PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE, ODISHA HELD ON 31ST JULY, 2023

The SEAC met on 31st July 2023 at 10:30 AM in the Conference Hall of Odisha State Pollution Control Board, Bhubaneswar 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.Chittaranjan Panda	-	Member
4.	Prof. (Dr.) H.B. Sahu	-	Member (through VC)
5.	Sri Jayant Das	-	Member (through VC)
6.	Er. Fakir Mohan Panigrahi	-	Member (through VC)
7.	Prof. (Dr.) B.K. Satapathy	-	Member
8.	Dr. K.C.S Panigrahi	-	Member (through VC)
9.	Prof. (Dr.) Abanti Sahoo	-	Member (through VC)
10.	Dr. Ashok Kumar Sahu	-	Member
11.	Dr. Rabinarayan Patra	-	Member

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 FOR ENVIRONMENTAL CLEARANCE FOR MANGARAJPUR MAHANADI SAND QUARRY OVER AN AREA OF 14.00 ACRES OR 5.66 HA. HAVING KHATA NO.641(A.A.A), PLOT NO. 3720/3749 IN VILLAGE MANGARAJPUR UNDER BARAMBA TAHASIL OF CUTTACK DISTRICT OF SRI HARA SENAPATI - EC

1. This proposal is for Environmental Clearance of Mangarajpur Mahanadi Sand Quarry over an area of 14.00 Acres or 5.66 Ha having Khata No.641(A.A.A), Plot No. 3720/3749 in village Mangarajpur under Baramba Tahasil of Cuttack District of Sri Hara Senapati.
2. **Category**: The proposed project as per EIA Notification dated 14th September 2006 and subsequent amendments, falls under Category “B”, Project or Activity 1(a)-Mining of Minerals.
3. **TOR Details**: Terms of Reference (TOR) was granted by SEIAA, Odisha vide letter no 1346/SEIAA dated: 24.05.2021.
4. Earlier EC was granted by SEIAA, Odisha vide letter no 4404 dated 17.08.2015.
5. Mining plan was approved by Deputy Director of Geology, Bhubaneswar. Vide letter no – 7431 DG, on dated 12.11.2020.
6. This is a new project and the lease has been granted to successful bidder Sri Hara Prasad Senapati by the Tahasildar, Baramba vide letter no- 05, dated 01.01.2021.

7. The said lease is an identified sairat source in District Survey Report, Cuttack in Pg – 54, Sl.no. - 90 prepared by Collector, Cuttack.

8. **Public hearing details**: Public hearing was conducted on 14.09.2022 at Village -Mangarajpur under Tahasil Baramba of Cuttack district. Issues raised during public hearing were dust pollution, noise pollution, fixed time limit for movement of sand transportation vehicles, sand should be lifted from exact location, sand transportation vehicles shouldn't move through social forest area and near school area and a particular road should be used for sand transportation. Budget earmarked for action plan of public hearing is Rs. 5 Lakhs.

9. **Location and connectivity:** Mangarajpur Mahanadi Sand Quarry is located in village Mangarajpur under Baramba Tahasil of Cuttack district, Odisha consisting over an area of 14.00 Acres/5.66 Hectares. The proposed lease area is featured in Survey of India toposheet no. 73H/7 and bounded between the Latitudes of N20°22'26.9" to N20°22'35.5" and Longitudes of E85°18'39.6" to E85°18'47.7" bearing Khata No.641, Plot No.3720/3749. The proposed lease area is located at a distance of 60 Km from the district headquarters Cuttack. The nearest railway station is Begunia Railway Station which is about 24.5 km from the mine lease area. The nearest airport is Biju Pattnaik International Airport, Bhubaneswar at about 55 km from the mining site. Nearest river embankment, electric transmission pole and road bridge is 2.4 kms,700 m and 12km respectively. As per Seismicity Map of India, the project location/study area falls in Zone II

10. **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.

11. **Replenishment study:** The present date survey by using UAV/Drone indicates the mineable sand deposit is around 26504cum. As per Sustainable Sand management guidelines potential sand deposits may be identified and Replenishment study may be done in regular intervals. Besides 60% of the above computed mineable reserve as above has been taken as available mineable reserve over the area as per MoEF Notification dated 25.07.2018. Maximum of 26504Cu.m of sand per annum may be allowed for mining activities. 60% of the mineable reserve is 15902cum. The maximum extraction limit as per sustainable sand mining Rule of MoEF Guideline is 15902cum.

12. **Baseline details:** The baseline data was collected for the pre-monsoon season i.e. Oct-21 to Dec 2021 in the 10 km study area results.

    a) Air Quality Results - The maximum value for PM2.5 was observed, as 25.4 µg /m3 at Village-Ogalpur (A3) while 24 hours applicable limit is 60µg/m3 mixed use areas. The area observes average PM2.5 concentration in the range of 11.3-24.4µg/m3 with the lowest concentration of 11.3 µg/m3 recorded at Village-Ogalpur Area (A1). The maximum value for PM10 was observed, as 63.5µg/m3 at village- Ogalpur(A5) while 24 hours applicable limit is 100µg/m3 for mixed use areas. The area observes average PM10 concentration in the range of 34.2 - 63.5µg/m3 with the lowest concentration of 34.2 µg/m3 recorded at Village-Ogalpur (A3).

b) The maximum value for SO2 was observed, as 18.3µg/m3 at Village- Ogalpur(A3) while 24 hours applicable limit is 80µg/m3 for industrial and mixed-use areas. The area observes average SO2 concentration in the range of 5.7- 18.3µg/m3 with the lowest concentration of 5.7 µg/m3 recorded at Village- & Ogalpur Area (A1). All the villages have observed value well under the prescribed limit.

c) The maximum value for NOX was observed, as 19.5 µg/m3 at Village- Mangarajpur(A2) while 24 hours applicable limit is 80µg/m3 for industrial and mixed use areas. The area observes average NOX concentration in the range of 8.4- 19.5-µg/m3 with the lowest concentration of 8.4 µg/m3 recorded at Village- Ogalpur(A5). All the villages have observed value well under the prescribed limit.

d) Ground water Quality results - Total 5 Groundwater samples and 5surface water samples were analyzed and concluded that: The ground water from all sources remains suitable for domestic purposes as all the constituents are within the limits prescribed by drinking water standards by Indian Standards IS: 10500.

e) Surface water Quality results analysis it is evident that most of the parameters of the samples comply with IS-2296: 1992 Category "C" standards of CPCB, indicating their suitability for Drinking water source after conventional treatment and disinfection.

f) Soil Samples collected from identified locations indicate the soil is Loamy type and the pH value ranging from 6.37 to 6.68 which indicating that soil samples are neutral in nature.

13. **Reserves and total production:** As estimated geological reserve and mineable reserve of the proposed project is 28931 and 24679 cum. Annual production of the proposed project is 3000 cum/annum.

Year	Production (m3)
1st Year	3,000
2nd Year	3,000
3rd Year	3,000
4th Year	3,000
5th Year	3,000
Total	15,000

14. **Method of mining:** The project is a new mine and lies on the bed of Mahanadi. The project for production of Sand (minor minerals) from Mangrajpur Sand Quarry which has been proposed for a total production of 15,000 Cu.m during the plan period. The open cast manual method and transportation through dumpers and tractors. No mining activity will be undertaken during the monsoon season. So, the material will be replenished during the monsoon season every year. The benching pattern is not required for sand mining. The maximum depth of mining will be of 1m or up to water table which is less. No drilling & blasting will be performed for production requirement.

15. **Water requirement:** Total water requirement approx, 5 KLD will be required for different purposes like Domestic, Dust suppression, plantation purposes & sourced from as per the availability.

16. **Power/fuel requirement:** 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 0.014 KLD diesel is required as fuel.

17. **Green Belt**: 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, Mango, Peepal, Shisham, Sirish, Babool, Chakunda	Along the roads, in schools and public building and other social forestry programme
ii)	50		
iii)	50		
iv)	50		
v)	50		
Total	250		

18. **Manpower requirement:** In the mine for total production of 3,000 cum/annum of River Sand and 6 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.

19. **Project Cost**: The project proponent will incur a total cost of Rs. 290.00 Lakhs sand may vary from place to place and with magnitude of the sand mining. EMP cost includes a capital cost of Rs. 14,50,000 and recurring cost of Rs. 5,80,000.

Particulars	Capital Cost	Recurring Cost
Environmental Monitoring	3,00,000	1,00,000
Plantation	2,00,000	20,000
Dust Suppression	5,00,000	4,50,000
Others (Pollution Control Equipment)	4,50,000	10,000
Total	14,50,000	5,80,000

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.

21. 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:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Revised Replenishment Study along with all the details as there is net loss of replenished sand in the present replenishment study report.	I hereby said that first replenishment report of Mangarajpur Mahanadi Sand Quarry was prepared by surface area method so some error raised in reserve, to rectify this error now	Replenished sand deposited in the lease area is 17% i.e. 4394cum.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		reserve measured by cross-sectional method and replenishment report prepared accordingly.	

22. The Committee in its meeting held on **19.06.2023** observed the following from revised replenishment study report.

a) As per Table-9 (Page 11 of Mangarajpur Mahanadi sand quarry replenishment report), which presents the summary of mineable quantity of river sand in the mining lease area during pre (May) and post (November) monsoon drone survey in 2022 the replenished quantity of sand is noted to be 4394 cum (The difference of 22110 and 26504 being the measured quantity of mineable sand during pre and post monsoon survey). Hence, the stated quantity of 15902 cum as per MoEF&CC, Govt. of India guideline is not correct.

b) In 1st Report, Pre monsoon done in July 22, Post monsoon date not found in the report. In 2nd Report, Pre monsoon done in May and Post monsoon date not given. Both reports are manipulated. It looks like a new mine. As per report sand is available.

c) There are also variation in geological and mineable reserve.

First survey:

In the initial report Geological Reserve: 39659cum and mineable reserve: 34759cum.

In the ADS report Geological Reserve: 28020cum and mineable reserve: 22110cum.

In second survey:

Geological Mineable Reserves are same in both the reports.

Moreover, PP has adopted two different methods: first survey by Volumetric and post-monsoon by Drone.

d) When Table-4 and Table-5 (i.e. Geological resource and mineable resource calculations) are compared, it is seen that section-D (A-A', B-B'.... etc.) is same for the cases but cross-sectional areas, A are different while same method, same date has been used for surveying. However, no image is available where sections are shown.

e) Two different methods used for pre monsoon and post monsoon study. Hence not comparable.

f) In old study there was net loss of sand as per replenishment study. On asking about the same Revised study is submitted and it is mentioned that instead of surface, sectional study approach is taken. It appears to be doubtful and manipulated.

g) As per old study pre monsoon potential area is 49656 sq m and sand thickness is 0.7 m. In revised study, the volume of pre monsoon sand is reduced, which quite evidently is to show sand deposition in the area (as old report had shown net loss.) If we back calculate this amount of sand then the thickness gets reduced to 0.4453 m which looks quite arbitrary.

h) In the revised study eight sections are shown. In FF section minable reserve shown is more than geological reserve (136 minable and 127 geological).

i) Nowhere any RL is mentioned.

23. The SEAC in its meeting held on dated **19.06.2023**, the committee recommended the following:

i) The revised replenishment study report submitted by the proponent is not acceptable for the reasons as pointed out at para 22 above.

ii) The proposal to be considered after receipt of fresh replenishment study report incorporating the comments of the members at para 22 above.

24. 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
1.	The revised replenishment study report submitted by the proponent is not acceptable for the reasons as pointed out at para 22 above.	The replenishment study report has been corrected as per Para 22.
2.	The proposal to be considered after receipt of fresh replenishment study report incorporating the comments of the members at para 22 above.	The revised Replenishment report is submitted.

25. The Committee observed and recommended the following:

i) In the replenishment study report submitted by PP there was net loss of sand and clarifications were sought. Compliance furnished by the lessee is not satisfactory. Fresh replenishment study was asked which is not submitted. Two different methods are used for pre and post monsoon study which are not comparable. Figures are changed arbitrarily in each of the communication without any supporting documents or data. In the first study it was net loss of sand but was made deposition in the subsequent communication with so many gaps (as pointed out) now some more changed figures are submitted. This whole thing makes it difficult to accept. Hence, replenishment study report is rejected.

ii) In view of net loss of sand in replenishment study report and unsatisfactory compliance it is recommended to return the proposal to SEIAA to take further action.

ITEM NO. 02

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF PURUTIGUDA SAND QUARRY OVER AN AREA OF 13.688 ACRES OR 5.539 HA. HAVING KHATA NO.512, PLOT NO. 1285 IN VILLAGE PURUTIGUDA UNDER KASHINAGAR TAHASIL OF GAJAPATI DISTRICT OF SRI BANSIDHAR SWAIN - EC

1. This proposal is for Environmental Clearance of Purutiguda Sand Quarry over an area of 13.688 Acres or 5.539 Ha. having Khata No.512, Plot No. 1285 in village Purutiguda under Kashinagar Tahasil of Gajapati District of Sri Bansidhar Swain.
2. **Category**: The proposed mining project falls under Category 'B1' with project activity type "1(a)" - Mining of Minerals) as per Notification of MoEF & CC vide S.O. No. 3977(E), Appendix-XI dated the 14th August,2018 and EIA notification 2006 and amendment thereof of Ministry of Environment and Forests, New Delhi.
3. Quarry lease has been awarded to Sri Bansidhar Swain S/o-Jayadev Swain, by Tehsildar of Kashinagar for 5 years via letter no. 5440/ Sairat dated 09/11/2021.

4. Mining Plan with Progressive Mine Closure Plan has been approved by Deputy Director Geology O/o Joint Director Geology, South Zone, Berhampur, Odisha vide letter no. Memo no.-1051/SZ dated 31/10/2021.

5. **TOR details**: Terms of Reference (TORs) was granted by SEIAA vide letter no 4125/SEIAA dated 02/03/2022.

6. **Public hearing details:** Public hearing was held on 09.11.2022 at 11.00 AM in Grampanchayat Office, Khandava under Kashinagar tahasil in Gajapati district in reference to the proposed Purutiguda Sand Mine. Issues raised during public hearing hearing are sand mining from the river bed, safety and security in the lease area to avoid accidents, transportation of sand, control of noise during sand mining and sand transportation, dust suppression measure, protection of environment, road development, plantation, utilization of DMF fund for peripheral development of village.

7. **Location and connectivity**: Purutiguda Sand Quarry is a new proposed project located at Village: Purutiguda, Khata No. 522, Plot No. 1285, Tehsil: Kashinagar, District: Gajapati, Odisha. Total mining area is 5.539 ha bearing Khata No. 522, Plot No.1285 in SOI Toposheet No: 65N/13 bounded by Latitude N18°57'15.58"to 18°57'27.18"N and Longitude E83°49'26.59" to 83°49'33.20"E. The area is approachable by fair weather road. The applied area is about 150 km away from Visakhapatnam International Airport, Andhra Pradesh Airport. The nearest railway station is at Bansdhara Hault Railway Station 1.5 Km from the site. Nearest Bridge Banshadhara Bridge is 15 km, SE and nearest River Embankment is about 3 km, S and nearest railway bridge is 0.7Km from the project site. Nearest Reserve is Forest Vallarha Reserve Forest which is 2Km, W from the project site.

8. **Baseline summary**: Baseline study of the study area was conducted during pre-monsoon from 1st March 2022 to 31st May 2022 for Purutiguda Sand Quarry.

    a) Air quality: The concentrations of PM_{10} and $PM_{2.5}$ for all the 9 AAQM stations were found between 52.7 to 88.9 µg/m^3 and 23.7 to 45.30 µg/m^3 respectively. The concentrations of SO_2 and NOx were found to be in range of range of 7.90 to 15.10 µg/m^3 and 11.20 to 27.2 µg/m^3 respectively.

    b) Noise study: Ambient noise levels were measured at 9 locations around the Mine site. Noise levels varied from 44.4 dB (A) Leq to 54.8 Leq dB (A)during day time 36.1 (A) Leq to 44.6 Leq dB (A) during night time.

    c) Ground water: The ground water analysis for all the 8 sampling stations shows that pH varied from 7.29 to 7.49, total hardness varied from 260 mg/l to 520 mg/l & total dissolved solids varied from 153.4 mg/l to 242 mg/l. The water samples contain chloride 13.8 mg/l to 26.4 mg/L, Ca from 27.2 mg/l to 90.5 mg/l, Magnesium varies from 16.52 mg/l to 58.1 mg/l.

    d) Soil analysis: Samples collected from 8 identified soil locations indicate pH value ranging from 7.29-7.61. Organic Matter ranges from 0.25% -0.55%in the soil samples. Nitrogen is found to be in moderate amount as it ranges from 116 mg/kg- 161 mg/kg and Phosphorous in less amount i.e. from 32 mg/kg- 52 mg/kg, whereas the Potassium is found to be ranging from 115 mg/kg - 135 mg/kg.

9. **Replenishment Study:** UAV/Drone method was used to survey the area for Replenishment Survey. The calculated Mineable reserve of Post-Monsoon survey and the Mineable reserve in Pre-Monsoon are taken for comparing the amount of sand replenished. The sand deposited in the lease area in this monsoon season is exceeded by 43% i.e. 21652CuM of the amount of sand in the Pre-Monsoon Replenishment Study report. So, the final mineable reserve of the lease area is said to be 50832 CuM.

10. **Total production and reserves**: It is proposed sand quarry mine having lease area of 5.539 ha with proposed production capacity of 50,000 m3 /year of sand (2,50,000 cum for 5 years). The geological reserve and mineable reserve of Purutiguda Sand quarry 66692 Cum and 57442 Cum respectively.

11. **Mining method**: Proposed method of mining would be opencast manual mine. Sand shall be exploited manually and loaded in Truck & Tractors. Ground water table would not be intersected by the proposed mining. Mining shall be carried out without adoption of drilling & blasting. The extracted sand shall be loaded into tractor trolleys manually & dispatched to various parties. Mined out material will be loaded into the dumpers manually and will be sent for commercial use as per the demand of the market. It will be transported by Covered trucks / dumpers to its final destination. No overburden or top soil will be generated as the area lies in river bed. The present level of the lease area is 65 mRL. During plan period, the quarry floor will be 63 mRL or up to water table whichever is less in Purutiguda Sand quarry.

12. **Water Requirement**: The total water requirement for the project estimated to be 25 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)	5.0	Water will be sourced from nearest available source.
ii)	Green Belt Development/ Plantation	5.0	
iii)	Drinking/Domestic & Sanitation	15.0	
Total		25.0	

13. **Waste Water Management**: No liquid waste will be generated from mining activities. A small amount of domestic wastewater from office toilet will be discharged into the soak pits/septic tank.

14. **Greenbelt/ Plantation**: Greenbelt will be developed along haul road. Plantation will be done along haul road and in villages nearby. Native Species like Teak, Mango, Jammu, Jhaun, Neem etc. will be preferred for the plantation. 50 plants per year will be planted as per the plantation program.

Year	Number of saplings purposed	Location	Type of saplings
1st Year	50	Plantation is carried out	Teak,
2nd Year	50		

3rd Year	50	safety zone of the lease area(river bank areas)	Mango, Jammu, Jhaun, Neem etc.
4th Year	50		
5th Year	50		
Total	250		

15. **Man power Requirement**: Total man power of 65 people will be required for the proposed project. Mine workers will be engaged from the nearby villages.

Designation	Number of persons (Purutiguda Sand Quarry)
Supervisory Personnel/ Statutory Personnel	5
Skilled laborers (Operator and Helper)	20
Semi-skilled Laborer	20
Unskilled Laborer	20
Total	65

16. **Project cost**: The total budget for Environment Monitoring Program for the proposed project is Rs. 30,000 per year. Corporate Environmental Responsibility (CER) budget includes a cost of 4 lakhs. Apart from the other expenses, Salary for labour and office staff will be kept around 2Lakh per annum and for documentation purposes around 2Lakhs per annum. Total project cost is Rs.25 lakhs. Capital Cost for EMP is Rs. 1,45,000. Recurring cost of EMP is Rs. 75,000 per annum.

S.no	Particulars	Capital Cost	Annual Recurring cost
i)	Pollution Control	55,000	20,000
ii)	Pollution Monitoring	25,000	10,000
iii)	Afforestation along Approach Road and maintenance of Approach Road	35,000	25,000
iv)	Occupational health and safety	30,000	20,000
	Total	1,45,000	75,000

17. **Environment Consultant**: The Environment consultant **M/s Green Circle, Inc., Gujarat** along with the proponent made a presentation on the proposal before the Committee on 23.06.2023.

18. The SEAC in its meeting held on dated **12.06.2023** 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
i)	Revised replenishment study along with section wise details, reduced level, and summary.	Revised replenishment study along with section wise details, reduced level, and summary is attached.
ii)	Justification as per production plan how manual method of mining will be done.	Justification as per production plan is attached as an annexure- I.

Proceedings of the SEAC meeting held on 31.07.2023 (Old proposals – compliance received)

Environmental Scientist, SEAC

19. The Committee observed and recommended the following:

I) Two different methods are used for Pre and Post Monsoon study which are not comparable. Besides this following other discrepancies are noticed and hence, replenishment study report is rejected.

a) Date of second survey i.e. post monsoon survey as per previous report was 5.03.23 (Mentioned in table 7) but in the clarifications submitted it is 30.12.22.

b) As per 1st report Geological reserve is 31802cum and Minable reserve is 29180cum. However, in the clarification report submitted now Geological reserve has changed to 70710cum and Minable reserve has changed to 48466 cum (which is even higher than Geological reserve as per pevious report.

c) In Clarifications submitted now in table 4 and table 5 for calculation of Geological Reserve and Minable Reserve 13 sections are shown However the depth of sand in these sections is shown varying from 25 meter to 43 meter which looks unrealistic.

d) In table 7 of clarification report submitted now 16 grid points are shown (though no corresponding graphical or pictorial representation is shown. As per this table RL is shown from 61.3 to 63.7 meter but in first report in second survey plain height is 58.5 meter.

e) In the first report as per second survey Geological reserve is 54738.312 cum and minable reserve is 50831.934 cum. However in the clarification report submitted now as per second survey the Geological reserve is 97338 cum and minable reserve is 71117 cum.

f) Proposed extractable sand as per first report was 21652 cum but as per clarification report submitted now it is 42668cum.

g) 16 grid points shown in table 7 and related pre and post monsoon RLs worked out and its average is not at all used for any of the calculations. Its relevance is not clear.

In view of unsatisfactory revised replenishment study report, this proposal is not accepted and it is recommended to return the proposal to SEIAA to take further action.

ITEM NO. 03

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR ALLIABAD SAND QUARRY OVER AN AREA OF 12.50 ACRES OR 5.058 HA. BEARING KHATA NO.610, PLOT NO.328/1310 IN VILLAGE ALLIABAD, TAHASIL- GANJAM, DISTRICT GANJAM BY SRI KRUPASINDHU MUDULI- EC

1. This proposal is for environmental clearance for Alliabad sand quarry over an area of 12.50 acres or 5.058 Ha. bearing Khata No.610, Plot No.328/1310 in village Alliabad, Tahasil- Ganjam, District Ganjam of Sri Krupasindhu Muduli**.**
2. **Category:** The project is categorized in Category-B1 of Schedule under item 1(a)-Mining of Minerals in the EIA notification, 2006 and its subsequent amendments.
3. The mining lease granted by Tahasildar, Ganjam, has been auctioned and leased out to the successful bidder Sri. Krupasindhu Muduli, At – Ramakrushna Nagar, 2nd Lane, Brahmapur, Dist – Ganjam. 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. The proposed project activity will be carried out in the bed of the river Rushikulya.
4. Mining plan was approved by Joint Director of Geology, South Zone, Berhampur vide letter no 419 dated 05.04.2022.

5. **Public hearing details**: Public hearing was successfully executed on date 18.11.2022 over the Vacant Land in Khata No 593/483, Plot No 304/2292, Mouza Alliabad under Ganjam Tahasil of Ganjam District. Issues raised were plantation, proper maintenance of road, local employment, water sprinkling for dust suppression and speed of transporting vehicles shall be controlled and shall be covered with tarpaulins. Budget for Public Hearing Issues are as follows- Rs 1,01,000 have been allocated for the development of greenbelt which will be done in the second (II) year of mining and Rs. 1,58,000 for proper maintenance of road.

6. **TOR details**: Terms of Reference (ToRs) was issued by SEIAA, Odisha vide reference No: 4563/SEIAA; dated: 19.05.2022.

7. **Location and connectivity:** The mine lease area is located in Village- Alliabad, Tehsil- Ganjam, District- Ganjam, State- Odisha is on Khata No. 610, Plot No. 328/1310 of Rushikulya river covered in the Survey of India Topo Sheet No – 74A/14 & 74E/3 and is bounded between the Latitude - 19° 23' 36.40" N to 19° 23'45.03" N and Longitude – 85° 01' 48.65" E to 85° 01' 56.55" E. Ganjam Railway Station is situated approx 1.67 km towards South direction. Biju Patnaik International Airport is approx. 125.19 km towards NE direction. NH-16 is approx 1.38 km in SE direction. SH-36 is approx. 7.55 km in SW direction. Ranibara Reserve Forest is approx.5.5 Km NE.

8. There are no Biosphere reserves or Wildlife Sanctuaries or National Parks or Important bird areas (IBAs) or other ecologically sensitive areas within 10 Km from the boundary of the project site

9. **Topography and drainage:** Drainage system in the region is dendritic. General flow direction of Rushikulya River is from NW to SE. Work will continue only during summer months when there is no water in the leasehold. The maximum depth of mining will be of 2m or up to water table whichever is less.

10. **Replenishment report:** The estimated average erosion thickness is computed within the entire lease area and common safe workable area respectively. However, the volume of sand available after post monsoon is around 13493.76 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 68440 m^3. As it is a new mine no excavation has done in this year. So, total minable reserve available for mining is 81933.76 m^3 whereas, approved production capacity for the year is 12,000 m^3.

11. **Reserves and production:** Proposed sand quarry is scheduled to produce at 12,000 cum/year (maximum) for the plan period. Geological reserve is 81460 cum/annum and mineable reserve is 68440 cum/annum

Year	Vol. of Sand in (cum)
1st	12,000
2nd	12,000
3rd	12,000
4th	12,000
5th	12,000
Total	**60,000**

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12. **Mining method:** The sand will be excavated by Open Cast Manual Method. Since the depth of mining is 2.0 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 2.0 m. The mine will be developed in North to South direction. At the end of plan period the quarry floor will be 03 m RL.

13. **Water requirement:** The one-time water demand will be around 5.93 KLD, out of which 0.18 KLD is required for domestic purpose and 4.74 KLD for dust suppression. The water demand will be met from nearby village.

Activity	Calculation	Round off Figure in KLD
Drinking	@ 10 lpcd per labor 10*18/1000= 0.18 KLD	0.18
Dust Suppression	Total approach road to be water sprinkled = 790 m 790 m*6m*0.5 *2 times/1000= 4.74 KLD	4.74
Plantation	505 plant (during plan period) @ 2 L/per plant = 505*2lts = 1010/1000 = 1.01 KLD	1.01
	Total	5.93

14. **Power requirement**: All the activities will be carried out manually i.e. loading the trucks/trolley/carrying vehicles manually by the working people. There is no power requirement for the project.

15. **Baseline study:** 24 hrs hourly monitoring was carried out for SO_2, NO_x, $PM_{2.5}$ & PM_{10} twice a week at each station for a study period of 3 months (March to May 2022). Ambient Air Quality Monitoring reveals that the minimum & maximum concentrations of PM_{10} for all the 7 AQ monitoring stations were found to be 59.37 µg/m^3 at AQ2 and 90.09 µg/m^3 at AQ1, respectively. The minimum & maximum concentrations of $PM_{2.5}$ were found to be 23.74 µg/m^3 at AQ2 and 49.33 µg/m^3 at AQ1, respectively. As far as the gaseous pollutants SO_2 and NO_x are concerned, the prescribed CPCB limit of 80µg/m^3 for residential and rural areas has never surpassed at any station. The minimum & maximum concentrations of SO_2 were found to be 5.52 µg/m^3 at AQ4 & 17.8 µg/m^3 at AQ7,respectively. The maximum & minimum concentrations of NO_X were found to be 26 µg/m^3 at AQ7 & 9.53 µg/m^3 at AQ2, respectively. Samples collected from identified locations indicate the soil is sandy type and the pH value ranging from 7.15 to 7.64, which shows that the soil is alkaline in nature. Potassium is found to be from 49.57 mg/kg to 253.56 mg/kg. The water holding capacity is found in between 26.94 % to 32.09%. Noise monitoring reveals that the maximum & minimum noise levels at day time were recorded as 61.75 Leq. dB (A) at NQ1 & 40.75 dB (A) at NQ6, respectively. The maximum & minimum noise levels at night-time were found to be 49.94 dB (A) at NQ1 & 35.74 dB (A) at NQ5.

16. **Greenbelt**: About 505 number of trees will be planted along approach road & in village during the first year and will be maintained remaining years as per the below table. Plantation will be done with suitable local species like Teak, Mango, Neem, Jammun, Jhaun etc after consultation with the local authorities.

Year	No of plants along both side of approach	No. of plants At other place like school	Total Plantation

	road	premises, Aangawadi, Panchayat Bhavan	
1st	250	255	505
2nd	Maintenance	Maintenance	Maintenance
3rd			
4th			
5th			
Total	**250**	**255**	**505**

17. **Manpower requirement:** A total of 18 nos. of manpower are to be employed in the lease area for mining 12,000 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.

18. **Project cost:** Estimated cost of the project is 50 Lakhs. Capital cost of EMP is Rs. 4.59 Lakhs and recurring cost is Rs. 2.83 Lakhs. Budget alloacted for Corporate Environmental Responsibility (CER) is 1 lakh.

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	1,01,000	50,000
4.	Maintenance of haul road	1,58,000	63,000
Total		**4,59,000**	**2,83,000**

19. **Environment Consultant**: The Environment consultant **M/s. P and M Solution, Noida** along with the proponent made a presentation on the proposal before the Committee in its meeting held on **03.03.2023**.

20. The SEAC in its meeting held on dated **03-03-2023** recommended the followings:

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

a) The span and length of the nearest railway bridge and road bridge and exact distance from Rushikulya bridge.

b) Certificate from concerned DFO that proposed sand mining activity will not affect the turtle nesting grounds.

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

i. Distance of the turtle nesting ground.

ii. Environmental settings of the lease area.

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

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iv. Road connectivity to the lease area.

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

vi. Cluster approach if any.

vii. Distance of embankment from sand deposit.

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
a)	The span and length of the nearest railway bridge and road bridge and exact distance from Rushikulya bridge.	I. Letter from Assistant Divisional East Coast Railway, Brahmapur Division about the span and length of Railway Bridge has attached as **Annexure-1**. II. Letter from Project Director NHAI, Brahmapur Division about the span and length of Road Bridge and distance of the Rushikulya Bridge from project has attached as **Annexure-2.**	Distance of Railway Bridge is 1km and length of bridge is 457mtr and span is 10x45.7M Girder. Distance of Road Bridge is 1.3km and length of bridge is 530mtr and span is 48.33mtr.
b)	Certificate from concerned DFO that proposed sand mining activity will not affect the turtle nesting grounds.	Certificate from DFO, Brahmapur has attached as **Annexure-3**.	The proposed lease doesn't come under turtle nesting activity zone.

22. The SEAC in its meeting held on dated **19-06-2023** decided to take decision on the proposal after a site visit of the Sub-Committee of SEAC.

23. The proposed site was visited by the sub-committee of SEAC on **10.07.2023**. Following are the observations of the sub-committee

a) The Divisional Forest Officer, Berhampur Forest Division has informed vide his Letter Dated 29.04.2023 that the Plot No 328/1310 of Khata No 610 of Alliabad Sand Quarry is not coming under Turtle nesting activity Zone. However, the DFO hasnot mentioned anywhere, the arial distance of Turtle nesting zone from the said sand quarry.

b) The quarry area is full of Maram Grass (Ammophila arenaria). Very little open sand visible. No habitation in the entire vicinity.

c) There is no mining activity carried out in lease area.

d) Even though there is road connectivity, but in order to transport the sand, the vehicle has to cross river channel of 20 meter which is full of water. There is no alternate way to transport the sand.

e) The distance of road bridge from the boundary of lease area is approximately 1300 meter and the distance of railway bridge from the boundary of lease area is approximately 1000 meter.

f) There is no cluster approach noticed.

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g) Distance of embankment from the sand deposit is approximately 250 meter.

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 – A** 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 – B**.

b) **During the visit of sub-committee of SEAC, it was observed that even though there is road connectivity, but in order to transport the sand, the vehicle has to cross river channel of 20 meter which is full of water. There is no alternate way to transport the sand. The lessee shall provide transport path to cross river channel of 20 meter after obtaining approval from Department of Water Resources, Govt. of Odisha. Under no circumstances, the lessee shall carryout any activity over water channel of river without permission of Department of Water Resources, Govt. of Odisha.**

c) Sand extraction 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.

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

e) 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.

f) 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. 04

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR BAITARANI SAND BED, ANANDAPUR OVER AN AREA OF 20.47 ACRES (8.284 HA.) IS LOCATED IN VILLAGE- ANANDAPUR, TAHASIL – ANANDAPUR, IN DISTRICT KEONJHAR BY SRI MANAS KUMAR BARIK- EC

1. This proposal is for environmental clearance for Baitarani Sand Bed, Anandapur over an area of 20.47 acres (8.284 ha.) is in Village- Anandapur, Tahasil – Anandapur, in district Keonjhar of Sri Manas Kumar Barik**.**
2. **Category:** The project is categorized in Category-B1 of Schedule under item 1(a)-Mining of Minerals in the EIA notification, 2006 and its subsequent amendments.
3. The Mining plan has been approved for a period 2020-21 to 2024-25 by The Joint Director of Geology, Keonjhar. Vide letter no – 2390/CZ, dated 30.07.2020 in favour of Tahsildar, Anandapur.
4. The lease was granted to Mr. Manas Kumar Barik being the successful bidder for tenure of 5(Five) years from the date on which this executed deed is registered.
5. Mining lease is a running mine identified sairat source in the DSR page no 4, Sl No. 34, annexure II.

6. **Public hearing details**: Public hearing was conducted on 22.06.2022 at village Anandapur, Keonjhar district. Issues raised during the public hearing were selling of sand with appropriate price, regular maintenance & monitor of transporting vehicles, PM Indra Aawas & Biju Pucca Ghar beneficiaries shall get sand at reasonable price, protection of dam road & demarcate the area of lease, employment of labour class in sand mining. Budget earmarked for action plan of public hearing amounts to 5 lakhs.

7. **TOR details**: Terms of Reference (ToRs) was issued by SEIAA vide letter no. 241/SEIAA dated 01.02.2021.

8. **Location and connectivity:** The proposed lease area of Baitarani River sand bed quarry situated at village Anandapur, Tahasil- Anandapur, District - Keonjhar. The lease area is under reference featured in the Survey of India Topo sheet no. 73K/4 is on Khata No. 1281, Plot No.3377, Kissam- Nadi. The geo coordinates of the lease area is 21°12'53.78"N 86°07'07.37"E 21°12'58.89"N 86°07'02.63" E. The proposed area is located 6.37 km from District Headquarters Keonjhar and 150 Km from State Capital Bhubaneswar. Nearest railway station is at Tingripal railway station at an distance of 25.0Km. The lease area can be approached from National Highway NH-215(Gumla-Barkote) is at 0.7 Km away from the ML area. State Highway SH-53 (Banarpal-Pallahara) is 1.0 km away (Aerial Distance). Nearest Airport is Bhubaneswar Airport which is at 150Km. The area over 8.284 ha is a non-forest Govt. land of Nadi kissam, having ground elevation of 35 mRL.River bridge is at 1.8 km away and river embankment is 1km away from the proposed lease area.

9. **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.

10. **Replenishment report:** Considering all the mining constrains, the volume of sand available during pre and post monsoon survey in safe workable area is computed. It is estimated that during pre-monsoon and post-monsoon, the sand available in safe workable area is 14573.22cum and 9904.618cum respectively. The volume of sand available during post monsoon survey around 9904.618m3 which can be treated safe volume to be extracted. Since as per guidelines 60% of extractable sand i.e.5942.77m^3 may be allowed to extract, further permits may be decided by SEIAA, Odisha.

11. **Reserves:** As estimated, geological reserve of sand is 125780cum and mineable reserve is 51840cum.

12. **Mining method:** The open cast manual method and transportation through dumpers and tractors will be carried. No mining activity will be undertaken during the monsoon season. No drilling & blasting will be performed for production requirement. The bench height will be 1m 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 2m.

13. **Water requirement:** Water requirement for the project is 5KLD for domestic, plantation & dust suppression which will be sourced from Govt sources of water.

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14. **Power requirement**: The power required for the office is minimal, shall be taken from the General Electric supply of the area. However, if required for lighting in the project area at night power will be sourced from State Grid and for same it is estimate as 1.0 KVA.

15. **Baseline study:** Baseline studies was carried out during period March 2021 to May 2021, PM10 ranges within 65-37 µg/m³, PM2.5 ranges within 45.0-20µg/m³, SO_2 ranges within 6.4-4.0 µg/m³ & NOx ranges within 13.2-9.0 µg/m³. In Industrial areas daytime noise levels were about 50.3 dB (A) and 42.3 dB (A) during nighttime, which is within prescribed limit by CPCB (75 dB (A) Day time & 70 dB (A) Nighttime). In residential areas daytime noise levels varied from 46.6dB (A) to 55.3 dB (A) and nighttime noise levels varied from 42.3 dB (A) to 50.2dB (A) across the sampling stations. Surface water analysis showed the pH value ranging 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 4.0 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 6.0 mg/l to 7.0 mg/l. BOD of the collected surface water sample ranges from 1.4 mg/l to 1.8 mg/l. The ground water results of the study area indicate that the pH range varies between 6.6 and 7.4. 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 9 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.

16. **Greenbelt**: It is proposed to plant 50 Nos. per year of native species along with some fruit bearing and medicinal trees during the plan period and a budget of Rs. 0.6 Lakh for plantation is given in EMP. Common species to be planted are Neem, Peepal, Mango, Shisham,Sirish, Babool, Chakunda.

17. **Manpower requirement:** In the mine for total production of 10368 Cu.m/Annum of River Sand 16 nos. of person are to be employed daily.

18. **Project cost:** The estimated cost of project is 50 Lakhs. EMP capital cost of the project is 11.0 Lakhs and recurring cost is 4.50Lakhs/Annum.

19. **Environment Consultant**: The Environment consultant **M/s EHS 360 Labs Private Limited, Chennai** along with the proponent made a presentation on the proposal before the Committee on 03.03.2023.

20. The SEAC in its meeting dated 03-03-2023 decided to take decision on the proposal after receipt of certain 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
a)	Span and length of bridge and Anandapur barrage.	I. The nearest bridge is Salapada bridge is located at a distance of 1.8 km from the Baitarani Sand Bed, Anandapur. The length of bridge is 682 m and span length is

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		52m II. The Anandapur barrage is located at a distance of 1.0 km. The length of barrage is 490m and spam length is 16 m The distance of bridge and barrage and their spam length as authenticated by Tahasildar, Anandapur is enclosed as **Annexure –A**.
b)	Rainfall data of last year June from the concerned authority.	The Date wise rainfall data as down loaded from website, SRC Odisha validated data is enclosed as **Annexure-B**.
c)	Previous production details and distance of proposed quarry from nearest sanctuary.	Total production during last five year was 30,123 CuM. The nearest sanctuary is Hadagarh Wildlife sanctuary located at a distance of 20 km from Baitarani Sand Bed, Anandapur. The authenticated annual production of the sand bed for last 5 years in enclosed As **Annexure –A**.
d)	The traffic study report vetted by a reputed institute.	The traffic report is attached herewith as **Annexure-C**.

21. The SEAC in its meeting held on dated 27.03.2023 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
i)	There is net loss of sand as per replenishment study. On what basis extraction is proposed.	This is a new mine and the auction was carried out by Tahasildar, Anandapur in 2020. After getting the Environmental Clearance the mining operation will be carried out. From 2020 there is no mining operation in the applied area. Whatever the Replenishment study carried out in 2022, is only to ascertain the extractable sand deposit not the replenishment as there is no mining operation before the previous monsoon season. As per the 2020 Sand Guide line, Drone Survey has been carried out and the reserve has been calculated after

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		deducting the mine safety zone as well as the safety zone from the embankment. As per approved Mining Plan, the Geological reserve of Sand of this lease area is 1,25,780 CuM and Mineable reserve is 51,840 CuM. However, from the drone survey, it is reveals from the post-monsoon survey data that about 9,904.618 CuM (Sand present during the preparation of mining plan) of extractable sand available in the applied lease area. Out of 9,904.618 CuM of total extractable sand, 5,942.77 CuM of Sand @ of 60 % of 9,904.618 CuM may be consider for the 1st year production.
ii)	Bridge is of 682meter length and about 1.8km from the lease area. As per Enforcement and Monitoring Guidelines for Sand Mining 2020 "Sand and gravel shall not be extracted upto a distance of 5X of the length of the bridge on the upstream side". Taking this criteria sand extraction is not permissible as bridge length is 682 meter.	As per the Enforcement and monitoring Guide lines for the sand mining 2020, "Sand and gravel shall not be extracted up to a distance of 5X of the length of the span of the bridge on the upstream side. As the spam distance of the bridge is 52m, a distance of minimum 260m to be maintain as non-extractable in the upstream side. But here, the Salapada bridge is located on the upstream side of the lease area at a distance of 1.8 km and the lease is in the downstream side of the bridge. Hence, the criteria of sand extraction as per Enforcement and monitoring Guide lines for the sand mining 2020 is not an impediment for the sand extraction from the lease area.

22. The SEAC in its meeting held on 10-05-2023 decided to reject the proposal as follows:

    a) In view of net loss of sand as per replenishment study submitted sand mining cannot be allowed at present. PP may submit next replenishment study, as due, to consider the proposal.

23. The Project Proponent has freshly applied for Environment Clearance bearing File No. SIA/OR/MIN/437539/2023.

24. The Project Proponent has submitted revised replenishment study report and intimated as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
i)	In view of net loss of sand as per	The Project Proponent has submitted	

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	replenishment study submitted sand mining cannot be allowed at present. PP may submit next replenishment study, as due, to consider the proposal.	revised replenishment study report and clarified the following in Replenishment study report:- Just before the post monsoon drone survey, the Anandapur barrage which is present in the upstream side of the lease area discharged water. Due the discharging the water from barrage, some part of sand deposit washed away causing erosion of the area. However, we have undertaken the drone survey during 24.05.2023 after receding the water level which show a quantity of 3,854.37cum sand has been replenished during the monsoon 2022. The PP has requested for recommendation of EC for extraction of 3854.37cum of sand for 1st Year Mining operation.	

25. The Committee observed and recommended the following:

I) The lessee indicated in the compliance furnished that they have conducted Post Monsson Study in the month of June. Post monsoon study of June month cannot be considered for undertaking mining. Hence, replenishment study report is rejected.

II) In view of net loss of sand and unsatisfactory revised replenishment report, this proposal is not accepted and it is recommended to return the proposal to SEIAA to take further action

ITEM NO. 05

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S. EVOS BUILDING PVT. LTD. FOR GROUP HOUSING PROJECT "EVOS ALCHEMY" OVER A BUILT-UP AREA 2,68,099.4 SQM LOCATED AT MOUZA - RAGHUNATHPUR, THANA - CHANDAKA, TAHASIL - BHUBANESWAR, DISTRICT - KHURDA OF SRI KALINGA KESHARI RATH – EC

1. This proposal is for Environmental Clearance of M/s. EVOS Building Pvt. Ltd. for Group Housing Project "Evos Alchemy" over a built-up area 2,68,099.4 sqm located at Mouza Raghunathpur, Thana - Chandaka, Tahasil - Bhubaneswar, District - Khurda of Sri Kalinga Keshari Rath.
2. **Category**: The project falls under category “B” or activity 8 (b)-Township and Area Development project under EIA Notification dated 14th September 2006 as amended from time to time.
3. **TOR details**: Terms of Reference (TORs) has been granted by SEIAA vide file no SIA/OR/INFRA2/417664/2023 dated 11th May,2023.
4. NOC letter has been obtained from DFO, Chandaka, Bhubaneswar vide letter no 1154 dated 03.02.2023.

5. **Location and connectivity**: The project site is located Mouza- Raghunathpur, Thana- Chandaka, Tehsil-Bhubaneswar, District- Khurda, Odisha on a land measuring 2.799 ha or 27,994.03 m^2. The project site is located at Plot No. 2159/2582, 2159/3516, 2160, 2161, 2164, 2165, 2165/3513, 2166, 2167, 2170, 2173, 2173/2558, 2174, 2201, 2201/2555, 2202, 2203, 2204, 2204/3512, 2205, 2205/3667, 2206, 2206/5386, 2206/4080, 2206/4080/5402, 2206/4080/5403, 2208, 2208/2790, 2208/3451, 2209, 2210, 2210/3400, 2211, 2211/5361, 2211/3619, 2212, 2212/5363, 2212/4671, 2213, 2213/5362, 2213/3620, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, Khata No. 913, 729/1024, 913, 913, 729/3916, 729/1108, 729/1023, 729/142, 729/209, 729/1366, 729/1365, 729/67, 729/1210, 220, 729/1364, 729/1212, 729/1213, 729/1365, 729/1021, 729/4057, 729/2211, 729/4057, 729/4003, 729/1661, 729/4028, 729/4029, 190 729/671, 729/952, 729/3410, 190, 729/1777, 592, 592, 729/3192, 729/1012, 729/1012, 729/3199, 592, 592, 729/1155, 267, 729/4017, 729/4017, 729/1844, 729/3855, 57, 57, 729/3922, 729/3926, Mouza- Raghunathpur, Thana- Chandaka, Tahasil-Bhubaneswar, District-Khurda, Odisha. The geographical co-ordinates of the centre of project site are 20°22'21.11"N & 85°49'59.90"E. The project site is well connected by a 30 m wide road. NH-16 is approx. 6.0 km in East direction. The nearest railway station is Bhubaneswar Railway Station approx. 0.8 km in NNE direction from the project site and Biju Patnaik International Airport is at a distance of approx. 12.5 km in SSW direction from the project site.

6. The proposed project is approved by Bhubaneswar Development Authority (BDA) vide Application No: 22439-2023-RR, Scrutiny Date:22/03/2023.Other statutory clearances has been obtained.

7. **Project details**: The project has four blocks i.e. four towers i.e., Tower 1 (3BHK + 4BHK), Tower 2(3BHK + 4BHK), Tower 3 (3BHK + 4BHK) and Tower 4(3BHK + 4BHK). Total Built up area for the project will be 2,68,099.4 sqm. The total population of project after proposed will be 5,302 persons (Residents + Staff + Floating population).

8. **AREA STATEMENT:** The plot area is 2.799 ha (27,994.03 m^2).The detailed area statement as follows:

S. No.	PARTICULARS	AREA (SQ.M.)
i)	Total Plot area	27,994.03
ii)	Net Plot Area	27,528.36
iii)	Road affected area	465.67
iv)	Permissible Ground coverage (@40% of the net plot area)	11,011.34
v)	Proposed Ground coverage (@39.81% of the net plot area)	10,959.10
vi)	Permissible F.A.R (@6.0 of the Net plot area)	1,65,170.16
vii)	Proposed F.A.R (@ 5.95 of Net plot area)	1,63,871.47
viii)	Non F.A.R (Balcony, Parking, etc.)	1,04,227.93
ix)	**Total Built-up Area (7 + 8)**	**2,68,099.4**
x)	Height of the Building (m)	151
xi)	Landscape area (22.50 % of Net plot area)	6195.14 Hardscape Area= 36% Soft scape Area= 64%

9. **Water requirement**: The total water requirement approx. 704 KLD out of which total domestic water requirement is 674 KLD. The total fresh water requirement is approx. 443 KLD which will be

met from ground water augmented with rain water. It is expected that the project will generate approx. 614 KLD of wastewater. The wastewater will be treated in an onsite STP of 736 KLD capacity. The treated effluent will be reused for flushing and horticulture. Surplus treated effluent will be discharged to external sewer with prior permission from Department. In ADS submitted by Project Proponent the treated waste water discharge to drain will be 250KLD in Summer season and 261KLD in monsoon period.

Domestic Water Requirement	**674 KLD**
• Fresh water	443 KLD
• Total Flushing water	259 KLD
• STP Filter Back Wash	29 KLD
Waste water [@80% fresh + 100% flushing]	355+259 = 614 KLD
STP Capacity	**736 KLD**

10. **Rainwater:** Peak hourly rainfall has been considered as 140 mm/hr. A recharging pit of 6m x 3m x 3.5m depth is constructed for recharging the water. Inside the recharge pit, a recharge bore is constructed having adequate diameter and depth. The bottom of the recharge structure will be kept 5 m above this level. Total of 8 Rain Water Harvesting pits are proposed for artificial ground water recharge.

11. **Parking details:** As per Bhubaneswar development authority bye-laws, total parking required is 1650 ECS and total parking proposed is 1702 ECS**.** Total No. of Parking for Residents = 1547 ECS .10% of total Parking proposed for visitors parking = 155 ECS. Total No. of Parking = 1547 + 155 =1702 ECS.

Parking Proposed for residential area	=63808.90 m^2
Parking for Visitors (10% of Parking Proposed)	=6,380.90 m^2
Parking for EV (30% of Parking Proposed)	=19,142.67m^2
Total Covered Parking	= 62,190.44 m^2
Total Open to Sky Parking	=1618.46 m^2

12. **Power requirement**: The power supply will be supplied by State Electricity Board. The requirement load for the project will be 6142 kVA. There is provision of 2 nos. of DG sets total 750 kVA capacity for power back up. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion.

13. **Solid waste generation**: During the operation phase, waste will comprise of domestic and horticultural waste. The solid waste generated from the project shall be approx. 2508 kg per day (@ 0.5 kg per capita per day for residents, @ 0.15 kg per capita per day for the visitor, 0.25 kg per capita per day for the staff and landscape waste @ 0.2 kg/acre/day) and STP sludge.

S. No.	**Category**	**Norms (Kg/capita/day)**	**Waste generated (kg/day)**
i)	Residents (4610)	@ 0.5 kg/day	2,305
ii)	Staff (231)	@ 0.25 kg/day	58
iii)	Visitors (461)	@ 0.15 kg/day	69
iv)	Landscape waste (1.53 acre)	@ 0.2 kg/acre/day	0.31

S. No.	Category	Norms (Kg/capita/day)	Waste generated (kg/day)
v)	STP sludge	Waste water x 0.35 x B.O.D difference/1000	76
	TOTAL SOLID WASTE		**2508 kg/day**

14. **Revised Green area**: As per ADS, submitted by PP - Revised Greenbelt area provided – 13,218sqm. (48% of the net plot area). Total Greenbelt provided on mother earth – 7003.80sqm. (25.40% of the plot area) and Total Greenbelt provided on stilt floor slab & podium floor slab – 6215.00sqm.(22.6% of the net plot area).

15. **Previous Greenbelt Submitted in online documents -** Total green area measures 6,195.14 m^2 i.e. (22.5% of Net plot area). Evergreen tall and ornamental trees have been proposed to be planted inside the premises. No. of trees required = 1 tree/80 sq.m. of plot area =6,195.14 /80 = 77.43 say 77 Nos. Total no. of trees proposed = 77. The plantation matrix adopted for the green belt development includes pit of 0.3 m × 0.3 m size with a spacing of 2 m x 2 m.

16. **Revised Traffic details:** The present traffic V/C ratio is 0.21 (LOS B) and forecasted traffic, after 10 years V/C ratio is 0.58 (LOS C with proposed project) and 0.56 (LOS C without project) for the studied considering requisite traffic growth. The project itself would not hinder the traffic flow. However, the natural traffic flow will be very high on this road after 10 Years.

17. **Project cost**: Total Cost (Land + Development) of the proposed project will be INR 1137 Crore.

Table: Environment monitoring cost (operational phase)

S. No.	Particulars	Parameters	Frequency	Approx. Recurring Cost / Annum (INR Lakh)
1.	Ambient Air Monitoring	$PM_{2.5}$, PM_{10} , SO_2 & NO_2 & CO	Half Yearly (24 hr average samples)	3
2.	Stack Emission Monitoring	$PM_{2.5}$, PM_{10}, SO_2, NO_2, HC, CO	Every Six Month	3
3.	Treated Effluent Monitoring	pH, BOD, COD, Oil, Grease & Total Suspended solids	Daily	3
4.	Noise Level Monitoring	24 Hrs. Noise Level	Half Yearly (Hourly day and night time Leq levels)	2
5.	Ground Water Monitoring	Drinking water specification as per IS10500	Half Yearly	3
TOTAL				**14**

Table: Environment management plan (operational phase)

DURING OPERATION PHASE		
COMPONENT	**CAPITAL COST (INR LAKH)**	**RECURRING COST (INR LAKH/YR)**
Sewage Treatment Plant	68	17
Rain Water Harvesting System	12	3
Solid Waste Management	5	1.25
Environmental Monitoring	0	9
Green Area/ Landscape Area	4	1
Others (Energy saving devices, miscellaneous)	10	2.5
TOTAL	**99**	**33.75**

TOTAL EMP BUDGET		
COMPONENT	**CAPITAL COST (INR LAKH)**	**RECURRING COST (INR LAKH/YR)**
During Construction Phase	50	15.5
During Operation Phase	99	33.75
TOTAL	**149**	**49.25**

18. **Environment Consultant**: The Environment consultant **M/s Grass Roots Research & Creation India (P) Ltd, Noida** along with the proponent made a presentation on the proposal before the Committee on 13.06.2023.

19. The SEAC in its meeting dated 13-06-2023 recommended the following:

A. The proponent may be asked to submit the following for further processing of EC application:

a) Land schedule and kisam of land as per Sabik record.

b) Water balance details in Monsoon and Non Monsoon Period.

c) Recent data to be included in traffic study report.

d) Layout of greenbelt area and furnish the details after finding possibility in increasing greenbelt area up to 20% excluding landscape as the present documentation reveals green area is 22.5% (greenbelt + landscape).

e) Find the possibility for installation of two organic waste converter with interconnection in between them.

f) Proposal to increase in usage of treated waste water in premises by segregating grey water and black water and its usage for plantation and car washings and thereby reducing quantity of discharge to drain.

g) Height of the building is 151 meter and hence, permission status from Airport Authority of India (AAI).

h) Schedule-I species are there in project area and hence, status of approval of Wildlife Conservation Plan.

i) RL of the bottom of the rainwater discharge pit as well as RL of ground water table during rainy and summer season.

j) Detail plan of drainage for discharging excess treated sewage water.

k) Source of water for use during construction phase.

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

i) Environmental settings of the project site.

ii) Construction activity, if any started at the site.

iii) Road connectivity to the project site.

iv) Drainage network at the site.

v) Discharge point for discharge of treated water and distance of the discharge point from the project site.

vi) Any other issues including local issues.

20. The proposed site was visited by the sub-committee of SEAC on **14.07.2023**. Following are the observations of the sub-committee:

i) PP and Consultant were present along with other team members.

ii) It was observed that the site is adjacent to the Jaydev Vihar Nandan Kanan Main Road having access to site and there is drain at side of the road.

iii) No construction work carried out at the site.

iv) PP explained that site plan with layout and map. The drain connection, DG set position, fire corridor etc were explained.

v) A Nallah was seen at a distance from the site where the excess treated water to be discharged through the road side drain. However, the underground drain which crosses the road to other side of road is not fully connected and needs to be connected. The PP had shown relevant permission to construct the drain till it falls the Nallah. They were asked to submit the documents showing the drain connection and permission obtained from the authority. They need to start drain construction at priority before building construction (Conditions to be stipulated)

vi) Documents asked during presentation needs to be submitted and comply all environment conditions as per statutory requirement.

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)	Land schedule and kisam of land as per Sabik record.	Land schedule and kisam of land is attached as **Annexure-I**.	submitted
ii)	Water balance details in Monsoon and Non Monsoon Period.	Water balance is attached as **Annexure II.**	submitted
iii)	Recent data to be included in traffic study report.	Latest Traffic study report of June, 2023 is attached as **Annexure- III**.	The present traffic V/C ratio is 0.21 (LOS B) and forecasted traffic, after 10 years V/C ratio is 0.58 (LOS C with proposed project) and 0.56 (LOS C without project)
iv)	Layout of greenbelt area and furnish the details after finding possibility in increasing greenbelt area up to 20% excluding landscape as the present documentation reveals green area is 22.5% (greenbelt + landscape).	Greenbelt (Soft cape) area measures 7003.8 sqm which is 25.4% of the site area. Hardscape green area measures 6215 sqm which is 22.6% of site area. Updated Landscape plan is attached as **Annexure-IV**.	submitted
v)	Find the possibility for installation of two organic waste converter with interconnection in between them.	As suggested by SEAC, we will provide two OWC machines. Undertaking for the same is attached as Annexure- V.	Undertaking submitted
vi)	Proposal to increase in usage of treated waste water in premises by segregating grey water and black water and its usage for plantation and car washings and thereby reducing quantity of discharge to drain.	The wastewater will be treated in an onsite STP of 736 KLD capacity. The treated effluent will be reused to the maximum possible for flushing and horticulture. Surplus treated effluent will be discharged to external sewer. Discharge permission is enclosed as **Annexure – VI**.	Approval of EIDP for project is attached.
vii)	Height of the building is 151 meter and hence, permission status from Airport Authority of India (AAI).	AAI NOC is attached as **Annexure-VII**.	Submitted.
viii)	RL of the bottom of the rainwater discharge pit as well as RL of ground water table during rainy and summer season.	RL of the RWH pit's bottom is 3.15 m bgl. Ground water table for pre monsoon is 4.99 m bgl and post monsoon is 4.2 m bgl.	Submitted.
ix)	Detail plan of drainage for discharging excess treated sewage water.	Drainage plan for discharging excess treated sewage water is enclosed as **Annexure-VIII**. Discharge permission is enclosed as **Annexure – VI**.	Layout submitted
x)	Source of water for use during construction phase.	Source of water during construction phase will be	submitted

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		Ground water. CGWA NOC has been obtained from competent authority vide application no. 21-4/4675/OR/INF/2023 dated 07.02.2023 and the same is attached as **Annexure IX**.	

22. The proponent has furnished the compliance to observations of Sub-Committee of SEAC during its site visit as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
i)	Environmental settings of the project site.	The project site is 1.6 km outside the ESZ of Nandankanan Wildlife Sanctuary and 3.6 km outside the ESZ of Chandaka Dampara Wildlife Sanctuary. DFO NOCs are enclosed as **Annexure – X** & **XI** respectively. There is no other ecologically sensitive Location near the project site.
ii)	Construction activity, if any started at the site.	No construction activity has been initiated at project site.
iii)	Road connectivity to the project site.	The project site is well connected by 30 m wide Nandankanan - Jayadev Vihar road.
iv)	Drainage network at the site.	Details provided above in point no. 9 and point no. 11.
v)	Discharge point for discharge of treated water and distance of the discharge point from the project site.	Details provided above in point no. 9 and point no. 11.
vi)	Any other issues including local issues.	No other issues.
vii)	Drain connecting map to the project site along with permission obtained from EIDP.	Google Map showing drain connection to the project site and permission obtained from competent authority for the same is attached as **Annexure XII**. Permission enclosed above as **Annexure – VI**.

Considering the information furnished and the presentation made by the consultant, **M/s Grass Roots Research & Creation India (P) Ltd., Noida, U.P.** along with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 10 years with stipulated conditions as per **Annexure – C** in addition to the following specific conditions**.**

i) The Proponent before implementation of the project shall convert the land to Gharabari and shall take the ownership of the land if not already taken.

ii) The Proponent shall obtain permission/NOC from Executive Engg. (PHD) and / or from the appropriate authority for disposal of excess STP treated water to the nearest drain without which the Proponent will not start construction work. Also, in case of the connecting drain

passing through others land (Govt. or Private land), the Proponent shall obtain the permission and possession as the case may be.

iii) The proponent shall use solar energy at least to the tune of 5%of total power requirement as proposed.

iv) The proponent shall obtain permission from concerned Fire Safety Authority.

v) Trees located within the project area shall be transplanted to alongside the boundary green development area.

vi) The proponent shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of project report.

vii) The project proponent shall maximise utilisation of treated water in flushing, plantations and ground washings etc. as per need to reduce water discharge to drain. This shall be verified in future compliance report.

viii) All compliances submitted/ committed by PP(s) shall be strictly adhered to them in addition to all the conditions/ specific conditions of EC.

ix) **The Sub-Committee of SEAC during its visit observed that a Nallah was seen at a distance from the site where the excess treated water to be discharged through the road side drain. However, the underground drain which crosses the road to other side of road is not fully connected and needs to be connected. The PP had shown relevant permission to construct the drain till it falls the Nallah. They were asked to submit the documents showing the drain connection and permission obtained from the authority. The proponent shall start drain construction at priority before building construction**.

Member Secretary, SEAC

ANNEXURE- A

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.

Environmental Scientist, SEAC

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.

Environmental Scientist, SEAC

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.

Environmental Scientist, SEAC

Annexure - B

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	

ANNEXURE - C

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR M/S. EVOS BUILDING PVT. LTD. FOR GROUP HOUSING PROJECT "EVOS ALCHEMY" OVER A BUILT-UP AREA 2,68,099.4 SQM LOCATED AT MOUZA - RAGHUNATHPUR, THANA - CHANDAKA, TAHASIL - BHUBANESWAR, DISTRICT - KHURDA OF SRI KALINGA KESHARI RATH - EC

PART A - SPECIFIC CONDITIONS:

1. Consent to Establish / Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
2. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of fire fighting equipment etc. as per National Building Code including protection measures from lightening etc.
3. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
4. The project proponent shall ensure that the guidelines for building and construction projects issued vide this Ministry's OM NO.19-2/2013-IA.III dated 9th June, 2015, are followed to ensure sustainable environmental management.
5. The proponent shall obtain prior clearance from the Standing Committee of the National Board for Wild Life if the project will be located within any Eco-Sensitive Zone of Wild Life Sanctuary.

TOPOGRAPHY AND NATURAL DRAINAGE

6. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape and other Sustainable Urban Drainage Systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
7. The permission from competent authority will be obtained to discharge the excess storm water to drain if any. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially.
8. Permission for construction of drain alongside the adjacent NH under construction for allowing the proponent to discharge the treated waste water as well excess runoff water during monsoon from NH Authority shall be obtained. The construction of drains shall be synchronized with the completion of the construction of the Housing Project.

WATER REQUIREMENT, CONSERVATION, RAIN WATER HARVESTING, AND GROUND WATER RECHARGE

9. As proposed, fresh water requirement from ground water shall not exceed 443 KLD.
10. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring

that there is no impact on other users.

11. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC and SEIAA, Odisha along with six monthly Monitoring reports.
12. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
13. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.
14. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
15. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
16. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits of 08 nos. shall be provided.
17. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering. The proponent shall also obtain permission from Water Resources Department, Govt. of Odisha for drawl of water.
18. The proponent shall keep one bore well as standby domestic water source once municipal water supply is made available in the project area.

SOLID WASTE MANAGEMENT

19. The provisions of the Solid Waste (Management) Rules, 2016, E-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
20. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
21. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials. Wet garbage shall be composted in Organic Waste Converter. Adequate area shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from group housing project will be sent to dumping site.
22. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.
23. A certificate from the competent authority handling municipal solid wastes, indicating the

existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste generated from project shall be obtained.

SEWAGE TREATMENT PLANT

24. Sewage shall be treated in STP of capacity 736 KLD. The treated effluent from STP shall be reused for flushing, landscaping, floor & car washing.
25. Excess treated water shall be discharged to the drain only after getting the permission from the concerned authority. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially. To this effect the proponent has to give a legal affidavit before going for construction activity.
26. A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/disposal/drainage systems along with the final disposal point.
27. Separate large recharge pits shall be constructed inside the project area to accommodate the rainwater in case the housing project period and the CDP of the Govt. does not synchronize with reference to construction of road and drain.
28. No sewage or untreated effluent water would be discharged through storm water drains.
29. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA, Odisha before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
30. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
31. The proponent shall obtain permission from the concerned authority to discharge the liquid waste to any drain i.e. the competent authority of the drain and "Nala" before commencement of any activity at the project site.

ENERGY

32. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
33. Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.

34. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 5% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher. Follow super ECBC requirement of ECBC 2017 and provide compliance report.

35. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

36. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.

37. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be submitted.

AIR QUALITY AND NOISE

38. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3-meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, morram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, morram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

39. AII construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

40. **Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.**

41. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

42. For indoor air quality the ventilation provisions as per National Building Code of India shall be provided.

43. Ambient noise levels shall conform to residential standard both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

GREEN COVER

44. No tree cutting/transplantation of existing trees has been proposed in the instant project. A minimum of 1 tree for every 80 m^2 of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping. As proposed approx. 13218sqm (48% of total plot area) shall be provided for green area development.

TOP SOIL PRESERVATION AND REUSE

45. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

TRANSPORT

46. A comprehensive mobility plan, as per Ministry of Urban Development best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.

    - Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
    - Traffic calming measures
    - Proper design of entry and exit points.
    - Parking norms as per local regulation

47. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project.

48. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

49. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

50. A dedicated entry/exit and parking shall be provided for commercial activities.
51. Barricades shall be provided around project boundary.
52. Speed of the vehicles shall be restricted upto 15 kmph by erecting speed bumps at regular intervals at project site and proper signage shall be provided for guided vehicular movement and speed restrictions.
53. Parking shall be prohibited on the access road to the proposed project site.
54. Footpath shall be seamless with sufficient width.
55. No vehicles shall be allowed to stop and stand in front of the gate on main access.
56. A buffer of minimum 10 m shall be maintained between the entry/exit gate and the road to avoid traffic congestion.
57. The Traffic Management Plan prepared by the proponent shall be duly validated and certified by the State Concerned Competent Authority and shall have also their consent before implementation.

ENVIRONMENT MANAGEMENT PLAN

58. An Environmental Management Plan (EMP) shall be prepared and implemented to ensure compliance with the environmental conditions specified above. A dedicated Environment Monitoring Cell with defined functions and responsibility shall be put in place to implement the EMP. The environmental cell shall ensure that the environment infrastructure like Sewage Treatment Plant, Landscaping, Rain Water Harvesting, Energy efficiency and conservation, water efficiency and conservation, solid waste management, renewable energy etc. are kept operational and meet the required standards. The environmental cell shall also keep the record of environment monitoring and those related to the environment infrastructure.

OTHERS

59. Provisions 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.
60. A First Aid Room shall be provided in the project both during construction and operations of the project.
61. The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
62. As per the MoEF&CC, Govt. of India Office Memorandum F.No.22-65/2017-IA.III dated 1st May 2018, the project proponent is required to prepare and implement Corporate Environment Responsibility (CER) Plan. As per para 6(ll) of the said O.M. appropriate funds shall be earmarked for the activities such as infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire

activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

PART B – GENERAL CONDITIONS

1. A copy of the Environmental Clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.
2. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to the SEIAA, Odisha and MoEF&CC, Govt. of India and its concerned Regional Office.
3. Officials from the Regional Office of MoEF&CC, Bhubaneswar who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection.
4. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA, Odisha.
5. The SEIAA, Odisha reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
6. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
7. These stipulations would be enforced among others under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and the EIA Notification, 2006.
8. The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the SEIAA, Odisha. The advertisement shall be made within Seven days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the Regional Office of MoEF&CC, Bhubaneswar.
9. 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.
10. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The

clearance letter shall also be put on the website of the company by the proponent.

11. The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

12. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC, Govt. of India by E-mail.

Environmental Scientist, SEAC