

DRAFT EIA / EMP REPORT

FOR

ROUGH STONE AND GRAVEL QUARRY

Extent	6.61.35 Ha
SF.Nos.	13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A
Location	SIRUNAVUR VILLAGE, VANUR TALUK, VILUPPURAM DISTRICT, TAMIL NADU
Land Type	OWN PATTA LAND
Production	15,23,080M3 OF ROUGH STONE AND 2,15,216M3 OF GRAVEL UP TO 59M DEPTH FOR 10 YEARS LEASE PERIOD.

- Terms Identification No – TO26B0108TN5722346N dated 05/03/2026
- Baseline Monitoring– Winter Season(December -2025 to February 2026)

PROJECT PROPONENT

**M/S. TAAMAESEK ENGINEERING CONSORTIUM,
NO. 5, BISHOP WALLERS AVENUE WEST,
MYLAPORE, CHENNAI**

CONSULTANT

CREATIVE ENGINEERS & CONSULTANTS



****ABET ACCREDITED CONSULTANCY, NABL ACCREDITED TESTING LAB**

9B/4, Bharathwajar Street, East Tambaram, Chennai-600059.

Mobile: 09444133619 Email : cecgiri@yahoo.com,

Date: 29.04.2026

From,
M/s. TAAMAESEK ENGINEERING CONSORTIUM,
No. 5, Bishop Wallers Avenue West,
Mylapore, Chennai.

To
District Environmental Engineer (Viluppuram District)
TamilNadu Pollution Control Board,
Collectorate multi complex 695 602,
Viluppuram, Tamil Nadu 605403.

Sub: Submission of Draft EIA/EMP report and Summary for Rough stone and Gravel Quarry of M/s. TAAMAESEK ENGINEERING CONSORTIUM, Survey No. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A over an area of 6.61.35Ha in Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu– Public Hearing_Reg

Ref: ToR granted by SEIAA, Tamil Nadu vide letter No - TO26B0108TN5722346N dated 05/03/2026

Sir,

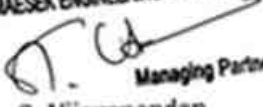
With reference to the above mentioned subject, I am herewith submitting the Draft EIA/EMP report and Summary of EIA/EMP report in English and Tamil for **Rough stone and Gravel Quarry of M/s. TAAMAESEK ENGINEERING CONSORTIUM, Survey No. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A over an area of 6.61.35Ha in Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu.** As per the terms of reference issued by SEIAA, Tamil Nadu referred to as (1) above, point no. 39 stipulates conduction of public hearing. Hence, I request you to consider conducting a public hearing for my project at the earliest.

Here with enclosed D.D No – dated for public hearing.

Thank you.

Yours Faithfully,

For S. Vijayanandan Managing Partner
M/s. TAAMAESEK ENGINEERING CONSORTIUM

M/s. TAAMAESEK ENGINEERING CONSORTIUM
For TAAMAESEK ENGINEERING CONSORTIUM

Managing Partner
S. Vijayanandan
Managing Partner

Date: 29.04.2026

DRAFT EIA/EMP REPORT FOR ROUGHSTONE & GRAVEL QUARRY OF M/s. TAAMAESEK ENGINEERING CONSORTIUM IN S.F.NOS. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A OVER AN AREA OF 6.61.35HA IN SIRUNAVUR VILLAGE, VANUR TALUK, VILUPPURAMDISTRICT, TAMIL NADU.

REVISIONS OF EIA/EMP REPORT

Revision number	Report Status	Date of submission
00/APR/26	Draft EIA /EMP Report	29.04.2026

Environmental Impact Assessment & Environmental Management Plan Report for Rough Stone and Gravel Quarry over an area of 6.61.35Ha in Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu was prepared by Creative Engineers & Consultants and authorized for submission by Mr.B.Swamynathan, EIA-Coordinator on 29.03.2026 after due review by the personnel and consultation with the project proponents. Current Revision number of the EIA/EMP report is 00/APR/26, signifying as per the revision mentioned in the above table that this is a draft EIA/EMP report.

Signature:

B.Swamynathan

Date: 29.04.2026



PROJECT PROPONENT DECLARATION

I, Thiru. S. Vijayanandan Managing Partner of M/s. TAAMAESEK ENGINEERING CONSORTIUM received Terms of Reference under EIA Notification 2006 from SEIAA, Tamil Nadu vide their letter No - TO26B0108TN5722346N dated 05/03/2026 for Rough stone and Gravel Quarry of M/s. TAAMAESEK ENGINEERING CONSORTIUM, Survey No. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A over an area of 6.61.35Ha in Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu.

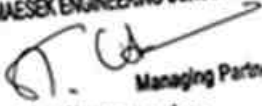
We have entrusted the EIA study to M/s. Creative Engineers & Consultants (CEC), Chennai who have been accredited by the National Accreditation Board for Education & Training (NABET), Quality Council of India with their accreditation valid upto 23.12.2026

The Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) have been prepared as per the generic structure proposed in the EIA notification 2006, ToR issued by SEIAA, Tamil Nadu. The prescribed ToR along with compliance is also incorporated in the EIA/EMP Report.

This report is prepared based on the information and data obtained from the Mining Plan and other records and the field study carried out by various consultant that have been engaged. The data given in the EIA/EMP report are factually correct to the best of my knowledge.

Signature:

**For S. Vijayanandan Managing Partner
M/s. TAAMAESEK ENGINEERING CONSORTIUM**

M/s. TAAMAESEK ENGINEERING CONSORTIUM
For TAAMAESEK ENGINEERING CONSORTIUM

Managing Partner
S. Vijayanandan
Managing Partner

Date: 29.04.2026



CREATIVE ENGINEERS & CONSULTANTS

(NABET ACCREDITED, NABL ACCREDITED TESTING LABORATORY,
DEPARTMENT OF INDUSTRIES AND COMMERCE REGISTERED COMPANY)

EIA Consultant Undertaking

[In compliance with MoEF Office Memorandum No. J-11013/41/2006-IA.II (I) dated 04.08.2009]

Creative Engineers & Consultants (CEC) is an NABL accredited testing Laboratory, and also NABET accredited Category-A environment consultancy organization for preparing EIA/EMP reports for the sectors Mining of minerals, Thermal power plants, Mineral Beneficiation & Cement plants.

CEC has been accredited by the National Accreditation Board for Education & Training (NABET), Quality Council of India for empanelment of EIA Consultants with accreditation valid upto 23.12.2026.

Thiru. Thiru. S. Vijaynandan received Terms of Reference under EIA Notification 2006 from SEIAA, Tamil Nadu vide their letter No - TO26B0108TN5722346N dated 05.03.2026 for Rough stone and Gravel Quarry of M/s. TAAMAESEK ENGINEERING CONSORTIUM, Survey No. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A over an area of 6.61.35Ha in Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu.

The prescribed TOR is complied with and incorporated in the EIA Report and submitted. This report is based on the information and data obtained from Approved Mining Plan, other records and data from the field study sample analyses are carried by CEC. The data generated and given in the EIA/EMP Report are factually correct.

(P. Giri)

Chief Executive & EIA Coordinator

Creative Engineers & Consultants

Date: **29.04.2026**

Annexure – VII

Declaration by Experts contributing to the EIA Report for

Rough stone and Gravel Quarry of M/s. TAAMAESEK ENGINEERING CONSORTIUM, Survey No. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A over an area of 6.61.35Ha in Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu.

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

EIA coordinator:

Name: **B.Swamynathan**

Signature and Date:



Period of involvement: **November 2025 onwards**

Contact information: **09444133619**

Functional area experts:

S. No.	Functional areas	Name of the expert/s	Involvement (period and task**)	Signature and date
1	AP	P.Giri	• Identification of baseline monitoring stations and study of the monitored data with respect to the applicable standards. • Identification of sources of air pollution comprising dust, gaseous emission due to mining & other activities • Identification of Impacts & suggestion of mitigation measures Period: December 2025 onwards	
		B.Swamynathan	• Data interpretation of Micro meteorological data for wind rose. • Identification of polluting source and suggestion of suitable mitigation measures. Period: November 2025 onwards	

2	WP	G.Sandhya	• Study of the monitored data with respect to the applicable standards. • Identification of Water requirement & Source • Preparation of water balance diagram • Identification of Water polluting sources • Impact of the project on the water quality, both surface and groundwater • Suggestion of Mitigation measures to control water pollution Period: December 2025 onwards	
3	SHW	P.Giri	• Quantification of mineral & waste from mining operation • Waste disposal method evaluation • Providing dump management plan • Providing Surface Runoff Management Structure Requirements. • Identification of Hazardous waste and its details of disposal Period: December 2025 onwards	
4	SE	R.Baburaj	• Identification of villages in the study area and finalization of demographic profile of the villages within the study area. • Preparation of sections relevant to SE functional area in the EIA/EMP report Period: December 2025 onwards	
5	EB	B.Swamynathan	• Perusal of existing data relevant to this project. • Studying the details of flora and fauna, separately for core, buffer zone and forest area based on primary field survey. • Identification of species , Indicating the Schedule of the fauna present in the study area • Assessment of impact on Biological environment and suggestion of mitigative measures • Collecting & providing details of existing and proposed Green belt development /plantation in the core zone Period: November 2025 onwards	
6	HG	N.Suresh	• 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	

			• Perusal of site specific ground water table details for the core zone and the study area. • Studied the hydrological aspects of surface and groundwater in study area • Study about impact on the hydrology due to mining operation • Suggesting mitigative measures like RWH for enhancement of ground water level Period: December 2025 onwards	
7	GEO	N.Suresh	• Study of geology of the ML area and the surrounding areas. • Provide details about Mineral composition Period: December 2025 onwards	N Suresh
8	SC	B.Swamynathan	• Study of soil profile • Assessment of Impact on soil and suggesting plantation scheme. Period: November 2025 onwards	B.Swamynathan
9	AQ	G.Sandhya	• Quantification of emission particulars • Air quality modelling for post project impact on the air quality prediction of the study area. Analysis of the Isopleth generated • Arriving at the post project concentration at the AAQ monitoring locations • Preparation of meteorological data in suitable form for input into the model • Simulation of model for generation of Isopleth and data interpretation. • Studying the impact on AAQ monitoring locations due to the generated emissions. • Preparation of sections relevant to AQ functional area in the EIA/EMP report. Period: December 2025 onwards	G.Sandhya
10	NV	P.Giri	• Identification of baseline monitoring stations and study of the monitored data with respect to the applicable standards. • Predict the noise level and vibration level due to proposed mining operation based on scientific evaluation. • Suggesting the Mitigation measures to control noise pollution, Suggesting the Mitigation measures to	P.Giri

			control ground vibration Period: December 2025 onwards	
11	LU	B.Swamynathan	• Collection of Remote sensing satellite data to study the land use pattern. • Primary field survey and limited field verification • Preparation of Land use map using Satellite data of the project area separately for the core zone and the buffer zone and providing the land use pattern. Period: November 2025 onwards	
12	RH	K.Shankar & G.Sandhya	• Identified Major risks involved in the project Mitigation measures suggested to avoid risk. • Preparation of onsite and offsite emergency management plan Period: December 2025 onwards	

*One TM against each FAE may be shown

**Please attach additional sheet if required

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

I, **P.Giri** hereby, confirm that the above mentioned experts prepared the EIA report for **Rough stone and Gravel Quarry of M/s. TAAMAESSEK ENGINEERING CONSORTIUM, Survey No. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A over an area of 6.61.35Ha in Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu.**

I also confirm that EIA Coordinator (EC) has gone through the report, and the consultant organization shall be fully accountable for any misleading information. It is certified that no unethical practices, plagiarism involved in carrying out the work and external data / text has not been used without proper acknowledgement while preparing this EIA report.

Signature: 

Name: **P.Giri**

Designation: **Chief Executive**

Name of the EIA consultant organization: **Creative Engineers & Consultants, Chennai – 59**

NABET Certificate No. & Issue Date: **No- NABET/EIA/23-26/RA 0331 & date 23.12.2026**

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TERMS OF REFERENCE & ITS COMPLIANCE



File No: 13284
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA),
TAMIL NADU)



Dated: 05/03/2026



To,

Thiru. S. Vijaynandan
M/S. TAAMAESEK ENGINEERING CONSORTIUM
No. 5, Bishop Wallers Avenue West, Mailapore, Chennai-600004. TAMIL NADU.
vijayanandan@taamaesek.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 Rough Stone and Gravel quarry over an extent of 6.61.35 Ha in S.F. Nos. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A of Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu by **M/s. Taamaesek Engineering Consortium** - 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/565313/2026 Dated 13/01/2026.
2. Your application submitted for Terms of Reference dated: 20.01.2026.
3. Minutes of the 675th SEAC-1 meeting held on 04.02.2026.
4. Minutes of the 970th SEIAA meeting held on 26.02.2026.

2. The particulars of the proposal are as below:

(i) TOR Identification No.	TO26B0108TN5722346N
(ii) File No.	13284
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals
(vii) Name of Project	ROUGHSTONE & GRAVEL QUARRY OF M/s. TAAMAESEK ENGINEERING CONSORTIUM
(viii) Name of Company/Organization	Taamaesek Engineering Consortium
(ix) Location of Project (District, State)	VILLUPURAM, TAMIL NADU
(x) Issuing Authority	SEIAA
(xi) Applicability of General Conditions	no

1. In view of the particulars given in the Para 1 above, the project proposal interalia 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 26.02.2026. 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 **M/s. Taamaesek Engineering Consortium** 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 Chairperson, 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. Seac Conditions - Site Specific

S. No	Terms of Reference
1.1	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:

S. No	Terms of Reference
	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.

2. Seac Standard Conditions

S. No	Terms of Reference
2.1	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. 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.

S. No	Terms of Reference
	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, 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

S. No	Terms of Reference
	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 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

S. No	Terms of Reference
	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.

3. Seiaa Specific Conditions :

S. No	Terms of Reference
3.1	After detailed discussions, the Authority accepts the recommendation of SEAC-I and decided to grant Terms of Reference (ToR) along with Public Hearing for the quantity of 15,23,080 m³ of Rough Stone and 2,15,216 m³ of Gravel up to the depth of 59m BGL and the annual peak production should not exceed 1,94,440 m³ of Rough Stone & 72,240 m³ of Gravel 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 & the SEIAA Standard conditions.

4. Seiaa Standard Conditions :

S. No	Terms of Reference
4.1	<u>Cluster Management Committee</u> - 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. - The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc., - 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. - 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. - 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. - 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. - The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner. - 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>

S. No	Terms of Reference
	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 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

S. No	Terms of Reference
	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> 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

S. No	Terms of Reference
	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 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)
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 Expert Appraisal Committees
1.13	Status of forestry clearance for the broken up area and virgin forestland involved in the Project

S. No	Terms of Reference
	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
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)

S. No	Terms of Reference
	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
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

S. No	Terms of Reference
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 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

S. No	Terms of Reference
	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 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 COMPLIANCE

S.No	ToR Points	Reply	Pg.No
1. SEAC CONDITIONS - SITE SPECIFIC			
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: - Copy of the agreement forming CMC. - The Organisation chart of the Committee with defining the role of the members - 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 photograph/video graphic evidence along with the EIA report.	Environmental Management Cell of projects in the cluster will act as a Cluster Management Committee. The various activities to be undertaken by this committee are detailed in para 10.2.2, Chapter – X. • Affidavit in this regard will be submitted during EIA appraisal.	10-3
2. SEAC STANDARD CONDITIONS			
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: - Original pit dimension - Quantity achieved Vs EC Approved Quantity - Balance Quantity as per Mineable Reserve calculated. - Mined out Depth as on date Vs EC Permitted depth - Details of illegal/illicit mining - Violation in the quarry during the past working. - Quantity of material mined out outside the mine lease area - Condition of Safety zone/benches - Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.	• Fresh lease. No mining carried out in the lease so far.	2-14
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.	• Letter from VAO is obtained and given as Annexure –12 .	A-37
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)	• Details of the features within 500m radius are provided in Figure 2.7, Chapter-II.	2-9



DRAFT EIA/EMP REPORT FOR ROUGHSTONE & GRAVEL QUARRY OF M/s. TAAMAESEK ENGINEERING CONSORTIUM IN S.F.NOS. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A OVER AN AREA OF 6.61.35HA IN SIRUNAVUR VILLAGE, VANUR TALUK, VILUPPURAMDISTRICT, TAMIL NADU.

S.No	ToR Points	Reply	Pg.No
	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.	• Hydrogeological Study is detailed under Section 3.6, Chapter-III.	3-45
5	The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.	• A detailed study of flora and fauna composition in the core and buffer zone of the project has been made through primary field surveys. The details are furnished in para 3.5, Chapter III.	3-36
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.	• There area no Protected Areas, Sanctuaries, Tiger reserve etc., within 10km Radius.The details are furnished in Table no 3.2, Chapter III.	3-3
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.	• This is a proposed quarry. No mining activities have been carried out in this lease area.	2-14
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.	• Pit slope stability plan has been provided under Section 7.7, Chapter-VII	7-6
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.	• Will be submitted along with the final report	--
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.	• Controlled blasting will be adopted in this project and details of the same has been provided in Section 4.4.2, Chapter-IV	4-15
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	• Agreed	--



DRAFT EIA/EMP REPORT FOR ROUGHSTONE & GRAVEL QUARRY OF M/s. TAAMAESEK ENGINEERING CONSORTIUM IN S.F.NOS. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A OVER AN AREA OF 6.61.35HA IN SIRUNAVUR VILLAGE, VANUR TALUK, VILUPPURAMDISTRICT, TAMIL NADU.

S.No	ToR Points	Reply	Pg.No
	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,	• This is a proposed quarry. No mining activities have been carried out in this lease area.	2-14
13	What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?	• Replied above in point no.12	--
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.	• Replied above in point no.12	--
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).	• Project coordinates superimposed in satellite imagery and given as Figure No - 2.4 in Chapter – II. • The 10km Radius Index plan showing buffer zone is given in Figure No.3.1 in Chapter – III. • Geology Map, Geomorphology, Lithology map are enclosed as Figure No.3.16, 3.17 and 3.18, Chapter-III.	2-6 3-2 3-46& 3-48
16	The PP shall carry out Drone video survey covering the cluster, Green belt, fencing etc.,	• Agreed	--
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.	• Site photographs have been provided in Chapter-II.	2-7
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 proposed mitigation measures for the same.	• The details of geological and mineable reserves are provided in Table 2.3, Chapter-II. • The production schedule is provided in Table 2.7, Chapter-II. • The working methodology is detailed under Section 2.8, Chapter-II. • Anticipated impacts of mining operations on surrounding environment is provided under Chapter-IV.	2-12 2-16 2-18 4-1
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	• The organization chart has been provided in Figure No.10.1, Chapter-X.	10-3



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S.No	ToR Points	Reply	Pg.No
	provisions of 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 ground water 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.	• Details of hydrogeological scenario of this project is provided under section 3.6, Chapter-III.	3-45
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 baseline data on micro-meteorology, ambient air quality, Water quality, noise level, soil and flora & fauna are collected during Winter Season (December 2025 to February 2026) and detailed in Section 3.3 to 3.5 of Chapter-III. The details of Traffic Study is provided under Section 4.9, Chapter-IV.	3-12 & 3-36 4-24
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.	• The details of the quarries located within the 500m radius of the project is given vide Annexure-3. • A cumulative impact study has been carried out and furnished in Para 7.6, Chapter-VII. • Environmental Management Plan is provided under Chapter-X.	A-16 7-5 10-1
23	Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.	• The rain water falling in the quarries will be harvested in the sump at the lowest level of the respective quarry. This sump will act as a settling pond to prevent solids escaping along with discharge, before outlet. etc. • Towards surface runoff management, garland drain will be constructed which will be connected to settling ponds with silt traps. • Water requirement for this project is 12 KLD. The required water will be procured initially from outside agencies. Later Rain water harvested in the mine sump can also be used. • Details of rainwater harvesting are provided under Section 4.3.4.2, Chapter-IV.	4-12



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S.No	ToR Points	Reply	Pg.No
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.	• The land use of the study area was studied to demarcate various LULC categories and its details are provided under section 3.4, Chapter-III. • The land use pattern at present and at the end of the quarrying period has been provided under section 4.5.1, Chapter-IV. • The post mining land use has been provided in Table No. 4.13. The post mining land use plan showing afforestation and water body is shown in Figure No- 4.5.	3-30 4-17 4-21
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.	• There is no waste generation anticipated in this quarry. As such there are no OB dumps involved.	--
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.	• Not Applicable	--
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 rain water falling in the quarry will be harvested in the sump at the lowest level of the quarry. This sump will act as a settling pond to prevent solids escaping along with discharge, before outlet. etc. • Towards surface runoff management, garland drain will be constructed around the quarry and will be connected to a settling pond with silt traps. The supernatant clear water from the settling pond will be flow to the downstream users. The surface runoff management structures diagram is given in Figure No 4.4, Chapter-IV. • The methods for reducing water consumption and rainwater harvesting is provided in section 4.3.4, Chapter-IV.	4-10 4-11
28	Impact on local transport infrastructure due to the Project should be indicated.	• From this proposed quarry the entire output will be transported to the crusher units and other buyers etc. The production 9 trip per hour of additional truck traffic. The existing road can absorb this traffic due to this project Details are provided under section 4.9, Chapter-IV.	4.24



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S.No	ToR Points	Reply	Pg.No
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.	• An ecological survey of the study area was conducted with reference to listing of species and assessment of the existing baseline ecological conditions. Details are provided under section 3.5.1, Chapter-III.	3-36
30	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.	• Details of Mine Closure Plan is provided under section 7.5, Chapter-VII.	7-4
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.	• An ecological survey of the study area was conducted with reference to listing of species and assessment of the existing baseline ecological conditions. Details are provided under section 3.5.1, Chapter-III.	3-36
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.	• Agreed	--
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.	• Agreed	--
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.	• The disaster management plan has been provided under section 7.3.1, Chapter-VII.	7-3
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.	• Various risks likely to arise due to mining activities are detailed under section 7.3, Chapter-VII.	7-1
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.	• Details of occupational health and safety aspects are given under the subsections of Para 4.8, Chapter-IV.	4-22
37	Public health implications of the Project and related activities for the population in the impact zone should be	• Details of the socio-economic survey conducted in the buffer zone has been	3-10



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S.No	ToR Points	Reply	Pg.No
	systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	provided in Para 3.2.3, Chapter-III. • Public health facilities will be further aimed to be developed through CER activities wherein periodic health checkups, medical camps for the locals will be conducted.	
38	The Socio-economic studies should be carried out within a 5 km 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. As far as possible, quantitative dimensions may be given with time frames for implementation.	• Nearby villages were visited for conducting study to know about socio-economic conditions, including aspirations and requirements of the people for a better living and collected relevant data. The details are provided under section 3.2.3.2, Chapter-III.	3-10
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.	• PP informed that there is no litigation pending against the project.	--
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.	• The Roughstone and Gravel Quarry will benefit this region in the fields of employment opportunities, improved per capita income for local people, improved social welfare facilities in respect of education, health, infrastructural etc. • Direct employment to about 48 people and indirect employment to scores of people. • By means of carrying out the socio-economic development activities, local community development is expected. Towards the same, the proponent has planned to allocate Rs.5 Lakhs for various activities under CER. From the CER activities allocated for various social welfare activities, the villages near the lease area will be benefited.	8-1
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/TNPCCB.	• This is a proposed quarry. As such no mining activities have been carried out in this lease area.	2-14
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.	• EMP is prepared for the entire life of the mine. Affidavit will be provided along with the final EIA/ EMP report.	--
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.	• Agreed	--

3. SEIAA SPECIFIC CONDITONS



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1	After detailed discussions, the Authority accepts the recommendation of SEAC-I and decided to grant Terms of Reference (ToR) along with Public Hearing for the quantity of 15,23,080 m ³ of rough stone & 2,15,216 m ³ of gravel upto the depth of 59m BGL and the annual peak production not exceed 1,94,440 m ³ of Rough Stone & 72,240 m ³ of Gravel 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 & the SEIAA Standard conditions.	•	
4. SEIAA STANDARD CONDITONS			
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.	• Details of the cluster management committee is provided under Section 10.2.2, Chapter-X.	10-3
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.,	• Agreed	-
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	-
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	-
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.	• Agreed	-
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.	• Agreed	-
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	-



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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	-
Agriculture & Agro-Biodiversity			
9	Impact on surrounding agricultural fields around the proposed mining Area.	• Since the lease and its nearby area is of rocky type , it remain uncultivated and only in patches of land away from the lease area, agricultural activities are carried during monsoon rainfall. Due to poor quality of the soil, inconsistent rainfall, high agricultural labor cost, manpower shortage and less yield are reason for very little agricultural activity in this region. By adoption of systematic mining adhering to all the environmental mitigation measures as explained earlier, no adverse impact on the far away agricultural or surrounding environs envisaged.	4-18
10	Impact on soil flora & vegetation around the project site.	• The impact of mining on biological environment is provided under Table 4.14, Chapter-IV.	4-18
11	Details of type of vegetations including 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.	• The details of flora in the core zone is provided in Table 3.24, Chapter-III. There is no major clearance of vegetation or transplantation involved.	3-44
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.	• An ecological survey of the study area was conducted with reference to listing of species and assessment of the existing baseline ecological conditions. Details are provided under Section 3.5.1, Chapter-III.	3-36
13	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	• The post mining land use has been provided in Table No. 4.14.	4-18
14	The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.	• Replied in sl no 13 above.	4-18
Forests			
15	The project proponent shall detailed study on impact of mining on Reserve forests free ranging wildlife.	• There are no reserve forest within 10km radius and as such no impact on this front envisaged.	--
16	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	• An ecological survey of the study area was conducted with reference to listing of species and assessment of the existing baseline ecological conditions. Details are provided under Section 3.5.1, Chapter-III.	3-36



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17	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.	• Replied in point 20. Above	--
18	The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.	• There are no national parks or corridors in the 10k radius. There are no reserve forest in the proximity of the lease area	3-2
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, 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.	• The details of hydrogeological study is provided under Section 3.6, Chapter-III.	3-45
20	Erosion Control measures.	• Since the entire material from the quarry face will be directly dispatched to the consumers, there will not be any stockpiles. There are no waste dumps in this quarry. As such there will not be any wash out due to stock pile or waste dumps. • Towards surface runoff management, a garland drain will be constructed around the quarry and will be connected to a settling pond with silt traps. The supernatant clear water from the settling pond will be flow to the downstream users	4-9
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.	• There is no proposal to discharge any effluent into this waterbody. No major impact is envisaged on the nearby water bodies due to project operations	11-11
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 major perennial waterbody in close proximity of the lease area.	7-3
23	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.	• The post mining land use has been provided in Table No. 4.13. The post mining land use plan showing afforestation and water body is shown in Figure No- 4.5.	4-17 4-21



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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.	• An ecological survey of the study area was conducted with reference to listing of species and assessment of the existing baseline ecological conditions. Details are provided under section 3.5.1, Chapter-III.	3-36
25	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.	• Soil samples were collected in 5 locations in the core and buffer zone to analyse the physiochemical characteristics of the soil in the area. The soil quality data is provided in Table No.3.17, Chapter-III.	3-29
26	The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.	• The nearest major water bodies is provided in Table No.3.1, Chapter-III. • There are no perineal water courses in lease areas. • Small drainage is shown in lease periphery west & south side in the village map and FMB , but not actually present. Besides, entire lease area is patta land of the proponent. Still it is proposed to ensure proper surface runoff measures through garland drain in the lease periphery to ensure proper rainwater flow The mining area consists of hard compact rock, hence no major water seepage within the mine is expected from the periphery. The ground water table in this area is below the ultimate pit level. Hence, ground water intersection in not envisaged and ground water will not be affected appreciably due to the quarrying operation.	3-1



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 foot prints including environmental stress. c) Sediment geochemistry in the surface streams.	d) As such the production from this lease is very low to cause any appreciable impact. e) Besides, as is it a mining project, no adverse generation of heat is envisaged. f) Certified vehicles with low carbon emissions will only be used. These equipments will be properly and regularly maintained. Besides, regular vehicular emission tests will be done for the transport vehicles to ensure minimal impact due to carbon emissions. To further mediate the carbon emissions, a good greenbelt and plantation plan has been planned. g) Geologically the area in and around the lease area contains charnokite type rock formation containing mostly fallow land. As such there no major vegetation or agricultural activities are observed. h) There are no Protected or Eco-Sensitive Zone or forest land nearby wherein it can have an impact. i) It will be ensured that mining will be carried out adhering to all the statutory rules and regulations and maintaining the environmental quality within the prescribed standards by effective implementation of various mitigative measures. j) These mitigative measures will be continued for the entire lease period ensuring no impact on the environment. As such release of Greenhouse gases (GHG), rise in temperature, affecting livelihood of the local people, loss of Agriculture, Forestry and Traditional Practices is not envisaged. Such a limited scope will not induce any climatic change leading to droughts, floods etc.	4-18
Energy			
28	The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.	• The dust control measures are listed under Table 4.1, Water pollution control measures under Section 4.3.2, and noise pollution control measures under Section 4.4.1.2, Chapter-IV. Besides, energy consumption in this project will be optimum and as per requirement.	4-2 4-8
Climate Change			



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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.	• Certified vehicles with low carbon emissions will only be used. These equipments will be properly and regularly maintained. Besides, regular vehicular emission tests will be done for the transport vehicles to ensure minimal impact due to carbon emissions. To further mediate the carbon emissions, a good greenbelt and plantation plan has been planned wherein 550 number of plants will be planted in and around the lease area.	7-8
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.	• Replied in point no.29 above	--
31	Impact of mining on pollution leading to GHGs emissions and the impact of the same on the local livelihood.	• Replied in point no.29 above	
Mine Closure Plan			
32	Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.	• Details of Mine Closure Plan is provided under section 7.5, Chapter-VII.	7-4
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 and the scope for achieving SDGs	• Detailed environmental management plan is provided under Chapter-X.	10-1
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.	• Detailed environmental management plan is provided under Chapter-X.	10-1
Risk Assessment			
35	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.	• Various risks likely to arise due to mining activities are detailed under section 7.3, Chapter-VII.	7-1
Disaster Management Plan			
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.	• The disaster management plan has been provided under section 7.3.1, Chapter-VII.	7-3



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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, vaari, canal, channel, river, lake pond, tank etc.	• Given in Vide Annexure No – 12 of EIA EMP report	A-37
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.	Will be provided in the Final EIA/EMP Report after completion of public hearing.	--
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.	• Single use plastics/ use and throwaway plastics will be banned in the site as directed by the Tamil Nadu Government vide GO(Ms)No.84 regarding ban on use of plastic products. The employees will be encouraged to use compostable material or reusable material.	4-25

A. Standard ToR

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 lease area. No mining has been carried out in this lease area so far by the proponent.	2-14
2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given	• Precise Area Communication letter received from the Assistant Director, Dep. of Geology & Mining, vide Rc.No. B/G&M/409/2025 dated 29.12.2025 (Annexure-1)	A-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.	• The production capacity, quantity of waste, its management and mining technology in mine plan and EIA, etc., are compatible with one another.	--
4	All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, 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).	• Project coordinates superimposed in satellite imagery and given as Figure No - 2.4 in Chapter – II. • The geology and geomorphology map is provided in Figure No.3.16, 3.17, Chapter-III. The Lithology map and Soil map are provided under Figure No. 3.18, 3.19, Chapter-III. • The 10km Radius Index plan showing buffer zone is given	2-6 3-46&3-48



		in Figure No.3.1 in Chapter – III.	3-2
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.	• Replied in Standard ToR point no.4	--
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.	• Not Applicable	--
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.	• The proponent will frame a well-planned environmental policy. Its details are provided under Section 10.2.1, Chapter-X. • The Mines Manager will undertake effective monitoring and implementation of various environmental control measures promptly and effectively and to oversee various environmental management schemes for air quality control, water quality status, noise level control, plantation programme, social development schemes, etc in the mine. The organizational chart for the same has been provided in Figure No.10.1, Chapter-X.	10-1 10-3
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.	• Various risks likely to arise due to mining activities are detailed under section 7.4, Chapter-VII. This being an opencast mine, subsidence is not applicable. The impact due to ground vibrations due to blasting is given in para 4.3.2, Chapter-IV.	7-4 4-8
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.	• The study area chosen for collecting existing environmental status covers 10 km radial distance from the project periphery (Figure No - 3.1). Data given in the report is for the life of the mine.	3-2
10	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of	• The land use of the study area was studied to demarcate various LULC categories and its details are provided	3-30



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	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.	under section 3.4, Chapter-III. • The land use pattern at present and at the end of the quarrying period has been provided under section 4.5, Chapter-IV. • In the post mining stage, the mine pit area of 5.43.90 Ha will be left as a water body. Plantation will be carried out over 0.02.00Ha and 0.06.75Ha will be left as road and infrastructure. 01.08.70 Ha will be covered with vegetation..	4-16
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 waste generation anticipated in this quarry operation since the entire excavated material will be utilized. Hence, there is no external overburden dump involved. Besides, there is no proposal for overburden dump outside the lease area.	2-14
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 Expert Appraisal Committees.	• There is no forest land in the lease area.	---
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.	• There is no forest land in the lease area.	---
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	---
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	• There is no forest land in the lease area.	---
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,	• The mining lease area and the 10 km buffer zone from the periphery of the core zone is devoid of declared ecologically sensitive features like national parks, biospheres, sanctuaries, etc.	4-19



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	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.	• Replied in Standard ToR point No.16	--
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.	• A detailed study of flora and fauna composition in the core and buffer zone of the project has been made through primary field surveys. The details are furnished in para 3.5, Chapter III.	3-36
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.	• Not Applicable	--
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	• Not Applicable	--



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	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 shilling of village(s) including their R&R and socio-economic aspects should be discussed in the Report.	• The mining activities will be carried out within the mine lease area only. The entire mine lease area is a patta land in proponent's possession. There is no population within the ML area. Hence, the question of R& R does not arise.	7-4
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.	• The baseline data on micro- meteorology, ambient air quality, Water quality, noise level, soil and flora & fauna are collected during Winter Season (December 2025 to February 2026) and detailed in para 3.3 to 3.5 of Chapter-III. • Monitoring stations were selected taking into account, wind direction and location of sensitive receptors. • Free silica composition in PM10 sample has been done and the values are found to be Below Detectable Limit (DL 0.05mg/m3) which is well within the prescribed limit of 5mg/m3.	3-12 & 3-36
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	• Air quality modeling details are furnished in para 4.2.2 and its continuous sub paras in Chapter-IV of EIA report. • The impact on air quality due to the proposed project is estimated using AERMOD View Gaussian Plume Air Dispersion Model developed by Lakes Environmental Software which is based on steady state Gaussian plume dispersion.	4-3



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	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.	• The model simulations are done for the air pollutant arising from the mining operations, namely, PM10, PM2.5. Ground Level Concentration (GLC) have been computed using hourly meteorological data. • The Isopleths of PM10, PM2.5 concentrations for with control measures scenario have also been drawn and these are given in Figure No.4.1 and 4.2. • It can be seen that the resultant added concentrations with baseline figures even at worst scenario, show that the values of ambient air quality with respect to PM10 are in the range of 54.8µg/m³ to 73.9µg/m³ and with respect to PM2.5 are in the range of 27.1µg/m³ to 35.7µg/m³ which are within the statutory limits in each case.	4-5 & 4-6
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.	• The total water requirement for this project will be 12.0 KLD comprising 2.0 KLD for drinking water and domestic use, 7.0 KLD for dust suppression and 3.0 KLD for greenbelt. The water will be sourced initially from outside agencies. Later the rainwater collected in the mine pit sump will be used for this purpose. The water balance diagram for the same is shown in Figure No 4.3.	4-8
25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.	• Not Applicable.	--
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.	• The rain water falling in the quarry will be harvested in the sump at the lowest level of the quarry. This sump will act as a settling pond to prevent solids escaping along with discharge, before outlet. etc. • Towards surface runoff management, a garland drain of length 3000m will be constructed around the quarry and will be connected to a settling pond with silt traps. The supernatant clear water from the settling pond will be flow to the downstream users. The surface runoff management structures diagram is given in Figure No 4.4, Chapter-IV. • The methods for reducing water consumption and rainwater harvesting is provided in section 4.3.4, Chapter-IV.	4-10 4-11



SIRONAVER VILLAGE, VANAK TALUK, WEST PUNJAB DISTRICT, PAMIE NABOI



Crucible of Civilization

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	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.	• From this proposed quarry the entire output will be transported to the crusher units and other buyers etc. Details of the traffic study is provided under section 4.9, Chapter-IV.	4-24
33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.	• This is a proposed project. Site services like mine office, first aid room, rest shelters, toilets etc. will be provided as semi-permanent structures.	2-18
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.	• In the post mining stage, the mine pit area of 5.43.90 Ha will be left as a water body. Plantation will be carried out over 0.02.00Ha and 0.06.75Ha will be left as road and infrastructure. 01.08.70 Ha will be covered with vegetation. Entire mined out area will be properly fenced to prevent inadvertent entry of men and animals. In the post mining stage the rainwater harvested in the mined out void shall be utilized in the area.	4-20
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	• Details of occupational health and safety aspects are given under the subsections of Para 4.8, Chapter-IV.	4-22
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	• Details of the socio economic survey conducted in the buffer zone has been provided in Para 3.2.4, Chapter-III. • Public health facilities will be further aimed to be developed through CER activities wherein periodic health checkups, medical camps for the locals will be conducted.	3-4
37	Measures of socio economic significance and influence to the local community proposed to be provided by the Project	• Towards the socio economic development of the surrounding area, the proponent has earmarked an amount of Rs 5 Lakhs under Corporate Environmental	4-21



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	Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	Responsibility. The activities identified under CER will be implemented in a phased manner in the nearby Government schools. In consultation with the locals based on the need & priority it will be implemented. Its details are provided in Para 4.7, Chapter-IV	
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.	Detailed Environmental Management plan and its implementation, etc., are furnished in Chapter X.	10-1
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.	- This draft EIA/EMP report will be exposed to public consultation as per mandatory procedures through the District Collector and State Pollution Control Board officials after giving 30 days advance notice in two local newspapers about the scheduled date and time for conduct of the public hearing procedures. - The opinions, concerns and objections of stakeholders will be recorded during the public hearing. All the public queries and the replies to the query by the project proponent and officials concerned will be recorded and incorporated in the EIA/EMP report for approval by SEIAA, Tamil Nadu.	7-1
40	Details of litigation pending against the project, if any, with direction /order paced by any Court of Law against the Project should be given.	PP informed that there is no litigation pending against the project.	--
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.	The cost of the project is Rs. 88,30,000/- /Towards EMP measures, Rs.Rs.34.48 Lakhs is allocated under capital cost. Besides, Rs.37.27 lakhs per annum will be spent under recurring cost. All the recurring cost of maintenance of pollution control measures, environmental monitoring etc., will be met from revenue.	4-22 10-12
42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report.	The disaster management plan has been provided under section 7.3.1, Chapter-VII.	7-3
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	- The proposed Rough Stone Quarry will benefit this region in the fields of employment opportunities, improved per capita income for local people, improved social welfare facilities in respect of education, health, infrastructural etc. - Direct employment to 48 people and indirect employment to scores of people. - By means of carrying out the socio economic development activities, local community development is expected. Towards the same, the proponent has planned	4-21



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		to allocate Rs. 5 Lakhs for various activities under CER. From the CER activities allocated for various social welfare activities, the villages near the lease area will be benefited.	



CHAPTER - I

INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1 PURPOSE OF THE REPORT:

M/s. Taamaesek Engineering Consortium proposes to operate a Rough Stone and Gravel Quarry over an area of 6.61.35Ha in Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu and has initiated action towards obtaining environmental clearance.

Since the lease area is >5 Ha, this proposal is considered under Category – B1 and as per MoEF& CC notification necessitates preparation of EIA/EMP report and public hearing. This EIA/EMP report is prepared based on standard and additional Terms of Reference issued by SEIAA, Tamil Nadu vide TOR Identification No – TO26B0108TN5722346N dated 05.03.2026 and is in conformance of the generic structure prescribed by MOEF&CC in their notification of September 2006 and the approved mining plan.

1.2 IDENTIFICATION OF PROJECT &PROJECT PROPONENT:

Table 1.1 Identification of project

1	Project Name	Roughstone and Gravel Quarry of M/s.Taamaesek Engineering Consortium
2	Extent	6.61.35Ha
3	Production	Proposed Production is 2,15,216m ³ (4,30,432MT) of gravel and 15,23,080m ³ (41,88,470MT) of rough stone up to an ultimate depth of 59m (4m Gravel + 55m Rough stone) for 10 years lease period. (Peak production capacity is 72,240m ³ (1,44,480 MT) of gravel in year1 and 1,94,440m ³ (5,34,710 MT) of rough stone in Year 10).
4	Ultimate Depth	59m for 10 years
5	Land Classification	It is Patta Land registered in the name of M/s. Taamaesek Engineering Consortium
6	Location	Survey Number: 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A
		Village: Sirunavur
		Taluk: Vanur
		District: Viluppuram
		State: Tamil Nadu



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Table 1.2: Identification of Project Proponent

1	Proponent Name	M/s.Taamaesek Engineering Consortium
2	Address	No. 5, Bishop Wallers Avenue West, Mylapore, Chennai - 600004.
3	Contact Number	9842686309
4	Email-ID	gurutraders1981@gmail.com

The Proponent can meet the financial requirement of this project and will ensure that the mining activities are carried out as per statutory requirements.

Table 1.3: Statutory Approvals

Name	Issuing Authority	Status	Letter number	Date	Reference
Precise Area Communication	Assistant Director, Department of Geology & Mining	Received	Rc.No. B/G&M/409/2025	29.12.2025	Annexure-1
Mining Plan Approval	Assistant Director, Department of Geology & Mining	Approved	Rc.No. B/G&M/409/2025	08.01.2026	Annexure-2
Details of other quarries within 500m radius	Assistant Director, Department of Geology & Mining	Obtained	Rc.No. B/G&M/409/2025	08.01.2026	Annexure-3
District survey report	Collector, Assistant director, Geology & Mining	Authenticated	As per S.O. 3611(E) dated 25.07.2018	-	
VAO Letter	VAO	Obtained	--	13.01.2026	Annexure-4

The following conditions have been stated in the Precise Area Letter:

- A safety distance of 7.5m for patta land, 10m for government land to be provided.

The above conditions have been adhered to.



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1.3 BRIEF DESCRIPTION OF NATURE, SIZE, LOCATION & PROJECT IMPORTANCE

Table 1.4: Brief Description of Nature of project

1.	Sector	1(a), Non-Coal Mining
2.	Type	Fresh EC
3.	Category	B1
4.	Mineral Mined	Roughstone & Gravel Quarry
5.	Major/Minor Mineral	Minor
6.	Mining method	Opencast Semi Mechanized Mining
7.	End use	Top Gravel will be loaded into tipper and marketed to needy customers. Rough stone will be excavated and loaded into tipper to the needy buyers for producing crusher aggregates, M Sand.

Table 1.5: Location of the project

S.No	Particulars	Details
1.	Location	Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu
2.	Corner Coordinates	Latitude :12° 05' 54.68" N to 12° 06' 05.26" N Longitude :79° 40' 03.26" E to 79° 40' 19.79" E
3.	Toposheet Number	57- P/12

Location details are elaborated in Para 2.3, Chapter-II.

1.3.1 IMPORTANCE TO THE COUNTRY AND REGION:

Rough stone from this quarry will meet the domestic demand. The production and method of mining is planned considering the geological factors, availability of proven technology, demand for the material etc. Safety barriers as per State Government order is left in the planning stage itself. Systematic and scientific mining will be carried out. This project will provide employment opportunities to many people. The proponent will carry out CER activities which will help the surrounding villages to derive socio economic benefits. The activities will be customized based on local needs and prioritized. Hence, livelihood development and employment will arise due to this project.



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1.4 SCOPE OF THE STUDY:

Particulars	Details
Proposal no	SIA/TN/MIN/565313/2026, Dated: 13.01.2026
File no	13284
SEAC meeting for issue of TOR	675th meeting of SEAC held on 04.02.2026.
SEIAA meeting for issue of TOR	970th SEIAA meeting held on 26.02.2026.
Terms of Reference	Received from SEIAA, Tamil Nadu vide TOR Identification No – TO26B0108TN5722346N dated 05.03.2026
Baseline Data Collection	Carried out by Creative Engineers & Consultants, Winter season (December 2025- Feburary 2026)

Based on the terms of reference, data collection, the Environmental Impact Assessment was carried out for the project area (core zone and the buffer zone (10km radius from the core zone) and the following studies were covered:

- Collection of primary and secondary data relevant to the project.
- One-Season baseline monitoring for environmental parameters such as air, water, noise, soil, flora & fauna, etc. Analysis of parameters in in-house laboratory.
- Documentation of EIA/EMP report with inclusion of relevant studies conducted by other bodies into the EIA/EMP report.
- Identification of significant environmental parameters that are prone to get affected due to pollution. Namely, Air, Water, Noise, Soil, Biological and Land Environment.
- Evaluation and determination of suitable mitigation measures to reduce and control the said pollution.
- Prediction of post project concentration (baseline + incremental) with respect to air environment for core zone and buffer zone.(on Individual as well as cumulative basis)
- Formulation of an Environmental Management planincluding administrative aspects for proposed implementation of mitigative measures in time.



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This draft EIA/EMP report will be submitted for public consultation, as per rules and procedures in this respect, as per the EIA notification 2006. The opinions, concerns and objections, if any, of the surrounding public and other stake holders connected, will be taken into consideration and compliance report thereon will be submitted to SEIAA, Tamil Nadu in the final EIA/EMP report.

* * * * *



CHAPTER - II

PROJECT DESCRIPTION

CHAPTER 2

PROJECT DESCRIPTION

2.1 TYPE OF PROJECT:

This proposal involves quarrying of Roughstone and Gravel by M/s. Taamaesek Engineering Consortium using Opencast Semi Mechanized Mining method for the lease period of 10 years.

2.2 NEED & JUSTIFICATION FOR THE PROJECT:

There is a huge demand for construction material and the entire material produced from this quarry will be used in the local construction/ infrastructure sector. Considering the following favorable factors it is practically possible to achieve the proposal within the planned period and this proposal is fully justified.

- Availability of good quality proved reserves
- Techno economic viability of the scheme
- Better approachability to the project, availability of logistic facility in proximity to the site
- Economic and Socio Economic Benefits to the region

2.3 LOCATION:

A brief description of the mining area, along with the location, coordinates, accessibility, etc. has been details below in Table No.2.1.

Table 2.1: Mine site description

Location	Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu
Survey No.	13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A
Coordinates	Latitude :12° 05' 54.68" N to 12° 06' 05.26" N Longitude :79° 40' 03.26" E to 79° 40' 19.79" E
Nearest Village	Perumbakkam- 600m – W
Nearest Town	Tindivanam – 13km - N
Nearest Highway	SH-136 – 2.6Km–SW, NH-32 – 7.0Km– E



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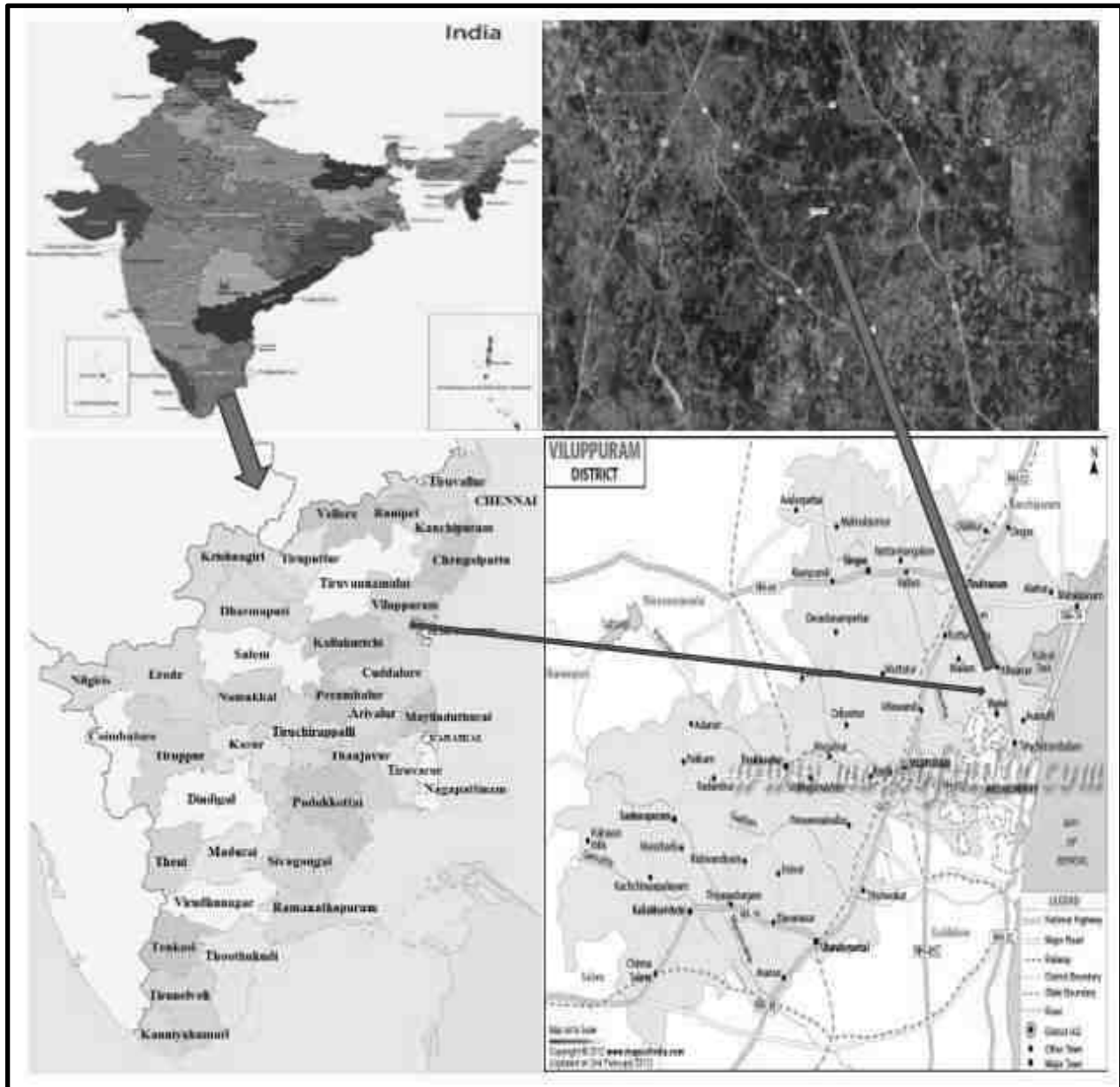
Nearest Railway Station	Perani - 13.0km - W
Nearest Airport	Puducherry – 23.0km - SE
Accessibility	There is an existing road from the lease area leads to Karasanur – Adanappattu road on the east & Perumbakkam- Parikkalpattu road on the west which is further connected to SH-136 Kutteripattu to Puducherry Road located about 2.6 Km on the Southern side of the lease applied area. NH-32 Tindivanam–Puducheery road is about 7.0km on the northern side of the lease area.
Topography& Drainage	Plain topography at + 75.0m MSL. There are no major river or water bodies near the lease area. Small drainage is shown in lease periphery west & south side in the village map and FMB , but not actually present. Besides, entire lease area is patta land of the proponent. Still it is proposed to ensure proper surface runoff measures through garland drain in the lease periphery to ensure proper rainwater flow. Gingee River is located at 8.3 km – S & Vidur dam at 9.0km - SW

Location map is provided in **Figure No.2.1**. The approachability map is provided in **Figure No.2.2**. Corner co-ordinates of the lease area and satellite imagery are shown in **Figure No. 2.3 & 2.4** respectively. Village map for 500m radius from the lease is shown in **Figure No. 2.5**.



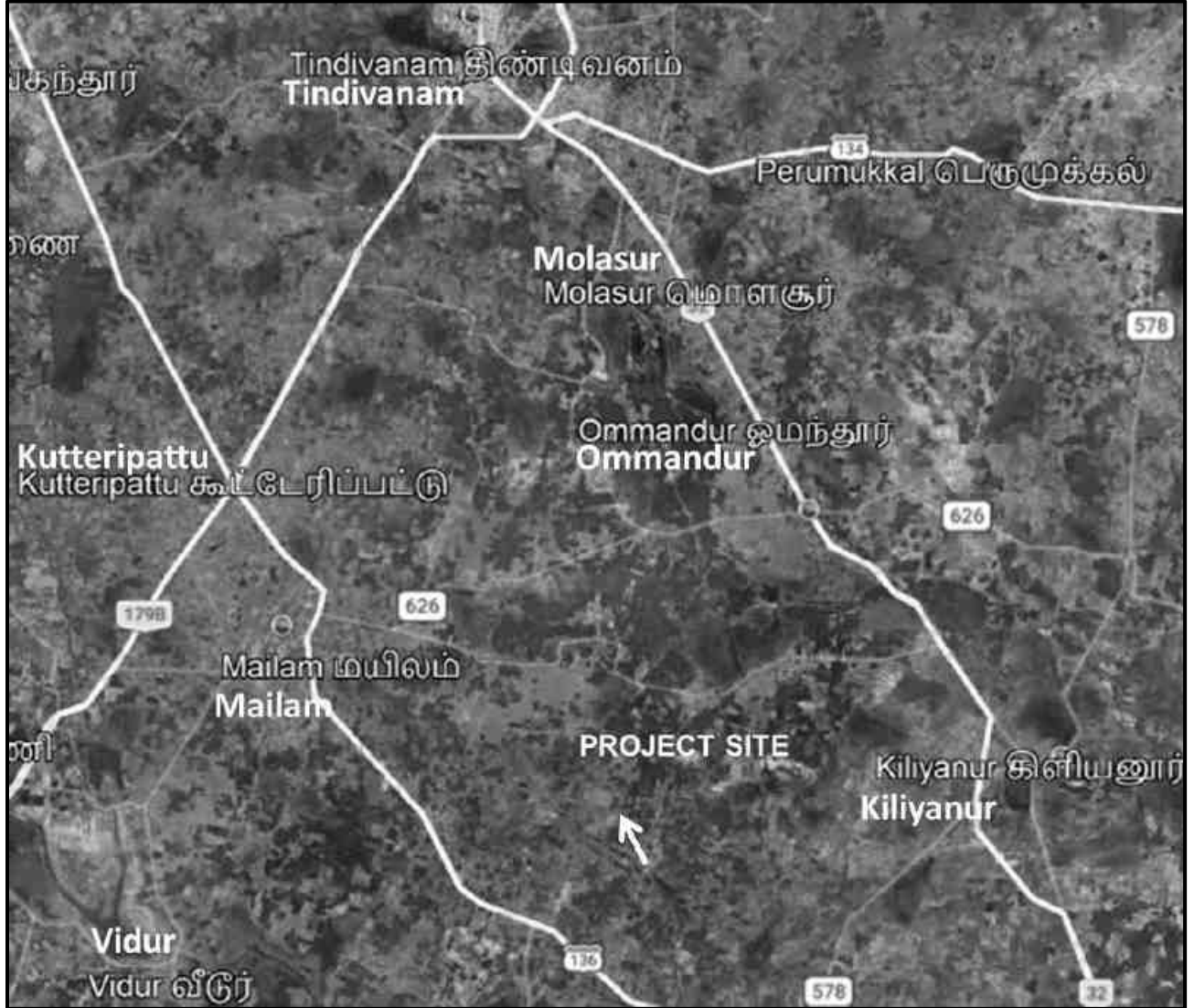
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Figure 2.1: Location Map



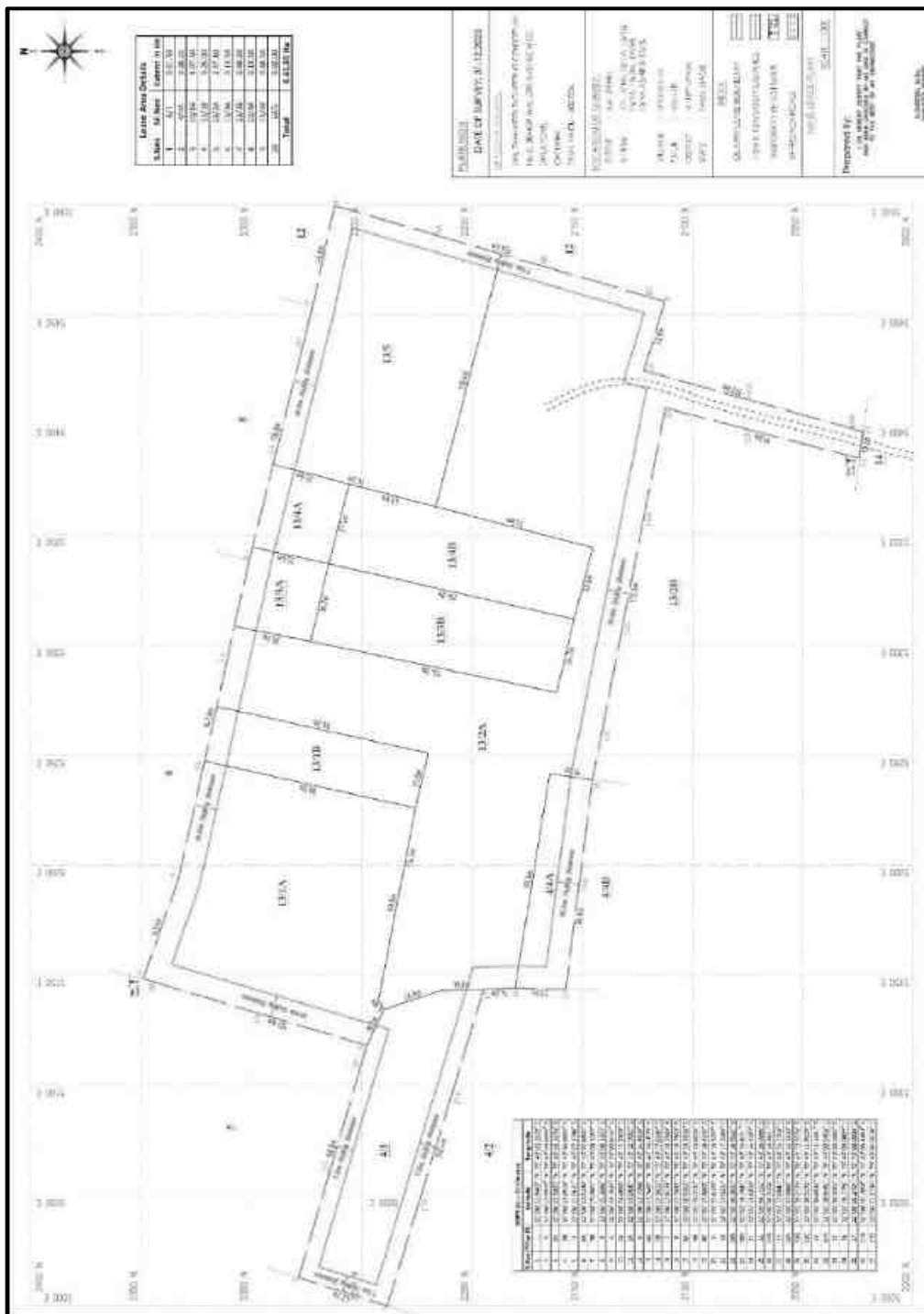
DRAFT EIA/EMP REPORT FOR ROUGHSTONE & GRAVEL QUARRY OF M/s. TAAMAESEK ENGINEERING CONSORTIUM IN S.F.NOS. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A OVER AN AREA OF 6.61.35HA IN SIRUNAVUR VILLAGE, VANUR TALUK, VILUPPURAMDISTRICT, TAMIL NADU.

Figure 2.2: Approachability Map



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Figure 2.3: Lease Plan



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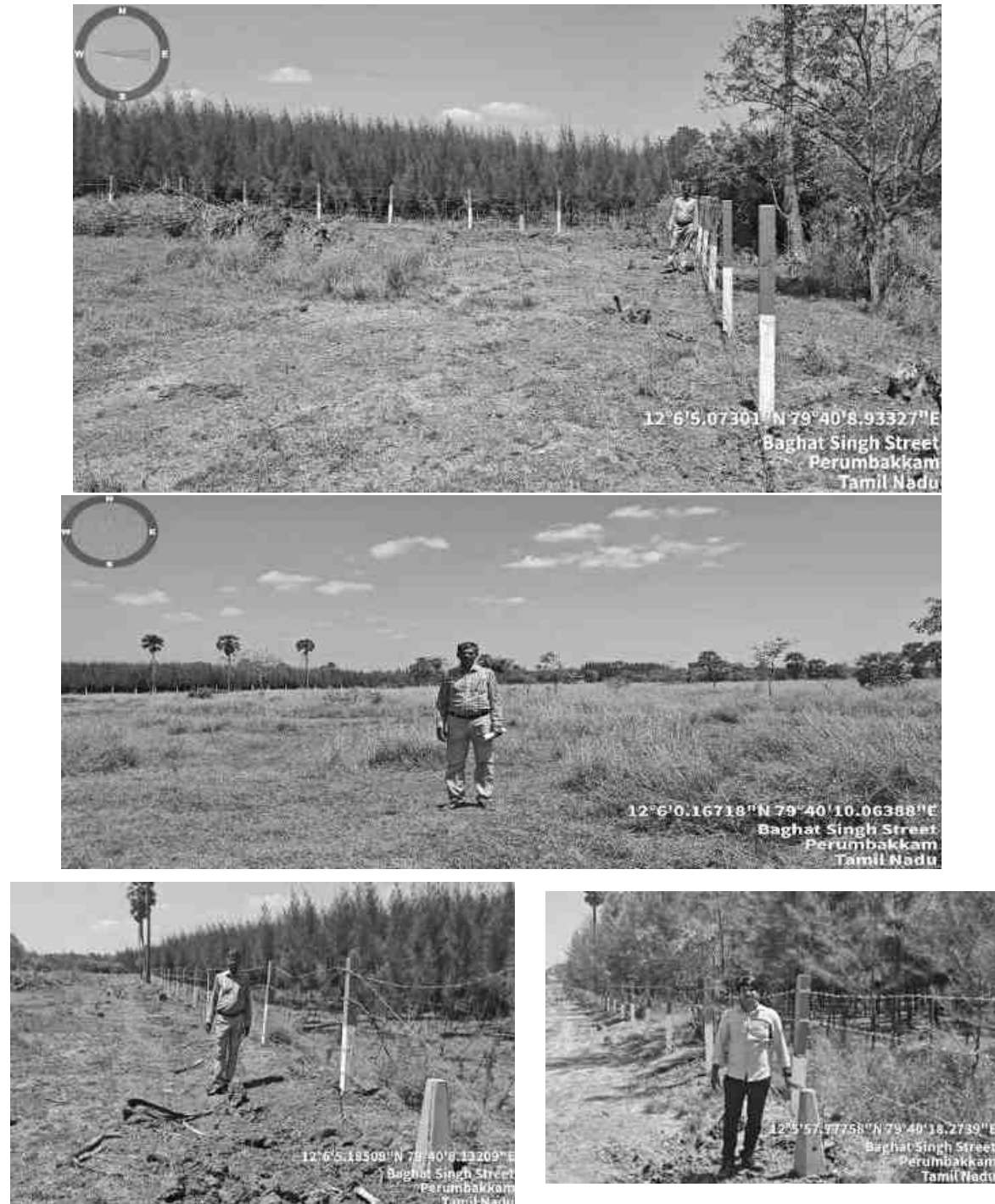
DRAFT EIA/EMP REPORT FOR ROUGHSTONE & GRAVEL QUARRY OF M/s. TAAMAESEK ENGINEERING CONSORTIUM IN S.F.NOS. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A OVER AN AREA OF 6.61.35HA IN SIRUNAVUR VILLAGE, VANUR TALUK, VILUPPURAMDISTRICT, TAMIL NADU.

Figure 2.4: Satellite Imagery Showing Corner Co-ordinates of the Project Area



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Figure 2.5: SITE PHOTOGRAPH



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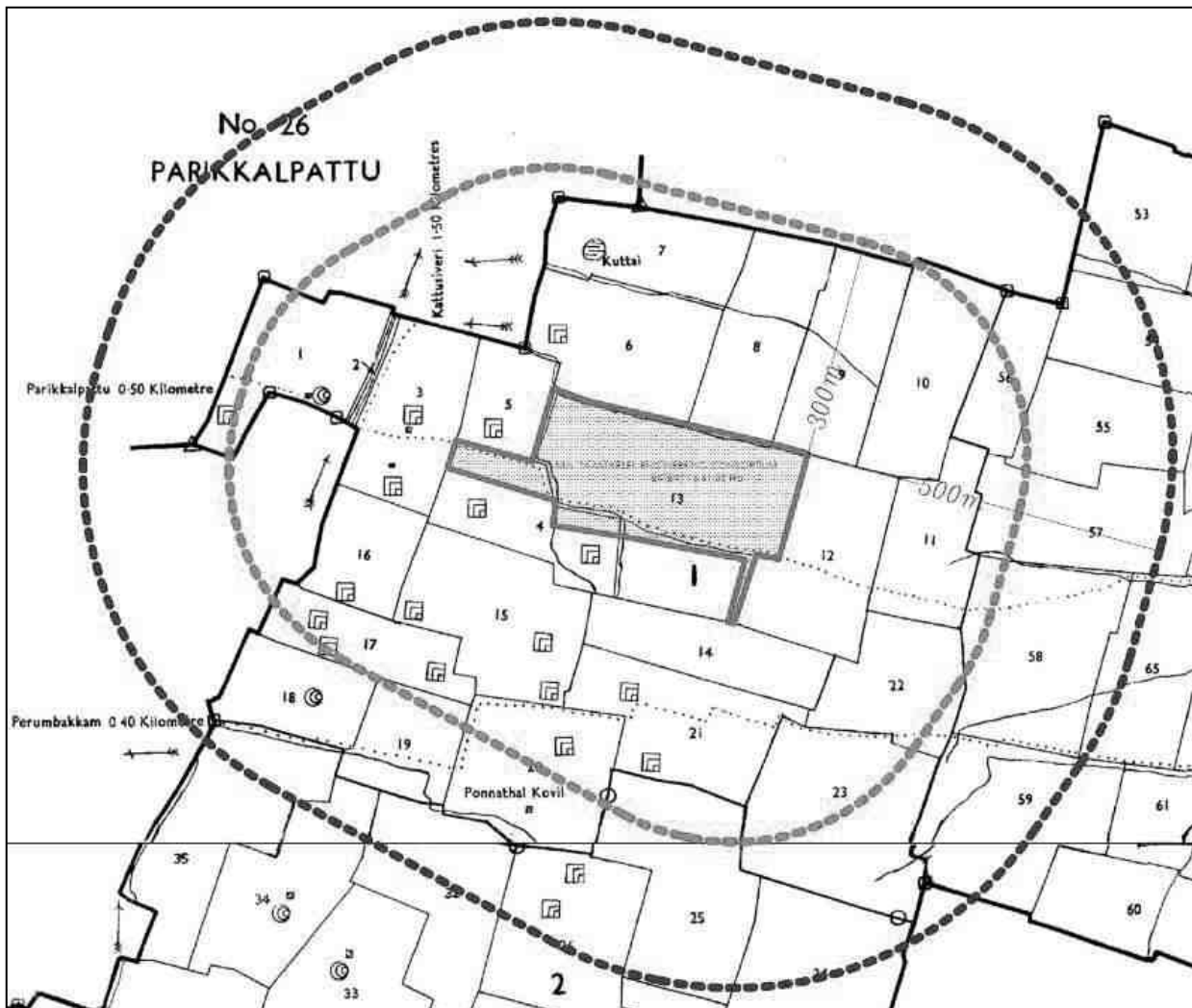
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Figure 2.6: Village Map



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Figure 2.7: Details of features within 300m radius



Entire lease area is patta land of the proponent. Small drainage is shown in lease periphery west side in the village map and FMB , but not actually present. There are no habituated structures within 300m radius.

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2.4 LAND CLASSIFICATION:

The lease area of 6.61.35 Hectares in S.F.Nos. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A is a Patta land, owned by the applicant. The survey no. wise area breakup has been provided below:

Table 2.2: Survey Number wise Area Breakup

District	Taluk	Village	Survey Nos	Area in Ha	Ownership
Viluppuram	Vanur	Sirunavur	13/1A,	1.07.50	It is Patta Land registered in the name of M/s. TAAMAESEK ENGINEERING CONSORTIUM Vide Patta No 601 (Annexure no. IV of mine plan report).
			13/1B,	0.25.00	
			13/2A,	2.47.10	
			13/3A,	0.13.50	
			13/3B,	0.40.50	
			13/4A,	0.13.50	
			13/4B,	0.40.50	
			13/5,	0.92.00	
			4/1	0.61.50	
			4/4A	0.20.25	
Total Area in (Hectares)				6.61.35	

2.5 GEOLOGY:

The area is mainly composed of crystalline metamorphic complex. The rock type majorly noticed in the area for lease is Biotite Gneiss. Which is mainly composed Hornblende, biotite mica, Quartz, and Feldspar with some ferromagnesian minerals. The grain size is medium to coarse. The strike of the Charnockite formation is N35°E-S35°W with dipping towards 60°S.

The Biotite gneiss is part of peninsular gneisses, a high grade metamorphic rock. It is typically brown to black colour and grain size is coarse grained. It is suitable of construction purposes because of its high strength, colour, high density, low porosity etc.

The geological sequence:

Age	Formation
Recent	- Gravel – (2m) ----- Unconformity -----
Archaean	- Migmatite, Charnockite & Khondalite



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Figure 2.8: Surface & Geological Plan

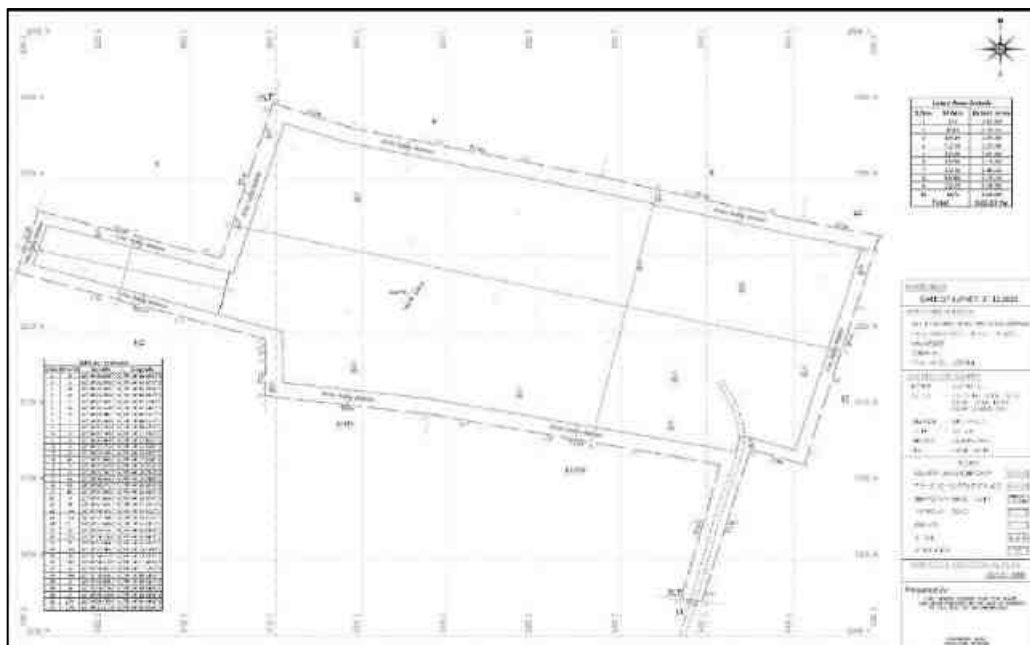
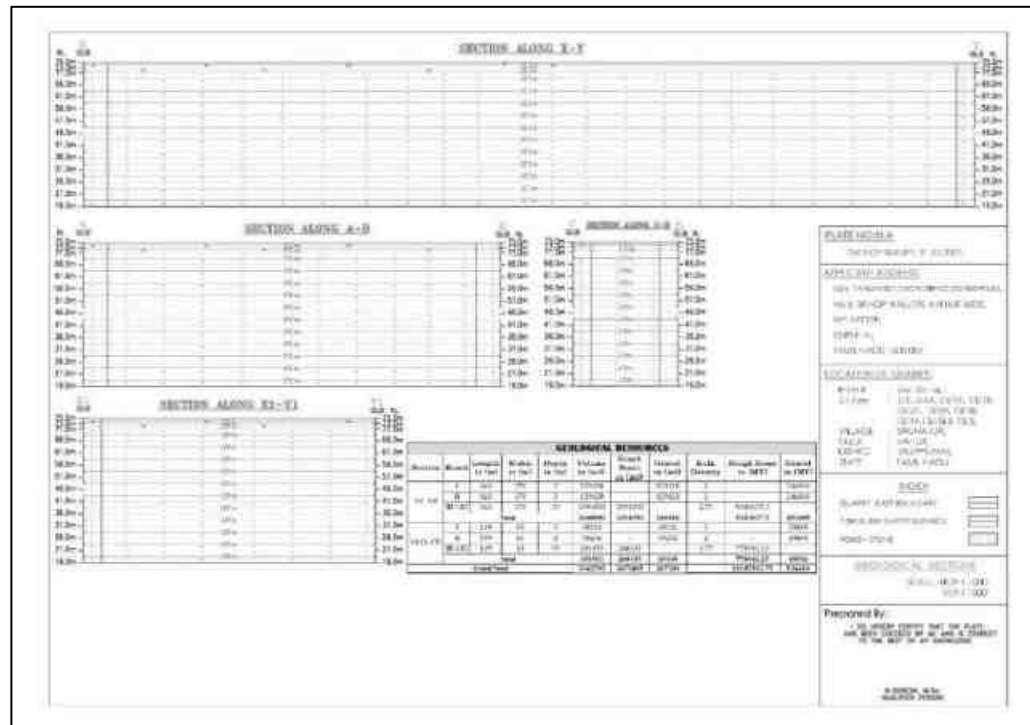


Figure 2.9: Geological Cross Section



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2.6 SIZE AND MAGNITUDE OF THE OPERATION:

- The proposed mining will be done by open cast semi mechanized mining method.
- Life of mine will be 10 years.
- The Proposed Production is 2,15,216m³ (4,30,432MT) of gravel and 15,23,080m³ (41,88,470MT) of rough stone up to an ultimate depth of 59m (4m Gravel + 55m Rough stone) for 10 years lease period. Production schedule for first years will be 2,15,216m³ (4,30,432MT) of gravel 7,73,580m³ (21,27,345MT) of Rough Stone up to depth of 44 m for period of first five years of lease period.
- There is no waste generation anticipated in this quarry operation since the entire excavated material will be utilised.

2.6.1 RESERVES:

Table 2.3: Geological and Mineable Reserves

S. No	Type of reserves	Roughstone (m3)	Gravel (m3)
1	Geological Resources	36,75,485(101,07,584 MT)	2,67,308(5,34,616 MT)
2	Mineable Reserves	15,23,080(41,88,470 MT)	2,15,216(4,30,432 MT)

The mineable reserves is arrived after considering the safety distance as per the Precise area letter.

2.6.2 MINING METHOD:

Open cast semi mechanized mining using jackhammer drilling, blasting, and excavation through excavator & mineral transport through tippers will be carried out. The top gravel is soft and can be directly excavated. The rough stone will be blasted and then excavated. Bench height of 5.0m & 5m width is considered.

Table 2.4: Details of Equipments

SI. NO	NAME OF THE EQUIPMENT	CAPACITY	REQUIRED
1	Excavator	0.90m ³	3
2	Tipper	10/20T	6
3	Compressor	400psi	3
	Jack Hammer	32mm dia	9



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2.7 PROPOSED SCHEDULE FOR APPROVAL AND IMPLEMENTATION:

The proponent propose to implement the production immediately after obtaining all the statutory approvals such as CTE, CTO, etc. The proponent will comply with the environmental clearance conditions during mining operations. The schedule of project implementation envisaged for this project is provided below. This is a tentative schedule subject to various factor, hence unforeseen variations may occur.

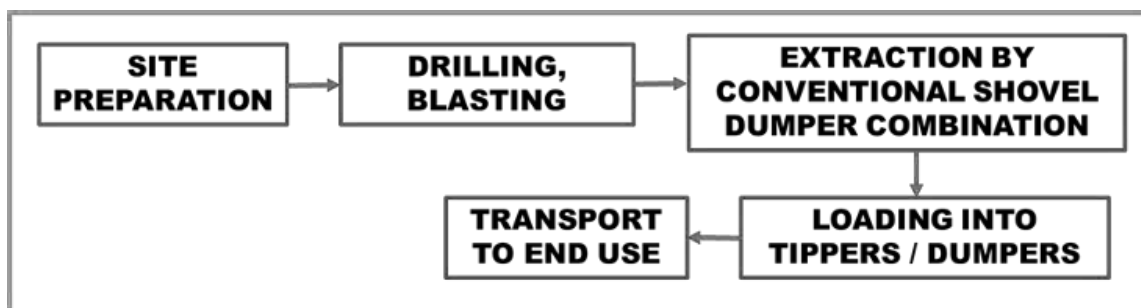
Table 2.5: Proposed Schedule of Implementation

Activities	Months					
	Zero Date	1	2	3	4	5
Obtaining Environmental Clearance						
Obtaining Consent from State Pollution Control Board						
Lease Execution						
Equipment mobilization and Commencement of Mining activity after following all the Statutory Requirements						

2.8 TECHNOLOGY AND PROCESS DESCRIPTION:

The quarry operations involve drilling, blasting, excavation, loading and transportation of Rough stone to buyers. The production of Rough stone in this quarry involves jackhammer drilling and blasting. The primary boulders are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast mechanized method of mining. The process flow diagram of this project is provided below.

Figure 2.10: Process Flow Diagram



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2.9 PROJECT DESCRIPTION:

2.9.1 PAST PRODUCTION:

This is a fresh proposed quarry. As such no mining activities have been carried out in this lease area.

2.9.2 PRODUCTION & WASTE DISPOSAL:

The year wise production has been provided below:

Table 2.6: Production Schedule During Plan Period

Year	Roughstone (m3)	Gravel (m3)	Roughstone (MT)	Gravel (MT)
I	1,38,460	72,240	380765	144480
II	1,47,340	72,224	405185	144448
III	1,54,400	70,752	424600	141504
IV	1,61,140	---	443135	-
V	1,72,240	---	473660	-
Sub Total (1 to 5)	7,73,580	2,15,216	21,27,345	4,30,432
Year	Roughstone (m3)	Gravel (m3)	Roughstone (MT)	Gravel (MT)
VI	1,15,900	-	318725	-
VII	1,06,400	-	292600	-
VIII	1,84,300	-	506825	-
IX	1,48,460	-	408265	-
X	1,94,440	-	534710	-
Sub Total (6 to 10)	7,49,500	-	20,61,125	-
Total	15,23,080	2,15,216	41,88,470	4,30,432

Waste Disposal during Plan Period:

There is no waste generation anticipated in this quarry operation since the entire excavated material will be utilized. Top Gravel will be loaded into tipper and marketed to needy customers on payment of necessary fees to Government. The rough stone will be excavated and loaded into tipper to the needy buyers for producing crusher aggregates, M Sand.



Figure 2.11: Year wise Plan

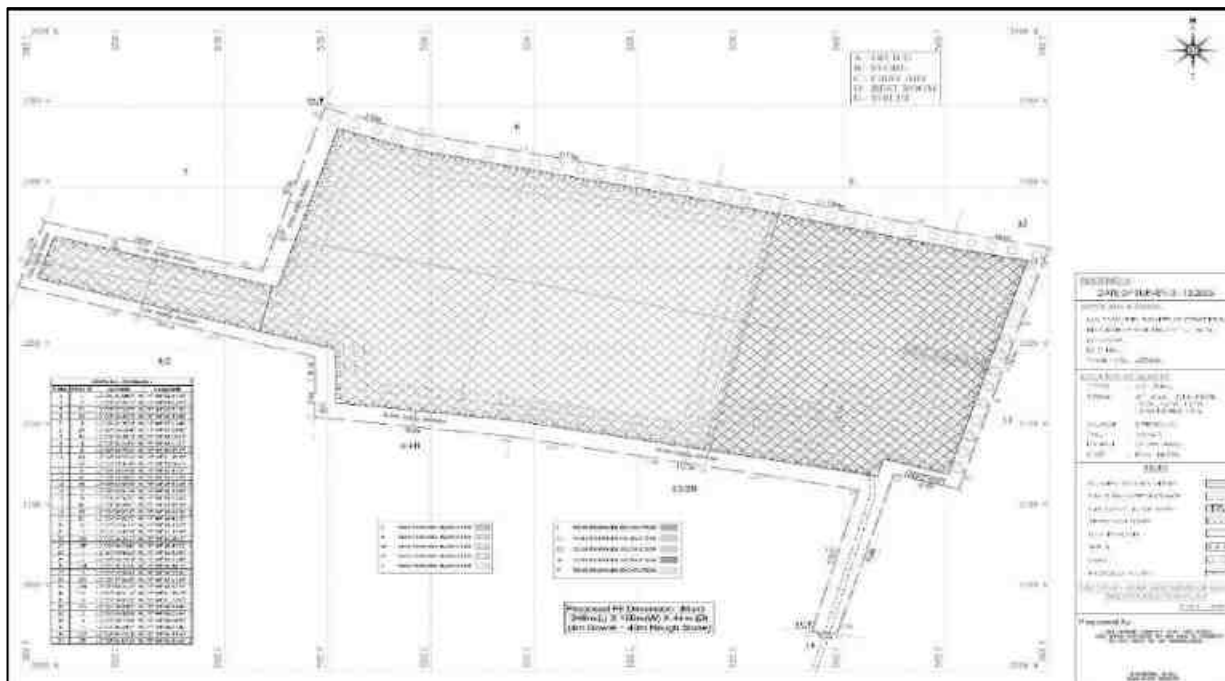
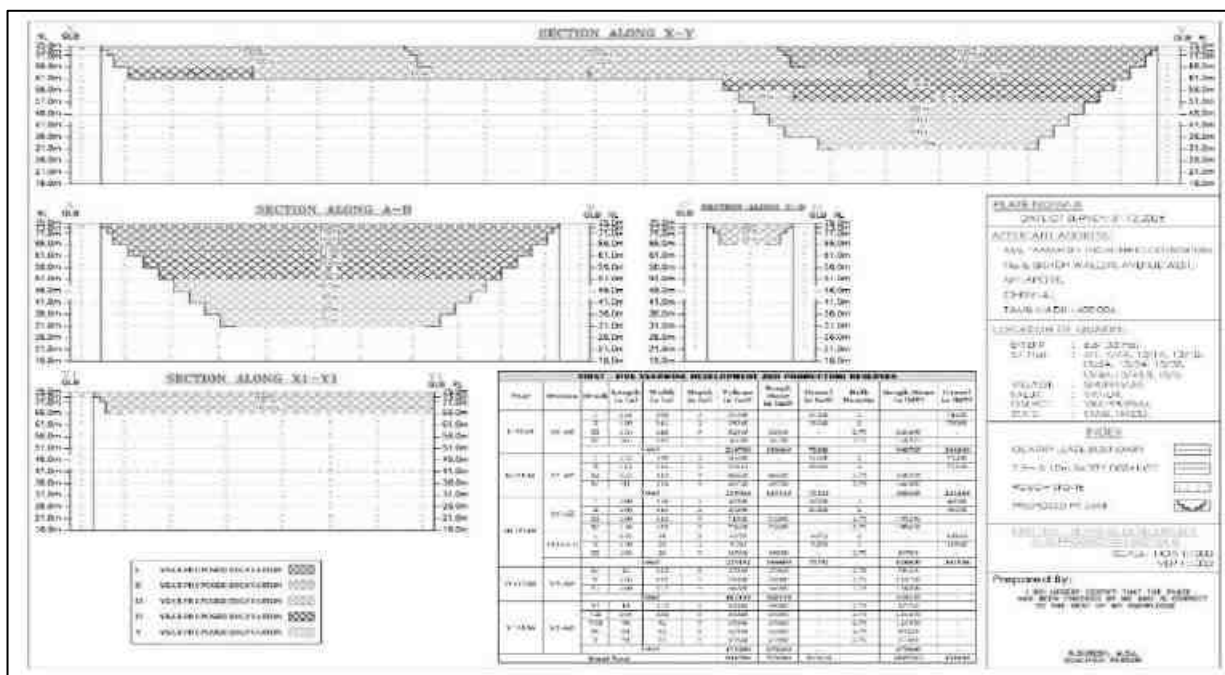


Figure 2.12: Year wise Cross Section



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2.9.3 CONCEPTUAL PERIOD

The Proposed Production is 2,15,216m³ (4,30,432MT) of gravel and 15,23,080m³ (41,88,470MT) of rough stone up to an ultimate depth of 59m (4m Gravel + 55m Rough stone) for 10 years lease period.

Table 2.7: Ultimate Pit Dimensions

Pit	Length (m)	Width (m)	Depth (m)
First Five Years	346	150	44m below ground level (4m – Gravel & 40m–Rough stone)
Second Five Years	346	150	59m below ground level (4m – Gravel & 55m–Rough stone)

The ground water table on the surface in this area is ranging below 70 - 75mBGL Hence, ground water intersection in not envisaged. The Conceptual Plan & Cross section are shown in **Figure No. 2.11& 2.12.**



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Figure 2.13: Conceptual Plan

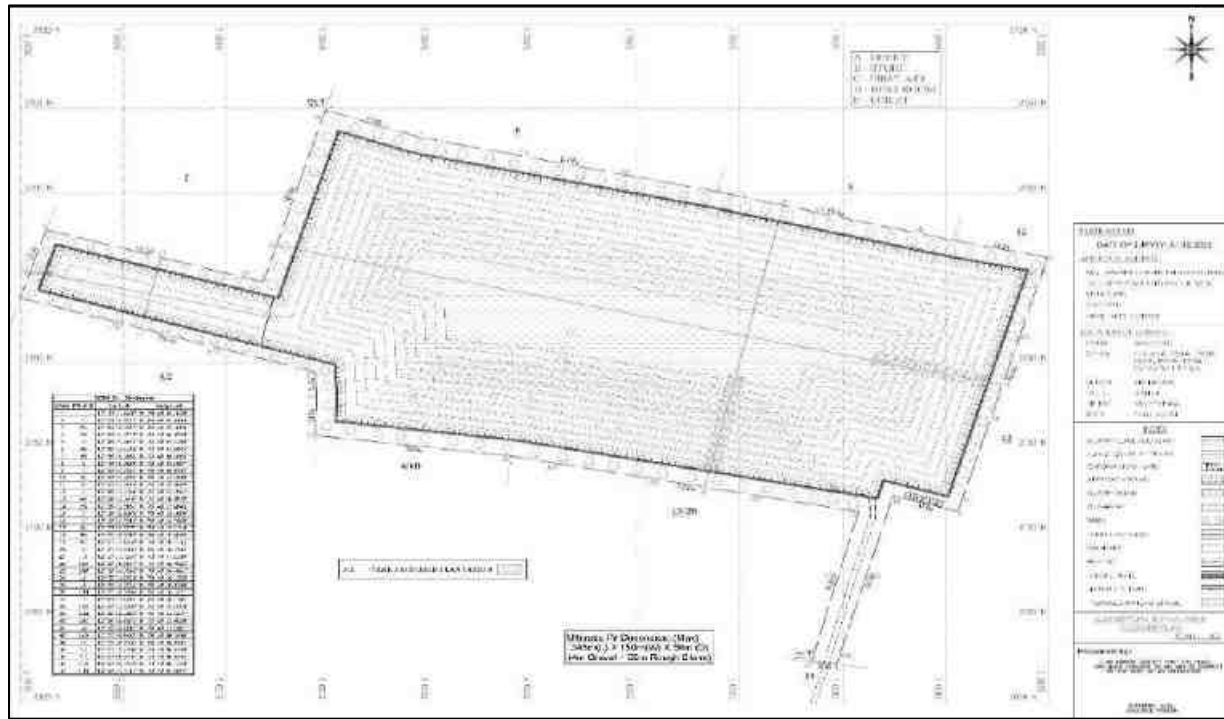
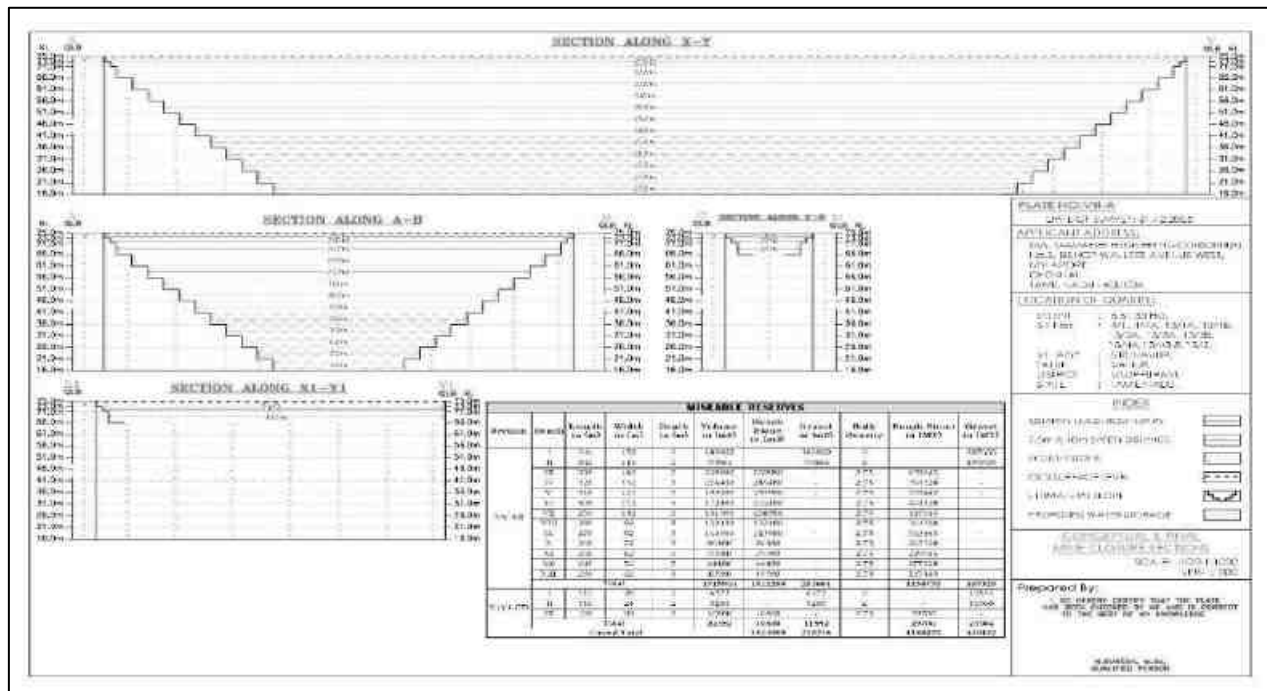


Figure 2.14: Conceptual Cross Section



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CHAPTER-2: PROJECT DESCRIPTION

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2.9.4 LAND DEGRADATION/UTILIZATION:

The land use pattern at the end of the 10 years period has been provided below:

Table 2.8: Land Use

Sl. No.	Land Use	Present Area (Hect)	Area in use during the 5 year period (Ha)
1.	Quarrying Pit	Nil	5.43.90
2.	Infrastructure	Nil	0.02.00
3.	Roads	Nil	0.06.75
4.	Green Belt	Nil	1.08.70
5.	Unutilized	6.61.35	Nil
	Total	6.61.35Ha	6.61.35Ha

In the post mining stage, the mine pit area of 5.43.90 Ha will be left as a water body. Plantation will be carried out over 0.02.00Ha and 0.06.75Ha will be left as road and infrastructure. 01.08.70 Ha will be covered with vegetation.

2.9.5 PROJECT REQUIREMENTS:

Table 2.9: Project Requirements

Manpower	48 people persons directly and indirectly.										
Water Requirement and Source	Water Requirement: 12 KLD <table> <tr> <th>Details</th><th>Quantity (KLD)</th></tr> <tr> <td>Drinking water and Domestic Use</td><td>2.0</td></tr> <tr> <td>Dust Suppression</td><td>7.0</td></tr> <tr> <td>Green belt</td><td>3.0</td></tr> <tr> <td>Total</td><td>12.0</td></tr> </table> Source: Initially procured from outside agencies. Later will be met from mine sump.	Details	Quantity (KLD)	Drinking water and Domestic Use	2.0	Dust Suppression	7.0	Green belt	3.0	Total	12.0
Details	Quantity (KLD)										
Drinking water and Domestic Use	2.0										
Dust Suppression	7.0										
Green belt	3.0										
Total	12.0										
Power Requirement	All the equipment will be diesel operated. No electricity is needed for mining operation. The minimum power requirement for office, etc are and will be met from state grid.										
Site Services	This is a proposed project. Site services like mine office, first aid room, rest shelters, toilets etc. will be provided as semi-permanent structures.										
Project Cost	Rs.88,30,000/- (Including operational + Fixed Asset + EMP cost).										
Funds allocated for socio-economic development	Rs.5.0 Lakhs is allocated under CER budget.										



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2.10 DESCRIPTION OF MITIGATION MEASURES:

Scientific and systematic development of mines will be carried out by the project authorities for preserving as well as improving the environmental conditions in and around the mining lease area. Elaborate analysis on impacts and mitigation measures to be adopted on implementation of this project and the same has been dealt in Chapter- IV.

2.11 ASSESSMENT OF NEW & UNTESTED TECHNOLOGY:

There is no new technology that is being implemented. Opencast method of mining which is the proposed method of mining is a proven technology which is technologically and economically viable. No major technological failures are anticipated. A disaster management plan shall be put into place to take care of any unforeseen situation.

2.12 CONCLUSION:

As good environmental preservation is one of the prime motive of the project proponent. It is expected that the project activity will not have any major impact on environmental equilibrium in the study area.

* * * * *



CHAPTER - III

DESCRIPTION OF ENVIRONMENT

CHAPTER 3

DESCRIPTION OF ENVIRONMENT

3.1 GENERAL:

The existing environmental baseline data for the various environmental components were collected in the study area for the purpose of assessing the impact on present environment due to the project activities.

Monitoring was carried out systematically and meticulously as per relevant IS codes, CPCB, MoEF&CC guidelines during **Winter Season (December 2025 to February 2026)** The details of the study are given in this chapter. For the purposes of this study, the area has been divided into two zones, namely, core and buffer zones. The entire lease area is considered to be the core zone while the buffer zone encompasses a 10km radius from the periphery of the core zone. The details of villages falling in the study area and other features are given in Index Plan in **Figure No - 3.1**

The primary data collection was done by means of field monitoring and the secondary data collection was obtained from published sources and Government documents. The details of the baseline data collection which has been elaborated through the course of this chapter has been concised below:

Table 3.1: Type of Baseline Data

S.No	Studies	Parameters / Study	Location
1	Socio Economy	Demographic Data from Census 2011	Core and Buffer Zone
		Sample Survey	Buffer Zone
2	Micro Meteorology	Rainfall Data from IMD, Viluppuram	Viluppuram
		Temperature, Humidity, Wind Speed, Wind Direction	1 Representative Location
3	Ambient Air Quality	PM10, PM2.5, SO2, NOx, CO	1 Core Zone, 4 Buffer Zone
4	Water Quality	Physical and Chemical Parameters	1 Core Zone, 4 Buffer Zone
5	Noise Levels	Ambient Noise	1 Core Zone, 4 Buffer Zone
6	Soil Quality	Physical and Chemical Parameters	1 Core Zone, 4 Buffer Zone
7	Land Use and Land Cover	Land use pattern within 10km study area using RS Satellite	Buffer Zone
		Land use based on Census 2011	Core and Buffer Zone
8	Biological Environment	Flora and Fauna	Core Zone and Buffer Zone
9	Hydrology & Hydro Geology	Hydrogeological profile of the area	Core Zone and Buffer Zone

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Figure 3.1: Study Area Map



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DRAFT EIA/EMP REPORT FOR ROUGHSTONE & GRAVEL QUARRY OF M/s. TAAMAESEK ENGINEERING CONSORTIUM IN S.F.NOS. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A OVER AN AREA OF 6.61.35HA IN SIRUNAVUR VILLAGE, VANUR TALUK, VILUPPURAM DISTRICT, TAMIL NADU.

Table 3.2: Environmental Setting of the Study Area

S.No	PARTICULARS	Details
1	Nearest Highway	➤ NH-32 – 7.0Km– NE ➤ SH-136 – 2.6Km–SW
2	Nearest Railway station	➤ Perani-13km-W
3	Nearest Airport	Puducherry – 23km - SE
4	Nearest major water bodies	➤ Kondamur Ar – 4.6km – NE ➤ Tondi Ar– 8.9km – W ➤ Varaha Nadi– 8.4km – S ➤ Vidur Branch Canal– 4.5km – SW
5	Nearest villages	➤ Perumbakkam – 600m – W ➤ Parikkal pattu – 940m – NW ➤ Kunnam – 1.2km – SE ➤ Siruvarur – 1.4km – E
6	Hills / valleys	Nil within 10m radius
7	Notified Archaeologically important places, Monuments	Nil within 10m radius
8	Local Places of Historical and Tourism Interest	Nil within 10m radius
9	Environmental sensitive areas, Protected areas as per Wildlife Protection Act, 1972 (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves)	Nil within 10Km radius. Kaliveli Bird Sanctuary – 16.6 km – E.
10	Reserved / Protected Forests	Nil within 10 km radius
11	Defence Installations	Nil within 10 km radius
12	Seismic Zone	Zone – II (Least Active)
13	Other Industries in the study area	Other than crushers, Roughstone quarries, no other major industries are located in the study area.

3.2 SOCIO-ECONOMIC CONFIGURATIONS OF THE AREA:

3.2.1 GENERAL:

The Socio-Economic details of the study area are collected through:

- Identification of villages falling from the study area map with combined Taluk map.
- Collection of primary data through sample survey, village meetings and focused group discussion.
- Collection of the demographic pattern of villages falling in the area through NIC 2011 census data.
- Occupational structure of villages falling in the study area through NIC 2011 census data.
- Details of the amenities available in villages falling in the study area through NIC 2011 census data. The findings of the study are illustrated below:

SECONDARY DATA DESCRIPTION:

The proposed Rough stone and gravel quarry is located in Sirunavur Village, Vanur Taluk, Viluppuram District. Based on 2011 census data, in the 10km radius there are 70 Rural Villages from Two Taluks namely Tindivanam, Vanur. of Viluppuram District. The demographic profile of the study area is given below:

Table 3.3: Social, Economic and Demographic Profile of the Study Area

Details	Population	Percentage
A. Gender-wise distribution		
Male Population	71332	50.51
Female Population	69904	49.49
Total	141236	100
B. Caste-wise population distribution		
Scheduled Caste	58578	41.48
Scheduled Tribes	2501	1.77
Other	80157	56.75
Total	141236	100
C. Literate and Illiterate population		
Literate Males	51972	36.80
Literate Females	40278	28.52
Total Literate Population	92250	65.32
Others Males	19360	13.71
Others Females	29626	20.98

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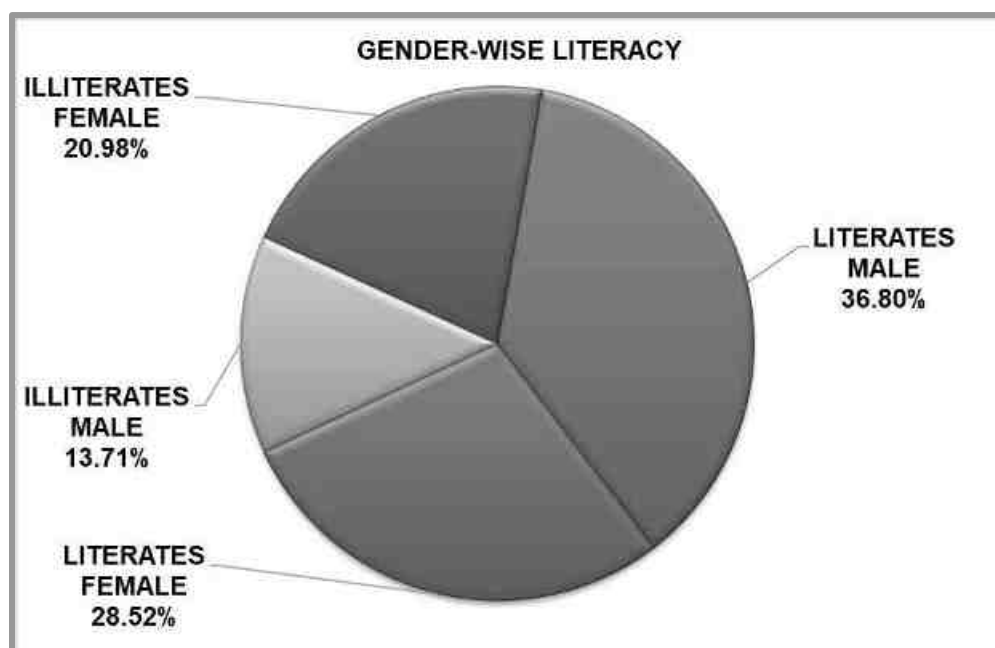
Details	Population	Percentage
Others Population	48986	34.68
Total	141236	100
D. Occupational structure		
Main workers	51165	36.23
Marginal workers	19406	13.74
Total Workers	70571	49.97
Total Non-workers	70665	50.03
Total	141236	100

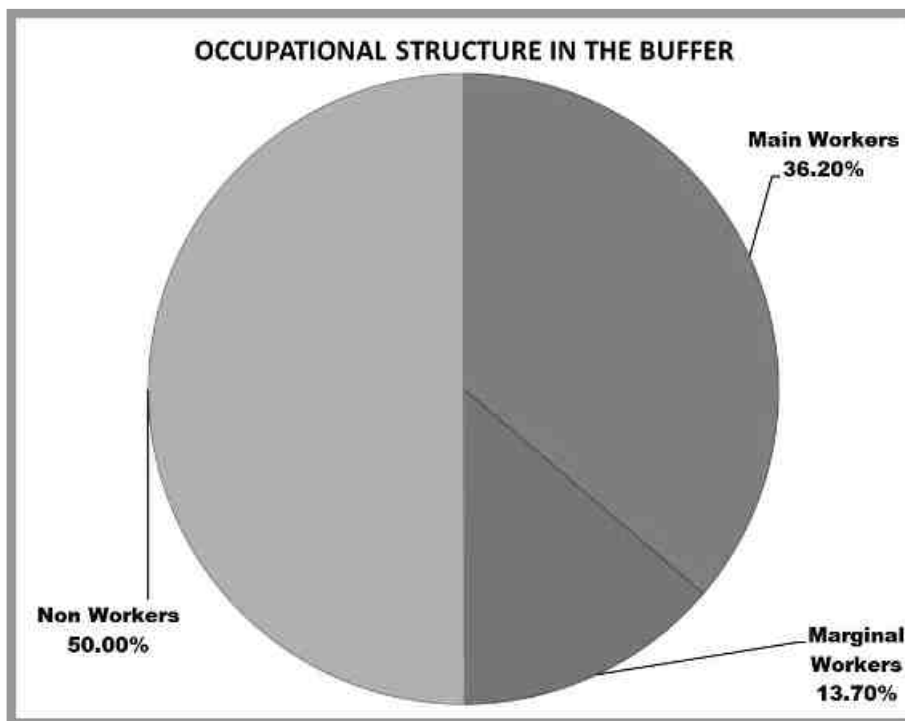
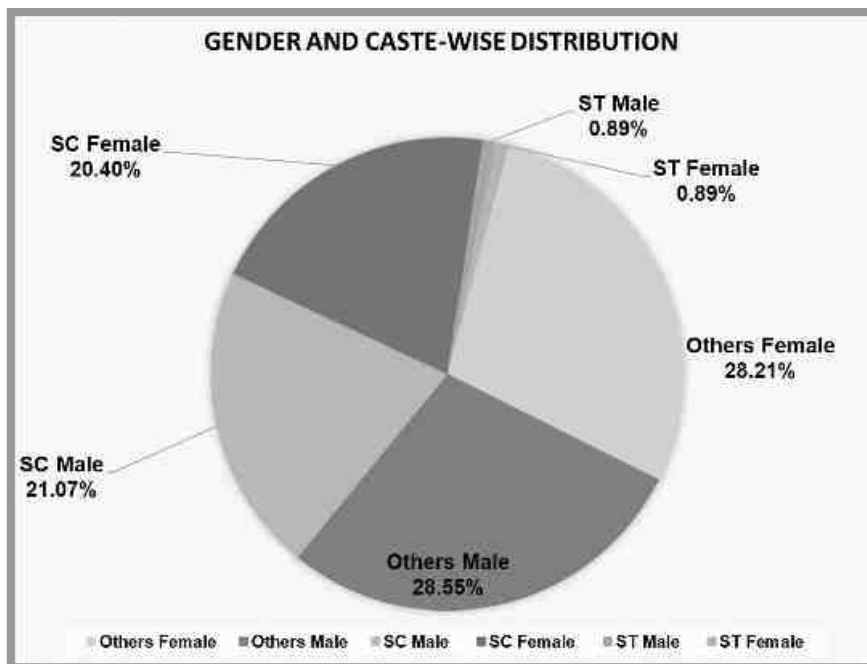
The total population of these 70 rural villages 141236 in which the male population is 71332 (50.51%) and the female population is 69904 (49.49%). This shows that the male and female population ratio is almost equal. Among the total population 1.77% belong to Scheduled Tribes, 41.48% are Scheduled Caste and the balance 56.75% people belong to other castes. Among the total population, 65.32% of the people are literate.

Among the total population, 36.80% are literate males and 28.52% are literate females. This shows that the male literates are slightly more than the female literates. Totally, the illiterate constitute 34.68% of which the female cover 20.98% and the male 13.71%. Illiteracy in women is more than in the male population.

The village wise population, literacy levels and occupational structure details are given in **Annexures 4 and 5**. The demographic structure within the buffer zone is shown diagrammatically in **Figure No – 3.2**.

Figure 3.2: Demographic Structure in Buffer Zone





3.2.2 DETAILS OF AMENITIES:

Based on 2011 census data, regarding the educational facilities, 70 rural villages out of 70 rural villages have educational facilities. There are totally 83 Primary Schools functioning in these 70 rural villages. Among them 54 villages have one primary school, 9 villages have 2 primary schools, 1 villages have 3 primary schools. 2 villages have 4 primary schools. With regards to educational facilities, from Primary School level to Senior Secondary School level, there is availability of some schools in the area. However, beyond this, college level education is not available in the buffer zone. Out of 70 villages, 30 villages have primary health sub centers. Better medical facilities are available in the nearby larger towns.

Table 3.4: Primary Schools in the Buffer Zone Rural Villages

S.No	No of Rural Villages	Number of primary schools	Totals
1	4	0	0
2	54	1	54
3	9	2	18
4	1	3	3
5	2	4	8
Total	70		83

Table 3.5: Education Facility Availability

PARTICULARS	Available in village
Govt Primary School	66
Govt Middle School	39
Govt Secondary School	20
Govt Senior Secondary School	0
Govt Arts and Science Degree College	0
Govt Engineering College	0
Govt Medicine College	0
Govt Management Institute	0
Govt Polytechnic	0
Govt Vocational Training School/ITI	0

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Table 3.6: Healthcare Amenities Availability

PARTICULARS	Available in village
Community Health Centre	2
Primary Health Centre	5
Primary Health Sub Centre	30
Maternity And Child Welfare Centre	6
TB Clinic	5
Hospital Allopathic	0
Hospital Alternative Medicine	0
Dispensary	5
Veterinary Hospital	10
Mobile Health Clinic	0
Family Welfare Centre	5

Table 3.7: Infrastructure Facilities

Particulars	Available in village
Tap Water-Treated	38
Covered Well	20
Hand Pump	64
Tube Wells/Borehole	43
Post office	4
Bus services	52
Railway station	1
Commercial Bank	7
Cooperative bank	14

The details of the educational, medical and infrastructural facilities available in the buffer zone as per 2011 census is provided in **Annexures- 6-8**.

However, lot of improvements are observed in the amenities in the area now.

3.2.3 SAMPLE SURVEY:

3.2.3.1 OBJECTIVE:

The objective of the study is to understand the present socio-economic condition, availability of existing infrastructure facilities in the area & to know the needs of the people in the project peripheral villages, to provide an implementable future CER proposal pertaining to specific needs addressing local requirements.

3.2.3.2 APPROACH:

Nearby villages were visited for conducting study to know about socio-economic conditions, including aspirations and requirements of the people for a better living and collected relevant data. Informal discussions were conducted in the villages to capture the overall scenario of the village including their socio economic problems and the aspirations, desires of the community in overall terms.

Salient details of the study are given below:

- Study area is dominated with casurina plantation.
- Patches of agricultural lands are seen near the available irrigational facilities.
- Mining carried out in the southern side of the lease area due to presence of an elongated dyke of about 250m wide to more than 4km .
- Majority of the people are small farmers and others are working in the nearby crushers, mining , allied industries.
- Since agriculture is predominantly rainfed and the water is available only for few months, during the rest of the time they have less employment opportunities. Other occupations include construction workers, vendors, etc.
- Bore well is the main source for agriculture activities during non monsoon season. There are OHT's, Ground level tanks, public taps are available .
- Education facilities from primary upto higher secondary school are available locally.
- Basic medical facilities are available locally.
- Better facilities are available at Mylam, Tindivinaam & Pondicherry

3.2.4.3 IDENTIFIED CER ACTIVITIES:

The following activities are identified based on the survey, which will be modified and implemented based on the needs and requirements of the local people:

- Improving the facilities in the nearby Government school.
- Transport Road maintenance work.

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SOCIO PHOTOS



Kunnam – Primary school



Kunnam – PHC



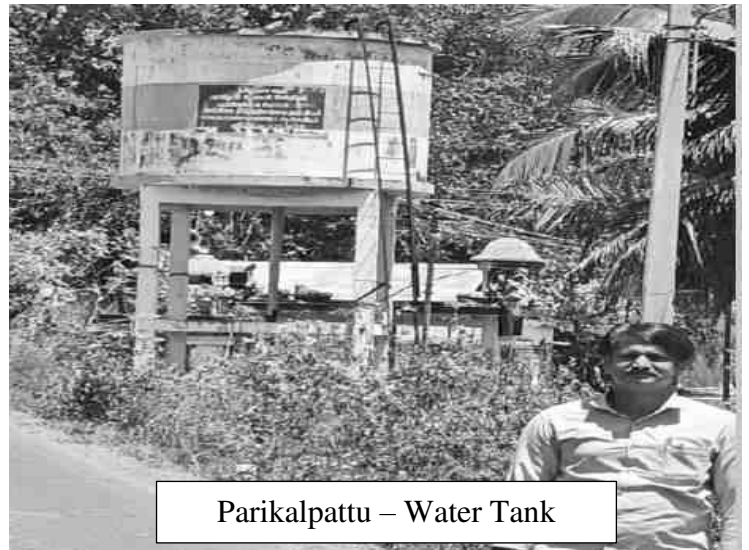
Perumbakkam – Library



Karasanur – GHSS, School



Sirunavur – Resen shop



Parikalpattu – Water Tank



3.3 EXISTING ENVIRONMENTAL QUALITY

3.3.1 MICRO-METEOROLOGY

3.3.1.1 General:

The meteorological conditions in an area regulate the dispersion of air pollutants being released into the atmosphere. The principal variables are horizontal convective transport i.e. wind speed and direction and vertical convective transport, i.e. mixing height, stability class and topography of the area.

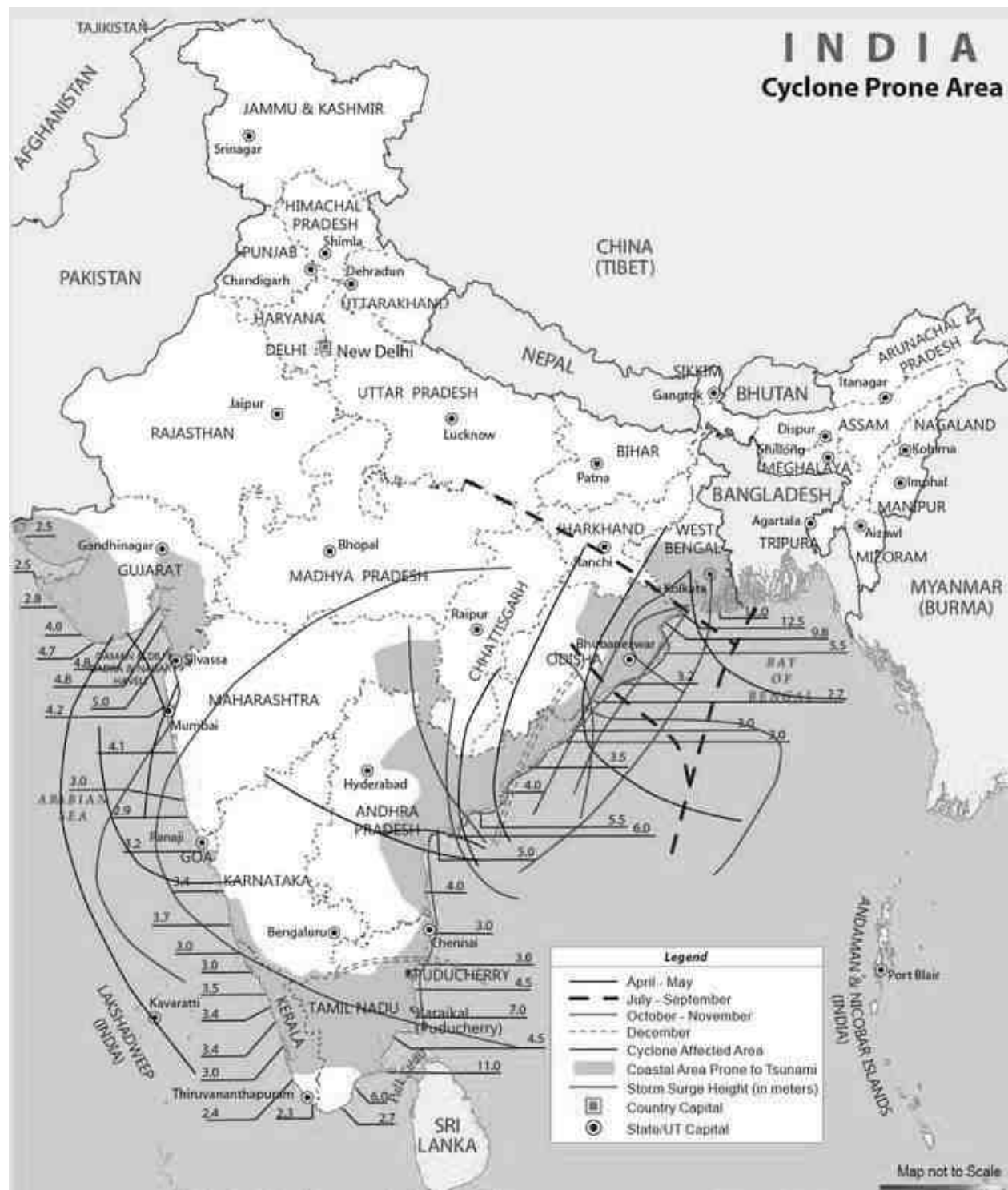
3.3.1.2 Historical Meteorological Data:

A. Cyclones And Depressions

Cyclonic storms and depressions in Bay of Bengal affect the East Coast of India. Isolated ones, forming in January to March in the South Bay of Bengal move West-North-westwards and hit Tamil Nadu coast. In April and May, cyclonic storms and depressions form in the South and adjoining Central Bay and move initially to the Northwest, then North and then recurve to the Northeast striking the Arakan coasts in April and Andhra Pradesh (AP)-Orissa-West Bengal (WB) – Bangladesh coasts in May. Most of the monsoon (June – September) storms develop in the central and in the north bay and move west – north - westwards affecting AP – Orissa – WB coasts. Post monsoon (October – December) storms form mostly in the south and central Bay, recurve between 150 and 180 N affecting Tamil Nadu – AP – Orissa – WB – Bangladesh coasts. **Figure No - 3.3** depicts the history of cyclonic storms, which have struck the Indian coast during the months of October, November and December during the last 75 years. (**Source: Vulnerability Atlas of India series, above figure accessed from www.maps of india.com**). East coast is prone to cyclonic storms round the year but mostly these occur prior to SW i.e., in May and after SW monsoon i.e., in October and November.

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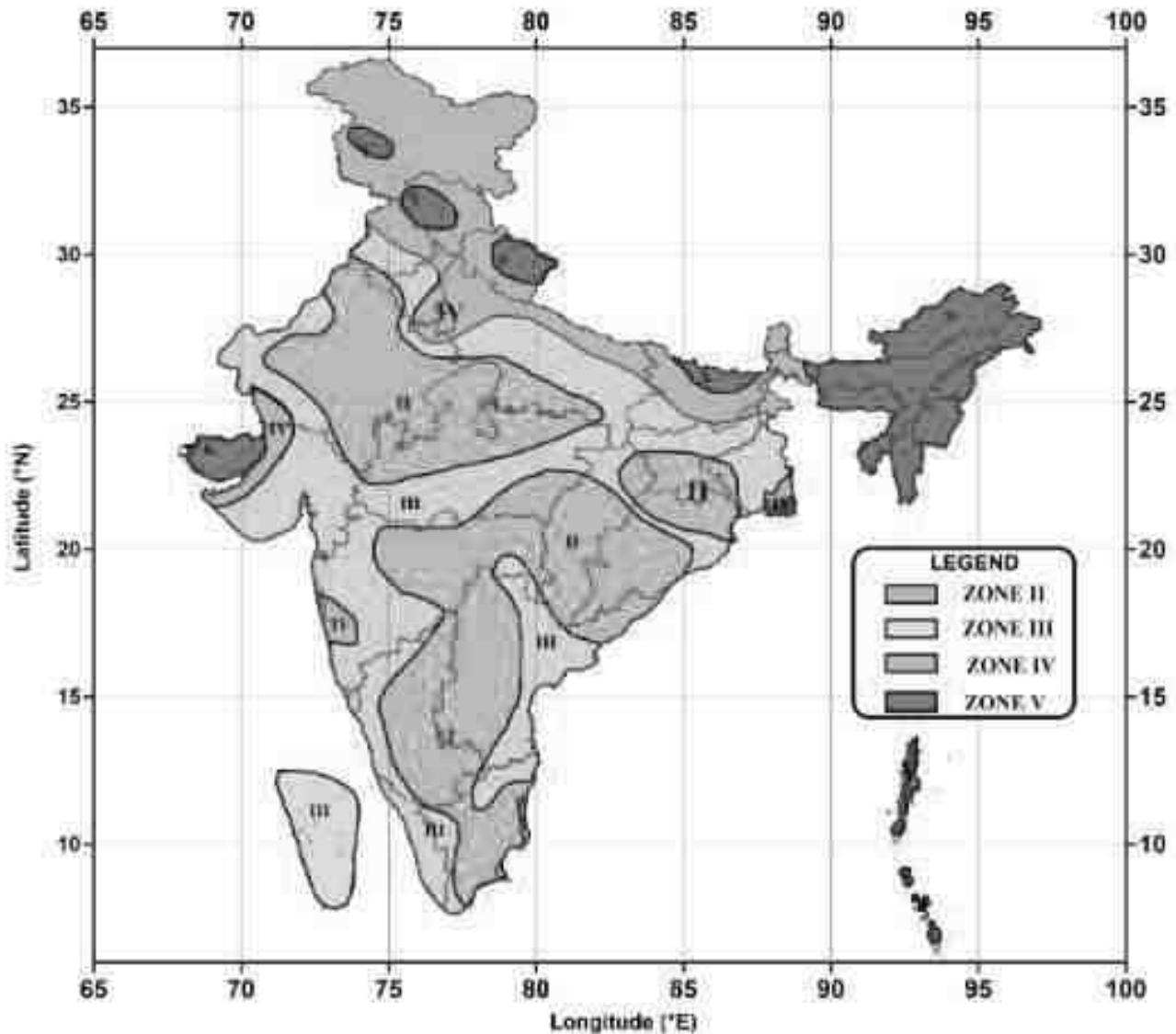
Figure 3.3: Cyclone Prone Areas



B. SEISMIC DATA

From the seismic zone map of India as depicted in the **Figure No - 3.4**, it can be seen that the project site and study area falls in the Zone – II and is described as least active zone.

Figure 3.4: Seismic Zone Map of India



C. Climate and Rainfall Data:

Meteorology is the key to understand the Air quality. The essential relationship between meteorological condition and atmospheric dispersion involves the wind in the broadest sense. Wind fluctuations over a very wide range of time, accomplish dispersion and strongly influence other processes associated with them.

CLIMATE AND RAINFALL DATA:

The district receives rainfall from southwest monsoon (June – September), northeast monsoon (October – December) and non-monsoon periods (January – May). The rainfall is generally heavy during low-pressure depressions and cyclones during the northeast monsoon period. The normal annual rainfall is 1119.8 mm (1901-1980) and the higher is towards coast.

The area falls under tropical climate with temperature in the summer months of March to May. The average temperature varies from 26 to 41°C. The humidity is also high in the order of 80%. The wind speed is high during the months of July and August. The wind speed ranges from 7.4 to 12.6 km/hr, which increases from 100 to 120 km/hr during cyclone period

- . Rainfall

Table 3.8: RAINFALL DATA

Years	2016	2017	2018	2019	2020	2021	2022	2023
Rainfall in mm	786.9	1073.30	792.70	985.80	973.20	954.10	1001.60	1084.50

3.3.1.3 SITE SPECIFIC METEOROLOGICAL DATA:

Micrometeorology and microclimatic parameters like wind velocity, wind direction, ambient temperature, relative humidity, were collected throughout the monitoring period.

DATA ANALYSIS:

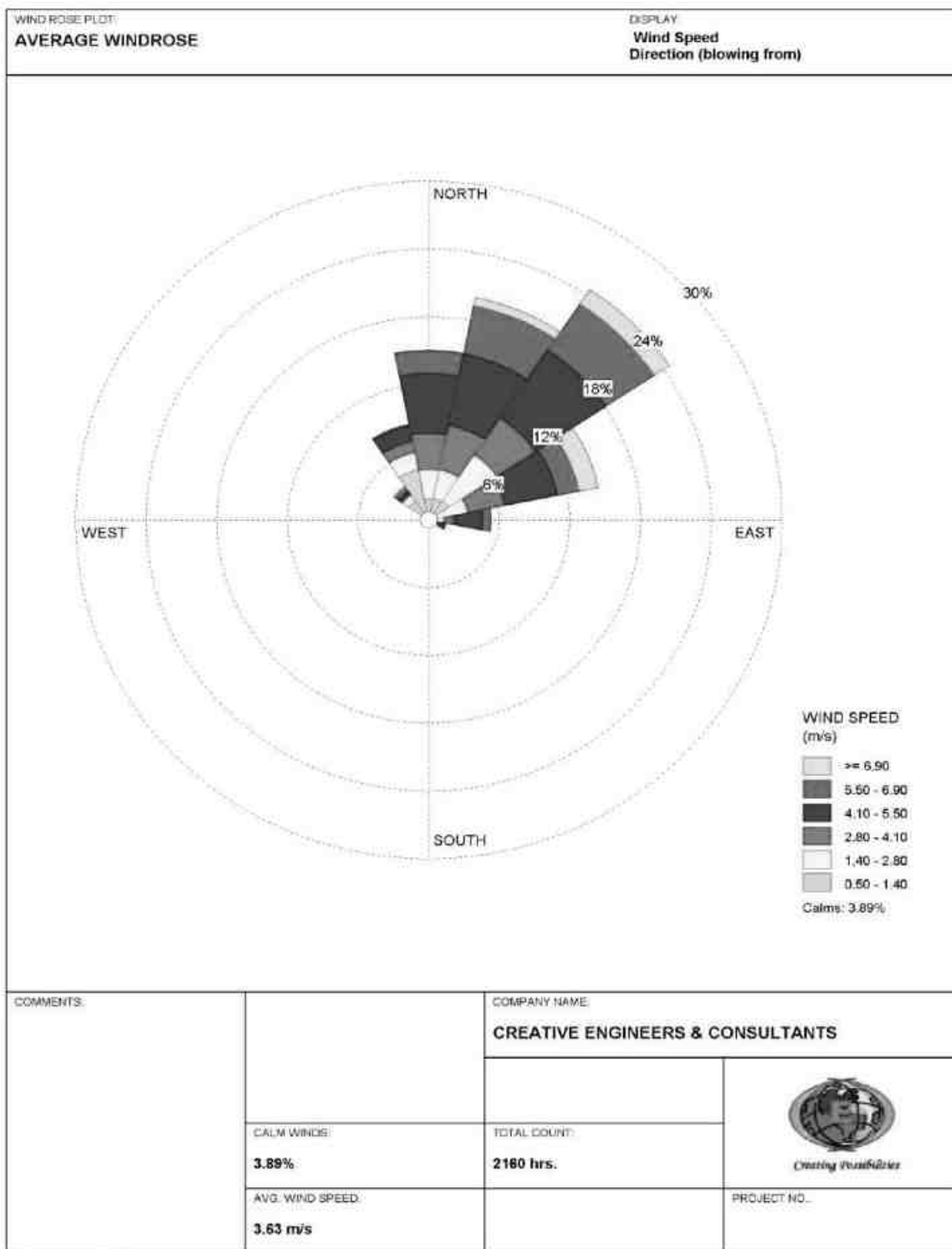
The temperature in the area during the study period ranged from 19.8°C to 32.1°C while the relative humidity varied between 46.0 – 99.0%. The wind speed during the study period ranged from <1.8 to 35.3 Km/hr. The predominant wind direction is from NE. The meteorological data are presented in **Table no – 3.9**. The average wind rose is depicted in **Figure No - 3.7**.

Table 3.9: Meteorological Data

Season: Winter Season, (December 2025 to Febraury 2026)			
S.NO	PARAMETERS	MIN	MAX
1	Temperature In °c	19.8	32.1
2	Humidity in %	46	99
3	Wind speed in km/hr	<1.8	35.3
4	Predominant wind direction from	NE	

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Figure 3.5: Average Wind Rose



3.3.2 AMBIENT AIR QUALITY (AAQ):

Ambient Air quality has been assessed through a network of 5 ambient air quality stations. The following methodology has been considered for design of ambient air quality monitoring network in the area. Based on these criteria, 5 numbers of air sampling stations were selected in the area as shown below in Table No.3.10.

- ❖ Topography / terrain of study area.
- ❖ Populated areas within study area.
- ❖ Residential /sensitive areas within study area.
- ❖ Magnitude of surrounding industries.0.9
- ❖ Representation of regional background levels.
- ❖ Representation of cross sectional distribution in down wind direction.
- ❖ Predominant wind direction and wind pattern.

Table 3.10: Air Quality Monitoring

1.	Monitoring Period	Winter Season (December 2025 to February 2026)
2.	Monitoring Location	The location map showing Ambient Air Quality study stations are shown in Figure No- 3.8 .
3.	Methodology	
	Parameter	Protocol
	a. Particulate Matter (PM10)	Gravimetric (IS 5182: Part 23:2017)
	b. Particulate Matter PM2.5	Gravimetric (IS 5182: Part 24:2019)
	c. Sulphur Dioxide	Colorimetric (West & Gaeke Method) (IS 5182: Part 02: 2017)
	d. Nitrogen Dioxide	Colorimetric(Modified Jacob & Hocheiser Method) (IS 5182: Part 06:2017)
	e. Carbon Monoxide	CO Monitor
4.	f. Silica	Colorimetric (Molybdate Method) NIOSH 7601 -2003
	Monitoring Frequency	2 days in a week, 4 weeks in a month for 3 months in a season.

Table 3.11: Air Quality Monitoring Locations

S.NO	LOCATION CODE	LOCATION	DISTANCE FROM CORE ZONE (KM)	DIRECTION
1	A1	Near Lease Area	-	-
2	A2	Perumbakkam Village	1.3km	SW
3	A3	Parikkal pattu Village	940m	NW
4	A4	Kunnam Village	1.2km	SE
5	A5	Siruvarur Village	1.4km	E

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Figure 3.6: Ambient Air Quality Study Stations



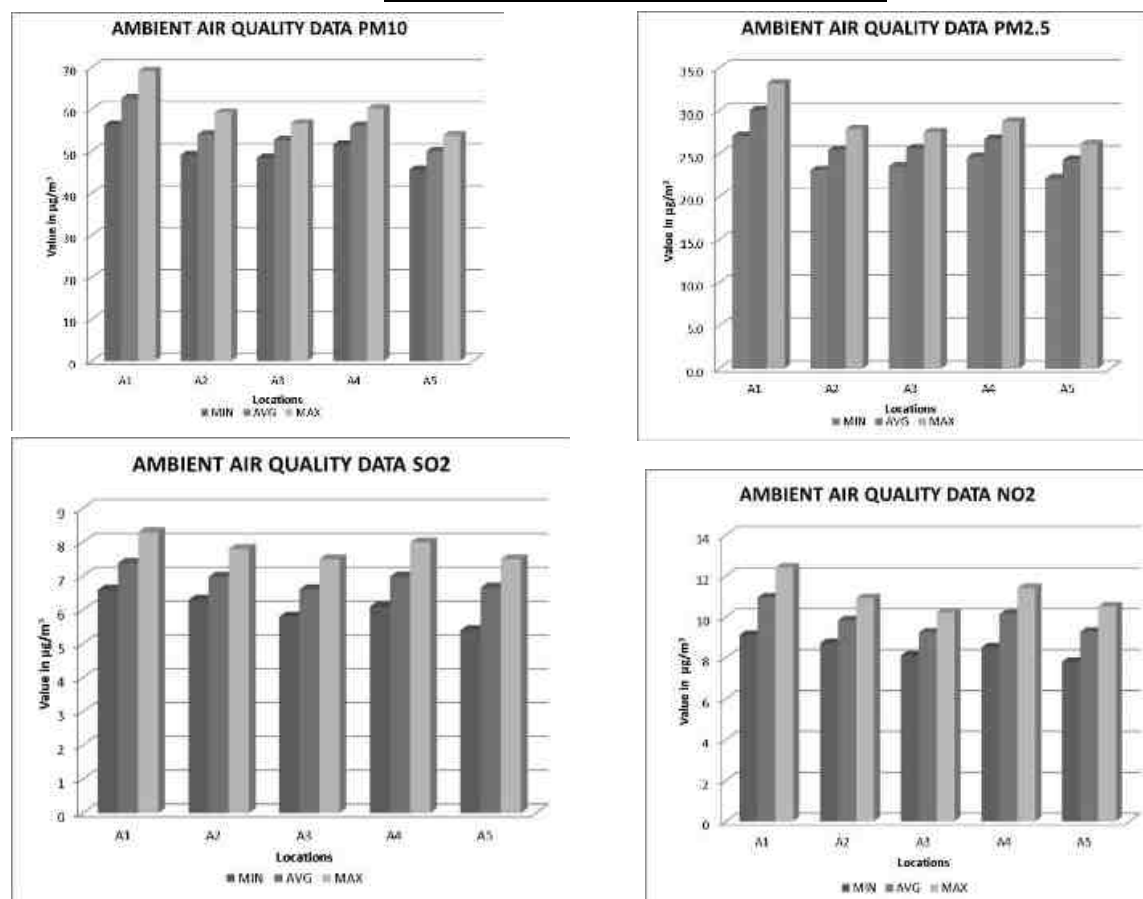
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Table 3.12: Ambient Air Quality Data

All Value in $\mu\text{g}/\text{m}^3$													
PARAMETERS	Cat.*	PM ₁₀			PM _{2.5}			SO ₂			NO ₂		
LOCATIONS		MIN	AVG	MAX	MIN	AVG	MAX	MIN	AVG	MAX	MIN	AVG	MAX
A1-Near Lease Area	I	56.3	62.6	69.1	27.0	30.0	33.2	6.6	7.4	8.3	9.1	10.9	12.4
A2-Perumbakkam Village	R	49.1	54.0	59.2	23.1	25.4	27.8	6.3	7.0	7.8	8.7	9.8	10.9
A3-Parikkal pattu Village	R	48.4	52.7	56.6	23.5	25.6	27.5	5.8	6.6	7.5	8.1	9.2	10.2
A4-Kunnam Village	R	51.6	56.0	60.2	24.6	26.7	28.7	6.1	7.0	8	8.5	10.1	11.4
A5-Siruvarur Village	R	45.6	50.0	53.8	22.1	24.3	26.1	5.4	6.7	7.5	7.8	9.3	10.5
NAAQ Limits		PM ₁₀			PM _{2.5}			SO ₂			NO ₂		
	*	100			60			80			80		
	**	100			60			80			80		

***Note:** Category: * - Industrial, Residential, Rural and other area, ** – Ecologically Sensitive Area (notified by Central Government)

Figure 3.7: Ambient Air Quality Data



3.3.2.1 Results and Discussion:

The AAQ monitored data for all locations for above parameters are shown in **Table No - 3.12** and in **Figure No - 3.10**. Ambient Air Quality data during the study period is given in **Annexure-9**. From the table it is seen that, in the ambient air, the PM₁₀ values were in the range of 45.6-69.1 µg/m³. PM_{2.5} values were in the range of 22.1-33.2 µg/m³. SO₂ levels were ranging from 5.4–8.3 µg/m³. NO₂ levels were ranging from 7.8 - 12.4 µg/m³.

The existing Ambient Air Quality levels for PM₁₀, PM_{2.5}, SO₂ and NO₂, are within the NAAQ standards prescribed CPCB limits of 100 µg/m³, 60 µg/m³, 80 µg/m³ & 80 µg/m³. The CO values in all the locations were found to be below detectable limit. Silica values in the study area are found to be below detectable limit. (Detection limit – 0.05 mg/m³)

3.3.3 WATER ENVIRONMENT:

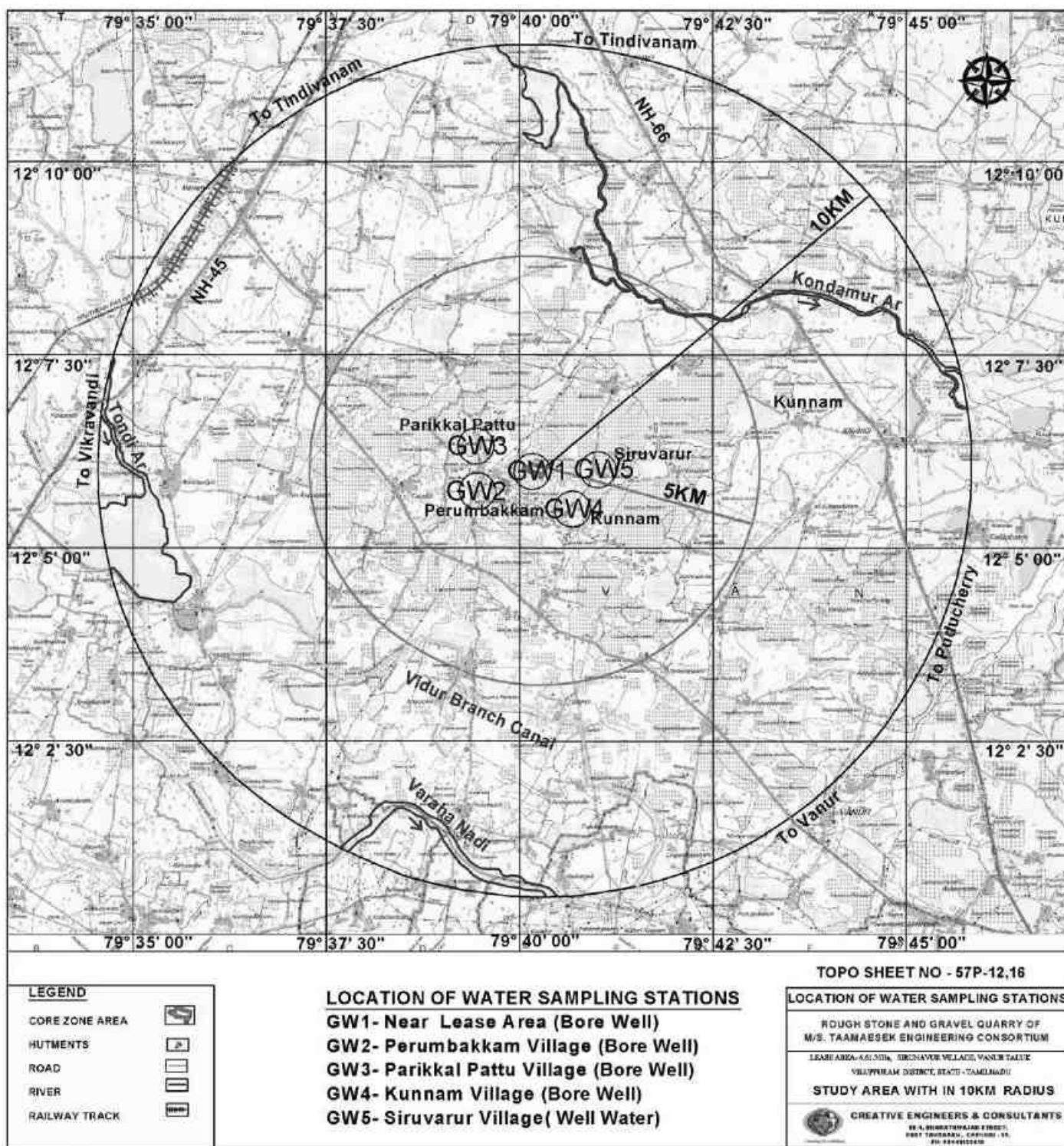
Assessment of baseline data on water environment includes Identification of water resources, Collection of water samples and Analyzing water samples collected for physico-chemical parameters as per standards. The water sampling was carried out for 5 locations. Details of the same has been provided below:

Table 3.13: Water Quality Monitoring

1.	Monitoring Period		Winter Season (December 2025 to February 2026)		
2.	Monitoring Location		The location map showing water sampling locations are given in Figure No.3.11 .		
	Code	Location	Sample Type	Distance	Direction
	GW1	Near Lease Area	Bore well	-	-
	GW2	Perumbakkam Village	Bore well	1.3km	SW
	GW3	Parikkal pattu Village	Bore well	940m	NW
	GW4	Kunnam Village	Bore well	1.2km	SE
	GW5	Siruvapur Village	Well Water	1.4km	E
3.	Methodology		Sampling - IS 3025 Part - I		
			Analysis – IS 3025 relevant parts / APHA 23rd Edition		

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Figure 3.8: Location of Water Sampling Stations



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Table 3.14: Summary of Water Quality Data

Season	Winter Season (December 2025 to February 2026)	
Monitoring Locations	5 locations	
Parameters	Range of values	Limits*
pH at 25 °C	6.91 – 7.72	6.5-8.5
Total Dissolved Solids, mg/L	240 – 1090	2000
Chloride as Cl ⁻ , mg/L	46.20 – 348	1000
Total Hardness (as CaCO ₃), mg/L	86.0 – 518.76	600
Total Alkalinity (as CaCO ₃), mg/L	148– 530	600
Sulphates as SO ₄ ²⁻ , mg/L	19.30 – 244	400
Iron as Fe, mg/L	0.05 – 0.11	0.3
Nitrate as NO ₃ , mg/L	1.56 – 3.86	45

3.3.3.1 Results and Discussion:

The results of the water sample analysis are shown in **Table No - 3.14**. The pH values of bore well water were ranging in between 6.91 – 7.72, TDS values were in the range of 240 – 1090mg/L. Chloride values were ranging from 46.20 – 348mg/L. Iron content was found to be in the range 0.05 – 0.11mg/L. The water quality of ground water is found to be within the prescribed Permissible limits of IS: 10500 Norms in the absence of an alternative source as per Drinking Water Specifications. The water quality data is provided in **Annexure-10**.

3.3.4 NOISE ENVIRONMENT:

Opearional phase of this project may lead to increase noise levels from the existing levels at least in and around the project area. As noise level beyond permissible limits will cause adverse impacts on the environment, it has become imperative to assess the noise levels in and around the mine area. Noise level measurements were taken at the 6 locations during the monitoring period. Details of the same are provided below:

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Table 3.15: Noise Level Monitoring

1.	Monitoring Period	Winter Season (December 2025 to February 2026)		
2.	Monitoring Location	The location map showing noise monitoring locations are given in Figure No.3.11.		
	Code	Location	Distance	Direction
	N1	Near Lease Area	-	-
	N2	Perumbakkam Village	1.3km	SW
	N3	Parikkal pattu Village	940m	NW
	N4	Kunnam Village	1.2km	SE
	N5	Sirubarur Village	1.4km	E
3.	Methodology	Noise levels were measured using sound level meter manufactured by (Model No - SL- 4001, Make - Lutron). Sound Pressure Level (SPL) measurements were measured at all locations where ambient air quality monitored; one reading for every hour was taken for 24 hours.		
4.	Monitoring Frequency	Once during monitoring period		



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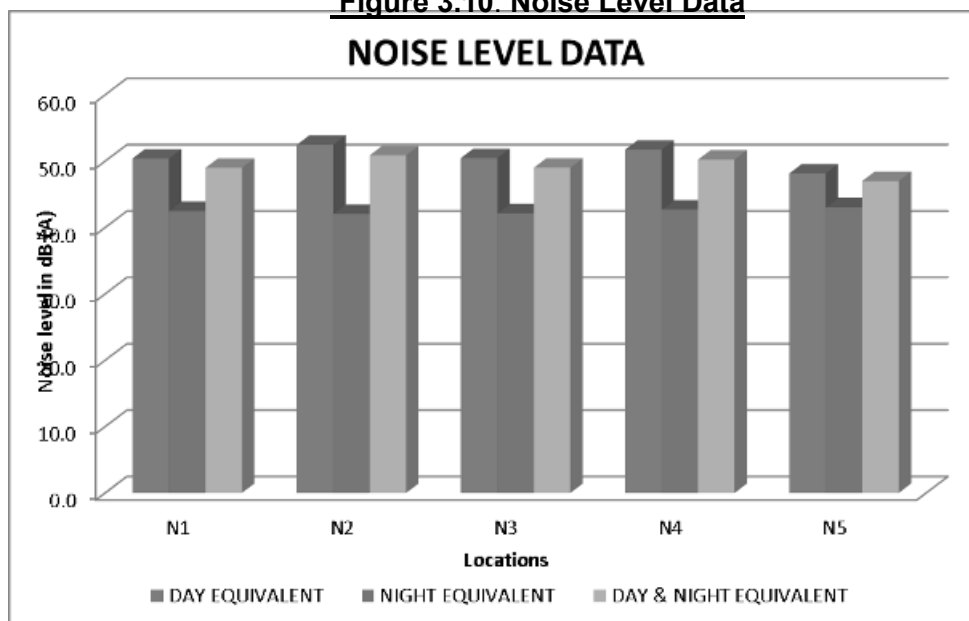
Figure 3.9: Location of Noise Sampling Stations



Table 3.16: Ambient Noise Level in dB (A)

Date and time of monitoring	N1	N2	N3	N4	N5
Day Equivalent	50.4	52.5	50.5	51.7	48.2
Night Equivalent	42.5	42.1	42.1	42.7	43.0
Day & Night Equivalent	49.0	50.9	49.0	50.2	47.0
Limits: As per CPCB: Work zone Exposure in 8 hr - 90 dB(A)					
As per MoEF&CC: Residential: Day equivalent - 55 dB(A); Night equivalent - 45 dB(A)					

Figure 3.10: Noise Level Data



3.3.4.1 Results and Discussion:

The results of noise levels for all locations are given in **Table No-3.16**. The noise values for all above locations are shown in a comparative chart given in **Figure No - 3.12**. Day Equivalent Noise (Leq-d levels were ranging from 48.2 dB(A) to 52.5 dB(A) and night Equivalent Noise (Leq-d) levels ranged between 42.1 dB(A) to 43.0 dB(A). While comparing with the MOEF&CC Norm of 55 dB(A) for day time and 45 dB(A) for night time, the monitored ambient noise levels were within the limit values for Residential areas.

3.3.5 SOIL CHARACTERISTICS:

Soil samples were collected in 5 locations in the core and buffer zone to analyse the physiochemical characteristics of the soil in the area. Elaborate details of the same has been provided below.

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Table 3.17: Soil Quality Monitoring

1.	Monitoring Period	Winter Season (December 2025 to February 2026)		
2.	Monitoring Location	The location map showing soil sampling locations are given in Figure No.3.13.		
	Code	Location	Distance	Direction
	S1	Near Lease Area	-	-
	S2	Perumbakkam Village	1.3km	SW
	S3	Parikkal pattu Village	940m	NW
	S4	Kunnam Village	1.2km	SE
	S5	Sirubarur Village	1.4km	E
3.	Methodology	Composite soil samples using sampling augers and field capacity apparatus.		
4.	Monitoring Frequency	Once during monitoring period		



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Figure 3.11: Location of Soil Sampling Stations



Table 3.18: Soil Quality Data

S.No	Parameters	Unit	S1	S2	S3	S4	S5
1	pH at 25°C	-	8.12	7.05	7.49	7.92	6.56
2	Electrical Conductivity	(µmhos/cm)	205.5	274.6	290.8	136.2	194.2
3	Dry matter content	%	92.56	90.74	96.57	98.75	94.25
4	Water Content	%	7.44	9.26	3.43	1.25	5.75
5	Organic Matter	%	0.58	0.62	0.45	0.71	0.69
6	Soil texture	-	SILTY CLAY	SILTY CLAY	CLAY	SILTY CLAY	SILTY CLAY
7	Grain Size Distribution i. Sand	%	6.64	2.89	5.12	8.81	5.76
8	ii. Silt	%	35.65	58.02	37.65	39.88	44.59
9	iii. Clay	%	57.71	39.09	57.23	51.31	49.65
10	Phosphorous	µg/g	0.45	0.69	0.74	1.25	1.03
11	Sodium	mg/kg	211	725	793	99	1010
12	Potassium	mg/kg	193	287	384	103	649
13	Total Nitrogen	mg/kg	196	274	290	398	172
14	Total Sulphur	%	BDL(D.L.0.02)	BDL(D.L.0.02)	BDL(D.L.0.02)	BDL(D.L.0.02)	BDL(D.L.0.02)
15	WHC	-	44	40	40	42	38
16	Porosity	%	19.9	17.8	18.7	15.5	18.6

3.3.5.1 Results and Discussion:

Results of the soil samples show that the pH values were ranging between 6.56 to 8.12 and Electrical Conductivity values were ranging between 136.20 – 290.80 µmhos/cm. Soils are generally Silty Clay type. Organic matter values were ranging between 0.45 – 0.71%. Total Nitrogen values were ranging between 172 - 398mg/kg. Phosphorus values were ranging between 0.45 – 1.25 µg/g. Potassium values were ranging between 103 -649 mg/kg. Sodium values were ranging between 99 -1010 mg/kg. Total Sulphur values were observed to be BDL. The soil quality data for the 5 samples collected and analyzed are provided in **Table No – 3.18.**

3.4 LAND ENVIRONMENT - LANDUSE & LAND COVER

For preparing an impact statement, aspects of the land conditions are covered under land use. An industrial project / mine can cause changes in land use, soil process in different intensities depending upon the size of the project and distance involved between the industries and the area. Here, land use status for a radius of 10 km has been studied.

3.4.1 DATA USED AND METHODOLOGY

For the present study on land use pattern of buffer area around the proposed stone and gravel quarry, an archived historical data of Landsat 8 data shas been used as base data (Figure No.3.15) has been used to generate the require landuse map showing their spatial pattern within the buffer area. The table showing data used for generation of information on landuse and subsequent GIS analysis is given below

Table 3.19: RS satellite image used for the present study

S.No	Type of Data	Date	Generated Map
1.	Landsat 8	Feb 2026	Landuse (LU) Map showing 10 Km buffer zone

Interpretation of satellite image requires understanding of relationship between image elements and their respective terrain elements. Since, in the present study, the landuse information is obtained using visual interpretation, an interpretation key is generated. The image elements such as color, tone, texture, size, shape and associated elements have been used to delineate various landuse categories. The landuse categorization and nomenclature used in the present study is based on the national level landuse classification system, which is adopted for the entire country as recommended by National Remote Sensing Centre (NRSC), Department of Space, Government of India.

Figure 3.12 : Landsat 8 Satellite Data of the Study Area

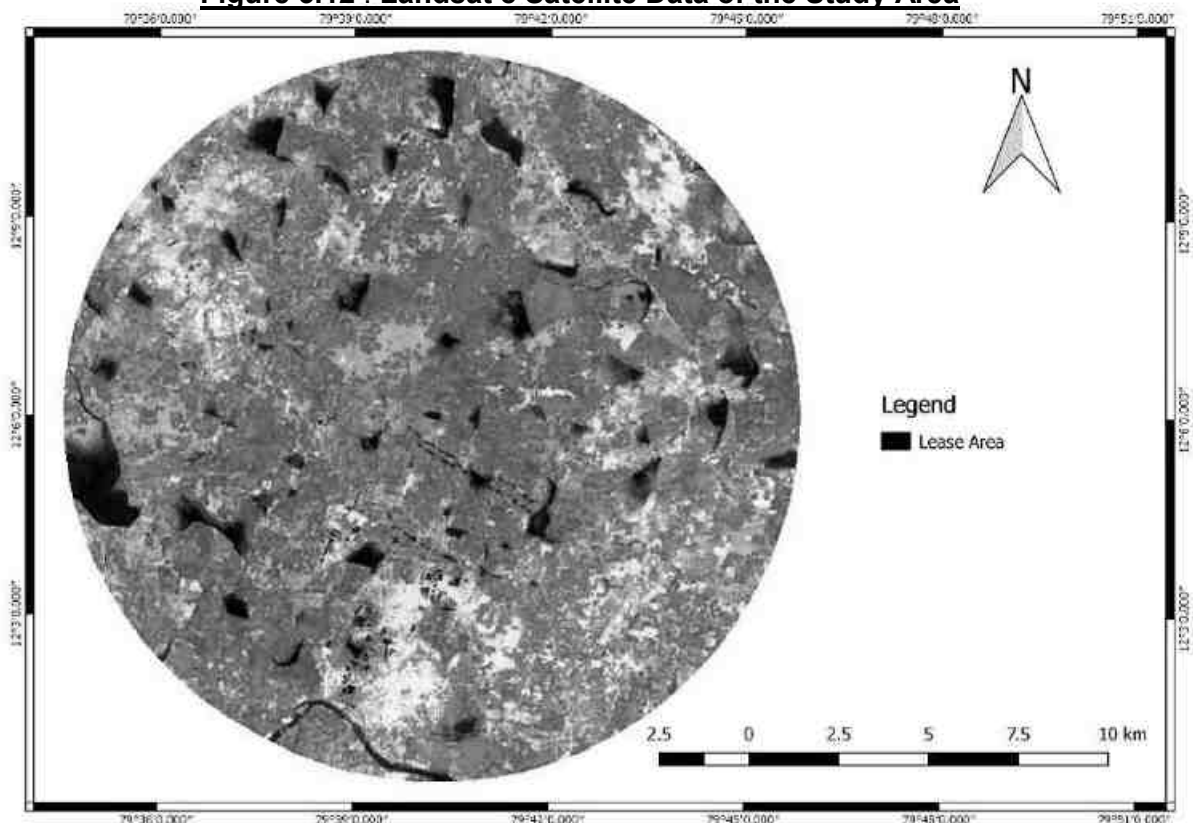


Table 3.20: Major Landuse Units of the Study Area

S.No	Major Category	Landuse unit
1	Built-Up Land	Village, Town, Industrial / Vacant Area
2	Agricultural Land	Crop Land /Fallow Land/ Plantation/ Farm Land
3	Forest Land	Open Scrub Forest
4	Waste Land, Mining Area	Land With Scrub/ Land Without Scrub/ Barren Rocky/ Stony Waste Quarries / Abandoned Quarries
5	Waterbodies	Tanks/ Rivers / Streams

Such LandUse and Land cover (LULC) categories have been verified using field check and identified sample sites within the buffer area, verified on field and transferred into gis geo-coordinates using observation coordinates received from hand held GPS (global positioning system) instrument. Thus, an interpreted final landuse map has been generated (Figure No. 3.16) using above such elaborate procedure and transformed into GIS environment for its spatial distribution and area estimation. Spatial nature and extent of various landuse categories within the buffer area is discussed is given below:

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Land Use Photos



Figure 3.13: Map Showing Land Use Categories around 10km Buffer

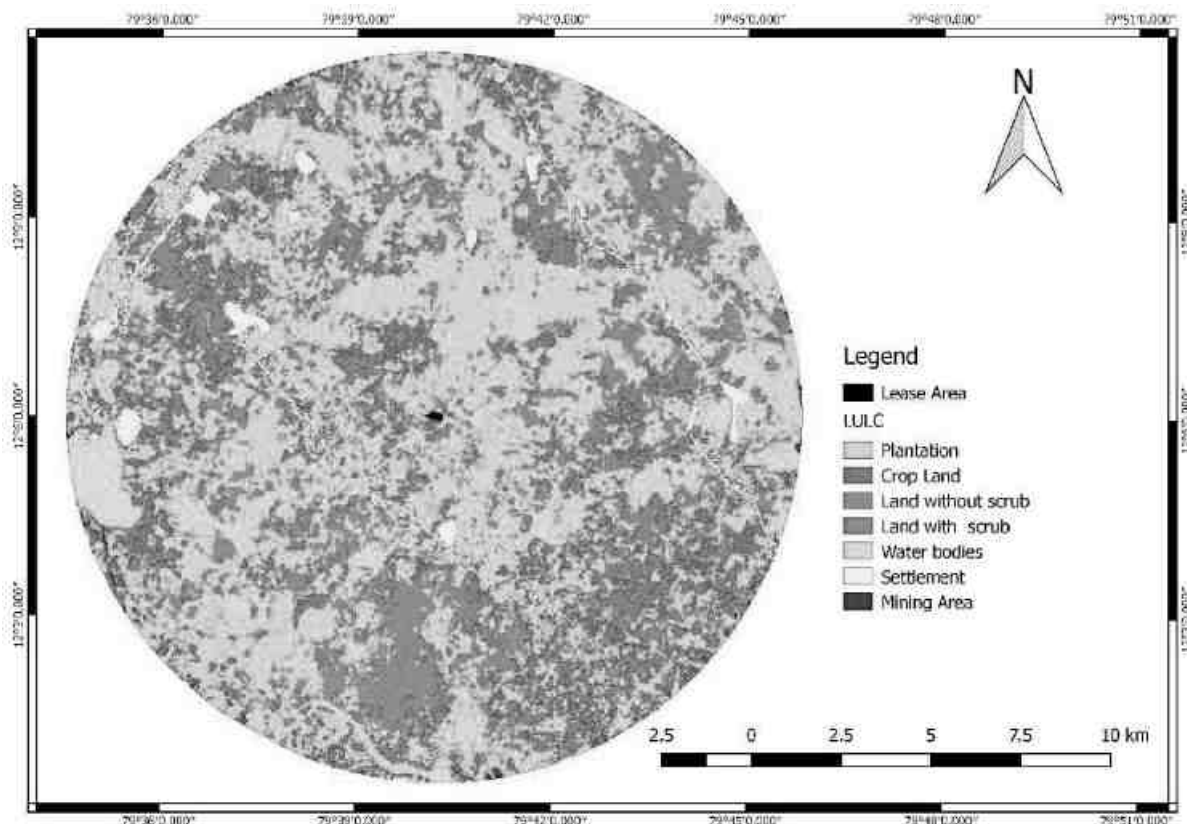


Table 3.21: Area Estimation of Landuse Categories in Buffer Zone

S.No	Landuse Feature	Area (Sq.Km)	Percentage
1	Plantation	164.19	50.24
2	Agriculture/ Fallow Land	37.25	11.40
3	Land Without Scrub	66.94	20.48
4	Land With Scrub	22.61	6.92
5	Water bodies	23.12	7.07
6	Settlement	11.37	3.48
7	Mining	1.36	0.42
	Total	326.84	100

From the above table it is seen that 50.24 % of the buffer area is classified under Plantation, 11.40 % of Agriculture/ Fallow land, 20.48 % constitutes land without scrub, 6.92 % constitutes land with scrub, 7.07 % constitutes water bodies and the balance falls under other land use categories. Plantation of casurina is dominant in the study area.

.LAND USED BASED ON REVENUE RECORDS:

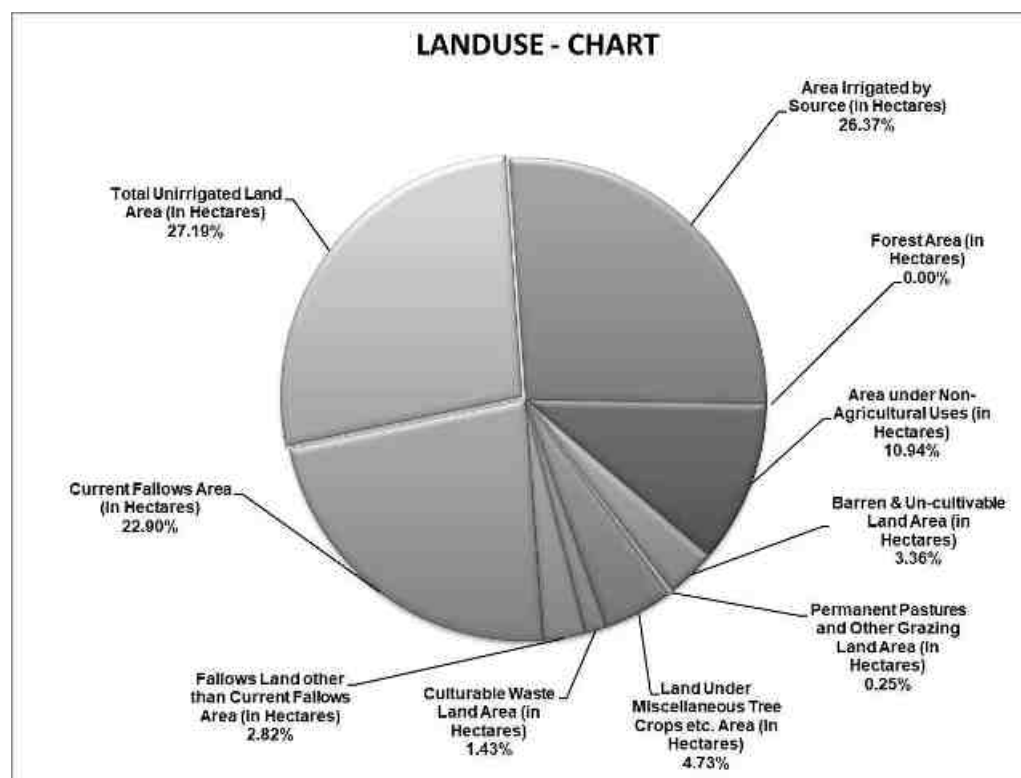
The lease area falls in sirunavur Villae, Vanur Taluk, Viluppuram District, Tamil Nadu state and the study area for the land use pattern (10 km radius) has been divided into four zones viz. Zone-I (0-2 km), Zone-II (2-5 km), Zone-III (5-10 km) and Zone-IV (0-10 km) respectively. The land use pattern of the study area falling within 10 km radius around the proposed project area is presented in Table no - 3.22. Village wise land use pattern is provided in **Annexure-11**.

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Table 3.22: Land Use Pattern of the Study Area Falling Within 10 Km Area in (Ha)

VILLAGE NAME	Total Geographic al Area	Forest Area	Area under Non-Agricultural Uses	Barren & Un-cultivable Land Area	Permanent Pastures and Other Grazing Land Area	Land Under Miscellaneous Tree Crops etc. Area	Culturable Waste Land Area	Fallows Land other than Current Fallows Area	Current Fallows Area	Total Un irrigated Land Area	Area Irrigated by Source
0- 2 KM	1581.69	0	16.32	149.4	0	0.36	16.31	7.5	696.84	521.04	173.92
2 - 5 KM	10810.16	0	488.43	187.22	34.62	474.38	379.22	691.43	2307.29	3180.15	3067.42
5-10 KM	24006.73	0	3477.82	886.19	57.64	1248.41	125.31	327.9	5331.04	6194.17	6358.25
0-10 KM	36398.58	0	3982.57	1222.81	92.26	1723.15	520.84	1026.83	8335.17	9895.36	9599.59

Figure 3.14: Landuse within the Buffer Zone Area



3.5 BIOLOGICAL ENVIRONMENT:

Study of the biological environment of any area comprises of well-planned ecological survey for the floristic and faunal composition of the areas through various scientifically planned techniques.

3.5.1 FLORA:

An ecological survey of the study area was conducted with reference to listing of species and assessment of the existing baseline ecological conditions. The objective of the survey is as follows:

- ❖ Generate existing data from field observations of various terrestrial floristic occurrences.
- ❖ Collect secondary data from Government records as well as through discussion with Forest officials, knowledgeable public etc.,
- ❖ Compare the data with authentic past records to identify changes, if any.
- ❖ Identify the impact of project operations on the biological aspects.

To accomplish the above objectives, a general ecological survey covering an area of 10 km radius was conducted. The locations were identified for phyto-sociological aspects to assess the current status.

3.5.1.1 Sampling Methodology:

In order to provide representative ecological status for the study area, the 10-km radius buffer area has been divided into four quartiles for biodiversity sampling, i.e., NE (Q-1), NW (Q-2) SW (Q-3) and SE (Q-4). Each of the quartiles have been examined for representative flora on randomly sampled quadrats for trees (10x10 m), shrubs (5x5 m) and herbs (1x1 m) depending upon prevailing geographical conditions and bio-diversity aspects of study area.

Phyto-sociological Survey: Phyto-sociological parameters, viz., Abundance (i.e., density), average and minimum stems were measured to determine the distribution and ecological aspects of the species. Abundance is a measure of the density of distribution of an individual species within a given area. It is calculated by summed individuals of a species. Average species number is calculated for all quadrates; similarly, minimum number of individuals represented is recorded

at quadrats level. A total of 5 quadrats were laid down in core area and a total of 20 quadrats were laid out in four quartiles (5 each) of buffer area.

Quadrats method for flora : A total of 100 x 100 m Grid was laid for buffer zone of 300m from Core Zone. In that grid 10 × 10m sub-quadrat were laid down randomly within core, PIZ and 10kms buffer area; each quadrat was laid to assess the trees (>5 cm GBH) and 5 × 5 m sub-quadrat nested within the quadrat for shrubs and two plot 1 × 1 m for herbs. The quadrats were laid apart to maximize the sampling efforts and minimize the species homogeneity, such as small stream area, Mining area, Working pit, Old quarries, agricultural areas, tank bunds, farm forestry plantations, natural forest area, avenue plantations, house backyards, etc. In each sample quadrat, individuals belonging to tree, shrub and herb species were recorded separately, and have been identified on the field. The prevailing land use and habitat quality has been noted down for each location on the field.

Vegetation Analysis using index: Species diversity will be calculated by using Shannon and Wiener (1963) formula as follows:

$$H' = - \sum_{i=1}^R p_i \ln p_i$$

Whereas,

H' is Shannon index of general diversity,

p_i is often the proportion of individuals belonging to the i th species in the dataset of interest.

Evenness index was calculated as: $E = H'/H_{max}$,

Whereas $H_{max} = \log_2$ (number of species in the plot)

A.CORE ZONE:

The proposed lease area is a non forest, private land. The lease area is almost barren with few grasses & shrubs. The detailed list of plants found in the core zone are given in Table no – 3.23.

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Table 3.23: List of Floristic Species in the Core Zone

Sl.No	Species Name	Family	Common Name
Trees			
1	Prosopis juliflora	Arecaceae	Panna-maram
2	Borassus flabelliformis	Fabaceae	Cimaikkaruvel
3	Acacia nilotica	Fabaceae	Karuvelan
Shrubs			
1	Lantana camara	Verbenaceae	Unni chedi
2	Calotropis gigantea	Apocynaceae	Yerukku
3	Jatropha gossypifolia	Euphorbiaceae	Seemayavanakku
Herbs			
1	Achyranthes aspera	Amaranthaceae	Nayuruvi
2	Ocimum sanctum	Lamiaceae	Thulasi
3	Sida acuta	Malvaceae	Palambasi
4	Parthenium hysterophorus	Asteraceae	Parthenium
5	Andrographis paniculata	Acanthaceae	Kirayt



B.BUFFER ZONE:

The Dominated species in the buffer zone are casurina farms , Borassus flabellifer, Prosopis juliflora, Sygygium cumuni, Albizia lebbeck, Acacia auriculiformis, Azadirachta indica, etc. The detailed list of plants found in the Buffer zone is given in Table no – 3.26.

Table 3.24: List of Floristic Species in the Buffer Zone

Sl.No	Scientific name	Family	Common Name
Trees			
1	Terminalia arjuna	Combretaceae	Marudha Maram
2	Manilkara zapota	Sapotaceae	Sappota
3	Ficus benghalensis	Moraceae	Aalamaram
4	Atalantia monophylla	Rutaceae	Kattu Elumeachi
5	Peltophorum pterocarpum	Fabaceae	Kilukiluppai
6	Eucalyptus grandis	Myrtaceae	Gum tree
7	Carica papaya	Caricaceae	Pappali
8	Pongamia pinnata	Fabaceae	Pungai
9	Albizia odoratissima	Fabaceae	karu-vakai
10	Bambusa vulgaris	Poaceae	Bamboo
11	Muntingia calabura		
12	Acacia catechu	Fabaceae	Karanagalli
13	Samanea saman	Fabaceae	Amaivagai
14	Mangifera indica	Anacardiaceae	Maamaram
15	Azadirachta indica	Meliaceae	Vembu
16	Vachellia nilotica		
17	Borassus flabelliformis	Arecaceae	Panna-maram
18	Ziziphus jujubha	Rhamanaceae	Elandhai
19	Bauhinia racemosa	Fabaceae	Tataki
20	Acacia horrida	Fabaceae	Karuvelai
21	Polyalthia longifolia	Annonaceae	Nietilingam
22	Madhuca longifolia	Sapotaceae	Iluppai
23	Acacia auriculiformis	Fabaceae	Pencile tree
24	Delonix regia	Fabaceae	Gulmohar
25	Aegle marmelos	Rutaceae	Vilvamaran
26	Murraya koenigii	Rutaceae	Curry leaf
27	Acacia nilotica	Fabaceae	Karuvelan
28	Cassia fistula	Fabaceae	Konrai
29	Casuarina equisetifolia	Casuarinaceae	Savukku

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Sl.No	Scientific name	Family	Common Name
30	Citrus limon	Rutaceae	Lemon
31	Prosopis juliflora	Fabaceae	Seemai karuvel
32	Annona reticulata	Annonaceae	custard apple
33	Leucaena leucocephala	Fabaceae	Subabul
34	Tectona grandis	Verbenaceae	Tekku
35	Mimusops elengi	Sapotaceae	Magizhamboo
36	Ficus hispida	Moraceae	Aarasu
37	Caesalpinia pulcherrima	Fabaceae	Mayilkondrai
38	Terminalia chebula	Combretaceae	Kadukkai
39	Albizia amara	Fabaceae	Vagai
40	Eucalyptus globulus	Myrtaceae	Gum tree
41	Albizia lebbeck	Leguminosae	
42	Pithecellobium dulce	Fabaceae	Kodukkapuli
43	Morinda tinctoria	Rubiaceae	Nuna
44	Musa paradisiaca	Musaceae	Valzhlai
45	Bridelia retusa	Phyllanthaceae	
46	Moringa oleifera	Moringaceae	Murungai
47	Delonix elata	Fabaceae	Perungondrai
48	Acacia leucophloea	Fabaceae	Valvelam
49	Terminalia catappa	Combretaceae	Badam Tree
50	Thespesia populnea	Malvaceae	Puvarasu
51	Cassia siamea	Caesalpinaceae	Manjal konrai
52	Ficus religiosa	Moraceae	Poarasamaram
53	Phyllanthus emblica	Euphorbiaceae	Nelli
54	Psidium guava	Myrtaceae	Koyya
55	Phyllanthus acidus		
56	Calophyllum inophyllum	Calophyllaceae	
57	Morinda citrifolia		
58	Ziziphus mauritiana	Rhamanaceae	Elandhai
59	Tamarindus indica	Fabaceae	Puli
60	Anacardium occidentale	Anacardiaceae	Munthiri
61	Cocus nucifera	Arecaceae	Tennai
62	Syzygium cumuni	Myrtaceae	Naval
63	Annona squamosa	Annonaceae	Siththa
64	Millingtonia hortensis	Bignoniaceae	Maramalli
Shrubs			
1	Cassia auriculata	Aavarampoo	Fabaceae

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Sl.No	Scientific name	Family	Common Name
2	Euphorbia tirucalli	kalli	Euphorbiaceae
3	Abrus precatorius	Kundumani	
4	Euphorbia antiquorum	Chaturakalli	
5	Tecoma stans	Yellow trumpetbush	Bignoniaceae
6	Senna auriculata	Avarai	
7	xoracoc cineba	Idlipoo	
8	Hydrophila auriculata	Neermulli	
9	Strychnos nuxvomica	kagodi	Loganiaceae
10	Dodonaea viscosa	viraali	Sapindaceae
11	Lantana camara	Unnichi	Verbenaceae
12	Grewia abutilifolia	Pampukonta	Tiliaceae
13	Solanum xanthocarpum	Kantankattiri	Solanaceae
14	Catharanthus roseus	Nithyakalyani	
15	Opuntia dillenii	Cappattukkalli	Cactaceae
16	Hibiscus rosa-sinensis	Chemparuthi	
17	Aloe vera	Chotthu kathalai	Asphodelaceae
18	Nerium indicum	Arali	
19	Glycosmis mauritiana		Rutaceae
20	Adhatoda vasica	Adhatoda	Acanthaceae
21	Carissa spinarum		Apocynaceae
22	Ixora coccinea	Idlipoo	Rubiaceae
23	Ricinus communis	Amanakku	Euphorbiaceae
24	Opuntia elatior	Cappattukkalli	Cactaceae
25	Calotropis gigantea	Erukku	Asclepiadaceae
26	Abutilon indicum	Thuthi	
27	Catunaregam spinosa		Rubiaceae
28	Flueggea leucopyrus Willd.		Phyllanthaceae
29	Nerium oleander	Arali	Apocynaceae
30	Justicia adhatoda	Adathoda	Acanthaceae
31	Jatropha gossypifolia	Seemayavanakku	Euphorbiaceae
32	Datura metel	Umatai	Solanaceae
33	Vitex negundo	Nochchi	Verbenaceae
34	Jatropha curcas	Kattamanakku	
35	Dichrostachys cinerea		Leguminosae
36	Benkara malabarica		Rubiaceae
37	Carissa carandas	Kalakkai	Apocynaceae
38	Hibiscus rosa-sinensis	Chemparutti	Malvaceae

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Sl.No	Scientific name	Family	Common Name
39	Cassia alata	Seemaigaththi	
40	Gmelina asiatica L.		Verbenaceae
41	Canthium didymum	Nanjul	Rutaceae
42	Acacia auriculata		Leguminosae
43	Eugenia involucrata		Myrtaceae
44	Solanum torvum	Sundaika	
45	Agave americana	kittanara	Asparagaceae
46	Ziziphus oenoplia	Elanthai	Rhamnaceae
47	Lawsonia inermis	Maruthani	Lythraceae
48	Anisomeles malabarica		Lamiaceae
Herbs			
1	Anisomeles indica	Lamiaceae	marutti
2	Mimosa pudica	Mimosaceae	Thottaccurungi
3	Anisomeles malabarica	Lamiaceae	Peyimarutti
4	Leucas aspera	Lamiaceae	
5	Abutilon indicum	Malvaceae	
6	Ipomoea aquatica	Convolvaceae	
7	Ipomoea coptica	Convolvaceae	
8	Vinca rosea	Apocynaceae	Nithiyakalyani
9	Clitoria ternatia		Sangupoo
10	Wedelia trilobata		Mookuthi poondu
11	Cassia tora	Caesalpinaceae	Senavu
12	Celosia argentea	Amaranthaceae	
13	Argemone mexicana	Papaveraceae	Mexican poppy
14	Phyllanthus niruri	Phyllanthaceae	Keelanelli
15	Andrographis paniculata	Acanthaceae	Kirayt
16	Cleome viscosa	Cleomaceae	Kaattu kadugu
17	Tridax procumbens		Veetukaayapoondur
18	Ocimum sanctum	Lamiaceae	Thulasi
19	Celome viscosa		Nai kadugu
20	Kyllinga brevifolia		Musthakasu
21	Cardiospermum helicacabum		Mudakkotan
22	Solanum incanum	Solanaceae	Karimulli
23	Parthenium hysterophorus	Asteraceae	Parthenium
24	Acalypha indica	Euphorbiaceae	Kuppaimeni
25	Amaranthus viridis	Amaranthaceae	Creen amaranth
26	Andrographis echinoides	Acanthaceae	

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Sl.No	Scientific name	Family	Common Name
27	Ocimum tenuiflorum		Thulasi
28	Lepidagathis cristata	Acanthaceae	Karappanpoond
29	Boerhavia erecta	Nyctaginaceae	Erect spiderling
30	Boerhaavia diffusa		Mukkirattai
31	Ixora coccinea		Etelepoo
32	Bambusa bambos	Poaceae	
33	Trichosanthes dioica		Kovakkai
34	Sida cordifolia	Malvaceae	Kurunthotti
35	Phyllanthus virgatus	Phyllanthaceae	
36	Achyranthes aspera	Amaranthaceae	Nayuruvi
37	Sida rhombifolia	Malvaceae	Kurundotti
38	Cucumis callosus		Thumattikai
39	Sida acuta	Malvaceae	Palambasi
Climbers			
1	Cissus quadrangularis	Vitaceae	Pirandai
2	Jasminum angustifolium	Oleaceae	Uccimalligai
3	Cissus vitiginea	Vitaceae	
4	Ichnocarpus frutescens	Apocynaceae	
5	Ziziphus oenopolia	Rhamnaceae	
6	Phyllanthus reticulatus	Phyllanthaceae	
7	Capparis rotundifolia	Capparaceae	Thoratti
8	Cardiospermum halicacabum	Sapindaceae	
9	Abrus precatorius	Fabaceae	Kundumani
10	Coccinia grandis	Cucurbitaceae	
11	Hemidesmus indicus	Apocynaceae	
12	Asparagus racemosus	Asparagaceae	Tannir-vittan
13	Mallotus repandus	Euphorbiaceae	
14	Coccinia indica	Cucurbitaceae	Kovaikkai
15	Gloriosa superba	Colchiaceae	

3.5.2 FAUNA:

Methodology: Both direct and indirect observation methods were used to survey the fauna. Point Survey Method was used to study the Bird diversity. Besides, discussion with local villagers Collection secondary data from Government records, published reports as well as through discussion with Forest officials, knowledgeable public were used for the study.



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Table 3.25: List of Fauna in the Buffer Zone

S.No	Common Name	Scientific name	IWPA, Schedule
Mammals			
1	Common Indian Hare	Lepus ruficaudatus	IV
2	Indian Palm squirrel	Funambus palmarum	IV
3	Bonnet macaque	Macaca radiata	II
4	Indian Grey Mongoose	Herpestes edwardsii	II
Birds			
1	Common Babbler	Turdoides caudatus	IV
2	Black Drongo	Dicrurus macrocercus	IV
3	Little Cormorant	Phalacrocorax niger	IV
4	Little Egret	Egretta garzetta	IV
5	Red-vented Bulbul	Pycnonotus cafer	IV
6	House Sparrow	Passer domesticus	IV
7	Cattle Egret	Bubulcus ibis	IV
8	Common Crow	Corvus splendens	V
9	Common Myna	Acridotheres tristis	IV
10	Rose-ringed Parakeet	Psittacula krameri	IV
11	Indian Cuckoo	Cuculus micropterus	IV
12	Common Kingfisher	Alcedo atthis	IV
13	Spotted Dove	Streptopelia chinensis	IV
Reptiles			
1	Common Indian krait	Bungarus caeruleus	II
2	Rat Snake	Ptyas mucosa	II
Amphibians			
1	Common Indian toad	Bufo melanostictus	IV
Butterfly			
1	Common crow	Euploea core	IV
2	Small grass yellow	Eurema brigitta	IV
3	Stripped or common tiger	Danaus genutia	IV

Observation: There is no Wild Life Sanctuary or National Park within the study area of 10 km. Domesticated animals like Cows, Buffalos, Dogs, Cats etc., are commonly found. The lease and 10 Km buffer zone does not fall in the Western Ghats ESA boundary. No wild mammalian species was directly sighted during the field survey. The list of fauna within the study area is given in Table No – 3.27.



3.6 HYDROGEOLOGICAL STUDY:

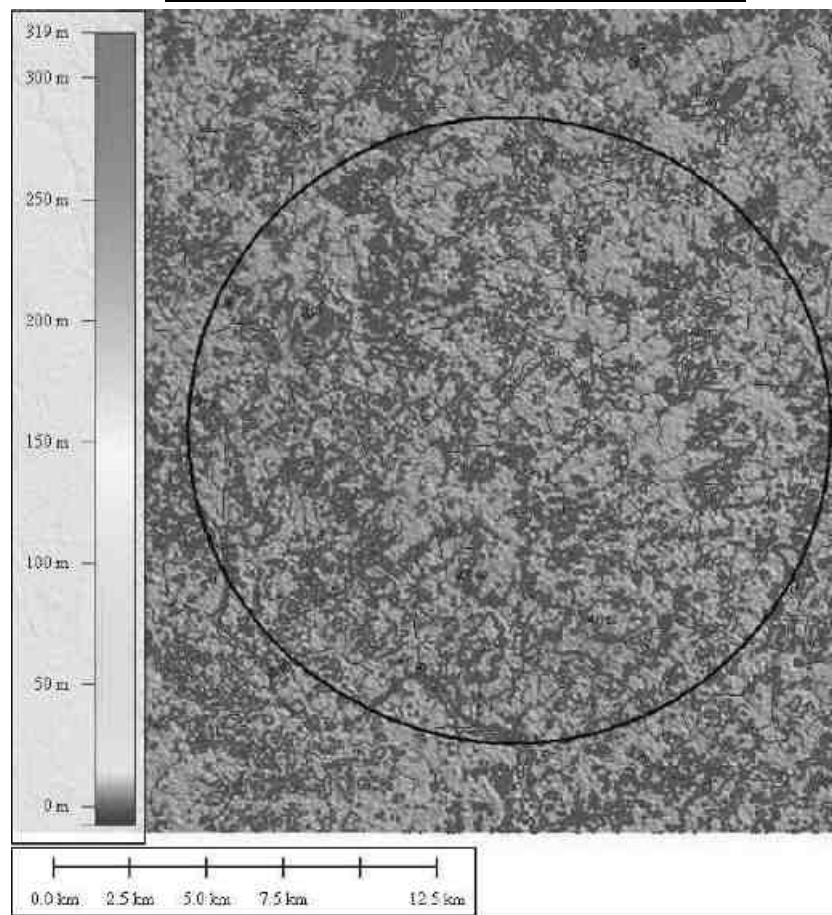
This section delves into the study of the hydrogeological scenario of the study area to evaluate the impact of mining activities on the nearby areas. The study area is considered to understand the nature of the general hydrogeological conditions of the area.

3.6.1 PHYSIOGRAPHY AND DRAINAGE:

Physiography: Study area is a gentle sloping terrain towards NW and then NE.

Drainage: The drainage map prepared from the survey of India topographic maps shows the presence of few streams running in a dendritic pattern. Drainage of the area is mainly controlled by Kondamur Ar located about 4.6km – NE. There are drainage channels formed mostly due to elevation difference which carried rainwater into nearby tanks which is further connected to the river. These are mostly rainwater drains and It remains dry for most of the year.

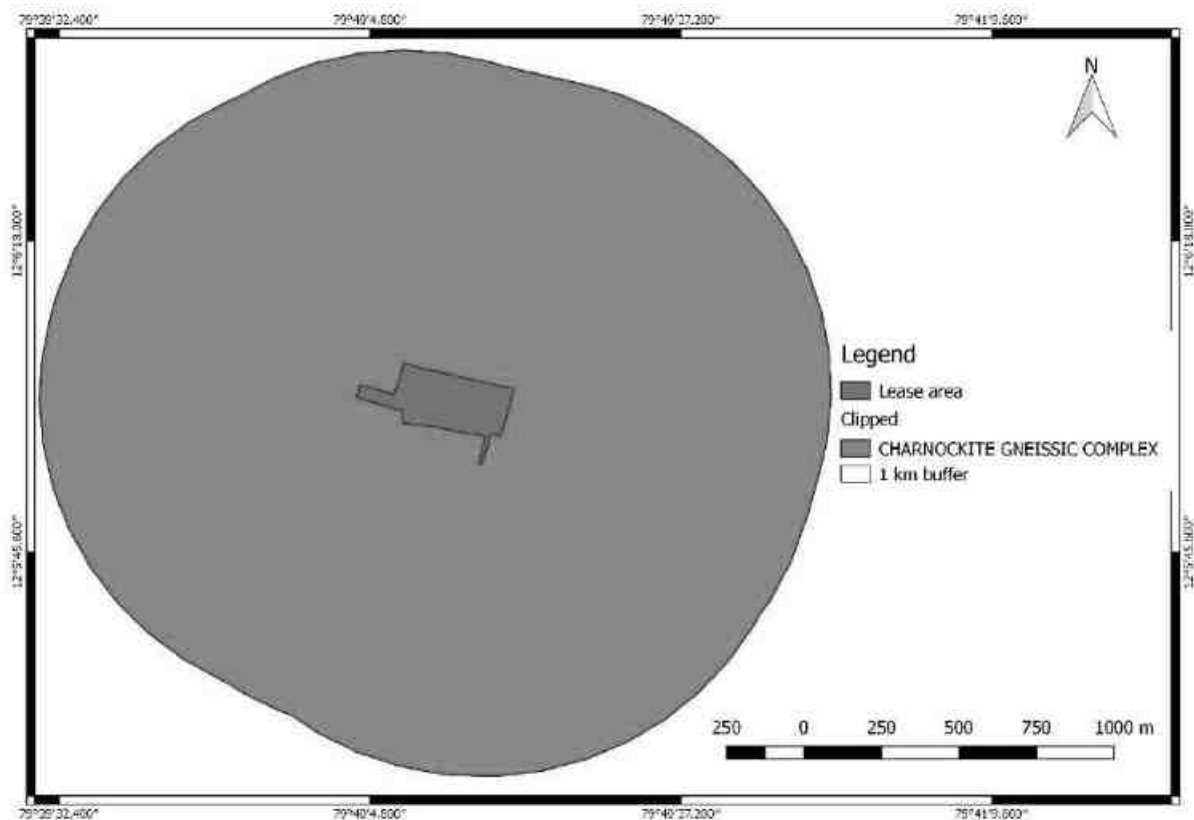
Figure 3.15: Drainage Map of 10km radius



3.6.2 GEOLOGY AND GEOMORPHOLOGY

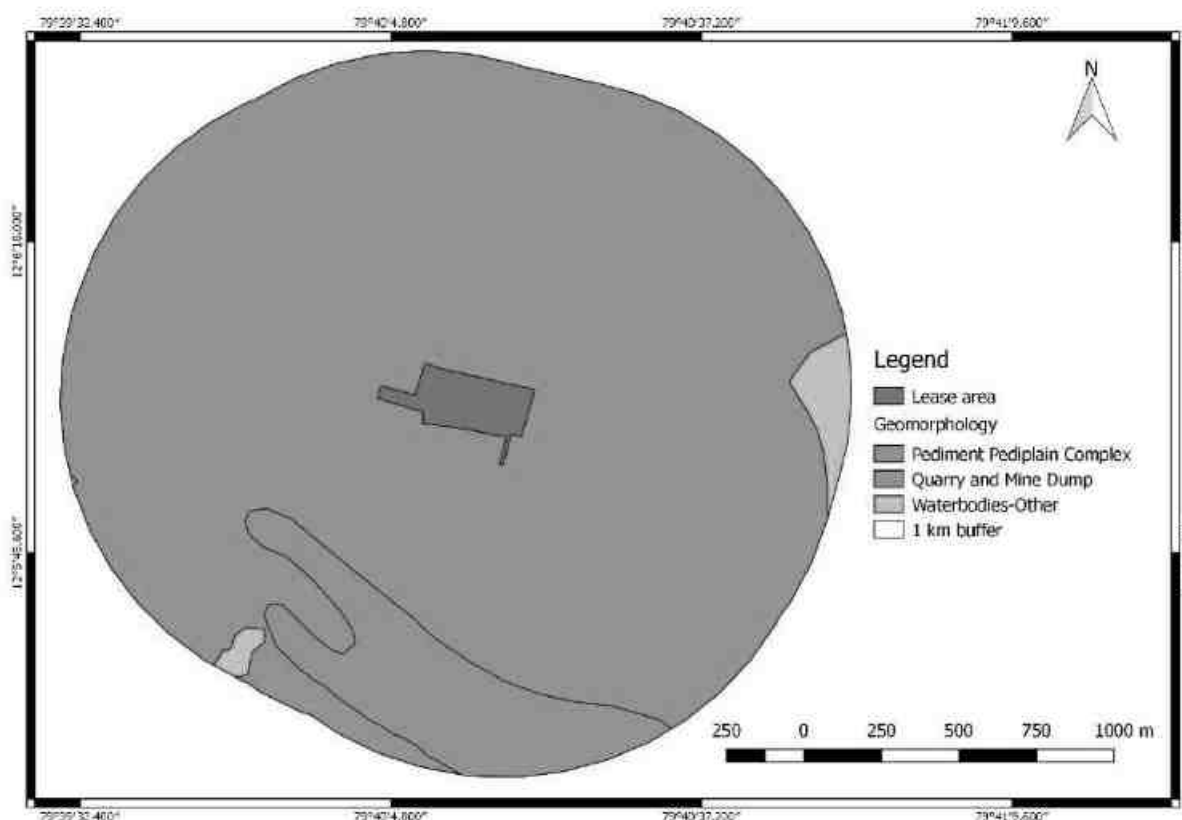
Geology: The type of rock formation in the study area is composed of Charnockite Gneissic complex. The lease area falls under Charnockite Gneissic complex category which are hard formation. The geological map is provided below in Figure No.3.21.

Figure 3.16: Geology Map



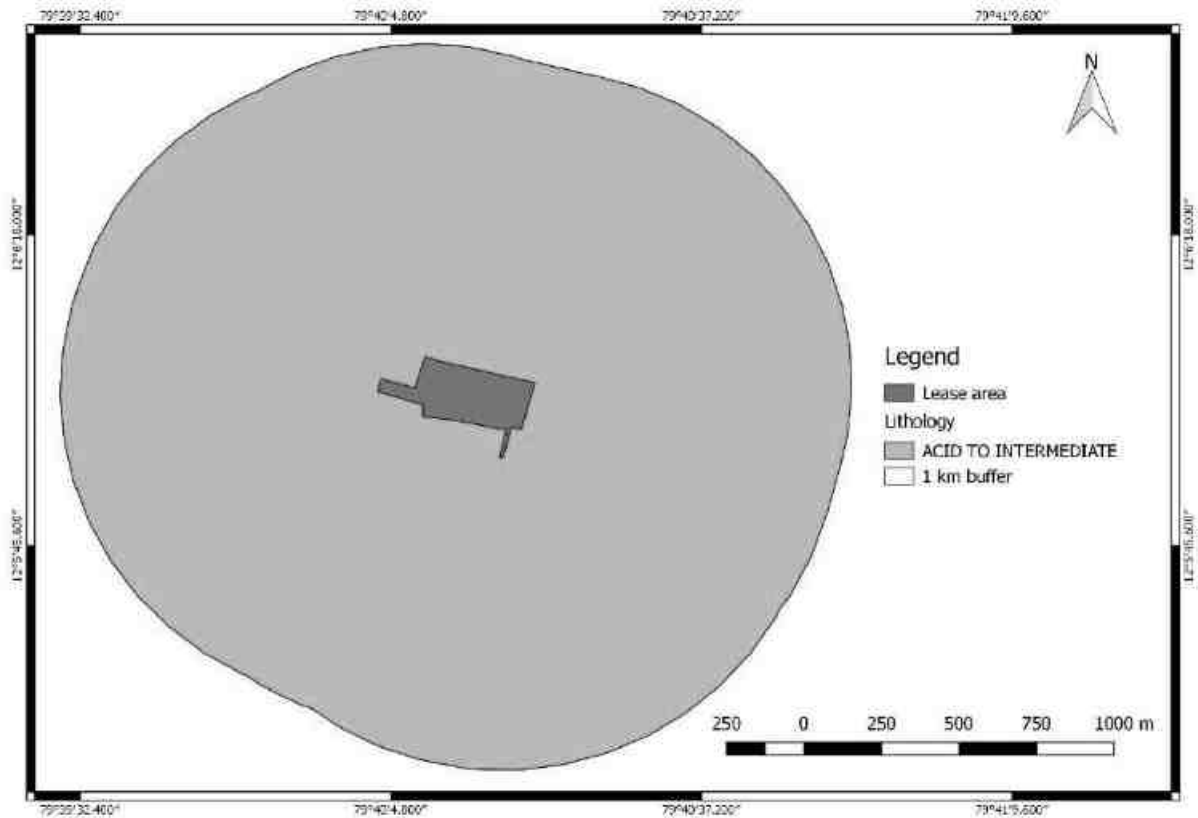
Geomorphology: The geomorphology map of the study derived from the satellite imagery using remote sensing and GIS technique. Predominantly the buffer zone is dominated by Pediment Pediplain complex, and it is the same category that the lease area also falls under. It represents a landscape in arid/semi-arid regions, consisting of gently sloping rock surfaces.

Figure 3.17: Geomorphology Map



Lithology: The lithological map of the buffer zone has been provided in Figure No.3.23. From this, it is seen that the study area is mainly dominated by Acid to Intermediate Charnockite which represents Rich in quartz and K-feldspar. The lease area falls under by Acid to Intermediate Charnockite with regards to lithology.

Figure 3.18: Lithology Map (1km radius)



3.6.3 RESISTIVITY SURVEY, WATER LEVEL MONITORING, PUMPING TEST

GEOPHYSICAL ELECTRICAL RESISTIVITY SURVEY

Different methods are available to assist in the assessment of geological sub-surface conditions. The main emphasis of the fieldwork undertaken was to determine the thickness and composition of the sub-surface rock formations and also to evaluate and study the hydro geological condition of the area and to discuss the direct and indirect effect of mining to the ground water conditions.

FIELD STUDY: Electrical Resistivity survey by Schlumberger configuration was conducted to interpret various geological formations at various depths by Inverse slope method.



Photo-1. DDR 3 Resistivity Meter

The DDR 3 Resistivity Meter is a specialized version of IGIS Resistivity meters designed for use in Resistivity surveys up to about 200m depth. It utilizes rechargeable batteries as power source to energize the ground thus eliminating the necessity of using the relatively expensive dry cells. The equipment consists of two separate compartment-one for reading the current (G.Unit) and the other for directly reading the resistance/the potential (P-Unit), both housed in a single box. The equipment, powered by a 24V rechargeable battery can send highly stabilized currents up to 200 mA and read the resulting potential with a 100 micro volts resolution or ground resistance directly with 50 micro ohms resolution. Housed in sturdy aluminum box fixed in a briefcase, the instrument provides highly reliable digital outputs of ground resistance during field surveys and finds extensive use in ground water exploration, dam site investigation, and delineation of geological structural features and in several other related problems.

Schlumberger electrode array configuration

The Schlumberger electrode array configuration was used for VES survey, the VES survey site was recorded using hand GPS. Figure No.5 depicts the Schlumberger array with a more condensed layout. An enormous number of electrode spreads are being used in the resistivity methods. Most widely used configuration is Schlumberger configuration. In the present study, schlumberger configuration has been followed. In Schlumberger arrangement, all four electrodes are placed in a line, and the distance between the current electrodes (AB) is maintained equal to or more than five times the distance between the potential electrodes (MN).

The apparent resistivity (ρ_a) is given by

$$\rho_a = R \times K$$

where, $R = V/I$ therefore 'V' is the potential difference created between the pair of potential electrodes P1 and P2 and 'I' is the current sent in to the ground through the current electrodes C1 and C2.

The Resources (Rock or Mineral) explored by Geo-electrical investigation is one of the best method of surface geological studies. The Schlumberger electrical resistivity methodology is adapted in the study area.

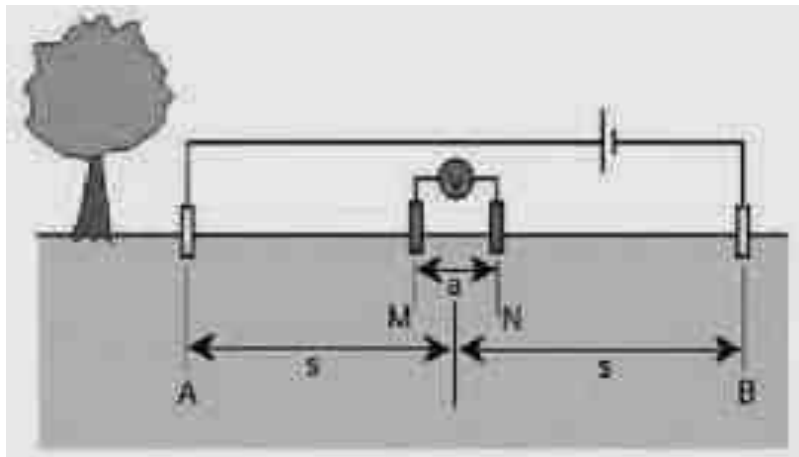


Photo-2.. Diagram of Electrical Resistivity Method Schlumberger configuration

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Photo-3. Electrical Resistivity Survey (VES No.1 & VES No.2) conducted in study area

Table 3.26: VES (Vertical Electrical Sounding) Table

Depth (AB/2 m)	MN/2 (m)	R Value (Ω)	K Const	ρ_a ($\Omega \cdot m$)	$\Sigma \rho_a$ (ISM)
1.5	0.5	4.98	6.3	31.374	31.374
3.0	0.5	1.93	27.5	53.075	84.449
6.0	0.5	0.89	112.3	99.947	184.396
9.0	0.5	0.55	253.6	139.48	323.876
12.0	0.5	0.36	451.4	162.504	486.38
12.0	2	0.82	109.9	90.118	576.498
15.0	2	0.65	173.5	112.775	689.273
20.0	2	0.47	310.9	146.123	835.396
25.0	2	0.36	487.5	175.5	1010.896
30.0	2	0.29	703.4	203.986	1214.882
30.0	6	0.81	226.1	183.141	1398.023
40.0	6	0.65	311.1	202.215	1600.238
50.0	6	0.55	409.2	225.06	1825.298
60.0	6	0.43	520.5	223.815	2049.113
60.0	6	0.40	644.7	257.88	2306.993
70.0	6	0.31	932.6	289.106	2596.099
80.0	6	0.19	549.5	104.405	2700.504
90.0	10	0.32	753.6	241.152	2941.656

VES curve graph

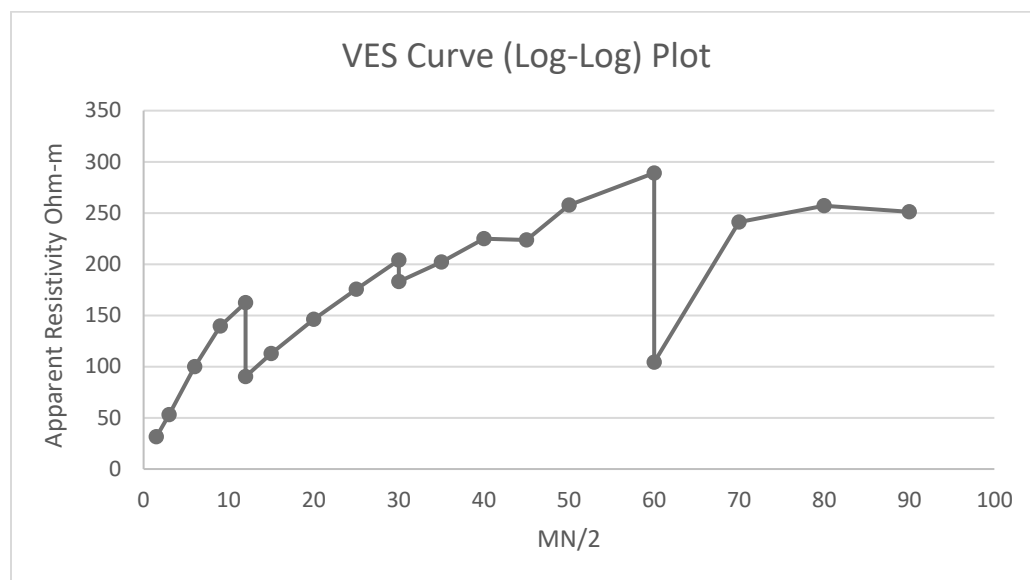


Table 3.27: Lithological & Groundwater Interpretation:Based on the Inverse Slope Method (ISM)

Layer	Depth Range (m)	Lithology	Water Potential
Layer 1	0 – 4m	Gravel	Poor
Layer 2	4 – 60m	Weathered/ Charnockite Rock (Harder)	Medium
Layer 3	60 – 70m	Compact Charnockite (Blue Metal layer)	Minimal
Layer 4	70 – 75m	Deep Fissured/Fracture Zone	Primary Aquifer
Layer 5	75m+	Semi-Massive to Hard Bedrock	None

Interpretation: You have a secondary water table (aquifer) located between 70m and 75m.

VES Curve Interpretation

- Initial Slope: The resistivity rises steadily from 64 to 148 ohms in the first 4 meters, indicating the transition from moist topsoil to weathered rock.
- Intermediate Zone: Between 4m and 60m, the resistivity stabilizes (averaging ohms), representing a weathered Charnockite zone.

- Deep Zone (The "Break"): There is a distinct shift in the gradient starting at 70m to 75m. The rise in resistivity slows down, which often indicates the presence of moisture/fractures slowing the transition to hard rock.

3.7 Water Level Monitoring

“Groundwater level monitoring constitutes an essential component of the hydrogeological study carried out for the rough stone and gravel quarry. In order to establish the baseline groundwater conditions and to assess the potential impact of quarrying activities, systematic water level measurements were carried out in selected wells & Borewells around the lease area.

A total of 5 bore wells and 7 open well were identified for monitoring, representing the local aquifer conditions. The depth to groundwater level was measured using a water level sounder (*Make: Encardio-Rite; Model: EPP-10/6*) fitted with a flat, high tensile, non-stretch tape suitable for measurements up to a depth of 150 m), along with conventional field methods.

The monitoring provides a representative understanding of the local hydrogeological regime, including aquifer characteristics, seasonal variations, and recharge behavior. The collected data serves as baseline information for evaluating the sustainability of groundwater resources and ensures that the quarrying operations will not cause any significant adverse impact on the surrounding groundwater environment.”

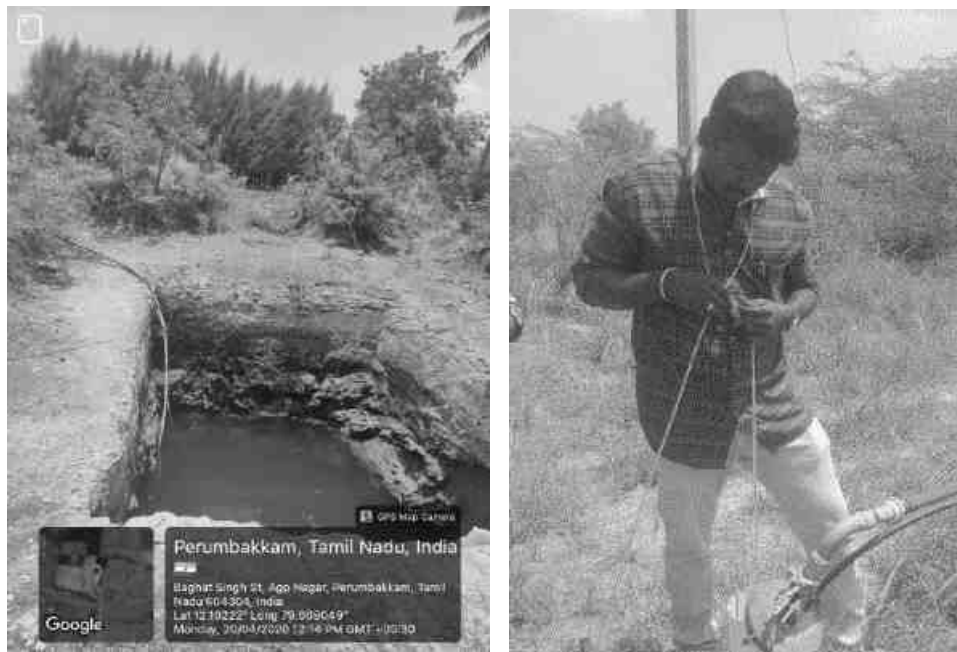
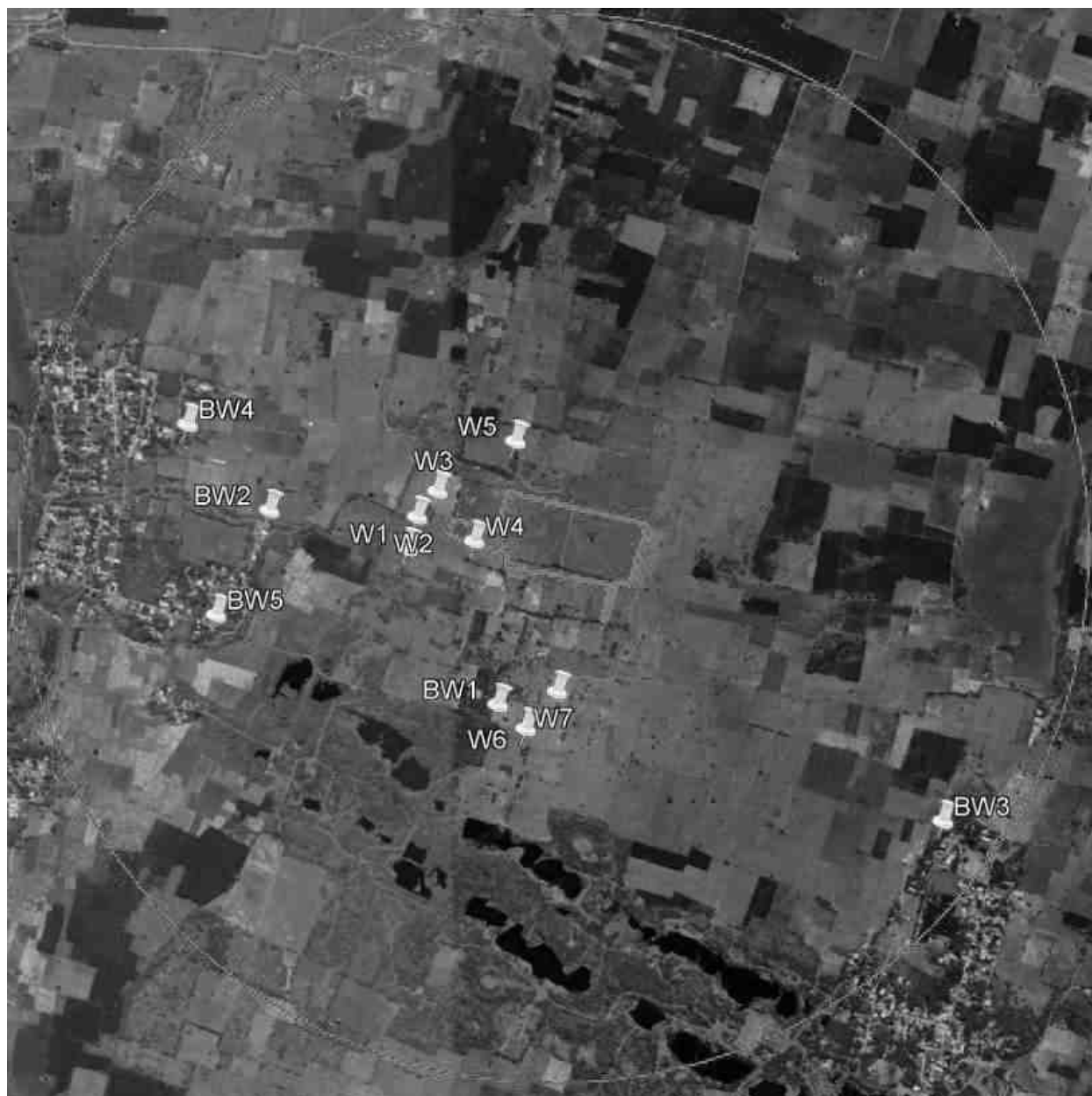


Photo-4 Photographs showing water level measurements

The map showing the locations near the lease area has been depicted below in Figure No.3.28. The details of the depth of these wells and borewells, has been provided below in Table No.3.29.

Figure 3.19: Well Inventory Locations



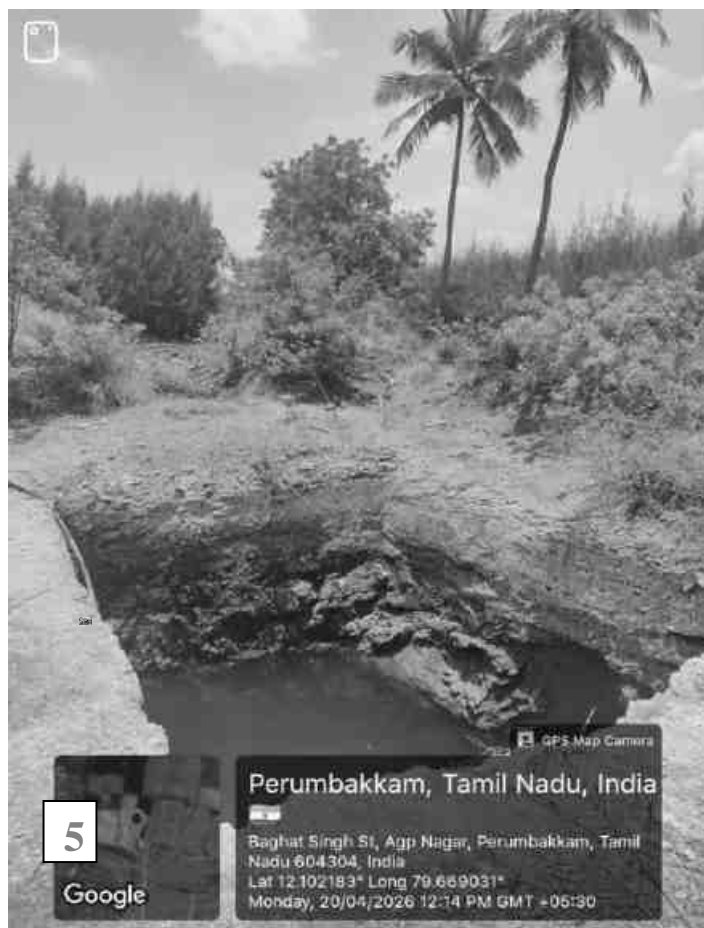
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Table 3.28: Well Inventory Data

ID No.	Well/Borewell	Coordinates		Depth of Well / Borewell (ft)
		Latitude	Longitude	
1	Well	12° 5'59.18"N	79°39'59.59"E	28
2	Well	12° 6'1.74"N	79°40'0.38"E	30
3	Well	12° 6'3.81"N	79°40'2.06"E	35
4	Well	12° 5'59.78"N	79°40'5.10"E	25
5	Well	12° 6'7.86"N	79°40'8.51"E	18
6	Well	12° 5'44.59"N	79°40'9.36"E	20
7	Well	12° 5'47.59"N	79°40'11.97"E	25
BW1	Bore well	12° 5'46.55"N	79°40'7.06"E	600
BW2	Bore well	12° 6'2.27"N	79°39'48.15"E	900
BW3	Bore well	79°39'48.15"E	79°40'43.88"E	950
BW4	Bore well	12° 6'9.24"N	79°39'41.37"E	1000
BW5	Bore well	12° 5'53.81"N	79°39'43.74"E	1100



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From the study and discussion with locals it is observed that post monsoon the phreatic water level occurs at 10 to 15ft from the GL. During summer , it reaches to bottom of the well or dry in case of some wells. The observed borewell is of 600 to 1100 ft depth. "The bore well inventory within the study area indicates only few are productive with moderate yield, while the remaining bore wells are dry to poor yield. The groundwater occurrence is discontinuous and controlled by fractures at deeper levels. Water levels ranging from 70.4 m to 72.5 m suggest deeper aquifer conditions. The overall hydrogeological condition indicates moderate groundwater potential with localized dry zones."

3.8 Pumping Test and Aquifer Parameters

"Pumping test forms an important component of the hydrogeological study carried out for the rough stone and gravel quarry. The test was conducted to evaluate the aquifer characteristics, yield potential, and sustainability of groundwater resources within the quarry lease area and its 500 m radius buffer zone.

A pumping test was carried out in a representative bore well by operating a submersible pump at a constant discharge rate. The discharge was measured using standard volumetric methods, and the yield of the bore well was observed to be 29.06 litres per minute (LPM). The initial static water level was recorded prior to pumping, and subsequent measurements of pumping water level (drawdown) were taken at regular time intervals during continuous pumping. After cessation of pumping, recovery of water levels was also monitored systematically.

The pumping test parameters such as discharge rate, drawdown, recovery, duration of pumping, and time intervals were recorded and analysed to assess the aquifer performance. The results indicate that the aquifer exhibits moderate yield characteristics and is capable of sustaining the existing groundwater demand. The study confirms that the proposed quarrying activities will not cause any significant adverse impact on the surrounding groundwater regime, provided appropriate water management measures are implemented."

1. Calculate the LPM

Divide the total volume by the total time in minutes

LPM= Total Volume

Total Time (Minutes)

LPM=200Litres

6.83Mintues = Result:29.06 LPM



3.9 Impact Assessment (Quarrying vs. Water Table)

The proposed quarrying operation up to an ultimate depth of 59 m does not intersect the identified groundwater-bearing fractured zone, which occurs at depths of around 70–75 m. Hence, no significant adverse impact on the groundwater regime is anticipated. The formation is predominantly massive hard rock, and groundwater occurrence is limited to deeper fractures.

3.10 Conclusion and Recommendations

The Electrical Resistivity Survey carried out using Schlumberger configuration indicates that the subsurface formation in the study area is predominantly composed of massive hard rock (charnockite), with limited weathered and fractured zones. The interpreted VES curve suggests that the main groundwater-bearing fractured zone occurs at depths of about 70–75 m below ground level.

The proposed quarrying operation is planned up to an ultimate depth of 59 m, which is above the identified groundwater-bearing zone. Therefore, the quarry excavation will not intersect the major aquifer system.

Water level data from nearby bore wells also indicate static water levels in the range of 70–75 m, which correlates well with the interpreted fracture zone from the resistivity survey. The pumping test conducted in the vicinity yielded 29.06 liters per minute, indicating moderate groundwater potential restricted to deeper fractures.

Hence, it is concluded that the proposed quarrying activity will not have any significant adverse impact on the groundwater regime, as the excavation depth remains above the productive aquifer zone. Groundwater occurrence in the area is limited and confined to deeper fractured formations within the hard rock terrain.

- The quarrying operation may be safely carried out up to the proposed depth of 59 m without affecting the regional groundwater regime.
- Since groundwater occurs only in deeper fractured zones (70–75 m), no major inflow of water into the quarry pit is expected during mining operations.
- Periodic monitoring of groundwater levels in nearby bore wells is recommended to assess any long-term changes due to quarrying.
- Proper drainage arrangements shall be provided within the quarry to manage rainwater accumulation during monsoon periods.

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- If any seepage is encountered during deepening, controlled pumping may be adopted without disturbing the aquifer system.
- Artificial recharge measures such as rainwater harvesting structures may be implemented to improve groundwater sustainability in the surrounding area.

* * * * *



CHAPTER - IV

ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

CHAPTER 4

ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 GENERAL

In this project Mechanized Open Cast mining will be carried out to quarry out Rough Stone & Gravel. The identified impacts due to this mine during mining and associated activities have been studied in relation to various environmental components like Air, water, noise, vibration, land, transport etc., and the details of the same are elaborated in this chapter.

4.2 AIR ENVIRONMENT:

4.2.1 IMPACTS DUE TO PROJECT OPERATION:

The existing ambient air quality in the area has been described in Chapter-III. The proposed mining and allied operations may cause deterioration of air quality due to pollution arising from the project operation if prompt care is not taken. The principal sources of air pollution in general due to mining and allied activities will be:

- ❖ Excavation of material.
- ❖ Movement of HEMM such as Excavators, tippers etc.
- ❖ Loading and unloading operation
- ❖ Transportation

Besides, Gas emission will occur as a result of operation of diesel driven mining equipment, compressors, transporting vehicles, etc.

Particulate matter smaller than 10 microns, referred to as PM₁₀, can settle in the bronchi and lungs and cause health problems like Bronchitis, Emphysema, Bronchial Asthma, Irritation of mucus membranes of eyes, etc. Particles smaller than 2.5 micrometers (PM_{2.5}), tend to penetrate into the lungs and very small particles (<100 nanometers) may pass through the lungs to affect other organs.

Besides the above mentioned fugitive dust emissions, atmospheric pollution can occur as a result of emission of SO₂, NO_x, CO etc., from diesel driven mining equipment, generator sets, etc. Larger suspended particles are generally filtered in the nose and throat and do not cause problems.



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Higher concentration of SO₂, NO_x, CO may cause some health effect on the human beings exposed to it. In case of this mine, the following measures will be adopted to control impact on the air quality due to mining operations in the lease area:

Table 4.1: Impact and Mitigation Measures – Air Environment

S.No	Activity	Consequence	Mitigation Measures
1	Drilling	Dust Emanation	Usage of Drill bits in good condition
			Covering of drill holes with wet cloth
			Usage of sharp drill bits for drilling of holes.
			Provision of dust filters / mask to workers working at highly dust prone and affected areas.
2	Blasting	Instantaneous dust emanation	Well-designed blasting parameter, effective stemming to achieve optimum breakage occurs without generating fines.
			Use of appropriate explosives for blasting and avoiding overcharging of blast holes.
			Avoiding blasting during high wind periods where the fine dust is carried out away easily affecting the ambient air quality.
			Use of controlled blasting techniques with Nonel to keep the dust generation, noise as well as vibration level within the prescribed limits.
3	Excavation and Loading	Dust emanation, Gaseous Emission	HEMM will be operated as per the manufacturer's guidelines
			Enclosures for operator cabin.
			Imparting sufficient training to operators on safety and environmental parameters.
			Proper maintenance of hauling equipments.
4	Transportation	Dust emanation, Gaseous Emission	Avoiding overloading of dumpers.
			Regular wetting of transport road using mobile water tanker.
			Proper maintenance of haul road and other roads
			Setting up of tyre wash facility in the transport road.
			Avoiding overloading of tippers
			Covering of loaded tippers with tarpaulins during transportation
5	Others	Dust emanation, Gaseous Emission	Vehicular emissions will be controlled through regular and proper preventive maintenance schedules and emissions tests are done with diesel smoke meter equipment to ensure emission values.
			Development of greenbelt / barriers around mine in the safety zone and carrying out plantation within the lease area.



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Due to adoption of all these measures, no major impact on air quality is envisaged due to this proposed opencast mining operation.

To further mediate the carbon emissions, a good greenbelt and plantation plan has been planned wherein 1000 number of plants will be planted in and around the lease area.

The impact on air quality due to the proposed project is estimated using AERMOD View Gaussian Plume Air Dispersion Model developed by Lakes Environmental Software which is based on steady state Gaussian plume dispersion. Details of the modeling study / estimation including the modeling technique and post project air quality values are elaborated in the following paras.

4.2.2 AIR QUALITY IMPACT PREDICTION:

The model simulations are done for the air pollutant arising from the mining operations, namely, PM₁₀, PM_{2.5}. **Ground Level Concentration** (GLC) have been computed using hourly meteorological data.

Table 4.2: Emission Sources

ACTIVITY	SOURCE TYPE
A. Mining operations	Open pit
B. Transportation	Line

4.2.2.1 Emission Factors

Quantification of particulate emissions has been carried out by the emission factor technique. Emission factor is a statistical average of the rate at which a pollutant is released during an activity. This factor when multiplied by the level of that activity in a given situation will give the overall effect. Fugitive emissions have been predicted by using standard equations given and suggested by AP-42, USEPA(1998), Coal S&T Project and for mining & allied activities and other factors. The modeling is done for the peak production to know the worst case scenario. The details of the emission factors used for the same is provided below:

Table 4.3: Emission Factors

S.No	Activity	PM10	PM2.5	Unit
1	Ore Loading	1.5×10^{-3}	2.1×10^{-4}	Kg/T
2	OB Loading	1.4×10^{-4}	1.5×10^{-5}	Kg/T
3	Hauling inside lease area	0.19	0.019	g/VKT



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4	Drilling	0.1	0.04	Kg/hole

4.2.2.2 Emission Rates:

Based on the emission factors, after adopting necessary control measures like dust suppression, Proper maintenance of HEMM, using better quality diesel, using latest equipment, proper maintenance of roads, etc. the expected emission rate due to various operations in this project is calculated and is given below:

Table 4.4: Emission Rate

ACTIVITIES/POLLUTANTS	PM ₁₀ (g/sec)	PM _{2.5} (g/sec)
Ore Loading	0.09	0.01
Drilling	0.41	0.16
Hauling inside lease area	0.40	0.06
Total	0.90	0.23

A. Emission Source Coordinates: The center of mine was assumed (0, 0) in the mathematical modeling.

B. Meteorological Conditions Used In Predictions: The hourly meteorological data has been generated for the monitoring period and the same has been used in the predictions.

4.2.2.3 Results and Discussions

Table 4.5: Peak Incremental Concentration

S.No	Parameters	Peak incremental concentration µg/m ³
1	PM ₁₀	4.86
2	PM _{2.5}	2.48

It is observed that the peak incremental concentration for PM₁₀, PM_{2.5} occurring very near the source. At away from the source the values are getting reduced due to dispersion effects. The Isopleths of PM₁₀, PM_{2.5} concentrations with control measures scenario have also been drawn and these are given in **Figure No.4.1 and 4.2**. The incremental and predicted concentrations at the locations of ambient air quality have been discussed in the following section.

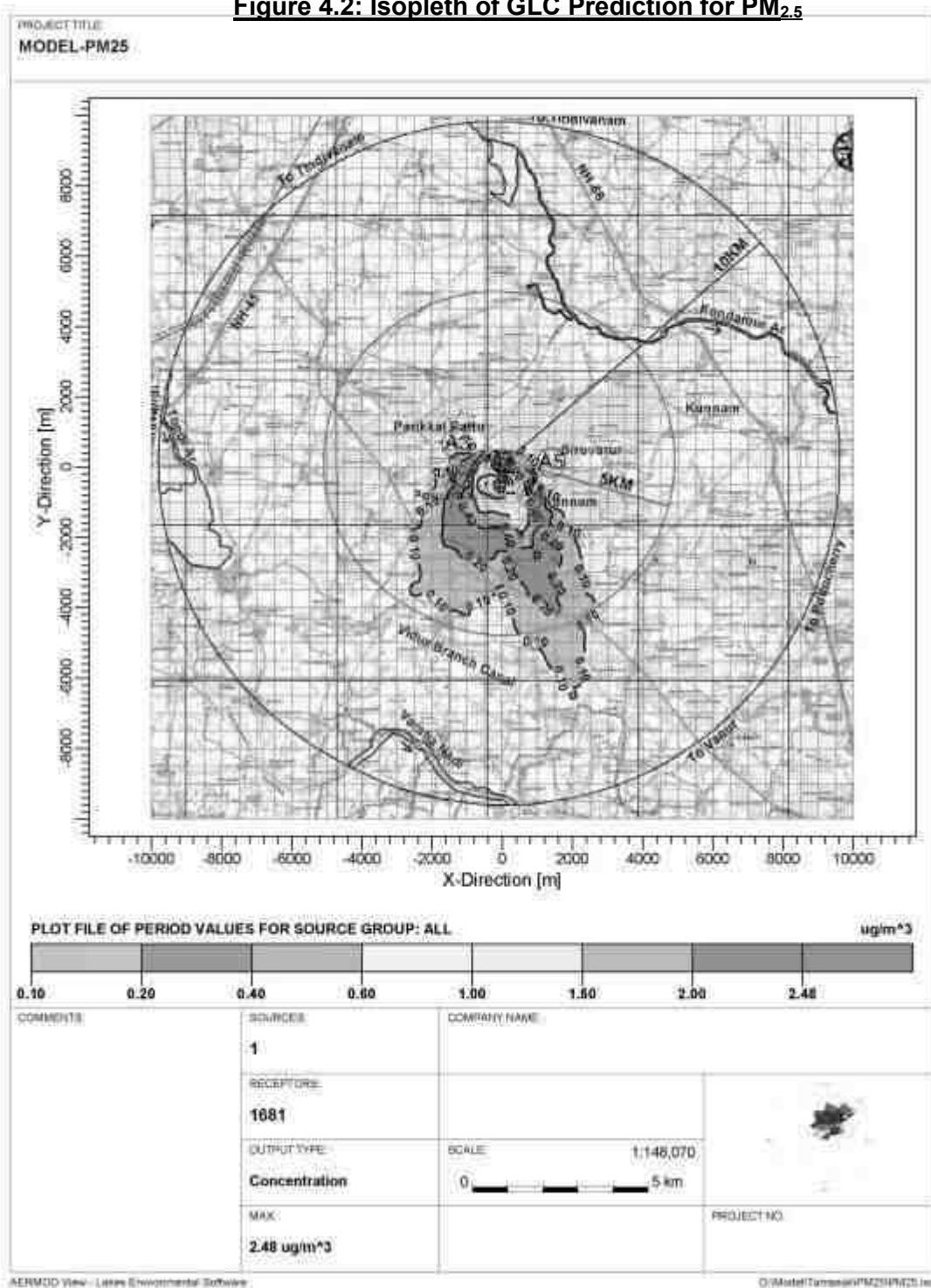


Figure 4.1: Isopleth of GLC Prediction for PM₁₀



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Figure 4.2: Isopleth of GLC Prediction for PM_{2.5}



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**CHAPTER-4: ANTICIPATED ENVIRONMENTAL
IMPACTS AND MITIGATION MEASURES**

PRO CODE: CEC/EMP/MI-261

REV NO : 00/APR/26

4-6

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Predicted Ambient Air Quality:

The post project Concentrations of PM₁₀, PM_{2.5}, (GLC) (base line + incremental) after adopting necessary control measures is given in Table No - 4.6 to 4.7.

Table 4.6: Concentrations Of PM₁₀ after Project Implementation

Values in $\mu\text{g}/\text{m}^3$

S. No	Location	Background Concentration	Predicted Incremental Concentration	Post Project Concentration	Statutory Limits
1	Near Lease Area	69.1	4.8	73.9	-
2	Perumbakkam Village	59.2	<1.0	60.2	100
3	Parikkal pattu Village	56.6	<1.0	57.6	
4	Kunnam Village	60.2	<1.0	61.2	
5	Siruvarur Village	53.8	<1.0	54.8	

Table 4.7: Concentrations Of PM_{2.5} after Project Implementation

Values in $\mu\text{g}/\text{m}^3$

S. No	Location	Background Concentration	Predicted Incremental Concentration	Post Project Concentration	Statutory Limits
1	Near Lease Area	33.2	2.5	35.7	-
2	Perumbakkam Village	27.8	<1.0	28.8	60
3	Parikkal pattu Village	27.5	<1.0	28.5	
4	Kunnam Village	28.7	<1.0	29.7	
5	Siruvarur Village	26.1	<1.0	27.1	

It can be seen that the resultant added concentrations with baseline figures even at worst scenario, show that the values of ambient air quality with respect to PM₁₀ are in the range of 54.8 $\mu\text{g}/\text{m}^3$ to 73.9 $\mu\text{g}/\text{m}^3$ and with respect to PM_{2.5} are in the range of 27.1 $\mu\text{g}/\text{m}^3$ to 35.7 $\mu\text{g}/\text{m}^3$ which are within the statutory limits in each case. For preservation of environment in this mine strict enforcement of management schemes and regular air quality monitoring will be undertaken for taking corrective actions, as needed. By adopting the effective implementation of all the mitigative measures, no adverse impact on Air quality due to the mining operation in this lease area is expected.

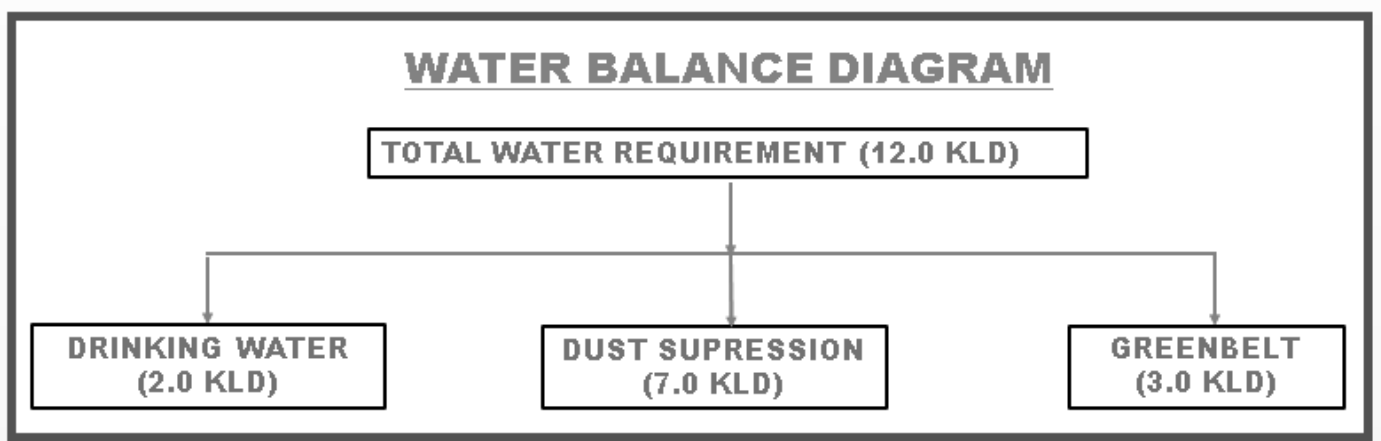


4.3 WATER ENVIRONMENT:

4.3.1 WATER REQUIREMENT:

The total water requirement for this project will be 12.0 KLD comprising 2.0 KLD for drinking water and domestic use, 7.0 KLD for dust suppression and 3.0 KLD for greenbelt. The water will be sourced initially from outside agencies. Later the rainwater collected in the mine pit sump will be used for this purpose. The water balance diagram for the same is shown in **Figure No 4.3**.

Figure 4.3: Water Balance Diagram



4.3.2 SOURCES OF WATER POLLUTION:

The existing water environment showing water quality at different sampling stations in the area has been described in Chapter-III.

Direct impact on human beings due to poor water quality consequent to mining operation can lead to various water borne diseases like diarrhea, jaundice, dysentery, typhoid, etc. Besides, the polluted water may not be useful for animal or human consumption, vegetation and may affect aquatic life, if effluents are not properly treated to remove the harmful pollutants.

The major sources of water pollution normally associated due to mining and allied operations are:

- a. Domestic effluent.
- b. Washouts from stockpile if any.
- c. Disturbance to drainage course in the project area
- d. Generation of mine pit water pumped out from deeper workings if any.



4.3.3 TREATMENT SCHEME:

A. Generation of domestic effluent:

The domestic sewage to be generated from the project will be collected in septic tank with soak pits.

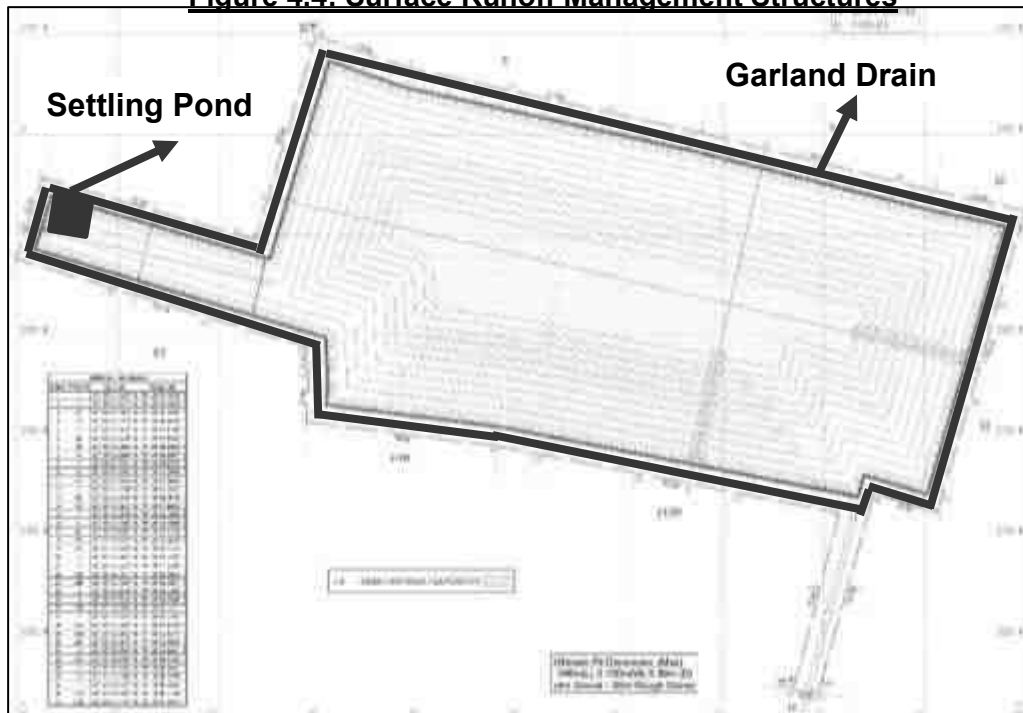
B. Washouts from overburden, ore stockpile, etc.

Since the entire material from the quarry face will be directly dispatched to the consumers, there will not be any stockpiles. There are no waste dumps in this quarry. As such there will not be any wash out due to stock pile or waste dumps.

The rain water falling in the quarry will be harvested in the sump at the lowest level of the quarry. This sump will act as a settling pond to prevent solids escaping along with discharge, before outlet. etc. Towards surface runoff management, a garland drain of length 3000m will be constructed around the quarry and will be connected to settling pond on the NW corner with silt traps to arrest suspended solids. The clarified supernatant from the settling pond will be systematically discharged for utilization by downstream users, thereby ensuring effective stormwater management and prevention of siltation in the surrounding areas. This design approach is in line with statutory guidelines and best environmental management practices, as it facilitates controlled drainage, minimizes soil erosion, prevents contamination of nearby water bodies, and promotes safe reuse of stormwater. The surface runoff management structures diagram is given in **Figure No 4.4.**



Figure 4.4: Surface Runoff Management Structures



C. Disturbance to drainage courses

There are no major river or water bodies near the lease area. Small drainage is shown in lease periphery west side in the village map and FMB , but not actually present. Besides, entire lease area is patta land of the proponent. Still it is proposed to ensure proper surface runoff measures through garland drain in the lease periphery to ensure proper rainwater flow.

This being a mining project, there will not be any generation of process effluent or discharge any effluent into the water bodies. No major impact is envisaged on the nearby water bodies due to project operations.

D. Generation of mine pit water pumped out from deeper workings if any.

The occurrence and movement of groundwater in hard rock formations are restricted to the porous zones of weathered formations and the open systems of fractures, fissures and joints. Generally, in hard rock regions, occurrence of weathered thickness is discontinuous both in space and depth.



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Hence recharge of groundwater in hard rock formations is influenced by the intensity and depth of weathering.

Study of the area shows that the sub-surface formations are compact with less intergranular porosity and fractures leading to less permeability and transmissivity values and as such the ground water level in this area is deep from surface. Subsequently hard and massive formations of rock are found. Based on the available information and the geophysical investigations it is observed that the study area is of poor to moderate groundwater potential up to 70m to 75m. Besides, the mining area consists of hard compact rock, no major water seepage within the mine is expected. The ultimate pit depth of mining is 59m. The ground water table in this area is below this level. Hence, ground water intersection is not envisaged and ground water will not be affected appreciably due to the quarrying operation. Hence, the quarrying rough stone up to the proposed depth may not have any adverse impact in the area over ground water conditions.

As mentioned earlier, the rainfall will be collected in the mine floor sump and advantageously used. Excess water if any in the sump will be pumped to settling pond for downstream users.

4.3.4 REDUCING WATER CONSUMPTION OVER THE YEARS:

4.3.4.1 GENERAL METHODS:

Use of water will be monitored and used to the minimum required. Awareness will be spread to the employees about the importance of water conservation. Tap and showers will be turned off immediately after use and any leaks will be monitored and immediately controlled. Water requirement for greenbelt and dust suppression can be reduced by choosing the native plants/trees species with low water requirement and which can sustain in such conditions for greenbelt/ plantation and also optimum usage to the required minimum. While the dust suppression itself is an important method of pollution control for air pollution due to dust, the water consumption will be monitored strictly. The water tanker will be examined for any sources of leaks and if found will be immediately sealed so that water can be utilized for dust suppression effectively without loss.



4.3.4.2 RAINWATER HARVESTING PLAN

Since the lease proximate areas are with less water potential and the rainwater is the major source for replenishment of ground water, effective rainwater harvesting and other water augmentation measures are proposed in this project.

- a) Development of garland drain around the quarry connected to settling tank.
- b) Cleaning of drain periodically to prevent siltation
- c) The supernatant clear water from the settling pond will drain into the nearby drainage.
- d) Utilizing the rainwater harvested in the mine pit to meet the water requirement of the project.
- e) Excess water, if any in consultation with local villagers and in line with government practices shall be provided to the downstream users.

4.4 NOISE AND VIBRATION:

4.4.1 NOISE ENVIRONMENT:

The ambient noise levels in the study area have been discussed in Chapter - III. The data shows that the existing noise levels are within statutory tolerable limits. The impact prediction and control measure for noise environment due to mining and allied activities is described below:

4.4.1.1 IMPACT PREDICTION DUE TO NOISE:

Noise is one of the inevitable causes of pollution in mining operations, largely due to the extensive mechanization adopted. Besides, other operations such as drilling, blasting, movement of vehicles, etc., also produce noise of considerable magnitude in mining operations. The main sources of noise and expected levels are given below in **Table no – 4.8.**

Table 4.8: Main Sources of Noise

Sl. No.	Source	Inside Cabin	Noise level at dB(A) 10 m. from source
1	Shovel	84-91	59-68
2.	Dumpers/Tippers	87-96	75-85
3.	Drill	88- 95	75-83



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Prolonged exposure to a high noise level is harmful to the human auditory system and can create mental fatigue, rebellious attitude, annoyance and carelessness, which may lead to neglect of work and also result in accidents. The impact of noise level as per World Health Organization's 1986 notification is given below in **Table No - 4.9**.

Table 4.9: Impact of Noise Levels

NOISE LEVELS	ADVERSE EFFECTS
90-115 dB	Partial deafness and nervous irritability
> 115 dB	Permanent deafness
Impulsive noise (>90dB)	Frightens livestock grazing in the nearby areas

OSHA (Occupational Safety and Health Administration), USA and other similar organisations stipulate that noise level up to 90 dB(A) is acceptable for eight hours exposure Leq (Equivalent sound level) (8hrs) per day. The Directorate General of Mines Safety, in circular No. DG (Tech)/18 of 1975, has prescribed the noise level in mining occupations (TLV) for workers, in an 8 hour shift period with unprotected ear as 90 dB(A) or less.

The noise will be felt only near the active sources. There will be considerable reduction in the noise level due to the absorption factor, environmental surroundings and other attenuation factors. As far as absorption factor is concerned, If the ground cover is vegetated or has a soft texture, sound will decrease at the rate of 4.5 dB(A) every time the distance between the source and the observer is doubled. Besides, there will be shielding factor, which takes into account the environmental surroundings. With every 30m of dense land scape vegetation, 5 dB(A) of additional attenuation can be obtained up to a maximum of 10 dB(A). As such at away places the effect of noise will not be felt.

Anticipated noise levels resulting from operation of the various machineries like excavator, tippers, drill have been computed using point source model. Computation of cumulative noise levels at the nearby villages is made based on the assumption that there are no attenuation paths between the source and the boundary.

Noise modeling is carried out using the following formula:



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$Lp2 = Lp1 - 20 \log R2/R1$, Where, $Lp1$ and $Lp2$ are sound pressure levels at points located at distances $R1$ and $R2$ respectively from the source. The study results are as follows:

Table 4.10: Post Project Noise Levels

Sl.No	Location	Baseline Day Eq.in dB(A)	Post project noise Eq in dB(A)	Limit dB(A) as per MoEF&CC
1.	N1-Near Lease Area	53.5	54.1	90
2.	N2-Perumbakkam Village	52.5	52.7	90
3	N3-Parikkal pattu Village	50.5	50.6	90
4	N4-Kunnam Village	51.7	51.9	90
5	N5-Siruvarur Village	48.2	48.4	55

From the studies, it is found that the predicted Noise Levels due to mining operations at the periphery of the mine lease itself will be less even without considering any attenuation factor. However, practically there will be attenuation due to vegetation etc., and as such there will not be any adverse noise propagation outside the lease boundary. Since the habitations are also away the effect of noise due to mining operations will not be felt at all in the surrounding villages.

4.4.1.2 CONTROL MEASURES FOR NOISE ENVIRONMENT:

Hence, by following mitigative measures for noise control, the impact on noise levels will be insignificant:

- Planting rows of native trees along roads, around mine area and other noise generating centers to act as acoustic barriers.
- Sound proof operator's cabin for equipments like shovel, tippers, etc.
- Proper and regular maintenance of equipments may lead to less noise generation.
- Providing in-built mechanism for reducing sound emissions.
- Providing earplugs to workers exposed to higher noise level.
- Conducting regular health check-up of workers including Audiometry test for the workers engaged in noise prone area.



- Displaying the noise level status of operational machinery on the machines to know the extent of noise level and to control the time to which the worker is exposed to higher noise levels.
- Provision of tin net on the southern side and green net along the lease periphery on the other sides.

Further green belt and afforestation will be planned and executed to abate noise and dust propagation in the area.

4.4.2 GROUND VIBRATIONAL DUE TO BLASTING EFFECTS:

Vibrations due to blasting may cause damage to nearby structures, if appropriate control measures are not adopted. Flyrock is another possible damage causing outcome of blasting. There are many factors, which influence these, like long explosive column with little stemming column, improper burden, loose material or pebbles near holes and long water columns in the holes.

The following control measures will be planned to reduce ground vibratory conditions to sustainable statutory limits:

- 1) Carrying out controlled blasting using Nonel delay detonator.
- 2) Optimum design for burden and spacing.
- 3) Reducing explosive charge per delay to minimum.
- 4) The peak particle velocity (PPV) of ground vibration will be kept very low through optimally controlled blasting techniques, after necessary field trials.
- 5) To contain fly rocks, stemming column to be less than burden of the hole. Blasting area will also be muffled, if necessary, to stop fly rocks propagation.
- 6) Blasting will not be carried out when strong winds are. Blasting will be done during midday time.
- 7) Controlled blasting to avoid tension cracks which may endanger the stability of bench slopes in the mine.



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- 8) Construction of trenches in the lease periphery to prevent vibration propagation.
- 9) Proper care and supervision during blasting by a competent and experienced person to be carried out.

By adoption of above measures, it will be ensured that the ground level vibration due to blasting are maintained within the limits prescribed by DGMS, Dhanbad at the mining areas vide Circular No. 7 dated 29 -08-1997 as given below

Table 4.11: Permissible Peak Particle Velocity (PPV) In Mining Areas

Type of structure	Dominant excitation frequency Hz		
	<8 Hz	8-25 Hz	>25 Hz
A. Buildings/structures not belonging to owner			
Domestic houses /structures (Kuchha brick and cement)	5	10	15
Industrial buildings (RCC and framed structures)	10	20	25
Objects of historical importance and sensitive structures.	2	5	10
B. Building belonging to owner with limited span of life			
Domestic houses/structures (Kuchha brick and cement)	10	15	25
Industrial buildings (RCC and framed structures)	15	25	50

Besides, different blasting time for the projects in the vicinity is suggested and the timing is to be mentioned in the display board in the respective mines entrance.

4.5 LAND ENVIRONMENT:

The lease area of 6.61.35Ha is own patta land of the applicant. Presently entire lease area is unutilized dry barren land with grasses only. The present land use pattern, and the post mining land use pattern is shown below:

Table 4.12: Land Use Table

S.No	Land Use	Present Land Use (Ha)	Area in use during end of lease period (Ha)
1	Quarrying Pit	Nil	5.43.90
2	Infrastructure	Nil	0.02.00
3	Roads	Nil	0.06.75
4	Green Belt	Nil	1.08.70



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5	Unutilized	6.61.35	Nil
	Total	6.61.35Ha	6.61.35Ha

In the post mining stage, the mine pit area of 5.43.90Ha will be left as a water body. Plantation will be carried out over 1.08.70Ha and 0.08.75Ha will be left as road and infrastructure.

4.5.1 LAND RECLAMATION:

There is no waste generation anticipated in this quarry operation since the entire excavated material will be utilized. Hence, there is no external overburden dump involved. In the post mining stage, the mine pit area of 5.43.90Ha will be left as a water body. Plantation will be carried out over 1.08.70Ha and 0.08.75Ha will be left as road and infrastructure. 1.08.70 Ha will be covered with vegetation.

Table 4.13: Land Use During Post Operational Period

S.No	Description	Land use (Ha.)			
		Plantation	Water body	Others	Total
1	Quarrying Pit	-	5.43.90	-	5.43.90
2	Infrastructure		-	0.02.00	0.02.00
3	Road		-	0.06.75	0.06.75
4	Green Belt	1.08.70	-	-	1.08.70
5	Unutilized	-		-	Nil
	TOTAL	1.08.70	5.43.90	0.08.75	6.61.35

Entire mined out area will be properly fenced to prevent inadvertent entry of men and animals. In the post mining stage the entire mined out area shall be used as a rainwater harvesting pond.

4.6 BIOLOGICAL ENVIRONMENT:

4.6.1 EXISTING FLORA AND FAUNA:

The core zone area is barren with grasses and bushes. Details of flora/fauna pattern in core and buffer zones have been described in chapter - III.

4.6.2 IMPACT OF MINING ON BIOLOGICAL ENVIRONMENT:

The significance of impact on biological environment due to mining and allied activities on various fronts is described below:



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Table 4.14: Impact on Biological Environment

S.No	ISSUES	OBSERVATIONS
1	Clearance of vegetation due to mining and allied activities	Since the lease area contains only grasses and free from trees in the area to be utilized, no clearance of major vegetation is involved.
2	Retardation of tree growth, tip burning, etc, due to deposition of dust and the Particulate matter generated from the mining operation.	Necessary mitigative measures like dust suppression, proper maintenance of equipment's, roads will be carried out to prevent dust generation.
3	Proximity to national park/ wildlife sanctuary/reserve forest/mangroves/Coastline/estuary/ sea	The mining lease area and the 10 km buffer zone from the periphery of the core zone is devoid of declared ecologically sensitive features like national parks, biospheres, sanctuaries, etc.
4	Release of effluents into water body that also supplies water to wildlife	There is no proposal to discharge any effluent into nearby water bodies.
5	Proposed project could increase siltation that would affect nearby biodiversity area	Surface runoff management structures like garland drain, settling pond etc. as explained above will be constructed and as such there will not be any appreciable impact on surface water quality which in turn can affect the bio diversity of the area.
6	Activities of the project affects the breeding/nesting sites of birds and animals	In the present ML area, there is no wetland. A migratory bird needs sufficient wetlands with sufficient food, shelter, roosting places and nesting places which is not possible here.
7	Located near an area populated by rare or endangered species	There are no rare or endangered species in the nearby area
8	Risk of fall/slip or cause death to wild animals due to project activities	In the post mining stage, barbed wire fencing is proposed all around the mined-out void to prevent falling of animals in the mine pits.
9	Project affects the forest-based livelihood/any specific forest product on which local livelihood depends	Not applicable
10	Project likely to affect migration routes	No migration routes are in the area.
11	Project likely to affect flora of an area, which have medicinal value	No such significantly important medicinal value species within the ML area and its nearby region.
12	The project likely to affect wetlands, fish breeding grounds, marine ecology	There are no any wetlands, fish breeding grounds, marine ecology nearby the ML area which will be affected due to this project.
13	Project affects the Agriculture, Forestry and Traditional Practices	Due to soil condition, undependable rainfall, poor soil condition, absence of dependable irrigational source or water bodies, deep ground water occurrence, availability of manpower, little seasonal agricultural activities are carried out in the area. Due



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		to these factors, probably predominant casuarina tree plantation are observed in the study area.
14	Impact on soil health and biodiversity	The lease area is Plain topography land only (Photograph of the site attached in Chapter-II). Besides, there is no waste generation, disposal or stacking involved in this project. As such no loss of soil health and Bio-diversity is expected.
15	Climate change leading to droughts, floods,etc.	•It will be ensured that mining will be carried out adhering to all statutory rules and regulations and maintaining the environmental quality within the prescribed standards by effective implementation of various mitigative measures. •Besides, as is it a mining project, no adverse generation of heat is envisaged. •Certified vehicles with low carbon emissions will only be used. These equipment's will be properly and regularly maintained. Besides, regular vehicular emission tests will be done for the transport vehicles to ensure minimal impact due to carbon emissions. To further mediate the carbon emissions, a good greenbelt and plantation plan has been in and around the lease area. •Geologically the area in and around the lease area contains charnokite type rock formation containing mostly fallow land. As such there no major vegetation or agricultural activities are observed. •There are no Protected or Eco-Sensitive Zone or forest land nearby wherein it can have an impact. •These mitigative measures will be continued for the entire lease period ensuring no impact on the environment. •As such release of Greenhouse gases (GHG), rise in temperature, affecting livelihood of the local people ,loss of Agriculture, Forestry and Traditional Practices is not envisaged. Such a limited scope will not induce any climatic change leading to droughts, floods etc.
16	Pollution leading to release of greenhouse gases (GHG) rise in temperature (Hydrothermal/Geothermal effect due to destruction in environment, Bio-geochemical processes and its foot prints including environmental stress) and livelihood of local people.	
17	Possibilities of water contamination and impact on aquatic ecosystem health and impact on Sediment geochemistry in the surface streams	•This being a mining project no process effluent will be generated. •Water generation is expected to be due to ✓ Direct rainfall falling within the pit ✓ Rain water draining near the lease area. •Direct rain fall will be collected in the mine floor sump. Water from sump will be pumped to settling pond for downstream users. •Rainwater from the mine periphery will be collected through peripheral garland drain. Garland drain will be connected to a settling pond. Supernatant clear water from settling pond



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		confirming to applicable limits will be let out to downstream users for agricultural or other purposes. • Due to above mentioned reasons and absence of perennial water bodies nearby where in any marine ecosystem is observed, no effect on this front is expected.

There are no migratory corridors, migratory avian-fauna, rare endemic and endangered species. Therefore there shall be no impacts due to mining activity on them. Even though there are no adverse impact on bio diversity and flora/fauna status due to project operations, positive impacts will arise due to well-planned reclamation measures for restoration of land status in the area ultimately to productive land category with elaborately planned green belt development activities.

4.6.3 CONTROL MEASURES FOR BIOLOGICAL ASPECTS:

To reduce the adverse effects on flora/fauna status of the area due to deposition of dust generated from mining operations, mobile water tanker systems will be ensured in all dust prone areas to arrest dust generation. Methodical and well-planned plantation scheme will be carried out depending upon the immediate need, priority and availability of land. The plantation will be done along the lease boundary in a phased manner.

4.6.4 GREEN BELT & PLANTATION:

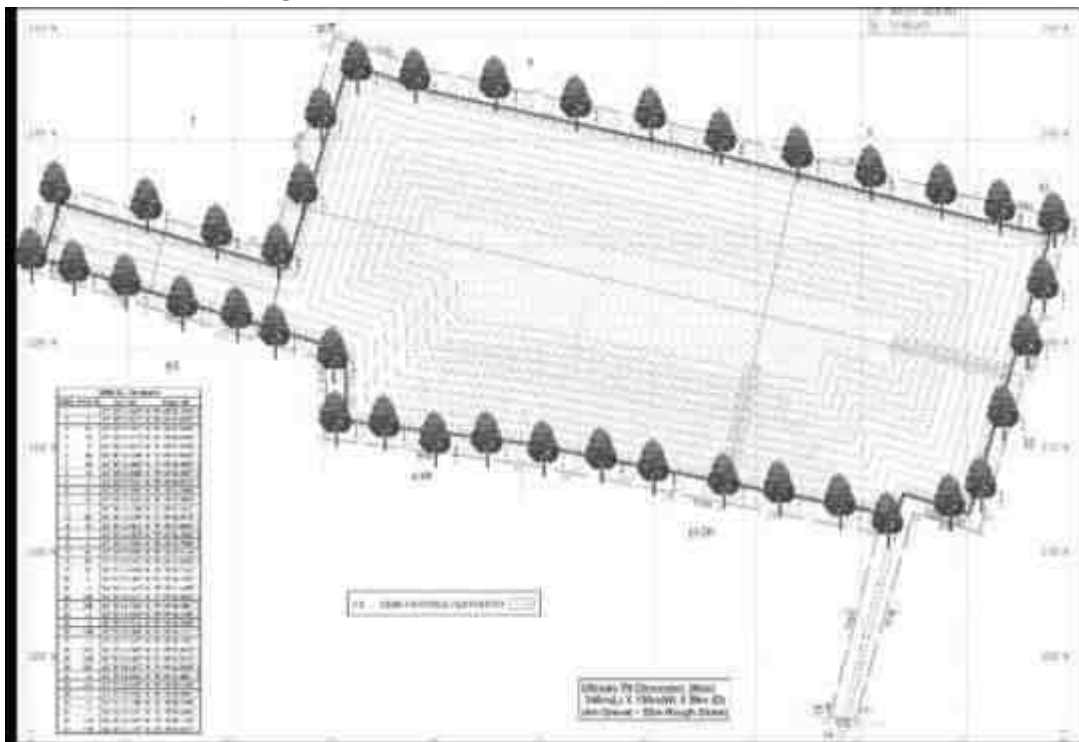
In the safety zone within the lease area and in the nearby areas including mineral transport road plantation of local trees like Pungai, vagai, vembu will be carried out about 1000 trees will be planted in and around the lease area.

. In the post mining stage, the mine pit area of 5.43.90Ha will be left as a water body. Plantation will be carried out over 1.08.70Ha and 0.08.75Ha will be left as road and infrastructure. 1.08.70 Ha will be covered with vegetation. The post mining land use plan showing afforestation and water body is shown in **Figure No- 4.5**.



4.7 SOCIO ECONOMIC ENVIRONMENT:

Figure 4.5: POST MINING LAND USE PLAN



The entire lease area is in the proponent's possession. There are no habitations or hutments in the core zone area and no rehabilitation or resettlement is involved.

The mining operations in the proposed mine will employ about 48 persons directly and about 100 persons on indirect basis through allied opportunities in logistics, trading, repairing works etc. good employment potential will arise in this area, which will provide raising income levels and standards of living in the area through various service related activities connected with the project operations as shown under.

- Project related logistical operations for transport of Rough Stone, etc,
- Various trading services for consumer goods, spare parts, sundry items, etc.
- Contractual services connected with the project.
- Green belt and horticultural works in the project.



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- Casual labor needs for various activities.

Besides, there will be improvement in the following aspects due to project operation:

- ❖ Improvement in infrastructural facilities, providing education aids etc. in nearby schools
- ❖ Betterment of drinking water facilities.
- ❖ Benefit to the State and the Central governments through financial revenues by way of royalty, tax, duties, etc from this project directly and also indirectly.

From above details, it is clear that the project operations will have highly beneficial positive impact in the area.

Table 4.15: CER Cost

Project Cost (Rs.)	Rs.88,30,000/-
CER Cost Requirement (2% of the Project Cost) (Rs.)	Rs. 1,76,600/-
Revised CER cost allocated (Rs.)	Rs. 5,00,000/-

However, towards the socio economic development of the surrounding area, the proponent has earmarked an amount of Rs.5 Lakhs under Corporate Environmental Responsibility. The activities identified under CER will be implemented in a phased manner in provision of facilities in nearby Government School.

4.8 OCCUPATIONAL HEALTH AND SAFETY:

4.8.1 BASELINE STATUS:

Primary data collection through field survey conducted in the study area reveals that there is no reported incident of any occupational diseases in the area. Hazardous jobs like blasting, loading, etc. are planned to be executed safely and with all precautionary measures as prescribed in Metalliferous Mines Regulations of 1961, so as to minimize hazards and incidences of health problems.

4.8.2 IMPACTS ON OCCUPATIONAL HEALTH DUE TO PROJECT OPERATIONS:

Anticipated occupational illness sequel to mining activities can be as follows:



- Dust related pneumonia
- Tuberculosis
- Rheumatic arthritis
- Segmental vibration
- Miner's Nystagamus

4.8.3 MITIGATIVE MEASURES FOR OCCUPATIONAL HEALTH:

To reduce pollution emanation from the project, following measures are being and will be taken:

- Water sprinkling on haul roads etc.
- Green belt creation to arrest dust and reduce noise propagation.
- Acceptance of good control measures for reducing air pollution, as mentioned earlier in the chapter.
- Control of noise levels through good preventive maintenance of machineries, green belt creation, provision of ear plug to workers, etc.
- In addition to above measures, the following remedial steps are being and will be enforced to ensure minimization of occupational health and safety problems.
- Medical examination of workers by qualified doctors, as per DGMS circulars.
- Regular awareness campaigns amongst staff and workers
- Staff will be provided with PPE to guard against excess noise levels, Dust generation and inhalation, etc., as per standards prescribed by DGMS.

4.8.4 MITIGATIVE MEASURES FOR SAFETY ASPECTS:

The following safety gadgets will be provided to the staff and workers based on their area of operation and work & requirement:

SI No	Safety Equipments
1.	Helmets
2.	Shoes
3.	Goggles



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SI No	Safety Equipments
4.	Dust Mask
5.	Hand Gloves
6.	Reflective Jackets
7.	Ear Muffs
8.	Signal Lights/Flags

4.9 LOGISTICAL SYSTEM:

From this proposed quarry the entire output will be transported to the crusher units for producing stone aggregates of different sizes or construction of roads, bridges, buildings and other buyers etc. The expected peak transport will be as follows:

Table 4.16: Details of Transportation

Sl.no	Particulars of activity	Quantity
A	Average yearly RoughstoneTransported (T/year)	5,34,710
B	No of days in a year	300
C	Transport hours per day	8
D	Truck capacity in T	25
	Trips per hour	9 Trip/hr

From the above table it is seen that there will be about 9 trip per hour additional truck traffic. The existing road can absorb this additional traffic due to this project. However, the following mitigative measures are suggested:

- ❖ Water sprinkling on material in the transport vehicles before transporting, so that no dust nuisance during transport will arise.
- ❖ Plantation on either side of the transport road in consultation with the concerned department.
- ❖ Proper maintenance of transport roads
- ❖ Proper maintenance of transport vehicles.
- ❖ Avoiding overloading of material
- ❖ Covering of loaded vehicles with tarpaulins sheet.
- ❖ Limiting of speed



- ❖ Provision of tyre washing facility at the mine outlet

4.10 WASTE MANAGEMENT:

Solid Waste: Since the entire mined out material will be used there will not be any solid waste generation from this project.

Liquid waste: There is no process effluent generation from this mine. Hence no liquid waste is generated.

Hazardous waste management: In this project the following management practices will be followed:

- Ensuring availability of different colour bins for collection of different types of waste.
- Storing of Hazardous waste material in a separate storage area with impervious containers for waste oil, oil contaminated clothes, used lead acid batteries, scraps, tyre storage etc.
- Ensure that there are no leakages/spillages of hazardous wastes.
- Ensuring that the fire extinguisher system is available at hazardous material storage area.

The hazardous waste if any will be disposed through authorized recyclers or re-processors periodically. The hazardous wastes will be transported in accordance with the provisions of rules. By effective implementation of above said mitigation measures no major impact due to Hazardous waste is expected.

Plastic waste: Single use plastics/ use and throwaway plastics will be banned in the site as directed by the Tamil Nadu Government vide GO(Ms)No.84 regarding ban on use of plastic products. The employees will be encouraged to use compostable material or reusable material.

* * * * *



CHAPTER - V

ANALYSIS OF ALTERNATIVES (TECHNOLOGY & SITE)

CHAPTER 5

ANALYSIS OF ALTERNATIVES

5.1 ALTERNATE TECHNOLOGY:

This is a proposed Rough Stone and Gravel Quarry in which Mechanized Open Cast mining will be carried out. It involves jack hammer drilling, blasting, excavation, loading and transportation of Rough stone to the crushing units. As this method is techno economically proven, consideration of an alternate technology is not warranted.

5.2 ALTERNATE SITE:

The mineral deposits are site specific in nature; hence question of seeking alternate site does not arise.

* * * * *



CHAPTER - VI

ENVIRONMENTAL MONITORING PROGRAMME

CHAPTER 6

ENVIRONMENTAL MONITORING PROGRAMME

6.1 GENERAL

In this project, appropriate environmental monitoring programme are framed. Regular, systematic and sustained programme schedules for implementation and monitoring of various control measures are devised with clear cut guidelines of various concerned plans for keeping a continuous surveillance on the various environmental quality parameters in the area.

The monitoring schedules are planned to aim at regular and systematic study of various pollution levels with respect to air and water quality, noise levels etc., to ensure that they conform to the standards laid down by the Environment Protection Act, 1986 and various Central and State Pollution Control Board Limits.

The various methodologies and frequency of studies of all environmental quality parameters will be as per prescribed norms laid down by MOEF&CC and State Pollution Control Board. This being a small quarry operation, the Mines in-charge will take care of all the environmental related works also.

Environmental control measures include components like air, water and soil quality, noise levels, afforestation measures, etc. For monitoring of environment over the life of the mine, a set of stations for study of quality parameters are fixed as per the actual requirements and prevailing conditions of environmental factors, as dictated from time to time, depending on the prevailing pollution levels.

6.2 MONITORING SCHEDULES FOR VARIOUS PARAMETERS

The monitoring schedules are planned for systematic study of various pollution levels with respect to air and water qualities, noise levels, etc. to ensure that they conform to the standards laid down by Environmental Protection Act and various statutory Limits. However, based on the need and priority it may be suitably modified / improved in consultation with local authorities. The monitoring schedules to be adopted in this quarry are given below.



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Table 6.1: Environmental Monitoring Schedule

S.No	Environmental Parameters	Parameters to be monitored	Monitoring area coverage /locations	Frequency of monitoring
1	Air Quality	Sulphur dioxide (SO ₂), Oxides of Nitrogen (NO ₂), Respirable Particulate Matter (PM _{2.5} and PM ₁₀).	2 locations in the buffer zone and 1 work zone location.	Once in a year in each location.
2	Water Quality	General, Physical, and chemical parameters	Ground Water samples (around the project area) and Mine Pit water samples	Once in a year
3	Water Table Fluctuations	Water Levels	Nearby wells and Borewells	On yearly basis pre and post monsoon level
4	Noise	Leq. Lmax Lmin, Leq Day & Leq Night dB(A)	Work zone locations and buffer zone villages	Once in a year
5	Vibration	Peak Particle Velocity	Mine periphery	Once to arrive at optimum blasting parameters
6	Socio Economic Environment	Socio Economic Survey, Review of implementation of CER activities proposed	Buffer Zone	Yearly basis
7	Occupational Health	Occupational health survey to detect early incidence of diseases, Audiometry Test for workers in noise prone area and review of safety matters.	Staff and Workers involved in the project	Once in a year
8	Greenbelt	Maintenance	Within the lease area	Regularly

6.3 LEGISLATIVE AND REGULATORY FRAME WORK:

The project will have environmental policy declaring its responsibility and commitment to protect the environment and to ensure public safety. The existing policy will be available with all concerned officials of the plant. The following environmental standards as per methodologies prescribed, by MOEF/CPCB/TNPCB will be enforced in this project:



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Table 6.2: Environmental Standards

Standards	Issued By	Reference
National Ambient Air Quality Standards	Central Pollution Control Board	Table No. 6.3
Water quality standards per IS 10500:2012	Bureau of Indian Standards	Table No.6.4
Noise Standards	CPCB / MoEF&CC	Table No.6.5
Permissible Peak Particle Velocity	DGMS, Dhanbad	Table No.6.6

Table 6.3: National Ambient Air Quality Standards

[NOTIFIED]—[NOTIFIED]

NATIONAL AMBIENT AIR QUALITY STANDARDS
CENTRAL POLLUTION CONTROL BOARD
NOTIFICATION
New Delhi, the 18th November, 2009

No. B-28014/2896/PC-I.—In exercise of the powers conferred by Sub-section (2) (b) of section 16 of the Air (Prevention and Control of Pollution) Act, 1981 (Act No.14 of 1981), and in supersession of the Notification No(x). S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October, 1996, the Central Pollution Control Board hereby notify the National Ambient Air Quality Standards with immediate effect, namely:-

NATIONAL AMBIENT AIR QUALITY STANDARDS

S. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air		
			Industrial, Residential, Rural and Other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1	Sulphur Dioxide (SO ₂), µg/m ³	Annual* 24 hours**	50 80	20 30	• Improved Wet and Gase • Ultraviolet fluorescence
2	Nitrogen Dioxide (NO ₂), µg/m ³	Annual* 24 hours**	40 80	20 30	• Modified Jank & Hachler (No-Armata) • Chemiluminescence
3	Particulate Matter (size less than 10µm) or PM ₁₀ , µg/m ³	Annual* 24 hours**	60 100	60 100	• Gravimetric • TCEM • Beta attenuation
4	Particulate Matter (size less than 2.5µm) or PM _{2.5} , µg/m ³	Annual* 24 hours**	40 60	40 60	• Gravimetric • TCEM • Beta attenuation
5	Ozone (O ₃), µg/m ³	8 hours** 1 hour**	100 180	100 180	• UV photometric • Chemiluminescence • Chemical Method
6	Lead (Pb), µg/m ³	Annual* 24 hours**	0.50 1.0	0.50 1.0	• AAS ICP method after sampling on EPMD 2000 or equivalent filter paper • ED-XRF using Teflon filter
7	Carbon Monoxide (CO), mg/m ³	8 hours** 1 hour**	62 94	62 94	• Non Dispersive Infra Red (NDR) spectroscopy
8	Ambient (NH ₃), µg/m ³	Annual* 24 hours**	100 400	100 400	• Chemiluminescence • Indophenol blue method



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[PART III—Sec. 4]

(1)	(2)	(3)	(4)	(5)	(6)
9	Benzene (C ₆ H ₆) µg/m ³	Annual*	05	05	- Gas chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis
10	Benzo(a)Pyrene (BaP) - particulate phase only, ng/m ³	Annual*	01	01	- Solvent extraction followed by HPLC/GC analysis
11	Arsenic (As), ng/m ³	Annual*	06	06	- AAS /ICP method after sampling on EPM 2000 or equivalent filter paper
12	Nickel (Ni), ng/m ³	Annual*	20	20	- AAS /ICP method after sampling on EPM 2000 or equivalent filter paper

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

Note. — Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation.

SANT PRASAD GAUTAM, Chairman
[ADVT-III/4/184/09/Extr.]

Note: The notifications on National Ambient Air Quality Standards were published by the Central Pollution Control Board in the Gazette of India, Extraordinary vide notification No(s). S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October, 1998.



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Table 6.4: IS – 10500 :2012 Standards

Table 1 Organoleptic and Physical Parameters
(Foreword and Clause 4)

Sl No.	Characteristic	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	Method of Test, Ref to Part of IS 3025	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
i)	Colour, Hazen units, <i>Max</i>	5	15	Part 4	Extended to 15 only, if toxic substances are not suspected in absence of alternate sources
ii)	Odour	Agreeable	Agreeable	Part 5	a) Test cold and when heated b) Test at several dilutions
iii)	pH value	6.5-8.5	No relaxation	Part 11	—
iv)	Taste	Agreeable	Agreeable	Parts 7 and 8	Test to be conducted only after safety has been established
v)	Turbidity, NTU, <i>Max</i>	1	5	Part 10	—
vi)	Total dissolved solids, mg/l, <i>Max</i>	500	2 000	Part 16	—

NOTE — It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned under 'acceptable' render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicated under 'permissible limit in the absence of alternate source' in col 4, above which the sources will have to be rejected.



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Table 2 General Parameters Concerning Substances Undesirable in Excessive Amounts
(Foreword and Clause 4)

Sl No.	Characteristic	Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	Method of Test, Ref to	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
i)	Aluminium (as Al), mg/l, Max	0.03	0.2	IS 3025 (Part 55)	—
ii)	Ammonia (as total ammonia-N), mg/l, Max	0.5	No relaxation	IS 3025 (Part 34)	—
iii)	Anionic detergents (as MBAS) mg/l, Max	0.2	1.0	Annex K of IS 13428	—
iv)	Barium (as Ba), mg/l, Max	0.7	No relaxation	Annex F of IS 13428* or IS 15302	—
v)	Boron (as B), mg/l, Max	0.5	1.0	IS 3025 (Part 57)	—
vi)	Calcium (as Ca), mg/l, Max	75	200	IS 3025 (Part 40)	—
vii)	Chloramines (as Cl ₂), mg/l, Max	4.0	No relaxation	IS 3025 (Part 26)* or APHA 4500-Cl G	—
viii)	Chloride (as Cl), mg/l, Max	250	1 000	IS 3025 (Part 32)	—
ix)	Copper (as Cu), mg/l, Max	0.05	1.5	IS 3025 (Part 42)	—
x)	Fluoride (as F) mg/l, Max	1.0	1.5	IS 3025 (Part 60)	—
xi)	Free residual chlorine, mg/l, Min	0.2	1	IS 3025 (Part 26)	To be applicable only when water is chlorinated. Tested at consumer end. When protection against viral infection is required, it should be minimum 0.5 mg/l
xii)	Iron (as Fe), mg/l, Max	0.3	No relaxation	IS 3025 (Part 53)	Total concentration of manganese (as Mn) and iron (as Fe) shall not exceed 0.3 mg/l
xiii)	Magnesium (as Mg), mg/l, Max	30	100	IS 3025 (Part 46)	—
xiv)	Manganese (as Mn), mg/l, Max	0.1	0.3	IS 3025 (Part 59)	Total concentration of manganese (as Mn) and iron (as Fe) shall not exceed 0.3 mg/l
xv)	Mineral oil, mg/l, Max	0.5	No relaxation	Clause 6 of IS 3025 (Part 39) Infrared partition method	—
xvi)	Nitrate (as NO ₃), mg/l, Max	45	No relaxation	IS 3025 (Part 34)	—
xvii)	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	0.001	0.002	IS 3025 (Part 43)	—
xviii)	Selenium (as Se), mg/l, Max	0.01	No relaxation	IS 3025 (Part 56) or IS 15303*	—
xix)	Silver (as Ag), mg/l, Max	0.1	No relaxation	Annex J of IS 13428	—
xx)	Sulphate (as SO ₄) mg/l, Max	200	400	IS 3025 (Part 24)	May be extended to 400 provided that Magnesium does not exceed 30
xxi)	Sulphide (as H ₂ S), mg/l, Max	0.05	No relaxation	IS 3025 (Part 29)	—
xxii)	Total alkalinity as calcium carbonate, mg/l, Max	200	600	IS 3025 (Part 23)	—
xxiii)	Total hardness (as CaCO ₃), mg/l, Max	200	600	IS 3025 (Part 21)	—
xxiv)	Zinc (as Zn), mg/l, Max	5	15	IS 3025 (Part 49)	—

NOTES

1 In case of dispute, the method indicated by '*' shall be the referee method.

2 It is recommended that the acceptable limit is to be implemented. Values in excess of those mentioned under 'acceptable' render the water not suitable, but still may be tolerated in the absence of an alternative source but up to the limits indicated under 'permissible limit in the absence of alternate source' in col 4, above which the sources will have to be rejected.



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Table 6.5: Noise Level Standards

Area Code	Category of Area	Limits in dB(A) Leq	
		Day Time	Night Time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Note :

1. Day time shall mean from 6 a.m. and 10.0 p.m.
2. Night time shall mean from 10.0 p.m. and 6 a.m.
3. Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.
4. Mixed categories of areas may be average as one of the four above mentioned categories by the competent authority.

* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A “decibel” is a unit in which noise is measured.

“A”, in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is energy mean of the noise level over a specified period.

Table 6.6: Permissible Noise For Industrial Workers As Laid Down By CPCB

Exposure time (in hr. per day)	Limit in dB(A)
8	90
4	93
2	96
1	99
1/2	102
1/4	105
1/8	108
1/16	111
1/32	114



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Table 6.7: Permissible Peak Particle Velocity (PPV) In Mining Areas

In mm/sec.

Type of structure	Dominant excitation frequency Hz		
	<8 Hz	I 8-25 Hz	I >25 Hz
A. Buildings/structures not belonging to owner			
Domestic houses /structures (Kuchha brick and cement)	5	10	15
Industrial buildings (RCC and framed structures)	10	20	25
Objects of historical importance and sensitive structures.	2	5	10
B. Building belonging to owner with limited span of life			
Domestic houses/structures (Kuchha brick and cement)	10	15	25
Industrial buildings (RCC and framed structures)	15	25	50

The above said monitoring location and the frequency of monitoring shall be suitably modified in consultation with the nodal agency as per the actual requirements and prevailing conditions of the mine and environmental factors, as dictated from time to time, depending on the prevailing pollution levels, if required.

6.4 ENVIRONMENTAL MONITORING COST:

Towards environmental monitoring it is proposed to allocate a budget of Rs. 50,000 per annum for this project. Further details of the capital and recurring cost of environmental management has been provided in in Table No. 10.2, Chapter-X.

* * * * *



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CHAPTER - VII

ADDITIONAL STUDIES

CHAPTER 7

ADDITIONAL STUDIES

7.1 GENERAL:

The additional studies covered for this EIA / EMP report are:

1. Public consultation of the project as per MoEF&CC mandates.
2. Risk Assessment
3. Cumulative Impact Study
4. R&R Plan
5. Mine closure planning

7.2 PUBLIC CONSULTATION:

This draft EIA/EMP report will be exposed to public consultation as per mandatory procedures through the District Collector and State Pollution Control Board officials after giving 30 days advance notice in two local newspapers about the scheduled date and time for conduct of the public hearing procedures. The opinions, concerns and objections of stakeholders will be recorded during the public hearing. All the public queries and the replies to the query by the project proponent and officials concerned will be recorded and incorporated in the EIA/EMP report for approval by SEIAA, Tamil Nadu.

7.3 RISK ASSESSMENT:

For the various risks, likely to arise, detailed analysis of causes and control measures is given in below:

S.No	Factors	Causes of risks	Control measures
1.	Removal of material	a) Bench may slide due to its unconsolidated nature. b) Vibration due to movement of vehicles in the benches.	Overall bench slope angle will be maintained optimally as per DGMS requirement. Working bench width will be more than bench height.
2.	Drilling	a) Due to high pressure of compressed air hoses may	• Periodical preventative maintenance and



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S.No	Factors	Causes of risks	Control measures
		burst. b) Down the hole drill rod may break due to improper maintenance of rod.	replacement of worn out accessories in the compressor and drill equipment. • As per manufacturers recommendation rod to be replaced and bits will be changed.
3.	Blasting	a)Fly rock, ground vibration, noise etc. b) Improper charging of explosives	• Burden and spacing will be kept optimum on trial basis. • Explosive charge per delay will be minimized. • Controlled blasting with Nonel will be used.
4.	Excavation	a)Hauling and loading equipment are in such proximity while excavation b)Swinging of bucket over the body of tipper c) Driving of unauthorized person	• Operator shall not operate the machine when person & vehicles are in such proximity. • Shall not swing the bucket over the cab and operator leaves the machine after ensuring the bucket is on ground. • Shall not allow any unauthorized person to operate the machine by effective supervision.
5.	Transportation	a)Operating the vehicle "nose to tail" b) Overloading of material c) While reversal & overtaking of vehicle d) Operator of truck leaving his cabin when it is loaded	• It will be ensured that all these causes will be nullified by giving training to the operators. • No over loading will be done. • Audio visual reverse horn will be provided. • Proper training will be given.
6.	Fire due to electricity and Oil	a)Due to the short circuit of cables & other electrical parts b) Due to the leakage of inflammable liquid like diesel, oil etc.	• Electrical parts shall be cleaned frequently with the help of dry air blower • All fastening parts and places will be tightening. Suitable fire suppression equipment shall be provided.
7.	Natural calamities	Unexpected happenings	The mine management is capable to deal with the situation.



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This being a small rough stone project that too working in a safe area, no major disaster is expected.

7.3.1. DISASTER MANAGEMENT PLAN:

In General, following natural/industrial hazards may occur during normal operation.

- Inundation of mine pit due to flood/excessive rains :
- Slope failure of the pit and waste dumps
- Accident due to heavy mining equipment and
- Blasting and use of Explosives

Mining operation in this lease will be carried out under the management control and direction of a qualified mine manager. The DGMS have been issuing a number of standing orders, model standing orders and circulars to be followed by the mine management in case of disaster. All these orders statutory rules and regulations will be followed. Seismically project site and study area falls in the Zone – II and is described as least active zone. There are no perennial water body near the lease area to cause any flooding. As such no disaster due to this project is envisaged.

In order to take care of above hazard / disasters the following control measures have been adopted.

- Checking and regular maintenance of garland drains and earthen bunds to avoid any inflow of surface water in the mine pit.
- Avoiding mining during heavy monsoon period and marching of all the HEMM to the top benches during rainy period.
- Provision of high capacity standby pumps with generator sets with sufficient quantity of diesel for emergency pumping especially during monsoon.
- All safety precautions and provisions of regulations will be strictly followed during all mining operations
- Prohibiting entry of unauthorized persons.
- Provision of Fire fighting and first-aid provisions in the mines.



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- Provisions of all the safety appliances such as safety boot, helmets, goggles, dust masks, ear plugs and ear muffs etc. are made available to the employees for their use.
- Training and refresher courses for all the employees working in hazardous premises
- Observance of all safety precautions for blasting and storage of explosives as per MMR 1961.
- Working of mine, as per approved plans and regularly updating the mine plans
- Cleaning of mine faces regularly
- Proper storage, usage of explosives through competent persons.
- Regular maintenance and testing of all mining equipment as per manufacturers guidelines
- Suppression of dust on the haulage roads with frequent water sprinkling, etc.
- Increasing the awareness of safety and disaster through competitions, posters and annual safety weeks and environmental weeks, encouraged through suitable rewards and other similar drives.

The management and the EMC will be able to deal with the situations efficiently keeping in view of the likely sources of dangers in the mine.

7.4 REHABILITATION AND RESETTLEMENT (R & R) PLAN:

The mining activities will be carried out within the mine lease area only. The entire mine lease area is a Patta land. There is no population within the ML area. Hence, the question of R& R does not arise.

7.5 MINE CLOSURE PLAN:

In the mine closure stage all necessary measures will be taken as per Act & Rules, There is no proposal for back filling, reclamation and rehabilitation. The quarried pits after the end of life of mine will be properly fenced all around to prevent inherent entry of public and cattle and all the statutory requirements will be fulfilled. As already explained, in the post mining stage the rainwater harvested in the mined out void shall be utilized for irrigation and domestic needs locally. The mine closure plan is provided in Figure 4.5 in chapter – IV of the EIA/EMP Report.



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7.6 CUMULATIVE IMPACT STUDY:

The lease area is located in Sirunavur Village, Vanur Taluk, Viluppuramdistrict, Tamil Nadu. The details of the other quarries located within the 500m radius of the project considered for cumulative impact study now (**Annexure-3**) has been provided below:

Table 7.1: Details of quarries within 500m radius

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.	M/s. Gravity, No.2, Ground Floor, New No.24, Sarvamangala Nivas, Venkataraman Street, T.Nagar, Chennai – 600017.	Rough stone & Gravel	Vanur & Sirunavur	23/1	2.43.0	22.04.2025 to 21.04.2035	-

II. Proposed Area :

Sl. No.	Name of the lessee / permit holder	Name of the Mineral	Taluk & Village	S.F. Nos.	Extent (in hecets)	Remarks
1.	Thiru. R.Gopu, S/o.Radhakrishnan, No.2/13, Mariyammam Kovil Street, Perumbakkam Village, Vanur Taluk, Viluppuram District.	Rough stone & Gravel	Vanur & Sirunavur	4/4 (Part) 13/2 (Part)	0.85.85 <u>1.57.10</u> 2.42.95	-
2.	M/s. Taamaesek Engineering Consortium, No.5,Bishop Wallers Avenue West, Mylapore, Chennai.	Rough stone & Gravel	Vanur & Sirunavur	13/1A 13/1B 13/2A 13/3A 13/3B 13/4A 13/4B 13/5 4/1 4/4A	1.07.5 0.25.0 2.47.10 0.13.5 0.40.5 0.13.5 0.40.5 0.92.0 0.61.5 <u>9.20.25</u> 6.61.35	-

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							

The lease area is >5 Ha . The total lease within the 500m radius (Existing + Proposed) works out 11.47.30 ha which is greater than 5Ha. Hence this is a **Category-B1 Project**.



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The baseline monitoring carried out for this project reflects the cumulative impact of these existing quarries.

Figure 7.1: Vicinity Map



7.7 PIT SLOPE STABILITY PLAN

- Factors affecting slope stability of the mine are
 - Geological structure comprising dip, intervening shear zone formation, clay intrusion, joints / discontinuities, faults etc.,



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- Lithology of formation
 - slope geometry
 - Ground water availability which may cause increased thrust on the faces
- Site specific analysis
- Since the formation is of homogeneous rock type probability of slope failure is low and can be avoided if proper measures are adopted.
 - There will be a 7.5m wide barrier zone which will form a ridge which can also take care of the top section and as such no risk is envisaged on this front.
 - During future workings the following measures will be ensured:
 - Regular inspection of the mine faces to be carried out by mines manager for ensuring absence of any structural features like faults, joints, dyke, intrusive material in the rock strata which may affect the slope stability and cleared.
 - No loose material or boulders is to be stacked on the mine top or pit benches.
 - Height of the benches should be 5m. Working bench width should be at least 2.5 times the bench height. Ultimate pit bench width will be 5m & slope is kept at 45° to ensure slope stability.
 - Haul road formation will be at 1 in 16 slope with adequate road width.
 - There will be no ground water table intersection. No seepage is expected due to formation. Adequate drainage management system comprising peripheral garland drain, settling pond to regulate monsoon water will be created to prevent saturation of compact layers, apparent drainage over the bench slope to avert damages to quarry face and manage the water flow.

The above will ensure safe and stable mine prospects.

7.8 CONCLUSION:

It can be concluded that lot of mining and its allied activities are taking place in the hard rocky formation nearby surroundings. The proposed lease may act as a substitute for the recently expired or to be expired leases in the region.



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No adverse impact on the surrounding environment is envisaged from this project due to enforcing all the mitigative measures during mining.

Certified vehicles with low carbon emissions will only be used. These equipment's will be properly and regularly maintained. Besides, regular vehicular emission tests will be done for the transport vehicles to ensure minimal impact due to carbon emissions. To further mediate the carbon emissions, a good greenbelt and plantation plan has been planned

Geologically the area in and around the lease area contains charnokite type rock formation containing mostly fallow land. As such there no major vegetation or agricultural activities are observed. There are no Protected or Eco-Sensitive Zone or forest land nearby wherein it can have an impact.

It will be ensured that mining will be carried out adhering to all the statutory rules and regulations, appointing statutory personnel's like qualified mines manager, blaster, informing DGMS before commencement of mining operations and maintaining the environmental quality within the prescribed standards by effective implementation of various mitigative measures.

As such release of Greenhouse gases (GHG), rise in temperature, affecting livelihood of the local people, loss of Agriculture, Forestry and Traditional Practices is not envisaged. Such a limited scope will not induce any climatic change leading to droughts, floods etc.

Mine closure plan is prepared for the lease period and already included in the approved mine plan.

Due to absence of perennial water bodies nearby where in any marine ecosystem is observed, no effect on this front is also expected. Hydrological investigation carried out and as given in Para 3.6 of Chapter III & para 4.3 Chapter – IV shows that the all-time ground water table in this area is much below the mining level. Hence, ground water intersection in not envisaged for the entire life of the mine and ground water will not be affected due to the quarrying operation. As such there will not be any adverse impact on the ground water regime. Besides, this being a mining project, there will be not be any process effluent. As mentioned earlier, the rainfall will be collected in the mine floor sump and gainfully used as per CGWA requirement. Excess water if any in the sump will be pumped to settling pond and supernatant clear water let out for



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downstream users.

It will be ensured that mining will be carried out adhering to all the statutory rules and regulations, appointing statutory personnel's like qualified mines manager, blaster, informing DGMS before commencement of mining operations and maintaining the environmental quality within the prescribed standards by effective implementation of various mitigative measures for the entire lease period.

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CHAPTER - VIII

PROJECT BENEFITS

CHAPTER 8 PROJECT BENEFITS

The proposed Rough stone and Gravel Quarry of M/s.Taamaesek Engineering Consortium will improve physical and social infrastructures in the area like:

- Direct & Indirect employment to 48 people.
- Indirect employment to scores of people.
- Financial gains for the governments, through collection of various taxes like royalty, GST, etc.,
- Increase in General Awareness of the People.
- Continual improvements of the local amenities for the local society
- Improvement of the General Living Standard of the People in the Vicinity
- Overall Improvement in HDI (Human Development Index)
- Growth of Allied Industries in the Area.
- Improvement in Per Capita Income.
- Providing certain facilities for the local schools and panchyats

In short, the proposed Rough Stone & Gravel Quarry will benefit this region in the fields of employment opportunities, improved per capita income for local people, and improved social welfare facilities in respect of education, medical systems, infrastructural build-up, etc in its own way.

By means of carrying out the socio-economic development activities, local community development is expected. Towards the same, the proponent has planned to allocate Rs.5.0 Lakhs for various activities under CER. From the CER activities allocated for various social welfare activities, the villages near the lease area will be benefited.

* * * * *



CHAPTER - IX

ENVIRONMENTAL COST BENEFIT ANALYSIS

CHAPTER 9

ENVIRONMENTAL COST BENEFIT ANALYSIS

Appendix-III of the MoEF notification S.O. 1533 dated 14.09.2006, which describes the generic structure of Environmental Impact Assessment document, states that the chapter 'Environmental cost benefit analysis' is applicable if it is recommended during scoping stage.

ToR for this project has been received from SEIAA, Tamil Nadu vide their letter No. TO26B0108TN5722346N dated 05/03/2026. Environmental cost benefit analysis is not prescribed in the terms of reference. Hence, it is not applicable for this project.

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CHAPTER - X

ENVIRONMENTAL MANAGEMENT PLAN

CHAPTER 10

ENVIRONMENTAL MANAGEMENT PLAN

10.1 INTRODUCTION:

This chapter describes the implementation strategies of the environmental management measures described through the course of this EIA/EMP report for the purpose of mitigating significant impacts due to the proposed mining operations.

10.2 COMPONENTS OF THE ENVIRONMENTAL MANAGEMENT PLAN:

The environmental management plan comprises identification of the major impacts due to project operations and their suitable mitigative measures. (Provided in an elaborate manner in Chapter-IV) Based on the environmental policy of the company, the environmental management cell will oversee the implementation of these mitigative measures. The details of the proponent's environmental policy, environmental management cell and also the budgetary allocation towards various environmental management measures has been elaborated in this chapter.

10.2.1 ENVIRONMENTAL POLICY:

The proponent will frame a well-planned environmental policy. The salient features of this policy will be.

- ❖ Ensuring risk-free and safe mining operations by following all rules and conditions prescribed in the Indian mines Act, metalliferous mining regulation, mineral conservation and development rules, etc,
- ❖ Ensuring environmental preservation by adoption of remedial measures for control of air, water quality, noise status, biological improvements, green belt creation, etc,.
- ❖ Extending CER activities to cater to the needs of local community for various benefits like improvement of physical and social infrastructures for the welfare of local community.



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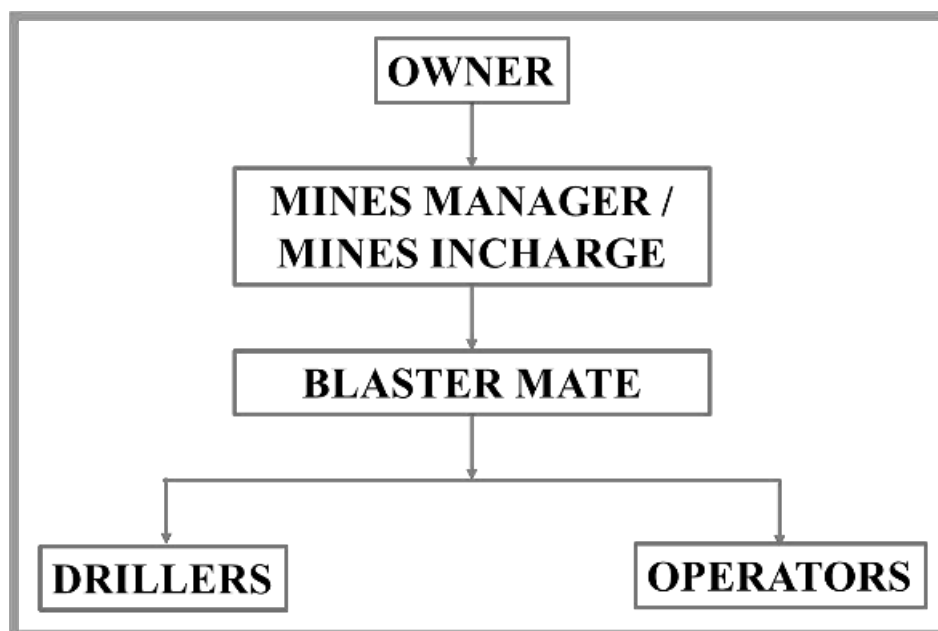
- ❖ Ensuring that all mining operations such as deployment of HEMM, conduct of drilling and blasting operations, etc are strictly conducted keeping with regulatory standards & maintaining safe working environment in the area.
- ❖ Providing periodical training on safety, Health, & Environment to all employers.
- ❖ Any infringement / violation of any rule or unsafe mining operations should be reported mines manager, should be reported by the foremen/ blaster mate etc, who will take immediate corrective measures for avoiding major disasters. The report will ultimately reach the owner through upwardly hierarchical communicative channels from the lowest level to superior levels in a quick time bound duration.
- ❖ The mines manager will exercise overall control over entire mining and connected operations and all infringements / violations on any count pertaining to unsafe operations, environmental degradation, etc, should be brought to the notice of the owner of the quarry. Remedial measures for such violations and deviations should be taken care by the mines manager to avoid any hazards or disasters in the mine and nearby areas. The persons responsible for such violations will be punished through appropriate disciplinarily penal actions.
- ❖ The EC conditions and stipulations will be strictly observed by Mines manager of the mine in various issues like prescribed environmental monitoring schedules conducting of vibratory studies due to blasting, creation of green belt, management of mined area, occupational health review, etc.
- ❖ Penalty actions will be taken by the proponent in cases of continuous negligence resulting in violations deviations in this respect.
- ❖ A time schedule of once in 90 days for review of all operational factors as mentioned above is to be enforced, for proper and quick corrective actions needed in the matter.



10.2.2 ENVIRONMENTAL MANAGEMENT CELL:

The Mines Manager/Mine Incharge will undertake effective monitoring and implementation of various environmental control measures promptly and effectively and to oversee various environmental management schemes for air quality control, water quality status, noise level control, plantation programme, social development schemes, etc in the mine. The organizational chart for the same has been provided below:

Figure 10.1: Organization Chart



The Mines Manager/Mines In charge in the mine project site will be directly responsible for various environmental activities in the mine. The owner will correlate and oversee the environmental activities and their effective implementation in consonance with the guidelines in the EMP. The Mines Manager/Mines In charge will oversee the environmental administration at the mine and he will directly supervise all activities of environmental administration on environmental issues. Necessary assistance from sub ordinates, external consultants and laboratories shall be taken.

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Environmental control measures will span various factors like land degradation, air, water and soil quality, noise levels, effective land reclamation for excavated areas, afforestation measures, etc. The administrative functions are given below.

- ❖ To observe the implementation of environmental control measures.
- ❖ To study the effects of project activities on the environment.
- ❖ To ensure implementation of Plantation Programme. Regular monitoring of survival rate of plants is carried out to achieve the desired result.
- ❖ To keep records of monitoring etc., in a systematic way, so as to facilitate easy access, when needed by statutory agencies, etc. Also send prescribed returns to statutory authorities.
- ❖ To ensure that adequate fencing and plantation is carried out in the safety zones.
- ❖ Conducting environmental studies and reporting to SPCB.
- ❖ To interact and liaise with Government Departments.
- ❖ To evaluate the performance of existing pollution control equipment and systems periodically and take timely action to keep the equipment at its optimum performance condition.
- ❖ To take immediate preventive action in case of some unforeseen environmental pollution attributable to the project.
- ❖ Conducting safety audits and programmes to create safety awareness in workers/ staff.
- ❖ Conducting annual health audits to detect any health problems promptly in the workers/staff. This will reduce occupational health problems.
- ❖ Imparting training on safety and conduct safety drills to educate employees. Firefighting equipment and system has to be kept in 'ready-to-fight' condition.



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- ❖ Carrying out socio economic study in the surrounding areas to find out the benefits derived by the society due to the project and also to fulfill the deficiency, if any, immediately.
- ❖ Ensuring proper mine closure arrangements

Considering the other mines in the cluster, the Environmental Management Cell of this project will also act as a Cluster Management Committee. The various activities undertaken to be undertaken by this committee are detailed below:

- Effective implementation of the environmental management measures in a holistic manner
- Devising an operation plan for mining and transportation activities.
- Various natural calamities like rain, flooding, evacuation plans etc. will also be deliberated by this committee to form risk management and emergency management plan pertaining to the cluster.
- The environmental policy of the company will be implemented and proper sustainable mining in accordance with statutory regulations will be enforced for the quarries in the cluster.
- Furnishing action plan regarding restoration strategy
- Deliberate on the health of the workers involved in the mining and also the health of the public
- Carrying out detailed study on the impact of mining on:
 - Soil health & biodiversity
 - Climate change leading to droughts, floods, etc.
 - Pollution leading to release of greenhouse gases (GHG) rise in temperature and livelihood of local people
 - Possibilities of water contamination and impact on aquatic ecosystem health.



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- Agriculture, Forestry & Traditional practices.
- Hydro geothermal /Geothermal effect due to destruction in the Environment.
- Bio-geochemical process and its footprints including environmental stress.
- Sediment geochemistry
- Furnishing action plan to achieve sustainable development gals with regards to water, sanitation and safety.
- Furnishing fire safety and evacuation plans in case of fire accidents.
- Implementation of steps to effectively utilize energy.

10.2.3 ENVIRONMENTAL MANAGEMENT PLAN:

10.2.3.1 General:

Systematic monitoring systems and well-conceived and efficient Environment Management Plan will ensure that during the project operations, the various environmental parameters, are well within the statutorily sustainable limits. The environmental control measures proposed to keep various environmental parameters of the project in terms of air, water, noise, land, biological environment, etc. has been described below.

10.2.3.2 Air Quality:

With regards to air quality, to mitigate the fugitive and gaseous emission resulting from mining and allied activities, the following control measures are proposed to be undertaken:

- Regular water sprinkling in the transport roads using mobile tankers for dust suppression.
- Controlled blasting techniques with NONEL.
- Provision of dust filters / mask to workers working at highly dust prone and affected areas.
- Covering of drill holes with wet cloth, using sharp drill bits



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- Avoiding blasting during high wind periods where the fine dust is carried out away easily affecting the ambient air quality.
- Proper maintenance of haul roads, HEMM and dumpers.
- Covering of loaded tippers with tarpaulins during transportation
- Vehicular emissions will be controlled through regular and proper preventive maintenance schedules and emissions tests are done with diesel smoke meter equipment to ensure emission values.
- Besides, there will be good green belt cover will be developed around mine periphery and in safety zone.

10.2.3.3 Water Environment:

There will be no process effluent generated from this project. The domestic sewage to be generated will be collected in septic tank with soak pit arrangements. Besides, there will be no waste dumps or stockpiles within the lease area as the entire material will be directly dispatched to the consumers.

Surface runoff management structures such as garland drain connected to a settling pond will be constructed around the quarry to collect the rain water. The supernatant clear water from the settling pond will be provided to nearby downstream users. Towards rainwater harvesting, the rainwater harvested in the mine will be used to meet the water requirements during mining and excess water in consultation with villagers and in line with government practices will be out in to the nearby stream or shall be distributed to the nearby villages as per their need

10.2.3.4 Noise Environment:

During the project operations, various control measures as listed below will be carried out to mitigate adverse impact due to the noise generated due to mining and allied activities:

- Good plantation will be carried out in the safety zone areas
- Noise protectors, insulation of operator cabins, installation of silencers in machineries, etc.



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- Proper and regular maintenance of equipment's
- Providing earplugs to workers exposed to higher noise level.
- Providing in-built mechanism for reducing sound emissions.
- Conducting regular health check-up of workers including Audiometry test for the workers engaged in noise prone area.
- Displaying the noise level status of operational machinery on the machines to know the extent of noise level and to control the time to which the worker is exposed to higher noise levels.

10.2.3.5 Ground Vibration

During the project operations, various control measures as listed below will be carried out to mitigate adverse impact due to the ground vibration caused due to blasting activities:

- ❖ Controlled blasting techniques to maintain the peak particle velocity (PPV) below DGMS prescribed levels.
- ❖ Ideally formulating drilling and charging pattern and ensuring using less charge per delay.
- ❖ To contain fly rocks, stemming column will not be less than burden of the hole. Blasting area will also be muffled, if necessary, to stop fly rocks propagation.
- ❖ Blasting will not be carried out when strong winds are blowing towards the inhabited areas. Blasting will be done during midday time and never at night.
- ❖ Proper care and supervision during blasting by a competent and experienced person.
- ❖ Besides, different blasting time for the projects in the vicinity is suggested and the timing is to be mentioned in the display board in the respective mines entrance.

Further details regarding the same has been provided under section 4.4.2, Chapter-IV.



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10.2.2.6 Biological Environment:

The mining lease area and 10km buffer zone are devoid of declared ecologically sensitive features such as national parks, sanctuaries etc. Besides, endangered or endemic species are observed in the core and buffer zone. Since the lease is dry barren land, there will be no major clearance of vegetation involved in this project. However, good greenbelt and plantation programmes are planned in and around the lease area.. Greenbelt / Plantation will be carried out to enhance the vegetative growth and aesthetic in the safety zone area. This will boost the biological, visual and aesthetic outlook of the area. Elaborate details regarding the same is provided under section 4.6.4, Chapter-IV..

10.2.2.7 Socio-Economic Environment:

The proposed project operation will provide positive impacts in the region on the employment area as well as on physical and social infrastructural status. Many other tangible benefits will be gained by the local people in the surrounding areas due to ancillary units, trading operations, contractual needs, casual labor, green belt development, etc. Towards the socio economic development of the surrounding area, the proponent has earmarked an amount of Rs.5.0 Lakhs under Corporate Environmental Responsibility. The activities identified under CER will be implemented in a phased manner.

10.3 ENVIRONMENTAL POLLUTION CONTROL COST:

In this proposed quarry Implementation of environmental control measures as stated above involves capital as well as recurring expenses. The probable capital and recurring environmental control cost are calculated and given below **Table No – 10.1**

Table 10.1: Environmental Control Cost

			Rs. In lakhs	
Activities	Mitigation Measure	Provision for Implementation	Capital Rs.lakhs	Recurring Rs.lakhs
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	0.66	0.66
	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	8.00	0.50



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**CHAPTER-10: ENVIRONMENTAL
MANAGEMENT PLAN**

PRO CODE: CEC-EMP-MI-261

REV NO : 00/APR/26

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Activities	Mitigation Measure	Provision for Implementation	Capital Rs.lakhs	Recurring Rs.lakhs
	Muffle blasting – To control fly rocks during blasting	Blasting face will be covered with sand bags / steel mesh / old tyres / used conveyor belts	0.00	0.05
	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	1.50	0.15
	No overloading of trucks/tippers/tractors	Manual Monitoring through Security guard	0.00	0.05
	Stone carrying trucks will be covered by tarpaulin	Monitoring if trucks will be covered by tarpaulin	0.00	0.10
	Enforcing speed limits of 20 km/hr within ML area	Installation of Speed Governors @ Rs. 5000/- per Tipper/Dumper deployed - 2 Units	0.10	0.00
	Regular monitoring of exhaust fumes as per RTO norms	Monitoring of Exhaust Fumes by Manual Labour	0.00	0.05
	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	-	1.32
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	0.50	0.20
Sub-Total			10.76	3.08
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	-	-
	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done	Provision made in Operating Cost	-	-
	Adequate silencers will be provided in all the diesel engines of vehicles.	Provision made in Operating Cost	-	-
	It will be ensured that all transportation vehicles carry a fitness certificate.	Provision made in Operating Cost	-	-
	Safety tools and implements that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	-	-
	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Provision made in Operating Cost	-	-
	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.	Blowing Whistle by Mining Mate / Blaster / Competent Person	-	-
	Provision for Portable blaster shed	Installation of Portable blasting shelter	0.50	0.02
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Rs. 30/- per 6 Tonnes of Blasted Material	-	24.31
Sub-Total			0.50	24.33
Waste Management	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency	0.25	0.20
		Installation of dust bins	0.05	0.02



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Activities	Mitigation Measure	Provision for Implementation	Capital Rs.lakhs	Recurring Rs.lakhs
	Bio toilets will be made available outside mine lease on the land of owner itself	Provision made in Operating Cost		
Sub-Total			0.30	0.22
Mine Closure	1. Progressive Closure Activity - Surface Runoff managent	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	0.66	0.05
	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	13.23	0.10
	3. Progressive Closure Activity Green belt development Proposal for 1000 Trees - (200 Inside Lease Area & 800 Outside Lease Area)	Site clearance, preparation of land, digging of pits / trenches, soil amendmets, transplantation of saplings @ 100 per plant (capital) for plantation inside the lease area and @ 30 per plant maintenance (recurring)	0.20	0.06
		Avenue Plantation @ 150 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	1.20	0.24
	4. Implementation of Final Mine Closure Actiy as per Approved Mining Plan on Last Year	Few activities already covered as progressive closure activities as greenbelt development, wire fencing, garland drain. *For Final Closure Activities 15% of the proposed closure cost will be spent during the final mine closure stage - Last Year	2.29	-
	5. Contribution towards Green Fund. As per TNMMCR 1959, Rule 35 A	The Contribution towards Green Funds @ 10% of peak production Seigniorage fee are indicated as part of EMP Budge and not necessarily implemented in the Project Site	17.50	-
Sub-Total			15.29	0.45
Implementation of EC, Mining Plan & DGMS Condition	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	0.10	0.01
	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	0.00	0.50
	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)	1.92	0.48
	Slope stability action plan	Slope stability action plan in the end of fourth year plan period	2.00	0.00
	Health check up for workers will be provisioned	IME & PME Health check up @ Rs. 1000/- per employee	0.00	0.48
	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0.00	0.26
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	0.10	0.02
	No parking will be provided on the	Parking area with shelter and flags @ Rs. 50,000/-	3.31	0.10



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Activities	Mitigation Measure	Provision for Implementation	Capital Rs.lakhs	Recurring Rs.lakhs
	transport routes. Separate provision on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	per hectare project and Rs. 10,000/- as maintenance cost		
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	0.30	0.05
	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	0.00	7.80
Conservation Measures			NA	NA
Sub-Total			7.63	9.19
TOTAL			34.48	37.27

Towards EMP measures, Rs.34.48 Lakhs is allocated under capital cost. Besides, Rs.37.27 Lakhs per annum will be spent under recurring cost. All the recurring cost of maintenance of pollution control measures, environmental monitoring etc., will be met from revenue and will be spent for the entire lease period.

10.4 CONCLUSION:

A meticulously well planned Environmental Management Plan, with various programme schedules and timely execution objectives, as above, will ensure that the future environmental quality in the area will be maintained within statutory limits. The environmental management strategy as explained above will prove that industrial growth, if properly planned with all environmental concerns and appropriate remedial measures can go a long way to improve life pattern and living conditions of the local community around the project.

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CHAPTER-XI

SUMMARY AND CONCLUSION

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CHAPTER 11

SUMMARY & CONCLUSION

11.1 INTRODUCTION:

M/s. Taamaesek Engineering Consortium proposes to operate a **Rough Stone and Gravel Quarry** over an area of 6.61.35Ha in Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu and has initiated action towards obtaining environmental clearance. Proposed Production is 2,15,216m³ (4,30,432MT) of gravel and 15,23,080m³ (41,88,470MT) of rough stone up to an ultimate depth of 59m (4m Gravel + 55m Rough stone) for 10 years lease period. (Peak production capacity is 72,240m³ (1,44,480 MT) of gravel in year1 and 1,94,440m³ (5,34,710 MT) of rough stone in Year 10). Entire lease area is patta land in the applicant companies name.

Since the lease area is >5 Ha, this proposal is considered under Category – B1 and as per MoEF& CC notification necessitates preparation of EIA/EMP report and public hearing..

This EIA/EMP report is prepared based on standard and additional Terms of Reference issued by SEIAA, Tamil Nadu and is in conformance of the generic structure prescribed by MOEF&CC in their notification of September 2006 and the approved mining plan.

11.1.1 STATUTORY APPROVALS:

Name	Issuing Authority	Status	Letter number	Date	Reference
Precise Area Communication	Assistant Director, Department of Geology & Mining	Received	Rc.No. B/G&M/409/2025	29.12.2025	Annexure-1
Mining Plan Approval	Assistant Director, Department of Geology & Mining	Approved	Rc.No. B/G&M/409/2025	08.01.2026	Annexure-2
Details of other quarries within 500m radius	Assistant Director, Department of Geology & Mining	Obtained	Rc.No. B/G&M/409/2025	08.01.2026	Annexure-3
District survey report	Collector, Assistant director, Geology & Mining	Authenticated	As per S.O. 3611(E) dated 25.07.2018	-	
VAO Letter	VAO	Obtained	--	13.01.2026	Annexure-4



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11.1.2 ENVIRONMENTAL CLEARANCE APPLICATION:

Particulars	Details
Terms of Reference	Received from SEIAA, Tamil Nadu vide TOR Identification No – TO26B0108TN5722346N dated 05.03.2026
Baseline Data Collection	Carried out by Creative Engineers & Consultants, Winter season (December 2025- February 2026)

11.2 SALIENT FEATURES OF THE PROJECT:

Table 11.1: Site Details

Location	Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu
Survey No.	13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A
Coordinates	Latitude :12° 05' 54.68" N to 12° 06' 05.26" N Longitude :79° 40' 03.26" E to 79° 40' 19.79" E
Nearest Village	Perumbakkam- 600m – W
Nearest Town	Tindivanam – 13km - N
Nearest Highway	SH-136 – 2.6Km–SW, NH-32 – 7.0Km– E
Nearest Railway Station	Perani - 13.0km - W
Nearest Airport	Puducherry – 23.0km - SE
Accessibility	Existing road from the lease area leads to Karasanur – Adanappattu road on the east & Perumbakkam- Parikkalpattu road on the west which is further connected to SH-136 Kutteripattu to Puducherry Road located about 2.6 Km on the Southern side of the lease applied area.SH- 32 Tindivanam – Puducheery road is about 7.0km on the northern side of the lease area.
Topography& Drainage	Plain topography. There are no major river or water bodies near the lease area. Small drainage is shown in lease periphery west & south side in the village map and FMB , but not actually present. Besides, entire lease area is patta land of the proponent. Still it is proposed to ensure proper surface runoff measures through garland drain in the lease periphery to ensure proper rainwater flow. Gingee River is located at 8.3 km – S & Vidur dam at 9.0km - SW



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Table 11.2: Environment Setting of The Study Area

S.No	PARTICULARS	Details
1	Nearest Highway	➤ NH-32 – 7.0Km– NE ➤ SH-136 – 2.6Km–SW
2	Nearest Railway station	➤ Perani-13km-W
3	Nearest Airport	Puducherry – 23km - SE
4	Nearest major water bodies	➤ Kondamur Ar – 4.6km – NE ➤ Tondi Ar– 8.9km – W ➤ Varaha Nadi– 8.4km – S ➤ Vidur Branch Canal– 4.5km – SW
5	Nearest villages	➤ Perumbakkam – 600m – W ➤ Parikkal pattu – 940m – NW ➤ Kunnam – 1.2km – SE ➤ Siruvarur – 1.4km – E
6	Hills / valleys	Nil within 10m radius
7	Notified Archaeologically important places, Monuments	Nil within 10m radius
8	Local Places of Historical and Tourism Interest	Nil within 10m radius
9	Environmental sensitive areas, Protected areas as per Wildlife Protection Act, 1972 (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves)	Nil within 10Km radius. Kaliveli Bird Sanctuary – 16.6 km – E.
10	Reserved / Protected Forests	Nil within 10 km radius
11	Defence Installations	Nil within 10 km radius
12	Seismic Zone	Zone – II (Least Active)
13	Other Industries in the study area	Other than crushers, Roughstone quarries, no other major industries are located in the study area.

Table 11.3: Technical Description

PARTICULARS	DETAILS
Geological reserve	36,75,485(101,07,584 MT). Roughstone & 2,67,308(5,34,616 MT) Gravel
Mineable reserve	15,23,080(41,88,470 MT) Roughstone & 2,15,216(4,30,432 MT) Gravel
Method of Mining	Open cast mechanized mining method with drilling, blasting, excavation, loading and transportation of material to needy buyers.



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PARTICULARS	DETAILS				
Production	Year	Roughstone (m3)	Gravel (m3)	Roughstone (MT)	Gravel (MT)
	I	1,38,460	72,240	380765	144480
	II	1,47,340	72,224	405185	144448
	III	1,54,400	70,752	424600	141504
	IV	1,61,140	---	443135	-
	V	1,72,240	---	473660	-
	Sub Total (1 to 5)	7,73,580	2,15,216	21,27,345	4,30,432
	Year	Roughstone (m3)	Gravel (m3)	Roughstone (MT)	Gravel (MT)
	VI	1,15,900	-	318725	-
	VII	1,06,400	-	292600	-
	VIII	1,84,300	-	506825	-
	IX	1,48,460	-	408265	-
	X	1,94,440	-	534710	-
	Sub Total (6 to 10)	7,49,500	-	20,61,125	-
	Total	15,23,080	2,15,216	41,88,470	4,30,432
Waste Generation and Management	There is no waste generation anticipated in this quarry operation since the entire excavated material will be utilized.				
Ultimate Depth	59m (4m Gravel + 55m Rough stone) for 10 years lease period				
Man power	48 people persons directly and indirectly.				
Mode of transport	By Road				
Water requirement	12 KLD				
Source of water	The required water will be procured from outside agencies initially. Later, water collected in the mine pit will be used to meet the needs.				
Power requirement	All the equipment will be diesel operated. No electricity is needed for mining operation. The minimum power requirement for office, etc will be met from state grid.				
Life of the mine	10 Years				
Project cost	Rs.88,30,000/- (Including operational + Fixed Asset + EMP cost).				



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11.3 EXISTING ENVIRONMENTAL SCENARIO:

11.3.1 GENERAL:

The studies and data collection have been carried out systematically and meticulously as per relevant IS codes, CPCB and MoEF&CC guidelines and as per approved ToR during **Winter Season (December 2025 – February 2026)** for the purpose of this study, the area has been divided into two zones, namely, core and buffer zones. Core zone is considered as the total lease area, while buffer zone encompasses an area of 10 km radius distance from the periphery of core zone.

11.3.2 SOCIO-ECONOMIC STATUS:

The proposed Roughstone and gravel quarry is located in Sirunavur Village, Vanur Taluk, Viluppuram District. Tamil Nadu. The details of the 10Km radius study area has been provided below:

Table 11.4: Social, Economic and Demographic Profile of the Study Area

Details	Population	Percentage
A. Gender-wise distribution		
Male Population	71332	50.51
Female Population	69904	49.49
Total	141236	100
B. Caste-wise population distribution		
Scheduled Caste	58578	41.48
Scheduled Tribes	2501	1.77
Other	80157	56.75
Total	141236	100
C. Literate and Illiterate population		
Literate Males	51972	36.80
Literate Females	40278	28.52
Total Literate Population	92250	65.32
Others Males	19360	13.71
Others Females	29626	20.98
Others Population	48986	34.68
Total	141236	100
D. Occupational structure		
Main workers	51165	36.23
Marginal workers	19406	13.74
Total Workers	70571	49.97



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Details	Population	Percentage
Total Non-workers	70665	50.03
Total	141236	100

Further developments in this area with respect to these various facilities has occurred over the years.

11.3.2.1 SAMPLE SURVEY:

Nearby villages were visited for conducting sample Village survey on all socio-economic aspects and requirements of the people. The existing socio-economic scenario is studied and CER activities are also suggested to the proponent. The study details are given in **Para 3.2.4, Chapter – III.**

11.3.3 EXISTING ENVIRONMENTAL QUALITY:

Table 11.5: Baseline Data

A) METEOROLOGICAL DATA			
Season: Winter Season, (December 2025 to Febraury 2026)			
PARAMETERS	MINIMUM	MAXIMUM	
Temperature in °C	19.8	32.1	
Humidity in %	46	99	
Wind speed Km/Hr	<1.8	35.3	
Predominant wind direction (From)	NE		
B) AMBIENT AIR QUALITY		Monitoring Location – 5 locations	
PARAMETER	RESULT (µg/m3)		*LIMIT (µg/m3)
Location	Core Zone	Buffer Zone	
Particulate Matter (Size <10 µm)	56.3 – 69.1	45.6 – 60.2	100
Particulate Matter (Size <2.5 µm)	27.0 – 33.2	22.1– 28.7	60
Sulphur Dioxide (as SO ₂)	6.6 – 8.3	5.4– 8.0	80
Nitrogen Dioxide (as NO ₂)	9.1 -12.4	7.8 – 11.4	80
Conclusion: The existing Ambient Air Quality levels for PM10, PM2.5, SO2 and NO2, are within the NAAQ standards prescribed CPCB limits of 100 µg/m3, 60 µg/m3, 80 µg/m3 & 80 µg/m3. The CO values in all the locations were found to be below detectable limit. Silica values in the study area are found to be below detectable limit. (Detection limit – 0.05 mg/m3)			
C) WATER QUALITY		Monitoring Location – 5 locations	
PARAMETER	Result	*LIMIT (µg/m3)	
pH at 25 °C	6.91 – 7.72	6.5-8.5	
Total Dissolved Solids, mg/L	240 – 1090	2000	
Chloride as Cl-, mg/L	46.20 – 348	1000	
Total Hardness (as CaCO3), mg/L	86.0 – 518.76	600	



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Total Alkalinity (as CaCO ₃), mg/L	148– 530	600
Sulphates as SO ₄ ²⁻ , mg/L	19.30 – 244	400
Iron as Fe, mg/L	0.05 – 0.11	0.3
Nitrate as NO ₃ , mg/L	1.56 – 3.86	45

Conclusion: The water quality of ground water is found to be within the prescribed Permissible limits of IS: 10500 Norms in the absence of an alternative source as per Drinking Water Specifications.

D) NOISE LEVELS

Monitoring Location – 5 locations

PARAMETER	RESULT dB(A)		*LIMIT (µg/m ³)
	Day Equivalent	Night Equivalent	
Core Zone	50.4	42.5	90
Buffer Zone	48.2 - 52.5	42.1 – 43.0	Day Equivalent - 55dB(A), Night Equivalent - 45dB(A)

*Permissible noise for industrial workers as laid down by CPCB (at 8 hrs Exposure Time). While comparing with the MoEF&CC Norms, the monitored ambient noise levels are generally within the limit values.

E) SOIL QUALITY

Monitoring Location – 5 locations

PARAMETER	Range of values
pH	6.56 to 8.12
Electrical Conductivity (µmho/cm)	136.20 – 290.80
Organic matter (%)	0.45 – 0.71
Total Nitrogen (mg/kg)	172 - 398
Phosphorus (mg/kg)	0.45 – 1.25
Sodium (mg/kg)	99. - 1010
Potassium (mg/kg)	103 -649.09
Soil is of Sandy type.	

F) LAND ENVIRONMENT:

For the present study on land use pattern in the study area, remote sensing satellite data have been used. The area estimated of land use categories around the 10km buffer zone is provided below:

Table 11.6: Land Use in 10Km Buffer Zone

S.No	Landuse Feature	Area (Sq.Km)	Percentage
1	Plantation	164.19	50.24
2	Agriculture/ Fallow Land	37.25	11.40
3	Land Without Scrub	66.94	20.48
4	Land With Scrub	22.61	6.92
5	Water bodies	23.12	7.07
6	Settlement	11.37	3.48
7	Mining	1.36	0.42
	Total	326.84	100



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From the above table it is seen that 50.24 % of the buffer area is classified under Plantation, 11.40 % of Agriculture/ Fallow land, 20.48 % constitutes land without scrub, 6.92 % constitutes land with scrub, 7.07 % constitutes water bodies and the balance falls under other land use categories. Plantation of casurina is dominant in the study area.

G) BIOLOGICAL ENVIRONMENT:

Flora: The proposed lease area is a non forest, private land. The lease area is almost barren with few grasses & shrubs. The Dominated species in the buffer zone are casurina farms , Borassus flabellifer, Prosopis juliflora, Sygygium cumuni, Albizia lebbeck, Acacia auriculiformis, Azadirachta indica, etc. The detailed list of plants found in the Buffer zone is given in Table no – 3.26.

Fauna: There is no Wild Life Sanctuary or National Park within the study area of 10 km. Domesticated animals are commonly found. No wild mammalian species was directly sighted during the field survey. The list of fauna within the study area is given in Table No – 3.27.

H) HYDROLOGICAL STUDY:

The district is underlain by hard rock formation. Fissured and fractured crystalline rocks constitute the important aquifer systems in the district. Study area is dominated with hard Charnockite rock formation.

There are localized drainage channels formed mostly due to elevation difference which carry rainwater into nearby tanks which is further connected to the river. These are mostly rainwater drains and It remains dry for most of the year.

From the study and discussion with locals it is observed that post monsoon, the phreatic water level occurs at shallow depth. However ,during summer , it reaches to bottom of the well or dry in case of some wells. The bore well inventory within the study area indicates only few are productive with moderate yield, while the remaining bore wells are dry to poor yield. The groundwater occurrence is discontinuous and controlled by fractures at deeper levels. The overall hydrogeological condition indicates moderate groundwater potential with localized dry zones. The proposed quarrying operation up to an ultimate depth of 59 m does not intersect the



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identified groundwater-bearing fractured zone, which occurs at depths of around 70–75 m. Hence, no significant adverse impact on the groundwater regime is anticipated.

Direct rainfall falling into the mine pit during monsoon season and intermittent seepage from phreatic top layer if any will be collected in the bottom of the mine pit and gainfully used for Greenbelt development, Dust suppression etc..

11.4 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES:

11.4.1 GENERAL:

This is a proposed project and Mechanized Open Cast mining will be carried out to quarry out Rough Stone & Gravel. The identified impacts due to this mine during mining and associated activities have been studied in relation to various environmental components like Air, water, noise, vibration, land, transport etc.

11.4.2 AIR ENVIRONMENT:

The principal sources of air pollution in the area due to mining and allied activities are dust generation in the mine due to various activities such as excavation of material, movement of HEMM, loading, unloading and transportation operations.. Besides, Gas emission also occur as a result of emission of SO₂, NO_x, CO etc., from diesel driven mining equipment, compressors, generator sets, etc. The following measures will be adopted to control impact on the air quality due to mining operations in the lease area:

Table 11.7: Mitigation Measures – Air Environment

S.No	Activity	Mitigation Measures
1	Drilling	Usage of Drill bits in good condition
		Covering of drill holes with wet cloth
		Usage of sharp drill bits for drilling of holes.
		Provision of dust filters / mask to workers working at highly dust prone and affected areas.
2	Blasting	Well-designed blasting parameter, effective stemming to achieve optimum breakage occurs without generating fines.
		Use of appropriate explosives for blasting and avoiding overcharging of blast holes.
		Avoiding blasting during high wind periods where the fine dust is carried out away easily affecting the ambient air quality.
		Use of controlled blasting techniques with Nonel to keep the dust generation, noise



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		as well as vibration level within the prescribed limits.
3	Excavation and Loading	Proper maintenance of HEMM
		Enclosures for operator cabin.
		Imparting sufficient training to operators on safety and environmental parameters.
		Proper maintenance of hauling equipments.
		Avoiding overloading of dumpers.
4	Transportation	Regular wetting of transport road using mobile water tanker.
		Proper maintenance of haul road and other roads
		Setting up of tyre wash facility in the transport road.
		Avoiding overloading of tippers
		Covering of loaded tippers with tarpaulins during transportation
		Vehicular emissions will be controlled through regular and proper preventive maintenance schedules and emissions tests are done with diesel smoke meter equipment to ensure emission values.
5	Others	Development of greenbelt / barriers around mine in the safety zone and carrying out plantation within the lease area.

Due to adoption of all these measures, no major impact on air quality is envisaged due to this proposed opencast mining operation.

The impact on air quality due to the proposed project is estimated using AERMOD View Gaussian Plume Air Dispersion Model developed by Lakes Environmental Software which is based on steady state Gaussian plume dispersion. Ground Level Concentration (GLC) have been computed using hourly meteorological data for particulate matter PM₁₀ and PM_{2.5}.

The resultant added concentrations with baseline figures even at worst scenario, show that the values of ambient air quality with respect to PM₁₀ are in the range of 54.8 µg/m³ to 73.9 µg/m³ and with respect to PM_{2.5} are in the range of 27.1 µg/m³ to 35.7 µg/m³ which are within the statutory limits in each case.

For preservation of environment in this mine strict enforcement of management schemes will be undertaken for taking corrective actions, as needed. By adopting the effective implementation of all the mitigative measures, no adverse impact on Air quality due to the mining operation in this lease area is expected.



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11.4.3 WATER ENVIRONMENT:

Water Requirement: The total water requirement for this project will be 12.0 KLD comprising 2.0 KLD for drinking water and domestic use, 7.0 KLD for dust suppression and 3.0 KLD for greenbelt. The water will be sourced initially from outside agencies. Later the rainwater collected in the mine pit sump will be used for this purpose.

The activity / source of pollution, its impact / consequence, proposed control measures are explained below:

Table 11.8: Mitigation Measures – Water Pollution

S.No	Source	Consequence	Mitigation Measures
A	Domestic use	Generation of waste water	The domestic sewage to be generated from the project will be collected in septic tank with soak pits.
B	Rainfall	Runoff from waste dump and stack	Since the entire material from the quarry face will be directly dispatched to the consumers, there will not be any stockpiles. There are no waste dumps in this quarry. As such there will not be any wash out due to stock pile or waste dumps Towards surface runoff management, a garland drain of length 3000m will be constructed around the quarry and will be connected to settling ponds with silt traps. The supernatant clear water from the settling pond will be flow to the downstream users.
		Rainwater Harvesting	The rain water falling in the quarry will be harvested in the sump at the lowest level of the quarry. This sump will act as a settling pond to prevent solids escaping along with discharge, before outlet. etc.
C	Drainage Course	Disturbance to drainage course	There are no major river or water bodies near the lease area. Small drainage is shown in lease periphery west side in the village map and FMB , but not actually present. Besides, entire lease area is patta land of the proponent. Still it is proposed to ensure proper surface runoff measures through garland drain in the lease periphery to ensure proper rainwater flow. This being a mining project, there will not be any generation of process effluent or discharge any effluent into the water bodies. No major impact is envisaged on the nearby water bodies due to project operations.

Generation of mine pit water: Study of the area shows that the sub-surface formations are compact with less intergranular porosity and fractures leading to less permeability and



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transmissivity values and as such the ground water level in this area is deep from surface. Subsequently hard and massive formations of rock are found. Based on the available information and the geophysical investigations it is observed that the study area is of poor to moderate groundwater potential up to 70m to 75m. Besides, the mining area consists of hard compact rock, no major water seepage within the mine is expected. The ultimate pit depth of mining is 59m. The ground water table in this area is below this level. Hence, ground water intersection is not envisaged and ground water will not be affected appreciably due to the quarrying operation. There is no water seepage noticed in the already quarried deeper pits situated nearby the proposed quarry area. Hence, the quarrying rough stone up to the proposed depth may not have any adverse impact in the area over ground water conditions.

As mentioned earlier, the rainfall will be collected in the mine floor sump and advantageously used. Excess water if any in the sump will be pumped to settling pond for downstream users.

11.4.4 NOISE ENVIRONMENT:

Anticipated noise levels resulting from operation of the various machineries like excavator, tippers, drill have been computed using point source model. Computation of cumulative noise levels at the nearby villages is made based on the assumption that there are no attenuation paths between the source and the boundary. From the studies, it is found that the predicted Noise Levels due to mining operations at the periphery of the mine lease itself will be less even without considering any attenuation factor. However, practically there will be attenuation due to vegetation etc., and as such there will not be any adverse noise propagation outside the lease boundary. Since the habitations are also away the effect of noise due to mining operations will not be felt at all in the surrounding village. Hence, by implementing the following mitigative measures for noise control, the impact on noise levels will continue to be insignificant:

- Planting rows of native trees along roads, around mine area and other noise generating centres to act as acoustic barriers.
- Sound proof operator's cabin for equipments like shovel, tippers, etc.
- Proper and regular maintenance of equipments may lead to less noise generation.



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- Providing in-built mechanism for reducing sound emissions.
- Providing earplugs to workers exposed to higher noise level.
- Conducting regular health check-up of workers including Audiometry test for the workers engaged in noise prone area.
- Displaying the noise level status of operational machinery on the machines to know the extent of noise level and to control the time to which the worker is exposed to higher noise levels.
- Provision of green net in lease periphery

Further green belt and afforestation will be planned and executed to abate noise and dust propagation in the area.

11.4.5. VIBRATION:

Vibrations due to blasting may cause damage to nearby structures, if appropriate control measures are not adopted. Since the production from this lease is very low, the no. of holes and the quantum of explosives to be used for blasting will be negligible.

The following control measures will be planned to reduce ground vibratory conditions to sustainable statutory limits:

- 1) Carrying out controlled blasting using Nonel delay detonator.
- 2) Optimum design for burden and spacing.
- 3) Reducing explosive charge per delay to minimum.
- 4) The peak particle velocity (PPV) of ground vibration will be kept very low through optimally controlled blasting techniques, after necessary field trials.
- 5) To contain fly rocks, stemming column to be less than burden of the hole. Blasting area will also be muffled, if necessary, to stop fly rocks propagation.
- 6) Blasting will not be carried out when strong winds are. Blasting will be done during midday time.



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- 7) Controlled blasting to avoid tension cracks which may endanger the stability of bench slopes in the mine.
- 8) Proper care and supervision during blasting by a competent and experienced person to be carried out.
- 9) Having different blasting time for the leases in the cluster.

By adoption of above measures, it will be ensured that the ground level vibration due to blasting are maintained within the limits prescribed by DGMS, Dhanbad . Elaborate details regarding the same are provided under section 4.4.2, Chapter-IV.

11.4.6 IMPACT ON LAND ENVIRONMENT:

The lease area of 6.61.35 Ha in S.F.NOS. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A It is Patta Land registered in the name of M/s. Taamaesek Engineering Consortium Vide Patta No 601. There is no waste generation anticipated in this quarry operation since the entire excavated material will be utilized. Hence, there is no external overburden dump involved. Plantation will be carried out in this safety zone area. In the post mining stage, the mine pit area of 5.43.90Ha will be left as a water body. Plantation will be carried out over 1.08.70Ha and 0.08.75Ha will be left as road and infrastructure.

. Entire mined out area will be properly fenced to prevent inadvertent entry of men and animals. In the post mining stage the rainwater harvested in the mined out void shall be utilized.

11.4.7 BIOLOGICAL ENVIRONMENT:

Since the lease area contains only grasses and free from trees in the area to be utilized, no clearance of major vegetation is involved. Additionally, necessary mitigative measures like dust suppression, proper maintenance of equipment's, greenbelt and plantation etc., will be carried out to prevent dust generation & any further impact on the vegetation. In the safety zone within the lease area and in the nearby areas including mineral transport road plantation of local trees will be carried out about 1000 trees will be planted in and around the lease area.



.11.4.8 SOCIO ECONOMIC ENVIRONMENT:

The entire lease area is a private patta land. There are no habitations or hutments in the core zone area and as such no rehabilitation or resettlement is involved. The mining operations in the proposed quarry will employ about 48 people. Besides through allied opportunities in logistics, trading, repairing works etc. good employment potential will arise in this area, which will provide raising income levels and standards of living in the area through various service related activities connected with the project operations.

Towards the socio economic development of the surrounding area, the proponent has earmarked an amount of Rs.5.0 Lakhs under Corporate Environmental Responsibility. The activities identified under CER will be implemented in the nearby Government school. In consultation with the locals based on the need & priority it will be implemented.

11.4.9 OCCUPATIONAL HEALTH AND SAFETY ASPECTS:

In order to ensure minimisation of occupational health and safety problems in the project operation, the following preventive remedial measures will be effectively exercised in the project operations, so as to comply with applicable standards.

- Medical examination of workers at pre-entry level stage of workers, etc., by qualified doctors, with periodical examination of all workers/staff at least once a year, as per DGMS circulars.
- Regular awareness campaigns amongst staff and workers
- Staff will be provided with PPE to guard against excess noise levels, Dust generation and inhalation, etc., as per standards prescribed by DGMS.

11.4.10 IMPACT ON LOCAL LOGISTICAL SYSTEM DUE TO PROJECT:

From this proposed quarry the entire output will be transported to the consumers . There will be just 9 trip per hour of additional truck traffic. The transport route can absorb this additional traffic due to this project. The following mitigative measures are suggested for mitigation of adverse impacts on the logistical aspect of the project:

- ❖ Water sprinkling on Rough stone in the transport vehicles before transporting, so that no dust nuisance during transport will arise.



- ❖ Proper maintenance of transport roads
- ❖ Proper maintenance of transport vehicles.
- ❖ Avoiding overloading of material
- ❖ Covering of loaded vehicles with tarpaulins sheet if warranted.

11.4.11 WASTE MANAGEMENT:

Since the entire mined out material will be used there will not be any solid waste generation from this project. There is no process effluent generation from this mine. Hence no liquid waste is generated.

The hazardous waste generated in this mine will be stored in a separate storage area with impervious containers for waste oil, oil contaminated clothes, used lead acid batteries, scraps, tyre storage etc. It will be disposed through authorized recyclers or re-processors periodically. The hazardous wastes will be transported in accordance with the provisions of rules. By effective implementation of above said mitigation measures no major impact due to Hazardous waste is expected.

Single use plastics/ use and throwaway plastics will be banned in the site as directed by the Tamil Nadu Government vide GO(Ms)No.84 regarding ban on use of plastic products. The employees will be encouraged to use compostable material or reusable material.

11.5 ENVIRONMENTAL MONITORING PROGRAMME:

The monitoring schedules are planned for systematic study of various pollution levels with respect to air and water qualities, noise levels, etc. to ensure that they conform to the standards laid down by Environmental Protection Act and various statutory Limits.

Monitoring location and the frequency of monitoring shall be suitably modified in consultation with the nodal agency as per the actual requirements and prevailing conditions of the mine and environmental factors, as dictated from time to time, depending on the prevailing pollution levels, if required.



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Towards EMP measures, Rs. 34.48 Lakhs is allocated under capital cost. Besides, Rs. 37.27 Lakhs per annum will be spent under recurring cost. All the recurring cost of maintenance of pollution control measures, environmental monitoring etc., will be met from revenue. Further details of the capital and recurring cost of environmental management has been provided in in Table No. 10.2, Chapter-X.

11.6 ADDITIONAL STUDIES:

The additional studies covered for this EIA / EMP report are:

1. Public consultation of the project as per MoEF&CC mandates.
2. Risk Assessment
3. R&R Plan
4. Mine closure plan

This draft EIA/EMP report will be exposed to public consultation as per mandatory procedures through the District Collector and State Pollution Control Board officials after giving 30 days advance notice in two local newspapers about the scheduled date and time for conduct of the public hearing procedures. The opinions, concerns and objections of stakeholders will be recorded during the public hearing. All the public queries and the replies to the query by the project proponent and officials concerned will be recorded and incorporated in the EIA/EMP report for approval by SEIAA, Tamil Nadu.

Elaborate description in respect of Risk Assessment and Mine closure plan are given in **Chapter - VII.**

The lease area is >5 Ha . The total lease within the 500m radius (Existing + Proposed) works out 11.47.30 ha which is greater than 5Ha. Hence this is a **Category-B1 Project**. As such cluster situation applicable and this EMP is prepared. The baseline monitoring carried out for this project reflects the cumulative impact of the existing quarry. For this proposed quarry, a cumulative impact study has been carried out.

Baseline data given in Chapter – III reflects the existing operations in the area. Cumulative impact on various environmental attributes due to the present proposed project and other 1



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proposed project and existing project are studied. For this purpose the impact of the present proposal as given in Chapter – IV of this report and for other proposals from their respective report are correlated and given in para 7.6 of Chapter – VII. From the study it is observed that due to adoption of various mitigative measures there will not be adverse impact on cumulative basis also.

11.7 CONCLUSION:

Systematic mining and ensuring adoption of various mitigative measures given in the report will ensure that the future environmental quality in the area will be maintained within statutory limits. The environmental management strategy as explained above will prove that industrial growth, if properly planned with all environmental concerns and appropriate remedial measures can benefit this region in the fields of potential employment opportunities, improved per capita income for local people, improved social welfare facilities etc. in its own way and also revenue to Government through royalty, taxes etc. Besides, it will meet the raw material requirement of the construction industry also.

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CHAPTER - XII

DISCLOSURE OF CONSULTANTS ENGAGED

CHAPTER 12

DISCLOSURE OF CONSULTANTS ENGAGED

Creative Engineers & Consultants, Chennai is an **NABL** accredited testing laboratory and **NABET** accredited EIA consultancy. Established over 25 years ago, this company has steadily made good strides in the environmental impact assessment fields, and is also one of the first companies to get accredited by NABET as an Accredited Consultant Organization as early as 2011. Creative Engineers & Consultants has to its credit, successful completion of numerous EIA/EMP reports, grant of environmental clearances and periodic environmental monitoring works. Presently, the company has been accredited by NABET as a 'Category-A' organization for the sectors of Mining of Minerals (opencast only), Thermal Power Plants, Mineral Beneficiation and Cement Plants with the accreditation valid upto 23.12.2026. The team of experienced professionals that are a part of this organization has been detailed below.

Figure 12.1: Disclosure of consultants engaged

EXPERT NAME	QUALIFICATION	POSITION	EXPERIENCE
Mr. P. Giri	AMIE (Mining)	EIA Coordinator & Functional area Expert (AP,NV,HW),	Over 30 years of experience in EIA/EMP report, mine plan preparation, including modeling
Mr. K. Shankar	M.Sc (Geology). PGMEMG	Functional area Expert (GEO, HG, SHW, RH) & IBM approved RQP.	Over 25 years of experience in EIA/EMP report, Mine plan, hydrological report preparation
Mr.S.S.Rajendran	M.Sc. (Pharmaceutical Chemistry)	Lab head	More than 9 years of experience in Environmental laboratory.
Mr. R. Babu raj	M.A (Sociology), B.Com(Y.L&Cost), ITI, Advance Diploma in Computer application	Functional Area Expert (Socio Economy)	Over 15 years of experience in dispersion modeling, computer applications. Specialized in CAD and computer software, applications. 6years experience in the field of socio economy and its allied report preparation.
Mr. B. Govindaraman	B.Sc.	Field technician	Over 20 years of field monitoring & data collection experience
Dr.B.Swamynathan	M.Sc (Ecology & Environmental Sciences), M.Phill (Botany),	EIA Coordinator & Functional Area Expert	More than 12 years of experience in Environment and allied fields.



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EXPERT NAME	QUALIFICATION	POSITION	EXPERIENCE
	Ph.D (Ecology & Environmental Sciences)	(EB,SC,LU&AP)	
Ms. G. Sandhya	B. Tech Chemical Engineering M.Tech Environmental Engineering	EIA Coordinator & Functional Area Expert (AQ&WP)	Over 6 years experience in preparation of EIA/EMP reports
Mr. N.Suresh	M.Sc (Geology).	Functional area Expert (GEO, HG,).	Over 10 years of experience in Mine plan, hydrological report preparation.

TM- EC					
S. No	Name of TM (EC)	Sector(s) proposed	Approved (to work under)	Period of involvement	Type of work Signature
1.	Baburaj R	1	P.GIRI	Period:From December 25.	Associated with EIA Coordinator in overall preparation of EIA/EMP report.

TM- FAE:					
S. No	Name of TM (FAE)	Functional Area	Approved FAE (to work under)	Period of involvement	Type of work
1	P Giri	RH	Shankar	Period: From December 25	Associated with Experts in Identified Major risks involved in the project Mitigation measures suggested to avoid risk. Preparation of onsite and offsite emergency management plan

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Creative Engineers & Consultants

CHAPTER-12 : DISCLOSURE OF CONSULTANTS ENGAGED

PRO CODE: CEC-EMP-MI-261

REV NO : 00/APR/26

12-2

ந.க.எண். ஆ/புவி(ம)சு/409/2025
நாள்: 29.12.2025.

உதவி இயக்குநர், திருவலகம்,
புவியியல் மற்றும் சுரங்கத்துறை,
விழுப்புரம்.

அறிவிப்பு

பொருள்: கனிமங்களும் குவாரிகளும் - சிறுகனிமம் - சாதாரண கற்கள் மற்றும் கிராவல் - விழுப்புரம் மாவட்டம் - வானூர் வட்டம் - சிறுநாலூர் கிராமம் - பட்டா புல எண்கள்: 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர், 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர், 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர், 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்த பரப்பு 6.61.35 ஹெக்டேர் பரப்பளவில் பத்தாண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குவாரி குத்தகை அனுமதி கோரி M/s TAAMAESEK ENGINEERING CONSORTIUM, Chennai என்ற நிறுவனத்தினர் விண்ணப்பம் செய்தது - உரிமம் வழங்க பரிந்துரை செய்து அறிக்கை வரப்பெற்றது - புலத்தணிக்கை மேற்கொள்ளப்பட்டது - குவாரி குத்தகை உரிமம் வழங்க 6.61.35 ஹெக்டேர் பரப்பினை தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டம் மற்றும் சுற்றுச்சூழல் தரக்க மதிப்பீடு ஆணைய இசைவினை பெற்று சமர்ப்பிக்கக் கோருதல் - தொடர்பாக.

பார்வை:

1. M/s TAAMAESEK ENGINEERING CONSORTIUM, No.5, Bishop Wallers Avenue West, Mylapore, Chennai என்பவரின் இணையவழி (MIMAS) விண்ணப்ப நாள்: 27.10.2025.
2. இவ்வலுவலக கடிதம் ந.க.எண். ஆ/புசு/409/2025 நாள்: 28.10.2025.
3. வருவாய் கோட்டாட்சியர், விழுப்புரம் கடித எண். ந.க.அ/4/3777/2025, நாள்: 12.12.2025.
4. விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை உதவி புவியியலாளர் புலத்தணிக்கை அறிக்கை நாள்: 17.12.2025

M/s TAAMAESEK ENGINEERING CONSORTIUM, No.5, Bishop Wallers Avenue West, Mylapore, Chennai என்ற நிறுவனத்தினர் விழுப்புரம் மாவட்டம், வானூர் வட்டம், சிறுநாலூர் கிராமம், பட்டா புல எண்கள்: 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர், 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர், 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர், 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்த பரப்பு 6.61.35 ஹெக்டேர் பரப்பளவில் பத்தாண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுப்பது தொடர்பாக 1959-ஆம் ஆண்டு தமிழ்நாடு சிறுவகை கனிமச்சலுகை விதிகள், விதி எண். 19-ன்கீழ் குவாரிப்பணி செய்ய உரிமம் வழங்கிட கோரி பார்வை 1-ல் காணும் விண்ணப்பம் செய்துள்ளார்.

2) மனுதாரர் உரிய படிவத்தில் மனு செய்திருப்பதுடன், விண்ணப்பக் கட்டணம் ரூ.1500/-ஐ இசைவான் எண். 20251027038204, நாள்: 27.10.2025-ல் பாரத ஸ்டேட் லங்கியில் செலுத்தியுள்ளார். மேலும், மனுதாரர் செலுத்த வேண்டிய வருவான வரி மற்றும் சனிம் வரி ஏதும் நிலுவையில் இல்லை என்பதற்கான சான்றுறுதி ஆவணம் மற்றும் கிராம கணக்கு நகல்களையும் சமர்ப்பித்துள்ளார்.

3) மனுதாரர் சாதாரண கற்கள் மற்றும் கிராவல் வெட்டி எடுக்க உரிமம் கோரிய புலன்களை விழுப்புரம் வருவாய் கோட்டாட்சியர் மற்றும் விழுப்புரம் மாவட்ட புலியியல் மற்றும் சுரங்கத்துறை, உதவி புலியியலாளர் ஆகியோர் இடப்பார்வை செய்து அறிக்கை சமர்ப்பித்துள்ளனர்.

4) பார்வை 3-ல் கண்ட விழுப்புரம் வருவாய் கோட்டாட்சியர் அவர்களிடமிருந்து வரப்பெற்ற விசாரணை அறிக்கை பரிசீலனை செய்வப்பட்டதில், விழுப்புரம் மாவட்டம், வானூர் வட்டம், கிளியனூர் குறுவட்டம், சிறுநாலூர் கிராமம், பட்டா புல எண்கள் 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர் 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர் 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர் 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்தபரப்பு 6.61.35 ஹெக்டேர் பரப்பளவில் 10 ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குவாரி குத்தகை அனுமதி கோரி M/s TAAMAESEK ENGINEERING CONSORTIUM, Chennai என்பவர்களது இணையவழி (MIMAS) மூலம் விண்ணப்பம் அளித்தது தொடர்பாக, வானூர் வருவாய் வட்டாட்சியர் அளித்த அறிக்கையின் அடிப்படையில் அறிக்கையினை பின்வருமாறு சமர்ப்பித்துள்ளார்.

விழுப்புரம் மாவட்டம் வானூர் வட்டம், கிளியனூர் குறுவட்டம், சிறுநாலூர் கிராமம், பட்டா புல எண்கள் 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர் 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர் 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர் 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்தபரப்பு 6.61.35 ஹெக்டேர் (ஏக்கர் 16.33) மட்டும் கிராம ஆவணங்களான கணினி சிட்டா/அடங்கலில் "டாமெக்ஸ் இன்ஜினியரிங் கன்சர்ஜியம்" பெயரில் தனி மட்டாவாக 601 ல் பதிவாகியுள்ளது எனவும், மேற்படி மட்டாவாரான "டாமெக்ஸ் இன்ஜினியரிங் கன்சர்ஜியம்" என்ற நிறுவனம் கிராம ஆவண எண்: 4627/2025-ன் படி மேற்படி கிராம புலங்களில் ஹெக்டேர் 6.61.35 ஹெக்டேர் மட்டும் கிராமம் பெற்று அனுபவம் செய்து வருகிறார்கள் என்பது விசாரணை மற்றும் புலத்துணிக்கையின் போது தெரியவருகிறது எனவும் தெரிவித்துள்ளார்.

"அ" பதிவேடு

வ. எண்	அனுமதி கோரிய புலஎண் மற்றும் விஸ்தரணம்	வகைபாடு	விஸ்தரணம் ("அ" பதிவேட்டின் படி மொத்த விஸ்தரணம்)	"அ" பதிவேட்டின் விவரம்	தற்போதைய உரிமைபாளர் விவரம்/பட்டாள எண்	குறிப்பு கலம்
1	13/1A 1.07.5 ஹெக்டேர்	ர.புஞ்சை	1.32.5	திரு.தில்லைக்க ண்ணு பட்டாள எண். 145	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண்- 601	
2	13/1B 0.25.0 ஹெக்டேர்	ர.புஞ்சை	0.25.0	திரு.தி.அன்பழகன் பட்டாள எண். 111	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண்- 601	
3	13/2A 2.47.1 ஹெக்டேர்	ர.புஞ்சை	4.04.05	13/2 - திரு.அ.அரிகிருஷ் ணன் பட்டாள எண். 16	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண்- 601	
4	13/3A 0.13.5 ஹெக்டேர்	ர.புஞ்சை	0.54.0	திரு.தில்லைக்க ண்ணு பட்டாள எண். 145	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண்- 601	
5	13/3B 0.40.5 ஹெக்டேர்	ர.புஞ்சை	0.40.5	திரு.தி.அன்பழகன் பட்டாள எண். 111	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண்- 601	
6	13/4A 0.13.5 ஹெக்டேர்	ர.புஞ்சை	0.54.0	திரு.கு.ஜெயராமன் பட்டாள எண். 297	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண் - 601	
7	13/4B 0.40.5 ஹெக்டேர்	ர.புஞ்சை	0.40.5	திரு.தி.மதிபழகன். பட்டாள எண். 111	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண் - 601	
8	13/5 0.92.0 ஹெக்டேர்	ர.புஞ்சை	0.92.0	திரு.தில்லைக்க ண்ணு பட்டாள எண். 145	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண் - 601	
9	4/1 0.61.5 ஹெக்டேர்	ர.புஞ்சை	0.61.5	திரு.அ.அரிகிருஷ் ணன் பட்டாள எண். 16	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண் - 601	
10	4/4A 0.20.5 ஹெக்டேர்	ர.புஞ்சை	1.06.0	4/4-ல் திரு.ந.அரிகிருஷ் ணன் பட்டாள எண் 17	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண் - 601	சதுரக் கிணறு

கணினி "அ" பதிவேடு

வ.எண்	புல எண்	வகைபாடு	கணினி "அ" பதிவேட்டின் விவரம்/மட்டாஎண்	குறிப்பு கலம்
1	13/1A 1.07.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண்- 601	-
2	13/1B 0.25.0 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண்- 601	-
3	13/2A 2.47.1 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண்-601	-
4	13/3A 0.13.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண்- 601	-
5	13/3B 0.40.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண்- 601	-
6	13/4A 0.13.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண் -601	-
7	13/4B 0.40.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண் -601	-
8	13/5 0.92.0 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண் -601	-
9	4/1 0.61.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண் -601	-
10	4/4A 0.20.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண் -601	-

குவாரிக்குத்தகை அனுமதி கோரும் புலன்களின் நான்கு எல்லை விவரம்:

வ.எண்	புல எண் /அடிப்பு	நான்கு பக்க எல்லைகளில்
1.	13/1A 1.07.5 ஹெக்டேர்	வடக்கு- புல எண் 6/5-மட்டா நிலம் -ர.புஞ்சை
		தெற்கு- புல எண் 13/2A-மட்டா நிலம் -ர.புஞ்சை
		கிழக்கு- புல எண் 13/1B -மட்டா நிலம் -ர.புஞ்சை
		மேற்கு- புல எண் 5/3 -மட்டா நிலம் -ர.புஞ்சை
2	13/1B 0.25.0 ஹெக்டேர்	வடக்கு- புல எண் 6/5-மட்டா நிலம் -ர.புஞ்சை
		தெற்கு- புல எண் 13/2A-மட்டா நிலம் -ர.புஞ்சை
		கிழக்கு- புல எண் 13/2A -மட்டா நிலம் -ர.புஞ்சை
		மேற்கு- புல எண் 13/1A -மட்டா நிலம் -ர.புஞ்சை

3.	4/1 0.61.5 ஹெக்டேர்	வடக்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 5/3-பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 4/2 -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 3/4 -பட்டா நிலம் -ரபுஞ்சை
4.	13/2A 2.47.1 ஹெக்டேர்	கிழக்கு - புல எண் 12/1,2 -பட்டா நிலம் -ரபுஞ்சை மேற்கு - புல எண் 4/1,2: 13/1B-பட்டா நிலம் -ரபுஞ்சை வடக்கு - புல எண் 13/1A,1B: 6/5,13/3B,4B,5 -பட்டா நிலம் - ரபுஞ்சை தெற்கு - புல எண் 4/4B,13/2B,14/3 -பட்டா நிலம் -ரபுஞ்சை
5.	13/3A 0.13.5 ஹெக்டேர்	வடக்கு- புல எண் 6/5-பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/3B-பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/4A -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை
6.	13/3B 0.40.5 ஹெக்டேர்	வடக்கு- புல எண் 13/3A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/4B -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை
7.	13/4A 0.13.5 ஹெக்டேர்	வடக்கு- புல எண் 8/6 -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/4B -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/5 -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/3A -பட்டா நிலம் -ரபுஞ்சை
8.	4/4A 0.20.25 ஹெக்டேர்	வடக்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 4/4B -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/2B -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 4/2 -பட்டா நிலம் -ரபுஞ்சை
9.	13/4B 0.40.5 ஹெக்டேர்	வடக்கு- புல எண் 13/4A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/2B -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/5,2B -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/3B -பட்டா நிலம் -ரபுஞ்சை
10	13/5 0.92.0 ஹெக்டேர்	வடக்கு- புல எண் 8/6,7,8,9 : 9/3,4 -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/2 A -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 12/1 -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/4A, 4B -பட்டா நிலம் -ரபுஞ்சை

குவாரி அமையவுள்ள புலன்களை சுற்றி 7.5 மீட்டர் அளவிற்கு பாதுகாப்பு இடைவெளி ஏற்படுத்தப்பட்டு புல வரைபடத்தில் காட்டப்பட்டுள்ளது எனவும், குவாரி குத்தகை உரிமம் கோரியுள்ள இடத்தில் இருந்து, வெட்டியெடுக்கப்படும் கற்களை வெளியில் எடுத்துச்செல்ல புல எண் 12/2, 14/3, 21/4, 21/3, 21/2, 21/12, 25/3, 24/1, 28/1, 28/2, 29/1, 30/1, 30/4 வழியாக குன்னம் கிராம எல்லை புல எண் 7/1,2A,2B,4,6,9, 8/10A,10B, 29/1, 10/2, 11/3,4, 29/3 வழியாக கரசாணார் to ஆதனப்பட்டு கிராம சாலையை அடைகிறது எனவும், மனுதாரர்

குவாரி குத்தகை கோரிய புலங்களில் புல எண் 13/1A, மேற்கு பகுதியில் தெற்கு - வடக்காக விளக்கி-வாய்க்கால் (பட்டா நிலம்) புலப்படகவடியில் (FMB)-ல் உள்ளது. மேற்படி FMB-ல் உள்ளவாறு பூமியில் தற்போது வாய்க்கால்/வண்டிப்பாதை ஏதும் இல்லை என்பது புலத்தணிக்கையில் தெரியவருகிறது எனவும், குவாரி குத்தகை கோரியுள்ள புலங்களில் இருந்து குடியிருப்பு பகுதிகள் எனில் 300 மீ சுற்றுவட்டாரத்திற்குள் ஏதுமில்லை எனவும், மின்கம்பி பாதைகளுக்கும் / தொலைபேசி பாதைகளுக்கும் குத்தகை கோரும் புலங்களுக்கும் இடையே 50மீ இடைவெளியில் ஏதுமில்லை எனவும், குவாரி குத்தகை வழங்க ஆட்சேபணை ஏதுமில்லை என்பது கிராம நிர்வாக அலுவலர் விசாரணையில் தெரியவருகிறது எனவும், குவாரி குத்தகை கோரும் பகுதிக்கு பாதை வசதி உள்ளது எனவும், குத்தகைதாரர் குவாரி அனுமதி கோரும் புல எண்களில், குறிப்பிட்ட புலங்களில், புலத்தின் ஒரு பகுதியில் மட்டும் குவாரி செய்ய அனுமதி வேண்டும் பட்சத்தில் அந்த குறிப்பிட்ட பகுதியை புலவரைபடத்தில் அளவுகளுடன் வரையறுத்து காட்டப்பட்டுள்ளது எனவும், உரிமை கோரும் புல எண்களில் புதியதாக குவாரிப்பணி செய்ய உரிமம் தற்போது கோர்ப்படுகிறது 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, மருத்தி, கிருத்துவ ஆலையங்கள் போன்ற வழிபாட்டு தலங்கள் ஏதுமில்லை எனவும், கல்கட்டிடம், புராதனச்சின்னங்கள், இடுகாடு மற்றும் சுடுகாடு போன்றவை ஏதுமில்லை எனவும், மனுதாரர் கோரும் புல எண் 4/4 - 1.06.0 ஹெக்டேர்ஸ் "அ" பதிவேட்டின் குறிப்பு கலத்தில் சதுரத்திணறு என குறிப்பிடப்பட்டுள்ளது. ஆனால் நிலத்தில் இல்லை எனவும், புல எண் 13/1A ல் தெற்கு - வடக்காக விளக்கி-வாய்க்கால் (பட்டா நிலம்) புலப்படகவடியில் (FMB)-ல் உள்ளது எனவும், ஆனால் "அ"பதிவேட்டில் தாக்கலாகவில்லை எனவும், எனவே, வானூர் வருவாய் வட்டாட்சியர் அறிக்கை மற்றும் புலத்தணிக்கை ஆகியவற்றின் அடிப்படையில் மனுதாரருக்கு, வானூர் வட்டம், சிறுநூலூர் கிராமம் பட்டா புல எண்கள் 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர், 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர், 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர், 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்தபரப்பு 6.61.35 பரப்பளவில் 10 ஆண்டுகளுக்கு "டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம்" என்ற நிறுவனத்திற்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குவாரி குத்தகை அனுமதி உரிமம் வழங்க பரிந்துரை செய்துள்ளார்.

5) பார்வை 4-ல் காணும் விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை அலுவலக உதவி புவியியலாளர் அவர்களின் புலத்தணிக்கை அறிக்கையில், M/s TAAMAESEK ENGINEERING CONSORTIUM, No.5, Bishop Wallers Avenue West, Mylapore, Chennai என்ற

நிறுவனத்தினர் விழுப்புரம் மாவட்டம், வானூர் வட்டம், சிறுநாலூர் கிராமம், பட்டா புல எண்கள் 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர் 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர் 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர் 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்தப் பரப்பு 6.61.35 ஹெக்டேர் பரப்பளவில் பத்திரப்பதிக்கப்பட்ட சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குவாரி குத்தகை உரிமம் கோரியது தொடர்பாக, விழுப்புரம் வருவாய் கோட்டாட்சியர் அவர்களிடமிருந்து வரப்பெற்ற பரிந்துரை அறிக்கையை தொடர்ந்து 16.12.2025 அன்று புலத்தணிக்கை செய்யப்பட்டதாகவும், இத்தணிக்கையின்போது விண்ணப்பதாரர் உடனிருந்ததாகவும், குவாரி குத்தகை உரிமம் வழங்க கோரிய விழுப்புரம் மாவட்டம், வானூர் வட்டம், சிறுநாலூர் கிராம பட்டா புல எண்கள்.13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர் 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர் 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர் 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்த பரப்பு 6.61.35 ஹெக்டேர் பரப்பளவில் உள்ள பட்டா நிலங்கள் பட்டா எண்.601-ன்படி டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் என்ற பெயரில் சிறுநாலூர் கிராம கணாக்குகளின்படி தாக்கலாகியுள்ளது எனவும், எனவே, டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் என்ற நிறுவனத்தினர் மேற்படி நிலத்தில் குவாரி செய்ய தகுதியுடையவர் எனவும், குத்தகை உரிமம் வழங்க கோரியுள்ள புலங்களின் சக்குபந்தி விவரம் கீழ்க்கண்டவாறு தெரிவித்துள்ளார்.

நான்கு எல்லைகள் விவரம்.

வ.எண்	புல எண் /பரப்பு	* நான்கு பக்க எல்லைகள்
1.	13/1A 1.07.5 ஹெக்டேர்	வடக்கு- புல எண் 6/5-பட்டா நிலம் -ரபுஞ்சை
		தெற்கு- புல எண் 13/2A-பட்டா நிலம் -ரபுஞ்சை
		கிழக்கு- புல எண் 13/1B -பட்டா நிலம் -ரபுஞ்சை
		மேற்கு- புல எண் 5/3 -பட்டா நிலம் -ரபுஞ்சை
2.	13/1B 0.25.0 ஹெக்டேர்	வடக்கு- புல எண் 6/5-பட்டா நிலம் -ரபுஞ்சை
		தெற்கு- புல எண் 13/2A-பட்டா நிலம் -ரபுஞ்சை
		கிழக்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை
		மேற்கு- புல எண் 13/1A -பட்டா நிலம் -ரபுஞ்சை
3	4/1 0.61.5 ஹெக்டேர்	வடக்கு- புல எண் 5/3-பட்டா நிலம் -ரபுஞ்சை
		தெற்கு- புல எண் 4/2-பட்டா நிலம் -ரபுஞ்சை
		கிழக்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை
		மேற்கு- புல எண் 3/2, 3, 4 -பட்டா நிலம் -ரபுஞ்சை
4.	13/2A 2.47.1 ஹெக்டேர்	கிழக்கு - புல எண் 12/1,2 -பட்டா நிலம் -ரபுஞ்சை
		மேற்கு - புல எண் 4/1,2: 13/1B-பட்டா நிலம் -ரபுஞ்சை *
		வடக்கு - புல எண் 13/1A,1B: 6/5,13/3B,4B,5 -பட்டா நிலம் -ரபுஞ்சை

		தெற்கு - புல எண் 4/4B,13/2B,14/3 -பட்டா நிலம் - ரபுஞ்சை
5.	13/3A 0.13.5 ஹெக்டேர்	வடக்கு- புல எண் 6/5-பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/3B-பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/4A -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை
6.	13/3B 0.40.5 ஹெக்டேர்	வடக்கு- புல எண் 13/3A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/4B -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை
7.	13/4A 0.13.5 ஹெக்டேர்	வடக்கு- புல எண் 8/6 -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/4B -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/5 -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/3A -பட்டா நிலம் -ரபுஞ்சை
8.	4/4A 0.20.25 ஹெக்டேர்	வடக்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 4/4B -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/2B -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 4/2 -பட்டா நிலம் -ரபுஞ்சை
9.	13/4B 0.40.5 ஹெக்டேர்	வடக்கு- புல எண் 13/4A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/2B -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/5,2B -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/3B -பட்டா நிலம் -ரபுஞ்சை
10	13/5 0.92.0 ஹெக்டேர்	வடக்கு- புல எண் 8/6,7,8,9 : 9/3,4 -பட்டா நிலம் - ரபுஞ்சை தெற்கு- புல எண் 13/2 A -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 12/1 -பட்டா நிலம் -ரபுஞ்சை மேற்கு-புல எண் 13/4A, 4B -பட்டா நிலம் -ரபுஞ்சை

மேற்படி, குவாரி குத்தகை கோரும் புலங்கள் சமதளப்பரப்பாக காணப்படுகிறது எனவும், மேற்படி புலத்தில் காணப்படும் கற்கள் சார்னடைட் வகையைச் சேர்ந்த கற்கள் எனவும், இக்கற்கள் கட்டுமான பணிக்கு பயன்படும் சாதாரண கற்கள், எம். சாண்ட், ஐல்லி தயாரிக்க உகந்தது எனவும், மேலும், குவாரி குத்தகை உரிமம் கோரும் புலன்களுக்கு அருகில் நீர் நிலைகள், ஏரி புறம்போக்கு, ஆறு, குளம், கண்மாய் ஆகியவை 50 மீட்டர் சுற்றளவில் ஏதும் இல்லை எனவும், குவாரி குத்தகை கோரும் புலன்களுக்கு 300 மீட்டர் சுற்றளவில் குடியிருப்பு பகுதிகள் ஏதுமில்லை எனவும், மேலும் 60 மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி ஏதுமில்லை எனவும், குவாரி குத்தகை அனுமதி கோரும் புலன்களுக்கு 50 மீட்டர் சுற்றளவில் நெடுஞ்சாலை, இருப்புப்பாதை, கடுகாடு, இடுகாடு மற்றும் உயர்வழுத்த / தாழ்வழுத்த மின்கம்பிகள் ஏதும் செல்லவில்லை எனவும், மேலும், 1 கி.மீ இடைவெளியில் தேசிய பூங்காக்கள், வனவிலங்கு சரணாலயம், புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை எனவும், மேற்படி புலத்தணிக்கையின்போதும்,

பொதுமக்களிடமிருந்து ஆட்சேபனை ஏதும் வரப்பெறவில்லை எனவும், கனிமங்களை எடுத்துச் செல்வதற்கு போதிய பாதை வசதி உள்ளது எனவும் தெரிவித்து விழுப்புரம் வருவாய் கோட்டாட்சியர் அவர்களின் பரிந்துரை அறிக்கை, விண்ணப்பதாரரின் கொள்கை மற்றும் கன ஆய்வின் அடிப்படையில், விழுப்புரம் மாவட்டம், வானூர் வட்டம், சிறுநாவூர் கிராமம், பட்டா புல எண்கள் 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர், 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர், 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர், 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்த பரப்பு 6.61.35 பரப்பளவில் சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க பத்து (10) ஆண்டுகளுக்கு கீழ்க்கண்ட நிபந்தனைகளுக்கு உட்பட்டு 1959-ஆம் ஆண்டு தமிழ்நாடு சிறுவகை கனிமச்சலுகை விதிகளில் விதி எண்.19(1)-ன்கீழ் உரிமம் வழங்க மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் தடையில்லா சான்று மற்றும் தமிழ்நாடு மாகாணக்குப்பாடு வாரியம் அவர்களின் தடையின்மை சான்றினை பெற்று சமர்ப்பித்த பின்பு அதன் நிபந்தனைகளுக்கு உட்பட்டு சாதாரண கற்கள் மற்றும் கிராவல் குவாரி பணி செய்து கொள்ள விண்ணப்பதாரர் M/s TAAMAESEK ENGINEERING CONSORTIUM, Chennai என்ற நிறுவனத்திற்கு அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

நிபந்தனைகள்:-

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. குவாரி குத்தகை வழங்கும் முன்பு விண்ணப்பித்துள்ள இடத்தினை DGPS சர்வே பணி மேற்கொண்டு அதன் அறிக்கையை சமர்ப்பிக்க வேண்டும்.
4. முறைப்படியும், விஞ்ஞான பூர்வமாகவும் குவாரிப்பணி செய்ய வேண்டும்.
5. சான்றிதழ் பெறப்பட்ட போர்மேன், வெடிப்பாளர் மற்றும் சுரங்க மேலாளர் மூலம் குவாரிப்பணி செய்யப்பட வேண்டும்.
6. குவாரிப்பணி தொடங்குவதற்கு முன் சுரங்க பாதுகாப்பு இயக்குநர், சென்னை அவர்களுக்கு தகவல் தெரிவிக்கப்பட வேண்டும்.
7. பாறைகளை தகர்க்க கைத்துளைப்பான்களை கொண்டு பாறைகளை துளையிட்டு குறைவான வெடிப்பொருட்களை பயன்படுத்த வேண்டும்.
8. குவாரிப்பணி தொடங்குவதற்கு முன்பாக குவாரியை சுற்றி முள்கம்பி வேலி அமைத்து குவாரிப்பணி தொடங்க வேண்டும்.
9. குவாரித் தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்ய Mettalliferous Mines விதிகளின்படி அகலமானதும், பாதுகாப்பானதுமான Benches அமைத்து பாதுகாப்பான முறையில் குவாரிக்குள் வாகனங்கள் சென்று வரவும் மற்றும் குவாரி தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்தும் குவாரிப்பணி செய்ய வேண்டும்.
10. குவாரிப்பணி செய்வதற்கு பரிந்துரை செய்யப்பட்ட கனிமங்களான சாதாரண கற்கள் மற்றும் கிராவல் ஆகியவற்றை தவிர வேறு கனிமங்கள் ஏதும்

கண்டறியப்பட்டால் உடனடியாக குவாரிப்பணியினை நிறுத்துவதோடு, புவியியல் மற்றும் சுரங்கத்துறை, விழுப்புரம் அலுவலகத்திற்கு தகவல் தெரிவிக்க வேண்டும்.

11. தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி-41ன்படி தகுதிவாய்ந்த நபரால் சுரங்க திட்டம் தயார் செய்து உதவி இயக்குநர் அவர்களின் ஒப்புதல் பெறவேண்டும்.
12. தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி-42ன்படி மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்திடமிருந்து சுற்றுச்சூழல் சான்று பெற்று சமர்ப்பிக்கப்படவேண்டும்.

எனவே, விழுப்புரம் வருவாய் கோட்டாட்சியர் மற்றும் விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை உதவி புவியியலாளர் ஆகியோரின் பரிந்துரை அறிக்கையினை பரிசீலனை செய்யப்பட்டு, விழுப்புரம் மாவட்டம், வாறூர் வட்டம், சிறுநாவூர் கிராமம், பட்டா புல எண்கள் 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர், 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர், 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர், 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்த பரப்பு 6.61.35 பரப்பளவில் அரசு நிபந்தனைகளுக்குட்பட்டு 10 (பத்து) வருட காலத்திற்கு விண்ணப்பத்தாரர் M/s TAAMAESEK ENGINEERING CONSORTIUM, Chennai என்ற நிறுவனத்திற்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குவாரி குத்தகை உரிமம் வழங்குவதற்குரிய தகுதியான நிலப்பரப்பாக கருதப்படுகிறது. அதன் அடிப்படையில், தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி எண்.41-ன்படி குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்க திட்டத்தினை தகுதிவாய்ந்த நபர் (RQP) மூலமாக கீழ்க்கண்ட நிபந்தனைகளுக்குட்பட்டு தயாரித்து அதனை 90 தினங்களுக்குள் உதவி இயக்குநர் (புவியியல் மற்றும் சுரங்கத்துறை) அவர்களின் பரிசீலனைக்கு சமர்ப்பிக்குமாறு விண்ணப்பதாரருக்கு அறிவுறுத்தப்படுகிறது.

நிபந்தனைகள்:-

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. குவாரி குத்தகை வழங்கும் முன்பு விண்ணப்பித்துள்ள இடத்தினை DGPS சர்வே பணி மேற்கொண்டு அதன் அறிக்கையை சமர்ப்பிக்க வேண்டும்.
4. முறைப்படியும், விஞ்ஞான பூர்வமாகவும் குவாரிப்பணி செய்ய வேண்டும்.
5. சான்றிதழ் பெறப்பட்ட போர்மேன், வெடிப்பாளர் மற்றும் சுரங்க மேலாளர் மூலம் குவாரிப்பணி செய்யப்பட வேண்டும்.

6. குவாரிப்பணி தொடங்குவதற்கு முன் சுரங்க பாதுகாப்பு இயக்குநர், சென்னை அவர்களுக்கு தகவல் தெரிவிக்கப்பட வேண்டும்.
7. பாறைகளை தகர்க்க கைத்துளைப்பான்களை கொண்டு பாறைகளை துளையிட்டு குறைவான வெடிப்பொருட்களை பயன்படுத்த வேண்டும்.
8. குவாரிப்பணி தொடங்குவதற்கு முன்பாக குவாரியை சுற்றி முள்கம்பி லேஸி அமைத்து குவாரிப்பணி தொடங்க வேண்டும்.
9. குவாரிப்பணி செய்வதற்கு பரிந்துரை செய்யப்பட்ட கனிமங்களான சாதாரண கற்கள் மற்றும் கிராவல் ஆகியவற்றை தவிர வேறு கனிமங்கள் ஏதும் கண்டறியப்பட்டால் உடனடியாக குவாரிப்பணியினை நிறுத்துவதோடு, புவியியல் மற்றும் சுரங்கத்துறை, விழுப்புரம் அலுவலகத்திற்கு தகவல் தெரிவிக்க வேண்டும்.
10. தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி-42ன்படி மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்திடமிருந்து சுற்றுச்சூழல் சான்று பெற்று சமர்ப்பிக்கப்பட வேண்டும்.



தலி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
விழுப்புரம்.

பெறுநர்:-

M/s RAAMAASEK ENGINEERING CONSORTIUM,
No.5, Bishop Wallers Avenue West,
Mylapore,
Chennai.

சென்னை
19/12/2015

சென்னை
19/12/2015

நகல்: இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, சென்னை.

நகல்: மாநில சுற்றுச்சூழல் தாக்க தடையாக்க மதிப்பீட்டு ஆணையம், சென்னை.

Annexure- 2

From
Thiru.S.Rameshkumar, M.Sc.,
Assistant Director,
Dept. of Geology and Mining,
Viluppuram District,
Viluppuram.

To
M/s. Taamaesek Engineering
Consortium,
No.5,Bishop Wallers Avenue West,
Mylapore,
Chennai.

Rc.No.B/G&M/409/2025, Dated 08.01.2026.

Sir,

Sub: Mines and Minerals – Minor Mineral – Rough stone and Gravel - Viluppuram District – Vanur Taluk – Sirunavur Village – Patta lands in S.F.Nos. 13/1A - 1.07.5, 13/1B - 0.25.0, 13/2A - 2.47.10, 13/3A - 0.13.5, 13/3B - 0.40.5, 13/4A - 0.13.5, 13/4B - 0.40.5, 13/5 - 0.92.0, 4/1 - 0.61.5 and 4/4A - 0.20.25 - over an extent of 6.61.35 Hectares - quarry lease application preferred by M/s TAAMAESEK ENGINEERING CONSORTIUM - Precise area communicated - Draft Mining Plan submitted - Approved - Regarding.

- Ref: 1. Application dated 27.10.2025 from M/s TAAMAESEK ENGINEERING CONSORTIUM, No.5,Bishop Wallers Avenue West, Mylapore, Chennai.
2. Assistant Director, Geology and Mining, Viluppuram Precise area communication notice Rc.No. B/G&M/409/2025, Dated: 29.12.2025.
3. Draft Mining Plan submitted by M/s TAAMAESEK ENGINEERING CONSORTIUM, Dated: 05.01.2026.

M/s. Taamaesek Engineering Consortium has preferred an application for quarrying of Rough stone and Gravel over an extent of 6.61.35 Hects of Patta lands in S.F.Nos. 13/1A - 1.07.5, 13/1B -0.25.0, 13/2A - 2.47.10, 13/3A - 0.13.5, 13/3B - 0.40.5, 13/4A - 0.13.5, 13/4B - 0.40.5, 13/5 - 0.92.0, 4/1 - 0.61.5 and 4/4A - 0.20.25 in Sirunavur Village, Vanur Taluk, Viluppuram District for a period of 10 years under the provisions of Rule 19 (1) of Tamil Nadu Minor Mineral Concession Rules, 1959. In this regard, the precise area communication has been issued vide letter dated 29.12.2025 with a direction to submit draft 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 three copies of draft Mining Plan vide letter dated 05.01.2025 and the same has been examined in details and it is found correct.

3) As per the mining plan, the available geological and minable reserves as follows.

Depth in Mts.	Geological reserves	Minal Reserves
59 m (4 m Gravel & 55 m Rough stone)	Rough stone: 3675485 cbm / 10107584 MT Gravel : 267308 cbm / 534616 MT	Rough stone : 1523080 cbm / 4188470 MT Gravel : 215216 cbm / 430432 MT

4) Hence, as per the power delegated under Rule 41 of TNMMCR, 1959 and as per the guidelines/instructions issued by the Commissioner of Geology and Mining, vide letter Rc.No.386S/LC/2012 dated.19.11.2012, the said mining plan submitted by the applicant is hereby approved subject to the following conditions;

- 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.
- 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, 1980, Explosives Act, 1884 (Central Act IV of 1884) and the Rules made there under and the Tamil Nadu Minor Mineral Concession Rules, 1959.
- The mining plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
- All the conditions stipulated in the precise area communication letter / lease agreement / environment clearance / Tamil Nadu Pollution Control Board conditions etc., should be followed during the entire quarry operation as per rules.

- e. The applicant should get prior Environmental clearance from the appropriate authority and same has to be submit to the Assistant Director, Geology and Mining, Viluppuram for further action.
- f. The dust emission at the time of quarrying and transportation shall be controlled by water spraying in the roads and quarrying pits in order to control Air Pollution in the leasehold area.
- g. Low Density explosives shall be used for quarrying rough stone during the validity period of the mining plan / EC in order to reduce the Noise Pollution in the leasehold area.
- h. Progressive Mine Closure shall be carried out as per the approved mining plan.
- *i. Afforestation shall be carried out along the boundary of the leasehold area, 7.5 meters safety distance area and other areas which are situated within the specific safety zone so that the climate of the area can be made as moderately conducive to the livelihood of the employees in the quarry site.
- j. Provisions of the Mines Act, 1952 and the Rules and Regulations made there under including submission of notice of opening, appointment of manager and other statutory officials as required under Mines Act, 1952 shall be complied with.
- k. Provisions made under Mines and Minerals (Development & Regulation) Act, 1957, MMDR Amendment Act, 2015 made there under shall be complied with.
- l. This approval of Mining Plan is restricted to the mining plan area only. The mining lease area is as shown on the statutory plan. The Assistant Director, Geology and Mining does not take any responsibility regarding correctness of the boundaries of the lease shown on the ground with reference to the lease map and others plans furnished by the lessee.
- m. The earlier instances of irregular / illegal quarrying, if any, shall not be regularized through the approval of this document.

- n. The lessee shall remit the penalty / Cost of Mineral / other dues if any as arrived by the Assistant Director (G&M), Villupuram District.
- o. The quarry laborers shall be registered with the Labour Board and shall be enrolled under the Insurance Scheme.
- p. Non adherence to any condition set-out above, the approval shall be deemed to have been withdrawn with immediate effect.

Encl: Two copies of Approved Mining Plan.


Assistant Director,
Dept. of Geology and Mining,
Viluppuram.

Copy to:-

- 1. The Director of Geology and Mining, Chennai-32.
- 2. The Chairman, State Level Environment Impact Assessment Authority, 3rd Floor, Panagal Maaligai, No.1, Jeenis Road, Saidapet, Chenna-15.

Annexure- 3

From
Thiru.S.Rameshkumar, M.Sc.,
Assistant Director,
Dept. of Geology and Mining,
Viluppuram District,
Viluppuram.

To
M/s. Taamaesek Engineering
Consortium,
No.5,Bishop Wallers Avenue West,
Mylapore,
Chennai.

Rc.No. B/G&M/409/2025, Dated:08.01.2026.

Sir,

Sub: Mines and Minerals – Minor Mineral – Rough stone and Gravel - Viluppuram District – Vanur Taluk – Sirunavur Village – Patta lands in S.F.Nos. 13/1A - 1.07.5, 13/1B - 0.25.0, 13/2A - 2.47.10, 13/3A - 0.13.5, 13/3B - 0.40.5, 13/4A - 0.13.5, 13/4B - 0.40.5, 13/5 - 0.92.0, 4/1 - 0.61.5 and 4/4A - 0.20.25 - over an extent of 6.61.35 Hectares - quarry lease application preferred by M/s TAAMAESSEK ENGINEERING CONSORTIUM – Details of quarries situated within 500 meter radial distance – furnished - Regarding.

- Ref: 1. Assistant Director, Geology and Mining, Viluppuram Precise area communication notice Rc.No. B/G&M/409/2025, Dated: 29.12.2025.
2. Representation submitted by M/s TAAMAESSEK ENGINEERING CONSORTIUM, Dated: 05.01.2026.

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 Rough stone and Gravel quarry over an extent of 6.61.35 Hects of Patta lands in S.F.Nos. 13/1A - 1.07.5, 13/1B -0.25.0, 13/2A - 2.47.10, 13/3A - 0.13.5, 13/3B - 0.40.5, 13/4A - 0.13.5, 13/4B - 0.40.5, 13/5 - 0.92.0, 4/1 - 0.61.5 and 4/4A - 0.20.25 in Sirunavur Village, Vanur Taluk, Viluppuram 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.	M/s. Gravity, No.2, Ground Floor, New No.24, Sarvamangala Nivas, Venkataraman Street, T.Nagar, Chennai – 600017.	Rough stone & Gravel	Vanur & Sirunavur	23/1	2.43.0	22.04.2025 to 21.04.2035	-

II. Proposed Area :

Sl. No.	Name of the lessee / permit holder	Name of the Mineral	Taluk & Village	S.F. Nos.	Extent (in hecets)	Remarks
1.	Thiru. R.Gopu, S/o.Radhakrishnan, No.2/13, Mariyamman Kovil Street, Perumbakkam Village, Vanur Taluk, Viluppuram District.	Rough stone & Gravel	Vanur & Sirunavur	4/4 (Part) 13/2 (Part)	0.85.85 <u>1.57.10</u> 2.42.95	-
2.	M/s. Taamaesek Engineering Consortium, No.5,Bishop Wallers Avenue West, Mylapore, Chennai.	Rough stone & Gravel	Vanur & Sirunavur	13/1A 13/1B 13/2A 13/3A 13/3B 13/4A 13/4B 13/5 4/1 4/4A	1.07.5 0.25.0 2.47.10 0.13.5 0.40.5 0.13.5 0.40.5 0.92.0 0.61.5 <u>0.20.25</u> 6.61.35	-

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							


 Assistant Director,
 Dept. of Geology and Mining,
 Viluppuram.


 28/11/26

Annexure- 4

POPULATION BREAKUP & LITERACY LEVEL IN THE BUFFER ZONE

Sl.No	No. of Villages	Name of village	Rural / urban	HOUSE HOLDS	POPULATION			POPULATION BELOW 6 AGE GROUP			SCHEDULE CASTE			SCHEDULE TRIBE			LITRERATES			ILLITRERATES		
					TOTAL	MALE	F.MALE	TOTAL	MALE	F.MALE	TOTAL	MALE	F.MALE	TOTAL	MALE	F. MALE	TOTAL	MALE	F.MALE	TOTAL	MALE	F.MALE
0-2 km,Vanur Sub-District, Viluppuram District																						
1	1	Parikkalpattu	Rural	248	1077	548	529	135	68	67	779	393	386	0	0	0	777	422	355	300	126	174
2	2	Sirunarur	Rural	59	290	152	138	26	13	13	186	97	89	0	0	0	147	89	58	143	63	80
3	3	Kunnam	Rural	401	1742	873	869	208	105	103	414	203	211	9	5	4	1122	630	492	620	243	377
4	4	Perumbakkam	Rural	501	2357	1199	1158	295	149	146	1708	871	837	0	0	0	1540	878	662	817	321	496
		total (A)		1209	5466	2772	2694	664	335	329	3087	1564	1523	9	5	4	3586	2019	1567	1880	753	1127
2-5 km,Tindivanam Sub-District, Viluppuram District																						
5	1	Kilsithamur	Rural	336	1669	832	837	196	102	94	1329	666	663	0	0	0	1106	617	489	563	215	348
6	2	Ariyankuppam	Rural	121	546	279	267	65	35	30	44	23	21	0	0	0	380	215	165	166	64	102
7	3	Veliyanur	Rural	281	1267	647	620	129	76	53	711	361	350	0	0	0	817	452	365	450	195	255
8	4	Kallakolathur	Rural	307	1368	709	659	138	68	70	785	413	372	141	72	69	840	491	349	528	218	310
9	5	Mailam	Rural	1078	4632	2354	2278	476	259	217	666	345	321	165	83	82	3207	1765	1442	1425	589	836
10	6	Thenkulapakkam	Rural	219	1022	523	499	103	54	49	529	278	251	0	0	0	713	412	301	309	111	198
11	7	Kilpudupatti	Rural	2125	8372	4182	4190	977	500	477	1056	527	529	0	0	0	5932	3200	2732	2440	982	1458
12	8	Taludali	Rural	517	2257	1153	1104	274	139	135	301	157	144	14	8	6	1543	879	664	714	274	440
13	9	Kanniyam	Rural	195	919	474	445	94	46	48	487	260	227	0	0	0	575	338	237	344	136	208
14	10	Tennalapakkam	Rural	352	1569	810	759	135	81	54	1263	663	600	0	0	0	1069	623	446	500	187	313
15	11	Konamangalam	Rural	227	907	455	452	106	52	54	436	230	206	1	0	1	632	354	278	275	101	174
Vanur Sub-District, Viluppuram District																						
16	1	Siruvalur (Ten)	Rural	369	1589	815	774	163	83	80	0	0	0	43	21	22	1105	644	461	484	171	313
17	2	Adanappattu	Rural	439	1929	998	931	228	118	110	662	344	318	85	37	48	1397	790	607	532	208	324
18	3	Murukkam	Rural	173	787	395	392	86	43	43	422	207	215	24	10	14	479	266	213	308	129	179
19	4	Ilvampattu	Rural	179	743	384	359	89	39	50	522	266	256	1	0	1	476	281	195	267	103	164
20	5	Eraiyr	Rural	740	3257	1656	1601	386	183	203	950	473	477	0	0	0	1864	1085	779	1393	571	822
21	6	Karasanur	Rural	683	2862	1458	1404	341	169	172	539	285	254	32	16	16	1828	1084	744	1034	374	660
22	7	Semangalam	Rural	863	3635	1859	1776	455	245	210	1361	702	659	52	26	26	2331	1348	983	1304	511	793
23	8	Parangani	Rural	773	3393	1684	1709	427	222	205	697	347	350	203	114	89	2205	1203	1002	1188	481	707
		total (B)		9977	42723	21667	21056	4868	2514	2354	12760	6547	6213	761	387	374	28499	16047	12452	14224	5620	8604
5-10 km,Tindivanam Sub-District, Viluppuram District																						
24	1	Kovadi	Rural	555	2303	1182	1121	271	139	132	572	304	268	0	0	0	1502	882	620	801	300	501
25	2	Ommandur	Rural	615	2594	1308	1286	285	132	153	932	470	462	49	23	26	1461	844	617	1133	464	669
26	3	Annamputhur	Rural	324	1480	769	711	155	89	66	903	475	428	0	0	0	1000	586	414	480	183	297
27	4	Varagapattu	Rural	105	406	201	205	54	24	30	0	0	0	246	121	125	213	132	81	193	69	124
28	5	Karanavur	Rural	282	1165	585	580	97	43	54	540	276	264	184	92	92	693	397	296	472	188	284
29	6	Kenipattu	Rural	184	723	350	373	65	35	30	188	88	100	0	0	0	486	271	215	237	79	158
30	7	Avanampattu	Rural	177	703	387	316	89	53	36	417	229	188	0	0	0	450	287	163	253	100	153
31	8	Kalavay (Then)	Rural	427	1748	895	853	199	100	99	661	342	319	0	0	0	1108	667	441	640	228	412
32	9	Vengai	Rural	264	1346	673	673	201	104	97	1212	607	605	0	0	0	822	441	381	524	232	292
33	10	Peradikuppam (Kil)	Rural	103	483	251	232	43	27	16	365	193	172	0	0	0	347	194	153	136	57	79

34	11	Kiledayalam	Rural	762	3455	1762	1693	396	214	182	1915	975	940	20	11	9	2288	1309	979	1167	453	714
35	12	Nallamur	Rural	308	1214	603	611	136	74	62	268	138	130	9	4	5	755	444	311	459	159	300
36	13	Kolliyankunam	Rural	351	1577	761	816	201	91	110	1391	673	718	0	0	0	1002	532	470	575	229	346
37	14	Chinnanerkunam	Rural	755	3230	1598	1632	399	214	185	865	442	423	41	21	20	2071	1132	939	1159	466	693
38	15	Kutteripattu	Rural	788	3229	1589	1640	374	180	194	653	321	332	13	6	7	2371	1270	1101	858	319	539
39	16	Chinnavalavanur	Rural	81	424	197	227	42	15	27	422	197	225	0	0	0	274	155	119	150	42	108
40	17	Chendur	Rural	652	2885	1454	1431	304	159	145	1176	605	571	0	0	0	1711	986	725	1174	468	706
41	18	Velangampadi	Rural	243	1040	502	538	114	56	58	495	239	256	21	11	10	596	329	267	444	173	271
42	19	Kuralur	Rural	211	816	416	400	79	43	36	257	131	126	9	5	4	513	307	206	303	109	194
43	20	Padirapuliyur	Rural	925	4202	2115	2087	469	228	241	2621	1312	1309	93	46	47	2566	1391	1175	1636	724	912
44	21	Vidur	Rural	1405	5748	2861	2887	729	349	380	3122	1572	1550	8	4	4	3288	1883	1405	2460	978	1482
Vanur Sub-District, Viluppuram District																						
45	23	Kodippakkam (Ten)	Rural	401	1738	896	842	225	108	117	904	462	442	20	13	7	1253	714	539	485	182	303
46	24	Peravur	Rural	637	2678	1383	1295	296	155	141	1394	716	678	4	2	2	1672	948	724	1006	435	571
47	25	Nallavur	Rural	786	3326	1692	1634	403	214	189	1720	869	851	0	0	0	2064	1172	892	1262	520	742
48	26	Kondamur	Rural	468	1915	959	956	228	120	108	912	466	446	0	0	0	1356	750	606	559	209	350
49	27	Aruvapakkam	Rural	378	1641	825	816	190	89	101	838	420	418	0	0	0	1067	626	441	574	199	375
50	28	Terkunam	Rural	630	2602	1279	1323	295	145	150	343	174	169	71	39	32	1754	980	774	848	299	549
51	29	Kilkoothapakkam	Rural	300	1242	614	628	149	72	77	785	391	394	174	82	92	867	474	393	375	140	235
52	30	Kiliyanur	Rural	1464	6334	3181	3153	730	369	361	3507	1782	1725	316	155	161	4111	2305	1806	2223	876	1347
53	31	Tailapuram	Rural	1101	4388	2206	2182	508	254	254	1404	726	678	16	7	9	3081	1696	1385	1307	510	797
54	32	Kenippattu	Rural	201	943	465	478	104	49	55	426	212	214	0	0	0	623	340	283	320	125	195
55	33	Agaram (Then)	Rural	110	518	263	255	59	34	25	485	247	238	0	0	0	361	200	161	157	63	94
56	34	Katrambakkam	Rural	435	1887	941	946	209	98	111	1607	802	805	45	24	21	1094	625	469	793	316	477
57	35	Vanur	Rural	1190	5161	2649	2512	580	306	274	2518	1320	1198	93	41	52	3705	2067	1638	1456	582	874
58	36	Tollamur	Rural	332	1419	731	688	197	98	99	916	463	453	31	21	10	826	496	330	593	235	358
59	37	Nemili (V)	Rural	266	1238	627	611	129	73	56	544	271	273	0	0	0	835	471	364	403	156	247
60	38	Ponnampundi	Rural	132	565	289	276	71	41	30	154	82	72	0	0	0	375	214	161	190	75	115
61	39	Siruvai	Rural	454	1752	886	866	185	88	97	813	412	401	0	0	0	1079	608	471	673	278	395
62	40	Idaiyapattu	Rural	181	794	407	387	95	48	47	322	164	158	0	0	0	529	302	227	265	105	160
63	41	Pombur	Rural	961	3994	2004	1990	446	229	217	1456	743	713	121	59	62	2772	1531	1241	1222	473	749
64	42	Iveli	Rural	348	1440	716	724	185	94	91	470	228	242	0	0	0	898	506	392	542	210	332
65	43	Korakkeni	Rural	218	906	489	417	83	51	32	361	197	164	0	0	0	594	362	232	312	127	185
66	44	Ambuzhukkai	Rural	134	558	294	264	65	36	29	124	61	63	22	15	7	377	224	153	181	70	111
67	45	Tiruvaikkarai	Rural	738	3220	1627	1593	417	212	205	911	441	470	90	40	50	1904	1052	852	1316	575	741
68	46	Sengamedu	Rural	234	1063	521	542	125	60	65	745	364	381	35	16	19	719	391	328	344	130	214
69	47	Kadagampattu	Rural	144	601	315	286	58	35	23	0	0	0	0	0	0	462	269	193	139	46	93
70	48	Kondalamkuppam	Rural	96	353	175	178	31	16	15	97	50	47	0	0	0	270	144	126	83	31	52
		total (C)		21856	93047	46893	46154	10765	5463	5302	42731	21652	21079	1731	858	873	60165	33906	26259	32882	12987	19895
		Grand Total (A+B+C)		33042	141236	71332	69904	16297	8312	7985	58578	29763	28815	2501	1250	1251	92250	51972	40278	48986	19360	29626

**Source: District Primary Census Abstract, Viluppuram District of Tamilnadu State-2011*

Annexure- 5

OCCUPATIONAL STRUCTURE IN THE BUFFER ZONE

Sl.No	No. of Villages	Name of village	Rural / urban	MAIN WORKERS		CULTIVATORS		AGRI LABOURS		HOUSE HOLD		OTHERS		MARGINAL WORKERS		NON WORKERS	
				MALE	F.MALE	MALE	F.MALE	MALE	F.MALE	MALE	F.MALE	MALE	F.MALE	MALE	F.MALE	MALE	F.MALE
0-2 km,Vanur Sub-District, Viluppuram District																	
1	1	Parikkalpattu	Rural	323	206	36	1	97	187	0	0	190	18	0	1	225	322
2	2	Sirunarur	Rural	80	73	4	0	73	73	0	0	3	0	0	1	72	64
3	3	Kunnam	Rural	392	162	24	5	54	11	0	2	314	144	91	200	390	507
4	4	Perumbakkam	Rural	666	331	52	4	275	267	16	17	323	43	2	5	531	822
		total (A)		1461	772	116	10	499	538	16	19	830	205	93	207	1218	1715
2-5 km,Tindivanam Sub-District, Viluppuram District																	
5	1	Kilsithamur	Rural	454	241	124	70	118	111	0	1	212	59	25	96	353	500
6	2	Ariyankuppam	Rural	174	172	88	0	27	165	0	0	59	7	9	19	96	76
7	3	Veliyanur	Rural	319	126	62	19	166	93	0	0	91	14	27	16	301	478
8	4	Kallakolathur	Rural	272	223	19	3	217	209	0	1	36	10	178	169	259	267
9	5	Mailam	Rural	1179	657	243	75	340	366	29	28	567	188	268	317	907	1304
10	6	Thenkulapakkam	Rural	173	72	9	7	73	47	3	1	88	17	184	245	166	182
11	7	Kilpudupatti	Rural	1994	700	243	107	413	340	13	7	1325	246	440	329	1748	3161
12	8	Taludali	Rural	569	65	250	36	56	7	21	2	242	20	149	375	435	664
13	9	Kanniyam	Rural	176	44	66	16	16	14	1	0	93	14	86	113	212	288
14	10	Tennalapakkam	Rural	416	200	68	17	183	136	14	3	151	44	36	44	358	515
15	11	Konamangalam	Rural	285	238	128	90	103	131	2	5	52	12	2	2	168	212
Vanur Sub-District, Viluppuram District																	
16	1	Siruvalur (Ten)	Rural	122	56	31	14	14	11	5	4	72	27	398	411	295	307
17	2	Adanappattu	Rural	659	486	229	193	228	242	27	18	175	33	14	6	325	439
18	3	Murukkam	Rural	250	203	87	15	102	163	0	5	61	20	2	2	143	187
19	4	Ilvampattu	Rural	215	66	55	19	46	7	0	0	114	40	8	107	161	186
20	5	Eraiyur	Rural	610	347	109	67	236	171	9	9	256	100	263	376	783	878
21	6	Karasanur	Rural	530	223	139	24	59	40	11	6	321	153	371	451	557	730
22	7	Semangalam	Rural	818	536	52	11	514	468	14	9	238	48	292	290	749	950
23	8	Parangani	Rural	755	302	112	12	250	202	7	8	386	80	242	409	687	998
		total (B)		9970	4957	2114	795	3161	2923	156	107	4539	1132	2994	3777	8703	12322
5-10 km,Tindivanam Sub-District, Viluppuram District																	
24	1	Kovadi	Rural	520	263	328	127	123	128	7	2	62	6	157	180	505	678
25	2	Ommandur	Rural	488	202	224	104	77	58	4	5	183	35	254	321	566	763
26	3	Annamputhur	Rural	415	293	122	6	164	260	3	2	126	25	19	28	335	390
27	4	Varagapattu	Rural	27	4	0	0	0	0	0	0	27	4	101	74	73	127
28	5	Karanavur	Rural	380	204	103	66	171	116	1	0	105	22	4	119	201	257
29	6	Kenipattu	Rural	231	202	63	66	80	123	0	0	88	13	3	15	116	156
30	7	Avanampattu	Rural	165	27	17	6	130	14	1	2	17	5	46	159	176	130
31	8	Kalavay (Then)	Rural	313	89	70	4	98	48	2	0	143	37	128	166	454	598
32	9	Vengai	Rural	343	164	113	38	40	29	0	0	190	97	4	0	326	509

33	10	Peradikuppam (Kil)	Rural	154	122	114	115	0	1	0	0	40	6	5	3	92	107
34	11	Kiledayalam	Rural	770	451	185	121	360	250	9	6	216	74	289	358	703	884
35	12	Nallamur	Rural	306	33	126	1	97	11	21	15	62	6	38	265	259	313
36	13	Kolliyankunam	Rural	407	279	47	13	179	206	2	3	179	57	11	32	343	505
37	14	Chinnanerkunam	Rural	706	376	280	127	129	154	24	7	273	88	166	276	726	980
38	15	Kutteripattu	Rural	873	284	117	26	154	75	57	20	545	163	40	169	676	1187
39	16	Chinnavalavanur	Rural	101	23	29	9	10	7	0	1	62	6	14	82	82	122
40	17	Chendur	Rural	682	233	131	108	299	72	10	10	242	43	203	497	569	701
41	18	Velangampadi	Rural	242	95	29	1	110	53	8	11	95	30	34	122	226	321
42	19	Kuralur	Rural	226	138	36	31	129	92	1	0	60	15	4	79	186	183
43	20	Padirapuliyur	Rural	1182	820	262	96	810	662	5	3	105	59	48	50	885	1217
44	21	Vidur	Rural	1722	835	100	3	1342	780	23	7	257	45	41	192	1098	1860

Vanur Sub-District, Viluppuram District

45	23	Kodippakkam (Ten)	Rural	399	213	111	7	145	177	7	1	136	28	48	86	449	543
46	24	Peravur	Rural	612	501	114	95	399	360	11	13	88	33	233	98	538	696
47	25	Nallavur	Rural	962	696	162	94	558	536	6	5	236	61	21	16	709	922
48	26	Kondamur	Rural	345	216	32	20	107	128	6	11	200	57	256	272	358	468
49	27	Aruvapakkam	Rural	363	151	50	11	59	61	38	38	216	41	111	88	351	577
50	28	Terkunam	Rural	724	162	133	28	283	88	19	3	289	43	86	131	469	1030
51	29	Kilkoothapakkam	Rural	334	282	171	187	72	82	1	2	90	11	2	1	278	345
52	30	Kiliyanur	Rural	1747	798	134	67	919	557	29	14	665	160	110	163	1324	2192
53	31	Tailapuram	Rural	618	317	251	118	45	128	2	1	320	70	734	804	854	1061
54	32	Kenippattu	Rural	151	101	12	2	57	80	0	1	82	18	133	160	181	217
55	33	Agaram (Then)	Rural	118	117	43	63	8	18	1	4	66	32	33	26	112	112
56	34	Katrambakkam	Rural	513	379	18	5	328	322	4	2	163	50	16	19	412	548
57	35	Vanur	Rural	1157	422	261	19	333	260	41	8	522	135	394	232	1098	1858
58	36	Tollamur	Rural	380	215	30	6	184	183	3	1	163	25	17	25	334	448
59	37	Nemili (V)	Rural	313	143	25	3	57	77	27	3	204	60	84	137	230	331
60	38	Ponnampundi	Rural	40	3	15	0	4	0	0	0	21	3	127	128	122	145
61	39	Siruvai	Rural	111	77	2	0	63	68	2	1	44	8	411	313	364	476
62	40	Idaiyapattu	Rural	243	242	152	151	77	86	0	0	14	5	0	0	164	145
63	41	Pombur	Rural	892	649	484	159	271	450	13	10	124	30	313	366	799	975
64	42	Iveli	Rural	438	328	338	283	54	35	2	2	44	8	45	80	233	316
65	43	Korakkeni	Rural	281	166	130	65	51	93	0	0	100	8	18	17	190	234
66	44	Ambuzhukkai	Rural	145	38	57	3	42	26	1	1	45	8	19	45	130	181
67	45	Tiruvaikkarai	Rural	775	217	73	11	93	29	13	22	596	155	102	402	750	974
68	46	Sengamedu	Rural	184	107	29	4	97	74	3	0	55	29	114	106	223	329
69	47	Kadagampattu	Rural	30	23	19	17	5	2	0	0	6	4	208	182	77	81
70	48	Kondalamkuppam	Rural	110	67	28	2	49	57	0	1	33	7	2	5	63	106
		total (C)		22238	11767	5370	2488	8862	7116	407	238	7599	1925	5246	7089	19409	27298
		Grand Total (A+B+C)		33669	17496	7600	3293	12522	10577	579	364	12968	3262	8333	11073	29330	41335

**Source: District Primary Census Abstract, Viluppuram District of Tamilnadu State-2011*

EDUCATIONAL FACILITIES IN THE STUDY AREA

Annexure- 6

Sl.No	No. of Villages	Name of village	Educational Facilities (A(1)/ NA(2))	Govt Pre - Primary School (Nursery/LKG/UKG) (Numbers)	Govt Primary School (Numbers)	Govt Middle School (Numbers)	Govt Secondary School (Numbers)	Govt Senior Secondary School (Numbers)	Govt Arts and Science Degree College (Numbers)	Govt Engineering College (Numbers)	Govt Medicine College (Numbers)	Govt Management Institute (Numbers)	Govt Polytechnic (Numbers)	Govt Vocational Training School/ITI (Numbers)	Government Non Formal Training Centre (Numbers)	Government School For Disabled (Numbers)
0-2 km, Vanur Sub-District, Viluppuram District																
1	1	Parikkalpattu	1	1	1	0	0	0	0	0	0	0	0	0	1	0
2	2	Sirunarur	1	1	1	0	0	0	0	0	0	0	0	0	1	0
3	3	Kunnam	1	1	1	1	1	0	0	0	0	0	0	0	1	0
4	4	Perumbakkam	1	2	1	1	0	0	0	0	0	0	0	0	2	0
		total (A)		5	4	2	1	0	0	0	0	0	0	0	5	0
2-5 km, Tindivanam Sub-District, Viluppuram District																
5	1	Kilsithamur	1	1	1	0	0	0	0	0	0	0	0	0	0	0
6	2	Ariyankuppam	2	0	0	0	0	0	0	0	0	0	0	0	0	0
7	3	Veliyanur	1	1	2	1	0	0	0	0	0	0	0	0	1	0
8	4	Kallakolathur	1	1	1	0	0	0	0	0	0	0	0	0	1	0
9	5	Mailam	1	3	1	1	0	0	0	0	0	0	0	0	1	0
10	6	Thenkulapakkam	1	1	1	0	0	0	0	0	0	0	0	0	0	0
11	7	Kilpudupatti	1	2	4	1	1	1	0	0	0	0	0	0	1	0
12	8	Taludali	1	1	1	1	1	1	0	0	0	0	0	0	1	0
13	9	Kanniyam	1	1	1	0	0	0	0	0	0	0	0	0	0	0
14	10	Tennalapakkam	1	1	2	0	0	0	0	0	0	0	0	0	0	0
15	11	Konamangalam	1	1	0	0	0	0	0	0	0	0	0	0	1	0
Vanur Sub-District, Viluppuram District																
16	1	Siruvalur (Ten)	1	1	1	1	1	0	0	0	0	0	0	0	1	0
17	2	Adanappattu	1	1	1	1	0	0	0	0	0	0	0	0	1	0
18	3	Murukkam	1	1	1	0	0	0	0	0	0	0	0	0	1	0
19	4	Ilvampattu	1	1	1	0	0	0	0	0	0	0	0	0	1	0
20	5	Eraiyr	1	1	1	1	1	0	0	0	0	0	0	0	1	0
21	6	Karasanur	1	2	1	1	1	1	0	0	0	0	0	0	2	0
22	7	Semangalam	1	3	2	2	1	0	0	0	0	0	0	0	3	0
23	8	Parangani	1	2	2	2	0	0	0	0	0	0	0	0	2	0
		total (B)		25	24	12	6	3	0	0	0	0	0	0	18	0
5-10 km, Tindivanam Sub-District, Viluppuram District																
24	1	Kovadi	1	1	1	1	1	0	0	0	0	0	0	0	1	0
25	2	Ommandur	1	1	1	1	1	1	0	0	0	0	0	0	1	0
26	3	Annamputhur	1	1	1	1	0	0	0	0	0	0	0	0	1	0
27	4	Varagapattu	1	1	1	0	0	0	0	0	0	0	0	0	0	0
28	5	Karanavur	1	1	1	0	0	0	0	0	0	0	0	0	0	0
29	6	Kenipattu	1	1	1	0	0	0	0	0	0	0	0	0	0	0
30	7	Avanampattu	1	1	1	0	0	0	0	0	0	0	0	0	0	0
31	8	Kalavay (Then)	1	2	2	1	0	0	0	0	0	0	0	0	1	0
32	9	Vengai	1	1	1	1	0	0	0	0	0	0	0	0	1	0
33	10	Peradikuppam (Kil)	1	1	1	0	0	0	0	0	0	0	0	0	0	0
34	11	Kiledayalam	1	2	1	1	0	0	0	0	0	0	0	0	1	0
35	12	Nallamur	1	1	1	0	0	0	0	0	0	0	0	0	0	0
36	13	Kolliyankunam	1	0	2	1	1	1	0	0	0	0	0	0	1	0
37	14	Chinnanerkunam	1	1	2	1	0	0	0	0	0	0	0	0	1	0

38	15	Kutteripattu	1	1	1	1	1	0	0	0	0	0	0	0	1	0
39	16	Chinnavalavanur	1	1	0	0	0	0	0	0	0	0	0	0	0	0
40	17	Chendur	1	1	1	2	2	0	0	0	0	0	0	0	1	0
41	18	Velangampadi	1	1	1	0	0	0	0	0	0	0	0	0	1	0
42	19	Kuralur	1	1	1	0	0	0	0	0	0	0	0	0	0	0
43	20	Padirapuliyur	1	1	1	1	1	1	0	0	0	0	0	0	1	0
44	21	Vidur	1	2	1	1	1	0	0	0	0	0	0	0	1	0
Vanur Sub-District, Viluppuram District																
45	23	Kodippakkam (Ten)	1	1	1	1	1	0	0	0	0	0	0	0	1	0
46	24	Peravur	1	1	1	1	0	0	0	0	0	0	0	0	1	0
47	25	Nallavur	1	2	2	1	0	0	0	0	0	0	0	0	2	0
48	26	Kondamur	1	1	1	1	1	1	0	0	0	0	0	0	1	0
49	27	Aruvapakkam	1	1	1	0	0	0	0	0	0	0	0	0	1	0
50	28	Terkunam	1	1	1	1	0	0	0	0	0	0	0	0	1	0
51	29	Kilkoothapakkam	1	1	1	1	0	0	0	0	0	0	0	0	1	0
52	30	Kiliyanur	1	4	2	2	1	1	0	0	0	0	0	0	4	0
53	31	Tailapuram	1	4	3	1	1	1	0	0	0	0	0	0	4	0
54	32	Kenippattu	1	1	1	0	0	0	0	0	0	0	0	0	1	0
55	33	Agaram (Then)	2	0	0	0	0	0	0	0	0	0	0	0	0	0
56	34	Katrambakkam	1	2	1	1	0	0	0	0	0	0	0	0	2	0
57	35	Vanur	1	4	4	1	1	0	0	0	0	0	0	0	4	0
58	36	Tollamur	1	1	1	1	0	0	0	0	0	0	0	0	1	0
59	37	Nemili (V)	1	1	1	0	0	0	0	0	0	0	0	0	1	0
60	38	Ponnampundi	1	1	1	0	0	0	0	0	0	0	0	0	1	0
61	39	Siruvai	1	2	1	1	0	0	0	0	0	0	0	0	2	0
62	40	Idaiyapattu	1	0	1	0	0	0	0	0	0	0	0	0	0	0
63	41	Pombur	1	3	1	1	0	0	0	0	0	0	0	0	3	0
64	42	Iveli	1	2	1	0	0	0	0	0	0	0	0	0	2	0
65	43	Korakkeni	1	1	1	0	0	0	0	0	0	0	0	0	1	0
66	44	Ambuzhukkai	1	0	1	0	0	0	0	0	0	0	0	0	0	0
67	45	Tiruvaikkarai	1	3	1	1	1	0	0	0	0	0	0	0	3	0
68	46	Sengamedu	1	1	1	1	0	0	0	0	0	0	0	0	1	0
69	47	Kadagampattu	1	2	1	0	0	0	0	0	0	0	0	0	2	0
70	48	Kondalamkuppam	1	0	1	0	0	0	0	0	0	0	0	0	1	0
		total (C)		63	55	29	14	6	0	0	0	0	0	0	54	0
		Grand Total (A+B+C)		93	83	43	21	9	0	0	0	0	0	0	77	0

**Source: District Primary Census Abstract, Viluppuram District of Tamilnadu State-2011*

Annexure- 7

MEDICAL FACILITIES WITHIN THE STUDY AREA

Sl.No	No. of Villages	Name of village	Medical Facilities (A(1)/NA(2))	Community Health Centre (Numbers)	Primary Health Centre (Numbers)	Primary Health Sub Centre (Numbers)	Maternity And Child Welfare Centre (Numbers)	TB Clinic (Numbers)	Hospital Allopathic (Numbers)	Hospital Alternative Medicine (Numbers)	Dispensary (Numbers)	Veterinary Hospital (Numbers)	Mobile Health Clinic (Numbers)	Family Welfare Centre (Numbers)
0-2 km, Vanur Sub-District, Viluppuram District														
1	1	Parikkalpattu	2	0	0	0	0	0	0	0	0	0	0	0
2	2	Sirunarur	2	0	0	0	0	0	0	0	0	0	0	0
3	3	Kunnam	2	0	0	0	0	0	0	0	0	0	0	0
4	4	Perumbakkam	2	0	0	0	0	0	0	0	0	0	0	0
		total (A)		0	0	0	0	0	0	0	0	0	0	0
2-5 km, Tindivanam Sub-District, Viluppuram District														
5	1	Kilsithamur	2	0	0	0	0	0	0	0	0	0	0	0
6	2	Ariyankuppam	2	0	0	0	0	0	0	0	0	0	0	0
7	3	Veliyanur	1	0	0	1	0	0	0	0	0	0	0	0
8	4	Kallakolathur	2	0	0	0	0	0	0	0	0	0	0	0
9	5	Mailam	1	1	1	1	1	1	0	0	1	0	0	1
10	6	Thenkulapakkam	1	0	0	1	0	0	0	0	0	0	0	0
11	7	Kilpudupatti	1	0	0	1	0	0	0	0	0	0	0	0
12	8	Taludali	1	0	0	1	0	0	0	0	0	0	0	0
13	9	Kanniyam	2	0	0	0	0	0	0	0	0	0	0	0
14	10	Tennalapakkam	1	0	0	0	0	0	0	0	0	1	0	0
15	11	Konamangalam	2	0	0	0	0	0	0	0	0	0	0	0
Vanur Sub-District, Viluppuram District														
16	1	Siruvalur (Ten)	2	0	0	0	0	0	0	0	0	0	0	0
17	2	Adanappattu	2	0	0	0	0	0	0	0	0	0	0	0
18	3	Murukkam	2	0	0	0	0	0	0	0	0	0	0	0
19	4	Ilvampattu	2	0	0	0	0	0	0	0	0	0	0	0
20	5	Eraiyr	1	0	0	1	0	0	0	0	0	0	0	0
21	6	Karasanur	1	0	0	1	0	0	0	0	0	0	0	0
22	7	Semangalam	1	0	0	1	0	0	0	0	0	0	0	0
23	8	Parangani	1	0	0	1	0	0	0	0	0	0	0	0
		total (B)		1	1	9	1	1	0	0	1	1	0	1
5-10 km, Tindivanam Sub-District, Viluppuram District														
24	1	Kovadi	2	0	0	0	0	0	0	0	0	0	0	0
25	2	Ommandur	1	0	1	1	1	1	0	0	1	1	0	1
26	3	Annamputhur	1	0	0	1	0	0	0	0	0	0	0	0
27	4	Varagapattu	2	0	0	0	0	0	0	0	0	0	0	0
28	5	Karanavur	2	0	0	0	0	0	0	0	0	0	0	0
29	6	Kenipattu	1	0	0	1	0	0	0	0	0	0	0	0
30	7	Avanampattu	2	0	0	0	0	0	0	0	0	0	0	0
31	8	Kalavay (Then)	2	0	0	0	0	0	0	0	0	0	0	0
32	9	Vengai	2	0	0	0	0	0	0	0	0	0	0	0
33	10	Peradikuppam (Kil)	2	0	0	0	0	0	0	0	0	0	0	0

34	11	Kiledayalam	1	0	0	1	0	0	0	0	0	0	0	0
35	12	Nallamur	2	0	0	0	0	0	0	0	0	0	0	0
36	13	Kolliyankunam	1	0	0	0	0	0	0	0	0	1	0	0
37	14	Chinnanerkunam	1	0	0	1	0	0	0	0	0	0	0	0
38	15	Kutteripattu	1	0	0	1	0	0	0	0	0	0	0	0
39	16	Chinnavalavanur	2	0	0	0	0	0	0	0	0	0	0	0
40	17	Chendur	1	0	1	1	1	1	0	0	1	0	0	1
41	18	Velangampadi	2	0	0	0	0	0	0	0	0	0	0	0
42	19	Kuralur	2	0	0	0	0	0	0	0	0	0	0	0
43	20	Padirapuliyur	1	0	0	1	0	0	0	0	0	1	0	0
44	21	Vidur	1	0	0	1	0	0	0	0	0	0	0	0

Vanur Sub-District, Viluppuram District

45	23	Kodippakkam (Ten)	1	0	0	0	0	0	0	0	0	1	0	0
46	24	Peravur	1	0	0	1	0	0	0	0	0	0	0	0
47	25	Nallavur	1	0	0	1	0	0	0	0	0	1	0	0
48	26	Kondamur	2	0	0	0	0	0	0	0	0	0	0	0
49	27	Aruvapakkam	2	0	0	0	0	0	0	0	0	0	0	0
50	28	Terkunam	1	0	0	1	0	0	0	0	0	0	0	0
51	29	Kilkoothapakkam	2	0	0	0	0	0	0	0	0	0	0	0
52	30	Kiliyanur	1	0	0	1	0	0	0	0	0	1	0	0
53	31	Tailapuram	1	1	1	1	1	1	0	0	1	0	0	1
54	32	Kenippattu	2	0	0	0	0	0	0	0	0	0	0	0
55	33	Agaram (Then)	2	0	0	0	0	0	0	0	0	0	0	0
56	34	Katrambakkam	2	0	0	0	0	0	0	0	0	0	0	0
57	35	Vanur	1	0	0	1	1	0	0	0	0	1	0	0
58	36	Tollamur	1	0	0	1	0	0	0	0	0	0	0	0
59	37	Nemili (V)	1	0	0	1	0	0	0	0	0	1	0	0
60	38	Ponnampundi	2	0	0	0	0	0	0	0	0	0	0	0
61	39	Siruvai	1	0	0	1	0	0	0	0	0	0	0	0
62	40	Idaiyapattu	2	0	0	0	0	0	0	0	0	0	0	0
63	41	Pombur	1	0	1	1	1	1	0	0	1	1	0	1
64	42	Iveli	1	0	0	1	0	0	0	0	0	0	0	0
65	43	Korakkeni	2	0	0	0	0	0	0	0	0	0	0	0
66	44	Ambuzhukkai	2	0	0	0	0	0	0	0	0	0	0	0
67	45	Tiruvaikkarai	1	0	0	1	0	0	0	0	0	0	0	0
68	46	Sengamedu	2	0	0	0	0	0	0	0	0	0	0	0
69	47	Kadagampattu	2	0	0	0	0	0	0	0	0	0	0	0
70	48	Kondalamkuppam	2	0	0	0	0	0	0	0	0	0	0	0
		total (C)		1	4	21	5	4	0	0	4	9	0	4
		Grand Total (A+B+C)		2	5	30	6	5	0	0	5	10	0	5

**Source: District Primary Census Abstract, Viluppuram District of Tamilnadu State-2011*

Note : A: Available, NA- Not Available

Annexure- 8

INFRASTRUCTURAL FACILITIES IN THE STUDY AREA

Sl.No	No. of Villages	Name of village	Tap Water-Treated (Status A(1)/NA(2))	Covered Well (Status A(1)/NA(2))	Hand Pump (Status A(1)/NA(2))	Tube Wells/Borehole (Status A(1)/NA(2))	Spring (Status A(1)/NA(2))	River/Canal (Status A(1)/NA(2))	Tank/Pond/Lake (Status A(1)/NA(2))	Post Office (Status A(1)/NA(2))	Sub Post Office (Status A(1)/NA(2))	Post And Telegraph Office (Status A(1)/NA(2))	Telephone (landlines) (Status A(1)/NA(2))	Mobile Phone Coverage (Status A(1)/NA(2))	Public Bus Service (Status A(1)/NA(2))	Railway Station (Status A(1)/NA(2))	Commercial Bank (Status A(1)/NA(2))	Cooperative Bank (Status A(1)/NA(2))	Agricultural Credit Societies (Status A(1)/NA(2))
0-2 km, Vanur Sub-District, Viluppuram District																			
1	1	Parikkalpattu	1	1	1	1	2	2	1	2	2	2	1	1	1	2	2	2	2
2	2	Sirunarur	1	1	1	1	2	2	1	2	2	2	1	1	1	2	2	2	2
3	3	Kunnam	1	2	1	1	2	2	2	2	2	2	2	1	2	2	2	2	2
4	4	Perumbakkam	1	1	1	2	2	2	2	2	1	2	1	1	1	2	1	2	2
2-5 km, Tindivanam Sub-District, Viluppuram District																			
5	1	Kilsithamur	2	1	1	1	2	2	2	2	2	2	1	1	1	2	2	2	2
6	2	Ariyankuppam	1	2	1	2	2	2	2	2	2	2	2	1	1	2	2	2	2
7	3	Veliyanur	1	1	1	1	2	2	1	2	1	2	1	1	1	2	2	2	2
8	4	Kallakolathur	1	1	1	1	2	1	1	2	2	2	1	1	1	2	2	1	1
9	5	Mailam	1	1	1	1	2	2	1	1	2	1	1	1	1	2	1	2	2
10	6	Thenkulapakkam	2	2	1	2	2	2	2	2	2	2	1	1	1	2	2	2	2
11	7	Kilpudupatti	1	2	1	2	2	2	2	2	1	2	2	1	1	2	2	2	2
12	8	Taludali	1	1	1	1	2	2	2	2	1	2	1	1	1	2	2	2	2
13	9	Kanniyam	1	1	1	1	2	2	1	2	2	2	1	1	1	2	2	2	2
14	10	Tennalapakkam	1	2	1	1	2	2	2	2	2	2	1	1	1	2	2	2	2
15	11	Konamangalam	1	1	1	1	2	2	2	2	2	2	1	1	1	2	2	2	2
Vanur Sub-District, Viluppuram District																			
16	1	Siruvalur (Ten)	1	1	1	1	2	2	1	2	1	2	1	1	1	2	2	2	2
17	2	Adanappattu	2	2	1	2	2	2	1	2	2	2	2	1	1	2	2	2	2
18	3	Murukkam	1	1	1	2	2	2	1	2	2	2	2	1	1	2	2	2	2
19	4	Ilvampattu	1	2	1	1	2	2	2	2	2	2	2	1	2	2	2	2	2
20	5	Eraiyyur	1	2	2	2	2	2	1	2	1	2	1	1	1	2	2	1	2
21	6	Karasanur	1	1	1	2	2	2	1	2	2	2	1	1	1	2	2	2	2
22	7	Semangalam	2	2	1	1	2	2	2	2	1	2	1	1	2	2	2	2	2
23	8	Parangani	2	2	2	2	2	2	2	2	1	2	1	1	1	2	2	2	1
5-10 km, Tindivanam Sub-District, Viluppuram District																			
24	1	Kovadi	2	1	1	1	2	2	2	2	2	2	2	1	1	2	2	2	2
25	2	Ommandur	2	2	1	1	2	2	2	2	1	2	1	1	1	2	1	1	1
26	3	Annamputhur	2	2	1	2	2	2	2	2	2	2	1	1	1	2	2	2	2
27	4	Varagapattu	2	2	1	2	2	2	2	2	2	2	1	1	2	2	2	2	2
28	5	Karanavur	2	2	1	1	2	2	2	2	1	2	1	1	1	2	2	2	2
29	6	Kenipattu	2	1	1	2	2	2	1	2	2	2	2	1	1	2	2	2	2
30	7	Avanampattu	2	2	1	1	2	2	2	2	2	2	1	1	1	2	2	2	2
31	8	Kalavay (Then)	2	1	1	2	2	2	1	2	1	2	1	1	1	2	2	2	2
32	9	Vengai	2	2	1	2	2	2	2	2	2	2	1	1	1	2	2	2	2
33	10	Peradikuppam (Kil)	2	2	1	2	2	2	2	2	2	2	1	1	1	2	2	2	2
34	11	Kiledayalam	2	2	1	2	2	2	2	2	1	2	1	1	1	2	2	1	1
35	12	Nallamur	1	2	1	1	2	2	1	2	2	2	2	1	1	2	2	2	2

36	13	Kolliyankunam	1	1	1	1	2	2	1	2	2	2	1	1	1	2	2	2	2
37	14	Chinnanerkunam	1	1	1	1	2	2	2	2	1	2	2	2	1	2	2	2	2
38	15	Kutteripattu	2	2	1	2	2	2	1	1	2	1	1	1	1	1	1	1	1
39	16	Chinnavalavanur	2	2	1	2	2	2	1	2	2	2	1	1	2	2	2	2	2
40	17	Chendur	2	2	1	1	2	2	2	2	1	2	1	1	1	2	2	2	2
41	18	Velangampadi	2	2	1	1	2	2	2	2	2	2	2	1	1	2	2	2	2
42	19	Kuralur	2	2	1	1	2	2	2	2	2	2	2	1	1	2	2	2	2
43	20	Padirapuliyur	2	2	1	1	2	2	2	2	1	2	2	1	1	2	2	1	1
44	21	Vidur	2	2	1	1	2	2	2	2	1	2	1	1	1	2	1	1	1
Vanur Sub-District, Viluppuram District																			
45	23	Kodippakkam (Ten)	1	1	1	1	2	2	1	2	2	2	1	1	2	2	2	1	1
46	24	Peravur	2	2	1	1	2	2	1	2	2	2	1	1	1	2	2	2	2
47	25	Nallavur	2	2	1	2	2	1	1	2	2	2	1	1	2	2	2	1	1
48	26	Kondamur	2	2	1	1	2	1	1	2	2	2	2	1	1	2	2	2	2
49	27	Aruvapakkam	2	2	1	1	2	2	1	2	2	2	2	1	2	2	2	2	2
50	28	Terkunam	1	2	1	1	2	2	1	2	2	2	1	1	2	2	2	2	2
51	29	Kilkoothapakkam	1	2	1	2	2	2	1	2	2	2	1	1	2	2	2	1	2
52	30	Kiliyanur	1	2	1	1	2	2	2	1	2	1	1	1	1	2	1	1	1
53	31	Tailapuram	1	2	2	1	2	2	2	2	1	2	1	1	2	2	2	2	2
54	32	Kenippattu	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2
55	33	Agaram (Then)	1	2	1	2	2	2	1	2	2	2	1	1	2	2	2	1	2
56	34	Katrambakkam	1	2	2	2	2	2	2	2	1	2	1	1	2	2	2	2	1
57	35	Vanur	1	2	1	1	2	2	2	1	1	1	1	1	1	2	2	1	1
58	36	Tollamur	1	1	1	2	2	2	2	2	2	2	2	1	2	2	2	2	1
59	37	Nemili (V)	2	2	2	1	2	2	2	2	2	2	1	1	1	2	2	2	2
60	38	Ponnampundi	1	2	1	1	2	2	1	2	2	2	1	1	1	2	2	2	2
61	39	Siruvai	1	2	1	1	2	2	2	2	2	2	1	1	1	2	2	2	2
62	40	Idaiyapattu	1	2	1	1	2	2	2	2	2	2	1	1	1	2	2	2	2
63	41	Pombur	1	2	1	1	2	1	1	2	1	2	1	1	1	2	1	1	2
64	42	Iveli	1	2	1	1	1	1	1	2	2	2	1	1	1	2	2	2	2
65	43	Korakkeni	1	2	1	2	2	1	2	2	1	2	1	1	1	2	2	2	2
66	44	Ambuzhukkai	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2
67	45	Tiruvaikkarai	2	2	1	1	2	2	2	2	1	2	1	1	1	2	2	2	2
68	46	Sengamedu	1	2	1	1	2	2	1	2	2	2	2	1	2	2	2	2	2
69	47	Kadagampattu	1	2	1	1	2	2	2	2	2	2	2	1	2	2	2	2	2
70	48	Kondalamkuppam	2	2	2	2	2	2	2	2	2	2	1	1	1	2	2	2	2

**Source: District Primary Census Abstract, Viluppuram District of Tamilnadu State-2011*

Note : A: Available, NA- Not Available

Status: A(1)/NA(2)



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AMBIENT AIR QUALITY

Project	:	Rough Stone and Gravel Quarry Of M/s. Taamaesek Engineering Consortium
Name of the Location	:	Near Lease Area
Station Code	:	A1

SL.NO	DATE	PM10	PM2.5	SO2	NO2
1	12/2/2025	57.5	27.6	7.1	9.5
2	12/3/2025	61.7	29.6	7.4	10.9
3	12/13/2025	56.3	27.0	7.0	9.1
4	12/14/2025	65.9	31.6	7.8	12.4
5	12/16/2025	68.3	32.8	7.9	11.9
6	12/17/2025	68.6	32.9	8.1	12.3
7	12/27/2025	64.7	31.1	7.4	11.6
8	12/28/2025	59.8	28.7	6.8	9.8
9	12/30/2025	64.7	31.1	7.7	11.9
10	12/31/2025	58.1	27.9	7.1	9.7
11	1/10/2026	69.1	33.2	8.3	12.4
12	1/11/2026	63.5	30.5	7.6	11.6
13	1/13/2026	59.3	28.5	7.2	10.1
14	1/14/2026	62.9	30.2	7.5	11.4
15	1/24/2026	60.5	29.0	7.3	10.3
16	1/25/2026	64.1	30.8	7.6	11.7
17	1/27/2026	65.3	31.3	7.7	12.2
18	1/28/2026	67.1	32.2	7.9	12.3
19	2/6/2026	58.2	27.9	6.6	9.2
20	2/7/2026	63	30.2	7.2	11
21	2/10/2026	60.9	29.2	6.9	10.2
22	2/11/2026	62.2	29.9	7.1	10.7
23	2/21/2026	59	28.3	6.7	9.6
24	2/22/2026	61.1	29.3	7.4	10.7
	MIN	56.3	27.0	6.6	9.1
	AVE	62.6	30.0	7.4	10.9
	MAX	69.1	33.2	8.3	12.4

Note: BDL – Below Detectable Limit, DL: Detectable Limit.

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AMBIENT AIR QUALITY

Project	:	Rough Stone and Gravel Quarry Of M/s. Taamaesek Engineering Consortium
Name of the Location	:	Perumbakkam Village
Station Code	:	A2

SL.NO	DATE	PM10	PM2.5	SO2	NO2
1	12/2/2025	55.5	26.1	6.3	10.8
2	12/3/2025	53.1	25.0	7.2	10.2
3	12/13/2025	58.3	27.4	6.5	9.8
4	12/14/2025	53.5	25.1	7.1	9.5
5	12/16/2025	50.2	23.6	6.4	10.9
6	12/17/2025	52.3	24.6	7.4	8.9
7	12/27/2025	55.1	25.9	7.7	10.2
8	12/28/2025	51.5	24.2	6.8	8.9
9	12/30/2025	59.2	27.8	6.6	9.4
10	12/31/2025	56.3	26.5	7.4	10.5
11	1/10/2026	55.9	26.3	6.9	10.1
12	1/11/2026	50.7	23.8	6.6	9.1
13	1/13/2026	57.1	26.8	7.1	10.8
14	1/14/2026	54.7	25.7	7.6	8.8
15	1/24/2026	57.5	27.0	6.8	9.6
16	1/25/2026	53.9	25.3	7.4	9.4
17	1/27/2026	50.3	23.6	6.7	8.7
18	1/28/2026	54.3	25.5	7.6	10.6
19	2/6/2026	49.1	23.1	6.4	10.2
20	2/7/2026	52.7	24.8	7.1	9.7
21	2/10/2026	51.9	24.4	6.9	10.3
22	2/11/2026	56.7	26.6	6.5	9.5
23	2/21/2026	55.5	26.1	7.8	9.1
24	2/22/2026	51.1	24.0	6.7	10.6
	MIN	49.1	23.1	6.3	8.7
	AVE	54.0	25.4	7.0	9.8
	MAX	59.2	27.8	7.8	10.9

Note: BDL – Below Detectable Limit, DL: Detectable Limit.

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AMBIENT AIR QUALITY

Project	:	Rough Stone and Gravel Quarry Of M/s. Taamaesek Engineering Consortium
Name of the Location	:	Parikkal Pattu Village
Station Code	:	A3

SL.NO	DATE	PM10	PM2.5	SO2	NO2
1	12/4/2025	56.1	27.3	6.9	8.4
2	12/5/2025	52.5	25.5	6.2	10.1
3	12/11/2025	49.9	24.3	7.1	9.3
4	12/12/2025	56.1	27.3	6.7	9.8
5	12/18/2025	49.7	24.2	6.8	8.7
6	12/19/2025	54.9	26.7	7.1	8.2
7	12/25/2025	50.1	24.3	5.8	10.1
8	12/26/2025	54.1	26.3	6.3	9.5
9	1/1/2026	48.4	23.5	6.1	9.9
10	1/2/2026	50.9	24.7	5.9	10.1
11	1/8/2026	56.1	27.3	7.3	9.6
12	1/9/2026	55.7	27.1	6.6	8.7
13	1/15/2026	49.1	23.9	7.5	9.3
14	1/16/2026	48.6	23.6	7.2	9.8
15	1/22/2026	50.7	24.6	7.4	8.4
16	1/23/2026	52.9	25.7	6.9	8.7
17	1/29/2026	56.3	27.4	6.6	10.1
18	1/30/2026	51.9	25.2	5.9	8.1
19	2/4/2026	56.6	27.5	6.4	8.7
20	2/5/2026	54.3	26.4	6.2	9.2
21	2/12/2026	56.2	27.3	6.4	10.2
22	2/13/2026	53.8	26.1	5.9	8.8
23	2/19/2026	50.3	24.4	6.3	8.5
24	2/20/2026	48.6	23.6	7.1	9.2
	MIN	48.4	23.5	5.8	8.1
	AVE	52.7	25.6	6.6	9.2
	MAX	56.6	27.5	7.5	10.2

Note: BDL – Below Detectable Limit, DL: Detectable Limit.

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AMBIENT AIR QUALITY

Project	:	Rough Stone and Gravel Quarry Of M/s. Taamaesek Engineering Consortium
Name of the Location	:	Kunnam Village
Station Code	:	A4

SL.NO	DATE	PM10	PM2.5	SO2	NO2
1	12/4/2025	52.3	24.9	6.3	8.8
2	12/5/2025	51.6	24.6	7.9	9.8
3	12/11/2025	59.1	28.2	7.2	11.2
4	12/12/2025	56.7	27.0	6.9	11.1
5	12/18/2025	55.1	26.3	6.8	10.8
6	12/19/2025	57.7	27.5	7.1	8.5
7	12/25/2025	59.8	28.5	7.3	11.4
8	12/26/2025	51.9	24.8	6.2	10.2
9	1/1/2026	52.6	25.1	7.5	9.4
10	1/2/2026	53.5	25.5	6.4	10.3
11	1/8/2026	55.0	26.2	7.3	10.1
12	1/9/2026	60.1	28.7	6.1	10.2
13	1/15/2026	57.9	27.6	6.8	9.4
14	1/16/2026	53.5	25.5	7.2	11.2
15	1/22/2026	59.2	28.2	6.1	10.1
16	1/23/2026	52.2	24.9	7.8	9.7
17	1/29/2026	59.5	28.4	6.2	10.3
18	1/30/2026	53.2	25.4	8.0	10.9
19	2/4/2026	52.3	24.9	7.2	9.3
20	2/5/2026	60.1	28.7	6.9	11.4
21	2/12/2026	57.1	27.2	7.4	8.9
22	2/13/2026	60.2	28.7	7.1	10.1
23	2/19/2026	58.3	27.8	6.8	11.2
24	2/20/2026	55.9	26.7	7.2	8.6
	MIN	51.6	24.6	6.1	8.5
	AVE	56.0	26.7	7.0	10.1
	MAX	60.2	28.7	8.0	11.4

Note: BDL – Below Detectable Limit, DL: Detectable Limit.

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AMBIENT AIR QUALITY

Project	:	Rough Stone and Gravel Quarry Of M/s. Taamaesek Engineering Consortium
Name of the Location	:	Siruvapur Village
Station Code	:	A5

SL.NO	DATE	PM10	PM2.5	SO2	NO2
1	12/6/2025	51.1	24.8	7.3	10.2
2	12/7/2025	50.7	24.6	6.5	8.9
3	12/9/2025	52.5	25.5	7.5	8.2
4	12/10/2025	48.3	23.4	5.6	10.4
5	12/20/2025	49.1	23.8	7.3	7.8
6	12/21/2025	53.1	25.8	5.9	8.6
7	12/23/2025	52.3	25.4	6.1	10.2
8	12/24/2025	46.3	22.5	7.1	9.7
9	1/3/2026	45.7	22.2	5.4	10.5
10	1/4/2026	53.1	25.8	6.1	10.2
11	1/6/2026	45.6	22.1	7.3	9.4
12	1/7/2026	47.9	23.2	7.1	8.8
13	1/17/2026	53.7	26.0	6.8	7.9
14	1/18/2026	46.8	22.7	7.3	10.1
15	1/20/2026	53.8	26.1	6.2	9.4
16	1/21/2026	48.2	23.4	7.2	9.8
17	1/31/2026	52.5	25.5	7.1	8.6
18	2/1/2026	50.1	24.3	6.8	8.2
19	2/2/2026	47.7	23.1	6.7	10.2
20	2/3/2026	52.6	25.5	5.9	9.3
21	2/14/2026	51.1	24.8	6.9	8.5
22	2/15/2026	50.2	24.3	6.4	10.4
23	2/17/2026	48.5	23.5	5.9	8.7
24	2/18/2026	49.7	24.1	7.5	8.1
	MIN	45.6	22.1	5.4	7.8
	AVE	50.0	24.3	6.7	9.3
	MAX	53.8	26.1	7.5	10.5

Note: BDL – Below Detectable Limit, DL: Detectable Limit.

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CREATIVE ENGINEERS & CONSULTANTS Annexure- 10

(NABET ACCREDITED, NABL ACCREDITED TESTING LABORATORY,
DEPARTMENT OF INDUSTRIES AND COMMERCE REGISTERED COMPANY)

WATER QUALITY DATA

Project Name	:	Rough Stone and Gravel Quarry Of M/s. Taamaesek Engineering Consortium						
Location Name	:	Location Code		Location Name				
		GW1		Near Lease Area (Bw)				
		GW2		Perumbakkam (Bw)				
		GW3		Parikkal Pattu (Bw)				
		GW4		Kunnam (Bw)				
		GW5		Siruvarur (Well Water)				

S. No.	Parameter	Unit	GW1	GW2	GW3	GW4	GW5	*Permissible Limits
1	pH	-	7.54	7.72	7.37	6.91	7.37	6.5-8.5
2	Electrical Conductivity	µmhos/cm	400.9	1325	1789	1812	1021	-
3	Odor	-	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE
4	Turbidity	NTU	<1	<1	<1	<1	<1	5.0
5	Total Hardness as CaCO ₃	mg/L	86.0	519	479	489	404	600
6	Calcium Hardness CaCO ₃	mg/L	15.0	242	293	296	170	-
7	Magnesium Hardness CaCO ₃	mg/L	48.0	277	186	193	234	-
8	Calcium Ca	mg/L	38.0	96.6	117	118	68.1	200
9	Magnesium Mg	mg/L	11.6	66.5	44.7	46.3	56.1	100
10	Alkalinity CaCO ₃	mg/L	148	430	524	530	370	600

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S. No.	Parameter	Unit	GW1	GW2	GW3	GW4	GW5	*Permissible Limits
11	Chloride Cl ⁻	mg/L	46.2	212	315	348	171	1000
12	Sulphate SO ₄ ²⁻	mg/L	19.3	152	236	244	90.5	400
13	Iron Fe	mg/L	0.11	0.05	0.06	0.08	0.09	0.3
14	Nitrate NO ₃	mg/L	1.56	3.42	3.86	2.97	2.54	45
15	Fluoride F	mg/L	0.24	0.45	0.54	0.58	0.35	1.5
16	Total Dissolved Solids	mg/L	240	796	1075	1090	614	2000
17	Free Residual Chlorine Cl ⁻	mg/L	BDL (D.L-0.2)	BDL (D.L-0.2)	BDL (D.L-0.2)	BDL(D.L-0.2)	BDL(D.L-0.2)	1.0
18	Manganese Mn	mg/L	BDL (D.L-0.05)	BDL (D.L-0.05)	BDL (D.L-0.05)	BDL (D.L-0.05)	BDL (D.L-0.05)	0.3

Note: * The water quality of the collected ground water samples were found to be within the prescribed permissible limits of IS: 10500:2012 Norms for Drinking in the absence of an alternative source.


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Annexure- 11

LAND USE PATTERN OF THE STUDY AREA WITHIN 10 KM RADIUS AROUND THE PROPOSED PROJECT AREA

Sl.No	No. of Villages	Name of village	Total Geographical Area (in Hectares)	Forest Area (in Hectares)	Area under Non-Agricultural Uses (in Hectares)	Barren & Un-cultivable Land Area (in Hectares)	Permanent Pastures and Other Grazing Land Area (in Hectares)	Land Under Miscellaneous Tree Crops etc. Area (in Hectares)	Culturable Waste Land Area (in Hectares)	Fallows Land other than Current Fallows Area (in Hectares)	Current Fallows Area (in Hectares)	Total Unirrigated Land Area (in Hectares)	Area Irrigated by Source (in Hectares)
0-2 km, Vanur Sub-District, Viluppuram District													
1	1	Parikkalpattu	362.68	0	0	30.19	0	0	0	0.21	229.02	43.88	59.38
2	2	Sirunarur	392.52	0	0	36.1	0	0	0	0	80.36	256.75	19.31
3	3	Kunnam	384.56	0	0	0	0	0	16.31	0	210.99	114.33	42.93
4	4	Perumbakkam	441.93	0	16.32	83.11	0	0.36	0	7.29	176.47	106.08	52.3
		total (A)	1581.69	0	16.32	149.4	0	0.36	16.31	7.5	696.84	521.04	173.92
2-5 km, Tindivanam Sub-District, Viluppuram District													
5	1	Kilsithamur	609.14	0	180.6	0	0	0	0	0	30.75	290.14	107.65
6	2	Ariyankuppam	118.39	0	13.94	4.5	0	0	0	25.3	0	56.83	17.82
7	3	Veliyanur	602.67	0	12.1	94.72	0.16	0.12	0	0	171.08	218.43	106.06
8	4	Kallakolathur	630.76	0	0	0	0	0	15.64	0	261.85	106.62	246.65
9	5	Mailam	557.06	0	0	0	0	0	0.71	11.84	323.16	37.61	183.74
10	6	Thenkulapakkam	322.78	0	65.81	0	0	73.64	0	0	0	81.33	102
11	7	Kilpudupatti	1279.44	0	0	0	0	0	0	646.06	254.16	276.37	102.85
12	8	Taludali	303.66	0	5.6	0	0	107.19	0	0	130.77	0	60.1
13	9	Kanniyam	423.62	0	0	0	3.89	133.29	20.01	0.95	0	0	265.48
14	10	Tennalapakkam	406.92	0	0.44	0	0	0	0.49	0	99.49	63.16	243.34
15	11	Konamangalam	347.47	0	64.76	0	0	0	0	0	127.93	118.78	36
Vanur Sub-District, Viluppuram District													
16	1	Siruvalur (Ten)	517.59	0	18.47	0	0	0	0	2.04	81.52	313.61	101.95
17	2	Adanappattu	756.72	0	0	0	3.01	0	0	2.24	188.28	412.07	151.12
18	3	Murukkam	457.04	0	21	64.11	0	10	3.25	0	31.15	2.22	325.31
19	4	Ilvampattu	256.6	0	0	0	26.12	0	0.95	0	186.44	43.09	0
20	5	Eraiyr	675.08	0	92.32	23.89	1.44	0	251.96	0	0	73.1	232.37
21	6	Karasanur	468.84	0	6.97	0	0	0	0	0	62.27	362.88	36.72
22	7	Semangalam	1173	0	5	0	0	20	5	3	351	162	627
23	8	Parangani	903.38	0	1.42	0	0	130.14	81.21	0	7.44	561.91	121.26
		total (B)	10810.16	0	488.43	187.22	34.62	474.38	379.22	691.43	2307.29	3180.15	3067.42
5-10 km, Tindivanam Sub-District, Viluppuram District													
24	1	Kovadi	350.76	0	0	0	0	96.38	6.46	0.47	65.43	7.34	174.68
25	2	Ommandur	866.95	0	186.15	0	0	380.52	0	0	180.2	0	120.08
26	3	Annamputhur	535.64	0	193.84	0	2.46	7.05	0	0	40.43	185.59	106.27
27	4	Varagapattu	63.9	0	8.06	0	0	0	0	0	9.82	25.62	20.4
28	5	Karanavur	296.03	0	82.9	0	0	0	0	0	46.03	82.42	84.68
29	6	Kenipattu	153.19	0	28.69	0	0	0	0.81	0.08	43.33	34.13	46.15
30	7	Avanampattu	168.21	0	41.27	0	0	0	0.25	0	28.04	49.95	48.7
31	8	Kalavay (Then)	508.77	0	118.13	0	0	0	0	0	81.13	229.96	79.55
32	9	Vengai	333.73	0	89.27	0	4.5	0	1.6	0	19.54	154.19	64.63
33	10	Peradikuppam (Kil)	204.25	0	40.2	1.6	5.4	0	0	0.66	30.1	99.49	26.8

34	11	Kiledayalam	1114.61	0	309.37	0	0	263	12.75	0	325.56	108.93	95
35	12	Nallamur	317.6	0	54.09	8.3	0	0	2.67	0	32.77	156.91	62.86
36	13	Kolliyankunam	360.31	0	57.29	16.4	0	0	0	0	137.81	43.25	105.56
37	14	Chinnanerkunam	568	0	170	0	0	0	10	30	31	243.98	83.02
38	15	Kutteripattu	188.41	0	68.47	0	0	0	0.3	3.03	76.55	8.12	31.94
39	16	Chinnavalavanur	105.86	0	34.64	0	0	0	0.21	0.72	22.89	25.91	21.49
40	17	Chendur	645.68	0	40.86	0	0	127.95	0	0.45	190.95	77.46	208.01
41	18	Velangampadi	558.46	0	10.15	28.1	0	49.25	0	19.18	180.49	55.98	215.31
42	19	Kuralur	419.84	0	89.53	0	0.14	9.86	0	2.3	87.14	22.33	208.54
43	20	Padirapuliyur	936.86	0	356.97	30.1	5.53	19.7	0.1	1.43	131.08	161.95	230
44	21	Vidur	1390.25	0	44.2	0	22.36	25.3	3.87	0	691.49	303.92	299.11
Vanur Sub-District, Viluppuram District													
45	23	Kodippakkam (Ten)	694.25	0	0.2	0	0	0	2.3	2.29	212.31	414.41	62.74
46	24	Peravur	1091.19	0	2.19	2.27	0	0	16.4	0	215.37	710.38	144.58
47	25	Nallavur	691.05	0	186.46	4.14	3.57	0	0	0.05	0	348.01	148.82
48	26	Kondamur	632.08	0	159.02	2.17	0	0	2.83	0.57	107.16	254.08	106.25
49	27	Aruvapakkam	252.99	0	0	0	0	2.05	0	0	169.71	52.06	29.17
50	28	Terkunam	419.53	0	85.73	12	0	30	0	113.19	30.01	46.27	102.33
51	29	Kilkoothapakkam	298.43	0	4.29	3.25	0	0	0	0.11	120.58	48.47	121.73
52	30	Kiliyanur	1571.22	0	237.65	175.44	0	0	0	3.81	344.85	188.4	621.07
53	31	Tailapuram	976.71	0	30.41	0	0	0	3.14	0	348.98	347.73	246.45
54	32	Kenippattu	824.29	0	27.17	31.18	2.51	229.97	39.62	39.87	92.11	253.12	108.74
55	33	Agaram (Then)	330.1	0	8.18	0	0	0	0	0.04	175.93	25.31	120.64
56	34	Katrambakkam	490.07	0	10	98.06	0	0	0.67	1.45	34	43.4	302.49
57	35	Vanur	1302.94	0	261.05	0	2.82	1.25	2.79	14.95	141.72	526.28	352.08
58	36	Tollamur	440.29	0	85.1	0	0	0	10.26	0	5.08	202.13	137.72
59	37	Nemili (V)	323.83	0	92.87	0	0	0	0	0	155.04	30.01	45.91
60	38	Ponnampundi	207.13	0	0	0	7.95	0	0.42	40.38	19.2	9	130.18
61	39	Siruvai	361.07	0	45.88	12.86	0	0	0	0	19.98	61.83	220.52
62	40	Idaiyapattu	144.02	0	12.27	5.15	0	0	0	0	32.58	25.53	68.49
63	41	Pombur	581.67	0	90.65	26.4	0	0	0.44	11.24	56.18	0.88	395.88
64	42	Iveli	327.65	0	50.91	0	0	0	0.48	2.8	48.07	107.42	117.97
65	43	Korakkeni	393	0	10	15	0	5	6	1	193	16	147
66	44	Ambuzhukkai	126.63	0	41.1	0	0	0	0	0	22.4	22.1	41.03
67	45	Tiruvaikkarai	685.76	0	8.94	271.08	0	0	0	11.22	257.34	64.23	72.95
68	46	Sengamedu	132.57	0	0	41.65	0.4	1.13	0	0.33	11.64	9.85	67.57
69	47	Kadagampattu	187.31	0	0	0	0	0	0.81	0	66.02	67	53.48
70	48	Kondalamkuppam	433.64	0	3.67	101.04	0	0	0.13	26.28	0	242.84	59.68
		total (C)	24006.73	0	3477.82	886.19	57.64	1248.41	125.31	327.9	5331.04	6194.17	6358.25
		Grand Total (A+B+C)	36398.58	0	3982.57	1222.81	92.26	1723.15	520.84	1026.83	8335.17	9895.36	9599.59

**Source: District Primary Census Abstract, Viluppuram District of Tamilnadu State-2011*

Annexure- 12

M/S. TAAMAESER ENGINEERING CONSORTIUM, over an extent of 6.61.35 Hectare, SF.No: 4/1, 4/4A, 13/1A, 13/1B, 13/2A, 13/3A, 13/3B, 13/4A, 13/4B & 13/5 of Rough Stone and Gravel Quarry in Patta land located at Sirunavur Village, Vanur Taluk, Viluppuram District, Tamil Nadu State.

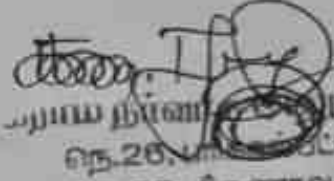


General View of the Proposed Lease Area Photo


13/01/2016
காரைநிலை அலுவலர்
நெ.28, பரிசீலனைப்பட்டு,
நெ.28, சிறுணாவூர்,
யானார் வட்டம், விழுப்புரம் மாவட்டம்

சான்று

விழுப்புரம் மாவட்டம் வானூர் வட்டம் சிறுநாலூர் கிராமம் பட்டா நிலத்தின் புல எண்: 4/1, 4/4A, 13/1A, 13/1B, 13/2A, 13/3A, 13/3B, 13/4A, 13/4B & 13/5 - 6.61.35 ஹெக்டேர் நிலத்தில் தி/ள். டாமெஸெக் இன்ஜினியரிங் கன்சார்டிர்யம் என்ற பெயரில் சாதாரண கற்கள் மற்றும் கிராவல் குவாரி அமைய உள்ளது. மேற்கண்ட புல எண் சுற்றி சுமார் 300 மீட்டர் சுற்றளவில் குடியிருப்புகள், பள்ளிக்கூடங்கள், கோவில்கள், வழிபாட்டுத் தலங்கள், புராதானச் சின்னங்கள் ஏதும் இல்லை என்பது தல பார்வையின் அடிப்படையில் தெரிய வருகிறது, என்பதற்கு இச்சான்று அளிக்கப்படுகிறது.


13/01/2020
தல பார்வை
நெ.28, பட்டா எண் 4/1, 4/4A, 13/1A, 13/1B, 13/2A, 13/3A, 13/3B, 13/4A, 13/4B & 13/5 - 6.61.35
நெ.28, கிருணாலூர்,
வானூர் வட்டம், விழுப்புரம் மாவட்டம்

From

M/s. TAAMAESEK ENGINEERING CONSORTIUM,
No. 5, Bishop Wallers Avenue West,
Mailapore, Chennai.

To

The Assistant Director,
Department of Geology and Mining,
District Collectorate,
Viluppuram District.

Respected Sir,

Sub: Submission of Mining Plan for **Rough Stone & Gravel Quarry** over
an extent of **6.61.35** Ha in Patta Land S.F.Nos. 13/1A, 1B, 2A, 3A,
3B, 4A, 4B, 5, 4/1 & 4/4A **Sirunavur** Village, **Vanur** Taluk,
Viluppuram District, Tamil Nadu-Reg.

Ref: Your Letter R.C.No. B/G&M/409/2025, dated 29.12.2025.

As directed by the Assistant Director in the reference cited, (Three) 3
copies of Draft Mining Plan has been prepared and submitted to your
good office for your kind perusal and favorable condition.

Thanking You,

Yours Sincerely,

For, M/s. TAAMAESEK ENGINEERING CONSORTIUM
For TAAMAESEK ENGINEERING CONSORTIUM


Managing Partner
S. Vijayanandan
Managing Partner

Dated :
Place : Viluppuram
Encl : 3 Copies of Mining Plan

MINING PLAN

FOR SIRUNAVUR ROUGH STONE & GRAVEL QUARRY

Lease Period = 10 Years

Mining Plan Period = First 5 Years

(Prepared under Rule 41 & 42 as amended in Tamil Nadu Minor Mineral Concession Rules, 1959)

Lease in Patta Land



LOCATION OF THE LEASE APPLIED AREA

EXTENT : 6.61.35 Ha

**S.F. NO : 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5,
4/1 & 4/4A**

VILLAGE : SIRUNAVUR

TALUK : VANUR

DISTRICT : VILUPPURAM

STATE : TAMIL NADU

APPLICANT

M/s. TAAMAESEK ENGINEERING CONSORTIUM
No. 5,

Bishop Wallers Avenue West,
Mailapore, Chennai-600004.

Mobile No: 9842686309

Email id: gurutraders1981@gmail.com

PREPARED BY

Mr. N. Suresh, M.Sc., (Qualified Person)

GEO MINING & ECO SOLUTIONS

D. No. 257/2, Arthi Nager II,
Emerald Garden, Narasothipatty,

Salem-636004.

Email id: sureshhydrogeology@gmail.com

Mobile No: 9994289822

2026

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**CONSENT LETTER FROM THE MINE OWNER**

The Mining Plan in respect of **Rough Stone & Gravel Quarry** over an extent of **6.61.35** Ha of **Patta Land** in **S.F.No. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A** of **Sirunavur** Village, **Vanur Taluk, Viluppuram** District and Tamil Nadu State has been prepared by **Mr. N. Suresh, M.sc**, a Qualified Person.,

I request the Assistant 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.

Mr. N. Suresh, M.Sc., (Qualified Person)

GEO MINING & ECO SOLUTIONS

D. No. 257/2, Arthi Nager II, Emerald Garden,
Narasothipatty, Salem-636004.

Email id: sureshhydrogeology@gmail.com

Mobile No: 9994289822.

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 binding on me in all respects.

For, M/s. TAAMAESIC ENGINEERING CONSORTIUM

For TAAMAESIC ENGINEERING CONSORTIUM

Managing Partner

S. Vijayanandan

Managing Partner

Place: Viluppuram

Date:



M/s. TAAMAESEK ENGINEERING CONSORTIUM,

No. 5,

Bishop Wallers Avenue West,

Mylapore,

Chennai-600004.

Mobile No: 9842686309

Email.id: gurutraders1981@gmail.com

DECLARATION

The Mining Plan in respect of **Rough Stone & Gravel Quarry** over an extent of **6.61.35 Ha** of **Patta Land** in **S.F.Nos. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A** of **Sirunavur** Village, **Vanur** Taluk, **Viluppuram** District and Tamil Nadu State has been prepared with my consultation and I have understood the contents and agree to implement the same in accordance with the Mining Laws.

For, M/s. TAAMAESEK ENGINEERING CONSORTIUM

S. Vijayanandan
Managing Partner

S. Vijayanandan

Managing Partner

Place: Viluppuram

Date:

Mr. N. Suresh, M.Sc., (Qualified Person)

GEO MINING & ECO SOLUTIONS

D.No. 257/2, Arthi Nager II,

Emerald Garden, Narasothipatty, Salem-636004.

Email id: sureshhydrogeology@gmail.com

Mobile No: 99942 89822.



CERTIFICATE

This is to certify that, the provisions of Tamil Nadu Minor Minerals Concession Rules 1959 have been observed in the Mining Plan for the grant of **Rough Stone & Gravel Quarry** lease over an extent of **6.61.35** Ha of **Patta Land** in **S.F.Nos. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A** of **Sirunavur** Village, **Vanur** Taluk, **Viluppuram** District, Tamil Nadu State applied by

M/s. TAAMAESEK ENGINEERING CONSORTIUM,

No. 5, Bishop Wallers Avenue West,

Mylapore,

Chennai-600004.

Mobile No: 9842686309

Email id: gurutraders1981@gmail.com

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.,

Certified


Signature of Qualified Person

N. SURESH, M.Sc., (Geology)

Qualified Person

Place : Salem

Date :

Mr. Suresh, M.Sc., (Qualified Person)

GEO MINING & ECO SOLUTIONS

D. No. 257/2, Arthi Nager II,

Emerald Garden, Narasothipatty, Salem-636004.

Email id: sureshhydrogeology@gmail.com

Mobile: 99942 89822.



CERTIFICATE

Certified that, in preparation of Mining Plan for **Rough Stone & Gravel Quarry** over an extent of **6.61.35** Ha of **Patta Land** in **S.F.Nos. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A** of **Sirunavur Village, Vanur Taluk, Viluppuram District** and **Tamil Nadu State**.

M/s. TAAMAESEK ENGINEERING CONSORTIUM, covers all the provisions of Mines Act, Rules, and Regulations etc., made there under and whenever specific permission are required, the Applicant will approach the Director General of Mines Safety, Chennai. The standards prescribed by DGMS in respect of Mines Health will be strictly implemented.

Certified

Signature of Qualified Person

N. SURESH, M.Sc. (Geology)

Qualified Person

Place : Salem

Date:

MINING PLAN

FOR SIRUNAVUR ROUGH STONE & GRAVEL QUARRY

Mining Plan Period 5 Years

*(Prepared under Rules 41 & 42 Tamil Nadu Minor Mineral Concession Rules, 1959
And amended Minor Mineral Conservation and Development Rules, 2010)*



1.0 INTRODUCTION

1. The present Mining Plan and Environmental Management Plan have been prepared for M/s. **TAAMAESEK Engineering Consortium**, a partnership firm comprising **Mr.S.Vijayanandan (Managing Partner)** and **Mrs.S.R.Roopa Sreeram (Partner)**, having its registered office at No. 5, Bishop Wallers Avenue West, Mylapore, Chennai - 600004.
2. The applicant proposed to quarry **Rough Stone & Gravel** in over an extent of **6.61.35 Ha** of **Patta Land** in **S.F.Nos. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A** of **Sirunavur Village, Vanur Taluk, Viluppuram District** for a Period of Mining **10 Years** only. The excavated rough stone is used for crushing units and Gravel is used for filling and leveling of low-lying areas of Highway Road projects and other infrastructure development work in and around the district.
3. The application was meritoriously processed and precise area communication letter issued by the Assistant Director, Department of Geology and Mining, Viluppuram District has passed an order vide **R.C.No.B/G&M/409/2025, dated 29.12.2025**. The applicant to submit the Mining Plan and to get approval from the Assistant Director, Department of Geology & Mining, Viluppuram District and to obtain Environmental Clearance from State Level Environment Impact Assessment Authority, Tamil Nadu State, as per EIA Notification 2006 and its amendments vide MOEF and Climate Change Notification.



4. Accordingly, Mining Plan is prepared under the provisions **Rule 34(1) of Tamil Nadu Minor Minerals Concession Rules, 1959** for Rough stone and Gravel Quarry.
5. **Geological Resources** is estimated at $2,67,308\text{m}^3/5,34,616\text{MT}$ Gravel and $36,75,485\text{m}^3/1,01,07584$ MT of Rough Stone. **Mineable Reserves** are estimated at $2,15,216\text{m}^3/4,30,432\text{MT}$ of Gravel & $15,23,080\text{m}^3/41,88,470\text{MT}$ of Rough stone up to ultimate depth of **59m**.
6. The proposed quantity of reserves/level of production to be mined for **FIRST FIVE YEARS** is $2,15,216\text{m}^3/4,30,432\text{MT}$ of Gravel and $7,73,580\text{m}^3/21,27,345\text{MT}$ of Rough Stone up to a depth of **44m** for a period of Mining Plan (first five years).
7. The proposed quantity of reserves/level of production to be mined for **SECOND FIVE YEARS** is $7,49,500\text{m}^3/20,61,125\text{MT}$ of Rough Stone up to an ultimate depth of **59m** for a period of Scheme of Mining (second five years)
8. The Production Schedule of $2,15,216\text{m}^3/4,30,432\text{MT}$ (**35,869 Lorry Loads**) of Gravel & $7,73,580\text{m}^3/21,27,345\text{MT}$ (**1,28,930 Lorry Loads**) of Rough Stone up to a depth of **44m** (**4m Gravel & 40m Rough Stone**) for the permission period of First 5 Years only.
9. The Production Schedule of $7,49,500\text{m}^3/20,61,125\text{MT}$ (**1,24,917 Lorry Loads**) of **Rough Stone** up to a ultimate depth of **59m** (**4m Gravel & 55m Rough Stone**) for the permission period of **Second 5 Years** only Under the provisions of Rule 19 (1) of Tamil Nadu Minor Mineral Concession Rules, 1959, subject to the following conditions.
 - I. Quarrying work should be carried out with a safety distance of 7.5 meters from the adjacent Patta lands and 10 meters from the Government Poramboke Lands.
 - II. When carrying out quarrying work, quarrying work should be carried out without any disturbance to nearby patta and Government Poramboke lands.
 - III. Before granting a quarry lease, a DGPS survey of the applied area should be conducted and a report should be submitted.
 - IV. Quarrying should be done systematically and scientifically.



- V. Quarrying work must be carried out by a certified foreman, blaster and mine manager.
 - VI. The Director of Mine Safety, Chennai, should be informed before the commencement of quarrying work.
 - VII. Rocks should be drilled with hand drills to blast rocks and less explosives should be used.
 - VIII. Before quarrying begins, a barbed wire fence should be erected around the quarry.
 - IX. If any minerals other than the recommended minerals for quarrying, i.e. Rough Stone and Gravel, are discovered, the quarrying work should be stopped immediately and informed to the Department of Geology and Mining, Villupuram office.
 - X. An Environmental Clearance should be obtained and submitted from the State Environmental Impact Assessment Authority as per Rule 42 of the Tamil Nadu Minor Mineral Concession Rules, 1959.
10. The Safety measures under mechanized loading as per the provisions of Reg.106(2)(b) of Metalliferous Mines Regulation-1961, Labour welfare Amenities as per the Mines Rules 1955 and amended DGMS circular shall be taken care of in preparation of Mining Plan.

ENVIRONMENTAL PARAMETERS,

(i) Forest Conservation Act, 1980:

There is no Reserve Forest within a 1.0 km radius of this quarry.

(ii) Wildlife (Protection) Act, 1972:

The area does not attract the wild life sanctuary around 10Kms radius.

(iii) The Coastal Regulation Zone (CRZ) Notification 2011:

The area does not attract the Coastal zone around 10kms radius.

(iv) Interstate Boundary: There is no interstate boundary found within radius of 10Km.



1. ENVIRONMENTAL MEASURES TO BE ADOPTED SHALL BE,

- 1) Dust Control at source while *wet drilling* and *controlled blasting*.
- 2) Dust suppression at loading point and transport haul roads.
- 3) Noise Control in Blasting, control of fly rock missiles and Vibration by doing peak particle velocity with in standard as prescribed by the DGMS and MOEF.
- 4) Unnecessary land degradation should be avoided or damaged land should be reclaimed or rehabilitated.
- 5) Avoid uneven rat hole mining and follow scientific and systematic mining by safe bench system of open cast mining.
- 6) Mining near major fracture zones if any should be avoided to control ground water fluctuation in the adjacent agricultural lands.
- 7) Emission test of vehicles should be in tack to maintain minimum emission level of fuel gases.
- 8) Noise level should not exceed *80db* and the vehicles should use only permitted Air Horn while on road near residential areas.
- 9) Safety zones as prescribed by the Department of Geology and Mining from adjacent infrastructures should be strictly to adhere to.
- 10) Any other conditions as stipulated by the concerned authorities should be followed to protect the Environment and Ecology of the area.

2.0. EXECUTIVE SUMMARY

The area applied for lease is Rough Stone & Gravel quarry in Patta Land at Survey Numbers 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A of **Sirunavur** Village, **Vanur** Taluk and **Viluppuram** District.

- a. Name of the Village Panchayat – Sirunavur
- b. Name of the Panchayat Union – Vanur
- c. The proposed total mineable reserves are **2,15,216m³ (4,30,432MT)** of gravel and **15,23,080m³ (41,88,470MT)** of rough stone, with an ultimate depth of **59m**.
- d. The Production Schedule of **2,15,216M³/4,30,432MT (35,869 Lorry Loads)** Gravel & **773580m³/2127345MT (1,28,930 Lorry Loads)** of Rough Stone up



- to a depth of 44m (4m Gravel & 40m Rough Stone) for the permission period of Mining First 5 Years only.
- e. The Production Schedule of 7,49,500m³/20,61,125MT (1,24,917 Lorry Loads) of Rough Stone up to a ultimate depth of 59m (4m Gravel & 55m Rough Stone) for the permission period of Mining Second 5 Years only.
 - f. Total extent of the area -6.61.35 Ha
 - g. Total Lease Period - Ten years
 - h. Existing depth of mining -It is fresh lease applied area.
 - i. Proposed Depth of mining -59m (4m Gravel & 55m Rough Stone)
 - j. Method of mining / level of mechanization - Opencast, Semi-mechanized Mining with a bench height of 5.0m & width of 5.0m is proposed and involves shallow Jackhammer drilling, Slurry blasting is proposed for this quarrying operation.
 - k. Types of Machineries used in the quarry -Jack hammer 30-32mm dia, Tractor mounted compressor attached with Jack hammer. Excavator of 0.90m³ bucket capacity is attached with Rock breaker is proposed to deploy for quarrying operation. Total consumption of Diesel for Rough Stone & Gravel is around= 6,54,734 Liters of HSD for First Five Years & 5,99,600 Liters of HSD for Second Five Years.
 - l. No Trees will be uprooted due to this quarrying operation.
 - m. The existing road from the main road to quarry is in good condition and the Same will be maintained and utilized for Transportation of Rough Stone & Gravel.
 - n. There is no Export of this quarrying Rough Stone & Gravel.
 - o. Topo sketch covering 10Km, 500m radius around the proposed area with markings of Habitations, Water bodies like Streams, Rivers, Roads, Major structure like Bridges, Wells, Archeological, Historical importance, Places of worship is marked and enclosed as Plate No. IB& VI.
 - p. The lease applied area is 6.61.35 Ha, the corners are designated from the South western corner and the coordinates are clearly marked in Plate no - II
 - q. The diagram showing the Mining area, dimensions of the Pit, proposed depth of mining for the mining plan period are enclosed as Plate No -IV.



- r. The lease applied area is 10Km away from the Inter State boundary, protected area under Wildlife Production Act 1972, critically polluted area as identified by CPCB and notified Eco sensitive areas.
- s. There are no wastages anticipated during this quarry operation; hence waste dump is not proposed in this lease applied area.
- t. Around **48 Employees** are deploying in this quarrying operation.

1. The lease applied area is bounded by all corners and the DGPS coordinates are clearly marked in Plate No - II

Table -2

S.No	Pillar ID		Latitude	Longitude
1	1	Corner	12° 06' 01.6407" N	79° 40' 03.2639" E
2	2	Corner	12° 06' 02.9523" N	79° 40' 03.6783" E
3	2A	Intermediate	12° 06' 02.5027" N	79° 40' 05.2676" E
4	2B	Intermediate	12° 06' 02.0530" N	79° 40' 06.8569" E
5	3	Corner	12° 06' 01.9631" N	79° 40' 07.1748" E
6	3A	Intermediate	12° 06' 03.5246" N	79° 40' 07.6405" E
7	3B	Intermediate	12° 06' 05.0861" N	79° 40' 08.1063" E
8	4	Corner	12° 06' 05.2686" N	79° 40' 08.1607" E
9	5	Corner	12° 06' 04.7534" N	79° 40' 09.6737" E
10	5A	Intermediate	12° 06' 04.4092" N	79° 40' 11.2900" E
11	5A	Intermediate	12° 06' 04.0649" N	79° 40' 12.9063" E
12	6	Corner	12° 06' 03.7358" N	79° 40' 14.4514" E
13	6A	Intermediate	12° 06' 03.3495" N	79° 40' 16.0579" E
14	6B	Intermediate	12° 06' 02.9632" N	79° 40' 17.6643" E
15	7	Corner	12° 06' 02.8178" N	79° 40' 18.2689" E
16	8	Corner	12° 06' 02.5013" N	79° 40' 19.7960" E
17	8A	Intermediate	12° 06' 00.9365" N	79° 40' 19.3418" E
18	8B	Intermediate	12° 05' 59.3717" N	79° 40' 18.8876" E
19	8C	Intermediate	12° 05' 57.8069" N	79° 40' 18.4335" E
20	9	Corner	12° 05' 57.6183" N	79° 40' 18.3787" E
21	10	Corner	12° 05' 57.9231" N	79° 40' 17.3399" E
22	10A	Intermediate	12° 05' 56.3537" N	79° 40' 16.9025" E
23	10B	Intermediate	12° 05' 54.7843" N	79° 40' 16.4651" E
24	11	Corner	12° 05' 54.6830" N	79° 40' 16.4369" E
25	12	Corner	12° 05' 54.7331" N	79° 40' 16.0366" E
26	12B	Intermediate	12° 05' 56.3106" N	79° 40' 16.4431" E
27	13	Corner	12° 05' 57.6041" N	79° 40' 16.7764" E
28	13A	Intermediate	12° 05' 57.9085" N	79° 40' 15.1519" E
29	13B	Intermediate	12° 05' 58.2129" N	79° 40' 13.5274" E
30	13C	Intermediate	12° 05' 58.5172" N	79° 40' 11.9029" E
31	14	Corner	12° 05' 58.6512" N	79° 40' 11.1881" E

32	14A	Intermediate	12° 05' 58.8485" N	79° 40' 09.5466" E
33	15	Corner	12° 05' 59.0301" N	79° 40' 08.0364" E
34	16	Corner	12° 05' 59.7786" N	79° 40' 08.0499" E
35	17	Corner	12° 06' 00.2404" N	79° 40' 08.0306" E
36	17A	Intermediate	12° 06' 00.7059" N	79° 40' 06.4460" E
37	17B	Intermediate	12° 06' 01.1714" N	79° 40' 04.8614" E

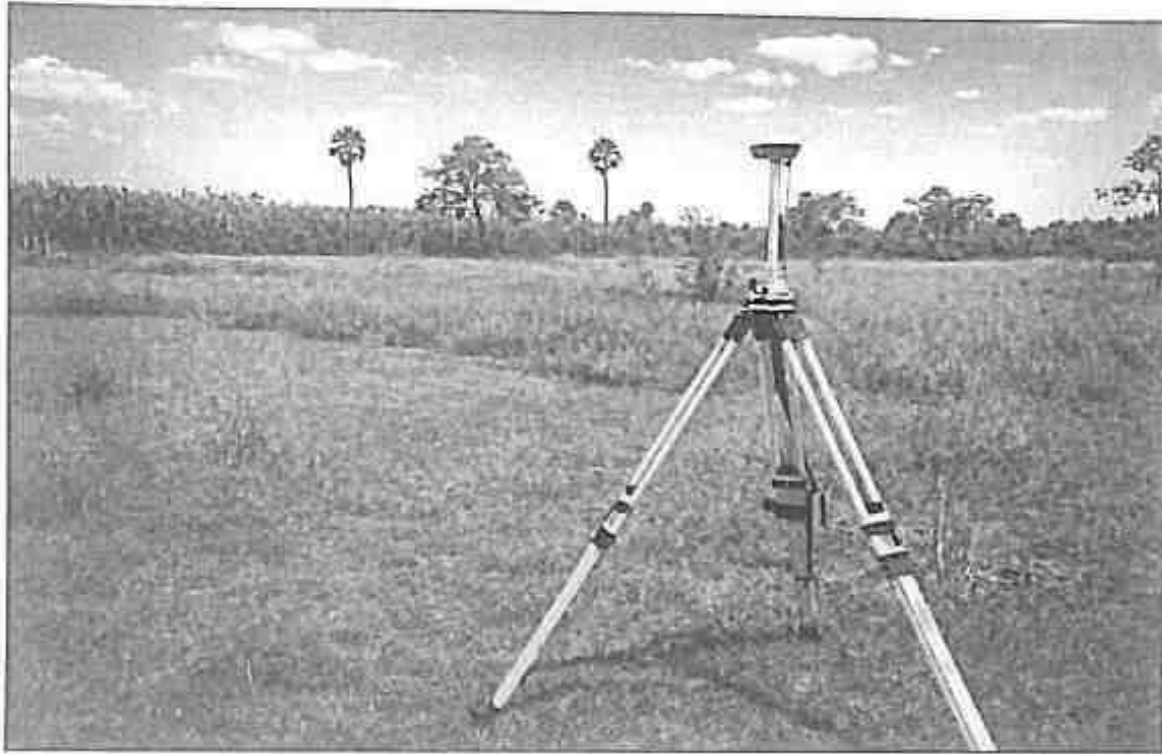


Fig.No.1, DGPS survey conducted in Proposed Lease applied area.

PART - A**3.0. GENERAL INFORMATION:**

3.1. Name of the Applicant with Address, contact no, email etc.,

Name: M/s. TAAMAESEK ENGINEERING CONSORTIUM,
No. 5, Bishop Wallers Avenue West,
Mylapore, Chennai-600004.
Mobile No: 9842686309
Email.id: gurutraders1981@gmail.com

District: Chennai

State: Tamil Nadu

**3.2. Status of the Applicant (Individual / Company / Firm)**

The applicant is a partnership firm operating under the name of M/s. TAAMAESEK ENGINEERING CONSORTIUM. The firm comprises two partners, namely Mr. S. Vijayanandan, who is the Managing Partner, and Mrs. S. R. Roopa Sreeram, who is the other partner. Mr. S. Vijayanandan, being the Managing Partner, is duly authorized to represent the firm in all matters relating to quarrying/mining operations, statutory approvals, and compliances.

3.3. Mineral which the Applicant intends to mine

The applicant proposes to carry out quarrying operations for **Rough Stone and Gravel only**, and no other mineral is proposed to be extracted from the lease area.

3.4. Precise area communication Letter details received from the competent authority of the government.

Precise area communication letter issued from the Assistant Director, Department of Geology and Mining, Viluppuram vide R.C.No. B/G&M/409/2025 Dated 29.12.2025.

3.5. Period of permission / lease to be granted

The applicant has applied permission for 10 Years. Assistant Director, Department of Geology and Mining, Viluppuram, consider grant for a Period of Mining 10 Years only.

3.6. Name and Address of the QP/Authorized person for preparing the Mining Plan

Name : **Mr. N. SURESH, M.SC., (Qualified Person)****GEO MINING & ECO SOLUTIONS**Address : D. No. 257/2, Arthi Nager II, Emerald Garden,
Narasothipatty, Salem-636004. TN.Email id: sureshhydrogeology@gmail.com

Mobile: 99942 89822.

**4.0. LOCATION:**

Table No: 3

State	Tamil Nadu	
District	Viluppuram	
Taluk	Vanur	
Village	Sirunavur	
S.F.Nos	13/1A,	1.07.50 Ha
	13/1B,	0.25.00 Ha
	13/2A,	2.47.10 Ha
	13/3A,	0.13.50 Ha
	13/3B,	0.40.50 Ha
	13/4A,	0.13.50 Ha
	13/4B,	0.40.50 Ha
	13/5,	0.92.00 Ha
	4/1	0.61.50 Ha
	4/4A	0.20.25 Ha
Extent in (Ha)	6.61.35 Ha	

4.1. Details of Existence of public road /railway line, if any nearby and approximate distance.

Table No: 4

S.No	Description	Place	Distance (Km)	Direction
1	Bus Stop	Perumbakkam	1.5	W
2	Post Office	Perumbakkam	1.5	W

3	Police Station	Mailam	6.5	NW
4	Fire service	Vanur	11	SE
5	Railway Station	Perani	13	W
6	Government Hospital	Mailam	6.5	NW
7	Government School	Kunnam	1.5	SE
8	Airport	Puducherry	23	SE

Location site of **M/s. TAAMAESEK ENGINEERING CONSORTIUM**,
Sirunavur Village, Vanur Taluk, Viluppuram District.

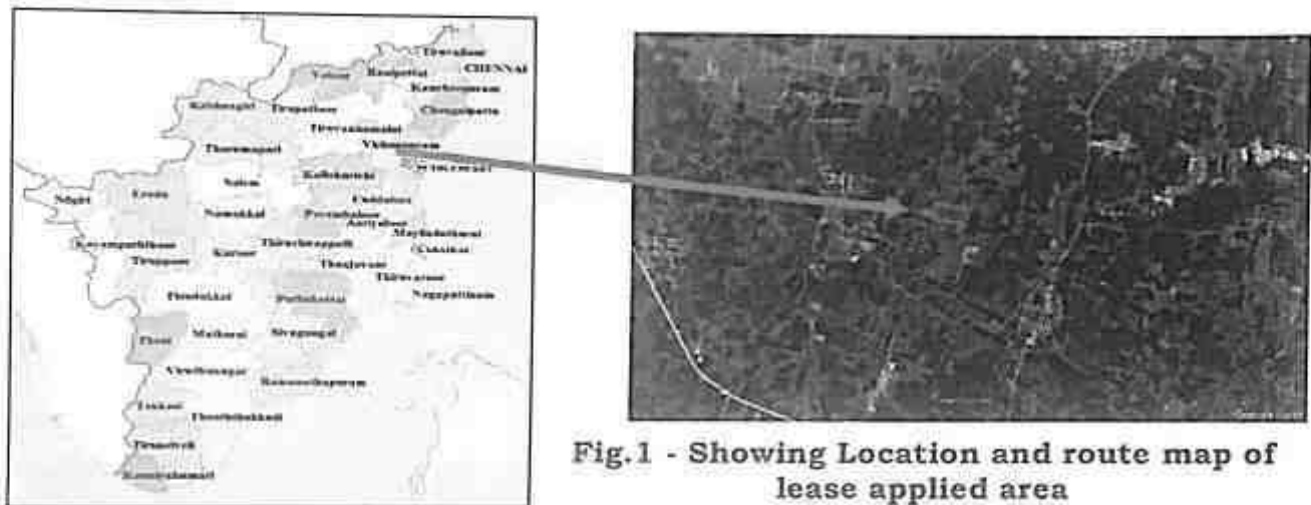
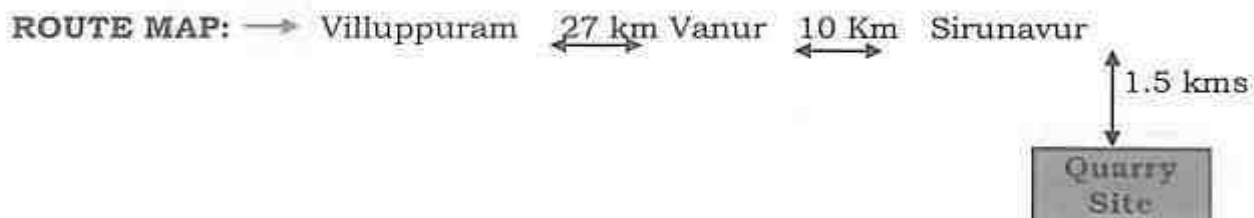


Fig.1 - Showing Location and route map of lease applied area



Classification of the Area (Ryotwari / Poramboke / Patta/ others)

- It is a Patta Land and non-agricultural land.

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

- It is Patta Land registered in the name of M/s. TAAMAESEK ENGINEERING CONSORTIUM Vide Patta No 601, of S.F. Nos. 13/1A, 1B, 2A, 3A, 3B, 4A, 4B, 5, 4/1 & 4/4A.

b. Toposheet No. with Latitude and Longitude

Topo sheet No: 57-P/12

Latitude : 12° 05' 54.68" N to 12° 06' 05.26" N

Longitude : 79° 40' 03.26" E to 79° 40' 19.79" E

5.0. GEOLOGY AND MINERAL RESERVES

5.1. Topography:

- ❖ The lease applied area exhibits Plain topography covered by massive Charnockite formation.
- ❖ The massive Charnockite formation is clearly visible from outcrop in the lease area. The Strike direction of the rock formation is NE 30° and SW30° and dip sloping towards NW side of the area, the altitude of the area is above 75m MSL.
- ❖ No major river is found nearby the lease applied area.
- ❖ Water Level is found at a depth of 70m to 75m below Ground Level, 70m in Rainy seasons and 75m in summer seasons by monitoring nearby bore hole.
- ❖ Temperature of the area is reported to be 18°C to a maximum of 42°C during summer.
- ❖ Rainfall of this area is about 800mm to 900mm during the both NE & SW monsoons.

5.2. General Geology of the area (with plans):

- ❖ The area is underlain by the wide range of metamorphic rocks of peninsular gneissic complex. These rocks are extensively weathered and overlain by the recent valley fills and alluvium at places.
- ❖ The geological formations found in the district are Archaean rocks like Gneisses, Granites, Charnockite basic granulites and calc gneisses. The younger formations are Quartz veins and pegmatite.
- ❖ The massive Charnockite formation is clearly visible from outcrop in the lease area and nearby existing quarries. The Strike direction of the rock formation is NE30° and SW30° and dip sloping towards NW side of the area, the altitude of the area is above 75m MSL.
- ❖ The rock type noticed in the lease area is Charnockite, which is mainly composed of Quartz and Feldspar, with Orthopyroxene and minor amounts of other ferromagnesian minerals."
- ❖ The Charnockite is part of peninsular Gneisses, a high-grade metamorphic rock.

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

Age	Formation
Recent	- Quaternary to recent formation (Gravel)
Archaean	- Charnockite, Peninsular Gneiss complex



5.3. Details of Exploration already carried out if any:

- ❖ There is no exploration carried out in this applied quarry area.
- ❖ The massive Charnockite formation is clearly visible from outcrop in the lease area and nearby existing quarries.
- ❖ State Geology and Mining Department Government of Tamil Nadu has been carried out geological exploration and regional mapping study of the lease area.
- ❖ Geological Survey of India has carried out detailed mapping in Viluppuram District.
- ❖ Besides the QP and the team members made a detailed geological study of the area; Geological map has been prepared in 1:1000 scale and enclosed plate -III.



Fig. 2 - Photograph showing general view of the lease applied area

5.3. a. Estimation of Reserves (Geological Resources with geological sections on a scale of 1:1000)

- ❖ As far as Rough Stone & Gravel (Charnockite) is concerned, the only practical method is the systematic geological mapping and delineation of Rough Stone & Gravel within the field and careful evaluation of body lustre, physical properties, engineering properties, commercial aspects etc.,
- ❖ Totally **FOUR sections** have been drawn, **TWO SECTIONS** drawn **LENGTH** wise as **(X-Y) (X1-Y1)**, another **TWO SECTIONS** drawn **WIDTH** wise as **(A-B) & (C-D)** have four sections have been drawn.
- ❖ The Topographical, Geological plan and sections demarcated the commercial, marketable Rough Stone & Gravel (Charnockite) deposit has been prepared in Scale 1:1000 and Sections have been drawn with a scale of Hor 1:1000 and Ver 1:1000 respectively.
- ❖ Please refer Plate No. IIIA, VII-A Rough Stone & Gravel are terms of Cubic Meters (Volume) and Tonnage calculations.

I. GEOLOGICAL RESOURCES:

The Geological Resources is estimated as **3675485m³/10107584MT** of Rough Stone & **2,67,308m³/5,34,616MT** Gravel up to an ultimate depth of **59m** (4m Gravel & 55m Rough Stone).

Table No: 5

GEOLOGICAL RESOURCES										
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m3)	Rough Stone in (m3)	Gravel in (m3)	Bulk Density	Rough Stone in (MT)	Gravel in (MT)
XY-AB	I	363	170	2	123420	-	123420	2	-	246840
	II	363	170	2	123420	-	123420	2	-	246840
	III-XIII	363	170	55	3394050	3394050	-	2.75	9333637.5	-
	Total				3640890	3394050	246840		9333637.5	493680
X1Y1-CD	I	119	43	2	10234	-	10234	2	-	20468
	II	119	43	2	10234	-	10234	2	-	20468
	III-XIII	119	43	55	281435	281435	-	2.75	773946.25	-
	Total				301903	281435	20468		773946.25	40936
Grand Total					3942793	3675485	2,67,308		10107584	5,34,616

II. MINEABLE RESERVES:

The mineable reserves are calculated by deducting the safety distance of 7.5m & 10m safety distance along the lease area and accounting for bench loss, with a height of 5.0m and width of 5.0m.

Table No-6

MINEABLE RESERVES										
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m3)	Rough Stone in (m3)	Gravel in (m3)	Bulk Density	Rough Stone in (MT)	Gravel in (MT)
XY-AB	I	346	150	2	103800	-	103800	2	-	207600
	II	342	146	2	99864	-	99864	2	-	199728
	III	338	142	5	239980	239980	-	2.75	659945	-
	IV	328	132	5	216480	216480	-	2.75	595320	-
	V	318	122	5	193980	193980	-	2.75	533445	-
	VI	308	112	5	172480	172480	-	2.75	474320	-
	VII	298	102	5	151980	151980	-	2.75	417945	-
	VIII	288	92	5	132480	132480	-	2.75	364320	-
	IX	278	82	5	113980	113980	-	2.75	313445	-
	X	268	72	5	96480	96480	-	2.75	265320	-
	XI	258	62	5	79980	79980	-	2.75	219945	-
	XII	248	52	5	64480	64480	-	2.75	177320	-
	XIII	238	42	5	49980	49980	-	2.75	137445	-
Total					1715944	1512280	203664		4158770	407328
XIV-CD	I	112	28	2	6272	-	6272	2	-	12544
	II	110	24	2	5280	-	5280	2	-	10560
	III	108	20	5	10800	10800	-	2.75	29700	-
	Total					22352	10800	11552		29700
Grand Total						1523080	2,15,216		4188470	4,30,432



The Mineable Reserves is computed as **1523080m³/4188470MT** of Rough Stone & **2,15,216m³/4,30,432MTm³** of Gravel formation at the rate of 100% recovery up to an ultimate depth of **59m (4m Gravel & 55m Rough Stone)**.

6.0. MINING

6.1. Method of Mining (Open cast / Underground)

Opencast method of semi mechanized mining with 5.0m vertical bench height and width 5.0m of the bench is not less than bench height.

However, as far as the quarrying of Rough Stone & Gravel is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of mines safety for which necessary provision is available with the regulation 106 (2) (b) of MMR-1961, under Mine Act-1952.

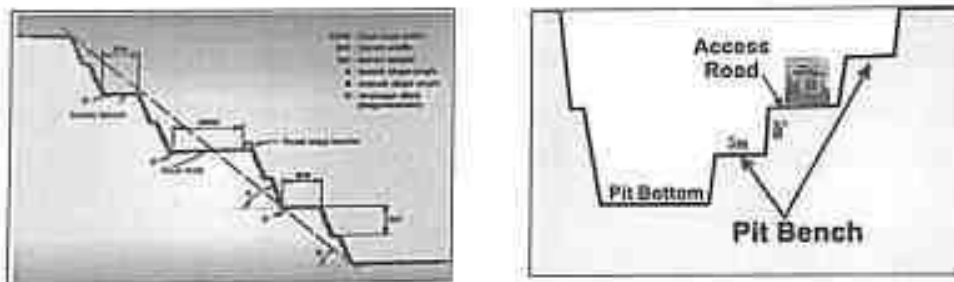


Figure No.3. Open pit Mining method

6.2. Mode of Working (Mechanized, Semi-mechanized, Manual)

- ❖ The Rough Stone & Gravel is proposed to quarry 5.0m bench height and 5.0m bench width with conventional opencast semi-Mechanized method. The quarrying operation involves manual Jackhammer drilling, Slurry explosives blasting, loading and transportation of Rough Stone & Gravel to the needy nearby crusher units, road formation filling purpose of low-lying area for road project works of residential and industrial customers.



- ❖ The production of Rough Stone & Gravel in this quarry involves the following method which is typical for Rough Stone & Gravel quarrying in contrast to other major mineral mining.
- ❖ The splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading of Rough Stone & Gravel from pithead to the needy crushers.
- ❖ The hydraulic excavators are attached with rock breakers for fragmentation to avoid secondary blasting.
- ❖ The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast semi mechanized method of mining.

6.3. Proposed bench Height and Width

The quarrying of Rough Stone & Gravel is proposed to the safely bench height of 5.0m and bench width of 5.0m.

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

The excavated Rough Stone & Gravel will be directly loaded into Tippers to the needy crushers / Customers site. The Composite Plan, Development Plan and section indicating pit layout, green belt development is shown in Plate No. VII-A.

I. RECOVERABLE RESERVES:

The year-wise recoverable reserves are calculated by deducting the safety distance of 7.5m & 10m safety distance along the lease area and accounting for bench loss, with a height of 5.0m and width of 5.0m.

Table No: 7

FIRST - FIVE YEARWISE DEVELOPMENT AND PRODUCTION RESERVES											
Year	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m3)	Rough Stone in (m3)	Gravel in (m3)	Bulk Density	Rough Stone in (MT)	Gravel in (MT)
I - YEAR	XY-AB	I	124	150	2	37200	-	37200	2	-	74400
		II	120	146	2	35040	-	35040	2	-	70080
		III	116	142	5	82360	82360	-	2.75	226190	-
		IV	85	132	5	56100	56100	-	2.75	154275	-
Total											
II - YEAR	XY-AB	I	122	150	2	36600	138460	72240		380765	144480
		II	122	146	2	35624	-	36600	2	-	73200
		III	122	142	5	86620	86620	-	2.75	238205	-
		IV	92	132	5	60720	60720	-	2.75	166980	-
Total											
III - YEAR	XY-AB	I	100	150	2	30000	-	72224		405185	144448
		II	100	146	2	29200	-	30000	2	-	60000
		III	100	142	5	71000	71000	-	2.75	195250	-
		IV	110	132	5	72600	72600	-	2.75	199650	-
XIVY1-CD		I	112	28	2	6272	-	6272	2	-	12544
		II	110	24	2	5280	-	5280	2	-	10560
		III	108	20	5	10800	10800	-	2.75	29700	-
		Total									
IV - YEAR	XY-AB	IV	41	132	5	27060	154400	70752		424600	141504
		V	128	122	5	78080	27060	-	2.75	74415	-
		VI	100	112	5	56000	78080	-	2.75	214720	-
		Total									
V - YEAR	XY-AB	VI	18	112	5	10080	161140	-		443135	-
		VII	108	102	5	55080	10080	-	2.75	27720	-
		VIII	98	92	5	45080	55080	-	2.75	151470	-
		IX	88	82	5	36080	45080	-	2.75	123970	-
		X	72	72	5	25920	36080	-	2.75	99220	-
		Total									
Grand Total											
							172240	2,15,216		473660	4,30,432

- The Recoverable reserves have been computed as 7,73,580m³/21,27,345MT of Rough Stone, 2,15,216m³/4,30,432MT of Gravel at 100% recovery up to depth of 44m below ground level (R.L.75m) [4m Gravel + 40m Rough Stone] for a period of FIRST FIVE YEARS.

- Production quantity as per day (1Load=6m³approx) (1Year=300 Working days)

Rough Stone quantity	=	773580m ³ / 128930 Lorry Loads
	=	128930 / 5 years = 25786 Lorry Loads per year
	=	25786 / 300 Days
	=	86 Lorry Loads per day (515 m ³ per day)
Gravel quantity	=	2,15,216m ³ / 35869 Loads
	=	35869 / 3 Years = 11956 Lorry Loads per year
	=	11956 / 300 Days
	=	40 Lorry Loads per day (239 m ³ per day)

Table No: 7A

Table No: 7A									
SECOND - FIVE YEARWISE DEVELOPMENT AND PRODUCTION RESERVES									
Year	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m3)	Rough Stone in (m3)	Bulk Density	Rough Stone in (MT)
VI - YEAR	XY-AB	V	190	122	5	115900	115900	2.75	318725
		Total				115900	115900		318725
VII - YEAR	XY-AB	VI	190	112	5	106400	106400	2.75	292600
		Total				106400	106400		292600
VIII - YEAR	XY-AB	VII	190	102	5	96900	96900	2.75	266475
		VIII	190	92	5	87400	87400	2.75	240350
		Total				184300	184300		506825
IX - YEAR	XY-AB	IX	190	82	5	77900	77900	2.75	214225
		X	196	72	5	70560	70560	2.75	194040
		Total				148460	148460		408265
X - YEAR	XY-AB	XI	258	62	5	79980	79980	2.75	219945
		XII	248	52	5	64480	64480	2.75	177320
		XIII	238	42	5	49980	49980	2.75	137445
		Total				194440	194440		534710
Grand Total						749500	749500		2061125

- The Recoverable reserves have been computed as 7,49,500m³/20,61,125MT of Rough Stone at 100% recovery up to a ultimate depth of 59m below ground level (R.L.75m) [4m Gravel + 55m Rough Stone] for a period of SECOND FIVE YEARS.
- Production quantity as per day (1Load=6m³approx) (1Year=300 Working days)

$$\begin{aligned}
 \text{Rough Stone quantity} &= 749500\text{m}^3 / 124917 \text{ Lorry Loads} \\
 &= 124917 / 5 \text{ years} = 24983 \text{ Lorry Loads per year} \\
 &= 24983 / 300 \text{ Days} \\
 &= 83 \text{ Lorry Loads per day (500 m}^3 \text{ per day)}
 \end{aligned}$$

6.5. MACHINERIES TO BE USED

a. Mining

It is proposed to use the following machineries on rental basis for the development and production work in this quarrying operation,

Table No: 7A

S.No	Type	Nos	Dia Hole mm	Size capacity	Make	Motive Power
1	Jack Hammer	9	32	1.2m to 6m	Atlas Copco	Compressed air
2	Compressor	3	-	400psi	Atlas Copco	Diesel Drive

b. Loading

Loading will be carried out by (considerable Rough Stone & Gravel) by Hired front end loader like JCB) Excavator of 0.90m³bucket capacity (with Rock breaker attachment)

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

c. Transportation

Tippers/Trucks = 4Nos. 5/20Tons capacity (from the quarry to destination (customer/other buyers)

S.No	Type	Nos	Capacity	Make	Motive Power
1	Tippers	6	10/20 Tons	Tata Tipper	Diesel Drive



IMAGES OF MACHINERIES EXCAVATOR



TATA TIPPER



JACK HAMMER

6.6. Energy

The Electricity for Mines office and Lights only at nights (working is restricted on day time only between 9 Am to 5 Pm). Diesel (HSD) will be used for quarrying machineries around 654734 Liters of HSD for First Five Years & 599600 Liters of HSD for Second Five Years will be used for the entire project life. Diesel will be brought from nearby diesel pumps. Lightings on the Night time the power will be taken from nearby electric poles after obtaining permission from concerned authorities.

FOR FIRST FIVE YEARS

1. Gravel:

The Excavator will consume
The Excavator will excavate
Gravel quantity
Diesel consume
Total diesel consumption

= 10 Liters / 1 hour
= 60m³ of Gravel
= 2,15,216 / 60 = 3587 hours
= 3587 hours x 10liters
= 35870 Liters of HSD will be utilized for this
Gravel Excavation.



2. Rough Stone:

The Excavator will consume = 16 Liters / 1 hour
 The Excavator will excavate = 20m³ of Rough Stone
 Rough Stone quantity = 773580/20= 38679 hours
 Diesel consume = 38679 hours x 16 liters
 Total diesel consumption = 618864 Liters of HSD will be utilized for this
 Rough Stone Excavation.

Total consumption for rough stone & Gravel is around = 654784 Liters of HSD for the Mining Plan period of FIRST FIVE YEARS.

FOR SECOND FIVE YEARS

Rough Stone:

The Excavator will consume = 16 Liters / 1 hour
 The Excavator will excavate = 20m³ of Rough Stone
 Rough Stone quantity = 749500/20= 37475hours
 Diesel consume = 37475hours x 16 liters
 Total diesel consumption = 599600 Liters of HSD will be utilized for this
 Rough Stone Excavation.

Total consumption for rough stone & Gravel is around = 599600 Liters of HSD for the Mining Plan period of SECOND FIVE YEARS.

6.7. Disposal of Overburden/Waste

There is no over burden in the lease applied area.

6.8. Brief Note on Conceptual Mining Plan for the entire lease period

Conceptual Mining Plan is prepared with an object of (Ten) 10 Years of systematic development of bench lay outs, selection of ultimate pit limit, depth of quarrying, ultimate pit slope, selection of sites for construction of infrastructures etc.,

Ultimate pit size is designed based on certain practical factors such as the economical depth of mining, safety zones, permissible areas etc.,

Ultimate Pit dimension is given as under

Plan Period	Length in m (Max)	Width in m (Max)	Depth in m (Max)
First Five Years	346	150	44m below ground level (4m – Gravel & 44m–Rough stone)
Second Five Years	346	150	59m below ground level (4m – Gravel & 55m–Rough stone)



Afforestation has been proposed on all along the safety barrier by planting saplings of various species of Saplings. All the baseline information studies like Air Quality monitoring, Noise and Vibration monitoring, Water Analysis studies will be carried out every year as per the MOEF norms. It is proposed to engage any local institution to monitor the EIA and EMP studies during the course of quarrying operation after the grant of quarry lease.

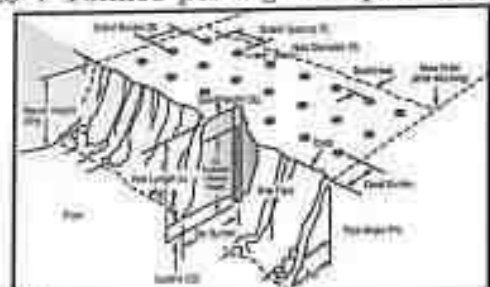
7.0. BLASTING

7.1. Blasting Pattern:

The massive formation shall be broken into pieces of portable size by drilling and blasting using jack hammers and shot hole blasting. Powder factor of explosives for breaking such hard rock shall be in the order of 6 to 7 Tonnes per Kg of explosives. Blasting parameters are as follows.

Drilling and blasting parameters are as follows

Diameter of the hole	: 30-32 mm
Spacing between holes	: 1.5m
Depth of each hole	: 1 to 1.5m
Burden for hole	: 1.0m
Inclination of hole	: 80° from the horizontal
Use of delay detonators	: 25 milliseconds
Detonating fuse	: Detonating cord
Blasting Design	: Staggered "V" Pattern

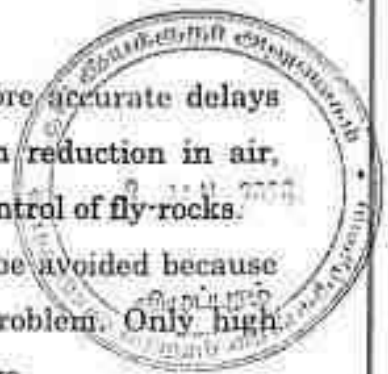


7.2. Types of Explosives

Small dia, 45mm Slurry explosive are proposed to be used for shattering and heaving effect for removal and winning of Rough Stone & Gravel. No deep hole drilling or primary blasting is proposed.

7.3. Measures proposed to minimize ground vibration due to blasting

- ❖ Controlled blasting measures will be adopted for minimizing ground vibration and fly of rocks. Shallow depth drilling and smooth blasting is proposed to carry out with minimum usage of explosive mainly to give shattering effect in Rough Stone for easy excavation and control of fly rocks.
- ❖ The following steps shall be adopted to control ground vibration due to blasting. The minimum recommended delay time of 8ms was introduced to minimize ground vibration.



- ❖ In case of electronic detonators, which are inherently much more accurate delays (+/- 0.2 milliseconds delay) to minimize the ground vibration reduction in air, reduction over break, improved well fragmentation and better control of fly-rocks.
- ❖ Use of Ammonium nitrate, fuel oil mixture for shot holes may be avoided because which cause for high fly of rocks in view critical diameter problem. Only high strength explosives like slurry will be used in the form of cartridge.

7.4. Storage of Explosives and safety measures to be taken while blasting.

- ❖ The Applicant is advised to engage an authorized explosive agency to carry out small amount of blasting and it will be supervised by the competent statutory Mining Mate /Foreman /Manager. The explosive agency should have the valid Blaster Certificate.
- ❖ He will blast holes in quarry site. After completion the blasting, the agency will take it out back the remaining quantity of explosives to the temporarily available the Magazine at the quarry site. The blasting time of the day is proposed to be 1 PM to 2.30PM.
- ❖ First Aid Box will be keeping ready at all the time in Mines Office room. Necessary precautionary announcement will be carried out before the blasting operation.

8.0. MINE DRAINAGE

8.1. Depth of Water Level

- ❖ The ground Water Level is noticed at the depth of 70m to 75m below Ground Level by monitoring nearby bore hole, during the climatic conditions, the fluctuations of water level are 70m in Rainy seasons and 75m in summer seasons of this quarry area.
- ❖ The quarry operation is proposed up to an ultimate depth of 59m (4m Gravel & 55m Rough Stone). Hence the quarrying operation may not affect the ground water in any manner.
- ❖ It shall be ensured that quarrying shall not be carried out below ground water table under any circumstances.
- ❖ If ground water table occurs/intervenes within the permitted depth, then also the quarrying shall be stopped.

8.2. Arrangement and Places where the mine water is finally proposed to be discharged

- ❖ The ground water may not rise immediately in this type of mining. However, the rain water percolation and collection of from seepage shall be less than 150LPM and it will be pumped out periodically by a stand by diesel powered Centrifugal pump with 6HP Motor.
- ❖ The quality of water is potable and no contamination with any hazardous things.
- ❖ Hence, the water stored in quarrying pit will be pumped out the adjacent agricultural fields and further stored in old pit the water is used for Dust suppression/ Plantation purposes.

9.0. ECOLOGY AND BIODIVERSITY

The green belt in the lease area be developed taking into consideration the availability of area as the efficiency of green belt in pollution control mainly depends on tree species, its width, distance from pollution sources, side of the habitat from working place and tree height. The proposed green belt should be designed to control PM10, gaseous pollutants, noise, surface run off and soil erosion etc., While considering the above aspects due care should be taken for selecting the suitable characteristics plant species such as fast growing, locally suitable plant species, resistant to specific pollutant and those which would maintain the regional ecological balance, soil and hydrological conditions.

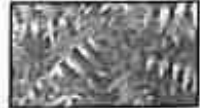


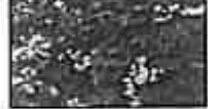
Flora as observed and identified in the field are covered by mostly Neem, Erukku, Panai trees, Palmira tree is found more on regional scale. The Applicant has developed trees like Neem, Pungam, Teak, Caesarians and Eucalyptus, regional trees etc., with

Proper nursery garden and plantation on vacant land. The fauna species observed around the 500m radius of the project site is given in the table.

**List of Flora observed around the quarry site
(Flora Trees & Flora Shrubs)**

Table No: 10

Flora - Trees			
S.No	Tamil Name	Botanical Name	Photograph
1	Neem tree	Azadirachataindica	
2	Panai tree	Borassusflabellifer	
3	MulluMaram	Prosopisjuliflora	
4	Punga Maram	Millettia pinnata	
5	Savukku Maram	Casuarina cunninghamiana	

Flora - Shrubs			
1	Korai	Cyperus Pangorei	
2	Avaram	Senna articulate	
3	Erukku	Calotropis	
4	Mookuthichedi	Tridaxprocumbens	
5	Musumusukkai	Melothria	

List of Fauna observed around the quarry site
(Fauna Mammals & Fauna Avian)
Table No: 11



Fauna Mammals			
S.No	Common Name	scientific name	Photograph
1	Anil	Funambulus Palmarum	
2	Thavalai	Cane toad	
3	Keeri	Herpestes Edwardsii	
4	Rabbit	Oryctolagus cuniculus	
Avian Fauna			
1	Crow	Corvus Splendens	
2	Myna	Acridothera tristis	
3	Chittukuruvi	Saxicoloides Fulicatus	
4	Parunthu	Haliastur Indus	

10.0. OTHER PERMANENT STRUCTURES



1. *Habitations / Village Natham (300m)*
 - ❖ There are no inhabited sites within the radius of 300m from the boundary of lease area under Rule 36 (1-A) (a) TNMMCR 1959.
 - ❖ The Nearest Village habitation is Sirunavur Village which is about 1.5km on Eastern side of the Lease applied area.
 - ❖ The applicant ensures the quarrying operation will be carried out without any hindrance to the habitants and adjoining land owners.
2. *Power lines (HT/LT) (50m)*

There are no Power lines (HT/LT) within a radius of 50m
3. *Water bodies (River, Pond, Lake, Odai, Channel etc.) (50m)*

There are no water bodies within 50m radius.
4. *Archeological / Historical Monuments (500m)*

There are no Archeological / Historical Monuments within a radius of 300m from the boundary of lease applied area.
5. *Existence of public road / (SH, NH others), Railway line if any (50m)*
 - ❖ There is an existing road from the lease area leads Sirunavur Village Road about 50m is Southern side of the lease applied area.
 - ❖ NH-32 Road Tindivanam to Puducherry which is about 7.5 Km on the Northeastern side of the lease applied area.
 - ❖ SH-136 Kutteripattu to Puducherry Road is located which is about 3.0 Km on the Southern side of the lease applied area.
6. *The Nearest Railway line is Perani station located at Viluppuram to Chengalpeta Railway line which is about 13Km on the Western side of the area.*
7. *Places of Worship (Temples, Church, Mosque etc.) (500m)*
 - ❖ There is no Places of Worship within a radius of 500m.
8. *Reserved Forest / Forest / Wild Life Sanctuary etc., (10Km)*
 - ❖ There is no Reserve Forest around 1.0 Kms radius
9. *Any Other Structures: Nil*

11.0. EMPLOYMENT POTENTIAL & WELFARE MEASURES:**11.1. 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.

Management and Supervisor:

1. Second Class Mines Manager (with valid statutory qualification)	: 1 No
2. Mines Foreman (with valid statutory qualification)	: 1 No
3. Mines Mate (with valid statutory qualification)	: 1 No
4. Blaster	: 1 No
5. Hand Jack-Hammer operator	: 18 Nos

Laborers, Skilled, Semi-Skilled & Un-skilled

a. Skilled (Operators- Excavator & Jackhammer)	: 4 Nos
b. Semi-skilled (Driver)	: 6 Nos
c. Unskilled (Musdoor/Labours, Cleaners & Watch man)	: 16 Nos

Total : 48 Nos

Allowing 10% absenteeism, the no. of men of roll will be around 45 Nos.

It is been ensured that, *Child Labours under 18 Years of age will not be engaged for any quarrying operation.*

Necessary Life Insurance policies will be taken by the applicant to all the employees up to the end of the lease period.

11.2. Welfare Measures***a. Drinking Water***

- ❖ Drinking water is available from the nearby bore wells or from water vendors in Sirunavur Village which is about 1.5km on East of the Lease applied 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

- ❖ First Aid station as per provisions under Rule (44) of the Mines Rules, 1955 will be provided and First aid kits kept in mines office room, the qualified first aid

personnel should be appointed or nominated to attend emergency first aid treatment.

- ❖ In case of eventuality, the victim will be given first aid immediately at the site and the injured person will be taken to the **Mailam** Village is about 6.5 Km on Western side. The competent and statutory of Foreman/Mate/Permit Manager will be in charge of the First aid.

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 Laborers*



- Helmets, Mine Goggles, Ear plugs, Ear muffs, Dust mask, Reflector Jackets, Safety Shoes.

All personnel protective devices will be provided as per the specification approved by Director of mines safety. Periodically medical check-up will be conducted for all workers for any mine health related problems. Proper training and vocational education will be given by qualified and experienced safety officer to all the employees about the safety and systematic rough stone quarrying operations. The drillers and workers will be sent for vocational training periodically, to carry out the quarrying operations scientifically and to safe guard the men and machinery and to create awareness about conventional opencast quarrying operations.

PART - B**12.0. ENVIRONMENT MANAGEMENT PLAN****12.1. Existing Land Use Pattern**

The area is exhibiting Plain topography. The applied area is dry barren land and devoid of agriculture and habitations and the area is not used for the specific vegetation. The surrounding area is practiced by the seasonal cultivation.

The existing Land use pattern is given as under

Table No-12

S. No.	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)
1.	Quarrying Pit	Nil	5.43.90
2.	Infrastructure	Nil	0.02.00
3.	Roads	Nil	0.06.75
4.	Green Belt	Nil	1.08.70
5.	Unutilized	6.61.35	Nil
	Total	6.61.35Ha	6.61.35Ha

12.2. Water Regime

Water Level in this quarry area is noticed at a depth of 70m to 75m below Ground Level, observed nearby bore hole the quarrying of Rough Stone & Gravel is proposed up to a ultimate depth of 59m (4m Gravel & 55m Rough Stone). Hence, it will not affect the quality of ground water depletion of this area.

12.3. Flora and Fauna

The Thorny bushes are placed in quarry area and Neem, Pungam, Panai trees are noticed around the quarry area. Except acacia bushes, no other valuable trees are noticed in the lease applied area. Further, neither flora of botanical interest nor fauna of zoological interest is noticed in this area.

12.4. Climatic conditions

The area receives annual rainfall of about 800mm to 900mm and the rainy season is mainly from Oct - Dec receives rain both in south west and north east monsoon. The summer is hot with maximum temperature of 35°C and during winter encounters a minimum temperature of 18°C.



12.5. Human Settlement

The nearest habitations with the population, approx. distance within 5.0Km radius from the proposed quarry site are as given under,

Table No-13

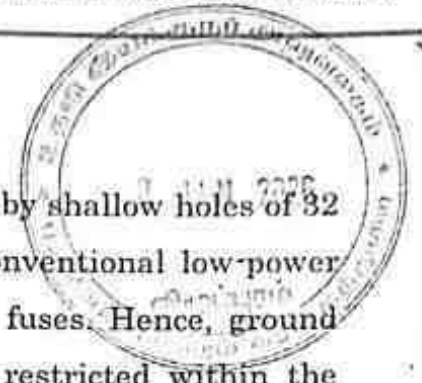
S. No	Name of the Village	Approximate distance	Direction from lease applied area	Approximate population
1.	Siruvavur	1.5Km	E	290
2.	Perumbakkam	1.5Km	W	2,357
3.	Kunnam	1.5Km	SE	1,742
4.	Parikkalpattu	2.0Km	NW	1,077

12.6. Plan for Air, Dust Suppression

The air quality will be affected by the Suspended Particulate Matter (SPM) generated by the blasting, jack hammer drilling, loading and unloading during the quarrying operation. The following mitigation measures will be carried out, Mist water spraying will be carried out by means of water sprinklers to suppress dust emission in the Haul roads. The native species of Neem, Pungam, Panai etc., will be planted along the lease boundary and Safety buffer zone. The quarried-out materials will be fully covered by the Tarpaulin during transportation to avoid the spillage of materials. The Air quality will be monitored periodically as per the norms and mitigate measures carried out to prevent dust and air propagation in to the air Operators, those exposed directly to such conditions will be provide such as (PPE) Personnel Protective Equipment's like Dust mask, Ear plug, Helmet, Gloze etc., as per the Mines Act -1952.

Image of the water spray Vehicle





12.7. Plan for Noise Control:

- The quarrying of Rough Stone & Gravel will be carried out by shallow holes of 32 mm diameter and 1.5 m depth using wet drilling and conventional low-power explosives such as slurry explosives with ordinary safety fuses. Hence, ground vibration and noise pollution will be very minimal and restricted within the quarry working area. However, periodical noise level monitoring and other mitigation measures will be undertaken to further reduce noise and vibration in and around the quarry site.
- Noise levels will be regularly monitored, and at no point should the noise exceed the permissible limit of 80 dB during quarry working hours as per CPCB standards.
- Drivers will be strictly instructed to maintain a maximum speed of 40 km per hour during transportation to minimize noise and vibration. Sentries with red flags and whistles will be stationed at village junctions to regulate traffic and ensure public safety.
- Blasting operations will be scheduled only during daytime and will be carried out with proper delay detonators to reduce vibration and noise impact.
- All heavy vehicles and machinery will be periodically serviced and maintained in good condition to avoid unnecessary noise generation.
- Use of silencers and mufflers in diesel engines will be strictly enforced to control vehicular noise.
- Workers exposed to high noise areas will be provided with Personal Protective Equipment (PPE) such as earplugs and earmuffs.
- Greenbelt development along the lease boundary with dense plantation of Neem, Pungan, and other native species will act as a natural acoustic barrier.
- Awareness training programs will be conducted for workers and drivers regarding safe blasting practices, controlled vehicle movement, and noise control measures.
- A grievance redressal mechanism will be maintained for local residents to report any noise or vibration disturbance, and corrective measures will be taken immediately.

12.8. Environmental Impact Assessment Statement Describing Impact on mining on the Five years

- ❖ The mining plan proposed is for a small production of Rough Stone & Gravel without involving deep hole drilling and heavy 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, anyhow environmental impact studies will be conducted as per EIA notification issued by MOEF. It is B1 Category of mine.

12.9. Proposal for Waste Management

There are no wastes anticipated during this Rough Stone & Gravel quarry operation. The quarried-out materials 100% will be utilized.

12.10. Proposal of Reclamation of Land affected during mining activities and at the end of mining (refilling/fencing etc.)

In the proposed mining plan only a maximum depth of 59m (4m Gravel & 55m Rough Stone) has been envisaged as workable depth for Safe & Economic mining during the lease period. Hence, after quarry reaches Ultimate Pit Limit (for this lease period) of 59m (4m Gravel & 55m Rough Stone), Barbed wire fencing will be constructed around the quarried pits to prevent inherent entry of the public and cattle.

12.11. Program for Afforestation:

The 7.5m & 10m safety distance along the lease boundary has been identified to be utilized for Afforestation in a phased manner as described below.

Table – 14

Years	No. of trees proposed to be planted	Survival %	Area to be covered sq.m	Name of the species	No. of trees expected to be grown
I	120	80	1080	Neem, Pongamia Pinnata, Casuarina, etc.,	96
II	120	80	1080		96
III	120	80	1080		96
IV	120	80	1080		96
V	120	80	1080		96
VI	120	80	1080		96
VII	120	80	1080		96
VIII	120	80	1080		96
IX	120	80	1080		96
X	120	80	1080		96

- Nearly 10870 Sq.m area is proposed to use under Afforestation by planting 120Nos of Neem Saplings etc., every year in the spacing interval of (3m X 3m) with an anticipated survival rate of 80%.
- Appropriate native species of Neem, Pungan, Teak and Casuarinas Saplings will be planted approach roads, service roads, nearby villages, village roads, government school etc.,
- Saplings of local plants of regional trees will be planted as per the consultation of the local Forest Department.
- The Quarry Land use, Layout and Afforestation Plan are showing in Plate No. V.

12.12. Proposed Financial Estimate / Budget for (EMP) Environment Management

Table - 15

S.No	Monitory and Analysis Description	Rate per location	No. of location	Total Charges for monitoring		
				6 months	Per Year	5 Years
1	Ambient Air quality monitoring	6500	4	26000	52000	260000
2	Water sampling and analysis	9000	1	9000	18000	90000
3	Noise level monitoring	250	4	1000	2000	10000
4	Ground vibration monitoring	1000	2	2000	4000	20000
Total EMP Cost				38000	76000	3,80,000

The Environment Monitoring EMP Studies Cost would be around Rs. 3,80,000/- for a period of 5 Years only.

I. Project Cost & Investment:

1) Land cost

It is an Own Patta land, the approximate present land cost is about Rs.5,00,000/- per Hectare hence the land cost is calculated as Rs. 35,00,000/-

2) Refilling/ Fencing

There is no proposal for Refilling, after the excavation of Rough Stone & Gravel the quarried-out land will be fenced with barbed wire fencing the cost would be around Rs.3,00,000/-.

3) Laborers shed

Labours are proposed for quarrying Rough Stone & Gravel. The machine Operators and workers are from nearby local villages; hence no cost is involved. Rest shelter will be constructed as semi-permanent structure at the cost of Rs.2,00,000/-



4) *Sanitary facility*

Sanitary facility will be constructed as semi-permanent structure, the cost will be around Rs.1,50,000/-.

II. Machinery to be used:

The Machineries like Jack Hammer, Tractor mounted compressor attached with Jack hammer, Excavator of 0.9m³ bucket capacity attached with Rock Breaker are proposed to deploy for quarrying operation and Tippers/Trucks of 10/2 Tons capacity will be used for the quarrying transportation for hired basis, the cost will be around Rs. 35,00,000/-.

I. Fixed Asset Cost:

1. Land cost	= Rs. 35,00,000/-
2. Refilling/Fencing cost	= Rs. 3,00,000/-
3. Rest shelter	= Rs. 2,00,000/-
4. Sanitary Facility	= Rs. 1,50,000/-

II. Machinery Cost:-

Total Project Cost	=Rs. 76,50,000/-

III. Expenditure:

1) *Drinking Water facility and other utilities for the labourers*

Packaged drinking water will be provided for all the Labours. Drinking water will be readily available at conveniently accessible points during the whole of the working shift the cost would be around Rs. 2,00,000/-

2) *Sanitary arrangement*

The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around Rs. 1,00,000/-

3) *Safety kits*

All the Safety kit such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided to the workers by the applicant own cost which would be around Rs. 1,00,000/-

4) *Water sprinkling (if necessary)*

Water will be sprinkled in the haul roads by water sprinklers the cost would be around Rs. 2,00,000/-

5) 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.2,00,000/-

Expenditure:

1. Drinking water	= Rs. 2,00,000/-
2. Sanitary Arrangements	= Rs. 1,00,000/-
3. Safety kits	= Rs. 1,00,000/-
4. Water Sprinkling	= Rs. 2,00,000/-
5. Afforestation cost	= Rs. 2,00,000/-

Environment Monitoring /5Years:

1) Air Quality Sampling	= Rs. 2,60,000/-
2) Water Quality Sampling	= Rs. 90,000/-
3) Noise Level Monitoring	= Rs. 10,000/-
4) Ground vibration test	= Rs. 20,000/-

EMP Cost Total = Rs. 11,80,000/-

(Expenditure Including EMP Studies)

Total Project Cost = Rs.76,50,000/-

EMP Cost = Rs.11,80,000/-

Grand Total = Rs. 88,30,000/-

12.13 Corporate Environment Responsibility (CER):

- ❖ The Applicant shall distribute Note books, Stationary 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.2,00,000/-) 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.*

13.0. MINE CLOSURE PLAN

13.1. Steps proposed for phased restoration, reclamation of already mined out area.

- ❖ This conventional Systematic, Scientific and Eco-Friendly quarrying operation for a ultimate depth of 59m (4m Gravel & 55m Rough Stone) and not required any Backfill, Reclamation and Rehabilitation, the quarried-out lands will be used for Water storage/ Recharge purpose.
- ❖ The mined-out area will be fenced on top of open cast working with wire fencing to arrest the entry of cattle and public in to the quarry site.

13.2. Measures to be under taken on mine closure as per Act & Rules.

Measure will be taken as per Act & Rules. The quarried pit will be fenced by using Barbed wire fencing to prevent inherent entry of public and cattle.

13.3. Mitigation measures to be undertaken for safety and restoration/ reclamation of the already mined out area.

Air Quality:

- Air quality may get slightly degraded due to drilling, blasting, mining operations, and transportation activities.
- Drilling will be carried out in wet drilling mode to control dust propagation into the air.
- Blasting will be carried out on a limited scale, with proper precautions to minimize dust and gaseous emissions.
- Mist water spraying on haul roads is proposed to suppress dust generation and to maintain ambient air quality.
- Greenbelt development around the lease boundary will act as a natural barrier for dust dispersion and help in improving air quality.
- Periodic air quality monitoring will be carried out to ensure compliance with prescribed standards of the Central Pollution Control Board (CPCB).
- Transportation of minerals will be regulated by covering the trucks with tarpaulin sheets to avoid fugitive dust emissions.
- Vehicle movement inside the quarry will be maintained at low speed to minimize dust raising from haul roads.

Noise and Vibration:

- Noise will be generated mainly from drilling, blasting, loading, unloading, and movement of vehicles and machinery.
- The applicant has proposed to plant native species such as *Neem* along the safety zone, which will act as a natural barrier against noise.
- Wet drilling will be practiced not only to control dust emission but also to reduce noise during operations.
- All vehicles and machinery will be maintained in good condition and operated as per RTO and TNPCB norms to minimize noise, smoke, and vibration.
- Noise levels will be monitored regularly and maintained below the permissible limit of 80 dB (decibel) in working zones.
- Controlled blasting techniques with proper delay detonators will be adopted to minimize ground vibration and reduce noise levels.
- Personal protective equipment (PPE) such as ear plugs and ear muffs will be provided to workers exposed to high noise areas.
- Blasting operations will be carried out only during daytime and with prior intimation to nearby residents, if any.
- Speed limits will be imposed for vehicles inside the quarry to minimize vibration and noise due to traffic.
- Periodical monitoring of noise and vibration will be undertaken, and necessary corrective measures will be implemented if levels exceed prescribed standards.

**Water Regime:**

- The quarrying operation is proposed up to a maximum depth of 59 m (4m Gravel & 55m Rough Stone), which is well above the groundwater table (70 m during rainy seasons & 75 m during summer seasons). The proposed period of mining is only 5 years; hence, the groundwater table will not be affected in any manner.
- The seepage and rainwater collected in the quarry pit will be drained out by a 5H.P. motor pump and passed through a filter media before being discharged to the boundary barrier for afforestation. Excess water will be utilized for dust suppression by spraying on haul roads to control air pollution.
- The Rough Stone & Gravel quarry will not generate any harmful or toxic effluents in the form of solid, liquid, or gas that may pollute the water regime.
- Garland drains and check dams will be constructed along the quarry boundary to prevent surface runoff and to avoid siltation in nearby lands.



- Stormwater management measures will be implemented to ensure that rainwater is properly diverted and utilized without causing soil erosion or water stagnation.
- Water consumption for quarry operations will be limited to dust suppression, greenbelt development, and domestic needs of the workers. No groundwater extraction is proposed for the quarry operations.
- Drinking water for workers will be sourced from approved local suppliers to ensure potable water quality.
- Regular monitoring of water quality in nearby open wells and bore wells will be carried out to assess any changes, and reports will be maintained as per TNPCB/CPCB guidelines.
- Adequate measures will be taken to ensure that quarry activities do not contaminate surface water or groundwater resources.
- Rainwater harvesting measures will be encouraged within the lease area to improve groundwater recharge in the long run.

14.0. ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT

- i. This Mining Plan for Rough stone (Charnockite) & Gravel Quarry is prepared under amended Rules 41 & 42 of Tamil Nadu Minor Mineral Concession Rules 1959.
- ii. The measures will be taken as per Mines Act & Mine Rules and Regulations and orders made there under shall be complied with, so that the safety of mine, machinery and mine workers will be protected.
- iii. It is expected that the mining will be done skillful, systematically, scientifically, and Eco-friendly quarrying operation.
- iv. There are no deep hole drilling and heavy blasting of this lease area.
- v. The Applicant will endeavor every attempt to quarry the Rough Stone & Gravel economically without any wastage and to improve the environment and ecology.
- vi. Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the Department.

Prepared by

N. Suresh

Signature of Qualified Person

N. SURESH, M.Sc., (Geology)

Qualified Person

Place : Salem

Date :

This plan is approved based on the instructions and guidelines issued by the Director, Geology and Mining, Government of Tamil Nadu, dated 10-11-2012 and based on the instructions issued by the Director, Geology and Mining, Viluppuram in the order No. 20/456/20/409/2025 dated 12-12-2025.

Dated : 05/01/22

Anal. Director,
Geology and Mining,
Viluppuram.

ந.க.எண்.ஆ/புவி(ம)சு/409/2025
நாள்:29.12.2025.

உதவி இயக்குநர், திருவலகம்,
புவியியல் மற்றும் சுரங்கத்துறை,
விழுப்புரம்.

அறிவிப்பு

பொருள்: கனிமங்களும் குவாரிகளும் - சிறுகனிமம் - சாதாரண கற்கள் மற்றும் கிராவல் - விழுப்புரம் மாவட்டம் - வானூர் வட்டம், சிறுநாலூர் கிராமம் - பட்டா புல எண்கள்: 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர், 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர், 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர், 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்த பரப்பு 6.61.35 ஹெக்டேர் பரப்பளவில் பத்தாண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குவாரி குத்தகை அனுமதி கோரி M/s TAAMAESEK ENGINEERING CONSORTIUM, Chennai என்ற நிறுவனத்தினர் விண்ணப்பம் செய்தது - உரிமம் வழங்க பரிந்துரை செய்து அறிக்கை வரப்பெற்றது - புலத்தணிக்கை மேற்கொள்ளப்பட்டது - குவாரி குத்தகை உரிமம் வழங்க 6.61.35 ஹெக்டேர் பரப்பினை தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டம் மற்றும் சுற்றுச்சூழல் தரக்க மதிப்பீடு ஆணைய இசைவினை பெற்று சமர்ப்பிக்கக் கோருதல் - தொடர்பாக.

பார்வை:

1. M/s TAAMAESEK ENGINEERING CONSORTIUM, No.5, Bishop Wallers Avenue West, Mylapore, Chennai என்பவரின் இணையவழி (MIMAS) விண்ணப்ப நாள்: 27.10.2025.
2. இவ்வலுவலக கடிதம் ந.க.எண். ஆ/புசு/409/2025 நாள்: 28.10.2025.
3. வருவாய் கோட்டாட்சியர், விழுப்புரம் கடித எண். ந.க.அ/3777/2025, நாள்: 12.12.2025.
4. விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை உதவி புவியியலாளர் புலத்தணிக்கை அறிக்கை நாள்: 17.12.2025

M/s TAAMAESEK ENGINEERING CONSORTIUM, No.5, Bishop Wallers Avenue West, Mylapore, Chennai என்ற நிறுவனத்தினர் விழுப்புரம் மாவட்டம், வானூர் வட்டம், சிறுநாலூர் கிராமம், பட்டா புல எண்கள்: 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர், 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர், 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர், 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்தபரப்பு 6.61.35 ஹெக்டேர் பரப்பளவில் பத்தாண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுப்பது தொடர்பாக 1959-ஆம் ஆண்டு தமிழ்நாடு சிறுவகை கனிமச்சலுகை விதிகள், விதி எண். 19-ன்கீழ் குவாரிப்பணி செய்ய உரிமம் வழங்கிட கோரி பார்வை 1-ல் காணும் விண்ணப்பம் செய்துள்ளார்.

2) மனுதாரர் உரிய படிவத்தில் மனு செய்திருப்பதுடன், விண்ணப்பக் கட்டணம் ரூ.1500/-ஐ இசைவான் எண். 20251027038204, நாள்: 27.10.2025-ல் பாரத ஸ்டேட் லங்கியில் செலுத்தியுள்ளார். மேலும், மனுதாரர் செலுத்த வேண்டிய வருவாய் வரி மற்றும் சனிம் வரி ஏதும் நிலுவையில் இல்லை என்பதற்கான சான்றுறுதி ஆவணம் மற்றும் கிராம கணக்கு நகல்களையும் சமர்ப்பித்துள்ளார்.

3) மனுதாரர் சாதாரண கற்கள் மற்றும் கிராவல் வெட்டி எடுக்க உரிமம் கோரிய புலன்களை விழுப்புரம் வருவாய் கோட்டாட்சியர் மற்றும் விழுப்புரம் மாவட்ட புலியியல் மற்றும் சுரங்கத்துறை, உதவி புலியியலாளர் ஆகியோர் இடப்பார்வை செய்து அறிக்கை சமர்ப்பித்துள்ளனர்.

4) பார்வை 3-ல் கண்ட விழுப்புரம் வருவாய் கோட்டாட்சியர் அவர்களிடமிருந்து வரப்பெற்ற விசாரணை அறிக்கை பரிசீலனை செய்வப்பட்டதில், விழுப்புரம் மாவட்டம், வானூர் வட்டம், கிளியனூர் குறுவட்டம், சிறுநாலூர் கிராமம், பட்டா புல எண்கள் 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர் 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர் 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர் 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்தபரப்பு 6.61.35 ஹெக்டேர் பரப்பளவில் 10 ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குவாரி குத்தகை அனுமதி கோரி M/s TAAMA ESEK ENGINEERING CONSORTIUM, Chennai என்பவர்களது இணையவழி (MIMAS) மூலம் விண்ணப்பம் அளித்தது தொடர்பாக, வானூர் வருவாய் வட்டாட்சியர் அளித்த அறிக்கையின் அடிப்படையில் அறிக்கையினை பின்வருமாறு சமர்ப்பித்துள்ளார்.

விழுப்புரம் மாவட்டம் வானூர் வட்டம், கிளியனூர் குறுவட்டம், சிறுநாலூர் கிராமம், பட்டா புல எண்கள் 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர் 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர் 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர் 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்தபரப்பு 6.61.35 ஹெக்டேர் (ஏக்கர் 16.33) மட்டும் கிராம ஆவணங்களான கணினி சிட்டா/அடங்கலில் "டாமெக்ஸ் இன்ஜினியரிங் கன்சர்ஜியம்" பெயரில் தனி மட்டாவாக 601 ல் பதிவாகியுள்ளது எனவும், மேற்படி மட்டாவாரான "டாமெக்ஸ் இன்ஜினியரிங் கன்சர்ஜியம்" என்ற நிறுவனம் கிராம ஆவண எண்: 4627/2025-ன் படி மேற்படி கிராம புலங்களில் ஹெக்டேர் 6.61.35 ஹெக்டேர் மட்டும் கிராமம் பெற்று அனுபவம் செய்து வருகிறார்கள் என்பது விசாரணை மற்றும் புலத்துணிக்கையின் போது தெரியவருகிறது எனவும் தெரிவித்துள்ளார்.

"அ" பதிவேடு

வ. எண்	அனுமதி கோரிய புலஎண் மற்றும் விஸ்தரணம்	வகைபாடு	விஸ்தரணம் ("அ" பதிவேட்டின் படி மொத்த விஸ்தரணம்)	"அ" பதிவேட்டின் விவரம்	தற்போதைய உரிமைபாளர் விவரம்/பட்டாள எண்	குறிப்பு கலம்
1	13/1A 1.07.5 ஹெக்டேர்	ர.புஞ்சை	1.32.5	திரு.தில்லைக்க ண்ணு பட்டாள எண். 145	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண்- 601	
2	13/1B 0.25.0 ஹெக்டேர்	ர.புஞ்சை	0.25.0	திரு.தி.அன்பழகன் பட்டாள எண். 111	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண்- 601	
3	13/2A 2.47.1 ஹெக்டேர்	ர.புஞ்சை	4.04.05	13/2 - திரு.அ.அரிகிருஷ்ணன் பட்டாள எண். 16	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண்- 601	
4	13/3A 0.13.5 ஹெக்டேர்	ர.புஞ்சை	0.54.0	திரு.தில்லைக்க ண்ணு பட்டாள எண். 145	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண்- 601	
5	13/3B 0.40.5 ஹெக்டேர்	ர.புஞ்சை	0.40.5	திரு.தி.அன்பழகன் பட்டாள எண். 111	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண்- 601	
6	13/4A 0.13.5 ஹெக்டேர்	ர.புஞ்சை	0.54.0	திரு.கு.ஜெயராமன் பட்டாள எண். 297	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண் - 601	
7	13/4B 0.40.5 ஹெக்டேர்	ர.புஞ்சை	0.40.5	திரு.தி.அன்பழகன் பட்டாள எண். 111	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண் - 601	
8	13/5 0.92.0 ஹெக்டேர்	ர.புஞ்சை	0.92.0	திரு.தில்லைக்க ண்ணு பட்டாள எண். 145	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண் - 601	
9	4/1 0.61.5 ஹெக்டேர்	ர.புஞ்சை	0.61.5	திரு.அ.அரிகிருஷ்ணன் பட்டாள எண். 16	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண் - 601	
10	4/4A 0.20.5 ஹெக்டேர்	ர.புஞ்சை	1.06.0	4/4-ல் திரு.ந.அரிகிருஷ்ணன் பட்டாள எண் 17	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் பட்டாள எண் - 601	சதுரக் கிணறு

கணினி "அ" பதிவேடு

வ.எண்	புல எண்	வகைபாடு	கணினி "அ" பதிவேட்டின் விவரம்/மட்டாஎண்	குறிப்பு கலம்
1	13/1A 1.07.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண்- 601	-
2	13/1B 0.25.0 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண்- 601	-
3	13/2A 2.47.1 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண்-601	-
4	13/3A 0.13.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண்- 601	-
5	13/3B 0.40.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண்- 601	-
6	13/4A 0.13.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண் -601	-
7	13/4B 0.40.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண் -601	-
8	13/5 0.92.0 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண் -601	-
9	4/1 0.61.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண் -601	-
10	4/4A 0.20.5 ஹெக்டேர்	ர.புஞ்சை	டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் மட்டாஎண் -601	-

குவாரிக்குத்தகை அனுமதி கோரும் புலன்களின் நான்கு எல்லை விவரம்:

வ.எண்	புல எண் /அடிப்பு	நான்கு பக்க எல்லைகளில்
1.	13/1A 1.07.5 ஹெக்டேர்	வடக்கு- புல எண் 6/5-மட்டா நிலம் -ர.புஞ்சை
		தெற்கு- புல எண் 13/2A-மட்டா நிலம் -ர.புஞ்சை
		கிழக்கு- புல எண் 13/1B -மட்டா நிலம் -ர.புஞ்சை
		மேற்கு- புல எண் 5/3 -மட்டா நிலம் -ர.புஞ்சை
2	13/1B 0.25.0 ஹெக்டேர்	வடக்கு- புல எண் 6/5-மட்டா நிலம் -ர.புஞ்சை
		தெற்கு- புல எண் 13/2A-மட்டா நிலம் -ர.புஞ்சை
		கிழக்கு- புல எண் 13/2A -மட்டா நிலம் -ர.புஞ்சை
		மேற்கு- புல எண் 13/1A -மட்டா நிலம் -ர.புஞ்சை

3.	4/1 0.61.5 ஹெக்டேர்	வடக்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 5/3-பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 4/2 -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 3/4 -பட்டா நிலம் -ரபுஞ்சை
4.	13/2A 2.47.1 ஹெக்டேர்	கிழக்கு - புல எண் 12/1,2 -பட்டா நிலம் -ரபுஞ்சை மேற்கு - புல எண் 4/1,2: 13/1B-பட்டா நிலம் -ரபுஞ்சை வடக்கு - புல எண் 13/1A,1B: 6/5,13/3B,4B,5 -பட்டா நிலம் - ரபுஞ்சை தெற்கு - புல எண் 4/4B,13/2B,14/3 -பட்டா நிலம் -ரபுஞ்சை
5.	13/3A 0.13.5 ஹெக்டேர்	வடக்கு- புல எண் 6/5-பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/3B-பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/4A -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை
6.	13/3B 0.40.5 ஹெக்டேர்	வடக்கு- புல எண் 13/3A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/4B -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை
7.	13/4A 0.13.5 ஹெக்டேர்	வடக்கு- புல எண் 8/6 -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/4B -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/5 -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/3A -பட்டா நிலம் -ரபுஞ்சை
8.	4/4A 0.20.25 ஹெக்டேர்	வடக்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 4/4B -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/2B -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 4/2 -பட்டா நிலம் -ரபுஞ்சை
9.	13/4B 0.40.5 ஹெக்டேர்	வடக்கு- புல எண் 13/4A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/2B -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/5,2B -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/3B -பட்டா நிலம் -ரபுஞ்சை
10	13/5 0.92.0 ஹெக்டேர்	வடக்கு- புல எண் 8/6,7,8,9 : 9/3,4 -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/2 A -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 12/1 -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/4A, 4B -பட்டா நிலம் -ரபுஞ்சை

குவாரி அமையவுள்ள புலன்களை சுற்றி 7.5 மீட்டர் அளவிற்கு பாதுகாப்பு இடைவெளி ஏற்படுத்தப்பட்டு புல வரைபடத்தில் காட்டப்பட்டுள்ளது எனவும், குவாரி குத்தகை உரிமம் கோரியுள்ள இடத்தில் இருந்து, வெட்டியெடுக்கப்படும் கற்களை வெளியில் எடுத்துச்செல்ல புல எண் 12/2, 14/3, 21/4, 21/3, 21/2, 21/12, 25/3, 24/1, 28/1, 28/2, 29/1, 30/1, 30/4 வழியாக குன்னம் கிராம எல்லை புல எண் 7/1,2A,2B,4,6,9, 8/10A,10B, 29/1, 10/2, 11/3,4, 29/3 வழியாக கரசாணூர் to ஆதனப்பட்டு கிராம சாலையை அடைகிறது எனவும், மனுதாரர்

குவாரி குத்தகை கோரிய புலங்களில் புல எண் 13/1A, மேற்கு பகுதியில் தெற்கு - வடக்காக விளக்கி-வாய்க்கால் (பட்டா நிலம்) புலப்படகவடியில் (FMB)-ல் உள்ளது. மேற்படி FMB-ல் உள்ளவாறு பூமியில் தற்போது வாய்க்கால்/வண்டிப்பாதை ஏதும் இல்லை என்பது புலத்தணிக்கையில் தெரியவருகிறது எனவும், குவாரி குத்தகை கோரியுள்ள புலங்களில் இருந்து குடியிருப்பு பகுதிகள் எனில் 300 மீ சுற்றுவட்டாரத்திற்குள் ஏதுமில்லை எனவும், மின்கம்பி பாதைகளுக்கும் / தொலைபேசி பாதைகளுக்கும் குத்தகை கோரும் புலங்களுக்கும் இடையே 50மீ இடைவெளியில் ஏதுமில்லை எனவும், குவாரி குத்தகை வழங்க ஆட்சேபணை ஏதுமில்லை என்பது கிராம நிர்வாக அலுவலர் விசாரணையில் தெரியவருகிறது எனவும், குவாரி குத்தகை கோரும் பகுதிக்கு பாதை வசதி உள்ளது எனவும், குத்தகைதாரர் குவாரி அனுமதி கோரும் புல எண்களில், குறிப்பிட்ட புலங்களில், புலத்தின் ஒரு பகுதியில் மட்டும் குவாரி செய்ய அனுமதி வேண்டும் பட்சத்தில் அந்த குறிப்பிட்ட பகுதியை புலவரைபடத்தில் 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, மருத்தி, கிருத்துவ ஆலையங்கள் போன்ற வழிபாட்டு தலங்கள் ஏதுமில்லை எனவும், கல்கட்டிடம், புராதனச்சின்னங்கள், இடுகாடு மற்றும் சுடுகாடு போன்றவை ஏதுமில்லை எனவும், மனுதாரர் கோரும் புல எண் 4/4 - 1.06.0 ஹெக்டேர்ஸ் "அ" பதிவேட்டின் குறிப்பு கலத்தில் சதுரத்திணறு என குறிப்பிடப்பட்டுள்ளது. ஆனால் நிலத்தில் இல்லை எனவும், புல எண் 13/1A ல் தெற்கு - வடக்காக விளக்கி-வாய்க்கால் (பட்டா நிலம்) புலப்படகவடியில் (FMB)-ல் உள்ளது எனவும், ஆனால் "அ"பதிவேட்டில் தாக்கலாகவில்லை எனவும், எனவே, வானூர் வருவாய் வட்டாட்சியர் அறிக்கை மற்றும் புலத்தணிக்கை ஆகியவற்றின் அடிப்படையில் மனுதாரருக்கு, வானூர் வட்டம், சிறுநூலூர் கிராமம் பட்டா புல எண்கள் 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர், 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர், 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர், 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்தபரப்பு 6.61.35 பரப்பளவில் 10 ஆண்டுகளுக்கு "டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம்" என்ற நிறுவனத்திற்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குவாரி குத்தகை அனுமதி உரிமம் வழங்க பரிந்துரை செய்துள்ளார்.

5) பார்வை 4-ல் காணும் விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை அலுவலக உதவி புவியியலாளர் அவர்களின் புலத்தணிக்கை அறிக்கையில், M/s TAAMAESEK ENGINEERING CONSORTIUM, No.5, Bishop Wallers Avenue West, Mylapore, Chennai என்ற

நிறுவனத்தினர் விழுப்புரம் மாவட்டம், வானூர் வட்டம், சிறுநாலூர் கிராமம், பட்டா புல எண்கள் 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர் 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர் 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர் 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்தப் பரப்பு 6.61.35 ஹெக்டேர் பரப்பளவில் பத்திரப்பதிக்கப்பட்ட சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குவாரி குத்தகை உரிமம் கோரியது தொடர்பாக, விழுப்புரம் வருவாய் கோட்டாட்சியர் அவர்களிடமிருந்து வரப்பெற்ற பரிந்துரை அறிக்கையை தொடர்ந்து 16.12.2025 அன்று புலத்தணிக்கை செய்யப்பட்டதாகவும், இத்தணிக்கையின்போது விண்ணப்பதாரர் உடனிருந்ததாகவும், குவாரி குத்தகை உரிமம் வழங்க கோரிய விழுப்புரம் மாவட்டம், வானூர் வட்டம், சிறுநாலூர் கிராம பட்டா புல எண்கள்.13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர் 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர் 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர் 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்த பரப்பு 6.61.35 ஹெக்டேர் பரப்பளவில் உள்ள பட்டா நிலங்கள் பட்டா எண்.601-ன்படி டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் என்ற பெயரில் சிறுநாலூர் கிராம கணாக்குகளின்படி தாக்கலாகியுள்ளது எனவும், எனவே, டாமெக்ஸ் இன்ஜினியரிங் கன்சார்டியம் என்ற நிறுவனத்தினர் மேற்படி நிலத்தில் குவாரி செய்ய தகுதியுடையவர் எனவும், குத்தகை உரிமம் வழங்க கோரியுள்ள புலங்களின் சக்குபந்தி விவரம் கீழ்க்கண்டவாறு தெரிவித்துள்ளார்.

நான்கு எல்லைகள் விவரம்.

வ.எண்	புல எண் /பரப்பு	* நான்கு பக்க எல்லைகள்
1.	13/1A 1.07.5 ஹெக்டேர்	வடக்கு- புல எண் 6/5-பட்டா நிலம் -ரபுஞ்சை
		தெற்கு- புல எண் 13/2A-பட்டா நிலம் -ரபுஞ்சை
		கிழக்கு- புல எண் 13/1B -பட்டா நிலம் -ரபுஞ்சை
		மேற்கு- புல எண் 5/3 -பட்டா நிலம் -ரபுஞ்சை
2.	13/1B 0.25.0 ஹெக்டேர்	வடக்கு- புல எண் 6/5-பட்டா நிலம் -ரபுஞ்சை
		தெற்கு- புல எண் 13/2A-பட்டா நிலம் -ரபுஞ்சை
		கிழக்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை
		மேற்கு- புல எண் 13/1A -பட்டா நிலம் -ரபுஞ்சை
3	4/1 0.61.5 ஹெக்டேர்	வடக்கு- புல எண் 5/3-பட்டா நிலம் -ரபுஞ்சை
		தெற்கு- புல எண் 4/2-பட்டா நிலம் -ரபுஞ்சை
		கிழக்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை
		மேற்கு- புல எண் 3/2, 3, 4 -பட்டா நிலம் -ரபுஞ்சை
4.	13/2A 2.47.1 ஹெக்டேர்	கிழக்கு - புல எண் 12/1,2 -பட்டா நிலம் -ரபுஞ்சை
		மேற்கு - புல எண் 4/1,2: 13/1B-பட்டா நிலம் -ரபுஞ்சை *
		வடக்கு - புல எண் 13/1A,1B: 6/5,13/3B,4B,5 -பட்டா நிலம் -ரபுஞ்சை

		தெற்கு - புல எண் 4/4B,13/2B,14/3 -பட்டா நிலம் - ரபுஞ்சை
5.	13/3A 0.13.5 ஹெக்டேர்	வடக்கு- புல எண் 6/5-பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/3B-பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/4A -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை
6.	13/3B 0.40.5 ஹெக்டேர்	வடக்கு- புல எண் 13/3A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/4B -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை
7.	13/4A 0.13.5 ஹெக்டேர்	வடக்கு- புல எண் 8/6 -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/4B -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/5 -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/3A -பட்டா நிலம் -ரபுஞ்சை
8.	4/4A 0.20.25 ஹெக்டேர்	வடக்கு- புல எண் 13/2A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 4/4B -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/2B -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 4/2 -பட்டா நிலம் -ரபுஞ்சை
9.	13/4B 0.40.5 ஹெக்டேர்	வடக்கு- புல எண் 13/4A -பட்டா நிலம் -ரபுஞ்சை தெற்கு- புல எண் 13/2B -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 13/5,2B -பட்டா நிலம் -ரபுஞ்சை மேற்கு- புல எண் 13/3B -பட்டா நிலம் -ரபுஞ்சை
10	13/5 0.92.0 ஹெக்டேர்	வடக்கு- புல எண் 8/6,7,8,9 : 9/3,4 -பட்டா நிலம் - ரபுஞ்சை தெற்கு- புல எண் 13/2 A -பட்டா நிலம் -ரபுஞ்சை கிழக்கு- புல எண் 12/1 -பட்டா நிலம் -ரபுஞ்சை மேற்கு-புல எண் 13/4A, 4B -பட்டா நிலம் -ரபுஞ்சை

மேற்படி, குவாரி குத்தகை கோரும் புலங்கள் சமதளப்பரப்பாக காணப்படுகிறது எனவும், மேற்படி புலத்தில் காணப்படும் கற்கள் சார்னடைட் வகையைச் சேர்ந்த கற்கள் எனவும், இக்கற்கள் கட்டுமான பணிக்கு பயன்படும் சாதாரண கற்கள், எம். சாண்ட், ஐல்லி தயாரிக்க உகந்தது எனவும், மேலும், குவாரி குத்தகை உரிமம் கோரும் புலன்களுக்கு அருகில் நீர் நிலைகள், ஏரி புறம்போக்கு, ஆறு, குளம், கண்மாய் ஆகியவை 50 மீட்டர் சுற்றளவில் ஏதும் இல்லை எனவும், குவாரி குத்தகை கோரும் புலன்களுக்கு 300 மீட்டர் சுற்றளவில் குடியிருப்பு பகுதிகள் ஏதுமில்லை எனவும், மேலும் 60 மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி ஏதுமில்லை எனவும், குவாரி குத்தகை அனுமதி கோரும் புலன்களுக்கு 50 மீட்டர் சுற்றளவில் நெடுஞ்சாலை, இருப்புப்பாதை, கடுகாடு, இடுகாடு மற்றும் உயர்வழுத்த / தாழ்வழுத்த மின்கம்பிகள் ஏதும் செல்லவில்லை எனவும், மேலும், 1 கி.மீ இடைவெளியில் தேசிய பூங்காக்கள், வனவிலங்கு சரணாலயம், புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை எனவும், மேற்படி புலத்தணிக்கையின்போதும்,

பொதுமக்களிடமிருந்து ஆட்சேபனை ஏதும் வரப்பெறவில்லை எனவும், கனிமங்களை எடுத்துச் செல்வதற்கு போதிய பாதை வசதி உள்ளது எனவும் தெரிவித்து விழுப்புரம் வருவாய் கோட்டாட்சியர் அவர்களின் பரிந்துரை அறிக்கை, விண்ணப்பதாரரின் கொள்கை மற்றும் கன ஆய்வின் அடிப்படையில், விழுப்புரம் மாவட்டம், வானூர் வட்டம், சிறுநாவூர் கிராமம், பட்டா புல எண்கள் 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர், 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர், 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர், 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்த பரப்பு 6.61.35 பரப்பளவில் சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க பத்து (10) ஆண்டுகளுக்கு கீழ்க்கண்ட நிபந்தனைகளுக்கு உட்பட்டு 1959-ஆம் ஆண்டு தமிழ்நாடு சிறுவகை கனிமச்சலுகை விதிகளில் விதி எண்.19(1)-ன்கீழ் உரிமம் வழங்க மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் தடையில்லா சான்று மற்றும் தமிழ்நாடு மாகாணக்குப்பாடு வாரியம் அவர்களின் தடையின்மை சான்றினை பெற்று சமர்ப்பித்த பின்பு அதன் நிபந்தனைகளுக்கு உட்பட்டு சாதாரண கற்கள் மற்றும் கிராவல் குவாரி பணி செய்து கொள்ள விண்ணப்பதாரர் M/s TAAMAESEK ENGINEERING CONSORTIUM, Chennai என்ற நிறுவனத்திற்கு அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

நிபந்தனைகள்:-

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. குவாரி குத்தகை வழங்கும் முன்பு விண்ணப்பித்துள்ள இடத்தினை DGPS சர்வே பணி மேற்கொண்டு அதன் அறிக்கையை சமர்ப்பிக்க வேண்டும்.
4. முறைப்படியும், விஞ்ஞான பூர்வமாகவும் குவாரிப்பணி செய்ய வேண்டும்.
5. சான்றிதழ் பெறப்பட்ட போர்மேன், வெடிப்பாளர் மற்றும் சுரங்க மேலாளர் மூலம் குவாரிப்பணி செய்யப்பட வேண்டும்.
6. குவாரிப்பணி தொடங்குவதற்கு முன் சுரங்க பாதுகாப்பு இயக்குநர், சென்னை அவர்களுக்கு தகவல் தெரிவிக்கப்பட வேண்டும்.
7. பாறைகளை தகர்க்க கைத்துளைப்பான்களை கொண்டு பாறைகளை துளையிட்டு குறைவான வெடிப்பொருட்களை பயன்படுத்த வேண்டும்.
8. குவாரிப்பணி தொடங்குவதற்கு முன்பாக குவாரியை சுற்றி முள்கம்பி வேலி அமைத்து குவாரிப்பணி தொடங்க வேண்டும்.
9. குவாரித் தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்ய Mettalliferous Mines விதிகளின்படி அகலமானதும், பாதுகாப்பானதுமான Benches அமைத்து பாதுகாப்பான முறையில் குவாரிக்குள் வாகனங்கள் சென்று வரவும் மற்றும் குவாரி தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்தும் குவாரிப்பணி செய்ய வேண்டும்.
10. குவாரிப்பணி செய்வதற்கு பரிந்துரை செய்யப்பட்ட கனிமங்களான சாதாரண கற்கள் மற்றும் கிராவல் ஆகியவற்றை தவிர வேறு கனிமங்கள் ஏதும்

- கண்டறியப்பட்டால் உடனடியாக குவாரிப்பணியினை நிறுத்துவதோடு, புவியியல் மற்றும் சுரங்கத்துறை, விழுப்புரம் அலுவலகத்திற்கு தகவல் தெரிவிக்க வேண்டும்.
11. தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி-41ன்படி தகுதிவாய்ந்த நபரால் சுரங்க திட்டம் தயார் செய்து உதவி இயக்குநர் அவர்களின் ஒப்புதல் பெறவேண்டும்.
 12. தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி-42ன்படி மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்திடமிருந்து சுற்றுச்சூழல் சான்று பெற்று சமர்ப்பிக்கப்படவேண்டும்.

எனவே, விழுப்புரம் வருவாய் கோட்டாட்சியர் மற்றும் விழுப்புரம் மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை உதவி புவியியலாளர் ஆகியோரின் பரிந்துரை அறிக்கையினை பரிசீலனை செய்யப்பட்டு, விழுப்புரம் மாவட்டம், வாறூர் வட்டம், சிறுநாவூர் கிராமம், பட்டா புல எண்கள் 13/1A - 1.07.5 ஹெக்டேர், 13/1B - 0.25.0 ஹெக்டேர், 13/2A - 2.47.1 ஹெக்டேர், 13/3A - 0.13.5 ஹெக்டேர், 13/3B - 0.40.5 ஹெக்டேர், 13/4A - 0.13.5 ஹெக்டேர், 13/4B - 0.40.5 ஹெக்டேர், 13/5 - 0.92.0 ஹெக்டேர், 4/1 - 0.61.5 ஹெக்டேர் மற்றும் 4/4A - 0.20.25 ஹெக்டேர் ஆகியவற்றின் மொத்த பரப்பு 6.61.35 பரப்பளவில் அரசு நிபந்தனைகளுக்குட்பட்டு 10 (பத்து) வருட காலத்திற்கு விண்ணப்பத்தாரர் M/s TAAMAESEK ENGINEERING CONSORTIUM, Chennai என்ற நிறுவனத்திற்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க குவாரி குத்தகை உரிமம் வழங்குவதற்குரிய தகுதியான நிலப்பரப்பாக கருதப்படுகிறது. அதன் அடிப்படையில், தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி எண்.41-ன்படி குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்க திட்டத்தினை தகுதிவாய்ந்த நபர் (RQP) மூலமாக கீழ்க்கண்ட நிபந்தனைகளுக்குட்பட்டு தயாரித்து அதனை 90 தினங்களுக்குள் உதவி இயக்குநர் (புவியியல் மற்றும் சுரங்கத்துறை) அவர்களின் பரிசீலனைக்கு சமர்ப்பிக்குமாறு விண்ணப்பதாரருக்கு அறிவுறுத்தப்படுகிறது.

நிபந்தனைகள்:-

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. குவாரி குத்தகை வழங்கும் முன்பு விண்ணப்பித்துள்ள இடத்தினை DGPS சர்வே பணி மேற்கொண்டு அதன் அறிக்கையை சமர்ப்பிக்க வேண்டும்.
4. முறைப்படியும், விஞ்ஞான பூர்வமாகவும் குவாரிப்பணி செய்ய வேண்டும்.
5. சான்றிதழ் பெறப்பட்ட போர்மேன், வெடிப்பாளர் மற்றும் சுரங்க மேலாளர் மூலம் குவாரிப்பணி செய்யப்பட வேண்டும்.

6. குவாரிப்பணி தொடங்குவதற்கு முன் சுரங்க பாதுகாப்பு இயக்குநர், சென்னை அவர்களுக்கு தகவல் தெரிவிக்கப்பட வேண்டும்.
7. பாறைகளை தகர்க்க கைத்துளைப்பான்களை கொண்டு பாறைகளை துளையிட்டு குறைவான வெடிப்பொருட்களை பயன்படுத்த வேண்டும்.
8. குவாரிப்பணி தொடங்குவதற்கு முன்பாக குவாரியை சுற்றி முள்கம்பி ஷேலி அமைத்து குவாரிப்பணி தொடங்க வேண்டும்.
9. குவாரிப்பணி செய்வதற்கு பரிந்துரை செய்யப்பட்ட கனிமங்களான சாதாரண கற்கள் மற்றும் கிராவல் ஆகியவற்றை தவிர வேறு கனிமங்கள் ஏதும் கண்டறியப்பட்டால் உடனடியாக குவாரிப்பணியினை நிறுத்துவதோடு, புவியியல் மற்றும் சுரங்கத்துறை, விழுப்புரம் அலுவலகத்திற்கு தகவல் தெரிவிக்க வேண்டும்.
10. தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி-42ன்படி மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்திடமிருந்து சுற்றுச்சூழல் சான்று பெற்று சமர்ப்பிக்கப்பட வேண்டும்.



த.வி. இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
விழுப்புரம்.

பெறுநர்:-

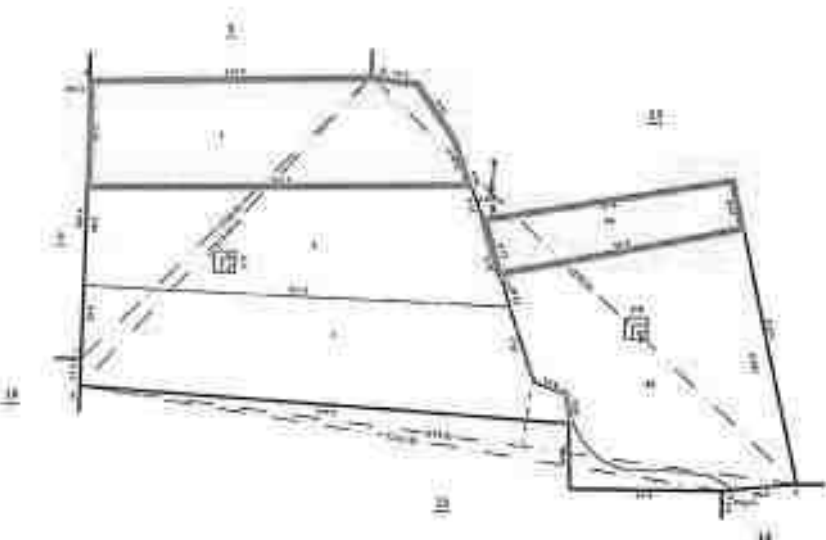
M/s RAAMAASEK ENGINEERING CONSORTIUM,
No.5, Bishop Wallers Avenue West,
Mylapore,
Chennai.

நகல்: இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, சென்னை.

நகல்: மாநில சுற்றுச்சூழல் தாக்க தடையாக்க மதிப்பீட்டு ஆணையம், சென்னை.



Form No. 1
Date: 10/10/2020
Page: 1 of 1

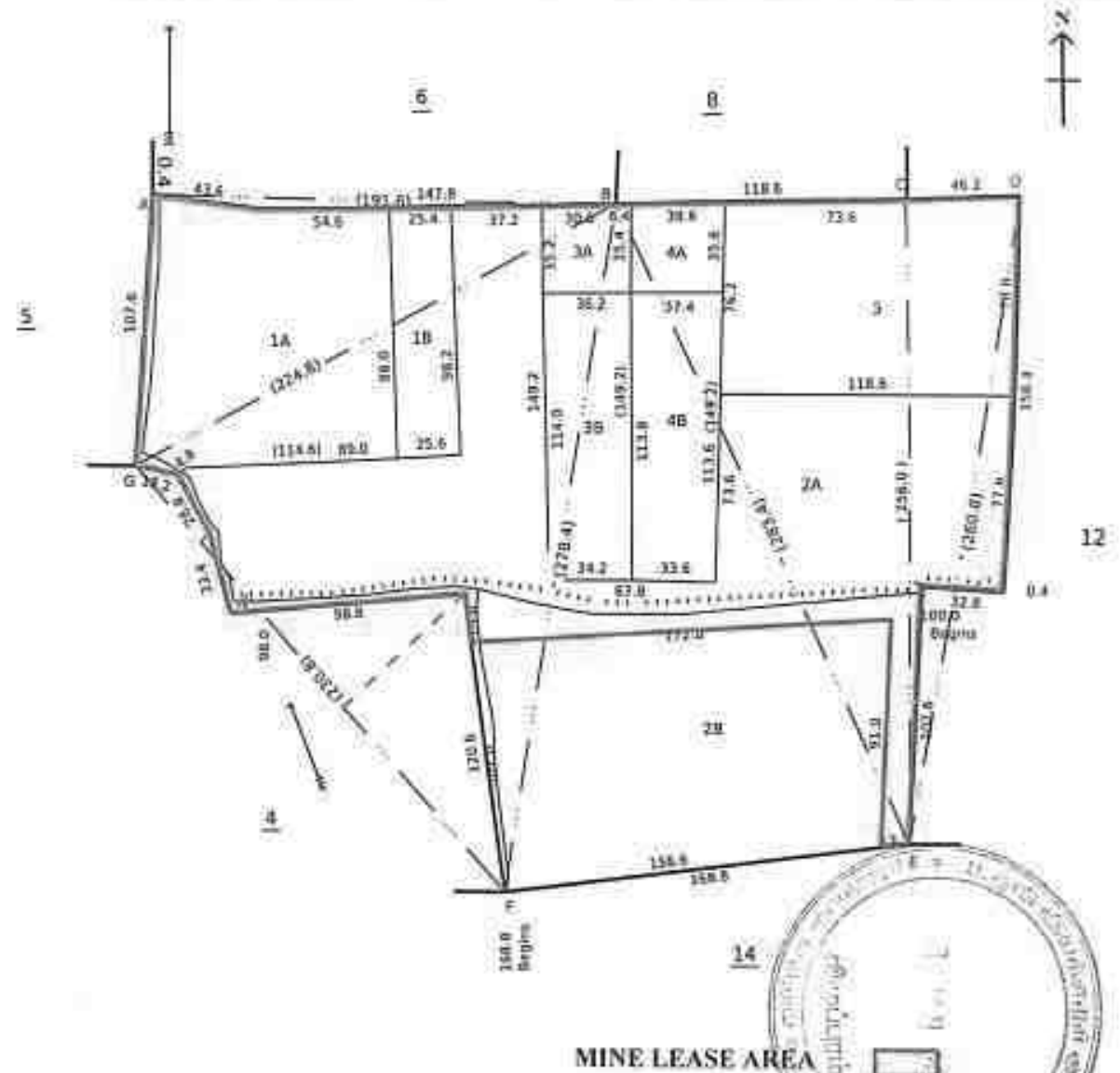


MINE LEASE AREA



N. Suresh

N. SURESH, M.Sc. (Geology)
Qualified Person



N. SURESH, M.Sc. (Geology)
Qualified Person

N. Suresh

0.00

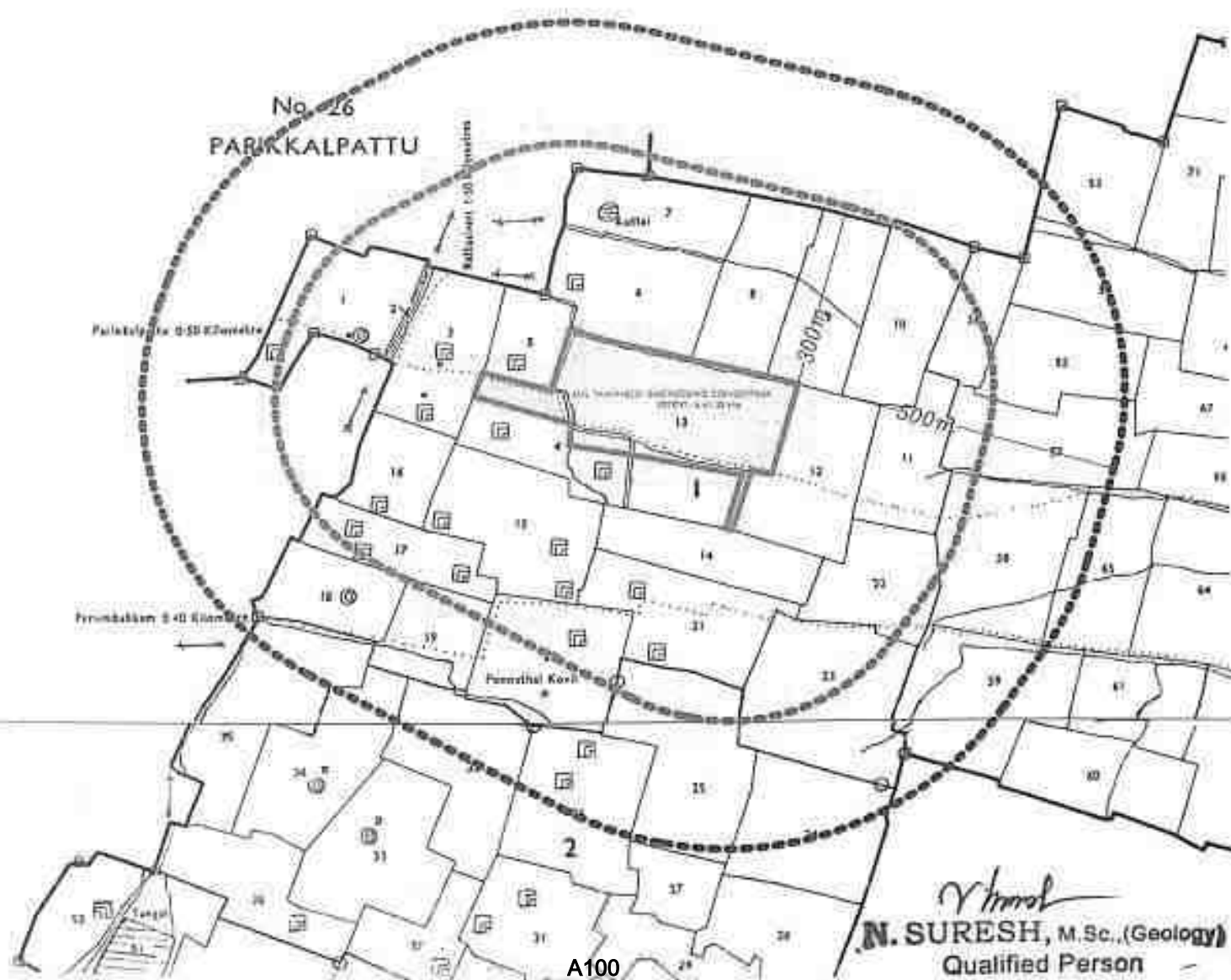
Date of Issue: 29-12-2025 12:11:12

Data Digitally Signed By
VIDHIYADHARAN P



No. 28
SIRUNAVUR
TINDIVANAM TALUK
VILUPPURAM DISTRICT

Area by { Travelling 872 Hectares 872 Acres
Fields 872 Hectares 872 Acres
Scale 1 : 2000



A100

வட்டாட்சியர் அலுவலக இணைய சேவை - திசு உரிமை விபரங்கள்



தமிழ்நாடு அரசு

வருவாய் மற்றும் பேரிடர் மேலாண்மைத் துறை

திசு உரிமை விபரங்கள் : 2, சண் 10(1) பிரிவு

வட்டம் : கரூர்

பட்டாளம் : 601

உரிமையாளர்கள் பெயர்

காலகட்டம் : விவரங்கள்

வருவாய் பிரிவுகள் : சிதிராபுரம்



1. கரூர் வட்டம் துரித உரிமை விபரங்கள்

பிரிவு	உரிமையாளர்	பிரிவுகள்		பிரிவுகள்		பிரிவுகள்		குறிப்புகள்
		பிரிவு	பிரிவு	பிரிவு	பிரிவு	பிரிவு	பிரிவு	
		பிரிவு - 01	பிரிவு - 02	பிரிவு - 03	பிரிவு - 04	பிரிவு - 05	பிரிவு - 06	
17	1A	1 - 7.50	2.00	-	-	-	-	2025/01/03/07/450380- Digitally signed: KAMATCHI G Zonal Deputy Tahsildar 10/10/2025 12:15:11 PM
18	1B	0 - 25.00	1.00	-	-	-	-	2025/01/03/07/450380- Digitally signed: KAMATCHI G Zonal Deputy Tahsildar 10/10/2025 12:15:11 PM
19	2A	2 - 47.10	8.40	-	-	-	-	2025/01/03/07/450380- Digitally signed: VIGNESH HARAN P Tahsildar 10/10/2025 11:29:47 PM
20	3A	0 - 13.50	8.50	-	-	-	-	2025/01/03/07/450380- Digitally signed: KAMATCHI G Zonal Deputy Tahsildar 10/10/2025 12:15:11 PM
21	3B	0 - 40.20	1.40	-	-	-	-	2025/01/03/07/450380- Digitally signed: KAMATCHI G Zonal Deputy Tahsildar 10/10/2025 12:15:11 PM
22	4A	0 - 11.50	0.50	-	-	-	-	2025/01/03/07/450380- Digitally signed: KAMATCHI G Zonal Deputy Tahsildar 10/10/2025 12:15:11 PM
23	4B	0 - 40.50	1.40	-	-	-	-	2025/01/03/07/450380- Digitally signed: KAMATCHI G Zonal Deputy Tahsildar 10/10/2025 12:15:11 PM
24	5	0 - 31.00	3.10	-	-	-	-	2025/01/03/07/450380- Digitally signed: KAMATCHI G Zonal Deputy Tahsildar 10/10/2025 12:15:11 PM
25	1	0 - 45.50	2.50	-	-	-	-	2025/01/03/07/450380- Digitally signed: KAMATCHI G Zonal Deputy Tahsildar 10/10/2025 12:15:11 PM
26	4A	0 - 20.25	0.60	-	-	-	-	2025/01/03/07/450380- Digitally signed: VIGNESH HARAN P Tahsildar 10/10/2025 11:29:47 PM
		0 - 44.35	22.70	-	-	-	-	

குறிப்பு:



1. இதுபற்றி தகவல் / சான்றிதழ் தரவும் விவரங்கள் மீது பதிலளிக்கப்படும். இவற்றை தகவல் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் https://eservices.tn.gov.in/eservicesnow/land/chittaExtract_en.htm?lan=en
2. இது தகவல்கள் 20-12-2025 அன்று 03:56:42 PM இல் தகவல் அளிக்கப்பட்டது.
3. காலகட்டம்: கரூர் வட்டம் 20-12-2025 அன்று 03:56:42 PM இல் தகவல் அளிக்கப்பட்டது.



மாவட்டம் : விழுப்புரம்

வட்டம் : வானூர்

கிராமம் : சிறுநாவூர்

1. புல எண்	13	9. மண் வயனமும் சுமம்	4 - 5
2. உட்பிரிவு எண்	1A	10. மண் தரம்	6
3. பழைய புல உட்பிரிவு எண்	116-1	11. தீர்வை (ரூ - ஹெ)	3.40
4. பகுதி	-	12. பரப்பு (ஹெக்டேர் - ஏர்)	1 - 7.50
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	3.60
6. நிலத்தின் வகை	பஞ்சை	14. பட்டா எண்	601
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இரு போகமா	-	16. பெயர்	1.டாமெஸெக் இன்ஜினியரிங் கன்சர்வ்டியம்

குறிப்பு:



மேற்கண்ட தகவல் / சான்றிதழ் தகவல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை.
1. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில்
07/02/028/13/1A/20837 என்ற குறிப்பு எண்ணை உள்ளிடு செய்து உறுதி
செய்துகொள்ளவும்.

1/7/2016 4:12 PM

ஸ்டாப்டியர் அலுவலக இணைய சேவை - அபிவிருத்தி விவரங்களைப் பார்வையிட

அ-பதிவேடு விவரங்கள் - வரகம்



மாவட்டம் : விழுப்புரம்

ஸட்டம் : ஸாணார்

விவரம் : சிறுநீரகம்

1. புல எண்	13	9. மண் வயனமும்	4 - 5
2. உட்பிரிவு எண்	18	10. மண் தரம்	6
3. பழைய புல உட்பிரிவு எண்	116-1	11. தீர்வை (ரூ - ரெம்)	3.40
4. பகுதி	-	12. பரப்பு (ஹெக்டேர் - ஏர்)	0 - 25.00
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - ரெம்)	1.00
6. நிலத்தின் வகை	புதுவை	14. பட்டா எண்	601
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இறு போகமா	-	16. பெயர்	1.டாமெஸெக் இன்ஜினியரிங் கன்சார்டியம்

குறிப்பு:



மேற்கண்ட தகவல் / சான்றிதழ் தகவல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை.
1. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில்
07/02/028/13/18/20837 என்ற குறிப்பு எண்ணை உள்ளிடு செய்து உறுதி
செய்துகொள்ளவும்.

அ-பதிவேடு விவரங்கள் - ஊரகம்



மாவட்டம் : விழுப்புரம்

வட்டம் : வானூர்

கிராமம் : சிறுநாலூர்

1. புல எண்	13	9. மண் வயனமும் ரகமும்	4 - 5
2. உட்பிரிவு எண்	2A	10. மண் தரம்	6
3. பழைய புல உட்பிரிவு எண்	13-2	11. தீர்வை (ரூ - ஹெ)	3.40
4. பகுதி	P	12. பரப்பு (ஹெக்டேர் - ஏர்)	2 - 47.10
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	8.40
6. நிலத்தின் வகை	பஞ்சை	14. பட்டா எண்	601
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இரு போகமா	-	16. பெயர்	1.டாமெஸெக் இன்ஜினியரிங் கன்சர்வியம்

குறிப்பு:



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை.
1. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில்
07/02/028/13/2A/20837 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி
செய்துகொள்ளவும்.

வட்டாட்சியர் அலுவலக இணைய சேவை - அ-பதிவேடு விவரங்களை பார்ப்பதில்
அ-பதிவேடு விவரங்கள் - ஊரகம்



மாவட்டம் : விழுப்புரம்

வட்டம் : வானூர்

கிராமம் : சிறுநாபூர்

1. புல எண்	13	9. மண் வயனலும் ரகலும்	4 - 5
2. உட்பிரிவு எண்	3A	10. மண் தரம்	6
3. பழைய புல உட்பிரிவு எண்	4	11. தீர்வை (ரூ - ஹெ)	3.40
4. பகுதி	-	12. பரப்பு (ஹெக்டேர் - ஏர்)	0 - 13.50
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	0.50
6. நிலத்தின் வகை	பஞ்சை	14. பட்டா எண்	601
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இது போகமா	-	16. பெயர்	1.டாமெஸெகி இன்ஜினியரிங் கன்சார்டியம்

குறிப்பு:



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை.
1. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில்
07/02/028/13/3A/20837 என்ற குறிப்பு எண்ணை உள்ளிடு செய்த உறுதி
செய்துகொள்ளவும்.



மாவட்டம் : விழுப்புரம்

வட்டம் : வாதுவர்

கிராமம் : குறநாவூர்

1. புல எண்	13	9. மண் வயனமும் ரகமும்	4 - 5
2. உட்பிரிவு எண்	38	10. மண் தரம்	6
3. பழைய புல உட்பிரிவு எண்	-4	11. தீர்வை (ரூ - ரெடு)	3,40
4. பகுதி	-	12. பரப்பு (ஹெக்டேர் - ஏர்)	0 - 40.50
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	1,40
6. நிலத்தின் வகை	பஞ்சை	14. பட்டா எண்	601
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இடு போகமா	-	16. பெயர்	1.டாமெஸெக் இன்ஜினியரிங் கன்சார்ட்யம்

குறிப்பு:



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை.
1. இவற்றைத் தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில்
07/02/026/13/38/20837 என்ற குறிப்பு எண்ணை உள்ளிடு செய்து உறுதி
செய்துகொள்ளவும்.



மாவட்டம் : விழுப்புரம்

வட்டம் : வானூர்

கிராமம் : குறுநாவூர்

1. புல எண்	13	9. மண் வயனமும் ரகமும்	4 - 5
2. உட்பிரிவு எண்	4A	10. மண் தரம்	6
3. பழைய புல உட்பிரிவு எண்	-5	11. தீர்வை (ரூ - ஹெ)	3,40
4. பகுதி	-	12. பரப்பு (ஹெக்டேர் - ஏர்)	0 - 13.50
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	0.50
6. நிலத்தின் வகை	பஞ்சை	14. பட்டா எண்	601
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இரு போகமா	-	16. பெயர்	1.டாமெஸெக் இன்ஜினியரிங் கன்சார்டியம்

குறிப்பு:



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை.
1. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில்
07/02/028/13/4A/20837 என்ற குறிப்பு எண்ணை உள்ளிடு செய்து உறுதி
செய்துகொள்ளவும்.

வடபாட்சியர் அழகவலை இணைய சேவை - அ-பதிவேடு விவரங்களை பார்வையிட
அ-பதிவேடு விவரங்கள் - ஊரகம்

மாவட்டம் : விழுப்புரம்

வட்டம் : வாதூர்

இராசம் : சிறுநாதர்



1. புல எண்	13	9. மண் வயனமும் ரகமும்	4 - 5
2. உட்பிரிவு எண்	48	10. மண் தரம்	6
3. பழைய புல உட்பிரிவு எண்	-5	11. நீர்வை (கு - நெல்)	3.40
4. பகுதி	-	12. பரப்பு (நெலக்கடர் - ஏர்)	0 - 40.50
5. அரக / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த நீர்வை (கு - பை)	1.40
6. நிலத்தின் வகை	புஞ்சை	14. பட்டா எண்	601
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இறு போகமா	-	16. பெயர்	1.டாமெஸெக் இன்ஜினியரின் கன்சர்வேட்டர்

குறிப்பு:



மேற்கண்ட தகவல் / சான்றிதழ் தகவல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை.
இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில்
07/02/026/13/48/20837 என்ற குறிப்பு எண்ணை உள்ளிடு செய்து உறுதி
செய்துகொள்ளவும்.

அ-பதிவேடு விலரங்கள் - ஊரகம்



மாவட்டம் : விழுப்புரம்

வட்டம் : வானூர்

விராமம் : சிறுநாவூர்

1. புல் எண்	13	9. மண் வயனமும் ரகமும்	4 - 5
2. உட்பிரிவு எண்	5	10. மண் தரம்	6
3. பழைய புல் உட்பிரிவு எண்	-6	11. தீர்வை (ரூ - ஹெ)	3.40
4. பகுதி	-	12. பரப்பு (ஹெக்டேர் - ஏர்)	0 - 92.00
5. அரக / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - ஸ்ப)	3.13
6. நிலத்தின் வகை	பஞ்சை	14. பட்டா எண்	601
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இது போகமா	-	16. பெயர்	1.டாமெஸெக் இன்னினியரிங் தன்சார்டியம்

குறிப்பு:



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டன.
1. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில்
07/02/028/13/5/29837 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி
செய்துகொள்ளவும்.

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பட்டாட்டியர் அலுவலக இணைய சேவை - அபிவேடு விவரங்களை பார்ப்பது

அ-பிவேடு விவரங்கள் - ஊரகம்

மாவட்டம் : விருப்பூரம்

வட்டம் : வாணார்

இராமம் : சிறுநாங்கூர்



1. புல எண்	4	9. மண் வயனமும் சகமும்	4 - 5
2. உட்பிரிவு எண்	1	10. மண் தரம்	6
3. பழைய புல உட்பிரிவு எண்	113-1	11. தீர்வை (ரூ - தொ)	3.40
4. பஞ்சி	P	12. பரப்பு (தொக்டேர் - ஏர்)	0 - 61.50
5. அரக / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	2.09
6. நிலத்தின் வகை	பஞ்சை	14. பட்டா எண்	601
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இரு போகமா	0	16. பெயர்	1.டாமெஸெக் இன்ஜினியரிங் கன்சார்டியம்

குறிப்பு:



மேற்கண்ட தகவல் / சான்றிதழ் தகவல் விவரங்கள் மின் பிவேட்டிலிருந்து பெறப்பட்டவை.
1. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில்
07/02/028/4/1/50837 என்ற குறிப்பு எண்ணை உள்ளிடு செய்து உறுதி
செய்துகொள்ளவும்.

அ-பதிவேடு விவரங்கள் - ஹரகம்



மாவட்டம் : விழுப்புரம்

லட்டம் : வானூர்

கிராமம் : சிறுநாவூர்

1. புல எண்	4	9. மண் வயனழம் ரகமும்	4 - 5
2. உட்பிரிவு எண்	4A	10. மண் தரம்	6
3. பழைய புல உட்பிரிவு எண்	4-4	11. தீர்வை (ரூ - ஹெ)	3.40
4. பகுதி	P	12. பரப்பு (ஹெக்டேர் - ஏர்)	0 - 20.25
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	0.69
6. நிலத்தின் வகை	புஞ்சை	14. பட்டா எண்	601
7. பாசன ஆதாரம்	-	15. குறிப்பு	சதுரக்கிணறு
8. இரு போகமா	0	16. பெயர்	1.டாமெஸெல் இன்னிசியரிங் கன்சார்டியம்

குறிப்பு:



மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை.
இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில்
07/02/028/4/4A/50837 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி
செய்துகொள்ளவும்.

भारतीय गैर न्यायिक INDIA NON JUDICIAL

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தமிழ்நாடு தமிழ்நாடு TAMILNADU

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ரூபாய்: 5000/-
TAAMAESEK
ENGINEERING
CONSORTIUM

ச. ராஜ்குமாரதன்
முதலி. 9878/A.1-95
மயிலம், தமிழ்நாடு

கிரையம் ரூபாய் : 62,00,000/-

மதிப்பு ரூபாய் : 62,00,000/-

2025 வருடம் செப்டம்பர் மாதம் 24ஆம் தேதி சென்னை - 600004, மைலாப்பூர், டி.டி.கே ரோடு, பிஷப் வேலஷ் அவின்யு வெஸ்ட், முதல் தளம், எண். 5 என்று முகவரியில் இயங்கி வரும் TAAMAESEK ENGINEERING CONSORTIUM - (PAN No. AADFT8400C) நிறுவனத்தின் இயக்குநர் மற்றும் பங்குதாரருமான திரு. சோமு ராவ் அவர்களின் குமாரர் திரு. எஸ். விஜயானந்தன் (ஆதார் எண். 9000 1251 7832) ஆகிய உங்களுக்கு :

கிரையம் கொடுப்பவர்

கிரையம் வாங்குபவர்

நிறுவனத்தின் பங்குதாரர் முறையிலும்
பொது அதிகார முகவர் முறையிலும்

For GRAVITY

[Signature]
PARTNER

For GRAVITY

[Signature]
PARTNER

For TAAMAESEK ENGINEERING CONSORTIUM

[Signature]
Managing Partner

2025 4627
சுதந்திரம் வந்ததற்கு 75 ஆண்டுகள்

3) தாக்களை கொண்டு
1-95 எண்

[Signature]



भारतीय गैर न्यायिक INDIA NON JUDICIAL

एक हजार रुपये

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BE 583159

3866
23.9.25

TAAMAESEK
ENGINEERING
CONSORTIUM

S. ரங்கநாதன்
S. ரங்கநாதன்
முதலி. 9878/A, 1-95
மயிலம், தமிழ்நாடு

விழுப்புரம் மாவட்டம், வாங்கு வட்டம், பெரும்பாக்கம் கிராமம் என்ற முகவரியில் வசித்து வந்து தற்காலம் சென்னை -600015, மேற்கு சைதாப்பேட்டை, துரைசாமி கார்டன் விரிவு கொத்தவால்சாவடி தெரு, எண். 57 என்ற முகவரியில் வசிக்கும் (லேட்) அண்ணாதுரை அவர்களின் மனைவி திருமதி. பூமாலை (ஆதார் எண். 8858 8527 3605), மேற்படி முகவரியில் வசிக்கும் (லேட்) அண்ணாதுரை அவர்களின் குமாரர் திரு. அழகரசன் (ஆதார் எண். 5019 7884 1902), கடலூர் மாவட்டம், பணப்பாக்கம், மாரியம்மன் கோவில் தெரு, எண். 398 என்ற முகவரியில் வசிக்கும் (லேட்) அண்ணாதுரை அவர்களின் கிரையம் கொடுப்பவர் கிரையம் வாங்குபவர் நிறுவனத்தின் பங்குதாரர் முறையிலும் பொது அதிகார முகவர் முறையிலும்

For GRAVITY

For TAAMAESEK ENGINEERING CONSORTIUM

[Signature]
PARTNER

[Signature]
Managing Partner

For GRAVITY

S. R. *[Signature]*
PARTNER

[Signature]

2025 4627
புதுச்சேரி மாவட்டம் ஆவணி
3) தங்கன கொண்ட
2 ஆது என்

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தமிழ்நாடு தமிழ்நாடு TAMILNADU

BE 583160

3867 TAAMAESEK
23925 ENGINEERING
CONSORTIUM

S. ராஜ்குமார்
முதலி. 9678/A, 1-95
மயிலம், தமிழ்நாடு

குமாரத்தியும் திரு. சார்வீந்திர பிரபு அவர்களின் மனைவியுமான
திருமதி. மணிமேகலை (ஆதார் எண். 6023 1915 7432), சென்னை - 600015,
மேற்கு சைதாப்பேட்டை, துரைசாமி கார்டன் வீதிக்கு கொத்தவாஸல்சாவு தெரு,
எண். 57 என்ற முகவரியில் வசிக்கும் (லேட்) அண்ணாதுரை அவர்களின்
குமாரர் திரு. அபிநேஷ் (ஆதார் எண். 8749 7341 2550), விழுப்புரம் மாவட்டம்,
வானூர் வட்டம், பெரும்பாக்கம் கிராமம், மாரியம்மன் கோவில் தெரு, எண். 2
21 என்ற முகவரியில் வசிக்கும் (லேட்) தில்லைக்கண்ணு அவர்களின்
குமாரர் திரு. அன்பழகன் (ஆதார் எண். 2743 4069 1971), விழுப்புரம்
கிரையம் கொடுப்பவர் கிரையம் வாங்குபவர்

நிறுவனத்தின் பங்குதாரர் முறையிலும்
பொது அதிகார முகவர் முறையிலும்

For GRAVITY

[Signature]
PARTNER

For TAAMAESEK ENGINEERING CONSORTIUM

[Signature]
Managing Partner

For GRAVITY

[Signature]
PARTNER

2005 4627
31-12-2005
சுற்றுலா துறை
பொது அமைச்சர்
காணொலி

[Signature]



भारतीय गैर न्यायिक INDIA NON JUDICIAL

- 3 JAN 2018

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Rs. 1000

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தமிழ்நாடு தமிழ்நாடு TAMILNADU

BE 583161

3868
23.9.25

TAAMAESEK
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CONSORTIUM

Chennai

S. ரங்கநாதன்

ச. ரங்கநாதன்
முதலி. 9878/A, 1-95
மயிலம், தமிழ்நாடு

மாவட்டம், வானூர் வட்டம், பெரும்பாக்கம் கிராமம் என்ற முகவரியில் வசித்து வந்து தற்காலம் சென்னை -600015, மேற்கு சைதாப்பேட்டை, துரைசாமி கார்டன் விரிவு கிராமத்தவால்சாவடி தெரு, எண். 56 என்ற முகவரியில் வசிக்கும் (லேட்) தில்லைக்கண்ணு அவர்களின் குமாரர் திரு. மதியழகன் (ஆதார் எண். 9603 2306 0316) ஆகிய ஆறு நபர்களின் பொது அதிகார முகவர் சென்னை மாவட்டம், சென்னை 600017, தி. நகர், வெங்கடரமணன் தெரு, சர்வமங்கலி நிவாஸ், புதிய எண். 24 தரை தளம், எண். 2 என்ற முகவரியில் இயங்கி ஈரும் கிராவிட்டி (M/s. GRAVITY) என்ற நிறுவனத்தின் கிரையம் கொடுப்பவர் கிரையம் வாங்குபவர்

நிறுவனத்தின் பங்குதாரர் முறையிலும் பொது அதிகார முகவர் முறையிலும்

For GRAVITY

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For TAAMAESEK ENGINEERING CONSORTIUM

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2025 4627
புத்தகம் வகுத்தியம் இலவசம்
3- தங்களை கொண்டது
4- வது தளம்

[Signature]



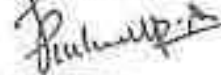
பங்குதாரர்களான திருவள்ளூர் மாவட்டம், நொளம்பூர், யூனியன் ரோடு, ஜெயின் நக்சத்திரா அப்டீஸ், 1வது மாடி, Flat No. Fe Block 16G என்ற முகவரியில் வசிக்கும் திரு. தெர்ப்பசயன் அவர்களின் குமார் திரு. பிரதி (ஆதார் எண். 8954 6366 8196) செல் நம்பர் : 8610118040, சென்னை - 600040, அண்ணாநகர், அண்ணாநகர் மேற்கு வீரிவு, விஆர் மாலுக்கு அருகில், மெட்ரோ ஜோன் ஜெ டவர் 501 என்ற முகவரியில் வசிக்கும் திரு. சுப்பரமணியன் அவர்களின் குமார் திரு. ராஜதுரை (ஆதார் எண். 4031 2038 1027) ஆகிய இருவரும் நிறுவனத்தின் பங்குதாரர் முறையில் தனக்காகவும் பொது அதிகார முகவராகவும் -(1), விழுப்புரம் மாவட்டம், விழுப்புரம் வட்டம், விழுப்புரம், விராட்டிதப்பம் ரோடு. ஏ பி எஸ் நகர், எண். 3 என்ற முகவரியில் வசிக்கும் திரு. சுலைமான் அவர்களின் குமார் திரு. முபாரக் உசேன் (ஆதார் எண். 8543 6026 0524) கைபேசி எண். 8610118040 -(2) ஆகிய நாங்கள் சம்மதித்து எழுதிக் கொடுத்த புஞ்சை நிலம் சுத்த விற்கிரையப் பத்திரம்.

என்னவென்றால் இதனடியில் வரும் சொத்து விவரத்தில் கண்ட புஞ்சை நிலமானது எங்களில் 1வது நிறுவனத்தின் பெயரிலும், 2 நபர் பெயரிலும் கிரையம் பெற்று அது மயிலம் சார்பதிவகத்தில் 1 புத்தகம் 2437/2025, 3081/2025 என்களாக பதிவு செய்யப்பட்ட ஆவணப்படி கிடைக்கப்பெற்றதும் மற்றும்

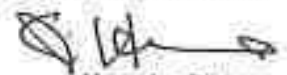
கிரையம் கொடுப்பவர்
நிறுவனத்தின் பங்குதாரர் முறையிலும்
பொது அதிகார முகவர் முறையிலும்

கிரையம் வாங்குபவர்

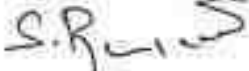
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புத்தகம்... 2025 0627
தாங்களே கொண்டுவர
செய்தனர்


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எங்களில் 1வது நிறுவனத்தின் பெயருக்கு பூமாலை, அழகரசன், மணிமேகலை, அபிவேஷ், அன்பழகன் மற்றும் மதியழகன் ஆகிய அறு நபர்களும் சேர்ந்து ஒரு பொது அதிகாரம் பத்திரம் எழுதி அது மயிலம் சார்பதிலகத்தில் 1 புத்தகம் 4490/2025 எண்ணாக பதிவு செய்யப்பட்ட ஆவண ஷரத்துக்கள் படி கிரையம் கொடுக்க அதிகாரம் பெற்ற வகையில் எங்களில் 1வது நிறுவனத்திற்கு கிடைக்கப்பெற்றதும்

மேல்சொன்ன விவரப்படி எங்களுக்கு கிடைக்கப்பெற்று அதுமுதல் சகல உரிமையுடன் ஆண்டு அனுபவித்து வரும் புஞ்சை நிலத்தை தங்களுக்கு கிரையம் கொடுத்து அதன் பேரில் எங்களில் 1வது நிறுவனத்தின் தொழில் செலவுக்காக வேண்டியும் பற்றும் எங்களில் 1வது நிறுவனத்தின் பிரின்சிபால்களின் குடும்ப செலவுக்காக வேண்டியும் தங்களில் நிறுவனத்தின் Mowbrays Road Branch Canara Bank cheque No. 945051 மூலம் தங்களில் 1வது நிறுவனம் பெற்றுக்கொண்ட ரூபாய் 50,00,000/- மற்றும் எங்களில் 2வது நபரின் குடும்ப செலவுக்காக வேண்டி தங்களில் 2வது நபருக்கு Mowbrays Road Branch Canara Bank RTGS மூலம் Villupuram Branch Federal Bank கணக்கில் 17.09.2025 தேதியன்று பெற்றுக்கொண்ட ரூபாய் 12,00,000/- ஆக கூடுதல் ரூபாய் 62,00,000/- இந்த ரூபாய் அனுபத்து இரண்டு லட்சமும் மேல் சொன்ன விவரப்படி சேர்ந்து விட்டபடியால் தாங்கள் இதனடியில் வரும் புஞ்சை கிரையம் கொடுப்பவர் கிரையம் வாங்குபவர் நிறுவனத்தின் பங்குதாரர் முறையிலும் பொது அதிகார முகவர் முறையிலும்

For GRAVITY

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PARTNER

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Managing Partner

3/6/2025
புத்தகம் 4490/2025
தாங்களே கொண்டுவர
புத்தகம்

[Signature]



நிலத்தை இன்று முதல் சர்வ சுதந்திரத்துடன் தானாக விநியோக விற்கிறையங்களுக்கு யோக்கியமாய் கிரைய வாசகப்படி ஆண்டு அனுபவித்துக்கொள்ள வேண்டியது. மேற்படி புஞ்சை நிலத்தை இன்றே தங்கள் பெயருக்கு பட்டா பெயர் மாற்றம் செய்து கொள்ள நாங்கள் சம்மதிக்கிறோம்.

இதனடியில் வரும் புஞ்சை நிலத்தை பொறுத்து தங்களுக்கு இன்று எழுதிக் கொடுத்துள்ள இந்தக் கிரையப் பத்திரம் தவிர நாங்கள் வேறு யாருக்கும் எவ்விதமான பதிவு செய்தோ அல்லது பதிவு செய்யாமலோ எவ்வித ரெக்கார்டுகளும் ஏற்படுத்தி தரவில்லை என்று உறுதி கூறி இந்தக் கிரையப் பத்திரம் எழுதித் கொடுத்துள்ளோம்.

இதனடியில் வரும் புஞ்சை நிலத்தில் எந்த விதமான வில்லங்கமும் இல்லை வில்லங்கம் நேர்ந்தால் நாங்களே முன் நின்று எங்களின் முதல்வரின் செலவிலும் எங்கள் செலவிலும் தீர்த்துக் கொடுக்கிறோம்.

இதனடியில் வரும் புஞ்சை நிலம் சம்மந்தமாக நீதி மன்றத்தில் வழக்குகளோ அது சம்மந்தமான அட்டாச்மெண்டுகளோ எதுவும் இல்லை. இதனடியில் வரும் புஞ்சை நிலத்தை பொறுத்து இதில் கையெழுத்து செய்துள்ள எங்களைத் தவிர வேறு யாருக்கும் சிவில் சட்டப்படி உரிமையில்லை அப்படி யாரேனும் உரிமை கொண்டாடினாலும் அது சட்டப்படி செல்லத்தக்கதல்ல.

கிரையம் கொடுப்பவர்

கிரையம் வாங்குபவர்

நிறுவனத்தின் பங்குதாரர் முறையிலும்
பொது அதிகார முகவர் முறையிலும்

For GRAVITY

[Signature]
PARTNER

For GRAVITY

[Signature]
PARTNER

For TAAMAESEK ENGINEERING CONSORTIUM

[Signature]
Managing Partner

[Signature]

புத்தம் 2025 4627
31-தாள்களை கொண்டது
தாது எண்

[Signature]





மேற்படி ஆவணத்தை பொது அதிகார முகவர் மற்றும் கிரையம் கொடுப்பவர் மற்றும் கிரையம் வாங்குபவர் ஆகிய இரு பார்ட்டிகளும் படித்து பார்த்தும் இந்த ஆவணத்தில் சாட்சி கையொப்பம் செய்துள்ள சாட்சிகள் முன்னிலையில் படிக்கத் தகுந்தவாறு சொல்லக்கேட்டு இந்த கிரைய ஆவணத்தில் கையொப்பம் செய்துள்ளோம். இந்தப்படி எங்களில் 1வது நிறுவனம் பொது அதிகார முகவர் முறையிலும் மற்றும் எங்களில் 1வது நிறுவனம் மற்றும் எங்களில் 2வது நபர் சேர்ந்து சம்மதித்து எழுதிக் கொடுத்த புஞ்சை நிலம் சுத்த விற்கிரையப் பத்திரம்.

சொத்து விவரம்

திண்டிவனம் ரிடி மயிலம் சட்டி பரிக்கல்பட்டு பஞ்சாயத்து எல்லைக்கு உட்பட்ட சிறுநாவுர் கிராமத்தில்

1. புஞ்சை புதிய சர்வே எண். 4/1 ஹெக். 0.61.50 ஏர்ஸ் பூரா ஏக்கர் 1.52 செண்டு. இதன் பழைய சர்வே எண். 113/1-ல் சம்மந்தம்.

2. புஞ்சை புதிய சர்வே எண். 13/2 ஹெக். 4.04.50 ஏர்ஸில் சர்வே எண்கள். 4/1,2,4, 13/1A,1B இவைகளுக்கு (கி) சர்வே எண். 12/1,2 இவைகளுக்கு (மீ) சர்வே எண். 13/2 ல் ஏக்கர் 3.89½ செண்டு மீதி புஞ்சைக்கும் கீழ் வரும் சர்வே எண். 4/4 ல் ஏக்கர் 0.50 செண்டு புஞ்சைக்கும் (வ) சர்வே எண்கள். 13/1A,1B,3B,4B,5, 6/5,11 இவைகளுக்கு (தெ) இதன் மத்தியில் ஏக்கர் 6.10½ செண்டு. இதன் பழைய சர்வே எண். 116/3-ல் சம்மந்தம்.

கிரையம் கொடுப்பவர்
நிறுவனத்தின் பங்குதாரர் முறையிலும்
பொது அதிகார முகவர் முறையிலும்

For TAAMAESEK ENGINEERING CONSORTIUM

For GRAVITY

PARTNER

For GRAVITY

PARTNER

Managing Partner

புத்தகம்.....வருடத்திய.....ஆவணம்
3) தாள்களை கொண்டது
சுருஷம்



சொத்து விவரம் தொடர்ச்சி

3. புஞ்சை புதிய சர்வே எண். 4/4 ஹெக். 1.06.00 ஏர்ஸில் சர்வே எண். 4/2 க்கு (கி) சர்வே எண். 13/2 ல் ஏக்கர் 6.10½ செண்டு புஞ்சைக்கு (மே) (தெ) சர்வே எண். 4/4 ல் மீதி ஏக்கர் 2.12 செண்டு புஞ்சைக்கு (ல) இதன் மத்தியில் ஏக்கர் 0.50 செண்டு. இதன் பழைய சர்வே எண். 114/1,2 இவைகளில் சம்மந்தம்.

4. புஞ்சை புதிய சர்வே எண். 13/1 க்கு தற்பேதிய சப்டிவிஷன்படி புதிய சர்வே எண். 13/1A ஹெக் 1.07.50 ஏர்ஸ் பூரா ஏக்கர் 2.66 செண்டு புஞ்சை நிலம். இதன் பழைய சர்வே எண்கள். 166/1,2 இவைகளில் சம்மந்தம்.

5. புஞ்சை புதிய சர்வே எண். 13/1 க்கு தற்பேதிய சப்டிவிஷன்படி புதிய சர்வே எண். 13/1B ஹெக் 0.25.00 ஏர்ஸ் பூரா ஏக்கர் 0.62 செண்டு புஞ்சை நிலம். இதன் பழைய சர்வே எண்கள். 166/1,2 இவைகளில் சம்மந்தம்.

6. புஞ்சை புதிய சர்வே எண். 13/3 க்கு தற்பேதிய சப்டிவிஷன்படி புதிய சர்வே எண். 13/3B ஹெக் 0.40.50 ஏர்ஸ் பூரா ஏக்கர் 1.00 செண்டு புஞ்சை நிலம். இதன் பழைய சர்வே எண். 166/4-ல் சம்மந்தம்.

கிரையம் கொடுப்பவர்
நிறுவனத்தின் பங்குதாரர் முறையிலும்
பொது அதிகார முகவர் முறையிலும்

கிரையம் வாங்குபவர்

For GRAVITY

[Signature]
PARTNER

For GRAVITY

[Signature]
PARTNER

For TAAMAESEK ENGINEERING CONSORTIUM

[Signature]
Managing Partner

[Signature]

31/05/2025 4627
புதிதும் வகுதியும் ஆவணம்
தாக்களை கொண்டது
புது எண்

[Signature]



சொத்து விலாசம் தொர்ச்சி

7. புஞ்சை புதிய சர்வே எண். 13/4 க்கு தற்பேதிய சப்டிவிஷன்படி புதிய சர்வே எண். 13/4B ஹெக் 0.40.50 ஏர்ஸ் பூரா ஏக்கர் 1.00 செண்டு புஞ்சை நிலம். இதன் பழைய சர்வே எண்கள். 166/5-ல் சம்மந்தம்.

8. புஞ்சை புதிய சர்வே எண். 13/3 க்கு தற்பேதிய சப்டிவிஷன்படி புதிய சர்வே எண். 13/3A ஹெக் 0.13.50 ஏர்ஸ் பூரா ஏக்கர் 0.34 செண்டு புஞ்சை நிலம். இதன் பழைய சர்வே எண். 166/4-ல் சம்மந்தம்.

9. புஞ்சை புதிய சர்வே எண். 13/4 க்கு தற்பேதிய சப்டிவிஷன்படி புதிய சர்வே எண். 13/4A ஹெக் 0.13.50 ஏர்ஸ் பூரா ஏக்கர் 0.33 செண்டு புஞ்சை நிலம். இதன் பழைய சர்வே எண்கள். 166/5-ல் சம்மந்தம்.

10. புஞ்சை புதிய சர்வே எண். 13/5 ஹெக் 0.92.00 ஏர்ஸ் பூரா ஏக்கர் 2.24 செண்டு புஞ்சை நிலம். இதன் பழைய சர்வே எண்கள். 166/6-ல் சம்மந்தம்.

ஆக கூடுதல் ஏக்கர் 16.31½ செண்டு புஞ்சை நிலம் மேற்படி தொகைக்கு கிரையம்

கிரையம் கொடுப்பவர்

கிரையம் வாங்குபவர்

நிறுவனத்தின் பங்குதாரர் முறையிலும்
பொது அதிகார முகவர் முறையிலும்

For **GRAVITY**

[Signature]
PARTNER

For TAAMAESEK ENGINEERING CONSORTIUM

[Signature]
Managing Partner

For **GRAVITY**

[Signature]
PARTNER

[Signature]

2025 4627
புத்தையம் வருத்தியம் மிதுவணம்
தார்களை கொண்டது
31 சென்னை

[Signature]



மேற்படி நிலம் பரிக்கல்பட்டு பஞ்சாயத்து எல்லைக்கு உட்பட்ட கிராமத்தில் அமையப்பெற்றது.
கிரையம் கொடுப்பவர்
நிறுவனத்தின் பங்குதாரர் முறையிலும்
பொது அதிகார முகவர் முறையிலும்



கிரையம் வாங்குபவர்

For GRAVITY

[Signature]
PARTNER

For GRAVITY

[Signature]
PARTNER

[Signature]

For TAAMAESEK ENGINEERING CONSORTIUM

[Signature]
Managing Partner

சாட்சிகள்:

[Signature]

1.

அன்பழகன் த/பெ அழகு ரங்கசுவாமி,
முகவரி : AF2206, 1வது தளம், 7வது தெரு, 11வது மெயின் ரோடு,
அண்ணா நகர், சென்னை - 600040.
(அடையாள அட்டை எண்: 9083 1408 1918)

2.

[Signature]

கோகுல கிருஷ்ணா த/பெ குருமூர்த்தி,
முகவரி : 4, ரெட்டியார் தெரு, கொணமங்கலம் கிராமம்,
திண்டிவனம் வட்டம், விழுப்புரம் மாவட்டம் - 604304.
(அடையாள அட்டை எண்: 8604 1469 8829)

ஆவணம் தயாரித்தவர் :



M. கோவிந்தராஜ்,

ஆவண எழுத்தர். தழுதாளி,
உரிமம் எண். B/1630/TVM/84



முத்திரை வரி குறைப்பு தடுப்பு சம்மந்தமாய் சென்னை முத்திரை வரிச்சட்டம்

விதி 3 (1) ன் படி அறிக்கை

சிறுநாஷர் கிராமம்

வரிசை எண்	புதிய சர்வே எண்	ஏர்ஸ்	விஸ்தீரணம்	தன்மை	மதிப்பு
1	4/1	ஹெக் 0.61.50	ஏர்ஸ் பூரா 1.52	செண்டு புஞ்சை	5,62,400/-
2	13/2	ஹெக் 4.04.50	ஏர்ஸில் 6.10½	செண்டு புஞ்சை	23,17,300/-
3	4/4	ஹெக் 1.06.00	ஏர்ஸில் 0.50	செண்டு புஞ்சை	2,90,000/-
4	13/1	க்கு தற்போதிய சட்டிவிஷன்படி			
	13/1A	ஹெக் 1.07.50	ஏர்ஸ் பூரா 2.66	செண்டு புஞ்சை	9,84,200/-
5	13/1	க்கு தற்போதிய சட்டிவிஷன்படி			
	13/1B	ஹெக் 0.25.00	ஏர்ஸ் பூரா 0.62	செண்டு புஞ்சை	2,29,400/-
6	13/3	க்கு தற்போதிய சட்டிவிஷன்படி			
	13/3B	ஹெக் 0.40.50	ஏர்ஸ் பூரா 1.00	செண்டு புஞ்சை	3,70,000/-
7	13/4	க்கு தற்போதிய சட்டிவிஷன்படி			
	13/4B	ஹெக் 0.40.50	ஏர்ஸ் பூரா 1.00	செண்டு புஞ்சை	3,70,000/-
8	13/3	க்கு தற்போதிய சட்டிவிஷன்படி			
	13/3A	ஹெக் 0.13.50	ஏர்ஸ் பூரா 0.34	செண்டு புஞ்சை	1,25,800/-
9	13/4	க்கு தற்போதிய சட்டிவிஷன்படி			
	13/4A	ஹெக் 0.13.50	ஏர்ஸ் பூரா 0.33	செண்டு புஞ்சை	1,22,100/-
10	13/5	ஹெக் 0.92.00	ஏர்ஸ் பூரா 2.24	செண்டு புஞ்சை	8,28,800/-

ஆக கூடுதல் 62,00,000/-

கிரையம் கொடுப்பவர்

கிரையம் வாங்குபவர்

நிறுவனத்தின் பங்குதாரர் முறையிலும்

பொது அதிகார முகவர் முறையிலும்

For GRAVITY

[Signature]
PARTNER

For GRAVITY

[Signature]
PARTNER

[Signature]

For TAAMAESEK ENGINEERING CONSORTIUM

[Signature]
Managing Partner

புத்தளம்...வருடத்திய...மகுவணம்

3-தளக்களை கொண்டது
12-வசதுகள்

[Signature]



சொத்தானது நீர்நிலை பகுதியில் அமையப் பெறவில்லை என்பதற்கான சான்று/உறுதிமொழி (Declaration) (நீதிபேரவை - எண் 22163/2018ல் வழங்கப்பட்ட தீர்ப்புரையைகாண்க)

இந்த ஆவணத்தில் கண்ட சொத்தானது நீர்நிலைகள், நீர்வழிப்பாதைகள், நீர்ப்பிடிப்பு பகுதிகளில் கட்டுப்படவில்லை என சான்றுளிக்கிறேன்/சான்றுளிக்கிறோம். மேலும் இதனில் தங்களுக்கு தவறான தகவல் அல்லது சான்று அளிக்கப்பட்டதாக பின்னாளில் கண்டுபிடிக்கப்பட்டால் அதனால் நான்/நாங்கள் சட்ட பூர்வ நடவடிக்கைகளுக்கு உட்படுத்தப்படுவேன்/உட்படுத்தப்படுவோம் என்பதையும் அறிவேன்/அறிவோம்.

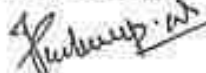
இதளடியில் வரும் சொத்து விபரத்தில் குறிப்பிட்டுள்ள சொத்துக்கு முழு உரிமையும் அனுபவ சுவாதீனமும் உள்ளதென எழுதிக் கொடுப்பவரால் உறுதியளித்ததின் பேரிலும், வில்லங்கசான்றிதழ்களையும் மற்ற அனைத்து உரியப்பதிவுருக்களை ஆய்வு செய்து முழு உரிமை உள்ளதென மனநிறைவடைந்ததின் அடிப்படையிலும், நல்லெண்ணத்தில் அடிப்படையிலும், பதிவுச்சட்டம் 1908 மற்றும் பிற சட்டத்திட்டங்களுக்கு உட்பட்டு இந்த ஆவணம் தயார் செய்யப்பட்டு பதிவுக்கு தாக்கல் செய்யப்படுகிறது என உறுதியளிக்கிறோம்.

கீழ்க்காணும் சொத்துக்கு இந்நாள் வரை அரசுக்கு செலுத்த வேண்டிய இழப்புத்தொகை ஏதுமில்லையெனவும், இழப்பு இருப்பினும் (அல்லது) வருங்காலங்களில் ஏற்படினும் அதனை செலுத்த சம்மதிக்கிறோம் எனவும் உறுதி கூறுகிறோம்.

கிரையம் கொடுப்பவர்
நிறுவனத்தின் பங்குதாரர் முறையிலும்
பொது அதிகார முகவர் முறையிலும்

கிரையம் வாங்குபவர்

For GRAVITY

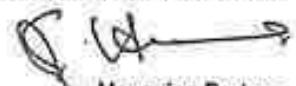

PARTNER

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For TAAMAESEK ENGINEERING CONSORTIUM


Managing Partner

2025 4627
புதிதான வகுத்தியம் ஆவணம்
31-தாக்கல் கொண்டது
13-வது நாள்



உறுதிமொழி

இந்த ஆவணத்தை எழுதிக் கொடுப்பவர்களும் எழுதிப் பெறுபவர்களும் கீழ்க்கண்ட உறுதிமொழியை அளிக்கின்றோம்.

வழக்கிடை ஆவண சொத்து பதிவுச்சட்டம் 1908 பிரிவு 22(A) மற்றும் பிரிவு 22(B) உட்பட்டதல்ல எனவும், ஆவணத்துடன் இணைக்கப்பட்ட அனைத்து ஆவணங்களும் இந்திய தண்டனை சட்டம் 1980 பிரிவு 470-ன் படி

- (1) Forged Document,
- (2) Document relating to transaction, which is prohibited by any Central Act or State Act for the time being in force;
- (3) Document relating to transfer of immovable property by way of sale gift lease or otherwise, which is attached permanently or provisionally by a Competent Authority under any Central Act or State Act for the time being in force or any Court or Tribunal;
- (4) any other document as the State Government may by notification specify

இவைகளுக்குட்பட்ட ஆவணம் அல்ல எனவும், ஆவணத்தை எழுதிப் பெறுபவர் அனைத்து ஆவணங்களையும் பரிசீலித்து வில்லங்கம் சரிபார்த்து எழுதிப் பெறுகிறார் எனவும், சொத்து மாற்றுச் சட்டம் 1882-ன்படி சொத்து பரிமாற்றம் தொடர்பான அனைத்து பிரிவுகளுக்கும் உட்பட்டு செயல்பட்டுள்ளோம் எனவும், உறுதிமொழி அளிக்கின்றோம். மேலும் இதனில் தங்களுக்கு தவறான தகவல்கள் அல்லது சான்று அளிக்கப்பட்டதாக பின்னால் கண்டுபிடிக்கப்பட்டால் அதற்கு நாங்கள் மட்டுமே பொறுப்பு ஆவோம் எனவும், என்னை / எங்களை சட்டபூர்வ நடவடிக்கைக்கு உட்படுத்தலாம் எனவும், இதற்கு சார்பதிவாளர் எவ்விதத்திலும் பொறுப்பாக மாட்டார் எனவும் உறுதிமொழி அளிக்கின்றோம்.

கிரையம் கொடுப்பவர்
நிறுவனத்தின் பங்குதாரர் முறையிலும்
பொது அதிகார முகவர் முறையிலும்

For TAAMAESEK ENGINEERING CONSORTIUM

For GRAVITY

[Signature]
PARTNER

For GRAVITY

[Signature]
PARTNER

[Signature]

[Signature]
Managing Partner

2025 4627
புதுச்சேரி வகுத்திய மதுவணிக
தாங்களை கொண்டு
3/1/2025



R/மைலம்/புத்தகம்-1/4627/2025

1990ம் ஆண்டு இந்திய முத்திரைச் சட்டம் 42வது பிரிவின் கீழான கார்டு

மைலம் ஆண்டு வரிசை எண் 2032

முதல் தளம் பிரைப் வேலன்ஸ் அலிஸ்யு வெஸ்ட் டி டி கே ரோடு, மயிலாப்பூர், சென்னை, தமிழ்நாடு இந்தியா, 600040-ல் வசிக்கும் திரு எஸ் விஜயானந்தன் என்பவரிடமிருந்து ₹ 4,26,000/- (ரூபாய் நான்கு இலட்சத்து இருபத்தாறாயிரம் மட்டும்) இந்த ஆவணத்திற்காக இந்திய முத்திரைச் சட்டம் 42வது பிரிவின் படி குறைவாயிருந்த முத்திரைச் சட்டணம் வசூலிக்கப்பட்டது என நான் இதன் மூலம் சான்றுளிக்கிறேன்.

சார்பதிவாளர் : மைலம்
நாள்: 24/05/2025

சார்பதிவாளர் மற்றும் இந்திய முத்திரைச் சட்டம் பிரிவு
41ன் படி ஆட்சிபுர்த்தவர்கள்
மைலம்.

2025 ஆம் ஆண்டு செப்டம்பர் மாதம் 24ம் தேதி மு.ப. 11:42 மணியளவில் மைலம் சார்பதிவாளர் அலுவலகத்தில் தாக்கல் செய்து சட்டணம் ₹ 1,26,910/- செலுத்தியவர்

இடது பெருவிரல்



[Handwritten signature]

கூடுதல் விவரங்கள் ஆவண வாசகத்தில் உள்ளது.

எழுதிக் கொடுத்ததாக ஒப்புக் கொண்டவர்
இடது பெருவிரல்



[Handwritten signature]

'சம்மதத்துடன் கூடிய ஆதார் அங்கீகாரம்' என்ற வழி இந்த நபரின் அடையாளம் விரல் ரேகை மூலம் ஆதார் ஆணையத்துடன் சரிபார்க்கப்பட்டது ஒப்பீட்டு எண் : UKC:51957228198864883b4f3da2c8839e09785f4c (Details from UIDAI : D Pradeep CIO: D Dharasayanam, 24-08-1981, xxxxxxxx8198)



எழுதிக் கொடுத்ததாக ஒப்புக் கொண்டவர்
இடது பெருவிரல்



[Handwritten signature]

'சம்மதத்துடன் கூடிய ஆதார் அங்கீகாரம்' என்ற வழி இந்த நபரின் அடையாளம் விரல் ரேகை மூலம் ஆதார் ஆணையத்துடன் சரிபார்க்கப்பட்டது ஒப்பீட்டு எண் : UKC:045582346827d4a31d94292b7718e645b40a9 (Details from UIDAI : Rajadurai S, 24/05/2025)





எழுதிக் கொடுத்ததாக ஒப்புக் கொண்டவர் இடது பெருவிரல்  	xxxxxxx1027) <i>Signature</i> “சம்மதத்துடன் கூடிய ஆதார் அங்கீகாரம்” என்ற வழி இந்த நபரின் அடையாளம் விரல் ரேகை மூலம் ஆதார் ஆளையத்துடன் சரிபார்க்கப்பட்டது ஒப்பீட்டு எண் : UKC:87134154c4c95da08ef4466993eaf9b63248baf (Details from UIDAI : Mubrah Hussain C/O: Salsiman, 10-05-1977, xxxxxxxx0524)	
எழுதிக் கொடுத்ததாக ஒப்புக் கொண்டவர் இடது பெருவிரல்  	<i>Signature</i> “சம்மதத்துடன் கூடிய ஆதார் அங்கீகாரம்” என்ற வழி இந்த நபரின் அடையாளம் விரல் ரேகை மூலம் ஆதார் ஆளையத்துடன் சரிபார்க்கப்பட்டது ஒப்பீட்டு எண் : UKC:0476712d5536e38f378451fb20baef1f6c7ef73 (Details from UIDAI : D Pradeep C/O: D. Dhorasayanan, 24-08-1981, xxxxxxxx8196)	
எழுதிக் கொடுத்ததாக ஒப்புக் கொண்டவர் இடது பெருவிரல்  	<i>Signature</i> “சம்மதத்துடன் கூடிய ஆதார் அங்கீகாரம்” என்ற வழி இந்த நபரின் அடையாளம் விரல் ரேகை மூலம் ஆதார் ஆளையத்துடன் சரிபார்க்கப்பட்டது ஒப்பீட்டு எண் : UKC:819918297118b079c414c72af62e4be8517f051 (Details from UIDAI : Rajadurai S, 20-05-1981, xxxxxxxx1027)	
எழுதி வாங்கியதாக ஒப்புக் கொண்டவர் இடது பெருவிரல்  	<i>Signature</i> “சம்மதத்துடன் கூடிய ஆதார் அங்கீகாரம்” என்ற வழி இந்த நபரின் அடையாளம் விரல் ரேகை மூலம் ஆதார் ஆளையத்துடன் சரிபார்க்கப்பட்டது ஒப்பீட்டு எண் : UKC:58745524c371c7104464ba49f11d3a710e5389 (Details from UIDAI : Vijaynarayan S S/O: R. Sodayy R, 15-05-1970, xxxxxxxx7832)	

R/மைலம்/புத்தகம்-1/4627/2025

2025 ஆம் ஆண்டு செப்டம்பர் மாதம் 24ம் நாள்



கவர்னர்
சார்பரிவாரம்
மைலம்
சார்பரிவாரம்
மைலம்.

R/மைலம்/புத்தகம்-1/4627/2025 எண்ணாகப் பதிவு செய்யப்பட்டது.

நாள்: 24/09/2025
மைலம்

கவர்னர்
சார்பரிவாரம்
மைலம்
மைலம்.



I 0025 CP627
புத்தகம்...வரு...திரு...மதுவாரம்
31-தாக்கரை கொண்டு
17-வரு நாள்
மைலம்





Government of India

Form GST REG-06

[See Rule 10(1)]

Registration Certificate

Registration Number : 33AAZFG813H1Z2



1.	Legal Name	GRAVITY			
2.	Trade Name, if any	GRAVITY			
3.	Additional trade names, if any				
4.	Constitution of Business	Partnership			
5.	Address of Principal Place of Business	Building No./Flat No.: D.No.29 Road/Street: Venkataraman Street Locality/Sub Locality: T Nagar City/Town/Village: Chennai District: Chennai State: Tamil Nadu PIN Code: 600017			
6.	Date of Liability				
7.	Period of Validity	From	15/04/2025	To	Not Applicable
8.	Type of Registration	Regular			
9.	Particulars of Approving	Tamil Nadu			
Signature					
Signature Not Verified Digitally signed by GS GOODS AND SERVICES TAX NETWORK 15 Date: 2025.04.15 11:15:27 IST					
Name		Kathamuthu Nithya			
Designation		Assistant Commissioner			
Jurisdictional Office		T. NAGAR			
Date of issue of Certificate		15/04/2025			
Note: The registration certificate is required to be prominently displayed at all places of business in the State.					

This is a system generated digitally signed Registration Certificate issued based on the approval of application granted on 15/04/2025 by the jurisdictional authority.

31-04-2025 16:27
Signature of the Assistant Commissioner







Goods and Services Tax Identification Number: 33AAZFG6131H122

Details of Additional Place of Business(s)

Legal Name: GRAVITY

Trade Name, if any: GRAVITY

Total Number of Additional Places of Business in the State: 0

31/12/2025 4627
சுற்றுலா மற்றும் வர்த்தக அமைச்சர்
தமிழ்நாடு அரசு
31/12/2025





Goods and Services Tax Identification Number: 33AAZFG8131H1Z2

Legal Name GRAVITY
Trade Name, if any GRAVITY

Details of Managing / Authorized Partners

1		Name	RAJADURAI SUBRAMANIAN
		Designation/Status	FIRST PARTNER
		Resident of State	Tamil Nadu
2		Name	DHARPASAYANAN PRADEEP
		Designation/Status	SECOND PARTNER
		Resident of State	Tamil Nadu

1. 2025 4627
புதிதாய் வருடத்தின் முதல் தரவணக்கம்
3. தரவணக்கம் கொண்டது
2025 ஜூன்
[Signature]



आयकर विभाग
INCOME TAX DEPARTMENT



भारत सरकार
GOVT. OF INDIA

स्थायी लेखा संख्या कार्ड
Permanent Account Number Card

AAZFG8131H



नाम / Name
GRAVITY

विगमन / पंजीकरण तिथि
Date of Incorporation / Formation
07/04/2023



For GRAVITY
[Signature]
PARTNER
[Signature]

For GRAVITY
[Signature]
PARTNER

25/05/2025 4627
3- புத்தகம் வகுத்திய மதுவனாக
2- தாள்களை கொண்டது
மது தான்
[Signature]





For **GRAVITY**
Partner
PARTNER

I-2025 4627
31-தான்மனை கொண்டு
22-வது பார்

[Signature]





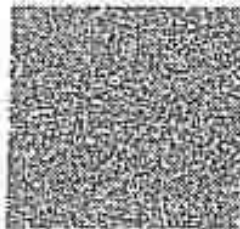
भारत सरकार
Government of India

भारतीय पहचान प्राधिकरण
Unique Identification Authority of India

பதிவு எண் / Enrollment No.: 0000/00563/76342

To
Rajadurai S
The Motusone J Tower 501
Next to VR Mall
Anna Nagar West Extension
Anna Nagar
Chennai Tamil Nadu - 600040
9994200110

Enrollment Verified
பதிவு உறுதி
பதிவு எண்: 0000/00563/76342



உங்கள் ஆதார் எண் / Your Aadhaar No.:

4031 2038 1027

VID : 9171 8624 2204 5229

எனது ஆதார் எனது அண்டையன்ஸ்



भारत सरकार
Government of India



பதிவு எண்:
Rajadurai S
பதிவு எண்/VID: 20/01/2001
ஆண் / MALE

4031 2038 1027

VID : 9171 8624 2204 5229

எனது ஆதார் எனது அண்டையன்ஸ்



தகவல்

- ஆதார் அண்டையன்ஸை உறுதி செய்து கொள்ளுங்கள்.
- இயற்கையான உள் குறியீடு ஆதாரை உறுதி செய்து கொள்ளுங்கள். அண்டையன்ஸை உறுதி செய்து கொள்ளுங்கள்.
- இது எலக்ட்ரானிக்ஸ் சேமிக்கப்பட்ட தகவல் ஆகும்.

INFORMATION

- Aadhaar is a proof of identity, not of citizenship.
- Verify identity using Secure QR Code/Offline XML/Online Authentication.
- This is electronically generated letter.

- ஆதார் உறுதி குறியீட்டாகும்.
- பதிவு செய்து கொள்ளுங்கள். அண்டையன்ஸை உறுதி செய்து கொள்ளுங்கள்.
- உங்கள் அண்டையன்ஸை உறுதி செய்து கொள்ளுங்கள்.
- இது எலக்ட்ரானிக்ஸ் சேமிக்கப்பட்ட தகவல் ஆகும்.

- Aadhaar is valid throughout the country.
- Aadhaar helps you avail various Government and non-Government services easily.
- Keep your mobile number & email ID updated in Aadhaar.
- Carry Aadhaar in your smart phone – use mAadhaar App.



भारत सरकार
Unique Identification Authority of India

பதிவு எண்:
Rajadurai S
பதிவு எண்/VID: 20/01/2001
ஆண் / MALE

Address:
The Motusone J Tower 501, Next to VR Mall,
Anna Nagar West Extension, Anna Nagar,
Chennai,
Tamil Nadu - 600040



4031 2038 1027

VID : 9171 8624 2204 5229

எனது ஆதார் எனது அண்டையன்ஸ்

For GRAVITY

S. R. ...

PARTNER

4627

தாக்கீது

27/01/2001

...





GOVERNMENT OF INDIA

முஹம்மட் சு. ஹசன்
Muhamad Hussain
பிடித்த நாள் / DOB : 10/05/1977
ஆண் / Male

8543 6026 0524

मेरा आधार, मेरी पहचान

GOVERNMENT OF INDIA

முஹம்மட் சு. ஹசன், என்.3
ஏ பி எஸ் நகர், விஜயபுரம் வீதி
விஜயபுரம், விஜயபுரம், தமிழ் நாடு.
605602

Address: C/O: Sulaiman, No.3, A P S
Nagar, Vijayapattanam Road, Vilupuram,
Vilupuram, Tamil Nadu, 605602

8543 6026 0524

☎ 1847 ✉ help@uidai.gov.in 🌐 www.uidai.gov.in

29mm

I 2025 4627
புத்தகம்.....வருடத்திய.....ம் ஆவணம்
3 | தாக்கரை கொண்டது -
24 வருட எண்
[Signature]





Government of India

Form GST REG-06

[See Rule 10(1)]

Registration Certificate

Registration Number : 33AADFT8400C1ZP



1.	Legal Name	TAAMAESEK ENGINEERING CONSORTIUM			
2.	Trade Name, if any	TAAMAESEK ENGINEERING CONSORTIUM			
3.	Additional trade names, if any				
4.	Constitution of Business	Partnership			
5.	Address of Principal Place of Business	Floor No.: 1ST FLOOR Building No./Flat No.: NO.5 Road/Street: BISHOP WALLERS AVENUE WEST City/Town/Village: MYLAPORE District: Chennai State: Tamil Nadu PIN Code: 600004			
6.	Date of Liability	01/07/2017			
7.	Date of Validity	From	01/07/2017	To	Not Applicable
8.	Type of Registration	Regular			
9.	Particulars of Approving	Tamil Nadu Goods and Services Tax Act, 2017			
Signature  Digitally signed by BHARATHI KASI AND SERVICES TAX NETWORK IS Date: 2025.04.09 18:45:14 IST					
Name		BHARATHI KASI			
Designation		Assistant Commissioner			
Jurisdictional Office		MYLAPORE			
Date of issue of Certificate		09/04/2025			
Note: The registration certificate is required to be prominently displayed at all places of Business/Office(s) in the State.					

This is a system generated digitally signed Registration Certificate and has been approved by the jurisdictional authority on 09/04/2025 by the jurisdictional authority.

31-entertainment
25-entertainment
1627





Annexure A

Goods and Services Tax Identification Number: 33AADFT8400C12P

Details of Additional Place of Business(s)

Legal Name I AAMAESEK ENGINEERING CONSORTIUM
Trade Name, if any TAAMAESEK ENGINEERING CONSORTIUM
Additional trade names, if any

Total Number of Additional Places of Business(s) in the State

4

- 1 19, M/s.Dew Software, Madurai to Theni Main Road, Elcot IT Park, Near MKU University, Vadapalanji, Karadipatti, Madurai, Tamil Nadu, 625021
- 2 No.18, M/s.Dew Info System Pvt Ltd, Madurai to Theni High Road, Elcot IT Park, Near MKU University,, Vadapalanji, Madurai, Tamil Nadu, 625021
- 3 SF NO.72, 74, BBS INFRA SPACE PRIVATE LIMITED, MEDICAL COLLEGE ROAD, OPP. MEDICAL COLLEGE 1ST GATE, NEELAGIRI THERUKU THOTTAM PANCHAYAT, Neelagiri, Thanjavur, Thanjavur, Tamil Nadu, 613004
- 4 19/1, BELLAPREMIER HAPPY HYGIENECARE PVT LTD, Madurai - Dindigul Highway, Ambathurai, Dindigul, Tamil Nadu, 624302

31 2025 4627
பெரிய நகரம்
தமிழ்நாடு
26-05-2025
மாண்புமிகு
மாண்புமிகு





Annexure B

Goods and Services Tax Identification Number: 33AADFT8400C12P

Legal Name

TAAMAESEK ENGINEERING CONSORTIUM

Trade Name, if any

TAAMAESEK ENGINEERING CONSORTIUM

Additional trade names, if any



Details of Managing / Authorized Partners

1



Name

SOMURAO VIJAYANANDAN

Designation/Status

MANAGING PARTNER

Resident of State

Tamil Nadu

2



Name

SOLAISAMY RAMACHANDRAN

Designation/Status

Partner

Resident of State

Tamil Nadu

Goods and Services Tax

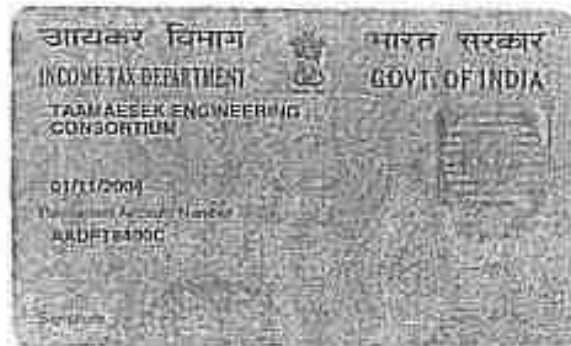
I, 2025 4627

பதிவு செய்யப்பட்டிருக்கிறது

31 - தபால் மூத்திரம்

27 - தபால் மூத்திரம்





For TAAESEEK ENGINEERING CONSORTIUM

[Signature]
Managing Partner

1. 2025 4627
31-தார்க்களம் கொண்டு
28-வது நாள்

[Signature]



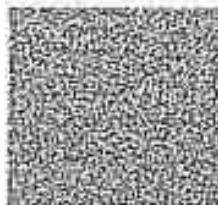
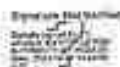


GOVERNMENT OF INDIA

Union Identification Authority of India

பதிவுஎண்/ Enrolment No.: 2726/52980/00259

To
Sri Jayaramgar Case
Vijayanandan S
C/O: R Soma Rao
No 12/15,
Dr Nanjunda Rao Street,
Maslankeral
Chennai Tamil Nadu - 600115
+914038521

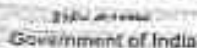


உங்கள் ஆதார் எண் / Your Aadhaar No. :

9000 1251 7832

VIO : 2123 2110 2017 4557

சாஸ்திர அறிவுரை, சாஸ்திர அனுபவமாயும்



விஜயநாதன் Gen
Vijayanandan S
பிறந்த திகதி/DOB: 15/05/1970
பால/MALE

9000 1251 7832

YTD : 9123 9110 2217 4557

எனது ஆதாரம், எனது அண்டியாளம்



Continued from p. 10



AADHAA

▶▶▶▶▶ / INFORMATION

- ஆதார் என்பது அட்டையாகி உள்ளது. இதுபற்றியும் கீழ்க்கண்ட காரண காரியம்
- ஆதார் தனித்துவமானது மற்றும் பாதுகாப்பானது.
- பாதுகாப்பான QR குறியீடு ஆட்கள் மூலம் XML (ஆதாரங்கள் சரிசெய்தல்) மூலம் பயன்படுத்தி அட்டையாதாரத்தை சரிபார்க்கலாம்.
- ஆதார் எவரும் பிழை எதுவுமே இது ஆதார் மற்றும் எம் ஆதார் போன்ற அனைத்து வகையான ஆதாரங்களும் சமமாக செயற்படாதது. இவ்வகை ஆதார் எண்ணுக்கு பரிமாண வெவ்வேறு ஆதார் அட்டையாதாரத்தை எம் பயன்படுத்தலாம்.
- 10 ஆகியிருக்கும் ஒரு முறைப்படி ஆதாரம் முயற்சிக்கலாம்.
- பல்வேறு அரசு மற்றும் அரசு அமைப்புகள் (கேள்விகளையும்) பொது ஆதார் பயன்படுத்தி உதரவிடும்.
- உபயோக போதாமை எம் மற்றும் விவரங்களை இவ்வகை ஆதாரம் முயற்சிக்கலாம்.
- ஆதார் கேள்விகளையும் பொது உபயோக சமர்ப்பிட்டு, பொருள்கள் எம் ஆதார் செயல்படும் பரிசீலிக்கலாம்.
- பாதுகாப்பான உதரவிடும் ஆதார், பகையிடும் எம், எம், அல்லது அமைப்புகள் பயன்படுத்தலாம்.
- ஆதார் கேள்வம் திறமையான உதரம் ஒப்பந்தம் பொது கேள்வி.
- Aadhaar is a proof of identity, not of citizenship.
- Aadhaar is unique and secure.
- Verify identity using secure QR code/offline XML/online Authentication.
- All forms of Aadhaar like Aadhaar letter, PVC Cards, eAadhaar and mAadhaar are equally valid. Virtual Aadhaar Identity (VID) can also be used in place of 12 digit Aadhaar number.
- Update Aadhaar atleast once in 10 years.
- Aadhaar helps you avail various Government and Non-Government benefits/services.
- Keep your mobile number and email id updated in Aadhaar.
- Download mAadhaar app on smart phones to avail Aadhaar Services.
- Use the feature of lock/unlock Aadhaar/biometrics to ensure security.
- Entities seeking Aadhaar are obligated to seek due consent.



Unique Identification Authority of India



உதவி:
கூடு ஆய்வுப் பகுதி, நாள் 12/13,
உதவிப் பகுதி, நாள் 12/13, திருவள்ளூர்,
தென்னாற்காடு - 600115

Address:
C/O: R Somu Rao, No 13/15, Dr Nanjunda
Rao Street, Neelankanti, Chennai,
Tamil Nadu - 600115



9000 1251 7832

VTD : 9123 9110 2017 4557

188T | 1-800-828-6882 | 1-800-828-6882

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இந்திய அரசாங்கம்
Government of India



அ. அன்புநாதன்
A Annabudhan
பிறந்த நாள் / DOB : 06/03/1957
ஆண்பால் / Male



9083 1408 1918

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

(Handwritten signature)



இலங்கைத் தாயகம் அமைச்சு அமைச்சு
Unique Identification Authority of India

முதலவர்
தஞ்சை / தாய் பெயர்: அழகர்
ராங்கசாமி, ஏ.பி.பி.பி. / வது
தாய் / வது பெரு. 11 வது
மெயின் ரோடு, அண்ணா நகர்,
சென்னை, அண்ணா நகர், தமிழ்
நாடு. 600040

Address:
S/O: Alagu Rangasamy,
AP2200, 1 ST FLOOR, 7 TH
STREET, 11 TH MAIN ROAD,
Anna Nagar, Chennai, Anna
Nagar, Tamil Nadu, 600040

9083 1408 1918



1800 121 1918



uaid@nic.gov.in



www.uidai.gov.in



இந்திய அரசாங்கம்
Government of India



கோகுல கிருஷ்ண குருசாமி
Gokula Krishna Gurusamy
பிறந்த நாள் / DOB : 13/08/1981
ஆண்பால் / Male



8604 1469 8829

எனது ஆதார், எனது அடையாளம்



இலங்கைத் தாயகம் அமைச்சு அமைச்சு
Unique Identification Authority of India

முதலவர்
கோ. குருசாமித்தி. * ரெட்டியார்
செரு. கோனாமங்கலம்
தேவநாதி விஜயபுரம் தலை
நாடு, 604394

Address:
S/O: Gurusamy, 4, REDDIYAR
STREET, Kananthangalam,
Thaludali, Vuppuram, Tamil
Nadu, 604394

8604 1469 8829



1800



uaid@nic.gov.in



www.uidai.gov.in

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I 2025 4627
பதினாறு வருடத்தின் ஆவணம்
31-ஆவது நாள்
காங்கிரஸ் கொண்டாட்டம்





2025 4627

சுருவரூர்...சுருவரூர்...சுருவரூர்

31 தாதுகளை கொண்டு

31 தாது எண்

R.K.

A143





Government of India

Form GST REG-06

[See Rule 10(7)]

Registration Certificate

Registration Number : 33AADFT8400C1ZP



1.	Legal Name	TAAMAESEK ENGINEERING CONSORTIUM			
2.	Trade Name, if any	TAAMAESEK ENGINEERING CONSORTIUM			
3.	Additional trade names, if any				
4.	Constitution of Business	Partnership			
5.	Address of Principal Place of Business	Floor No.: 1ST FLOOR Building No./Flat No.: NO.5 Road/Street: BISHOP WALLERS AVENUE WEST City/Town/Village: MYLAPORE District: Chennai State: Tamil Nadu PIN Code: 600004			
6.	Date of Liability	01/07/2017			
7.	Date of Validity	From	01/07/2017	To	Not Applicable
8.	Type of Registration	Regular			
9.	Particulars of Approving	Tamil Nadu Goods and Services Tax Act, 2017			
Signature					
Signature Not Verified Digitally signed by GS GOODS AND SERVICES TAX NETWORK 10 Date: 2025.10.30 18:19:35 IST					
Name		BHARATHI KASI			
Designation		Assistant Commissioner			
Jurisdictional Office		MYLAPORE			
Date of issue of Certificate		30/10/2025			
Note: The registration certificate is required to be prominently displayed at all places of Business/Office(s) in the State.					

This is a system generated digitally signed Registration Certificate issued based on the approval of application granted on 30/10/2025 by the jurisdictional authority.



Annexure A



Goods and Services Tax Identification Number: 33AADFT8400C1ZP

Details of Additional Place of Business(s)

Legal Name TAAMAESEK ENGINEERING CONSORTIUM
Trade Name, if any TAAMAESEK ENGINEERING CONSORTIUM
Additional trade names, if any

Total Number of Additional Places of Business(s) in the State 6

- 1 19, M/s.Dew Software, Madurai to Theni Main Road, Elcot IT Park, Near MKU University, Vadapalanji, Karedipatti, Madurai, Tamil Nadu, 625021
- 2 No.18, M/s.Dew Info System Pvt Ltd, Madurai to Theni High Road, Elcot IT Park, Near MKU University, Vadapalanji, Madurai, Tamil Nadu, 625021
- 3 SF NO.72, 74, BBS INFRA SPACE PRIVATE LIMITED, MEDICAL COLLEGE ROAD, OPP. MEDICAL COLLEGE 1ST GATE, NEELAGIRI THERUKU THOTTAM PANCHAYAT, Neelagiri, Thanjavur, Thanjavur, Tamil Nadu, 613004
- 4 19/1, BELLAPREMIER HAPPY HYGIENECARE PVT LTD, Madurai - Dindigul Highway, Ambathurai, Dindigul, Tamil Nadu, 624302
- 5 S.NO.13/1 13/2A 13/3 13/4, Sirunavur Village, Perumbakkam, Viluppuram, Tamil Nadu, 604304
- 6 S.NO.167/1 167/5,6,7 & 172/4, vanur taluk, vanur, Perumbakkam, Viluppuram, Tamil Nadu, 604304



Annexure B



Goods and Services Tax Identification Number: 33AADFT8400C1ZP

Legal Name TAAMAESEK ENGINEERING CONSORTIUM
Trade Name, if any TAAMAESEK ENGINEERING CONSORTIUM
Additional trade names, if any

Details of Managing / Authorized Partners



1	Name	SOMURAO VIJAYANANDAN
	Designation/Status	MANAGING PARTNER
	Resident of State	Tamil Nadu
2	Name	SOLAISAMY RAMACHANDRAN
	Designation/Status	Partner
	Resident of State	Tamil Nadu



தமிழ்நாடு தமில்நாடு TAMILNADU

28 MAR 2025

AW 641471

Taamasek Engineering
Consortium
Ch-04

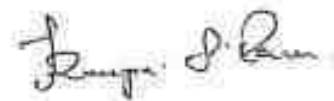
PARTNERSHIP DEED


K. SUNDAR, Stamp Vendor
LIC No. 17/3410/B, 2000
216, P. R. Street, First Street,
Anna Nagar East, Chennai-600 027

This Deed of Partnership executed at Chennai on this 1st day of April 2025 between

1. Mr. S. Vijayanandan, Son of R. Somu Rao aged about 55 years, residing at No. 13/15, Dr. Nanjunda Rao Street, Neelankarai, Chennai - 600 115, hereinafter called the party of the First Part and
2. Mrs. S. R. Roopa Sreeram, Wife of S. Vijayanandan aged about 30 years, residing at No. 13/15, Dr. Nanjunda Rao Street, Neelankarai, Chennai - 600 115, hereinafter called the party of the Second Part,







CHENNAI 6 तमिलनाडु TAMILNADU

28 MAR 2025

AW 641472

Taamaesek Engineering
Consortium
Ch-04

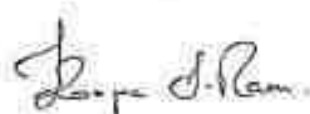

K. SUNDAR, Stamp Vendor
L.G.No. 3/5410/3-3/2000
216, P. S. Road, First Street
Anna Nagar East, Chennai-100

Whereas the parties of the first and second parts have been engaged in business as consultants, project management service providers, agents offering technical assistance in civil engineering, construction of commercial complexes and factories, and other related activities, operating under the name and style of M/s. "Taamaesek Engineering Consortium," as confirmed by the partnership agreement executed on 08th May 2021.

Whereas the first and second parties wish to amend and add certain clauses of the partnership deed to expand into the mining and land development business.

Whereas the parties hereto have considered it necessary and expedient to record the terms and conditions under which they should continue to carry on the business of partnership, if so effected in writing for the sake of convenience and for future reference.





NOW THIS INDENTURE WITNESSETH AS FOLLOWS:



1. The business of partnership shall be carried on under the same name and style as "**Taamaesek Engineering Consortium**" and such other name or names as the parties may determine from time to time.
2. The date of commencement of this partnership is **01.04.2025**.
3. The business of partnership shall be carried on at No.5, Bishop Wallers Avenue West, Mylapore, Chennai 600 004 , and it may be carried at such other place or places as the parties may determine from time to time.
4.
 - a. The business of the firm shall be to act as consultant, project management consultant and agent for providing technical assistance relating to Civil Engineering Projects, Material and Cost Control and the like, inclusive of preparing and submitting overall and detailed plans for execution of civil and industrial building for corporate, MNC and other entities either in matters of New Project and/or expansion or modification of the ongoing Project. The Firm may also carry on development, promotion and construction of residential flats, commercial complex, factories etc., on its own or with any other concern. The firm is further entitled to do any other lawful business or businesses as may be mutually agreed upon by them in writing from time to time.
 - b. To acquire or lease mines or quarries for the purpose of engaging in the business of mining, crushing, manufacturing, or dealing with limestone, chalk, clay, metals, precious and other minerals or stones, as well as related deposits or products, and generally to conduct mining operations.
 - c. To engage in the business of buying, selling, exchanging, developing, pooling, and aggregating lands, and to act as an agent for the purchase and sale of lands.
5. The Partnership shall at '**Will**'.
6. The firm shall continue the business with the entire assets and liabilities at the values standing in the books of account hitherto and the business shall continue without any break.

[Signature]

[Signature]

7. The parties had agreed to continue their existing balances in capital accounts and also to contribute any additional sums towards their capital to carry on the business as and when they deem it necessary.
8. The parties of the First and Second who are actively engaged in conducting the affairs of business shall be entitled to the following remuneration.

(i) Mr. S. Vijayanandan
Party of the First Part Rs. 2,00,000 /- p. m

(ii) Mrs. S. R. Roopa Sreeram
Party of the Second Part Rs. 1,00,000 /- p.m.

9. The net profit or loss after deducting the usual outgoings and remuneration to partners shall be divided among the partners as under:

(i) Mr. S. Vijayanandan
Party of the First Part 87%

(ii) Mrs. S. R. Roopa Sreeram
Party of the Second Part 13%

10. The accounts shall be closed once a year on the 31st March and general statement of assets and liabilities and profit and loss statement shall be prepared as soon as practicable after the year end.
11. Proper books of account shall be kept as are usually maintained in business of similar nature and each of the parties hereto have access to the same and that no books of account or papers shall be removed from the business premises without the consent of the parties hereto.
12. The firm may continue the existing bank accounts and also open an account or accounts with any bank or banks as the parties may mutually determine from time to time, and the same shall be operated by Mr. S Vijayanandan, Party of the first part only.
13. The firm shall have the power to borrow or raise loans from the financial institutions, banks, companies, firms and/or from individuals or whatever source for the purpose of partnership business and all documents of such borrowals shall be signed by Mr. S Vijayanandan, Party of the first part only.

[Handwritten signature]

[Handwritten signature]

14. Each Partner shall be just and faithful to the other partners in respect of all matters relating to partnership.
15. No partner except with the consent in writing of all the other partners, subject to clauses 12 and 13 of this deed shall:
- a) In any way pawn, pledge, assign his/ her interest or any part thereof in the partnership.
 - b) Do or suffer anything whereby the partnership business may be endangered.
 - c) Assign or charge his/her share in the assets or profits of the partnership.
 - d) Dispose or buy, pledge, sell or otherwise part with any part of the partnership assets.
16. Any of the Parties is hereby authorized to obtain any licenses or permits for the partnership and to represent the partnership in any departments such as proceedings before the court, to draw the monies from the court, purchase and deliver stocks, sign letters, contracts, invoices, sale notes and other documents and generally to carry on the business for the mutual benefit of all the parties concerned. He or she shall be entitled to represent the partnership in the offices of Central or State government such as Customs department, Railways, Income Tax, Goods and Sales Tax Department, Commercial Tax Departments, Offices of the Registrar of Firms and all Quasi-Government Departments.
17. If any dispute arises between the parties during the continuance of the partnership business or afterwards, the same shall be referred to arbitrators and such arbitration shall be in accordance with the provisions of the Indian Arbitration and Conciliation Act, 1996 or any statutory modifications thereof for the time being in force.
18. The partnership may be dissolved by mutual consent of the partners. Death or Retirement or insolvency of any partner(s) shall not have the effect of dissolving the partnership, but the other partner may continue. If any partner wants to retire, he or she may do so by giving one month notice to other partner and on the expiry of one month the partner giving such notice is deemed to have retired and shall be entitled to settle his or her account within a period of six months from the date of such retirement. The retiring partner or the heirs of the deceased partners shall have no right whatsoever on the goodwill of the firm.

Q. 10h →

L. S. R.

19. Any of the above terms may be altered, varied or amended or added to by mutual consent by the parties hereto, such consent being either expressed into writing or implied from the conduct.

In other aspects the provisions of the Indian Partnership Act, 1940 and its later amendments hereto shall govern the parties.

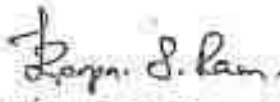
IN WITNESS WHEREOF THE PARTIES HERETO HAVE SET THEIR HANDS AND SIGNED ON THE DAY, MONTH AND THE YEAR FIRST ABOVE WRITTEN:

WITNESS:

1. S. M. K.
(No. 2, Kusthars St,
Sabigamam, ch-93)

2. K. Anugama
(No. 714, Mandapam 1st St,
Kilpauk, ch-10)


1. Mr. S. Vijayanandan
(Party of the First Part)


2. Mrs. S. R. Roopa Sreeram
(Party of the Second Part)



भारत सरकार
Government of India

एनयूआई
Unique Identification Authority of India

பதிவேட்டு எண்/ Enrolment No.: 2726/52980/00259

To
விறப்பாளர்: Gae
Vijayanandan S
C/O: R Somu Rao
No 13/15,
Dr Nanjunda Rao Street,
Neelankarai
Chennai Tamil Nadu - 600115
9884038622



உங்கள் ஆதார் எண் / Your Aadhaar No. :

9000 1251 7832

VID : 9123 9110 2017 4557

எனது ஆதார், எனது அடையாளம்



भारत सरकार
Government of India



விறப்பாளர்: Gae
Vijayanandan S
பிறந்த நாள்/DOB: 15/05/1970
ஆண்/ MALE

9000 1251 7832

VID : 9123 9110 2017 4557

எனது ஆதார், எனது அடையாளம்



Government of India



தகவல் / INFORMATION

- ஆதார் என்பது அடையாளம் என்ற, குடியுரிமைக்கான என்று அல்ல.
- ஆதார் தனித்துவமானது மற்றும் பாதுகாப்பானது.
- மட்டுமாய்வே 08 குறியீடு/ஆய்வுகள் x M L : ஆண்களை அடையாளப்படுத்தப் பயன்படுத்தி அடையாளத்தைச் சரிபார்க்கவும்.
- ஆதார் கடத்தல் பிவிசி கார்டுகள் இ ஆதார் மற்றும் எம் ஆதார் போன்ற அனைத்து வகையான ஆதாரிலும் சமமான செயல்திறமையும் 12 இலக்க ஆதார் எண்ணுக்கு பதிலாக வெயிடர் ஆதார் அடையாளத்தை ஒரு பயன்படுத்தலாம்.
- 10 ஆண்டுகளுக்கு ஒரு முறையாவது ஆதார் புதுப்பிக்கவும்.
- படுவோர் அங்கு மற்றும் அரசு அளிக்கும் பலன்கள் / சேவைகளைப் பெற ஆதார் உபயோகிக்க உதவுகிறது.
- உங்கள் மொபைல் எண் மற்றும் மின்னஞ்சல் ஐதாய் ஆதாரில் புதுப்பிக்கவும்.
- ஆதார் சேவையகளைப் பெற உங்கள் சமார்ட் போன்களில் எம் ஆதார் சேவையகப் பதிவிறக்கவும்.
- பாதுகாப்பை உறுதிப்படுத்த ஆதார் / படுவோமெட்ரிக்ஸ் லாக் / அலாக் அம்சத்தைப் பயன்படுத்தவும்.
- ஆதார் கோரும் திறவுகோலை உரிய தரப்பினரைப் பெற வேண்டும்.
- Aadhaar is a proof of identity, not of citizenship.
- Aadhaar is unique and secure.
- Verify identity using secure QR code/offline XML/online Authentication.
- All forms of Aadhaar like Aadhaar letter, PVC Cards, eAadhaar and mAadhaar are equally valid. Virtual Aadhaar (Identity VID) can also be used in place of 12 digit Aadhaar number.
- Update Aadhaar at least once in 10 years.
- Aadhaar helps you avail various Government and Non-Government benefits/services.
- Keep your mobile number and email id updated in Aadhaar.
- Download mAadhaar app on smart phones to avail Aadhaar Services.
- Use the feature of lock/unlock Aadhaar/biometrics to ensure security.
- Entities seeking Aadhaar are obligated to seek due consent.



भारत सरकार
Unique Identification Authority of India



முகவரி:
கேர் ஆஃப்: ரா சோமு ராஜு, எண் 13/15,
டாக்டர் நஞ்ஜுண்ட ராஜு தெரு., நேலங்கரை,
சென்னை,
தமிழ் நாடு - 600115

Address:
C/O: R Somu Rao, No 13/15, Dr Nanjunda
Rao Street, Neelankarai, Chennai,
Tamil Nadu - 600115



9000 1251 7832

VID : 9123 9110 2017 4557

1847 | help@uidai.gov.in | www.uidai.gov.in

आयकर विभाग
INCOME TAX DEPARTMENT



भारत सरकार
GOVT. OF INDIA

S VIJAYANANDAN
RAMACHANDRAN SOMURAO

15/05/1970

Permanent Account Number

ACMPV8461C

Signature



31082010



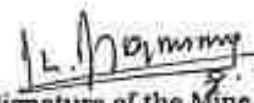
SUPER MINES & MINERALS

MINES : Deveenna Goundanoor,
S.F.No - 631/9, Sankari, Taluk,
SALEM DISTRICT. Cell : 94432 52403
Email : chandramohan5@yahoo.com



TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. N.SURESH S/o. Mr.P.NARAYANAN, Residing at D.No.6/187-A, Amaragundhi Post, Omalur Taluk, Salem Taluk, Salem District -636 503 has worked in our mines from the date of 13.03.2018 to 08.07.2024 as a GEOLOGIST with Supervisor capacity. During the above tenure of service his execution of the assigned work in exemplary and worth mentioning. I wish him success in his future endeavors.


Signature of the Mine owner

With Date & Seal
M/s. SUPER MINES & MINERALS
DEVANNAGOUNDANUR VILLAGE,
SANKARI TALUK,
SALEM DISTRICT-637 101,
TAMILNADU STATE.

Name of Mine: M/S. SUPER MINES & MINERALS
Address: No. 23/12 Sri Krishna Kudil
Apartment, Highways Colony Road, Opp. To
Sona Engg. College,
District: Salem - 636 005.
State: Tamilnadu.

Place: Salem
Date: 08.07.2024

OFFICE : 23/12 Sri Krishna Kudil Apartments,
Highways Colony Road,
Opp.Sona Engg. College, Salem - 636 005.



அறிவியல் புலம்
FACULTY OF SCIENCE

பெரியார் பல்கலைக்கழக ஆட்சிக்குழு 2012 ஆம் ஆண்டு ஏப்ரல் மாதம்
நடந்த பயன்பாட்டுப்புவியமைப்பியல் தேர்வில்
அரசு கலைக் கல்லூரி, சேலம் - 636 007 (தன்னாட்சி) பயின்ற
N சுரேஷ் என்பவர்

முதல் வகுப்பு A++ தரத்தில் தேர்ச்சி பெற்றார் என்று
தக்க தேர்வாளர்கள் சான்றளித்தபடி அறிவியல் நிறைஞர்
என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the Periyar University hereby makes known
that SURESH N has been
admitted to the DEGREE OF MASTER OF SCIENCE in
APPLIED GEOLOGY

he/she having been certified by duly appointed Examiners to be qualified
to receive the same and was placed in the FIRST CLASS
WITH A++ GRADE at the Examination held in APR-2012 through
GOVERNMENT ARTS COLLEGE, SALEM - 636 007 (AUTONOMOUS).



Given under the seal of this university

Keiyya

பதிவாளர்
Registrar

Keiyya

வூணைவேந்தர்
Vice-Chancellor

த.111
Dated 09-11-2012
சேலம் 636011, தமிழ்நாடு, இந்தியா.
Salem 636011, Tamil Nadu, India.

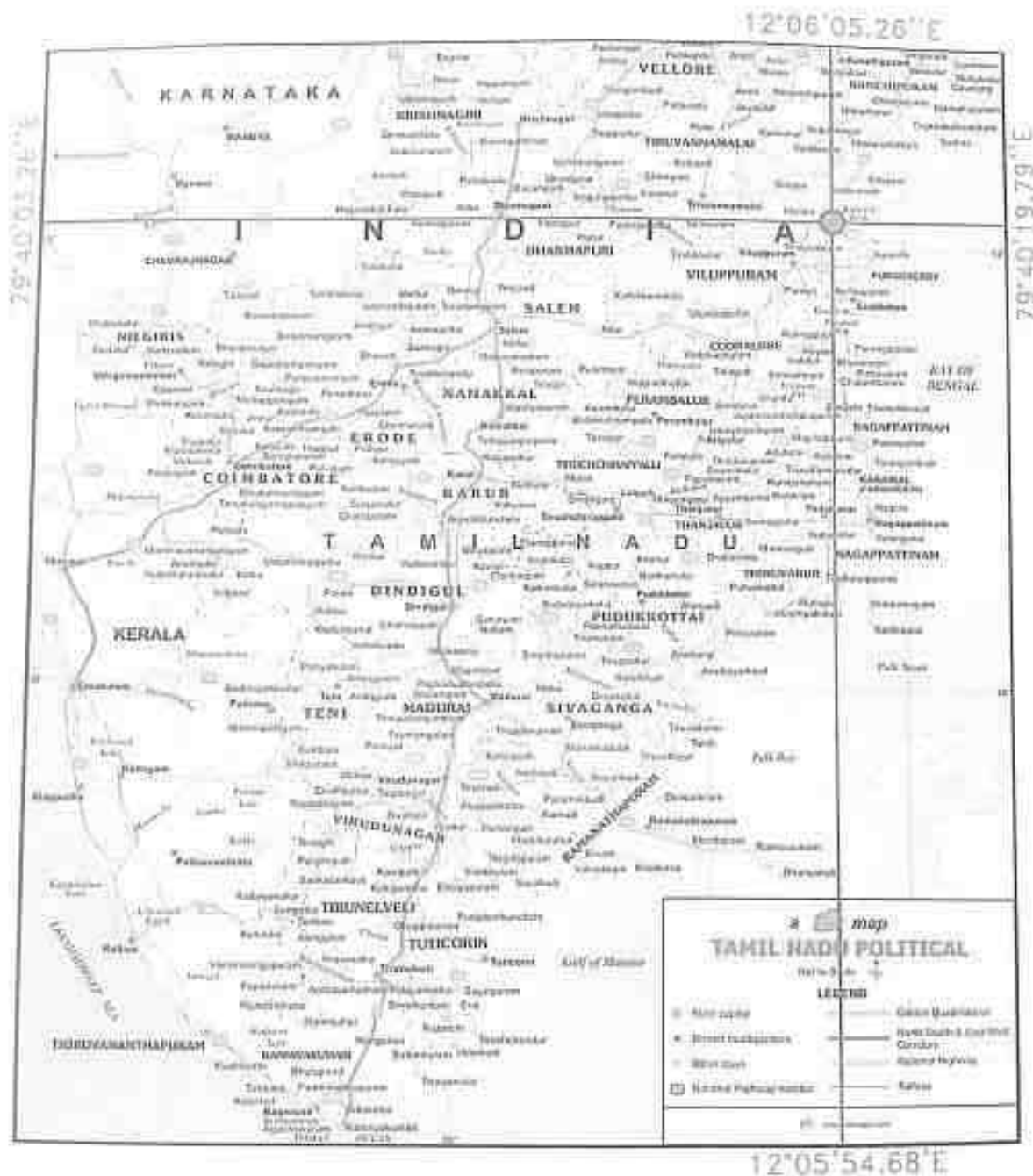


PLATE NO:

DATE OF SURVEY: 31.12.2021.

APPLICANT ADDRESS:

M/S. TRAMASEL ENGINEERING CONSORTIUM
No.3, BISHOP WALLERS AVENUE WEST,
MILAPORE,
CHENNAI,
TAMIL NADU - 600 004.

LOCATION OF QUARRY:

EXTENT : 6.61.35 Hq.
S.F. Nos : 4/1, 4/4A, 13/1A, 13/1E,
13/2A, 13/3A, 13/3B,
13/4A, 13/4B & 13/5.
VILLAGE : BRUNAVUR
TALUK : VANUR
DISTRICT : VILUPPUZHAR
STATE : TAMIL NADU

INDEX:

QUARRY LEASE AREA : 
TOPO SHEET NO.: ST-P/12
LATITUDE : 12° 05' 34.68"N to 12° 05' 35.26"N
LONGITUDE : 79° 40' 03.26"E to 79° 40' 19.79"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. SURETH, S.D.,
JAWHAR PORE

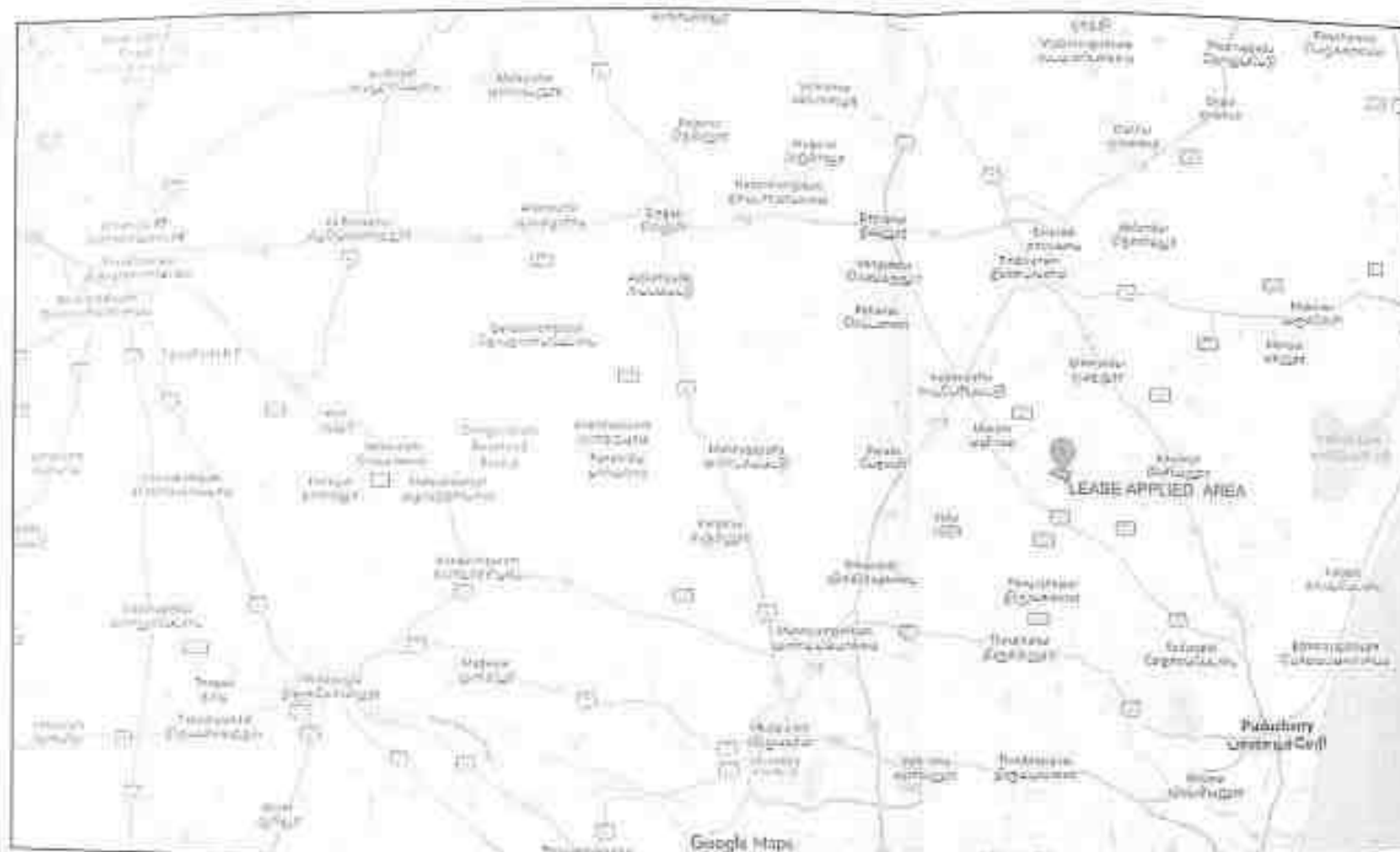
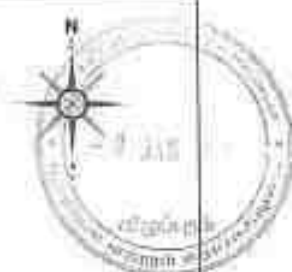


PLATE NO. J-A

DATE OF SURVEY: 31.12.2023

APPLICANT ADDRESS:

M/s. TAJMALEX ENGINEERING CONSORTIUM,
No.5, BISHOP WALLERS AVENUE WEST,
MYLAPORE,
CHENNAI,
TAMIL NADU - 600 004.

LOCATION OF QUARRY:

EXTENT : 6.67.35 Ha.
S.F. Nos. : 4/1, 4/4A, 13/1A, 13/1B,
13/2A, 13/2B, 13/3B,
13/4A, 13/4B & 13/5.
VILLAGE : SRINAVUR,
TALUK : VANUR,
DISTRICT : VILUPPURAM,
STATE : TAMIL NADU.

INDEX

QUARRY LEASE AREA

APPROACH ROAD

VILLAGE ROAD

SCALE

NOT TO SCALE

Prepared By:

I, DE. HONGE, CERTIFY THAT THE PLATE
HAS BEEN CHECKED BY ME AND IS CORRECT
TO THE BEST OF MY KNOWLEDGE.

De. Honge

4 SCREEN, 4/5L,
20/07/2023

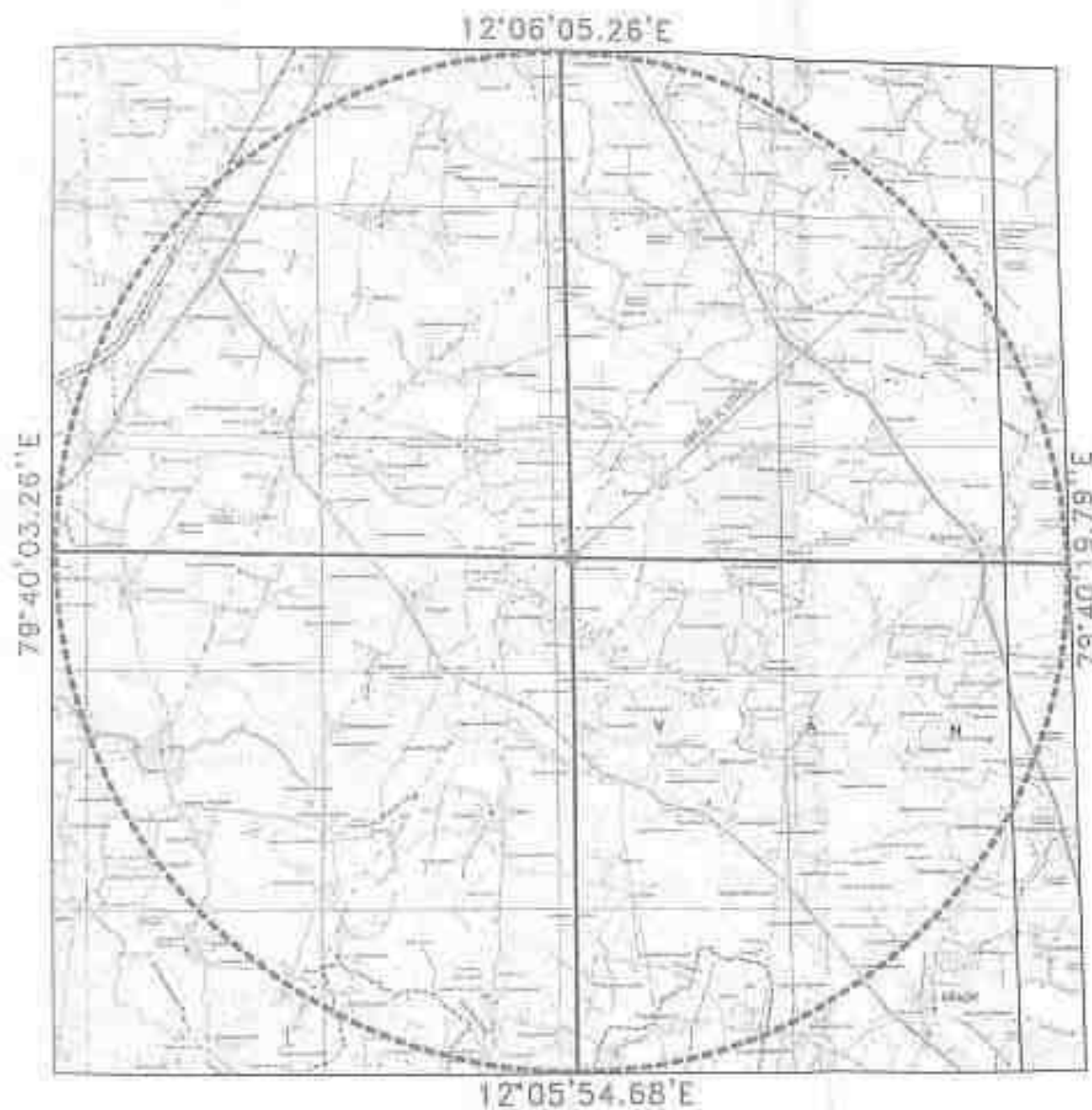


PLATE NO: 13 DATE OF SURVEY: 31.12.2022	
APPLICANT: M/s. MAHARAJA ENGINEERING CONSULTANTS NO.3, SIDHOF WALLERS AVENUE WEST, MYSAPORE, CHENNAI, TAMIL NADU - 600 004.	
LOCATION OF QUARRY:	
EXTENT:	6.61 35 Hc
S.P. NOS:	4/1, 4/2A, 13/1A, 13/1B, 13/2A, 13/3A, 13/3B, 13/4A, 13/4B & 13/5
VILLAGE:	SRITHANVUR
TALUK:	VANUR
DISTRICT:	VELUPPILAI
STATE:	TAMIL NADU
QUARRY LEASE AREA:	
10km RADIUS:	
TOPO SHEET NO: 87P/12 LATITUDE: 12°03' 54.68" N to 12°04' 05.26" N LONGITUDE: 79°40' 03.26" E to 79°40' 19.79" E	
TOPO SHEET NO: 87P/12 10km RADIUS:	
SCALE: 1:100000	
Prepared By: I AM HEREBY CERTIFY THAT THE MAP HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE.	
 S. SURESH K. S. QUALIFIED SURVEYOR	



PLAT NO. 12

DATE OF SURVEY: 01.12.2023

APPLICANT ADDRESS

M/S. MAANEEK ENGINEERING CONSORTIUM
No. 3, Bishop Wallers Avenue West,
Mylapore,
Chennai,
Tamil Nadu - 600 004

LOCATION OF QUARRY

EXTENT : 6.61.35 Ha.
S.F. No. : 4/1, 4/4A, 13/1A, 13/1B,
13/2A, 13/3A, 13/3B,
13/4A, 13/4B & 13/5

VILLAGE : SRUNAVUR,
TALUK : VANUR,
DISTRICT : VILUPPURAM,
STATE : TAMIL NADU.

INDEX

QUARRY LEASE BOUNDARY	
VILLAGE ROAD	
APPROACH ROAD	
300m RADIUS	
500m RADIUS	
1km RADIUS	

TOPO SHEET NO. - S/P/13.

LATITUDE : 12°05'54.68"N to 12°06'05.26"N

LONGITUDE : 79°40'03.26"E to 79°40'19.79"E

SATellite IMAGE
(1km RADIUS)

SCALE: 1:10000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLAT
WAS BEEN CHECKED BY ME AND IS CORRECT
TO THE BEST OF MY KNOWLEDGE

M. Srinivas

M. SRINIVAS, M.S.L.
CHANNAI TIRUPATI



Lease Area Details		
S.No	SF.No	Extent in Ha
1	4/1	0.0130
2	4/2	0.0225
3	13/1A	1.0750
4	13/2B	0.2500
5	13/2A	1.8710
6	13/3A	1.1150
7	13/3B	0.4050
8	13/4A	0.1150
9	13/4B	0.4210
10	13/5	0.1000
Total		6.3330 Ha

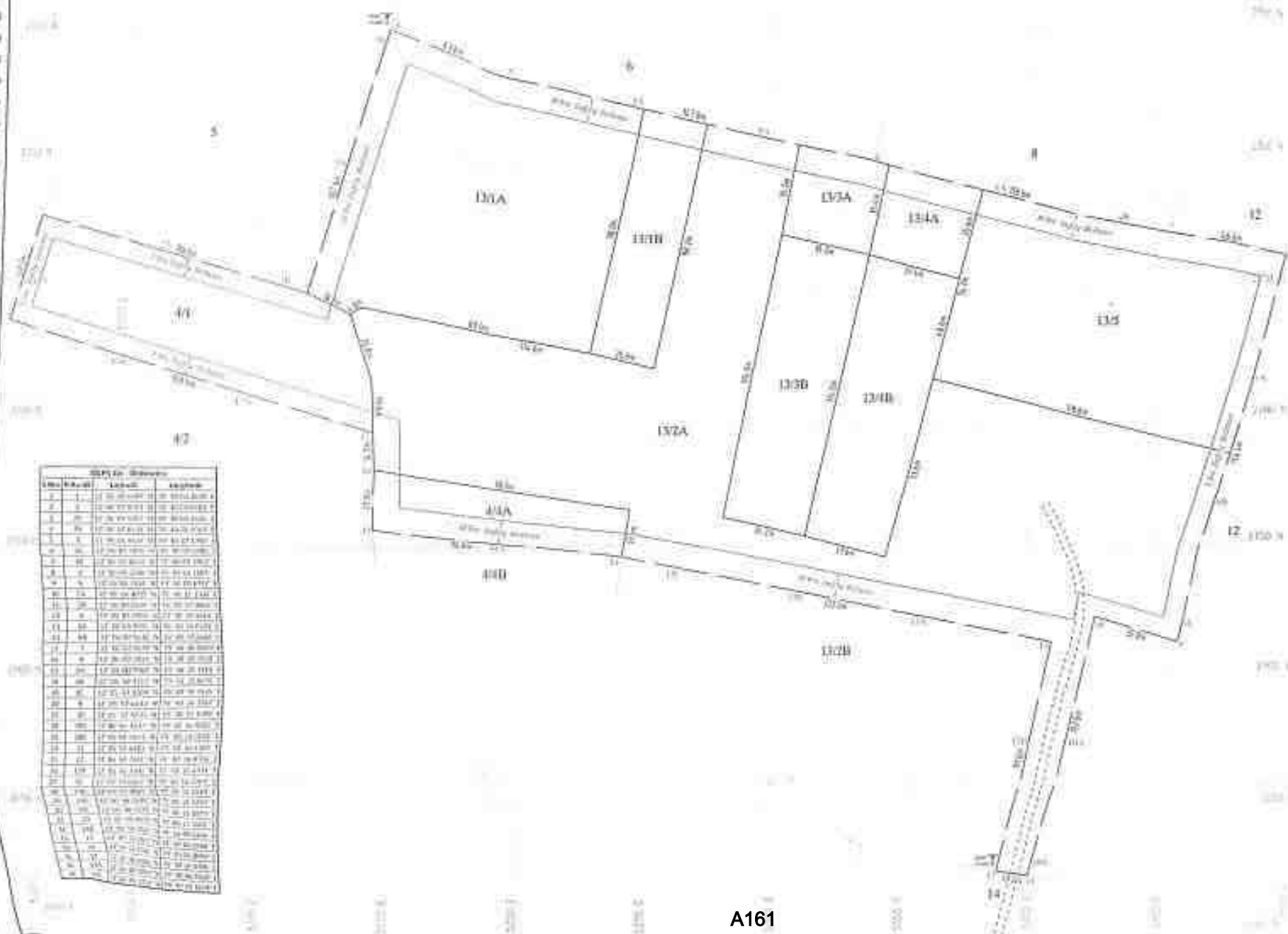


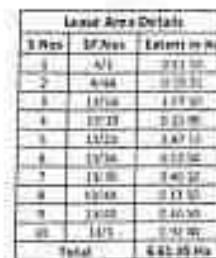
PLATE NO. 2
DATE OF SURVEY 11/12/2022

APPLICANT'S DETAILS
M/s. HANUMAN HIGH-TECH CONCRETE
P.L.S. MINOR BUILDERS & ENGINEERS
ARLAPUR
CHENNAI
TANAKHADI - 600104

LOCALISATION DETAILS
EXTENT: 6.3330 Ha
SF.No: 4/1, 4/2, 13/1A, 13/2A, 13/2B, 13/3A, 13/3B, 13/4A, 13/4B & 13/5
WARD: 66/24/2
TAUK: VANDU
DISTRICT: THIRUPUR
STATE: TAMIL NADU

TO: ODARU LEEK KOLLAIAH
FROM: THIRUPUR DISTRICT
THIRUPUR DISTRICT
AFFIDAVIT CHARGE

Prepared by:
[Signature]
[Name]
[Address]
[Contact]



Lease Area Details		
Line	SF Area	Latent sq
1	471	20.13 sq
2	4,444	19.38 sq
3	1,076	4.57 sq
4	1,073	2.18 sq
5	4,422	1.67 sq
6	1,076	0.17 sq
7	11,108	3.40 sq
8	6,618	0.13 sq
9	2,742	0.65 sq
10	1,071	0.52 sq
Total		68.55 sq

DATE OF SURVEY: 31/12/2004

WOLFE
CHINA
TANK WAGON

jocelyn@cs.cmu.edu

COOH	8.41 (2H)
CH ₂ OH	4.71, 4.46 (2H, 1:1) 3.24, 3.26, 3.28 3.14, 3.16 & 3.17
SEAC	8.04 (4H)
CH ₂ OH	4.62 (2H)
DOHCC	4.20 (2H)
CH ₂ OH	3.65, 3.67 (2H)

RESULTS

DAARBYG BILDETSKOLEN
Før og efter skole (2014-2015)
TILNÆRMET BILDETSKOLE
KUNST OG HANDELSKUNST
GÅRDE
BILDETSKOLE
BILDETSKOLE

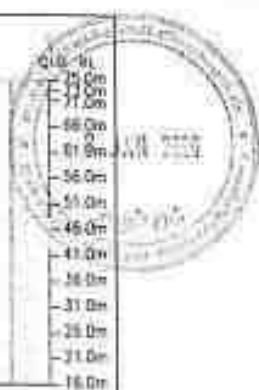
2007年12月27日

Procedures

1. The authors are grateful to the National Science Foundation for the support of this work.

Wm. D.

SECTION ALONG X-Y



SECTION ALONG A-B



SECTION ALONG XI-YI



GEOLOGICAL RESOURCES									
Section	Block	Length in (m)	Width in (m)	Depth in (m)	Volume in (m ³)	Rough Stone in (m ³)	Gravel in (m ³)	Bulk Density	Gravel in (m ³)
XX-AB	I	56.1	12.0	2	133120	123120	2	2	23688
	II	56.1	12.0	2	133120	123120	2	2	23688
	III	56.1	12.0	2	133120	123120	2	2	23688
	Total				399360	369360	4	4	47376
XIVY-CD	I	119	4.5	2	10234	10234	1	1	2046
	II	119	4.5	2	10234	10234	1	1	2046
	III	119	4.5	2	10234	10234	1	1	2046
	Total				30702	30702	3	3	6138
Grand Total					399360	369360	7	7	53514

PLATE NO. IIIA

DATE OF SURVEY: 31/12/2025

APPLICANT ADDRESS

M/L. KARMADEB ENGINEERING CONCORDUM
No.5, BISHOP WALLERS AVENUE WEST,
MILAPORE,
CHENNAI
TAMIL NADU - 600 004

LOCATION OF QUARRY

EXTENT: 6.61.33 Ha.
SF No: 4/1, 4/4A, 13/1A, 13/1B,
13/2A, 13/3A, 13/3B,
13/4A, 13/4B & 13/5
VILLAGE: SIRUNAVVIE,
TALUK: VANUR,
DISTRICT: VILUPPURAM,
STATE: TAMIL NADU

INDEX

QUARRY LEASE BOUNDARY
7.5m & 10m SAFETY DISTANCE
ROUGH STONE

GEOLOGICAL SECTION

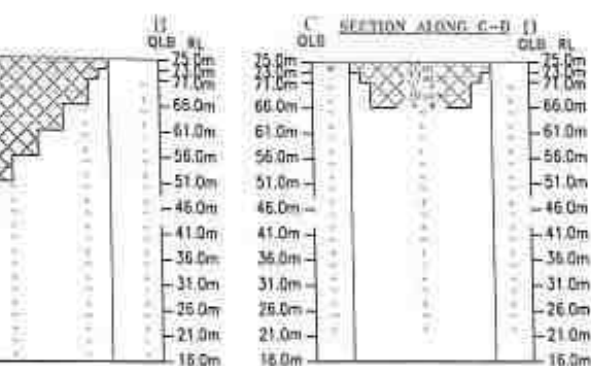
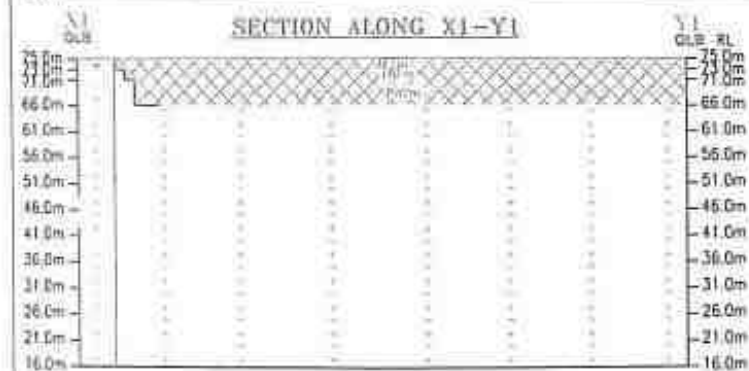
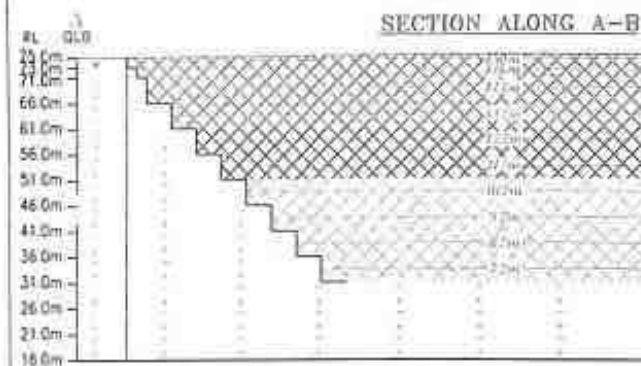
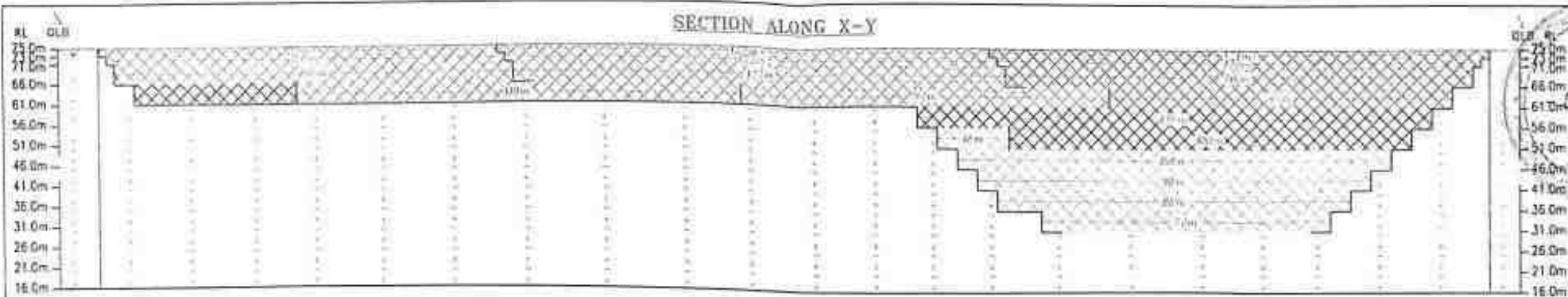
SCALE: HORIZONTAL 1:1000
VERTICAL 1:1000

Prepared By:

I, DR. HIRSHY ZERBER, STATE GEOLOGICAL SURVEY, CHENNAI, HAVE BEEN CHECKED BY ME AND I CERTIFY THAT THE DATA IS TRUE AND CORRECT.

(Signature)

DR. HIRSHY ZERBER,
QUALIFIED PERSON



FIRST - FIVE YEARWISE DEVELOPMENT AND PRODUCTION RESERVES										
Year	Section	Bench	Length (in m)	Width (in ft)	Depth (in ft)	Volume (in m ³)	Rough Stone (in m ³)	Gravel (in m ³)	Bulk Density	Gravel (in MT)
I-YEAR	XY-AB	I	121	170	2	37209	37209	2		34090
		II	120	169	2	35030	35030	2		32010
		III	110	162	3	82360	82360	2.75	336190	
		IV	85	162	5	34100	34100	2.75	154375	
		Total				110700	110700	72240		494990
II-YEAR	XY-AB	I	122	170	2	36600	36600	2		33300
		II	122	169	2	35624	35624	2		32304
		III	122	162	3	86620	86620	2.75	216203	
		IV	82	162	5	40720	40720	2.75	166908	
		Total				219164	219164	72224		444448
III-YEAR	XY-AB	I	109	170	2	36000	36000	2		33000
		II	109	169	2	29330	29330	2		27000
		III	109	162	3	71000	71000	2.75	195250	
		IV	110	162	5	72400	72400	2.75	199450	
		Total				186430	186430	72224		402500
IV-YEAR	XY-AB	I	141	20	2	6272	6272	2		12364
		II	110	24	2	5280	5280	2		10560
		III	109	20	3	10100	10100	2.75	27500	
		Total				22452	22452	72224		46424
		Grand Total				868266	868266	219216		438432

I-	YEAR PROPOSED EXCAVATION	
II-	YEAR PROPOSED EXCAVATION	
III-	YEAR PROPOSED EXCAVATION	
IV-	YEAR PROPOSED EXCAVATION	
V-	YEAR PROPOSED EXCAVATION	

PLATE NO IV-A
DATE OF SURVEY: 31.12.2025

APPLICANT ADDRESS
M/S. TAAMASEK ENGINEERING CONSORTIUM
No.5, BISHOP WALLER'S AVENUE WEST,
MYLAPORE,
CHENNAI,
TAMIL NADU - 600 004;

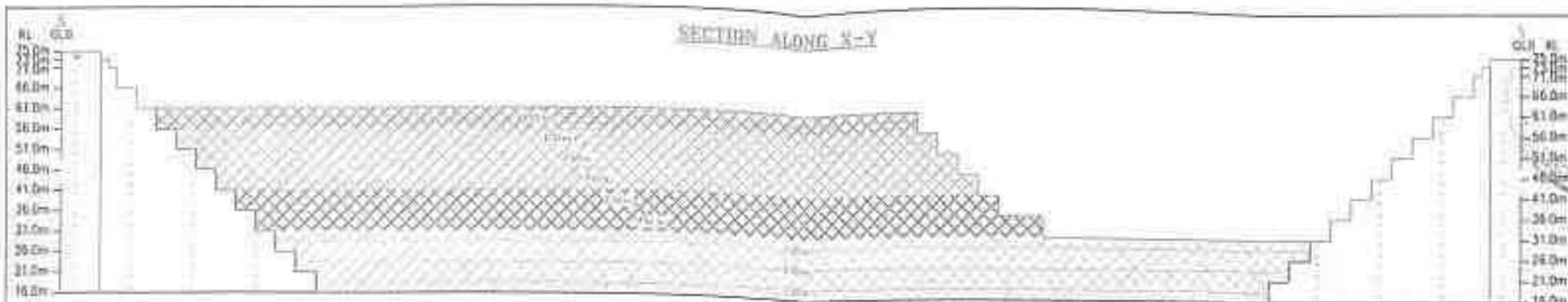
LOCATION OF QUARRY
EXTENT : 6.61.35 Ha.
S.F.No. : 4/1, 4/4A, 13/1A, 13/1B,
13/2A, 13/3A, 13/3B,
13/4A, 13/4B & 13/5,
SIRUNAVUR,
VANUR,
VILUPPURAM,
TAMIL NADU.

INDEX
QUARRY LEASE BOUNDARY
7.5m & 10m SAFETY DISTANCE
ROUGH STONE
PROPOSED PIT LIMIT

SCALE HOR-1:1000
VER-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

N. SURESH, M. Sc.,
QUALIFIED PERSON



VI - YEAR PROPOSED EXCAVATION	
VII - YEAR PROPOSED EXCAVATION	
VIII - YEAR PROPOSED EXCAVATION	
IX - YEAR PROPOSED EXCAVATION	
X - YEAR PROPOSED EXCAVATION	

SECOND - FIVE YEARWISE DEVELOPMENT AND PRODUCTION RESERVES									
Year	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m3)	Rough Stone in (m3)	Bulk Density	Rough Stone in (MT)
VI - YEAR	XY-AB	V	190	112	5	115900	115900	2.75	318725
		Total					115900	115900	
VII - YEAR	XY-AB	VI	190	112	5	109400	109400	2.75	292600
		Total					109400	109400	
VIII - YEAR	XY-AB	VII	190	102	5	96900	96900	2.75	266475
		VIII	190	92	5	87400	87400	2.75	240350
		Total					184300	184300	
IX - YEAR	XY-AB	IX	190	82	5	77900	77900	2.75	214325
		X	190	72	5	70560	70560	2.75	194010
		Total					148460	148460	
X - YEAR	XY-AB	XI	258	62	5	79980	79980	2.75	219945
		XII	248	52	5	64480	64480	2.75	177320
		XIII	238	42	5	49980	49980	2.75	137445
		Total					194440	194440	
Grand Total						749500	749500		2061125

PLATE NO. V-A

DATE OF SURVEY: 31/12/2025

APPLICANT ADDRESS:

M/L. TANMAIEK ENGINEERING CONSORTIUM
No. 5, BISHOP WALLERS AVENUE WEST,
MAYLAPORE,
CHENNAI,
TAMIL NADU - 600 004.

LOCATION OF QUARRY:

EXTENT: 8.6135 Hk.
SF. No: 4/1, 4/4A, 13/1A, 13/1B,
13/2A, 13/3A, 13/3B,
13/4A, 13/4B & 13/5.
VILLAGE: SRINIVASUR,
TALUK: VANUR,
DISTRICT: VELUPURAM,
STATE: TAMIL NADU

INDEX:

QUARRY LEASE BOUNDARY
7.5m & 10m SAFETY DISTANCE
ROUGH STONE
PROPOSED PIT LIMIT
FIRST FIVE YEAR BENCH

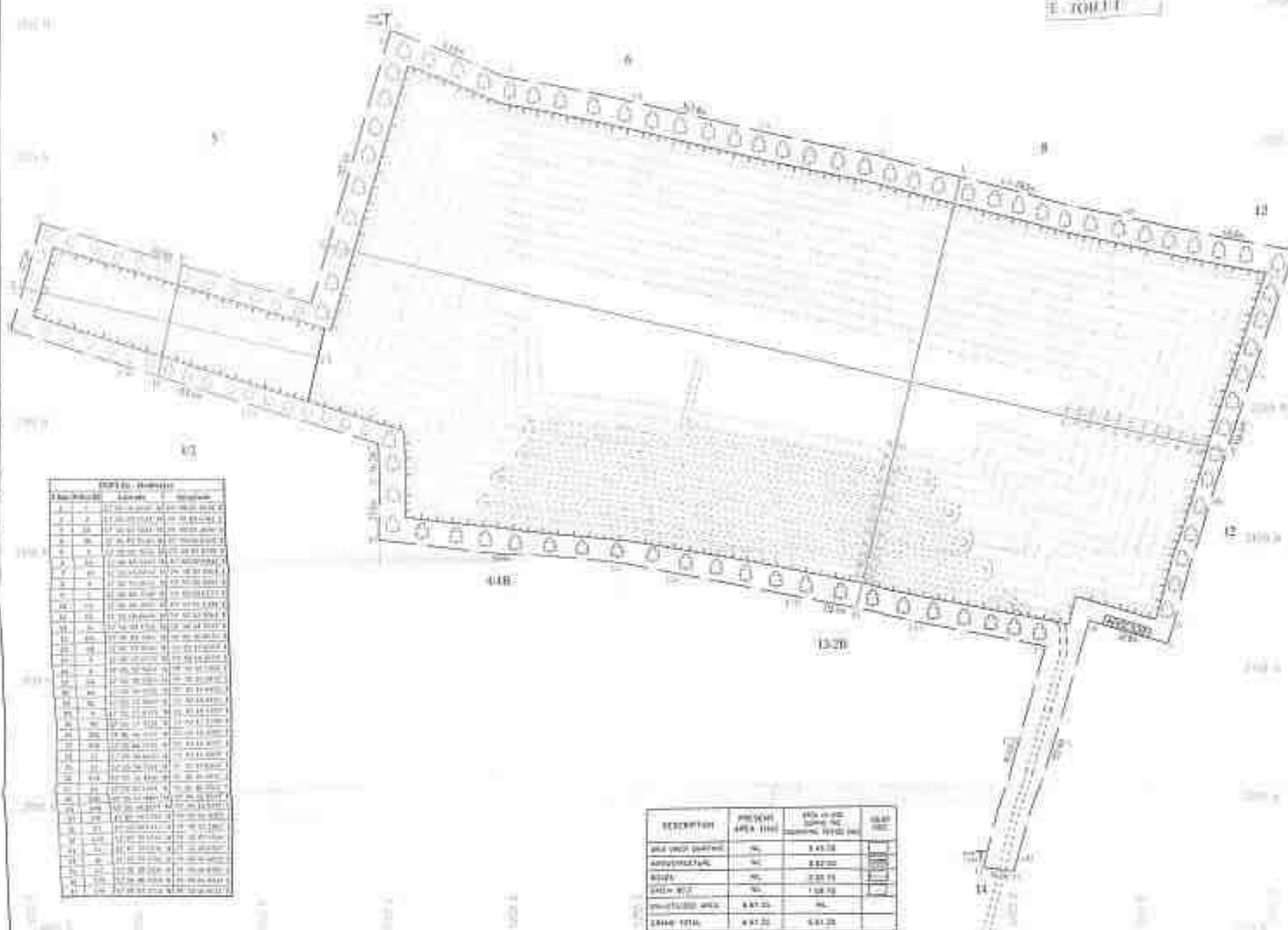
SECOND FIVE YEAR PRODUCTION RESERVES
AND PRODUCTION RESERVES

SCALE: HQR: 1:1000
VER: 1:1000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLANS
HAS BEEN CHECKED BY ME AND IS ACCURATE
TO THE BEST OF MY KNOWLEDGE

H. SURESH, S.D.O.
MADRAS PLEADS



CSP-10 (Hemolysis)		
Time (min)	Location	Temperature
0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
21	21	21
22	22	22
23	23	23
24	24	24
25	25	25
26	26	26
27	27	27
28	28	28
29	29	29
30	30	30
31	31	31
32	32	32
33	33	33
34	34	34
35	35	35
36	36	36
37	37	37
38	38	38
39	39	39
40	40	40
41	41	41
42	42	42
43	43	43
44	44	44
45	45	45
46	46	46
47	47	47
48	48	48
49	49	49
50	50	50
51	51	51
52	52	52
53	53	53
54	54	54
55	55	55
56	56	56
57	57	57
58	58	58
59	59	59
60	60	60
61	61	61
62	62	62
63	63	63
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65	65	65
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67	67	67
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73	73	73
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78	78	78
79	79	79
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82	82	82
83	83	83
84	84	84
85	85	85
86	86	86
87	87	87
88	88	88
89	89	89
90	90	90
91	91	91
92	92	92
93	93	93
94	94	94
95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

[illegible]

DATE OF SURVEY 31/12/2008 APPROVED BY: [Signature] Mr. [Name] District Engineer No. 8, BHOJAN NAGAR, WARD HYDUPUR CHENNAI State: ANDHRA PRADESH	
DISTRICT P. Survey SGNM 4 81.34 Km L.F.M. 40 400, 127A, 131B 127A, 127B, 131A 127A 131B & 131C H.NO. [] ENCL. [] DISTRICT [] STATE []	
DISTRICT DISTRICT ENGINEER P. No. [] P. No. [] APPROVED BY: [Signature] DISTRICT ENGINEER DISTRICT DISTRICT	

[illegible]

12°06'05.26"E



PLATE NO. VI

DATE OF SURVEY: 31/12/2005

JAN 2006

APPLICANT ADDRESS

M/S. MAAMSEK ENGINEERING CONSULTANTS
NO.5, BISHOP WALLERS AVENUE WEST
MILAPORE,
CHENNAI,
TAMIL NADU - 600 004

LOCATION OF QUARRY

EXTENT: 6.6135 Ha.
SF No: 4/1, 4/1A, 15/1A, 15/1B,
13/2A, 13/3A, 13/3B,
13/4A, 13/4B & 13/5

VILLAGE: SRINIVAS,
TALUK: VANUR,
DISTRICT: VIJAYAPURAM,
STATE: TAMIL NADU

INDEX

QUARRY LEASE BOUNDARY	
APPROACH ROAD	
30m RADIUS	
50m RADIUS	
1km RADIUS	
TREES	
SATUE	
DRY AGRICULTURAL LAND	
INFRASTRUCTURE	
WIND DIRECTION	
QUARRY POND	

PROPOSED QUARRY

SCALE 1:10000

Prepared By:

1. TO VERIFY CLARITY AND THE PLANT
AND SOIL DENSITY BY W.C. AND S. FORKED
TO THE BEST OF HIS KNOWLEDGE

(Signature)

A.S. SETHI, A.S.C.
SPECIALIST

LAND USE PATTERN

ROAD	105%
TREES	1.5%
SEASONAL AGRICULTURAL LAND	4.5%
BARREN LAND	130%
HABITATIONS	105%
TANK	100%

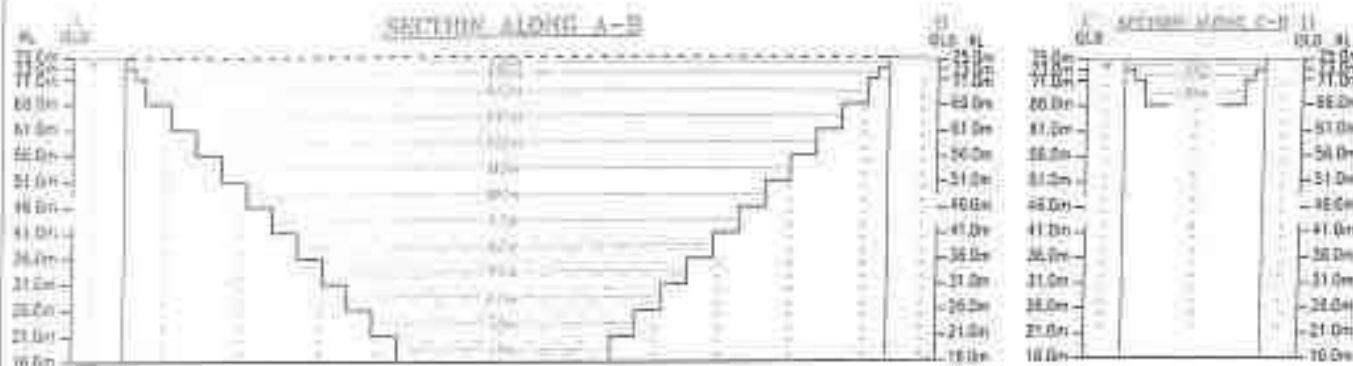
12°05'54.68"E

79°40'03.26"E

79°40'19.79"E



Ultimate Pit Dimensions: (Max) 345m(L) X 150m(W) X 59m (D) (5m Gravel + 55m Rough Stone)



MINERABLE RESERVES										
Station	Block	Length (m)	Width (m)	Depth (m)	Volume (m³)	Rough Stone (m³)	Gravel (m³)	Rock Density	Rough Stone (m³)	Gravel (m³)
XX-AD	I	100	10	2	20000	10000	10000	2.7	67905	20000
	II	100	10	2	20000	10000	10000	2.7	67905	20000
	III	100	10	2	20000	10000	10000	2.7	67905	20000
	IV	100	10	2	20000	10000	10000	2.7	67905	20000
	V	100	10	2	20000	10000	10000	2.7	67905	20000
	VI	100	10	2	20000	10000	10000	2.7	67905	20000
	VII	100	10	2	20000	10000	10000	2.7	67905	20000
	VIII	100	10	2	20000	10000	10000	2.7	67905	20000
	IX	100	10	2	20000	10000	10000	2.7	67905	20000
	X	100	10	2	20000	10000	10000	2.7	67905	20000
	XI	100	10	2	20000	10000	10000	2.7	67905	20000
	XII	100	10	2	20000	10000	10000	2.7	67905	20000
XX-AD	Total				240000	120000	120000		347715	240000
	Gravel Total								347715	240000

PLATE NO. VII-A
 DATE OF SURVEY: 31.12.2023
 APPLICANT'S ADDRESS:
 M/S. TAAMMENG ENGINEERING CONSORTIUM
 NO.5, BISHOP WALLERS AVENUE WEST
 MADAPUR
 CHENNAI
 TAMIL NADU - 600 054
 LOCATION OF QUARRY:
 EXTENT: 6.81.35 Hs.
 S.F. NO.: 471/474A, 13/1A, 13/1B,
 13/2A, 13/2B, 13/3B,
 13/4A, 13/4B & 13/5
 VILLAGE: SRINAYUR
 TALUK: VANUR
 DISTRICT: SELLAPPURAM
 STATE: TAMIL NADU

QUARRY LEASE BOUNDARY
 7.5m & 10m SAFETY DISTANCE
 ROUGH STONE
 OLD SURFACE LEVEL
 ULTIMATE PIT SLOPE
 PROPOSED WATER STORAGE

SCALE: HORIZ-1/500
 VERT-1/1000

Prepared By:
 C.B. JEEVA SURESH, M.E., M.Sc.,
 HAS BEEN CHECKED BY M.E. AND J.E. SEVERAL
 TIMES BY THE DEPT. OF M. & S. DEPT.

S. K. JEEVA SURESH
 M.E., M.Sc.
 QUALIFIED PERSON



DESCRIPTION	PERCENT AREA (%)	AREA IN 200 NORMAL (A.U.)	AREA IN 200 CONCENTRATED (A.U.)
2,3,4,5-TETRAFLUOROBENZENE	50	0.0000	0.0000
1,2,3,4-TETRAFLUOROBENZENE	10	0.0000	0.0000
BENZENE	50	0.0000	0.0000
1,2,3,4-TETRAFLUOROBENZENE	10	0.0000	0.0000
2,3,4,5-TETRAFLUOROBENZENE	0.0000	0.0000	0.0000
1,2,3,4-TETRAFLUOROBENZENE	0.0000	0.0000	0.0000

DATE OF SURVEY: 31/12/2025

MUSIC SAC - 70-1689
VIL. MARIETTA FOUNDRY CO. 225 W.
B'LT. ST. OF HAZLETS ARLAN KILL
WILMONGER
COLUMBIA
HAWKINS - 60-1071

[illegible]

NAME	TYPE	VALUE
DIAGNOSTIC	BOOLEAN	FALSE
LOG	BOOLEAN	FALSE
LOGFILE	STRING	./log/
MAXLOGFILES	INTEGER	10
MAXLOGSIZE	INTEGER	100
MAXLOGSPIN	INTEGER	1
PORT	INTEGER	5432
SSL	BOOLEAN	FALSE
SSLKEY	STRING	./ssl/
SSLROOTCERT	STRING	./ssl/
TEMP	STRING	./temp/

10/11/2011 10:00 AM

Respectfully,
 [Signature]
 [Name]
 [Title]