



Validity expires on 01.05.2022

***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 proposed building stone quarry project in Sy. Nos. 42/2 pt, 42/3 pt & 43/ 4 pt. at Oorakam Village and Panchayat, Thirurangadi Taluk, Malappuram District, Kerala by Sri. Basil Paul (Managing Partner), M/s Popular Sand and Metals - EC granted – Orders issued.

**STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY, KERALA**

**No. 874/SEIAA/EC1/3105/2015**

***Dated, Thiruvananthapuram 02.05.2017***

- Ref: 1. Application dated 05-08-2015 from Sri. Basil Paul (Managing Partner), M/s Popular Sand and Metals, Mullackal House, Poothrikka P.O., Puthencruz via., District Ernakulam, Kerala – 682 308  
2. Minutes of the 62<sup>nd</sup> Meeting of SEAC held on 06<sup>th</sup> & 07<sup>th</sup> September, 2016  
3. Minutes of the 67<sup>th</sup> Meeting of SEAC held on 27<sup>th</sup> January 2017.  
4. Minutes of the 65<sup>th</sup> Meeting of SEIAA held on 22<sup>nd</sup> March 2017.

**ENVIRONMENTAL CLEARANCE NO.32/2017**

Sri. Basil Paul (Managing Partner), M/s Popular Sand and Metals, Mullackal House, Poothrikka P.O., Puthencruz via., District Ernakulam, Kerala – 682 308, vide his application received on 05-08-2015, has sought Environmental Clearance under EIA Notification, 2006 for the quarry project in Sy. Nos. 42/2 pt, 42/3 pt & 43/4 pt. at Oorakam Village and Panchayat, Thirurangadi Taluk, Malappuram District, Kerala. The project comes under Category B2 as per the O.M. No. J-13012/12/2013-IA-II (I) dtd. 24.12.2013 of Ministry of Environment and Forests, since the area of the project is below 25 hectares. The proposed project site falls within Latitude (N) 11°05'07.12" to 11°05'13.20"N, Longitude (E) 76°01'24.94" to 76°01'34.61" E. The land use classification as per revenue records is private own land with native plantation. The present land use is rocky land. The current proposal is for the Existing quarry with pit area of 3.8675 hectares and mineral specific. Hence no alternate site was examined. The proposed project is for quarrying of 1,25,000 MTA of building stone.

## BASIC INFORMATION OF QUARRY PROJECT

### PART A

Project details				
1.	File No.	874/SEIAA/EC1/3105/2015		
2.	Name /Title of the project	Environment Clearance for Quarry project of M/s Popular Sand and Metals		
3.	Name and address of project proponent.	Mr. Basil Paul (Managing Partner). M/s Popular Sand and Metals, Mullackal House, Poothrikka P.O., Puthencruz Via., Ernakulam District, Kerala-682308.		
4.	Owner of the land	M/s Popular Sand and Metals		
5.	Survey No. District/Taluk/ Village etc.	Sy. Nos. 42/2 pt., 42/3 pt., 43/4 pt., Oorakam Village & Panchayat, Thirurangadi Taluk, Malappuram District, Kerala.		
6.	Nature of the proposal – lease or permit with evidence.	Proposed quarry proposal for an area of 3.8675 ha.		
7.	Date of submission of Application	31-07-2015		
8.	Brief description of the project.	Quarry project with an area of 3.8675 ha. & proposed production capacity of 1,25,000 MTA		
9.	Details of Authorized Signatory and address for correspondence	Mr. Basil Paul (Managing Partner). M/s Popular Sand and Metals, Mullackal House, Poothrikka P.O., Puthencruz Via., Ernakulam District, Kerala-682308.		
1. Land Details				
10.	a) Extent of area in hectares	3.8675 ha.		
11.	b) Is the property forest land/Govt. land/own land/patta land	Private own land		
12.	c) Quantity of top soil/over burden and produced and managed	A total quantity of 6,693 cu. m. of topsoil and 11,712 cu. m of over burden will be removed during the mining operations. The topsoil excavated from the quarry will be dumped separately at pre-determined place and subsequently will be utilized in spreading over reclaimed areas for plantation. OB will be utilized for laying internal haul road and will form base in reclamation / plantation.		
13.	d) Latitude and Longitude	Latitude (N)	11 <sup>0</sup> 05' 07.12" to 11 <sup>0</sup> 05' 13.20"N	
		Longitude (E)	76 <sup>0</sup> 01' 24.94" to 76 <sup>0</sup> 01' 34.61"E	
14.	e) Topography of land and elevation	Part of the proposed area is an existing quarry and there is no any vegetation. The remaining area for proposed quarry		

		has native trees, climbers, grass, shrubs, herbs etc. The highest elevation of the lease area is 318 m MSL and lowest is 258 m MSL.
15	f) Slope analysis	As the proposed area is hilly, the slope is towards south.
16	g) Will there be any significant land disturbance resulting in soil erosion, subsidence & natural drainage.	Due care will be taken to provide channel all around the foot of the hill to collect run off and also to avoid soil erosion. There is no danger of flood or inundation as the proposed working is above the normal ground level. The area is not susceptible to floods.
17	h) Access road to the site width and condition	7 m. wide tarred road
18	i) Will there be any adverse impact on the aesthetics of the proposal site	The land used will be fully reclaimed and rehabilitated by backfilling the pits and plantation. Plantation and afforestation will add to the improvement in environment and aesthetic beauty of the area.
<b>Mining details</b>		
19	a) Minimum and Maximum height of excavation.	Minimum – 318 m MSL Maximum – 253 m. MSL
20	b) Life of mine proposed.	About 19 Years
21	c) Underground mining if any proposed	Not applicable
22	d) Method of Mining	The mining will be done by open cast semi-mechanized method of mining.
23	e) Distance from the adjacent quarry	There is no quarry in operation within 500 m. of the proposed quarry.
24	f) Cluster condition if any	Nil
25	g) Has "No cluster certificate" submitted?	Cluster certificate submitted along with the application.
26	h) Distance from nearby habitation	Nearest house - about 104 m., (N)
27	i) Distance from nearby forest, if applicable	None within the study area
28	j) Distance from protected area, Wildlife Sanctuary, National Park etc.	None within the study area
29	k) Distance from nearby streams/rivers/National Highway and	Kadalunipuzha – about 3 km., (S) N.H. 17 – about 6.5 km., (SW)

	Roads	
30	l) Is ESA applicable? If so distance from ESA limit	Not falling in ESA
31	m) Has approved mining plan, prepared by RQP submitted?	Yes, submitted along with the application
32	n) Capacity of production in TPA	1,25,000 TPA
33	o) Details of mining process	The applied area is having building stone throughout the area. As per detailed estimation the geological reserves is about 35,68,765 MT. After deducting the minerals locked in mines safety slope of 11,79,815 MT, the mineable reserves arrived to be 23,88,950 MT. The annual production is estimated to be 1,25,000 MTA. At the end of life of mine, the ultimate floor (bottom) level will reach 253 m. MSL. Under reclamation it is anticipated to undertake plantation in the applied area.
<b>Details of Project cost</b>		
34	a) Land cost	About Rs. 5.92 Crores (included land, plant & machinery)
34.	b) Plant and Machinery	About Rs. 5.92 Crores (included land, plant & machinery)
35.	c) Total Cost	About Rs. 5.92 Crores (included land, plant & machinery)
36.	V. Financial Statement including funding source and details of insurance etc.	Funding = Own source & bank loan Insurance = Insurance to the quarry workers would provide through insurance company.
37.	Management Plan	<p><b>Air Pollution</b></p> <p>Mining activities will generate certain quantities of dust during drilling, blasting, loading and transportation operations. The following measures will be taken to mitigate the fugitive dust from different operations.</p> <ul style="list-style-type: none"> <li>• Laying of haul road as per the standards, black topping of permanent haul road and service road to avoid or eliminate air – borne dust.</li> <li>• To avoid the dust generation from the drilling operations, wet drilling method will be adopted.</li> <li>• Drill machines will be equipped with dust collectors.</li> <li>• Use of appropriate explosives for blasting and avoiding overcharging of blast holes.</li> </ul>

		<ul style="list-style-type: none"> <li>Controlled blasting techniques will be adopted.</li> <li>Watering of haul road and other road at regular intervals.</li> <li>Provision of dust filters/ mask to workers working at highly dust prone and affected areas.</li> <li>Provision of green belt all along the periphery of the lease area.</li> <li>Periodical monitoring of ambient air quality in and around the lease area.</li> </ul> <p><b>The extracted mineral will be transported from the quarry to the end user by adopting following measures so as to minimize dust emissions.</b></p> <ul style="list-style-type: none"> <li>In case of long transportation the trucks after loading will be covered with tarpaulin sheets.</li> <li>Speed of the vehicles will be maintained within the prescribed limits.</li> </ul> <p>Trucks will not be over loaded and will be maintained to the body level.</p> <p>The following measures are being taken to control the dust emissions:-</p> <ul style="list-style-type: none"> <li>➤ The unit is based on latest green technology and the entire unit is closed loop with proper control strategies</li> <li>➤ The unit is well equipped with dust extraction system like bag filters at all traverse points to control the dust emissions.</li> <li>➤ Closed conveyor system with water sprinkling arrangements are adopted in this unit</li> <li>➤ Sufficient water is used to maintain the moisture content to control the fugitive emissions throughout the system</li> </ul>
	Water Pollution	<p>Provision of storm water collection pond with an appropriate capacity. The water requirement for sprinkling on sources of dust emission, on roads, landscaping etc. Can be met from the stored rainwater in the pond.</p>

		Noise	<p>The major noise generating source from the proposed activity is working machinery, drilling, blasting and plying of vehicles. The following control measures are to be undertaken to bring down the noise levels:-</p> <ul style="list-style-type: none"> <li>• Proper maintenance of machinery, equipments and improvement on design of machines.</li> <li>• Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas.</li> <li>• Creation of wide green belt of dense foliage between mine areas and human habitation.</li> <li>• Proper training to personnel to create awareness about adverse noise level effects.</li> </ul> <p>Planned noise monitoring at suitable locations in the plant and outside location for proper effective remedial actions.</p>
		Solid Waste Management	<p><b>Topsoil Management</b></p> <p>A total quantity of about 6,693 cu. m. of topsoil is proposed to be removed during the mining operations. The topsoil excavated from the quarry will be dumped / stacked separately at pre-determined place and subsequently will be utilized in spreading over reclaimed areas for plantation as part of eco-restoration. Precautions will be taken to limit the height of the topsoil dump / stacked to 5 to 5 meters in order to preserve its fertility and shelf life. It will be suitably protected from soil erosion and infertility by planting fodder grass and leguminous plants during temporary storage.</p> <p><b>Overburden Management</b></p> <p>About 11,712 cu. m of overburden (OB) will be generated throughout the mine life. This waste will be utilized within the pit for lying of haul roads. At the end use, OB can be reutilized as soil base for plantation.</p>
		Eco-	The year wise programme of eco-

		restoration	restoration for the life of mine will be made and about 3,800 trees will be planted.
38.	<b>VI.</b> Whether Environment Management Plan or Eco restoration Plan satisfactory?	Yes	
39.	<b>VII.</b> Does it suggest mitigation measures for each activity	Yes	
40.	<b>VIII.</b> If Pre-Feasibility Report (PFR) satisfactory	Detailed Pre-Feasibility Report (PFR) is already submitted with E.C. Application at Page No. 27-112.	
41.	<b>IX.</b> Does it need public hearing	Not applicable	
42.	<b>X.</b> Details of litigation and Court verdict if any	No	
43.	<b>XI.</b> Details of public complaint, if any	Nil	
44.	<b>XII.</b> Details of statutory sanction required	a. Environment Clearance from SEIAA b. Consents from KSPCB c. Approval from Explosive Department d. Approval from Mining & Geology Department etc.	
45.	<b>XIII.</b> If CRZ recommendation applicable?	Not applicable	
<b>PART B</b>			
<b>Environment Impact Assessment and Mitigation Measures</b>			
<b>Impact on water</b>			
46.	a) Details of water requirement per day in KLD	About 19 KLD	
47.	b) Water source/sources.	The total water requirement is about 19 KLD in which 2 KLD is for domestic which would be sourced from open well, 15 KLD for dust suppression system in mine & in Ancillary Unit and 2 KLD for plantation purposes and will be sourced from storm water pond.	
48.	c) Expected water use per day in KLD.	About 19 KLD	
49.	d) Details of water requirements met from water harvesting.	About 17 KLD	
50.	e) What are the impact of the	No. The mines working have been proposed quite	

	proposal on the ground water?	above the ground water table.						
51.	f) How much of the water requirement can be met from the recycling of treated waste water? (Facilities for liquid waste treatment)	No						
52.	g) What is the incremental pollution load from waste water generated from the proposed activities?	The sewage to a tune of 1.6 KLD generated from the mine office will be diverted to the septic tank followed by soak pit.						
53.	h) How is the storm water from within the site managed?	<ul style="list-style-type: none"><li>➤ Storm water drains with silt traps will be suitably constructed all along the periphery of the pit area to collect the run-off from the lease area and divert into the storm water pond/tanks proposed within the complex.</li><li>➤ All measures will be taken not to disturb the existing drainage pattern adjacent to the other property.</li><li>➤ De-siltation traps and storm water collection pond proposed for silt removal.</li><li>➤ The storm water collected from the lease area will be utilized for dust suppression on haul roads, plantation within the premises etc.</li></ul>						
<b>Impact on Biodiversity and Eco restoration Programmes</b>								
54.	a) Will the project involve extensive clearing or modification of vegetation (Provide details)	Part of the proposed area is an existing quarry and this area is devoid of any vegetation. The remaining area for proposed quarry has native trees, climbers, grass, shrubs, herbs etc.						
55.	b) What are the measures proposed to minimize the likely impact on vegetation (details of proposal for tree plantation/ landscaping)	<p>The year wise programme of eco-restoration for the life of mine will be made and about 3,800 trees will be planted.</p> <p>Ecological restoration for the mined area by plantation of the species as per the time schedule suggested below: -</p> <table><tr><td>First Six months</td><td>-- Herbs &amp; grass</td></tr><tr><td>Next Six months</td><td>-- Shrubs</td></tr><tr><td>Next Six months onwards</td><td>-- Trees</td></tr></table> <p>Selection of species is based on High Dust Capturing, Soil Holding Capacity, ground water recharge capacity etc. More focus is given for medicinal plants.</p>	First Six months	-- Herbs & grass	Next Six months	-- Shrubs	Next Six months onwards	-- Trees
First Six months	-- Herbs & grass							
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56.	c) Is there any displacement of fauna – both terrestrial and aquatic. – If so what are the mitigation measures ? d) Presence of any	No  No endangered species found at site.						



	endangered species or red listed category (in detail)	
<b>Impact on Air Environment</b>		
57.	a) What are the mitigation measures on generation of dust, smoke and air quality	Details already provided at EMP section at Sr. No. 38 above.
58.	b) Details of internal traffic management of the site.	Designated space will be provided for parking of truck/tipper within the site. For the purposes of mining activities, existing roads are sufficient. However, haul road will be suitably developed within the proposed area.
60.	c) Details of noise from traffic, machines and vibrator and mitigation measures	Details already provided at EMP section at Sr. No. 38 above.
61.	d) Impact of DG sets and other equipments on noise and vibration and ambient air quality around the project site and mitigation measures	Details already provided at EMP section at Sr. No. 38 above.
62.	e) Air quality monitoring in detail	Details already provided at EMP section at Sr. No. 38 above.
<b>Energy Conservation</b>		
63.	a) Details of power requirement and source of supply.	The total power requirement will be 75 kW for compressors which will be operated by Diesel Engine.
64.	b) Details of renewable energy (non – conventional) used.	We will promote renewable energy resources.
<b>Risk Management</b>		
65.	1) Are there sufficient measures proposed for risk hazards in case of emergency such as accident at the site?	Detailed Environment Management Plan is already submitted with E.C. Application at Page No. 79-89.
66.	2) Are proposals for fencing around the quarry satisfactory?	Barbed wire fencing will be done all around the quarry site.
	3) Storage of explosives/hazardous substance in detail	Detailed Environment Management Plan is already submitted with E.C. Application at Page No. 79-89.
	4) Facility for solid waste management	Topsoil and over burden will be removed during the mining operations. The topsoil excavated from the quarry will be dumped separately at pre-determined place and subsequently will be utilized in spreading over reclaimed areas for plantation.

		OB will be utilized for laying internal haul road and will form base in reclamation / plantation. The municipal solid waste will be suitable disposed.																					
<b>Socio Economic Impacts</b>																							
67	a) Will the project cause adverse effects on local communities disturbance to sacred sites or other cultural values. What are the safe guards proposed?	No.																					
68	b) Will the proposal result in any changes to the demographic structure of local population. If so, provide details.	The proposed project will directly / indirectly develop the area by providing employment opportunities. With the proposed development in and around the area there will be many supporting facilities/ infrastructure eventually leading to the development of the area.																					
69	c) Are the CSR proposals satisfactory. Give details	<p>Yes. A detailed study on social status of the project site surroundings &amp; need base study on proposed CSR activities were carried out. The summary of the report is given below :-</p> <table border="1"> <thead> <tr> <th>Sl. No.</th><th>Particulars</th><th>Rs in lakhs (approx.)</th></tr> </thead> <tbody> <tr> <td>1</td><td>Promotion of education</td><td>Rs. 6.65 Lakhs ( Recurring) Rs. 2.22 Lakhs (Non-recurring)</td></tr> <tr> <td>2</td><td>Infrastructure development</td><td>Rs. 2.0 Lakhs ( Recurring) Rs. 4.50 Lakhs (Non-recurring)</td></tr> <tr> <td>3</td><td>Care for Defenseless</td><td>Rs. 2.40 Lakhs ( Recurring) Rs. 3.75 Lakhs (Non-recurring)</td></tr> <tr> <td>4</td><td>Ensuring environmental sustainability</td><td>Rs. 3.0 Lakhs ( Recurring) Rs. Nil Lakhs (Non-recurring)</td></tr> <tr> <td>5</td><td>Reduction in carbon footprint &amp; CO<sub>2</sub> emission</td><td>Rs. Nil Lakhs ( Recurring) Rs. 0.90 Lakhs (Non-recurring)</td></tr> <tr> <td></td><td><b>Total</b></td><td><b>Rs. 14.05 Lakhs ( Recurring) Rs. 11.57 Lakhs (Non-recurring)</b></td></tr> </tbody> </table>	Sl. No.	Particulars	Rs in lakhs (approx.)	1	Promotion of education	Rs. 6.65 Lakhs ( Recurring) Rs. 2.22 Lakhs (Non-recurring)	2	Infrastructure development	Rs. 2.0 Lakhs ( Recurring) Rs. 4.50 Lakhs (Non-recurring)	3	Care for Defenseless	Rs. 2.40 Lakhs ( Recurring) Rs. 3.75 Lakhs (Non-recurring)	4	Ensuring environmental sustainability	Rs. 3.0 Lakhs ( Recurring) Rs. Nil Lakhs (Non-recurring)	5	Reduction in carbon footprint & CO <sub>2</sub> emission	Rs. Nil Lakhs ( Recurring) Rs. 0.90 Lakhs (Non-recurring)		<b>Total</b>	<b>Rs. 14.05 Lakhs ( Recurring) Rs. 11.57 Lakhs (Non-recurring)</b>
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70	d) What are the projects benefits in terms of employment potential?	Due to the mining activity and due to the attached ancillary unit, there will be workers attracted to the project area. It is proposed to employ 25 persons in the project.																					
<b>PART C</b>																							
71	Details of NABET	M/s Environmental Engineers & Consultants Pvt. Ltd.																					

	approved EIA Consultant engaged- Their name, address and accreditation details	(NABET Accredited Consultant Organization) Head Office :- A1-198, JanakPuri, New Delhi. Branch Office:- C-306, Kanchanjunga Apartments, Palarivattom P.O., Kochi, Kerala.
<b>Summary and Conclusion</b>		
72	a) Overall justification for implementation of the project.	It is predicted that socio-economic impact due to this project will positively increase the chance of more employment opportunities for local inhabitants. There are no Resettlement and Rehabilitation issues involved in this project. The project infrastructures will be of use to people of the area. The revenue of the State Govt. will be definitely increasing due to the proposed activity. The entire project area is devoid of any endangered flora and fauna. It is proposed to reclaim the land and develop green cover for eco-restoration with native species to a maximum possible extent. Additionally, an area is earmarked outside the proposed mining area for compensatory mass plantation. Also, a storm water pond is proposed outside the mining area for storage of rain water and for its subsequent use so as to conserve fresh water consumption. Thus the proposed project is not likely to affect the environment or adjacent ecosystem adversely.
73	b) Explanation of how adverse impact have been mitigated.	Detailed Pre-Feasibility Report (PFR) with Environment Management Plan (EMP) is already submitted with E.C. Application at Page No. 75-101.

2. The proponent has submitted the approved mining plan as per KMMC Rules-2015. The proposal was placed in the 62<sup>nd</sup> meeting of SEAC held on 06<sup>th</sup> & 07<sup>th</sup> September 2016. The Committee deferred the item for field visit. Sri. John Mathai will also join the sub-committee during the site visit.

Field visit to the site was carried out on 12 Nov 2016 by Dr. P.S. Harikumar and Dr Khaleel Chovva. The representatives of the proponent were present during the site inspection. The proposed project site falls within Latitude (N) 11°05'07.12" to 11°05'13.20"N, Longitude (E) 76°01'24.94" to 76°01'34.61" E.

The land is a private own land with native plantation. The current proposal is for an existing quarry with pit area of 3.8675 hectares. No habitations were seen within 100 m. The quarrying is carried by forming benches. They had constructed proper road to reach the site. The overburden was not seen properly collected and stored. The drainage needs improvement.

The following Specific conditions are suggested

1. The water drained from the site should be properly collected and clarified before discharge.
2. The overburden should be stored at a specific site and with protection.
3. The CSR has to be revised consulting the local panchayath.

In addition to the general conditions the above specific conditions needs to be complied with.

3. The proposal was considered in the 67<sup>th</sup> Meeting of SEAC held on 27<sup>th</sup> January 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 following specific condition for mining.

1. *If any plant species endemic to Western Ghats are noticed in the area they shall be properly protected in situ or by transplanting to an appropriate location inside the lease area.*

The proponent agreed to set apart 11.57 lakh (non-recurring) and Rs.14.05 lakh per annum (recurring) for CSR activities for the welfare of the local community in consultation with the local Panchayat.

4. The proposal was considered by the Authority in its 65<sup>th</sup> meeting held on 22.03.2017. The Authority decided to issue EC subject to the strict implementation of all specific conditions in addition to the general conditions as well as the conditions suggested by the field inspection report. An affidavit to this effect should be submitted before the issuance of EC.

5. The proponent has submitted an affidavit stating that all specific conditions shall be strictly implemented. Environmental clearance as per the EIA notification 2006 is hereby accorded for the proposed building stone quarry project of Sri. Basil Paul (Managing Partner), M/s Popular Sand and Metals, Mullackal House, Poothrikka P.O., Puthencruz via., Ernakulam, Kerala – 682 308 in Survey No. 42/2 pt, 42/3 pt & 43/4 pt. at Oorakam Village and Panchayat, Thirurangadi Taluk, Malappuram District, Kerala for an area of 3.8675 hectares, subject to the specific conditions as recommended by SEAC in para 2 & 3 above, 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, appended hereto will be applicable and have to be strictly adhered to.

6. 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.

7. 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.

8. 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, Malappuram 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. Basil Paul (Managing Partner), M/s Popular Sand and Metals, Mullackal House, Poothrikka P.O., Puthencruz via., Ernakulam, Kerala – 682 308.

Sd/-

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

To,

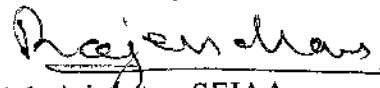
Sri. Basil Paul (Managing Partner),  
M/s Popular Sand and Metals,  
Mullackal House, Poothrikka P.O.,  
Puthencruz via., Ernakulam,  
Kerala – 682 308

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. Director, Mining & Geology, Thiruvananthapuram -4.
4. District Collector, Malappuram
5. Secretary, Oorakam Panchayat Office, Oorakam-Kizhumuri P.O, Thirurangadi Taluk, Malappuram – 676 519
6. Chairman, SEIAA.
7. Website.
8. S/f
9. 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 proponent 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 3 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.



*Rajesh*

For Member Secretary, SEIAA Kerala

