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Executive Summary

Proposed Rough stone quarry- 3.96.5 Ha

For

PUBLIC HEARING

At

**S.F No. : 738, Panchakshipuram Village, Hosur Taluk,
Krishnagiri District, Tamil Nadu**

**Project Proponent
Thiru S.G. Anand Kumar
S/o. Gowdappa
45/70 KA 4th Cross,
Indra Nagar
Hosur Town & Taluk,
Krishnagiri District.**

EIA Notification 2006 Schedule 1(a) Category B1 (Cluster)

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EXECUTIVE SUMMARY

1. Project Background:

The Proposed project is Rough stone quarry over an extent of 3.96.5 Ha, Own patta land in Panchakshipuram Village, Hosur Taluk, Krishnagiri District. The category of project is B1 (cluster), The lease area exhibits undulating terrain sloping towards west and southwest covered with Rough Stone which does not sustain any type of vegetation. The altitude of the area is 862m above MSL. No major river is found nearby the fresh area.

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 34m (11m above ground level and 23m below ground level). The Available Geological Reserve is estimated as 1756524m³ respectively, at the rate of 100% Recovery upto the permissible depth. Top soil is calculated upto a depth of 2m and Rough Stone at a depth of 49m. The total volume of Topsoil will be 80784m³. The mineable reserves and the Recoverable Reserves are 1040935m³ and 1040935m³ respectively, at the rate of 100% recovery upto the permissible depth. Total Depth-51m (2m top soil + 49m Rough Stone). Above Surface Ground level 11m and Below Surface Ground Level 40m. The total volume of Topsoil will be 69040m³. Production Schedule is proposed an average production of 729305 m³ (34m - 11m above ground level and 23m below ground level) of Rough Stone production for the period of five years.

Mining plan is approved by The Assistant Director (Addl.charge), Department of Geology & Mining, Krishnagiri letter vide Rc.No. 1077/2018/Mines- dated 03.03.2021. from the date of execution lease dead. 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 3.96.5 Hectares land is located Panchakshipuram Village, Hosur Taluk, Krishnagiri District.

Mineral intends to quarry	: Rough stone
District	: Krishnagiri
Taluk	: Hosur
Village	: Panchakshipuram

S. F. Nos. : 738
Extent : 3.96.5 hectares

Table 1: Brief Description of the Project

S. No	Particulars	Details
1	Latitude	12° 35' 50.65" N to 12° 35' 58.20" N
2	Longitude	77° 47' 34.24"E to 77° 47' 40.76" E
3	Site Elevation above MSL	862 m from MSL
4	Topography	Undulated
5	Land use of the site	Patta Land
6	Extent of lease area	3.96.5 Ha
7	Nearest highway	SH 17A Mathigiri Road ~ 1.37m, W
8	Nearest railway station	Kelamanagalam Rail Station ~ 7.90 km, ENE
9	Nearest airport	Kempegowda International Airport Bengaluru ~ 66.60 km, N
10	Nearest town / city	Hosur ~ 10.20km, N
11	Rivers / Canal	Nil in 10 km radius
12	Lake	<ul style="list-style-type: none"> ❖ Panchakshipuram lake – 2.43km W ❖ Pattalamman Lake – 8.40km S ❖ Kelamangalam Lake – 6.51km, E ❖ Nagandahalli Lake – 7.23km, N
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	Nil in 15km radius
17	Seismicity	Proposed Lease area come under Seismic zone-II(low risk area)

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.

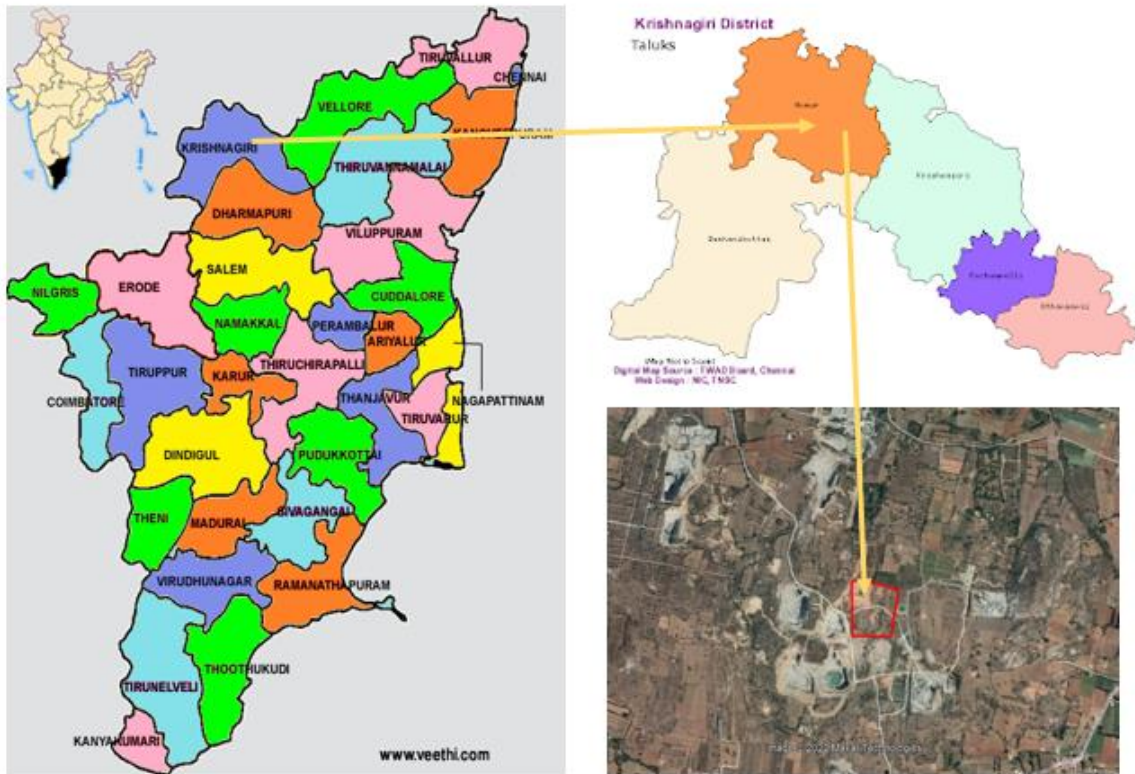


Figure 1: Location Map of the Project Site



Figure 2:

Google Image of the Project Site

4. Geological Resources

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

Table 2. Geological resources

Section	Bench	L (m)	W (m)	D (m)	Volume in (Cu.m.)	Recoverable Reserve in Cu.m. (100%)	Topsoil
XY-AB	I	116	189	2			43848
	II	78	110	7	60060	60060	
	III	116	189	7	153468	153468	
	IV	116	189	7	153468	153468	
	V	116	189	7	153468	153468	
	VI	116	189	7	153468	153468	
	VII	116	189	7	153468	153468	
	VIII	116	189	7	153468	153468	
XY-CD	I	108	171	2			36936
	II	108	171	7	129276	129276	

	III	108	171	7	129276	129276	
	IV	108	171	7	129276	129276	
	V	108	171	7	129276	129276	
	VI	108	171	7	129276	129276	
	VII	108	171	7	129276	129276	
Total					1756524	1756524	80784

TABLE 3. Year wise Production Plan

Year	Section	Bench	L (m)	W (m)	D (m)	Volume in (Cu.m.)	Recoverable Reserve in Cu.m. (100%)	Topsoil
I-YEAR	XY-AB	I	109	174	2			37932
		II	69	100	7	48300	48300	
		III	104	165	7	120120	120120	
Total						168420	168420	37932
II - YEAR	XY-CD	I	101	154	2			31108
		II	97	150	7	101850	101850	
		Total						101850
III-YEAR	XY-AB	IV	97	155	7	105245	105245	
	XY-CD	III	94	140	7	92120	92120	
	Total						197365	197365
IV-YEAR	XY-AB	V	92	145	7	93380	93380	
	XY-CD	IV	89	130	7	80990	80990	
	Total						174370	174370
V-YEAR	XY-AB	VI	87	135	4	46980	46980	
	XY-CD	V	84	120	4	40320	40320	
	Total						87300	87300
Grand Total						729305	729305	69040

5. 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 by Excavators by Drilling and Blasting.
- Shallow Drilling With Jackhammer of 32-36mm Dia.
- Minimum Blasting With Class 2 Explosives.
- Loading of Rough Stone By Excavators Into Tippers.

6. Water Requirement

Total water requirement for the mining project is 4.0 kLD. The 90% water will be required for the suspension of dust and green belt development domestic water will be sourced from nearby Jagirkarupalli 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 is available from nearby water vendors in Jagirkarupalli Village is an out 1km on the southeast of the area.
Green belt	1.5 KLD	Other domestic activities through road tankers supply.
Dust suppression	1.5 KLD	From road tankers supply.
Total	4.0 KLD	

7. Man Power

Total manpower required for the project is approximately 10 persons. Workers will be from nearby villages.

Table 5.Man Power

Management and Supervisor:

a. Mines Manager/ mate : 2 Nos.

Skilled and Semi-Skilled

a. Skilled (Operators) : 2 Nos.

b. Skilled (Mechanic) : 1 No.

c. Blaster/Mat : 1 No.

Semi-skilled

a. Driver : 2 Nos.

Unskilled

- a. Musdoor Labours : 4 Nos.
 b. Cleaners : 2 Nos.
 c. Office boy : 1 No.

Total : 15 Nos

No child less than 21 years will be entertained during quarrying operations.

8. Solid Waste Management**Table .6 Solid Waste Management**

S.No	Type	Quantity	Disposal Method
1	Organic	2.7 kg/day	Municipal bin including food waste
2	Inorganic	4.05 kg/day	TNPCB authorized recycler

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

Table.7 500m Radius Cluster Mine

S. No.	Quarry detail	Village	S.F No	Extent (Ha)
I. Existing Quarry				
1	Thiru Arunkumar S/o. N.C. Bala	Panchatchipuram	603/1 (Part- 4)	2.50.0
2	Thiru K. Gopinath S/o. Kothanda Ramaih	Panchatchipuram	603/1 (Part – B)	2.50.0
3	Tvl. M.R. Enterprises	Panchatchipuram	603/1 (Part – 2)	3.00.0
4	Thiru P. Kalaikovan S/o. M. Poonusamy	Panchatchipuram	603/1(Part – 3)	3.25.0
II. Abandoned Quarry				
NIL				
III. Proposed Quarry				

1	Thiru S.G. Anand kumar S/o Gowdappa	Panchatchipuram	738	3.96.5
Total				15.215

9. Land Requirement

The total extent area of the Proposed project is 3.96.5 Ha, Own patta land in Panchakshipuram Village of Hosur Taluk, Krishnagiri District.

Table 8 Land Use Breakup

S. No.	Land Use	Area in use during the quarrying period (Hect)
1.	Area under quarrying	3.34.0
2.	Infrastructure	0.01.0
3.	Roads	0.01.0
4.	Green Belt	0.17.5
5.	Unutilized	0.43.0
	Total	3.96.5

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

Direction	Village	Distance in km	Population
North	Machinayakanapalli	1.8Kms	600
East	Nagappan agraharam	1.0Kms	500
South	Jagirkarupalli	1.3kms	450
West	Beegisettipalli	2.3Kms	400

12. Power Requirement

The Rough stone quarry project does not require huge water and electricity for the project. **16 Litre** diesel per hour for excavator for mining and loading for rough stone needed.

13. Scope of the Baseline Study

The 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 : 30 °C
- ii) Average Maximum Temperature. : 38.5 °C
- iii) Average Relative Humidity (%) : 65 to 85 %
- iv) Average Annual Rainfall of the area : 1061.3 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 over a period of Pre Monsoon Season. Major air pollutants like, Particulate Matter (PM10), Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) were monitored and the results are summarized below,

The baseline levels of PM10 (57-33 µg/m³), PM2.5 (26-14 µg/m³), SO₂ (10-5µg/m³), NO₂ (22-11 µg/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from June to August 2021.

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 57 dB(A) and 46 dB(A) in Near Shri

Kaliyamman Temple and Near SH-17A Mathigiri Road. The minimum Day Noise and Night noise were 41 dB(A) and 34 dB(A) which was observed in Project site.

13.4 Water Environment

- The average pH ranges from 7.15-7.65.
- TDS value varied from 298 mg/l to 1520 mg/l
- Hardness varied from 159 to 857 mg/l
- Chloride varied from 27.4 to 396 mg/l

13.5 Land Environment

The analysis results show that soil is neutral in nature as pH value ranges from 7.28 to 8.05 with organic matter 0.08 % to 0.34 %. 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 private patta 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 components of environmental Management plan, which will improve ecology, environment and quality of the surrounding area.
3. Local trees like, Neem, Pungam, Naval etc will be planted along the south side lease boundary and avenues as well as over non-active dumps at a rate of 50 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	Place of planted	No of species	Spacing	Survival
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2022	Neem/Pungam	North	50	5m	80%
2023	Naval	South	50	5m	80%
2024	Poovarasu/Pungam	East	50	5m	80%
2025	Naval/Pungam	South	50	5m	80%
2026	Neem	West	50	5m	80%
Total			250		

16. Anticipated Environmental Impacts

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 equipment's will be carried out.

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 equipment's 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. 42,30,000 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 (Rs)
1	Fixed Asset Cost	18,30,000
2	Operational Cost	20,00,000
3	EMP Cost	4,00,000
	Total	42,30,000

CER Cost	Rs.84,600
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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 2% of the project cost (Rs in lakhs)
1.	Developing sports facilities and providing toilet, water filter facilities, furniture's, to nearby Government school	0.846

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.