	- Alluvium, Ordinary Earth
	----- Unconformity -----
Archaean	- Charnockite Peninsular Gneiss complex

5.2. Details of Exploration already carried out if any:

There is no exploration was carried out in this quarry area. The Ordinary Earth formation has been clearly visible to right from the surface.

Proposed Quarry Site Photos



Close View of the Lease Applied area

5.3. a. Estimation of Reserves

- ❖ The Geological plans demarcating the commercially viable Ordinary Earth have been prepared in 1:1000 scales (Plate No. VII).
- ❖ Two sections have been drawn, One sections drawn Length wise and another One sections drawn width wise as (A-B) to choose the maximum area cover under the lease in the Horizontal 1:1000 and Vertical 1:100 (please refer Plate No- VII & VII-A).
- ❖ The cross sectional area for the proved depth persistence of **2.0m** below ground level has been worked out for the section. The cross sectional area multiplied by its length of influence on the longer axis gives the volume (insitu) in the cross sectional area.
- ❖ The sum total of the Insitu reserves available within the individual cross sectional area gives the geological reserves of the lease applied area.
- ❖ As the Mineable of Ordinary Earth in the terms of cubic meter. The Geological Resources, Mineable Reserves are given only in terms of Cubic meter.
- ❖ The Details of estimation of Geological Resources and Mineable Reserves with reference to Topography, Geological Plan and Section shown in (Plate No. VII & VII-A).

b. Geological Resources are calculated in Area method.

- ❖ The Geological Resources is estimated and shown in Plate – VII - A
The available Geological Resources upto a depth of 5.0m

Table No: 5

Geological Resources					
Hectares	Area in Sq.m	Depth in (m)	Ordinary Earth m ³	Bulk density	Ordinary Earth in (Ts)
1.76.0	10,000	5.0	88,000	2	1,76,000

c. Recoverable Reserves

Mineable Reserves is estimated at **27,984m³ / 55,968Ts** of Ordinary Earth after leaving necessary the safety distance of 7.5m to adjacent Patta Lands from the boundary of lease applied area as indicated in precise area communication letter and relevant mining laws in force.



(Please refer Plate No-VII & VII- A)

Table No: 6

Mineable Reserves						
Section	Length in (m)	Width in (m)	Depth in (m)	Ordinary Earth m ³	Bulk Density	Ordinary Earth in (Ts)
XY - AB	132	106	2.0	27,984	2	55,968
Total				27,984		55,968

- ❖ The Mineral of Ordinary Earth Production is proposed to the lease period of (One) 1 Year only.
- ❖ Recoverable Reserves are estimated is about **27,984m³ / 55,968Ts** of **Ordinary Earth** up to depth of **2.0m** below ground level for a lease period of (One) 1 Year only.

Production quantity per day (1Load=6m³approx) (1Year =260 Working days)

$$\text{Ordinary Earth quantity} = 27,984\text{m}^3 / 4,664 \text{ Loads}$$

$$= 27,984 \text{ m}^3 / 260 \text{ days (1 Year)}$$

$$= \mathbf{108\text{m}^3 \text{ or } 18 \text{ Lorry Loads}} \text{ per day}$$

6.0. MINING



6.1. Method of mining (opencast/ underground)

Opencast method of shallow mining is proposed, Machineries like Excavator are proposed for quarrying Ordinary Earth of 2.0m below ground level being loose in nature ***No drilling or blasting is proposed for this type of Ordinary Earth Quarrying operation***, it is an ecofriendly quarrying operation.

The Ordinary Earth will be loaded directly to the 10/Tons capacity of Tippers for transportation to the needy customer's site for filling and leveling of low lying areas for road project and other infrastructure development work in and around the District.

6.2. Mode of working (mechanized, semi mechanized, manual)

It is semi mechanized being a loose sedimentary topsoil and soft in nature, the Ordinary Earth is removed by a system of hydraulic Excavator and Tipper combination. After removal, the material is being loaded in the tippers and transported to the used for filling and leveling purpose.

6.3. Proposed bench height & width

It is being soft natured topsoil accumulated on the surface and being mined at shallow depth of 2.0m below ground level. So no need for benching is required. However the slope will be maintained at 45° horizontal.

6.4. Indicate the overburden/mineral production expected pit wise as detailed below (Composite plan and section showing pit layout, dumps, disposal of Waste if any etc.,)

There is no overburden, the Ordinary Earth is to exploit only to a depth of 2.0m below ground level. The applicant proposed to excavate upto a depth of **2.0m** below ground level for a period of (One) 1 Year only.

6.5. Machineries to be used

a. Mining

Manual loading accumulates the same will be loaded by Hired front end loader like JCB) Excavator of 0.90m³ bucket capacity.

S.No	Type	Nos	Bucket capacity	Make	Motive Power	Picture
1	Excavator	1	0.90m ³	Tata Hitachi - 210	Diesel Drive	

b. Loading

Manual loading accumulates the same will be loaded by Hired front end loader like JCB) Excavator of 0.90m³ bucket capacity.

S.No	Type	Nos	Bucket capacity	Make	Motive Power	Picture
1	Excavator	1	0.90m ³	Tata Hitachi - 210	Diesel Drive	

c. Transportation

Tippers / Trucks = 6 Nos.10 Tons capacity (from the quarry to destination (customer/other buyers)

S.No	Type	Nos	Capacity	Make	Motive Power	Picture
1	Tippers	3	10 Tons	Ashok Leyland	Diesel Drive	

6.6. Disposal of Overburden / Waste

There is no wastage is anticipated during the quarrying operation the entire Ordinary Earth will be used for filling and leveling of low lying areas road project and other infrastructure development work in and around the District.

6.7. Brief note on conceptual mining plan for the entire lease period based on the geological, mining and environmental considerations



Conceptual mining plan is prepared based upon Topography, Geological plan and section with an object of (One) 1 Year of development of lay outs, selection of ultimate pit limit-etc., the ultimate pit dimensions of the quarry are given below.

Ultimate Pit Dimension (m)			
Pit No	Length In (m)	Width in (m) Max	Depth in (m)
I	132	106	2.0

It is a conventional Eco friendly quarrying operation without Drilling and Blasting

7.0. BLASTING

- 7.1 Blasting pattern
- 7.2 Type of explosives to be used
- 7.3 Measures proposed to minimize ground vibration due to blasting
- 7.4 Storage and safety measures to be taken while blasting

It is being loose soil in nature **No drilling or blasting is proposed for this type of Ordinary Earth quarrying operation**, it is an ecofriendly quarrying operation.

8.0. MINE DRAINAGE

8.1. Depth of Water Level (based on nearby wells and water bodies)

The water table is noticed at the depth of 17m to 19m below ground level is nearby borehole of this area, and the climatic fluctuations during the Rainy season 17m below ground level and the summer season 19m below ground level of this area.

8.2. Arrangements and places where the mine water is finally proposed to be discharged

Mining operation is shallow depth in nature and confined to a depth of 2.0m below ground level, it does not arise.



9.0. OTHER PERMANENT STRUCTURES

9.1. *Habitations / Village Natham*

- ❖ The Nearest Village habitation is Sandhai Pudukuppam Village which is about 1.2Km on Southeastern side of the area.
- ❖ The applicant ensures the quarrying shall be carried out without affecting the interest of adjoining land owners & any hindrance to the habitants.

9.2. *Power lines (HT/LT) (50m)*

There is no LT/HT line within the radius of 50m.

9.3. *Water bodies (River, Pond, Lake, Odai, Channel etc.,) (50m)*

There is a no **Water bodies** within the radius of 500m.

9.4. *Archeological / Historical Monuments (500m)*

There are no Archeological / Historical Monuments within a radius of 500m.

9.5. *Existence of public road / (SH,NH others),Railway line if any (50m)*

- ❖ There is an existing road from the area leads Katterikuppam road on Southern side of the area.
- ❖ SH-136 Vandavasi— Pondicheery road is located which is about 2.5Km on the Northern side of the area.
- ❖ NH-32 Chidambaram — Nagapattinam road is located which is about 8.5Km on the Northeastern side of the area.
- ❖ Nearest Railway line is Vikravandi Station line which is about 16.0Km on the western side of the area.

9.6. *Places of Worship (Temples, Church, Mosque etc.,) (500m)*

There is no Places of Worship within a radius of 500m.

9.7. *Reserved Forest / Forest / Wild Life Sanctuary, CRZ, etc., (10Km)*

Bay of Bengal -20.1Km - E

9.8. *Any Other Structures : Nil*

10.0. EMPLOYMENT POTENTIAL & WELFARE MEASURES

10.1 Employment Potential (Management & Supervisory personal)

The following man powers are proposed carry out the day to day quarrying activities at the proposed production and also comply with the statutory provision of the MMR 1961.

1. Mines Manager (with valid statutory qualification)	: 1
2. Mines Mate (with valid statutory qualification)	: 1

Laborers, Skilled, Semi-Skilled & Un-skilled

a. Skilled (Operators - Excavator)	: 2
b. Semi-skilled (Driver)	: 6
c. Unskilled (Musdoor/ Labours, Cleaners & Watch man)	: 15
Total	: 22 Nos

Allowing 10% absenteeism, the no. of men of roll will be around 20.

It is been ensured that the labour will not be deployed less than 18 years, **no child labour will be engaged** or entertained for any kind of quarrying operations. All the Labours engaged for quarrying operations will be insured during the quarry lease period.

10.2. Welfare Measures

a. Drinking Water

Drinking water is available from the nearby agriculture land or water vendors in Sandhai Pudukuppam Village which is about 1.2Km on Southeastern side of the area.

b. Sanitary facilities

Semi-permanent latrines & urinals shall be maintained at convenient places for use of Labours as per the provisions of Rule (33) of the Mines Rules, 1955 separately for males and females. Washing facilities shall also be arranged as per Rule (36) of Mines Rules, 1955 and it will be maintained periodically.

c. First Aid Facility

Being a small mine First Aid station as per provisions under Rule(44) of the Mines Rules,1955 will be provided with facilities as per the third schedule as prescribed. Qualified First Aid personnel should be appointed or nominated to attend emergency first aid treatment.

d. Labour Health

Periodic medical examination has to be arranged for occupational health once in a year in addition to attending medical treatment of occupational injuries under the Rule 45(A) Mines Rules, 1955.

e. Precautionary safety measures to the Laborer's

All the quarry workers will be provided with Safety device include such as safety helmet, mine goggles, ear muffs, ear Plugs, dust mask, sand respirator (avoid silica dusts forms-Silicosis), reflector jackets, safety thick shoes, etc., as Personnel Productive Equipment (PPE) as per the circulars and amendments made for Mine Labours under the guidance of DGMS.



PART - B

11.0. ENVIRONMENTAL MANAGEMENT PLAN

11.1. Existing land use pattern

It's a dry barren land covered with Ordinary Earth formation, does not sustain any type of vegetation due to this Ordinary Earth formation. The surrounded area is semi wet and dry lands cultivated with ground nuts and vegetables. The Punchai lands are mostly depending upon the rainfall.

11.2. Water regime

Water Level in this area quarry area is noticed at a depth of 17m to 19m below ground level, observed nearby bore hole during climatic conditions, Water level in Rainy seasons 17m bgl and Summer seasons 19m bgl, the

quarrying of Ordinary Earth is proposed up to a depth of 2.0m below ground level. Hence, it will not affect the ground water depletion of this area.

11.3. Flora and Fauna

The Panai trees, Neem trees thorny bushes are placed near by quarry area. Except acacia bushes, no other valuable trees are noticed in the lease applied area. Further, neither flora of botanical interest or fauna of zoological interest is noticed in this area.

11.4. Climatic conditions

Generally subtropical climatic condition prevails throughout the year and there is no sharp variation in climate. This District receives rain both in south west and north east monsoon. The average rainfall is about 600mm to 800mm and the temperature ranges from 18°C during winter and to a maximum of 42°C during the summer.

11.5. Human Settlement

The nearest habitations with the population is given within 5.0Km Radius from the proposed quarry site as under

Table No-12

S. No	Name of the Village	Approximate distance	Direction from lease applied area	Approximate population
1.	Ramanathapuram	2.0Km	North - East	390
2.	Sandhai Pudukuppam	1.2Km	South - East	440
3.	Kadagampattu	1.3Km	South - West	200
4.	Thollamur	2.0Km	North - West	450

11.6. Plan for air, dust suppression

In this Eco friendly quarrying operation only Excavator are proposed *without drilling and blasting*, hence the air quality will not affect due to the quarrying operation, water will be sprinkled in the haul roads periodically to suppress dust Ambient Air Quality monitoring will be carried out to check the Quality of Air in and around the Quarry. Water for dust suppression will be extract from the existing borehole owned by the applicant from the nearby applicant Patta lands. During transportation the Ordinary Earth will be fully covered by Tarpaulin to prevent dust and spillage.

11.7. Plan for noise level control

This Eco Friendly quarrying operation does not involve any blasting and drilling methods, Hydraulic excavator is less than 80db. Hence noise will be minimal and this is only due to the movement of Excavators and Trucks. Periodically Noise level monitoring will be carried out to check the Noise level in and around the Quarry.

11.8. Environmental impact assessment statement describing impact of mining on the (One) 1 Year only

The life span of the quarry is proposed for the period of (One) 1 Year only, the proposed quarrying for a small production of Ordinary Earth does not involve drilling and blasting. Such limited mining activity is not likely to cause any impact adversely on environment as far as pollution of air, water and noise is concerned.

11.9. Proposal for waste management

There are no wastages anticipated during the quarrying operation. The entire Ordinary Earth will be transported to the needy customer's site.

11.10. Proposal for reclamation of land affected during mining activities and at the end of mining (Refilling / Fencing etc.)

The quarry operation is restricted up to a depth of **2.0m** below ground level, after removing the Ordinary Earth there is no proposal for backfilling or reclamation. The quarried out land will be leveled and used for agriculture purpose. The applicant ensures to level the floor of the area after quarrying, The leveling cost would be around **Rs.2,00,000/-**

11.11. Program of Afforestation (indicate extent, number, name of species to be afforested)

After the completion of the quarrying operation, the land will be leveled and used for agriculture purpose. The applicant ensures to plant native species like neem, pungan and casurina along the safety barriers of the applied area and nearby villages and village road after consultation with the competent panchayat authorities. It is proposed to plant native species around 860 saplings for the period of (One) 1 Year only. The cost estimate for afforestation is around **Rs.1,00,000/-**



Plantation on Sides of Mining Road

11.12. Proposed Financial Estimate / Budget for (EMP) Environment Management



i) Land Cost

It is a Patta land, the approximate present land cost is about Rs.7,00,000/- per Hectare hence the land cost is calculated as **Rs.12,32,000/-**

ii) Machineries to be used for this quarrying operation

The excavators of 0.90m³ bucket capacity and Tippers of 10/Tons capacity will be used. The quantity of Diesel consumption **4660 Liters of HSD** is based on the 466 working hours of Excavators (Leveling Factor and loading Cycling); in the open cast quarry project, Excavator has proposed to quarry Ordinary Earth. Average Diesel consumption of Hitachi Excavator model EX 110-210 is 10 Liters / 1 Hour.

Total number of Excavators used for quarrying operation	= 2 No's
Average Diesel consumption Tata Hitachi	= 10 Ltr/ 1 Hour
Diesel Prize around (At present scenario)	= Rs.96/-
One excavator will excavate 60 m ³ / 1 Hour	= 27,984 / 60 m ³
Total Excavator running hours for the project	= 466 excavation hours
One Excavator will consume 10Ltrs X 466 Hours	= 4660 Ltrs of HSD
Excavating cost of Production quantity(4660 Lts X Rs.96)	= Rs.4,47,360/-

iii) Laborers shed

No Labours are proposed for this quarrying Ordinary Earth. The machine operators are from nearby local villages, hence no cost is involved. Rest shelter will be constructed as semi-permanent structure at the cost of **Rs.2,50,000/-**

iv) Drinking Water facility and other utilities for the labourers

22 Labours at the rate of Rs.4,000/- month for a period of (One) 1 Year, the cost will be around **Rs.48,000/-**

v) Others items

Leveling after quarrying **Rs. 2,00,000/-**



I. **Fixed Asset Cost :-**

i) Land cost	= Rs. 12,32,000/-
ii) Machinery to be used	= Rs. 4,47,360/-
iii) Rest shelter	= Rs. 2,50,000/-
iv) Drinking Water	= Rs. 48,000/-
v) Other items (Leveling)	= Rs. 2,00,000/-
Project Cost	= Rs. 21,77,360/-

II. **Expenditure :**

1. ***Sanitary facility & arrangement***

Rs.40,000/- will be spent for Sanitary facility will be constructed as semi-permanent structure and Sanitary maintenance at the cost of Rs.2,500/- month the cost will be around Rs.30,000/- and total amount **Rs.70,000/-** for a period of (One) 1 Year only.

2. ***Safety kits***

Rs.50,000/- will be spent for the safety kits such as Helmet, Mine Goggles, Ear plugs, Ear muff, Dust Mask, Reflector jackets and safety Shoes.

3. ***Water sprinkling (if necessary)***

Rs 7000/- month will be spent for sprinkling the water on haul roads for Dust suppression; the cost will be around **Rs.84,000/-** for a period of (One) 1 Year only.

4. ***Afforestation etc.,***

Afforestation is proposed within safety zones of the lease applied area and plantations will be carried out on the nearby villages and village roads, Govt school after consultation with the Panchayat authorities. The cost estimate is around **Rs.1,00,000/-**

Expenditure

1. Sanitary facility & Arrangements	=	Rs. 70,000/-
2. Safety kits	=	Rs. 50,000/-
3. Water Sprinkling	=	Rs. 84,000/-
4. Afforestation	=	Rs. 1,00,000/-

EMP Cost Total = Rs 3,04,000/-

Project Cost (A) = Rs. 21,77,360/-

EMP Cost (B) = Rs. 3,04,000/-

Total Project Cost (A+B) = Rs. 24,81,360/-



11.13 Corporate Environment Responsibility (CER):

The Applicant shall be distributed Solar lights, Computer, Projector items to nearby Govt Primary School and to conduct the Medical camp, Environment awareness program, etc., to nearby villages after consultation with local panchayat authorities. The Applicant shall ensure that a minimum of 2.0% from the Total project cost (Rs. 49,628/-) for the entire lease period will be utilized for the CER Activities.

District Mineral Fund @10% of the Royalty shall be given to the Dept. of Geology and Mining.

12.0. MINE CLOSURE PLAN

12.1. Steps proposed for phased restoration, reclamation of already mined out area

It is a new quarrying project and there is no quarried out pits with in the lease applied area. Hence there is no need for reclamation of excavation area.

12.2. Measures to be under taken on mine closure as per Act & Rules

This is an eco-friendly quarrying operation for the mining activity is shallow depth of 2.0m below ground level in nature. The excavated area shall be leveled and used as cultivation purpose/ agricultural field in future.

12.3. Mitigation measures to be undertaken for safety and restoration/ reclamation of the already mined out area

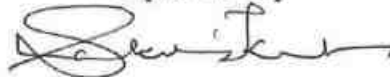
It is being a fresh lease. Not Applicable

13.0. ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT

Adequate steps shall be taken to protect the ecological system and environment and the entire area of excavation shall be leveled as per the Rules and the Guidance of Deputy Director, Dept of Geology and Mining. Also we wish to state that we are using low emission vehicles like hydraulic Excavators for digging and shoveling and Tippers/Trucks for transporting and hence there will not be any Air pollution. We will be loading minimal weight on every Tippers/Trucks which will not cause any damage to the panchayat roads.

Any violation pointed out by inspecting authorities shall be rectified as per guidelines of the department.

Prepared By



Signature of Qualified Person

**AS. Lakshmikanthan, M.Sc.,
Qualified Person.**

Place: Salem-30

Date: 06.08.2025.

This mining plan is approved based on the instructions and guidelines issued by the Commissioner of Geology and mining, Chennai. vide letter Re.No.3368/LC/2012 dated 19-11-2012 and based on incorporation of the conditions laid by the Deputy Director, Geology and Mining, Viluppuram in precise area communication letter	
Re.No. A/G & M/84/2025	Dated : 16-07-2025
Dated : 2.09.2025	 Deputy Director, Geology and Mining, Viluppuram.


29/25

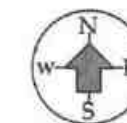
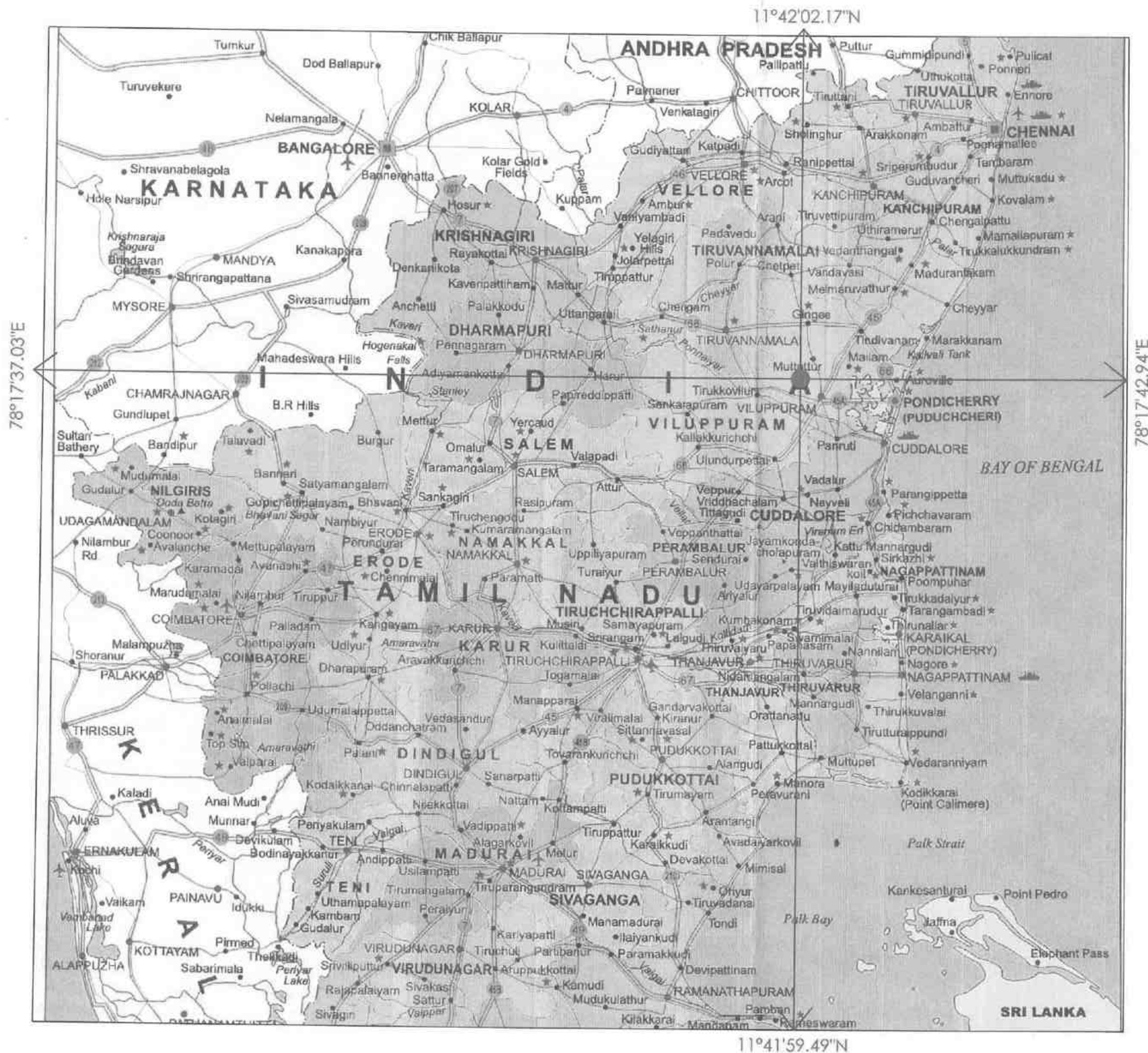


PLATE NO: I

APPLICANT:

TMT. T.JAYAPRABA
D/O THIRUNAVUKARASU,
NO 4, SUBRAMANIYAR KOIL STREET,
SELLAPERUMALPET,
PONDICHERRY-605008

LOCATION OF LEASE APPLIED AREA

EXTENT : 1.76.0 Ha

S.F.No : 101/2

VILLAGE : KONDALANKUPPAM

TALUK : VANUR

DISTRICT : VILLUPURAM

INDEX

Q. L. A. AREA : ●

TOPO SHEET NO : 57 - P / 12

LATITUDE : 12°02'04.95"N to 12°02'09.61"N

LONGITUDE : 78°41'03.58"E to 78°41'08.94"E

LOCATION PLAN

NOT TO SCALE

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE
HAS BEEN CHECKED BY ME AND IS
CORRECT TO THE BEST OF MY KNOWLEDGE

A.S. LAKSHMIKANTHAN, M.Sc.,
QUALIFIED PERSON

Towards
Kutteripattu

Taludali

Perumbakkam

Thollamur

Towards
Puducherry

Towards
Katterikuppam

Towards
Valadavur

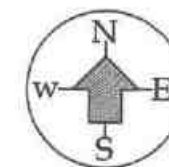


PLATE NO: II



APPLICANT:

TMT. T.JAYAPRABA

D/O THIRUNAVUKARASU,

NO 4, SUBRAMANIYAR KOIL STREET,

SELLAPERUMALPET,

PONDICHERRY-605008

LOCATION OF LEASE APPLIED AREA

EXTENT : 1.76.0 Ha

S.F.No : 101/2

VILLAGE : KONDALANKUPPAM

TALUK : VANUR

DISTRICT : VILLUPURAM

INDEX

Q.L.APPLIED AREA



VILLAGE ROAD



APPROACH ROAD



SH ROAD



HABITATION



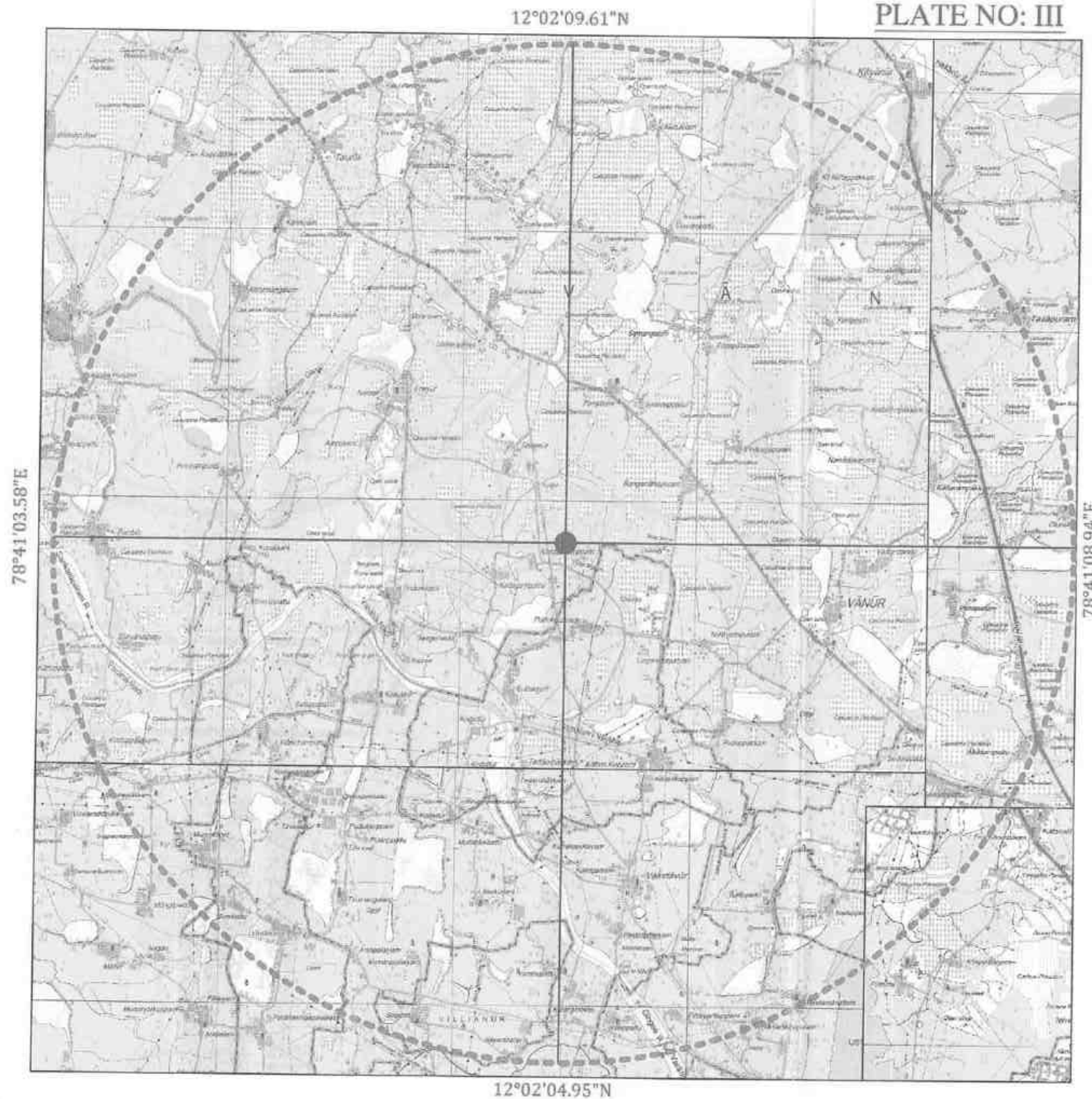
KEY PLAN

Not To Scale

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE
HAS BEEN CHECKED BY ME AND IS
CORRECT TO THE BEST OF MY KNOWLEDGE

A.S.LAKSHMIKANTHAN, M.Sc.,
QUALIFIED PERSON

[illegible]

SCALE- 1:100000

[Signature]

A.S.LAKSHMIKANTHAN, M.Sc.,
QUALIFIED PERSON



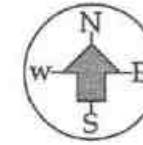
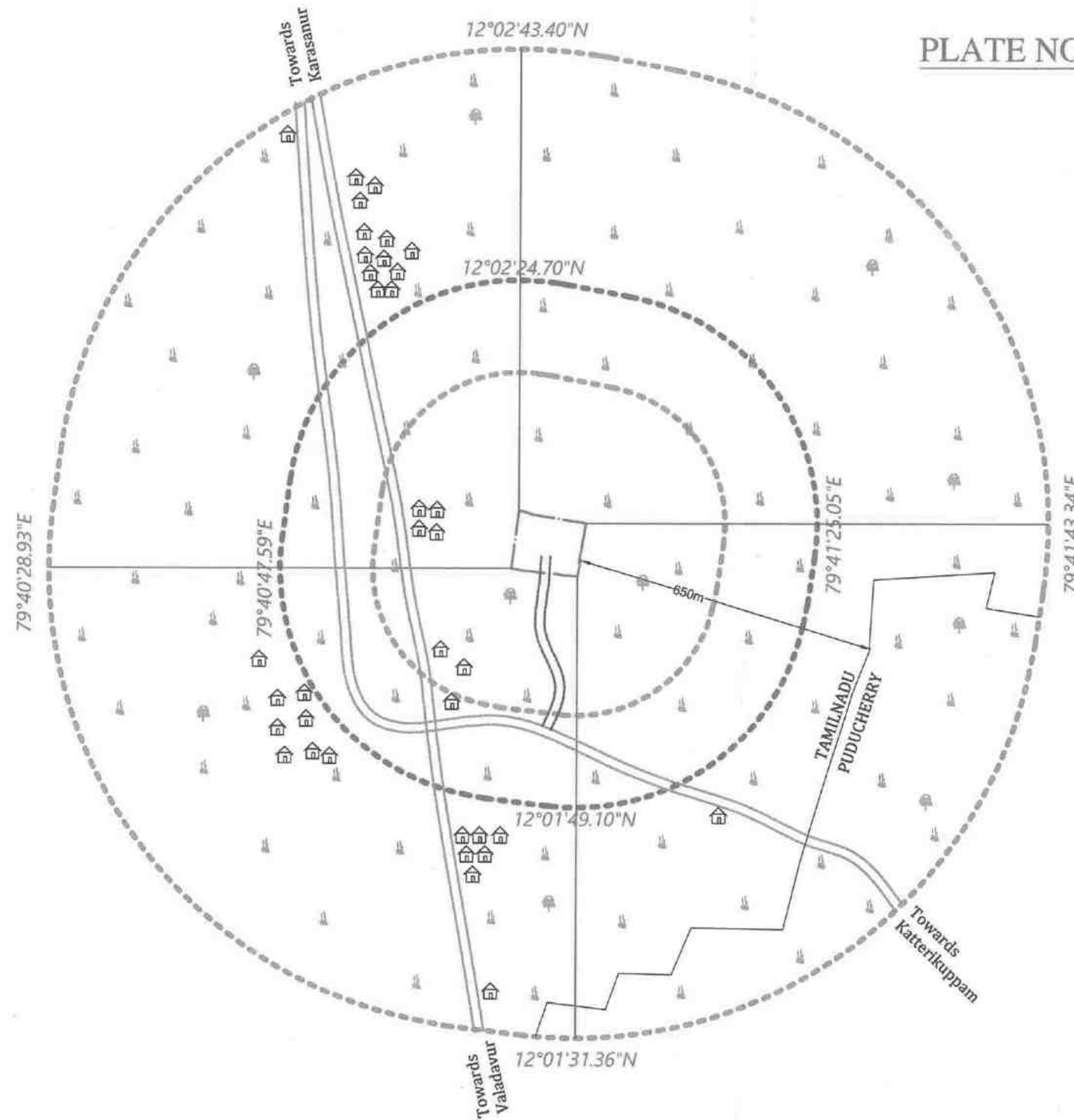


PLATE NO-IV



APPLICANT:

TMT. T.JAYAPRABA
D/O THIRUNAVUKARASU,
NO 4, SUBRAMANIYAR KOIL STREET,
SELLAPERUMALPET,
PONDICHERRY-605008

LOCATION OF LEASE APPLIED AREA

EXTENT : 1.76.0 Ha

S.F.No : 101/2

VILLAGE : KONDALANKUPPAM

TALUK : VANUR

DISTRICT : VILLUPURAM

INDEX

TOPO SHEET NO : 57 - P /12

LATITUDE : 12°02'04.95"N to 12°02'09.61"N

LONGITUDE : 78°41'03.58"E to 78°41'08.94"E

Q.L.APPLIED AREA

300m RADIUS

500m RADIUS

1Km RADIUS

APPROACH ROAD

VILLAGE ROAD

AGRICULTURAL LAND

BARREN LAND

TREES

HABITATION

STATE BOUNDARY

ENVIRONMENTAL PLAN

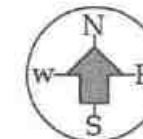
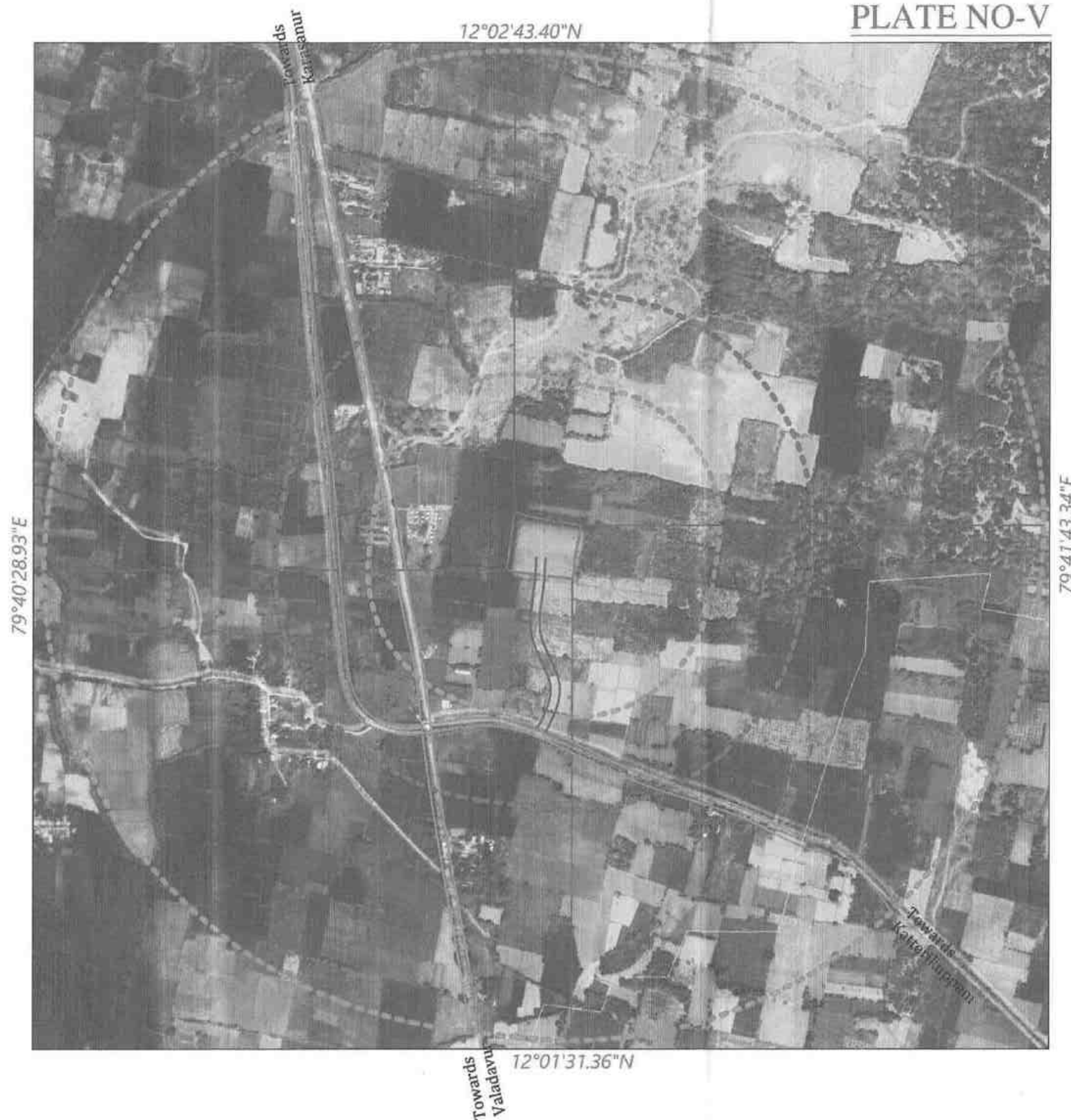
SCALE 1:10000

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE
HAS BEEN CHECKED BY ME AND IS
CORRECT TO THE BEST OF MY KNOWLEDGE

A.S.LAKSHMIKANTHAN,M.Sc.,
QUALIFIED PERSON





APPLICANT:

TMT. T.JAYAPRABA
D/O THIRUNAVUKARASU,
NO 4, SUBRAMANIYAR KOIL STREET,
SELLAPERUMALPET,
PONDICHERRY-605008

LOCATION OF LEASE APPLIED AREA

EXTENT : 1.76.0 Ha

S.F.No : 101/2

VILLAGE : KONDALANKUPPAM

TALUK : VANUR

DISTRICT : VILLUPURAM

INDEX

TOPO SHEET NO : 57 - P /12

LATITUDE : 12°02'04.95"N to 12°02'09.61"N

LONGITUDE : 78°41'03.58"E to 78°41'08.94"E

Q.LEASE APPLIED AREA	☐
300m RADIUS	☐
500m RADIUS	☐
1Km RADIUS	☐
APPROACH ROAD	☐
VILLAGE ROAD	☐

SATELLITE IMAGERY

SCALE 1 : 10000

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE
HAS BEEN CHECKED BY ME AND IS
CORRECT TO THE BEST OF MY KNOWLEDGE

A.S.LAKSHMIKANTHAN,M.Sc.,
QUALIFIED PERSON

BOUNDARY CO ORDINATES		
LABEL	LATITUDE	LONGITUDE
1	12° 02' 05.5657" N	79° 41' 03.5864" E
2	12° 02' 09.6169" N	79° 41' 04.1424" E
3	12° 02' 09.5385" N	79° 41' 04.6316" E
4	12° 02' 09.3580" N	79° 41' 05.0131" E
5	12° 02' 08.7218" N	79° 41' 08.9433" E
6	12° 02' 05.9325" N	79° 41' 08.4103" E
7	12° 02' 05.9078" N	79° 41' 08.5199" E
8	12° 02' 04.9531" N	79° 41' 08.3117" E
9	12° 02' 05.4253" N	79° 41' 04.2929" E
WGS-1984 DATUM		

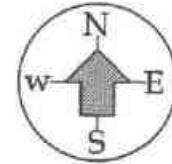
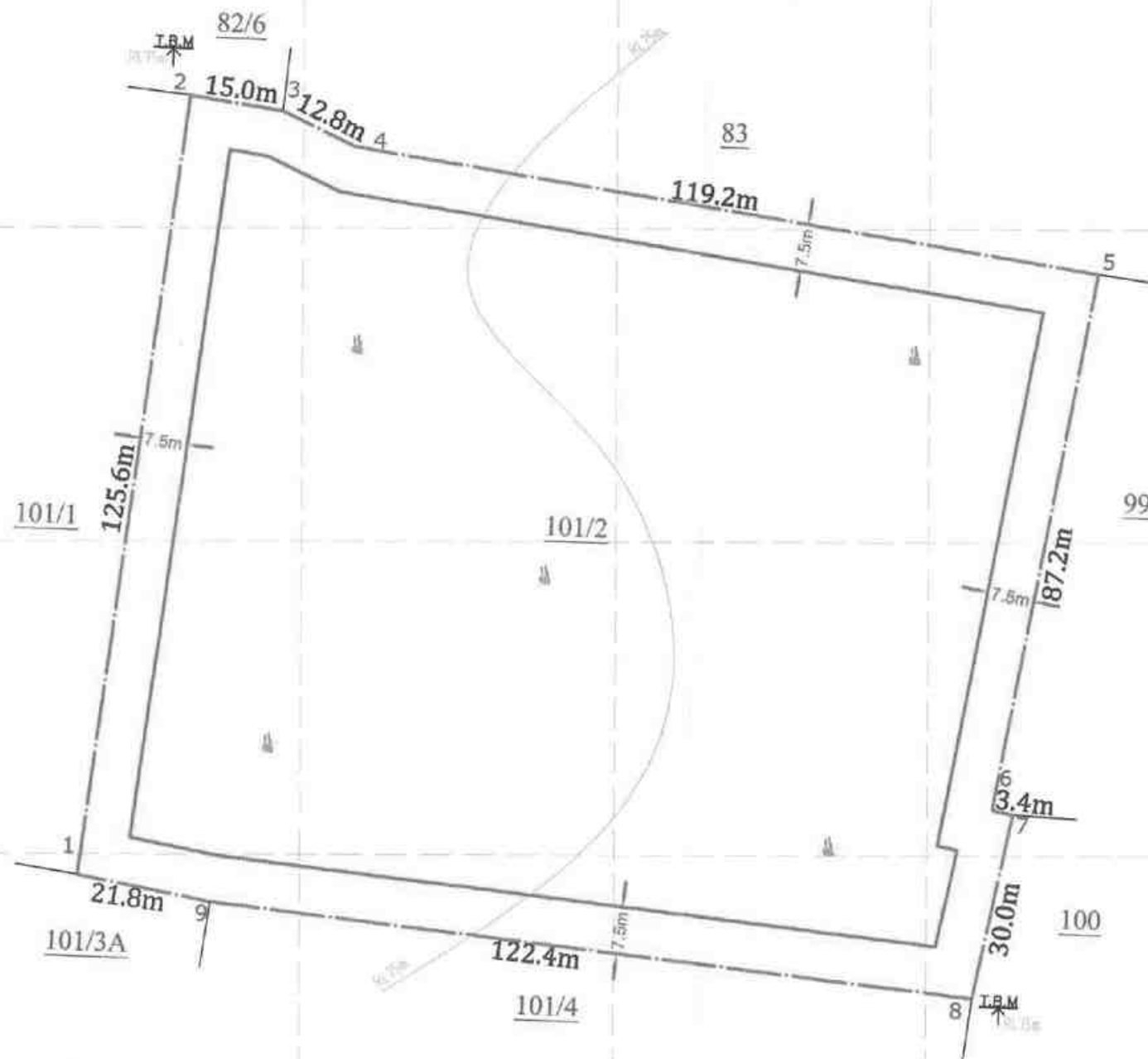


PLATE NO: V



APPLICANT:

TMT. T.JAYAPRABA
D/O THIRUNAVUKARASU,
NO 4, SUBRAMANİYAR KOIL STREET,
SELLAPERUMALPET,
PONDICHERRY-605008

LOCATION OF LEASE APPLIED AREA

EXTENT : 1.76.0 Ha

S.F.No : 101/2

VILLAGE : KONDALANKUPPAM

TALUK : VANUR

DISTRICT : VILLUPURAM

INDEX

Q.L.APPLIED BOUNDARY

7.5m, SAFETY DISTANCE

TEMPORARY BENCH MARK

APPROACH ROAD

CONTOUR

SCHRUB

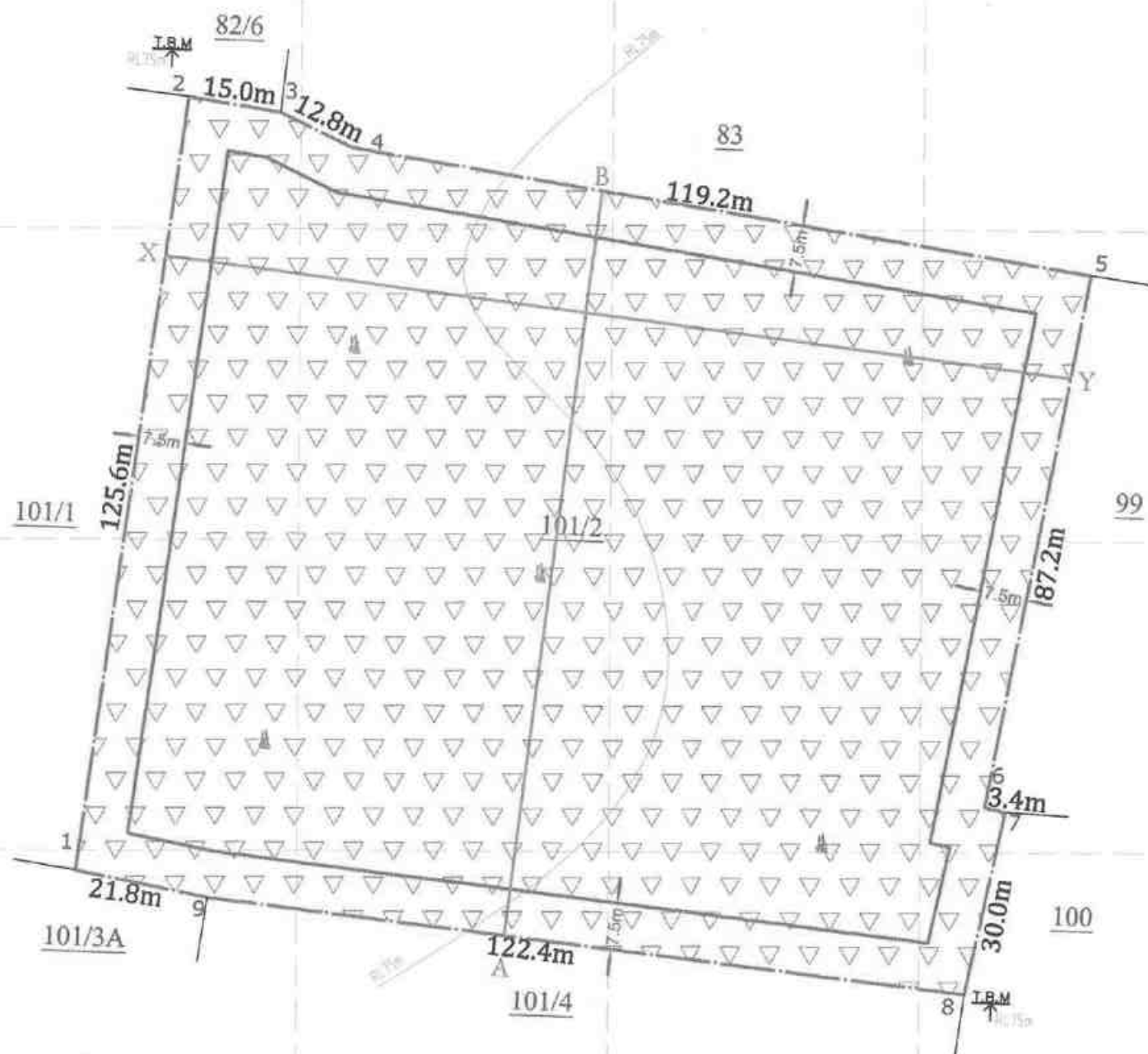
MINE LEASE & SURFACE PLAN

SCALE 1 : 1000

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE
HAS BEEN CHECKED BY ME AND IS
CORRECT TO THE BEST OF MY KNOWLEDGE

A.S.LAKSHMIKANTHAN, M.Sc.,
QUALIFIED PERSON





PONDICHERRY-605008

DISTRICT : VILLUPURAM

Q.L.APPLIED BOUNDARY	
7.5m, SAFETY DISTANCE	
TEMPORARY BENCH MARK	
APPROACH ROAD	
CONTOUR	
SCRUB	
ORDINARY EARTH	

TOPOGRAPHY, GEOLOGICAL,
YEARWISE DEVELOPMENT &
PRODUCTION PLAN & SECTION
PLAN - SCALE 1 : 1000

I DO HEREBY CERTIFY THAT THE PLATE
HAS BEEN CHECKED BY ME AND IS
CORRECT TO THE BEST OF MY KNOWLEDGE

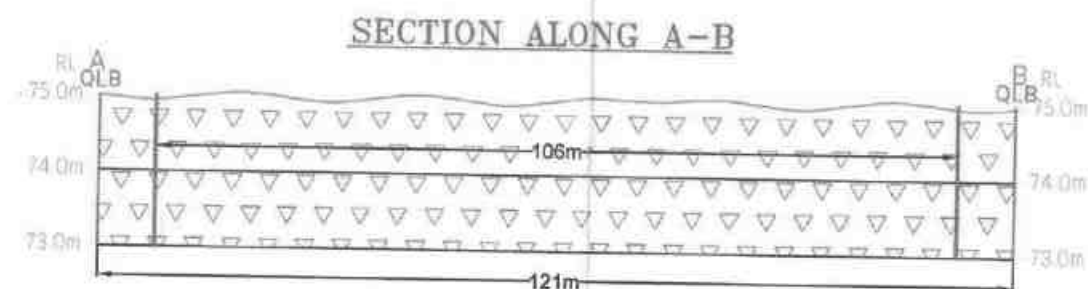
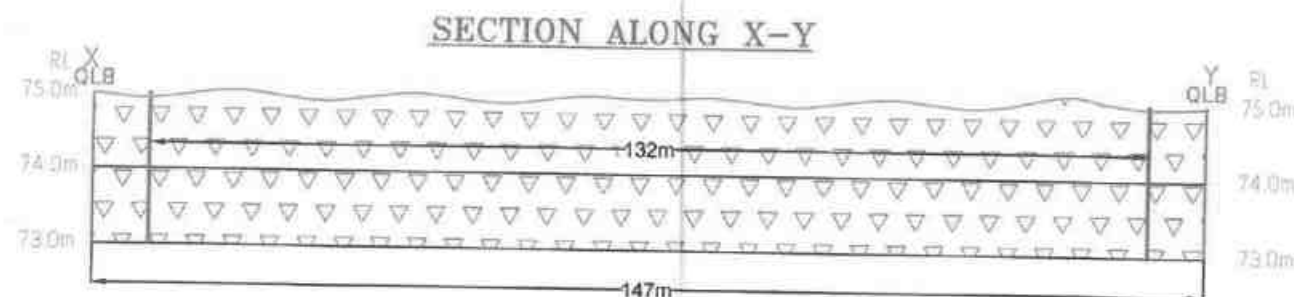
John L. ...

A.S.LAKSHMIKANTHAN,M.Sc.,
QUALIFIED PERSON

PLATE NO: VII - A
TOPOGRAPHY, GEOLOGICAL, YEARWISE DEVELOPMENT & PRODUCTION PLAN & SECTION

SECTION - HOR 1 : 1000

VER 1 : 100



GEOLOGICAL RESOURCES

Area Extent In Ha	Depth in (m)	Ordinary Earth in m ³	Bulk Density	Ordinary Earth in m ³ in (Ts)
1.76.00 X 10,000 Sq.m	5.0m	88,000	2	176000
TOTAL		88,000		176000

MINEABLE RESERVES

section	Bench	Length in (m)	Width in (m)	Depth in (m)	Ordinary Earth in m ³	Bulk Density	Ordinary Earth in m ³
XY-AB		132	106	2	27984	2	55968
TOTAL					27984		55968

PRESENT AND POST LAND USE PATTERN

DESCRIPTION	AREA REQUIRED DURING THE QUARRYING PERIOD (Ha)	NET AREA CONSIDERED FOR QUARRYING PERIOD (Ha)	COLOR INDEX
AREA UNDER QUARRYING	NII	1.39.92	
UNUTILIZED AREA	1.76.0	0.36.08	
TOTAL	1.76.0	1.76.0	

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

A.S. LAKSHMIKANTHAN, M.Sc.,
 QUALIFIED PERSON

BOUNDARY CO ORDINATES		
LABEL	LATITUDE	LONGITUDE
1	12° 02' 05.5657" N	79° 41' 03.5864" E
2	12° 02' 09.6169" N	79° 41' 04.1424" E
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4	12° 02' 09.3580" N	79° 41' 05.0131" E
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8	12° 02' 04.9531" N	79° 41' 08.3117" E
9	12° 02' 05.4253" N	79° 41' 04.2929" E
WGS-1984 DATUM		

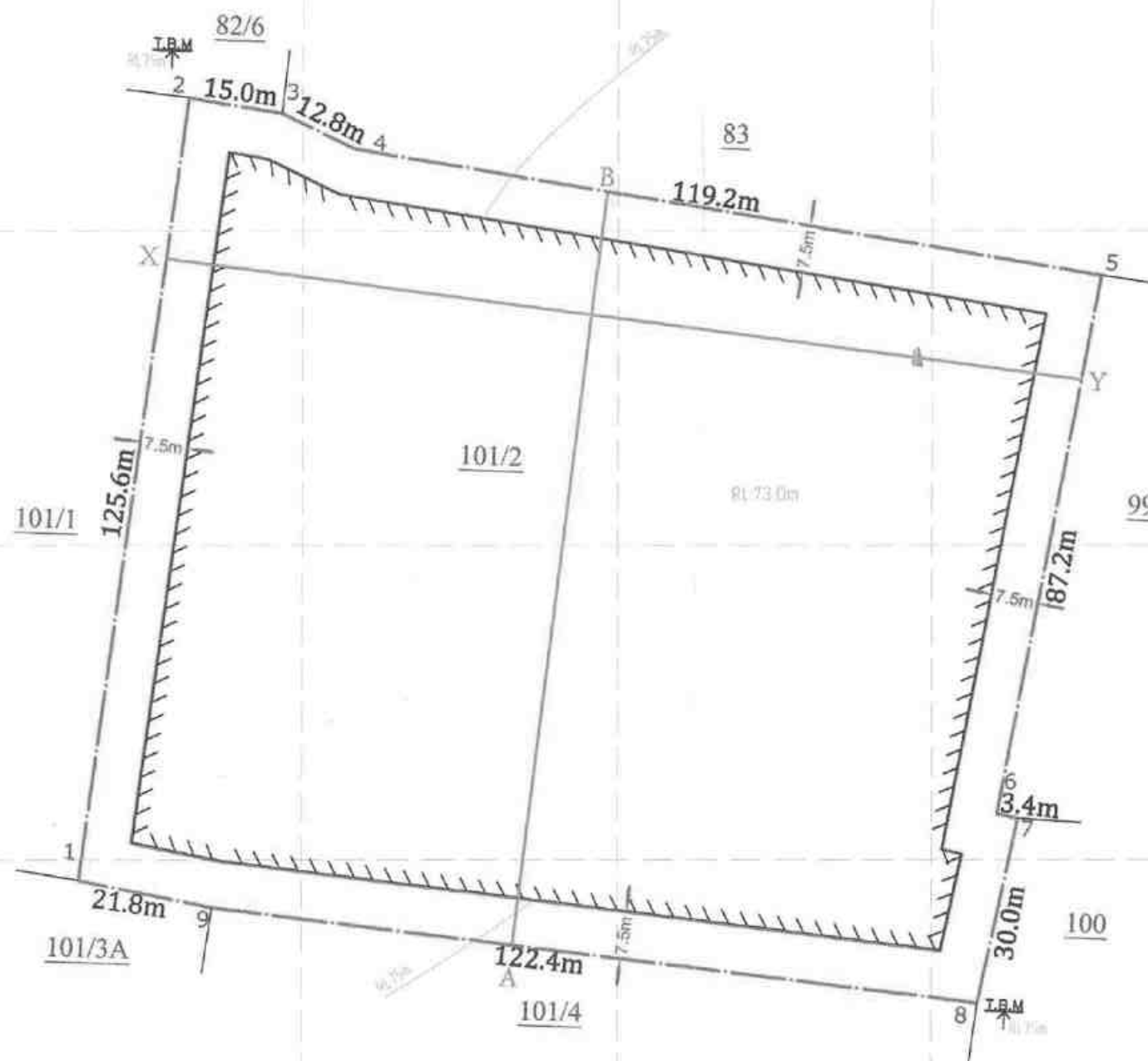


PLATE NO: VIII

APPLICANT:

TMT. T.JAYAPRABA

D/O THIRUNAVUKARASU,

NO 4, SUBRAMANIYAR KOIL STREET

SELLAPERUMALPET,

PONDICHERRY-605008

LOCATION OF LEASE APPLIED AREA

EXTENT : 1.76.0 Ha

S.F.No : 101/2

VILLAGE : KONDALANKUPPAM

TALUK : VANUR

DISTRICT : VILLUPURAM

INDEX

Q.L.APPLIED BOUNDARY

7.5m, SAFETY DISTANCE

TEMPORARY BENCH MARK

APPROACH ROAD

CONTOUR

SCHRUB

ORDINARY EARTH

PROPOSED QUARR AREA

CONCEPTUAL PLAN & SECTION
SCALE 1 : 1000

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE
HAS BEEN CHECKED BY ME AND IS
CORRECT TO THE BEST OF MY KNOWLEDGE

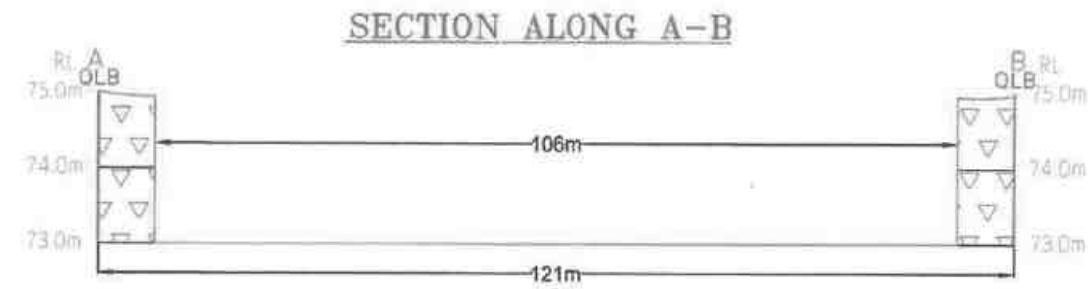
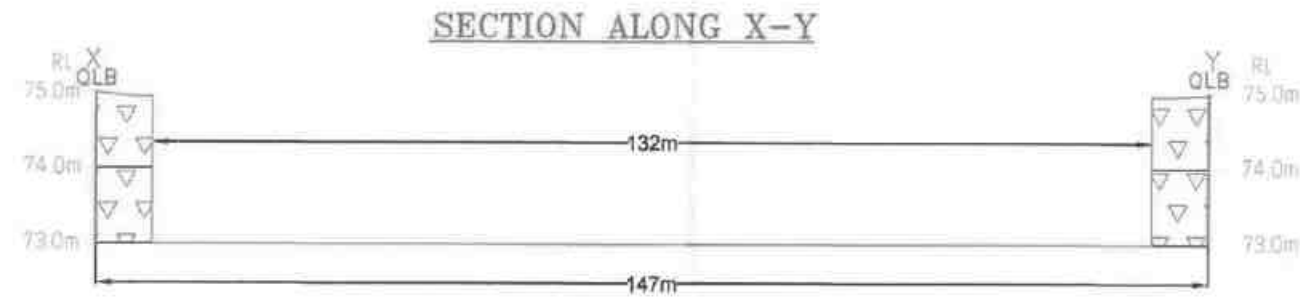
A.S. Lakshmi Kanthan

A.S.LAKSHMIKANTHAN, M.Sc.,
QUALIFIED PERSON

PLATE NO: VIII - A
CONCEPTUAL PLAN & SECTION

SECTION - HOR 1 : 1000

VER 1 : 100



Ultimate Pit Dimension			
section	Length in (m)	Width in (m)	Depth in (m)
XY-AB	132	106	2

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE
 HAS BEEN CHECKED BY ME AND IS
 CORRECT TO THE BEST OF MY KNOWLEDGE

A.S.LAKSHMIKANTHAN, M.Sc.,
 QUALIFIED PERSON

ANNEXURE-VII
VAO CERTIFICATE

சான்று

விழுப்புரம் மாவட்டம், வாஜா வட்டம், கொண்டமாங்குப்பேட்டை

கிராம நிர்வாக அலுவலர் அளிக்கும் சான்று.

புதுச்சேரி மாவட்டம் வட்டம், கதவுஎண் 04

சுப்பிரமணியன் கோவில் தெரு, புதுச்சேரி மாவட்டம் என்ற முகவரியில் வசிக்கும்
திரு. திருநாவுக்கரசு என்பவரின் மகன் திரு. வி. ஜெயபிரபா என்பவர்,
விழுப்புரம் மாவட்டம், வாஜா வட்டம், கொண்டமாங்குப்பேட்டை கிராமம்,

சர்வேஎண்: 101/2

பட்டா நிலத்தில், மொத்தபரப்பு 1.76.0 ஹெக்டர் பரப்பளவில்
வழிமண வெட்டியெடுக்க குவாரி குத்தகை அனுமதி கோரியுள்ளார்.

மேற்கண்ட குவாரி குத்தகை அனுமதி கோரியுள்ள இடத்தை சுற்றி சுமார் 300மீட்டர் சுற்றளவில் கிராம நத்த குடியிருப்பு பகுதிகள், அங்கீகரிக்கப்பட்ட வீட்டு மனைகள், கோயில்கள், புராதான வரலாற்று சின்னங்கள் மற்றும் மின்மயானங்கள் எதுவும் இல்லை குவாரி அனுமதி கோரி விண்ணப்பித்துள்ள புலத்திற்கு வண்டிகள் சென்று வரும் கிராம சாலைகளுக்கு இடையூறுகள் எதுவும் இல்லை, மேலும் பொதுமக்களுக்கோ, அருகில் உள்ள அரசு புறம்போக்கு மற்றும் பட்டாதாரர்களுக்கோ எந்தவித இடையூறுகள் இல்லை என தெரிவித்து கொள்கிறேன்.

T-4944

21C
கிராம நிர்வாக அலுவலர்
கிராம நிர்வாக அலுவலர் கையொப்பம்,
வாஜா வட்டம், விழுப்புரம் மாவட்டம்.

TOPOGRAPHICAL VIEW OF KONDALANKUPPAM VILLAGE

QUARRY LEASE APPLIED AREA



Name and Address of the Applicant: Tmt.T.Jayaprabha, D/o.Thirunavukarasu,
No.4,Subramanியar Kovil Street, Sellaparumalpet, Pondicherry- 605008.

S.F.No	: 101/2
Extent	: 1.76.0 Hectare
Village	: Kondalankuppam
Taluk	: Vanur
District	: Viluppuram
State	: Tamilnadu

G. J. A. 2/c
Attestation of the Village
Administrative Office

சிறீமதி ஜயபாதி ஜெயவரணி
65.கொண்டலாங்குப்பம்,
வானூர் வட்டம், விழுப்புரம் மாவட்டம்

T. Jayaprabha
Signature of the Applicant

ANNEXURE -VIII
AFFIDAVIT & CER DETAILS

CER Activity	Project Cost (Rs. in Lakh)	CER Cost 2.0% of Project Cost (Rs in Lakh)
Planting and maintaining Native species of Neem and Pungan trees periphery of the village haul road, Or any other recommendations by SEAC	24.82	0.50
	24.82	0.50

3. List of Other quarries within 500m radius from the periphery of the proposal

i) Details of Existing Quarries:

S. No.	Name of the Lessee / permit holder	Name of the Mineral	Taluk & Village	S.F.Nos	Extent (In Hects)	Lease Period	Remarks
1.	Thiru. S.Devamani, S/O. Subaramani, No.2A/68, Mariyamman Kovil Kadagampattu Village, Vanur Taluk, Viluppuram District	Red Earth	Vanur Taluk, Kondalankuppam Village,	69/2 70/5B 70/6 70/7B 70/8 88/2	0.95.0 0.28.5 0.55.0 0.23.0 0.65.0 <u>0.39.0</u> 3.05.5	06.10.2022 To 05.10.2025	--
2.	Thiru.B.Venkatakrishnan, S/O. Balaraman, No. 25,2 nd Cross Street, Kurumbapet, Housing Board, Pudhucherry- 605009	Ordinary Earth	Vanur Taluk, Kondalankuppam Village,	70/2 70/3 70/4 70/5A 71/3	0.11.0. 0.10.0 0.64.0 0.30.5 <u>0.38.0</u> 1.53.5	23.02.2024 To 22.02.2026	--
3.	Thiru.S.Vasantharaj, S/O. Selvaraj, No.477, Mg Road, Ramakrishna Nagar, Muthiyalpet,Puduchery	Ordinary Earth	Vanur Taluk, Kondalankuppam Village,	71/2 86 8/1	0.93.5 1.00.0 <u>1.93.5</u> 3.87.0	06.02.2025 To 05.02.2027	--

ii) Details of Proposed quarries

S. No.	Name of the lessee / permit holder	Name of the Mineral	Taluk & Village	S.F.No	Extent (In Hects)	Remarks
1.	Thiru.T.Jayapraba, S/O. Thirunavukarasu , No.04, Subramaniyar Kovil Street, Sellaperumalpet, Pondicherry - 605 008	Ordinary Earth	Vanur Taluk, Kondalankuppam Village,	101/2	1.76.0	--
				Grand Total	10.22.0	



T. Jayapraba

SIGNED BEFORE ME

D. Anbarasu
D. ANBARASU, B.A., B.L.,
ADVOCATE & NOTARY PUBLIC
GOVERNMENT OF INDIA
COMMISSIONER OF OATHS
15, CANTEEN STREET, PUDUCHERRY-1

iii) Abandoned Quarries:

S. No.	Name of the lessee / permit holder	Name of the Mineral	Taluk & Village	S.F.Nos	Extent (In Hects)	Lease Period	Remarks
-	-	-	-	-	-	-	-

4. There will not be any hindrance or disturbance to the people during transportation. No villages are en routed during transportation

5. There are no approved habitations within 300m radius from the periphery of the quarry

6. I swear that Greenbelt development will be carried out during the course of quarrying operation and maintained

7. The required insurance will be taken in the name of the labourers working in the quarry site

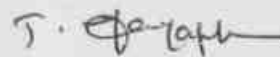
8. I will not engage any child labour in our quarry will be provided to all the laborers working in my quarry

9. I will not engage any child labour for any kind of quarry works

10. All types of safety / Personal protective equipment will be provided to all the labourers working in the quarry

11. There is no permanent structure located within 300m radius from the periphery of the quarry

I ensure to do all the social and Environment commitment as mentioned in the Mining Plan to the best of my knowledge.



T. Jayapraba

Deponent



SIGNED BEFORE ME

 15/09/2025

D. ANBARASU, BA, BL,
ADVOCATE & NOTARY PUBLIC
GOVERNMENT OF INDIA
COMMISSIONER OF OATHS
15, CANTEEN STREET, PUDUCHERRY-1

ANNEXURE IX
SOIL TEST REPORT



DEPARTMENT OF TECHNICAL EDUCATION, TAMIL NADU
GOVERNMENT COLLEGE OF ENGINEERING, DHARMAPURI- 636 704

From

The Principal,
Government College of Engineering,
Dharmapuri - 636 704.

To

R. Jayanthi, M.Sc., P.G.D.G.,
Deputy Director,
Geology and Mining,
Villupuram.

Lr. No.: GCE / DPI / CIVIL / SOIL / 2025/ C -158

Dated: 11.09.2025

Sir,

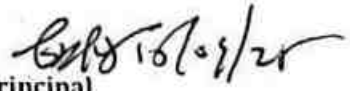
Sub.: Sieve analysis and Index properties of the soil sample- Report forwarded - Collected from Survey field No. 101/2 of Kondalankuppam Village, Vanur Taluk and Viluppuram District - Regarding.

Ref.: Roc. No.: A/G&M/84/2025

Dated: 08.09.2025

-----0000000-----

With reference to, the letter cited above, the laboratory tests were carried out on the given soil samples and the test report is enclosed for kind perusal.


Principal

Enclosure: Soil Test Report (01 Sheet)



DEPARTMENT OF TECHNICAL EDUCATION - TAMIL NADU
GOVERNMENT COLLEGE OF ENGINEERING - DHARMAPURI
DEPARTMENT OF CIVIL ENGINEERING
SOIL MECHANICS LABORATORY

CONSULTANCY REPORT

Lr. No.: GCE / DPI / CIVIL / SOIL / 2025/ C -158

Dated: 11.09.2025

Nature of test : Sieve analysis and Index properties of the soil sample

Details of soil sample
received

: One soil sample (Sample No.: 01) was reported to be collected from the Survey field No. 101/2 of Kondalankuppam Village, Vanur Taluk and Viluppuram District.

----- oOo -----

Test Results

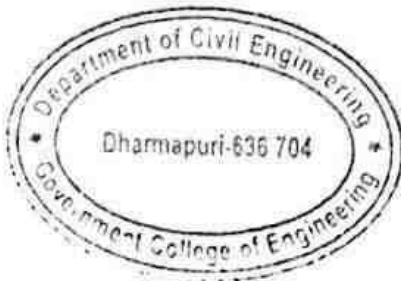
S.No	Description of Sample	Sieve Analysis			Atterberg's Limits		Organic Content (%)	Free Swell Index in (%)
		Gravel (%)	Sand (%)	Silt + Clay (%)	Plastic Limit (%)	Liquid Limit (%)		
1	Sample No.: 01	04.10	17.70	78.20	27	41	NIL	07.69

IS classification of the soil as per IS 1498 (1970): **Intermediate Compressible Silt (MI)**

Inference:

As per IS 1498 (1970), the supplied soil sample is classified as below

Sample No. 01 - **Intermediate Compressible Silt (MI)** also categorized as Earth.




Head of the Department

Dr. S. MURUGAN, M.E., Ph.D.,
Professor (Asso) & Head,
Department of Civil Engineering,
Government College of Engineering,
Dharmapuri-636 704.

Kindly Note: Any correction in the certificate not attested by the concerned authority shall invalidate this certificate

ANNEXURE-X
NABET CERTIFICATE

National Accreditation Board for Education and Training

Certificate of Accreditation

Eco Tech Labs Pvt. Ltd., Chennai

No.48, 2nd Main Road, Ram Nagar, South Extension, Pallikaranai, Chennai – 600100

The organization is accredited as **Category-A** under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 3: for preparing EIA/EMP reports in the following Sectors-

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1.	Mining of minerals including opencast mining only	1	1 (a) (i)	A
2.	Thermal power plants	4	1 (d)	A
3.	Metallurgical industries	8	3 (a)	B
4.	Synthetic organic chemicals industry	21	5 (f)	A
5.	Airports	29	7 (a)	A
6.	Industrial estates/ parks/ complexes/ Areas, export processing zones (EPZs), Special economic zones (SEZs), Biotech parks, Leather complexes	31	7 (c)	A
7.	Building and construction projects	38	8 (a)	B
8.	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated May 09, 2025 posted on QCI-NABET website.

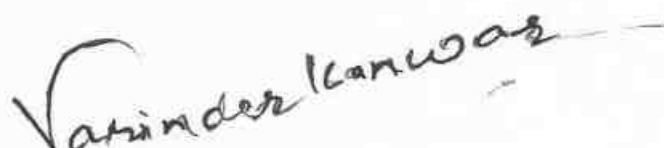
The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACO/25/3622 dated May 19, 2025. The accreditation needs to be renewed before the expiry date by Eco Tech Labs Pvt. Ltd., Chennai following due process of assessment.

Valid up to
April 10, 2028

Issue Date
May 19, 2025



Certificate No.
NABET/EIA/25-28/RA 0400


 Prof (Dr) Varinder S Kanwar
 (CEO – NABET)

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.