

# EXECUTIVE SUMMARY

## PROJECT PROPONENTS

Thiru.C.Sivakumar	S.F.Nos. - 232/1B & 233/4B	2.005 Ha
Thiru.P.A.Raja	S.F.Nos. - 225/1B	1.420 Ha
Tmt.P.Ramayee	S.F.Nos. - 232/2	1.575 Ha
Thiru.M.Palanisamy	S.F.Nos. - 199/1B	1.145 Ha
Proposed Quarry total area		6.145 Ha

## ROUGH STONE & GRAVEL QUARRY

Kokkalai Village, Tiruchengode Taluk, Namakkal District, Tamil Nadu State

\* CLUSTER EXTENT =22.8.5 Ha

Complied as per ToR Obtained vide

As per ToR obtained

Letter No. SEIAA-TN/F.No.8615/SEAC/ToR-1015/2021:Dated :23/08/2021 for C- Sivakumar

Letter No. SEIAA-TN/F.No.8583/SEAC/ToR-1020/2021 :Dated :23/08/2021 for P.A.Raja

Letter No SEIAA-TN/F.No.7855/SEAC/ToR-859/2020: Dated :12/03/2021 for Tmt P. Ramayee

Letter No SEIAA-TN/F.No.7925/SEAC/ToR-1040/2022: Dated :31/01/2022 for Thiru.M.Palanisamy

## Environmental Consultant

### ENVIRO RESOURCES

(NABET Certificate No: NABET/EIA/1922/SA0133

valid upto 30th March, 2022)

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\* Calculated as per MoEF & CC Notification – S.O. 2269(E) Dated: 01.07.2016

## 1. INTRODUCTION

Rough Stone and Gravel are the major requirements for construction industry ‘This Environmental Impact Assessment Report is prepared considering cumulative load of all existing & proposed mines located within the cluster over an extent 22.8.5ha in Kokkalai Village, Tiruchengode Taluk, Namakkal District and Tamil Nadu State. This EIA report will serve as an operating manual for the Project Proponent to safeguard the environment of the project site.

This EIA Report is prepared in compliance with ToR obtained vide

Letter No. SEIAA-TN/F.No.8615/SEAC/ToR-1015/2021:Dated :23/08/2021 for C- Sivakumar

Letter No. SEIAA-TN/F.No.8583/SEAC/ToR-1020/2021 :Dated :23/08/2021 for P.A.Raja

Letter No SEIAA-TN/F.No.7855/SEAC/ToR-859/2020: Dated :12/03/2021 for Tmt P. Ramayee

Letter No SEIAA-TN/F.No.7925/SEAC/ToR-1040/2022: Dated :31/01/2022 for

Thiru.M.Palanisamy and the Baseline Monitoring study has been carried out during the period of March – May 2021

Now, as per Order Dated: 04.09.2018 & 13.09.2018 passed by Hon'ble National Green Tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No, 186 of 2016 and MoEF & CC Office Memorandum F. No. L-11011/175/2018-IA-II (M) Dated: 12.12.2018 clarified the requirement for EIA, EMP and therefore, Public Consultation for all areas from 5 to 25 ha falling in Category B- 1 and appraised by SEAC/ SEIAA as well as for cluster situation.

The proposed projects is categorized under category “B1” Activity 1(a) (mining lease area in cluster situation) and will be considered at SEIAA – TN after conducting Public Hearing and Submission of EIA/EMP Report for Grant of Environmental Clearance.

**“Draft EIA report prepared on the basis of ToR Issued for carrying out public hearing for the grant of Environmental Clearance from SEIAA, Tamil Nadu”**

### 1.1 DETAILS OF PROJECT PROPONENT –

<b>Name of the Project Proponent</b>	<b>Thiru.C. Sivakumar</b>
<b>Address</b>	S/o. Chinna Gounder, No.5/2-2, Elaiyampalayam, Kokkalai Village, Tiruchengode Taluk Namakkal District - 637 410.
<b>Mobile</b>	+91 9712363864
<b>Status</b>	Proprietor
<b>Name of the Project Proponent</b>	<b>Thiru.P.A. Raja</b>
<b>Address</b>	S/o. Arumugam, No.120, Samiyappa Nagar, Seelaniackenpatty Salem Taluk & District, 636 201.
<b>Mobile</b>	+91 9443355499
<b>Status</b>	Proprietor

Draft EIA/EMP for Proposed Rough stone & Gravel Mine of cluster area 6.145 Ha, located in Survey Nos. 199/1B, 232/1B, 232/2, 233/4B & 225/1B of Kokkalai Village, Tiruchengode Taluk, Namakkal District, Tamil Nadu.

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<b>Name of the Project Proponent</b>	<b>Tmt. P. Ramayee</b>
<b>Address</b>	W/o. Ponnusamy, No.1/60, Mallasamuthiram Main Road, Vayyappamalai Post, Tiruchengode Taluk, Namakkal District - 637 410.
<b>Mobile</b>	+91 984293345
<b>Status</b>	Proprietor
<b>Name of the Project Proponent</b>	<b>Thiru. M. Palanisamy</b>
<b>Address</b>	S/o. Muthusamy, No.2/176-Pappankadu, Patlur, Tiruchengode Taluk, Namakkal District - 637 210.
<b>Mobile</b>	91 98427 22199
<b>Status</b>	Proprietor

## 1.2 QUARRY DETAILS WITHIN CLUSTER

PROPOSED QUARRIES				
S.No.	Name of the Owner	S.F.Nos	Extent	Lease period
1	Thiru.C. Sivakumar, S/o. Chinna Gounder, No.5/2-2, Elaiyampalayam, Kokkalai Village, Tiruchengode Taluk Namakkal District - 637 410. Mobile No. : +91 9712363864	232/1B & 233/4B	2.00.5 ha	Received for ToR vide Letter No. SEIAA- TN/F.No.8615/SEAC/ToR- 1015/2021:Dated :23/08/2021
2	Thiru.P.A. Raja S/o. Arumugam, No.120, Samiyappa Nagar, Seelaniackenpatty Salem Taluk & District, 636 201. Mobile No. : +91 9443355499	225/1B	1.42.0ha	Received for ToR vide Letter No. SEIAA- TN/F.No.8583/SEAC/ToR- 1020/2021 :Dated :23/08/2021
3	Tmt. P. Ramayee W/o. Ponnusamy, No.1/60, Mallasamuthiram Main Road, Vayyappamalai Post, Tiruchengode Taluk Namakkal District - 637 410. Mobile No. : +91 984293345	232/2	1.57.5 ha	Received for ToR vide Letter No SEIAA- TN/F.No.7855/SEAC/ToR- 859/2020: Dated :12/03/2021
4	Thiru. M. Palanisamy, S/o. Muthusamy, No.2/176-Pappankadu, Patlur, Tiruchengode Taluk, Namakkal District - 637 210. Mobile No. : 91 98427 22199	199/1B	1.14.5ha	Received for ToR vide Letter No SEIAA- TN/F.No.7925/SEAC/ToR- 1040/2022: Dated :31/01/2022
<b>TOTAL</b>			<b>6.14.5 ha</b>	
EXISTING QUARRIES				
S.No.	Name of the Owner	S.F.Nos	Extent	Lease Period
1	C.Sivakumar S/o. Chinnappagounder	233/1 & 233/2	1.96.0 ha	18.01.2018 to 17.01.2023
2	V.K.Raghunathan S/o. Kaligounder	216/2A1, 216/2C	2.59.0 ha	04.10.2017 to 03.10.2022
3	N.Sellappan S/o. Nalliya	216/1	1.29.5ha	17.02.2016 to 16.02.2021
4	C.Sivakumar S/o. Chinnagounder	232/1B & 233/4B	2.00.5ha	16.06.2015 to 15.06.2020
5	P.Senthilraja	231/1 (P)	1.18.0ha	16.06.2015 to 15.06.2020
6	P.A. Raja S/o. T.K. Arumugam	224/1, 224/2 & 224/3A	1.32.5	22.02.2016 to 21.02.2021

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7	P.A. Raja S/o. T.K. Arumugam	224/3B	2.09.0	22.02.2016 to 21.02.2021
8	G.Suresh S/o. Ganapathi	261/2	0.93.5	16.06.2015 to 15.06.2020
9	M.Palanisamy S/o. Muthusamy	200/1C & 200/2	2.56.0	24.04.2015 to 23.04.2020
<b>TOTAL</b>			<b>15.94.0 ha</b>	
<b>GRAND TOTAL OF PROPOSED &amp; EXISTING QUARRIES</b>			<b>22.08.5 ha</b>	

\* Cluster area calculated as per MoEF & CC Notification – S.O. 2269(E) Dated: 01.07.2016

**1.1.1 Location of the Project**

**TABLE 1.2: SALIENT FEATURES OF THE PROJECT SITE**

S. No.	Particulars	Details			
1.	Type of Project	Rough Stone and Gravel Mine			
2.	Cluster Mine area applied	6.145 Ha			
3.	Project Location	Survey Nos. 199/1B, 232/1B, 232/2, 233/4B & 225/1B of Kokkalai Village, Tiruchengode Taluk, Namakkal District, Tamil Nadu.			
4.	Latitude Longitude	<b>Lease</b>	<b>Coordinates</b>		
			<b>Latitude</b>	<b>Longitude</b>	
		Thiru.C.Sivakumar	11°21'46.17"N to 11°21'51.21"N	78°03'10.63"E to 78°03'16.96"E	
		Thiru.P.A.Raja	11°21'54.40"N to 11°21'57.53"N	78°03'37.22"E to 78°03'43.33"E	
		Tmt. P.Ramayee	11°21'42.37"N to 11°21'49.05"N	78°03'14.02"E to 78°03'18.48"E	
	Thiru.M.Palanisamy	11°22'04.51"N to 11°22'07.80"N	78°03'38.38"E to 78°03'43.27"E		
5.	Topo sheet Number	58 - I/03			
6.	Proposed Production Capacity	<b>Lessee</b>	<b>Geological Reserves</b>	<b>Mineable Reserves</b>	<b>Production Capacity</b>
		Thiru.C.Sivakumar	Rough stone 473303 m <sup>3</sup>  Gravel 8592 m <sup>3</sup>	Rough stone  152421 m <sup>3</sup>  Gravel 3932 m <sup>3</sup>	Rough stone  152421 m <sup>3</sup>  Gravel 3932 m <sup>3</sup>

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S. No.	Particulars	Details			
		Thiru.P.A.Raja	Rough stone 493290 m <sup>3</sup> Gravel 28188 m <sup>3</sup>	Rough stone 161560 m <sup>3</sup> Gravel 19712 m <sup>3</sup>	Rough stone 161560 m <sup>3</sup> Gravel 19712 m <sup>3</sup>
		Tmt. P.Ramayee	Rough stone 435963 m <sup>3</sup> Gravel 14836 m <sup>3</sup>	Rough stone 127278 m <sup>3</sup> Gravel 10836 m <sup>3</sup>	Rough stone 127278 m <sup>3</sup> Gravel 10836 m <sup>3</sup>
		Thiru.M.Palanisamy	Rough stone 105350 m <sup>3</sup> Gravel 6020 m <sup>3</sup>	Rough stone 125491 m <sup>3</sup> Gravel 6870 m <sup>3</sup>	Rough stone 125491 m <sup>3</sup> Gravel 6870 m <sup>3</sup>
7.	Lease period	<b>Lessee</b>		<b>Lease period</b>	
		Thiru.C.Sivakumar		5 years	
		Thiru.P.A.Raja		10 years	
		Tmt. P.Ramayee		5 years	
		Thiru.M.Palanisamy		5 years	
8.	Climatic Conditions	IMD Data, Namakkal (1971-2000)			
		<ul style="list-style-type: none"> <li>Avg. Ambient air temp – 36.3° C to 37.9° C</li> <li>Annual rainfall - 793 mm</li> </ul>			
9.	Site elevation above Mean Sea Level	<b>Lessee</b>	<b>Elevation</b>		
		Thiru.C.Sivakumar	209 m above MSL		
		Thiru.P.A.Raja	213 m above MSL		
		Tmt. P.Ramayee	206 m above MSL		
		Thiru.M.Palanisamy	212 m above MSL		
10.	Ultimate Pit Dimension	<b>Lessee</b>	<b>Ultimate Pit Dimension</b>		
		Thiru.C.Sivakumar	159m (L) x 85m (W) x 33m (D) BGL		
		Thiru.P.A.Raja	-		

S. No.	Particulars	Details	
		Tmt. P.Ramayee	-
		Thiru.M.Palanisamy	111m (L) x 82m (W) x 37m (D) BGL
11.	Proposed depth	<b>Lessee</b>	<b>Proposed depth</b>
		Thiru.C.Sivakumar	33m BGL (1m Gravel + 2m Weathered Gravel + 30m Rough Stone)
		Thiru.P.A.Raja	13m BGL (2m Gravel + 1m Weathered Gravel + 10m Rough Stone)
		Tmt. P.Ramayee	42m BGL (2m Gravel + 40m Rough Stone)
		Thiru.M.Palanisamy	37m BGL (2m Gravel + 35m Rough Stone)
12.	Existing Pit Dimension	<b>Lessee</b>	<b>Existing Pit Dimension</b>
		Thiru.C.Sivakumar	<b>Pit 1</b> 35m (L) x 86m (W) x 18m (D) <b>Pit 2</b> 110m (L) x 55m (W) x 10m (D)
		Thiru.P.A.Raja	-
		Tmt. P.Ramayee	111m (L) x 49m (W) x 26m (D)
		Thiru.M.Palanisamy	<b>Pit 1</b> 82m(L) x55m(W) x 11.5m(D) <b>Pit 2</b> 41m (L) x 41m (W) x 7.0m (D)
13.	Land use at the proposed project site	Patta Land Land Cover: Barren Land which is not fit for vegetation/cultivation	
14.	Site topography	<b>Lessee</b>	<b>Site topography</b>
		Thiru.C.Sivakumar	Sloping towards Western side
		Thiru.P.A.Raja	Sloping towards Southeastern side
		Tmt. P.Ramayee	Sloping towards Southeastern side
		Thiru.M.Palanisamy	Sloping towards Southeastern side
15.	Nearest road	<ul style="list-style-type: none"> <li>• Kokalai Road: 0.71Km, W</li> <li>• Suripatti Road: 0.75Km, W</li> <li>• (MD-857) Vaiyappamalai - Velagoundampatti Road: 1.778Km, E</li> </ul>	
16.	Nearest State/National Highway	<ul style="list-style-type: none"> <li>• (SH 79) Attur- Rasipuram Road: 4.01 Km, NW Direction</li> <li>• (SH 94) Tiruchengode-Namakkal Road (Trichy Road) - 5.88Km-SW</li> <li>• (NH 44) Salem - Madurai Road - 11.58 Km, E</li> </ul>	

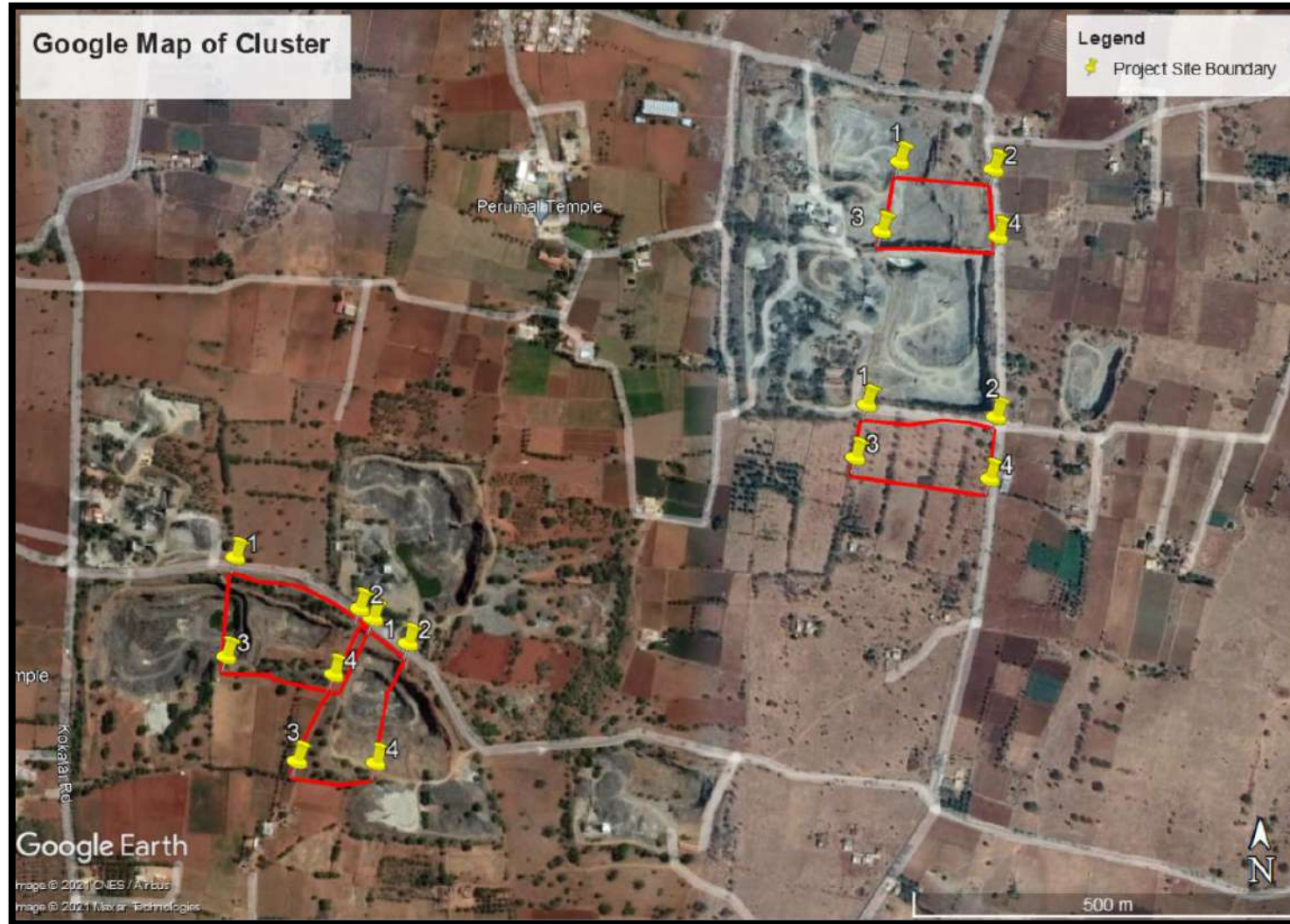
Draft EIA/EMP for Proposed Rough stone & Gravel Mine of cluster area 6.145 Ha, located in Survey Nos. 199/1B, 232/1B, 232/2, 233/4B & 225/1B of Kokkalai Village, Tiruchengode Taluk, Namakkal District, Tamil Nadu.

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S. No.	Particulars	Details
17.	Nearest Railway Station	<ul style="list-style-type: none"> <li>• Kalagani Railway Station : 13.47 Km- SE Direction</li> <li>• Rasipuram Railway Station : 16.41Km- NE</li> <li>• Namakkal Railway Station : 20.38Km- SE</li> </ul>
18.	Nearest Air Port	Salem Airport: 46.09 Km, N Direction
19.	Nearest village/major town	<ul style="list-style-type: none"> <li>• Kokkalai : 1.25 Km, NW Direction</li> <li>• Periyamanali : 1.94 Km, NE Direction</li> </ul>
20.	Nearest Town, city, District Headquarters along with distance in kms.	<ul style="list-style-type: none"> <li>• Rasipuram : 17.63Km, NE Direction</li> <li>• Tiruchengode : 17.92 Km, W Direction</li> <li>• Namakkal : 20.94 Km, SE Direction</li> </ul>
21.	Ecologically sensitive zone	No wildlife sanctuary, national park or biosphere reserve within 10 m radius of mine lease area.
22.	Reserved/Protected forests	No wildlife sanctuary, national park or biosphere reserve within 10 m radius of mine lease area.
23.	Historical/tourist places	None within 300m radius of mine lease area
24.	Nearest Malai	Alavalaimalai: 13.20Km, NE
25.	Nearest water bodies	<ul style="list-style-type: none"> <li>• Thirumanimuthu River : 4.06Km, W</li> <li>• Elur Lake : 5.92Km, E</li> <li>• Natramangalam Lake : 7.50Km, NE</li> <li>• Paruthipalli Lake : 7.81Km, NW</li> <li>• Koattapalayam Lake : 9.04Km, N</li> <li>• Semoor Periya Lake : 11.48Km, N</li> <li>• Oomayaampatti Lake : 11.47Km, NW</li> <li>• Kollapatti Lake : 14.88Km, NW</li> </ul>
26.	Seismic zone	Seismically, this area is categorized under Zone-III as per IS-1893 (Part-1)-2002. Hence, seismically the site is High Damage Risk Zone. With MSK scale of VII.

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**FIGURE 1.1: GOOGLE IMAGE OF CLUSTER**

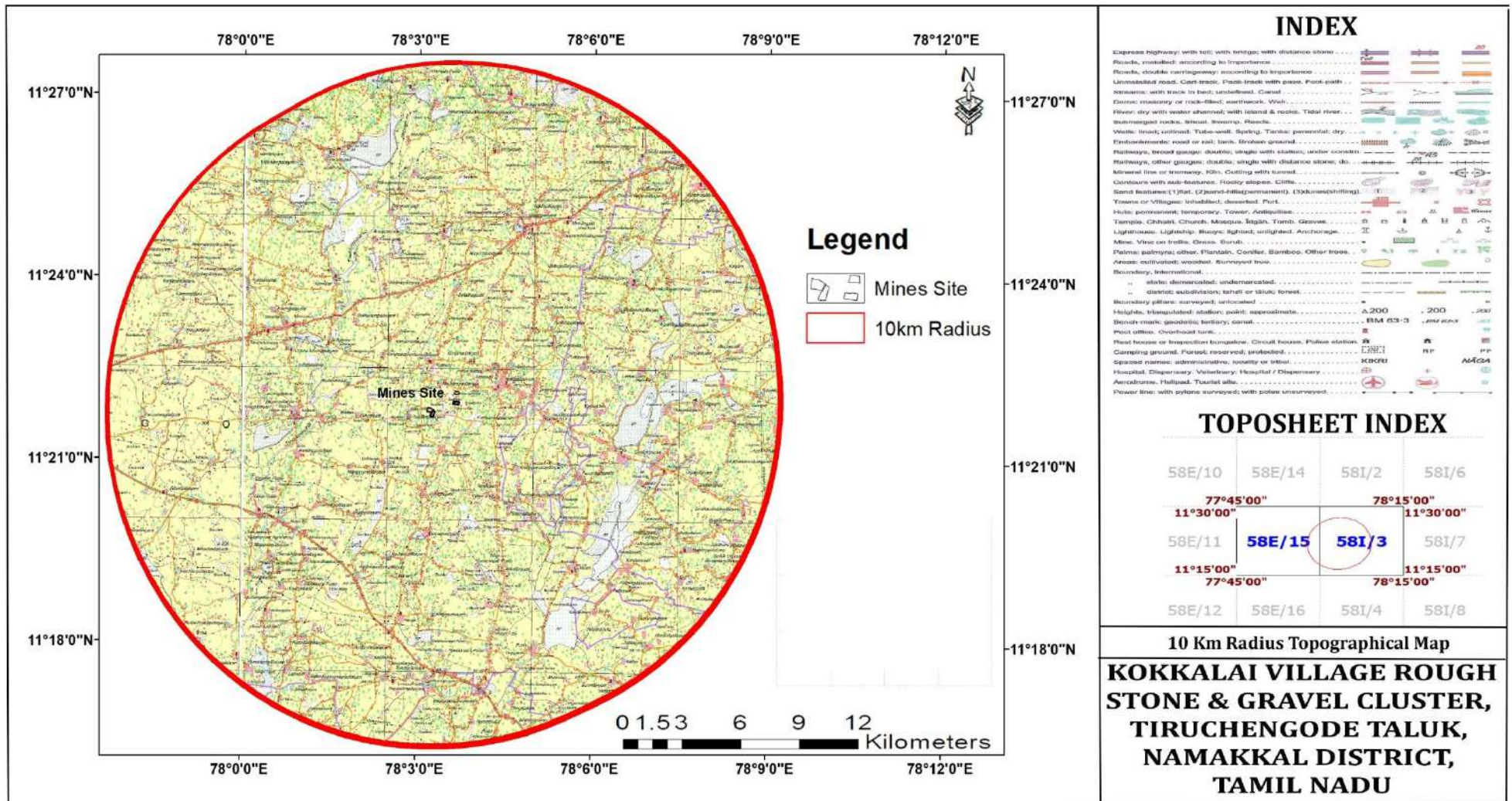




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**FIGURE 1.2: TOPOGRAPHICAL MAP OF STUDY AREA (10 KM RADIUS)**



### Thiru.M.Palanisamy Rough stone & Gravel Quarry



**North**



**East**



### Thiru.P.A.Raja Rough stone & Gravel Quarry



**North**



**East**



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**Thiru.C.Sivakumar Rough stone & Gravel Quarry**



**North**



**East**



**Tmt. P.Ramayee Rough stone & Gravel Quarry**



## **1.2 PROJECT DESCRIPTION**

### **1.2.1 Method of Mining**

This is an existing mine having benches of maximum 6m height and 6m width, ramp gradient 1 in 16 is maintained. While, during the plan period the mining will be carried out open cast pit fully mechanized method by deploying surface miner, loader and tipper/dumper combination. The height of mining benches will be kept 5 to 6meters and width of benches will be in no case less than the height of benches. The mine will advance towards the north east and east direction. The face slope will be maintained at 70° while overall bench slope will be maintained to 45°.

### **1.2.4 Waste Generation & Disposal**

The area is devoid of OB; thus no waste will be generated. The ROM will be transported to the nearby chemical and cement industry of Namakkal district after manual sorting. Thus no location of storage of mineral is proposed within the lease area.

### **1.2.5 Water Requirement & Source**

Total water requirement for the project will be 11.2KLD, which will be met from mine pit water and by tankers from nearby abandoned mine pits. Water for drinking purposes will be supplied from tankers.

### **1.2.6 Manpower Requirement**

This is a Rough stone and Gravel mining project. The mine will have fulltime manpower of 74 nos of persons for activities such as excavation, transportation etc.

### **1.2.7 Site Infrastructure**

Following site services will be provided at the mine:

- An centralized office cum store with minor maintenance shed is available near mine site outside lease area. A first aid box with necessary medical facility is available and maintained at the mine office.
- **Power supply:** The mine will work in one shift only in day time, so no electric power supply is required for mining operations. However eclectic connection and required transformer unit has been installed in the lease to support the crushing and screening unit.
- **Water supply:** There is no source of drinking water within the applied area. Drinking water & water for other purpose is brought from tube well situated outside the lease area. Drinking water stored in clean covered earthen pots and kept near working faces.
- **Latrine and Urinal:** latrine and urinal will be provided separately for male and female worker as per rule.

- **First-Aid Room:** A first-aid room with all necessary medical facilities will be provided as per mines act and mines rules.

## **1.3 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **1.3.1 Air Pollution Control Measures**

- Wet drilling will be carried out and controlled blasting will be carried out.
- Water sprinkling on haul roads at regular intervals.
- Regular maintenance of haul road.
- Haul road will be kept wide and compact.
- All hauling units (tippers) would be covered by multi cap mechanism to avoid spillage.
- Water sprinkling during loading operations to control dust emissions.
- Regular maintenance of vehicles and machinery.
- Provision of Dust masks to workmen.
- Plantation of thick green belt around lease boundary i.e. along 7.5m safety zone.
- Good housekeeping would be practiced to control air pollution.
- 

### **1.3.2 Ground vibrations**

#### **Ground vibrations**

As per the approved Mining Plan drilling and blasting will be required. Ground vibrations due to mining activities in the area are anticipated due to drilling, blasting and operation of mining machines like excavators, transportation vehicles, etc.

#### **Proposed Noise Control Measures**

- Controlled blasting will be carried out
- Proper maintenance, oiling and greasing of machines at regular intervals will be done to reduce generation of noise.
- Provision of sound insulated chambers for the workers deployed on machines producing higher levels of noise.
- Green Belt/Plantation will be developed around the mining activity area and along haul roads.
- Personal Protective Equipment (PPE) like ear muffs/ear plugs will be provided to the operators and
- Periodical monitoring of noise will be done.

### **1.3.3 Water Resources & Quality**

#### ***Impact on Water Resources & Quality***

The changed topography will alter the drainage within the mining lease area. However, there will not be any changes in the topography or drainage pattern outside the mining lease area. At the end of mining activities after reserves are exhausted, the area will be restored to an acceptable level of self-sustaining eco-system, green belt will be developed in upper benches of pit while additional plantation will be developed

No surface water will be utilized for mining operation. Moreover, there would not be any discharge from mine into the surface water body as no process waste water generation in the mine and allied activities. Hence there would not be any impact on surface water.

Only domestic effluent will be generated from the mine office and rest shelter. The domestic effluent is discharged in septic tank followed by soak pit. Besides, there will be no toxic element in the mined out material, which may contaminate ground/ surface water. It is, therefore, apparent that there will be negligible impact of mining on the surface water regime.

The Rough stone and Gravel and associated soil in the area does not contain any toxic material. Rough stone and Gravel constitutes of fairly inert and chemically non-reactive ingredients. Also, there is no use of chemicals or hazardous substances in the mining process. Thus, ground water pollution is not envisaged due to the mining operations.

Thus, the mining activities will not intersect ground water. The ground water may seep into the working mine pits. This water will be collected in mine sump created in the lower most part and will be allowed to accumulate. This water will be used for dust suppression and plantation. Considering small scale of mining operations, only small quantity of seepage water is expected. Thus, there will not be any significant impact in terms of lowering of ground water table in the nearby villages.

#### ***Proposed Water Conservation & Water Pollution Control Measures***

The daily water requirement in the stone mine is about 11.2 KLD. Water for dust suppression and plantation will be provided from rainwater accumulated in mine pits (when available) and from tankers from nearby waterlogged mine pits and water for domestic use will be supplied from borewell. Thus, ground water will be used only for drinking and domestic use. There is no water requirement for mineral processing in the mine. Also, there is no process effluent generation in the mine.

The following measures will be taken up to reduce this load:

1. Dense plantation within mining lease area and around soil/waste dumps
2. Construction of settling tank.

3. Construction of Garland drains around mine lease area connected to settling tank.
4. Construction of toe wall at the base of soil/waste dumps.
5. Development of green belt around mine lease area and grasses plantation to control soil erosion.
6. Stabilization of soil/waste dump with grasses & leguminous plants to control soil erosion.
- 7.

For reducing the impact of lowering of water level, the mine management will adopt roof top harvesting structures in the public buildings in nearby villages with prior consent from local gram panchayats to collect rain water and charge to ground through available dug well/ tube well. Also, the reservoir developed in mined out pit area will act as an additional source of water to the nearby villagers and will also help in recharging ground water table of the area.

#### **1.3.4 Solid Waste Generation & Management**

The area is devoid of OB; thus no waste will be generated. The ROM will be transported to the nearby chemical and cement industry of Namakkal district after manual sorting. Thus no location of storage of mineral is proposed within the lease area

#### **1.3.5 Biological Environment**

National Park, Wildlife Sanctuary and Biosphere Reserve within 10 km radius of the project site. No rare, endemic & endangered species are reported in the buffer zone. Dust deposition on leaf lamina will takes place on nearby local plant species along the transport road which may results in decline the rate of photosynthesis and retards the plant growth.

#### **Proposed Biological Environment Conservation Measures**

- Dust issues are mainly raised in the area due to unpaved road, cumulative fugitive dust emissions by various Rough stone mining mining activities. To mitigate the impact regular water sprinkling will be carried out within the mine lease area as well as approach road.
- Stabilization of soil/waste dumps by grass cover shall be done.
- Fencing around the mine lease area to restrict the entry of stray animals
- Thick Green belt will be developed around mine lease area and along transport road.
- Periodic maintenance of mineral transport road
- Regular sprinkling of water through mobile tanker on mineral transport road up to railway siding.
- Monitoring of dust fall at agriculture land located nearby the mining area.

### **1.3.6 Socio-economic Environment**

- There is no habitation or private land in the Rough stone and Gravel Mine. There is no rehabilitation and resettlement involved in the project.
- The mine will provide employment for 74 nos of persons for activities such as excavation, transportation etc for activities such as excavation, transportation etc.
- The existing infrastructure facilities are sufficient to cater the needs of the Rough stone and Gravel mine. However, the mine management will take efforts as a part of CSR for improvement in civic amenities like sanitation, drinking water facilities, transport road, etc in the nearby villages.

### **1.4 ENVIRONMENTAL MONITORING PROGRAM**

An Environmental Management Cell (EMC) will be established in the mine under the control of Mines Manager. The EMC will be headed by an Environmental scientist having adequate qualification and experience in the field of environmental management. Environmental monitoring of Ambient Air Quality, Water table depth, Water quality, Ambient Noise Levels, Soil Quality, CSR activities etc will be carried out through MOEF accredited agencies regularly and reports will be submitted to TNPCB/MoEF.

### **1.5 RISK ASSESSMENT & DISASTER MANAGEMENT PLAN**

The assessment of risk in the Rough stone and Gravel Mining project has been estimated for Slope failure, Inundation due to surface water, Dust hazards, Hazards associated with use of electricity/ Diesel Generator Sets and flooding of lower benches and corresponding mitigation measures are suggested in the Draft EIA/EMP report.

A detailed Disaster Management Plan for facing disasters due to natural effects and human reasons is prepared and incorporated in the draft EIA/EMP report for ensuring safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities. For effective implementation of Disaster Management Plan, it will be widely circulated and personnel training through rehearsals. Site facilities, procedures, Duties and responsibilities, Communications, etc is considered in detail in the Disaster Management Plan.

### **1.6 PROJECT BENEFITS**

The Rough stone and Gravel Mining project at Kokkalai Village would generate additional employment opportunities which would finally result in improvement in the quality of life of people of the nearby villages. In line with this CER policy, all Lessee will carry community welfare activities in the area as per Public hearing comments.



## **1.7 ENVIRONMENTAL MANAGEMENT PLAN**

An Environmental Management Plan comprise of following set of mitigation, management, monitoring and institutional measures to be taken during implementation and operation of the project, to eliminate adverse environmental impacts or reduce them to acceptable levels.

- Overall conservation of environment.
- Minimization of natural resources and water.
- Safety, welfare and good health of the work force and populace.
- Ensure effective operation of all control measures.
- Vigilance against probable disasters and accidents.
- Monitoring of cumulative and longtime impacts.
- Ensure effective operation of all control measures.
- Control of waste generation and pollution.

## **1.8 CONCLUSION**

The Kokkalai Cluster Rough stone and Gravel Mine project of all Blocks will be beneficial for the development of the nearby villages. Some environmental aspects like dust emission, noise, siltation due to surface run-off, etc. will have to be controlled within the permissible norms to avoid impacts on the surrounding environment. Necessary pollution control equipment like water sprinkling, plantation, personal protective equipments, etc., will form regular practice in the project. Additional pollution control measures and environmental conservation measures will be adopted to control/minimize impacts on the environment and socio-economic environment of the area. Measures like development of thick green belt and plantation within mine lease area and along transport road, adoption of rainwater harvesting in the mine and in nearby villages, etc. will be implemented. The CSR measures proposed to be adopted by the mine management will improve the social, economic status of the nearby villages.

The overall impacts of the Rough stone and Gravel Mine will be positive and will result in overall socio-economic growth of nearby villages.