PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE, ODISHA HELD ON 11TH JULY, 2023

The SEAC met on 11th July, 2023 at 03:00 PM by Virtual mode (VC) through video conferencing in Google Meet under the Chairmanship of Sri Sashi Paul. The following members were present in the meeting.

1. Sri Sashi Paul - Chairman (through VC)
2. Dr. K. Murugesan - Member Secretary
3. Dr. Rabi Narayan Patra - Member (through VC)
4. Dr. Chittaranjan Panda - Member (through VC)
5. Prof. (Dr.) H.B. Sahu - Member (through VC)
6. Prof. (Dr.) Abanti Sahoo - Member (through VC)
7. Er. Fakir Mohan Panigrahi- Member (through VC)
8. Prof. (Dr.) B.K. Satpathy - Member (through VC)
9. Dr. K.C.S Panigrahi - Member (through VC)
10. Shri Jayant Kumar Das - Member (through VC)
11. Dr. Ashok Kumar Sahu - Member (through VC)

CONSIDERATION OF OLD PROPOSALS (COMPLIANCE RECEIVED):

The compliances furnished by the proponents were verified by the members through e-mail and also proceedings of the meeting were confirmed by the members through e-mail. The decision of the committee on case-to-case basis as follows:

ITEM NO. 01

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR CHANDANIA STONE QUARRIES CLUSTER OVER AN AREA OF 75.742 ACRES OR 30.651 HECTARES IN MOUZA - CHANDANIA HILL, TAHASIL - KUKUDAKHANDI IN DISTRICT - GANJAM, STATE - ODISHA OF TAHASILDAR KUKUDAKHANDI (SUBMITTED UNDER CLUSTER APPROACH WITH TOTAL CLUSTER AREA 30.651 HECTARES, CONSISTING OF 5 STONE QUARRIES) - TOR

1. The proposal was considered by the committee to determine the “Terms of Reference (ToR)” for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
2. **Category**: This proposal falls under Category “B1”, 1(a) - Mining of Minerals as the Mining lease area is more than 5.0 Ha. as per the EIA notification 2006 and its subsequent amendments
3. Chandania Stone quarries cluster is mining of stone, over an area of 75.742acre or 30.651ha. in Mouza Chandania hill, Tahasil Kukudakhandi in district Ganjam,State Odisha of Tahasildar Kukudakhandi.
4. The Quarry leases will be granted to successful Bidders by the Tahasildar, Kukudakhandi after obtaining statutory clearances. Presently, Tahasildar, Kukudakhandi is the lessee for the Chandania Stone quarries cluster.
5. The total Cluster is consisting of 9 stone quarries but 4 stone quarries are in operational stage and their EC has not expired, hence the proposed cluster is confined to 5 Stone Quarries only as per the given table.

Sl no.	Quarry name
i)	Chandania Stone Quarry Plot no. 86, (4.245 Ha)
ii)	Chandania Stone Quarry Plot no. 83, (4.785 Ha)
iii)	Chandania Stone Quarry Plot no. 08,10,02,25 & 5/307, (12.516 Ha)
iv)	Chandania Stone Quarry Plot no. 22 &33, (4.654 Ha)
v)	Chandania Stone Quarry Plot no. 40/P, (4.451 Ha)
Total	

6. Mining plans has been approved by the Deputy Directorate of Geology, O/o Joint Director of Geology, South Zone, Berhampur.
7. Mining lease is an identified sairat source in the DSR - page no. 88, 89, sl.no. 150,151,153, 154, 156. These sairat sources are existing. There are no other mines within 500m of proposed Cluster. The sairat sources are not coming in DLC report as certified by Tahasildar, Kukudakhandi.
8. **Location**: The proposed Chandania Stone Quarries Cluster is located in Khata no. 117, Plot no. 86, 83, 08,10,02,25 & 5/307, 40/P & 22, 33 of kissam “Parbat, Pathrabani, Patita” in Mouza Chandania Hill, Tahasil- Kukudakhandi, District Ganjam, Odisha over an area of 75.742acre or 30.651ha. The geo coordinates are Latitude -19°19’15.24"N to 19°19’39.98"N and Longitude - 84°43’55.21"E to 84°44’51.22"E. The area falls in Survey of India Topo sheet no. 74A/11(E45A11).
9. **Connectivity**: The quarry area is accessible by all weather & well-connected by road and rail. The nearest Railway line is at Berhampur Railway Station at a distance of 6.50km in SE. Nearest National Highway is NH-59 is at a distance of 2.70km in SE. Nearest State Highway is SH-17 at a distance of 1.90km in NE. Nearest river embankment is at Bodalundi. Road bridge on Ghodahada River at a distance of 15.00km in NW. Nearest Sanctuary is Lakhari valley wildlife sanctuary at a distance of 36.00km in NW. Nearest reserve forest is Ramagurha Reserve Forest is at a distance of 3.50km in NW. Nearest Archaeological site is Asoka rock Edict at Jaugada Pandia at a distance of 24.00km in NE.
10. No ecologically sensitive areas such as wildlife sanctuary, Bioreserve, etc. are coming under 10km radius of the proposed lease area.
11. **Reserves** - The total Geological reserve of cluster area is 5623207cum and Mineable reserve is 4099499cum.
12. **Mining method and production**: The method of mining is opencast semi-mechanized mining method. Around 8397cum per month will be dispatched from the mine. The total production annually is 75573cum of stone and 342340cum is the total production from the cluster during the plan period. The excavated stone will be directly sent to the nearest stone crusher for crushing.

13. **Waste generation and management** - During plan period 41985cum of waste will be generated from the total cluster area. Considering swell factor as 1.2 the total broken volume will be 50382cum. For dumping these waste materials a proposed dump has been suggested in the SE part of quarry area covering an area of 0.7Ha. Around 40% of waste will be utilized in the development mine haulage road. A retaining wall around the dump will be constructed to prevent the wash off of dumps. Around the retaining wall a garland drain and settling tank will be provided to prevent the possible transportation of mine dust or fines.
14. **Drainage** - The surface runoff water from the quarry will be discharged directly to the river channel. There is no possibility of ground water puncture during the plan period.
15. **Water requirement**: The total water requirement will be approx. 16KLD for the cluster for different purposes like Domestic(1.39KLD), Dust suppression(14.58KLD), plantation purposes(0.46KLD). Water will be resourced from the nearby village through tankers.
16. **Power requirement**: No electricity required at quarry site. Only diesel is used for operating mining equipment only. For which 4 KL of HSD will be used and sourced from local market.
17. **Manpower**: Around 139 nos. of person are to be employed. Indirect employment through creation of hired vehicles, etc also can be generated to full fill the day to day requirements of the mining personals.
18. **Green belt** shall be developed along the boundary of stone quarry area with the native tree species. Around 1150 saplings will be planted over an area of 0.550 ha in the safety zone. Species likely to be planted are Chakunda, neem etc. as per the availability. Spacing between the saplings will be kept 2.5 meters x 2.5 meters only.
19. **Project cost:** The approximate cost of the project comes around ` 2.0 Crores (cluster) and ` 4.0 lakhs for CER.
20. **Environment Consultancy**: The proponent along with the consultant **M/s P & M Solution**, **Noida** made a detailed presentation before the SEAC on 29.11.2022. The SEAC decided to take decision on the proposal after receipt of certain information / documents from the proponent.
21. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
i)	There are total 9 quarries in cluster approach. Out of which 4 quarries with total lease area 4.785 ha. are in operation after obtaining EC from DEIAA, Ganjam. The DEIAA had the power to grant EC for total lease area of ≤ 5 ha. in cluster approach. Clarification shall be submitted how DEIAA has given EC for 4 quarries only when there are another 5 quarries of total lease area 30.651 ha.	The cluster consisting of 9 quarries but the total 9 applications were not submitted in DEIAA at a time as a result the EC were granted in different Letter. The details is given below: **Chandania S.Q (7.5 Acres)** — **Cluster EC granted vide letter no. 421 Dated 04.07.2018** **Chandania S.Q (8.930 Acres)** **Chandania S.Q (7.40 Acres)**	They have applied for EC for individual quarry just to avoid cluster approach. Hence, these 4 quarries should be part of the cluster for which EC has been applied. They need to include these 4 quarries in cluster approach

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	in cluster.	**Chandania S.Q (4.855 Acres)** Individual EC granted vide letter no. 409 Dated 04.07.2018	and submit revised EMP in cluster approach for 9 quarries.
ii)	Distance between each quarry for 9 stone quarries in cluster.	Distance certificate is attached as Annexure -I	The distance as mentioned in the Annexure is confusing. They need to submit a map indicating distance between 9 stone quarries in cluster.
iii)	Detailed safety procedure for fly-rocks during blasting.	Attached as Annexure-II	-------
iv)	Traffic study details of the area.	Attached as Annexure-III	-------
v)	Re-submit the KML data file with boundary co-ordinations of each quarry and boundary demarcation of each quarry in yellow colour.	Google map submitted	-------
vi)	Copy of Environmental Clearance of each individual quarry operating in a cluster of 4 quarries.	EC Copies of all 4 quarries are attached	-------
vii)	Certified copy of compliance to conditions of EC, CTE and CTO of operational 4 stone quarries.	Full compliance report along the all 4 EC copy and CTO Copy is attached.	-------

22. The SEAC in its meeting held on dated **20-02-2023** decided to take decision on the proposal after receipt of the following information / documents from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Environmental Clearance has applied to DEIAA, Ganjam for 4 stone quarries individually just to avoid cluster approach. Hence, these 4 quarries shall be part of the cluster for which EC has been applied. They shall include these 4 quarries in cluster	The revised EMP will be prepared in cluster approach for 9 quarries which will be submitted during submission of Draft Environmental Impact Assessment Report at OSPCB.	To be added as specific condition.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	approach and submit revised EMP in cluster approach for 9 quarries.		
2.	The distance as mentioned in the **Annexure-I** is confusing. They shall submit google map with boundary co-ordinations of each quarry and boundary demarcation of each quarry in yellow colour for 9 stone quarries in cluster approach and also mentioning the distance between each quarry.	Google map indicating all 9 stone quarries and the distance criteria between each quarries is attached herewith. The boundary co-ordinates of each quarries are mentioned in the kml file, (prepared by the NABET accredited agency) which is e-mailed. (Prepared by the technical exports of the NABET accredited agency)	Submitted

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s P and M Solution, Noida,** the SEAC prescribed the following specific ToRs in addition to standard ToRs in cluster approach as per **Annexure – A** for conducting detailed EIA study**.**

i. Installation of STP of adequate capacity and requisite design.

ii. The revised EMP will be prepared in cluster approach for 9 quarries which will be submitted during submission of Final Environmental Impact Assessment Report at SEIAA.

iii. Traffic study duly vetted by reputed institution.

iv. Green belt in safety zone of each mine and all-round the clusters to be confirmed with details.

v. Arrangement of pipeline sprinkling (permanent water line) to be explored and confirmed.

vi. Silt management and SoP for the same to arrest /remedy of silt ingress to surrounding agricultural lands.

vii. Kisam of land to be submitted.

viii. Safety measures during blasting including provision of warning to be submitted.

ix. Certificate from concerned, DFO that cluster is not within any notified forest area.

x. Site photographs along with the consultant.

xi. Access road for transportation of mined products from each of the 9 stone quarries, space for storing mined wasted products as well as mined mineral products along with drainage system of rainwater (surface run off) for each of the nine queries to be shown in a common layout map certified by the RQP as per the approved mining plan.

xii. RL of water table in the mineral stone quarry zone comprising of all the nine quarries during summer and rainy season to be provided along with the RL of the surface post mining as per the approved mining plan.

xiii. The stone quarries in the cluster for which District Environmental Impact Assessment Authority(DEIAA) has already granted EC earlier shall be included in the proposed cluster area for re-appraisal as per OM F. No. IA3-22/11/2023-IA.III (E-208230), dtd. 28.04.2023 of MoEF & CC, Govt. of India.

Proceedings of the SEAC meeting held on 11.07.2023 (Old proposals – compliance received)

Environmental Scientist, SEAC

ITEM NO. 02

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR JAKARA DECORATIVE STONE QUARRY PROJECT OVER AN AREA OF 22.675 HA OR 56.03 ACRES LOCATED AT VILLAGE- JAKARA, TAHASIL- RAYAGADA, DIST- GAJAPATI, ODISHA OF SRI M JAGDISWAR RAO - EC

1. This proposal is for environmental clearance of Jakara decorative stone quarry project over an area of 22.675 ha. or 56.03 acre located at Village- Jakara, Tahasil- Rayagada, Dist- Gajapati, Odisha of Sri M Jagdiswar Rao.
2. **Category**: As per the EIA notification 2006 and its subsequent amendment, proposed project falls under category B of schedule- 1(a) Mining of minerals.
3. Prospecting License was granted vide proceedings no. MII(d)-132/07- 5690/DM, dated 08.07.2015. and Letter of Intent (LOI) was granted vide letter no.7610/SM, Bhubaneswar, dated 04.10.2019.
4. Modified Checklist of Minor Minerals is approved by Mining Officer on 06.12.2021 and Survey Report on Minor Minerals is submitted by Mining Officer to Collector, Gajapati vide letter no. 991/Mines, dated 17.11.2021.
5. District Survey Report on minor minerals submitted by Mining Officer to Collector, Gajapati vide letter no. 991/Mines, dated 17.11.2021
6. Mining Plan was approved by Directorate of Mines vide letter no. MXXII- (a)-3/2020-7826/DM., Dated. 09.11.2020.
7. As per the record of revenue the precise area applied for Decorative stone comes under Abada Ajogya Anabadi catogery and is of Parbat Kissam. There is no forest land involved in the mine lease area.
8. **Terms of Reference**: Terms of Reference (TOR) has been prescribed by SEIAA vide letter no. 4222/SEIAA on dated 15.03.2022.
9. **Public hearing details:** Public hearing was conducted on 12.09.2022 at Gram Panchayat Office, Kerandi under Rayagada Panchayat Samiti in Gajapati district. The major issues raised during the public hearing are dust suppression measures, protection of environment, peripheral development of the village, road maintenance & development, plantation, employment, provision of ambulance facility, skill development training to local youth, insurance benefit to workers. As per the demands, the project proponent has committed to provide ambulance, insurance benefit to workers, skill development training to local youth, road maintenance & development, protect environment, etc. Rs 13 lakhs will be spent under CER for various socio-economic activities, in 4 years' time.
10. **Location**: Jakara Decorative Stone Deposit of M/s Tejeswini Granites, over an area of 56.03 Acres or 22.675 Hectares is located in village Jakara under Rayagada Tahasil of Gajapati District in Odisha. The proposed lease area is bounded by latitude N18° 51' 49.5" – N18° 52' 09.4" and longitude E84° 20' 00.0" – E84° 22' 25.5" & it is a part of the area covered in the Survey of India Toposheet No E45G5. Lease area comes under Abada Ajogya Anabadi catogery and of Parbat Kissam.

11. **Topography:** The lease area of Jakara Decorative Stone Deposit comes under a hill range. The maximum altitude is 190 mRL and the lowest altitude is 165 mRL. The overall slope of the hill is towards SE to NW side of the area. There is no forest land within the lease area. No ecologically sensitive area such as National Park/Wildlife Sanctuary/Biosphere Reserve/Tiger Reserve/Elephant Reserve etc. is found in the core and buffer zone of the proposed study area.

12. **Drainage:** There is neither any seasonal nor any perennial nala flowing within the lease area. The drainage pattern of the area is dendritic. Surface run-off water of the area is drained through the natural slopes/ nearby Nala. There is no river / major nala within the 10 km radius study area. There are some reservoir, ponds and seasonal nala located within the study area. A seasonal nala is flowing near Gopalasahi at 1.47 Km in NE direction.

13. This is a fresh mining project and decorative stone will be produced @ 7000 CuM / Annum.

14. **Land use:** The study area covers around 31415ha., mainly comprises of forest (62.7 %), agriculture land (19.01%) and water bodies (0.02%). The balance 18.27 % of the total area covers residential area, mining, rocky and waste land etc.

Table: Land use

Sl. No	Pattern of Utilization	Area put on use at the start of the Plan period	Area required during the Plan Period	Net area considered for calculation
		(Area in Hectares)		
i)	Mining Including Haul Road	0.00053	1.886	1.886
ii)	Over Burden /Waste Dump	-	1.207	1.207
iii)	Mineral storage	-	0.04	0.04
iv)	Infrastructure (workshop, administrative, Building, etc.)	-	0.018	0.018
v)	Roads	0.01	0.05	0.06
vi)	Railways	-	-	-
vii)	Safety Zone/Greenbelt	-	1.458	1.458
viii)	Sub-Total	0.0105	4.659	4.669
ix)	Area Un-disturbed	22.664	18.016	18.006
Grand Total:		22.675	22.675	22.675

15. **Reserves and life of mine**: Total geological & mineable reserve are estimated as 26,69,186.20 m^3 and 1854311 $m^{3,}$ respectively. The life of the mine will be about 260 years.

16. **Mining method and annual production**: Opencast semi-mechanized method will be adopted using machineries such as excavator, line offset, compressor, jack-hammer, wire ropes and drill rod etc. in single shift involving drilling and cutting without blasting. Ultimate pit slope at the time of closure of mine will be around 45^0.

Year	Volume of Rock Zone	Volume of Recoverable Decorative Stone	Volume of Khanda	Volume of waste

	(m^3)	(m^3)	(m^3)	(m^3)
1st Year	35000.00	7000.00	3500.00	24500.00
2nd Year	35000.00	7000.00	3500.00	24500.00
3rd Year	35000.00	7000.00	3500.00	24500.00
4th Year	35000.00	7000.00	3500.00	24500.00
5th Year	35000.00	7000.00	3500.00	24500.00
Total	175000.00	35000.00	17500.00	122500.00

17. **Waste generation:** A total of 1,22,500 m^3 of waste to be generated during plan period. The generated waste will be dumped with an average height of 5 m having five terraces. About 40% of the generated waste will be utilized for maintenance and construction of the haul road, approach and existing roads in the surrounding areas periodically. The waste generated during the conceptual period will be back filled over an area of 4.669 hectares up-to 168m RL. The wastes are proposed to be stacked maintaining the overall slope at less than 28^0 and to be sequentially graded, compacted and levelled. Retaining wall of 153 metre and garland drain of 160 metre will be erected around the dumping yard to arrest the washing off loose sediments.

18. **Water requirement**: About 1.1 KLD of water will be utilized for drinking, dust suppression and plantation purposes. This water will be met from nearby villages.

19. No mines water will be discharged into any seasonal /perennial nala near the leasehold.153m long retaining walls will be built all around the waste dumps, which will have weep holes for passage of storm water to join garland drains.160m long Garland drains shall be constructed as much as possible around waste dump (depending on contours) and it will be connected to 12m X 12m X 2m size settling pond. Sanitary sewage generated in office area shall be treated in septic tank & soak pit. Silt generated from cutting faces shall be collected in 10m X 12m X 1m size settling pond & supplied to brick makers, cement industries, etc.

20. **Power requirement**: No electrical power shall be required for operations in mine. 225 KVA DG set will be used for office and lighting purpose.

21. **Baseline study:** Study period is summer season (December 2021 to February 2022)-

i. Ambient air quality

LOCATION	Station Code	PM10 (µg/m^3)				PM2.5 (µg/m^3)				SO2 (µg/m^3)			
		Max.	Min.	Avg.	98 Percentile	Max	Min	Avg	98 Percentile	Max.	Min.	Avg.	98 Perce ntile
Project Site	A1	62	36	49.58	61.00	36	18	25.58	35.00	7.6	4.6	6.03	7.45
Sana Jolara	A2	68	43	57.35	68.00	34	20	25.46	33.00	8.2	5.1	6.12	8.20
Angarasingi	A3	65	34	52.88	64.50	35	19	25.85	34.00	7.5	4.4	6.24	7.40
Bandikara	A4	60	35	48.42	60.00	36	16	24.69	34.00	7.6	4.1	5.88	7.50
Lingapur	A5	58	34	47.80	57.52	33	14	24.80	32.52	7.2	4.8	5.85	7.20

Rentikota	A6	56	32	46.72	55.04	34	11	23.16	32.56	7.2	4.3	5.76	7.01
Jakara	A7	52	36	44.32	51.52	28	12	20.88	27.52	6.7	4.2	5.36	6.56
Killoyi Colony	A8	57	35	46.32	56.04	35	13	24.72	33.56	7.3	4.5	5.82	7.06
CPCB Standard		100(µg/m^3)				60(µg/m^3)				80(µg/m^3)			

LOCATION	Station Code	NOX (µg/m^3)				CO (mg/m^3)			
		Max.	Min	Avg	98 Percentile	Max.	Min.	Avg.	98 Percentile
Project Site	A1	13.4	9.5	11.44	13.30	BDL	BDL	BDL	BDL
Sana Jolara	A2	13.6	9.6	11.30	13.55	BDL	BDL	BDL	BDL
Angarasingi	A3	13.6	9.2	11.37	13.40	BDL	BDL	BDL	BDL
Bandikara	A4	13.2	9.1	11.01	13.05	BDL	BDL	BDL	BDL
Lingapur	A5	13.7	9.4	11.38	13.51	BDL	BDL	BDL	BDL
Rentikota	A6	13.8	9.5	11.44	13.66	BDL	BDL	BDL	BDL
Jakara	A7	12.6	9.5	10.82	12.50	BDL	BDL	BDL	BDL
Killoyi Colony	A8	13.1	9.6	11.46	13.00	BDL	BDL	BDL	BDL
CPCB Standard		80(µg/m^3)				4(mg/m^3)			

ii. Noise level

Station name	Station code	Results { dB(A) Leq}					
		Day (0600-2200hr)			Night (2200-0600hr)		
		Max.	Min.	Avg*	Max.	Min.	Avg*
Project Site	N1	48.7	31.7	42.9	33.6	BDL	30.9
Sana Jolara	N2	52.6	32.6	45.7	35.5	BDL	31.5
Angarasingi	N3	49.1	30.8	42.7	33.4	BDL	30.8
Bandikara	N4	53.8	33.5	46.6	35.9	BDL	31.8
Lingapur	N5	48.2	32.1	43.0	33.7	BDL	31.0
Rentikota	N6	51.9	31.9	45.2	34.8	BDL	31.5
Jakara	N7	51.2	31.2	44.1	31.9	BDL	30.3
Killoyi Colony	N8	49.1	30.6	43.2	33.2	BDL	30.7
Note: *Logarithmic Average BDL of Noise Level Meter is 30 dB(A).							

iii. Soil quality

Sl. No.	Parameters	LOCATIONS				
		S1	S2	S3	S4	S5
1	Colour	Brown	Brown	Brown	Brown	Brown
2	Soil Texture	Loam	Loam	Loam	Loam	Loam
3	pH value	6.8	7.1	7.3	7.5	6.6
4	Bulk Density (g/cm^3)	1.28	1.32	1.16	1.06	1.09
5	Available Phosphorus kg/ha	8.8	7.4	10.2	12.1	8.8
6	Available Potassium kg/ha	216	172	244	196	168
7	Available Organic Carbon (%)	0.24	0.48	0.52	0.58	0.36
8	Available Nitrogen (%)	203	212	248	198	177

iv. Surface water quality

Parameters	Unit	SW1	SW2	SW3	SW4	SW5	SW6
Color,	Hazen	<5	<5	<5	<5	<5	<5
Odour	Unobjectionable	U/O	U/O	U/O	U/O	U/O	U/O
Suspended Solids	mg/l	38	26	31	40	35	33
Turbidity	NTU	12	09	10	14	11	12
pH value	----	7.32	7.22	7.28	7.56	7.44	7.36
Temperature	0c	9	12	10	8	11	9
Oil & Grease	mg/l	<5	<5	<5	<5	<5	<5
Ammonical nitrogen(as N)	mg/l	1.12	1.48	1.04	1.22	1.18	1.26
Total Kj. Nitrogen(as NH_3)	mg/l	1.1	2.1	0.7	1.6	1.3	1.7
Total Hardness (as $CaCO_3$)	mg/l	54	50	44	48	56	52
Iron (as Fe)	mg/l	0.28	0.26	0.22	0.24	0.32	0.30
Chloride (as Cl)	mg/l	29.8	27.6	24.2	22.8	30.4	25.2
Fluoride (as F)	mg/l	0.14	0.20	0.12	0.18	0.12	0.16
Total Dissolved Solids	mg/l	90	84	78	72	80	82
Calcium (as Ca)	mg/l	15.2	13.4	14.2	12.6	16.2	11.4
Magnesium (as Mg)	mg/l	4.8	3.6	3.1	2.8	4.4	3.6

Copper(as Cu)	mg/l	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Nickel (as Ni)	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese (as Mn)	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Sulfate (as SO_4)	mg/l	12.8	14.2	14.8	12.4	16.2	11.8
Nitrate (as NO_3)	mg/l	1.6	1.1	2.1	1.2	1.6	1.4
Sulfide (as S)	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

v. Ground water quality-

Sl. No.	Test parameters	Unit	Norms as per IS: 10500-2012		GW1	GW2	GW3	GW4
			Acceptable Limit	Permissible Limit				
1	Colour	Hazen	5	15	<5	<5	<5	<5
2	Odour	$	Agreeable	Agreeable	Agr.	Agr.	Agr.	Agr.
3	Taste	$	Agreeable	Agreeable	Agr.	Agr.	Agr.	Agr.
4	Turbidity	NTU	1	5	<1	<1	<1	<1
5	pH Value @ 25°C	$	6.5-8.5	No Relaxation	7.22	7.12	7.08	7.16
6	Total Hardness (as CaCO3)	mg/l	200	600	177	182	202	212
7	Iron (as Fe)	mg/l	0.3	No Relaxation	0.28	0.24	0.22	0.18
8	Chloride (as Cl)	mg/l	250	1000	32	40	44	38
9	Total Dissolved Solids	mg/l	500	2000	292	302	335	356
10	Calcium (as Ca)	mg/l	75	200	36	62	54	68
11	Magnesium (as Mg)	mg/l	30	100	16	22	14	18
12	Copper (as Cu)	mg/l	0.05	1.5	ND	ND	ND	ND
13	Manganese (as Mn)	mg/l	0.1	0.3	ND	ND	ND	ND
14	Sulphate (as SO4)	mg/l	200	400	24	42	30	46
15	Nitrate (as NO3)	mg/l	45	No Relaxation	ND	ND	ND	ND

22. Greenbelt: Green belt will be developed in the safety zone. In the plan period, 0.1386 ha. will be planted with 510 nos. of saplings. Besides these, roadside plantation will be done with adequate number of saplings.

23. Manpower: A total of 30 nos. of persons (managerial & supervisory personnel – 03, Skilled- 14, Semi-skilled- 06 & Unskilled- 07) will be engaged in the mines

24. Project cost: The estimated cost of the project is Rs.3 Crore. The cost earmarked for environmental control measures is 90,0000/- per annum.

25. Environment Consultant: The Environment consultant **M/s Centre for Envotech and Management Consultancy Pvt. Ltd, Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee.

26. The SEAC in its meeting held on dated **14-02-2023** decided to take decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
a)	Copy of lease sanctioned order.	Letter of Intent issued by Steel & Mines Department, GeO dated 04.10.2019 is attached as **Annexure-I**. After receipt of the Environmental Clearance, Lease Grant order shall be issued by the concerned department.	LOI is submitted which is in favour of M/s Tejeswini Granites.
b)	Detailed layout map showing garland drain, settling pond, mining area.	Layout map showing Garland Drain, Settling Pond in Mining Area is attached in **Annexure-2**.	complied
c)	Copy of permission from DFO for tree cutting.	We do hereby submit our undertaking that the permission letter from concerned DFO for tree cutting shall be submitted to SEIAA/SEAC committee before start of mining operation. The undertaking in this regard is attached in **Annexure - 3**. Only after lease is granted by the Concerned authority, we will get the permission from office of the Concerned DFO.	To be added as specific condition.
d)	List of villages of Andhra Pradesh to be affected as it is nearer to inter-state boundary.	As per Air Quality Modelling, following villages in Andhra Pradesh state are likely to be affected due to the proposed decorative stone mining operation; 1. Basvasai Colony 2. Killoyi Colony 3. Karibanda 4. Kondamasingi 5. Paringasai Due to small quantity of emission from the mining, there may be slight increase in air pollutants. Hence, the impact in the above mentioned villages due to Mining Operation are most likely to be insignificant. However, the proposed mitigation measures like water sprinkling, green belt development etc., shall further lower down the impact.	complied

Considering the information furnished and the presentation made by the consultant, **M/s Centre for Envotech and Management Consultancy Pvt. Ltd, Bhubaneswar** along with the project proponent, the SEAC recommended for grant of Environmental Clearance upto lease period with stipulated conditions as per **Annexure – B and following additional conditions;**

i) Haulage road shall be developed and maintained perennially and perpetually by the proponent in consultation with the concerned authority of the Govt.

ii) The project proponent shall maintain periodic health check-up records of their employees and ensure use of face mask by workers in crushing and handling sections of the decorative stone quarry for ensuring that working personnel are not affected by silicosis.

iii) Since after lease is granted by the Concerned authority, the Project Proponent will get permission from office of the Concerned DFO for cutting of trees. Therefore, the permission letter from concerned DFO for tree cutting shall be submitted to SEIAA/SEAC before start of mining operation (as proposed).

ITEM NO. 03

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF BAITARANI SAND BED MINE ON BAITARANI RIVER OVER AN AREA OF 5.058 HA/12.50 ACRE IN VILLAGE TAMPO, UNDER GHASIPURA TAHASIL OF KEONJHAR DISTRICT OF SRI HRUSHIKESH JENA – EC

1. This proposal is for environmental clearance of Baitarani sand bed mine on Baitarani River over an area of 5.058 ha./12.50 Acre in village Tampo, under Ghasipura Tahasil of Keonjhar District of Sri Hrushikesh Jena.
2. **Category**: As per EIA notification 2016 and subsequent amendment this proposal is coming under Category B of Schedule 1(a)-Mining of Minerals.
3. The quarry lease has been granted by the Tahasildar, Ghasipura vide letter no.676 on dated 17.03.2020 to the applicant (successful bidder) for excavation of minor mineral (River Sand) for five years.
4. The Tahasildar of Ghasipura Tahasil vide letter no. 5740 issued on dated 28.12.2020 while submitting relevant documents of EC application to SEIAA, Odisha further communicated that Sri Hrushikesh Jena of Jena Minerals Pvt. Ltd., Saroi, Haridaspur of Jajpur Dist. is the successful bidder of the said sairat source.
5. The mining plan has been approved by the Deputy Director of Geology, Cuttack, Odisha vide memo no. 676 on dated 17.03.2020.
6. **Terms of Reference (TOR) details**: Terms of Reference (TOR) was issued by Ministry of Environment, Forest and Climate change vide file no: 59407/55-MINB1/12-2020 on dated 28.02.2021.
7. **Public hearing Details**: The Public Hearing in respect of Environment Impact Assessment for Baitarani Sand Bed Mine of M/s Jena Minerals Pvt. Ltd. on river Baitarani over an area of 5.058 ha. in village Tampo under the Ghasipur Tahasil of Keonjhar District, Odisha was conducted on 12.05.2022 at 11.00 A.M at Village Tampo (Near Tampo Baitarani Bridge) (Khata No.218 (Rakhita), Plot No.556, Kissam-Gochara, Area-Ac.32.15) in Keonjhar District. Issues raised are

local employment, dust pollution, water sprinkling arrangements, tarpaulin cover on sand loaded vehicles, plantations, increase of traffic management & road transportation. Total expenses to be incurred for public hearing action plan is 6.60 lakhs.

8. **Location and connectivity**: The proposed river bed sand mining will be carried out on Baitarani River located at village: Tampo, under Tahasil: Ghasipura, DistKeonjhar, Odisha & the lease area is 5.058 ha. or 12.50 acre bearing Khata No.-221, Plot No.705, 706, Kisam: Nadi. The project is located in survey of India toposheet no. E45O4 & E45O8 between latitude of 21º 07'52.44"N to 21º 08'11.57"N and longitudes of 86º 10'56.05"E to 86º 11'21.81"E. The site is well connected to NH-215& SH-53 at a distance of 6.9 Km & 7 Km. Nearest airport is Bhubaneswar airport at a distance of 105 Km from the mining lease area. Nearest Railway station is Korai Railway Station at a distance of 16 Km from the project site. The nearest road is Batto road located at a distance of 0.6 Km.

9. **Topography**: The Baitarani sand bed deposit represents a gently sloping to almost flat terrain with the highest elevation is 29.5mRL & lowest elevation is 27 mRL in sand. The lease area belongs to recent quaternary riverbed deposits consisting of sand, silt, clay, gravel and alluvial deposits. The sand in the lease area is a weathering product of the nearby metamorphic rocks and has been transported by 1st and 2nd order nala which ultimately gets deposited in the main nala/river bed during the rainy season.

10. **Drainage**: The drainage of the district is mainly controlled by rivers like Baitarani, Kangira, Ardei, Khairibandhan, Kanjhari, Sita, Kusei, Salandi etc. During rainy season, the river water carries sand which is formed due to disintegration of rock bodies along with other suspensions.

11. **Reserves**: Total geological reserves and mineable reserves is 50588 Cum and 29844 Cum respectively.

12. **Mining method and production details**: In the applied bed lease area, the sand will be extracted by manual mining method. Handpicks, Spade, hand shovel will be used by manual labourers for extracting & loading of sand. The sand will be loaded into tippers/tractors having capacity 4Cu.m/2.5 Cu.m for loading & dispatched as per requirement. The extraction of sand will be carried out up to the limit of maximum 1.5m depth or the water table whichever less is. The total excavated material is sellable as no waste will be generated from the mining process. There is no provision of dumping within the quarry. Only 20 trucks and tippers will be utilized for transportation of sand. At the proposed rate of annual production, total excavated sand would be maximum of 25545Cu.m during the proposed plan period. The project intend to excavate maximum sand of 5223 Cu.m per year and total 25545 Cu.m within 5 year plan period from the lease area. During plan period the mined-out land will be 2.578 ha. The safety zone to be maintained at 7.5 metre width all along the quarry which will be 0.401 ha. and water body, which will cover 2.079 ha.

Financial Year	**Minerals**	**Surface Area in (Sq. m)**	**Thickness of sand (m)**	**Volume of sand in (Cu. m)**
1st Year	Sand	3422	1.5	5133
2nd Year		3430	1.5	5145

3rd Year		3344	1.5	5016
4th Year		3352	1.5	5028
5th Year		3482	1.5	5223
Total				**25545**

13. **Water requirement**: For drinking & domestic purpose, water requirement will be 2 KLD while water requirement for green belt development and dust suppression will be 1 KLD. So total water requirement for this proposed project is 3KLD.

14. **Fuel requirement**: Tipper & Dumper will be used for transportation. The approximate quantity of the fuel/Diesel used per day is 100Lit/day.

15. **Baseline study**:

PERIOD	**October to December 2020**	**Applicable Standards**
AAQ PARAMETERS AT 7 LOCATIONS	$PM_{2.5}$ – 16.7 to 27.2 µg/cu.m	60 µg/cu.m
	PM_{10} – 17.1 to 41.7 µg/cu.m	100 µg/cu.m
	SO_2 – 5.2 to 9.9 µg/cu.m	80 µg/cu.m
	Nox – 10.3 to 22.1 µg/cu.m	80 µg/cu.m
Ground water Quality at 6 Location	pH – 6.9 to 7.3	6.5 to 8.5
	Total Hardness – 52 – 192 mg/l	600 mg/l
	Chloride - 9.6 to 124.6 mg/l	250 mg/l
	Fluorides – 0 .15 to 0.81 mg/l	1.5 mg/l
	TDS – 110 - 470 mg/l	1000 mg/l
	Heavy metals (Cd < 0.001, As < 0.001, Hg < 0.0005) mg/l	Heavy metals (Cd <0.003, As <0.01, Hg<0.001) mg/l
Surface water at 4 locations	pH – 7.1 to 7.8	
	Dissolved Oxygen – 5.5 to 6.0 mg/l	
	Biochemical Oxygen Demand – 2 to 5 mg/l	
	Chemical Oxygen demand – 12 to 25 mg/l	
Noise at 8 locations	Day (dBA Leq) 32.4 to 45.6	55
	Night (dBA Leq) - 25.6 to 35.6	45
Soil Quality at 3 locations	pH – 5.20 to 7.4, Potassium – 202.9 to 1828 Kg/ Ha, Phosphorous – 166 to 603 Kg/ Ha, Nitrogen – 188 – 276 Kg/Ha, Electrical Conductivity- 117 to 1050 ms/Cm	

16. **Greenbelt**: There is proposal for plantation along the riverbank to protect the riverbank erosion in consultation with the forest department. Approximately 250 saplings is proposed to be planted during the 1st year of mining operation.

17. **Employment generation:** Due to the proposed sand mining, there will be generation of employment for 14 persons out of which, 04 skilled, 04 Semiskilled, 6 nos are unskilled.

18. **Project Cost**: Total cost of the proposed project is 10lakhs. The EMP cost proposed for the project will be 4.0 Lakh per annum.

19. **Environment Consultant**: The Environment consultant **M/s Kalyani Laboratories Pvt. Ltd. Bhubaneswar,** along with the proponent made a presentation on the proposal before the Committee on 14.02.2023.

20. The SEAC in its meeting held on dated **14-02-2023** decided to take decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
3.	NOC/permission from concerned authority for usage and maintenance of Panchayat Road.	NOC for using Panchayat Road duly endorsed by BDO of Ghasipura Block attached as **Annexure – I**.	Request letter to BDO, Ghasipura Block by PP has been submitted.
4.	Precautionary measures to be taken for movement of vehicles in school area for safety of students.	I. Sand will be transported in early morning time to avoid traffic. II. The maximum speed of the sand transportation vehicle's is 10km/hr in school area. III. A mine worker is present with the driver of vehicle at the time of sand Transportation.	-
5.	Distance from bridge and other sand mines.	I. As per certified cluster certificate issued by The Tahasildar of Ghasipura Tahasil of Keonjhar District there is no other mines located within the 500meter of the project area. (**Annexure – II**) II. As per certified distance certificate by Tahasildar the distance of the river bridge is 550 meter from the lease area. (**Annexure –III**)	-
6.	Conduct replenishment study in pre monsoon and post monsoon and submit the report	Necessary replenishment study report is attached as **Annexure – IV**.	Replenishment study Report submitted. Premonsoon data collected on 04.09.2022 and post monsoon on 29.04.2023.Replenishment of sand – 19706.4cum.

After detail discussion, the SEAC opined that pre-monsoon study during September is not acceptable and recommended that the proposal to be considered for grant of EC after the proponent submit fresh replenishment study as per guidelines.

Proceedings of the SEAC meeting held on 11.07.2023 (Old proposals – compliance received)

Environmental Scientist, SEAC

ITEM NO. 04

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR JAKAR STONE QUARRY OVER AN AREA OF 13.594 HA FOR PRODUCTION OF 3,240 CUM/ANNUM AT KHATA NO. 1692, PLOT NO. 28,29,30,31,32 41,42,43,44,69 & 70, VILLAGE - JAKAR, TAHASIL – POLASARA, DISTRICT - GANJAM OF SRI SARATHI SWAIN - EC

1. This proposal is for environmental clearance for Jakar stone quarry over an area of 13.594 ha for production of 3,240 cu.m/annum at Khata no. 1692, plot no. 28,29,30,31,32 41,42,43,44,69& 70, village - Jakar, Tahsil – Polasara, District - Ganjam of Sri Sarathi Swain.

2. **Category:** As per the EIA Notification, 2006 and its subsequent amendments, this project fall under category B under Schedule of item 1(a) Mining of Minerals.

3. The quarry lease of Jakar Stone Quarry has been allotted to Sri. Sarathi Swain for quarrying of stone (minor mineral) by the Tahasildar Polasara vide letter no.- 2006 dated 05.04.2018 for 5 years and it is not coming under DLC land as certified by Tahasildar Polasara.

4. The mining plan for the ML area has been approved by the Deputy Director Geology, Directorate of Geology, Bhubaneshwar. Vide letter no. GXV(j)-80/2018-11789/DG, Dated 20.11.2018. Letter of Intent(LOI) has been granted vide letter no 2006 dated 05.04.2018.

5. **TOR details**: The Terms of Reference (TORs) was issued by SEIAA vide letter no.- 3661/SEIAA dated 27.12.2021.

6. **Public hearing details**: The public hearing has been conducted on 07.09.2022 at plot no 7020, khata no 1690, adjacent to gram panchayat office, Jakara Polasara tehsil of District Ganjam, Odisha under the supervision of Addl. District Magistrate, Ganjam. Issues raised are local employment, drilling, blasting & transportation should not be carried out during night hours, control blasting to avoid damages of nearby houses, dust emission , deployment of local vehicles in mine, development works in village, concurrent back filling of mined out area with over burden along with plantation. About Rs. 1.0 lakh/annum has been allocated as CER budget.

7. **Location and connectivity**: The proposed Jakar Stone Quarry comes under the village Jakar, Tehsil-Polasara, District- Ganjam, State Odisha. Geographically the Ml area extends from 19°39’45.50"N to 19°39’53.70"N and 84°46’52.50"E to 84°47’19.20"E with a highest elevation of 114 AMSL and the lowest elevation 68 AMSL. The proposed area falls in SOI toposheet No. E45A9, E45A13, E45A10 & E45A14 bearing Khata No. 1692 Plot no 28,29,30,31,32,41,42,43,44,69 and 70. The proposed project does not fall within CRZ area. Nearest Airport is Bhubaneswar Airport, approx. 126 km in NE direction. Nearest railway station Khallikote Railway Station, approx. 37 km in SE direction. Nearest Highway SH-30, approx. 7.0 km in SE direction. Nearest River Embankment is Jhitikabadi road bridge at a distance of 2.30 Km in NW direction. Nearest reserve forest Purunapani RF, approx. 8.0 Km in NE direction. Gairha RF, approx. 5.0 Km in South direction. Nearest water body Luhakot dam, approx. 11 km in NE direction. Nearest habitation is at approx. 300 m in North direction from mine site.

8. Topography and drainage: The area belongs to the Eastern Ghat hill ranges and mostly presents a highly undulating topography with scattered isolated hillocks and mounds with an average altitude between 40 to 140 m amsl, intermontane valleys, gently undulating narrow plains covered by Quaternary sediments deposited by Rushikulya river. Transported laterites, near the

delta of Rushikulya, form low uplands. The coastal dunes occupy considerable area. The project site falls under seismic zone II which is a least active zone (MSK VIII) The drainage pattern in the study area is from west to east and drains in Ghodahada River. The proposed project does not impact natural drainage pattern of the area.

9. **Reserves and total production**: As estimated, geological reserves and mineable reserves of the proposed project is 16,60,500 cu.m and 12,82,500 cu.m respectively. Total production is14400cum as per the given in below table.

Year	Sections Considered	Cross Sectional Area	Length of Influence	Volume of Excavation	Volume of Road Metal at 90% incidence	Volume of Road Metal at 10% incidence
	--	M^2	M	M^3	M^3	M^3
1st Year	CD	56	50	2800	2520	280
2nd Year	CD	60	50	3000	2700	300
3rd Year	CD	64	50	3200	2880	320
4th Year	CD	68	50	3400	3060	340
5th Year	CD	72	50	3600	3240	360
Grand Total				16000	14400	1600

10. **Mining method**: Mining will be carried out by opencast semi-mechanized method with adoption of drilling & blasting. Handling of rock mass will be done both manually & by excavators. Handpicks, spade, chisel, hammer will be used by manual labours for sorting & sizing. Loosening of rock mass will done by drilling & blasting. To prevent haphazard excavation of pits and suitable blending of ore, the excavation has been proposed at one place. In mine, proposed height is 3m & width of bench is more than 3m.

11. **Waste generation**: There will be generation of about 1600 cu.m. of waste during plan period. Considering swell factor as 1.2 the total broken volume of waste will be 1920 cu.m. which will be dumped in the SE part of the site which will cover an area of 70 sq.m. (0.007 ha) & dump height will be 4m. This waste generated will be used for road construction & maintenance. The retaining wall around the dump will be constructed to prevent the wash off dump. Around the retaining a garland drain and settling tank will be provided to prevent the possible transportation of mine dust or fines.

12. **Water requirement**: Total water requirement for the mining project is 7.0 KLD. This water will be supplied from the nearby village through hired tankers.

Activity	Calculation	Round off Figure in KLD
Drinking	@ 10 lpcd per labor 13*10/1000= 0.13or 0.2KLD	0.2
Dust Suppression	**Total approach road to be water sprinkled** = 150 m 150 m*6m*0.5 lt water*2 times/1000= 0.9 or 1.0 KLD	1.0
Plantation	2750 plant (during plan period) @ 2 L/per plant= 5500lts= 25500/1000= 5.5 KLD	5.5

Total	**6.7 or 7.0KLD**

13. Baseline study:

Parameter	**No. of Locations**	**Environmental Baseline Study**
Ambient Air Quality Monitoring	7 locations	$PM_{2.5}$ - 14.81µg/m^3 to 27.8 µg/m^3 PM_{10}- 38.2 µg/m^3 to 65.6 µg/m^3 SO_2- 5.0 µg/ m^3 (min.) – 8.0 µg/m^3 (max.) NO_2- 7.5 µg/ m^3 (min.) – 15.6 µg/m^3 (max.)
Noise level monitoring	5 locations	During daytime- 49.6 dB(A) to 51.8 dB(A) During Nighttime- 35.2 dB(A) & 37.4 dB(A) Results were found within permissible limits
Water samples	Surface water –3 locations	All parameters like pH (7.24 to 7.58), BOD (<2 to 4.6 mg/l), COD (12 to 28 mg/l), DO (5.9 to 6.8 mg/l) etc. are found within permissible limits & fit for consumption.
	Ground water- 3 locations	All parameters like pH (5.73 to 7.62), TDS (518 to 610 mg/l), hardness (294-332 mg/l) etc. are found within permissible limits & fit for consumption.
Soil Samples	3 locations	pH- 7.53 to 7.82 Potassium- 146 to 217 kg/ha

14. **Greenbelt**:

Year	**Total Plantation**	**Plantation in safety barrier zone (1.398 ha)**	**Plantation along approach road**	**Plantation in village consulting local authorities**	**Location**
1st	1500	1250	150	100	Approach road –300m nos Along both sides of road (of approx. 0.15 km) at spacing of 1.0m. Safety zone (1.398 ha)- 2250 nos. Village area – 200 nos. In village area like, school premises, Aangawadi, Panchayat bhavan
2nd	1250	1000	150	100	
3rd	Maintenance	Maintenance	Maintenance	Maintenance	
4th					
5th					
Total	**2750**	**2250**	**300**	**200**	

15. **Manpower**: Total requirement of labour and other supervisory manpower will be around 13 persons during the mining period.

16. **Project Cost**- Estimated cost of the proposed project is Rs. 50 lakhs. Cost for Environmental Protection Measures includes Rs. 11,10,000/- (Capital Cost) and Rs. 4,70,000/-(Recurring cost). Budget for occupational health is 1,50,000 per year.

S.No	**Particulars**	**Amount (Lakh)**	
		Capital	**Recurring**
1	Dust suppression	4.0	0.5
2	Plantation and its protection (@ Rs. 200/sapling- including fencing)	5.5	1.0
3	Personal Protective Equipment (@ Rs. 2000/PPE kit)	0.3	0.3
4	Environmental Monitoring	-	1.2

	(Air, water, soil, noise)		(0.5 lakh, 0.4 lakh, 0.20 lakh, 0.10 lakh)
5	Garland drain & settling tank	1.0	0.5
6	Haul road construction/ maintenance (Approach road, approx. 0.15km)	0.3 (@ Rs 2.0 Lakh/km)	1.2 (@ Rs. 300*200 days* 2 labor)
	Total	**11.1**	**4.7**

17. **Environment Consultant**: The Environment Consultant **M/s Atmos Sustainable Solutions Pvt. Ltd., Noida,** has made the EIA Report. But due to accidental death of previous director of consultancy, the PP has requested for change in consultant i.e., Environment consultant **M/s P and M Solution, Noida.** The Environment consultant along with the proponent made a presentation on the proposal before the Committee

18. The SEAC in its meeting held on dated **10-03-2023** decided to take the decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Brief write-up for mitigation measures for blasting/flying rocks.	Attached as Annexure-I.	complied
2.	Frequency of blasting.	Attached as Annexure-II.	complied
3.	Site photographs along with the consultant.	Attached as Annexure-III.	complied

Considering the information furnished and the presentation made by the consultant, **M/s P and M Solution, Noida** along with the project proponent, the SEAC recommended for grant of Environmental Clearance upto lease period with stipulated conditions as per **Annexure – B and following additional conditions;**

i) Haulage road shall be developed and maintained perennially and perpetually by the proponent in consultation with the concerned authority of the Govt.

ii) The project proponent shall maintain periodic health check-up records of their employees and ensure use of face mask by workers in crushing and handling sections of the decorative stone quarry for ensuring that working personnel are not affected by silicosis.

ITEM NO. 05

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR LAXMIPUR SAND QUARRY OVER AN AREA OF 12.959 ACRES/ 5.244 HA. LOCATED IN VILLAGE - LAXMIPUR, TAHASIL - DHARAKOTE IN DISTRICT – GANJAM OF SMT. KALPANA NAYAK – EC.

1. This proposal is for Environmental Clearance of Laxmipur Sand quarry which is a sand mining project over an area of 12.959 Acres/ 5.244ha. located in Village - Laxmipur, Tahasil - Dharakote in District – Ganjam of Smt. Kalpana Nayak.

2. **Category:** As per EIA notification 2006 and subsequent amendments, the project falls under B1 category item 1(a)-Mining of Minerals in the Schedule of EIA Notification, 2006 & Subsequent amendments thereof. The project is coming under B1 Category as the lease area is greater than 5.0 Ha.

3. The mining lease granted by Tahasildar, Dharakote, Ganjam has been auctioned and leased out to the successful bidder Smt. Kalpana Nayak, W/o – Narasingha Nayak, At/PO –Kalasandhapur, PS- Aska, Dist- Ganjam, Odisha after obtaining statutory clearances. The mining lease will be granted on for long term basis for 5 years and the lease period will start from the date of registration of executed lease deed.

4. Letter of Intent has been issued by Tahasildar, Dharakote to Kalpana Nayak vide letter no.1003 dated 29.03.2022 for a period of five years.

5. The Mining plan has been approved by the Deputy Director of Geology (Authorised Officer), O/o The Joint Director of Geology (S.Z), Berhampur vide memo no – 590/SZ on dated 02.05.2022.

6. **TOR Details**: Terms of Reference (TOR) was granted by SEIAA, Odisha vide letter no 5195 dated 19.08.2022.

7. The mining lease area is listed as an identified sand minor mineral in Page – 93, Serial no 4, in DSR of the Ganjam district. The sand quarry lies on riverbed Rushikulya.

8. **Public hearing details**: The public hearing in respect of the above project was held on 24.11.2022 as per schedule and the venue in accordance with the EIA notification S.O.1533 (E) dt.14.09.2006. Issues raised during public hearing are air pollution control, plantation and environment protection, tarpauline covers of transporting vehicles, damage of roads due to plying of heavy vehicles, health facility, drinking water facility, irrigation facility, local employment and development. The budget incurred for the action plan of public hearing is Rs. 3,50,000 lakhs.

9. **Location and connectivity:** The Laxmipur Sand quarry is on Khata no- 189, Plot no –302 & 580 (P) of Kissam Nadi at village Laxmipur in Dharakote Tahasil in Ganjam District of Odisha. The area under discussion is featured in Survey of India Topo Sheet No – E45A10 and is bounded between the Latitude -19° 37’ 06.32” N to 19° 37’ 23.04” N and Longitude – 84° 37’ 13.58” E to 84° 37’ 20.96” E. The lease area is located at a distance of 0.71km from village Laxmipur and at a distance of 7 kms from Dharakote 52 kms from the District Headquarters Ganjam and 146 kms from the State Capital Bhubaneswar. Brahmapur Railway station is the nearest railway station located at a distance of 38 kms from the lease area. Nearest Road Bridge is at a distance of 1.62 km from the mining lease area. Metal road connecting to the lease area and is at distance of 0.18 km. SH – 7 is at 4 km and it is the nearest State highway. NH- 59 is the nearest National Highway which is at a distance of 1.3km. Nearest road bridge, river embankment, electric transmission line pole 1.62km, 120m and 710m respectively. The proposed area falls in seismic Zone – II as per IS – 1893 (Part-1) – 2002.

10. There is no National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/ Elephant Reserves (existing) is situated within 10km of the mining lease area.

11. **Baseline study:** One season data of ambient air quality, water quality, noise level, meteorology, soil and flora and fauna has been collected during pre-monsoon season March 2022 to May 2022.

    a) Surface Water: The analysis results indicate that pH and total coliform of the Surface water was found to be in range of 7.5 – 8.2 and 160 - 340 MPN/100ml.

    b) Ground Water- The analysis results of ground water samples showed the pH in range of 7.06- 8.07 which are with the specified standard limits of 6.5 to 8.5. Colour and turbidity of the

samples < 5.0 Hazens and <1.0 NTU respectively. The total hardness of the samples ranged from 358.8 mg/l – 400.89 mg/l.Calcium and magnesium concentrations ranged from 55 mg/l - 71.1 mg/l and 29.92 mg/l –46.8 mg/l respectively. The total dissolved solids of the samples ranged from 568 mg/l – 746.8 mg/l. The TDS values are within the stipulated 2000 mg/l. Range of chlorides and sulphates concentrations ranges from 110.3 mg/l- 152.4 mg/l and 39.6 mg/l – 53.46 mg/l respectively. Fluoride concentration ranged from 0.32 mg/l – 0.44mg/l and is found to be within the permissible limits. Iron concentrations in ground water varied from 1.11-1.32 mg/l. Zinc levels varied from 0.55-0.81 mg/l respectively. Aluminium concentration in ground water <0.02mg/l at all locations.

c) Air quality: The maximum value for PM10 observed at Pankalabadi mine site location 70 µg/m3 and minimum value for PM10 observed at Mangalpur Village 44.2 µg/m3. The 24 hours applicable limit for industrial, Residential Rural and Other Areas is 100 µg/m3. The maximum value for PM2.5 observed at Pankalabadi mine site location 44.1 µg/m3 and minimum value for PM2.5 observed at Mangalpur Village 26.0 µg/m3. The 24 hours applicable limit for industrial, Residential Rural and Other Areas is 60 µg/m3. The maximum value for SO_2 observed at Pankalabadi mine site location 11.3 µg/m3 and minimum value for SO_2 observed at Damodarpalli Village 5.1 µg/m3. The 24 hours applicable limit for industrial, Residential Rural and Other Areas is 80 µg/m3. The maximum value for NO_2 observed at Pankalabadi mine site location 19.6 µg/m3 and minimum value for NO_2 observed at Damodarpalli Village 7.3 µg/m3. The 24 hours applicable limit for industrial, Residential Rural and Other Areas is 80 µg/m3. The maximum value for CO observed at project site location 1.07 mg/m3 and minimum value for CO observed at Baharhaguraha Village 0.43 mg/m3. The 24 hours applicable limit for industrial, Residential Rural and Other Areas is 4 mg/m3.

d) Noise study: The daytime (Leqday) noise levels are observed to be in the range of 46.4 –54.6 dB(A) which are within the prescribed limit of 55 dB(A). The maximum noise level of 54.6 dB (A) was observed at Pankalabadi mine site and the minimum noise level of 46.4 dB(A) was observed at Village Damodarpalli during the study period. It is observed that the day time noise levels are in accordance to the prescribed limit of 55 dB (A). The night time (Leqnight) Noise levels are observed to be in the range of 34.8 – 43.8 dB(A) Which are within the prescribed limit of 45 dB(A). The maximum noise level of 43.8 dB (A) was observed at Pankalabadi mine site and the minimum noise level of 34.8 dB (A) at Village Damodarpalli during the study period. It has been found that the night time noise levels are in accordance to the prescribed limit of 45 dB (A).

12. **Replenishment study**: The volume of sand available after post monsoon is around 10,406 m^3, which can be treated as safe extractable within the framework of the study after arrival of river level. Further volume of sand which can be extracted as on date (Pre- monsoon survey date) is 22,425 m^3. As it is a new mine no excavation has done in this year. But in post-monsoon the available area for mining is 12,100 m^2 and available sand is 10,406 m^3 whereas, approved production capacity for the year is 11,000 m^3.

13. **Total production and reserves**: The average production is proposed to be 11000cum/year and 55000 cum is the total production during the plan period. As estimated, total geological reserve of sand is 54502.5 cu.m/annum and mineable reserves is 37425 cum per annum. Extractable mineable reserve is 22425 cum.

14. **Mining method**: The mode of the deposit, geomorphology of the area and its hydrological condition are some of the factors that favours the open cast method of mining. Mining will be done with manual method transported from Laxmipur sand bed to the users/ destination through trucks /tractors. The mining will be undertaken on single shift basis. The local man power shall be engaged in the mine. No benching will be necessary. One quarry with a depth of 1.0 m will be developed. The floor level at the end of the five year plan period of the concession will be 43 m RL.

15. **Water requirement**: Total water requirement for the project will be 3.0 KLD. Water required in the project will be for drinking purpose and dust suppression, which will be sourced from water tanker. NOC will be obtained from Gram Panchayat.

16. **Mine Drainage**: The entire deposits will be protected by making barrier around the lease boundary. Mining will be done above the water level of river. Any water accumulating inside the quarry due to occasional rain will be allowed to percolate into the quarry floor.

17. **Power Requirement**: Power requirement will not be required for operations as the mining will be worked out during daytime only. Minimal power required for office shall be taken from the General Electric supply of the area.

18. **Greenbelt**: Plantation will be done on the bank of the river.250 plants are to be planted on the riverbank to protect the river bank side from erosion & protection of the environment. Sampling of trees like Karanja, Nim, Banyan, Peepal, Mahaneem, Arjun Kadamba, Mango, Jackfruit, Jamun, Kendu etc to be planted

19. **Employment Generation**: For the proposed project is 23 nos. of people is required as manpower. Indirect employment through creation of shops/ stalls, hired vehicles, etc. also can be generated to full fill the day-to-day requirements of the mining personals.

20. **Project cost**: The estimated cost of the project is Rs. 50.00 Lakhs. A budget of Rs 4.7 lakhs as capital cost and Rs. 2.35 lakhs as recurring cost is allocated for environment protection measures.

S. No.	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
i)	Air pollution Control: Dust Suppression/ Water Sprinkling	30,000	1,00,000
ii)	Road Maintenance	50,000	60,000
iii)	Greenbelt	40,000	25,000
iv)	Personal Protective Equipment	-	20,000
v)	Environmental monitoring	-	30,000
vi)	Addressal of Public Hearing issues	3,50,000	-
Total		4,70,000/-	2,35,000

21. The Environment consultant **M/s Parivesh Environmental Engineering Services (PEES), Lucknow - 22** along with the proponent made a presentation on the proposal before the Committee on dtd. 24.04.2023.

22. The SEAC in its meeting held on dated **24-04-2023** decided to take the decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Proceedings of the SEAC meeting held on 11.07.2023 (Old proposals – compliance received)

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Declaration/Undertaking from the concerned Tahasildar that the road is connecting to lease.	Declaration letter from Tahasildar, Dharakote has attached as **Annexure-1.**	Submitted
2.	Revised Replenishment Study Report.	Replenishment Study Report has attached as **Annexure-2**.	From the Replenishment Study Report it can be summarised that volume of sand available after post monsoon is around 10,406 m^3, which can be treated as safe extractable within the framework of the study.
3.	Proposal for maintenance of transportation road by the lessee.	Declaration letter for the maintenance of transportation road by the Lessee has attached as **Annexure-3**.	Submitted

Considering the information furnished and the presentation made by the consultant, **M/s Parivesh Environmental Engineering Services (PEES), Lucknow - 22,** along with the project proponent, the SEAC recommended for grant of Environmental Clearance for the proposal valid upto lease period with stipulated conditions as per **Annexure – C** and following specific conditions:

a) Amended EIA Notification dated 25th July, 2018, Guidelines for sustainable sand mining, 2016 and Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India shall be adhered to in execution of Mining as per **Annexure – D**.

b) Extraction of sand shall be limited to quantity and depth as per replenishment study report. Regular replenishment study as per guidelines to be conducted and report to be submitted.

c) Provision of Bio-toilet shall be made at the site.

d) Avenue plantation and plantation on both sides of the haulage road in consultation with/ on the advice of concerned Forest Department, Government of Odisha & W.R. Department Government of Odisha as well.

e) Stone patching with plantation in between along the stretch of the bank associated with sand mining and necessary ramp construction shall be made.

ITEM NO. 06

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR BADAMADHAPUR SAND QUARRY OVER AN AREA OF 6.070 HA. IS LOCATED AT KHATA NO. 1399, PLOT NO. 909/7520, VILLAGE- BADAMADHAPUR, TAHASIL-CHATRAPUR, DISTRICT- GANJAM OF SRI SARAT BEHERA - EC

1. This proposal is for Environmental Clearance of Badamadhapur Sand Quarry over an area of 6.070 ha. is located at Khata No. 1399, Plot No. 909/7520, village- Badamadhapur, Tahasil - Chatrapur, District - Ganjam of Sri Sarat Behera.
2. **Category:** As per EIA notification 2006 and subsequent amendments, the project falls under B1 category item 1(a)-Mining of Minerals in the Schedule of EIA Notification, 2006 & Subsequent amendments thereof. The project is coming under B1 Category as the lease area is greater than 5.0 Ha.
3. Letter of Intent has been issued by Tahasildar, Chatrapur to Successful Bidder Sri Sarat Behera vide letter no.2026 dated 09.05.2022.
4. The mining plan for the ML area has been approved by the O/o Joint Director of Geology, South Zone, Berhampur, Odisha vide Memo no 430 /SZ dated 05.04.2022.
5. **TOR Details**: Terms of Reference (TOR) was granted by SEIAA, Odisha vide letter no 4567/SEIAA dated: 19.05.2022.
6. **Public hearing:** Public hearing was successfully executed on date 11.11.2022 at Mouza-Badamadhapur (over the Govt. Land in Khata No 1397, Plot No 10, Area 0.050 Acres, which is adjacent to Kali Thakurani Temple).Issues raised during public hearing are speed of transporting vehicles shall be controlled in market area and road passing adjacent to schools, air pollution due to transportation is impacting vegetation, hence water sprinkling should be carried out on transportation roads; dust pollution, traffic personnel should be appointed in order to check traffic during rush time, plantation should be undertaken around river bank as well as along road, 2% of profit margin from the mining should be invested in development of the locality, health facility, local employment, social activity / local development, plantation of fruit bearing plants along the transportation roads. Budget allocated towards Public Hearing issues has covered under Environment Management Plan (i.e., Rs. 4.464 Lakhs as Capital Cost & Rs. 2.83 Lakh as Recurring cost) Occupational Health (Rs. 2.52 lakhs) and CER (Rs. 1 lakh) respectively.
7. **Location and connectivity:** The mine lease area is located in Village – Badamadhapur, Tahasil – Chatrapur, District – Ganjam, is on Khata No. 1399, Plot No. 909/7520 of Rushikulya river covered in the Survey of India Topo Sheet No – 74A/14, 74A/15, 74E/2 & 74E/3 and is bounded between the Latitude - 19°27’41.6” N to 19°27’55.2” N and Longitude – 84°58’04.8” E to 84°58’14.5” E. Nearest river bridge, river embankment, electric H.T line is 2.56 km,0.15km and 0.57 km respectively. Nearest Railway Station is Ganjam Railway Station, approx 10.8 km towards ESE direction. Nearest Airport is Biju Patnaik International Airport is approx 124.0 km towards NE direction**.** SH-31 is approx 4.20 km in NE direction. NH- 16 is approx 11.80 km in East direction. Mathakhol RF is approx 5.20 km in NE direction.
8. **Topography and drainage**: The topography of the area is more or less flat with highest elevation of 7 mRL. The lease area here is a Sand Quarry. Drainage system in the region is

dendritic. General flow direction of Rushikulya River is from North West to South East. Work will continue only during summer months when there is no water in the leasehold. Mining will be restricted to a 1.20 m depth

9. **Replenishment details**: For the said project replenishment study has been done by UAV/Drone survey (volumetric survey) method. In this case, replenishment study requires three surveys. The first survey has been carried out in the month of May/June before closing of mines for monsoon season. The second survey is carried out in the Month of Nov/Dec after the monsoon to know the quantum of material deposited / replenished in the mining lease. The estimated average erosion thickness is computed within the entire lease area and common safe workable area respectively. the volume of sand available after post monsoon is around 34190 m^3 , which can be treated as safe extractable within the framework of the study after arrival of river level as it was in pre-monsoon. Further volume of sand also computed, which can be extracted as on date (during mining plan preparation) is 63120 m^3. As it is a new mine no excavation has done in this year. So, total minable reserve available for mining is 63120 + 34190= 97310 m^3 whereas, approved production capacity for the year is 21850 m^3.
10. **Baseline summary**: Baseline study has been conducted for Pre Monsoon Season i.e., from March 2022 to May, 2022
    a) **Ambient Air Quality:** Monitoring results reveals that the minimum & maximum concentrations of PM10 for all the 7 AQ monitoring stations were found to be 53.26 µg/m3 at AQ4 and 81.95 µg/m3 at AQ1, respectively. The minimum & maximum concentrations of PM2.5 were found to be 24.36 µg/m3 at AQ3 and 40.77 µg/m3 at AQ7, respectively. As far as the gaseous pollutants SO2 and NOx are concerned, the prescribed CPCB limit of 80µg/m3 for residential and rural areas has never surpassed at any station. The minimum & maximum concentrations of SO2 were found to be 7.24 µg/m3 at AQ4 & 11.43 µg/m3 at AQ3, respectively. The maximum & minimum concentrations of NOX were found to be 10.36 µg/m3 at AQ6 & 17.14 µg/m3 at AQ7, respectively.
    b) **Ground water Quality:** Monitoring results reveals that pH varies from 7.26 at GW6 to 7.89 at GW5 during study period. Total hardness varies from 359.47 mg/l at GW5 to 505.79mg/l at GW4 during study period. Total dissolved solids vary from 1053.14 mg/l at GW5 to 1481.83 mg/l at GW4 during study period.
    c) **Surface water Quality:** The analysis results indicate that the pH ranges between 7.32 and 7.46. Dissolved Oxygen (DO) was observed in the range of 4.8 to 7.5 mg/l against the minimum requirement of 4 mg/l. BOD values were observed to be in the range of 4.1 – 7.80 mg/l. The chlorides and Sulphates were found to be in the range. Based on the results it is evident that most of the parameters of the samples comply with 'Category 'B' standards of CPCB indicating their suitability for Drinking water source after conventional treatment and disinfection.
    d) **Noise levels:** Noise monitoring reveals that the maximum & minimum noise levels at day time were recorded as 57.9 Leq. dB (A) at NQ1 & 50.8 dB (A) at NQ5, respectively. The maximum & minimum noise levels at night time were found to be 47.6 dB (A) at NQ1 & 37.5 dB (A) at NQ5.There are several other sources in the 10 km radius of study area, which contributes to the local noise level of the area. Traffic activities as well as activities in nearby villages and agricultural fields add to the ambient noise level of the area.

e) **Soil environment:** Samples collected from identified locations indicate the soil is sandy type and the pH value ranging from 7.25 to 7.81, which shows that the soil is alkaline in nature. Potassium content is found to be from 218.20 mg/kg to 297.28 mg/kg. The water holding capacity is found in between 30.00 % to 35.80 %.

11. **Total production and reserves**: Proposed sand quarry is scheduled to produce @ 21,850 cum/year (maximum) 109250 cum is the total production for the plan period. As estimated geological and mineable reserves of the proposed project is 72840 and 63120cum respectively.

Year	Vol. of Sand in (cum)
1st	21,850
2nd	21,850
3rd	21,850
4th	21,850
5th	21,850
Total	**1,09,250**

12. **Method of mining**: The sand will be excavated by open cast pit manual method. Since the depth of mining is 1.20 m, excavator, handpicks, spade, hand shovel will be used by laborers for extracting & loading of sand. Benching parameters is not feasible in case of sand mining. The maximum depth of mining will be 1.20 m. The mine will be developed in South to North direction. At the end of plan period the quarry floor will be 7.00 mRL.

13. **Water requirement**: The water requirement for workers for drinking purpose will be around 0.52 KLD & the total water requirement will be around 4.73 KLD.

Activity	Calculation	KLD
Drinking	@ 10 lpcd per labor 10*52/1000= 0.52 KLD	0.52 KLD
Dust Suppression	Total approach road to be water sprinkled = 500 m 500 m*6m*0.5 *2 times/1000= 3.0 KLD	3.0 KLD
Plantation	607 plant (during plan period) @ 2 L/per plant= 607*2lts= 1214/1000= 1.21 KLD	1.21 KLD
Total		**4.73 KLD**

14. **Traffic study**: The V/C ratio will be changed from 0.191 to 0.195 with LOS remain “A” i.e “Excellent”. So the additional load on the carrying capacity will be affected to a minimum level
15. **Green belt**: Plantation will be done along the approach road and around the river banks. About 607 numbers of trees will be planted along approach road & around the river banks during the first year. Plantation will be done with suitable local species like Teak, Mango, Neem, Jammun, Jhaun etc after consultation with the local authorities.

Year	Greenbelt development	Plantation along both sides of approach road	Plantation around the River Banks	Location	Species
1st Year				Approach road –320	Guava, Teak,

2nd year	607 plants	320	287	nos – along both sides 0.50 km of approach road at spacing of 2 m. Around the River Banks – 287 nos.	mango, Jammun, jhaun, neem etc.
3rd year	Care / protection of Plants				
4th year					
5th Year					
Total	**607**	**320**	**287**		**----**

16. **Manpower requirement**: A total of 52 nos. of manpower are to be employed in the lease area for mining 21,850 cum/year of sand. Indirect employment through creation of shops/ stalls, hired vehicles, etc. also can be generated to full fill the day to day requirements of the mining personnel.

17. **Project cost**: Estimated cost of the proposed project is 50.0 lakhs. Capital cost of EMP is Rs. 4.464 Lakhs Recurring cost of the EMP is Rs. 2.83 Lakh. Budget for Occupational Health and CER is Rs. 2.52 lakhs and Rs. 1 lakh respectively.

BUDGET FOR ENVIRONMENTAL PROTECTION

Sl. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	2,00,000	50,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	50,000 40,000 20,000 10,000
3.	Green Belt Development	1,21,400	50,000
4.	Maintenance of Haul Road	1,25,000	63,000
Total		**4,46,400**	**2,83,000**

Budget for Corporate Environmental Responsibility (CER)

Sl. No.	Activity	Capital Cost (in Rs.)/annum
1.	Financial aid for medical camp in Badamadhapur village. @ Rs. 50,000/ camp (1 camp in a year)	50,000
2.	Provision of toilets and sanitation in Badamadhapur village.	25,000
3.	Skill development program camps like computer learning, sewing etc. in Badamadhapur village. @Rs 25,000/trainer (1 trainer)	25,000
TOTAL		**1,00,000**

18. **Environment Consultant**: The Environment consultant **M/s P and M Solution** along with the proponent made a presentation on the proposal before the Committee on dtd. 24.04.2023.
19. The SEAC in its meeting dated **24-04-2023** decided to take the decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Details of Revised Replenishment Study.	Replenishment Study Report has Submitted.	From the Replenishment

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Environmental Scientist, SEAC

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
			Study Report it can be summarized that The volume of sand available after post monsoon is around 28,827.5 m^3, which can be treated as safe extractable within the framework of the study.

Considering the information furnished and the presentation made by the consultant, **M/s P and M Solution, Noida,** along with the project proponent, the SEAC recommended for grant of Environmental Clearance for the proposal valid upto lease period with stipulated conditions as per **Annexure – C** and following specific conditions:

a) Amended EIA Notification dated 25th July, 2018, Guidelines for sustainable sand mining, 2016 and Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India shall be adhered to in execution of Mining as per **Annexure – D**.

b) Sand extraction shall be limited to quantity and depth as per replenishment Study Report submitted. Regular replenishment study as per guidelines to be conducted and report to be submitted.

c) Provision of Bio-toilet shall be made at the site.

d) Avenue plantation and plantation on both sides of the haulage road in consultation with/ on the advice of concerned Forest Department, Government of Odisha & W.R. Department Government of Odisha as well.

e) Stone patching with plantation in between along the stretch of the bank associated with sand mining and necessary ramp construction shall be made.

ITEM NO. 07

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR KOTADWAR SAND GHAT OVER AN AREA OF 20.235 HA AT VILLAGE-PATUGADADHARPUR, TAHASIL - BANKI, CUTTACK DISTRICT OF SRI ABHISEK MOHANTY – EC

1. This proposal is for Environmental Clearance of Kotadwar Sand Ghat over an area of 20.235 ha. at village-Patugadadharpur, Tahasil - Banki, Cuttack district of Sri Abhisek Mohanty.
2. **Category:** The project is categorized in Category B1 of Schedule under Item1(a)-Mining of Minerals in the EIA notification, 2006 and its subsequent amendments.
3. Letter of Intent has been issued by Tahasildar, Banki to Successful Bidder Sri Abhisek Mohanty vide letter no.1951 dated 18.07.2019.
4. The Mining plan has been approved for a period of five years i.e. 2019-20 to 2023-24 by The Deputy Director of Geology, Bhubaneswar. vide Lr. No. 1149/DG dated 12.02.2019.

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Environmental Scientist, SEAC

5. The District Survey Report for River Sand in respect of Cuttack district has been prepared in accordance with Appendix – x, Para – 7 (iii) (a) of S.O. No – 3611(E) dated 25.07.2018 of MoEF & CC, New Delhi.
6. **TOR Details**: Terms of Reference (TOR) was granted by SEIAA, Odisha vide letter no 2308/SEIAA dated: 26.08.2021.
7. **Public hearing details:** The Public Hearing meeting for Kotadwara sand ghat on Mahanadi River over ML area 20.235 ha., was held on 09/02/2022 at 11:30 am at Patugadadharpur Village, field near Kotadwara School under Banki Tahasil of Cuttack District. Issues raised during public hearing are plantation to be done, provide tarpaulin cover on sand loaded vehicles, provide water sprinkling on road during movement of vehicles, Regulate the movement of sand vehicles by taking care of the movement of school, college students and domestic animals. Budget earmarked for the action plan of public hearing is Rs. 7.10 lakhs.
8. **Location and connectivity**: The lease area is located in survey of India Toposheet no.73H/11 & between latitude of 20°22'23.8" E to 20°22'43.5" E & longitude of 85°30'11.80" N to 85°30'35.30" N bearing Khata no 1 and plot no 25(p), Kisam-Nadi. Nearest National Highway is NH-224 at 17 Km away and State Highway is SH-65 at 6.5 km away from the ML area (Aerial Distance). Nearest Airport is Bhubaneswar Airport at 21 km and nearest station is Naraj Railway station at 30km. Nearest road bridge, river embankment, electric H.T line is 26.0 km,26.0km and 2.0 km respectively.
9. No Ecologically Sensitive Zones like wildlife sanctuaries, national parks are present within 10 Km radius. The project area falls in seismic zone III.
10. **Topography and drainage**: Banki is located in the hilly area to the western part of Cuttack District and on the confluence of the Mahanadi & Kathajodi River. The river Mahanadi flowed to the north side of the state, separating it from Baramba and Tigiria. It was bound in the south by Puri district and in the west by Khandpara State; a little part of the state was located north of the Mahanadi. Drainage system in the region is dendritic.
11. **Replenishment study:** For the said project, replenishment study has been carried out by Volumetric Survey using GPS to define the topography, Contours, RLs of the lease area. The Pre-monsoon Survey was carried out on 04.06.2022 by Field Survey method whereas the post-monsoon survey has been done on 21.12.2022 using Drone & DGPS. In order to estimate the replenished volumes of sand, Cross-section points of each grids for both the surveyed data were compared, the data obtained in pre-monsoon & post monsoon surveys. The safe workable area due to various statutory mining restrictions as per the Sand Mining Guideline, 2020 has been considered for calculations of reserve estimation. It is estimated that an area of 124695 m^2 during pre-monsoon survey & 140610 m^2 during post-monsoon survey is considered as safe workable area.From the study, it is found that the quantity of sand available during pre-monsoon survey is 224451 m^3.The quantity of sand available during Post-monsoon survey is 253098 m^3.The Replenishment Volume = 253098 - 224451= 28647 m^3 .It may be concluded that 28647 m^3 volume of sand is replenished during monsoon, which can be treated as safe extractable within the framework of the study.

Surveys	Safe workable Area in m2	Average thickness in m	Mineable Volume (m^3)	Extractable Volume

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Environmental Scientist, SEAC

				= 60% in m^3
Pre-monsoon Survey	124695	3	374085	**224451**
Post-Monsoon Survey	140610	3	421830	**253098**

12. **Baseline summary**: Baseline study data was collected during the study period (March 2021-May 2021)

    a) Air Quality: The monitoring results of ambient air quality were compared with the National Ambient Air Quality Standards (NAAQS) prescribed by MoEFCC dated 16.11.2009. The baseline levels of PM10 (38– 67µg/m³), PM2.5 (24–56 µg/m³), SO_2(<4-<8.9 µg/m³), NO_2(<9– < 13.9µg/m³), While thus it was found that concentration of pollutants was within the limits of NAAQ standards.

    b) Ground water Quality: The ground water results of the study area indicate that the pH range varies between 7.2 and 7.4. The Total Dissolved Solids range is varied between 166 mg/l – 188 mg/l for the ground water. The acceptable limit of the chloride content is 250 mg/l and permissible limit is 1000 mg/l. The chloride content in the ground water for study area ranges between 1.4 mg/l – 2.2 mg/l. The desirable limit of the sulphate content is 200 mg/l and permissible limit is 400 mg/l. The sulphate content of the ground water of the study area varies between 2.1 mg/l – 3.5 mg/l. It is observed that all the samples are within the permissible limit of IS 10500: 2012.

    c) Surface water Quality: The pH value ranges from 6.8 to 7.3. The sulphate content in the collected surface water ranges from 11.0 mg/l to 13.6 mg/l. The chloride content in the collected surface water sample ranges from 11.0 mg/l to 14.0 mg/l. DO of the collected surface water sample ranges from 7.0 mg/l to 7.2mg/l. BOD of the collected surface water sample ranges from 1.5 mg/l to 1.8 mg/l

    d) Noise levels: In residential areas, day time noise levels were about 51.5 dB(A) and 43.3 dB(A) during night time, which is within prescribed limit by CPCB (55 dB(A) Day time & 45 dB(A) Night time).

    e) Soil quality: The pH of the soil samples ranged from 6.2 to 6.8. Indicating that the soils are slightly acidic to moderately alkaline in nature. Nitrogen content ranged from 0.07 % to 0.09 %.

13. **Reserves and total production**: As estimated, geological reserve is 607050 cum and mineable reserve is 550002 cum. The project for production of Sand (minor minerals) from Kotadwara Sand Quarry has been proposed for a total production of 55,0000 cum (110000 cum/annum) during the plan period.

YEAR	Surface area in m^2	Thickness in mtr	PRODUCTION (m^3)
1^{ST} YEAR	36666.7	3	1,10,000
2^{ND} YEAR	36666.7	3	1,10,000

3RD YEAR	36666.7	3	1,10,000
4TH YEAR	36666.7	3	1,10,000
5TH YEAR	36666.7	3	1,10,000
TOTAL			**5,50,000**

14. **Mining method**: The open cast manual method will be undertaken and transportation through dumpers and tractors will be carried out. No mining activity will be undertaken during the monsoon season. The bench height will be 1.0 to 3 m and width will be along the base of deposit. There will be no under cuttings or over hangs. The average thickness of the deposit is 1.0m.

15. **Water requirement**: The total water requirement will be approximately 3.0 KLD for different purposes like domestic, dust suppression, plantation purposes. Water will be withdrawn from tube wells from nearby village.

16. **Power Requirement**: No electrical power shall be required for operations as the mining will be worked out during daytime only. Minimal power required for office shall be taken from the General Electric supply of the area. Dumpers, tractors will be used for transportation. So, the approximate quantity of the fuel used per day is 80 Lts/day.

17. **Greenbelt**:

S. No.	Saplings to be planted	Species	Place of Plantation
i)	50	Neem, Peepal, Mango,Shisham, Sirish, Babool, Chakunda	Along the river bank & Approach road
ii)	50		
iii)	50		
iv)	50		
v)	50		
Total	**250**		

18. **Manpower Details**: Total 154 nos. of persons will be employed in the mine.

19. **Project cost**: Total cost of Project is Rs. 2.0 Crores. CER and CSR budget includes Rs.4 lakhs and Rs. 20,000 respectively. Environment Management Plan Cost includes a capital cost of Rs. 155000 and recurring cost of Rs.96000.

20. The Environment consultant **M/s EHS360 Labs Pvt Ltd (EHSL), Chennai – 68** along with the proponent made a presentation on the proposal before the Committee on dtd. 24.04.2023.

21. The SEAC in its meeting dated **24-04-2023** recommended the following:

A) The proponent may be asked to submit the followings for further processing of EC application;

i) Complete replenishment study report as only post monsoon study is uploaded online.

ii) Number of cross sections taken for Replenishment Study Report.

iii) Details of sand transportation route as KML file shows sand lease area is surrounded by water.

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B) The proposed site shall be visited by Sub-Committee of SEAC to verify the followings;

i) Suitability for mining activity and availability of sand.

ii) Environmental settings of the lease area.

iii) Mining activity, if any carried out in the lease area.

iv) Road connectivity to the lease area.

v) Distance of the road and railway bridge from the boundary of the lease.

vi) Distance of embankment from sand deposit.

vii) Any other issues including local issues.

22. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Complete replenishment study report as only post monsoon study is uploaded online.	Two Individual reports for pre-monsoon survey & Post monsoon survey has been prepared. However, in compliance to this query, a composite report is prepared and submitted for your kind perusal. Replenishment report is attached as **Annexure – 1**.	Pre-monsoon Survey was carried out on 12.05.2022. Post-monsoon Survey was carried out on 21.12.2022. The average thickness of the area is about 3.0m. Replenishment of sand=28647cum. Rate of Replenishment=12.76%
2.	Number of cross sections taken for Replenishment Study Report.	Total 314 nos. of cross-section points has been taken to compare the post monsoon survey data with respect to pre-monsoon survey data. Ground Elevation of both the study is given in Replenishment Study Report. (attached)	-
3.	Details of sand transportation route as KML file shows sand lease area is surrounded by water.	The source is identified about 500 m away from the southern bank. The main course of water in lean period is flowing on the northern side of the lease area; however a thin water course is flowing on the southern side, which sometimes dries during summer season. If not, appropriate measures like Hume pipe will be used for transportation of vehicles with proper consent from the revenue & Irrigation department.	-

23. The proposed site was visited by Sub-Committee of SEAC on dated 02.06.2023 and following observations were made;

i) PP, RI and Consultant were present along with other team members. The Mine is in Mahanadi River near Banki and there were no ongoing mining activities.
ii) The area shown by the RI and it is about 500 m away from the river bank. It was observed that there is enough sand available.
iii) There is an approach road to be maintained by the PP
iv) At Banki side, there is a small stream at the proposed mining area but now almost dried up. So required permission from Water Resources department to be taken for transportation within the river in case of occasional water flow.
v) No Road / Railway bridge or high-tension line nearby was observed.
vi) PP was asked to submit required documents as asked during presentation

Considering the information furnished and the presentation made by the consultant, **M/s EHS360 Labs Pvt Ltd (EHSL), Chennai – 68,** along with the project proponent, the SEAC recommended for grant of Environmental Clearance for the proposal valid upto lease period with stipulated conditions as per **Annexure – C** and following specific conditions:

a) Amended EIA Notification dated 25th July, 2018, Guidelines for sustainable sand mining, 2016 and Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India shall be adhered to in execution of Mining as per **Annexure – D**.

b) Sand extraction shall be limited to quantity (28647 cum) and depth as per Replenishment Study Report submitted. Regular replenishment study as per guidelines to be conducted and report to be submitted.

c) Provision of Bio-toilet shall be made at the site.

d) Avenue plantation and plantation on both sides of the haulage road in consultation with/ on the advice of concerned Forest Department, Government of Odisha & W.R. Department Government of Odisha as well.

e) Stone patching with plantation in between along the stretch of the bank associated with sand mining and necessary ramp construction shall be made.

f) At Banki side, there is a small stream at the proposed mining area but now almost dried up. So NOC/ permission from Water Resources department shall be obtained for transportation within the river in case of occasional water flow.

ITEM NO. 08

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR TURKEL SAND QUARRY-1 & 2 (UNDER CLUSTER APPROACH) OVER AN AREA OF 24.70 ACRES OR 10.00 HA. HAVING KHATA NO.221, PLOT NO. 270 IN VILLAGE TURKEL UNDER KALAHANDI TAHASIL OF KALAHANDI DISTRICT OF TAHASILDAR KALAHANDI - EC

1. This proposal is for Environmental Clearance for Turkel Sand Quarry-1 & 2 (Under Cluster Approach) over an area of 24.70 Acres or 10.00 Ha having Khata No.221, Plot No. 270 in village Turkel under Kalahandi Tahasil of Kalahandi District of Tahasildar Kalahandi.

2. **Category**: As per EIA Notification,2006, and subsequent amendments, the project falls under category B1 of Schedule 1(a)-Mining of minerals as the lease area is more than 5.0 Ha.

3. Quarry lease for minor mineral (River sand) has been proposed to be granted by the Tahasildar, Kalahandi to the successful bidder for minor mineral (River Sand) for five years after auction.

4. Mining Plan with Progressive Mine Closure Plan has been approved by Geologist, O/o Joint Director Geology Zonal Survey, Balangir, Odisha vide letter no. Memo no.-850 dated 01/09/2021.

5. This project is a new proposed sand mine project with the excavation capacity of 34120 m^3 /year sand.

6. **TOR details**: Terms of Reference was granted by SEIAA vide File No. SIA/OR/MIN/68237/2022 on dated 22/02/2022 & SIA/OR/MIN/80758/2022 on dated 11/11/2022.

7. **Public hearing details**: Public hearing was held on dated 14.09.2022 at 10.00 AM near Chahagaon Gram Panchyat Office under Kalahandi block of Kalahandi District. During Public Hearing, about 80 local people participated and 33 suggestions/opinions were received by local citizens. Issues raised were regarding transportation of sand, transportation route, sand mining from river bed, control of vehicular emission during transportation, dust suppression measures, road development, provision of drainage facility in the village to avoid water logging problem, plantation, utilization of DMF fund for peripheral development of the village, road development and protection of environment. The amount incurred for action plan of public hearing is Rs. 50,000.

8. **Location and Connectivity**: The cluster lease area is on Khata No. 221, Plot no. 270, Village: Turkel, Tahasil - Kalahandi, District - Kalahandi, Odisha. The mine lease area falls under the Toposheet No. 64P/4. The geo coordinates of the proposed site ranges from Latitude N20° 08' 30.9" to N20° 08'39.8" and Longitude E83° 05' 18.6" to E83° 05' 40.9". Nearest state highway is SH – 16 about 0.7km, nearest village is Turkel about 1km. Nearest railway station is Kesinga at 15km and nearest airport is Biju Patnaik International Airport, Bhubaneswar about 287 km. Nearest reserve forest is Dhanupanchan Reserve Forest about 4 km.

9. **Seismic zone**: The proposed project site falls in Seismic Zone III. Kalahandi is in Zone III of the Bureau of institute of seismological Research (ISR), seismic zone map for India.

10. **Replenishment Study Report** – For Replenishment study, the survey was done by using UAV/Drone which indicates the mineable sand deposit is around 33525 cum. 60% of the above computed mineable reserve has been taken as available mineable reserve over the area as per MoEF Notification dated 25.07.2018. Maximum of 33525 cum of sand per annum may be allowed for mining activities. 60% of the mineable reserve is 20115 cum. The maximum extraction limit as per sustainable sand mining Rule of MoEF Guideline is 20115cum.

11. **Reserves**: Total geological and mineable reserves in the proposed project is 200038 cum and 108384 cum respectively.

12. **Rate of production:** Total production from cluster is 170600cum during the plan period as per the following table.

Name Of The Lease Cluster	Year	Surface Area m^2	Thickness m	Production (m^3)
Turkel sand Quarry-1	1st Year	10000	1.8	18000
	2nd Year	10000	1.8	18000
	3rd Year	10000	1.8	18000
	4th Year	10000	1.8	18000
	5th Year	10000	1.8	18000
Total				90,000

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Environmental Scientist, SEAC

Turkel sand Quarry2	1st Year	8060	2	16120
	2nd Year	8060	2	16120
	3rd Year	8060	2	16120
	4th Year	8060	2	16120
	5th Year	8060	2	16120
Total				80,600
Turkel Cluster				1,70,600

13. **Mining method**: The mining is confined to extraction of sand from the bed of Tel River. The mining will be opencast, manual method in which the material will be collected in its existing form and transportation through 8 tipper sand 12 trucks. The depth of the mining will be maximum 1.0 meter. The mining will be undertaken on single shift basis.

14. **Baseline study**: Baseline study of the study area was conducted during pre-monsoon from 1st October 2021 to 31st December 2021 for Turkel Cluster Sand quarry-1&2.

    Air Quality Monitoring Results - The concentrations of PM10 and PM2.5 for all the 8 AAQM stations were found between 52.30 to 73.8µg/m3 and 16.70 to 23.60 µg/m3 respectively. The concentrations of SO2 and NOx were found to be in range of range of 6.4 to 9.1µg/m3 and 9.7 to 13.60 µg/m3 respectively.

    Noise Quality Monitoring Results - Ambient noise levels were measured at 8 locations around the Mine site. Noise levels varied from 42.1dB (A) Leq to 44.6 Leq dB (A) during day time and 39.1 dB (A) Leq to 41.7 Leq dB (A) during night time.

    Ground water Quality Monitoring Results - The ground water analysis for all the 7 sampling stations shows that pH varied from 7.14 to 8.10, total hardness varied from 224 mg/l to 382 mg/l & total dissolved solids varied from 376 mg/l to 514 mg/l. The water samples contain chloride 36 mg/L to 94 mg/L, Ca from 44.8 mg/L to 85.6 mg/L, Magnesium varies from 20.9 mg/L to 43.7 mg/L.

    Soil Quality Monitoring Results - Samples collected from 8 identified soil locations indicate pH value ranging from 6.8.-7.7. Organic Matter ranges from 0.95 % -2.63 % in the soil samples. Nitrogen is found to be in moderate amount as it ranges from 1213 mg/kg -1628 mg/kg and Phosphorous in less amount i.e. from 241 mg/kg- 386mg/kg, whereas the Potassium is found to be ranging from 543 mg/kg -879 mg/kg.

15. **Water Requirement**: The total water requirement for the project estimated to be 5 KLD for mining, spraying, greenbelt development and domestic uses and will be sourced from the nearby available water source and drinking water will be sourced from tanker water.

S. No.	Particulars	Quantity (KLD)	Source
i)	Dust Suppression (On haul roads etc.)	3.0	Water requirement will be met from nearby available water resource and drinking water will be sourced from tanker.
ii)	Green Belt Development/ Plantation	1.0	
iii)	Drinking/Domestic & Sanitation	1.0	

Total	5.0	

16. **Wastewater Management**: Domestic wastewater so generated will be disposed-off in soak pit via septic tank.

17. **Greenbelt**: Greenbelt will be developed along safety zone of the lease area (river bank areas). Native species will be planted like Neem, Mango, Teak, Jhaun and Jammuetc. About 50 nos./year and 250nos. of saplings will be planted by individual mines and in total 500nos. of saplings will be planted by the cluster during the plan period.

18. **Manpower**: Total manpower of 40 people will be required for the proposed project.

19. **Project cost**: Total project cost is Rs. 50 lakhs. Capital cost for EMP is Rs. 2,90,000. Recurring cost of EMP is Rs. 1,50,000 per annum.

20. **Environment Consultant**: The Environment consultant **M/s Green Circle Inc.** along with the proponent made a presentation on the proposal before the Committee on dtd. 17.02.2023.

21. The SEAC in its meeting held on 17.02.2023 decided to take decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Exact span of bridge and distance of the bridge from the lease area.	Length of Tel Bridge -1 k.m and Width-10mtr. Turkel Tel Bridge - 0. 20km (Turkel-1) Turkel Tel Bridge – 0.51 km (Turkel-2) Bridge to Turkel-1 sand Quarry exact distance is 200m. After that PP has left area of 200m as restricted zone which is shown in approved mining plan. So total 400m distance is declared as restricted zone from bridge.	Complied
2.	Replenishment study report along with grid readings.	Replenishment study report is attached.	Complied
3.	Rectify the error in table no.2 of approved mining plan.	The Table No-2 of approved mining plan is rectified.	Complied.
4.	Justification for increase in production from 4000cum (previous production) to 18000cum (current proposed production) from the Turkel Sand Quarry 1.	The PP has mentioned Turkel Sand Quarry 1 was running mines having production of 4000cum of sand. After lease period was over, it was decided to hike production of 18160cum per annum.	-
5.	Copy of previous EC and its compliance to EC conditions certificate.	The copy of EC compliance is attached.	Complied

22. The SEAC in its meeting dated 12-04-2023 decided to take decision on the proposal after receipt of the following clarification from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Bridge is of 1km length and about 200meter from the lease area. As per	Length of Tel Bridge – 1 km and Width 10mtr.	**In previous ADS submitted distance**

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Environmental Scientist, SEAC

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	Enforcement and Monitoring Guidelines for Sand Mining 2020 "Sand and gravel shall not be extracted up to a distance of 5X of the length of the bridge on the upstream side and 10X on downstream side". Taking this criteria sand extraction is not permissible as bridge length is 1km.	Turkel Tel Bridge – 0.3 km (Turkel-1) Turkel Tel Bridge – 0.62 km (Turkel -2) Bridge to Turkel -1 sand Quarry exact distance is 300m. After that PP has left area of 200m as restricted zone which is shown in approved mining plan. So total 500m distance is declared as restricted zone from bridge. So according to approved mining plan, Mining will be done only at a distance of 500mt from the bridge. Mining will be done on the remaining area except the area which comes within 500mt.	**of bridge was 200m and present ADS submitted distance of bridge is 300m.**

Considering the information furnished and the presentation made by the consultant, **M/s Green Circle Inc.,** along with the project proponent, the SEAC recommended for grant of Environmental Clearance for the proposal valid upto lease period with stipulated conditions as per **Annexure – C** and following specific conditions:

a) Amended EIA Notification dated 25th July, 2018, Guidelines for sustainable sand mining, 2016 and Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India shall be adhered to in execution of Mining as per **Annexure – D**.

b) Regular replenishment study as per guidelines to be conducted and report to be submitted.

c) Provision of Bio-toilet shall be made at the site.

d) Avenue plantation and plantation on both sides of the haulage road in consultation with/ on the advice of concerned Forest Department, Government of Odisha & W.R. Department Government of Odisha as well.

e) Stone patching with plantation in between along the stretch of the bank associated with sand mining and necessary ramp construction shall be made.

f) Bridge is of 1km length and about 200meter from the lease area. As per Enforcement and Monitoring Guidelines for Sand Mining 2020 "Sand and gravel shall not be extracted up to a distance of 1 kilometer from major bridges and highways on both sides, or 5X of the length of the bridge on the upstream side and 10X on downstream side". Taking this criteria, sand extraction shall be permitted leaving the Non Mining zone as Safety zone from the bridge.

ITEM NO. 09

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR BAITARANI RIVER SAND BED, JAMBHARA OVER AN AREA OF 8.62 HA. IN VILLAGE JAMBHARA, TAHASIL HATADIHI, KEONJHAR DISTRICT OF SRI GURUBRATA KHANDAI - EC

1. This proposal is for Environmental Clearance of Baitarani River Sand Bed, Jambhara over an area of 8.62 Ha. in Village Jambhara, Tahasil Hatadihi, Keonjhar district of Sri Gurubrata Khandai.

2. Category: This project falls under Category "B1" under Schedule of Item 1(a)-Mining of Minerals as per the ElA Notification, 2006 and its amendments thereof.

3. Letter of Intent has been issued by Tahasildar, Hatadihi to Successful Bidder Sri Gurubrata Khandai vide letter no.6411 dated 25.09.2020.

4. The Mining plan has been approved for a period of five years i.e. 2020-21 to 2024-25 by The Joint Director of Geology, Keonjhar vide letter no – 2398/CZ, on dated 30.07.2020 in favour of Tahsildar, Hatadihi.

5. **TOR details**: Terms of Reference (TOR) has been issued by State Impact Assessment Authority (SEIAA) Orissa vide File No. 59914/57- MINB1/01-2021; dated 28.02.2021.

6. **Public hearing details**: Public Hearing was held on 13.05.2022 (11:00 am) at Jambhara village of Keonjhar district. Issues raised during public hearing are air pollution control, road repair and plantation. Budget earmarked for action plan of public hearing is Rs. 12 lakhs.

7. **Location and connectivity:** The said lease is located in survey of India Topo Sheet No. 73 K/4, bounded by Latitude: 21002'19.78" to 21002'36.93" N, Longitude: 86013'58.07" to 86014'07.93" E bearing Khata No-237 Plot No-1689/2080, Kisam Nadi. The Lease area is accessible from Jambhara-Hubaleswar village road at a distance of 0.25 km, which is well connected to Highways. Nearest National Highway at a distance of 11.27 Km (SSE) and State Highway SH-53 at a distance of 11.75 KM (NNE). The nearest railway station is Baitarani Railway Station at distance 5.74 km and Biju Patnaik International Airport is at a distance 97.19km from the lease area. Nearest city is Byasanagar at 14.32 km, 92.93km from District Headquartes, Keonjhar. Nearest Road Bridge is at 1.5km and electric transmission line is 0.25km.

8. **Topography and drainage:** The general topography of the area around the mine site is general plan agricultural land along the river. The area constitutes almost alluvial plain without any conspicuous topographical features and forms a part of the vast Indo-Gangetic plain. The proposed area is undulating. The flow rate of the river varies with the quantity of precipitation in the catchment area. The lease area surrounded mostly with agricultural lands. There is no major impact of mining on the topography of the area. The mining lease area in riverbed will be replenished with sediments after monsoon and the area which in agriculture field will be reclaimed after mining. In general, the drainage pattern is of both dendritic and radial types of the drainage.

9. **Replenishment study**: For the said project replenishment study has been done by UAV/Drone survey (volumetric survey) method. Presently, for the purpose of replenishment study, two surveys were carried out for data acquisition, the first one for pre-monsoon data on 14.06.2022 and the second one for post monsoon data on 12.11.2022 by using UAV/Drone. Considering a common safe workable area of 21254.53 m^2, it is observed that replenishment of 891.5m^3 has been done with an average thickness of 0.04m. But, here it may be mentioned that the volume of sand available during post monsoon survey around 9345.883m^3, which can be treated as safe extractable within the framework of the study.

10. **Baseline details:**

    a) Air quality: The monitoring results of ambient air quality were compared with the National Ambient Air Quality Standards (NAAQS) Prescribed by MoEFCC; GoI Notification dated 16.11.2009. The baseline levels of PM10 (38– 65µg/m³), PM2.5 (21– 47µg/m³), SO_2 (4 – 8.0 µg/m³), NO_2 (10.0– 15.0µg/m³). The parameters monitored at the project area as per NAAQ standards are found to be within limits. It may be observed that the all parameters at all stations are well within the limits prescribed by Central pollution control Board.

b) Noise levels: In Industrial areas daytime noise levels were about 52.0 dB (A) to 40.0 dB (A) during daytime and 40.0 dB (A) to 42.0 dB (A) night time, which is within prescribed limit by CPCB. In residential areas daytime noise levels varied from 51.0 dB (A) to 60.0 dB (A) and nighttime noise levels varied from 40.0 dB (A) to 48.0 dB (A) across the sampling stations. The field observations during the study period indicate that the ambient noise levels are well within the prescribed limit by CPCB (55 dB (A) Day time & 45 dB (A) Night time).

c) Surface water quality: The pH value ranges from 6.8 to 7.2 and within the limits (6.5 – 8.5) of IS 2296:1992. The sulphate content in the collected surface water ranges 3.2 mg/l to 5.0 mg/l. The chloride content in the collected surface water sample ranges from 9.5 mg/l to 11.0 mg/l. DO of the collected surface water sample ranges from 6.1 mg/l to 7.1 mg/l. BOD of the collected surface water sample ranges from 1.6 mg/l to 1.8 mg/l.

d) Ground water quality: The ground water results of the study area indicate that the pH range varies between 6.8 and 7.3. It is observed that the pH range is within the limit of IS 10500:2012. The acceptable limit of the chloride content is 250 mg/l and permissible limit is 1000 mg/l. The chloride content in the ground water for study area ranges between 7.0 mg/l – 10.5 mg/l. It is observed that all are well within the permissible limit of IS 10500:2012. The desirable limit of the sulphate content is 200 mg/l and permissible limit is 400 mg/l. The sulphate content of the ground water of the study area varies between 2.3mg/l – 3.1 mg/l. It is observed that all the samples are within the permissible limit of IS 10500: 2012

e) Soil quality: The pH of the soil samples ranged from 6.2 to 7.3. Indicating that the soils are slightly acidic to moderately alkaline in nature. Nitrogen content ranged from 0.07 % to 0.09 %. Potassium content ranged from 0.14 % to 0.18%.

11. **Reserves and total production**: As estimated, geological reserve of sand is 68960 cum and mineable reserve is 61343 cum. During the plan period, a total of 36806 cum sand will be extracted. At the end of the plan period the quarry level will be 30.1 m RL. 7361 cum/annum will be the yearly production and total production for plan period of five years will be 36805 cum.

Year	**Production (m^3)**
1st Year	7361
2nd Year	7361
3rd Year	7361
4th Year	7361
5th Year	7361
Total	**36,805**

12. **Method of mining**: The winning of mineable reserve of sand of Baitarini sand quarry will be carried out by opencast by manual dry pit mining method. Sand is to be excavated in layers up to an depth of 0.4m. No machines are proposed to be deployed to carry out wining of sand. Total handling of sand from excavation screening stacking and loading to the user carriers like tractors/Tippers will be done manually. The transport carriers will be covered by tarpaulin to

prevent air pollution due to flying of sand from the surface of the transport carrier by wind velocity during the course of transportation.

13. **Water Requirement**: Total water requirement or this project is approx, 1 KLD that will be required for different purposes like domestic, dust suppression, plantation purposes & sourced from as per the availability.

14. **Power/Fuel Requirement**: No electrical power shall be required for operations as the mining will be worked out during day time only. Minimal power required for office shall be taken from the General Electric supply of the area. Dumpers, tractors will be used for transportation. So, the approximate quantity of the fuel used per day is 80 Lts/day.

15. **Greenbelt**: It is proposed to have plantation on both sides of the roads as greenbelt to provide cover against dust dissemination. Riverbanks will be strengthened by way of plantation on the banks. Plantation will also be carried out as social forestry programme in village, school and the areas allocated by the Panchayat/State authorities. Native plants and other local species will be planted. A suitable combination of trees that can grow fast and have good leaf cover shall be adopted to develop the greenbelt. It is proposed to plant 250 numbers of native species will be planted during the 5-year plan period.

S. No.	Saplings to be planted	Species	Place of Plantation
i)	50	Neem, Peepal, Mango,Shisham, Sirish, Babool, Chakunda	Along the river bank & Approach road
ii)	50		
iii)	50		
iv)	50		
v)	50		
Total	**250**		

16. **Manpower Requirement**: In the mine for total production of 7361 cum/Annum of River Sand and 11 nos. of person are to be employed daily. The indirect employment opportunities for hired vehicles, etc. also can be generated to full fill the day-to-day requirements of the mining personals.

17. **Project Cost**: The project proponent will incur a total cost of Rs. 50.00 Lakhs for the proposed project. 2.0 % of capital cost has been earmarked towards CSR is Rs 1.00 Lakh. Environment Management Plan (EMP) cost will include a capital cost of Rs. 2,50,000 and recurring cost of Rs. 50,000 as per the given Table.

Particulars	Capital Cost	Recurring Cost
Dust suppression and Pollution Control	1,00,000	30000
Environmental Monitoring	1,00,000	15000
Plantation	50,000	15000
Totals	**250000**	**50000**

18. The Environment consultant **M/s EHS360 Labs Pvt Ltd (EHSL), Chennai - 68** along with the proponent made a presentation on the proposal before the Committee.

23. The SEAC in its meeting dated 24-04-2023 decided to take the decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Proceedings of the SEAC meeting held on 11.07.2023 (Old proposals – compliance received)

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	The distance of bridge from the lease area.	The nearest bridge is Baitarani River Bridge, Mathurapur which is located on the downstream side of the lease area at a distance of 750 m. (Tahasildar letter attached which certifies – Span of Bridge – 26meters, Length of the Bridge – 540meters, Width of the Bridge – 7.5 meters and Distance of the Bridge from the lease area – 750 meters)	-
2.	Justification how the mining will be carried out as KML file shows sand quarry lease area is surrounded by water.	1. With the advancement of summer, the lease area has been dried up. 2. The lease area has been demarcated by pillaring by the Revenue Inspector showing the sand deposit. (Photograph attached) 3. The recent photograph of the lease area showing that most of the area has been dried up. (Photograph enclosed herewith)	-

Considering the information furnished and the presentation made by the consultant, **M/s EHS360 Labs Pvt Ltd (EHSL), Chennai - 68** along with the project proponent, the SEAC recommended for grant of Environmental Clearance for the proposal valid upto lease period with stipulated conditions as per **Annexure – C** and following specific conditions:

a) Amended EIA Notification dated 25th July, 2018, Guidelines for sustainable sand mining, 2016 and Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India shall be adhered to in execution of Mining as per **Annexure – D**.

b) Sand extraction shall be limited to quantity replenished (891.5 cum) and depth as per Replenishment Study Report. Regular replenishment study as per guidelines to be conducted and report to be submitted.

c) Provision of Bio-toilet shall be made at the site.

d) Avenue plantation and plantation on both sides of the haulage road in consultation with/ on the advice of concerned Forest Department, Government of Odisha & W.R. Department Government of Odisha as well.

e) Stone patching with plantation in between along the stretch of the bank associated with sand mining and necessary ramp construction shall be made.

ITEM NO. 10

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR BASULEI SAND QUARRY IS A SAND MINING PROJECT IN BRAHMANI RIVER OVER AN AREA OF 50.01 ACRE OR 20.24HA. LOCATED IN VILLAGE- BASULEI, TAHASIL - PARAJANG, DIST.- DHENKANAL OF TAHSILDAR PARJANG - EC

Proceedings of the SEAC meeting held on 11.07.2023 (Old proposals – compliance received)

Environmental Scientist, SEAC

1. This proposal is for Environmental Clearance for Basulei sand Quarry which is a sand mining project in Brahmani River over an area of 50.01 acre or 20.24ha. located in Village- Basulei, Tahasil - Parajang, Dist.- Dhenkanal of Tahsildar Parjang.
2. **Category**: As per the Environmental Impact Assessment (EIA) Notification dated 14th September 2006 and its subsequent amendments, the proposed Brahmani River Sand Quarry falls under 'Category B1' under Schedule 1(a) – Mining of Minerals, since the lease area is more than 5.0 Ha.
3. The Tahasildar of Parjang issued letter to get approved mining plan and obtaining Environmental Clearance vide letter no. 566, Dt.25/02/2021 after district collector, Dhenkanal approval of New Sand Mine leases and Successful Bidder name will be selected after auction
4. The mining plan was approved by Joint Director of Geology, Zonal Survey, Dhenekanal, Odisha vide Letter No. 309/DZ/28.04. 2021.
5. **Terms of Reference** (TOR) - The ToR application submitted to SEIAA, Odisha on 27 August,2021 with proposal No. SIA/OR/MIN/66827/2021. ToR was issued by SEIAA with No.3013/SEIAA, SIA/ OR/ MIN/66827/2021, Dt. 28.09.2021 and F.No. 66827/147-MINB/08-2021, Dt. 13.11.2021.
6. **Public hearing details**: Public Hearing was conducted on 05.08.2022 at 11.00 AM at Basulei Choupadhi Pala Mandapa, Mouza- Basulei (Khata No. 418, Plot No. 2149, Kissam-Gramya Rasta, Area Ac.0.11 in Dhenkanal District. News Paper advertisement was given about the sand mining at Basulei on The Times of India and Dharitri on 01.07.2022. Issues raised during public hearing were regarding dust suppression and water pollution control, afforestration programme, local employment opportunities, provision for repair and maintenance of village roads, strict adherence of Sand mining guidelines, supply of sand of the locals with reasonable price/free of cost and speed restriction during school timing etc. Budget allocated for public hearing issues is Rs. 6.9lakhs.
7. **Location and connectivity**: The total extent of the lease area for mining activity is 20.24 Ha at Basulei Village, Parjang Tahasil, Dhenkanal District and Odisha State. Quarry Land is classified as Government land and leased by Tahasildar, Dhenkanal, and Odisha. The area under discussion is featured in Survey of India Topo Sheet No – F45N4 and is bounded between the Latitude -20° 00' 56.48" N to 21° 01' 17.17" N and Longitude – 85° 13' 28.90" E to 85° 13' 42.68" E. The lease area is located at a distance of 1.3 km from village Basulei and at a distance of 13.81 kms from Parjang, 55 kms from the District Headquarters Dhenkanal and 140 kms from the State Capital Bhubaneswar. Talcher Railway station is the nearest railway station located at a distance of 10.24 kms from the lease area. Nearest Road Bridge is at a distance of 1.96 km from the mining lease area. Pucca road connecting to the lease area and with the village – Basulei is at distance of 4.9 km. SH – 63 is at 24.36 km and the nearest major district road is at distance of 5 km. NH- 200 is the nearest National Highway which is at a distance of 5 km.
8. **Mining method:** The proposed mine is spread over an area of 20.24 Ha with total mineable reserves of about 565875 m^3 to produce 15000 m^3 /Annum of Sand Mining. Opencast manual mining method will be adopted. Handpicks, spade, hand shovel will be used by manual

labourers for extracting & loading of sand. The sand will be loaded into tippers/ tractors manually and dispatched.

9. **Total Reserves and production** - The total geological reserve has been estimated as 607170 m3. Similarly, the mineable reserve of river bed sand is worked out to be 565875 m^3. The project has been proposed for a total production of 75000 m^3 of Sand from this Quarry. During the plan period maximum of 15000 Cum of sand will be produced per annum.

10. **Replenishment study Report** - As per the replenishment study, Minable area is 188625 Sq.m. Pre-Monsoon and Post-Monsoon Standard Elevation are 70.50 and 70.57 respectively. Difference in Elevation is 0.07. Estimated Annual replenishment Volume is 13204 m^3 or 21126.4 Tones. However, the Minable Reserve as per approved Mining Plan is 565875 m^3 at highest mRL 69.0. The Annual proposed production is 15000 cubic meters. Since the mining is not done yet. if we will take the data during mining plan preparation and post- monsoon period data collection, there is a remarkable change of elevation is 1.57 meter. Estimated Replenishment reserve is 296141.25 m^3. Based on pre-monsoon and post-monsoon volumes found, the sand deposit will be 5,65,875 + 2,96,141 = 8,62,016 cum.

11. **Water requirement**: Water requirement for the project will be 2.5 KLD. Water required in the project will be for drinking purpose and dust suppression, which will be sourced from water tanker.

12. **Power requirement and source**: Power Requirement will not be required for operations as the mining will be worked out during daytime only. Minimal power required for office shall be taken from the General Electric supply of the area.

13. **Manpower**: Employment Generation from the project is 14 nos. of people. OMS has been assumed to be 6.25 cum. Indirect employment through creation of shops/ stalls, hired vehicles, etc. also can be generated to full fill the day-to-day requirements of the mining personals.

14. **Greenbelt**: Plantation work will be carried out at the safety zone of the lease area. 500 number of saplings proposed during plan period will be planted. Plantation shall be done with suitable local species like teak, mango, jammu, jhaun, neem etc. per year and also along the approach road during the plan period.

15. **Land Use Details In Lease Area –**

Type of land use	Area (Ha.)
Water channel area	Nil
Left over area adjacent to water channel	Nil
Quarry Safety zone area	1.376
Potential Mineable surface area within the plan period	5.0
Untouched Area	13.864
Total	20.24

16. **Baseline study** was conducted during November 2021 – January 2022. Following results were obtained.

PERIOD	October to December 2021	Applicable Standards
AAQ PARAMETERS AT 8 LOCATIONS	PM2.5 –20.5 to 28.8µg/cu.m	60 µg/cu.m
	PM10 – 49.3 to 63 µg/cu.m	100 µg/cu.m
	SO2 – 11.4 to 22.7 µg/cu.m	80 µg/cu.m
	Nox – 18.8 to 28.2 µg/cu.m	80 µg/cu.m
Ground water Quality at 8 Location	pH – 7.21 to 7.93	6.5 to 8.5
	Total Hardness – 235 to 440 mg/l	600 mg/l
	Chloride – 94.76 to 170.5 mg/l	250 mg/l
	Fluorides – 0.33 to 1.1 mg/l	1.5 mg/l
	TDS – 565 to 795 mg/l	1000 mg/l
	Heavy metals (Cd <0.001, As <0.001, Hg<0.0005) mg/l Detection limits of analysis method	Heavy metals (Cd <0.003, As <0.01, Hg<0.001) mg/l
Surface water at 3 locations	pH – 7.63 to 7.78	
	Dissolved Oxygen – 6.9 to 7.1 mg/l	
	Biochemical Oxygen Demand – <2 mg/l	
	Chemical Oxygen demand – 8 to 11 mg/l	
Noise at 8 locations	Day (dBA Leq) 41.5 to 52.4	55
	Night (dBA Leq) - 35.7 to 41.9	45
Soil Quality at 7 locations	pH – 7.23 to 7.82, Potassium – 198 to 312 mg/ kg, Phosphorous – 15.6 to 29.4 mg/ kg, Organic Carbon % – 0.35 to 0.64, Electical Conductivity- 56-125 µshos/Cm	

17. **Project cost :** The total project cost is Rs. 50 Lakhs only. Proposed EMP capital cost is Rs. 2.5lakhs and recurring cost is Rs. 6lakhs.

18. **Environment Consultant**: The proponent along with the consultant **M/s. Rightsource Industrial Solutions Pvt. Ltd, Hyderabad,** made a detailed presentation before the SEAC.

19. The SEAC in its meeting held on dated 12-12-2022 decided to take decision on the proposal after receipt of the following from the proponent followed by site visit of the Sub-Committee of SEAC. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
e)	Submit certificate from concerned DFO that the project does not fall within the elephant corridor of Anantpur - Kanheijena.	The conservator of Forest, I/C Dhenkanal Division has furnished the certificate vide letter No. 1531/Dtd. 09.02.2023 regarding elephant corridor that the source is not coming within the elephant corridor of this Division, but occasionally wild elephant are noticed in the nearby sand quarry which forms a part of this compliance.	**DFO letter is attached mentioning occasionally wild elephant are noticed in the nearby sand quarry.**
f)	The KML file submitted reveals that the sand deposit area is surrounded by water; this has to be clarified by the lessee that there will not be any	The lessee has given undertaking that there will not be any disturbance to the water channel of the river during quarry operation. The undertaking is enclosed herewith for	Complied.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	disturbance to the water channel of the river. Also, details of approach road from the sand deposit to be indicated in the map.	reference. The KML file was captured during rainy season so that the sand deposited area was surrounded by water. The trace map indicating approach road in the map is enclosed for kind reference.	
g)	Distance of the lease area from the river bank.	The distance of the lease area from the river bank is approximately 220 meters.	Complied.
h)	A school is situated near to the transportation road. The proponent shall submit a detailed plan for plying of vehicle during the school opening time for safety of students. They shall ensure to stop mining activity and transportation during school opening and closing time.	In this regard the project proponent has furnished the undertaking wherein he undertakes that no vehicle will plying during the school opening and closing time in considering the safety measures of the students which is attached for ready reference.	Complied

20. The proposed site was visited by Sub-Committee of SEAC on dated 17.06.2023 and following observations as mentioned below:

a) PP, Representative of Tahasildar, Parajang and Consultant were present along with other team members. The Mine is on Brahmani River bed and there are no ongoing mining activities.

b) The area was shown by the representative of Tahasildar. The area has plenty of sand and stretched along the river.

c) The mining area has two approach roads: One through Govt land and another through private land both on the same side. The Tahasildar representative opined to use Govt. land road. The road connects to the canal road and then the main road. Hardly any traffic observed. In case the PP wants to use private road, necessary legal document to be made before use (Condition)

d) There is a small patch of stagnant water near the government approach road and there is no channel or flow of water. However, at the other end of query there is flow of water which would not block mining activity.

e) The proponent needs to maintain the haulage road (Condition).

f) Transportation and mining of sand to be carried out without disturbing water body/channel. If required permission of irrigation department to be taken (Condition).

g) No bridge or high-tension line is nearby.

h) Replenishment study to be continued pre (after mining) and post monsoon to find the level of sand replenished (condition)

Considering the information furnished and the presentation made by the consultant,

M/s. Rightsource Industrial Solutions Pvt. Ltd, Hyderabad along with the project proponent, the SEAC recommended for grant of Environmental Clearance for the proposal valid upto lease period with stipulated conditions as per **Annexure – C** and following specific conditions:

a) Amended EIA Notification dated 25th July, 2018, Guidelines for sustainable sand mining, 2016 and Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India shall be adhered to in execution of Mining as per **Annexure – D**.

b) Sand extraction shall be limited to quantity (13204cum) and thickness as per Replenishment Study Report. Regular replenishment study as per guidelines to be conducted and report to be submitted.

c) Provision of Bio-toilet shall be made at the site.

d) Avenue plantation and plantation on both sides of the haulage road in consultation with/ on the advice of concerned Forest Department, Government of Odisha & W.R. Department Government of Odisha as well.

e) Stone patching with plantation in between along the stretch of the bank associated with sand mining and necessary ramp construction shall be made.

f) The mining area has two approach roads: One through Govt land and another through private land both on the same side. The Tahasildar representative opined to use Govt. land road. The road connects to the canal road and then the main road. Hardly any traffic observed. In case the PP wants to use private road, necessary legal document to be made before use.

g) The proponent shall maintain the haulage road.

h) Transportation and mining of sand to be carried out without disturbing water body/channel. If required permission of irrigation department to be taken.

i) Replenishment study to be continued pre (after mining) and post monsoon to find the level of sand replenished.

Member Secretary, SEAC

ANNEXURE – A

TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY IN CLUSTER APPROACH AND INFORMATION TO BE INCLUDED IN THE EIA/EMP REPORT FOR CHANDANIA STONE QUARRIES CLUSTER OVER AN AREA OF 75.742 ACRES OR 30.651 HECTARES IN MOUZA - CHANDANIA HILL, TAHASIL - KUKUDAKHANDI IN DISTRICT - GANJAM, STATE - ODISHA OF TAHASILDAR KUKUDAKHANDI (SUBMITTED UNDER CLUSTER APPROACH WITH TOTAL CLUSTER AREA 30.651 HECTARES, CONSISTING OF 5 STONE QUARRIES) – TOR

1. Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
2. A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
3. Name and area of other mines within 500 meter of the lease area.
4. All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
5. All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/Topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
6. Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
7. Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
8. It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
9. Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
10. The study area will comprise of 10 km zone around the mine lease from lease periphery

and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

11. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
12. Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given. Proposal for Common Non-Mineralized Zone for dumping of rejects / OB.
13. A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
14. Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
15. Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
16. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
17. A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
18. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
19. A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

20. Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.

21. Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

22. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

23. One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season) ; December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

24. Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

25. Environment Impact Assessment / Environment Management Plan document shall be in accordance with the provisions & generic structure stipulated in the EIA Notification 2006 dated 14.09.2006 & subsequent amendments.

26. EIA-EMP document shall be based on the maximum achievable mineral extraction of the mine and according to the impact of mines in cluster (within 500m) of the said mine.

27. EIA-EMP document shall include complete profile of the all the Project Proponent, implementing organization of mines in cluster (within 500m) of the said mine.

28. EIA-EMP document shall corer land description of project site (plot/survey / khasara number, village, tehsil, district, state & extent of land involved), of mines in cluster (within 500m) of the said mine.
29. EIA-EMP document shall include deposit conditions working depth mining scheme, details of machinery, backfilling of mine pit with type of blasting, drilling and explosives.
30. The general features such as surface drainage, mineral transportation and process flow of beneficiation plant, power and water supply shall be indicated.
31. The baseline environmental status within 10km radius from the boundary limit of mining lease area (buffer zone) and core zone with respect to air, water, noise and soil shall be covered of mines in cluster(within 500m) of the said mine.
32. Baseline data generation for one season (post monsoon) with respect to air, water, noise and soil shall be generated on the same sampling locations for obtaining EC
33. EIA-EMP document shall include land use pattern including agriculture, forest land, water bodies and settlements.
34. Existence of National Park, Wild Life sanctuary, migratory routes of wild animals within 10 km of mine lease area shall be brought out.
35. Topographical map of study area (core & buffer zone -10 km from the boundary of core zone) showing major topographical features shall be included.
36. EIA-EMP document shall include biological environment (flora and fauna) and socio-economic environment within the study area.
37. EIA-EMP document shall include anticipated impacts on land, air, noise and water environment and the mitigation measures of mines in cluster (within 500m) of the said mine.
38. Environmental Monitoring Programme and the environment management plan shall also be covered measures of mines in cluster (within 500m) of the said mine.
39. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
40. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
41. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
42. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
43. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground

water should also be obtained and copy furnished.

44. Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

45. Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.

46. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

47. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

48. Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

49. Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

50. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

51. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

52. Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

53. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

54. Public Hearing points raised and commitment of the Project Proponent on the same along

with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

55. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

56. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

57. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.

58. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

59. Besides the above, the below mentioned general points are also to be followed

    a) All documents to be properly referenced with index and continuous page numbering.

    b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

    c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.

    d) Where the documents provided are in a language other than English, an English translation should be provided.

    e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.

    f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J- 11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

    g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

    h) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

    i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

60. **The prescribed TOR would be valid for a period of four years for submission of the EIA/EMP report.**

Environmental Scientist, SEAC

ANNEXURE -B

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR DECORATIVE STONE MINES & STONE QUARRY

A. Specific conditions

1. The Project Proponent shall obtain consent from the State Pollution Control Board, Odisha and effectively implement all the conditions stipulated therein.
2. Project Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and records maintained; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smokers, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. Recommendations of National Institute for Labour for ensuring good occupational environment for mine workers would also be adopted; All the old age people of the surrounding villages may be provided medical facilities.
3. Transport of minerals shall be done either by dedicated road or it should be ensured that the trucks/dumpers carrying the mineral should not be allowed to pass through the villages. The Project Proponent shall ensure that the road may not be damaged due to transportation of the mineral; and transport of minerals will be as per IRC Guidelines with respect to complying with traffic congestion and density.
4. Project Proponent shall ensure the safeguard and wellbeing of villagers and school, regular health monitoring of all residents in the area and the compliance Report shall be submitted to the Regional office of the Ministry and SEIAA, Odisha.

B. Standard conditions

1. A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the SEIAA, Odisha 5 years in advance of final mine closure for approval.
2. No mining activities will be allowed in forest area, if any, for which the Forest Clearance is not available.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Odisha.
4. No change in the calendar plan including excavation, quantum of mineral and waste should be made.
5. The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surface water and ground water) for the project.
6. Mining shall be carried out as per the provisions outlined in the approved mining plan as well as by abiding to the guidelines of Directorate General Mines Safety (DGMS).
7. Protection of vegetation in the surrounding areas, and proper storage of solid waste, subgrade ore and their use have to be given priority during mining operation.
8. Digital processing of the entire lease area using remote sensing technique shall be

carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment, Forest and Climate Change its Regional Office and SEIAA, Odisha.

9. Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM10 and PM2.5 such as haul road, loading and unloading point and transfer points. Fugitive dust emissions from all the sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard. 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.

10. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations. The monitoring shall be carried out four times in a year pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board.

11. Transportation of the minerals by road passing through the village shall not be allowed. A 'bypass' road should be constructed (say, leaving a gap of at least 200 meters) for the purpose of transportation of the minerals so that the impact of sound, dust and accidents could be mitigated. The project proponent shall bear the cost towards the widening and strengthening of existing public road network in case the same is proposed to be used for the Project. No road movement should be allowed on existing village road network without appropriately increasing the carrying capacity of such roads.

12. The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.

13. Sufficient number of Gullies to be provided for better management of water. Regular Monitoring of pH shall be included in the monitoring plan and report shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.

14. There shall be planning, developing and implementing facility of rainwater harvesting measures on long term basis and implementation of conservation measures to augment ground water resources in the area in consultation with Central Ground Water Board.

15. The Project Proponent has to take care of gullies formed on slopes. Dump mass should be consolidated with proper filling/leveling with the help of dozer/compactors.

16. The reclamation at waste dump sites shall be ecologically sustainable. Scientific reclamation shall be followed. The local species may be encouraged and species are so chosen that the slope, bottom of the dumps and top of the dumps are able to sustain these species. The aspect of the dump is also a factor which regulates some climatic

parameters and allows only species adopted to that micro climate.

17. The top soil, if any, shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. 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 and it should not be kept active for a long period of time. The maximum height of the dumps shall not exceed 8m and width 20 m 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 and afforested. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.

18. Catch drains and siltation ponds of appropriate size shall be constructed around the mine working,mineral and OB dumps toprevent 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. The drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and over burden dumps to prevent run off of water and flow of sediments directly into the river and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals.

19. Plantation shall be raised in a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around water body, along the roads etc. by planting the native species in consultation with the local DFO/Agriculture Department and as per CPCB Guidelines. The density of the trees should be around 2500 plants per ha. Greenbelt shall be developed all along the mine lease area in a phased manner and shall be completed within first five years.

20. The Project Proponent shall make necessary alternative arrangements, where required, in consultation with the State Government to provide alternate areas for livestock grazing, if any. In this context, Project Proponent should implement the directions of the Hon'ble Supreme Court with regard to acquiring grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded against felling and plantation of such trees should be promoted.

21. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna, if any, spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. A copy of action plan shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office.

22. As per the Company Act, the CSR cost should be 2 % of average net profit of last three years. Hence CSR expenses should be as per the Company Act/Rule for the Socio

Economic Development of the neighborhood Habitats which could be planned and executed by the Project Proponent more systematically based on the 'Need based door to door survey' by established Social Institutes/Workers. The report shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.

23. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

24. Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.

25. 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.

26. The project authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

27. The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment, Forest and Climate Change, its Regional Office, Central Pollution Control Board and State Pollution Control Board.

28. A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.

29. State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.

30. The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue 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 web site of the Ministry of Environment, Forest and Climate Change at www.environmentclearance.nic.in and a copy of the same should be forwarded to the Regional Office.

31. The SEIAA, Odisha may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

32. Any appeal against this 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.

33. The above mentioned stipulated conditions shall be complied in a time-bound manner. Failure to comply with any of the conditions mentioned above may result in cancellation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

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ANNEXURE- C

STANDARD ENVIRONMENTGAL CLEARANCE CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR SAND MINING

Stipulated Conditions:

1. The project proponent should carry out River bed sand mining manually by engaging local laborers in force to check over exploitation of sand at the source.
2. Any change in the plan or quantity to be produced shall require prior approval of SEIAA.
3. There shall be a 'no working zone' to protect the embankment on both sides, road or rail bridge in the vicinity, if any, dam, weir, water intake structure of irrigation or drinking water project, or any cross drainage structure. 10 % of the width of river shall be left intact along the embankments on both sides as 'no mining zone'. Further, no mining shall be allowed within 200 m of any existing structures dam, weir, water intake structure of irrigation or drinking water project, or any cross drainage structure. In case of River Bridge, this no mining zone shall extend upto a minimum stretch of 200 meters from the bridge and it may extend upto 500 meters in sensitive locations. The lease area shall be accordingly curtailed to carve out the actual sand mining area within the leasehold. Exact map of the lease area, and the 'no mining zone' shall be drawn to scale, showing the DGPS coordinates of all corner points, and the location of the bridge, embankment, extraction route & other structures; and such map has to be submitted to SEIAA by the project proponent through the Tahasildar within three months of the date of issue of the EC. The quantum of sand allowed to be extracted will be worked out on the basis of the actual working area.
4. The lease area and the actual working area shall be demarcated on the ground by erecting durable masonry /concrete pillars by the project proponent.
5. The project proponent shall take prior statutory and regulatory clearance as required from the concerned authorities in respect of the project, before carrying out any operation.
6. Mining is not permissible within the water channel or stream flow area. No stream shall be diverted for the purpose of mining and no natural water course shall be obstructed. The mining or any ancillary activity shall not in any way disturb the flow pattern of the river water during the non monsoon period. There shall be no sand mining in the river during the rainy season or when there is flow of water in the river.
7. Sand mining operations shall not affect the existing sources for irrigation / drinking water / industrial purpose.
8. The natural sand dunes, if any, near or surrounding the lease area shall not be disturbed.
9. No transportation of the minerals shall ordinarily be allowed on any road passing through villages/habitations/forest land without prior explicit permission. Transportation

of minerals through existing rural roads can be allowed only by the concerned Govt. Department/BDO and only after required strengthening, such that the carrying capacity of road is increased to handle the sand truck traffic. The project proponent shall bear the cost towards the widening and strengthening of existing public roads in case the same is proposed to be used for the project. No movement on any road is allowed on existing village road network without appropriately increasing the carrying capacity of such roads. Project proponent shall ensure that the road may not be damaged due to transportation of the mineral and transport of minerals will be as per IRC Guidelines with respect to complying with traffic congestion and traffic density. Plying of sand extraction trucks may be allowed on roads / path ways passing close to schools, temples, hospitals and such other public places only with prior written permission of competent authority.

10. Vehicles hired for transportation of sand from the site should be in good condition and should have pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.

11. The vehicles shall not be overloaded and shall be covered with Tarpaulin. The Tahasildar may collect an appropriate road maintenance levy from the lessee as part of the lease conditions on the basis of quantum of sand transported, and utilize the proceeds of the levy for proper maintenance of the extraction paths and roads to prevent their degradation on account of plying of sand trucks.

12. The project proponent shall take all precautionary measures against causing damage to flora and fauna of the locality. The PP shall plant and nurse to full establishment a minimum of 50 number of saplings of native tree species along the approach roads, river banks and in community areas in consultation with the Gram Panchayat.

13. Water spray should be made on the road/extraction paths to control dust emission during transportation of sand.

14. The Project Proponent shall undertake phased restoration, reclamation and rehabilitation of land affected by mining and completes this work before abandonment of mine.

15. Environmental Management Plan (EMP) shall be implemented by PP to ensure compliance with the environmental conditions specified above. The year wise funds earmarked for environmental protection measures shall be kept in separate account and shall be spent according to the plan proposed. Year wise progress of implementation of EMP shall be reported to the SEIAA, Odisha and OSPCB along with the compliance report.

16. The proponent shall take necessary measures to ensure that there is no adverse impact of the mining operations on the human habitation if any, existing nearby.

17. It shall be mandatory for the project management to submit quarterly compliance reports on the status of implementation of the above stipulated environmental safeguards to the SEIAA, Odisha / SPCB, Odisha/ Regional Office of the MoEF&CC, Bhubaneswar, in hard and soft copies on 1stday of January, April, July, October of each calendar year, failing which EC is liable to be revoked.

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18. River Bank stabilization shall be made through stone patching. Plantation of adequate number native species on river banks and both sides of haulage roads shall be made.

19. During transportation of sand, all traffic safety measures shall be taken to avoid any kind of accidents.

20. Bio - toilet provision shall be made.

21. Stone patching on river bank with plantation in-between and the ramp construction shall be done in consultation with and advice of concerned W.R.Deptt, Government of Odisha.

22. Necessary sprinkling on Haulage Road and Avenue plantation shall be done.

23. 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 before closure of the quarry.

24. The conditions stipulated in the environmental clearance will be closely monitored on the ground by the lease granting authority, i.e. the Tahasildar, who shall ensure compliance of the stipulated conditions and take corrective measures promptly in case of any non- compliance and also ensure that the project proponent submits quarterly compliance reports.

25. The concerned Regional Office of the MoEF&CC/ SPCB, Odisha shall periodically monitor compliance of the stipulated conditions as applicable for this project. The project authorities should extend full cooperation to the MoEF&CC officer(s)/SPCB officer(s) by furnishing the requisite data / information / monitoring reports.

26. A copy of the clearance letter shall be sent by the proponent to concerned Gram Panchayat /Panchayat Samiti /Zilla Parisad /Municipal Corporation / Urban Local Body as the case may be.

27. Project proponent shall obtain Consent to Operate from the OSPCB and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the State Pollution Control Board.

28. The SEIAA, Odisha may revoke or suspend this EC, if implementation of any of the above conditions is not satisfactory. The SEIAA, Odisha reserves the right to alter /modify the above conditions or stipulate any further condition in the interest of environment protection.

29. The Project Proponent (lease holder) shall inform the SEIAA of any change in ownership of the mining lease. In case, there is any change in ownership or mining lease is transferred, then mining operation can be carried out only after transfer of EC as per provisions of the para 11 of EIA Notification, 2006, as amended from time to time.

30. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this environment clearance besides attracting penal provisions in the Environment (Protection) Act, 1986.

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31. 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 and the Public Liability Insurance Act,1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court and any other Court of Law relating to the subject matter.

32. This Environmental Clearance (EC) is subject to orders/judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.

33. 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.

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Annexure - D

ESSENTIAL PHYSICAL CRITERIA AS PER ENFORCEMENT AND MONITORING GUIDELINES FOR SAND MINING, JANUARY 2020 OF MOEF&CC, GOVT. OF INDIA

Sl. No.	Essential Criteria	Reference
1.	"No Mining Zone": 1/4the part of the river width (excluding 3/4the central part of the river width) on both sides of the river towards the river bank	4.1.1 (Para - e) Page - 16
2.	a) Distance between two clusters : ≥2.5 km b) Area of mining lease area is a cluster: ≤10 ha.	4.1.1 (Para - k) Page - 19
3.	Concave River Bank : No extraction of sand	
4.	No mining if a) Upstream: Lease is 1 km from major Bridge and high ways or 5(x) of the Bridge / public civil structure / water intakes point subject to lease is located at a minimum 250 meter distance. Where x = Span of the bridge. b) Downstream side: Lease is 1 km from the major bridge and Highways Or 10x of the bridge / public civil structure /water intake point Subject to lease is located at a minimum distance of 500 meter where x = span of the bridge	4.3 (Para - h) Page - 23
5.	Mining depth : ≤ 3 meter (maximum 3 meter)	4.3 (Para - m) Page - 24
6.	Mining distance from river bank: 1/4th of the river width, But subject to not less than 7.5 meter	4.31 (Para - m) Page - 24
7.	Area for removal of minerals : ≤60% of mine lease area	4.3 (Para - s) Page - 25
8.	Minable sand per ha. Available for actual mining : ≤60,000 MT/Annum	
9.	Regular replenishment study and replenishment rate	

Note for File no: - SIA/OR/INFRA2/441289/2023 - Chandania Stone Quarries Cluster over an area of 104.427 acres or 42.259 hectares in mouza Chandania Hill, Tahasil Kukudakhandi in District Ganjam, State Odisha submitted under cluster approach with consisting of 9 stone quarries.

(1) The SEAC in its meeting dated 11-07-2023 recommended for grant of Terms of Reference with stipulated conditions.
(2) Proposal was placed in the 130th meeting of SEIAA held on held on 01.08.2023, 02.08.2023 & 03.08.2023 for consideration of Terms of Reference (TOR).
(3) The Authority observed that the PP has submitted application on 21.08.2022 under old Parivesh Portal as a result the KML file is not accessible in the current Parivesh 2.0 portal. Hence, it was decided that PP may apply fresh in Parivesh 2.0 portal and attached all documents including KML file to the application form.
(3) The Project Proponent has now apply fresh application submitting the required following documents, as asked by SEIAA. Hence, the SEAC recommended to return this proposal to SEIAA, Odisha as decision will be taken by the SEIAA.