

MARCH

2023

**Executive Summary for Conducting Public Hearing
FOR**

**“Thiru.A.Kumar Rough Stone Quarry over a total
extent of 4.50.0 Ha”**

At

**S.F.No. 88/1 (Part-3) of B.S.Thimmasandram Village,
Shoolagiri Taluk, Krishnagiri District, Tamilnadu State**

Project Proponent:

**Thiru.A.Kumar,
S/o. Arumugam,
D.No.38, Athaliyur Village,
Mottur Post,
Uthangarai Taluk,
Krishnagiri District – 635 207**

Project termed under schedule 1(a) Category B₁

Prepared By:

Ecotech Labs Pvt. Ltd.



NABET Accredited EIA Consultant

48, 2nd Main Road, Ram Nagar South Extension,

Pallikaranai

Chennai -600100

EXECUTIVE SUMMARY

1. Project Background:

The Proposed project is a quarrying of Rough Stone with a total extent area is 4.50.0 hectares, It is a Government Poramboke land in B.S.Thimmasandram Village, Shoolagiri Taluk, Krishnagiri District. It is a proposed Rough Stone quarry. The category of the project is B1 (cluster), the lease area exhibits plain terrain area gently sloping towards South Eastern side covered with Rough Stone.

The quarry operation is proposed to carry out with conventional open cast mechanized mining with 5.0 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 of 56 m (1.0m Topsoil + 55.0m Rough Stone) – Above Surface Ground Level : 16 m and Below Surface Ground Level : 40 m. Geological Resources is estimated at **24,02,660 m³** of Rough stone and Mineable Reserves is estimated at **10,38,650 m³** of Rough Stone and after leaving necessary safety distance from the lease boundary as indicated in the precise area letter and relevant mining laws in force. Production Schedule is proposed production of **10,38,650 m³** of Rough Stone for the period of Ten years, i.e., **6,72,990 m³** of Rough Stone for first 5 years at the depth of 26 m (1 m topsoil + 25 Rough Stone) – Above Surface Ground Level : 16 m and Below Surface Ground Level : 10m and **3,65,660 m³** of Rough Stone for next five years at the depth of 35 m below ground level.

The Mining Plan was approved by Deputy Director, Department of Geology and Mining, Krishnagiri vide letter Rc No.547/2022/Mines dated:04.07.2022. 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.

PRESENT QUARRY ACTIVITY

The Quarrying activity has been proposed for Rough Stone in Government Poramboke Land S.F.Nos. 88/1 (Part-3) over an extent of 4.50.0 Ha. in B.S.Thimmasandram Village, Shoolagiri Taluk, Krishnagiri District.

The Mining Plan was approved by Deputy Director, Department of Geology and Mining, Krishnagiri vide letter Rc No.547/2022/Mines dated:04.07.2022.. Please refer Annexure-V. Copy of Approved Mining plan Letter.

Accordingly, the Lessee had obtained Precise Area Communication Letter from District Collectorate, Krishnagiri vide Letter Na.Ka.En. 547/2022/Kanimam dated 04.05.2022. Please refer Annexure- III.

The Government has provided the Tender and it has been obtained and attached vide Letter Na.Ka.En. 180/2022/(Kanimam) dated 10.03.2022 was granted for the period of ten years.

The mining operations are done by opencast mechanized methods with jack hammer drilling and blasting, hydraulic excavators are used for loading the Rough stone from pithead to the needy crushers.

2. Nature & Size of the Project

The Rough Stone Quarry over an extent of 4.50.0 Hectares land is located at B.S.Thimmasandram Village of Shoolagiri Taluk, Krishnagiri District.

Mineral intends to quarry : Rough stone
District : Krishnagiri
Taluk : Shoolagiri
Village : B.S.Thimmasandram
S. F. Nos. : 88/1 (Part-3)
Extent : 4.50.0 Hectares

Table 1: Brief Description of the Project

S. No	Particulars	Details
1	Latitude	12°50'37.4400"N to 12°50'26.1157"N
2	Longitude	77°57'29.9901" E to 77°57'26.6052"E
3	Site Elevation above MSL	917 m MSL
4	Topography	Plain terrain
5	Land use of the site	Government Poramboke land
6	Extent of lease area	4.50.0 Ha

7	Nearest highway	NH 648 – Bagalur – Sarjapur Road – 9.92 km, W SH 17C/MDR 53 – Bagalur - Berikai Road – 3.70 km, S SH 99 – Masti – Takal Road – 5.09 kms, NE
8	Nearest railway station	Hosur Railway Station – 20 km, SW
9	Nearest airport	Kempegowda International Airport, Bengaluru – 46.35 km, NW
10	Nearest town / city	Town - B.S.Thimmasandram – 1.4 -NW City - Krishnagiri – 44.5 Km - SE District - Krishnagiri - 44.5 Km - SE
11	Rivers / Canal / Dam	<ul style="list-style-type: none"> • Ponnaiyar River – 12.43 kms, SW • Kelavarapalli Dam – 11.87 kms, SW
12	Lake	<ul style="list-style-type: none"> ❖ B.S. Thimmasandram Lake – 1 km, NW ❖ Berikai Lake – 3.26 km, SE ❖ Kelavarapalli Reservoir – 10.04 kms, SW ❖ Muthali Lake – 10.24 kms, SW ❖ Peddakullu Lake – 11.70 kms, SW ❖ Lakkuru Kere – 11.73 kms, NW ❖ Koladasapuram Lake – 11.83 kms, SW ❖ Gunduru Kere – 13.05 kms, NW ❖ Bukkasagaram Lake – 13.21 kms, S ❖ Chokkarasanapalli Lake – 13.73 kms, NW ❖ Eluvapalli Lake – 13.84 kms, SW ❖ Markandeshwara Dam (Budikote) Reservoir – 13.98 kms, NE ❖ Doriplai Lake – 14.76 kms, S
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	<ul style="list-style-type: none"> • Punnagaram R.F – 9.85 kms, S • Perandapalli Forest – 13.66 kms, SW
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.

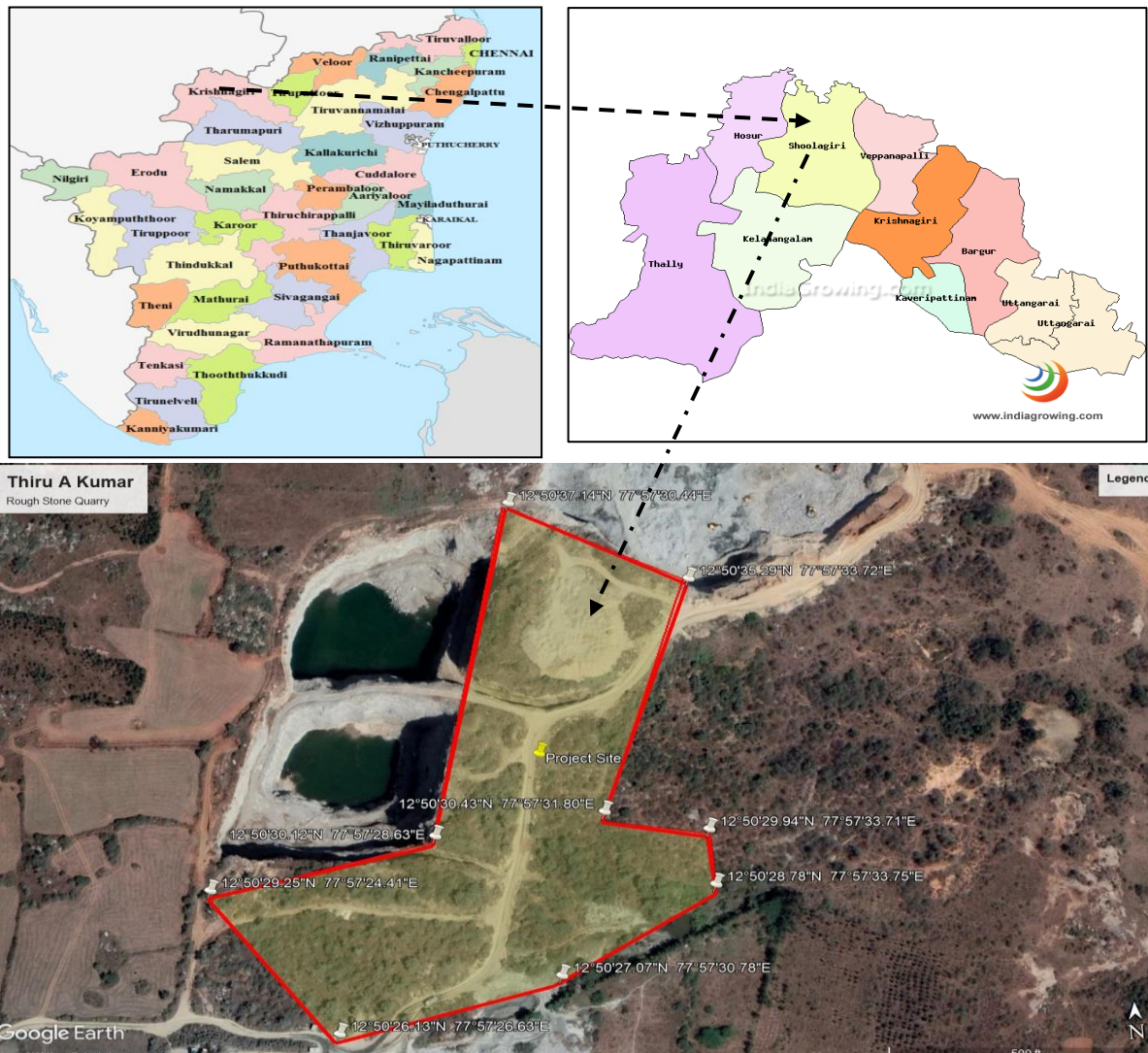


Figure 1: Location Map of the Project Site



Figure 2: Google Image of the Project Site

4. Charnockite

Krishnagiri District is comprised of Archaean peninsular gneisses such as Charnockites, Hornblende gneisses, Biotite gneisses and migmatites, dolerites and are intruded by younger formations like pegmatite

and quartz veins. The peninsular gneisses/ migmatite consists of biotite mica, plagioclase and orthoclase feldspar and quartz and are found as sheet rocks. The rock formations surrounded by shear zones in between the country rocks and later period of intrusions, fractured / joint, weathered rock formations, the metamorphosed rock formations are in enormous in nature. The massive rock formations which are not suitable for the productions of granite slabs are also suitable and used to produce rough stones. The predominant occurrence of granitic gneissic rock formations which are most suitable to produce rough stone, jelly and for making M. Sand, crusher dust.

5. Geological Resources

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

Table 2. Geological resources

GEOLOGICAL RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in m³	Geological Reserves in m³ @ 100%	Top Soil in m³
XY-AB	I	215	100	1			21500

	II	215	80	5	86000	86000	
	III	215	100	5	107500	107500	
	IV	215	100	5	107500	107500	
	V	215	100	5	107500	107500	
	VI	215	100	5	107500	107500	
	VII	215	100	5	107500	107500	
	VIII	215	100	5	107500	107500	
	IX	215	100	5	107500	107500	
	X	215	100	5	107500	107500	
	XI	215	100	5	107500	107500	
	XII	215	100	5	107500	107500	
Total					1161000	1161000	21500
XY- CD	I	109	215	1			23435
	II	102	167	5	85170	85170	
	III	109	195	5	106275	106275	
	IV	109	207	5	112815	112815	
	V	109	215	5	117175	117175	
	VI	109	215	5	117175	117175	
	VII	109	215	5	117175	117175	
	VIII	109	215	5	117175	117175	
	IX	109	215	5	117175	117175	
	X	109	215	5	117175	117175	
	XI	109	215	5	117175	117175	
	XII	109	215	5	117175	117175	
Total					1241660	1241660	23435
Grand Total					2402660	2402660	44935

Table 3. Year wise Production Plan

YEARWISE DEVELOPMENT & PRODUCTION RESERVES (I-Vth Year)								
YEAR	Section	Bench	L (m)	W (m)	D(m)	Volume In M ³	Recoverable Reserves in m ³ @ 100%	Top Soil in m ³
I-Year	XY-AB	I	205	80	1			16400
		II	204	80	5	81600	81600	

Total						81600	81600	16400
II-Year	XY- CD	I	99	195	1			19305
		II	98	156	5	76440	76440	
		III	98	179	5	87710	87710	
Total						164150	164150	19305
III-Year	XY-AB	III	199	78	5	77610	77610	
Total						77610	77610	
IV-Year	XY-AB	IV	194	68	5	65960	65960	
	XY- CD	IV	93	183	5	85095	85095	
Total						151055	151055	
V-Year	XY-AB	V	189	58	5	54810	54810	
	XY- CD	V	88	173	5	76120	76120	
		VI	83	163	5	67645	67645	
Total=						198575	198575	
Grand Total=						672990	672990	35705

YEARWISE DEVELOPMENT & PRODUCTION RESERVES (VI-Xth Year)							
YEAR	Section	Bench	L (m)	W (m)	D(m)	Volume In M ³	Recoverable Reserves in m3 @ 100%
VI-Year	XY-AB	VI	184	48	5	44160	44160
Total						44160	44160
VII-Year	XY-AB	VII	179	38	5	34010	34010
	XY- CD	VII	78	153	5	59670	59670
Total						93680	93680
VIII-Year	XY-AB	VIII	174	28	5	24360	24360
	XY- CD	VIII	73	143	5	52195	52195
Total						76555	76555
IX-Year	XY-AB	IX	169	18	5	15210	15210
	XY- CD	IX	68	133	5	45220	45220
Total						60430	60430
X-Year	XY- CD	X	63	123	5	38745	38745
		XI	53	113	5	29945	29945
		XII	43	103	5	22145	22145
Total=						90835	90835
Grand Total=						365660	365660

6. Mining

Opencast mining

The quarry operation is proposed to carry out with conventional open cast mechanized mining with 5.0 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 25.5mm Dia.
- Minimum Blasting With Class 3 Explosives.
- Loading of Rough Stone By Excavators Into Tippers.

7. Water Requirement

Total water requirement for the mining project is 1.9 KLD. Domestic water will be sourced from nearby B.S.Thimmasandram Village which is about 1.4 km, NW and other water will be source from nearby road tankers supply.

Table 4. Water Balance

Purpose	Quantity	Source
Drinking Water	0.9 KLD	Drinking water will be brought from the approved water vendors in the nearby village – B.S.Thimmasandram which is about 1.4 kms, NW.
Green belt	0.5 KLD	Other domestic activities through road tankers supply
Dust suppression	0.5 KLD	From road tankers supply
Total	1.9 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 No.
		Mechanic	1 No.
		Blaster/Mat	1 No.
2.	Semi-skilled	Driver	2 No.
3.	Unskilled	Musdoor/Labours	5 Nos
		Cleaner	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 other quarries:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	G.O No & Date	Lease Period
1.	Thiru. Sivasakthi, S/o. Rajendiran, No.123, Adhaliyur Village, Mottur Post,	B.S.Thimmasandram Village, Shoolagiri Taluk	88/1 (Part)	3.00.0 Ha	Rc. No. 87/2016/Mines dated 10.08.2016	10.08.2016 to 09.08.2026

	Uthanapalli Taluk, Krishnagiri District					
2.	Thiru. Gopal Reddy	B.S. Thimmasandra Village & Shoolagiri Taluk	88/1 (Part-2)	3.50.0	Rc. No. 195/2018/Mines dated 19.06.2019	19.06.2019 to 18.06.2029

2) Proposed Area:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	G.O No. & Date	Extent
1.	Thiru. A. Kumar	B.S. Thimmasandra Village & Shoolagiri Taluk	88/1 (Part-3)	Rc.No. 547/2022/Mines dated 04.05.2022	4.50.0 Ha

3) Abandoned/Old quarries:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent	GO No & Date	Lease Status
1.	Thiru.S.L.Govind haraj, S/o. Lakshmana Chetty, 189, B.T.M. Road, Bargur, Krishnagiri	B.S. Thimmasandra Village & Shoolagiri Taluk	97/1, 988/1 B, 98/2B	4.16. 0	Rc.No.313/2010/ Mines-2 dated 30.07.2011	30.07.2 011 to 29.07.2 016

The Total extent of the Existing / Lease expired / Proposed quarries are 15.16 Ha

10. Land Requirement

The total extent area of the project is 4.50.0 Ha, Government Poramboke land in B.S.Thimmansandram Village of Shoolagiri 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	3.44.0
2.	Infrastructure	Nil	0.01.0
3.	Roads	Nil	0.01.0
4.	Green Belt	Nil	1.04.0
5.	Unutilized Area	4.50.0	Nil
	Total	4.50.0 Ha	4.50.0 Ha

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	Village	Distance	Population
1	North	Padavanahalli	1.9 kms	580
2	East	Bitnahalli	1.0 kms	370
3	South	Vanamangalam	1.7 kms	310
4	West	Bantahally	3.2 kms	420

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

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 : 33.7 °C
- ii) Average Maximum Temperature. : 24.2 °C
- iii) Average Annual Rainfall of the area : 922.8 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), Nitrogen Dioxide (NO₂) were monitored, and the results are summarized below.

The baseline levels of PM10 (59-34 µg/m³), PM2.5 (29-16 µg/m³), SO₂ (12-4 µg/m³), NO₂ (27-8 µg/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from December 2022 to February 2023.

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) respectively in Sri Gurumurthy Yellama Temple. The minimum Day Noise and Night noise were 39 dB(A) and 31 dB(A) respectively which was observed in Project Site.

13.4 Water Environment

- The average pH ranges from 7 – 8.06
- TDS value varied from 522 mg/l to 875 mg/l
- Hardness varied from 259 to 623 mg/l
- Chloride varied from 58 to 161 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 6.5 to 7.7 with organic matter 1.03 % to 1.45 %. 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 Vilvam, Pungam, Naval etc will be planted along the lease boundary and avenues as well as over Non-active dumps at a rate of 500 trees per annum with interval 5m.

4. The rate of survival expected to be 60% in this area

Table.10 Plantation/ Afforestation Program

Scientific Name	Local Name
<i>Diospyro sebenum</i>	Karungali
<i>Aegle marmelos</i>	Vilvam
<i>Lagerstromia speciosa</i>	Poo Marudhu
<i>Toona ciliate</i>	Sandhana Vembu
<i>Azadirachta Indica</i>	Neem
<i>Pongamia Pinnata</i>	Pungam
<i>Prosopis cinera</i>	Vannimaram
<i>Syzygium cumini</i>	Naval
<i>Premna tomentosa</i>	Purangai Naari
<i>Litsea glutinosa</i>	Pisinpattai
<i>Chloroxylon sweitenia</i>	Purasamaram
<i>Borassus Flabellifer</i>	Panai

- The development of greenbelt in the periphery of the mine area.
- Trees will be planted along the sides of the lease boundary and avenues as well as Non-active dumps at a rate of 2500 trees with an interval of 5m in 3 rows with tall and long tree species alternative rows.

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. 5,58,80,000/-** 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	Project Cost	3,08,80,000/-

2	Operational Cost	30,00,000/-
3	EMP Cost	2,20,00,000/-
	Total	5,58,80,000/-

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 2% of the project cost (Rs.)
1.	Developing Sports facilities and Providing Toilet, Water Filter facilities to Government Schools in B.S.Thimmasandram Village	5,00,000

21. Benefits of the Project

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