



DR. JAYANTHI M, I.F.S.,
MEMBER SECRETARY

STATE LEVEL
ASSESSMENT



செய்த (10) சபாநிர்வாகி Bamcub. 12/08/2020-625 002	
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ENVIRONMENTAL IMPACT
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ENVIRONMENTAL CLEARANCE

I.r. No. SEIAA-TN/F.No. 7063/EC/1(a)/ 4307/2020, dated: 03.09.2020

To
The Executive Engineer, PWD/WRD,
Mining and Monitoring Division,
Madurai District

Sir,
Sub: SEIAA - TN - Proposed Sand quarrying in River Kottakarni over an extent of 4.88.0 Ha at S.F.No.523(P) in Pullamadai-II Village, R.S. Mangalam Taluk, Ramanathapuram District, Tamil Nadu by M/s. The Executive Engineer, PWD/WRD - Environmental Clearance Issued - Reg.

- Ref:
1. Online proposal No.SIA/MIN/41501/2019 Dated: 21.08.2019
 2. Your Application for Environmental Clearance dated. 22.08.2020
 3. Minutes of the 152nd SEAC Meeting held on 23.05.2020
 4. Minutes of the 162nd SEAC Meeting held on 01.07.2020
 5. Minutes of the 390th SEIAA Meeting held on 25.08.2020

1. Preamble:-

The proposal is for obtaining environmental clearance for quarrying 58098cu.m of River Sand in River Kottakarni at S.F No. S.F.No.523(P) in Pullamadai-II Village, R.S. Mangalam Taluk, Ramanathapuram District. The mine lease area is 4.88.0 Ha. The proposed mining area is reported as lying in Latitude and Longitude in Topo sheet no 58 K/14 as follows:

Sl. No.	Latitude	Longitude
1.	09°40'07.91"N	78°52'34.23"E
2.	09°40'12.79"N	78°52'34.28"E
3.	09°40'19.45"N	78°52'31.20"E
4.	09°40'20.66"N	78°52'33.89"E



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5.	09°40'19.16"N	78°52'35.30"E
6.	09°40'12.42"N	78°52'38.42"E
7.	09°40'09.19"N	78°52'38.81"E
8.	09°40'06.80"N	78°52'37.87"E

No forest land is involved. No head works, bridges and cross masonries are reported within 500 meters around the quarrying site in the river. Mine working will be manual mining and the ultimate depth will be 1m from River natural present bed level for a period of 3 Years. In order to maintain safety and stability of river, a minimum 15% of the river width from the toe /heel of bank of the river will be left intact. Water requirement will be 0.3 KLD for drinking purposes which will be sourced through Water canes in the nearby area and dust suppression and green belt development for 5.7 KLD which will be sourced from existing borewells. The proponent has submitted the mining plan approved by the Assistant Director(i/c), Geology and Mining, Ramanathapuram District vide, Re.No. 1419/G&M.1/2018 dated; 28.01.2019.

The precise area communication has been approved by the District Collector, Ramanathapuram District in letter No. Ka. 1419/G&M.1/2018 dated: 21.06.2019.

The existing details of river bed, while approving the mining plan prepared by the PWD and scrutinized by the Geology and Mining Department is:

R.L at beginning: 8.600 mt.

R.L at end: 8.070mt.

Starting Mile at: 10.24 Km

Ending Mile at: 10.68Km

It is seen from the data and the document furnished that the project cost is Rs. 13.78 Lakhs and EMP cost is Rs. 6.15 Lakhs.

The proponent has furnished sworn affidavits in the Non judicial stamp paper stating the following:

1. Executive Engineer, PWD/WRD, Mining and Monitoring Division, Madurai District
2. Our Sand quarry is located at S.F.No.523(P) of Government land(Kottakkami River) over an extent of 4.88.0 Ha in Pullamadai-II Village, R.S. Mangalam Taluk, Ramanathapuram District.
3. We declare that there is no other quarries situated within 500m radius of our quarry site.



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4. We declare that we shall commence the quarry operation only after obtaining the necessary EC from SEIAA.
5. We declare that there is no Temple, Church, Mosque, Historical Monuments, found within 500m radius of our quarry site.
6. We declare that there is no habitation found within 300m radius of our quarry site.
7. We declare that there is no Burial ground found within 300m radius of our quarry site.
8. We declare that there is no bridges, culverts, cross masonries, water head works, pumping wells or any other civil structures within 500m radius of the proposed quarry site.
9. We declare that there is proper approach road to our quarry site and the road belongs to Village Panchayat.
10. We hereby undertake to declare that we have not engaged child labour in our Sand quarry.
11. We hereby undertake to declare that we shall plant trees; we shall encourage agricultural activities nearby the site and will develop green belt around the periphery of the site.
12. We declare that afforestation/ agricultural activity will be carried out during the quarrying operation and maintain the green belt development after the expiry of mining lease.
13. We declare that we shall insure all labours for their period of work and shall provide safety precautionary measures during work.
14. We declare that we shall not create any hindrance to the nearby villagers during the quarry operation and while transporting the mined out material to needy customers/project sites.
15. We declare that we shall execute all social (CSR) and environmental commitment without fail.
16. We declare that we will deploy RTO certified excavators and trucks for our quarry operation/ transportation of mined out material to our manufacturing unit/needy Customers/Project sites in order to control the emission.



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17. We declare that we will load minimum quantity of quarried material in the trucks and will not cause any damage to the roads and will maintain the Village road during the quarry operation.
18. We declare that we will control the spillage of material on transportation by covering the truck with tarpaulin and will sprinkle water to suppress the dust arise out of quarrying and transportation.
19. We declare that we will operate only in the area where mining lease /EC is granted and will not deviate from the conditions stipulated there in the ML/EC.

The proposal was considered and examined by the SEAC based on the project documents furnished and the explanation made before the Committee in its 162nd Meeting held on 01.07.2020. The SEAC has recommended for the grant of Environmental Clearance for the said quarry project.

The proposal was placed before the SEIAA in its 390th meeting held on 25.08.2020 and based on the project documents furnished, the Authority decided to issue Environmental Clearance to the said project under the provisions of Environment Impact Assessment Notification, 2006 subject to conditions as recommended by the SEAC and strict compliance of the terms and conditions as follows:-

Validity:

This Environmental Clearance is granted to Mining of Sand Quarry for the production quantity of 58098 cu.m of River Sand in Kottakkara River for the period of Three Years from the date of execution of the Mining Lease period.

Environment Clearance is subject to strict adherence of conditions below:

1. Administrative:

1. The project authorities should advertise with basic details at least in two widely circulated local newspapers, one of which shall be in the vernacular language of the locality concerned, within 7 days of the receipt of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at the web site of the SEIAA, TN at <http://seiaa.tn.gov.in> and a copy of the same is being sent to the



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Regional Office of Ministry of Environment and Forest, Government of India located at Chennai.

2. Mining activity should be reviewed by the District Collector after one year and decide for further extension.
3. The District Collector shall ensure that the DSR (District Survey Report) shall be, as per EIA Notifications 2016 as amended in 15.01.2016 and the copy of the revised/approved DSR may be sent to SEIAA for record.
4. The proponent fulfils the conditions imposed by the Hon'ble Madurai Bench of Madras High Court, in the order in W.P.(MD) Nos. 4251, 7960, 14577, 15121, 8655, 13836, 16150, 15343, 11376, 17143 and 17531 of 2017 and connected Miscellaneous Petitions, dated:16.02.2018.
5. Quarry lease area should be demarcated on the ground with pucca stone or concrete pillars to show the natural bed level and the depth of mining allowed. Boundary pillars at the interval of 50m each on all the four sides of the quarry site with red flags on every pillar and also in site pillars marking the level and depth up to one metre downwards shall be erected before commencement of quarrying.
6. The katcha roads between the bank of the river and the mining area shall be formed with locally available bio-degradable materials such as Sugar cane leaves etc.
7. A display Board shall be erected in local vernacular language at each of the following places.
 - At the river banks of mining site
 - In nearest village by which sand transportation will be carried out.
 - At the entrance of the village road from the Main Road (i.e) SH/NH/Union Road etc., The information as Annexed should be given in Bold and visible letters
8. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayath/Panchayath union, Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.



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9. Provision shall be made for the housing the construction labour nearby the site with all necessary infrastructure and facilities such as fuel for cooking, toilets, safe drinking water, etc. The housing may be in the form of temporary structures to be removed after the completion of the project. The proponent shall ensure that First Aid Box is available at site.
10. Tahak level Task Force Committee convened by Tahshildar should inspect the site to satisfy that the pre-conditions as above for commencing the mining operations are satisfactorily followed, and minute their field inspection, as per G.O.Ms.No.135 Industries (MMA-1) Dept. dt. 13.11.2009.
11. The distance of the sand mining should commence from at a distance of 500 meter from the solid apron with proposed area mining 245 x 200 m. The proponent shall fix flag posts at boundaries for the proposed mining area covering an extent of 4.90.0 Ha. There should be no deviation/ violation with respect to the area demarcated for quarrying.
12. The proposed area of sand mining should start from 500m downstream of the irrigation structure.
13. The river bund needs to be protected during mining and transportation activities.
14. The dust emanating during transportation activity need to be controlled due to unpaved road conditions as a result of re-suspension of dust arising in and around the site.
15. Necessary caution needs to be taken regarding environment and ecological damage and protection as per the norms
16. The depth of sand quarrying shall be restricted to 1m from the theoretical bed level.
17. To prevent dust pollution, suitable working methodology needs to be adopted taking wind direction into consideration.
18. At no cost the impact of sand mining should interfere with the habitation and cultivation in the nearby area along the river bed.
19. The mining area must be demarcated leaving atleast 50m from the river embankment on either side.
20. Contouring of the river bed has to be taken to ascertain the relative levels of sand in the river and also to suggest the depth of sand mining.

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21. To ensure safety measures along the boundary of the quarry site, security guards are to be engaged during the entire period of mining operation.
22. Wherever irrigation channels take off from the river within the boundary of the mining project, the mining operation should not affect the flow of water in the irrigation channels.
23. The entire sand mining operation should be as per the guidelines for sustainable sand mining issued in 2016 by the MoEF & CC, GOI, New Delhi.
24. Around all the sand mining projects agricultural activities are seen. In addition the surroundings present thick greeneries. The mining operation should not affect the greeneries and the agricultural activities.
25. The approach road and loading of the sand in the vehicles, movement of the vehicle should be planned and implemented in such a way that there is no noise and dust pollution in the nearby habitation. We recommend that PWD should maintain at least a safe distance of 300m from the habitations while planning the approach road and the loading operation. Wherever necessary and near the habitation in particular dust suppression measures to be adopted. While the loaded vehicle move on the road that should be fully covered with tarpaulin.
26. The pathway used by all machineries should be properly constructed and maintained by the PWD in order to avoid pollution.
27. The mining operation should be above the ground water table.
28. The conditions stipulated above need to be monitored and reviewed on fortnightly basis by the Taluk Level Task Force headed by Tahsildhar. At least two representatives from reputed research organizations like NIT, Trichy, Anna University Department, Trichy, Annamalai University and Bharathidasan University should be included in the task force. The committee should send the monthly monitoring report to SEIAA which will be scrutinized by SEAC.
29. Adequate statutory manpower to be deployed for complying with the provisions to use heavy machineries as per Mines Safety Regulations (MCDR, 2017 & MMR, 1961).
30. All the condition imposed by the Assistant Director(i/c), Geology of Mining, Ramanathapuram vide Rc.No.1419/Mines/2019 dated 28.01.2020 & District



Collector, Ramanathapuram in the precise area communication vide Na. Ka. 1419/G&M.1/2018 dated: 21.06.2019 in the mining plan approved should be strictly followed.

31. As informed by the proponent only manual mining operation along with transportation by bullock carts for Sand mining shall be carried out.
32. During the sand mining work, appropriate progressive mine closure activities must be implemented to restore the river bed to its original status for ensuring the free flow.
33. Taluk level Task Force is to submit inspection report to the District Collector who is the Chairman of District Level Task Force, who would examine the report and after satisfying himself would give approval to start mining.
34. The recommendation for the issue of Environmental Clearance is subject to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A No.186 of 2016 (M.A.No.350/2016) and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No.758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A.No. 843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No. 981/2016, M.A.No.982/2016 & M.A.No.384/2017).
35. The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
36. The CER fund 2% from the total project cost should be spend as per Office Memorandum of MoEF& CC dated 01.05.2018 before obtaining the CTO from TNPCB
37. The water level in the existing bore wells and dug wells should be monitored for fluctuation.
38. Loading and use of poclains, transport of sand shall not be entertained between 5.00 pm to 7.00 am.
39. The project proponent is allowed to engage bullock cart to transport the sand.



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40. During the sand mining work, appropriate progressive mine closure activities must be implemented to restore the river bed to its original status for ensuring the free flow.
41. Quarrying in river bed should not be done during the days of rain and the days of flood. The total quantity of sand permitted in the Environmental Clearance should not be exceeded in any case as against the mining plan.
42. There shall be no quarrying of sand in any river bed or adjoining area or any other area which is located within 500m radial distances from the location of any bridge, water supply system, infiltration well or pumping installation of any of the local bodies or Central or State Government Department or the Tamil Nadu Water Supply and Drainage Board head works or any area identified for locating water supply and schemes by any of the above-mentioned Government Departments or other bodies.
43. Mining activity and the compliance of all the above conditions shall be monitored by the Taluk level Task Force once in a month by physical inspections and the status of compliance should be recorded by the committee in the Register maintained at the site.
44. At the end of mine closure, the Proponent shall immediately remove all the sheds put up in the quarry and all the equipment in the area at the time of closure of the operation of sand quarry. All the roads /path ways shall be leveled to let the river assume its normal course without any artificial obstruction to the extent possible.
45. Transport density study to be done and report to be submitted.
46. The Proponent shall submit within 3 months their policy towards Corporate Environment Responsibility which should inter-alia address (i) Standard operating process/ procedure to bring into focus any infringement/ deviation/ violation of environmental or forest norms / conditions, (ii) Hierarchical system or Administrative order of the Department to deal with environmental issues and ensuring compliance of EC conditions and (iii) System of reporting of non-compliance/violation of environmental norms to the Head of the Department or the State Government or stakeholders.



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47. The project proponent shall ensure that there are no other quarries within a radius of 1 km. from the boundary of the proposed quarry site and that the combined extent of such quarries does not exceed 25 ha.
48. The project proponent shall ensure that there are no bridges, culverts, cross masonaries, water head works or any other civil structures within 500 mts., of the proposed quarry site.
49. The quarrying activity shall be stopped if the entire quantity is quarried even before the expiry of the quarry lease period and the same shall be monitored by the District Authorities.
50. After restoration of the road, the proponent should submit the detailed report of the road maintenance including cost along with photographs to SEAC within one month of the completion of the project.
51. Base line studies to be conducted for the entire area.
52. The site will be assessed for Environmental impact by the District Administration at the end of first year to continue operation thereafter.
53. The District Administration will also ensure the process of further extraction (Manual/ Machineries) in the site for the second and third Year, is based on site reality and rate of replenishment, etc.
54. The project proponent shall obtain Consent to establish before starting any work and Consent to operate after complying with the conditions imposed for adherence before starting from the Tamil Nadu Pollution Control Board and effectively implement all the conditions stipulated therein.
55. No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.
56. No change in the calendar plan including excavation, quantum of mineral sand (minor mineral) should be made.
57. The project proponent shall ensure that the plan of mining is in conformity with the mine lease conditions and the Rules prescribed in this regard, clearly showing the no work zone in the mine lease i.e. the distance from the bank of river to be left unworked, distance from the bridges etc.



58. The project proponent shall ensure that wherever deployment of labour attracts the Mines Act, the provision thereof shall be strictly followed.
59. The project proponent shall obtain necessary prior permission of the competent authorities for drawal of requisite quantity of water (surface water and groundwater), if any, required for the project.
60. EC is given only on the factual records, documents and details furnished by the EE/PWD particularly in respect of
- Aerial distance of the nearest village is as mentioned in the proposal from the mining site boundary.
 - No structure is located within 500 m from the quarry site boundary.
61. It shall be ensured that the distance between two mining blocks should be more than one kilometer. Ongoing mining activity should also be taken into account in this regard.
62. 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.
63. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.
64. The Assistant Engineer exclusively posted to the site should write up and maintain the following registers, in addition to any other records and documents prescribed in the mining lease order.
- Daily Progress Register.
 - Inspection Register
 - Complaints Register
65. The Regional Office of the Ministry located at Chennai 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.
66. The project proponent shall submit six-monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored



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data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Chennai, the respective Zonal Office of Central Pollution Control Board, SEIAA, TN and the State Pollution Control Board. The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forests, Chennai, the respective Zonal Office of Central Pollution Control Board and the State Pollution Control Board.

67. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Chennai by e-mail.
68. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
69. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance.
70. The SEIAA, TN may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
71. The SEIAA, TN may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, if, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.



72. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
73. If the periphery of any other sand quarry is located within 1 km., from the periphery of this site and if the total extent of both the existing quarry and the quarry now cleared for Environmental Clearance exceeds 25 ha. of mining area, then this Environmental Clearance is not valid, since the activity shall become Category 'B1' project under the EIA Notification, 2006.
74. In the event of the above condition is applicable, then the proponent concerned, is to file a fresh application under EIA Notification, 2006, seeking Environmental Clearance in respect of the cluster. [A cluster of mines is defined wherein more than one sand mining site is located within 1 km., from the periphery of another nearby sand mining site and the total area of these mining sites exceeds 25 ha. Then a EIA study report along with Public Consultation are necessitated].
75. The project proponent is allowed to engage bullock cart to transport the sand.
76. Loading and use of poollains, transport of sand shall not be entertained between 5.00 pm to 7.00 am.
77. The site will be assessed for Environmental impact by District Administration periodically and based on the assessment, decision may be taken regarding for the continuation of operation thereafter. The District Administration will also ensure the process of further extraction (Manual/Machineries) in the site should be based on site reality and rate of replenishment and other environmental parameters.
78. The manual mining shall be encouraged as far as possible as laid down in the Sustainable Sand Mining Guidelines- 2016.
79. Any repairing or reconditioning of equipments either Minor or Major shall not be done with in the River and in the Banks.
80. All study reports and compliance reports stipulated in the EC should be submitted in time as prescribed.
81. Heavy Machineries/Equipments deployed for mining and related activities shall not be engaged beyond its life period as stipulated in relevant rules of GOI. Fitness Certificate shall be obtained for the Heavy Equipments/Machineries deployed for



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- the Mining and related works obtained from the supplier/dealer approved Workshop at the end of every year.
82. Heavy Equipments/Machineries shall be referred to Manufacturer/Dealer approved workshop for random check up at the end of every calendar month and fitness of the vehicles shall be ensured.
83. Tipper/Lorries used for conveyance of Sand shall not be parked within the River area.
84. The site will be assessed for Environmental impact by the District Administration at the end of first year to continue operation thereafter.
85. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
86. It is the responsibility of the project proponent to maintain the village approach road in good condition usable by the public during the implementation of the project. On the completion of the project the village approach road should be in good condition.
87. The proponent shall maintain the village road through which transportation of sand is carried out at its own cost. The roads shall be blacktopped to the extent required.
88. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
89. Public movement across the river should not be disturbed due to quarrying activity and vehicular movement.
90. Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
91. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.



92. As CSR activity the project proponent shall also take care of the needs of a nearby habitation/communities by providing essential amenities, besides Ecological/Environmental research, extension and awareness programmes.
93. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
94. The EMP Cost shall be deposited in a nationalized bank by opening separate account and head wise expense statement shall be furnished to TNPCB with a copy to SEIAA annually.

2. Environmental:

1. The District Administration shall ensure the process of further extraction by (Manual/ Machineries) in the site for the second year, based on site condition and rate of replenishment, etc.
2. The Project Proponent has to furnish bio-diversity plan indicating the available flora and fauna and the threat to the flora and fauna due to this activity which also include the aquatic system and also conservation plan in case of any threat before execution of mining lease.
3. The project proponent shall incorporate the changes such as number of equipment with capacity and mining period in the mining plan before the execution of mining lease with proper approval from the competent authority.
4. To maintain safety to stability of River banks, non mining zone of not less than 10% of the width of the river shall be left as the buffer.
5. Use of any equipments or vehicles in the buffer area shall be avoided.
6. It shall be ensured that sand quarrying shall not be carried out below ground water table under any circumstances. If ground water table occurs/intervenes within the permitted depth at one meter, then also quarrying shall be stopped.
7. It shall be ensured that excavation of sand do not disturb or change the underlying soil characteristics of the river bed /basin where quarrying is carried out.
8. It shall be ensured that sand mining do not disturb in any way the turbidity, velocity and flow pattern of the river water.
9. Adequate number of pipes across the katcha roads leading to mining area shall be provided to facilitate the normal flow in the streams in the river bed.



10. Streams, if any, passing across the Katcha Road, should not be diverted to form inactive channel.
11. Quarrying below subterranean water level should be avoided as a safe guard against Environmental Contamination and over exploitation of resources.
12. Quarrying at the concave side of the river should be avoided to prevent bank erosion.
13. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation.
14. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including traffic density study, sedimentation, air & flora/fauna environment, involving research.
15. To ensure that the riverbed after mining is always higher than the bed depth of nearby water bodies so that the river is always a recharge source.
16. The Project Proponent shall provide funding support to forest/agriculture department for Restoration of riparian and in stream habitats, restoration of river geometry to prevent degradation in upstream, downstream and in the mining area, depletion and prevention of contamination of ground water etc.
17. No drilling and blasting operation shall be carried out under any circumstances.
18. Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring the change of river course, if any and report submitted to the Ministry of Environment and Forests and its Regional Office located at Chennai.
19. The critical parameters such as RSPM (Particulate matter with size less than 10micron i.e., PM₁₀) and NO_x in the ambient air within the core zone shall be monitored periodically. The monitored data shall be uploaded on the website of the proponent as well as displayed on a display board at the project site. The Circular No.J-20012/1/2006-1A.II (M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in, shall also be referred to in this regard for its compliance.
20. A primary survey of flora and fauna shall be carried out and the data shall be submitted to the Regional Office, Chennai within six months. It shall also be



ensured that there is no fauna dependent on the river bed or areas close to mining for its nesting. The project proponent shall take all precautionary measures during quarrying operation for conservation and protection of flora and fauna in the core zone and buffer zone i.e., upto the radius of 10 km.

21. Action plan for conservation of flora and fauna if any shall be prepared in consultation with the State Forest and Wildlife Department. All the safeguard measures brought out in the Wildlife Conservation Plan so prepared specific to this project site shall be effectively implemented.
22. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. A copy of action plan shall be submitted to the Regional Office of the Ministry of Environment and Forests, Chennai.
23. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area and the approach road as per the sworn affidavit furnished.
24. The project proponent shall ensure that the water requirement for the proposed activity shall be as per the undertaking furnished.
25. Rate of Replenishment studies shall be conducted and frequent follow up shall be ensured.
26. Replenishment study to be carried out once in three years for the mined out area.
27. Around 2 km radius from the proposed area ground water study to be carried out through reputed research institution before, during and after mining to assess the ground water table.
28. A study shall be got carried out through an expert agency like Central Water Commission relating to replenishment of the mineral (siltation study) in this river so as to ensure that the quantity of mineral to be removed does not exceed the siltation to avoid over exploitation of mineral which may adversely affect the dynamics of the river. This study shall be steered by the State Government, based on which the capacity of the mine will be decided by the concerned Department of the State Govt. while granting mining lease.



29. The project proponent shall undertake plantation/afforestation work by planting the native species on either side of the approaching katcha path (through which the vehicle fly) between the bund and the main road.
30. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
31. The project proponent shall undertake hydro geological study through reputed institution/organization within six months. The proponent shall undertake adequate safeguard measures during extraction of river bed material and ensure that due to this activity the hydro-geological regime of the surrounding area shall not be affected.
32. Regular monitoring of ground water level and quality shall be carried out around the mine lease area by establishing a network of existing wells and installing new piezometers during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Chennai, the Central Ground Water Commission and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out, which includes immediate stopping of mining.
33. After completion of quarrying of permitted quantity of sand in the river, the natural slope of the river should be maintained without any low-level area in the mined area, by carrying out an approved mine closure plan.
34. Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10



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- micron i.e., PM_{10}) and NO_x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.
35. Baseline study for data on water, soil, air etc., before, during and after the quarrying should be taken up through accredited lab.
 36. Data on ambient air quality RSPM (Particulate matter with size less than 10micron i.e., PM_{10}) & NO_x should be regularly submitted to the Ministry of Environment and Forests including its Regional office located at Chennai and the State Pollution Control Board / Central Pollution Control Board once in six months.
 37. 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.
 38. Wherever irrigation channels take off from the river within the boundary of the mining project, the mining operation should not affect the flow of water in the irrigation channels.
 39. Around all the sand mining projects agricultural activities are seen. In addition the surroundings present thick greeneries. The mining operation should not affect the greeneries and the agricultural activities.
 40. The approach road and loading of the sand in the vehicles, movement of the vehicle should be planned and implemented in such a way that there is no noise and dust pollution in the nearby habitation. We recommend that PWD should maintain at least a safe distance of 300m from the habitations while planning the approach road and the loading operation. Wherever necessary and near the habitation in particular dust suppression measures to be adopted. While the loaded vehicle move on the road that should be fully covered with tarpaulin.
 41. The sand mining work, appropriate progressive mine closure activities must be implemented to restore the river bed to its original status for ensuring the free flow.
 42. There shall not be any damage to Trees and Vegetations along the river boundaries and within the River course.



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43. There shall not be any disturbance to bio diversity, Agricultural activities, river vegetation, cause erosion, pollute water source and agro bio diversity due to mining activities.
44. There shall not be any disturbance to Marsh lands, Swamps and ecological serial stages and vegetation recovery and natural successional process of vegetation due to the any of the Mining and relative activities.
45. The mining activities should not result in spread of invasive species in the area.
46. Roads should not be formed over the water bodies to avoid disturbance to free movement of aquatic fauna and flora and microorganisms.
47. Wherever possible River training and restoration to be resorted with native vegetation and trees for sustainable life of the river system. This should be done in programme mode in consultation with Forest Dept, Agriculture Dept and allied Govt agencies.
48. Any temporary structures such as Culverts, Bridges etc constructed for approach road shall not disturb the free flow of water in the River.
49. Grazing grounds and greenery shall not be disturbed along the river banks.
50. No plastic shall be used for the construction of temporary structures.
51. Over use of vehicles and Machineries should not bury the original vegetation and compact the Soil and result in loss of Soil structure and reduce the water infiltration.
52. The mouths of the tributaries shall not be disturbed by mining activities.
53. The project proponent should support ecological research study for river restoration by allocating sufficient funds to reputed research institutes in the state.
54. In the river course and stretch should be frequently monitored on a GIS platform, to study the periodical changes.
55. Mining activities should not disturb the Interconnectivity of the River with the Floodplain and Wet lands.
56. Mining should not result in disturbances and threat to Fish populations, their spawning ground, Micro organism, Soil Nutrients, endemic and endangered Plants and depletion of Soil seed banks and plantations.
57. Mining should not result in fragmentation of the Landscapes, Loss of Habitat and their connectivity, Trophic level changes i.e. plant pollinators, predators and river



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- ecosystem associated life forms, possibility of Encroachments and threats to natural River flow regimes.
58. The Ecological Value of the River which includes the flora & fauna and the riverine Species should not be disturbed by overuse of the area.
 59. Activities should not change the Hydrological and sedimentological conditions and the River Status, as a corridor or Path way between Habitats, species and plant communities.
 60. The proponent should also earmark sufficient funds for ecological restoration and Biodiversity conservation both On-site and Off-site.
 61. River system monitoring with Watch dog committees including Government, Research Institute and NGOs should be established and supported to monitor impact and research.
 62. The landscape should not be left with any negative impacts after abandonment of the Mining and the related activity.
 63. Reference Site with all riverine features shall be identified and marked on map as control to support monitoring of reclamation and restoration programmes on long term basis.
 64. The mineable resource shall be re-estimated base on the spot level before the mining lease is executed.
 65. The project proponent shall prepare a baseline study report identifying
 - i. Sampling (Ground water/ surface water) location around the mining site not less than 6No's.
 - ii. The baseline study should project yield and water quality.
 - iii. AAQ & Noise for not less than two locations.
 66. CSR Budget should support for Social Forest Program to be implement by local panchayath/Forest Department.
 67. It shall be ensured that no mining of any type is undertaken within 15% of the width of the river or the distance mentioned in the proposal (whichever is higher) from both the banks (inward) of the river to control and avoid erosion of river banks. The bank of the river shall not be disfigured or lowered for any purpose.



68. For any new agglomeration in the stretch due to authenticated monsoon floods, revised mining plan shall be submitted.

3. Specific Conditions:

1. The Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation vs. Union of India in Writ Petition (Civil) No, 460 of 2004, as may be applicable to this project.
2. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
3. The entire sand mining operation should be as per the guidelines for sustainable sand mining issued in 2016 by the MoEF & CC, GOL, New Delhi.
4. The Project Proponent is also directed to strictly adhere to the Sustainable Sand Mining Management Guidelines, 2016 as the site specific. Especially the project proponent ensure the use technology likes Bar Coding, RTGS tags and GPS tracking of vehicles for effective monitoring. Information and communications Technology (ICT), Web based and ICT enabled services, mobile SMS Application, etc. to account for weight of mineral being taken out of area and the number of trucks moving out with the mineral.
5. The conditions stipulated above needs to be monitored and reviewed on fortnightly basis by the Taluk Level Task Force headed by Tahsildhar. At least two representatives from reputed research organizations like NIT, Trichy, Anna University department, Trichy, Annamalai University and Bharathidasan University should be included in the task force. The committee should send the monthly monitoring report to SEIAA which will be scrutinized by SEAC.
6. The Environmental Clearance issued is subject to outcome of the final verdict of the



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Hon'ble High Court of Judicature of Madras in W.P.No.36869 of 2016.

7. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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Copy to:

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi,
2. The Additional Chief Secretary to Government, Environment and Forests Department, Government of Tamil Nadu, Tamil Nadu.
3. The Secretary, Public Works Department, Government of Tamil Nadu, Tamil Nadu
4. The Additional Chief Secretary to Government, Industries Department, Government of Tamil Nadu, Tamil Nadu
5. The Secretary, Department of Mines and Geology, Government of Tamil Nadu, Tamil Nadu.
6. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1st&2nd Floor, Cathedral Garden Road, Nungambakam, Chennai - 34.
7. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
8. The Chairman, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-32
9. The Member Secretary, Central Ground Water Authority, A2, W-3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
10. The Controller General, Indian Bureau of Mines, Indira Bhawan, Civil Lines, Nagpur-440 001.
11. The District Collector, Ramanathapuram District
12. The Commissioner of Geology and Mines, Guindy, Chennai-32
13. E1 Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
14. Spare.

