Application For Environmental Clearance (Public Hearing)

November 2022

Draft Environmental Impact Assessment Report

For

Thiru.S.M.Harish Rough Stone Quarry – 2.00.0 Ha

at

S.F. No. 755 (Part) of Panchakshipuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu State

Sector No. 1(a) (Sector No. 1 as per NABET)

Category of the Project: B1 Cluster Mining

Baseline Period: July - September 2022

Environmental Consultant & Laboratory details:

Ecotech Labs Pvt Ltd,

No 48, 2nd Main road,
South extension Ram nagar,
Pallikaranai,
Chennai -600100.

Proponent details:

Thiru.S.M.Harish,
S/o.Muniraj,
D.No.2/159, H-Settipalli Village,
J.Karupalli Post,
Denkanikottai Taluk,
Krishnagiri District – 635 113.

Thiru.S.M.Harish,
S/o.Muniraj,
D.No.2/159, H-Settipalli,
J.Karupalli Post,
Denkanikottai Taluk
Krishnagiri District-635 113.

UNDERTAKING

I, Thiru.S.M.Harish, undertaking that the Draft Environmental Impact Assessment (EIA) Report for 'Thiru.S.M.Harish Rough Stone Quarry' over an extent of 2.00.0 Ha at S.F.No. 755 (Part) in Panchakshipuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu State under project category B1 and Schedule S.No.1 (a). TOR issued by the State Expert Appraisal Committee, TN vide Lr.No.SEIAA-TN/F.No.9295/SEAC/TOR-1241/2022, Dated 29.08.2022.

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

Place: Krishnagiri

Date:

Yours faithfully

Thiru.S.M.Harish

Plot No.48A, 2nd Main Road,
Ram Nagar, South Extension,
Pallikaranai, Chennai - 600 100
GST NO: 33AADCE5103A2ZH
PAN NO: AADCE5103A

Eco Tech Labs Pvt Ltd

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Website : www.ecotechlabs.in
CIN : U74900TN2014PTC094895

UNDERTAKING

I, Dr. A. Dhamodharan, Managing Director confirms that this Draft EIA Report of 'Thiru.S.M.Harish Rough Stone Quarry' over an extent of 2.00.0 Ha at S.F.No. 755 (Part) in Panchakshipuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu State has been prepared at M/s. Ecotech Labs Pvt. Ltd., Chennai.

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

Signature:

Name: Dr. A. Dhamodharan

Designation: Managing Director

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

Chennai. NABET Certificate No: NABET/EIA/2124/SA 0147

Date: 21.11.2022 Place: Chennai

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Abbreviation

LU –Land use

AP – Air Pollution monitoring, prevention and control

AQ- Meteorology, Air quality modeling and prediction

WP – Water pollution monitoring, prevention and control

EB- Ecology and Biodiversity

NV- Noise & Vibration

SE- Socio-economics

HG- Hydrology, ground water and water conservation

GEO –Geology

RH – Risk assessment and hazards management

SHW –Solid and Hazardous waste management

SC- Soil conservation

Declaration of Experts contributing to the EIA

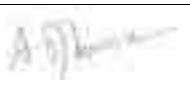
Declaration by experts contributing to the EIA report for Proposed Rough Stone Quarry mining project of Thiru.S.M.Harish Rough Stone Quarry over an extent of 2.00.0 Ha is situated at Survey No. 755 (Part) of Panchakshipuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu State.

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

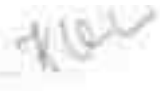
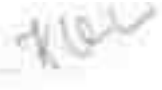
Project	Thiru.S.M.Harish Rough Stone Quarry - 2.00.0 Ha
Type & Category	1 (a) Mining of Minerals
Project Proponent	Thiru.S.M.Harish
Environment Consultant with their Accreditation Status	M/s. Eco Tech Labs Pvt. Ltd., QCI Accreditated
NABET Certificate No.	NABET/ EIA/2124/ SA 0147
EIA Coordinator Name **Signature** **Period of Involvement**	Dr. A. Dhamodharan (Mining of Minerals)   July to September 2022
Contact Information	**M/s. Eco Tech Labs Pvt. Ltd.** No. 48, 2nd Main Road, Ram Nagar South Extension Pallikaranai, Chennai - 600 100 Mobile: +91 9789906200 E-mail: dhamo@ecotechlabs.in

Functional Area Experts

The basic fact division that environment and laboratory are accredited by NABL and Ministry of Environment and Forests, India and by other international bodies, stand testimony to its emphasis.

S. No.	Functional areas	Name of the experts	Involvement (period and task)	Signature and date
1	AP	Mrs. K. Vijayalakshmi	1. Selection of Baseline Monitoring stations based on the wind direction 2. Interpretation of Baseline data by comparing it with standards prescribed by CPCB against the type of area 3. Identification of sources of air pollution and suggesting mitigation measures to minimize impact ***Period: July 2022 – Till now***	
2	WP	Dr. A. Dhamodharan	1. Selection of baseline Monitoring Locations for Ground water analysis and also identifying nearest surface water to be studied. 2. Interpretation of baseline data collected 3. Identification of impacts based on the baseline study conducted and also to the ground water and nearby surface water due to the proposed project 4. Preparation of suitable and appropriate mitigation plan. ***Period: July 2022 – Till now***	
3	SHW	Dr. A. Dhamodharan	1. Identification of nature of solid waste generated 2. Categorization of the generated waste and estimating the quantity of waste to be generated based on the per capita basis. Identification of impacts of SHW on Environment 3. Suggesting suitable mitigation measures by recommending appropriate disposal method for each category of waste generated	

			4. Top soil and refuse management ***Period: July 2022 – Till now***	
4	SE	Mr. S. Pandian	1. Primary data collection through the census questionnaire 2. Obtaining Secondary data from authenticated sources and incorporating the same in EIA report. 3. Impact assessment & proposing suitable mitigation plan 4. CSR budget allocation by discussing with the local body and allotting the same for need based activity. ***Period: July 2022 – Till now*** ****Involves Public Hearing***	
5	EB	Dr. A. Dhamodharan	1. Primary data collection through field survey and sheet observation for ecology and biodiversity 2. Secondary Collection through various authenticated sources 3. Prediction of anticipated impacts and suggesting appropriate mitigation measures. ***Period: July 2022 – Till now***	
6	HG	Dr. T. P. Natesan	1. Study of existing surface drainage arrangements in the core and buffer zone, impact due to mining on these drainage courses and suggestion of mitigative measures 2. Determination of groundwater use pattern, development of rainwater harvesting program. Storm water management through garland drainage system. ***Period: July 2022 – Till now***	
7	GEO	Dr. T. P. Natesan	1. Field survey for assessing regional and local geology, aquifer distribution, Determination of groundwater use pattern, development of rainwater harvesting program. ***Period: July 2022 – Till now***	

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

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

I, Dr. A. Dhamodharan, hereby confirm that the above mentioned experts prepared the EIA report of mining project at Survey number 755 (Part) of Panchakshipuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu State.

I also confirm that the consultant organization shall be fully accountable for any misleading information mentioned in this statement.

Signature:

Name: Dr.A.Dhamodharan

Designation: Managing Director

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

NABET Certificate No: NABET/EIA/2124/SA 0147

EXECUTIVE SUMMARY

1. Project Background:

The Proposed project total extent area is 2.00.0 Ha, Government land in Panchakshipuram Village of Hosur Taluk, Krishnagiri District. The category of project is B1, It is a Rough stone quarry in Panchakshipuram village. The area is situated on undulated terrain sloping towards Eastern covered with Rough stone which does not sustain any type of vegetation.

The quarry operation is proposed to carry out with conventional open cast semi mechanized mining with 7.0 meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves shallow jack hammer drilling, slurry blasting, loading and transportation.

The quarry operation is proposed up to depth for 50 m below ground level. The Total Geological resources is about 1003534 m^3 of Rough stone. The Mineable Reserves of Rough stone is 552891 m^3. The year wise production of Rough stone for 5 years is 509227 m^3.

Mining plan was approved by the Assistant Director (Addl.Charge) Dept. of Geology and Mining, Krishnagiri District vide letter Rc.No.214/2019/Mines dated 11.11.2019. The project area does not fall in Hill Area Conservation Authority region. There is no interstate boundary, CRZ zone, Western Ghats, notified Bird sanctuaries, wild life sanctuaries as per Wild life protection Act 1972, within the radius of 15Km.

2. Nature & Size of the Project

The proposed Rough Stone Quarry over an extent of 2.00.0 Hectares, Government land is located at Panchakshipuram Village of Hosur Taluk, Krishnagiri District.

Mineral intends to quarry	: Rough Stone
District	: Krishnagiri
Taluk	: Hosur
Village	: Panchakshipuram
S. F. Nos.	: 755 (Part)

Extent : 2.00.0 Hectares

Table 1: Brief Description of the Project

S. No.	Particulars	Details
1	Latitude	12° 35' 17.41" N to 12° 35' 14.55" N
2	Longitude	77° 47' 45.28" E to 77° 47' 40.35" E
3	Site Elevation above MSL	877 m
4	Topography	Undulated terrain
5	Land use of the site	Government Poramboke land
6	Extent of lease area	2.00.0 Ha
7	Nearest highway	SH 17A – Hosur – Denkanikottai – 1.57 km, W
8	Nearest railway station	Kelamangalam Railway Station – 8.15 km, ENE
9	Nearest airport	Hosur Airport – 9.17 km, NNW Kempegowda International Airport – 68.16 km, N
10	Nearest town / city	Town - Denkanikottai (6.57 km, S) City – Hosur (17.15 km, N) District – Krishnagiri (46.01 km, ESE)
11	Rivers / Canal	Nil
12	Lake	❖ Devaganapalli Lake, 5.87 km, N ❖ Denkanikottai Lake, 6.62 km, S ❖ Pattlamma Cheruvu Lake, 6.85 km, ENE ❖ Pattalamman Lake, 7.24 m, S ❖ Nagandahally Lake, 8.56 km, N ❖ Achettapalli Lake, 11.13 km, NNE ❖ Vannama Lake, 12.04 km, SW ❖ Navadhi Lake, 13.11 km, NNE ❖ Duglipuram Lake, 13.86 km, S ❖ NB Agraharam Lake, 14.25 km, NNE ❖ Karapalli Lake, 14.41 km, NNE ❖ Thally Lake, 14.81 km, W ❖ Nanjareddy Lake, 14.91 km, W

13	Hills / valleys	Nil in 15 km radius
14	Archaeologically places	Nil in 15 km radius
15	National parks / Wildlife Sanctuaries	Nil in 15 Km radius
16	Reserved / Protected Forests	❖ Sanamavu R.F., 12.57km, ENE ❖ Denkanikottai R.F., 9.92 km, SSE ❖ Udedurgam R.F., 12.37km, SE
17	Seismicity	Proposed Lease area come under Seismic zone-II (low risk area)
18	Defense Installations	Nil in 15 Km radius

3. Need for the Project

- The mining activities as proposed are the backbone of all construction and infrastructure projects as the raw material for construction is available only from such mining. The Rough stone extracted will be transported to be Stone crusher of district Krishnagiri.
- The raw Rough stone as well as the crushed material of stone is in high demand in real estate, construction projects as well as in building construction projects.
- Rough stone is quarried for producing crusher aggregates to the nearby building contractors, road contractors and nearby villagers.
- After quarrying the entire reserves mined out, the area will be used as water reservoir to have an artificial recharge to the nearby wells.
- No damage to the land is caused, no reclamation or back filling is required.

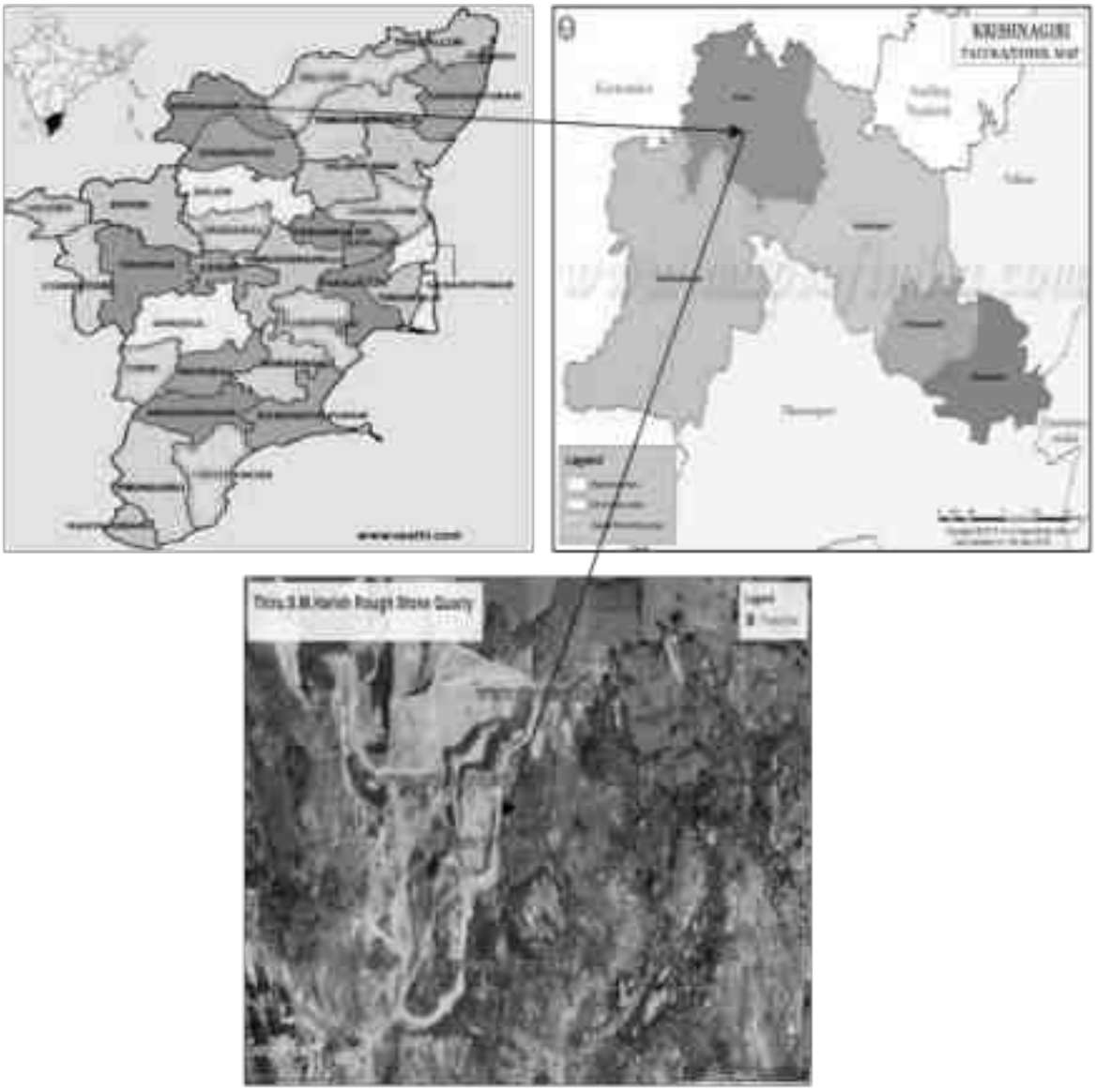


Figure 1: Location Map of the Project Site

Figure 2: Google Image of the Project Site

4. Charnockite

Charnockite and granitic gneisses are extensively quarried as Rough stone which is used as aggregates for construction of building, laying of roads and for preparation of value added products like hollow blocks, pillar stones, M-sand etc. Charnockite occurs as massive bodies, greyish colour, medium to coarse grained, composed quartz, feldspar and orthopyroxene. At places, metamorphic gneissic banding (alternate dark and black colour) in charnockite is noticed. Top portion, it gives gneissic appearance but 1-5m depth below it is typical charnockite of grey colour.

5. Geological Resources

The Geological Reserve is estimated as 1003534 m3 respectively. The Geological reserve of Rough stone and Top soil is calculated upto a depth of 57m (1m top soil + 56m Rough Stone). Surface Ground Level Above is 9m and Surface Ground Level Below is 48m.

Table 2. Geological resources

GEOLOGICAL RESERVES								
Section	**Bench**	**L (m)**	**W (m)**	**D (m)**	**Volume (m^3)**	**Reserves in m3 @ 95%**	**Mine waste in m3 @ 5%**	**Top Soil in m^3**
XY-AB	I	70	157	1				10990
	II	70	96	3	20160	19152	1008	
	III	70	157	7	76930	73084	3846	
	IV	70	157	7	76930	73084	3846	
	V	70	157	7	76930	73084	3846	
	VI	70	157	7	76930	73084	3846	
	VII	70	157	7	76930	73084	3846	
	VIII	70	157	7	76930	73084	3846	
	IX	70	157	7	76930	73084	3846	
TOTAL					**558670**	**530740**	**27930**	**10990**
XY-CD	I	64	131	1				8384
	II	64	76	7	34048	32346	1702	
	III	64	131	7	58688	55754	2934	
	IV	64	131	7	58688	55754	2934	
	V	64	131	7	58688	55754	2934	
	VI	64	131	7	58688	55754	2934	
	VII	64	131	7	58688	55754	2934	
	VIII	64	131	7	58688	55754	2934	
	IX	64	131	7	58688	55754	2934	
TOTAL					**444864**	**422624**	**22240**	**8384**
GRAND TOTAL					**1003534**	**953364**	**50170**	**19374**

Table 3. Mineable Reserves

MINEABLE RESERVES								
Section	**Bench**	**L (m)**	**W (m)**	**D (m)**	**Volume in m^3**	**Recoverable Reserves in m^3 @ 95%**	**Mine waste in m^3 @ 5%**	**Top Soil in m^3**
XY-AB	I	70	157	1				10990
	II	70	96	3	20160	19152	1008	
	III	70	137	7	67130	63774	3356	
	IV	70	127	7	62230	59119	3111	
	V	70	117	7	57330	54464	2866	
	VI	70	107	7	52430	49809	2621	
	VII	70	97	7	47530	45154	2376	
	VIII	70	87	7	42630	40499	2131	
	IX	70	77	7	37730	35844	1886	
TOTAL					**387170**	**367815**	**19355**	**10990**
XY-CD	I	64	131	1				8384
	II	64	76	7	34048	32346	1702	
	III	54	109	7	41202	39142	2060	
	IV	49	99	7	33957	32259	1698	
	V	44	89	7	27412	26041	1371	
	VI	39	79	7	21567	20489	1078	
	VII	34	69	7	16422	15601	821	
	VIII	29	59	7	11977	11378	599	
	IX	24	49	7	8232	7820	412	
TOTAL					**194817**	**185076**	**9741**	**8384**
GRAND TOTAL					**581987**	**552891**	**29096**	**19374**

Table 4. Year wise Production Plan

YEARWISE DEVELOPMENT AND PRODUCTION								
Section	**Bench**	**L (m)**	**W (m)**	**D (m)**	**Volume in m^3**	**Rough stone Reserves in m^3 @ 95%**	**Mine waste in m^3 @ 5%**	**Top Soil in m^3**
I YEAR	I	70	157	1				10990
	II	70	96	3	20160	19152	1008	
	III	70	137	7	67130	63774	3356	
	I	64	131	1				8384
	II	64	76	7	34048	32346	1702	
	III	54	109	7	41202	39142	2060	
TOTAL					**162540**	**154414**	**8126**	**19374**
II YEAR	IV	70	127	7	62230	59119	3111	
	IV	49	99	7	33957	32259	1698	
TOTAL					**96187**	**91378**	**4809**	
III YEAR	V	70	117	7	57330	54464	2866	
	V	44	89	7	27412	26041	1371	
TOTAL					**84742**	**80505**	**4237**	
IV YEAR	VI	70	107	7	52430	49809	2621	
	VI	39	79	7	21567	20489	1078	
TOTAL					**73997**	**70298**	**3699**	
V YEAR	VII	70	97	7	47530	45154	2376	
	VIII	70	87	7	42630	40499	2131	
	VII	34	69	7	16422	15601	821	
	VIII	29	59	7	11977	11378	599	
TOTAL					**118559**	**112632**	**5927**	
GRAND TOTAL					**536025**	**509227**	**26798**	**19374**

6. Mining

Opencast mining

The quarry operation is proposed to carry out with conventional open cast semi mechanized mining with 7.0 meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves shallow jack hammer drilling, slurry blasting, loading and transportation.

Process Description

- The reserves and resource are arrived based upon the Geological investigation
- Removal of Topsoil by Excavators and directly Loaded Into Tippers.
- Removal of Rough stone & Gravel by Excavators by Drilling and Blasting.
- Shallow Drilling With Jackhammer of 32mm Dia.
- Minimum Blasting With Class 2 Explosives.
- Loading of Rough stone & Gravel By Excavators Into Tippers.

7. Water Requirement

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

Table 4. Water Balance

Purpose	Quantity	Source
Drinking Water	1.0 KLD	Packaged Drinking water vendors available in Panchakshipuram village which is about 2.48 Km NW from the project site.
Green belt	0.5 KLD	Other domestic activities through road tankers supply.
Dust suppression	0.5 KLD	From road tankers supply.
Total	**2.0 KLD**	

8. Man Power

Total manpower required for the project is approximately 18 persons. Workers will be from nearby villages.

Table 5. Man Power

1.	Skilled	Operator	2 Nos
		Mechanic	1 No.
		Blaster/Mat	1 No.
2.	Semi – skilled	Driver	2 Nos
3.	Unskilled	Musdoor / Labours	5 Nos
		Cleaners	3 Nos
		Office Boy	1 No
4	Management & Supervisory Staff		3 Nos
		Total	18 Nos

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

9. Solid Waste Management

Table 6 Solid Waste Management

S. No	Type	Quantity	Disposal Method
1	Organic	3.24 kg/day	Municipal bin including food waste
2	Inorganic	4.86 kg/day	TNPCB authorized recyclers

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

Table 7 500m Radius Cluster Mine

1) Existing quarries:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	Lease Period
1.	Tvl.M.M.Blue Metals	Panchakshipuram & Hosur	755 (Part 2)	4.80.0	22.08.2016 to 21.08.2026

2) Abandoned/Old quarries:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent
Nil				

3) Details of Proposed quarries:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent	Lease Status
1	Thiur.S.M.Harish	Panchakshipuram & Hosur	755 (Part)	2.00.0	Precise area given (Instant Proposal)

4) Details of other proposed/applied area:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent	Lease Status
Nil					

The Total extent of the Existing / Lease expired / Proposed quarries are 6.80.0 Ha

10. Land Requirement

The total extent area of the project is 2.00.0 Ha, Government Poramboke land in Panchakshipuram Village of Hosur Taluk, Krishnagiri District.

Table 8 Land Use Breakup

SL. NO.	LAND USE	PRESENT AREA (HECT)	AREA IN USE DURING THE QUARRYING PERIOD (HECT)
1.	Area under Quarrying	Nil	1.60.0
2.	Infrastructure	Nil	0.01.0
3.	Roads	0.01.0	0.01.0
4.	Green Belt	Nil	0.38.0
5.	Unutilized	1.99.0	Nil
	Total	**2.00.0Ha**	**2.00.0Ha**

11. Human Settlement

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

Table 9 Habitation

S. No.	Direction	Name of the Village	Approximate Distance	Approximate population
1	North	Nagappan Agraharam	350	1.8 Km
2	East	Anekollu	300	3.0 Km
3	South	Samy puram	250	3.3 km
4	West	Panchakshipuram	300	2.0 km

12. Power Requirement

The proposed rough stone quarrying does not required any power supply for the quarrying operation.16 Litres diesel per hour required for excavator whenever needed.

13. Scope of the Baseline Study

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

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

13.1 Micro – Meteorology

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

i) Average Minimum Temperature : 28 ^{0}C

ii) Average Maximum Temperature. : 36 ^{0}C

iii) Average Annual Rainfall of the area : 274.7 mm

13.2 Air Environment

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

The baseline levels of PM10 (63-39 µg/m³), PM2.5 (30-17 µg/m³), SO2 (13-4µg/m³), NO2 (29-10 µg/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from July 2022 to September 2022.

13.3 Noise Environment

Ambient noise levels were measured at 5 locations around the proposed project site. The maximum Day noise and Night noise were found to be 61 dB(A) and 49 dB(A) respectively in Alenatham Govt.

School. The minimum Day Noise and Night noise were 38 dB(A) and 30 dB(A) respectively which was observed in Project Site.

13.4 Water Environment

- The average pH ranges from 7.12-7.96
- TDS value varied from 651 mg/l to 830 mg/l
- Hardness varied from 374.2 to 479.2 mg/l
- Chloride varied from 64.6 to 127.2 mg/l

13.5 Land Environment

The analysis results shows that the majority of soil in the project and surrounding area is slightly alkaline in nature and pH value ranges from 7.26 to 8.14 with organic matter 3.6 % to 5.2 %. The concentration of Nitrogen, Phosphorus & Potassium has been found to be in good amount in the soil samples.

13.6 Biological Environment

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

14. Rehabilitation/ Resettlement

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

15. Greenbelt Development

1. The development of greenbelt in the peripheral buffer zone of the mine area.

2. Green belt has been recommended as one of the major component of Environmental Management Plan, which will improve ecology, environment and quality of the surrounding area.

3. Local trees like Casuarina & Tamarind etc. will be planted along the lease boundary and avenues as well as over Non-active dumps at a rate of 100 trees per annum with interval 5m.

4. The rate of survival expected to be 80% in this area

Table 10 Plantation/ Afforestation Program

Year	Name of species	No of species	Spacing	Survival
2023	Casuarina & Tamarind	100	5m	80%
2024	Casuarina & Tamarind	100	5m	80%
2025	Casuarina & Tamarind	100	5m	80%
2026	Casuarina & Tamarind	100	5m	80%
2027	Casuarina & Tamarind	100	5m	80%
	Total	**500**		

16. Anticipated Environmental Impacts

16.1 Air Environment and Mitigation Measures

1. Water sprinkling will be done on the roads & unpaved roads.
2. Proper mitigation measures like water sprinkling will be adopted to control dust emissions.
3. Plantation will be carried out on approach roads, solid waste site & nearby mine premises.
4. To control the emissions regular preventive maintenance of equipments will be carried out.

16.2 Noise Environment and Mitigation Measures

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

17. Responsibilities for Environmental Management Cell (EMC)

The responsibilities of the EMC include the following:

i. Environmental Monitoring of the surrounding area

ii. Developing the green belt/Plantation

iii. Ensuring minimal use of water

iv. Proper implementation of pollution control measures

18. Environmental Monitoring Program

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

19. Project Cost

The total project cost is **Rs.1,86,45,000** for deployment of machinery and creation of infrastructural facilities like approach road, Mine office / Workers Shed, First Aid Room etc., including electrifications and water supply

Table 11 Project Cost details

S. No.	Description	Cost
1	Fixed Asset Cost	1,53,20,000
2	Operational Cost	30,00,000
3	EMP Cost	3,25,000
	Total	**1,86,45,000**

20. Corporate Environmental Responsibility

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

Table 12 CER Cost

S.No.	CER Activity	CER (Rs.)
1.	Providing Solar powered smart classroom, Computer, Plumbing work for school, providing wash basins for school, Greenbelt	**5,00,000**

	development, Toilet rooms for students in Panchayat Union Middle School, Karupalli Village, Krishnagiri District.	

21. Benefits of the Project

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

1 Introduction

1.1 Preamble

Environment Impact Assessment (EIA) is a process used to identify the environmental, social & economic impacts of a project prior to decision making. It is a decision-making tool, which guides the project proponent in taking appropriate decisions for proposed projects. It aims to predict environmental impacts at an early stage of project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the prediction options to the proponent. By using EIA, both environmental & economic benefits can be achieved. By considering environmental effects - prediction & mitigation, early benefits in project planning, protection of the environment, optimum utilization of resources, thus saving overall time & cost of the project. EIA also lessens conflicts by promoting community participation, informs project proponent, and helps to lay the base for environmentally sound projects.

The Ministry of Environment & Forests, Govt. of India, made environmental clearance (EC) for certain development projects mandatory through its notification of 27/01/1994 under the Environment Protection Act, 1986 and subsequently the MoEF came out with Environment Impact Notification, S.O.1533(E), and dt.14/09/2006. It has been made mandatory to obtain environmental clearance for different kinds of developmental projects (Schedule-1 of notification). The proposed project falls under item 1(a) of the EIA notification, 2006.

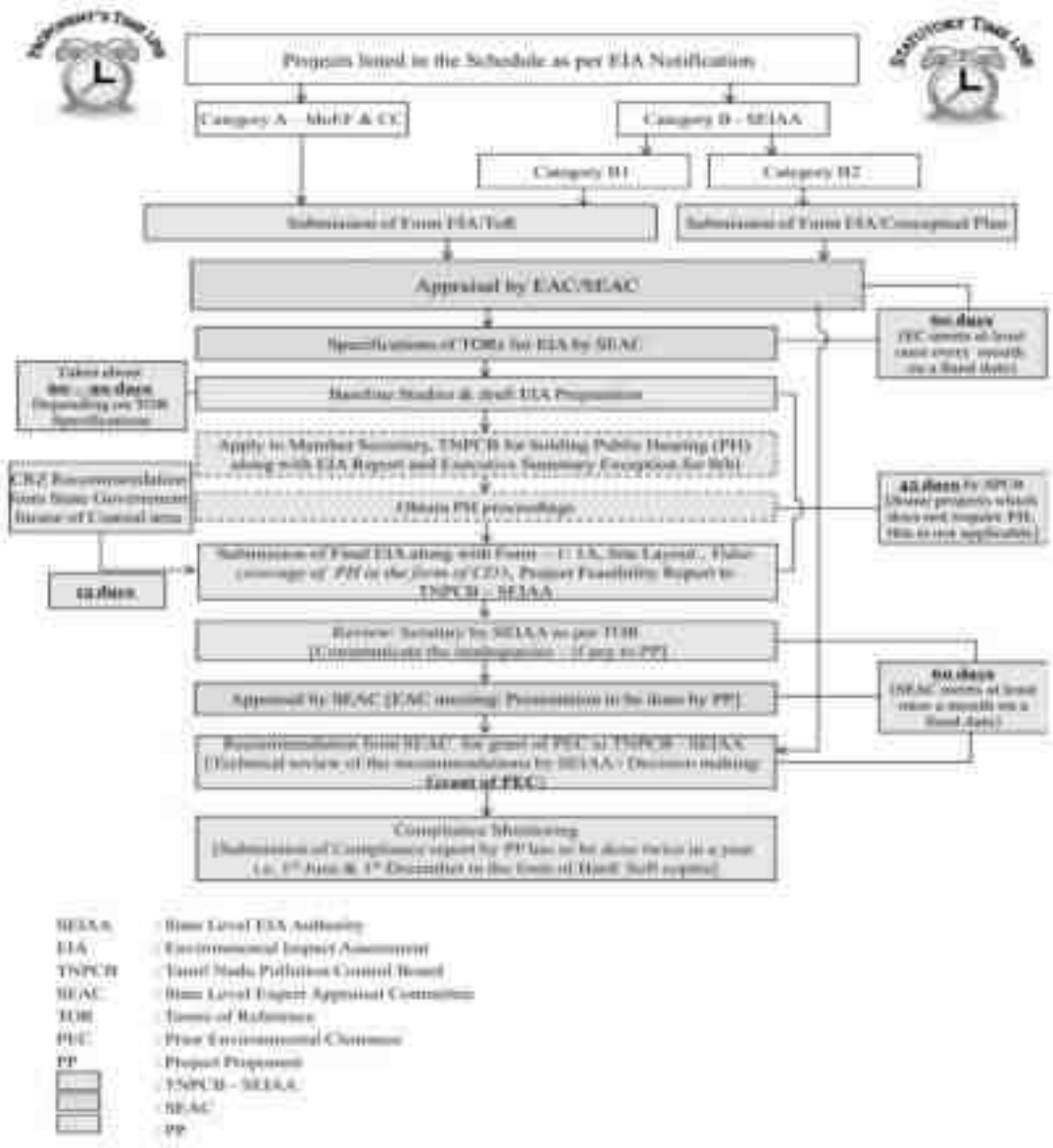
1.2 General Information on Mining of Minerals

Krishnagiri District is covered with wide range of metamorphic rocks of peninsular gnessic complex. These rock formations occur as massive hillocks all over the district in government lands and patta lands, and extensively weathered formations are overlined by soil / alluvium deposits with an average thickness of 1 to 5mts. Granite deposits suitable for the production of Jelly, cut stones and Pillar Stones are available throughout the Krishnagiri District. Granites are widely used in this district as building stones, boulders, cut stones and for the production of Jelly, M.Sand, Crusher Dust. The rock products which are produced not only used in the Krishnagiri District alone but also transported to the neighboring districts. These products enter into the market in different parts of the country.

1.3 Environmental Clearance

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

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



1.4 Terms of Reference (ToR)

The terms of Reference has been issued by SEAC TN vide Letter No. SEIAA-TN/F. No. 9295/SEAC/ToR-1241/2022 Dated: 29.08.2022. 44 additional ToR points were recommended by SEAC TN in addition to the Standard ToR Points. The replies for the same were addressed in this report.

1.5 Post Environmental Clearance Monitoring

1.5.1 Methodology adopted

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

Table 1-1: Post Environmental Clearance Monitoring

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

1.6 Generic Structure of the EIA Document

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

Chapter 2: Project Description. In this chapter the proponent should also furnish detailed description of the proposed project, such as the type of the project, need for the project, project location, layout, project activities during construction and operational phases, capacity of the project, project operation i.e., land availability, utilities (power and water supply) and infrastructure facilities such as roads, railways, housing and other requirements. If the project site is near a sensitive area it is to be mentioned clearly

why an alternative site could not be considered. The project implementation schedule, estimated cost of development as well as operation etc should be also included.

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

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

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

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

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

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

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

Chapter 10: Environmental Management Plan. This chapter should comprehensively present the Environmental Management Plan (EMP), which includes the administrative and technical setup, summary matrix of EMP, the cost involved to implement the EMP, both during the construction and operational phase and provisions made towards the same in the cost estimates of project construction

and operation. This chapter should also describe the proposed post-monitoring scheme as well as inter-organizational arrangements for effective implementation of the mitigation measures.

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

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

1.7 Details of Project Proponent

Project Proponent : Thiru.S.M.Harish

Status of the Proponent : Individual

Proponent's Name & Address : Thiru.S.M.Harish,
S/o. Muniraj,
D.No.2/159, H-Settipalli Village,
J.Karupalli Post,
Denkanikottai Taluk
Krishnagiri District-635 113.

1.8 Brief Description of the Project

1.8.1 Project Nature, Size & Location

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

Proposed proposal pertains to rough stone mining project by semi mechanized open cast method on allotted mine lease area at Panchakshipuram Village, Hosur Taluk of Krishnagiri District, Tamil Nadu. It is an Undulated terrain. The total allotted mine lease for the proposed project is 2.00.0 Ha with their maximum production capacity i.e. 509227m^3 of Rough Stone for (Sixty months) Five years only.

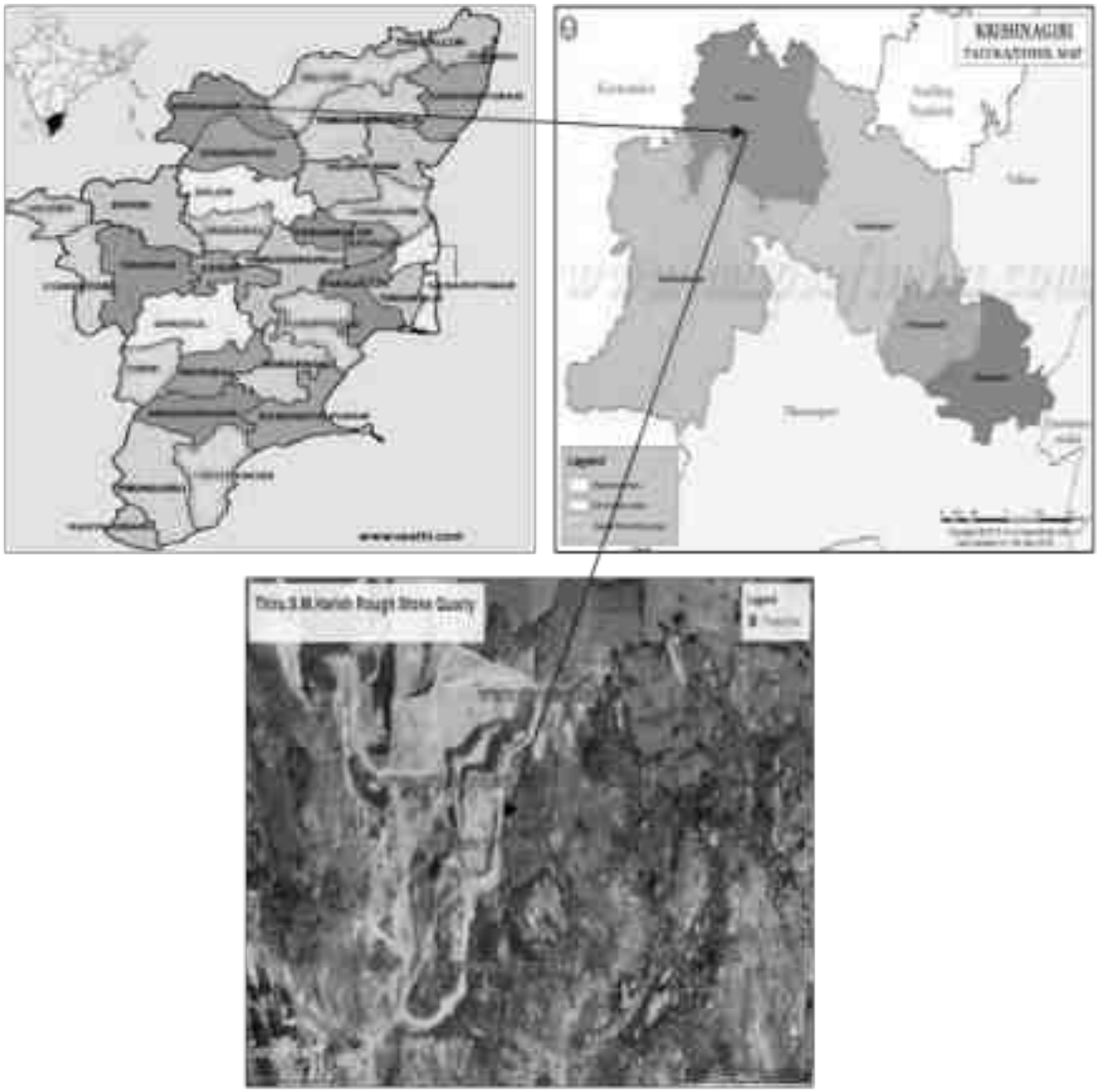


Figure 1-1: Location Map of the Project site

2 Project Description

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

2.1 General

Proposed proposal pertains to rough stone mining project by open cast semi mechanized method on allotted mine lease area at Panchakshipuram Village, Hosur Taluk of Krishnagiri District, Tamil Nadu. It is an Undulated terrain. We have obtained mining plan approval from the Assistant Director (Addl.Charge) Dept. of Geology and Mining, Krishnagiri for 2.00.0 Ha land area in the S.F.No. 755 (Part) for a proposed mining depth of 50m below ground level and five years production of 5,09,227m^3 of Rough Stone.

Type of the project:

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

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

Table 2-1: Quarry within 500m Radius

1) Existing quarries:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	Lease Period
1.	Tvl.M.M.Blue Metals	Panchakshipuram & Hosur	755 (Part 2)	4.80.0	22.08.2016 to 21.08.2026

2) Details of abandoned/old quarries:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	Lease Period
Nil					

3) Details of proposed quarries:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	Lease Period
1.	Thiru.S.M.Harish	Panchakshipuram & Hosur	755 (Part)	2.00.0	Precise area given **Instant Proposal**

4) Details of applied area:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	Lease Period
Nil					

The Total extent of the Existing / Lease expired / Proposed quarries are 6.80.0 Ha

2.1.1 Need for the project:

The said project plays a significant role in the domestic as well as infrastructural market. To achieve a huge infrastructure being envisaged by Government of India, particularly in road and housing sector, there is a need for basic building materials, the Rough stone form the primary building material.

Rough stone is one of the most valuable natural building materials. Aggregates are mostly used for building roads and footpaths. Aggregates – stone used for its strong physical properties – crushed and sorted into various sizes for use in concrete, coated with bitumen to make asphalt or used 'dry' as bulk fill in construction. Mostly used in roads, concrete and building products. Aggregates represent about 98% of quarry output, most of which is used in road construction, maintenance and repair. Much of this goes to the production of asphalt; the remainder is used 'dry' without the addition of other materials to provide a sturdy base for roads.

A vast range of minerals of Economic importance are reported from the Krishnagiri District. They include Apatite, Corundum Copper, Gold, Iron Ore, Limestone, Kankar, Vermiculite and Dimensional Stones. Of them, the gold occurrence is in the Veppanapalli area. The gold mineralization in Veppanapalli area is studied in detail by the Geological Survey of India. The gold mineralization in Veppanapalli area is confined to the silicified zones showing gold values between 0.3 and2.6 g/t. For good dimensional stones, this district is unique in possessing both Multi Coloured and black granite occurrences. The Multi Coloured granite named as "Paradiso" is extensively quarried in Chendarapalli – Sulamalai – Modikuppam - Velampatti belt. The Hosur- Denkanikottai belt is endowed with Multi Coloured granite deposits. The black granite deposits of Krishnagiri, Hosur and Denkanikottai taluks contains potential deposits of black granite.

2.2 Brief Description of the project

Table 2-2 Salient Features of the Project

S. No.	Description	Details
1	Project Name	Proposed Rough Stone Quarry-2.00.0 Ha
2	Proponent	Thiru.S.M.Harish
3	Mining Lease Area Extent	2.00.0 Ha

4	Location	S.F.No.755 (Part) of Panchakshipuram Village, Hosur Taluk, Krishnagiri District.
5	Latitude	12° 35' 17.41" N to 12° 35' 14.55" N
6	Longitude	77° 47' 45.28" E to 77° 47' 40.35" E
7	Topography	Undulated terrain
8	Site Elevation above MSL	≃ 877 m
9	Topo sheet No.	57-H/14
10	Minerals of Mine	Rough Stone
11	Proposed production of Mine	Proposed capacity of Rough Stone: 509227 m^3
12	Ultimate depth of Mining	50 m below ground level (9 m AGL & 41 m BGL)
13	Method of Mining	Open cast semi-mechanized mining
14	Water demand	2.00 KLD
15	Source of water	Water will be supplied through tankers supply
16	Man power	18 Nos
17	Mining Lease	Precise Area Communication Letter received from District Collector, Krishnagiri vide letter Rc.No.214/2019/Mines, dated 13.06.2019
18	Mining Plan Approval	Mining Plan was approved by The Assistant Director (Addl.Charge), Dept. of Geology & Mining, Krishnagiri vide letter Rc.No.214/2019/Mines, dated 11.11.2019
19	Production details	Geological reserves of Rough Stone : 1003534 m^3 Proposed year wise production of Rough Stone : 509227 m^3
20	Boundary Fencing	7.5m barrier all along the boundary, Fencing will be provided.
21	Disposal of overburden	The Top Soil of the lease area is 19374 m3. Topsoil will be utilized for the formation of mine roads, construction of bund and Afforestation purposes.
22	Ground water	The quarry operation is proposed up to a depth of **50m** below ground level (9 m AGL & 41 m

		BGL). The water table is below **65m** from ground level which is observed from the nearby open wells and bore wells. Hence the ground water will not be affected in any manner due to the quarrying operation during the entire lease period.
23	Habitations within 500m radius of the Project Site	There is no Habitation within 500m radius of the project site.
24	Drinking water	Water will be supplied through tankers from Panchakshipuram Village which is 2.48 km, NW from the project site.

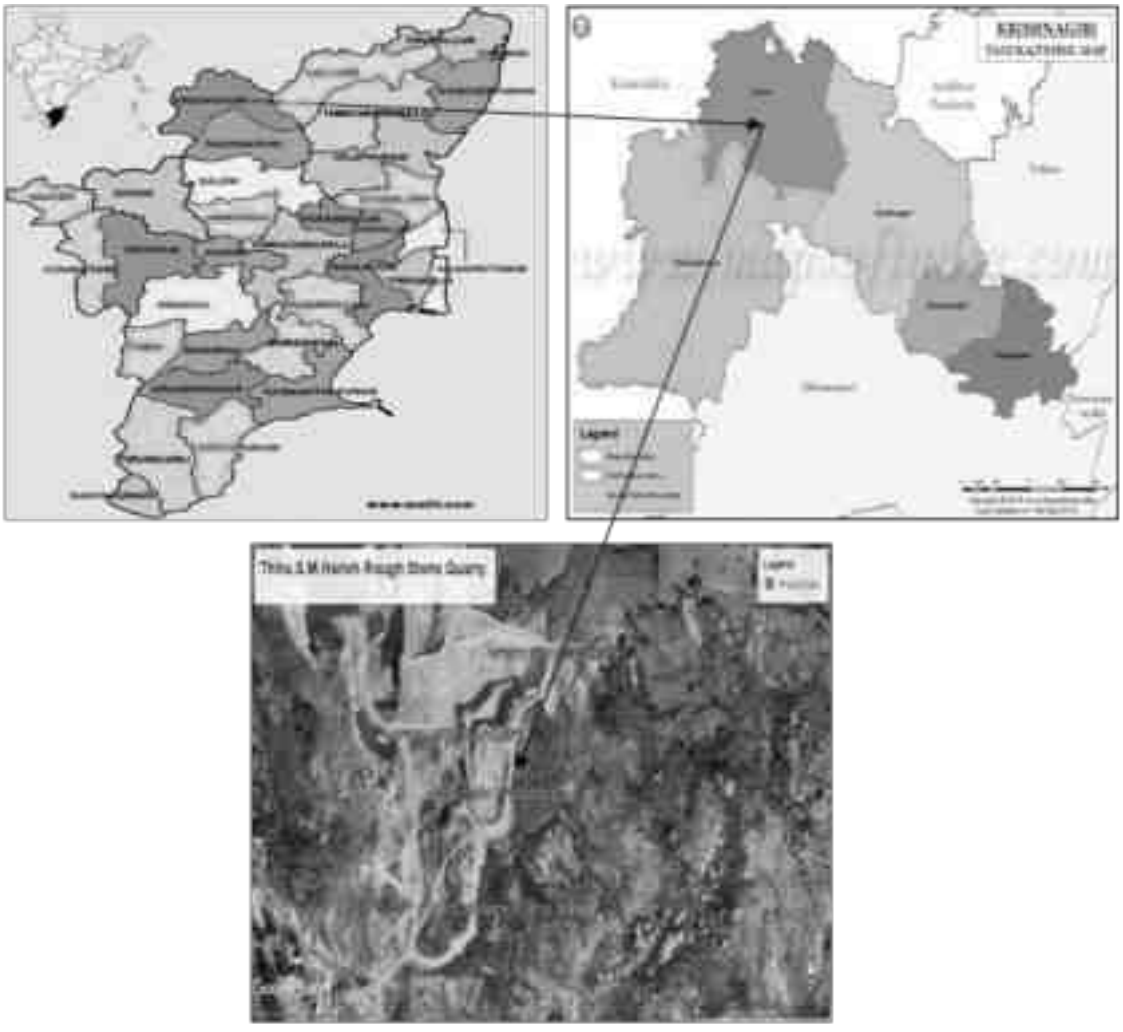


Figure 2-1: Location Map of the Project Site

Figure 2-2: Google Earth Image of the Project Site

2.2.1 Site Connectivity:

The site is connected to SH 17A (Hosur-Denkanikottai) – 1.57 km towards West side.

Figure 2-3: Site Connectivity

2.3 Location Details:

Table 2-3: Location Details

S. No.	Particulars	Details
1.	Latitude	12° 35' 17.41" N to 12° 35' 14.55" N
2.	Longitude	77° 47' 45.28" E to 77° 47' 40.35" E
3.	Site Elevation above MSL	877 m
4.	Topography	Undulated terrain
5.	Land use of the site	Government Poramboke land
6.	Extent of lease area	2.00.0 Ha

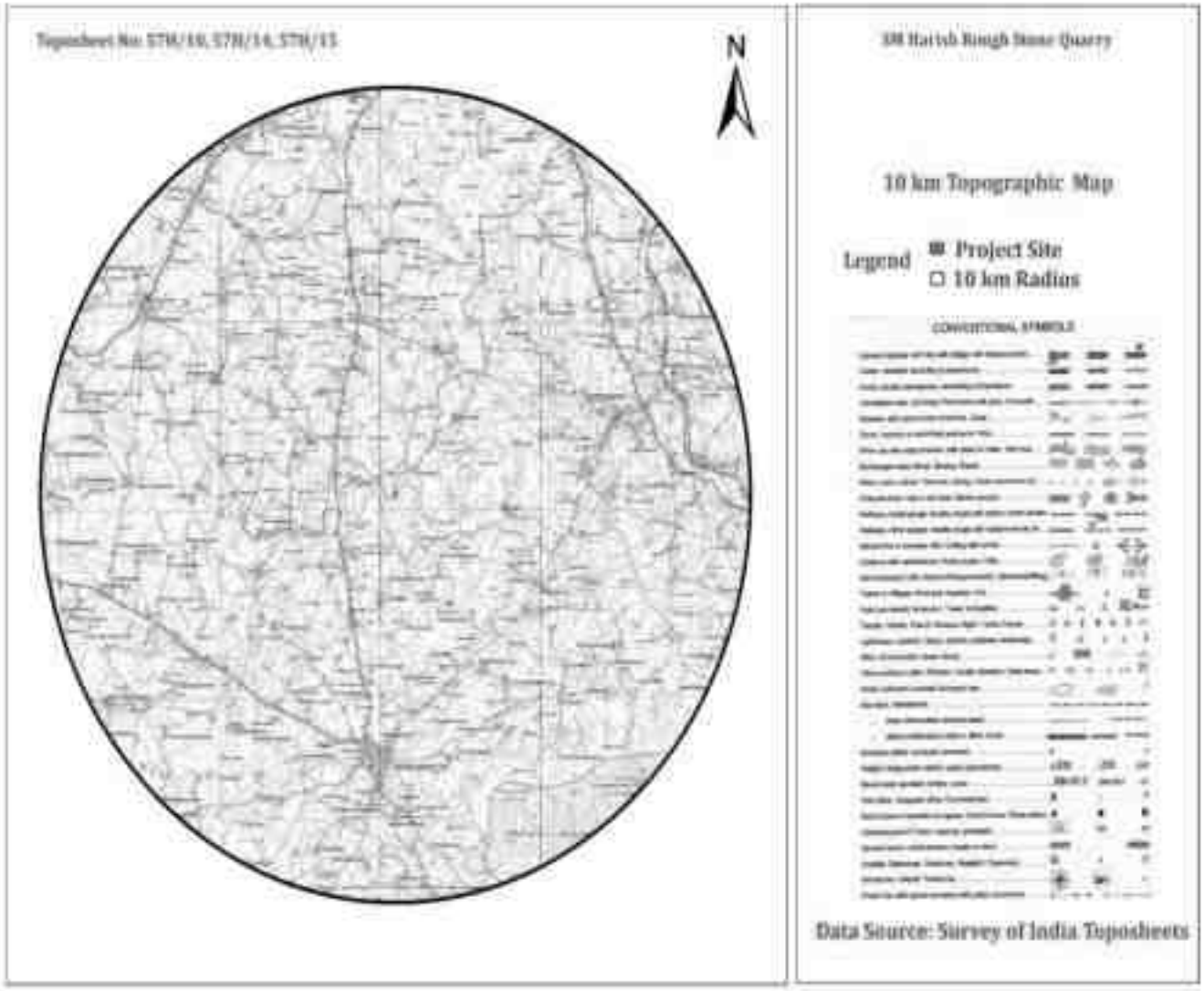


Figure 2-4: Topo Map of Project Site

Figure 2-5: Environmental Sensitivity within 15km radius

2.3.1 Site Photographs

The site photographs of the project site are as follows.

Figure 2-6: Site Photographs

2.3.2 Land Use Breakup of the Mine Lease Area

The Mine Lease area is undulated terrain. The land use pattern of the mine lease area as follows.

Table 2-4: Land use pattern

SL. NO.	LAND USE	PRESENT AREA (HECT)	AREA IN USE DURING THE QUARRYING PERIOD (HECT)
1.	Area under Quarrying	Nil	1.60.0
2.	Infrastructure	Nil	0.01.0
3.	Roads	0.01.0	0.01.0
4.	Green Belt	Nil	0.38.0
5.	Unutilized	1.99.0	Nil
	Total	**2.00.0Ha**	**2.00.0Ha**

2.3.3 Human Settlement

There are no habitations within the radius of 500m. The nearby habitations are as follows

Table 2-5: Habitation

SL. NO.	DIRECTION	VILLAGE	POPULATION	DISTANCE
1	North	Nagappan Agraharam	350	1.8 Km
2	East	Anekollu	300	3.0 Km
3	South	Samy puram	250	3.3 km
4	West	Panchakshipuram	300	2.0 km

2.4 Leasehold Area

The proposed rough stone quarry mine of 2.00.0 Ha is a Government Poramboke land. The lease area falls in S.F.No. 755 (P) of Panchakshipuram Village, Hosur Taluk, Krishnagiri District. There is no reserve forest or protected forest land within the lease area. There is neither human settlement within 500m radius from the lease area.

2.5 Geology

KRISHNAGIRI District is underlined 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.

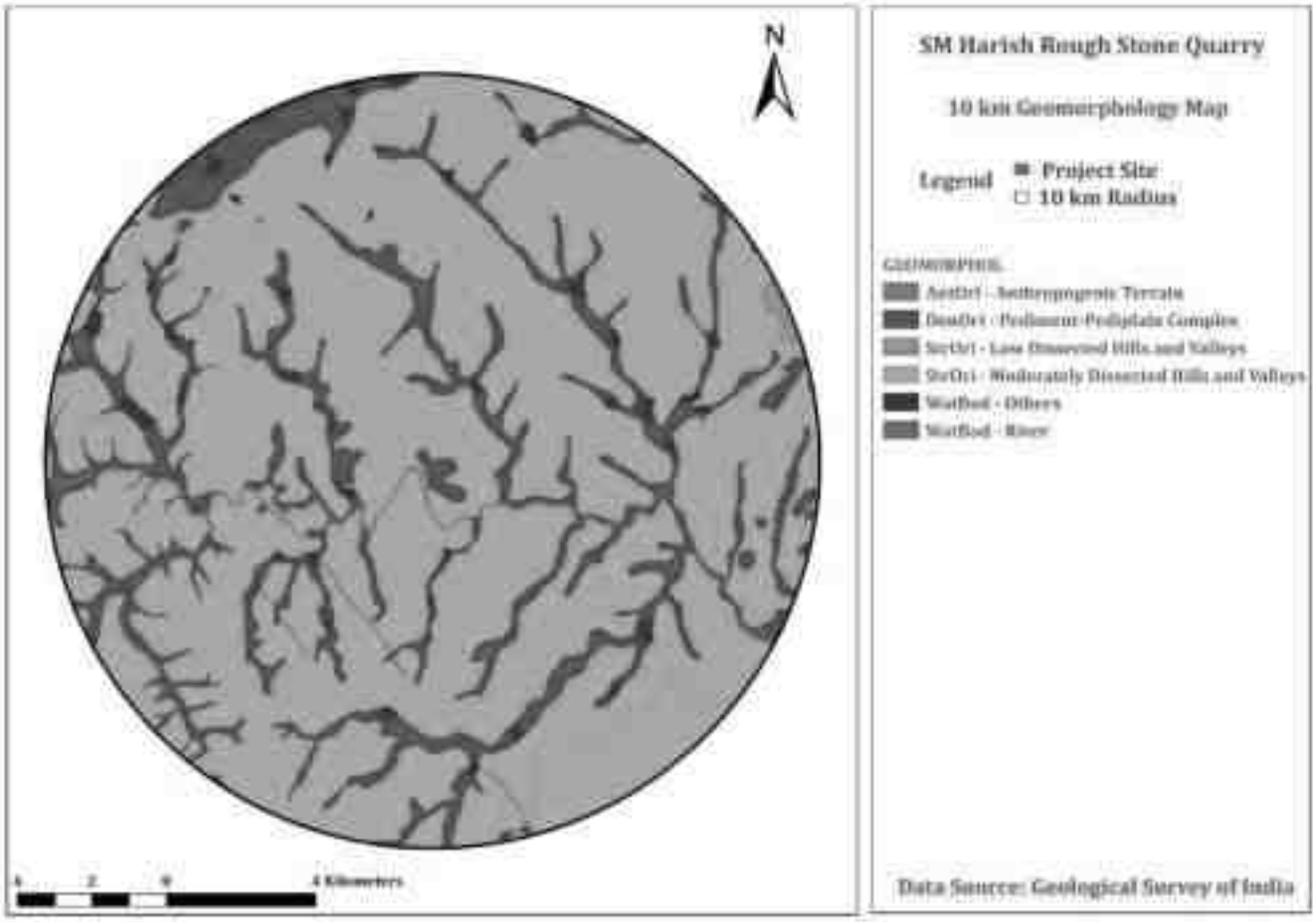


Figure 2-7: Geomorphology

The area applied for quarry lease is an undulated terrain sloping towards Eastern side. The general geological sequences of the rocks in this area are given below.

Age	Rock Formation
Recent to Sub recent	- Soil, Alluvirum
Archaen	- Granites, Basic Granulites, Peninsular Gneiss, Calc Gneiss and Charnockites

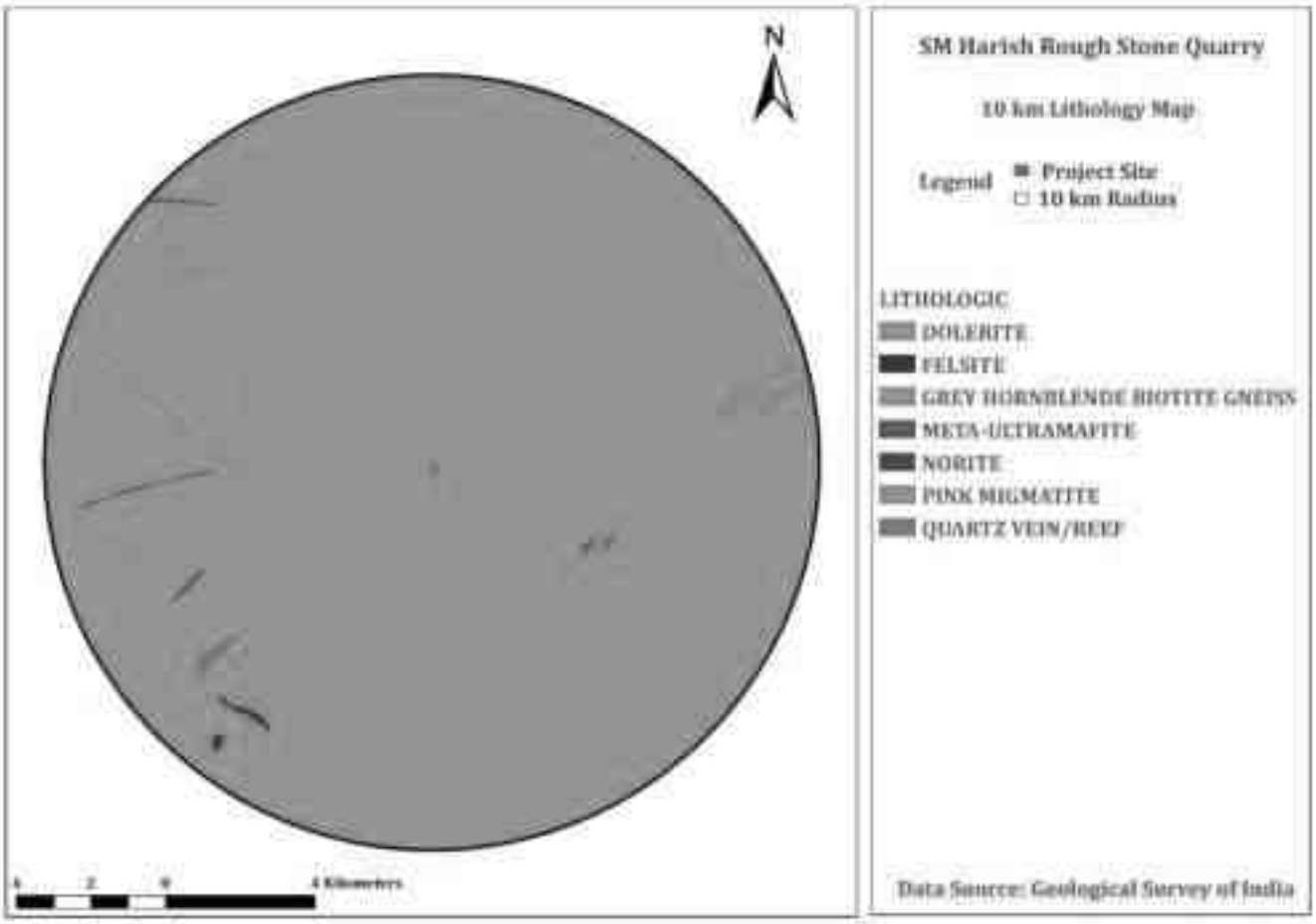


Figure 2-8 Lithology

2.6 Quality of Reserves:

The mining lease area is of 2.00.0 Ha, with production capacity of **5,09,227 m^3** of Rough Stone, Due to significant role in the domestic as well as infrastructural market, making the mining of Stone along with associated minor minerals is economically viable.

Table 2-6: Details of Mining

S. No.	Particulars	Details
1	Method of Mining	Open Cast Semi-mechanized
2	Geological Resources	Rough Stone – 1003534 m^3
3	Mineable Reserves	Rough Stone – 552891 m^3
4	Proposed Production	Rough Stone – 509227 m^3

5	Elevation Range of the Mine Site	877 m

2.6.1 Estimation of Reserves

The practical method of the systematic geological mapping and delineation of Rough stone (Charnockite) within the field was done and careful evaluation of body luster, physical properties, engineering properties, commercial aspects, etc. The Topographical, Geological plan and sections demarcated the commercial marketable Rough stone & Gravel (Charnockite) deposit has been prepared in 1:1000 scale and the estimated balance Geological Reserves as 1003534 m^3 of Rough stone.

2.6.2 Geological Reserves

The Geological Reserve is estimated as 1003534 m3 respectively. The Geological reserve of Rough stone and Top soil is calculated upto a depth of 57m (1m top soil + 56m Rough Stone). Surface Ground Level Above is 9m and Surface Ground Level Below is 48m.

Table 2-7: Geological Reserves

GEOLOGICAL RESERVES								
Section	**Bench**	**L (m)**	**W (m)**	**D (m)**	**Volume (m^3)**	**Reserves in m3 @ 95%**	**Mine waste in m3 @ 5%**	**Top Soil in m^3**
XY-AB	I	70	157	1				10990
	II	70	96	3	20160	19152	1008	
	III	70	157	7	76930	73084	3846	
	IV	70	157	7	76930	73084	3846	
	V	70	157	7	76930	73084	3846	
	VI	70	157	7	76930	73084	3846	
	VII	70	157	7	76930	73084	3846	
	VIII	70	157	7	76930	73084	3846	
	IX	70	157	7	76930	73084	3846	
TOTAL					**558670**	**530740**	**27930**	**10990**

XY-CD	I	64	131	1				8384
	II	64	76	7	34048	32346	1702	
	III	64	131	7	58688	55754	2934	
	IV	64	131	7	58688	55754	2934	
	V	64	131	7	58688	55754	2934	
	VI	64	131	7	58688	55754	2934	
	VII	64	131	7	58688	55754	2934	
	VIII	64	131	7	58688	55754	2934	
	IX	64	131	7	58688	55754	2934	
TOTAL					**444864**	**422624**	**22240**	**8384**
GRAND TOTAL					**1003534**	**953364**	**50170**	**19374**

2.6.3 Mineable Reserves

The mineable reserves and the recoverable reserves are 581987 m3 and 552891 m3 respectively. The mineable reserve of Rough stone and Top soil is calculated upto a depth of 57m (1m top soil + 56m Rough Stone). Surface Ground Level above is 9m and Surface Ground Level below is 48m.

Table 2-8: Mineable Reserves

MINEABLE RESERVES								
Section	**Bench**	**L (m)**	**W (m)**	**D (m)**	**Volume in m^3**	**Recoverable Reserves in m^3 @ 95%**	**Mine waste in m^3 @ 5%**	**Top Soil in m^3**
XY-AB	I	70	157	1				10990
	II	70	96	3	20160	19152	1008	
	III	70	137	7	67130	63774	3356	
	IV	70	127	7	62230	59119	3111	
	V	70	117	7	57330	54464	2866	
	VI	70	107	7	52430	49809	2621	
	VII	70	97	7	47530	45154	2376	
	VIII	70	87	7	42630	40499	2131	
	IX	70	77	7	37730	35844	1886	

TOTAL					**387170**	**367815**	**19355**	**10990**
XY-CD	I	64	131	1				8384
	II	64	76	7	34048	32346	1702	
	III	54	109	7	41202	39142	2060	
	IV	49	99	7	33957	32259	1698	
	V	44	89	7	27412	26041	1371	
	VI	39	79	7	21567	20489	1078	
	VII	34	69	7	16422	15601	821	
	VIII	29	59	7	11977	11378	599	
	IX	24	49	7	8232	7820	412	
TOTAL					**194817**	**185076**	**9741**	**8384**
GRAND TOTAL					**581987**	**552891**	**29096**	**19374**

2.6.4 Year wise Production Plan

The applicant has proposed to carry out 509227 m3 of Rough Stone of production for the period of Five years. The average proposed rate of production of Rough stone is about 101845 m3 per year at the rate of 95% recovery upto the permissible depth. Total Depth is 50m. (1m top soil+49m Rough Stone). Surface Ground Level Above is 9m and Surface Ground Level Below is 41m.

Table 2-9: Year wise Production Plan

YEARWISE DEVELOPMENT AND PRODUCTION								
Section	**Bench**	**L (m)**	**W (m)**	**D (m)**	**Volume in m^3**	**Roughstone Reserves in m^3 @ 95%**	**Mine waste in m^3 @ 5%**	**Top Soil in m^3**
I YEAR	I	70	157	1				10990
	II	70	96	3	20160	19152	1008	
	III	70	137	7	67130	63774	3356	
	I	64	131	1				8384
	II	64	76	7	34048	32346	1702	
	III	54	109	7	41202	39142	2060	
TOTAL					**162540**	**154414**	**8126**	**19374**

II YEAR	IV	70	127	7	62230	59119	3111	
	IV	49	99	7	33957	32259	1698	
TOTAL					**96187**	**91378**	**4809**	
III YEAR	V	70	117	7	57330	54464	2866	
	V	44	89	7	27412	26041	1371	
TOTAL					**84742**	**80505**	**4237**	
IV YEAR	VI	70	107	7	52430	49809	2621	
	VI	39	79	7	21567	20489	1078	
TOTAL					**73997**	**70298**	**3699**	
V YEAR	VII	70	97	7	47530	45154	2376	
	VIII	70	87	7	42630	40499	2131	
	VII	34	69	7	16422	15601	821	
	VIII	29	59	7	11977	11378	599	
TOTAL					**118559**	**112632**	**5927**	
GRAND TOTAL					**536025**	**509227**	**26798**	**19374**

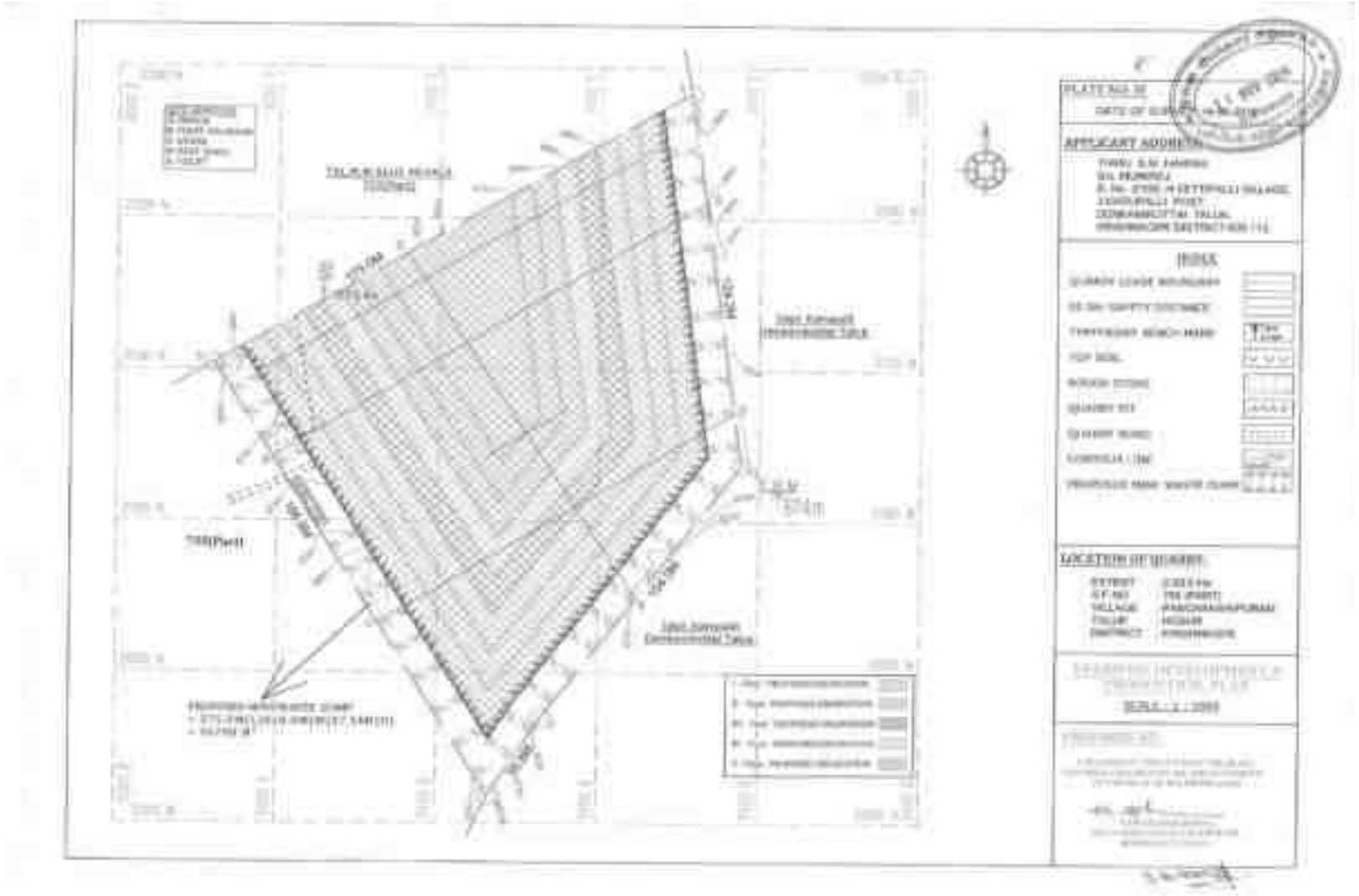


Figure 2-9 Year wise Production Plan

2.7 Type of Mining

The proposed project is an open cast semi mechanized mining with 7.0m vertical bench with a bench width 5m. However, as far as the quarrying of Rough stone is concerned, observance of the provisions of regulations 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 Mines Act- 1952.

2.7.1 Method of Working:

The Rough stone is proposed to quarry at 7m bench height & 5m width with conventional Open cast semi mechanized method. The quarry operation involves Shallow jack hammer drilling, Slurry Blasting, Loading & transportation of Rough stone to the nearby crusher units/road formation works. The production of Rough stone in this quarry involves the following method which is typical for Rough stone quarrying in contrast to other major mineral mining.

Splitting of rock mass of considerable volume from the parent rocks by jackhammer drilling and blasting by manually braking and loading the Rough stone from pit head to the needy crushing units/civil works for the needy sectors.

2.7.2 Overburden

The Top Soil of the lease area is 19374 m3. Topsoil will be utilized for the formation of mine roads, construction of bund and Afforestation purposes.

2.7.3 Machineries to be used

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

Table 2-10: List of Machineries used

Type	Nos	Dia of hole	Size / Capacity	Make	Motive power	H.P
Jack Hammer	5	25.5 mm	Hand held	Atlas copco 2Nos	Diesel	60
Hydraulic Excavator	1	-	1.2 m^3	L&T or EX200	Diesel	120
Tipper	3	-	10 M.T	Ashok Leyland	Diesel	110

2.7.4 Blasting:

2.7.4.1 Blasting Pattern:

The quarrying operation will be carried out by Semi Mechanized Opencast method in conjunction with conventional method of mining using jack hammer drilling and blasting for shattering effect and loosen the Rough stone.

2.7.4.2 Drilling & Blasting:

Controlled blasting measures will be adopted for minimizing ground vibration and fly rock. Shallow depths jackhammer drilling and blasting is proposed to be carried out with minimum use of explosive mainly to give shattering effect in rough stone for easy excavation and to control fly rock.

Diameter of the hole	:	32-36 mm
Spacing	:	60 Cms
Depth	:	1 to 1.5m
Pattern of hole	:	Zig Zag
Inclination of hole	:	70^0 from the horizontal.
Burden for hole	:	0.6m

2.7.4.3 Storage & Safety measures taken during blasting:

The project proponent "Thiru.S.M.Harish" will engage an authorized explosive agency to carry out the small amount of blasting and it will be supervised by Permit Mines Manager. The copy of the explosive certificate is attached as ***Annexure.***

2.8 Man Power Requirements

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

Table 2-11: Man Power Requirements

1.	Skilled	Operator	2 Nos
		Mechanic	1 No.
		Blaster/Mat	1 No.

2.	Semi – skilled	Driver	2 Nos
3.	Unskilled	Musdoor / Labours	5 Nos
		Cleaners	3 Nos
		Office Boy	1 No
4	Management & Supervisory Staff		3 Nos
		Total	18 Nos

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

2.8.1 Water Requirement

Total water requirement for the mining project is 2.00 KLD. Domestic water will be sourced from nearby Panchakshipuram Village and other water will be source from nearby road tankers supply.

Table 2-12: Water Requirment

Purpose	Quantity	Sources
Drinking Water	1.0 KLD	Packaged Drinking water vendors available in Panchakshipuram Village which is about 2.48 km, NW from the project site.
Green belt	0.5 KLD	Other domestic activities through road tankers supply
Dust suppression	0.5 KLD	From road tankers supply
Total	**2.0 KLD**	

2.9 Project Implementation Schedule

The implementation schedule of the proposed Mine Lease of Thiru.S.M.Harish (2.00.0 Ha) is as follows.

Table 2-13: Mining Schedule

MINING SCHEDULE					
Activity	Aug-23	Aug-24	Aug-25	Aug-26	Aug-27
Site Clearance					

Excavation - Top Soil Removal/Overburden					
I Year Production – 154414 Cum – Rough Stone					
II Year Production – 91378 Cum – Rough Stone					
III Year Production – 80505 Cum – Rough Stone					
IV Year Production - 70298 Cum – Rough Stone					
V Year Production - 112632 Cum – Rough Stone					

2.10 Solid Waste Management

Table 2-14: Solid Waste Management

S.No	Type	Quantity	Disposal Method
1	Organic	3.24 kg/day	Municipal bin including food waste
2	Inorganic	4.86 kg/day	TNPCB authorized recyclers

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

2.11 Mine Drainage

The quarry operation is proposed up to a depth of 50m below ground level (9m AGL & 41m BGL). The water table is below 65m from the ground level which is observed from the nearby bore wells and bore wells of this area. Hence the ground water will not be affected in any manner due to the quarrying operation during the entire lease period.

2.12 Power Requirement

The proposed Rough Stone quarrying does not required any power supply for the quarrying operation. **16 Liter** diesel per hour used for excavator whenever needed.

2.13 Project Cost

S.No.	Description of cost	Cost of lakhs
A	**Fixed Asset cost:**	
	Land cost (Leased tender amount for Government Poramboke Land)	Rs.1,50,00,000/-
	Labours shed	Rs.1,30,000/-
	Sanitary facility	Rs.90,000/-

	Fencing Cost	Rs.1,00,000/-
	Total Fixed Assest cost	**Rs.1,53,20,000/-**
B	**Operational cost:**	
	Machinery cost	Rs.30,00,000/-
C	**(I) EMP Cost:**	
	Drinking Water Facility	Rs.1,00,000/-
	Safety kits	Rs.60,000/-
	Water sprinkling	Rs.50,000/-
	Afforestation	Rs.25,000/-
	Water Quality test	Rs.30,000/-
	Air Quality test	Rs.30,000/-
	Noise/Vibration test	Rs.30,000/-
	Total	**3,25,000**
	Total Project cost	**Rs.1,86,45,000/-**

Grand Total project Cost = Rs. 1,86,45,000/-

2.14 Greenbelt

1. The development of greenbelt in the peripheral buffer zone of the mine area.
2. Green belt has been recommended as one of the major component of Environmental Management plan, which will improve ecology, environment and quality of the surrounding area.
3. Local trees like, Casuarina, Pungan etc. will be planted along the lease boundary and avenues as well as over Non-active dumps at a rate of 100 trees per annum with interval 5m.
4. The rate of survival expected to be 80% in this area

Table. 2-15 Plantation/ Afforestation Program

Year	Name of species	No of species	Spacing	Survival
2023	Casuarina & Tamarind	100	5m	80%
2024	Casuarina & Tamarind	100	5m	80%
2025	Casuarina & Tamarind	100	5m	80%
2026	Casuarina & Tamarind	100	5m	80%

2027	Casuarina & Tamarind	100	5m	80%
	Total	**400**		

3 Description of the Environment

3.1 General:

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

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

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

3.1.1 Study Area:

The study area for the mining projects is as follows:

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

We have obtained Terms of Reference from SEIAA vide Lr.No.SEIAA–TN/F.No.9295/SEAC/ToR-1241/2022 dated 29.08.2022. The baseline monitoring is carried out in July to September 2022 and the analysis is briefed in the EIA report. The proponent has engaged M/s. Ecotech labs Pvt. Ltd for carrying out the existing baseline study.

3.1.2 Instruments Used

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

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

3.1.3 Baseline Data Collection Period:

The baseline data is collected in accordance with the CPCB Guidelines. The Baseline study is carried out from July to September 2022.

3.1.4 Frequency of Monitoring

Table 3-1: Frequency of Sampling and Analysis

Attributes	Sampling	Frequency
Air environment – Meteorological (wind speed, wind direction, rainfall, humidity, temperature)	Project site	1 hourly continuous
Air environment – Pollutants PM 10 PM 2.5 SO_2 NO_X Lead in PM	5 locations	24 hourly twice a week 4 hourly. Twice a week, One non-monsoon season 8 hourly, twice a week 24 hourly, twice a week
Noise	5 locations	24 hourly Once in 5 locations
Water (Ground water) pH, Temperature, Turbidity, Magnesium Hardness, Total Alkalinity, Chloride, Sulphate, Fluoride, Nitrate, Sodium, Potassium,	5 locations	Once in 5 locations

Salinity, Total nitrogen, Total Coliforms, Fecal Coliforms		
Water (surface water) pH, Temperature, Turbidity, Magnesium Hardness, Total Alkalinity, Chloride, Sulphate, Fluoride, Nitrate, Sodium, Potassium, Salinity, Total nitrogen, Total Coliforms, Fecal Coliforms	Sample from nearby lakes/river	One-time Sampling
Soil (Organic matter, Texture, pH, Electrical Conductivity, Permeability, Water holding capacity, Porosity)	5 locations	Once in 5 locations
Ecology and biodiversity Study	Study area covering 10 km radius	One-time Sampling
Socio- Economic study (Population, Literacy Level, employment, Infrastructure like school, hospitals & commercial establishments)	Villages around 10 km radius	One-time Sampling

3.1.5 Secondary data Collection

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

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

3.1.6 Study area details

Table 3-2 Study area details

S. No.	Description	Details	Source
1.	Project Location	S.F.No.755 (Part), Panchakshipuram Village, Hosur Taluk, Krishnagiri District	Field Study
2.	Latitude & Longitude	Latitude: N 12° 35' 17.41" to N 12° 35' 14.55" Longitude: E 77° 47' 45.28" to E 77° 47' 40.35"	Topo Sheet
3.	Topo Sheet No.	57-H/14	Survey of India Toposheet
4.	Mine Lease Area	2.00.0 Ha	--
Demography in the study area (as per Census 2011)			
5.	Total Population	2873	Census Survey of India
6.	Total Number of Households	650	
7.	Maximum Temperature (°C)	34	IMD
8.	Minimum Temperature (°C)	24	
9.	Ecological Sensitive Areas - Wetlands, watercourses or other waterbodies, coastal zone, biospheres, mountains, forests	❖ Devaganapalli Lake, 5.87 km, N ❖ Denkanikottai Lake, 6.62 km, S ❖ Pattlamma Cheruvu Lake, 6.85 km, ENE ❖ Pattalamman Lake, 7.24 m, S ❖ Nagandahally Lake, 8.56 km, N ❖ Achettapalli Lake, 11.13 km, NNE ❖ Vannama Lake, 12.04 km, SW ❖ Navadhi Lake, 13.11 km, NNE ❖ Duglipuram Lake, 13.86 km, S ❖ NB Agraharam Lake, 14.25 km, NNE ❖ Karapalli Lake, 14.41 km, NNE ❖ Thally Lake, 14.81 km, W ❖ Nanjareddy Lake, 14.91 km, W	Google Earth/Field Study

<table>
<tr><td>10.</td><td>Densely Populated area</td><td>Hosur (17.15 km, N)</td><td></td></tr>
<tr><td>11.</td><td>Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)</td><td>
<table>
<tr><th>S. No.</th><th>Places</th><th>Dist. From Project Site</th></tr>
<tr><td colspan="3">Schools & Colleges</td></tr>
<tr><td>1</td><td>Alenatham Government School</td><td>2.54 km, S</td></tr>
<tr><td>2</td><td>Govt. Boys Hr. Sec. School, Kelamangalam</td><td>5.93 km, ENE</td></tr>
<tr><td>3</td><td>Govt. Girls Hr. Sec. School, Kelamangalam</td><td>5.93km, ENE</td></tr>
<tr><td>3</td><td>Sun Catering College</td><td>5.99 km, S</td></tr>
<tr><td>4</td><td>Govt. Polytechnic College, Kelamangalam</td><td>9.47 km, ENE</td></tr>
<tr><td colspan="3">Hospitals</td></tr>
<tr><td>1</td><td>Govt. Primary Health Center, Kelamangalam</td><td>5.93 km, ENE</td></tr>
<tr><td>2</td><td>Government Hospital, Kakkadasam</td><td>8.41 km, WSW</td></tr>
<tr><td>3</td><td>Govt. Hospital, Madhakondapalli</td><td>8.24km, NW</td></tr>
<tr><td colspan="3">Worship</td></tr>
<tr><td>1</td><td>Munishwara Temple</td><td>1.31 km, SW</td></tr>
<tr><td>2</td><td>Adaikala Matha Church</td><td>2.02km, SE</td></tr>
<tr><td>3</td><td>Masjid-E-Nadeem</td><td>2.10 km, SW</td></tr>
</table>
</td><td>Google Earth/ Field Study</td></tr>
</table>

3.1.7 Site Connectivity:

The site is connected to SH 17A – Hosur – Denkanikottai – 1.57 km, W.

Figure 3-1: Site Connectivity

3.2 Land use Analysis

3.2.1 Land Use Classification

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

3.2.2 Methodology

Information of land use and land cover is important for many planning and management activities concerning the surface of the earth (Agarwal and Garg, 2000). Land use refers to man's activities on land, which are directly related to land (Anderson et al., 1976). The land use and the land cover determine the infiltration capacity. Barren surfaces are poor retainers of water as compared to grasslands and forests,

which not only hold water for longer periods on the surface, but at the same time allow it to percolate down.

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

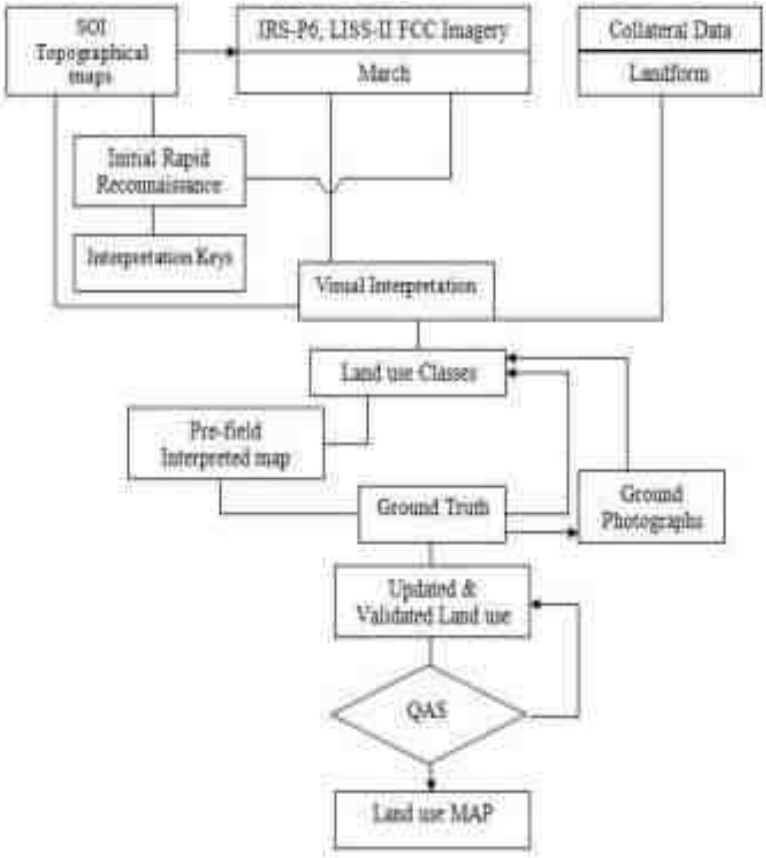


Figure 3-2 Flow Chart showing Methodology of Land use mapping

3.2.3 Satellite Data

IRS Resourcesat-2 LISS-III multispectral satellite data of 05th March 2016 was utilized for the present study. Details of satellite data is given below. The rectification of imagery was carried out on to bring the digital data on the earth coordinate system by means of ground control point (GCP) assignments/SOI topo sheets.

3.2.4 Scale of mapping

Considering the user defined scale of mapping, 1:50000 IRS-P6, LISS-III data on 1:50000 Scale was used for Land use / Land cover mapping of 10 km radius for proposed site. The description of the land use categories for 10 km radius and the statistics are given for 10 km radius.

3.2.5 Interpretation Technique

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

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

1. Digitization of the study area (10 km radius from the proposed site) from the topo maps

2. In the present study the IRS –P6 satellite image and SOI topo sheets of 47-F/01,02,03 have been procured and interpreted using the ERDAS imaging and ARC-GIS software adopting the necessary interpretation techniques.

3. Satellite data interpretation and vectorization of the resulting units

4. Adopting the available guidelines from manual of LULC mapping using Satellite imagery (NRSA, 1989)

5. Field checking and ground truth validation

6. Composition of final LULC map

The LULC Classification has been done at three levels where level -1 being the broad classification about the land covers that is Built-up land, agriculture land, waste land, wet lands, and water bodies. These are followed by level –II where built-up land is divided into towns/cities as well villages. The Agriculture land is divided into different classes such as cropland, Fallow, Plantation, while wastelands are broadly divided into, Land with scrub and without Scrub and Mining and Industrial wasteland. The wetlands are classified into inland wetlands, coastal wetlands and islands. The water bodies are classified further into River/stream, Canal, Tanks and bay. In the present study level II classification has been undertaken. The SOI Topo map is presented in Annexure and Satellite imagery of 10 km radius from the project site is presented Annexure

3.2.6 Field Verification

Field verification involved collection, verification and record of the different surface features that create specific spectral signatures / image expressions on FCC. In the study area, doubtful areas identified in course of interpretation of imagery is systematically listed and transferred on to the corresponding SOI topographical maps for ground verification. In addition to these, traverse routes were planned with reference to SOI topographical maps to verify interpreted LU/LC classes in such a manner that all the different classes are covered by at least 5 sampling areas, evenly distributed in the area. Ground truth details involving LU/LC classes and other ancillary information about crop growth stage, exposed soils, landform, nature and type of land degradation are recorded and the different land use classes are taken the Land use map is presented in Annexure

3.2.7 Description of the Land Use / land cover classes

3.2.7.1 Built-up land

It is defined as an area of human settlements composed of houses, commercial complex, transport, communication lines, utilities, services, places of worships, recreational areas, industries etc. Depending upon the nature and type of utilities and size of habitations, residential areas can be aggregated into villages, towns and cities. All the man-made construction covering land belongs to this category. The built- up in 10 km radius from the proposed project site is as follows.

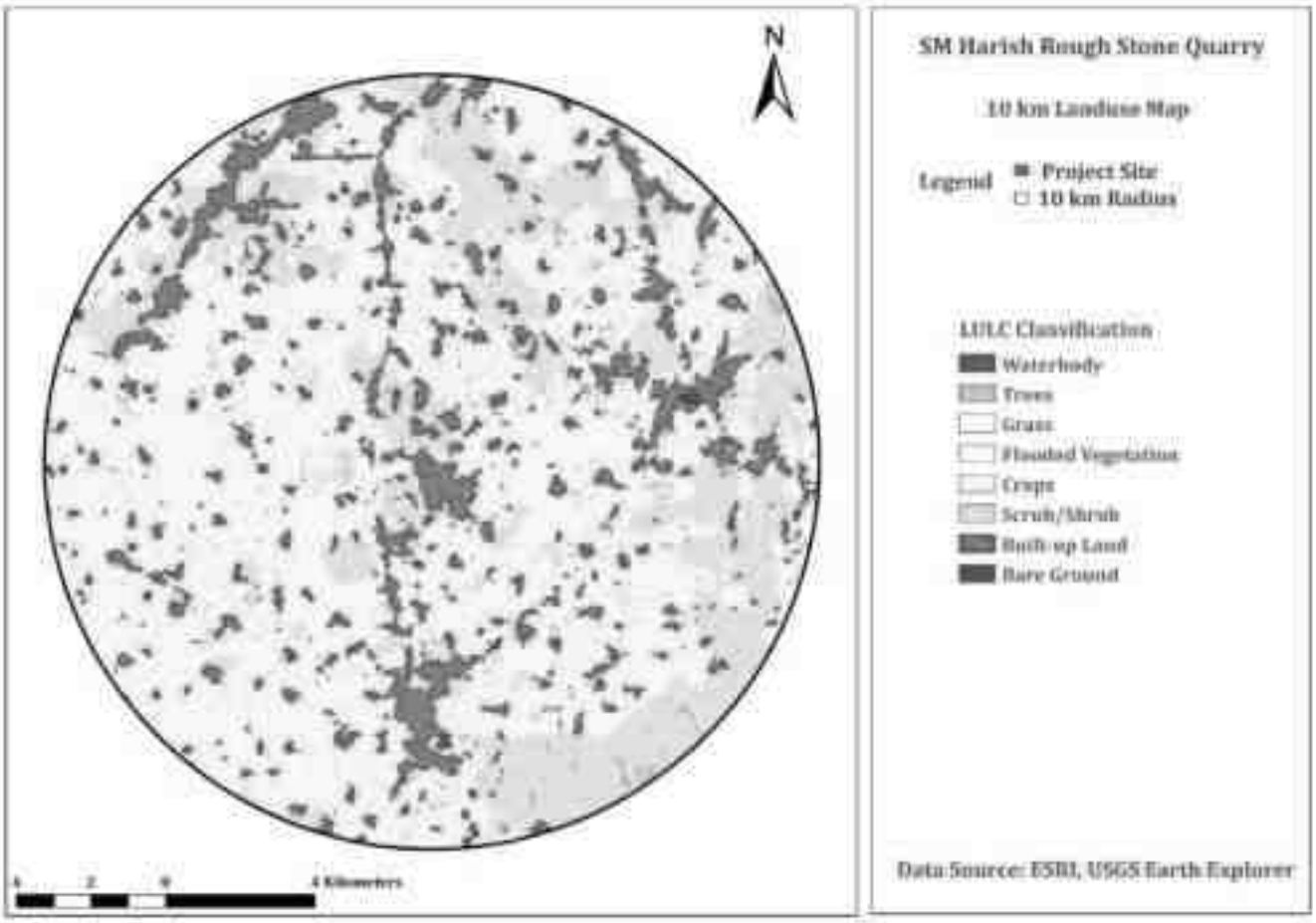


Figure 3-3 Land use classes around 10 km radius from the project site

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

Table 3-3 Land use pattern in Krishnagiri District

Sl.No	Categories	Area in Hectares
1	Water Body	0.51
2	Trees	2.05
3	Grass	0.28
4	Flooded Vegetation	0.023
5	Crops	210.56
6	Scrub/Shrub	69.89
7	Built-up Area	46.76
8	Barren Land	0.15

3.3 Water Environment

3.3.1 Contour & Drainage

The project site is 877 m AMSL. The drainage pattern within in the 10 km of the project site is dendritic.

3.3.2 Geomorphology

The prominent geomorphic units identified in the district through interpretation of satellite imagery are structural hills in the southwestern part of the district, denudational land forms like buried pediments in the plains and inselbergs and plateaus represented by conical hills aligned with major lineaments. Krishnagiri district forms part of the upland plateau region with many hill ranges and undulating plains. The western part of the district has hill ranges of Mysore plateau with a chain of undulating hills and deep valleys extending in NNE-SSW direction. The plains of the district have an average elevation of 488 m amsl. The plateau region along the western boundary and the northwestern part of the district has an average elevation of 914 m amsl. The Guthrayan Durg with an elevation of 1395 m amsl is the highest peak in the district.

Soils

Soils have been classified into Black soil, mixed soil, red loamy soil, gravelly and sandy soils. Red loamy and sandy soils are predominant in Hosur taluk. Vast stretches of loam soils and black soils occur in Krishnagiri district.

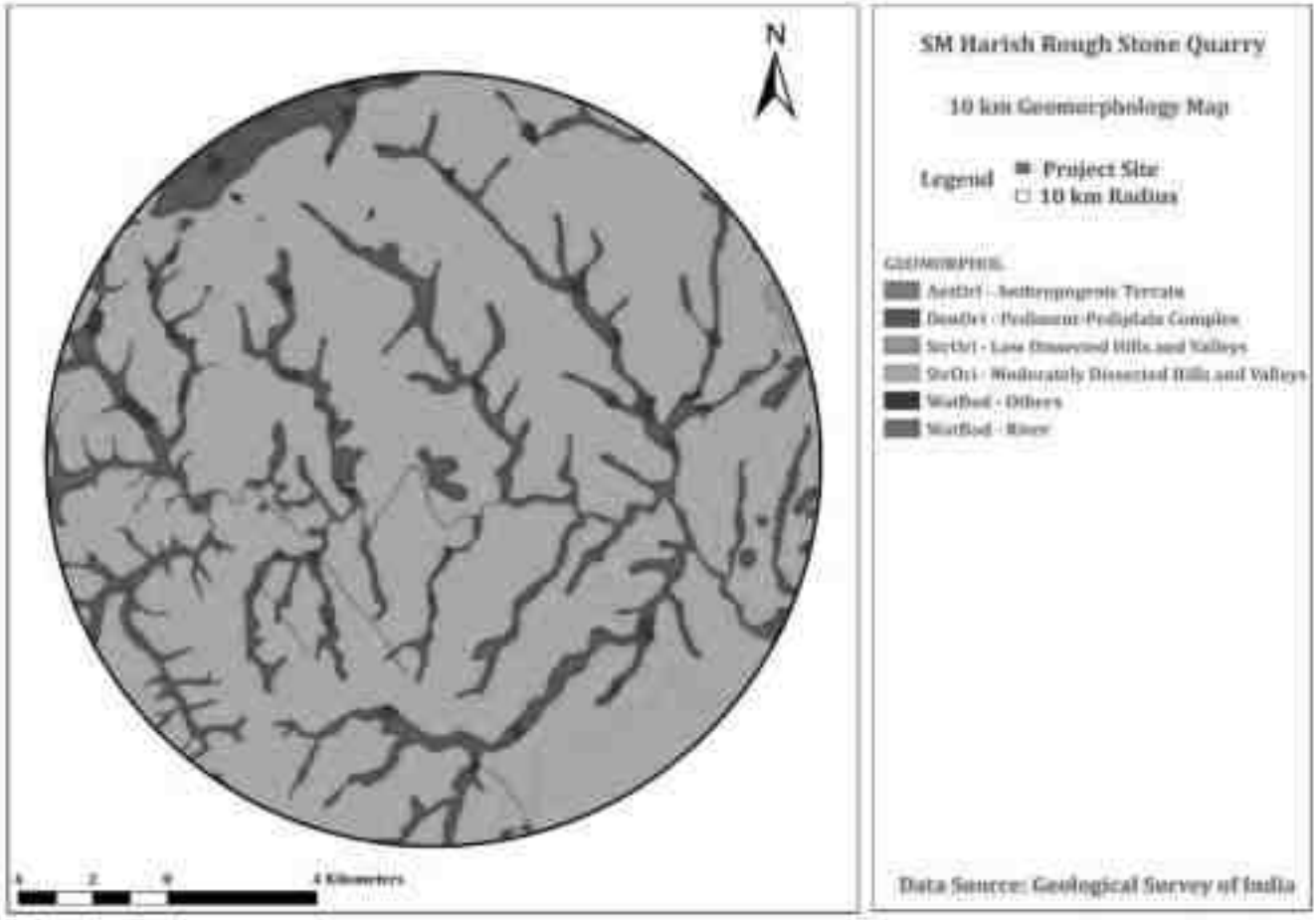


Figure 3-4 Geomorphology within 10km from the project site

3.3.3 Geology:

The geological formations of the district belong mainly to Archaean age along with rock of Proterozoic age. The former is rerpresented by Khondalite Group of rocks, Charnockite Group of rocks, Migmatites Complex, Sathyamangalam Group of rocks, while the latter is represented by Alkaline rocks. The Khondalite Group includes garnet sillimanite gneiss and quartzite which occur as small patches. The migmatite complex includes garnet ferrous quartzofeldspathic gneiss and horn blends biotite gneiss, the former exposed on the western part of the district. The Sathyamangalam Group includes fuchsite quartzite, sillimanite mica schist and amphibolites. The Bhavani Group in this area includes fissile hornblende-biotite gneiss, granitoid gneiss and pink migmatite. Amphibolites with barbed ferruginous quartzite and associated quartzo-feldspathic rocks (Champion Gneiss) represent the Kolar group and are found west and southwest of Veppanapalli. Following this there are basic intrusions occurring as dykes.

The Charnockite Group occupies a major part of the south-west portion of this district with small bands of garnetiferous quartzo-feldspathicgneiss, Granite gneiss and dolerite dykes. The North-East andNorthernpartof the District mainly consist of granite gneiss with small patches of Pink Migmatite, hornblende-biotite gneiss and dolerite dykes. The Eastern part of the district consists of Epidote-Hornblende Gneiss, Ultra Mafics, Syenite and Carbonatite.

The Alkaline Complex is represented by epidote-horn blende gneiss, ultramafics, syenite and carbonatite and these are distributed in the eastern part of the district. Innumerable basic dykes and felsites, quartz, barites and pegmatite veins form part of the Alkali Complex.

3.3.4 Hydrogeology

Krishnagiri district is underlained by Archaean crystalline formations with Recent alluvial deposits of limited areal extent and thickness along the courses of major rivers (Plate-II). The occurrence and movement of ground water are controlled by various factors such as physiography, climate, geology and structural features. Weathered, and fractured crystalline rocks constitute the important aquifer systems in the district.

Ground water generally occurs under phreatic conditions in the weathered mantle and under semi-confined conditions in the fractured zones at deeper levels. The thickness of weathered zones in the district ranges from less than a meter to more than 15 m. The yield of large diameter dug wells in the district, tapping the weathered mantle of crystalline rocks ranges from 100 to 500 lpm. These wells normally sustain in pumping for 2 to 6 hours per day, depending upon the local topography and characteristics of the weathered mantle.

The depth to water level (DTW) during pre monsoon (May 2006) ranged between 0.5 and 9.9 m bgl (Plate-III) in the district. In major part of the district the DTW is more than 5mbgl. Whereas it ranged between 2 and 9.9 m bgl (Plate-IV) during post monsoon, in the district and the DTW is in the range of 5 – 10 m bgl in the entire district except a few isolated pockets.

The yield of successful exploratory wells drilled in the district ranged from 0.78 lps to 26 lps. As per the studies the wells drilled in granitic gneiss have higher yields than the wells drilled in charnockites. The specific capacity of the wells ranged from 1.2 to 118.0 lpm/m/dd. The piezometric head of fracture zones varied between 0.50 and 18.45 m bgl.

Aquifer Parameters:

The transmissivity values of fracture zones ranged from 1 to 188 m2 /day with low to very low permeability values.

3.3.5 Ground water quality monitoring

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

Table 3-4 Ground water Quality Analysis

Environmental Parameters: Ground water Quality Analysis	
Monitoring Period	July to September 2022
Design Criteria	Based on the Environmental settings in the study area
Monitoring Locations	Project Site – GW 1 PUP School - GW 2 Alenatham Govt. School - GW 3 Govt. High School, Doddabelur - GW 4 Nearby Onnupalli Village - GW 5
Methodology	Water Samples were collected in 5 Litre fresh cans as per IS 3025 Part I and transported to the laboratory in Iceboxes
Frequency of Monitoring	Once in a season

3.3.5.1 Sampling Procedure

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

Table 3-5: Standard Procedure

S. No	Parameters	Test Method
1	pH (at 25°C)	IS:3025(P -11)1983 RA: 2012
2	Electrical Conductivity	IS:3025(P -14) 2013
3	Colour	IS:3025 (P -4)1983 RA: 2012
4	Turbidity	IS:3025(P -10)1984 RA: 2012

5	Total Dissolved Solids	APHA 22nd Edn.2012-2540-C
6	Total Suspended Solids	IS:3025(P-17)-1984 RA:2012
7	Total Hardness as $CaCO_3$	APHA 22nd Edn.2012-2340-C
8	Calcium as Ca	APHA 22nd Edn2012.3500 Ca-B
9	Magnesium as Mg	APHA 22nd Edn.2012-3500 Mg-B
10	Chloride as Cl	IS:3025(P -32)-1988 RA: 2014
11	Sulphate as SO_4	APHA 22nd Edn.2012-4500 SO_4^--E
12	Total Alkalinity as $CaCO_3$	APHA 22nd Edn.2012-2320-B
13	Iron as Fe	IS:3025(P -53):2003 RA: 2014
14	Silica as SiO_2	IS:3025(P -35)1988 RA: 2014
15	Fluoride as F	APHA 22nd Edn.2012-4500-F-D
16	Nitrate as NO_3	IS:3025(P -34):1988 RA: 2014
17	Sodium as Na	IS:3025(P -45):1993 RA: 2014
18	Potassium as K	IS:3025(P -45):1993 RA: 2014
19	Coliform	IS:1622:1981:RA:2014
20	E.coli	IS:1622:1981:RA:2014

Table 3-6 Ground water sampling results

S. No	Parameters	Units	Project Site	PUP School	Alenatlam	Doddabelur	Onnupalli
1	pH (at 25°C)	-	7.72	7.49	7.74	7.12	7.96
2	Electrical Conductivity	µS/cm	1314	1184	1479	1289	1509
3	Colour	Hazen Unit	1	2	1	10	1
4	Turbidity	NTU	BQL(LOQ:1.0)	6.7	BQL(LOQ:1.0)	12.3	BQL(LOQ:1.0)
5	Total Dissolved Solids	mg/L	723	651	813	709	830
6	Total Suspended Solids	mg/L	BQL(LOQ:1.0)	6.5	BQL(LOQ:1.0)	12.3	BQL(LOQ:2.0)
7	Total Hardness as CaCO3	mg/L	435.6	374.2	467.3	403.9	479.2
8	Calcium as Ca	mg/L	131.7	92.1	133.3	109.5	149.2

9	Magnesium as Mg	mg/L	26.0	35.2	32.7	31.8	26.0
10	Chloride as Cl	mg/L	118.0	64.6	127.2	74.4	101.8
11	Sulphate as SO4	mg/L	220.1	86.9	122.1	144.2	252.5
12	Total Alkalinity as CaCO3	mg/L	221.8	312.8	265.3	269.3	226.2
13	Iron as Fe	mg/L	BQL(LOQ:0.1)	BQL(LOQ:0.1)	BQL(LOQ:0.1)	4.744	BQL(LOQ:0.1)
14	Silica as SiO2	mg/L	4.4	20.6	21.5	42.4	11.4
15	Calcium Hardness	mg/L	328.68	229.68	332.64	273.24	372.24
16	Magnesium Hardness	mg/L	106.92	144.54	134.64	130.68	106.92
17	Fluoride as F	mg/L	0.909	BQL(LOQ:0.2)	0.597	BQL(LOQ:0.2)	0.214
18	Sodium as Na	mg/L	115	51.1	111	65.4	98.2
19	Potassium as k	mg/L	6.95	4.3	13.3	8.21	6.54
20	Nitrate as NO3	mg/L	7.232	10.238	46.404	50.988	48.304

3.3.6 Interpretation of results:

3.3.6.1 Physical parameters of water:

The basic physical parameters of water include

Colour:

Value observed in Project Site (True/Apparent Color): 1 Hazel unit.

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

Odour & Taste:

The water is odourless. The taste of the water is slightly salty which is due to the presence of hardness in water, which is attributed to the presence of calcium and magnesium in the water. As per the standards, the odour and taste should be agreeable.

pH:

Value observed in the Project Site: 7.72

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

Turbidity:

Value observed in the Project Site: <1

Acceptable and permissible limits: 1 NTU & 5 NTU respectively. The value of turbidity generally indicates the presence of phytoplanktons and other sediments. The value in the project site indicates the water is less turbid and no any physical treatment is required to treat the turbidity of the water.

Total Dissolved Solids:

Value observed in the Project Site: 723 mg/L.

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

The TDS is the presence of the inorganic salts and small amounts of organic matter present in the water. This is mainly due to the result of surface runoff as the cations and anions in the top soil is carried away by the water.

3.3.6.2 Chemical parameters of water:

The chemical parameters of the drinking water include,

Calcium:

Value observed in the Project Site: 131.7 mg/L.

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

Calcium is the essential macronutrient. The value of the calcium is within the prescribed permissible standards. The higher level of calcium may cause hardening in domestic equipment and will also reduce the detergent efficiency. Higher levels of calcium will lead to constipation, gas, and bloating. Apart from that, extra calcium may also increase the risk of kidney stones. If the calcium deposit in blood is high, it may lead to hypercalcemia.

Magnesium:

Value observed in the Project Site: 26 mg/L.

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

The value of Magnesium in the project site is higher than acceptable limit and within the permissible limit. The increase in the level of magnesium will cause diarrhea and vomiting in children.

Chloride

Value observed in the project site: 118 mg/L.

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

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

Total Alkalinity as $CaCO_3$:

Value observed in the project site: 221.8 mg/L.

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

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

Hardness:

Value observed in the Project Site: 435.6 mg/L.

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

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

3.3.7 Surface Water Analysis

Surface water samples were taken from **Thandarai lake** and **Sanathkumar Nadhi**. The results are summarized below.

Table 3-7 Surface Water Sample Results

S. No	Parameters	Units	Thandarai lake	Sanathkumar Nadhi
1	pH (at 25°C)	-	7.59	7.75
2	Electrical Conductivity	µS/cm	532	305
3	Colour	Hazen Unit	2	60
4	Turbidity	NTU	1.7	4.1
5	Total Dissolved Solids	mg/L	292	168
6	Total Suspended Solids	mg/L	1.7	4.1
7	Total Hardness as CaCO3	mg/L	69.3	87.1
8	Calcium as Ca	mg/L	15.1	21.4
9	Magnesium as Mg	mg/L	7.7	8.2
10	Chloride as Cl	mg/L	39.1	21.5
11	Sulphate as SO4	mg/L	33.6	28.2
12	Total Alkalinity as CaCO3	mg/L	130.7	124.7
13	Iron as Fe	mg/L	0.352	4.47
14	Silica as SiO2	mg/L	1.6	6.3
15	Calcium Hardness	mg/L	37.62	53.46
16	Magnesium Hardness	mg/L	31.68	33.66
17	Fluoride as F	mg/L	BQL(LOQ:0.2)	BQL(LOQ:0.2)
18	Sodium as Na	mg/L	28.8	18.5
19	Potassium as k	mg/L	6.82	1.48
20	Nitrate as NO3	mg/L	6.606	17.758
21	BOD	mg/L	11.7	43.2
22	COD	mg/L	41.6	155
23	TKN	mg/L	12.2	26.6
24	DO	mg/L	4.2	3.1

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

3.3.8 Climatology & Meteorology:

Climate and meteorology of a place can play an important role in the implementation of any developmental project. Meteorology is also the key to understand local air quality as there is an essential

relationship between meteorology and atmospheric dispersion involving wind in the broadest sense of the term.

The year may broadly be divided into four seasons:

Winter season : December to February

Pre-monsoon season : March to May

Monsoon season : June to September

Post-monsoon season : October to November

i) Climate

Eastern part of the district experiences hot climate and Western part has a contrasting pleasant cold climate. The district is hot and dry in summer i.e., from March to June. From July to November is rainy season and between December to February winter prevails with very cold and misty.

ii) Temperature

The average daily temperature ranges from a maximum of 36 °C to a minimum of 28 °C

iii) Rainfall:

Krishnagiri receives rainfall from both the northeast and the southwest monsoons. Monsoon season is from the months of July to November. During this time, temperature is mild and pleasant. Heavy rainfall is expected in short intervals during this period. December to February are winter months**.**

This district gets maximum rainfall in November (274.7mm).

KRISHNAGIRI DISTRICT -NORMAL AND ACTUAL RAINFALL (2017 TO 2021)

Unit in mm.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F
2017	5.7	0	48.7	37.9	198.6	19.1	24.6	189.7	291.7	219	54.5	56.2
2018	0	1.3	34.9	14.4	114.5	41.1	10.5	18.5	152.1	85.2	33.2	4.8
2019	13.2	1.2	4.5	47.2	96.5	33.6	34.6	94.7	138.6	177.7	48.7	39.5
2020	0.3	0	6.9	61.7	57.9	59	147.2	66.8	142.1	142	77	42.6
2021	40.1	5.8	0	46.6	75.7	32.4	137.7	70.2	134.9	140.4	282.6	19.1

Source: IMD

Metrological Data

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

vi) Wind Rose Diagram

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

The wind speed & wind direction data are taken and wind rose is plotted for July to September 2022.

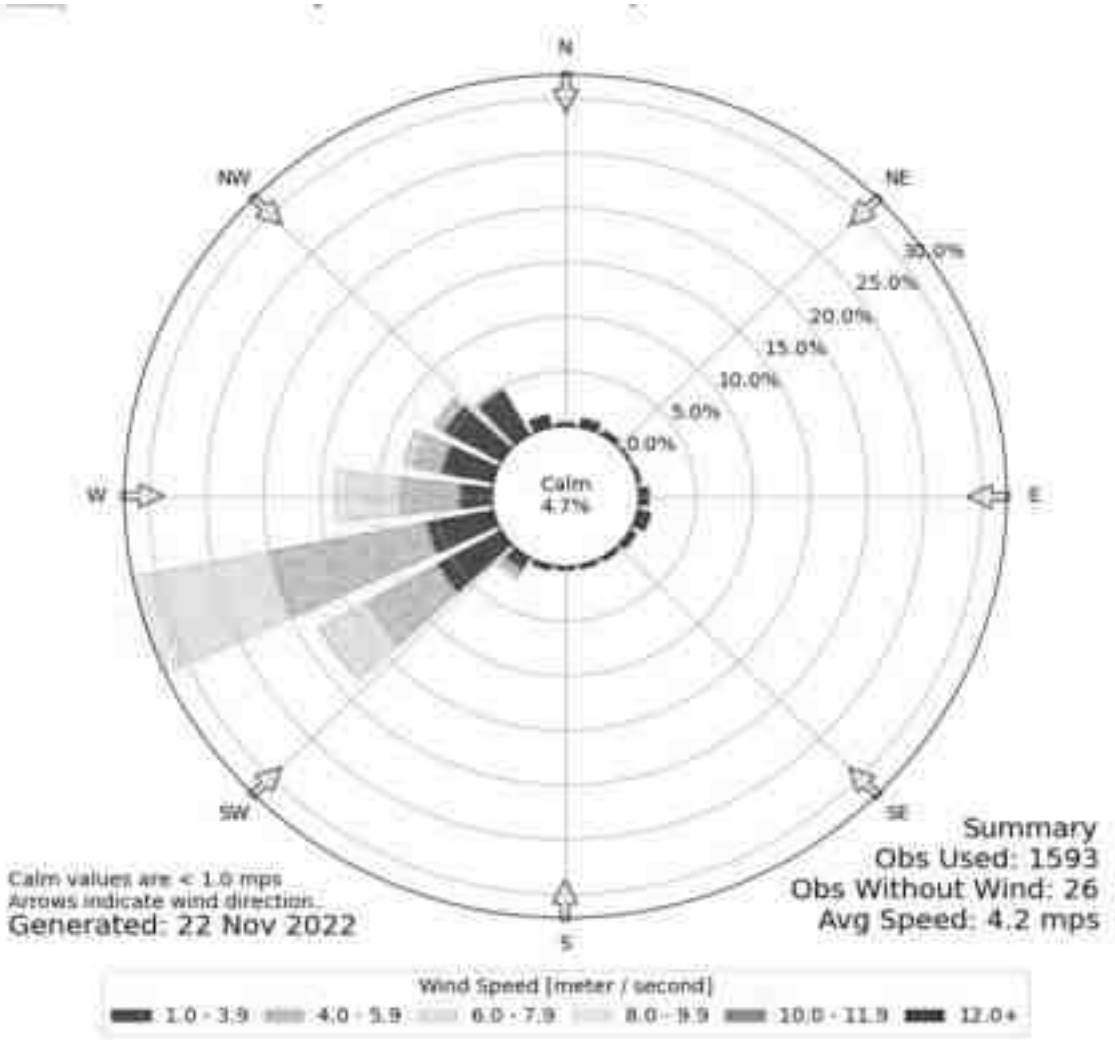


Figure 3-6 Wind rose

3.3.9 Selection of Sampling Locations:

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

3.4 Ambient Air Quality

Table 3-8: Selection of Sampling Location

Environmental Parameters*: Ambient Air*			
Monitoring Period	July to September 2022		
Design Criteria	The monitoring stations are selected based on factors like topography/terrain, prevailing meteorological conditions like predominant wind direction (July to September 2022), etc, play a vital role in the selection of air sampling stations. Based on these criteria, 5 air sampling station were selected in the area as shown below.		
Monitoring Locations	Location & Code	Distance (km)	Direction
	Project Site - AAQ 1	-	-
	PUP School – AAQ 2	2.58	W
	Alenatham Govt. School – AAQ 3	2.56	S
	Govt. High School, Doddabelur – AAQ 4	3.04	E
	Nearby Onnupalli Village – AAQ 5	3.80	N
Methodology	Respirable Particulate Matter (PM10) - Gravimetric (IS 5182: Part 23:2006) Particulate Matter PM2.5 - Gravimetric (Fine particulate matter) Sulphur Dioxide - Calorimetric (West & Gaeke Method) (IS 5182: Part 02: 2001) Nitrogen Dioxide - Calorimetric (Modified Jacob & Hocheiser Method) (IS 5182: Part 06:2006)		
Frequency of Monitorin	2 days in a week, 4 weeks in a month for 3 months in a season.		

3.4.1 Ambient Air Quality: Results & Discussion

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

Table 3-9 Ambient Air Quality

Code	Location	PM 10 (µg/m³)				PM 2.5 (µg/m³)				SO2 (µg/m³)				NOx (µg/m³)			
		Min	Max	Avg	98 percentile	Min	Max	Avg	98 percentile	Min	Max	Avg	98 percentile	Min	Max	Avg	98 percentile
AAQ 1	Project Site	40	53	47.3	52	17	26	21.5	25	4	9	7.0	9.75	10	23	15.6	23.1
AAQ 2	PUP School	39	50	44.9	49.5	17	23	20.5	23	7	13	7.3	10.08	11	24	16.4	22.7
AAQ 3	Alenatham Govt School	48	57	52.2	56.3	19	26	23.1	26	5	12	6.5	9.54	10	22	14.8	21
AAQ 4	Doddabelur Govt School	51	63	58.0	63.04	20	30	25.7	30.3	4	11	10.3	13.157	17	29	23.7	29.1
AAQ 5	Onnupalli	45	57	51.3	56.7	20	27	22.7	26.5	5	11	7.0	10	11	22	15.7	21.5
NAAQ Standards - Residential Area		100 (µg/m³)				60(µg/m³)				80 (µg/m³)				80 (µg/m³)			

3.4.2 Interpretation of ambient air quality:

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

Observation:

The Maximum value of PM10 (63 µg/m3), PM 2.5 (30 µg/m3), SOx (12 µg/m3) ,NOx (29 µg/m3) is observed in different places.

Inference:

The monitoring results for PM10, PM2.5, Sox, NOx was found to be high in Doddabelur Government School which is due to high movement of vehicles. The observed values are all well within the Standards prescribed by NAAQ.

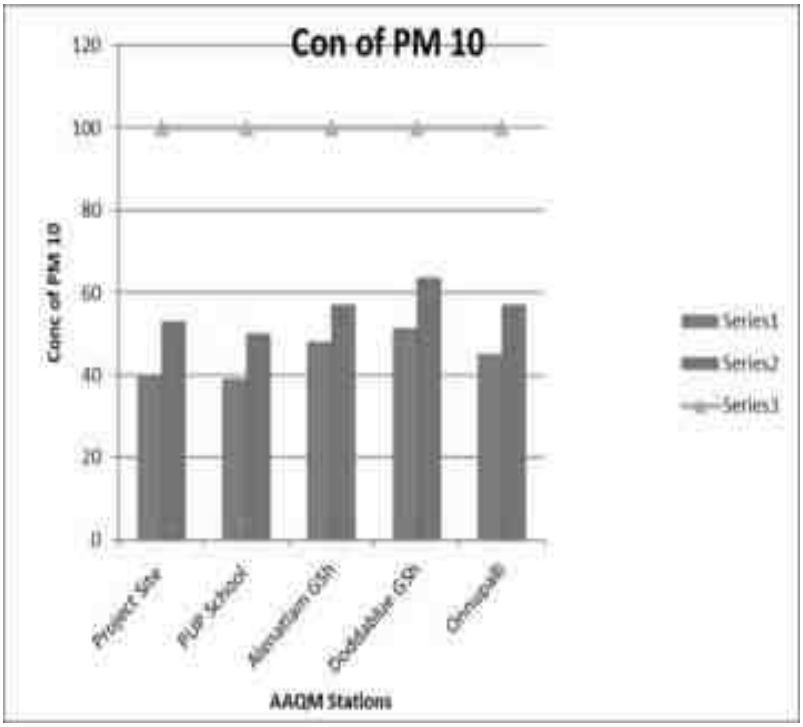


Figure 3-7 Concentration of PM10 (µg/m^3) in Study Area

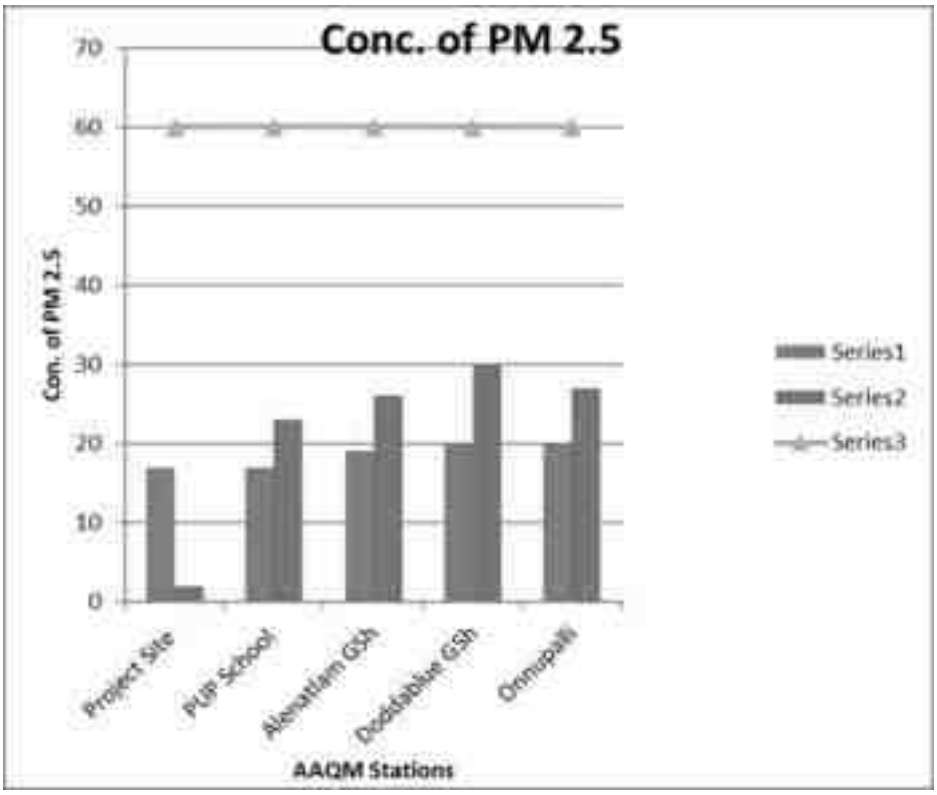


Figure 3-8 Concentration of PM2.5 (µg/m^3) in Study Area

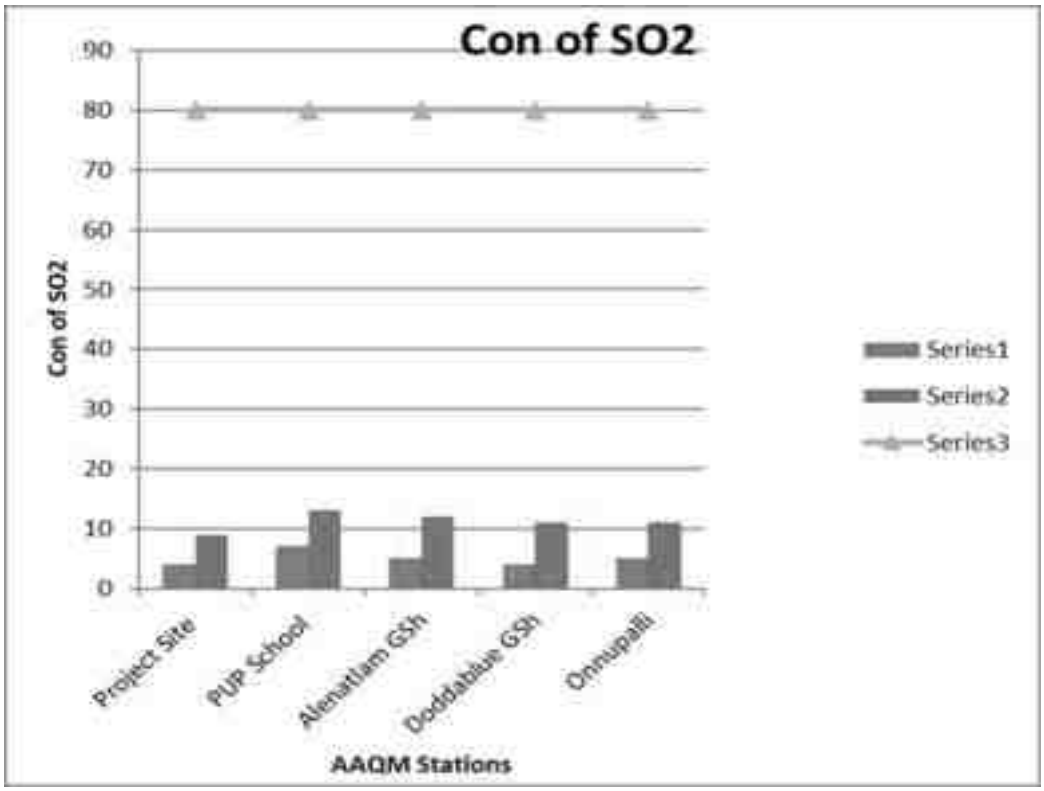


Figure 3-9 Concentration of SOx (µg/m^3) in Study Area

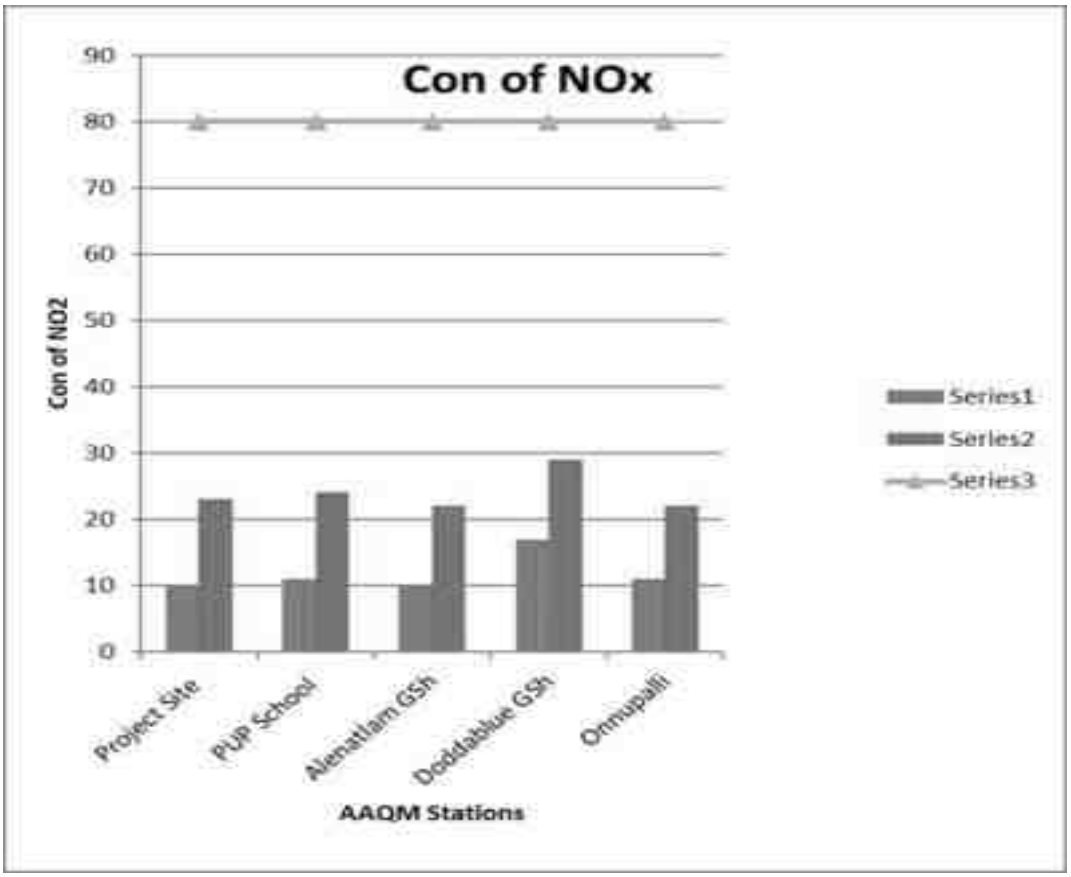


Figure 3-10 Concentration of NOx (µg/m3) in Study Area

3.5 Noise Environment:

Table 3-10 Noise Analysis

Environmental Parameters*: Noise Analysis*	
Monitoring Period	July to September 2022
Design Criteria	Based on the Sensitivity of the area
Monitoring Locations	Project Site – N 1 PUP School – N 2 Alenatham Govt. School – N 3 Doddabellur Govt. School - N 4 Onnupalli – N 5

Methodology	Noise level measurements were taken at the selected locations using noise level meter both during day and night time. Noise level measurements were taken continuously for 24 hours at hourly intervals
Frequency of Monitoring	Noise samples were collected from 5 locations - Once season

Ambient Noise Levels are monitored in the chosen 5 Locations including the project Site and the monitoring results are summarized below

3.5.1 Day Noise Level (Leq day)

Table 3-11 Day Noise Level (Leq day)

Location	Leq day in dB(A)		
	Max	Min	Average
Project Site – N 1	53	38	48
PUP School – N 2	55	41	50
Alenatham Govt. School - N3	61	51	57
Doddabellur Govt. School - N 4	56	44	51
Onnupalli – N 5	58	47	53

3.5.2 Night Noise Level (Leq Night)

Table 3-12 Night Noise Level (Leq Night)

Location	Leq Night in dB(A)		
	Max	Min	Average
Project Site – N 1	40	30	35
PUP School – N 2	41	34	38
Alenatham Govt. School - N3	49	40	44
Doddabellur Govt. School - N 4	45	37	40
Onnupalli – N 5	45	36	41

Observation:

The maximum Day noise and Night noise were found to be 61 dB(A) and 49 dB(A) respectively in Alenatham Govt. School. The minimum Day Noise and Night noise were 38 dB(A) and 30 dB(A) respectively which was observed in Project Site.

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

3.6 Soil Environment

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

3.6.1 Baseline Data:

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

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

Table 3-13 Soil Quality Analysis

Environmental Parameters*: Soil Quality Analysis*	
Monitoring Period	July to September 2022
Design Criteria	Based on the environmental settings of the study area
Monitoring Locations	Project Site – SQ 1 PUP School – SQ 2 Alenatham Govt. School – SQ 3 Doddabellur Govt. School - SQ 4 Onnupalli – SQ 5
Methodology	Composite soil samples using sampling augers and field capacity apparatus

Frequency of Monitoring	Soil samples were collected from 5 locations Once in a season

To assess the soil quality of the study area, 5 monitoring stations were selected and the results are summarized below.

Table 3-14 Soil Quality Analysis Results

Parameters	Unit	Project Site SQ 1	SQ 2	SQ 3	SQ 4	SQ 5
pH (at 25°C)	-	7.70	7.26	7.40	7.92	8.14
Specific Electrical Conductivity	mS/cm	0.10	0.16	0.14	0.15	0.20
Water Holding Capacity	ml/1	7.96	6.40	6.80	7.90	7.90
Chloride	g/cm^3	143	62	134	145	80
Soluble Calcium	mg/kg	30	39	19	48	39
Soluble Sodium	mg/kg	51	75	46	80	68
Soluble Potassium	mg/kg	15	23	14	24	20
Organic matter	%	4.6	4.8	5.2	3.6	3.7
Soluble Magnesium	mg/kg	7	43	22	51	37
Total Soluble Sulphates	%	66	29	35	36	55
Cation Exchange Capacity	mg/kg	9.5	10.5	10.1	12.2	13.3
Total Nitrogen	%	NIL	NIL	NIL	NIL	NIL
Bulk Density	meq/100g	171	149	103	183	191
Phosphorous	meq/kg	0.016	0.016	0.017	0.028	0.034
Sand	%	1.3	1.2	1.1	1.2	1.2
Clay	mg/kg	184	173	169	178	224
Silt	mg/kg	50	58	54	56	48
SAR	mg/kg	8	1	2	1	6
Silicon	%	42	41	44	43	46

3.6.1.1 Physical Properties:

Regular cultivation practices increase the bulk density of soils thus inducing compaction. This results in reduction in water percolation rate and penetration of roots through soils. The soils with low bulk density have favorable physical conditions whereas those with high bulk density exhibit poor physical conditions for agriculture crops. The bulk density of soil was found to be 103-191 which does not suits for agriculture purposes. The water holding capacity was found in the range of 6.4 ml/l to 7.96 ml/l.

3.6.1.2 Chemical Properties:

Chemical characteristics of soils include pH, exchangeable cations and fertility status in the form of NPK values and organic matter. The value of the pH ranges from 6.80 to 8.14, which it indicates majority of pH of the soil is slightly alkaline. The soil in the project site is sodic in nature, which challenges because they tend to have very poor structure which limits or prevents water infiltration and drainage. The organic matter varies from 3.6 to 5.2 %, which indicates the soil is slightly unfertile.

3.7 Ecology and Biodiversity

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

- Primary field survey is carried out for the assessment of flora and fauna in the core zone
- Secondary data from Journals/Literature were studied and compiled to understand the species present in the buffer zone

3.7.1 Methods available for floral analysis:

3.7.1.1 Plot Sampling Methods

- Quadrat – 2D shape (e.g. square or rectangle, or other shape) used as a sampling unit
- Transect
    - Line transects feature only a length dimension, usually defined by a tape stretched across the area to be sampled.

- Belt transects have a width as well as length.
- Pace-transects are established when the observer strides along an imaginary line across the sample site and uses their foot placement to determine specific sampling points.

3.7.1.2 Plot less Sampling Methods

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

3.7.2 Field study& Methodology adopted:

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

3.7.3 Study outcome:

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

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

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

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

Table 3-16 Tree Species in the core Zone

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

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

Table 3-17 Shrubs in the Core Zone

S. No.	Scientific Name	Local Name	Total No. of species	Total of Quadrants with species	Total No. of Quadrants	Density	Frequency (%)	Abundance	Relative Density	Relative Frequency	IUCN Conservation Status
1	Jatropagossypifolia	Kaatamanaku	32	17	24	1.17	0.71	1.65	14.43	17.17	Not Assessed
2	Calotropis gigantea	Erukam	16	12	24	0.58	0.50	1.17	7.22	12.12	Not Assessed
3	Tabernaemontanadivaricata	Crepe Jasmine	4	3	24	0.13	0.13	1	1.55	3.03	Not Assessed
4	Catharanthus roseus	Nithyakalyani	4	3	24	0.13	0.13	1	1.55	3.03	Not Assessed
5	Datura metal	Ummattangani	7	4	24	0.21	0.17	1.25	2.58	4.04	Not Assessed
6	Robiniapseudoacacia	Black locust	15	5	24	0.71	0.21	3.4	8.76	5.05	Least Concern
7	Acalypha indica	Kuppaimeni	18	8	24	0.83	0.33	2.5	10.31	8.08	Not Assessed
8	Stachytarpheaurticifolia	Rat tail	13	9	24	0.63	0.38	1.67	7.73	9.09	Not Assessed
9	Woodfordiafruiticosa	Velakkai	4	3	24	0.13	0.13	1	1.55	3.03	Least Concern
10	Hibiscus rosa sinensis	Sembaruthi	3	2	24	0.13	0.08	1.5	1.55	2.02	Not Assessed
11	Lantana camara	Unnichedi	8	6	24	0.38	0.25	1.5	4.64	6.06	Not Assessed
12	Parthenium hysterophorous	Vishapoondu	45	13	24	2.08	0.54	3.85	25.77	13.13	Not Assessed
13	Euphorbia geniculata	Amman Pacharisi	5	3	24	0.13	0.13	1	1.55	3.03	Not Assessed

Table 3-18 Herbs & Grasses in the core zone

S. No.	Scientific Name	Local Name	Total No. of species	Total of Quadrants with species	Total No. of Quadrants	Density	Frequency (%)	Abundance	Relative Density	Relative Frequency	IUCN Conservation status
1	Helicteresisora	Valampuri	4	2	30	0.07	0.07	1	0.79	2.15	Not assessed
2	Tridax procumbens	Vettukaayathalai	7	4	30	0.17	0.13	1.25	1.98	4.30	Not assessed
3	Heraculem spondylium	Hog Weed	19	10	30	0.67	0.33	2	7.94	10.75	Not assessed
4	Tridax procumbens	Cuminipachai	18	4	30	0.50	0.13	3.75	5.95	4.30	Not assessed
5	Senna occidentalis	Nattamsakarai	30	4	30	0.83	0.13	6.25	9.92	4.30	Not assessed
6	Plumbago zeylanica	Chittiramoolam	12	3	30	0.10	0.10	1	1.19	3.23	Not assessed
7	Scrophularia nodosa	Sarakkothini	18	7	30	0.50	0.23	2.14	5.95	7.53	Not assessed
8	Viburnum dentatum	Viburnum	7	5	30	0.17	0.17	1	1.98	5.38	Least concern
9	Cynodondactylon	Arugu	15	6	30	0.40	0.20	2	4.76	6.45	Not assessed
10	Euphorbia hirta	Amman Pacharisi	7	4	30	0.17	0.13	1.25	1.98	4.30	Not assessed
11	Sida cordifolia	Maanikham	50	4	30	1.50	0.13	11.25	17.86	4.30	Not assessed
12	Sida acuta	Malaidangi	12	3	30	0.33	0.10	3.33	3.97	3.23	Not assessed
13	Laportea canadensis	Peruganchori	28	20	30	1.00	0.67	1.5	11.90	21.51	Not assessed
14	Sporobolus fertilis	Giant Parramatta Grass	10	4	30	0.30	0.13	2.25	3.57	4.30	Not assessed
15	Tephrosia purpurea	Kavali	23	4	30	0.67	0.13	5	7.94	4.30	Not assessed

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

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

Table 3-19 Calculation of species diversity

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

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

i. Species Diversity

Scientific Name	**Common Name**	**No. of Species**	**Pi**	**ln (Pi)**	**Pi x ln (Pi)**
Ficus Carica	Athi Maram	2	0.018182	-4.00733	-0.07286
Cocos nucifera	Thennai	10	0.090909	-2.3979	-0.21799
Azadirachta indica	Veppam	17	0.154545	-1.86727	-0.28858
Tamarindus indica	Puli	10	0.090909	-2.3979	-0.21799
Mangifera indica	Mamaram	7	0.063636	-2.75457	-0.17529
Morinda pubescens	Nuna	6	0.054545	-2.90872	-0.15866
Couroupita guianensis	Nagalingam	5	0.045455	-3.09104	-0.1405
Bombax ceiba	Sittan	4	0.036364	-3.31419	-0.12052
Acacia nilotica	Karuvelai	4	0.036364	-3.31419	-0.12052

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

H (Shannon Diversity Index) =3.02

Shrubs

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

H (Shannon Diversity Index) =2.22

Herbs

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

H (Shannon Diversity Index) =2.51

i. Species diversity calculation

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

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

3.7.6 Floral study in the Buffer Zone:

Economically important Flora of the study area

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

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

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

3.7.7 Faunal Communities

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

- Point Survey Method: Observations were made in each site for 15 minutes duration.
- Road Side Counts: The observer traveled by motor vehicles from site to site, all sightings were recorded (this was done both in the day and night time). An index of abundance of each species was also established.
- Pellet and Track Counts: All possible animal tracks and pellets were identified and recorded (South Wood, 1978).

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

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

Methodology Adopted:

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

Study in the core zone:

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

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

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

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

Table 3-20 List of fauna species

Scientific Name	Common Name	Schedule of wild protection act	IUCN conservation stat
Mammals			
Funambulus pennar	Palm Squirrel	IV	Least Concern
Mus rattus	Indian rat	IV	Not listed
Bandicota bengalen	Indian mole rat	IV	Least Concern
Funambulus palmar	Three stripped palm squ	IV	Least Concern
Herestes edwardsii	Common Mangoose	IV	Not listed
Mus musculus	Common Mouse	IV	Least Concern
Bandicota indica	Rat	IV	Least Concern
Lepus nigricollis	Indian Hare	IV	Least Concern
Felis catus	Cat	Not listed	Not listed
Canis lupus familiar	Indian dog	Not listed	Not listed
Bos Indicus	Indian Cow	Not listed	Not listed
Bubalus bubalis	Buffalo	I	Not listed
Sus scrofa domestic	Domestic pig	Not listed	Not listed
Birds			
Milvus migrans	Black kite	IV	Least concern

Saxicoloides fulicatu	Indian Robin	IV	Least concern
Pycnonotus cafer	Red vented Bulbul	IV	Least concern
Phragamaticola aed	Thick billed warbler	IV	Least concern
Pericrocotus cinnamomeus	Small Minivet	IV	Least concern
Eudynamys scolopa	Koel	IV	Least concern
Psittacula krameni	Rose ringed parakeet	IV	Least concern
Dicrurus marcocerc	Black drongo	IV	Least concern
Columba livia	Rock pigeon	IV	Least concern
Corvus splendens	House crow	IV	Least concern
Alcedo atthis	Small blue kingfisher	IV	Least concern
Cuculus canorus	Common Cukoo	IV	Least concern
Reptiles & Amphibians			
Chameleon zeylanic	Chameleon	IV	Not listed
Calotes versicolor	Common garden lizard	II	Not listed
Bungarus caeruleus	Common krait	IV	Not listed
Ophisops leschenau	Snake eyed lizard	--	Not listed
Bufo melanostictus	Toad	IV	Least concern
Ptyas mucosa	Rat snakes	IV	Least concern
Hemidactylus sp.	House lizard	--	Not listed
Butterflies			
Danaus chrysippus	Plain Tiger	--	Not listed
Papilio demoleus	Common lime	--	Not listed
Euploea core	Common crow	--	Least concern
Danaus genutia	Common tiger	--	Not listed
Eurema brigitta	Small grass yellow	--	Least concern

3.8 Demography and Socio Economics

The demography survey study is done within 10km radius from the project site. The population, Household, Sex ratio, Literacy rate, SC, ST details for all the villages in the study area is listed below:

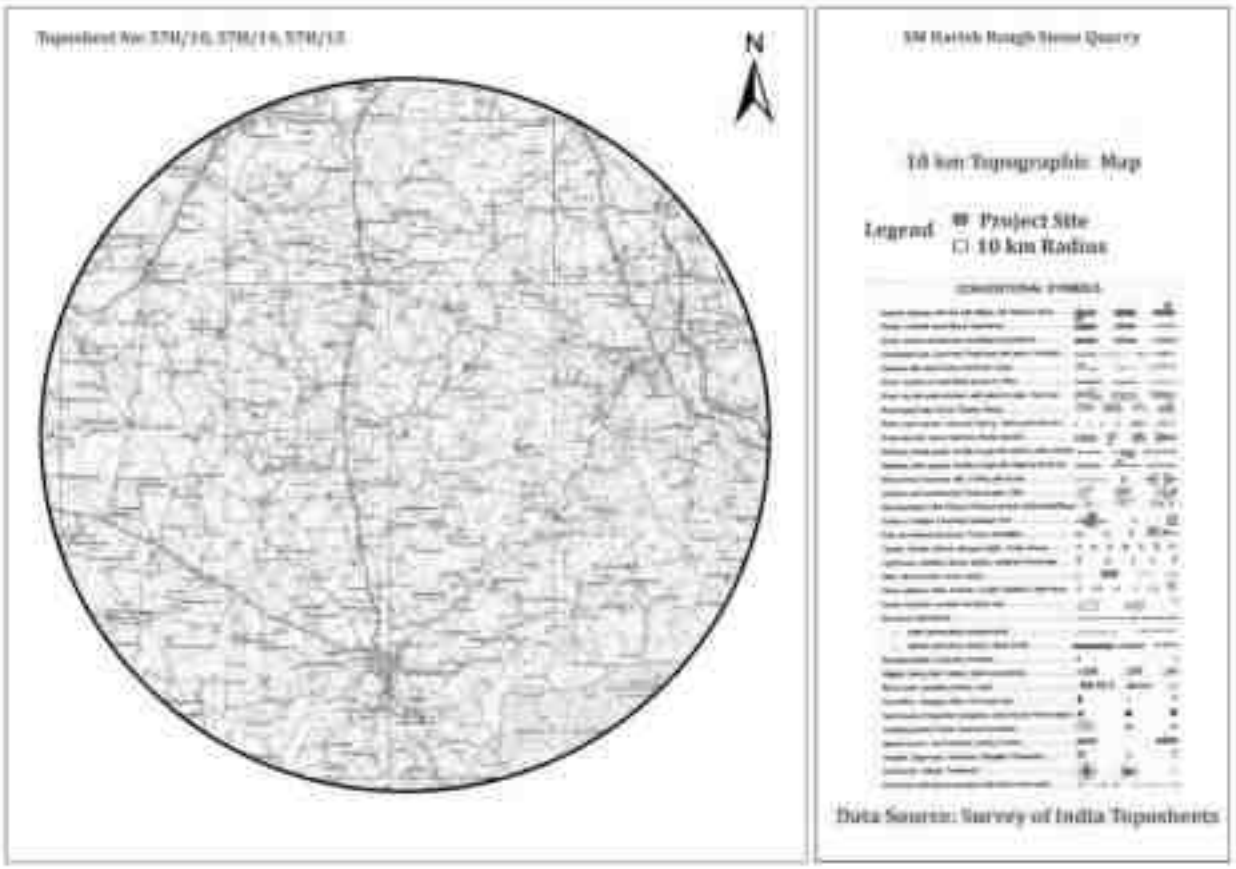


Figure 3.11 Socio Economic map around 10km radius from the project site

Table 3-21: Demography Survey Study

Source: Census of India, 2011

S.No	Villages	Household	Population	Sex Ratio		Literacy Rate		SC	ST
				Male	Female	Male	Female		
1	Kakkadasam	108	444	223	221	132	90	130	0
2	Anekolu	152	894	443	451	202	161	1	0
3	Kelamangalam	678	3018	1569	1449	1058	736	178	5
4	Mallasandram	460	2126	1109	1017	742	471	319	0
5	Kasi agraharam	164	761	394	367	254	159	0	95
6	Arasakuppam	95	346	184	162	23	24	0	0
7	Pachapanatti	120	543	274	269	131	97	228	0
8	Anniyalam	58	239	123	116	75	50	1	0
9	Sanamavu	87	447	229	218	128	89	95	0
10	Poonapalli	258	1096	540	556	349	288	370	0

11	Nagondapalli	852	3681	1898	1783	1165	848	596	0
12	Panchakshipuram	205	967	499	468	275	198	392	0
13	Mathigiri	2174	9160	4855	4305	3403	2439	1503	13
14	Denkanikottai	1093	4816	2532	2284	1547	1054	422	0
15	Arasakuppam	2101	9530	4788	4742	3480	2923	1487	0
16	Ballapalli	1607	6656	3411	3245	2475	1968	1360	0
17	Jakkeri	925	4248	2182	2066	1487	1062	659	183
18	Kottur	605	2764	1428	1336	960	635	509	11
19	Malugundapalli	2174	9160	4855	4305	3403	2439	1503	13
20	Muthuganapalli	1093	4816	2532	2284	1547	1054	422	0
21	Hosapuram	2101	9530	4788	4742	3480	2923	1487	0
22	Onalvadi	164	761	394	367	254	159	0	95
23	Sanamavu	937	4540	2339	2201	1317	980	334	17
24	Gopanapalli	650	2873	1484	1389	960	695	583	0
25	Serandapalli	591	2602	1314	1288	797	609	713	0

3.9 Traffic Impact Assessment

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

Figure 3-12: Site Connectivity

Table 3-22: No. of Vehicles per Day

S. No	Vehicles Distribution	Number of Vehicles Distribution/Day	Passenger Car Unit (PCU)	Total Number of Vehicle in PCU
		SH 17A - Hosur Denkanikottai Road	**-**	**SH 17A**
1	Cars	840	1	840
2	Buses	303	3	909
3	Trucks	365	3	1095
4	Two wheelers	985	0.5	492.5
5	Three wheelers	385	1.5	577.5
Total		**2878**	**-**	**3914**

Table 3-23: Existing Traffic Scenario and LOS

Road	V (Volume in PCU/hr)	C (Capacity in PCU/hr)	Existing V/C Ratio	LOS
SH-17A	3914/24=163	413	0.4	**B**

Note: The existing level may be "Very Good" for SH 17A.

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

4 Anticipated Environmental Impacts & Mitigation Measures

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

4.1 Introduction

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

Environmental Impacts can be group into Primary impacts & Secondary Impacts

Primary Impacts: These impacts are directly attributed by the project

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

Assessment of impacts is done for the following Environmental Parameters:

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

4.2 LAND ENVIRONMENT:

<table>
<tr><th>Aspect</th><th>Impact</th><th>Mitigation Measures</th></tr>
<tr>
<td>Mining of Rough Stone</td>
<td>The proposed 2.00.0 Ha mine located in Panchakshipuram Village, Rough Stone of 509227m^3 at a depth of 50m (9m AGL & 41m BGL) for the period of five years respectively. The quarry operation is proposed to carry out with conventional open cast semi mechanized mining with 7.0 meter vertical bench and bench width of 5.0 meter. At the end of 5 years, mining lease area will be converted into reservoir.
<table>
<tr><th colspan="5">ULTIMATE PIT DIMENSION</th></tr>
<tr><th>Section</th><th>Bench</th><th>Length (m)</th><th>Width (m)</th><th>Depth (m)</th></tr>
<tr><td rowspan="9">PIT</td><td>I</td><td>64</td><td>121</td><td>1</td></tr>
<tr><td>II</td><td>64</td><td>76</td><td>7</td></tr>
<tr><td>III</td><td>54</td><td>109</td><td>7</td></tr>
<tr><td>IV</td><td>49</td><td>99</td><td>7</td></tr>
<tr><td>V</td><td>44</td><td>89</td><td>7</td></tr>
<tr><td>VI</td><td>39</td><td>79</td><td>7</td></tr>
<tr><td>VII</td><td>34</td><td>69</td><td>7</td></tr>
<tr><td>VIII</td><td>29</td><td>59</td><td>7</td></tr>
<tr><td>IX</td><td>24</td><td>49</td><td>7</td></tr>
</table>
</td>
<td>The proposed project site is not prone to any kind of soil erosion (Source: Bhuvan).

In addition, garland drainage of 1m x 1m will be provided to avoid storm water run- off.

It is proposed to plant 100 Nos of local tree species per year (Casuarina and Tamarind) along the roads, outer periphery of the mining area which enhances the binding property of the soil.

It is proposed to improve the affected land wherever possible for better land use, so as to support vegetation and creation of water reservoir in the ultimate pit after quarrying.

The top soil of the lease area is 19374 m3. Topsoil will be utilized for the formation of mine roads, construction of bund and Afforestation purposes.</td>
</tr>
</table>

		The source of dust generation is majorly due to drilling, blasting (mild blasting if necessary), loading & unloading of the mined out mineral, the impact will be mitigated by water sprinkling regularly once in 3hrs. The proposed mining activity is carried out in almost plain terrain. After removal of minerals, undulating portion will be created. Excavated area or ultimate pit at the end of the mine period will be converted into water reservoir. Two tier tree belts will be planted along the safety distance.
	The main impact of open cast mining on land-use is land degradation. The land is bound to be excavated for mining of Rough Stone Quarry. Impact on soil of the study area will be minimal as there are no wastewater generated, heavy metal infusion, stack emissions. Impact due to transformation of terrain characteristics over the large area results in soil degradation.	There will be no refuse generation due to the mining activity. Apart from that a very meagre quantity of domestic waste will be generated in the project, which will be handed over to the local body on daily basis.

	Solid waste will be generated from the mining activity as there will be refuse also generation of domestic waste. If it is not properly managed, may cause odor and health problem to the workers.	

4.3 WATER ENVIRONMENT:

Aspect	Impact	Mitigation Measures
Drilling, Blasting, Loading and unloading, Transportation of the excavated mineral.	The mining in the area may cause ground water contamination due to intersection of the water table and mine runoff.	The water table will not be intersected during mining, as the ultimate depth is limited upto 50 meter (9m AGL & 41m BGL), whereas the ground water table is at 65m below the ground level. The municipal wastewater will be disposed into septic tanks of 5 cum and soak pit. No chemicals consisting of toxic elements will be used for carrying out mining activity.
	The ground water depletion may occur due to mining activity	The ground water table is at a depth of 65m BGL, the mining operation will not affect the aquifer. The ultimate pit at the end of the mining

		operation will be used for rain water storage, the stored water will be used for green belt development and further the stored water will be used for domestic purposes (other than drinking) after proper treatment.
	Chemicals consisting of nitrate used for blasting (if necessary) may pollute the surface run off.	Further, the run-off water will be stored in sumps and after proper treatment; water will be used in the mining operation for dust suppression.
	Improper management of Domestic wastewater in the Mine lease may create unhygienic conditions in the site thereby causing health impacts to the labours.	Provision of urinals/Latrines along with septic tank followed by soak pit arrangement will be provided in the Mine Lease area for the proper management of wastewater

4.4 AIR ENVIRONMENT:

Aspect	Impact	Mitigation Measures
Drilling, Blasting, Loading and unloading, Transportation of the excavated mineral.	***Impacts during Operation Phase*** During mining operation, fugitive dust and other air pollutants like particulate matter (PM10 & PM 2.5) will be generated.	***Mitigation Measures during Operation Phase*** It is proposed to plant 500 Nos of local species (with 100 Nos each year) along the haul roads, outer periphery within the lease area to prevent

	The main source of pollutants arises due to drilling and blasting. 3 No. of Tipper will be used for loading and unloading, 1 No of Excavator (1.2 m^3 bucket capacity (with rock breaker attachment) will be used for excavation of the mineral which contributes to the generation of fugitive dust. In addition, blasting will be done using explosives leading to the generation of dust. <u>*Effect on Human*</u> • Adverse effect on human health of working labourers and neighbouring villagers like	the impact of dust in consultation with Forest department for the plantation of trees (Casuarina and Tamarind) in two tier to combat air pollution and with herbs (Nerium) in between the tree species. Planning transportation routes of the mined out mineral, so as to reach the nearest paved roads (an approach road) by shortest route connecting to SH 17A. Alternatively, gravelled road may be constructed between mine lease area and nearest paved road connectivity. The speed of trucks plying on the haul road will be limited to 20km/hr to avoid generation of dust. The trucks will be covered by tarpaulin. Overloading will be avoided. Personal Protective Equipments (PPEs) like eye goggles, dust mask, leather gloves, safety shoes & boots will be provided to the workers

	effect on breathing and respiratory system, damage to lung tissue, influenza or asthma. • Dust generation due to loading and unloading of mineral and due to transportation can also affect the workers as well as nearby villagers. <u>*Effect on Plants*</u> • Stomatal index may be minimized due to dust deposit on leaf.	engaged at dust generation points like excavation and loading points. 0.5 KLD of water will be proposed for sprinkling on unpaved roads to avoid dust generation during transportation.

Air Quality Modeling:

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

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

Special features of AERMOD include its ability to treat the vertical in homogeneity of the planetary boundary layer special treatment of surface releases, irregularly shaped area sources, a plume model for the convective boundary layer, limitation of vertical mixing in the stable boundary layer, and fixing the reflecting surface at the stack base.

The AERMET is the meteorological preprocessor for the AERMOD. Input data can come from hourly cloud cover observations, surface meteorological observations and twice-a-day upper air soundings. Output includes surface meteorological observations and parameters and vertical profiles of several atmospheric parameters.

The AERMAP is a terrain preprocessor designed to simplify and standardize the input of terrain data for the AERMOD. Input data include receptor terrain elevation data. Output includes for each receptor, location and height scale, which are elevations used for the computation of airflow around hills.

4.4.1 Source Characterization

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

The emission Sources from the proposed operation are

Point Sources:

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

1. Hydraulic excavator – 1.2 Cum Bucket Capacity (with Rock Breaker Attachment)
2. Jack Hammer 25.5mm Dia
3. Tipper
4. Tractor Mounted - Compressor
5. Drilling and excavation with Accessories

Road Sources:

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

The parameters considered for the hauling operation include the following,

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

Other fugitive particulate emission sources:

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

- Fugitive emissions from trucks unloading at the primary crusher were represented by a single volume source. The release height was set to 0 meters (dump pocket is at grade level).
- Fugitive emissions due to wind erosion is not considered as the mining area is predominately rocky surface with minimal wind erosion. If an wind erosion is anticipated to occur, it would be localized.
- Fugitive emissions from transfer points were represented by single volume sources. The release heights for these sources were set to the actual height of the truck transfer process.

Post Project Scenario

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

Predicted maximum ground level concentrations considering micro meteorological data of July to September 2022 are superimposed on the maximum baseline concentrations obtained during the study period to estimate the post project scenario, which would prevail at the post operational phase. The overall scenario with predicted concentrations over the maximum baseline concentrations is shown in the following table along with isopleths.

Table 4-1 Controlled emission calculation (24Hour- average modeling inputs)

Activity		Source Type	Emissions (g/s)				
			TSPM	PM_{10}	$PM_{2.5}$	NO_X	CO
Haulage		Line volume	4.796E-02	1.356E-02	8.134E-03	3.364E-02 (from tipper)	2.0291E-03 (from tipper)
Topsoil handling	Scraper	open pit	Negligible	Negligible	Negligible	N/A	N/A
	Bulldozing		9.014E-02	2.991E-02	1.795E-02	6.70E-03 (from excavator)	5.833E-02 (from excavator)
Rough Stone mining	Wet drilling		1.88E-04	3.76E-05	2.25E-05	5.22E-03 (from compressor)	1.13E-03 (from compressor)
	Loading		2.34E-04	4.69E-05	2.82E-05	N/A	N/A

4.5 NOISE ENVIRONMENT:

Aspect	Impact	Mitigation Measures
Drilling, Blasting, Loading and unloading, Transportation of the excavated mineral.	Usage of Equipments (Excavator, Tipper, Jack Hammer), Machinery and trucks used for transportation will generate noise. Noise from the machinery can cause hypertension, high stress level, hearing loss, sleep disturbance etc due to prolonged exposure.	• The machinery will be maintained in good running condition so that noise will be reduced to minimum possible level. • Awareness will be imparted to the workers once in six months about the permissible noise level and effect of maximum exposure to those

	Number of vehicles will be increased due to the proposed mining activity hence vehicle may collate which may result in unwanted sound and can also cause impact on human health like breathing and respiratory system, damage to lung tissue, influenza or asthma.	levels. Adequate silencers will be provided in all the diesel engines of vehicles. • It will be ensured that all transportation vehicles carry a valid PUC Certificates. • Speed of trucks entering or leaving the mine will be limited to moderate speed (20km/hr) to prevent undue noise from empty vehicles. The noise generated by the machinery will be reduced by proper lubrication of the machinery and other equipments. • It is proposed to plant 500 Nos. of local species (Casuarina and Tamarind) to reduce the impact of noise in the study area. The development of green belts around the periphery of the mine will be implemented to attenuate noise. • The trucks will be diverted on roads viz. SH17A to avoid traffic congestion. • Health check-up camps will be organized once in six month.

		• Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas. • Provision of quiet areas, where employees can get relief from workplace noise.

4.6 BIOLOGICAL ENVIRONMNENT:

Aspect	Impacts	Mitigation Measures
Site Clearance	Loss of habitat due to site clearance which may lead to ecological disturbance.	The proposed mining lease is already a dry land hence no site clearance is required. Only few shrubs and herbs like parthenium sp., prosopis juliflora were present.
Planting of trees	Development of afforestation in the mine lease area will have a positive impact as the land was initially a barren.	7.5m safety distance will be provided all along the boundary of the mine lease area and safety. Around 0.38.0 Ha of land is utilized for greenbelt development (500 Nos – 5 years). This will attract avifauna thus enhancing the existing ecological environment.

4.7 SOCIO ECONOMIC ENVIRONMNENT:

Aspect	Impact	Mitigation Measures

Proposed implementation of Mining activity	Land acquisition for the implementation of the project may result in loss of assets, which in return will make the PAP to shift, losing their normal routine and livelihood	The proposed project is a Government Proamboke land of ***Thiru.S.M.Harish*** and the land is vacant where there are no human settlement within 500m radius. Hence the project does not involve Rehabilitation and resettlement
Drilling, Blasting, Loading and Transportation of the mined out mineral	The mining activities may cause dust emission, noise pollution thereby causing disturbance to the local habitat	No human activity is envisaged near the project site. The nearest human settlement is observed in Panchakshipuram village which is 2.48km-NW away from the project site.
Grazing and Rearing activities in the nearby villages	The Grazing and rearing of local animals like Sheep, Goat and cows is observed in the nearby villages, which may be affected due to the project as the movement of the vehicles may affect/injure the animals.	It is proposed to use gravelled road and nearest paved road and preferred not to use unpaved roads. In addition to that, the speed of trucks will be limited to 20km/hr to avoid any accidents.
Employment opportunity	The project will improve the livelihood of the local people	After the development of the proposed mine, it will improve the livelihood of local people and also provide the direct and indirect employment opportunities. The rough stone building stone for the infrastructural development in the area

		will be made available from the local markets at reasonably lower price.
Corporate Environmental Responsibility	The proposed project will help in natural resource augmentation & Community resource development.	As a part of CER, 2% of the project cost i.e, 2.74 Lakhs will be allocated. Developing the library, Sports/Drinking water facilities in nearby school.

4.8 Other Impacts:

S. No	Aspect	Impact	Mitigation measure
1.	Risk due to the proposed mining	Accidents may occur in the mine area	Proper PPE kit (Safety jacket, Helmet, Safety Shoes, Gloves) etc will be provided to each and every employee in the mine lease concerning the safety of each labor
2.	Blasting	Injury to the labours due to the blasting activity	Alarm system in the form of Siren will be engaged in the project site to caution the blasting activity. In addition to that, the blasting activity (if necessary) will be scheduled at particular time – 5 P.M to 6 P.M (or whenever required) so that the employees will be aware of the activity. Smoking will be banned in the site and sign boards will be displayed in various places at site.
3.	Screening of Labors	Labors will be checked for health condition before employing them in mining activity	All the labors will be checked and screened for health before employing them. After employing them, periodical medical checkups will be held once in every six months.

5 Analysis Of Alternatives

5.1 General

Analysis of alternative is a significant aspect in planning and designing any project. Cost benefit analysis should be work out along with other parameters while choosing an alternative in such a way that the production is maximum and the mining operation is environment friendly and cost effective. The mining plan has been approved by the Commissionerate of Geology and Mining, Guindy prior to submission of the Form-1 and PFR.

ToR issued by the SEIAA-TN vide Letter No. SEIAA-TN/F.No.9295/SEAC/ToR-1241/2022 dated 29.08.2022. The study for alternative analysis involves in-depth examination of site and technology.

5.1.1 Analysis for Alternative Sites and Mining Technology

5.1.1.1 Alternative Site

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

5.1.1.2 Alternative Technology

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

Table 5-1: Alternative for Technology and other Parameters

S. No.	Particular	Alternative Option 1	Alternative Option 2	Remarks
1.	Technology	Opencast semi mechanized mining	Opencast mechanized mining	Opencast semi mechanized Involving drilling and blasting are preferred. Benefits: Material is hard so to make it loose and to bring it to appropriate size.

2.	Employment	Local employment.	Outsource employment	Local employment is preferred Benefits: Provides employment to local people along with financial benefits No residential building/ housing is required.
3.	Labour transportation	Public transport	Private transport	Local labours will be deployed from Panchakshipuram village so they will either reach mine site by bicycle or by foot. Benefits: Cost of transportation of labors will be negligible.
4.	Material transportation	Public transport	Private transport	Material will be transported through trucks/trolleys on the contract basis Benefits: It will give indirect employment.
5.	Water	Tanker supplier	Ground water/	Tanker supply will be preferred. Water will be sourced from Panchakshipuram Village which is located in 2.48km in North West side from the project site.

6. Environmental Monitoring Program

6.1 General:

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

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

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

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

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

Table 6-1: Environmental Monitoring Programme

Parameters	Sampling	Frequency	Location
Air environment – Pollutants PM 10 PM 2.5 SO_2	5 locations	24 hourly twice a week 4 hourly. Twice a week, One non monsoon season 8 hourly, twice a week	Project Site, PUP School, Alenatham Govt. School, Doddabelur Govt

NO_x Lead in PM		24 hourly, twice a week	School, Onnupalli Village
Noise	5 locations	24 hourly Once in 5 locations	Project Site, PUP School, Alenatham Govt. School, Doddabelur Govt School, Onnupalli Village
Water (Ground water) • pH • Temperature • Turbidity • Magnesium Hardness • Total Alkalinity • Chloride • Sulphate • Fluoride • Nitrate • Sodium • Potassium • Salinity • Total nitrogen • Total Coliforms • Fecal Coliforms	5 locations	Once in 5 locations	Project Site, PUP School, Alenatham Govt. School, Doddabelur Govt School, Onnupalli Village
Water (surface water) • pH • Temperature • Turbidity • Magnesium Hardness • Total Alkalinity • Chloride	Sample from nearby lakes/river	One time Sampling	Thandarai Lake and Sanathkumar Nadhi

• Sulphate • Fluoride • Nitrate • Sodium • Potassium • Salinity • Total nitrogen • Total Coliforms • Fecal Coliforms			
Soil (Organic matter, Texture, pH, Electrical Conductivity, Permeability, Water holding capacity, Porosity)	5 locations	Once in 5 locations	Project Site, PUP School, Alenatham Govt. School, Doddabelur Govt School, Onnupalli Village.
Ecology and biodiversity Study	Study area covering 5 km radius	One time Sampling	
Socio- Economic study (Population, Literacy Level, employment, Infrastructure like school, hospitals & commercial establishments)	Villages around 5 km radius	One time Sampling	

Table 6-2: Monitoring Schedule during Mining

S. No.	Attributes	Parameters	Frequency	Location
1.	Ambient Air Quality at Mine Site & Fugitive Dust Sampling	PM 10 PM 2.5 SO_2 NO_x	Once in a Month	Project Site
2.	Ground water Quality	Drinking Water Parameters, As per IS - 10500: 2012	Half yearly	Project Site
3.	Surface Water Quality	Class will be assessed as per the CPCB Guidelines	Half yearly	Project Site
4.	Soil Quality	(Organic matter, Texture, pH, Electrical Conductivity, Permeability, Water holding capacity, Porosity)	Half yearly	Project Site
5.	Noise Level Monitoring	Noise level in dB(A) Quaterly/half yearly	Half yearly	Project Site

7 Additional Studies

7.1 General

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

7.1.1 Public Hearing:

As the proposed mining project falls under 1(a), Category B1 – Cluster Mining (includes Existing other Quarries Tvl.M.M.Blue Metals - 4.80.0 Ha and Proposed Quarries Thiru.S.M.Harish – 2.00.0 Ha (Instant Proposal). The Total extent of the Existing / Abandoned/Lease expired / Proposed quarries are 6.80.0 Ha

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

7.1.2 Risk assessment:

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

7.1.3 Identification of Hazard

7.1.3.1 Blasting Pattern:

The quarrying operation will be carried out by Opencast Semi Mechanized method in conjunction with conventional method of mining using Jack Hammer drilling and blasting (if necessary) for shattering effect and loosen the rough stone.

7.1.3.2 Drilling and Blasting:

Drilling and Blasting parameters are as follows:

Type	**Nos**	**Capacity**	**Make**	**Motive power**	**H.P**
Hydraulic excavator	1	1.2 M^3	L&T or Ex200	Diesel	120
Tipper	3	10 M.T	Ashok leyland	Diesel	110
Jack Hammer	5	Hand held	Atlas copco 2 Nos	Diesel	60

Diameter of the hole	:	32-36 mm
Spacing	:	60 Cms
Depth	:	1 to 1.5m
Pattern of hole	:	Zig Zag
Inclination of hole	:	70^0 from the horizontal.
Burden for hole	:	0.6m

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

- For Mining – Excavator of 1.2 Cum Bucket capacity (with Rock Breaker attachment), Jack Hammers (25.5 mm Dia) of 5 Nos.
- Loading Equipment – Excavator of 1.2 Cum Bucket Capacity (with Bucket attachment)
- Transportation (includes within the mine and mine to destination) – Tipper 3 Nos of 10 M.T capacity (from quarry to needy peoples and local crushers)

a. Risk:

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

b. Mitigation measures to minimize the risk

- At the time of loading no person will be allowed within the swing radius of the excavation.
- The dumpers/ trucks will stand near the loading equipment and fully braked when the muck is filled in it.
- The truck would be brought to a lower level so that the loading operation suits to the ergonomic condition of the workers.
- The workers will be provided with helmets, gloves and safety boots; loading and unloading operations will be carried out only during daylight
- All the mining machineries will be regularly maintained and checked such as brakes, lights and horns to keep in the efficient working order.

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

- In order to take care of above hazard/disaster, the following control measures will be adopted:
- All safety precautions and provisions of Mine Act,1952, Metalliferous Mines Regulation, 1961 and Mines Rules, 1955 will be strictly followed during all mining operations;
- Entry of unauthorized persons will be prohibited;
- Firefighting and first-aid provisions in the ECC and mining area;
- Provisions of all the safety appliances such as safety boot, helmets, goggles etc. will be made available to the workers (14 Nos.) and regular inspection for their use;
- In case of eventuality, first aid will be given by the senior safety office in the mine area initially to the injured person. The safety officer will give notice of accident as per Rule-23 of Mines Act-1952;
- The safety officer (common for 3 mines within 500m radius) will be responsible for coordination between management district authorities/DGMS etc. Regarding general safety as per Rule-181 of MMR 1961, "No person shall negligently or will fully do anything likely to endanger life or limb in the mine, or negligible or will fully omit to do anything necessary for the safety of the

mine or of the persons employed there in". The workers will be provided with protective foot wear and safety helmets;

- Cleaning of mine faces will be regularly done;
- Handling of explosives, charging and blasting will be carried out by highly skilled labours only;
- Regular maintenance and testing of all mining equipment as per manufacturer's guidelines;
- Suppression of dust by sprinkling water on the haulage roads;

7.1.5 Safety Team:

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

7.1.6 Emergency Control Centre

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

7.2 Disaster Management:

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

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

The emergency plan delineates the procedures for dealing with accidents or unexpected events and natural calamities arising from mining activity. An experience of any accidents that have occurred in other manufacturing/mining projects is considered to prepare this plan. This Emergency plan should be periodically reviewed and modified. It should also be changed based on the observations of emergency mock drills and experience of handling actual emergencies.

Major objectives of this onsite – offsite emergency plan are:

- To take necessary proactive and preventive actions to avoid the emergency.

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

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

• Onsite (Within ML boundary)

• Offsite (Outside ML boundary)

7.2.2 Onsite off-site emergency Plan:

1- Emergency on account of:

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

2- Disaster due to natural calamities like:

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

7.2.3 Emergency Plan:

- The mining operations should be immediately stopped in case of any emergency. A siren will be sounded during emergency time.

- An emergency assembly point will be created and all the workers will guide visitors or contractors to approach assembly point.
- Emergency vehicle (Ambulance) will be available in the nearby place, in proximity to the three mines and will rush to the emergency control centre at the blowing of emergency siren. The driver of emergency vehicle will follow the instructions of Incident Controller/Site Main Controller.
- Workers will be trained for the precautions to be taken during natural disasters like heavy rain, floods, earthquake and cyclone.
- All escape routes from mines to the assembly point or any other safe location will be made and the escape plan will be displayed in many places in the mine area

7.2.4 Emergency Control:

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

7.3 Natural Resource Conservation

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

7.4 Resettlement and Rehabilitation:

The proposed Mine lease area is a private land of Thiru.S.M.Harish. There is no displacement of the population within the project area and adjacent nearby area and hence Rehabilitation & Resettlement is not applicable.

8 Project Benefits

8.1 General

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

8.1.1 Physical Benefits

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

a.*Market:* Generating useful economical resource for construction. Due to demand supply chain, excavated mineral (Rough Stone) will sold in the market in the affordable price.

b.*Infrastructure:* The excavated Rough Stone will be used for ***Building & Construction Projects.***

c.*Enhancement of Green Cover & Green Belt Development*: As a part of reclamation plan, native tree species will be planted along the safety boundary (0.38.0 Ha) of the mine lease area. A suitable combination of trees that can grow fast and also have good leaf cover will be adopted to develop the green belt. It is proposed to plant 100 numbers of native species along with some fruit bearing and medicinal trees during the mining plan period.

8.2 Social Benefits

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

As a part of CER, Rs.5 Lakhs will be allocated. The detailed agenda, which is to be executed has been framed. The salient features of the programme are as follows:

- Providing Solar powered smart classroom, Computer, Plumbing work for school, providing wash basins for school, Greenbelt development, Toilet rooms for students in Panchayat Union Middle School, Karupalli Village, Krishnagiri District.

8.3 Project Cost / Investment Details

S.No.	Description of cost	Cost of lakhs
A	**Fixed Asset cost:**	
	Land cost (Leased tender amount for Government Poramboke Land)	Rs.1,50,00,000/-
	Labours shed	Rs.1,30,000/-
	Sanitary facility	Rs.90,000/-
	Fencing Cost	Rs.1,00,000/-
	Total Fixed Assest cost	**Rs.1,53,20,000/-**
B	**Operational cost:**	
	Machinery cost	Rs.30,00,000/-
C	**(I) EMP Cost:**	
	Drinking Water Facility	Rs.1,00,000/-
	Safety kits	Rs.60,000/-
	Water sprinkling	Rs.50,000/-
	Afforestation	Rs.25,000/-
	Water Quality test	Rs.30,000/-
	Air Quality test	Rs.30,000/-
	Noise/Vibration test	Rs.30,000/-
	Total	**3,25,000**
	Total Project cost	**Rs.1,86,45,000/-**

GRAND TOTAL PROJECT COST = Rs. 1,86,45,000/-

9 Environmental Cost Benefit Analysis

Not Applicable, Since Environmental Cost Benefit Analysis not recommended at the Scoping stage.

10 Environmental Management Plan

10.1 Introduction

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

10.2 Subsidence

Mining will be carried out by opencast semi mechanized mining method as per mining plan approved by the Assistant Director (Addl.Charge) Dept. of Geology and Mining, Krishnagiri District. Subsidence/slope failures are not envisaged because there are no loose strata overlying the deposit (mineral to be excavated). The bench height will be average of 7m and bench width of 5m. The individual bench slope has been proposed to be kept at 60^0 from horizontal. Moreover, all safety standards/ safeguards will be implemented as per guidelines prescribed by Director General of Mines Safety.

10.3 Mine Drainage

10.3.1 Storm water Management

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

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

10.3.2 Drainage

Local workers will be deployed for the project. But, urinals and Latrines will be provided and the same will be connected to septic tank followed by soak pit arrangement. No domestic waste will be deposited into the nearby area. Regular checking will be carried out to find any blockage due to

silting or accumulation of loose materials. The drains will also be checked for any damage in lining / stone pitching, etc.

10.3.3 Administrative and Technical Setup

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

To carry out the above activities, Thiru.S.M.Harish will work in association with M/s. Ecotech Labs Pvt Ltd.

Table 10-1: Impacts and mitigation measures

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

5.	Social Responsibility	Mining workers	Unhygienic site sanitation facilities may cause health damage to workers.	The objective is to ensure health and safety of the workers with effective provisions for the basic facilities of sanitation, drinking water, safety of equipments or machinery etc. The following will be done in the site ✓ By complying with the safety procedures, norms and guidelines (as applicable) as outlined in the National Building Code of India, Bureau of Indian Standards. ✓ Provide adequate number of decentralized latrines and urinals ✓ Providing Septic tank along with Soak pit arrangement ✓ Providing First Aid room, conducting frequent health checkups to labor and conducting free medical camps ✓ Providing safety helmet, Gloves, Jacket & Boots ✓ Providing measures to prevent fires. Fire fighting extinguishers and buckets of sand will be provided in the construction site
6.	Building materials resource conservation	Building Material consumption	Use of farfetched construction materials than the locally available construction	• Use of locally available construction materials.

			materials may lead to over exploitation of natural resources & increase in carbon footprint.	

Table 10-2: Budgetary Allocation for EMP during Mining

S. No.	Description		Budgetary Allocation (in Rs.)
1.	**EMP COST**		
	i.	Drinking water facility	1,00,000
	ii.	Safety Kits	60,000
	iii.	Water Sprinkling	50,000
	iv.	Afforestation	25,000
2.	**Environmental Monitoring**		
	i.	Air Quality Monitoring	30,000
	ii.	Water Quality Monitoring	30,000
	iii.	Noise/Vibration Monitoring	30,000
		Total Cost	**3,25,000**

11 Summary & Conclusion

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

11.1 Introduction

Thiru.S.M.Harish site is a cluster of two mining project. The individual mine lease area is 2.00.0 Ha of Rough Stone Quarry located at S.F.No. 755 (Part) of Panchakshipuram Village, Hosur Taluk in Krishnagiri District.

11.2 Project Overview

Table 11-1: Project Overview

S. No.	Description	Details
1	Project Name	Proposed Rough Stone Quarry-2.00.0 Ha
2	Proponent	Thiru.S.M.Harish
3	Mining Lease Area Extent	2.00.0 Ha
4	Location	S.F.No.755 (Part) of Panchakshipuram Village, Hosur Taluk, Krishnagiri District.
5	Latitude	12° 35' 17.41" N to 12° 35' 14.55" N
6	Longitude	77° 47' 45.28" E to 77° 47' 40.35" E
7	Topography	Undulated terrain
8	Site Elevation above MSL	≃ 877 m
9	Topo sheet No.	57-H/14
10	Minerals of Mine	Rough Stone
11	Proposed production of Mine	Proposed capacity of Rough Stone: 509227 m^3
12	Ultimate depth of Mining	50 m below ground level (9 m AGL & 41 m BGL)
13	Method of Mining	Open cast semi-mechanized mining
14	Water demand	2.00 KLD
15	Source of water	Water will be supplied through tankers supply
16	Man power	18 Nos

17	Mining Lease	Precise Area Communication Letter received from District Collector, Krishnagiri vide letter Rc.No.214/2019/Mines, dated 13.06.2019
18	Mining Plan Approval	Mining Plan was approved by The Assistant Director (Addl.Charge), Dept. of Geology & Mining, Krishnagiri vide letter Rc.No.214/2019/Mines, dated 11.11.2019
19	Production details	Geological reserves of Rough Stone : 1003534 m^3 Proposed year wise production of Rough Stone : 509227 m^3
20	Boundary Fencing	7.5m barrier all along the boundary, Fencing will be provided.
21	Disposal of overburden	The Top Soil of the lease area is 19374 m3. Topsoil will be utilized for the formation of mine roads, construction of bund and Afforestation purposes.
22	Ground water	The quarry operation is proposed up to a depth of **50m** below ground level (9 m AGL & 41 m BGL). The water table is below **65m** from ground level which is observed from the nearby open wells and bore wells. Hence the ground water will not be affected in any manner due to the quarrying operation during the entire lease period.
23	Habitations within 500m radius of the Project Site	There is no Habitation within 500m radius of the project site.
24	Drinking water	Water will be supplied through tankers from Panchakshipuram Village which is 2.48 km, NW from the project site.

11.3 Justification of the proposed project

The said project plays a significant role in the domestic as well as infrastructural market. To achieve a huge infrastructure being envisaged by Government of India, particularly in road and housing sector, there is a need for basic building materials. The Rough stone form the primary building material.

Rough stone is one of the most valuable natural building materials. Aggregates are mostly used for building roads and footpaths Aggregates – stone used for its strong physical properties – crushed and sorted into various sizes for use in concrete, coated with bitumen to make asphalt or used 'dry' as bulk fill in construction. Mostly used in roads, concrete and building products. Aggregates represent about 98% of quarry output, most of which is used in road construction, maintenance and repair. Much of this goes to the production of asphalt; the remainder is used 'dry' without the addition of other materials to provide a sturdy base for roads.

Since Krishnagiri, a city known for its small-scale industries and also the soil in the area near project site is not very fertile making it unsuitable for carrying out agricultural activities. The topography near the lease area is barren dry lands showing only less chance for crop growth and development of vegetation. In addition to that, geological reserves of Rough stone & Gravel is abundant in the lease area which is evident from the mine activities carried out in the nearby sites.

Table 11-2: Anticipate Impacts & Appropriate Mitigation Measures

S. No.	Potential Impact	Mitigation Measure
1	The main impact in the air environment is dust emission during various mining activities such drilling, blasting, excavation, loading and transportation. The dust emission may affect the quality of ambient air in the and around the mine area. The increased emission may cause respiratory & Cardiovascular problems in human health	Proper mitigation measures like water sprinkling on haul roads will be adopted to control dust emissions. To control the emissions regular preventive maintenance of equipments will be carried out on contractual basis. Plantation will be carried out along approach roads & mine premises.
2	Waste water will be generated due to mining activity and from other domestic activities. These may contaminate the ground water leading to ground water. The mining activity may affect the ground water table	No waste water will be generated from the mining activity of minor minerals as the project only involves lifting of over burden from mine site. The wastewater generated from the domestic activity will

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

		Periodical trainings will be conducted to create awareness about the occupational health hazards due to activities like blasting, drilling, excavation Workers health related problem if any, will be properly addressed.

12. Disclosure of Consultant

12.1 Introduction

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

12.2 Eco Tech Labs Pvt. Ltd – Environment Consultant

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

12.2.1 The Quality policy

- We at Eco Tech Labs Pvt. Ltd. engaged in providing Environmental consulting services and we are committed to strengthen our capabilities in all areas of our operations in line with customer requirements &expectations, applicable legal requirements & stakeholders expectations.
- We are committed to establish and maintain Quality Management System (QMS) for continual improvement in processes and Services
- We are committed to provide customized solutions in realistic, time bound and cost effective to achieve highest degree of customer satisfaction and Environmental improvement.
- We shall establish, maintain & periodically review our documented management systems, objectives and performance in consultation with our employees and prevailing best practices.
- Effective communication of organization's policy and objectives to employees and seeking feedbacks from all our employees and concerned stakeholders for continual improvement.

ANNEXURE-I

STANDARD TOR CONDITIONS WITH ADDITIONAL TOR POINTS

THIRU.DEEPAK S.BILGI, I.F.S.
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY-TAMILNADU
3rd Floor, Panagal Maaligai,
No.1, Jeenis Road, Saidapet,
Chennai - 600 015.
Phone No. 044-24359973
Fax No. 044-24359975

TERMS OF REFERENCE (ToR)

Lr No SEIAA-TN/F.No.9295/SEAC/ToR-1241/2022 Dated:29 .08.2022

To

Thiru.S.M.Harish,
S/o. Muniraj,
D.No. 2/159, H-Settipalli,
J. Karupalli Post,
Denkanikottai Taluk,
Krishnagiri District -635 113

Sir / Madam,

Sub: SEIAA, Tamil Nadu – Terms of Reference with Public Hearing (ToR) for the Proposed Rough Stone quarry lease area over an extent of 2.00.0Ha at S.F.No. 755 (Part) in Panchakshipuram Village, Hosur Taluk, Krishnagiri District - Tamil Nadu by Thiru.S.M. Harish - under project category – "B1" and Schedule S.No. 1(a) – ToR issued along with Public Hearing- preparation of EIA report – Regarding.

Ref: 1. Online proposal No.SIA/TN/MIN/77490/2022, Dt. 30.05.2022
2. Your application submitted for Terms of Reference dated: 07.06.2022
3. Minutes of the 301st Meeting of SEAC held on 06.08.2022
4. Minutes of the 546th meeting of Authority held on 29.08.2022.

Kindly refer to your proposal submitted to the State Level Impact Assessment Authority for Terms of Reference.

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The proponent, Thiru.S.M.Harish has submitted application for ToR, in Form-1, Pre-Feasibility report for the Rough Stone quarry lease area over an extent of 2.00.0Ha at S.F.No. 755 (Part) in Panchakshipuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu.

Discussion by SEAC and the Remarks:-

Proposed Rough Stone quarry lease area over an extent of 2.00.0Ha at S.F.No. 755 (Part) in Panchakshipuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu by Thiru.S.M. Harish - For Terms of Reference.

(SIA/TN/MIN/77490/2022, dated: 30.05.2022).

The proposal was placed in this 301st Meeting of SEAC held on 06.08.2022. The details of the project furnished by the proponent are available in the website (www.parivesh.nic.in).

The SEAC noted the following:

1. The project/activity is covered under Category "B1" of Item 1(a) "Mining of Minerals Projects" of the Schedule to the EIA Notification, 2006.

Based on the presentation made by the proponent, SEAC recommended to grant of Terms of Reference (TOR) with Public Hearing subject to the following TORs, in addition to the standard terms of reference for EIA study for non-coal mining projects and details issued by the MOEF & CC to be included in EIA/EMP Report:

1. The PP shall furnish the letter received from DFO concerned stating the proximity details of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., upto a radius of 25 km from the proposed site.
2. The PP shall revise the mining plan with bench geometry of 5m X 5m (or) 7m X 7m with suitable justifications for the deployment of HEMM under the provisions of Reg. 106 of MMR 1961.
3. The PP shall carryout the Green belt development & Fencing shall be completed and the same shall be incorporated in the EIA report.
4. Detailed survey of temples, permanent structures situated in the vicinity of the project site.
5. The PP shall carry out Bio diversity study through reputed institution and the same shall be included in EIA Report.
6. Detailed survey of permanent structures located within 2 Km from the project site shall be included in the EIA report.
7. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall prepare

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and submit an 'Action Plan' for carrying out the realignment of the benches in the proposed quarry lease after it is approved by the concerned Asst. Director of Geology and Mining during the time of appraisal for obtaining the EC.

8. The Proponent shall submit a conceptual 'Slope Stability Assessment' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level.
9. The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.
10. The PP shall present a conceptual design for carrying out only controlled blasting operation involving 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,
    a. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
    b. Quantity of minerals mined out.
    c. Highest production achieved in any one year
    d. Detail of approved depth of mining.
    e. Actual depth of the mining achieved earlier.
    f. Name of the person already mined in that leases area.
    g. If EC and CTO already obtained, the copy of the same shall be submitted.
    h. Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
13. 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).
14. The PP shall carry out Drone video survey covering the cluster, Green belt, fencing etc.,

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15. 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.
16. 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.
17. 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 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.
18. 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.
19. 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.
20. 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.
21. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
22. 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.

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Impact, if any, of change of land use should be given.

23. 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.
24. 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.
25. 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.
26. Impact on local transport infrastructure due to the Project should be indicated.
27. 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.
28. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
29. Public Hearing points raised and commitments 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 and to be submitted to SEIAA/SEAC with regard to the Office Memorandum of MoEF& CC accordingly.
30. The Public hearing advertisement shall be published in one major National daily and one most circulated vernacular daily.
31. The PP shall produce/display the EIA report, Executive summery and other related information with respect to public hearing in Tamil Language also.
32. 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.
33. 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

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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.

34. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific 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.
35. 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.
36. 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.
37. 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.
38. 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.
39. 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.
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. 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.
42. 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.

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43. 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.
44. 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.

Discussion by SEIAA and the Remarks:-

The proposal was placed in the 546th Authority meeting held on 29.08.2022. After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant **Terms of Reference (ToR) along with Public Hearing** 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 & normal condition in addition to the following conditions:

1. 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.
2. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological structures etc.
3. 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.
4. 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.
5. 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.
6. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
7. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.
8. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.

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9. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.
10. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
11. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.
12. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.
13. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.
14. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.
15. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.
16. The project proponent shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.
17. 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.
18. 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.
19. The project proponent shall detailed study on impact of mining on Reserve forests free ranging wildlife.
20. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following
    a) Soil health & bio-diversity.
    b) Climate change leading to Droughts, Floods etc.
    c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people.

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d) Possibilities of water contamination and impact on aquatic ecosystem health.

e) Agriculture, Forestry & Traditional practices.

f) Hydrothermal/Geothermal effect due to destruction in the Environment.

g) Bio-geochemical processes and its foot prints including environmental stress.

h) Sediment geochemistry in the surface streams.

21. 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.

22. 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.

23. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.

24. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.

25. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.

A. 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

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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,

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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

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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.

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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

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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

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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-11015/41/2006-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

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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 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 is acquisition, nearby (in 2-3 km.) water body, population, with in 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.

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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

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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.

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Copy to:

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. The APCCF (C), Regional Office, MoEF & CC (SZ), 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai -34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
6. The District Collector, Krishnagiri District.
7. Stock File.

COMPLIANCE OF TOR CONDITIONS

Point wise compliance of TOR points issued by SEIAA, TN vide letter No. SEIAA-TN/F.No.9295/ SEAC/TOR-1241/2022, dated 29.08.2022 for Mining of Minor Minerals in the Mine of "Proposed Rough Stone Quarry" over an Extent of 2.00.0 Ha in S.F No. 755 (Part) of Panchakshipuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu State.

<table>
<tr><th>ToR Ref.</th><th>Description</th><th>Response</th><th>Page Ref. in EIA Report</th></tr>
<tr><td>1</td><td>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.</td><td>This is a proposed Rough stone Quarry

The proponent has obtained Precise Area Communication Letter received from District Collector, Krishnagiri vide letter Rc.No.214/2019/Mines, dated 13.06.2019

Mining Plan was approved by The Assistant Director (Addl.Charge), Dept. of Geology & Mining, Krishnagiri vide letter Rc.No.214/2019/Mines, dated 11.11.2019

Proposed Production of Rough Stone for five years is included in the EIA/EMP report in chapter no-2.

<table>
<tr><th>Year</th><th>Rough Stone Volume (m^3)</th></tr>
<tr><td>I-Year</td><td>154414</td></tr>
<tr><td>II-Year</td><td>91378</td></tr>
<tr><td>III-Year</td><td>80505</td></tr>
<tr><td>IV-Year</td><td>70298</td></tr>
<tr><td>V-Year</td><td>112632</td></tr>
</table>
</td><td>Annexure-II & Annexure – III

Chapter-2</td></tr>
</table>

2.	A copy of document in support of the fact that the Proponent is the rightful lessee of the mine should be given.	The mine lease area of 2.00.0 hectare in Panchakshipuram Village for Rough Stone Quarry letter obtained from the Mining Plan was approved by The Assistant Director (Addl.Charge), Dept. of Geology & Mining, Krishnagiri vide letter Rc.No.214/2019/Mines, dated 11.11.2019	Annexure-III
3	All documents including approved mine plan, EIA and public hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management and mining technology and should be in the name of the lessee.	All the documents i.e., Mining Plan, EIA and Public hearing are compatible with each other in terms of ML area production levels, waste generation and its management and mining technology are compatible with one another. The Mining Plan was approved by The Assistant Director (Addl.Charge), Dept. of Geology & Mining, Krishnagiri vide letter Rc.No.214/2019/Mines, dated 11.11.2019	Annexure-II and Annexure-III
4	All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/toposheet should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	Details of coordinates of all corner of proposed mining lease area have been incorporated in Chapter 2 of EIA/ EMP Report.	Chapter-2, Table no. 2.2 Page. No. 40
5	Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, important water bodies, streams and rivers and soil characteristics	Topo map as attached in Chapter-2	Chapter-2, Fig no. 2.4 Page. No. 45
6.	Details about the land proposed for mining activities should be given with information as to whether conforms to the land use policy of the state; land diversion for mining should have approval from State land use board or the concerned authority	Details about the land proposed for mining activities should be given in Chapter 2.	Chapter-2 Table 2.4 Page 47

7	It should be clearly stated whether the proponent company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large may also be detailed in the EIA report.	Noted.	
8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.	It is an open cast mining project. Blasting details are incorporated in chapter-2	Chapter-2, Section 2.7.4 Page no.56
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.	Study area comprises of 10 km radius from the mine lease boundary. Key Plan showing core zone (ML area).	Chapter-2 Fig no. 2.5 Page no.46

10	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Land Use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, National park, migratory routes of fauna, water bodies, human settlements and other ecological features has been prepared and incorporated in Chapter-4 of EIA/ EMP Report. There is no wildlife sanctuary and national park, migratory routes of fauna in the study area.	Chapter-2, Table no. 2.2 Page no.40
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.	The Top Soil of the lease area is 19374 m3. Topsoil will be utilized for the formation of mine roads, construction of bund and Afforestation purposes.	Chapter-2, Page no.41
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.	The proposed mining lease area is not falling under forest land.	-

13	Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.	The proposed mining lease area is not falling under forest land.	-
14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.	Not Applicable. There is no involvement of forest land in the project area.	-
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	Details of flora have been discussed in Chapter-3 of the EIA/EMP Report.	Chapter-3
16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly detailed mitigative measures required, should be worked out with cost implications and submitted.	There is a relatively poor sighting of animals in the core and buffer areas of the mining lease. No significant impact is anticipated.	-
17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, 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	There is no National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant Reserves/Critically Polluted areas within 10 km radius of the mining lease area.	-

	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, duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.	Detail biological study (flora & fauna) within 10 km radius of the project site have been incorporated in Chapter-3 of EIA/ EMP Report. No flora & fauna listed in scheduled-I have been found in study area so there is no need of conservation plan. However, all care will be taken for protection of flora & fauna, if any in the lease hold area.	Chapter-3
19	Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.	The proposed mining lease area is not falling under forest land.	-

20	Similarly, for coastal projects, A CRZ map duly authenticated by one of the authorized agencies Similarly, for coastal projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority)	There is no Coastal Zone within 15km radius of the project site.	-
21	R &R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State / National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village located in the mine lease area will be shifted or not. The issues relating to shifting of Village including their R&R and socio-economic aspects should be discussed in the report.	There is no Rehabilitation and resettlement is involved. Land classified as Government Poramboke land.	-

22	One season (non-monsoon)and (Summar Season),(Post monsoon) primary baseline data on ambient air quality CPCB Notification of 2009 water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre- dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre- dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.	Baseline data collected during July to September 2022 has been incorporated in EIA/EMP report. The key plan of monitoring station has been discussed in Chapter-3. Locations of the monitoring stations have been selected keeping in view the pre- dominant downwind direction and location of the sensitive receptors and also that they represent whole of the study area.	Chapter 4

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 predominant wind direction may also be indicated on the map.	Air quality modeling & Impact of Air quality will be incorporated in final EIA report. Transportation of mineral during operation of mines will be done by road & SH-17A through dumpers and the impact of movement of vehicles are incorporated in Draft EIA/EMP report.	Chapter-3 & 4
24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.	Total water requirement: 2.0 KLD Dust Suppression: 0.5 KLD Domestic Purpose: 1.0 KLD Plantation : 0.5 KLD Domestic Water will be sourced from nearby Panchakshipuram village and other water will be sourced from nearby road tankers supply	Chapter-2 Page no.57
25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.	Not Applicable Water will be taken from nearby villages.	-

26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	At the last stage of mining operation, almost complete area will be worked to restore the land to its optimum reclamation for future use as water reservoir.	-
27	Impact of the project on the water quality, both surface and groundwater should be assessed and necessary safeguard measures, if any required, should be provided.	Impact of the project on the water quality & its mitigation measures has been incorporated in Chapter-4 of EIA/EMP report.	Chapter-4
28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.	Maximum working depth: 50 m (9m AGL & 41m BGL) The ground water table is reported as 65m below surface ground level in nearby wells of this area. Now, the present quarry shall be proposed above the water table and hence quarrying may not affect the ground water so mine working will not be intersecting the ground water table.	Chapter-2
29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.	There is no any stream crossing in the proposed quarry	Executive Summary

30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.	Highest elevation: 877m AMSL Ultimate Depth of mining : 50 m (9m AGL & 41m BGL) Ground Water Table : 65m BGL	Chapter-2 Table no. 2.2 Page No. 41
31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant pollution	Green Belt Development plan has been given in Chapter 2.	Chapter-2 Section 2.14 Page No. 59
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	Impact on local transport infrastructure due to the project has been assessed. There shall not be much impact on local transport. Traffic density from the proposed mining activity has been incorporated in Draft EIA/EMP report.	Chapter-3

	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.	Adequate infrastructure & other facilities shall be provided to the mine workers. Details are given in chapter-2 of EIA/EMP	Chapter-2
34	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.	Conceptual post mining land use and Reclamation and restoration sectional plates are given in Scheme of Mining Plan.	Mining Plan with plates Annexure-5
35	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP.The project in the mining area may be detailed	Suitable measure will be adopted to minimize occupational health impacts of the project. The project shall have positive impact on local environment. Details are given in chapter-7 of Draft EIA/EMP.	Chapter-7

36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	Suitable measure will be adopted to minimize occupational health impacts of the project.	Chapter-7
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.	CSR Activity Affidavit Earlier submitted to SEIAA. The details are incorporated in the Draft EIA/EMP report.	Executive Summary
38	Detailed environmental management plan to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.	Environment Management Plan has been described in detail in Chapter-10 of the Draft EIA/EMP Report.	Chapter-10
39	Public hearing points raised and commitment of the project proponent on the same along with time bound action plan to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.	Public Hearing proceedings will be furnished in Final EIA report.	-
40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the project should be given.	Not applicable No. litigation is pending against the project in any court.	-

<table>
<tr><td>41</td><td>The cost of the project (capital cost and recurring cost) as well as the cost towards implementation of EMP should clearly be spelt out.</td><td><table><tr><th>S.No.</th><th>Description</th><th>Cost</th></tr><tr><td>1</td><td>Fixed Asset</td><td>1,53,20,000</td></tr><tr><td>2</td><td>Operational Cost</td><td>30,00,000</td></tr><tr><td>3</td><td>EMP Cost</td><td>3,25,000</td></tr><tr><td></td><td>Total</td><td>1,86,45,000</td></tr></table></td><td>Chapter-8 Section 8.3</td></tr>
<tr><td>42</td><td>A Disaster Management Plan shall be prepared and included in the EIA/EMP Report.</td><td>Disaster Management and Risk Assessment Plan has been incorporated in Chapter-7</td><td>Chapter-7</td></tr>
<tr><td>43</td><td>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.</td><td>Benefits of the project has been incorporated in the Chapter 8 of the Draft EIA Report.</td><td>Chapter-8</td></tr>
<tr><td>44</td><td colspan="3">Besides the above, the below mentioned general points are also to be followed:</td></tr>
<tr><td>(a)</td><td>Executive Summary of the EIA/EMP report</td><td>Executive Summary of EIA Report is given from page No.15-37</td><td></td></tr>
<tr><td>(b)</td><td>All documents to be properly referenced with index and continuous page numbering.</td><td>Complied</td><td></td></tr>
<tr><td>I</td><td>Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.</td><td>Complied</td><td></td></tr>
<tr><td>(d)</td><td>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.</td><td>Complied</td><td></td></tr>
</table>

I	Where the documents provided are in a language other than English, an English translation should be provided.	Complied	
(f)	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	The complete questionnaire has been prepared.	
(g)	While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF vide O.M.No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should also be followed.	The EIA report has been prepared and complying with the circular issued by MoEF vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009.	
(h)	Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post 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	There are no changes in prepared EIA as per submitted Form-1 & PFR.	
(i)	As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report on the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project by the Regional Office of Ministry of Environment & Forests, if applicable.	Will be complied after grant environment clearance from SEIAA, Tamilnadu.	

(j)	The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections (iii) sections of mine pit and external dumps, if any clearly showing the features of the adjoining area.	All Sectional Plates of Quarry is enclosed in Mining Plan.	

Additional ToR Compliance

S.No.	Condition	Compliance
1.	The PP shall furnish the letter received from DFO concerned stating the proximity details of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., upto a radius of 25 km from the proposed site.	We are in the processing of obtaining the DFO letter, once obtained the same will be submitted in the Final EIA report.
2.	The PP shall revise the mining plan with bench geometry of 5m x 5m (or) 7m x 7m with suitable justifications for the deployment of HEMM under the provisions of Reg.106 of MMR 1961.	We are in the processing of revising the mining plan with geometry bench as 5m x 5m, once obtained the same will be submitted in the Final EIA report.
3.	The PP shall carryout the Green belt development & Fencing shall be completed and the same shall be incorporated in the EIA report.	Greenbelt details are incorporated in the Chapter 2 under Section 2.14. Fencing will be provided around the project site.
4.	Detailed survey of temples, permanent structures situated in the vicinity of the project site.	The study details of temples, permanent structures around the project site will be incorporated in the Final EIA report.
5.	The PP shall carry out Bio diversity study through reputed institution and the same shall be included in EIA Report.	Bio diversity study has been conducted and the details has been incorporated in the Chapter 3 of the Draft EIA report.
6.	Detailed survey of permanent structures located within 2 km from the project site shall be included in the EIA report.	The study details of permanent structures within 2km from the project site will be included in the Final EIA report.
7.	In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall prepare and submit an 'Action Plan' for carrying out the realignment of the benches in the proposed quarry lease after it is approved by the concerned Asst. Director of Geology and Mining during the time of appraisal for obtaining the EC.	Action Plan report will be submitted with final EIA.

8.	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 30m below ground level.	Slope stability report will be submitted with final EIA.
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.	Noted and Agreed to comply.
10.	The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30m from the blast site.	Noted and Agreed to comply.
11.	The EIA Coordinator shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and Photographic evidences.	Complied. The site photographs are attached in the EIA report.
12.	If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines, a) What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines? b) Quantity of minerals mined out. c) Highest production achieved in any one year d) Detail of approved depth of mining. e) Actual depth of the mining achieved earlier. f) Name of the person already mined in that leases area. g) If EC and CTO already obtained, the copy of the same shall be submitted. h) Whether the mining was carried out as per the approved mine plan (or EC if issued) with	It is a fresh quarry project of 2.00.0 Ha at Panchakshipuram village, Hosur Taluk, Krishnagiri District. All other details has been incorporated in the EIA report.

	stipulated benches.	
13.	All corner coordinates of the mine lease area, superimposed on 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).	All maps have been provided in chapter 2 and chapter 3 of Draft EIA report.
14.	The Project Proponent shall carry out Drone video survey covering survey covering the cluster, green belt, fencing etc.,	Drone video survey will be submitted in final EIA report.
15.	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.	It is a fresh quarry project. Greenbelt details has been incorporated in Chapter 2 under Section 2.14 of Draft EIA report. Fencing will be provided around the project site.
16.	The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment and the remedial measures for the same.	The geological reserves, mineable reserves and Yearwise production details has been discussed in Chapter 2 The anticipated impacts due to mining operations carried out in the quarry cluster and its mitigation measures have been incorporated in Chapter 4 of Draft EIA Report.
17.	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 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.	The Organization chart has been discussed in Chapter 2 of the Draft EIA Report.
18.	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	The hydro-geological study will be conducted and submitted in Final EIA report.

	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.	
19.	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 for the environmental and ecological parameters about surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study have been incorporated in Chapter 3 of the Draft EIA report.
20.	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 air pollution, water pollution & health impacts. Accordingly, the Environment Management Plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.	Noted and the details will be incorporated in the Final EIA Report.
21.	Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.	This is proposed rough stone quarry with a proposed depth of 50m (9m AGL & 41m BGL). After the lease period the part of the working pit will be converted into the rain water recharging pit and the collected rain water will be used for greenbelt development and serve as a water reservoir for the nearby village.
22.	Land use of the study are delineating forest area, agricultural land, grazing land, wildlife sanctuary, national part, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated.	All the details Land Use and land cover pattern of the study area has been discussed in the Chapter 3 of the Draft EIA report.

	Land use plan of the mine lease area should be prepared to encompass preoperational and post operational phases and submitted. Impact, if any, of change of land use should be given.	
23.	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.	The Top Soil of the lease area is 19374 m^3. Topsoil will be utilized for the formation of mine roads, construction of bund and Afforestation purposes.
24.	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. The proposed project area does not comes under Critically Polluted Area.
25.	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.	This is proposed rough stone quarry with a proposed depth of 50m (9m AGL & 41m BGL). After the lease period the part of the working pit will be converted into the rain water recharging pit and the collected rain water will be used for greenbelt development and serve as a water reservoir for the nearby village.
26.	Impact on local transport infrastructure due to the Project should be indicated.	Traffic study was carried out to analyse the impact of transportation in the proposed project area as per IRC guidelines and it is inferred that there is no significant impact arises due to the proposed transportation from the project area. The traffic study details have been incorporated in the Chapter 3 of the Draft EIA Report.
27.	A tree survey study shall be carried out (nos., name of the species, age, diameter, etc.,) both within the mining lease applied area & 300m	Noted and Agreed to comply. Further, the green belt development proposal has been discussed in the

	buffer zone and its management during mining activity.	Chapter 2 of the Draft EIA report.
28.	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.	Mine closure plan has been attached along with mining plates as Annexure V.
29.	Public hearing points raised and commitments 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 and to be submitted to SEIAA/SEAC with regard to the Office Memorandum of MoEF&CC accordingly.	Noted and the same will be incorporated in the final EIA report after public hearing meeting.
30	The Public hearing advertisement shall be published in one major National daily and one most circulated vernacular daily.	Noted and Agreed to comply.
31	The PP shall produce/display the EIA report, Executive summary and other related information with respect to public hearing in Tamil Language also.	Noted and Agreed to comply.
32	As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.	Noted and Agreed to comply.
33.	The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix I in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.	Around 500 tress like Casuarina and Tamarind will be planted around the project site.

34.	Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper escapement 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.	The green belt plan is enclosed along with mining plates in Annexure V
35.	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.	A Disaster management Plan details has been incorporated in the Chapter 7 of the Draft EIA report.
36.	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.	A Risk Assessment and management Plan details has been incorporated in the Chapter 7 of the Draft EIA report.
37.	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational health impacts of the project and preventive measures have been incorporated in the Chapter 7 of the Draft EIA report.
38.	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.	No public health implications are anticipated due to this project. Details of CER has been incorporated in the Executive Summary and Chapter 8 of the Draft EIA report.
39.	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.	The socio-economic study has been carried out and discussed in chapter 3 of the Draft EIA report.

40.	Details of litigation pending against the project, if any, with direction/order passed by any Court of Law against the Project should be given.	No litigation is pending in any court against this project.
41.	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 project benefits have been discussed in the Chapter 8 of the Draft EIA report.
42.	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.	This is a fresh quarry project.
43.	The PP shall prepare the EMP for the entire life of mind and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.	Noted and Agreed to comply.
44.	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 Reference besides attracting penal provisions in the Environment (Protection) Act, 1986.	Noted.
	SEIAA RECOMMENDATIONS	
45.	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.	Noted.
46.	The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, school, Archaeological structures etc.	VAO Certificate has been obtained and attached as Annexure 6 of the Draft EIA report.
47.	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	Noted.

	and all the activities proposed shall be part of the Environment Management Plan.	
48.	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.	The emission details have been discussed in the Chapter 4 of the Draft EIA report.
49.	The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.	The ecological details have been discussed in the Chapter 3 of the Draft EIA report.
50.	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	Noted and Agreed to comply.
51.	The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.	Noted and Agreed to comply.
52.	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.	All the data's regarding soil were collected and the details have been discussed in the Chapter 3 of the Draft EIA report.
53.	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	The Biodiversity study has been conducted and the details has been incorporated in the Chapter 3 of the Draft EIA report.
54.	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.	Noted and Agreed to comply.
55.	The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.	Noted and the details of the water bodies have been incorporated in the Chapter 3 of the Draft EIA report.
56.	The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.	The EMP details have been discussed in the Chapter 8 of the Draft EIA report.

57.	The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.	Noted and Agreed to comply.
58.	The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.	Noted and Agreed to comply. We kindly inform that there is no protected areas such as Reserve Forests, National Parks, Wildlife Corridors around 1 km radius from the proposed project site.
59.	The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.	Noted and Agreed to comply.
60.	The project proponent shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.	Noted and Agreed to comply.
61.	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.	Noted and Agreed to comply.
62.	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.	Noted and Agreed to comply.
63.	The project proponent shall detailed study on impact of mining on Reserve forests free ranging wildlife.	Noted and Agreed. We kindly inform that there is no protected areas such as Reserve Forests around 1 km radius from the proposed project site.
64.	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued	Noted and the details will be incorporated in the Final EIA report.

	from reputed research institutions on the following. a) Soil health & bio-diversity b) Climate Change leading to Droughts, Floods, etc. c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature & Livelihood of the local people. d) Possibilities of water contamination and impact on aquatic ecosystem health. e) Agriculture, Forestry & Traditional practices. f) Hydrothermal/Geothermal effect due to destruction in the Environment. g) Bio-geochemical processes and its foot prints including environmental stress. h) Sediment geochemistry in the surface streams.	
65.	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.	Hydrogeological study will be conducted and the details will be included in the Final EIA report.
66.	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.	Disaster management plan and mitigation measures has been incorporated in the Chapter 7 of the Draft EIA report.

67.	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of mining.	Risk Assessment and management plan and mitigation measures has been incorporated in the Chapter 7 of the Draft EIA report.
68.	Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.	Noted. Mine Closure Plan has been submitted in the Annexure 5 of the Draft EIA report.
69.	Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.	Environmental Management Plan details has been incorporated in the Chapter 10 of the Draft EIA report.

ANNEXURE-II

PRECISE AREA COMMUNICATION LETTER

நக எண் 214/2019/கனிமம்

மாவட்ட ஆட்சியர் அலுவலகம்,
(புவியியல் மற்றும் சுரங்கத்துறை)
கிருஷ்ணகிரி மாவட்டம்,
கிருஷ்ணகிரி.
நாள் 13.06.2019.

குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - சிறுகனிமம் - சாதாரண கற்கள் கிருஷ்ணகிரி மாவட்டம் - ஒசூர் வட்டம் - பஞ்சாட்சிபுரம் கிராமம் அரசு புல எண் 755 (பகுதி) ல் 2.00.0 ஹெக்டேர் பரப்பளவில் அரசு நிலத்தில் அமைந்துள்ள சாதாரண கற்குவாரிக்கு டெண்டருடன் இணைந்த ஏல முறையில் குத்தகை வழங்க டெண்டர்/ பொது ஏலம் நடத்தப்பட்டது — பொது ஏலத்தில் அதிக தொகை கோரிய திரு எஸ். எம் உறவின் த/பெ முனிராஜ், கதவு எண் 2/159 எச். செட்டிப்பள்ளி கிராமம், ஜே. காருப்பள்ளி அஞ்சல், தேன்கனிக்கோட்டை வட்டம், கிருஷ்ணகிரி மாவட்டம், என்பவருக்கு சாதாரண கற்குவாரி குத்தகை வழங்குதல் தொடர்பாக அங்கீகரிக்கப்பட்ட கருத்துருவிற்கு, தமிழ்நாடு மாநில சுற்றுச் சூழல் மதிப்பீடு ஆணையத்தின் நடைமுறைகளைச் சார்ந்து பற்றும் தமிழ்நாடு மாசு கட்டுப்பாட்டு வாரிய இசைவு ஆகியவற்றை பெற்று வழங்க கோருதல் - தொடர்பாக.

பார்வை: 1. கிருஷ்ணகிரி மாவட்ட அரசிதழ் சிறப்பு வெளியீடு எண்.07 நாள்21.02.2019.
2. 02.03.2019 அன்று தினமணி நாளிதழில் வெளியிடப்பட்ட பத்திரிக்கை செய்தி
3. திரு எஸ். எம் உறவின் த/பெ முனிராஜ், கதவு எண் 2/159 எச். செட்டிப்பள்ளி கிராமம், ஜே. காருப்பள்ளி அஞ்சல், தேன்கனிக்கோட்டை வட்டம், கிருஷ்ணகிரி மாவட்டம், என்பவரது டெண்டர் விண்ணப்ப நாள் 08.03.2019.

- - - - -

கிருஷ்ணகிரி மாவட்டம் ஒசூர் வட்டம் பஞ்சட்சிபுரம் கிராமம் அரசு புல எண் 755 (பகுதி) ல் 2.00.0 ஹெக்டேர் பரப்பளவில் அமைந்துள்ள சாதாரண கற்குவாரிக்கு பத்து ஆண்டுகளுக்கு குவாரி குத்தகை வழங்குவது தொடர்பாக 08.03.2019 அன்று நடைபெற்ற பொது ஏலத்தில் திரு எஸ். எம். உறவின் த/பெ முனிராஜ், கதவு எண் 2/159 எச். செட்டிப்பள்ளி கிராமம், ஜே. காருப்பள்ளி அஞ்சல், தேன்கனிக்கோட்டை வட்டம், கிருஷ்ணகிரி மாவட்டம், என்பவர் அரசு நிர்ணயம் செய்த குறைந்தபட்ச குத்தகை தொகையை விட அதிக தொகையான ரு 1,50,00,000/- (ரூபாய் ஒரு கோடியே ஐம்பது லட்சம் மட்டும்) ஐ பொது ஏலத்தில் கேட்டதால் அவருக்கு தமிழ்நாடு சிறுகனிய சலுகை விதிகள் 1959ன் விதி 8 (5) (b) ன்படி அவருக்கு கீழ்க்கண்ட நிபந்தனைகளுடன் குவாரி குத்தகை வழங்க உத்தேசிக்கப்பட்டுள்ளது.

(i) குவாரி குத்தகை வழங்க உத்தேசிக்கப்பட்டுள்ள குவாரிக்கு அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும், அரசு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரியாணை செய்ய வேண்டும்.

(ii) அருகிலுள்ள கிராம சாலைகளுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும், இதர நெடுஞ்சாலைகளுக்கு 50 பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி செய்யவேண்டும்.

2. எனவே திருவண்ணாமலை மாவட்டம் ஒசூர் வட்டம், பஞ்சட்சிபுரம் கிராமம் புல எண் 755 (பகுதி) ல் 2.00.0 ஹெக்டேர் பரப்பளவில் புல வரைபடத்தில் குறிப்பிட்டுள்ள பகுதியில் குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றும் நாளிலிருந்து பத்து ஆண்டுகளுக்கு சாதாரண கற்கள் வெட்டியெடுக்க குவாரி குத்தகை வழங்குதல் தொடர்பாக தமிழ்நாடு சிறுகனிய சலுகை விதிகள் 1959ன் விதி 41 மற்றும் 42ன் ஆகியவற்றில் கண்டுள்ள காலவரையறைக்குள் அங்கீகரிக்கப்பட்டட. கரங்கத்திட்டம், தமிழ்நாடு சுற்றுச் சூழல் பாதிப்பு மதிப்பீட்டு ஆணையத்தின் இசைவு மற்றும் தமிழ்நாடு மாசுக்கட்டுப்பாட்டு வாரியத்தின் இசைவு ஆகியவற்றை சமர்ப்பிக்க வேண்டும் என திரு.எஸ்.எம் உறுமிஷ் என்பவருக்கு தெரிவிக்கப்படுகிறது.

3. உரிய காலத்தில் மேற்கண்ட ஆவணங்களை சமர்பிக்க தவறினால் விதிகளின்படி உரிய நடவடிக்கை எடுக்கப்படும் எனவும், தெரிவிக்கப்படுகிறது.

4. மேற்கூறிய ஆவணங்களை சமர்ப்பித்த பின்பு குவாரி குத்தகை வழங்கப்பட்டு குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றிய பின்பே மேற்கண்ட புலத்தில் குவாரிப்பணிகளை தொடங்கவேண்டும். தவறினால் தமிழ்நாடு சிறுகனிமச் சலுகை விதிகள் 1959ன் விதி36 (அ)ன்படி உரிய நடவடிக்கை எடுக்கப்படும் எனவும் தெரிவிக்கப்படுகிறது.

இணைப்பு : புல வரைபடம்

/உண்மை நகல்/

மாவட்ட ஆட்சியருக்காக,
கிருஷ்ணகிரி

19/6/19

ஒப்/எஸ்.தினகர்,
மாவட்ட ஆட்சியர்,
கிருஷ்ணகிரி.

பெறுநர்

திரு எஸ். எம். உறுமிஷ்
த/பெ. முனிராஜ்,
கதவு எண் 2/159
எச். செட்டிப்பள்ளி கிராமம்,
ஜே. காருப்பள்ளி அஞ்சல்,
தேன்கனிக்கோட்டை வட்டம்,
கிருஷ்ணகிரி மாவட்டம்,

S.DHANASEKAR, M.Sc.,[Geo]
RQP/MAS/225/2011/A

ANNEXURE-III

MINING PLAN APPROVAL LETTER

From

Thiru.L.Suresh,M.Sc.,
Assistant Director (Addl.Charge),
Dept. of Geology and Mining,
Collectorate,
Krishnagiri.

To

Thiru.S.M.Harish,
S/o.Muniraj,
No.2/159, H.Settipalli-Vill,
J.Karupalli-Po,
Denkanikottai-Taluk,
Krishnagiri District

Rc.No.214/2019/Mines dated: 11.11.2019

Sir,

Sub: Mines and Minerals - Krishnagiri District - Hosur Taluk, Panchaksipuram village - S.F.No.755(Part) - Over an extent of 2.00.0 Hects of Government Poramboke lands - Quarry Lease for Rough Stone Application preferred by Thiru.S.M.Harish, S/o. Muniraj, No.2/159, H.Settipalli-Vill, J.Karupalli-Po, Denkanikottai-Taluk, Krishnagiri District - Draft Mining Plan submitted - Approved - reg.

Ref:
1. Thiru.S.M.Harish, S/o. Muniraj, No.2/159, H.Settipalli Village, J.Karupalli Post, Denkanikottai Taluk, Krishnagiri District Dt: 08.03.2019.
2. The District Collector Krishnagiri Roc.No.214/2019/ Mines dated 13.06.2019.
3. Draft Mining plan submitted by Thiru.S.M.Harish, S/o.Muniraj, No.2/159, H.Settipalli-Vill, J.Karupalli-Po, Denkanikottai-Taluk, Krishnagiri Dt, Dated.12.10.2019.

****

Kind attention is invited to the reference cited,

2. Thiru.S.M.Harish,S/o.Muniraj, No.2/159, H.Settipalli-Vill, J.Karupalli-Po, Denkanikottai-Taluk, Krishnagiri District has been issued precise area over an extent of 2.00.0 Hects. of Government Poramboke land in S.F.No.755(Part), in Panchaksipuram village, Hosur Taluk, Krishangiri District for the proposed grant of rough stone quarry lease for a period of 10 years under tender cum auction system under the provisions of Rule 8(1) of Tamil Nadu Minor Mineral Concession Rules, 1959 and he has been directed to submit approved mining plan and Environment Clearance vide the reference 2nd cited.

3. In this regard, Thiru.S.M.Harish,S/o.Muniraj, had submitted 03 copies of draft Mining Plan vide the reference 3rd cited for approval for the said quarry lease.

4. The draft Mining Plan submitted by Thiru.S.M.Harish S/o.Muniraj has been scrutinized as per the guide lines/ Instructions issued by the Commissioner of Geology and Mining, Chennai-32. The mining plan is prepared in accordance with the guidelines / instructions issued and tallies with the field conditions. The special conditions imposed in the precise area letter had been incorporated in the Mining Plan.

5. Hence, as per the guidelines/instructions issued by the Commissioner of Geology and Mining, Chennai, the said mining plan is hereby approved subject to the following conditions.

i).That the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.

ii) This approval of the mining plan does not in any way imply the approval of the Government in terms of any other provisions of Mines and Minerals Development and Regulation) Act 1957, or any other connected laws including Forest (Conservation) Act 1957, or any other connected Laws industry Forest (Conservation) Act 1980, Forest Conservation Rules 1981 Environment protection Act 1980, Indian Explosive Act 1884 (Central Act IV of 1884) and the rules made there under, Minor Mineral Conservation and Development Rules, and The Tamil Nadu Minor Mineral Concession rules, 1959.

iii) That the mining plan is approved without prejudice to any other order or directions from any court of competent jurisdiction.

iv) All the conditions mentioned in the precise area letter should be followed during quarry operation as per rules.

v) The applicant should get prior Environmental clearance from the appropriate authority and should submit it to the District Collector, Krishnagiri.

Assistant Director (Addl.Charge),
Geology & Mining Dept.,
Krishnagiri.

Copy submitted to :
1. The Chairman, State Level Environment Impact Assessment Authority, Saidapet, Chennai.
2. The Director of Geology and Mining, Guindy, Chennai -32.

ANNEXURE-IV

500M Radius letter

From
Thiru L.Suresh, M.Sc.,
Assistant Director (Addl.Charge),
Dept of Geology and Mining,
Collectorae,
Krishnagiri.

To
Thiru.S.M.Harish,
S/o.Muniraj,
D.No.2/159, H- Settipalli Village,
J.Karupalli Post, Denkanikottai Taluk,
Krishnagiri District.

Roc.No.214/2019 /Mines Dated: 11.11.2019.

Sir,

Sub: Mines and Minerals – Krishnagiri District – Rough Stone – Krishnagiri District – Hosur Taluk – Panchakshipuram Village – Government land S.F.No.755 (Part) – Over an extent of 2.00.0 Hect – Rough Stone quarry lease granted to Thiru.S.M.Harish S/o. Muniraj, Krishnagiri - Details of quarries situated within 500 mts radial distance – Requested by the applicant – Details furnished - reg.

Ref:
1. The District Collector Krishnagiri Memorandum Roc.214/2019/Mines dated: 13.06.2019.
2. Thiru.S.M.Harish, S/o. Muniraj, D.No.2/159, H- Settipalli Village, J.Karupalli Post, Denkanikottai Taluk, Krishnagiri District dated :12.10.2019.

Kind attention to the references cited above.

2. Thiru.S.M.Harish, S/o. Muniraj, D.No.2/159, H- Settipalli Village, J.Karupalli Post, Denkanikottai Taluk, Krishnagiri District has been issued precise area over an extent of 2.00.0 Hects of Government Poramboke land in S.F.No.755(Part) in Panchakshipuram Village, Hosur Taluk, Krishangiri District for the proposed grant of Rough Stone for a period of 10 year under the provisions of Rule 8(1) of Tamil Nadu Minor Mineral Concession Rules, 1959 and he has been directed to submit approved mining plan and Environment Clearance vide the reference 1st cited.

3. The applicant vide letter dated: 12.10.2019 had requested to issue the details of the quarries situated within the radial distance of 500 mts from the subject quarry to furnish the same to SEIAA for getting Environmental Clearance.

4. Accordingly the details of quarries situated within 500 mts radial distance from the subject quarry is furnished as follow:

Details of Existing quarries.

Sl N	Name of the lessee	Village & Taluk	Mineral	S.F No.	Extent in Het	GO No.& Date	Lease period.
1	Tvl.M.M.Blue Metals, No.1, RTO, Building, mathigiri Four Road, Hosur 635110, Krishnagiri	Hosur Taluk – Panchakshipuram Village	Rough Stone	755 (Part-2)	4.80.0	Roc. 96/ 2016/Mines dated: 17.08.2016	22.08.2016 to 21.08.2026.

II. Details of abandoned/Old quarries.

Sl. No.	Name of the lessee	Village	S.F No.	Extent in Het	GO No.& Date	Lease period.
Nil	Nil	Nil	Nil	Nil	Nil	Nil

Details of Proposed quarries

Sl. No.	Name of the lessee	Village & Taluk	S.F No.	Extent in Hect	GO No.& Date	Lease period.
1	Thiru.S.M.Harish, S/o.Muniraj, D.No.2/159, H- Settipalli Village, J.Karupalli Post, Denkanikottai Taluk, Krishnagiri District.	Hosur Taluk – Panchakshipuram Village	S.F.No. 755 (Part)	Ext: 2.00.0	Roc. 214/ 2019/Mines dated: 13.06.2019.	Precise area given **Instant Proposal**

Details of other Proposed/applied quarries

Sl. No.	Name of the lessee	Village & Taluk	S.F No.	Extent in Hect	GO No.& Date	Lease period
Nil	Nil	Nil	Nil	Nil	nil	--

Assistant Director (Addl.Charge)
Dept of Geology and Mining,
Krishnagiri.

Copy to :

The Chairman,
Tamil Nadu State Environment
Impact Assessment Authority,
3rd Floor, Panakal Maligai,
No. 1 Jeenes Road, Saidapet,
Chennai -15.

ANNEXURE-V

MINING PLAN REPORT & PLATES

MINING PLAN

FOR

GRANT OF ROUGH STONE QUARRY LEASE IN

GOVERNMENT PORAMBOKE LAND

TOTAL LEASE GRANTED PERIOD 10 YEARS

PROPOSED PERIOD OF MINING 5 YEARS

(Prepared Under Rule 8(6)(b) Tamil Nadu Minor Mineral Concession Rules, 1959 & As Per Amendment Under Rule 41 & 42)

LOCATION OF THE APPLIED AREA

EXTENT : 2.00.0HA

S. F. No : 755(PART)

VILLAGE : PANCHAKSHIPURAM

TALUK : HOSUR

DISTRICT : KRISHNAGIRI

STATE : TAMIL NADU

APPLICANT

THIRU. S.M. HARISH,

S/o. MUNIRAJ,

D. No.2/159, H SETTIPALLI VILLAGE,

J. KARUPALLI POST,

DENKANIKOTTAI TALUK,

KRISHNAGIRI DISTRICT-635 113.

PREPARED BY

S.DHANASEKAR, M.Sc.,

RQP/MAS/225/2011/A

8/3, KULLAPPAN STREET,

OPP,INDIAN BANK LINE,

OMALUR TALUK – 636 455

SALEM DISTRICT.

Email: sandhana@yahoo.co.in

CELL : 98946-28970 & 73733-74702.

CONTENTS

ANNEXURES

Sl. No.	Description	Annexure No.
1.	Precise Area Communication letter	I
2.	Copy of Krishnagiri District Gazette	II
3.	Copy of DFO Clearance letter	III
4.	Copy of FMB	IV
5.	Copy of Combined Sketch	V
6.	Copy of 'A' Register	VI
7.	Copy of Applicant ID Proof	VII
8.	Copy of RQP Certificate	VIII
9.	Copy of Applied Area Photos	IX

LIST OF PLATES

Sl. No.	Description	Plate No.	Scale
1	Location Plan	I	Not To Scale
2.	Route Map	IA	Not To Scale
3.	Topo Sheet Map	IB	1:50,000
4.	Satellite Imaginary Map	IC	1:5000
5.	Mine Lease Plan	II	1:1000
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14.	Progressive Mine Closure Plan	VIII	1:1000

S.M. HARISH,
S/o. MUNIRAJ,
D. No.2/159H, CHETTIPALLI VILLAGE,
J. KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT - 635 113.

CONSENT LETTER FROM THE APPLICANT

I hereby give my consent for preparing the Mining Plan in respect of **Rough Stone** quarry over an extent of **2.00.0 Hectares** of **Government Poramboke Land** in **S.F.No. 755(Part)** of **Panchakshipuram** Village, **Hosur** Taluk, **Krishnagiri** District, Tamil Nadu State has been prepared by Shri. **S. Dhanasekar,** M.Sc.,Regn.No. **RQP/MAS/225/2011/A.**

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

S.DHANASEKAR, M.Sc.,
RQP/MAS/225/2011/A
8/3, Kullappan Street,
Opposite Indian bank Line,
Omalur Taluk - 636455
Salem District.
E-Mail: geodhana@yahoo.co.in
Cell: 98946-28970

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

(S.M. HARISH)
Signature of the Applicant

Place: KRISHNAGIRI

Date:

S.M. HARISH,
S/o. MUNIRAJ,
D. No.2/159H, CHETTIPALLI VILLAGE,
J. KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT - 635 113.

DECLARATION

I hereby declare that the Mining Plan in respect of **Rough Stone** quarry over an extent **2.00.0Hectares** of **Government Poramboke Land** in **S.F.No. 755(Part)** of **Panchakshipuram** Village, **Hosur** Taluk, **Krishnagiri** 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.

(S.M. HARISH)
Signature of the Applicant

Place: KRISHNAGIRI

Date:

KRK MEMORIAL MINING SERVICES

S.DHANASEKAR
Recognized Qualified Person

Off
86680 20217

No.5/10-2B, Aavai Nagar,
Ponkumar Mines Road,
Jagir Ammapalayam,
Salem-636 302.

GST : 33ALIPD6733A1ZO

11 NOV 2019

CERTIFICATE

This is to certify that, the provisions of Minor Minerals Conservation and Development Rules, 2010 (MMCDR) have been observed in the Mining Plan for the grant of **Rough Stone** quarry lease over an extent of **2.00.0Hectares** of **Government Poramboke Land** in **S.F.No. 755(Part)** of **Panchakshipuram** Village, **Hosur** Taluk, **Krishnagiri** District, Tamil Nadu State obtained by **Thiru. S.M. HARISH** for Applied quarry lease.

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

Certified

Signature of Recognized Qualified Person.
S.DHANASEKAR,M.Sc.,(Geo)
RQP/MAS/225/2011/A

Place: SALEM

Date:

11°41'29.45" N
8°07'13.58" E

98946 28970
73733 74702

krkmemorialminingservices@gmail.com
geodhana@yahoo.co.in

Branch
8/3, Kullappan Street,
Opp. Indian Bank Line,
Omalur, Salem - 636 455.

KRK MEMORIAL MINING SERVICES
S.DHANASEKAR
Senior Geologist / Recognized Qualified Person
Off 86680 20217
GST: 33ALIPD6733A1Z0

11 NOV 2019

CERTIFICATE

This is to certify that during preparation of Mining Plan for **Rough Stone** quarry over an extent of **2.00.0Hectares** of **Government Poramboke Land** in **S.F.No. 755(Part)** of **Panchakshipuram** Village, **Hosur** Taluk, **Krishnagiri** District, Tamil Nadu State for **Thiru. S.M. HARISH** 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 Recognized Qualified Person.
S.DHANASEKAR,M.Sc.(Geo)
RQP/MAS/225/2011/A

Place: SALEM

Date:

11°41'29.45" N
.3°07'13.58" E
98946 28970
73733 74702
krkmemorialminingservices@gmail.com
geodhana@yahoo.co.in
Branch
8/3, Kullappan Street,
Opp. Indian Bank Line,
Omalur, Salem - 636 455.

MINING PLAN FOR MINOR MINERALS

ROUGH STONE QUARRY

TOTAL LEASE GRANTED PERIOD 10 YEARS

PROPOSED PERIOD OF MINING 5 YEARS

Over an extent of 2.00.0Hectares of **Government Poramboke Land** in **S.F.No. 755(Part)** **of Panchakshipuram Village, Hosur Taluk, Krishnagiri District, Tamilnadu State.**

(Prepared Under Rule 8(6)(b) Tamil Nadu Minor Mineral Concession Rules, 1959 & As Per Amendment Under Rule 41 & 42)

1.0 INTRODUCTION AND EXECUTIVE SUMMARY:

1. **Thiru. S.M. HARISH,** S/o. Muniraj, residing at D.No.2/159, H Settipalli village, J.Karupalli Post, Denkanikottai Taluk, Krishnagiri District – 635 113 has applied for the grant of quarry lease to quarry **Rough Stone** over an extent of **2.00.0Hectares** of **Government Poramboke Land** in **S.F.No. 755(Part)** of **Panchakshipuram Village, Hosur Taluk, Krishnagiri District** of Tamil Nadu State for a period of Ten Years.
2. The Applicant has been the Successful **HIGHEST BIDDER** for an **Amount Rs.1,50,00,000/-** in a tender cum public action conducted by the Government of Tamilnadu and Precise area had been given for the proposed grant of Rough Stone quarry lease to **THIRU. S.M. HARISH** over an extent of 2.00.0 hectares in Government Poramboke land in S.F.No. 755(Part) of Panchakshipuram Village, Hosur Taluk, Krishnagiri District of Tamil Nadu State for a period of **Ten Years** Vide Letter **Rc. No. 214/2019/Mines dated 13.06.2019** and directed to submit the approved Mining Plan and Environmental Clearance certificate from the State Environment Impact Assessment Authority (SEIAA) for the grant of quarry lease for the applied area.
3. Accordingly, Mining Plan is prepared under Rule 8(6)(b) Tamil Nadu Minor Mineral Concession Rules, 1959 & As per Amendment under Rule 41 & 42 by incorporating the conditions imposed in the precise area communication letter and by incorporating all the details proposed in the letter to obtain environment clearance from State Environment Impact Assessment Authority.
4. In the above circumstances **Thiru. S.M. HARISH** is here by preparing the Mining Plan for approval and subsequent submission of Form-I and pre Feasibility report to obtain environmental clearance from the SEIAA of Tamil Nadu.
5. This Mining Plan is prepared for the applied Rough Stone Quarry for the period of **Five years** by considering the TNMMCR 1959 and as per the EIA Notification 2006 and subsequent amendments and judgements.

S.DHANASEKAR, M.Sc.(Geo)
RQP/MAS/225/2011/A

6. The Geological Reserves is estimated as **1003534M³** and Minable Reserves is estimated as **581987M³** and recoverable reserves is estimated as **552891M³** of **Rough Stone** after leaving necessary safety distance from the lease boundary as indicated in the precise area communication letter and relevant mining laws in force.

7. The proposed production scheduled for the five years about **509227M³** of **Rough Stone** Proposed average annual production of Rough stone **101845M³**.

8. Environmental parameters,

   i) There is no interstate boundary around 10Kms radius.

   ii) There is no wild life animal sanctuary within 10Kms radius form the project site area under the Wildlife (Protection) Act, 1972. Therefore the project seeks clearance only from State Environmental Impact Assessment Authority (SEIAA), under B2 Category.

9. Environmental measures to be adopted shall be,

   i) Dust Control at source while drilling and Proposed Control Blasting,

   ii) Dust suppression at loading point and transport haul roads,

   iii) Noise Control in Proposed Control Blasting, control of fly rock missiles and vibration by doing peak particle velocity within standard as prescribed by the DGMS and MoEF.

   iv) Unnecessary land degradation should be avoided or damaged land should be reclaimed or rehabilitated.

   v) Avoid uneven rat hole mining and follow scientific and systematic mining by safe bench system of open cast mining.

   vi) Mining near major fracture zones if any should be avoided to control ground water fluctuation in the adjacent agricultural lands.

   vii) Emission test of vehicles should be in stack to maintain minimum emission level of flue gases.

   viii) Noise level should not exceed 80db and the vehicles should use only permitted Air Horn while on road near residential areas.

   ix) Safety zones as prescribed by the Department of Geology and Mining from adjacent infrastructures should be strictly adhered to.

   x) And any other conditions as stipulated by the concerned authorities should be followed to protect the environment.

2.0 EXECUTIVE SUMMARY:

a.	Name of the Village	:	Panchakshipuram
b.	Name of the Panchayat / Union	:	Masinaickenpalli / Hosur
c.	The proposed total Mineable Reserves	:	**581987M³**
d.	The proposed quantity of reserves (level of production) for **Five Years** to be mined is (Recoverable reserves)	:	**509227M³** (Total Depth of **50m**)
e.	Total extent of the area	:	**2.00.0Ha**
f.	Proposed Period of mining	:	**Five years**
g.	Proposed Depth of mining	:	**50m** (Top Soil **1m** + Rough stone **49m**). (Above Surface Ground Level is 9m and Below Surface Ground Level is 41m.)
h.	Existing Pit Dimension		805 sq.m x 12.0m(D)
i.	Average production per year	:	**101845M³**
j.	Method of mining / level of mechanization	:	Opencast, Semi-mechanized Mining with a bench height of **7m** and bench width of **5m** is proposed.
k.	Types of Machineries used in the quarry	:	i) Compressor with jack hammer. ii) Excavator of 0.90Cbm bucket Capacity.
l.	Cost of the Project a. Fixed Cost b. Operational Cost c. EMP Cost	 : : :	 Rs.1,53,20,000/- Rs.30,00,000/- Rs.3,25,000/-
m.	The area applied for lease is bounded by four corners and the coordinates are Latitude Longitude North East South East North West South West	: : : : : : :	Toposheet No. **57 – H/14** **12° 35' 17.41"N to 12° 35' 14.55"N** **77° 47' 45.28"E to 77° 47' 40.35"E** 12° 35' 17.41" N 77° 47' 45.28"E 12° 35' 13.40" N 77° 47' 45.78"E 12° 35' 09.87" N 77° 47' 43.14"E 12° 35' 09.87" N 77° 47' 43.14"E

3.0 GENERAL INFORMATION:

3.1	a.	Name of the Applicant	:	**Thiru.S.M. HARISH.**
	b.	Address of the Applicant with phone No and e-mail id if any	:	D.No.2/159, Hachipalli Village, J.Karupalli Post, Denkanikottai Taluk, Krishnagiri District - 635 113.
	c.	Status of the Applicant	:	Individual
3.2	a.	Mineral Which the applicant intends to mine	:	Rough Stone
	b.	Precise area communication letter No.	:	**Rc. No. 214/2019/MINES dated 13.06.2019**
	c.	Period of permission	:	5 Years
	d.	Name and Address of the RQP preparing Mining Plan	:	**S.Dhanasekar, M.Sc.,** RQP/MAS/225/2011/A 8/3, Kullappan Street, Opposite Indian bank Line, Omalur Taluk -636455, Salem District. Email: geodhana@yahoo.co.in
	e.	RQP Regn. No.	:	RQP/MAS/225/2011/A Valid up to 12.01.2021.

4.0 LOCATION:

a. **Details of the Area:**

State	District	Panchat / Union	Taluk	Village	S.F.No.	Extent in Ha.
Tamilnadu	Krishnagiri	Masinaickenpalli / Hosur	Hosur	Panchakshipuram	755(Part)	2.00.0
TOTAL =						**2.00.0Ha.**

b.	Classification of the Area (Ryotwari / poramboke / others)	:	It is a Government Poramboke Land, which is not fit for vegetation/cultivation.
c.	Ownership / Occupancy of the Applied Lease area (Surface rights)	:	It is a Government Poramboke land. The applicant had been given precise area for the proposed grant of Rough Stone Quarry Lease.

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d.	Toposheet No. with Latitude and Longitude	: : :	**Toposheet No. 57 – H/14** **12° 35' 17.41"N to 12° 35' 14.55"N** **77° 47' 45.28"E to 77° 47' 40.35"E**
e.	Existence of Public Road / Railway line if any nearby the area and approximate distance	:	Krishnagiri - Denkanikottai – 46.0 Kms Denkanikottai – Panchakshipuram – 7.0Kms Quarry site is located in Eastern side at a distance of 2.0 kms from Panchakshipuram.

PART - A

5.0 GEOLOGY AND MINERAL RESERVES:

5.1	a.	Topography: 1. The area applied for quarry lease is undulated terrain area sloping towards Eastern covered with Rough Stone which does not sustain any type of vegetation. The altitude of the area is 877m above MSL. 2. No major river is found nearby the lease area. 3. Water table is noticed at a depth of **65m** from the below surface in the adjacent open wells and bore wells of the area. 4. Temperature of the area is reported to be 18°C to a maximum of 38°C during summer. 5. Rainfall of this area is about 800mm to 900 mm during the monsoons in a year.		
	b.	Infrastructures nearby the applied Lease area.		
		1. Post Office	:	Kelamangalam – 6.0 Kms
		2. Police Station	:	Kelamangalam – 6.0 Kms
		3. G.H	:	Denkanikottai –6.7 Kms
		4. Fire service	:	Hosur – 15.0 Kms
		5. Railway Station	:	Kelamangalam – 6.0 Kms
		6. School	:	Mallasandram – 3.0 Kms
		7. Airport	:	Bangalore - 50.0 Kms
		8. Seaport	:	Chennai – 280.0 Kms

<table>
<tr><td></td><td>c.</td><td>Regional Geology</td><td>:</td><td>KRISHNAGIRI District is underlined 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 generalized stratigraphic succession of the geological formations met within this District is as follows.
<table>
<tr><td></td><td>Age</td><td>Rock Formation</td></tr>
<tr><td>1.</td><td>Recent to Sub recent</td><td>Soil, Alluvium</td></tr>
<tr><td>2.</td><td>Archaean</td><td>Granites, basic granulites, Peninsular Gneiss, Calc Gneiss and Charnockites</td></tr>
</table></td></tr>
<tr><td></td><td>d.</td><td>Geology of the Lease Area</td><td></td><td>1. The area is mainly composed of Archaean crystalline metamorphic complex.
2. The rock type noticed in the area for lease is Granite Gneiss which contains mostly Quartz and Feldspar with some ferromagnesian minerals. The Granite Gneiss is part of peninsular Gneisses, a high grade metamorphic rock.
3. The general trend of formation is NE – SW and dip towards SE80^{0}.
The general geological succession of the area is given as under.
<table>
<tr><td></td><td>Age</td><td>Rock Formation</td></tr>
<tr><td>1.</td><td>Recent to Sub recent</td><td>Soil, Alluvium</td></tr>
<tr><td>2.</td><td>Archaean</td><td>Charnockites</td></tr>
<tr><td>3.</td><td>Archaean</td><td>Peninsular Gneiss, and Calc Gneiss</td></tr>
</table></td></tr>
<tr><td>5.2</td><td></td><td>Details of Exploration already carried out if any</td><td>:</td><td>Since the Rough Stone is seen from the Surface itself, no exploration is needed. However, the area was personally examined by the Geologist who prepared the Mining Plan.</td></tr>
<tr><td>5.3</td><td>a.</td><td>Already excavated pit dimensions</td><td></td><td>805 sq.m x 12.0m(D)</td></tr>
</table>

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b. **GEOLOGICAL RESERVES:**

Top Soil:

The Thickness of Top soil in this area is 1.0m and the total volume of topsoil will be **19374m^3**.

Rough Stone :

The Geological Reserve is estimated as **1003534m^3** respectively. The Geological reserve of Rough stone and Top soil is calculated upto a depth of **57m**(1**m** top soil + **56m** Rough Stone). Surface Ground Level Above is 9m and Surface Ground Level Below is 48m.

GEOLOGICAL RESERVES								
Section	Bench	L (m)	W (m)	D (m)	Volume In M3	Reserves in m3 @ 95%	Mine waste in m3 @ 5%	Top Soil in m3
XY-AB	I	70	157	1				10990
	II	70	96	3	20160	19152	1008	
	III	70	157	7	76930	73084	3846	
	IV	70	157	7	76930	73084	3846	
	V	70	157	7	76930	73084	3846	
	VI	70	157	7	76930	73084	3846	
	VII	70	157	7	76930	73084	3846	
	VIII	70	157	7	76930	73084	3846	
	IX	70	157	7	76930	73084	3846	
TOTAL					**558670**	**530740**	**27930**	**10990**
XY-CD	I	64	131	1				8384
	II	64	76	7	34048	32346	1702	
	III	64	131	7	58688	55754	2934	
	IV	64	131	7	58688	55754	2934	
	V	64	131	7	58688	55754	2934	
	VI	64	131	7	58688	55754	2934	
	VII	64	131	7	58688	55754	2934	
	VIII	64	131	7	58688	55754	2934	
	IX	64	131	7	58688	55754	2934	
TOTAL					**444864**	**422624**	**22240**	**8384**
GRAND TOTAL					**1003534**	**953364**	**50170**	**19374**

c. **MINEABLE RESERVES:**

The Mineable reserves are calculated by deducting 10.0m Safety distance to the Government Porumboke Land & Bench Loss.

Top Soil: The Thickness of Top soil in this area is 1.0m and the total volume of topsoil will be **19374m^3**.

Rough Stone :

The mineable reserves and the recoverable reserves are **581987m^3** and **552891m^3** respectively. The Mineable reserve of Rough stone and Top soil is calculated upto a depth of **57m(1m** top soil + **56m** Rough Stone). Surface Ground Level Above is 9m and Surface Ground Level Below is 48m.

MINEABLE RESERVES

Section	Bench	L (m)	W (m)	D (m)	Volume In M3	Recoverable Reserves in m3 @ 95%	Mine waste in m3 @ 5%	Top Soil in m3
XY-AB	I	70	157	1				10990
	II	70	96	3	20160	19152	1008	
	III	70	137	7	67130	63774	3356	
	IV	70	127	7	62230	59119	3111	
	V	70	117	7	57330	54464	2866	
	VI	70	107	7	52430	49809	2621	
	VII	70	97	7	47530	45154	2376	
	VIII	70	87	7	42630	40499	2131	
	IX	70	77	7	37730	35844	1886	
TOTAL					**387170**	**367815**	**19355**	**10990**
XY-CD	I	64	131	1				8384
	II	64	76	7	34048	32346	1702	
	III	54	109	7	41202	39142	2060	
	IV	49	99	7	33957	32259	1698	
	V	44	89	7	27412	26041	1371	
	VI	39	79	7	21567	20489	1078	
	VII	34	69	7	16422	15601	821	
	VIII	29	59	7	11977	11378	599	
	IX	24	49	7	8232	7820	412	
TOTAL					**194817**	**185076**	**9741**	**8384**
GRAND TOTAL					**581987**	**552891**	**29096**	**19374**

6.0 MINING:

6.1	Method of Mining	:	1. Opencast method of semi mechanized mining is adopted to extract Rough Stone. 2. Machineries like Tractor mounted compressor attached with Jack hammers is being used to drilling and Proposed Control Blasting. Excavators are operated for quarrying of Rough Stone and Tippers / Lorries are used for transportation of Rough Stone to the destination
6.2	Mode of Working	:	It is a semi mechanized quarrying operation using shot hole drilling with the help of compressor and jack hammers, smooth blasting. Rough Stone are removed using Hydraulic excavator and loaded directly to the tippers and transported to the nearby end users.
6.3	Proposed bench height & Width	:	Bench height = 7mts. Bench width = 5mts.
6.4	Details of Overburden / Mineral Production proposed for **Five year**	:	**Top Soil/ Overburden production details follows:** This area is covered 1.0m Top Soil in this mine area **19374m^3**. Topsoil will be utilized for the formation of mine roads, construction of bund and Afforestation purposes.

Year wise reserves calculations :

Rough stone production details as follows:

The proposed rate of production of **Rough Stone** is about **509227m^3** for five years. The average proposed rate of production of **Rough Stone** is about **101845m^3** per year at the rate of 95% recovery upto the permissible depth. Total Depth-**50m.** (**1m** top soil + **49m** Rough Stone). Surface Ground Level Above is 9m and Surface Ground Level Below is 41m. Proposed Production of five Years.

YEARWISE DEVELOPMENT AND PRODUCTION

Section	Bench	L (m)	W (m)	D (m)	Volume In M3	Roughstone Reserves in m3 @ 95%	Mine waste in m3 @ 5%	Top Soil in m3
I YEAR	I	70	157	1				10990
	II	70	96	3	20160	19152	1008	
	III	70	137	7	67130	63774	3356	
	I	64	131	1				8384
	II	64	76	7	34048	32346	1702	
	III	54	109	7	41202	39142	2060	
TOTAL					**162540**	**154414**	**8126**	**19374**

II YEAR	IV	70	127	7	62230	59119	3111			
	IV	49	99	7	33957	32259	1698			
TOTAL					**96187**	**91378**	**4809**			
III YEAR	V	70	117	7	57330	54464	2866			
	V	44	89	7	27412	26041	1371			
TOTAL					**84742**	**80505**	**4237**			
IV YEAR	VI	70	107	7	52430	49809	2621			
	VI	39	79	7	21567	20489	1078			
TOTAL					**73997**	**70298**	**3699**			
V YEAR	VII	70	97	7	47530	45154	2376			
	VIII	70	87	7	42630	40499	2131			
	VII	34	69	7	16422	15601	821			
	VIII	29	59	7	11977	11378	599			
TOTAL					**118559**	**112632**	**5927**			
GRAND TOTAL					**536025**	**509227**	**26798**	**19374**		

6.5 a. Mining : Drilling of shot holes will be carried out using compressor and jack hammer. Depth of holes shall be 1 to 2m bench height and spacing shall be 0.75m and burden shall be 0.60m from the preface. Details of drilling equipments are given below.

Type	Nos	Dia of hole	Size / Capacity	Make	Motive power	H.P.
Jack Hammer	5	25.5 mm	Hand held	Atlas copco 2Nos	Diesel	60

b. Loading : Loading of waste and rough stone shall be carried out by 10 tonne capacity tippers from the working place periodically. Details of loading equipment are given as under.

Type	Nos	Bucket Capacity (MT)	Make	Motive power	H.P
Hydraulic excavator	1	1.2 M^3	L&T or Ex200	Diesel	120

c. Transportation : Transport of raw materials and waste shall be done by Tipper of 10 M.T. capacity

Type	Nos	Size / Capacity	Make	Motive power	H.P.
Tipper	3	10 M.T	Ashok Leyland	Diesel	110

	d.	**Energy:** Electricity for mines and lights only at nights (working is restricted on day time only between 9Am to 5Pm). Diesel (HSD) will be used for quarrying machines around **410611 litres** of HSD will be used for the entire project life. Diesel will be brought from nearby diesel pumps. No power is required for the project. Lightings on the night will be taken from nearby electric poles after obtaining permission from concerned authorities. **For Top soil:** Per hour excavator will consume = 10 litres / hour Per hour excavator will excavate = $60m^3$ of Top soil For $19374m^3$ = 19374/60 = 322.9 hours Diesel consumption 322.9 working hours = 322.9 x 10 litres Total diesel consumption = **3229 litres of HSD will be utilized for Top Soil** **For Rough stone:** Per hour excavator will consume = 16 litres / hour Per hour excavator will excavate = $20m^3$ of rough stone For $509227m^3$ = 509227/20 = 25461.35 hours Diesel consume 25461.35 working hours = 25461.35 hours x 16 litres Total diesel consumption = **407382 litres of HSD will be utilized for Rough Stone.** Total diesel consumption is around = **410611 litres of HSD for the entire period of life**		
6.6		Disposal of Overburden	:	The top soil of the lease area is **$19374m^3$**. Topsoil will be utilized for the formation of mine roads, construction of bund and Afforestation purposes.
6.7		Brief Note on Conceptual Mining Plan for the entire lease period	:	Conceptual Mining Plan is prepared with an object of **Five year** of systematic development of bench lay outs, selection of ultimate pit limit, depth of quarrying, ultimate pit slope, etc.,

Average Ultimate Pit dimension in all areas Under,

ULTIMATE PIT DIMENSION				
Section	Bench	Length in (m)	Width in (m)	Depth in (m)
PIT	I	64	121	7
	II	64	76	7
	III	54	109	7
	IV	49	99	7
	V	44	89	7
	VI	39	79	7
	VII	34	69	7
	VIII	29	59	7
	IX	24	49	7

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

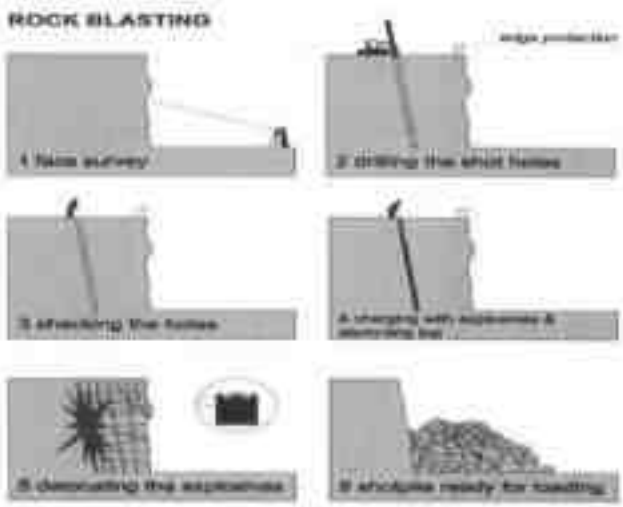
Afforestation has been proposed on the boundary barrier by planting trees. All the baseline information studies like Air Quality monitoring, Noise and Vibration monitoring, Water Analysis studies will be carried out every year as per the MOEF norms.

7.0 BLASTING:

7.1	Proposed Control Blasting Pattern	:	The massive formation shall be broken into pieces of portable size by drilling and Proposed Control 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 K.g of explosives.

Proposed Control Blasting parameters are as follows.

Diameter of the hole	:	32-36 mm
Spacing	:	60 Cms
Depth	:	1 to 1.5m
Charge / Hole	:	D.Cord with water or 70 gms of gun powder or Gelatine.
Pattern of hole	:	Zig Zag
Inclination of hole	:	70^{0} from the horizontal.
Quantity of rock broken	:	0.45 MT x 2.6 = 1.17 MT
Control Blasting efficiency @ 90%	:	1.17 x 90% = 1.05MT / hole
Charge per hole	:	140 gms of 25mm dia cartridge
Quantity of rock broken per day	:	339.48M^3.



7.2	Types of Explosives	:	Following explosives are recommended for efficient Proposed Control Blasting with safe practice.	

S. No	Description	Class / Division	Type	Size
1.	Slurry	Class - 3	Nitro Compound	25 x 200
2.	Detonators	Class - 3	Ordinary and elec (OD & ED)	6.5 x 32
3.	Safety fuse	Class - 6	Blue sump fuse coils of 10mts each	

7.3	Measures proposed to minimize ground vibration due to Proposed Control Blasting	:	The following steps shall be adopted to control ground vibration due to Proposed Control Blasting. 1. The minimum recommended delay time of 8ms was introduced to minimize ground vibration to avoid constructive interference of blast vibration waves and hence its impact or amplitude. 2. In case of electronic detonators, which are inherently much more accurate delays (+/- 0.2 milliseconds delay) to minimizes the ground vibration. 3. 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. 4. Charge per hole should exceed the powder factor designed for each hole based on the quantum of Proposed Control Blasting, strength of rocks, fracture pattern etc.
7.4	Storage of Explosives and safety measures to be taken while Proposed Control Blasting.	:	1. The Applicant stores the explosives as per the Indian Explosives Act, 1958. 2. The explosives to be used in mines being a small quantity, the District collector may be approached to keep the stocks not exceeding 5kgs at time or any other quantity permitted by the concerned authorities in a portable magazine of S & B types. 3. An authorized explosive agency is engaged to carry out blasting. 4. The blasting time in a day is between 5 PM to 6 PM. 5. First Aid Box is kept ready at all the time. 6. Necessary precautionary announcement is being carried out before the blasting operation. operation.

8.0 MINE DRAINAGE:

8.1	Depth of Water table	:	The ground water table is reported as 65m below ground level in nearby open wells and bore wells of this area. Mining depth taken as 50m. Now, proposed quarry depth is above the water table. Hence, quarrying may not affect the ground water.
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 water from the seepage shall be less than 300 lpm and it shall be pumped out periodically by a stand by diesel powered Centrifugal pump motivated with 7.5 H.P. Motor. The quality of water is potable and it is not contaminated with any hazardous things.

9.0 OTHER PERMANENT STRUCTURES:

9.1	Habitations / Village	:	There are no villages within a radius of 500m. The nearest habitations with the population is given as under,

Direction	Village	Distance in Kms	Population
North	Nagappan Agraharam	1.8Kms	350
East	Anekollu	3.0 Kms	300
South	Samy puram	3.3kms	250
West	Panchakshipuram	2.0Kms	300

9.2	Power lines (HT/LT)	:	No power line is located in the lease area.
9.3	Water bodies (River, Pond, Lake, Odai, Channel etc)	:	There is No Water bodies (River, Pond, Lake, Odai, Channel etc) located within a radius of 500m.
9.4	Archeological / Historical Monuments	:	There are no Archeological / Historical Monuments within a radius of 500m.

9.5	Road (NH, SH, Village Road etc)	:	Krishnagiri - Denkanikottai = 46.0 Kms Denkanikottai – Panchakshipuram= 7.0Kms Quarry site is located in Eastern side at a distance of 2.0 kms from Panchakshipuram.
9.6	Places of Worship	:	There are no Places of Worship within a radius of 500m.
9.7	Reserved Forest / Forest / Social Forest / Wild Life Sanctuary etc.,	:	There are no Social Forest / Wild Life Sanctuary etc within a radius of 10km.
9.8	Any Interstate Border, Protected areas under the Wild Life (Protection) Act, 1972, Critically Polluted Areas as Identified by Central Pollution Control Board and Notified Eco sensitive areas	:	There are No inter State border within a radius of 10 kms. North Cauvery Wild life Sanctuary located within the distance of about 11.03 Kms from the lease area. Wildlife Boundary GPS (12°32'05.7713"N - 77°52'53.69"E) Quarry Boundary GPS (12°35'17.41"N - 77°47'45.28"E)
9.9	Any Other Structures	:	Nil

10.0 EMPLOYMENT POTENTIAL & WELFARE MEASURES:

10.1		Employment Potential (Management & Supervisory personal)	:	1. As per Mines safety under the provisions of MMR, 1961 under the Mines Act, 1952, whenever the workers are employed more than 10, it is preferred to have a qualified Mining Mate to keep all the workers directly under his control and supervision. 2. The following man power is proposed for quarrying Rough Stone during the five years period to achieve the proposed production to the provisions of the Government norms.

				1. Skilled — Operator — 2 No. Mechanic — 4 No. Blaster/Mat — 1No. 2. Semi – skilled — Driver — 2 Nos 3. Unskilled — Musdoor / Labours — 5 Nos Cleaners — 3Nos Office Boy — 1No 4. Management & Supervisory staff — 3No. Total = — 18Nos
10.2		Welfare Measures		
	a.	Drinking Water	:	Drinking water at the rate of 2Ltrs per person shall be provided as per the Mines Rules, 1960. It is proposed to make a borehole for providing uninterrupted supply of drinking water and other utilities.
	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, 1960 separately for males and females. Washing facilities are also arranged as per rule (36) of the Mines Rules, 1960.
	c.	First Aid Facility	:	Being a small mine First Aid station as per provisions under Rule (44) of the Mines Rules 1960 will be provided with facilities as per the third schedule as prescribed. Qualified First Aid personnel should be appointed or nominated to attend emergency first aid treatment.
	d.	Labour Health	:	As per Mines Rule, Periodic medical examination has been arranged for occupational health once in a year in addition to attending medical treatment of occupational injuries under the Rule 45 (A), MR, 1960.
	e.	Precautionary safety measures to the Laborers	:	Safety provisions like helmet, goggles, safety shoes, Dust mask, Ear muffs etc have been provided as per the circulars and amendments made for Mine labours under the guidance of DGMS being a semi-mechanized operation. Necessary training will be conducted once in a year to all the employees with the help of qualified and experienced officers to train about the safe and system at

				quarrying operation.

PART – B

11.0 ENVIRONMENTAL MANAGEMENT PLAN:

11.1 Existing Land Use Pattern :

The existing land use pattern is given as under:

Sl. No.	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)
1.	Area under quarrying	Nil	1.60.0
2.	Infrastructure	Nil	0.01.0
3.	Roads	0.01.0	0.01.0
4.	Green Belt	Nil	0.38.0
5.	Unutilized	1.99.0	Nil
	Total =	**2.00.0Ha**	**2.00.0Ha**

11.2 Water Regime : Water table in this area is noticed at a depth of **65m** and presently, the quarrying of Rough Stone is proposed up to a depth of **50m** and hence, it will not affect the ground water depletion of this area.

11.3 Flora and Fauna : Except acacia bushes, no other valuable trees are noticed in the applied lease area. Further, neither flora of botanical interest nor fauna of zoological interest is noticed in this area.

11.4 Climatic conditions : Generally sub tropical climatic condition prevails throughout the year and this District receives rain both in South west and North east monsoon. The average rainfall is about 800mm to 900mm and the temperature ranges from 18°C during winter and to a maximum of 38°C during the summer.

11.5 Human Settlement : The nearest habitations with the population is given .

Direction	Village	Distance in Kms	Population
North	Nagappan Agraharam	1.8Kms	350
East	Anekollu	3.0 Kms	300
South	Samy puram	3.3kms	250
West	Panchakshipuram	2.0Kms	300

11.6 Plan for Air, Dust Suppression : Air or dust expected to be generated from drilling process, hauling roads, places of excavation etc.., will be suppressed by periodical wetting of land by water spraying. For the sampling of air, high volume air sampler (Model VFC-PM10) was used (10 meter above and 5 meter away from road) and the particulates were collected on what man GFA glass fiber

			filters dried in a hot air oven at 105°C for 1hr and weighed. The average flow rate was about 1.1 cubic meters.
11.7	Plan for Noise Control	:	Quarrying of Rough Stone will be carried out by drilling and Proposed Control Blasting by using low power explosives and hence, noise will be very minimum. However, periodical noise level monitoring will be carried out to check the noise level in and around the quarry site. In order to assess the extent of noise pollution due to vehicular traffic different zones viz., Silence zone, Residential Zone, Commercial zone, Traffic signals and Industrial zones were identified in urban and suburban areas of Krishnagiri. Adequate Number of observations were made in all the selected sites by using the sound level meter (LT Lutron SL-4001).
11.8	Environmental Impact Assessment Statement Describing Impact on mining on the next five years	:	Factors to be considered for EIA are, 1. Dust generation, 2. Land degradation 3. Stabilization and vegetation of dumps 4. Adverse effect on water regime 5. Socio economic benefits arising out of Mining. 6. Noise and Vibration.
	a. Dust	:	Dust is expected to be generated from drilling, hauling roads; place of excavation etc and it will be suppressed by periodical wetting of lands.
	b. Land degradation	:	Land degradation is by means of cutting the trees and removal of fertile soil does not arise. Proposed usage of land for the next five years shall be less than **2.00.0Ha.** Afforestation will be started during the first year of mining operation itself.
	c. Stabilization and vegetation of dumps	:	The topsoil will be spread over the non-active dumps along the slope and edges to plant tree saplings to form vegetal cover over the dumps. Such vegetal cover will prevent erosion of dumps during rainy seasons.
	d. Socio economic benefits arising out of mining	:	1. To provide Employment opportunities of the nearby villagers. 2. For the cultural development of the nearby villagers.
	e. Noise and vibration	:	Since, no deep hole blasting is proposed, small dia explosives are used for breaking the hard rock and boulders, the noise and vibration will be very minimum and are within the permissible limits.

11.9	Proposal for Waste Management	:	The wastes are generated during the mining period is **26798m^3**. It will be dumped in the East, West & South side boundary barrier of the lease area. **Proposed Mine waste dump dimensions;** 375.0m(L) X 10.0m(W) X 7.14m(H) = 26798 m^3
11.10	Proposal of Reclamation of Land affected during mining activities and at the end of mining.	:	The present mining is proposed to an average depth is **50m.** The mined out area will be fenced on top of open cast working with S1 fencing. Low lying areas with water logging shall be used for fish culture. No immediate proposals for closure of pit as the rough stone persist still at deeper level.
11.11	Program for Afforestation	:	Trees like tamarind, casuarinas etc will be planted along the South, East and Western side of 10.0m lease boundary and avenues as well as over non active dumps at a rate 50 trees per annum with an interval of 5m. The rate of survival expected to be 80% in this area.

11.12	Proposed Financial Estimate / Budget for (EMP) Environment Management		
	A. Fixed Asset Cost:		
	Land Cost	:	Rs. 1,50,00,000/-(Leased tender amount for Government Poramboke Land)
	Labour Shed	:	Rs. 1,30,000/-
	Sanitary Facility	:	Rs. 90,000/-
	Fencing cost	:	Rs. 1,00,000/-
	Total=	:	**Rs.1,53,20,000/-**
	B. Operational Cost:		
	Machinery cost	:	**Rs.30,00,000/-**
	C. EMP Cost:		
	1. Drinking water facility	:	Rs. 1,00,000/-
	2. Safety kits	:	Rs. 60,000/-
	3. Water sprinkling	:	Rs. 50,000/-
	4. Afforestation	:	Rs. 25,000/-
	5. Water quality test	:	Rs. 30,000/-
	6. Air quality test	:	Rs. 30,000/-
	7. Noise/vibration test	:	Rs. 30,000/-
	Total=	:	**Rs. 3,25,000/-**
	Total Project cost(A+B+C)	:	**Rs.1,86,45,000/-**

12.0 MINE CLOSURE PLAN:

12.1	Steps proposed for phased restoration, reclamation of already mined out area.	:	The present mining is proposed to an average depth of 50m. The mined out area will be fenced on top of open cast working with Barbed wire fencing to arrest the entry of cattle's and public in to the quarry site.
12.2	Measures to be under taken on mine closure as per Act & Rules	:	Measures will be taken as per the Acts and Rules. The quarried pit will be fenced by using Barbed wire fencing. Green belt development at the rate of 30 trees per year will be proposed.
12.3	Mitigation measures to be undertaken for safety and restoration/ reclamation of the already mined out area	:	It is a fresh Rough stone quarry with a depth **50m** only and hence, no need of mitigation and restoration / reclamation of the applied lease area.

13.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT

(i) Permission will be obtained from the Director of Mines Safety for the extracting the Rough Stone from the Boundary barriers and from slopes.

(ii) Care and precautionary measures will be taken for the safety of workers as per Rules and Acts.

(iii) The applicant will endeavor every attempt to quarry the Rough Stone economically without any wastage and to improve the environment and ecology.

(iv) Accordingly, Mining Plan is prepared under Rule 8(6)(b) Tamil Nadu Minor Mineral Concession Rules, 1959 & As per Amendment under Rule 41 & 42 by incorporating the conditions imposed in the precise area communication letter and by incorporating all the details proposed in the letter to obtain environment clearance from State Level Environmental Impact Assessment Authority.

(v) This Mining Plan is prepared for the Applied Rough Stone Quarry for a period of Five Years.

(vi) The proposed production of Rough stone for Five Years is **509227m^3** and average production per year is **101845m^3**.

This Mining Plan is approved based on guidelines / instruction issued and in corporation of the particulars specified in the letter Roc. No. 214/2019 Dated 11.11.2019 of the Deputy Director of Geology and Mining, Krishnagiri and subject to further fulfilment of the conditions laid down under Tamil Nadu Minor Mineral Concession Rules, 1959 and Minor Mineral Conservation and Development Rule 2010.

DEPUTY DIRECTOR
Geology and Mining
Collectorate, Krishnagiri.

S.DHANASEKAR, M.Sc.(Geo)
RQP/MAS/225/2011/A

This Mining Plan is approved subject to the conditions / Stipulation indicated in the Mining Plan Approval

Letter Roc. No. 214/2019 Dated 11-11-2019

29

From

Thiru.L.Suresh,M.Sc.,
Assistant Director (Addl.Charge),
Dept. of Geology and Mining,
Collectorate,
Krishnagiri.

To

Thiru.S.M.Harish,
S/o.Muniraj,
No.2/159, H.Settipalli-Vill,
J.Karupalli-Po,
Denkanikottai-Taluk,
Krishnagiri District

Rc.No.214/2019/Mines dated: 11.11.2019

Sir,

Sub: Mines and Minerals - Krishnagiri District - Hosur Taluk, Panchaksipuram village - S.F.No.755(Part) - Over an extent of 2.00.0 Hects of Government Poramboke lands - Quarry Lease for Rough Stone Application preferred by Thiru.S.M.Harish, S/o. Muniraj, No.2/159, H.Settipalli-Vill, J.Karupalli-Po, Denkanikottai-Taluk, Krishnagiri District - Draft Mining Plan submitted - Approved - reg.

Ref:
1. Thiru.S.M.Harish, S/o. Muniraj, No.2/159, H.Settipalli Village, J.Karupalli Post, Denkanikottai Taluk, Krishnagiri District Dt: 08.03.2019.
2. The District Collector Krishnagiri Roc.No.214/2019/ Mines dated 13.06.2019.
3. Draft Mining plan submitted by Thiru.S.M.Harish, S/o.Muniraj, No.2/159, H.Settipalli-Vill, J.Karupalli-Po, Denkanikottai-Taluk, Krishnagiri Dt, Dated.12.10.2019.

****

Kind attention is invited to the reference cited,

2. Thiru.S.M.Harish,S/o.Muniraj, No.2/159, H.Settipalli-Vill, J.Karupalli-Po, Denkanikottai-Taluk, Krishnagiri District has been issued precise area over an extent of 2.00.0 Hects. of Government Poramboke land in S.F.No.755(Part), in Panchaksipuram village, Hosur Taluk, Krishangiri District for the proposed grant of rough stone quarry lease for a period of 10 years under tender cum auction system under the provisions of Rule 8(I) of Tamil Nadu Minor Mineral Concession Rules, 1959 and he has been directed to submit approved mining plan and Environment Clearance vide the reference 2nd cited.

3. In this regard, Thiru.S.M.Harish,S/o.Muniraj, had submitted 03 copies of draft Mining Plan vide the reference 3rd cited for approval for the said quarry lease.

4. The draft Mining Plan submitted by Thiru.S.M.Harish S/o.Muniraj has been scrutinized as per the guide lines/ Instructions issued by the Commissioner of Geology and Mining, Chennai-32. The mining plan is prepared in accordance with the guidelines / instructions issued and tallies with the field conditions. The special conditions imposed in the precise area letter had been incorporated in the Mining Plan.

5. Hence, as per the guidelines/instructions issued by the Commissioner of Geology and Mining, Chennai, the said mining plan is hereby approved subject to the following conditions.

i).That the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.

ii) This approval of the mining plan does not in any way imply the approval of the Government in terms of any other provisions of Mines and Minerals Development and Regulation) Act 1957, or any other connected laws including Forest (Conservation) Act 1957, or any other connected Laws industry Forest (Conservation) Act 1980, Forest Conservation Rules 1981 Environment protection Act 1980, Indian Explosive Act 1884 (Central Act IV of 1884) and the rules made there under, Minor Mineral Conservation and Development Rules, and The Tamil Nadu Minor Mineral Concession rules, 1959.

iii) That the mining plan is approved without prejudice to any other order or directions from any court of competent jurisdiction.

iv) All the conditions mentioned in the precise area letter should be followed during quarry operation as per rules.

v) The applicant should get prior Environmental clearance from the appropriate authority and should submit it to the District Collector, Krishnagiri.

Assistant Director (Addl.Charge),
Geology & Mining Dept.,
Krishnagiri.

Copy submitted to :
1. The Chairman, State Level Environment Impact Assessment Authority, Saidapet, Chennai.
2. The Director of Geology and Mining, Guindy, Chennai -32.

From
Thiru L.Suresh, M.Sc.,
Assistant Director (Addl.Charge),
Dept of Geology and Mining,
Collectorae,
Krishnagiri.

To
Thiru.S.M.Harish,
S/o.Muniraj,
D.No.2/159, H- Settipalli Village,
J.Karupalli Post, Denkanikottai Taluk,
Krishnagiri District.

Roc.No.214/2019 /Mines Dated: 11.11.2019.

Sir,

Sub: Mines and Minerals – Krishnagiri District – Rough Stone – Krishnagiri District – Hosur Taluk – Panchakshipuram Village – Government land S.F.No.755 (Part) – Over an extent of 2.00.0 Hect – Rough Stone quarry lease granted to Thiru.S.M.Harish S/o. Muniraj, Krishnagiri - Details of quarries situated within 500 mts radial distance – Requested by the applicant – Details furnished - reg.

Ref:
1. The District Collector Krishnagiri Memorandum Roc.214/2019/Mines dated: 13.06.2019.
2. Thiru.S.M.Harish, S/o. Muniraj, D.No.2/159, H- Settipalli Village, J.Karupalli Post, Denkanikottai Taluk, Krishnagiri District dated :12.10.2019.

Kind attention to the references cited above.

2. Thiru.S.M.Harish, S/o. Muniraj, D.No.2/159, H- Settipalli Village, J.Karupalli Post, Denkanikottai Taluk, Krishnagiri District has been issued precise area over an extent of 2.00.0 Hects of Government Poramboke land in S.F.No.755(Part) in Panchakshipuram Village, Hosur Taluk, Krishangiri District for the proposed grant of Rough Stone for a period of 10 year under the provisions of Rule 8(1) of Tamil Nadu Minor Mineral Concession Rules, 1959 and he has been directed to submit approved mining plan and Environment Clearance vide the reference 1st cited.

3. The applicant vide letter dated: 12.10.2019 had requested to issue the details of the quarries situated within the radial distance of 500 mts from the subject quarry to furnish the same to SEIAA for getting Environmental Clearance.

4. Accordingly the details of quarries situated within 500 mts radial distance from the subject quarry is furnished as follow:

Details of Existing quarries.

Sl N	Name of the lessee	Village & Taluk	Mineral	S.F No.	Extent in Het	GO No.& Date	Lease period.
1	Tvl.M.M.Blue Metals, No.1, RTO, Building, mathigiri Four Road, Hosur 635110, Krishnagiri	Hosur Taluk – Panchakshipuram Village	Rough Stone	755 (Part-2)	4.80.0	Roc. 96/ 2016/Mines dated: 17.08.2016	22.08.2016 to 21.08.2026.

II. Details of abandoned/Old quarries.

Sl. No.	Name of the lessee	Village	S.F No.	Extent in Het	GO No.& Date	Lease period.
Nil	Nil	Nil	Nil	Nil	Nil	Nil

Details of Proposed quarries

Sl. No.	Name of the lessee	Village & Taluk	S.F No.	Extent in Hect	GO No.& Date	Lease period.
1	Thiru.S.M.Harish, S/o.Muniraj, D.No.2/159, H- Settipalli Village, J.Karupalli Post, Denkanikottai Taluk, Krishnagiri District.	Hosur Taluk – Panchakshipuram Village	S.F.No. 755 (Part)	Ext: 2.00.0	Roc. 214/ 2019/Mines dated: 13.06.2019.	Precise area given **Instant Proposal**

Details of other Proposed/applied quarries

Sl. No.	Name of the lessee	Village & Taluk	S.F No.	Extent in Hect	GO No.& Date	Lease period
Nil	Nil	Nil	Nil	Nil	nil	--

Assistant Director (Addl.Charge)
Dept of Geology and Mining,
Krishnagiri.

Copy to :

The Chairman,
Tamil Nadu State Environment
Impact Assessment Authority,
3rd Floor, Panakal Maligai,
No. 1 Jeenes Road, Saidapet,
Chennai -15.

Thiru. S.M. HARISH, Roughstone quarry in the S.F.No.755(Part) over an extent of 2.00.0ha. in Panchakshipuram Village, Hosur Taluk, Krishnagiri District.

GENERAL VIEW OF THE QUARRY LEASE AREA

S.M. Harish
(Deponent)

Village Administrative Officer
PANCHAKSHIPURAM
HOSUR TALUK

(VAO)

சான்று

கிருஷ்ணகிரி மாவட்டம், ஓசூர் வட்டம், மத்திகிரி உள்வட்டம் 83- பஞ்சாட்சிபுரம் கிராம புல எண்: 755 (Part) ல் 2.00.0 (Hec) நிலத்தில் அமைய உள்ள S.M. குவாரிக்கு சுற்றி 500 மீ சுற்றளவுக்குள் கிராம நத்தமோ, வீடோ, ஏரியோ, கோவில்களோ, வழிபாட்டுத் தலங்களோ, மயானமோ, பள்ளிக் கூடங்களோ, புராதன சின்னங்களோ, புதை படிவங்களோ, இதர அரசு கட்டிடங்களோ இல்லை என்பதை புலத் தணிக்கையின் மூலம் அறிந்து சான்றளிக்கப்படுகிறது.

J. Prema
20.1.23
Village Administrative Officer
83, PANCHAKSHIPURAM
HOSUR TALUK

भारतीय गैर न्यायिक

पचास रुपये रु.50

FIFTY RUPEES Rs.50

INDIA

INDIA NON JUDICIAL

தமிழ்நாடு तमिलनाडु TAMILNADU 14.02.2022

BD 279252

S.M. HARISH,
Krishnagiri

AFFIDAVIT TO SEIAA, TAMIL NADU

I, **S.M Harish,** S/o. Muniraj residing at D.No.2/159, H.Settipalli Village, J.Karupalli Post, Denkanikottai Taluk, Krishnagiri District do hereby solemnly declare and sincerely affirm that, I have applied for getting environment clearance to SEIAA, Tamil Nadu for quarry lease for Rough Stone quarry at Survey No.755(Part) over an area of 2.00.0 Ha in Panchakshipuram village, Hosur Taluk, Krishnagiri District, Tamil Nadu.

1. I swear to state and confirm that within 10km area of the quarry site, I have applied for environmental clearance, none of the following is situated
   a. Protected areas notified under the wild life (Protection) Act, 1972 (NBWL).
   b. Critically polluted areas as notified by the central pollution control board constituted under water (Prevention and control of Pollution) Act 1974.
   c. Eco sensitive area as notified.
   d. Interstate boundaries and international boundaries within 10km radius from the boundary of the proposed site.

NOTARY GOVT OF INDIA

S.M. Harish

2. I will complete the following Corporate Environment Responsibility (CER) activities before commencement of the quarrying activities.

CER Activity	Project cost (Rs)	CER cost 2.0% of Project cost (Rs)
Carrying out various developmental works in the nearby region based on the need of the locals.	Rs.1,86,45,000/-	Rs.3,72,900/-
Total cost Allocation	**Rs.1,86,45,000/-**	**Rs.3,72,900/-**

3. **Details of quarry within 500m radius from the applied area:**

S.No	Name and address of the lessee	Village & SF.No.	Extent in Hectare	G.O. No. & date	Lease Status
Existing Quarries					
1	Tvl. M.M Blue Metals, No.1, RTO Building, Mathigiri Four Road, Hosur Taluk, Krishnagiri-635110.	Panchakshipuram Village & 755(Part-2)	4.80.0 Ha	Roc.No.96/2016/Mines dt:17.08.2016	22.08.2016 to 21.08.2026

Abandoned / Old Quarries					
S.No	**Name and address of the lessee**	**Village & SF.No.**	**Extent in Hectare**	**G.O. No. & date**	**Lease Status**
-Nil-					

Proposed Quarries					
S.No	**Name and address of the lessee**	**Village & SF.No.**	**Extent in Hectare**	**G.O. No. & date**	**Lease Status**
1	Thiru S.M Harish, S/o Muniraj, D.No.2/159, H-Settipalli Village, J.Karupalli Post, Denkanikottai, Krishnagiri District.	Panchakshipuram Village & 755(Part)	2.00.0 Ha	Roc.No.214/2019/Mines dt:13.06.2019	Precise area given Instant Proposal

NOTARY GOVT OF INDIA

Proposed / applied Quarries					
S.No	Name and address of the lessee	Village & SF.No.	Extent in Hectare	G.O. No. & date	Lease Status
-Nil-					

4. There will not be hindrance or disturbance to the people living no enrooted/ nearby my quarry site while transporting the mineral and due to quarrying activities.
5. There is no approved habitation within 300m radius from the periphery of my applied quarry.
6. I swear that afforestation will be carried out during the course of quarrying operation and maintained.
7. The required insurance will be taken in the name of the laborers working in my quarry site.
8. 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.
9. I will not engage any child labor in my quarry site and I am aware that engaging child labor is punishable under the law.
10. All types of safety / protective equipment will be provided to all the laborers working in my quarry.
11. No permanent structures, temple etc., are located within 500m radius from the periphery of my quarry.

I ensure to do the social and Environment commitment as mentioned in the Mining plan to the best of my knowledge.

S.M Harish
(Deponent)

NOTARIAL NOTARIAL

Cell:(0)9443286345
M.SARAVANAKUMAR.B.SC.,B.L.,
ADVOCATE & NOTARY,
(GOVT. OF INDIA)
NO:11,A.V.Mansion,
Ist Gate, Near Sona College,,
Junction Main Road, SALEM-636 005.

Cell : 98427 44073, 94437 44073

VISHNU EXPLOSIVES

No.235/9, R.G. Nagar Engineer's Colony Extension, Jagir Reddipatty, Salem - 636 302.

Ref:

Date : 17.02.2022

To

Thiru. S.M. Harish,
S/o. Muniraj,
D.No.2/159, H. Settipalli Village,
J.Karupalli Post,
Denkanikottai Taluk,
Krishnagiri District-635 113.

Sir,

Sub: Willingness to do Explosives Blasting Works – Reg.

With respect to the above subject, we would like to introduce myself as the Explosives Blasting Contractors, for which our LICENCE NO: E/HQ/TN/22/335(E64278) & E/SC/TN/22/463(E37227) S.F.No.344/3B, Paiyur Village, Krishnagiri Taluk magazine is situated in No.273-A, Keel Paiyur Village, Kaveripattinam, Krishnagiri, Tamilnadu-635 112.

We were engaged in professional blasting contract works with all facilities and License holders to carry out blasting works in specified time and period covered under Explosives Rules, 2008.

We kindly request yourself to engage us to do Explosives Blasting Works in your proposed Rough stone Quarry situated at S.F.No:755(Part) in Panchakshipuram Village, Hosur Taluk, Krishnagiri District over an extent of 2.00.0 hectares.

SERVING BEST AT ALL TIMES

Thanking you.

For VISHNU EXPLOSIVES,

For VISHNU EXPLOSIVES

Proprietor

Enclosure: Magazine License Copy.

अनुज्ञप्ति प्रपत्र एल. ई.-3 / LICENCE FORM LE-3

[illegible]

अनुज्ञप्ति सं. / Licence No.: [illegible]

1. Licence is hereby granted to

M/s [illegible] Explosives (अधिभोगी / Occupier : Shri [illegible]) [illegible]

[illegible]

क्र. S. No.	नाम और विवरण Name and Description	वर्ग और प्रभाग Class & Division	उप प्रभाग Sub-division	मात्रा Quantity
[illegible]	[illegible] (Slurry and Emulsion Explosives)	[illegible]	[illegible]	[illegible]
[illegible]	Detonators	[illegible]	[illegible]	[illegible]
[illegible]	Safety Fuse	[illegible]	[illegible]	[illegible]
[illegible]	Detonating Fuse	[illegible]	[illegible]	[illegible]

[illegible]

मुख्य विस्फोटक नियंत्रक / Chief Controller of Explosives

[illegible]

नवीकरण के पृष्ठांकन के लिए स्थान / Space for Endorsement of Renewal

नवीकरण की तारीख Date of Renewal	समाप्ति की तारीख Date of Expiry	[illegible]
[illegible]	[illegible]	[illegible]

[illegible]

Note :- This is system generated document does not require physical signature. Applicant may take printout for their records.

Conditions

[illegible]

Note :- This is system generated document does not require physical signature. Applicant may take printout for their records.

நக எண் 214/2019/கனிமம்

மாவட்ட ஆட்சியர் அலுவலகம்,
(புவியியல் மற்றும் சுரங்கத்துறை)
கிருஷ்ணகிரி மாவட்டம்,
கிருஷ்ணகிரி.
நாள் 13.06.2019.

குத்தகையை

பொருள்: கனிமங்களும் குவாரிகளும் - சிறுகனிமம் - சாதாரண கற்கள் கிருஷ்ணகிரி மாவட்டம் - ஒசூர் வட்டம் - பஞ்சாட்சிபுரம் கிராமம் அரசு புல எண் 755 (பகுதி) ல் 2.00.0 கெ.ஏக்டேர் பரப்பளவில் அரசு நிலத்தில் அமைந்துள்ள சாதாரண கற்குவாரிக்கு டெண்டருடன் இணைந்த ஏல முறையில் குத்தகை வழங்க டெண்டர்/ பொது ஏலம் நடத்தப்பட்டது ___ பொது ஏலத்தில் அதிக தொகை கோரிய திரு எஸ். எம் உறவிஷ் த/பெ முனிராஜ், கதவு எண் 2/159 எச். செட்டிப்பள்ளி கிராமம், ஜே. காருப்பள்ளி அஞ்சல், தேன்கனிக்கோட்டை வட்டம், கிருஷ்ணகிரி மாவட்டம், என்பவருக்கு சாதாரண கற்குவாரி குத்தகை வழங்குதல் தொடர்பாக அங்கீகரிக்கப்பட்ட கரங்களத்திட்டம், தமிழ்நாடு மாநில சுற்றுச் சூழல் மதிப்பீடு ஆணையத்தின் தடையின்மைச் சான்று மற்றும் தமிழ்நாடு மாசு கட்டுப்பாட்டு வாரிய இசைவு ஆகியவற்றை பெற்று வழங்க கோருதல் - தொடர்பாக.

பார்வை: 1. கிருஷ்ணகிரி மாவட்ட அரசிதழ் சிறப்பு வெளியீடு எண்.07 நாள்21.02.2019.
2. 02.03.2019 அன்று தினமணி நாளிதழில் வெளியிடப்பட்ட பத்திரிக்கை செய்தி
3. திரு எஸ். எம் உறவிஷ் த/பெ முனிராஜ், கதவு எண் 2/159 எச். செட்டிப்பள்ளி கிராமம், ஜே. காருப்பள்ளி அஞ்சல், தேன்கனிக்கோட்டை வட்டம், கிருஷ்ணகிரி மாவட்டம், என்பவரது டெண்டர் விண்ணப்ப நாள் 08.03.2019.

- - - - -

கிருஷ்ணகிரி மாவட்டம் ஒசூர் வட்டம் பஞ்சட்சிபுரம் கிராமம் அரசு புல எண் 755 (பகுதி) ல் 2.00.0 கெ.ஏக்டேர் பரப்பளவில் அமைந்துள்ள சாதாரண கற்குவாரிக்கு பத்து ஆண்டுகளுக்கு குவாரி குத்தகை வழங்குவது தொடர்பாக 08.03.2019 அன்று நடைபெற்ற பொது ஏலத்தில் திரு எஸ். எம். உறவிஷ் த/பெ முனிராஜ், கதவு எண் 2/159 எச். செட்டிப்பள்ளி கிராமம், ஜே. காருப்பள்ளி அஞ்சல், தேன்கனிக்கோட்டை வட்டம், கிருஷ்ணகிரி மாவட்டம், என்பவர் அரசு நிர்ணயம் செய்த குறைந்தபட்ச குத்தகை தொகையை விட அதிக தொகையான ரு 1,50,00,000/- (ரூபாய் ஒரு கோடியே ஐம்பது லட்சம் மட்டும்) ஐ பொது ஏலத்தில் கேட்டதால் அவருக்கு தமிழ்நாடு சிறுகனிய சலுகை விதிகள் 1959ன் விதி 8 (5) (b) ன்படி அவருக்கு கீழ்க்கண்ட நிபந்தனைகளுடன் குவாரி குத்தகை வழங்க உத்தேசிக்கப்பட்டுள்ளது.

(i) குவாரி குத்தகை வழங்க உத்தேசிக்கப்பட்டுள்ள குவாரிக்கு அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும், அரசு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரியமைக்க வேண்டும்.

(ii) அருகிலுள்ள கிராம சாலைகளுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும், இதர நெடுஞ்சாலைகளுக்கு 50 பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி செய்யவேண்டும்.

2. எனவே திருவண்ணாமலை மாவட்டம் ஒசூர் வட்டம், பஞ்சட்சிபுரம் கிராமம் புல எண் 755 (பகுதி) ல் 2.00.0 ஹெக்டேர் பரப்பளவில் புல வரைபடத்தில் குறிப்பிட்டுள்ள பகுதியில் குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றும் நாளிலிருந்து பத்து ஆண்டுகளுக்கு சாதாரண கற்கள் வெட்டியெடுக்க குவாரி குத்தகை வழங்குதல் தொடர்பாக தமிழ்நாடு சிறுகனிய சலுகை விதிகள் 1959ன் விதி 41 மற்றும் 42ன் ஆகியவற்றில் கண்டுள்ள காலவரையறைக்குள் அங்கீகரிக்கப்பட்டட. கரங்கத்திட்டம், தமிழ்நாடு சுற்றுச் சூழல் பாதிப்பு மதிப்பீட்டு ஆணையத்தின் இசைவு மற்றும் தமிழ்நாடு மாசுக்கட்டுப்பாட்டு வாரியத்தின் இசைவு ஆகியவற்றை சமர்ப்பிக்க வேண்டும் என திரு.எஸ்.எம் உறுனிஷ் என்பவருக்கு தெரிவிக்கப்படுகிறது.

3. உரிய காலத்தில் மேற்கண்ட ஆவணங்களை சமர்பிக்க தவறினால் விதிகளின்படி உரிய நடவடிக்கை எடுக்கப்படும் எனவும், தெரிவிக்கப்படுகிறது.

4. மேற்கூறிய ஆவணங்களை சமர்ப்பித்த பின்பு குவாரி குத்தகை வழங்கப்பட்டு குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றிய பின்பே மேற்கண்ட புலத்தில் குவாரிப்பணிகளை தொடங்கவேண்டும். தவறினால் தமிழ்நாடு சிறுகனிமச் சலுகை விதிகள் 1959ன் விதி36 (அ)ன்படி உரிய நடவடிக்கை எடுக்கப்படும் எனவும் தெரிவிக்கப்படுகிறது.

இணைப்பு : புல வரைபடம்

/உண்மை நகல்/

மாவட்ட ஆட்சியருக்காக,
கிருஷ்ணகிரி

ஒப்/எஸ்.தினகர்,
மாவட்ட ஆட்சியர்,
கிருஷ்ணகிரி.

பெறுநர்

திரு எஸ். எம். உறுனிஷ்
த/பெ முனிராஜ்,
கதவு எண் 2/159
எச். செட்டிப்பள்ளி கிராமம்,
ஜே. காருப்பள்ளி அஞ்சல்,
தேன்கனிக்கோட்டை வட்டம்,
கிருஷ்ணகிரி மாவட்டம்,

S.DHANASEKAR, I.A.S.,[illegible]
RQP/MAS/225/2011/A

கிருஷ்ணகிரி மாவட்ட அரசிதழ்

சிறப்பு வெளியீடு

ஆணையின்படி வெளியிடப்பட்டது

கிருஷ்ணகிரி, பிப்ரவரி 21, 2019
[விளம்பி, மாசி 9 - திருவள்ளுவர் ஆண்டு 2050] [எண் 7

மாவட்ட ஆட்சியர் அறிவிக்கை

([illegible] 1003/2018/[illegible] நாள்: 21-02-2019)

சாதாரண கற்குவாரி ஒப்பந்தப்புள்ளி (டெண்டர்) மற்றும் ஏலம் குறித்த அறிவிப்பு.

டெண்டர் விண்ணப்பங்கள் பெற கடைசி நாள்	:	07-03-2019
பொது ஏலம் மற்றும் டெண்டர் விண்ணப்பங்கள் [illegible] நாள்	:	09-03-2019

1. கிருஷ்ணகிரி மாவட்டத்தில் [illegible] ஒப்பந்தப்புள்ளி (டெண்டர்) [illegible]

2. 1959 ஆம் ஆண்டு தமிழ்நாடு சிறுவகைக் கனிம விதிகளின் விதி [illegible] கிருஷ்ணகிரி மாவட்ட [illegible] டெண்டர் விண்ணப்பங்கள் 3 பிரதிகளில் கிருஷ்ணகிரி மாவட்ட ஆட்சியரால் [illegible]

3. இந்த அறிவிக்கையின்படி [illegible] ஒப்பந்தப்புள்ளி (டெண்டர்) விண்ணப்பம் 1959 [illegible] VI-ல் குறிப்பிடப்பட்டுள்ள படிவத்தில் [illegible] இந்த மாவட்ட அரசிதழ் சிறப்பு வெளியீட்டின் இணைப்பில் [illegible] விண்ணப்பங்கள் மற்றும் [illegible]

4. ஒப்பந்தப்புள்ளி (டெண்டர்) விண்ணப்பங்களுடன் இணைத்து [illegible] கிருஷ்ணகிரி மாவட்ட ஆட்சியர் அலுவலக [illegible] கிருஷ்ணகிரி புவியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநர் அலுவலகம் [illegible] ஆட்சியர்/ வருவாய் கோட்டாட்சியர், வட்டாட்சியர் மற்றும் [illegible] விளம்பரம் செய்யப்பட்டுள்ளது.

S. [illegible]

5. [illegible] 10 [illegible]

6. [illegible] (பெ.ஸ்.அ) [illegible]

7. [illegible] (பெ.ஸ்.அ) [illegible] 2013 [illegible]

8. [illegible] 2013 [illegible] 11.00 [illegible] (பெ.ஸ்.அ) [illegible]

9. [illegible] (பெ.ஸ்.அ) [illegible]

10. [illegible] 1959 [illegible] 1967 [illegible]

11. [illegible]

12. [illegible]

13. [illegible]

14. [illegible] 1959 [illegible]

[illegible]

15. ஒப்பந்தப்புள்ளி (டெண்டர்) மற்றும் ஏல நிபந்தனைகள் :

1) ஒவ்வொரு குளங்களுக்கும் இந்த அறிவிப்பின் பிற்சேர்க்கையில் தெரிவிக்கப்பட்டுள்ள இணைப்பு VI-ல் கண்டுள்ள மாதிரி விண்ணப்ப படிவத்தில் தனித்தனி விண்ணப்பங்களில் விண்ணப்பிக்க வேண்டும்.

2) நபரின் ஒரு நபருக்கு இரண்டு குளங்களுக்கு மட்டுமே குத்தகை உரிமம் வழங்கப்படும்.

3) இந்த அறிவிப்பின் அட்டவணையில் குறிப்பிட்டுள்ள குளங்களின் குத்தகை காலம் குத்தகை ஒப்பந்த பத்திரம் நிறைவேற்றப்பட்ட நாளிலிருந்து ஏற்கனவே குளம் குத்தகை வழங்கப்பட்டு குத்தகை காலம் முடிவுற்ற சாதாரண ஏரிகளுக்கு 5 ஆண்டுகளும் புதியதாக சேர்க்கப்பட்டுள்ள சாதாரண ஏரிகளுக்கு 10 ஆண்டுகளும் ஆகும். குத்தகை ஒப்பந்தப்புள்ளியில் குறிப்பிடப்படும் இறுதி நாளில் குத்தகை காலம் முடிவடையும், குத்தகை காலம் [illegible] நீட்டிக்கப்பட மாட்டாது.

4) ஒப்பந்தப்புள்ளி (டெண்டர்) விண்ணப்பத்துடன் கீழ்கண்டவற்றை இணைத்து அனுப்ப வேண்டும்.

(அ) திரும்ப வழங்க இயலாத விண்ணப்பக் கட்டணமாக ரூ.1500/-க்கான கேட்பு வரைவோலையை (டிமாண்ட் டிராப்ட்) ஏதேனும் ஒரு தேசிய மயமாக்கப்பட்ட வங்கியில் மாவட்ட ஆட்சியர் கிருஷ்ணகிரி மாவட்டம் அவர்களின் பெயரில் பெற்று இணைக்க வேண்டும்.

(ஆ) பிணை வைப்புத்தொகை (Earnest money deposit) ரூ. 25000/- (ரூபாய் இருபத்தைந்தாயிரம் மட்டும்)க்கான கேட்பு வரைவோலை ஏதேனும் ஒரு தேசியமயமாக்கப்பட்ட வங்கியில் மாவட்ட ஆட்சியர் கிருஷ்ணகிரி மாவட்டம் அவர்களின் பெயரில் பெற்று இணைக்க வேண்டும். குத்தகை உரிமம் வழங்கப்படுபவர் செலுத்த வேண்டிய டெண்டர்/ஏலத் தொகையில் இந்த தொகை பின்னர் வரவு வைத்துக் கொள்ளப்படும்.

(இ) ஒப்பந்தப்புள்ளி (டெண்டர்) விண்ணப்பத்தில் குறிப்பிட்டுள்ள மொத்த குத்தகை தொகையில் 10 சதவீத தொகைக்கான கேட்பு வரைவோலை (டிமாண்ட் டிராப்ட்) மாவட்ட ஆட்சியர் கிருஷ்ணகிரி மாவட்டம் அவர்களின் பெயரில் ஏதேனும் ஒரு தேசியமயமாக்கப்பட்ட வங்கியில் பெற்று இணைக்க வேண்டும்.

(ஈ) மாவட்ட வாரியாக மாநில வாரியாக விண்ணப்பதாரர் / மனுதாரர் நேரடியாகவோ அல்லது பங்குதாரராகவோ [illegible] குளங்கள் பற்றிய கீழ்க்கண்ட விவரங்களை ஆணை உறுதி வாக்குமூலம் (அபிடவிட்) மூலம் தெரிவிக்க வேண்டும்.

i. அனுபவத்திலிருக்கும் குளம் குத்தகை அனுமதி பற்றி விவரம்
ii. ஏற்கனவே விண்ணப்பித்து இதுவரை அனுமதி வழங்கப்படாத குளம் குத்தகை அனுமதி பற்றி விவரம்.
iii. தற்போது உடனிகழ்வாக விண்ணப்பிக்கும் குளம் குத்தகை அனுமதி விவரம்.
iv. விண்ணப்பதாரருக்கு [illegible] மாவட்ட ஆட்சியரால் வழங்கப்பட்ட செலுத்தப்பட வேண்டிய நிலுவை இல்லை சான்றிதழ் அல்லது [illegible] நிலுவை இல்லை என்பதற்கான ஆணையுறுதி வாக்குமூலம் இணைக்கப்பட வேண்டும்.
v. வருமான வரி செலுத்திய சான்றிதழ் அல்லது வருமானவரி பாக்கியில்லை என்பதற்கான ஆணையுறுதி வாக்குமூலம் இணைக்கப்பட வேண்டும்.

5) ஏலத்தில் நேரடியாக கலந்து கொள்பவர்கள் பூர்த்தி செய்யப்பட்ட விண்ணப்பத்துடன், திருப்பித்தரப்படாத விண்ணப்பக்கட்டணம் ரூ.1500/- மற்றும் பிணை வைப்புத்தொகை ரூ.25000/- ஆகியவற்றிற்கான கேட்பு வரைவோலைகளை (டிமாண்ட் டிராப்ட்) மாவட்ட ஆட்சியர் கிருஷ்ணகிரி மாவட்டம் அவர்களின் பெயரில் ஏதேனும் ஒரு தேசியமயமாக்கப்பட்ட வங்கியில் பெற்று ஏலத்தில் நேரடியாக கலந்து கொள்வதற்கு முன்னர் ஏலம் நடத்தும் அலுவலரிடம் சமர்ப்பிக்க வேண்டும். மேலும் ஏலம் மூலம் கோரப்பட்ட உயர்ந்தபட்ச தொகை டெண்டர் மூலம் கோரப்பட்ட உயர்ந்தபட்ச தொகையைவிட அதிகமாக இருந்தால் ஏலத்தொகையில் 10 சதவீத தொகையை உடனே ஏலம் நடத்தும் அலுவலரிடம் தேசிய மயமாக்கப்பட்ட ஏதேனும் ஒரு வங்கியில் பெறப்பட்ட கேட்பு வரைவோலையாகவோ அல்லது ரொக்க தொகையாகவோ செலுத்தி தக்க இரசீதுகள் பெற்றுக் கொள்ள வேண்டும்.

6) ஒப்பந்தப்புள்ளி(டெண்டர்) விண்ணப்பங்கள் மேற்கண்ட இணைப்புகளுடன் நேரிலோ அல்லது பதிவு அஞ்சல் மூலமாகவோ மாவட்ட ஆட்சியர் அலுவலக கட்டிடத்தில், தரைதளத்தில் அறை எண்.30ல் இயங்கும் [illegible] மீன்வளம் மற்றும் [illegible] துணை இயக்குநர் அலுவலகத்தில் 2019ஆம் ஆண்டு [illegible] திங்கள் 7-ஆம் நாள் மாலை 5.45 மணிக்குள் கிடைக்கும்படி செய்ய வேண்டும். நேரில் விண்ணப்பங்கள் அளித்தால் அதற்குரிய ஒப்புகை [illegible] வழங்கப்படும். [illegible] விண்ணப்பத்தில் [illegible] டெண்டர் விண்ணப்பங்கள் [illegible] அனுப்பி வைக்கப்பட வேண்டும். [illegible] விண்ணப்பதாரரின் பெயர் மற்றும் விலாசம் தெளிவாக குறிப்பிடப்பட வேண்டும். [illegible] குளம் [illegible] அறிவிப்பின் இணைப்பில் தெரிவிக்கப்பட்டுள்ள குளங்களின் பட்டியலில் உள்ள வரிசை எண் ஆகியவற்றை தவறாமல் குறிப்பிட வேண்டும்.

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7) மாவட்ட ஆட்சியர்/அல்லது அவரால் அங்கீகாரம் வழங்கப்பட்ட அலுவலரிடம் [illegible] விண்ணப்பதாரர்கள் / முகவர்கள் [illegible] அனுமதிக்கப்படுவார்கள்.

8) குறிப்பிட்ட [illegible] விண்ணப்பங்கள் மாவட்ட ஆட்சியர் அல்லது அவரால் அங்கீகாரம் வழங்கப்பட்டுள்ள அலுவலர் மாவட்ட ஆட்சியர் அலுவலகத்தில் 2019ம் ஆண்டு [illegible] 11.00 [illegible] ஒப்பந்தப்புள்ளி (டெண்டர்) விண்ணப்பங்கள் [illegible] ரூ.25000/- [illegible] ரூ.1500/- [illegible] ரூ.20/- [illegible] (Notary Public) [illegible] ஒப்பந்தப்புள்ளி (டெண்டர்) [illegible] ரூ.1500/- [illegible] அனுமதிக்கப்படுவார்கள்.

9) ஒப்பந்தப்புள்ளி விண்ணப்பத்துடன் [illegible] 10% [illegible] 1950ம் ஆண்டு [illegible] ஒப்பந்தப்புள்ளி விண்ணப்பம் மாவட்ட ஆட்சியர் அல்லது அவரால் அங்கீகாரம் [illegible] ஒப்பந்தப்புள்ளி [illegible] அனுப்பப்படும்.

10) [illegible] டெண்டர் விண்ணப்பங்கள் [illegible] ஒப்பந்தப்புள்ளி (டெண்டர்) [illegible] மாவட்ட [illegible] (டெண்டர்) விண்ணப்பம் [illegible] ஒப்பந்தம் [illegible] வழங்கப்படமாட்டாது.

11) மாவட்ட ஆட்சியர் அல்லது அவரது அங்கீகாரம் பெற்ற அலுவலர் [illegible] டெண்டர் தொகை [illegible] ஒப்பந்தப்புள்ளி (டெண்டர்) விண்ணப்பத்தில் [illegible] (டெண்டர்) தொகையை [illegible] ஒப்பந்தப்புள்ளி (டெண்டர்) [illegible] மாவட்ட ஆட்சியர் அல்லது அவரால் [illegible] ஒப்பந்தப்புள்ளி (டெண்டர்) [illegible] டெண்டர் [illegible] மாவட்ட ஆட்சியர் அல்லது அவரால் அங்கீகாரம் [illegible] டெண்டர் [illegible] மாவட்ட ஆட்சியர் [illegible]

[illegible signature]

[illegible] / டெண்டர் [illegible] 10 சதவீத [illegible] / டெண்டர் [illegible]

(2) (அ) சிறப்பு நிபந்தனைகள்:

(i) இந்த டெண்டர் மற்றும் ஏலமுறையில் கலந்து கொள்ளும் விண்ணப்பதாரர்கள் அனைவரும் இந்திய அரசின் வருமான வரித்துறையினரால் வழங்கப்படும் நிரந்தர கணக்கு எண் (PAN - CARD) அட்டையை பெற்றிருக்கவேண்டும்.

(ii) இந்த நிரந்தர கணக்கு எண்ணை சமர்ப்பித்து டெண்டர் மற்றும் ஏலம் கோரும் தொகைக்கு 2.00 சதவீத வருமான வரியை [illegible] மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநர் அவர்களுக்கு வருமான வரித்துறையினரால் அளிக்கப்பட்டுள்ள TAN No.CHED05905E-ன் கீழ் உரிய வருமானவரித்துறை [illegible] மூலம் செலுத்தவேண்டும்.

(iii) [illegible] 2.00 சதவீத [illegible]

(iv) [illegible] 10 சதவீத [illegible] பாரத ஸ்டேட் வங்கி (State Bank of India) கணக்கு எண் 37243080095-ல் [illegible]

(3) [illegible] 10% [illegible]

(4) [illegible] 12-13/2012 [illegible] 19628 - 19629/2002 [illegible] 27.02.2012 [illegible] 11011/47/2011 - IA II(M) [illegible] 18.05.2012 [illegible] 79 [illegible] 06.04.2015 [illegible] 1959 [illegible] 41 மற்றும் 42 [illegible]

(5) [illegible]

(அ) [illegible] (UT) [illegible]

(ஆ) [illegible]

[illegible]

[illegible]

[illegible]

[illegible] (Standing Committee of National Board of Wildlife) [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

17) [illegible]

18) [illegible]

19) [illegible] (State Bank of India) [illegible]

20) [illegible]

21) [illegible]

வழிபாட்டுத்தலங்கள், மின் மற்றும் தொலைபேசி கம்பிகள், நீர்த்தேக்கங்கள், மயானங்கள், பொதுக் கட்டிடங்கள் மற்றும் இதர கட்டுமானங்கள் மற்றும் இதர நிலையான அமைப்புகள் இவற்றிலிருந்து 1959ம் ஆண்டைய தமிழ்நாடு சிறுகனிம சலுகை விதிகளின் படி பாதுகாப்பு இடைவெளி விட்டு மீதமுள்ள இடத்தில்தான் குவாரிப்பணி செய்யவேண்டும். பொதுமக்கள் உபயோகிக்கும் இடங்கள் குடியிருப்புகள் பட்டா நிலங்கள் அல்லது பொதுச்சொத்துக்கள் ஆகியவற்றிற்கு சேதம் ஏதும் ஏற்படாமல் குவாரிப்பணி செய்யவேண்டும். குவாரி பணியால் சேதம் ஏதும் ஏற்பட்டால் அதற்கு குத்தகைதாரரே முழு பொறுப்பேற்று அதன் ஏற்படும் நட்டத்தை ஈடு செய்து தரவேண்டும்.

22) குத்தகைதாரரை மேற்குறிப்பிட்ட நிபந்தனைகள் அல்லாமல் 1959ம் ஆண்டைய தமிழ்நாடு சிறுகனிமச் சலுகை விதிகள், கனிமங்கள் மற்றும் சுரங்கங்கள் (மேம்படுத்துதல் மற்றும் முறைப்படுத்துதல்) சட்டம் 1957 மற்றும் இதர அரசிதழில் குறிப்பிடப்பட்டுள்ள சிறப்பு நிபந்தனைகள் மற்றும் அரசால் அவ்வப்போது வெளியிடப்படும் ஆணைகளும் விதிகளும் கட்டுப்படுத்தும்.

23) இவ்விதிகளின்படி வழங்கப்படும் குவாரிகளின் குத்தகை காலம் எக்காரணத்தைக் கொண்டும் குத்தகை வழங்கப்பட்ட காலத்திற்கு மேல் நீட்டிக்கப்படவோ அல்லது குத்தகை காலம் புதுப்பிக்கப்படவோ மாட்டாது. குத்தகை காலம் முடிந்தபின் குத்தகைதாரர்கள் குத்தகைக்கு விடப்பட்ட பகுதியின் எவ்விதமான உரிமையும் கொண்டாடக்கூடாது.

24) 14 வயதுக்குட்பட்ட குழந்தை தொழிலாளர்களை குவாரிப்பணியில் ஈடுபடுத்தக்கூடாது.

25) இந்த அரசிதழில் குவாரி குத்தகை உரிமத்திற்காக அறிவிக்கப்பட்டிருக்கும் பட்டியலில் உள்ள குத்தகை விடப்படும் குவாரிகளை டெண்டர் / ஏலம் நடைபெறுவதற்கு முன்பாக நிறுத்தி வைக்கவோ, நீக்கவோ, புதியதாக சேர்க்கவோ குவாரி பட்டியலை மாற்றவோ, மாவட்ட ஆட்சியருக்கு அதிகாரம் உண்டு.

26) நிர்வாக சூழல் காரணமாக டெண்டர் மற்றும் ஏலத்தை ரத்து செய்ய மாவட்ட ஆட்சியருக்கு அதிகாரம் உண்டு.

27) செய்தித்தாள் மூலமாகவோ, மாவட்ட அரசிதழ் மூலமாகவோ, அறிவிப்பு செய்யப்படாத குவாரிகளுக்கு ஏதாவது ஒப்பந்தப்புள்ளி விண்ணப்பங்கள் கிடைக்கப் பெற்றால் அவையாவும் முறையின்றி அனுப்பபட்ட விண்ணப்பமாக கருதப்பட்டு மாவட்ட ஆட்சியரால் உடனடியாக நிராகரிக்கப்படும். குறித்த காலக்கெடுவிற்குள் வந்து சேராத விண்ணப்பங்கள் காலாவதியான விண்ணப்பமாக கருதப்பட்டு அவைகளும் மாவட்ட ஆட்சியரால் நிராகரிக்கப்படும். நிராகரிக்கப்பட்ட விண்ணப்பங்களின் வங்கி வரைவோலைகள் மட்டும் விண்ணப்பதாரருக்கு திரும்ப அனுப்பி வைக்கப்படும்.

28) 1959ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் அட்டவணை1 பகுதி 1ல் கண்ட ஒப்பந்தப்புள்ளியின் தேவைகளை அனுசரித்து நிபந்தனைகளை புதியதாக சேர்க்கவோ, நீக்கவோ மற்றும் அவைகளை மாவட்ட ஆட்சியருக்கு அதிகாரம் உண்டு. குத்தகை பத்திரம் ஏற்படுத்தியபின்பு புல எண் மற்றும் குவாரி செய்ய ஒதுக்கப்பட்ட பரப்பளவிற்கு எவ்வித நாசமும் செய்ய குத்தகைதாரருக்கு உரிமை கிடையாது.

29) குத்தகை ஒப்பந்தப்புள்ளிக்கான புவியமைப்பு நிறுவன மொத்த பரப்பளவை சட்டம் 1980ன் பிரிவு 107ன் கீழ் குத்தகைதாரர் தனது சொந்த செலவில் பதிவுசெய்து பதிவுசெய்த ஒப்பந்தப்புள்ளியினை விருதுநகர் புவியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநர் அலுவலகத்தில் உடன் ஒப்படைக்க வேண்டும்.

30) தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959ன் விதி 36(1)ல் வரையறுக்கப்பட்டுள்ளவாறு அருகிலுள்ள குடியிருப்புகளுக்கு பாதுகாப்பு இடைவெளியாக 300 மீட்டரும் கிராம சாலைகளுக்கு 10 மீட்டரும் இதர சாலைகள் கட்டிடங்கள், வழிபாட்டு தலங்கள், மின்கம்பி பாதைகள், தொலைபேசி பாதைகள், பள்ளிக்கூடங்கள், நீர்த்தேக்கங்கள், ஆறு, ஏரி, குளம், குட்டை மற்றும் இதர பொது சொத்துக்கள் ஆகியவற்றிற்கு பாதுகாப்பு இடைவெளியாக 50 மீட்டரும் விட்டு மீதமுள்ள இடத்தில்தான் குவாரிப்பணி செய்யப்படவேண்டும். புராதன சின்னங்களுக்கு தொல்லியல் துறையால் வரையறுக்கப்பட்டுள்ள பாதுகாப்பு இடைவெளி விட்டும் குவாரிப்பணி செய்யவேண்டும். பொதுமக்கள் உபயோகிக்கும் இடங்களான குடியிருப்புகள் பட்டா நிலங்கள் மற்றும் இதர பொதுசொத்துக்கள் ஆகியவற்றிற்கு சேதம் ஏதும் ஏற்பட்டால் அதற்கு குத்தகைதாரரே முழுபொறுப்பேற்று அதன் ஏற்படும் நட்டத்தை ஈடுசெய்து தரவேண்டும்.

31) நிர்வாக காரணம் மற்றும் பொது நலனை கருத்தில் கொண்டு குத்தகைக்கு விடப்பட்ட பகுதியை மீண்டும் முன்னறிவிப்பின்றி குவாரி குத்தகையை ரத்து செய்யவும் மாவட்ட ஆட்சியருக்கு அதிகாரம் உண்டு.

32) குத்தகைதாரர் 1959ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதிகளின்படியும் மாவட்ட அரசிதழில் கண்டுள்ள நிபந்தனைகளின்படியும் ஒப்பந்தப்புள்ளி நிபந்தனைகளின்படியும் நடந்து கொள்ள கடமைப்பட்டவராவார். குத்தகைகாலத்தில் சட்டதிட்டங்கள் மற்றும் குவாரி குத்தகை நிபந்தனைகளுக்கு ஒப்பந்த விதிகளுக்கு முரண்பட்டு குத்தகைதாரர் நடந்து கொண்டால் குத்தகை ரத்து செய்யப்படுவதுடன் காப்புத்தொகை மற்றும் முன் செலுத்திய அனைத்து தொகைகளும் அரசுக்கு பறிமுதல் செய்யப்படும். அவருக்கு மீண்டும் குவாரி குத்தகை வழங்க நடவடிக்கை மேற்கொள்ளப்படும்.

S.M.[illegible]

33) ஜாமீன் முத்தரை வழங்கப்பட்ட இப் தகவல் கருவை ஜாமீன் கொடுப்பின் ஏற்பாடுகளுடன் நகல் சான்றுப் அதாவது எனில் நகல் எடுக்க வழங்கப்பட வேண்டும்

34) வழங்கப்பட்ட முத்தரை உரிமத்திற்கு கொடுக்கவும் மற்றும் அதை முறை ஏதும் கூறுவதாக ஆட்சேபம் இருப்பின் கொடுக்கப்படை வருகி மாவட்ட ஆட்சியர் முத்தரையை ரத்துசெய்ய நோட்டீஸ் அனுப்பி ஏற்கும் இருப்பின் மறுமொழி முத்தரைதாருக்கு உரிமை இல்லை.

35) முத்தரைதாரர் ஜாமீனை வேறு யாருக்கும் மாற்றியோ உரிமத்தைவிற்கு விடவோ கூடாது அப்படி செய்வது கொடுப்பது தெரியவந்தால் மேற்படி முத்தரை ரத்துசெய்யப்படுவதுடன் அ முத்தரைதாரர் செலுத்திய தொகையும் அரசுக்கு ஆரசுக் கொடுக்கப்படும்.

36) முத்தரைதாரர், பதிவேடு மற்றும் சான்றிதழை முறையாக இயற்றும் அலுவலகத்தில் அரசு குறிப்பிட்ட படிவத்தில் அனுப்பவும் கீட்டுக்கான அச்சிட்டு சான்றிக்க வேண்டும். முத்தரைதாரர் சிறுவனிடம் எடுத்து செல்லும் வாகனத்தை அனுப்பவும் கீட்டு கொடுத்து அனுப்ப வேண்டும். இந்தச் சட்ட இரு பிரதிகள் அச்சிட்டு வரிசை எண்களிட்டு தாங்கள் உதிரசான எடுக்க இருக்கும் கொடுக்குவது போடு குறுகிய ஒரு கீட்டு மீதம் வகைக்கிட்டு அறிவிப்பு கிளியிழுத் தொலைவினை கொடுத்து பின்னர், சிறுவனிடம் பதிவேடு மற்றும் சான்றிதழை, முறை இயற்றுபவரிடம் அனுப்பவைக்கிட்டு மற்றும் கொடுத்த இலைகளைக் கீட்டு ஆகியவற்றில் உரிய முத்திரைகளும் கையொப்பமும் பெற்றுள்ளதை உறுதி செய்துகொள்ள வேண்டும்.

37) ஏற்கும் கொடுப்பது அனுப்பவைக்கிட்டில் எனில் வரிவசூல் கொடுத்தும் கொடுத்தும் வாகனங்கள் அதிலுள்ள சிறுவனிடத்தை முறையற்ற வகையில் எடுத்துச்செல்வதாக கருதப்பட்டு உரிம சட்டத்தின்படி உரிய அலுவலரால் வழக்குப்பதிவு செய்யப்படும்.

38) பதிவேடு மற்றும் சான்றிதழை அலுவலரின் அல்லது வருவாய்த்துறை அலுவலரின் முன்னிலையில் நிலங்களை கொடுப்பதை உரிய வகையில் மற்றும் அனுப்பவைக் கீட்டு ஏற்பளைக்கப்பட்ட ஜாமீன் முத்தரை உரிமம் பெற்ற முத்தரைதாரர் வாங்கிக்கொள்ளவேண்டும்.

39) அரசு அலுவலரின் முன்னிலை கொடுத்த பிறகு சிறுவனிடமும் கொடுத்தும் கொடுத்தும் வாகனங்களை அனுப்பவைப்பது சட்டத்தை மீறுவதாகும் முத்தரைதாரர்கள் அறிவுறுத்த வேண்டும்.

40) அனுப்பவைக்கிட்டில் உள்ள வரம்பை முற்றிலி கொடுப்பதனால் அல்லது தவறாக எழுதப்பட்டு வாகனங்களுக்கு கொடுப்பதற்கு முற்றிலும் சிறுவனிடம் கொடுத்தும் கொடுத்தும் வாகன உரிமையாளருக்கு அபராதம் விதித்து வழக்கு கொடுப்பதும் மற்றும் ஜாமீன் முத்தரையை ரத்து கொடுப்பதும் கொடுப்பதாகும்.

41) முத்தரைதாரர் தவிர்க்க முடியாத முறையில் வாகனம் சிறுவனிடம் கொடுத்து எடுத்துச்செல்ல வேண்டிய சூழ்நிலை ஏற்படின் அதை முன்னதாகவே அனுப்பவைக்கிட்டு மன்ற விண்ணப்பத்தைப் வழங்கி பதிவேடு பராமரிக்க வேண்டும். ஜாமீன் முத்தரை வைத்துள்ள இடம் பதிவுசெய்யப்பட வேண்டும்.

42) அரசு மற்றும் மாவட்ட ஆட்சியரால் ஜாமீன் முத்தரை உரிமம் எடுத்துள்ள முத்தரைதாரர் எந்த அலுவலரின் வரி வசூல் முறைகேடுகளுக்கும் முத்தரைதாரர் பொறுப்பாக மாட்டார். இதனால் எழுகின்ற அபராதத்தையும் முத்தரைதாரர்கள் கொடுக்க வேண்டும். இதனால் எழுகின்றவும் அபராதத்தையும் கொடுத்தேயாக வேண்டும்

43) முத்தரை நிறுவனம் ஆட்சியரால் முத்தரையை ரத்துச் செய்யவும் கொடுக்கப்பட்ட தவறுகளுக்கு முத்தரைதாரருக்கு எவ்வித அபராதமும் விதிக்கவும் கொடுப்பதற்கான அதிகாரம் ஆட்சியருக்கு உண்டு. முத்தரை ரத்துச் செய்யப்பட்டால் அங்குள்ளோரை உரிய அலுவலரை தொடர்புகொள்ள அனுப்பி ஆணையிடப்படும். மாவட்ட ஆட்சியர் என்னால்குறிப்பிடாத ஜாமீன் முத்தரையை ரத்துசெய்யும் அதிகாரம் அனைத்து வகையிலும் நடப்பிலுள்ளதும் அரசு கொடுப்பதை முன்னிட்டும் தனது இந்த ஆணைகளை மாற்றி கொள்ளலாம்.

44) முத்தரை வழங்கிய முத்தரையை அனுமதிக்கப்பட்டதும் கொடுத்தப்பட்ட முத்தரை தொகை பத்தாயிரத்தை முன்னிட்டு இருந்து வழங்கப்படாது

45) ஜாமீன்தாரின் சான்றையும் மற்றும் இரு சிலை சான்றுகளும் ஏற்கப்பட்டால் மாவட்ட ஆட்சியரின் தீர்மானிக்கும்

46) சுற்றுலாவிற்கு முத்தரை உரிமம் வழங்கப்பட்ட பின்னர் அக்குறிப்பாணியின் முன்னரை ஒரு பதிவேடு வைத்து முன்னிலுள்ளதாக வாகனம் பதிவுகளை வழங்கி பின்னர், பிற வகைகளுக்கான கொடுப்பதாகவும் அனுப்பப்பட்டதாக அது குறித்து அரசுக்கு தவறாமல் தெரிவிக்கப்படும். மேலும் ஆட்சியர் கருதும் உரிமத்தை ரத்துசெய்ய அதிகாரம் உரிமம் பெற்றவர் அரசாங்க சிலவுகளை பதிவுசெய்ய வேண்டும்

47) உரிமம் பெற்றவரும் அவ ஊழியரின் பெயர் எனவேறும் நிகழ்வுகளில் ஆரசை / தவறு ஏற்படுவதை நிவர்த்திக்க கொடுப்பதாக கொடுப்பதால் அனைத்து மீது முத்தரை உரிமம் வழங்கப்பட்டவரை ஆட்சியர் ரத்து செய்ய இருக்கலாம்

48) குத்தகைதாரர் குத்தகை வழங்கப்பட்ட முகாரி முகப்பில் முகாரியின் [illegible] எனச் சரிப் குத்தகைதாரர் [illegible] நாங்கப்பட்ட மாவட்ட ஆட்சியர் கொள்முதல் எனச் குத்தகை தொகை, குத்தகை காலம் போன்ற விவரங்கள் குறிக்கப்பட்ட தகவல் பலகையை தனது சொந்த செலவில் வைத்து குத்தகை காலம் முழுவதும் பராமரிக்கவேண்டும்.

49) குத்தகைதாரர் முகாரியின் எல்லைகளை தெளிவாக தெரியாத வண்ணம் எல்லைக்கற்கள் வைத்தி அடையாளமிட்டு பின்பே முகாரியை வேண்டும். எல்லைகற்களை குத்தகை காலம் முழுவதும் தனது சொந்த செலவில் நன்கு பராமரிக்கவேண்டும்.

50) குத்தகைக்கு வழங்கப்பட்ட கல்குவாரியில் சாதாரண கற்கள், கட்டுமானக் கற்கள், முன்னிருப்புள் ஆகியவைகளை மட்டுமே முகாரி செய்ய வேண்டும். மேலும் நாட்டுநிறு எற்றுமதி செய்வதற்கும் வேறு எற்றுமதிற்கும் பயன்படும் வகையைக்கப்பட்ட கற்களை உற்பத்தி செய்யக்கூடாது.

51) முகாரியில் வெடி வைத்து கற்களை உடைக்க அங்கீகாரம் பெற்ற வெடிபொருள் விற்பனையாளரிடம் (Licenced Explosive Dealer) வெடிபொருட்களை கொள்முதல் செய்து சான்று பெற்ற வெடி வெடிப்பவரைக்(Licenced shot Firer) கொண்டு அனைத்து பாதுகாப்பு நிபந்தனைகளையும் கடைபிடித்து வெடிகளை வெடிக்க வைக்க வேண்டும்.

52) முகாரியில் சாதாரண மற்ற கல்குவாரிகளை கொண்டு துளையிட்டு வெடிவைக்க வேண்டும். ஆழமான மிகை உடைவெடிகளை (Big Bore) கொண்டு துளையிட்டு வெடிவைக்கக்கூடாது. அருகிலுள்ள விவசாய நிலங்கள், பொதுக்கொத்துக்கள் மற்றும் பொதுமக்கள் குடியிருப்புகளுக்கு சான்று பாதிப்புகள் ஏற்படாவண்ணம் வெடி வைக்க வேண்டும்.

53) அரசு ஆணையர் முன்னிலை மற்றும் வருவாய்துறை மற்றும் மாவட்ட ஆட்சியரால் இது தொடர்பாக ஏற்படுத்தப்படுகின்ற மற்றும் அவ்வப்போது ஏற்படுத்தப்படும் சட்ட திட்டங்களுக்கும் நிபந்தனைகளுக்கும் குத்தகைதாரர் கட்டுப்பட்டு நடக்க வேண்டும்.

54) 1981ம் ஆண்டின் வெடிபொருள் சம்பந்தமான பொருளாதார, 1930 ஆம் ஆண்டின் சங்கம் வழங்குதல் சட்டம், 1884 ஆம் ஆண்டின் இந்திய வெடிபொருட்கள் சட்டம், 1884 ஆம் ஆண்டு குறிப்பிட்ட மத்திய சட்டம் ஆகியவற்றிற்கு உட்பட்டு குத்தகைதாரர் கனிமங்களை வெட்டி எடுத்து கொண்டுசெல்ல வேண்டும்.

55) முகாரியில் வேறு வெடிபொருட்களை மற்றும் இதர நபர்களுக்கு விற்பது மற்றவர் அனுமதியை முழு பொறுப்பையும் குத்தகைதாரரே ஏற்க வேண்டும். அதற்கு எவ்வகையிலும் அரசு பொறுப்பாகாது.

56) முகாரியில் நகர்ச்சி, ஒலியை, முகாரி மற்றும் பிரதான பாதைகளில் மாலை ஆறு மணிக்கு மேல் காலை ஆறு மணி வரை பாதுகாவல் வேலை வைத்து தகர்க்க கூடாது.

57) முகாரியில் இருந்து நகர்ச்சி, ஒலியை, முகாரி மற்றும் பிரதான பாதைகளில் மாலை ஆறு மணிக்கு மேல் காலை ஆறு மணி வரை கனரக வாகனங்கள் வெளியில் எடுத்துச் செல்லக் கூடாது.

58) முகாரி தொடர்பான அனைத்து பணிகளும் காலை 6.00 மணி முதல் மாலை 6.00 மணி வரை மட்டுமே மேற்கொள்ள வேண்டும்.

59) முகாரி குத்தகை வழங்கப்படும் பகுதியை சுற்றி குறைந்த பட்சம் 100 மரக்கன்றுகளையாவது நடவேண்டும் பராமரித்து பாதுகாத்து வளர்ச்சி அடையச் செய்ய வேண்டும்.

60) அங்கீகரிக்கப்பட்ட சுரங்க திட்ட முன்வரை முகாரி பணி மேற்கொள்ள வேண்டும். குத்தகை காலத்தில் அங்கீகரிக்கப்பட்ட சுரங்க திட்ட முன்வரை மீறப்பட்டால் அதனை விட அதிகமான கனிமத்தை முகாரி செய்ய விரும்பினால், திருத்தப்பட்ட சுரங்க திட்டம் சமர்ப்பித்து அங்கீகாரம் பெற்ற பின்னரே முகாரி பணி மேற்கொள்ள வேண்டும். சுரங்க திட்டம் சமர்ப்பித்து அங்கீகாரம் பெற்ற பின்னரே முகாரி பணி மேற்கொள்ள வேண்டும்.

61) குத்தகை விடப்பட்டுள்ள, இனமனுவை ந.க.எண்:64/2014/கனிமம்-1 நாள்:14.05.2015 எண்ணிட்ட வழங்கிய எழுக்கப்பட்ட முடிவின் எற்றுக்கொள்ளுக்க ரூ.20/- முத்திரைதாளில் ஆட்சியரிடம் தவறி செய்து தர வேண்டும்.

62) முகாரி ஆரம்பிக்கு தொடர்பான அறிவிக்கை (Notice of opening) இந்திய அரசு பெற்றவுடன் மாவட்ட சுரங்க அலுவலர் நேரடி பார்வைக்கு சமர்பிக்க வேண்டும்.

63) முகாரியில் அங்கீகரம் பெற்ற வகைகள் மேலதிக/வேண்டி கேட்/கோரும் ஆதிபடவான பணிகளுக்கிடையே மேலே முகாரி பணியை தொடங்க வேண்டும்.

64) முகாரி பகுதியில் வகைகள் கேட் எண்களையிட்டபின்பே கொடுவாய்து கொடுக்கும் பணியை தொடங்க வேண்டும்.

65) முகாரி பகுதியில் விற்பது மற்றும் எற்றுமதி அனைத்து உடனுக்குடன் இந்திய அரசு கொள்ளுக்கு மாவட்ட சுரங்க அலுவலர் நேரடி பார்வைக்கும் பிறகுதான் மாவட்ட ஆட்சியர் அனைவருக்கும் தெரிவிக்க வேண்டும். முகாரி பகுதியில் எற்றுமதி விற்பதற்கு முகாரி குத்தகைதாரரே முழு பொறுப்பாவர்.

அட்டவணை -1

சாதாரண கற்குவாரி பட்டியல்.

(i) கிருஷ்ணகிரி வருவாய் கோட்டம்.

பர்கூர் வட்டம்

வ. எண்	கிராமம்	க.எண்	மொத்த பரப்பு	குவாரி குத்தகை வழங்கும் பரப்பு	வகைப்பாடு	குத்தகை காலம் (வருடங்கள்)
(1)	(2)	(3)	(4) (ஹெக்டேர்)	(5) (ஹெக்டேர்)	(6)	(7)
1	பர்கூர்	63/2 (பகுதி)	9.35.50	3.35.0	நீ.ச.த. கல்லாங்குத்து	5
2	[illegible]	204 (பகுதி-1)	7.59.0	2.50.0	[illegible]	10

ஊத்தங்கரை வட்டம்

வ. எண்	கிராமம்	க.எண்	மொத்த பரப்பு	குவாரி குத்தகை வழங்கும் பரப்பு	வகைப்பாடு	குத்தகை காலம் (வருடங்கள்)
(1)	(2)	(3)	(4) (ஹெக்டேர்)	(5) (ஹெக்டேர்)	(6)	(7)
3	[illegible]	7/1 (பகுதி), 7/8 மற்றும் 8/1	3.12.0	1.11.5	நீ.ச.த. கல்லாங்குத்து	10

(ii) ஓசூர் வருவாய் கோட்டம்.

ஓசூர் வட்டம்

வ. எண்	கிராமம்	க.எண்	மொத்த பரப்பு	குவாரி குத்தகை வழங்கும் பரப்பு	வகைப்பாடு	குத்தகை காலம் (வருடங்கள்)
(1)	(2)	(3)	(4) (ஹெக்டேர்)	(5) (ஹெக்டேர்)	(6)	(7)
4	[illegible]	755 (பகுதி)	13.83.0	2.00.0	நீ.ச.த. கல்லாங்குத்து	10
5	[illegible]	583/1	2.16.50	2.16.50	நீ.ச.த. கல்லாங்குத்து	10
6	[illegible]	709 (பகுதி)	8.82.5	4.50.0	நீ.ச.த.	10
7	தொரப்பள்ளி அக்ரஹாரம்	682	2.90.0	2.20.0	நீ.ச.த. கல்லாங்குத்து	5
8	தொரப்பள்ளி அக்ரஹாரம்	486/1 (பகுதி)	1.74.0	1.00.0	நீ.ச.த. கல்லாங்குத்து	10
9	அச்செட்டிப்பள்ளி	866 & 867 (பகுதி)	8.78.5	3.50.0	நீ.ச.த.	10

சூளகிரி வட்டம்

வ. எண்	கிராமம்	புல எண்	மொத்த பரப்பு	குவாரி குத்தகை வழங்கும் பரப்பு	வகைப்பாடு	குத்தகை காலம் (வருடங்கள்)
(1)	(2)	(3)	(4) (ஹெக்டேர்)	(5) (ஹெக்டேர்)	(6)	(7)
10	[illegible]	232/2 (பகுதி)	15.86.5	2.40.0	தீ.ஏ.த	10
11	அத்திமுகம்	303 (பகுதி-1)	8.58.0	2.00.0	பாறை	10
12	அத்திமுகம்	303 (பகுதி-2)	8.58.0	2.00.0	பாறை	10
13	[illegible]	306 (பகுதி)	3.56.0	1.58.0	தீ.ஏ.த பாறை	10
14	[illegible]	306 (பகுதி)	3.56.0	2.00.0	தீ.ஏ.த பாறை	10
15	காமன்தொட்டி	178/1 (அ) 181 (பகுதி-1)	8.63.0	3.00.0	தீ.ஏ.த தரிசு	10
16	காமன்தொட்டி	178/1 (அ) 181 (பகுதி 2)	8.63.0	2.00.0	தீ.ஏ.த தரிசு	10
17	காமன்தொட்டி	553 (பகுதி)	7.56.0	3.35.0	தீ.ஏ.த தரிசு	5
18	[illegible]	940/1 (பகுதி-1)	102.76.5	4.02.0	அரசு புறம்போக்கு (மலை)	10
19	[illegible]	940/1 (பகுதி-2)	102.76.5	4.24.5	அரசு புறம்போக்கு (மலை)	10
20	[illegible]	420 (பகுதி)	48.61.0	4.00.0	தீ.ஏ.த (கரடு)	5
21	[illegible] மற்றும் [illegible]	837(பகுதி) (அ) 4 (பகுதி)	25.27.0 (அ) 2.55.0	2.00.0 0.95.0	தீ.ஏ.த புறம்போக்கு தீ.ஏ.த பாறை	10
22	பேரிகை	316/1 (பகுதி)	3.35.5	2.20.0	தீ.ஏ.த பாறை	10
23	[illegible]	299 (பகுதி)	5.00.0	3.00.0	கரடு	5
24	[illegible]	984(ப)	12.80.0	3.30.0	தீ.ஏ.த பாறை	10

தேன்கனிக்கோட்டை வட்டம்

வ. எண்	கிராமம்	புல எண்	மொத்த பரப்பு	குவாரி குத்தகை வழங்கும் பரப்பு	வகைப்பாடு	குத்தகை காலம் (வருடங்கள்)
(1)	(2)	(3)	(4) (ஹெக்டேர்)	(5) (ஹெக்டேர்)	(6)	(7)
25	நாகமங்கலம்	629 (பகுதி-3)	188.50.0	3.20.5	தீ.ஏ.த கல்லாங்குத்து	10
26	நாகமங்கலம்	560 (அ) 583 (பகுதி)	113.36.0	2.00.0	தீ.ஏ.த கரடு	10

கிருஷ்ணகிரி,
21-02-2019.

கு. பிரபாகர்,
மாவட்ட ஆட்சியர்,
கிருஷ்ணகிரி மாவட்டம்.

தமிழ்நாடு எழுதுபொருள் மற்றும் அச்சுத்துறை இயக்குநரால் சேலம் அரசினர் கிளை அச்சகத்தில் அச்சிடப்பட்டு
மாவட்ட ஆட்சியரால் வெளியிடப்பட்டது.

இணைப்பு I

பின் இணைப்பு VI

கொண்டு விண்ணப்பம் / குவாரி குத்தகை உரிமம் வழங்குவதற்கான விண்ணப்பம்

(மூன்று பிரதிகளில் சமர்ப்பிக்கப்பட வேண்டும்)

விடுநர்

பெறுநர்

மாவட்ட ஆட்சித்தலைவர்,
திருநெல்வேலி.

அய்யா,

திருநெல்வேலி மாவட்ட அரசிதழ் (சிறப்பு வெளியீடு)நாள் நாள் 2010 இல் வெளியிட்ட நாள் 2010ன் படி நிலத்துடன் தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி 8ன் கீழ் எனது / எங்களது விண்ணப்பத்தினை சமர்ப்பிக்கின்றேன் / சமர்ப்பிக்கின்றோம்.

தமிழ்நாடு சிறு கனிம சலுகை விதிகள் 1959 விதி 8ன் கீழ் குவாரி குத்தகை உரிமம் வழங்கும் படி நான் கேட்டுக்கொள்கிறேன் / நாங்கள் கேட்டுக்கொள்கிறோம்.

தேவையான விவரங்கள் கீழே கொடுக்கப்பட்டுள்ளது

1) விண்ணப்பதாரர் பெயர் மற்றும் முழு முகவரி :

2) விண்ணப்பதாரர்

அ) 1) தனிநபரா ? :

2) தனியார் நிறுவனமா ? :

3) நிறுவனம் அல்லது கழகமா :

ஆ) தனிநபராயின் விண்ணப்பதாரர்

எந்த நாட்டைச் சார்ந்தவர் :

இ) தனியார் நிறுவனமாயின்/
கழகமாயின் பெயர்,
நிறுவனத்தின் / கழகத்தின்
இயக்குநர்களின் நாடு நாட்டை சார்ந்த
விவரம் (எவ்விதம் உறுதி ஆதாரங்கள்)
இணைக்கப்பட வேண்டும் :

3) செலான் வாயிலாக செலுத்திய விவரம் / கேட்பு வரைவோலையின் எண் மற்றும் நாள் / வங்கி வரைவோலை இணைக்கப்பட வேண்டும் : ரூ

4) விண்ணப்பதாரர் கீழ்க்கண்ட இனங்களுக்கு ஆதார உறுதி ஆவணம் (அபிடவிட்) இணைக்கப்பட்டுள்ளதா? :

5) விண்ணப்பதாரர் குவாரி செய்ய விரும்பும் சிறுகனிமத்தின் பெயர் மற்றும் விவரம் :

6) குவாரி குத்தகை உரிமம் கோரும் காலம் :

7) விண்ணப்பிக்கும் இடத்தின் மொத்த பரப்பளவு :

8) டெண்டர் விண்ணப்பம் தவிர்த்து விண்ணப்பம் செய்யப்படும் இடத்தின் விவரம் :

மாவட்டம் :
வட்டம் :
கிராமம் :
புல எண் :
பரப்பளவு (ஹெக்டேரில்) :

9) குத்தகை உரிமம் பெறுவதற்கு விண்ணப்பதாரரால் செலுத்தப்படவுள்ள அதிக பட்ச ஒரு தடவை குவாரி குத்தகை தொகை (எண்ணாலும் எழுத்தாலும் எழுதப்பட வேண்டும்) :

10) ஏற்கனவே தமிழ்நாட்டில் குவாரி குத்தகை உரிமம் பெற்ற இடத்தின் விவரம் :

11) (அ) குவாரியிலிருந்து உரிய நிலுவை செலுத்தியதன் தொடர்பாக வழங்கிய நிலுவை இல்லா சான்று இணைக்கப்பட்டுள்ளதா? :

(ஆ) விண்ணப்பிக்கும் நாளில் குத்தகை உரிமம் ஏதும் விண்ணப்பதாரருக்கு இல்லை எனில் அதற்கு உண்டான ஆவண உறுதி ஆவணம் இணைக்கப்பட்டுள்ளதா? :

12) விண்ணப்பதாரரால் அளிக்கப்படும் வேறு ஏதேனும் கூடுதல் விவரங்கள் :

என்னால் / எங்களால் மேலே கொடுக்கப்பட்ட விவரங்கள் அனைத்தும் உண்மை. நான்/நாங்கள் அரசு / மாவட்ட ஆட்சித்தலைவர், மாவட்ட வன அலுவலர் ஆகியோர்களால் கேட்கப்படும் இதர விவரங்கள் மற்றும் செலான் வைப்பு தொகையினை அளிக்க சம்மதிக்கின்றேன் / சம்மதிக்கிறோம். தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959ன் கீழ் குத்தகை உரிமம் வழங்க உள்ள விதிகள் மற்றும் குவாரி செய்ய கொடுக்கப்பட்ட இதர நிபந்தனைகள் அனைத்தையும் தெரிந்து கொண்டேன் / கொண்டோம் என உறுதி அளிக்கின்றேன் / அளிக்கின்றோம். மேலும் எந்த சூழ்நிலையிலும் மேற்கண்ட குத்தகை உரிம இடத்திலிருந்து எடுக்கப்படும் கல் அல்லது அதற்கு மெருகேற்றுவதற்கு (Polish) உகந்த பரிமாணமுள்ள கற்கள் (Dimension stone) மற்றும் பலகை கற்கள் (Slabs) வெட்டியெடுக்க மாட்டேன் / மாட்டோம் என உறுதி அளிக்கின்றேன் / அளிக்கின்றோம்.

நாள் :
இடம் :

தங்கள் உண்மையுள்ள,

விண்ணப்பதாரரின் கையொப்பம்

...ANASEKAR
...AS/225/2011/A

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தமிழ்நாடு வனத்துறை

அனுப்புதல்

திரு. தீபக் எஸ். பில்கி, இ.வ.ப.,
வன உயிரினக் காப்பாளர்,
ஓசூர் கால்நடைப் பண்ணை அருகில்,
மத்திகிரி, ஓசூர் – 635 110.
தொலைபேசி எண். 04344–262259.

பெறுதல்

மாவட்ட ஆட்சித் தலைவர்,
கிருஷ்ணகிரி மாவட்டம்,
கிருஷ்ணகிரி.

ந.க.எண்.153/2019-எச். நாள். 30.01.2019
(ஸ்ரீ விளம்பி வருடம் தை 16, திருவள்ளுவர் ஆண்டு 2050)

ஐயா,

பொருள் : கனிமங்களும் குவாரிகளும் – சிறுகனிமம் – சாதாரணகற்கள் – கிருஷ்ணகிரி மாவட்டத்தில் உள்ள அரசு புறம்போக்கு நிலங்களில் உள்ள சாதாரண கற்கள் வெட்டியெடுக்க டெண்டருடன் இணைந்த ஏலமுறையில் குவாரி குத்தகை வழங்குதல் வனத்துறை சார்பாக பரிந்துரை செய்யக் கோரியது - வனத்துறை தடையின்மை கருத்து தெரிவித்தல் தொடர்பாக.

பார்வை : 1. மாவட்ட ஆட்சித் தலைவர், கிருஷ்ணகிரி மாவட்டம் ந.க.எண்.1609/2018(கனிமம்) நாள்.29.12.2018 மற்றும் 04.01.2019.

2. வனச்சரக அலுவலர், ஓசூர் சரகம் ந.க.எண்.02/2019 நாள் 23.01.2019.

*****

பார்வை 1-ல் கண்ட கிருஷ்ணகிரி மாவட்ட ஆட்சித் தலைவர் அவர்களது கடிதத்தில், கிருஷ்ணகிரி மாவட்டத்தில் உள்ள அரசு புறம்போக்கு நிலங்களில் சாதாரண கற்கள் வெட்டி எடுக்க டெண்டர் / பொது ஏலம் மூலம் குத்தகைக்கு வழங்க, வனத்துறை தடையின்மை கருத்து மற்றும் வனத்துறையின் தடையின்மை சான்று வழங்கவேண்டி கேட்கப்பட்டுள்ளது.

மேற்படி மனு மீது நடவடிக்கை எடுக்கும் பொருட்டு, ஓசூர் சரக வனச்சரக அலுவலர் மற்றும் சரக பணியாளர்களுடன் 21.01.2019 அன்று தணிக்கை மேற்கொண்டு அறிக்கை சமர்ப்பித்துள்ளார்.

ஓசூர் வனச்சரக அலுவலர் அறிக்கையின் அடிப்படையில், வன உயிரின காப்பாளர், ஓசூர் சரக பணியாளர்களுடன் தணிக்கை செய்யப்பட்டதில், கீழ்கண்ட அட்டவணையில் உள்ள குவாரிப் பகுதிகளுக்கு சாதாரண கற்கள் வெட்டி எடுக்க டெண்டர் / பொது ஏலத்தில் குத்தகைக்குவிட கீழ்கண்டவாறு வனத்துறையின் கருத்து தெரிவிக்கப்படுகிறது.

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i) சாதாரண கற்குவாரி குத்தகை வழங்க ஒப்பந்தம் செய்வதற்கு (Lease deed agreement) முன்பு ஒவ்வொரு குவாரிப் பகுதிக்கும் தனித்தனியாக வனத்துறையின் நிபந்தனையுடன் முன் அனுமதி பெற்றபின் குவாரிப் பணி செய்ய பணி ஆணை (Work order) வழங்கப்பட வேண்டும்.

ii) மேற்படி சாதாரண கற்குவாரி குத்தகை கோரும் புலங்கள் காவேரி வடக்கு வன உயிரின சரணாலயத்திற்கான Eco Sensitive Zone எல்லை நிர்ணயம் செய்ய பிறப்பிக்கப்பட்டு ஆணை எதிர்நோக்கியுள்ள சூழலில், காவேரி வடக்கு வன உயிரின சரணாலய எல்லையிலிருந்து 10 கி.மீ-க்குள் அமைந்திருப்பின் தேசிய வன உயிரின வாரியத்தின் முன் அனுமதி (National Board for Wildlife) பெறப்பட வேண்டும்.

iii) மலைதள பாதுகாப்பு பரிந்துரை குழு (Hill Area Conservation Authority)-ன்படி அறிவிக்கை செய்யப்பட்ட கிராம எல்லைக்குள் கற்குவாரி பணி செய்ய அனுமதி கோரியுள்ள புலங்கள் அமைந்திருப்பின், மலைதள பாதுகாப்பு பரிந்துரை குழு (Hill Area Conservation Authority)-ன் கீழ் முன் அனுமதி பெறப்பட வேண்டும்.

iv) உத்தேச கற்குவாரி செய்யும் புலங்கள் வருவாய்த்துறை ஆவணங்களில் "காடு" என வகைப்படுத்தப்பட்ட புலங்களில் கற்குவாரிப் பணிசெய்ய அனுமதிக்கக் கூடாது.

v) உத்தேச கற்குவாரி செய்யும் புலங்கள் தமிழ்நாடு வனச்சட்டம் 1882-ன் பிரிவு 4 மற்றும் 16-ன் கீழ் காப்பு நிலம் / காப்புக்காடு என அறிவிக்கை செய்யப்பட்ட புலங்களாக இருத்தல் கூடாது.

vi) உத்தேச கற்குவாரி செய்யும் புலங்கள் தமிழ்நாடு வனச்சட்டம் 1882-ன் பிரிவு 26-ன் கீழ் அறிவிக்கை செய்யப்பட்ட புலங்களாக இருத்தல்கூடாது.

vii) உத்தேச கற்குவாரி செய்யும் புலங்கள் காப்புக்காட்டின் எல்லைக்கு அருகில் அமைந்திருப்பின், Standing Orders of the Board of Revenue- volume – I Section III, Sub-Section 38 (III) வருவாய் வாரிய நிலை ஆணை தொகுப்பு I, பிரிவு 3, உட்பிரிவு 38 (III)-ன்படி காப்புக்காட்டிற்கு அருகில் உள்ள நிலத்தில் இதரபயன்பாட்டிற்கு உட்படுத்த நடவடிக்கை மேற்கொள்ளும்போது காப்புக் காட்டின் எல்லையிலிருந்து குறைந்தபட்சம் 60 மீட்டர் (3 Chain) தொலைவிற்கு அப்பாற்பட்டிருக்க வேண்டும் என்ற நிபந்தனையை கடைபிடிக்கப்பட வேண்டும்.

viii) அரசாணை (நிலை) எண்.79 தொழில் (எம்எம்.1) துறை நாள்.08.04.2015-ல் குறிப்பிட்டுள்ள நிபந்தனைகளை மாவட்ட நிர்வாகம் / கனிம வளத்துறை கவனத்தில் கொள்ளவேண்டும்.

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S. M. [signature]

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Shoolagiri Taluk

Sl. No.	Taluk / village	S.F.No.	Total Extent	Extent Proposed for Quarry Lease	Classification	Lease Period in years	Coordinates	
							Latitude	Longitude
1	Shoolagiri / Kamandoddi	178/1 & 181 (Part-1)	8.63.0	3.00.0	UAW-Tharisu	10	12° 41' 31.22"N	77° 56' 14.63"E
2	Shoolagiri / Kamandoddi	178/1 & 181 (Part - 2)	8.63.0	2.00.0	UAW-Tharisu	10	12° 41' 31.11"N	77° 56' 24.56"E
3	Shoolagiri / Thiyarana-durgam	940/1 (Part-I)	102.76.5	4.02.0	Malai-Poramb	10	12° 36' 17.17"N	77° 53' 57.68"E
4	Shoolagiri / Thiyarana-durgam	940/1 (Part-II)	102.76.5	4.24.5	Malai-Poramb	10	12° 36' 14.63"N	77° 54' 06.51"E

Hosur Taluk

Sl. No.	Taluk / village	S.F.No.	Total Extent	Extent Proposed for Quarry Lease	Classification	Lease Period in years	Coordinates	
							Latitude	Longitude
5	Hosur / Panchasipuram	755 (Part)	13.69.0	2.00.0	UAW	10	12° 35' 17.41"N	77° 47' 45.28"E
6	Hosur / Panchasipuram	583/1	2.16.50	2.16.50	UAW	10	12° 35' 54.75"N	77° 47' 09.63"E
7	Hosur / Mugalur	232/2 (Part)	15.86.0	4.00.0	UAW	10	12° 37' 19.01"N	77° 48' 56.57"E
8	Hosur / Mugalur	270 (Pt) & 271	5.54.00.36.5	3.15.5 0.36.5	Malai	5	12° 37' 04.81"N	77° 48' 57.06"E
9	Hosur / Sanamavu	964 (Part)	12.60.0	4.50.0	UAW-Paarai	5	12° 39' 47.41"N	77° 53' 54.10"E
10	Hosur / Thorapalli Agraharam	662	2.90.0	2.20.0	UAW-KallanKuthu	5	12° 41' 48.94"N	77° 54' 13.29"E
11	Hosur / Thorapalli Agraharam	486/1 (Part)	1.74.0	1.00.0	UAW-KallanKuthu	10	12°40' 23.75"N	77°52' 58.68"E

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12	Hosur / Thorapalli Agraharam	503 (Part-1)	3.95.0	2.00.0	UAW-KallanKuthu	5	12°40' 20.84"N	77°53' 19.37"E
13	Hosur / Thorapalli Agraharam	503 (Part-2)	3.96.0	1.40.0	UAW-Kallankuthu	5	12°40' 17.05"N	77°53' 20.41"E

Denkanikottai Taluk

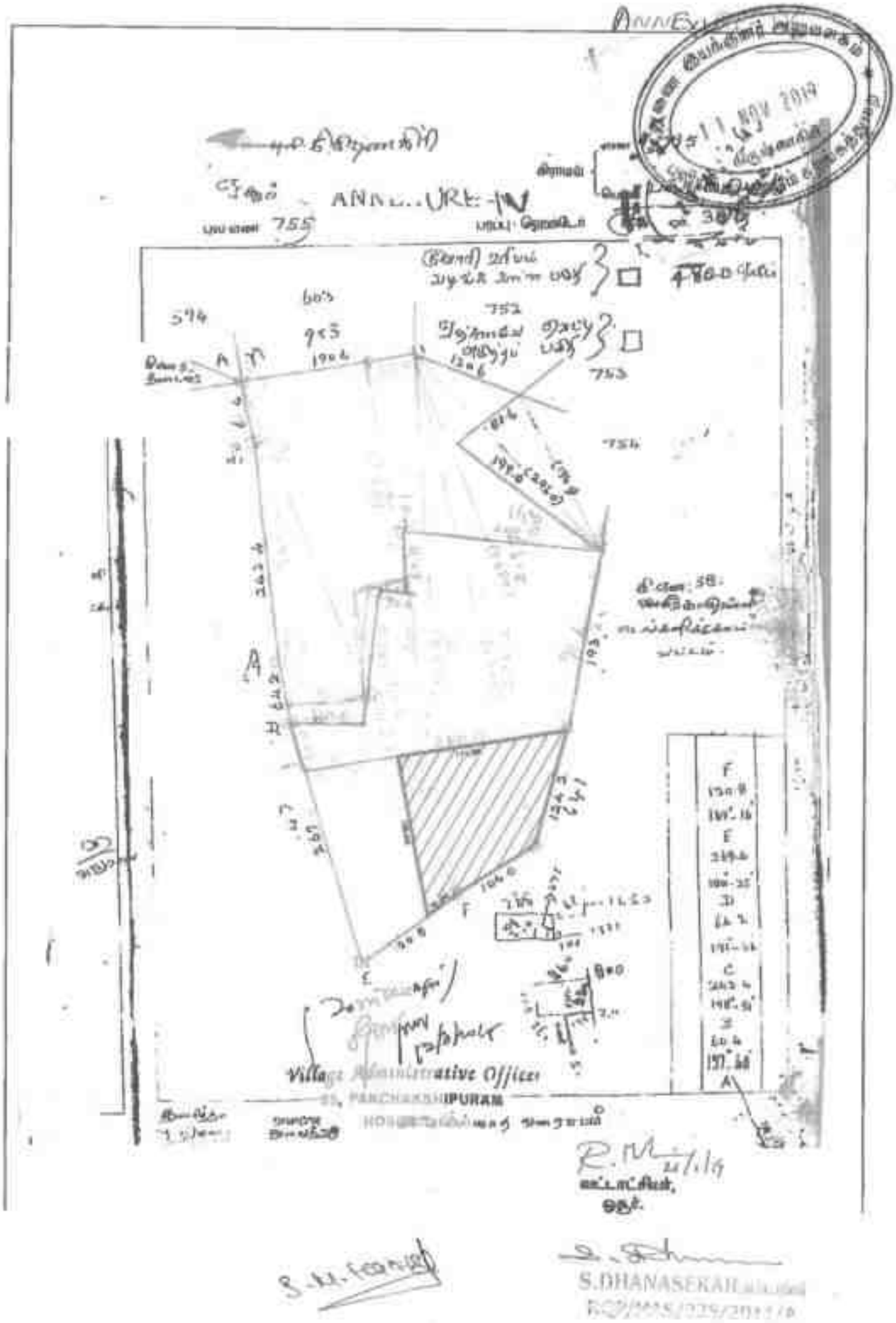
Sl. No	Taluk / village	S.F.No.	Total Extent	Extent Proposed for Quarry Lease	Classification	Lease Period in years	Coordinates	
							Latitude	Longitude
14	Denkanikottai/ Mallasandiram	771(PART)	2.79.5	2.15.0	UAW-Kallangudu	5	12° 33' 11.84"N	77° 47' 28.38"E
15	Denkanikottai/ Mallasandiram	887(PART-I)	6.82.5	3.00.0	UAW-Kallangudu	10	12° 33' 12.22"N	77° 47' 20.48"E
16	Denkanikottai/ Mallasandiram	887(PART-II)	6.82.5	2.47.5	UAW-Kallangudu	10	12° 33' 12.37"N	77° 47' 24.63"E
17	Denkanikottai/ Nagamangalam	629 (PART-III)	108.50.0	3.20.5	UAW-Kallangudu	10	12° 34' 26.36"N	77° 54' 50.72"E
18	Denkanikottai/ Nagamangalam	560 & 563A (Part)	113.36.0	2.00.0	UAW-karadu	10	12° 35' 23.34"N	77° 54' 39.45"E

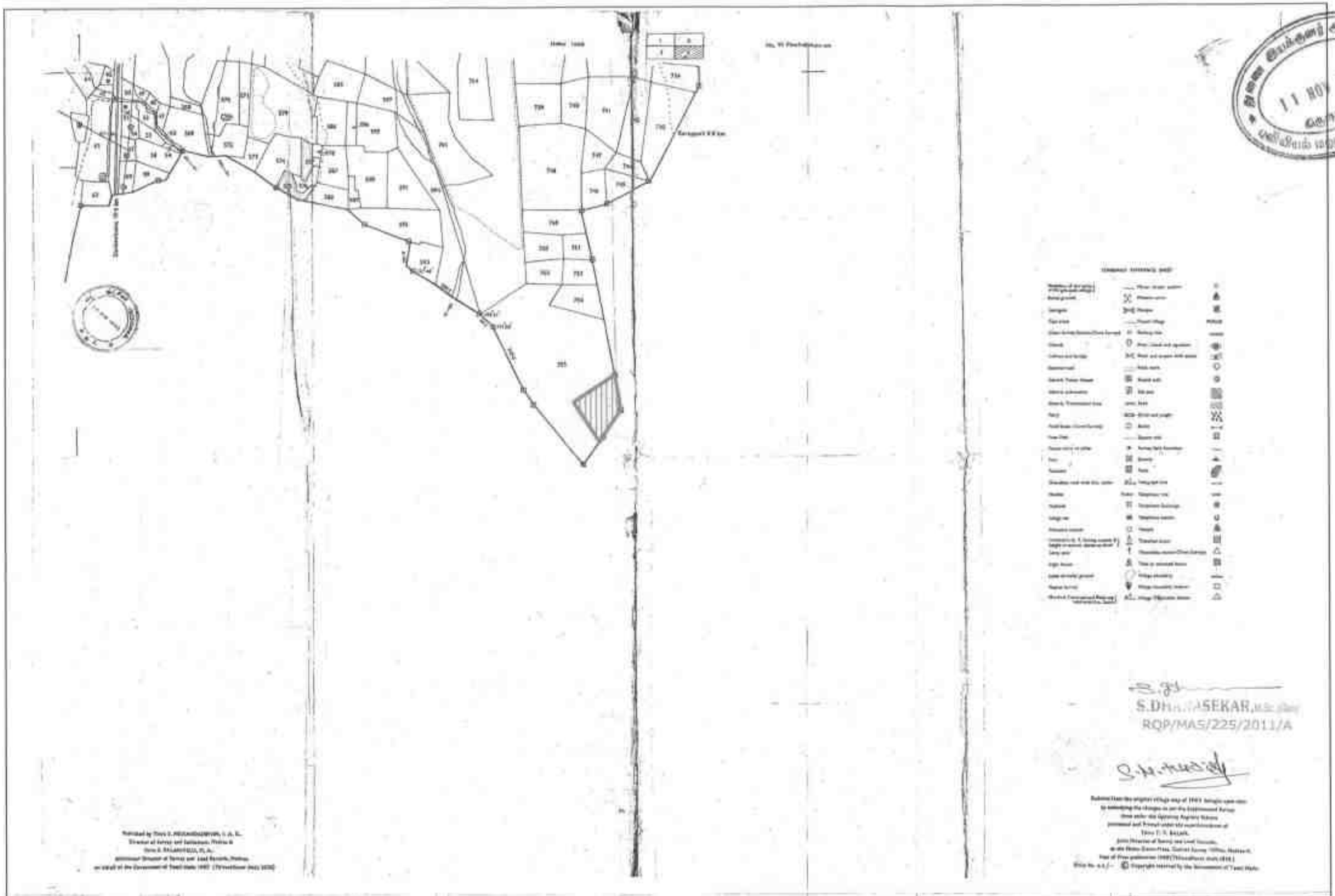
மேற்கண்ட இனங்களுக்கு கெண்டச் / மொது ஏலத்தில் குத்தகைக்குவிட்டுவே வனத்துறையின் நடவடிக்கைச் சான்று தற்போது அளிக்கப்படுகிறது. ஒவ்வொரு குவாரிப் பகுதிகளுக்கும் வனத்துறையின் மூலம் தனித்தனியாக தணிக்கை மேற்கொண்டு, அதற்கேற்ப சட்ட திட்டங்களுக்கு உட்பட்டு, மாண்புமிகு உச்சநீதி மன்ற ஆணைகளை கடைபிடிக்க (Compensatory plating), மனித – வன விலங்கு மோதல்கள் மற்றும் மாசு கட்டுப்பாடு போன்றவற்றை கருத்தில்கொண்டு வனத்துறையின் கருத்துகள் மற்றும் நிபந்தனைகளை பெற ஒவ்வொரு குத்தகைக்கும் தனித்தனியாக விண்ணப்பிக்க வேண்டும் என்பதை அன்புடன் தெரிவித்துக்கொள்கிறேன்.

தங்கள் அன்புள்ள,

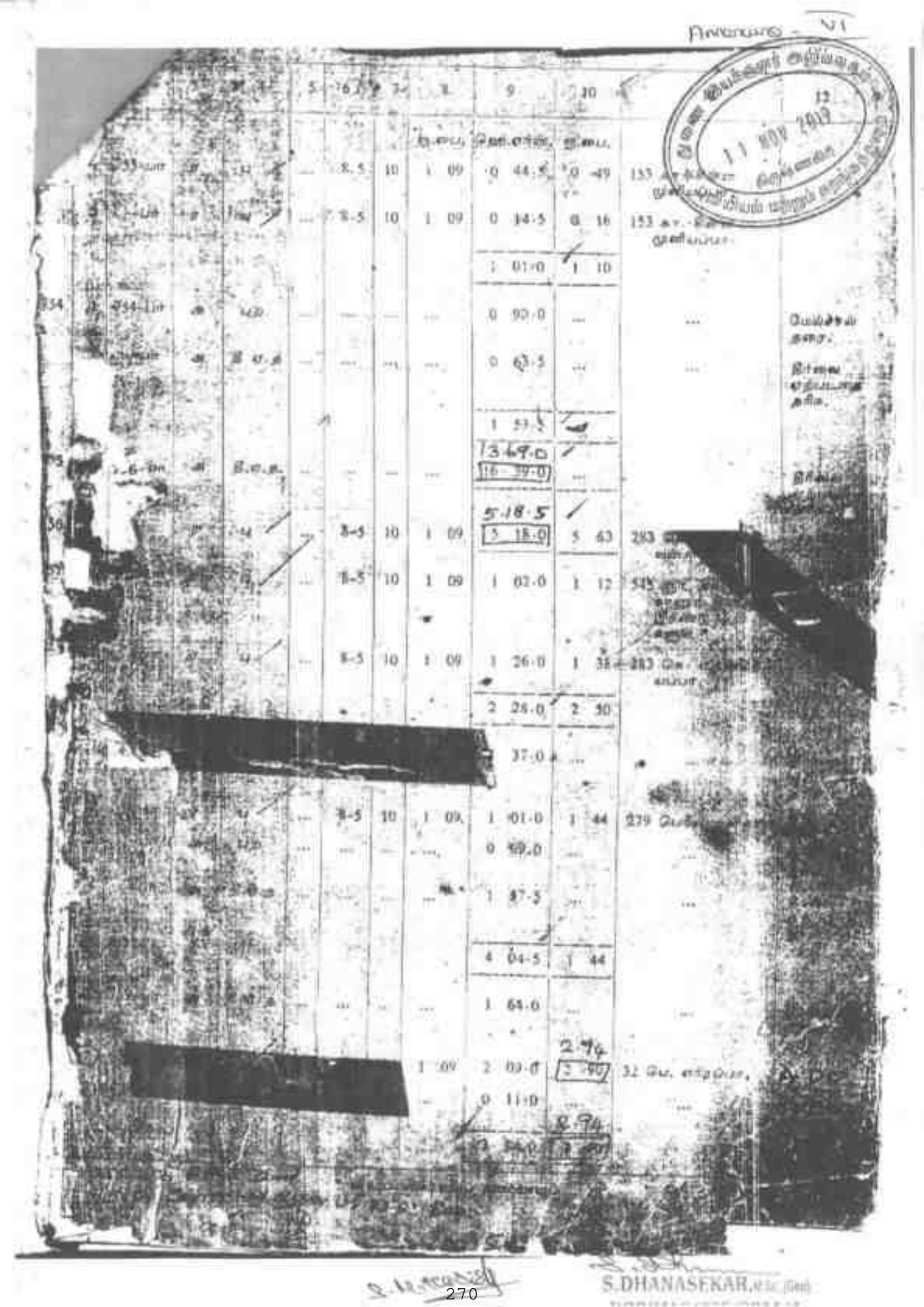
வனப்பாதுகாப்பாளர்,
ஒசூர் வனக்கோட்டம்.

S.DHANASEKAR.
RQP/MAS/225/2011/A


ANNEXURE-IV
755
754
753
752
594
Village Administrative Officer
PANCHAKSHIPURAM



S.DHANASEKAR,
RQP/MAS/225/2011/A



VII

J.DHANASEKAR, M.Sc.,(Geo)
RQP/MAS/225/2011/A

CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON TO PREPARE MINING PLANS

(Under Rule 22 C of Mineral Concession Rules 1960)

Shri S. DHANASEKAR resident of Old No.6, New No.8/3, Kullappan Street, Opp. Indian Bank Line, Omalur (P.O), Salem – 636 455, son of Shri A. SUNDARAM having given satisfactory evidence of his qualifications and experience is hereby granted recognition under Rule 22C of the Mineral Concession Rules, 1960 as a Qualified Person to prepare Mining Plans.

His registration number is **RQP/MAS/225/2011/A**

recognition is valid for a period of ten years ending 12.01.2021.

Regional Controller of Mines
Indian Bureau of Mines
Chennai Region

Place : Chennai
Date : 13.01.2011

S.DHA[illegible]KAR,
RQP/MA[illegible]/2011/A

ANNEXURE- IX

PHOTO SHOWN PROPOSED LEASE AREA VIEW-1

PHOTO SHOWN PROPOSED LEASE AREA VIEW-2

S.DHANASEKAR, M.Sc.,(Geo)
ROP/MAS/225/2011/A

PLATE NO: I

DATE OF SURVEY: 14-06-2019

APPLICANT:

THIRU. S.M. HARISH,
S/o. MUNIRAJ,
D. No. 2/159, H SETTIPALLI VILLAGE,
J.KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.

LOCATION:

EXTENT	: 2.00.0 Ha
S.F.NO	: 755 (PART)
VILLAGE	: PANCHAKSHIPURAM
TALUK	: HOSUR
DISTRICT	: KRISHNAGIRI

INDEX

MINE LEASE AREA :

TOPO SHEET NO. : 57-H/14

LATITUDE : 12° 35' 17.41"N to 12° 35' 14.55"N

LONGITUDE : 77° 47' 45.28"E to 77° 47' 40.35"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

S.DHANASEKAR,M.Sc.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/22/2018/A

ROUTE MAP

PLATE NO-IA

S.DHANASEKAR,M.Sc.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/225/2011/A

N

PLATE NO: IB

DATE OF SURVEY: 14-06-2019

APPLICANT ADDRESS:

THIRU. S.M. HARISH,
S/o. MUNIRAJ,
D. No. 2/159, H SETTIPALLI VILLAGE,
J.KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.

LOCATION OF QUARRY:

EXTENT	: 2.00.0 Ha
S.F.NO	: 755 (PART)
VILLAGE	: PANCHAKSHIPURAM
TALUK	: HOSUR
DISTRICT	: KRISHNAGIRI.

INDEX

MINE LEASE AREA :

500M RADIUS :

TOPO SHEET NO. : 57-H/14

LATITUDE : 12° 35' 17.41"N to 12° 35' 14.55"N

LONGITUDE : 77° 47' 45.28"E to 77° 47' 40.35"E

TOPO SHEET KEY MAP

SCALE-1:50,000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

S.DHANASUKARAN,M.Sc.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/223/2011/A

12° 35' 17.41"N
77° 47' 45.28"E

12° 35' 14.55"N
77° 47' 40.35"E

12° 35' 13.40"N
77° 47' 45.28"E

12° 35' 09.87"N
77° 47' 43.14"E

PLATE NO: I-C

DATE OF SURVEY: 14-06-2019

APPLICANT ADDRESS:

THIRU. S.M. HARISH,
S/o. MUNIRAJ,
D. No. 2/159, H SETTIPALLI VILLAGE,
J.KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.

LOCATION OF QUARRY:

EXTENT	: 2.00.0 Ha
S.F.NO	: 755 (PART)
VILLAGE	: PANCHAKSHIPURAM
TALUK	: HOSUR
DISTRICT	: KRISHNAGIRI.

INDEX

QUARRY LEASE AREA

500m RADIUS

300M RADIUS

TOPO SHEET NO. : 57-H/14

LATITUDE : 12° 35' 17.41"N to 12° 35' 14.55"N

LONGITUDE : 77° 47' 45.28"E to 77° 47' 40.35"E

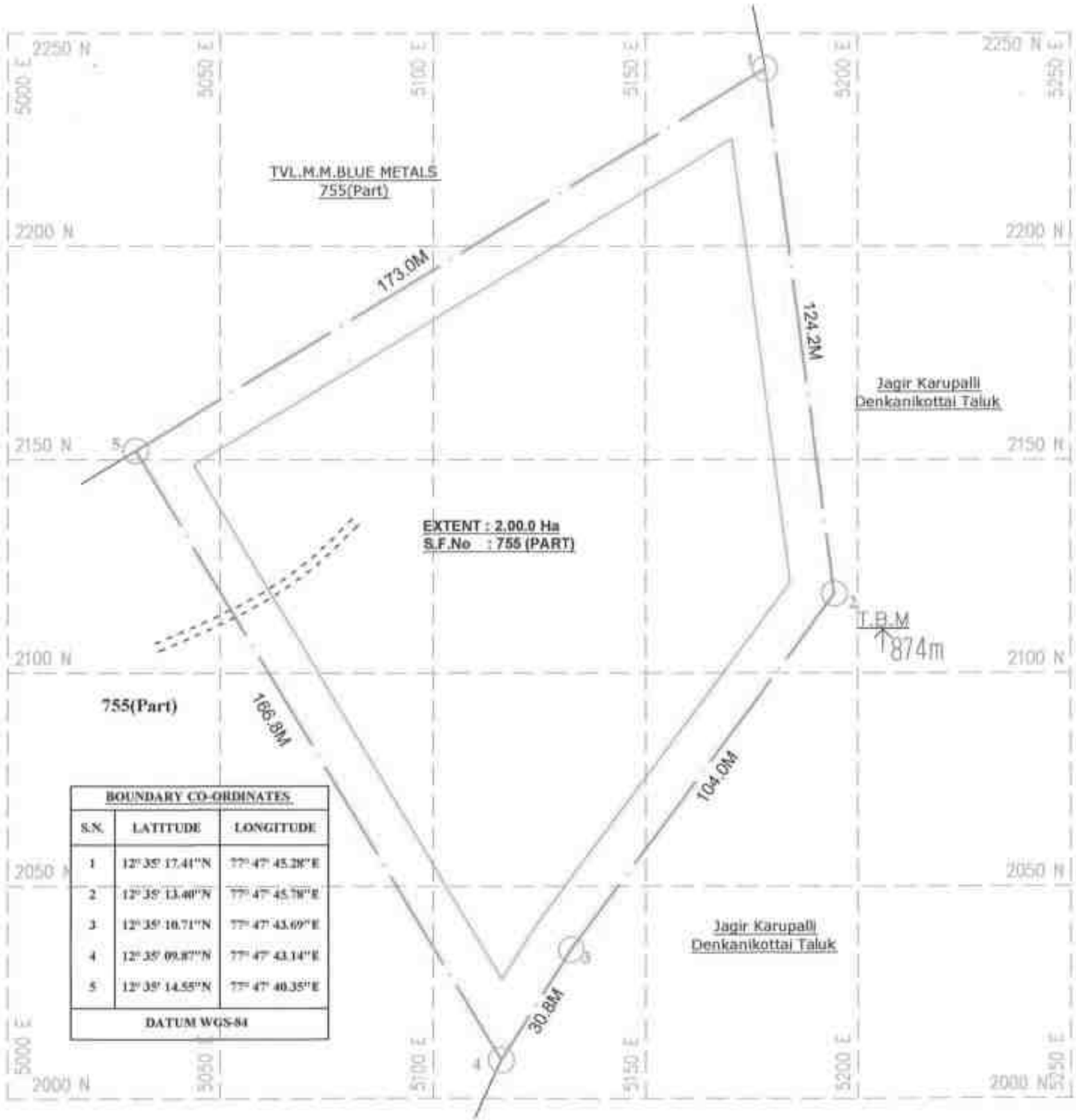
SATELLITE IMAGINARY MAP

SCALE- 1:5000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

S.DHANASEKAR M.Sc.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/225/2011/A



BOUNDARY CO-ORDINATES		
S.N.	LATITUDE	LONGITUDE
1	12° 35' 17.41"N	77° 47' 45.28"E
2	12° 35' 13.40"N	77° 47' 45.78"E
3	12° 35' 10.71"N	77° 47' 43.69"E
4	12° 35' 09.87"N	77° 47' 43.14"E
5	12° 35' 14.55"N	77° 47' 40.35"E
DATUM WGS-84		

PLATE NO: II

DATE OF SURVEY: 14-06-2019

APPLICANT ADDRESS:

THIRU. S.M. HARISH,
S/o. MUNIRAJ,
D. No. 2/159, H SETTIPALLI VILLAGE,
J.KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.

INDEX

- Q.L.BOUNDARY
- 10.0m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- APPROACH ROAD
- BOUNDARY PILLARS

LOCATION OF QUARRY:

EXTENT	: 2.00.0 Ha
S.F.NO	: 755 (PART)
VILLAGE	: PANCHAKSHIPURAM
TALUK	: HOSUR
DISTRICT	: KRISHNAGIRI.

MINE LEASE PLAN

SCALE - 1 : 1000

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLAN IS HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

S.SIVANASEKARAN M.Sc.,
RECOGNIZED QUALIFIED PERSON

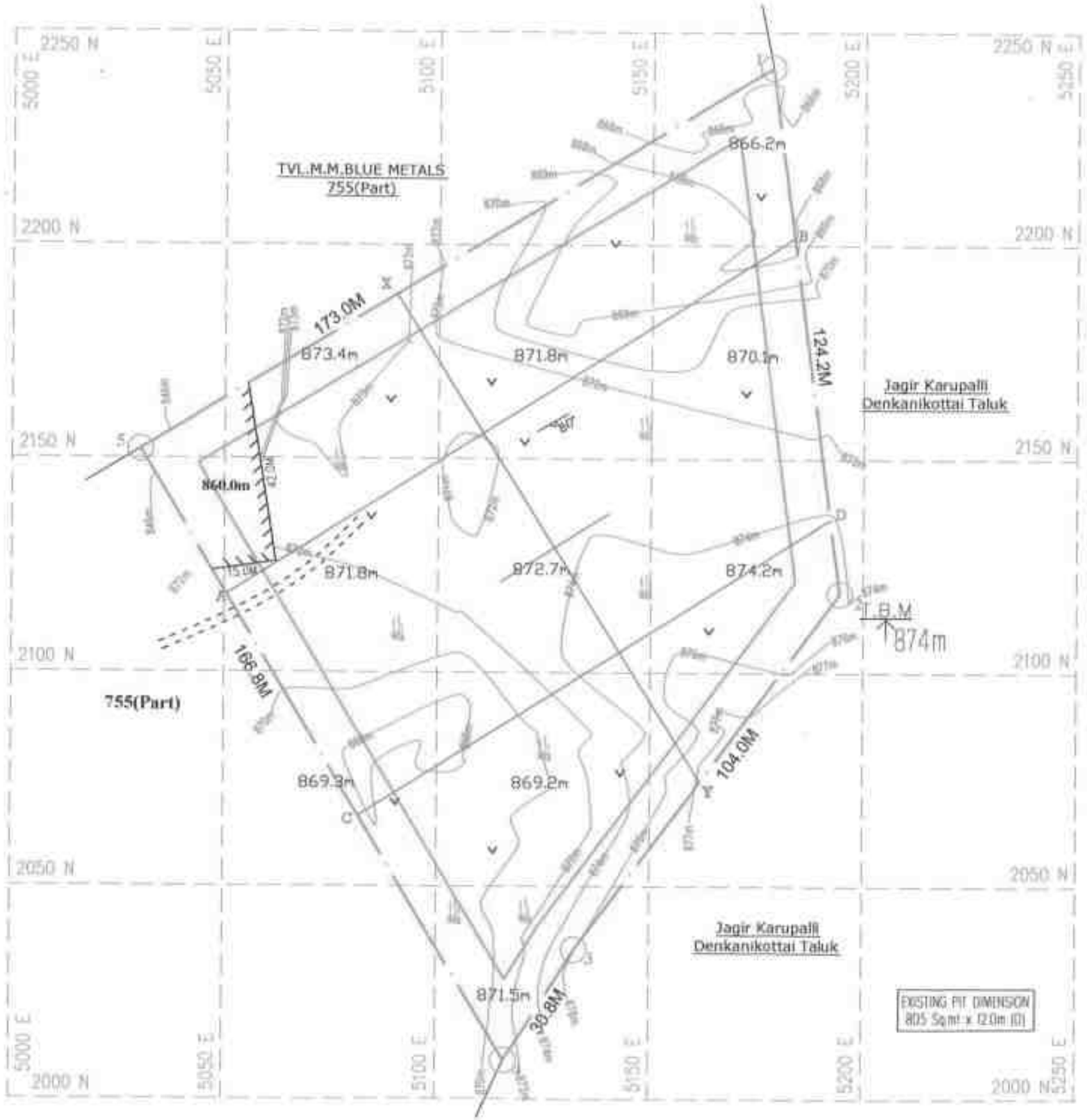


PLATE NO: III

DATE OF SURVEY: 14-06-2019

APPLICANT ADDRESS:

THIRU. S.M. HARISH,
S/o. MUNIRAJ,
D. No. 2/159, H SETTIPALLI VILLAGE,
J.KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.

INDEX

- QUARRY LEASE BOUNDARY
- 10.0m SAFETY DISTANCE
- TEMPORARY BENCH MARK (TBM 874m)
- TOP SOIL
- ROUGH STONE
- OLD QUARRY PIT
- STRIKE & DIP (60°)
- QUARRY ROAD
- SHRUB
- CONTOUR LINE

LOCATION OF QUARRY:

EXTENT	: 2.00.0 Ha
S.F.NO	: 755 (PART)
VILLAGE	: PANCHAKSHIPURAM
TALUK	: HOSUR
DISTRICT	: KRISHNAGIRI.

SURFACE AND GEOLOGICAL PLAN

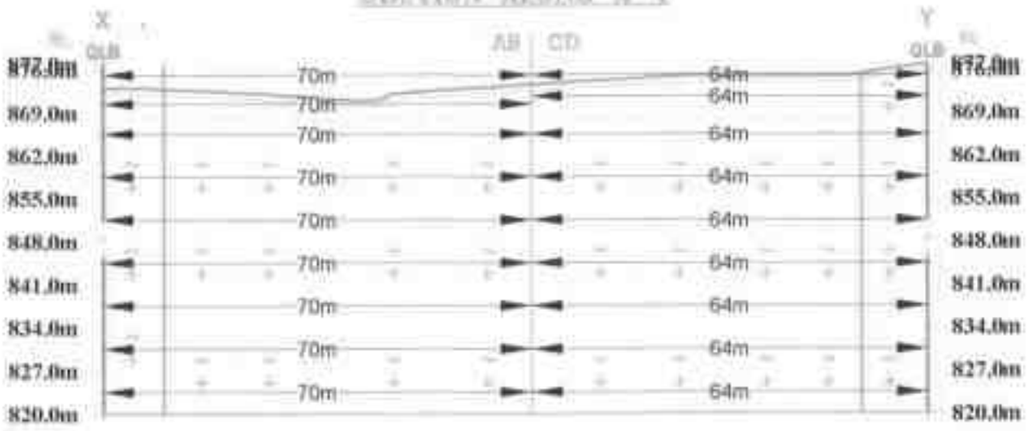
SCALE - 1 : 1000

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

S.DHARANEEDHARAN,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/225/2011/A

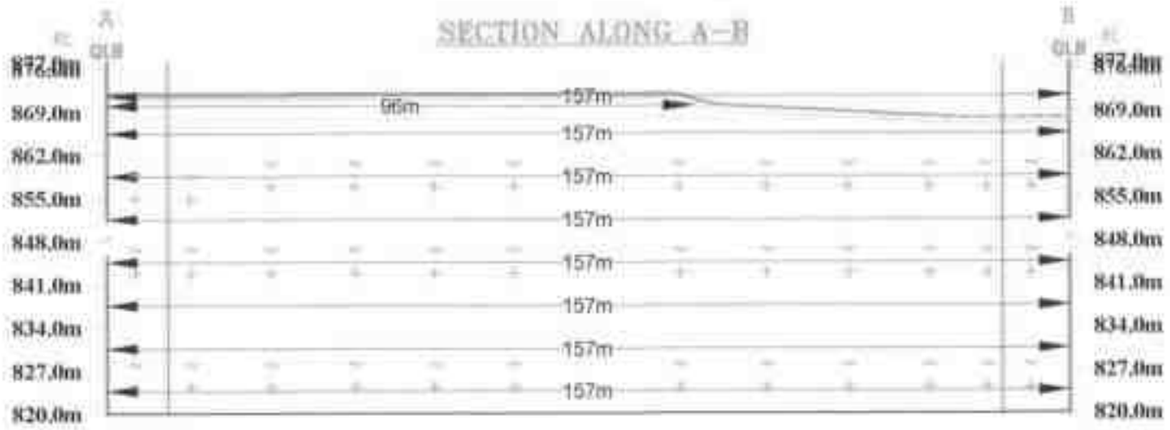
SECTION ALONG X-Y



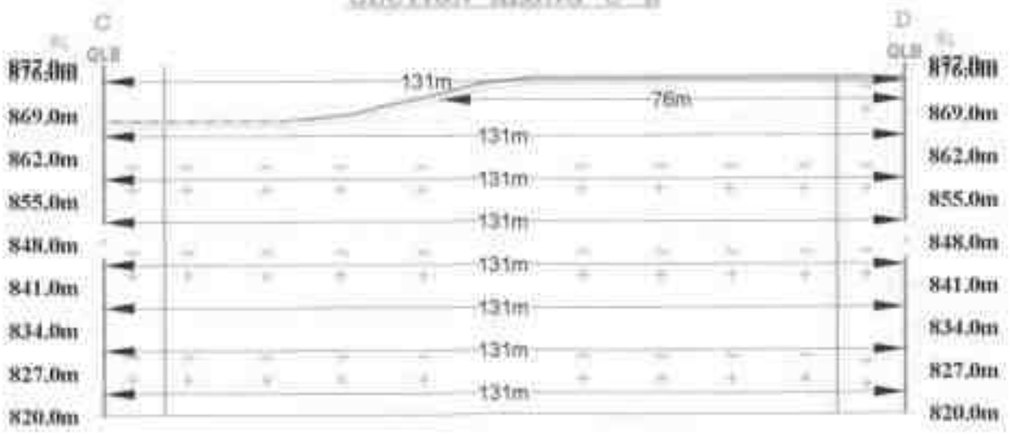
TOTAL DEPTH = 57m

SURFACE GROUND LEVEL ABOVE - 9m
SURFACE GROUND LEVEL BELOW - 48m

SECTION ALONG A-B



SECTION ALONG C-D



GEOLOGICAL RESERVES									
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in M3	Roughstone Reserves in m3 @ 95%	Mine waste in m3 @ 5%	Top Soil in m3	
XY-AB	I	70	157	1				10990	
	II	70	96	3	20160	19152	1008		
	III	70	157	7	76930	73084	3846		
	IV	70	157	7	76930	73084	3846		
	V	70	157	7	76930	73084	3846		
	VI	70	157	7	76930	73084	3846		
	VII	70	157	7	76930	73084	3846		
	VIII	70	157	7	76930	73084	3846		
	IX	70	157	7	76930	73084	3846		
TOTAL					556670	529740	27930	10990	
XY-CD	I	64	131	1				8384	
	II	64	26	7	34048	32346	1702		
	III	64	131	7	58688	55754	2934		
	IV	64	131	7	58688	55754	2934		
	V	64	131	7	58688	55754	2934		
	VI	64	131	7	58688	55754	2934		
	VII	64	131	7	58688	55754	2934		
	VIII	64	131	7	58688	55754	2934		
	IX	64	131	7	58688	55754	2934		
TOTAL					448864	426528	22340	8384	
GRAND TOTAL					1005534	956364	50170	19374	

PLATE NO: III-A

DATE OF SURVEY: 14-06-2019

APPLICANT ADDRESS:

THIRU. S.M. HARISH,
S/o. MUNIRAJ,
D. No. 2/159, H SETTIPALLI VILLAGE,
J.KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.

INDEX

Q.L.BOUNDARY

10.0m SAFETY DISTANCE

TOP SOIL

ROUGH STONE

LOCATION OF QUARRY:

EXTENT : 2.00.0 Ha
S.F.NO : 755 (PART)
VILLAGE : PANCHAKSHIPURAM
TALUK : HOSUR
DISTRICT : KRISHNAGIRI.

GEOLOGICAL SECTIONS

SCALE - 1 : 1000

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

S.THIAGARAJAN M.Sc.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/212/2018

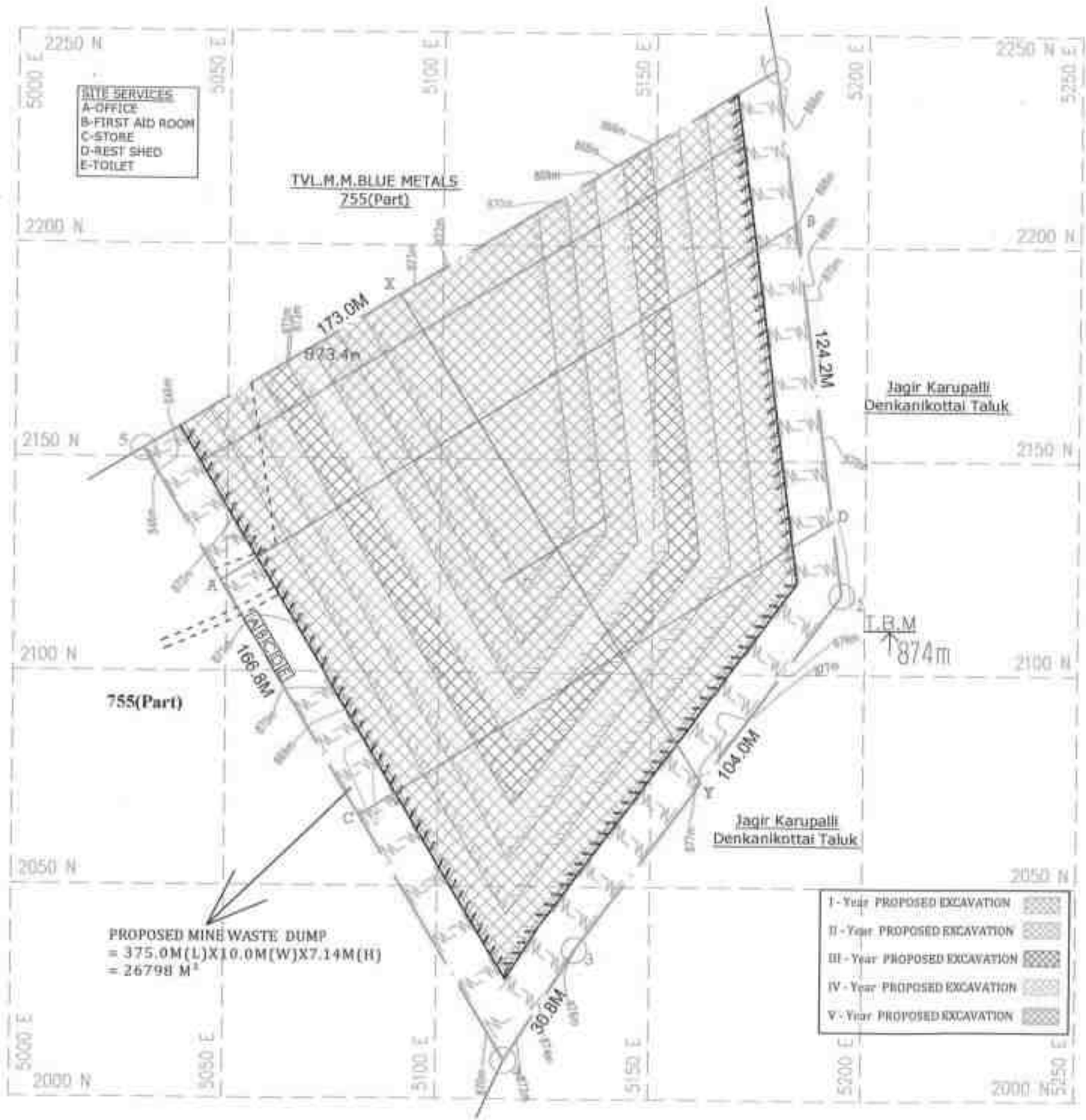


PLATE NO: IV

DATE OF SURVEY: 14-06-2019

11 NOV 2019

APPLICANT ADDRESS:

THIRU. S.M. HARISH,
S/o. MUNIRAJ,
D. No. 2/159, H SETTIPALLI VILLAGE,
J.KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.

INDEX

- QUARRY LEASE BOUNDARY
- 10.0m SAFETY DISTANCE
- TEMPORARY BENCH MARK (TBM 874M)
- TOP SOIL
- ROUGH STONE
- QUARRY PIT
- QUARRY ROAD
- CONTOUR LINE
- PROPOSED MINE WASTE DUMP

LOCATION OF QUARRY:

EXTENT	: 2.00.0 Ha
S.F.NO	: 755 (PART)
VILLAGE	: PANCHAKSHIPURAM
TALUK	: HOSUR
DISTRICT	: KRISHNAGIRI.

YEARWISE DEVELOPMENT & PRODUCTION PLAN

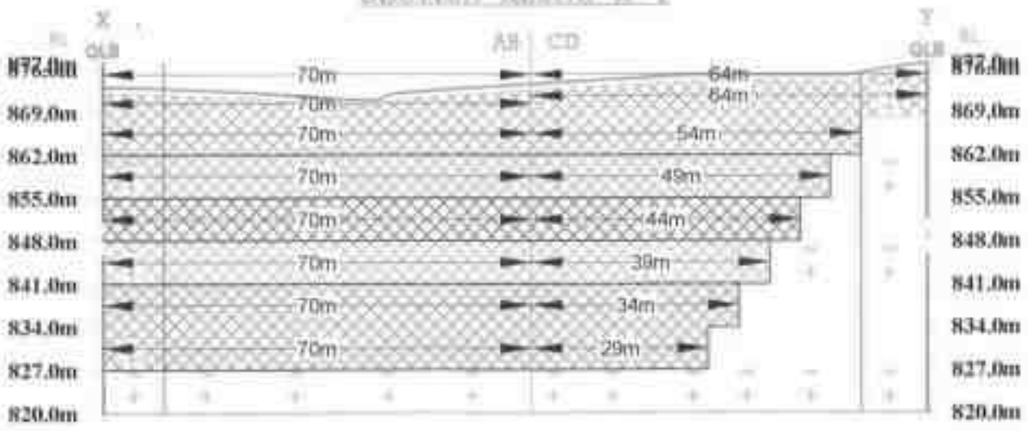
SCALE - 1 : 1000

PREPARED BY:

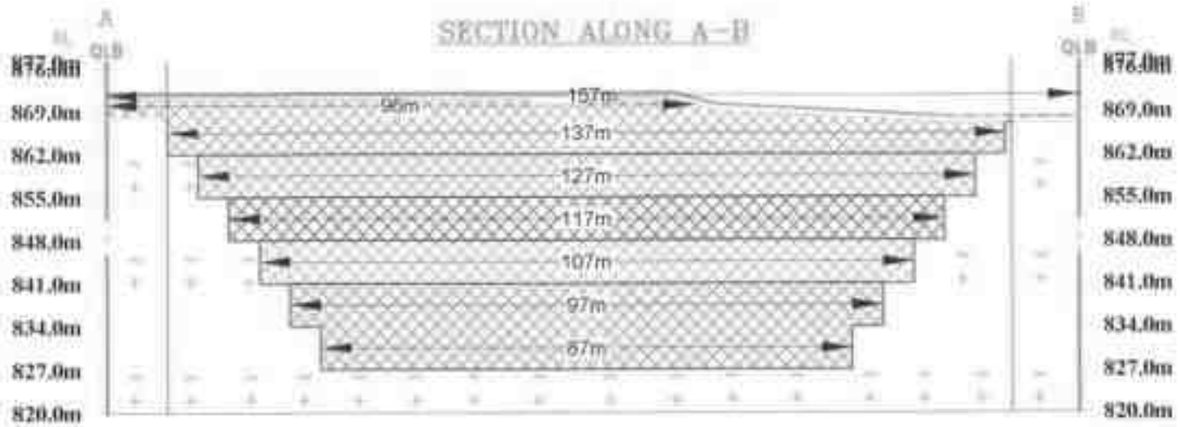
I DO HEREBY CERTIFY THAT THE PLAN HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

S.DHANASEKARAN,
RECOGNIZED QUALIFIED PERSON

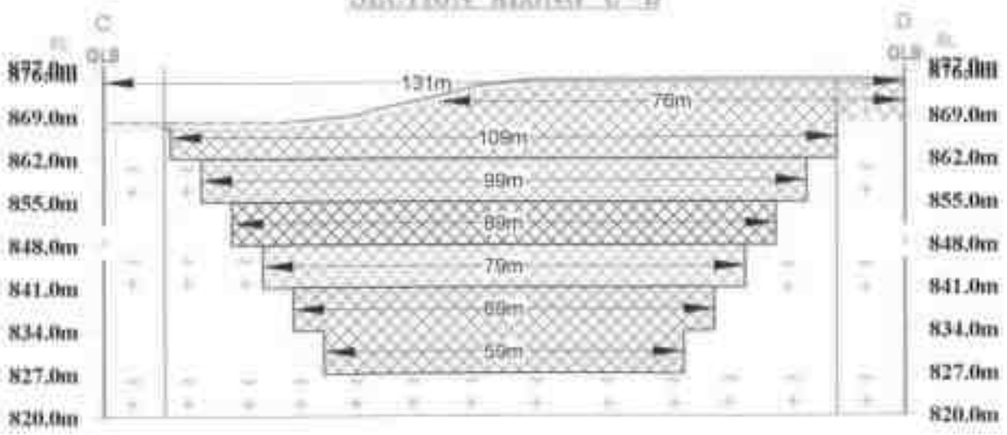
SECTION ALONG X-Y



SECTION ALONG A-B



SECTION ALONG C-D



YEARWISE TOTAL DEPTH = 50m

SURFACE GROUND LEVEL ABOVE - 9m
SURFACE GROUND LEVEL BELOW - 41m

I - Year PROPOSED EXCAVATION
II - Year PROPOSED EXCAVATION
III - Year PROPOSED EXCAVATION
IV - Year PROPOSED EXCAVATION
V - Year PROPOSED EXCAVATION

YEARWISE DEVELOPMENT AND PRODUCTION

Year	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in M3	Roughstone Reserves in m3 @ 95%	Mine waste in m3 @ 5%	Top Soil in m3
I YEAR	I	70	157	1				10990
	II	70	95	1	20560	19532	1008	
	III	70	137	7	67130	63774	3356	
	I	84	131	1				8364
	II	64	76	7	34068	32365	1702	
	III	54	109	7	41303	39142	2060	
TOTAL					162540	154414	8126	19374
II YEAR	IV	70	127	7	62330	59219	3111	
	IV	49	99	7	33857	32259	1698	
TOTAL					96187	91378	4809	
III YEAR	V	70	117	7	57330	54464	2866	
	V	44	89	7	27413	26041	1371	
TOTAL					84742	80505	4237	
IV YEAR	VI	70	107	7	52430	49809	2621	
	VI	39	79	7	21567	20489	1078	
TOTAL					73997	70298	3699	
V YEAR	VII	70	97	7	47530	45154	2376	
	VIII	30	83	7	42630	40495	2131	
	VII	34	69	7	16422	15601	821	
	VIII	29	59	7	11877	11378	599	
TOTAL					118559	112632	5927	
GRAND TOTAL					536025	509227	26798	19374

PLATE NO: IV-A

DATE OF SURVEY: 14-06-2019

APPLICANT ADDRESS:

THIRU. S.M. HARISH,
S/o. MUNIRAJ,
D. No. 2/159, H SETTIPALLI VILLAGE,
J.KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.

INDEX

Q.L.BOUNDARY
10.0m SAFETY DISTANCE
TOP SOIL
ROUGH STONE

LOCATION OF QUARRY:

EXTENT : 2.00.0 Ha
S.F.NO : 755 (PART)
VILLAGE : PANCHAKSHIPURAM
TALUK : HOSUR
DISTRICT : KRISHNAGIRI

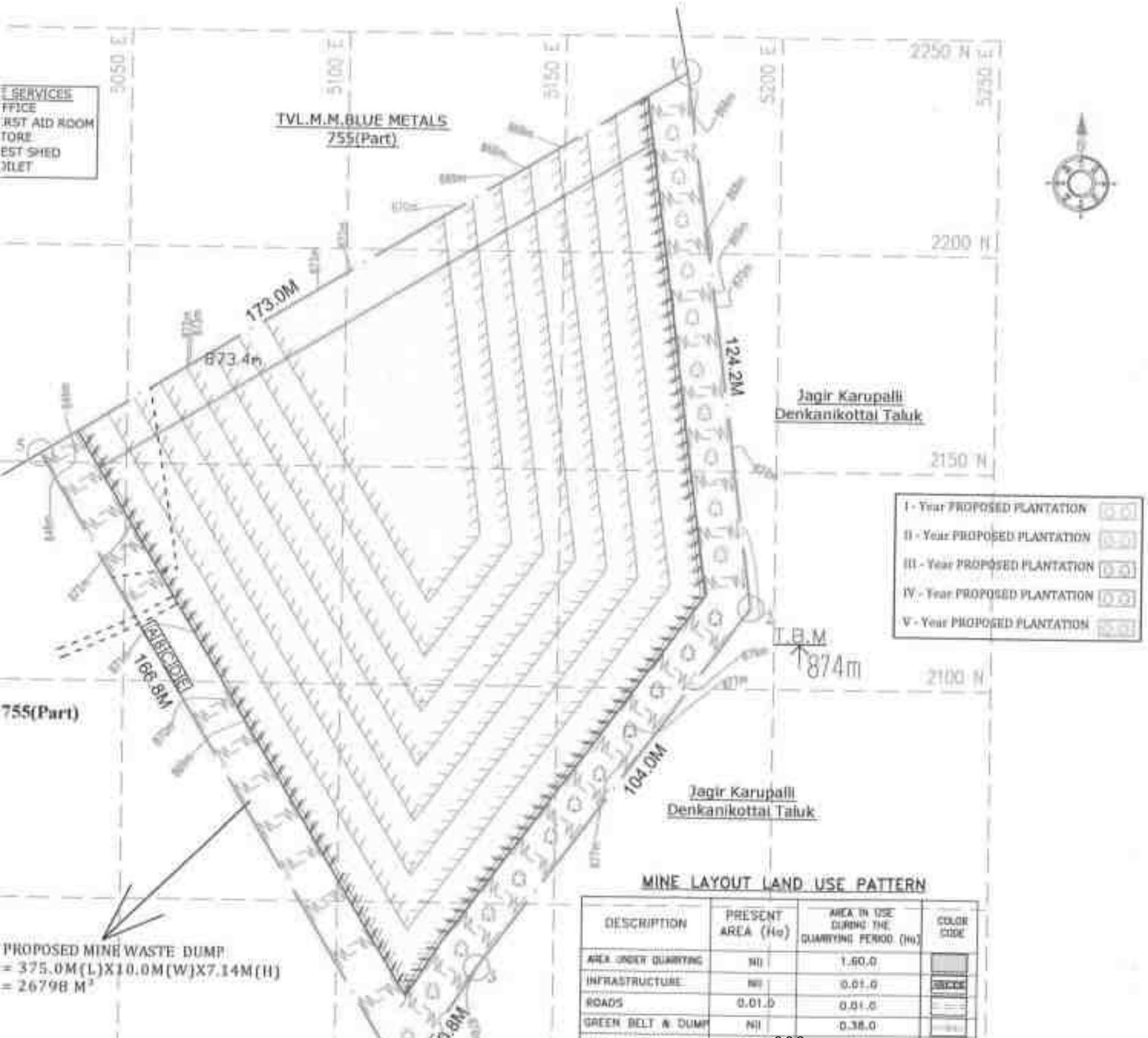
YEARWISE PRODUCTION AND DEVELOPMENT SECTIONS

SCALE - 1 : 1000

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE.

S.GUNASEKARAN M.Sc.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/225/2017A



MINE LAYOUT LAND USE PATTERN

DESCRIPTION	PRESENT AREA (Ha)	AREA IN USE DURING THE QUARRYING PERIOD (Ha)	COLOR CODE
AREA UNDER QUARRYING	Nil	1.60.0	
INFRASTRUCTURE	Nil	0.01.0	
ROADS	0.01.0	0.01.0	
GREEN BELT & DUMP	Nil	0.38.0	
UN-UTILIZED AREA	1.99.0	NIL	

PLATE NO: V

DATE OF SURVEY: 14-09-2019

APPLICANT ADDRESS:

THIRU. S.M. HARISH,
S/o. MUNIRAJ,
D. No. 2/159, H SETTIPALLI VILLAGE,
J.KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.

INDEX

- QUARRY LEASE BOUNDARY
- 10.0m SAFETY DISTANCE
- TEMPORARY BENCH MARK (TBM 874M)
- TOP SOIL
- ROUGH STONE
- QUARRY PIT
- QUARRY ROAD
- CONTOUR LINE
- PROPOSED MINE WASTE DUMP
- MINE LAYOUT

LOCATION OF QUARRY:

EXTENT : 2.00.0 Ha
S.F.NO : 755 (PART)
VILLAGE : PANCHAKSHIPURAM
TALUK : HOSUR
DISTRICT : KRISHNAGIRI.

MINE LAYOUT LAND USE PATTERN & AFFORESTATION PLAN

SCALE - 1 : 1000

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLAN HAS BEEN CHECKED BY ME AND IS CORRECT

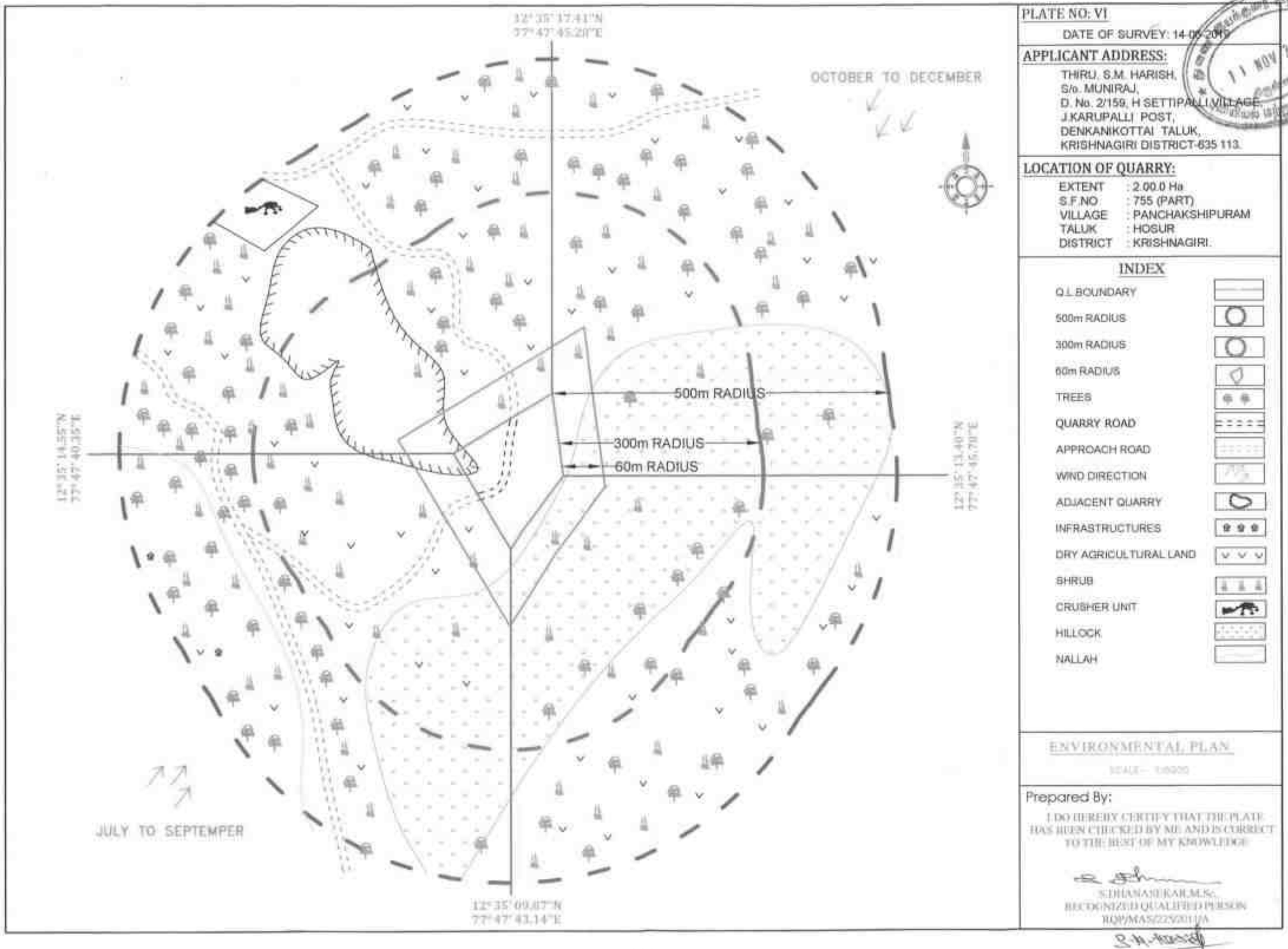


PLATE NO: VI

DATE OF SURVEY: 14-06-2019

APPLICANT ADDRESS:

THIRU. S.M. HARISH,
S/o. MUNIRAJ,
D. No. 2/159, H SETTIPALLI VILLAGE,
J.KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.

LOCATION OF QUARRY:

EXTENT	: 2.00.0 Ha
S.F.NO	: 755 (PART)
VILLAGE	: PANCHAKSHIPURAM
TALUK	: HOSUR
DISTRICT	: KRISHNAGIRI.

INDEX

- Q.L.BOUNDARY
- 500m RADIUS
- 300m RADIUS
- 60m RADIUS
- TREES
- QUARRY ROAD
- APPROACH ROAD
- WIND DIRECTION
- ADJACENT QUARRY
- INFRASTRUCTURES
- DRY AGRICULTURAL LAND
- SHRUB
- CRUSHER UNIT
- HILLOCK
- NALLAH

ENVIRONMENTAL PLAN

SCALE — 1:5000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

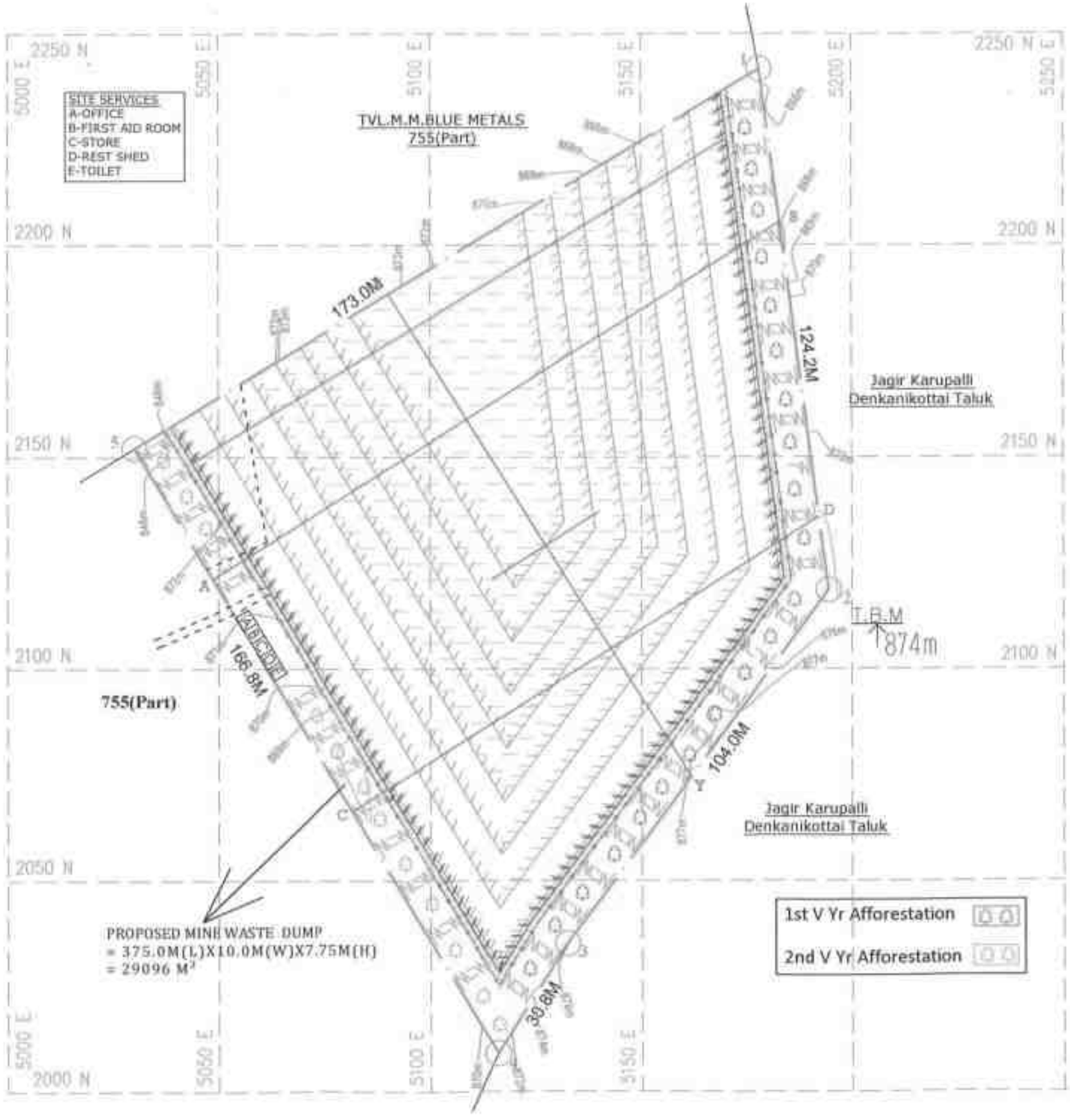
S.DHANASEKAR,M.Sc.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/222/2011/A

PLATE NO: VII

DATE OF SURVEY: 14-06-2019

APPLICANT ADDRESS:

THIRU. S.M. HAFOOR,
S/o. MUNIRAJ,
D. No. 2/159, H SETTIPALLI VILLAGE,
J.KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.



INDEX

- QUARRY LEASE BOUNDARY
- 10.0m SAFETY DISTANCE
- TOP SOIL
- ROUGH STONE
- QUARRY PIT
- QUARRY ROAD
- CONTOUR LINE
- PROPOSED MINE WASTE DUMP
- FENCING
- PARAPET WALL
- ULTIMATE PIT LIMIT
- PROPOSED WATER STORAGE

LOCATION OF QUARRY:

EXTENT	: 2.00.0 Ha
S.F.NO	: 755 (PART)
VILLAGE	: PANCHAKSHIPURAM
TALUK	: HOSUR
DISTRICT	: KRISHNAGIRI.

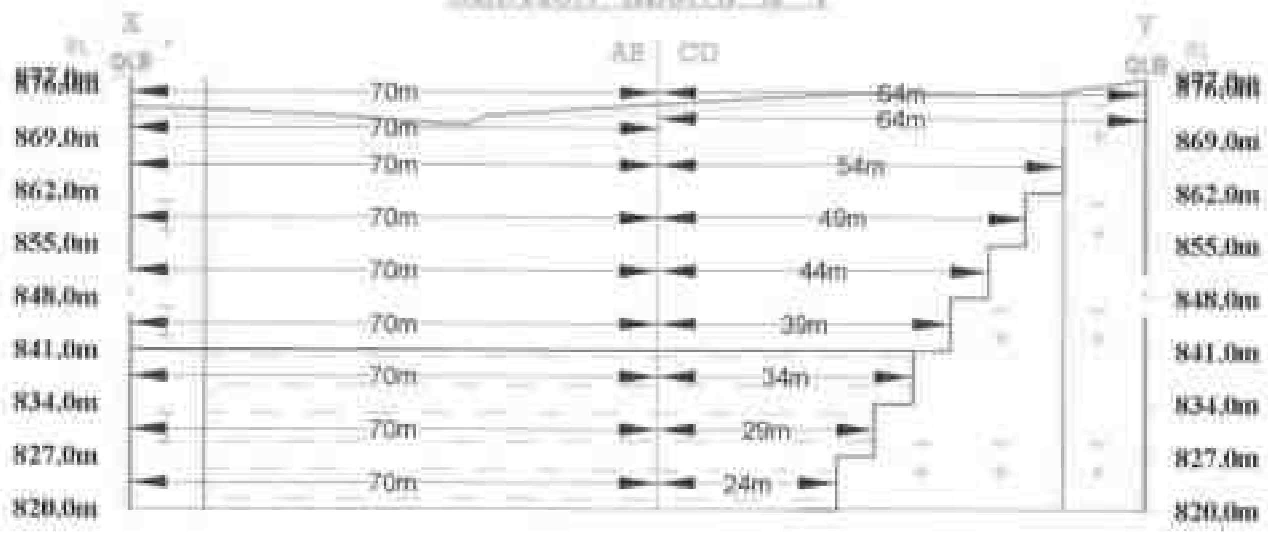
CONCEPTUAL / FINAL MINE CLOSURE PLAN

SCALE - 1 : 1000

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE.

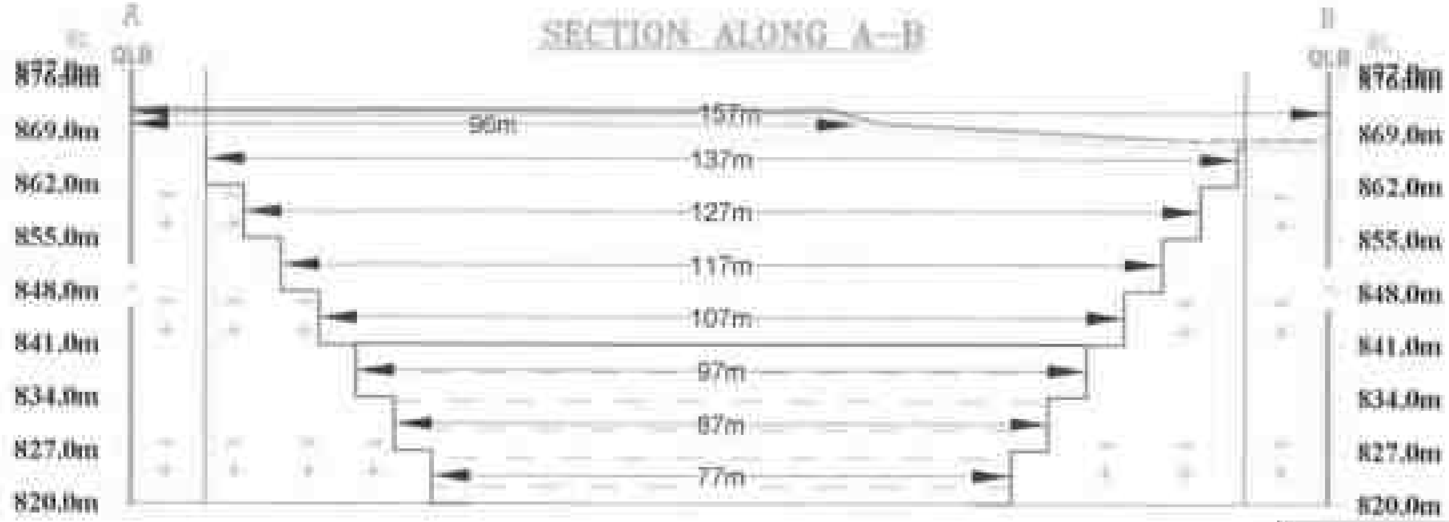
S.DHANASEKARAN.,
RECOGNIZED QUALIFIED PERSON
RQP/MAS/275/2011A

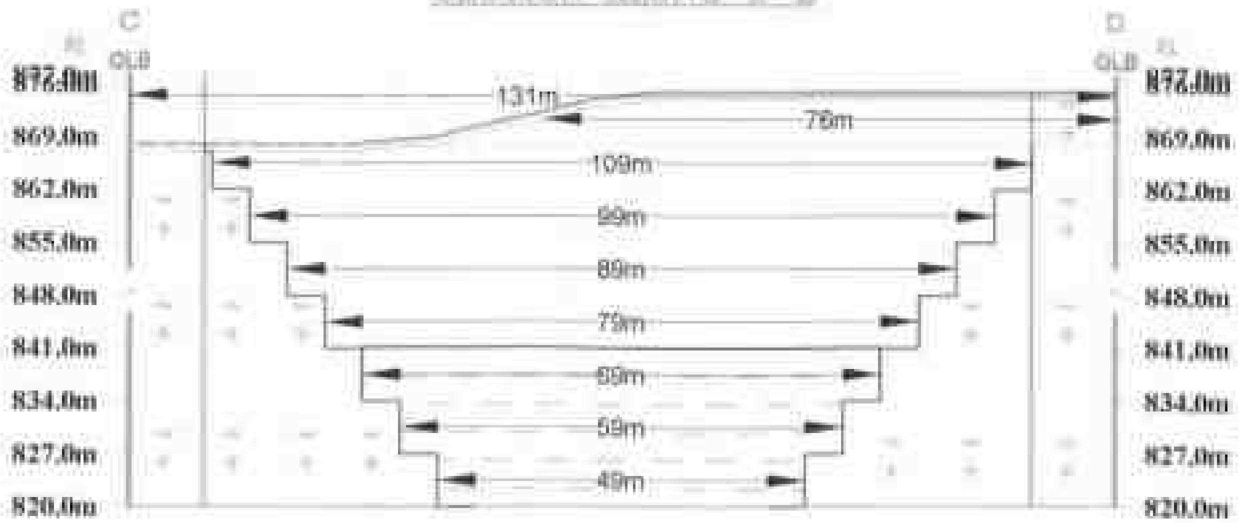


TOTAL DEPTH = 57m

SURFACE GROUND LEVEL ABOVE - 9m
SURFACE GROUND LEVEL BELOW - 48m

ULTIMATE PIT DIMENSION				
Section	Bench	Length in (m)	Width in (m)	Depth in (m)
PIT	I	64	131	1
	II	64	76	7
	III	54	109	7
	IV	49	99	7
	V	44	89	7
	VI	39	79	7
	VII	34	69	7
	VIII	29	59	7
	IX	24	49	7





MINEABLE RESERVES								
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in M3	Recoverable Reserves in m3 @ 95%	Mine waste in m3 @ 5%	Top Soil in m3
XY-AB	I	70	157	1				10990
	II	70	96	3	20160	19152	1008	
	III	70	137	7	67130	63774	3356	
	IV	70	127	7	62230	59119	3111	
	V	70	117	7	57330	54464	2866	
	VI	70	107	7	52430	49809	2621	
	VII	70	97	7	47530	45154	2376	
	VIII	70	87	7	42630	40499	2131	
	IX	70	77	7	37730	35844	1886	
TOTAL					387170	367815	19355	10990
XY-CD	I	64	131	1				8384
	II	64	76	7	34048	32346	1702	
	III	54	109	7	41202	39142	2060	
	IV	49	99	7	33957	32259	1698	
	V	44	89	7	27412	26041	1371	
	VI	39	79	7	21567	20489	1078	
	VII	34	69	7	16422	15601	821	
	VIII	29	59	7	11977	11378	599	
	IX	24	49	7	8232	7820	412	
TOTAL					194817	185076	9741	8384
GRAND TOTAL					581987	552891	29096	19374

11 NOV 2019

PLATE NO: VII-A

DATE OF SURVEY: 14-06-2019

APPLICANT ADDRESS:

THIRU. S.M. HARISH,
S/o. MUNIRAJ,
D. No. 2/159, H SETTIPALLI VILLAGE,
J.KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.

INDEX

- Q.L.BOUNDARY
- 10.0m SAFETY DISTANCE
- TOP SOIL
- ROUGH STONE
- ULTIMATE PIT SLOPE
- PROPOSED WATER STORAGE

LOCATION OF QUARRY:

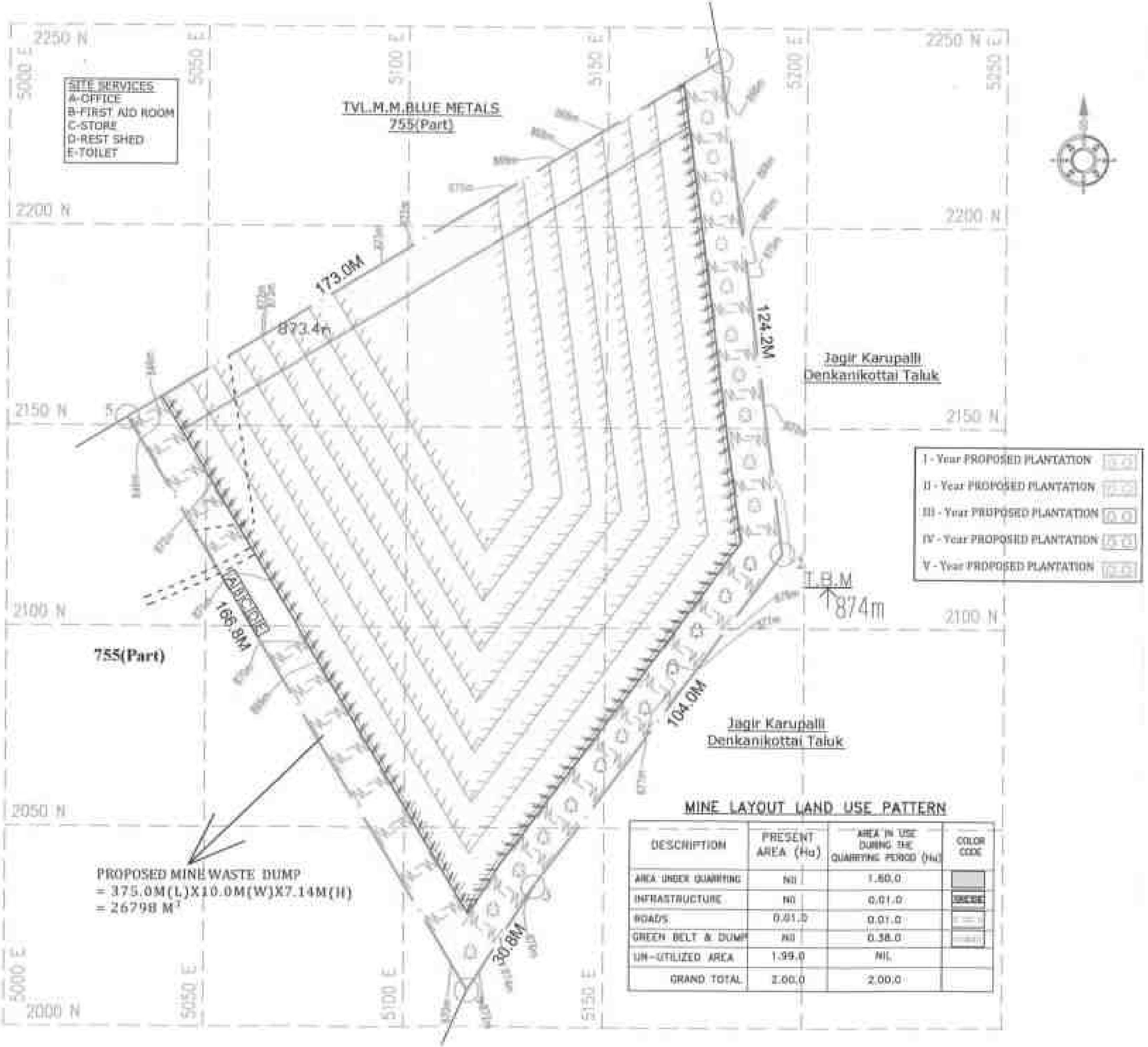
EXTENT	: 2.00.0 Ha
S.F.NO	: 755 (PART)
VILLAGE	: PANCHAKSHIPURAM
TALUK	: HOSUR
DISTRICT	: KRISHNAGIRI.

CONCEPTUAL / FINAL MINE CLOSURE SECTIONS

SCALE - 1 : 1000

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE.



MINE LAYOUT LAND USE PATTERN

DESCRIPTION	PRESENT AREA (Ha)	AREA IN USE DURING THE QUARRYING PERIOD (Ha)	COLOR CODE
AREA UNDER QUARRYING	Nil	1.80.0	
INFRASTRUCTURE	Nil	0.01.0	
ROADS	0.01.0	0.01.0	
GREEN BELT & DUMP	Nil	0.38.0	
UN-UTILIZED AREA	1.99.0	NIL	
GRAND TOTAL	2.00.0	2.00.0	

PLATE NO: VIII

DATE OF SURVEY: 14-06-2019

APPLICANT ADDRESS:

THIRU. S.M. HARISH,
S/o. MUNIRAJ,
D. No. 2/159, H SETTIPALLI VILLAGE,
J.KARUPALLI POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.

INDEX

- QUARRY LEASE BOUNDARY
- 10.0m SAFETY DISTANCE
- TEMPORARY BENCH MARK (TBM 874M)
- TOP SOIL
- ROUGH STONE
- QUARRY PIT
- QUARRY ROAD
- CONTOUR LINE
- PROPOSED MINE WASTE DUMP
- MINE LAYOUT

LOCATION OF QUARRY:

EXTENT : 2.00.0 Ha
S.F.NO : 755 (PART)
VILLAGE : PANCHAKSHIPURAM
TALUK : HOSUR
DISTRICT : KRISHNAGIRI.

PROGRESSIVE MINE CLOSURE PLAN

SCALE - 1 : 1000

PREPARED BY:

ANNEXURE-VI

VAO CERTIFICATE

Thiru. S.M. HARISH, Roughstone quarry in the S.F.No.755(Part) over an extent of 2.00.0ha. in Panchakshipuram Village, Hosur Taluk, Krishnagiri District.

GENERAL VIEW OF THE QUARRY LEASE AREA

S.M. Harish
(Deponent)

(VAO)

சான்று

கிருஷ்ணகிரி மாவட்டம், ஓசூர் வட்டம், மத்திகிரி
உள்வட்டம் 83- பஞ்சாட்சிபுரம் கிராம புல எண்: 755
(Part) ல்: 2.00.0 (hec) நிலத்தில் அமைய உள்ள S.M. குவாரிக்கு
சுற்றி 500 மீ சுற்றளவுக்குள் கிராம நத்தங்கள், வீடுகள்,
தர்கா, தேவாலயங்கள், வழிபாட்டுத் தலங்கள், மருத்துவமனைகள்,
புராதன சின்னங்கள், புதை படிவங்கள், பள்ளிக் கூடங்கள்,
இதர அரசு கட்டமைப்புகளோ இல்லை என்பதை
புலத் தணிக்கையின் மூலம் அறிந்து சான்றளிக்கப்படுகிறது.

J. Pema
20/11/23
Village Administrative Officer
K. PANCHAKSHIPURAM
HOSUR TALUK

ANNEXURE-VII

AFFIDAVIT AND CER DETAILS

भारतीय गैर न्यायिक

पचास रुपये

रु.50

FIFTY RUPEES

Rs.50

INDIA NON JUDICIAL

தமிழ்நாடு तमिलनाडु TAMILNADU 14.02.2022

BD 279252

S.M. HARISH,
Krishnagiri

M.S. [illegible]

AFFIDAVIT TO SEIAA, TAMIL NADU

I, **S.M Harish,** S/o. Muniraj residing at D.No.2/159, H.Settipalli Village, J.Karupalli Post, Denkanikottai Taluk, Krishnagiri District do hereby solemnly declare and sincerely affirm that, I have applied for getting environment clearance to SEIAA, Tamil Nadu for quarry lease for Rough Stone quarry at Survey No.755(Part) over an area of 2.00.0 Ha in Panchakshipuram village, Hosur Taluk, Krishnagiri District, Tamil Nadu.

1. I swear to state and confirm that within 10km area of the quarry site, I have applied for environmental clearance, none of the following is situated
   a. Protected areas notified under the wild life (Protection) Act, 1972 (NBWL).
   b. Critically polluted areas as notified by the central pollution control board constituted under water (Prevention and control of Pollution) Act 1974.
   c. Eco sensitive area as notified.
   d. Interstate boundaries and international boundaries within 10km radius from the boundary of the proposed site.

NOTARY GOVT OF INDIA

S.M. Harish

2. I will complete the following Corporate Environment Responsibility (CER) activities before commencement of the quarrying activities.

CER Activity	Project cost (Rs)	CER cost 2.0% of Project cost (Rs)
Carrying out various developmental works in the nearby region based on the need of the locals.	Rs.1,86,45,000/-	Rs.3,72,900/-
Total cost Allocation	**Rs.1,86,45,000/-**	**Rs.3,72,900/-**

3. **Details of quarry within 500m radius from the applied area:**

S.No	Name and address of the lessee	Village & SF.No.	Extent in Hectare	G.O. No. & date	Lease Status
Existing Quarries					
1	Tvl. M.M Blue Metals, No.1, RTO Building, Mathigiri Four Road, Hosur Taluk, Krishnagiri-635110.	Panchakshipuram Village & 755(Part-2)	4.80.0 Ha	Roc.No.96/2016/Mines dt:17.08.2016	22.08.2016 to 21.08.2026

Abandoned / Old Quarries					
S.No	**Name and address of the lessee**	**Village & SF.No.**	**Extent in Hectare**	**G.O. No. & date**	**Lease Status**
-Nil-					

Proposed Quarries					
S.No	**Name and address of the lessee**	**Village & SF.No.**	**Extent in Hectare**	**G.O. No. & date**	**Lease Status**
1	Thiru S.M Harish, S/o Muniraj, D.No.2/159, H-Settipalli Village, J.Karupalli Post, Denkanikottai, Krishnagiri District.	Panchakshipuram Village & 755(Part)	2.00.0 Ha	Roc.No.214/2019/Mines dt:13.06.2019	Precise area given Instant Proposal

NOTARY GOVT OF INDIA

Proposed / applied Quarries					
S.No	Name and address of the lessee	Village & SF.No.	Extent in Hectare	G.O. No. & date	Lease Status
-Nil-					

4. There will not be hindrance or disturbance to the people living no enrooted/ nearby my quarry site while transporting the mineral and due to quarrying activities.
5. There is no approved habitation within 300m radius from the periphery of my applied quarry.
6. I swear that afforestation will be carried out during the course of quarrying operation and maintained.
7. The required insurance will be taken in the name of the laborers working in my quarry site.
8. 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.
9. I will not engage any child labor in my quarry site and I am aware that engaging child labor is punishable under the law.
10. All types of safety / protective equipment will be provided to all the laborers working in my quarry.
11. No permanent structures, temple etc., are located within 500m radius from the periphery of my quarry.

I ensure to do the social and Environment commitment as mentioned in the Mining plan to the best of my knowledge.

S.M Harish
(Deponent)

NOTARIAL NOTARIAL

Cell:(0)9443286345
M.SARAVANAKUMAR.B.SC.,B.L.,
ADVOCATE & NOTARY,
(GOVT. OF INDIA)
NO:11,A.V.Mansion,
Ist Gate, Near Sona College,,
Junction Main Road, SALEM-636 005.

ANNEXURE-VIII

NABET CERTIFICATE

QUALITY COUNCIL® OF INDIA
Creating an Ecosystem for Quality

National Accreditation Board for Education and Training

Certificate of Accreditation

Eco Tech Labs Pvt Ltd.,

48, 2nd Main Road, Ram Nagar South Extension, Pallikaranai, Chennai- 600100, T.N.

*The organization is accredited as **Category-A** under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 3: for preparing EIA-EMP reports in the following Sectors –*

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals - including Open cast only	1	1 (a) (i)	B
2	Thermal power plants	4	1(d)	A
3	Coal washeries	6	2 (a)	B
4	Metallurgical industries - Ferrous only	8	3 (a)	B
5	Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)	21	5 (f)	A
6	Airports	29	7 (a)	A
7	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31	7 (c)	A
8	Building and construction projects	38	8 (a)	B
9	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in SAAC minutes dated Apr. 20, 2021 and supplementary minutes dated Oct.19, 2021 posted on QCI-NABET website

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/22/2217 dated Jan. 19, 2022. The accreditation needs to be renewed before the expiry date by Eco Tech Labs Pvt. Ltd., Chennai following due process of assessment.

Sr. Director, NABET
Dated: Jan. 19, 2022

Certificate No.
NABET/EIA/2124/SA 0147

Valid up to
Sep. 15, 2023

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.