



Validity expires on 28/11/2022

***Proceedings of the State Environment Impact Assessment Authority Kerala***

*Present: Prof. (Dr.) K.P. Joy, Chairman; Dr. J. Subhashini, Member and  
Sri. James Varghese, I.A.S., Member Secretary.*

Sub:- SEIAA- Environmental Clearance for the quarry project of Sri. George Joseph, Managing Partner, M/s.G.M.Granites in Survey No. 254/2(P) and 254/3(P) Ayyampuzha Village & Ayyampuzha Panchayat, Aluva Taluk Ernakulam, Kerala – EC –Granted -Orders issued.

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**STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY, KERALA**

**No. 1068/SEIAA/EC3/1723/2016**

***Dated, Thiruvananthapuram 29/11/2017***

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- Ref:
1. Application received on 6/10/2016 from Shri.George Joseph, Managing Partner, M/s.G.M.Granites, Parakkal House, Manjapra.P.O., Angamaly, Ernakulam District – 683 581.
  2. Minutes of the 69<sup>th</sup> Meeting of SEAC held on 09<sup>th</sup> & 10<sup>th</sup> March 2017. .
  3. Minutes of the 77<sup>th</sup> meeting SEAC held on 07/08/2017.
  4. Minutes of the 74<sup>th</sup> SEIAA meeting held on 9<sup>th</sup> October 2017.
  5. Certificate of CA received on 22/11/2017 from.Sri.George Joseph
  6. Affidavit dated 27.11.2017 from Sri.George Joseph,Managing Partner, M/s.G.M.Granites

**ENVIRONMENTAL CLEARANCE No. 92/2017**

Sri. George Joseph Managing Partner Parakkal House, Manjapra P.O, Angamaly, Ernakulam Dist., Kerala - 683581. vide his application read as (i) above, has sought Environmental Clearance under EIA Notification, 2006 for the quarry project in Survey No. 254/2(P) and 254/3(P) Ayyampuzha Village & Ayyampuzha Panchayat, Aluva Taluk Ernakulam Kerala, State for an area of 4.8276 hectares. The project comes under Category B,

Activity 1(a), (i) as per the Schedule of EIA Notification 2006 (since it is below 50 hectares) and as per O.M. No. L-11011/47/2011-IA.II(M) dated 18<sup>th</sup> May 2012 of Ministry of Environment and Forests. It is further categorized as Category B2 as per the O.M. No. J-13012/12/2013-IA-II (I) dt. 24.12.2013 of Ministry of Environment and Forests, since the area of the project is below 25 hectares.

Details of the project as furnished by the applicant are as follows:

**BASIC INFORMATION OF QUARRY**  
(To be filled in by the Project Proponent)

**PART A**

<b>Project details</b>	
File No.	<b>1068/EC3/2016/SEIAA</b>
Name /Title of the project	Granite Building Stone Quarry of M/S G.M Granites
Name and address of project proponent	Shri. George Joseph Parakkal, Parakkal House, Manjapra P.O., Angamaly, Ernakulam Dist Kerala - 683581. Mobile No: 09995492730 E-mail: <a href="mailto:georgeparakkal1958@gmail.com">georgeparakkal1958@gmail.com</a>
Owner of the land	Private land owned by George Joseph Parackal, Mathew Joseph Parackal and Jolly Mathew (Janmampandaravakapattom belonging to the proponent)
Survey No. District/Taluk/ and Village etc.	Survey No: 254/2(P) and 254/3(P), Ayyampuzha Village, Aluva Taluk, Ernakulam District, Kerala
Details of period of lease or permit with number including the beginning and expiry date of lease/permit period(Copy to be attached)	This is a proposed project. Letter of Intent obtained vide No. 8210/M3/2015 dated 18.08.2015
Present Status of the project Date & Year of starting the work of the quarry project. whether the quarry is	This is a proposed project. Hence not applicable.

working at present or not ? If stopped working since when?	
Date of submission of Application	06.10.2016
Brief description of the project	Attached as <b>Annexure – 1.</b>
Details of Authorized Signatory and address for correspondence	Sri. George Joseph Parakkal, Parakkal House, Manjapra P.O., Angamaly, ErnakulamDist Kerala - 683581. Mobile No: 09995492730. E-mail: <a href="mailto:georgeparakkal1958@gmail.com">georgeparakkal1958@gmail.com</a>
<b>Land Details</b>	
Extent of area in hectares	4.8276 Ha.
Is the property forest land/Govt. land/own land/patta land	Private land owned by Sri. George Joseph Parackal, Mathew Joseph Parackal and Jolly Mathew(Janmampandaravakapattom belonging to the proponent)
Quantity of top soil/over burden	The entire mine lease area is a virgin land & the proposed area is covered with top soil. The average thickness of waste material is about 2.5m. The total quantity of waste to be generated from the lease area is 105694 m <sup>3</sup> comprising 12684m <sup>3</sup> of top soil and 93010m <sup>3</sup> of overburden.
produced and managed	The waste material will be used for road formation, filling of low lying areas and formation of bund all around. Besides there is adequate land available in the nearby area owned by the lessee, where the material can be dumped.
Latitude and Longitude	Latitude (N) 10°13'59.754"N to 10°14'7.963"N Longitude(E)76°27'25.077"Eto76°27'35.218"E
Topography of land and elevation	+52m AMSL to +88m AMSL gradually sloping towards Southeast
Slope analysis	Bench height – 5 m, Bench width - more than the Bench height, Slope - as per DGMS/ SEIAA requirement
Will there be any significant land disturbance resulting in soil erosion, subsidence & natural	This is an opencast mine hence there will not be any subsidence. The bench slopes will be maintained as per DGMS rules and requirement and hence there cannot be any instable slopes. There will be land disturbance due to mining activity

drainage.	
Access road to the site width and condition	The project site is approachable from Amalapuram – Thattupura road via Amalapuram Junction, which is connected to Manjapra - chulli road.
Will there be any adverse impact on the aesthetics of the proposal site	No. In the mine closure stage, water body will be formed up to +50m AMSL and 1.2576 Ha of area above +50m AMSL will be reclaimed back with bench vegetation / plantation which improves the aesthetics of the area.
<b>Mining details</b>	
Minimum and Maximum height of excavation.	Up to +00m AMSL (Minimum depth - 52m, Maximum depth 88m)
Life of mine proposed.	11 years
Underground mining if any proposed	Nil
Method of Mining	Semi-mechanized opencast quarry
Distance from the adjacent quarry	200 m
Cluster condition if any	No.
Has "No cluster certificate" submitted?	Yes. Submitted in EIA/EMP report.
Distance from nearby habitation	About 200m away from the lease boundary
Distance from nearby forest, if applicable	The lease area does not include any forest land. Malayattur R.F - 2.0km - E, Karakkad R.F - 1.5km - SE, Kurisumudi R.F - 4.2 km - SE are found in buffer zone.
Distance from protected area, Wildlife Sanctuary, National Park etc.	Nil with in 10Km radius
Distance from nearby streams/rivers/National Highway and Roads	Highways: NH 47(Salem to Kanyakumari road) via Angamali - 8.7km - SW (Aerial), SH-1(Main Central Road) - 7.5 Km - SW (Aerial) Water bodies: Edamalayar irrigation canal - 260 m - SW, Kotayi Todu - 700 m - W, Chalakudy River - 6.6 Km - N and Periyar River - 5.8 km - S are located from the lease boundary.
Is ESA applicable? If so distance from ESA	Not Applicable

limit			
Has approved mining plan, prepared by RQP submitted?	Mining Plan approved by District Geologist, Department of Mining and Geology, Ernakulam District vide letter no. DOE/4389/E2/15, dated on 16.11.2015		
Capacity of production in TPA	247400 TPA		
Details of mining process	The mining operation comprises of drilling using jack hammer and tractor mounted compressors, blasting, removal of blasted material using excavator and transportation of material to the outside crusher unit		
<b>Details of Project cost</b>			
Land cost	Own land		
Plant and Machinery	Operating on rental basis		
Total Cost	INR 70 lakhs		
Financial Statement including funding source and details of insurance etc.	The proponent is financially sound to make necessary funding for this project.		
	<table> <tr> <td>Air Pollution</td><td> <ul style="list-style-type: none"> <li>• Covering of drill holes with wet cloth</li> <li>• Usage of sharp drill bits for drilling of holes.</li> <li>• Provision of dust filters / mask to workers working at highly dust prone and affected areas.</li> <li>• Well-designed blasting parameter, effective stemming to achieve optimum breakage occurs without generating fines.</li> <li>• Use of appropriate explosives for blasting and avoiding overcharging of blast holes.</li> <li>• Avoiding blasting during high wind periods where the fine dust is carried out away easily affecting the ambient air quality.</li> </ul> </td></tr> </table>	Air Pollution	<ul style="list-style-type: none"> <li>• Covering of drill holes with wet cloth</li> <li>• Usage of sharp drill bits for drilling of holes.</li> <li>• Provision of dust filters / mask to workers working at highly dust prone and affected areas.</li> <li>• Well-designed blasting parameter, effective stemming to achieve optimum breakage occurs without generating fines.</li> <li>• Use of appropriate explosives for blasting and avoiding overcharging of blast holes.</li> <li>• Avoiding blasting during high wind periods where the fine dust is carried out away easily affecting the ambient air quality.</li> </ul>
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Management Plan			

		<ul style="list-style-type: none"> <li>• Use of controlled blasting techniques with milli second delay detonators to keep the dust generation, noise as well as vibration level within the prescribed limits.</li> <li>• Proper maintenance of machineries which avoids excessive noise and vibration</li> <li>• Imparting sufficient training to operators on safety and environmental parameters.</li> <li>• Proper maintenance of hauling equipment.</li> <li>• Regular wetting of transport road using water tanker Avoiding overloading of tippers</li> <li>• Covering of loaded tippers with tarpaulins during transportation</li> <li>• Development of green belt / barriers wherever possible.</li> </ul>	
	Water Pollution	<ul style="list-style-type: none"> <li>• The rain water falling in the quarry will be harvested up to +50 m AMSL. This pit will act as a settling pond to prevent solids escaping along with discharge, before outlet etc.</li> <li>• Besides, it is also suggested to construct garland drain on the southern side and connect it to settlement pond on the south eastern side, so that the water can be diverted into this pond.</li> <li>• Most of the mine</li> </ul>	

		<p>water will be used for green belt, dust suppression, etc. The mined area will be properly fenced all around.</p> <ul style="list-style-type: none"> <li>• Plantation will be carried out in the safety zone area, all possible area within the lease area</li> </ul>	
	Noise	<ul style="list-style-type: none"> <li>• Providing in-built mechanism for reducing sound emissions</li> <li>• Sound proof operator's cabin for equipment like dumpers, shovel, tippers, etc</li> <li>• Providing earplugs/earmuffs to workers exposed to higher noise level</li> <li>• Proper and regular maintenance of equipment.</li> <li>• Planting of trees where ever possible to act as acoustic barriers.</li> </ul>	
		<ul style="list-style-type: none"> <li>• Conducting regular health checkup of workers including audiometry test for the workers engaged in noise prone area.</li> </ul>	
	Solid Waste Management	<ul style="list-style-type: none"> <li>• The top soil will be used for reclamation and afforestation purpose.</li> <li>• The waste material will be used for road formation, filling of the low lying areas and formation of bund all around.</li> <li>• Besides, there is adequate land</li> </ul>	

		available in the nearby area owned by the lessee, where the material can be dumped temporarily.	
	Eco-restoration	<ul style="list-style-type: none"> <li>• In the mine closure stage, water body will be formed up to +50m AMSL in the mined out void till the floor level of +00m AMSL.</li> <li>• Out of 4.1701 Ha of mined out area, 2.9125 Ha will left as water body and the remaining 1.2576 Ha of area above +50m AMSL will be reclaimed back with bench vegetation / plantation.</li> <li>• Besides, the peripheral safety zone will also be developed with plantation. The mined area will be properly fenced all around.</li> </ul>	
Whether Environment Management Plan or Eco restoration Plan satisfactory?	Yes. Details already given above		
Does it suggest mitigation measures for each activity	yes		
If Pre-Feasibility Report (PFR)	yes		



satisfactory	
Does it need public hearing	Not applicable.
Details of litigation and Court verdict if any	No
Details of public complaint, if any	Nil
Details of statutory sanction required	Environmental clearance yet to be obtained. Applied on 06.10.2016
XIII.If CRZ recommendation applicable?	Not Applicable
<b>PART B</b>	
<b>Environment Impact Assessment and Mitigation Measures</b>	
<b>Impact on water</b>	
Details of water requirement per day in KLD	Total requirement - 9.0 KLD including 8.0 KLD for Domestic & sanitary needs and 1.0 KLD for Dust suppression, plantation etc
Water source/sources.	The entire requirement will be met from own well outside the mine lease area
Expected water use per day in KLD.	9.0 KLD
Details of water requirement met from water harvesting.	The rain water falling in the quarry will be harvested up to +50m AMSL. This pit will act as a settling pond to prevent solids escaping along with discharge, before outlet etc.
What is the impact of the proposal on the ground water?	The entire requirement will be met from own well outside the mine lease area. No ground water abstraction is proposed.
How much of the water requirement can be met from the recycling of treated waste water? (Facilities for liquid waste treatment)	There is no effluent generated since this is a mining project. Liquid domestic effluents are minimal and let out into septic tank and soak pits.
What is the incremental pollution load from waste water generated from the	Not applicable

proposed activities?	
How is the storm water from within the site managed?	The rain water falling in the quarry will be harvested up to +50m AMSL. This pit will act as a settling pond to prevent solids escaping along with discharge, before outlet etc.
<b>Impact on Biodiversity and Eco restoration Programmes</b>	
Will the project involve extensive clearing or modification of vegetation (Provide details)	The lease area is a virgin land covered with vegetation which has to be removed during mining. However, in the mine closure stage, about 1.2576 Ha of area above +50m AMSL will be reclaimed back with bench vegetation / plantation.
What are the measures proposed to minimize the likely impact on vegetation (details of proposal for tree plantation/ landscaping)	In the mine closure stage, water body will be formed up to +50m AMSL in the mined out void till the floor level of +00m AMSL. Out of 4.1701 Ha of mined out area, 2.9125 Ha will be left as water body and the remaining 1.2576 Ha of area above +50m AMSL will be reclaimed back with bench vegetation / plantation. Besides, the peripheral safety zone will also be developed with plantation. The mined area will be properly fenced all around.
Is there any displacement of fauna – both terrestrial and aquatic? – If so what are the mitigation measures? Presence of any endangered species or red listed category (in detail)	There is no wildlife sanctuary or National park or biosphere within the study area of 10km. No. Domestic animals like Cows, Buffalos, Dogs, Cats etc., are commonly found near the area. There are no endemic or endangered species in and around the project area. There are no schedule – 1 Fauna in the species in and around the project area.
<b>Impact on Air Environment</b>	
What are the mitigation measures on generation of dust, smoke and air quality	<p>Air pollution in mines is mainly due to:</p> <ul style="list-style-type: none"> <li>▪ Drilling &amp; Blasting.</li> <li>▪ Movement of HEMM.</li> <li>▪ Loading &amp; Unloading.</li> <li>▪ Transportation of Material.</li> <li>▪ Drilling &amp; Blasting.</li> <li>▪ Movement of HEMM.</li> <li>▪ Loading &amp; Unloading.</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Transportation of Material.</li> </ul> <p>The following mitigation measures are and will be adopted:</p> <ul style="list-style-type: none"> <li>• Covering of drill holes with wet cloth for controlling dust emission</li> <li>• Usage of sharp drill bits for drilling of holes.</li> <li>• Regular wetting of transport road using water tanker to suppress the dust.</li> <li>• Well-designed blasting parameter, effective stemming to achieve optimum breakage occurs without generating fines.</li> <li>• Avoiding blasting during high wind periods where the fine dust is carried out away easily affecting the ambient air quality.</li> <li>• Use of controlled blasting techniques to keep the dust generation, noise as well as vibration level within the prescribed limits.</li> <li>• Proper maintenance of HEMM which avoids excessive noise and vibration</li> <li>• Acoustic enclosures for operator cabin.</li> <li>• Imparting sufficient training to operators on safety and environmental parameters</li> <li>• Proper maintenance of hauling equipment's</li> <li>• Regular maintenance of the transport vehicles.</li> <li>• Avoiding of overloading of tippers and covering of</li> </ul>
	<p>loaded tippers with tarpaulins during transportation.</p> <ul style="list-style-type: none"> <li>• Development of Greenbelt.</li> <li>• Periodical monitoring of air quality to take steps to control the pollutants.</li> </ul>
Details of internal traffic management of the site.	Only few tippers will be engaged for transporting granite to outside crusher plant. No internal traffic management in the site is needed.
Details of noise from traffic, machines and vibrator and mitigation measures	<p>Noise/Vibration generation in mining operations are mainly due to:</p> <ul style="list-style-type: none"> <li>• Mechanization adopted.</li> <li>• Drilling &amp; Blasting Operation.</li> <li>• Movement of Vehicles, etc.</li> <li>• Ground Vibration</li> </ul> <p>The mitigation measures are given below:</p> <ul style="list-style-type: none"> <li>• Planting of trees wherever possible to act as acoustic</li> </ul>

	<p>barriers.</p> <ul style="list-style-type: none"> <li>• Sound proof operator's cabin for equipment like dumpers, shovel, tippers, etc.</li> <li>• Proper and regular maintenance of equipment may lead to less noise generation.</li> <li>• Providing in-built mechanism for reducing sound emissions.</li> <li>• Providing earplugs, earmuffs to workers exposed to higher noise level.</li> <li>• Conducting regular health check-up of workers including Audiometry test for the workers engaged in noise/vibration prone area.</li> </ul> <p>The following mitigation measures will be adopted for noise control:</p> <ul style="list-style-type: none"> <li>• Optimum design for burden and spacing.</li> <li>• Inclined drilling practice, whenever necessary.</li> <li>• Reducing explosive charge to minimum.</li> <li>• Proper deck charging practices, looking to consolidation and hardness of strata conditions.</li> <li>• Using ordinary electric milli second delay detonators, in combination with denoting fuse etc. This sequence of blasting reduces vibration to a large extent, thereby minimizing propagation of shock waves.</li> <li>• Avoiding blasting in unfavorable weather condition.</li> </ul>			
Impact of DG sets and other equipment on noise and vibration and ambient air quality around the project site and mitigation measures.				
Air quality monitoring in detail	AAQ monitoring were studied in 3 locations.			
	Para meter (in $\mu\text{g}/\text{m}^3$ )	Sample Code & Location		
		GA1	JGA2	JGA3
		Near mine lease	Kollakode	Muringad a Thupara
				*Permissible Limits

		area			
	PM <sub>10</sub>	51.1	50.7	53.8	100
	PM <sub>2.5</sub>	20.5	19.1	22.3	60
	SO <sub>2</sub>	3.3	3.8	4.4	80
	NO <sub>2</sub>	8.8	9.3	11.6	80
	CO	BDL (DL-1144)	BDL (DL-1144)	BDL (DL-1144)	4000
<b>*National Ambient Air Quality Standards from CPCB</b> <b>Remarks: BDL- Below detectable limit, DL- Detectable Limit.</b>					
All monitored values were found to be well within the prescribed NAAQ limits					
<b>Energy Conservation</b>					
Details of power requirement and source of supply.	No electricity is needed for quarry operations as only diesel operated mining machinery including jack hammer will be used for quarrying. Hence the negligible power requirement of the administrative buildings etc., will be met from state grid. The power connection for office use is available near to the site.				
Details of renewable energy (non – conventional) used.					
<b>Risk Management</b>					
Are there sufficient measures proposed for risk hazards in case of emergency such as accident at the site?	<ul style="list-style-type: none"><li>• Yes. Bench height, width and slope will be maintained as per direction of DGMS.</li><li>• The mined area will be properly fenced all around to prevent fall of animals.</li><li>• Magazine will be made available on commencement of mining activities. License to store and use of Explosive will be obtained.</li><li>• The top soil will be used for reclamation and afforestation purpose.</li><li>• The waste material will be used for road formation, filling of the low lying areas and formation of bund all around.</li></ul>				
Are proposals for fencing around the quarry satisfactory? Storage of explosives/hazardous substance in detail					

Facility for solid waste management	• Besides, there is adequate land available in the nearby area owned by the lessee, where the material can be dumped temporarily.			
Socio Economic Impacts				
Will the project cause adverse effects on local communities' disturbance to sacred sites or other cultural values. What are the safe guards proposed?	Not Applicable			
Will the proposal result in any changes to the demographic structure of local population. If so, provide details.	No			
Are the CSR proposals satisfactory? Give details	The project proponent will implement CSR activities to the local community around the project site. Need based assessment for the local community to the tune of Rs.30 lakhs is made and budgetary provision of Rs.6 lakhs per year is provided. The identified CSR activities are given below:			
	Sl. No	Particulars	Capital Cost in Lakhs	Recurring Cost in Lakhs
	1	EDUCATION FACILITIES:		
	a	Schools in Ayyampuzha	Providing Note books, Bags, Stationery items for Students (Rs. 2000 * 25 Students * 5Yrs)	- 2.5
			Infrastructure development:	
			Construction of Toilets	2.5 -

		School roof repairing and other renovation works	-	0.25	
		Providing Tables, Chairs, Library facilities	-	0.25	
2		<b>MEDICAL FACILITIES:</b>			
a		Providing free medicines, Conducting free medical camps, Health awareness programmes to poor and needy people in nearby villages (Avg of Rs. 40000 * 5Yrs)	-	2.0	
		Improvement in Medical aid	-	0.75	
		Beds, Bedsheet & Pillows	0.25	-	
		Chairs for OP Patients	0.25	-	
		Fan,			
		Hospitals, PHCs in Ayyampuzha			
b		Tubelight and other electrical devices	0.75	-	
		Upgradation of Infrastructure facilities	-	0.25	
		Construction of Toilets	0.50	-	
		Providing Drinking Water system	0.25	-	
3		<b>ORPHANAGE/OLD AGE HOMES:</b>			
		Old age Homes in and around	Dress Materials (Rs.	-	2.5

		Ayyampuzha	50000 * 5Yrs)		
			Providing beds, chairs, improving the existing infrastructure, etc.,	0.50	-
			Mess Items like Rice, Pulses, vegetables (Rs. 1,00,000 * 5Yrs)	-	5.0
			Medicine, medical Aids like spectacles, hearing aid, walk stick etc., (Rs. 10,000 * 5Yrs)	-	0.50
4		AREA DEVELOPMENT:			
		Ayyampuzha Panchayat	Mainteance of Panchayat road (Renovation, Construction, etc.,) (Rs. 2,00,000 * 5Yrs)	-	10.0
			Providing Road lighting facilities (Rs. 10,000 x 5 years)	0.50	-
			Conducting medical camp ( Rs. 10000 x 5 years)	-	0.50
			Total Cost	30.00	



		(Capital and Recurring)	
What are the projects benefits in terms of employment potential?	About 19 persons will be directly employed and 100 persons will be indirectly involved in this project.		
PART C			
Details of NABET approved EIA Consultant engaged- Their name, address and accreditation details	Creative Engineers & Consultants Address: 9 B/4, Bharathwajar Street, East Tambaram, Chennai – 600059 E-mail: <a href="mailto:cecgiri@yahoo.com">cecgiri@yahoo.com</a> Tel.: 044- 22395170 Mob: 09444133619 Listed in S.No 28 in NABET list of Accredited Consultants		
Summary and Conclusion			
Overall justification for implementation of the project.	<ul style="list-style-type: none"><li>• The final product from the quarry will be used in the outside crusher unit for producing aggregates which is an essential supply component in road making, construction activities and building works, which are all core sectors for infrastructural growth of the country.</li><li>• Working of this quarry will result in overall development of the region in its own way due to provision of direct &amp; indirect employment, improvement in the general living standards and knowledge sharing, improved wage level and the living standard of the local people and continual improvement of the local amenities for the local society.</li></ul>		
Explanation of how adverse impact has been mitigated.	The mitigation measures to control the adverse impact due to this project on various environmental factors are explained in Part B above.		

2. The proposal was placed in the 69<sup>th</sup> Meeting of SEAC held on 09<sup>th</sup> & 10<sup>th</sup> March 2017. The Committee appraised the proposal based on the Mining Plan, Pre-feasibility Report and all other documents submitted along with Form1. The proponent should produce a certificate from the District Geologist to the effect that the proposal does not attract the cluster provision and also a list of the quarries with the area of lease. The committee deferred the item for field inspection.

3. Subsequently, site visit was conducted on 29<sup>th</sup> July 2017 by Subcommittee consisting of Dr. E.A. Jayson & Dr.K.G.Padmakumar .The representatives of the proponent were present at the site at the time of site visit. The report is as follows;

- *The project area consists of 4.8276 hectares, which is Patta Land.*
- *Distance to the nearest human settlement is recorded as 200m.*
- *The project area is not adjacent to any of the ecologically sensitive locations*
- *The nearest water bodies are Edamalayar irrigation canal situated at 260m-SW and rivulet, Kotayi thodu-700m W*
- *The land is a rubber plantation, covered with good quantity of the top soil.*
- *Nearest forest is.Malayattur R.F, located at 2.0km - E, Karakkad R.F-1.5km - SE,*
- *No endemic, endangered, threatened and rare plants observed, being a cultivated plantation*
- *On the North and West of this property , there is a chain of quarries, not working, all abandoned.*
- *No work has been initiated at the proposed site and the site is part of a 21-acre rubber estate owned by the proponent.*

**Observations:**

- *As top soil availability is more , designated zone shall be set apart for stacking the overburden*
- *The approach road of length over 150 m to the property from the main road is in poor shape, need to be improved*
- *A green belt to be maintained on the border by retaining the border trees and planting appropriate agro forestry species on borders.*

The proponent submitted the documents sought by 69<sup>th</sup> SEAC meeting.

4. The proposal was considered in the 77<sup>th</sup> meeting SEAC held on 07/08/2017. The Committee appraised the proposal based on Form I, Pre-feasibility Report, Mining Plan, field inspection report of the Sub Committee and all other documents submitted with the proposal. The Committee decided to Recommend for issuance of EC subject to general conditions in addition to the site inspection observations specified in the para 3 and the specific condition for mining below.

*If any rare, endemic and threatened plant species are noticed, they shall be properly protected insitu or transplanted to a suitable site inside the lease area.*

5. The proposal was considered in the 74<sup>th</sup> SEIAA meeting held on 9<sup>th</sup> October 2017. Authority accepted the recommendation of SEAC and decided to issue EC subject to general condition in addition to the following specific conditions.

- *As top soil availability is more, designated zone shall be set apart for stacking the overburden*

- *The approach road of length over 150 m to the property from the main road is in poor shape, need to be improved*
- *A green belt to be maintained on the border by retaining the border trees and planting appropriate agro forestry species on borders.*
- *If any rare, endemic and threatened plant species are noticed, they shall be properly protected insitu or transplanted to a suitable site inside the lease area.*

The project cost seems to be underestimated. A certificate from a Chartered Accountant stating the actual project cost should be submitted. The proponent should set apart an amount of Rs.15 lakh (non-recurring) and Rs.15 lakh per annum (recurring) for CSR activities for the welfare of the local community in consultation with the local Panchayat. EC will be issued only after fulfilling all the pre-mining conditions in the project site and an affidavit to this effect should be submitted. A notarised affidavit for the commitment of CSR activities and also agreeing all the general and specific conditions should be submitted before the issuance of EC. The proponent has submitted the Affidavit vide reference 6<sup>th</sup> cited satisfying all the general and specific conditions imposed by SEIAA & also submitted a certificate from a Chartered Accountant stating the actual project cost vide reference 5<sup>th</sup> cited.

6. Environmental clearance as per the EIA notification 2006 is hereby accorded for the proposed building stone quarry project of Sri. George Joseph, Parakkal House, Manjapra.P.O., Angamaly, Ernakulam District- Kerala- 683 581 for an area of 4.8276 Ha in Sy No. 254/2(P) and 254/3(P) at Ayyampuzha Village, Aluva Taluk, Ernakulam District subject to the specific conditions as recommended by SEIAA in para 5 above, ~~all the environmental impact mitigation and management measures undertaken by the project proponent in the all the environmental impact mitigation and management measures undertaken by the project proponent in the Form I, EMP, PFR and Mining plan submitted to SEIAA. The assurances and clarifications given by the proponent will be deemed to be a part of these proceedings as if incorporated herein. Also the general conditions for projects stipulated for mining (items 1 to 61), appended hereto will be applicable and have to be strictly adhered to.~~
7. The clearance issued will also be subject to full and effective implementation of all the undertakings given in the application form, mitigation measures as assured in the Environment Management Plan and the mining features including progressive mine closure plan as submitted with the application and relied on for grant of this clearance. The above undertakings and the conditions and the undertakings in Chapter 4 (Mining) Chapter 5 (Blasting), Chapter 6 (Mine Drainage), Chapter 7 (Stacking of Mineral rejects and Disposal of waste) Chapter 11 (EMP) Chapter 12 (Progressive Mine Closure Plan) of the Mining Plan as submitted will be deemed to

be part of this proceedings as conditions as undertaken by the proponent, as if incorporated herein.

8. Validity of the Environmental Clearance will be five years from the date of this clearance, subject to inspection by SEIAA on annual basis and compliance of the conditions, subject to earlier review of E.C in case of violation or non-compliance of conditions or genuine complaints from residents within the security area of the quarry.
9. Compliance of the conditions herein will be monitored by the State Environment Impact Assessment Authority or its authorised offices and also by the regional office of the Ministry of Environment & Forests, Govt. of India, Bangalore.
  - i. Necessary assistance for entry and inspection should be provided by the project proponent and those who are engaged or entrusted by him to the staff for inspection or monitoring.
  - ii. Instances of violation if any shall be reported to the District Collector, Ernakulam to take legal action under the Environment (Protection) Act 1986.
  - iii. The given address for correspondence with the authorised signatory of the project is Sri.George Joseph, Parakkal House, Manjapra.P.O., Angamaly, Ernakulam District – 683 581.

Sd/-

**JAMES VARGHESE I.A.S,**  
**Member Secretary (SEIAA)**

To,

Sri.George Joseph,  
Managing Partner,  
M/s.G.M.Granites,  
Parakkal House,  
Manjapra.P.O.,  
Angamaly, Ernakulam District- 683 581.

Copy to,

1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4<sup>th</sup> Floor, E&F Wing, II Block, Koramangala, Bangalore-560034.

2. The Additional Chief Secretary to Government, Environment Department, Government of Kerala.
3. The Director, Mining & Geology, Thiruvananthapuram -4.
4. The Member Secretary, Kerala State Pollution Control Board
5. The District Collector, Ernakulam
6. The District Geologist, Ernakulam
7. The Tehsildhar, Aluva Taluk.
8. Chairman, SEIAA.
9. Website.
10. S/f
11. O/c

*Forwarded /By Order*



*Administrator(SEIAA)*



**STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY  
KERALA**


**GENERAL CONDITIONS (for mining projects)**

1. Rain Water Harvesting facility should be installed as per the prevailing provisions of KMBR / KPBR, unless otherwise specified.
2. Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.
3. Suitable avenue trees should be planted along either side of the tarred road and open parking areas, if any, including of approach road and internal roads.
4. Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.
5. Sprinklers shall be installed and used in the project site to contain dust emissions.
6. Eco-restoration including the mine closure plan shall be done at the own cost of the project proponent.
7. At least 10 percent out of the total excavated pit area should be retained as water storage areas and the remaining area should be reclaimed with stacked dumping and overburden and planted with indigenous plant species that are eco-friendly, if no other specific condition on reclamation of pit is stipulated in the E.C.
8. Corporate Social Responsibility (CSR) agreed upon by the proponent should be implemented
9. The lease area shall be fenced off with barbed wires to a minimum height of 4ft around, before starting of mining. All the boundary indicators (boards, stores, markings, etc) shall be protected at all times and shall be conspicuous.
10. Warning alarms indicating the time of blasting (to be done at specific timings) has to be arranged as per stipulations of Explosive Department.
11. Control measures on noise and vibration prescribed by KSPCB should be implemented.
12. Quarrying activities should be limited to day time as per KSPCB guidelines/specific conditions.
13. Blasting should be done in a controlled manner as specified by the regulations of Explosives Department or any other concerned agency.
14. A licensed person should supervise/ control the blasting operations.
15. Access roads to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials.
16. Overburden materials should be managed within the site and used for reclamation of mine pit as per mine closure plan / specific conditions.
17. Height of benches should not exceed 5 m, and width should not be less than 5 m, if there is no mention is the mining plan/specific condition.
18. Mats to reduce fly rock blast to a maximum of 10 PPV should be provided.
19. Maximum depth of mining from general ground level at site shall not exceed 10m
20. No mining operations should be carried out at places having a slope greater than 45°.
21. Acoustic enclosures should have been provided to reduce sound amplifications in addition to the provisions of green belt and hollow brick envelop for crushers so that the noise level is kept within prescribed standards given by CPCB/KSPCB.
22. The workers on the site should be provided with the required protective equipment such as ear muffs, helmet, etc.
23. Garland drains with clarifiers to be provided in the lower slopes around the core area to channelize storm water.
24. The transportation of minerals should be done in covered trucks to contain dust emissions.
25. The proponent should plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.
26. Disposal of spent oil from diesel engines should be as specified under relevant Rules/ Regulations.
27. Explosives should be stored in magazines in isolated place specified and approved by the Explosives Department.
28. A minimum buffer distance of 100m from the boundary of the quarry to the nearest dwelling unit or other structures, not being any facility for mining shall be provided.

29. 100 m buffer distance should be maintained from forest boundaries.
30. Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating mining activity.
31. All other statutory clearances should be obtained, as applicable, by project proponents from the respective competent authorities including that for blasting and storage of explosives.
32. In the case of any change(s) in the scope of the project, extent quantity, process of mining technology involved or in any way affecting the environmental parameters/impacts as assessed, based on which only the E.C is issued, the project would require a fresh appraisal by this Authority, for which the proponents shall apply and get the approval of this Authority.
33. The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
34. The stipulations by Statutory Authorities under different Acts and Notifications should be complied with, including the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.
35. The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which (both the advertisement and the newspaper) shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Environment Impact Assessment Authority (SEIAA) office and may also be seen on the website of the Authority at [www.seiaakerala.org](http://www.seiaakerala.org). The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same signed in all pages should be forwarded to the office of this Authority as confirmation.
36. A copy of the clearance letter shall be sent by the proponent to concerned Grama Panchayat/ District Panchayat/ Municipality/Corporation/Urban Local Body and also to the Local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The Environmental Clearance shall also be put on the website of the company by the proponent.
37. The proponent shall submit half yearly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) and upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the respective Regional Office of MoEF, Govt. of India and also to the State Environment Impact Assessment Authority (SEIAA) office.
38. ~~The details of Environmental Clearance should be prominently displayed in a metallic board of 2 ft x 3 ft with green background and yellow letters of Times New Roman font of size of not less than 40. Sign board with extent of lease area and boundaries shall be depicted at the entrance of the quarry, visible to the public~~
39. The proponent should provide notarized affidavit (indicating the number and date of Environmental Clearance proceedings) that all the conditions stipulated in the EC shall be scrupulously followed.
40. No change in mining technology and scope of working should be made without prior approval of the SEIAA, No further expansion or modifications in the mine shall be carried out without prior approval of the SEIAA, as applicable.
41. The Project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations. Necessary safeguard measures to protect the first order streams, if any, originating from the mine lease shall be taken.
42. Monitoring of Ambient Air Quality to be carried out based on the Notification 2009, as amended from time to time by the Central Pollution Control Board. Water sprinkling should be increased at places loading and unloading points & transfer point to reduce fugitive emissions.
43. The top soil, if any, shall temporarily be stored at earmarked site(s) only for the topsoil shall be used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only. The maximum height of the dumps shall not exceed 8m and width 20m and overall slope of the dumps shall be maintained to 45°. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The entire excavated area shall be backfilled. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining.



44. Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
45. Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM<sub>10</sub> and PM<sub>2.5</sub> such as haul Road, loading and unloading points and transfer points – it shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
46. Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.
47. Measures should be taken for control of noise levels below 85 dBA in the work environment.
48. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
49. The funds earmarked for environmental protection measures and CSR activate should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the State Environment Impact Assessment Authority (SEIAA) office.
50. The Regional Office of MOEF & CC located at Bangalore shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (S) of the Regional Office by furnishing the requisite data/information/monitoring reports.
51. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
52. Concealing the factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
53. The SEIAA may revoke or suspend the order, for non implementation of any of the specific or thisimplementation of any of the above conditions is not satisfactory. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
54. The above conditions shall prevail notwithstanding anything to the contrary, in consistent, or simplified, contained in any other permit, license on consent given by any other authority for the same project.
55. ~~This order is valid for a period of 5 years or the expiry date of mine lease period issued by the Government of Kerala, whichever is earlier.~~
56. The Environmental Clearance will be subject to the final order of the courts in any pending litigation related to the land or project, in any court of law.
57. The mining operation shall be restricted to above ground water table and it should not intersect ground water table.
58. All vehicles used for transportation and within the mines shall have 'PUC' certificate from authorized pollution taking centre. Washing of all vehicles shall be inside the lease area'
59. Project proponent should obtain necessary prior permission of the competent authorities for drawal of requisite quantity of surface water and ground water for the project.
60. Regular monitoring of flow rates and water quality upstream and downstream of the springs and perennial nallahs flowing in and around the mine lease area shall be carried out and reported in the six monthly reports to SEIAA.
61. Occupational health surveillance program of the workers should be under taken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

  
For Member Secretary, SEIAA Kerala

