

**MINUTES OF THE 56<sup>TH</sup> GOA STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY (GOA-SEIAA) MEETING HELD ON 06<sup>TH</sup> JANUARY 2021 AT 11. 00 AM. IN THE CONFERENCE ROOM OF THE 4<sup>TH</sup> FLOOR, DEMPO TOWER, PATTO-PANAJI,GOA.**

The fifty sixth meeting of the Goa-SEIAA (*hereinafter referred as 'Authority'*) was held on 06<sup>th</sup> January 2021 at 11.00 am. in the conference room ,4<sup>th</sup> floor, Dempo Tower, Patto, Panaji. The list of members present during the meeting is annexed (*refer Annexure – 1*).

At the outset, Chairman welcomed Authority members and briefed about the agenda items (*refer Annexure – 2*) to be taken up for discussion / deliberations and suitable decisions. Accordingly, the same were considered as detailed below -

1. To decide on recommendation given by Goa-SEAC for proposed residential development "Thousand Palms" at survey no. 143/1A-1a, Sancoale village, Marmugao, Goa by M/s Ashoka Infracore Ltd. The Committee during 121<sup>st</sup> meeting held on 26<sup>th</sup> May 2020 perused the compliances and after detailed discussion and deliberation decided to recommend the project to Goa-SEIAA for grant of Environmental Clearance (EC) under the provision of EIA Notification 2006, as amended. Brief project details submitted by Project proponent are as below:

<b>Project Proponent</b>	<b>ASHOKA INFRAWAYS LIMITED</b>
<b>Name of the project</b>	<b>Thousand Palms</b> <b>Survey No 143/1 A-1A SancoaleMarmugoa Goa</b>
<b>Net Plot Area</b>	Total Plot Area:15000 sqm BUA: 22398.39 sqm
<b>Proposed Built-up Area (FSI &amp; Non-FSI)</b>	(FSI + NON FSI ) 14987.17+7411.22 22398.39 sqm
<b>Ground coverage</b>	Ground coverage : 40% Permissible : 6000 sq mt Area covered : 4009.12sqmt
<b>No. of buildings</b>	10 buildings
<b>Height of the building (s)</b>	15 meter
<b>Total Water Requirement</b>	<b>Operation Phase:</b> <b>Fresh Water requirement: 162 cmd</b> Fresh water : 96 cmd Treated water from STP : 107 cmd Total sewage generated : 119 cm
<b>Sewage Generation</b>	Total sewage Generated: 119 KLD (STP Capacity 120KLD) MBBR technology
<b>Solid wastes</b>	<b>Operation Phase :</b> Total solid waste : 471 kg/day
<b>Energy</b>	<b>Source:</b> GEB <b>Construction Phase :</b> 20 HP <b>Operation Phase :</b> Connected load : 3032 KW and demand load : 1558 KW <b>DG Power Back-up: 1</b> Nos. of DG set capacity:200 KVA each 3 transformer of 500 KVA

RG	2250 sqm
Quantity of soil excavated	2870 sqmtrs
Tree details	Trees on site : 42 nos Trees to be cut : 21nos Trees to be retained : 21 Nos New trees to be planted : 343 Nos

The Goa-SEAC raised some issues which were complied by project proponent on 09/03/2020. The Committee after perusing the compliances decided to recommend the proposal to Goa-SEIAA for grant of Environmental clearance.

The Authority during its 55<sup>th</sup> meeting noted that that the term of the Authority is expiring on 27<sup>th</sup> June 2020 and hence the members decided to defer the proposal to next Authority because they would not be in position to inspect the site and give valuable suggestions.

**Decision:** The Authority after perusing the documents and the compliances submitted by project proponent decided to grant environmental Clearance for proposed residential development of Thousand Palms at survey no. 143/1A-1a, Sancoale village, Marmugao, Goa by M/s Ashoka Infraways Ltd under the provision of EIA Notification 2006 (as amended) with following conditions:

- i. Project proponent has to plant trees along the periphery of the plot.
- ii. Care to be taken by Project proponent that swimming pool should be covered.
- iii. Project proponent has to prioritise plantation of local species within the plot area.
- iv. Care should be taken by PP that perforated pavers should not touch trunk of the trees, and an approximate gap of 1 mt to be maintained.
- v. PP should prioritize the issues related to health and hygiene in complying with the matters related to waste disposal and treatment / air and water pollution / waste-water management.
- vi. Sewage Treatment Plant (STP) contract should be for minimum period of 5 years with operation and maintenance contract after commissioning /completion of project.
- vii. PP needs to ensure that no treated water or any waste sewage shall be discharged into any water body.
- viii. E-waste shall be disposed through Authorised vendor as per E-waste (*Management and Handling*) Rules, 2011.
- ix. Project Proponent (PP) should necessarily make appropriate provision while constructing the roof-tops at the time of construction stage itself to enable installation of solar panels towards south facing walls as and when made applicable in future.
- x. The Project Proponent shall utilise fly ash bricks in masonry works.
- xi. The PP shall use construction debris for land filling wherever applicable.

- xii. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.
- xiii. 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.
- xiv. 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.
- xv. Installation of dual pipe plumbing one for supplying fresh water for drinking, cooking and bathing etc and the other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning, etc. shall be done.
- xvi. 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.
- xvii. Solar based electric power shall be provided to each unit for at least two bulbs/light and one fan. As proposed, central lighting and street lighting shall also be based on solar power.
- xviii. The project proponent will provide landscape bed of 600mm wide X 600mm deep along the periphery of the plot to carry out plantation of trees. The treated water from the sewage treatment plant will be pumped through high flow drips on these beds to prevent outflow of treated sewage water outside the premises.
- xix. PP shall make provision for charging points for electronic vehicles in the parking Area.

**2. Project Proponent should implement Dust mitigation measures for construction activities such as:**

- a. Roads leading to or at construction sites must be paved and blacktopped (i.e. metallic roads).
- b. No excavation of soil shall be carried out without adequate dust mitigation measures in place.
- c. No loose soil or sand or Construction & Demolition Waste or any other construction material that causes dust shall be left uncovered.
- d. Wind-breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided.
- e. Water sprinkling system shall be put in place.
- f. Dust mitigation measures shall be displayed prominently at the construction site for easy public viewing.
- g. New serial number 1070 has been inserted which relates to Mandatory Implementation of Dust Mitigation Measures for all Construction and Demolition Activities:

- h. Grinding and cutting of building materials in open area shall be prohibited.
  - i. Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.
  - j. No uncovered vehicles carrying construction material and waste shall be permitted.
  - k. Construction and Demolition Waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site.
  - l. Further, progress will be reviewed after six months (*minimum 3 times in a year depending upon progress of the work*). Further, the compliance to these conditions as and when submitted by PP will be verified /ascertained by the authority to propose additional conditions if any.
2. Further, the Authority has decided that PP needs to comply to the following “**General Conditions**”:-
- a. The PP should use Ready-Mixed Concrete (RMC) to minimize air / water / land pollution and water usage during the construction phase.
  - b. **Solar power generation** - Every major consumer of conventional power will have to generate and opt for certain percentage of power generation from the non-conventional sources. In this context, Project Proponent (PP) should necessarily make appropriate provision while constructing the roof-tops at the time of construction stage only to enable installation of solar panels as and when made applicable in future. In addition, south-facing walls to be utilized to install solar panels to harness optimum solar energy. Use of solar panels may be done to the extent possible like installing solar street lights, common solar water heater system. PP should install, after checking feasibility, solar-plus-hybrid non-conventional source as source of energy.
  - c. PP should adopt roof-top rainwater harvesting / conservation measures to optimally utilize the water availability by constructing sumps for collection of rainwater as per the site-specific location details provided.
  - d. PP should not disturb the natural drainage and as far as possible and maintain the original topography while designing for landscape development by planting local plant species and which are not alien to the prevailing environment.
  - e. PP should clarify any issue related to public objections, if any, and should not conceal the scientific facts in light of the proposed developmental activity vis-à-vis its land use categorization / zoning.
  - f. PP should submit half-yearly compliance report(s) in hard as well as soft copy format to the Authority for the period upto project completion.
  - g. This environmental clearance is issued subject to land use verification. Local authority / planning authority should ensure this with respect to Rules, Regulations, Notifications, Government Resolutions, Circulars, etc. issued if any, from time to time. Judgements / Orders issued by Hon'ble High Court, NGT, Supreme Court regarding DCR provisions, environmental issues applicable in this matter should be verified by the competent authorities.

- h. PP should ensure and ascertain that **civil plans** which were submitted to the Committee/ Authority during the process of project appraisal be submitted to other line Departments / agencies concerned while seeking NOC / Consents/ Permissions, as applicable. If any discrepancy is found in the plans submitted or details provided may be reported to this Authority. This environmental clearance is issued with respect to the environmental considerations and it does not mean that Goa-SEIAA approved the proposed land.
  - i. E-waste if any shall be disposed through Authorised vendor as per E-waste (*Management & Transboundary Movement*) Rules, 2016.
  - j. This environmental clearance is issued subject to obtaining NOC from the Forestry & Wildlife angle including clearance from the Standing Committee of the National Board for wildlife, if applicable. The grant of environmental clearance does not necessarily imply that Forestry & Wildlife clearance has been granted to the project, which has to be dealt separately by the competent authorities in accordance with law.
  - k. The height, construction gross built up area of proposed construction is **26,538 Sq.mts** shall be in accordance with the existing FSI/ FAR norms of the local body and planning authorities and it should ensure the same along with survey number before approving layout plan and before according commencement certificate to proposed work, Plan approving authority should also ensure the zoning permissibility for the proposed project as per the approved development plan of the area.
  - l. All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.
3. Further, the PP is required to comply with the following **“General Conditions” during construction phase:-**
- a. **Consent to Establish** shall be obtained from the Goa State Pollution Control Board (GSPCB) under Air Act and Water Act, as applicable and a copy shall be submitted to the Authority within 30 days of starting construction work at site.
  - b. Permission to draw groundwater, as applicable, shall be obtained from the Groundwater Cell of the Water Resources Department (WRD) government of Goa.
  - c. Project proponent shall not make any change in the Surface Layout Plan / Civil Plan submitted to the Authority without its prior permission. **In case of any change(s) in the scope of the project and/or otherwise, the project proponent needs to inform this Authority.**
  - d. Project proponent shall make suitable provisions for sewage / wastewater disposal and storm water release independently.
  - e. The diesel generator sets (D.G. set) to be used during construction / after commissioning should be low-sulphur diesel type and should conform to Environment

(Protection) Rules prescribed for air and noise emission standards as laid down by the Goa State Pollution Control Board (GSPCB).

- f. The installation of the Sewage Treatment Plant (STP) if any should be certified by the GSPCB and a report in this regard should be submitted to the Authority before the STP is commissioned.
- g. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche and first aid room etc.
- h. Adequate drinking water and sanitary facilities should be provided for construction workers at the site. Provision should be made for mobile toilets. The safe disposal of waste water and solid waste generated during the construction phase should be ensured.
- i. The solid waste generated should be properly segregated. Dry /inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material.
- j. Disposal of muck during construction phase should 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 site with the approval of competent authority.
- k. Arrangements shall be made that waste water and storm water do not get mixed.
- l. All the top soil excavated during construction activities should be stored if or use in horticulture/landscape development within the project site.
- m. Additional soil for levelling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.
- n. Green-belt development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the State Forest / Agriculture Department.
- o. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
- p. Construction spoils, including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the dump sites for such materials must be secured so that they should not leach into ground water.
- q. Any hazardous waste generated during construction phase should be disposed off as per applicable rules and norms with necessary authorisation of the GSPCB.
- r. The diesel requires for operating DG sets shall be stored in underground tanks and if required, Clearance from concerned authority shall be taken.
- s. 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 standard and should be operated during non-peak hrs.

- t. Ambient noise levels should conform to residential standards both during day and night. Incremental pollution load on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level construction phase, so as to conform to the stipulated standard by CPCB/ GSPCB.
- u. The approval of competent authority shall be obtained for structural safety of the buildings due to any possible earthquakes, adequacy of fire fighting equipments etc. as per National Building Code (NBC) including measures from lighting.
- v. Storm water controlled and its re-use as per Central Ground Water Board (CGWB) and Bureau of Indian Standards (BIS) for various applications.
- w. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- x. The groundwater level and its quality should be monitored regularly in consultation with ground water authority of the Water Resources Department (WRD), Government of Goa.
- y. The installation of the sewage treatment plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the GSPCB before the project is commissioned for operation. Treated effluent released from STP shall be recycled / refused to the maximum extent possible. Discharge of this unused treated effluent, if any should be discharged in the sewer line. Treatment of 100% grey water through the centralised treatment should be done. Necessary measures should be adopted to mitigate the odour problem from STP.
- z. Use of glass may be reduced upto 40% to reduce electricity consumption and load on air-conditioning. If necessary, use high quality double glass with special reflective coating in windows.
- aa. Roof should meet prescriptive requirement as per energy conservation building code by using appropriate thermal insulation material.
- bb. Energy conservation measures like installation of LEDs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Use of CFLs / TFLs, if any, should be properly collected and disposed off / sent for recycling as per the prevailing guidelines / rules of the regulatory authority to avoid mercury contamination.
- cc. Diesel power generating sets proposed as source of backup power for elevators and common area illumination during operation phase should be of enclosed type and conform to rules made under the environment (protection) Act 1986. The height of stack of DG sets should be equal to the height needed for the combine capacity of all proposed DG sets.
- dd. Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.

- ee. Traffic congestions near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalised and no public place should be utilised.
  - ff. opaque wall should meet prescriptive requirement as per energy conservation board which is proposed to mandatory for all air conditioned spaces while it is aspiration for non- air conditioned spaces by use of appropriate thermal insulation material to fulfil requirement.
  - gg. The buildings should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.
  - hh. Regular supervision of the above and other measures for monitoring should be in placed all through the construction phase, so as to avoid disturbance to the surroundings.
  - ii. Under the provisions of Environment Protection Act 1986, legal action shall be initiated against the PP if it was found that construction of the project has been started without obtaining EC.
  - jj. Six monthly compliance reports should be submitted to the MOEF with copy to the Goa-SEIAA and GSPCB.
4. Further, the Authority decided to direct the PP to comply with the following **“General Conditions” during post-construction phase:-**
- a. PP shall ensure completion of STP, MSW disposal facility, green belt development prior to occupation of the buildings. The PP to explore possibility of utilising excess treated water in the adjacent area for gardening before discharging into sewer line. No physical occupation of allotment will be given unless all above said environmental infra structure is installed and made functional including water requirement prior certification from appropriate authority shall be obtained.
  - b. Wet garbage should be treated by organic waste convertor and treated waste (manure) should be utilise in the existing premises foe gardening. And no wet garbage will be disposed outside the premises. Local authority should ensure compliance to this.
  - c. A complete set of all the documents submitted to Goa-SEIAA should be forwarded local authority, GSPCB and Planning authority.
  - d. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the Goa-SEIAA.
  - e. Separate funds shall be allocated for implementation of environmental protection measures /EMP along with item wise breaks-up. The funds earmarked for the environment protection measures shall not be diverted for other purposes.
  - f. A copy of the environmental clearance letter shall be sent by PP to the concerned Village Panchayat and planning authority as applicable, from which suggestions / representation, if any, were received while processing the



proposal. The EC letter shall also be put on the company's website by PP within one week time period from date of issue of environmental clearance.

- g. The PP shall upload the status of the compliance of the stipulated EC conditions, including results of monitoring data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF & CC, the respective Zonal office, CPCB and the GSPCB. The pollutant levels in respect of SPM, RSPM, SO<sub>2</sub> and NO<sub>x</sub> (*ambient levels as well as D.G. stack emissions*) shall be monitored.
- h. The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V is to be submitted to the GSPCB as prescribed under the Environment (*Protection*) Rules 1986 (as amended) and subsequently shall also be put on the company's website along with the status of the compliance of the EC conditions and shall also be sent to the respective Regional Office of the MoEF & CC.
- i. Consent to Operate shall be obtained from GSPCB before operation, failing which the Environmental Clearance herein shall be deemed to be withdrawn.
- j. Sewage Treatment Plant (STP) shall be installed at site. The STP should be certified by an independent expert and adequacy report in this regard should be submitted to GSPCB before the project is commissioned for operation. Necessary measures should be made to mitigate the odour problem from STP.
- k. The solid waste (dry as well as wet garbage) generated should be properly collected and segregated. Organic Waste Converter shall be installed by RWA for the treatment of biodegradable (wet) garbage generated within the housing complex. Non-Biodegradable waste should be outsourced properly after recovery of recyclable material. Adequate measures should be taken to prevent odour problem.
- l. Utilization of Diesel power generating sets is subject to power failure condition only. The DG sets proposed as a source of power back up during operation phase should be of enclosed type, low sulphur diesel run and conform to rules made under the Environment (Protection) Act, 1986. The DG sets should be subjected to periodic noise and stack monitoring in consultation with GSPCB. Waste/used diesel should be stored and managed as per the Hazardous and other Wastes (*Management & Transboundary Movement*) Rules, 2016 as amended.
- m. Noise should be controlled to ensure that it does not exceed the prescribed standards both during day & night time.
- n. The ground water drawl from existing/proposed bore wells if any should be done only with the prior permission of Ground Water Board. The ground water level and its quality should also be monitored regularly both during construction and operation phase in consultation with Ground Water Board.
- o. Traffic congestion near the entry and exit points from the roads adjoining the project site must be avoided. Parking should be fully internalized and no public space should be utilized.

- p. Energy Conservation measures such as solar lighting for common area, solar water heating system, CFLs/TFLs for lighting of areas, LED lights for signage, solar inverters on the etc should be adopted.
  - q. Used CFLs/TFLs should be properly collected and disposed off/ sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.
  - r. A Report on energy conservation measures conforming to energy conservation norms finalized by Bureau of energy Efficiency should be prepared incorporating details about building materials and technology, R & U factors etc and submit to the State Expert Appraisal Committee and a copy to GSPCB in three months time.
5. Further this EC is issued without prejudice to the action initiated in the Environment (*Protection*) Act or any court case pending in the court of law. As such, it does not mean that the PP has not violated any environmental laws in the past and whatever decision under the said Act by the Honøble Court will be binding on the PP. **Hence, this environmental clearance does not give immunity to the PP in the case complaint is filed against, if any, or action initiated under the said Act.**
  6. In case of submission of false document and non-compliance to any of the stipulated conditions, this Authority will revoke or suspend the EC without any intimation and initiate appropriate legal action under the Environment (*Protection*) Act, 1986 (*as amended till date*).
  7. E-waste generated in the complex should be managed as per CPCB guidelines on E-waste management.
  8. The Goa-SEIAA reserves their right to add any stringent condition or to revoke the environmental clearance, if conditions stipulated above are not implemented to the satisfaction of the Authority or for that matter, for any other administrative reasons.
- 2. To decide on transfer of Environmental Clearance issued to GWMC for set up of Common Bio medical waste treatment facility at Kundaim to M/s Biotic waste Solutions Pvt Ltd.**

**Background:** This office earlier was in receipt of application along with the EIA report dated 28/12/2018, refereed above, submitted to Goa-SEAC, Seeking prior Environmental Clearance under the Environment Impact Assessment Notification, 2006. The Environmental Clearance was granted vide letter dated 27/09/2019 to **M/s Goa Waste Management Corporation (GWMC)**, for setting up of Common Bio-medical Waste Treatment Facility (CBMWTF), at Plot No BW-1 in Kundaim Industrial Estate, Kundaim, Ponda, Goa.

The Concessionaire of the Goa Waste Management Corporation ó M/s Biotic Waste Solutions Pvt. Ltd., approached this Authority (*i.e. Goa- SEIAA*), seeking prior amendment and transfer of Environmental Clearance (EC) for establishment of a Common Bio-medical Waste Treatment Facility (CBMWTF), at Plot No. BW-1, in Kundaim Industrial Estate, Kundaim, Goa and

submitted letter dated 13/08/2020 alongwith additional information. The Concessionaire M/s Biotic Waste Solutions Pvt. Ltd. made a presentation before the SEAC, The Following Amendments were requested by the Concessionaire of the Goa Waste Management Corporation  
 ó M/s Biotic Waste Solutions Pvt. Ltd.

	<b>Points from Existing EC</b>	<b>Existing EC</b>	<b>Amended EC</b>
	Equipment Sr. No. 2: Autoclave	240 Liter (Volume)	One 8130 Liter/batch (Volume) and One 2000 Liter/ batch (Volume) as standby
	Equipment Sr. No. 3: Shredder	50kg/hour	250kg/hr
<i>New Point</i>	Equipment Sr. No. 4:	blank	Plastic Waste Recycling/ Management/ Reprocessing system. Installed one Line of 400 kg/hr
	Point 16	Ambient noise Levels shall conform to residnetal standard both during day and night.	Ambient noise levels shall conform to industrial standards both during day and night.
	Point 45	Entire quantity of treated wastewater shall be resuled for individual purpose within the premises after conforming the GSPCB norms includng 600m x 600 x garden bed along the periphery of the plot.	Entire quantity of treated wastewater shall be reused for individual purpose within the premises after conforming the (GSPCB) norms including 600mm wide green belt along periphery of the plot.
	Point 54	Regular Monitoring of ground level concentration of PM10, PM2.5, Nox and CO shall be carreid out at the site and downwind direction and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the CPCB. If at any stage these levels are found to exceed teh prescribed limits, necessary additional/control measures shall be taken immediately	To be Maintained
	Point 56	Proponent shall stricly follow the Environmental Monitoring Program (EMP) for Ambient Air Quality Monitoring (AAQM). An online Ambient Air Quality monitoring station to be installed.	To be Maintained
	Point 58	Diesel/HSD to the tune 60Lit./hr shall be used in the stand-by DG set (Cap.20 KVA).	Diesel/HSD to the tune 60Lit./hr shall be used in the stand-by DG set (Cap.250 KVA).
	Point 64	Treated Bio-medical plastic waste shall be sold out to GSPCB Authorized Recyclers only.	Treated Bio-medical plastic waste shall be sold out to any SPCB/SPCC Authorized Recyclers

			only.
	Point 65	Used oil shall be either reused for lubrication in plant machineries or sold out to GSPCB registered/ Authorized Recyclers.	Used oil shall be either reused for lubrication in plant machineries or sold out to any SPCB/SPCC registered/ Authorized Recyclers.
	Point 66	Discarded container/bags shall be either reused or sold only to GSPCB Authorized Recyclers.	Discarded container/bags shall be either reused or sold only to any SPCB/SPCC Authorized Recyclers.
	Point 67	Treated glass waste shall be sold out to GSPCB Authorized Recyclers only.	Treated glass waste shall be sold out to any SPCB/SPCC Authorized Recyclers only.
	Point 72	All possible efforts shall be made for Co-Processing of the Hazardous Waste prior to disposal into TSDF/CHWTF	All the Hazardous waste generated is to be disposed off into a TSDF/CHWTF as per HWM Rules 2016.
	Point 93	Rain water recharging of surface as well as rooftop runoff shall be undertaken and the same water shall be used for the various activities of the project to conserve fresh water	Rainwater harvesting system for recharging of surface water as well as rooftop runoff shall not be undertaken to avoid chance of contamination, being a CBWTF.

The Goa-SEAC after due consideration of the documents submitted by the project proponent and additional clarification furnished in response to its observation have recommended the grant of amendment in earlier EC dated 27/09/2019 for the above-mentioned project with the condition that the project proponent shall comply with the terms and conditions specified in this amended Environmental Clearance. The Goa-SEAC recommended the said proposal to the (Goa-SEIAA) Authority for Amendment and Transfer of grant of Environmental Clearance under the EIA Notification, 2006, (as amended).

**Decision:** The Authority after detailed discussion decided to issue Amendment as per the table referred above and further decided to transfer Environmental Clearance issued to GWMC for set up of Common Bio medical waste treatment facility at Kundaim to M/s Biotic Waste Solutions Pvt Ltd for grant of Environmental Clearance under the EIA Notification, 2006, (as amended).

3. To decide on recommendation given by **Goa-SEAC** on following minor minerals project proposals:

A. **Ivor Braganza** for proposed basalt quarry having lease area 1.8 ha. The proposed extraction capacity 15000 cum per annum. Details submitted by PP are as tabulated below:

Serial Number	Item	Details
1.	Name of the Project/s	Basalt stone quarry
2.	Name of the applicant	Ivor Andrew Braganza
3.	Type of quarry	basalt- minor minerals

4.	New/Expansion/Modernization/renewal	new
5.	Existing Capacity/lease Area etc.	lease area 18000 sqm capacity 15000 cum/annum
6.	Category of Project i.e. 'A' or 'B'	b minor minerals b1 category
7.	Plot/Survey/Khasra No.	5/1
8.	Village	Moissal
9.	District	South Goa
10.	State	Goa
11.	Nearest railway station/airport , public facility from site (public dwelling, school, educational institution, hospital, Dam)	railway station Sanvordem-Curchorem 4 km
12.	Area excavated	NA --new quarry
13.	Balance area available	NA —new quarry
14.	Proposed expansion capacity	NA — new quarry
15.	Raw material overburden ratio	0.2 %
16.	Location of Stack overburden	NA - quarry yet to be opened
17.	Existing flora and fauna at site with details of species and nos of trees	enclosed
18.	Proposed plantation plan	local species 100 nos on the stacked overburden
19.	Tree plantation proposed species and number	local species 100 nos on the stacked overburden
20.	Approached road	quarry internal road
21.	Proposed/Existing road Paved/unpaved with length of road	existing road from main road quarry is with paved hard rubbles.
22.	Distance from nearest Locality	4.0 km sanvordem
23.	Distance from nearest metallic road	500 m
24.	Distance from nearest water body	1.0 km – moissal dam
25.	Whether site has existing water body	no
26.	Distance from wild life sanctuary	7.0 km mahaveer wild life sanctuary
27.	Distance from Ecological Sensitive Area /zone boundary	6.0 km
28.	List of Endemic species & IUCN status	not available
29.	Details on IBA (Important bird area)	7.0 km mahaveer wild life sanctuary
30.	Proposed mitigation measures	1. controlled blasting for

		<b>noise</b> <b>2. water spraying for suppression of dust</b> <b>3. plantation of trees for dust &amp; sound pollution</b>
<b>31.</b>	<b>Dust mitigation measures</b>	<b>water spraying</b>
<b>32.</b>	<b>Noise mitigation measures</b>	<b>drilling with spraying of water &amp; controlled blasting. planting of trees for noise suppression.</b>
<b>33.</b>	<b>Number of trucks plying per day</b>	<b>6 nos</b>

**Decision:** The Authority after perusing the records submitted by the project proponent and recommendation by Goa-SEAC. The Authority after detailed discussion decided to grant environmental clearance to the said project under the provision of EIA Notification 2006 (as amended) with following conditions.

- 1. Goa Mineral Concession (Amendment) Rules, 2012** notified by the Directorate of Mines and Geology (DMG) and published in Official Gazette Series-I, No. 24 dated 17<sup>th</sup> September 2012.
- 2.** Submission of **approved mining plan** by the competent officer as per Sub-rule (7) as well as specific compliance to Sub-rules 7(A) to 7(D) of the above-referred Rules, as applicable.
- 3.** Office Memorandum (O. M.) issued by the Ministry of Environment, Forest and Climate Change (MoEF & CC) dated 20<sup>th</sup> December 2013 regarding **High Level Working Group Report on Western Ghats** *vis-a-vis* compliance to the conditions mentioned therein w.r.t. activities prohibited in the identified Ecologically Sensitive Areas (ESAs).
- 4.** Notification S. O. 733 (E) dated 10<sup>th</sup> March 2014 issued by the erstwhile Ministry of Environment and Forests (MoEF) and published in the Gazette of India ó Extraordinary, No. 624, Part-II, Section 3, Sub-section (ii) dated 10<sup>th</sup> March 2014 **specifying the list of villages categorized as Ecologically Sensitive Areas (ESAs) in the State of Goa** (i.e. 1,461 sq.kms.) *vis-a-vis* list of projects and activities prohibited / regulated therein.
- 5.** Various notifications dated 25<sup>th</sup> January 2015 / 17<sup>th</sup> February 2015 / 24<sup>th</sup> February 2015 / 25<sup>th</sup> February 2015 issued by the Ministry of Environment, Forests and Climate Change (MoEF&CC) **specifying the extent of Eco-Sensitive Zone – ESZ (i.e. buffer zone) surrounding Wildlife Sanctuaries and National Park(s) within the State of Goa** as well as details of projects and activities prohibited / regulated therein.
- 6.** Further, the project proponent is required to comply with the following **‘General conditions’**:-
  1. No change in mining technology and scope of working shall be made without prior approval of the ministry of environment and forests.
  2. No change in the calendar plan including excavation quantum of mineral iron ore and waste shall be made.
  3. Conservation measures for protection of flora and fauna in the core and buffer zone shall be drawn up in consultation with the local forest and wildlife Department.

4. Ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for RPM, SPM, SO<sub>2</sub>, NO<sub>X</sub> monitoring, location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the Goa State Pollution Control Board.
5. Data on ambient air quality (RPM, SPM, SO<sub>2</sub>, and NO<sub>X</sub>) should be regularly submitted to the Department of Mines and Geology and Goa State Pollution Control Board.
6. Fugitive dust emissions from all the sources shall be controlled regularly water spraying arrangement on haul roads, loading and unloading at transfer points shall be provided and properly maintained.
7. Measures shall be taken for control of noise levels below 85 dBA in the work environment workers engaged in operations of HEMM etc shall be provided with ear plugs/muffs.
8. Industrial waste water (Workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19<sup>th</sup> May 1993 and 31<sup>st</sup> December 1993 or as amended from time to time oil and grease trap shall be installed before discharge of workshop effluents.
9. Personal working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.
10. Occupational health surveillance program of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures if needed.
11. A separate environmental management cell with suitable qualified personnel shall be set up under the control of a senior executive who will report directly to the head of the Organisation.
12. The project authorities shall inform to the regional office located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
13. The funds earmarked for environmental protection measures shall be kept in separate account and should not be diverted for other purpose. Year wise expenditure shall be reported to the Directorate of Mines & Geology and the Ministry of Environment and Forests (MOEF & CC) New Delhi.
14. The Directorate of Mines & Geology and the Ministry of Environment and Forests (MOEF & CC) having regional office at Bangalore shall monitor compliance of the stipulated conditions. The project authorities should extend full co operation to the officer of the regional office by furnishing the requisite data/ information /monitoring reports.
15. A copy of clearance letter will be marked to concerned Panchayat /local NGO, if any from whom suggestion /representation has been received while processing the proposal.
16. The Department of environment or any competent Authority may alter /modify the above conditions or stipulate any further condition in the interest of environment protection.

7. Further, the project proponent is required to comply with the following ‘**Specific conditions**’:-

1. The lease holder should ascertain on-site demarcation and construction of lease boundary with cement poles / bio-fencing / barbed wire for the proposed leases in question. The lease boundary may be subsequently geo-referenced for precise positioning and ground-truth verification. As such, the lease holder should ensure that mineral ore extraction are restricted within the prescribed lease boundary and further ensure that no natural water course (*seasonal or perennial*) gets obstructed / diverted / reclaimed due to mineral ore extraction operations.
2. Top soil from the proposed lease area shall be stacked separately and shall be utilized for plantation, as applicable. Overburden or other rejects shall be backfilled into the worked-out pit as far as possible with a view to restore the land to its original topography or desired alternate use.
3. Overburden shall be stacked at earmarked dump site only and shall not be kept active for long period. The maximum height of the dump shall not exceed 30 m each stage shall preferably be of 10m and over all slope of the dump shall not exceed 28°. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The OB dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self sustaining. Compliance status shall be submitted to the ministry of environment & Forests on six monthly basis.
4. Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained property.
5. Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run off and siltation shall be based on the rain fall data.
6. Plantation shall be raised in area of 0.90 ha including a green belt of adequate width by planting the native species around the ML area, roads , OB dump sites etc in consultation with the local DFO/Agriculture department,. The density of the tress shall be around 2500 per Ha.
7. The project Authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director Central Ground Water Board.
8. Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall be carried out four times in a year-pre monsoon (April ómay) , monsoon (august) [post monsoon (November) and winter (January) and the data thus collected may be sent regularly to MOEF , Central Ground water Authority and regional director central Ground water Board.
9. Vehicular emission shall be kept under control and regularly monitored measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles shall be covered with tarpaulin and shall not be overloaded.



10. Sewage treatment plant shall be installed for the colony TP shall also be provided for workshop and wastewater generated from mining operations.
11. A final closure plan along with details of Corpus fund shall be submitted to the Directorate of Mines & Geology, Goa for approval.
12. The lease holder should ensure construction of approach road / proper access to enable transportation of ore from site to desired destination and/or crushing unit, as applicable. Transportation of ore shall be done by covering the trucks with tarpaulin so that no spillage of material / dust takes place en route.
13. The lease holder should comply with the proposed plan of action for extraction of ores within the available lease boundary limits in terms of provisions of Mines and Safety Rules / Guidelines, as applicable. In addition, safety gadgets and health-care facilities should be provided to workers vis-a-vis maintain hygiene surrounding the proposed lease boundary.
14. The lease holder shall obtain the "Consent" and / or "Authorization" as applicable, from the Goa State Pollution Control Board (GSPCB) as per the relevant provisions of the Air / Water Acts and Hazardous Waste (*Management, Handling and Transboundary Movement*) Rules, 2008 as amended.
15. No extraction is carried out within the safety zone of any bridge and/or embankment as well as within the vicinity of natural / man-made archaeological / heritage site(s).
16. The lease holder shall implement air pollution control measures / dust minimizing initiatives / noise control measures, wherever applicable, within the lease area as well as approach road and establish adequate buffer zone around the lease boundary to minimize dust pollution. It should be ensured that the Ambient Air Quality (AAQ) parameters as well as Noise be monitored at site and at the nearest human settlement (*at least twice during pre-monsoon and post-monsoon periods separately*) and comply with the norms prescribed by the Central Pollution Control Board (CPCB) and Noise Pollution (Control) Rules, 2000 respectively at all times.
17. Half-yearly compliance report on the conditions stipulated hereinabove shall be submitted to this Authority / DMG on 1<sup>st</sup> June and 1<sup>st</sup> December of each calendar year.
18. Green belt development shall be carried out as per CPCB guidelines including selection of local plant species and in consultation with Forest Department / Zonal Agricultural Office (ZAO), as applicable.
19. In case of any violation on above required terms n conditions will force the committee to stop the activities immediately.

**B. Mr. Prashant Kamat** minor mineral quarry (**new basalt stone quarry**) in survey no. 36/1 and 37/0 villages Allorna, Pernem, Goa. The consultant Mr. Nishant Kurade presented brief project report of the proposed basalt quarry having lease area 1.3982 ha. The proposed extraction capacity 4500 cum per annum. The committee conducted site inspection of the proposed site on 22<sup>nd</sup> May 2020. Details submitted by PP are as tabulated below:

Serial Number	Item	Details
1.	Name of the Project/s	Basalt stone quarry
2.	Name of the applicant	Prashant Kamat
3.	Name of quarry	Na
4.	Type of quarry	Basalt- minor minerals
5.	S. No. in the Schedule	
6.	New/Expansion/Modernization/renewal	New
7.	Existing Capacity/lease Area etc.	Lease area 13982 sqmsqm Capacity 4500 cum/annum
8.	Category of Project i.e. 'A' or 'B'	B minor minerals b1 category
9.	Plot/Survey/Khasra No.	36/1 & 37/0
10.	Village	Allorna
11.	District	North Goa
12.	State	Goa
13.	Nearest railway station/airport , public facility from site (public dwelling, school, educational institution, hospital, Dam)	Railway station Pernem 7 km
14.	Area excavated	NA --new quarry
15.	Balance area available	NA —new quarry
16.	Proposed expansion capacity	NA — new quarry
17.	Raw material overburden ratio	0.4 %
18.	Location of Stack overburden	NA - quarry yet to be opened
19.	Existing flora and fauna at site with details of species and nos of trees	NA
20.	Proposed plantation plan	Local species 100 nos on the stacked overburden
21.	Tree plantation proposed species and number	Local species 100 nos on the stacked overburden
22.	Approached road	Quarry internal road
23.	Proposed/Existing road Paved/unpaved with length of road	Existing road from main road quarry is with paved hard rubbles.
24.	Distance from nearest Locality	Ibrampur 2.0 km
25.	Distance from nearest metallic road	300 m
26.	Distance from nearest water body	3.0 km – chandel water supply

27.	Whether site has existing water body	No
28.	Distance from wild life sanctuary	12.0 km bondla wild life sanctuary
29.	Distance from Ecological Sensitive Area /zone boundary	11.0 km
30.	List of Endemic species & IUCN status	Not available
31.	Details on IBA (Important bird area)	12.0 km bondla wild life sanctuary
32.	Proposed mitigation measures	4. Controlled blasting for noise 5. Water spraying for suppression of dust 6. Plantation of trees for dust & sound pollution
33.	Dust mitigation measures	Water spraying
34.	Number of trucks plying per day	4 nos

**Decision:** The Authority noted that it is a new quarry after perusing the records submitted by Project proponent and after detailed discussion decided to seek clarification from Department of Mines & Geology for the following points.

1. Total number of existing basalt stone quarries, Lease area, capacity and lease holder.
2. Depiction of quarry location on map of Goa.

C. **Smt. Meeravati Velip** minor mineral quarry (**new basalt stone quarry**) in survey no. 30/1 village Gokuldem, Quepem, Goa. The consultant M/s Joshi Associates presented brief project report of the proposed basalt quarry having lease area 1.0000 ha. The proposed extraction capacity 5000 cum per annum. The committee conducted site inspection of the proposed site on 23<sup>rd</sup> May 2020. Details submitted by PP are as tabulated below:

Serial Number	Item	Details
1.	Name of the Project/s	GOKULDEM BASALT QUARRY
2.	Name of the applicant	MRS. MEERAVATI MHALU VELIP
3.	Name of quarry	GOKULDEM BASALT QUARRY
4.	Type of quarry	BASALT
5.	S. No. in the Schedule	1(a)
6.	New/Expansion/Modernization/renewal	NEW
7.	Existing Capacity/lease Area etc.	5000m <sup>3</sup> /Year, 1.0000Ha Area
8.	Category of Project i.e. 'A' or 'B'	B2
9.	Plot/Survey/Khasra No.	30/1
10.	Village	GOKULDEM
11.	District	South Goa
12.	State	Goa
13.	Nearest railway station/airport , public facility from site (public dwelling, school, educational institution, hospital, Dam)	9.5Km Bali Railway Station 45Km Dabolim Air Port 1.00Km Public dwelling 0.60Km School 14.0Km Health centre at Bali

		<b>0.43Km weir on Karka rivulet</b>
<b>14.</b>	<b>Area excavated</b>	<b>NIL</b>
<b>15.</b>	<b>Balance area available</b>	<b>1.0000Ha</b>
<b>16.</b>	<b>Proposed expansion capacity</b>	<b>New proposal</b>
<b>17.</b>	<b>Raw material overburden ratio</b>	<b>1:0.3</b>
<b>18.</b>	<b>Location of Stack overburden</b>	<b>With in lease area</b>
<b>19.</b>	<b>Existing flora and fauna at site with details of species and nos of trees</b>	<b>Existing trees PLEASE REFER ANNEXURE-1</b>
<b>20.</b>	<b>Proposed plantation plan</b>	<b>Dump , unutilised portion of the lease and fringe area</b>
<b>21.</b>	<b>Tree plantation proposed species and number</b>	<b>40 trees of cashew 10 trees of Mango &amp; Jackfruit 10 trees of kinnal 10 trees of Kumbyo</b>
<b>22.</b>	<b>Approached road</b>	<b>Not Existing to be laid</b>
<b>23.</b>	<b>Proposed/Existing road Paved/unpaved with length of road</b>	<b>Proposed unpaved of 320m</b>
<b>24.</b>	<b>Distance from nearest Locality</b>	<b>0.850Km</b>
<b>25.</b>	<b>Distance from nearest metallic road</b>	<b>320m</b>
<b>26.</b>	<b>Distance from nearest water body</b>	<b>340m Karka Rivulet</b>
<b>27.</b>	<b>Whether site has existing water body</b>	<b>No</b>
<b>28.</b>	<b>Distance from wild life sanctuary</b>	<b>8Km Netravati wild life sanctiary</b>
<b>29.</b>	<b>Distance from Ecological Sensitive Area /zone boundary</b>	<b>7Km ESZ of Netravati wild life sanctuary</b>
<b>30.</b>	<b>List of Endemic species &amp; IUCN status</b>	<b>Unavailable</b>
<b>31.</b>	<b>Details on IBA (Important bird area)</b>	<b>Netravati wild life sanctuary</b>
<b>32.</b>	<b>Number of trucks plying per day</b>	<b>3 to 4 trips in a day</b>
<b>33.</b>	<b>Details on storage of explosives used for blasting</b>	<b>No storage of Explosive Blasting shall be carried out through contractor having valid mobile Magazine licence.</b>

**Decision:** The Authority noted that it is a new quarry after perusing the records submitted by Project proponent and after detailed discussion decided to seek clarification from Department of Mines & Geology for the following points.

1. Total number of existing basalt stone quarries, Lease area, capacity and lease holder.
2. Depiction of quarry location on map of Goa.

**D. Mr. Kamlesh Mote** minor mineral quarry (**new laterite stone quarry**) in survey no. 125/0 village Torxem, Pernem, Goa. The consultant M/s Joshi Associates presented brief project report of the proposed basalt quarry having lease area 0.6000 ha. The proposed extraction capacity 5000 cum per annum. The committee conducted site inspection of the proposed site on 21<sup>st</sup> May 2020. Details submitted by PP are as tabulated below:

<b>Serial Number</b>	<b>Item</b>	<b>Details</b>
<b>1.</b>	<b>Name of the Project/s</b>	<b>TORXEM LATERITE QUARRY</b>
<b>2.</b>	<b>Name of the applicant</b>	<b>Shri KAMLESH MOTE</b>
<b>3.</b>	<b>Name of quarry</b>	<b>TORXEM LATERITE QUARRY</b>
<b>4.</b>	<b>Type of quarry</b>	<b>LATERITE STONE</b>
<b>5.</b>	<b>S. No. in the Schedule</b>	<b>1(a)</b>
<b>6.</b>	<b>New/Expansion/Modernization/renewal</b>	<b>NEW</b>
<b>7.</b>	<b>Existing Capacity/lease Area etc.</b>	<b>Nil/ 0.6000Ha Area</b>
<b>8.</b>	<b>Category of Project i.e. 'A' or 'B'</b>	<b>B2</b>

9.	Plot/Survey/Khasra No.	125/0
10.	Village	TORXEM
11.	District	North Goa
12.	State	Goa
13.	Nearest railway station/airport , public facility from site (public dwelling, school, educational institution, hospital, Dam)	10.0Km Pernem Railway Station 44Km Dabolim Air Port 0.65Km Public dwelling 0.40Km Primary School 10.50Km Hospital at Pernem 35Km Tillari dam
14.	Area excavated	Nil
15.	Balance area available	0.6000Ha
16.	Proposed expansion capacity	New Proiposal Proposes to produce 5000m3/year
17.	Raw material overburden ratio	1:0.45
18.	Location of Stack overburden	Tandem Backfilling
19.	Existing flora and fauna at site with details of species and nos of trees	16-sanvor( <i>Bombax ceiba</i> Linn.) 42-moi( <i>Linnea coromondelica</i> ) 45- kumyo( <i>Careya Arborea</i> Roxb) 03-huro ( <i>Falconeria insignis</i> ) 01 Arjun ( <i>Sterculia urens</i> ) 04-cashew ( <i>Anacardium Occidentale</i> Linn.) 01-Ghoting( <i>Terminalis bellerica</i> ) 04-sail ( <i>Tectona Grandis</i> Linn. F.)
20.	Proposed plantation plan	Backfilled and fringe area
21.	Tree plantation proposed species and number	20 trees of Sanvor 10 Cashew 20 Kumyo 20 Moi
22.	Approached road	Existing
23.	Proposed/Existing road Paved/unpaved with length of road	Existing unpaved of 800m
24.	Distance from nearest Locality	0.65Km
25.	Distance from nearest metallic road	650m
26.	Distance from nearest water body	0.75Km Terekhhol River
27.	Whether site has existing water body	No
28.	Distance from wild life sanctuary	About 35-40Km-Mhadai wild life sanctuary
29.	Distance from Ecological Sensitive Area /zone boundary	About 30 Km
30.	List of Endemic species & IUCN status	Unavailable
31.	Details on IBA (Important bird area)	More than 30Km Dr Salim Ali Bird Sanctuary
32.	Proposed Land and Soil mitigation measures	<ul style="list-style-type: none"> <li>land: as far as possible the voids shall be backfilled and properly dressed and maintained as water reservoirs</li> <li>soil encountered will be stacked separately and shall be used during the plantation programme</li> </ul>
33.	Dust mitigation measures	Anticipated dust generation is mainly due to cutting of the layers for bricks, here as a measure it is proposed to make the surface wet before cutting, secondly the cutting blade is kept wet for

		<p>overheating by sprinkling continuous flow of water this keeps the dust generation under very much control.</p> <p>The other major dust generation source is the truck movement, for which again the roads shall be sprinkled to keep the dust under control.</p>
<b>34.</b>	<b>Noise mitigation measures</b>	<p>In this case the noise is generated due to the operation of the power tiller. Therefore it is proposed to carry regular maintenance and greasing of the same, to minimise the noise effect.</p>
<b>35.</b>	<b>Number of trucks plying per day</b>	<b>3 to 4 trips in a day</b>
<b>36.</b>	<b>Details on storage of explosives used for blasting</b>	<b>No Blasting will be carried out</b>
<b>37.</b>	<b>Google image with 1km radius and 5 km radius.</b>	<b>Enclosed</b>
<b>38.</b>	<b>Details/Drawing of proposed quarry plan</b>	<b>Surface Plan Enclosed</b>

**Decision:** The Authority after perusing the records submitted by the project proponent and after detailed discussion decided to grant environmental clearance to the said project under the provision of EIA Notification 2006 ( as amended) with following conditions.

- 1. Goa Mineral Concession (Amendment) Rules, 2012** notified by the Directorate of Mines and Geology (DMG) and published in Official Gazette Series-I, No. 24 dated 17<sup>th</sup> September 2012.
- Submission of **approved mining plan** by the competent officer as per Sub-rule (7) as well as specific compliance to Sub-rules 7(A) to 7(D) of the above-referred Rules, as applicable.
- Office Memorandum (O. M.) issued by the Ministry of Environment, Forest and Climate Change (MoEF & CC) dated 20<sup>th</sup> December 2013 regarding **High Level Working Group Report on Western Ghats** *vis-a-vis* compliance to the conditions mentioned therein w.r.t. activities prohibited in the identified Ecologically Sensitive Areas (ESAs).
- Notification S. O. 733 (E) dated 10<sup>th</sup> March 2014 issued by the erstwhile Ministry of Environment and Forests (MoEF) and published in the Gazette of India ó Extraordinary, No. 624, Part-II, Section 3, Sub-section (ii) dated 10<sup>th</sup> March 2014 **specifying the list of villages categorized as Ecologically Sensitive Areas (ESAs) in the State of Goa** (i.e. 1,461 sq.kms.) *vis-a-vis* list of projects and activities prohibited / regulated therein.
- Various notifications dated 25<sup>th</sup> January 2015 / 17<sup>th</sup> February 2015 / 24<sup>th</sup> February 2015 / 25<sup>th</sup> February 2015 issued by the Ministry of Environment, Forests and Climate Change

(MoEF&CC) specifying the extent of Eco-Sensitive Zone – ESZ (*i.e. buffer zone*) surrounding Wildlife Sanctuaries and National Park(s) within the State of Goa as well as details of projects and activities prohibited / regulated therein.

6. Further, the project proponent is required to comply with the following ‘**General conditions**’:-

1. No change in mining technology and scope of working shall be made without prior approval of the ministry of environment and forests.
2. No change in the calendar plan including excavation quantum of mineral iron ore and waste shall be made.
3. Conservation measures for protection of flora and fauna in the core and buffer zone shall be drawn up in consultation with the local forest and wildlife Department.
4. Ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for RPM, SPM, SO<sub>2</sub>, NO<sub>X</sub> monitoring, location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the Goa State Pollution Control Board.
5. Data on ambient air quality (RPM, SPM, SO<sub>2</sub>, and NO<sub>X</sub>) should be regularly submitted to the Department of Mines and Geology and Goa State Pollution Control Board.
6. Fugitive dust emissions from all the sources shall be controlled regularly water spraying arrangement on haul roads, loading and unloading at transfer points shall be provided and properly maintained.
7. Measures shall be taken for control of noise levels below 85 dBA in the work environment workers engaged in operations of HEMM etc shall be provided with ear plugs/muffs.
8. Industrial waste water (Workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19<sup>th</sup> May 1993 and 31<sup>st</sup> December 1993 or as amended from time to time oil and grease trap shall be installed before discharge of workshop effluents.
9. Personal working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.
10. Occupational health surveillance program of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures if needed.
11. A separate environmental management cell with suitable qualified personnel shall be set up under the control of a senior executive who will report directly to the head of the Organisation.
12. The project authorities shall inform to the regional office located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

13. The funds earmarked for environmental protection measures shall be kept in separate account and should not be diverted for other purpose. Year wise expenditure shall be reported to the Directorate of Mines & Geology and the Ministry of Environment and Forests (MOEF & CC) New Delhi.
  14. The Directorate of Mines & Geology and the Ministry of Environment and Forests (MOEF & CC) having regional office at Bangalore shall monitor compliance of the stipulated conditions. The project authorities should extend full co operation to the officer of the regional office by furnishing the requisite data/ information /monitoring reports.
  15. A copy of clearance letter will be marked to concerned Panchayat /local NGO, if any from whom suggestion /representation has been received while processing the proposal.
  16. The Department of environment or any competent Authority may alter /modify the above conditions or stipulate any further condition in the interest of environment protection.
7. Further, the project proponent is required to comply with the following ‘**Specific conditions**’:-
1. The lease holder should ascertain on-site demarcation and construction of lease boundary with cement poles / bio-fencing / barbed wire for the proposed leases in question. The lease boundary may be subsequently geo-referenced for precise positioning and ground-truth verification. As such, the lease holder should ensure that mineral ore extraction are restricted within the prescribed lease boundary and further ensure that no natural water course (*seasonal or perennial*) gets obstructed / diverted / reclaimed due to mineral ore extraction operations.
  2. Top soil from the proposed lease area shall be stacked separately and shall be utilized for plantation, as applicable. Overburden or other rejects shall be backfilled into the worked-out pit as far as possible with a view to restore the land to its original topography or desired alternate use.
  3. Overburden shall be stacked at earmarked dump site only and shall not be kept active for long period. The maximum height of the dump shall not exceed 30 m each stage shall preferably be of 10m and over all slope of the dump shall not exceed 28°. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The OB dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self sustaining. Compliance status shall be submitted to the ministry of environment & Forests on six monthly basis.
  4. Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained property.
  5. Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run off and siltation shall be based on the rain fall data.
  6. Plantation shall be raised in area of 0.90 ha including a green belt of adequate width by planting the native species around the ML area, roads , OB dump sites etc in consultation



with the local DFO/Agriculture department,. The density of the tress shall be around 2500 per Ha.

7. The project Authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director Central Ground Water Board.
8. Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall be carried out four times in a year-pre monsoon (April ómay) , monsoon (august) [post monsoon (November) and winter (January) and the data thus collected may be sent regularly to MOEF , Central Ground water Authority and regional director central Ground water Board.
9. Vehicular emission shall be kept under control and regularly monitored measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles shall be covered with tarpaulin and shall not be overloaded.
10. Sewage treatment plant shall be installed for the colony TP shall also be provided for workshop and wastewater generated from mining operations.
11. A final closure plan along with details of Corpus fund shall be submitted to the Directorate of Mines & Geology, Goa for approval.
12. The lease holder should ensure construction of approach road / proper access to enable transportation of ore from site to desired destination and/or crushing unit, as applicable. Transportation of ore shall be done by covering the trucks with tarpaulin so that no spillage of material / dust takes place en route.
13. The lease holder should comply with the proposed plan of action for extraction of ores within the available lease boundary limits in terms of provisions of Mines and Safety Rules / Guidelines, as applicable. In addition, safety gadgets and health-care facilities should be provided to workers vis-a-vis maintain hygiene surrounding the proposed lease boundary.
14. The lease holder shall obtain the "Consent" and / or "Authorization" as applicable, from the Goa State Pollution Control Board (GSPCB) as per the relevant provisions of the Air / Water Acts and Hazardous Waste (*Management, Handling and Transboundary Movement*) Rules, 2008 as amended.
15. No extraction is carried out within the safety zone of any bridge and/or embankment as well as within the vicinity of natural / man-made archaeological / heritage site(s).
16. The lease holder shall implement air pollution control measures / dust minimizing initiatives / noise control measures, wherever applicable, within the lease area as well as approach road and establish adequate buffer zone around the lease boundary to minimize dust pollution. It should be ensured that the Ambient Air Quality (AAQ) parameters as well as Noise be monitored at site and at the nearest human settlement (*at least twice during pre-monsoon and post-monsoon periods separately*) and comply with the norms prescribed by the Central Pollution Control Board (CPCB) and Noise Pollution (Control) Rules, 2000 respectively at all times.
17. Half-yearly compliance report on the conditions stipulated hereinabove shall be submitted to this Authority / DMG on 1<sup>st</sup> June and 1<sup>st</sup> December of each calendar year.

18. Green belt development shall be carried out as per CPCB guidelines including selection of local plant species and in consultation with Forest Department / Zonal Agricultural Office (ZAO), as applicable.
19. In case of any violation on above required terms n conditions will force the committee to stop the activities immediately.

**4. Application was received from M/s Nathurmal Eco Minerals Pvt Ltd, for environmental clearance to proposed mining of Minor Minerals - Dolomite and Calcium Bentonite at Survey No. 75/2 and Survey No 79 at Arvalem, Sanquelim, North Goa.**

The Project proponent made a presentation through Video conference.

Project Proponent stated that it is a registered MSME unit, made detailed presentation to Goa-SEAC is read as follows:

1. The present application is for extraction of Minor Minerals - Dolomite and Calcium Bentonite at Survey No. 75/2 and Survey No 79 at Arvalem, Sanquelim, North Goa.
2. The method of extraction proposed is by open cast mining using excavator and tipper method. The area forms a part of the earlier lease granted for extraction of iron ore bearing TC Number 39 / 53 of which part area of 18-19Ha is proposed for extraction of Minor Minerals.
3. This area comprised a part of T/c 39/53 for Iron & Manganese Ores and had received Environmental Clearance under EIA 2006 from MOEF after due Public Hearing and ref E. C. No. J- 11015/63/2006-IA- II(M) on 16/4/2007 for an annual quantity of 73,500 tons per year and upon receiving extension of the lease also received environmental clearance under State Env Assessment Authority vide letter No. SEIAA - 3 -181 - 2010 / STE - DIR / 193.
4. This application to the SEAC is for the same quantity, working depth and mining method as the previous operator of TC No. 39/53.
5. Open Cast Mining will be done without resorting to Blasting as also will not puncture the water table.
6. In the event of any Iron Ore (Of above 45% Iron content) is encountered, same shall be extracted, stacked separately and declared to the Department of Mines & Geology, Govt of Goa and will be disposed of as per their instructions.
7. The normal Ore to Overburden Ratio in Goan mines operations is 1-part ore to 4-parts of overburden, but this shall be reduced since this ratio since we have identified these commercially exploitable minerals in the traditional overburden. The overburden is proposed to be stacked in survey number 75 /2 or 79 with an area of 20,000 sq mts for

stacking of overburden and will be clearly marked out in detail in the quarrying plan. The overburden can be utilized for backfilling of the quarry.

8. Plantation of local variety of trees will be carried out on overburden dump.
9. The proposal does not envisage any felling of tree as the extraction is proposed within the broken-up area of earlier iron ore mining lease
10. Annual production of 73,500 metric tonnes of mineral works out to 300 metric tonnes per day based on 250 working days per year.
11. On an average there will be 30 number of truck trips on daily basis and same will be covered with tarpaulin and wheel wash system and DMG registered trucks will be deployed.
12. Rain water harvesting will be practiced and the old mining pit used to harvest the rain water will also registered with the Water Resources Dept., Govt of Goa. Dust pollution will be mitigated by sprinkling water through tankers, for which water is available in the mining pit. This harvested water will be used for dust suppression by use of misting apparatus to prevent fugitive dust emissions, at the truck loading point, as also for spraying on the stockpile and on the haul roads. With appropriate mitigation being practiced, Project Proponent does not foresee any adverse impact on surrounding area. There will be no generation of waste water or hazardous waste from the operation of the quarry
13. Positive impact will be that it will provide employment at all levels - technical/ non-technical / accountant/ Engineers / etc. in the local area. All employment will be preferentially given to locals and also support via CSR to the local Panchayat, Govt Primary School, Sports Club, etc. as also appropriate Skill Development Activities to local youth via the tie up with ITI's and the Goa Group Vocational Training Centre.
14. Adequate Environmental Monitoring by authorized 3rd party monitoring organization to ensure strict compliance on Air quality, Water quality and Noise levels.
15. Quarrying plan will be submitted to DMG and copy to SEIAA/SEAC after approval of same by DMG.
16. Project Proponent does not envisage going below 25 mts below ground level over the next 10 years of operation.

17. After extraction it will be necessary to crush and screen the extraction to usable sizes. No beneficiation of extracted material will be undertaken.
18. In case of any violation on above required terms and conditions will force the committee to stop the activities immediately.
19. Mist fans will be used to minimise dust pollution.

The Committee during its 125<sup>th</sup> meeting held on 23<sup>rd</sup> September 2020 decided to recommend the proposed mining of Minor Minerals - Dolomite and Calcium Bentonite at Survey No. 75/2 and Survey No 79 at Arvalem, Sanquelim, North Goa for Environmental Clearance to Goa-SEIAA:

**Decision:** The Authority after perusing the records submitted by the project proponent and presentation by Project proponent after detailed discussion decided to grant environmental clearance to the said project under the provision of EIA Notification 2006 ( as amended) with a condition that PP has to submit detail on proposed Corporate Environmental Responsibility (CER) to this Authority with a following conditions .

1. **Goa Mineral Concession (Amendment) Rules, 2012** notified by the Directorate of Mines and Geology (DMG) and published in Official Gazette Series-I, No. 24 dated 17<sup>th</sup> September 2012.
2. Submission of **approved mining plan** by the competent officer as per Sub-rule (7) as well as specific compliance to Sub-rules 7(A) to 7(D) of the above-referred Rules, as applicable.
3. Office Memorandum (O. M.) issued by the Ministry of Environment, Forest and Climate Change (MoEF & CC) dated 20<sup>th</sup> December 2013 regarding **High Level Working Group Report on Western Ghats** *vis-a-vis* compliance to the conditions mentioned therein w.r.t. activities prohibited in the identified Ecologically Sensitive Areas (ESAs).
4. Notification S. O. 733 (E) dated 10<sup>th</sup> March 2014 issued by the erstwhile Ministry of Environment and Forests (MoEF) and published in the Gazette of India ó Extraordinary, No. 624, Part-II, Section 3, Sub-section (ii) dated 10<sup>th</sup> March 2014 **specifying the list of villages categorized as Ecologically Sensitive Areas (ESAs) in the State of Goa** (i.e. 1,461 sq.kms.) *vis-a-vis* list of projects and activities prohibited / regulated therein.
5. Various notifications dated 25<sup>th</sup> January 2015 / 17<sup>th</sup> February 2015 / 24<sup>th</sup> February 2015 / 25<sup>th</sup> February 2015 issued by the Ministry of Environment, Forests and Climate Change (MoEF&CC) **specifying the extent of Eco-Sensitive Zone – ESZ (i.e. buffer zone) surrounding Wildlife Sanctuaries and National Park(s) within the State of Goa** as well as details of projects and activities prohibited / regulated therein.
6. Further, the project proponent is required to comply with the following **‘General conditions’**:-
  1. No change in mining technology and scope of working shall be made without prior approval of the ministry of environment and forests.
  2. No change in the calendar plan including excavation quantum of mineral iron ore and waste shall be made.
  3. Conservation measures for protection of flora and fauna in the core and buffer zone shall be drawn up in consultation with the local forest and wildlife Department.

4. Ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for RPM, SPM, SO<sub>2</sub>, NO<sub>X</sub> monitoring, location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the Goa State Pollution Control Board.
5. Data on ambient air quality (RPM, SPM, SO<sub>2</sub>, and NO<sub>X</sub>) should be regularly submitted to the Department of Mines and Geology and Goa State Pollution Control Board.
6. Fugitive dust emissions from all the sources shall be controlled regularly water spraying arrangement on haul roads, loading and unloading at transfer points shall be provided and properly maintained.
7. Measures shall be taken for control of noise levels below 85 dBA in the work environment workers engaged in operations of HEMM etc shall be provided with ear plugs/muffs.
8. Industrial waste water (Workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19<sup>th</sup> May 1993 and 31<sup>st</sup> December 1993 or as amended from time to time oil and grease trap shall be installed before discharge of workshop effluents.
9. Personal working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.
10. Occupational health surveillance program of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures if needed.
11. A separate environmental management cell with suitable qualified personnel shall be set up under the control of a senior executive who will report directly to the head of the Organisation.
12. The project authorities shall inform to the regional office located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
13. The funds earmarked for environmental protection measures shall be kept in separate account and should not be diverted for other purpose. Year wise expenditure shall be reported to the Directorate of Mines & Geology and the Ministry of Environment and Forests (MOEF & CC) New Delhi.
14. The Directorate of Mines & Geology and the Ministry of Environment and Forests (MOEF & CC) having regional office at Bangalore shall monitor compliance of the stipulated conditions. The project authorities should extend full co operation to the officer of the regional office by furnishing the requisite data/ information /monitoring reports.
15. A copy of clearance letter will be marked to concerned Panchayat /local NGO, if any from whom suggestion /representation has been received while processing the proposal.
16. The Department of environment or any competent Authority may alter /modify the above conditions or stipulate any further condition in the interest of environment protection.

7. Further, the project proponent is required to comply with the following ‘**Specific conditions**’:-

1. The lease holder should ascertain on-site demarcation and construction of lease boundary with cement poles / bio-fencing / barbed wire for the proposed leases in question. The lease boundary may be subsequently geo-referenced for precise positioning and ground-truth verification. As such, the lease holder should ensure that mineral ore extraction are restricted within the prescribed lease boundary and further ensure that no natural water course (*seasonal or perennial*) gets obstructed / diverted / reclaimed due to mineral ore extraction operations.
2. Top soil from the proposed lease area shall be stacked separately and shall be utilized for plantation, as applicable. Overburden or other rejects shall be backfilled into the worked-out pit as far as possible with a view to restore the land to its original topography or desired alternate use.
3. Overburden shall be stacked at earmarked dump site only and shall not be kept active for long period. The maximum height of the dump shall not exceed 30 m each stage shall preferably be of 10m and over all slope of the dump shall not exceed 28°. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The OB dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self sustaining. Compliance status shall be submitted to the ministry of environment & Forests on six monthly basis.
4. Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained property.
5. Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run off and siltation shall be based on the rain fall data.
6. Plantation shall be raised in area of 0.90 ha including a green belt of adequate width by planting the native species around the ML area, roads , OB dump sites etc in consultation with the local DFO/Agriculture department,. The density of the tress shall be around 2500 per Ha.
7. The project Authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director Central Ground Water Board.
8. Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall be carried out four times in a year-pre monsoon (April ómay) , monsoon (august) [post monsoon (November) and winter (January) and the data thus collected may be sent regularly to MOEF , Central Ground water Authority and regional director central Ground water Board.
9. Vehicular emission shall be kept under central and regularly monitored measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles shall be covered with tarpaulin and shall not be overloaded.

10. Sewage treatment plant shall be installed for the colony TP shall also be provided for workshop and wastewater generated from mining operations.
  11. A final closure plan along with details of Corpus fund shall be submitted to the Directorate of Mines & Geology, Goa for approval.
  12. The lease holder should ensure construction of approach road / proper access to enable transportation of ore from site to desired destination and/or crushing unit, as applicable. Transportation of ore shall be done by covering the trucks with tarpaulin so that no spillage of material / dust takes place en route.
  13. The lease holder should comply with the proposed plan of action for extraction of ores within the available lease boundary limits in terms of provisions of Mines and Safety Rules / Guidelines, as applicable. In addition, safety gadgets and health-care facilities should be provided to workers vis-a-vis maintain hygiene surrounding the proposed lease boundary.
  14. The lease holder shall obtain the "Consent" and / or "Authorization" as applicable, from the Goa State Pollution Control Board (GSPCB) as per the relevant provisions of the Air / Water Acts and Hazardous Waste (*Management, Handling and Transboundary Movement*) Rules, 2008 as amended.
  15. No extraction is carried out within the safety zone of any bridge and/or embankment as well as within the vicinity of natural / man-made archaeological / heritage site(s).
  16. The lease holder shall implement air pollution control measures / dust minimizing initiatives / noise control measures, wherever applicable, within the lease area as well as approach road and establish adequate buffer zone around the lease boundary to minimize dust pollution. It should be ensured that the Ambient Air Quality (AAQ) parameters as well as Noise be monitored at site and at the nearest human settlement (*at least twice during pre-monsoon and post-monsoon periods separately*) and comply with the norms prescribed by the Central Pollution Control Board (CPCB) and Noise Pollution (Control) Rules, 2000 respectively at all times.
  17. Half-yearly compliance report on the conditions stipulated hereinabove shall be submitted to this Authority / DMG on 1<sup>st</sup> June and 1<sup>st</sup> December of each calendar year.
  18. Green belt development shall be carried out as per CPCB guidelines including selection of local plant species and in consultation with Forest Department / Zonal Agricultural Office (ZAO), as applicable.
  19. In case of any violation on above required terms n conditions will force the committee to stop the activities immediately.
- 5. Goa Waste Management Corporation** dated 08/06/2020 regarding revised layout plan and process flow diagram for the Solid Waste Management Facility at Cacora , South Goa.
- Background:** The Committee examined the communication received from the Goa **Waste Management Corporation** dated 08/06/2020 regarding revised layout plan and process flow diagram for the Solid Waste Management Facility at Cacora , South Goa. The Committee after examination of the revision in the layout plan for the proposed facility including the landfill noted that the proposed revision would not require any further modification in the environmental clearance or amendment to the same as this would not lead to any increase in the pollution load.

**Decision:** The authority after detailed discussion decided to approve the revised layout plan and process flow diagram for the Solid Waste Management Facility at Cacora , South Goa.

6. **Prescon Homes Pvt Ltd** for proposed building and construction of senior citizen Housing, Azzosim, Tiswadi, Goa. The committee conducted site inspection on 11<sup>th</sup> January 2020. All issues related to environment including air, land, soil, ecology and biodiversity and social aspects were discussed. Consolidated statements, Form I and IA project specific presentation and plans submitted are taken on the record. Brief project details submitted by the project proponent is as follows:

Sr.No.	Description	Details
1.	Name & Location of the project	Proposed building construction of Senior Citizen Housing Project  Located at Sy.no.8-1/D of Azzosim Village, Tiswadi Taluka, Goa
2.	Plot area	30,570 m <sup>2</sup>
3.	Net plot area	25,743 m <sup>2</sup>
4.	FSI area Non FSI area Total construction area Building configuration & Height of the building	FAR: 59.99% Total built up area: 26,765.50 m <sup>2</sup> Building configuration: Stilt + 4 floors & Ground + 4 floors Height of building: Stilt + 11.5 mtr
5.	No. of shops/flats	1 BHK ó 112 2 BHK ó 128 Club house ó 1 Staff rooms ó 24 beds
6.	Total water requirement Construction/Operation phase	Construction phase: 36.5 KLD Operation phase: 222.42 KLD
7.	Sewage generation	Construction phase: 5.5 KLD Operation phase: 169.06 KLD
8.	STP capacity/ Grey water treatment plant capacity	STP: 170 KLD
9.	Total solid waste quantities	654 Kg/day
10.	RG area	Green Belt area: 5475.25 m <sup>2</sup>
11.	No. of trees	169
12.	Energy efficiency	Solar water heaters, LED Lights, Solar lights
13.	Parking 4W and 2W	315 Cars
14.	Power requirement	1519.4 KW
15.	D.G set capacity	62.5 KVA X 1 no.



		250 KVA X 1 no.
16.	RWH tank capacity	--
17.	EMP cost (including DMP cost)	Capacity cost: 300 lakhs
18.	No. of trees to be cut	52
19.	No. of trees to be planted on site	150
20.	CRZ status	Not applicable

The committee during 115<sup>th</sup> meeting held on 2<sup>nd</sup> March 2020 after hearing the detailed presentation by Project Proponent decided conduct re inspection of the proposed site. Accordingly the site inspection was done on 2<sup>nd</sup> May 2020. The committee noted that permission for tree cutting are obtained in advance and when the members visit the site, the existing flora and fauna cannot be assessed. The committee recommended that the Authority should write to the Forest Department and Town and Country Planning Department/ Planning and Development Authority that wherever a project requires environmental clearance no tree cutting permission be granted until inspection of the Goa-SEAC/ SEIAA. Further, the committee decided to recommend the project to Goa-SEIAA for environmental clearance under the provision of EIA Notification 2006 (as amended)

**Decision:** The Authority after perusing the records submitted by the project proponent and after detailed discussion decided to grant environmental clearance for proposed building and construction of senior citizen Housing, Azzossim, Tiswadi, Goa under the provision of EIA Notification 2006 ( as amended) with the following conditions.

- i. The PP should develop an Urban Forest with local species in and around an area of at least 2000 sq mts.
- ii. PP should prioritize the issues related to health and hygiene in complying with the matters related to waste disposal and treatment / air and water pollution / waste-water management.
- iii. Sewage Treatment Plant (STP) contract should be with operation and maintenance contract after commissioning /completion of project with a minimum period of 5 years..
- iv. PP needs to ensure that no treated water or any waste sewage shall be discharged into any water body.
- v. E-waste shall be disposed through Authorised vendor as per E-waste (*Management and Handling*) Rules, 2011.
- vi. Project Proponent (PP) should necessarily make appropriate provision while constructing the roof-tops at the time of construction stage only to enable installation of solar panels towards south facing walls as and when made applicable in future.
- vii. The Project Proponent shall utilise fly ash bricks in masonry works.
- viii. The PP shall use construction debris for land filling wherever applicable.

- ix. To provide 20% of the open spaces as required by the local building bye-laws shall be preserved. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as preserved surface.
- x. 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 minimizes 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.
- xi. 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.
- xii. 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.
- xiii. 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.
- xiv. Solar based electric power shall be provided to each unit for at least two bulbs/light and one fan. As proposed, central lighting and street lighting shall also be based on solar power.
- xv. The project proponent will provide landscape bed of 600mm wide X 600mm deep along the periphery of the plot to carry out plantation of trees. The treated water from the sewage treatment plant will be pumped through high flow drips on these beds to prevent outflow of treated sewage water outside the premises.
- xvi. PP shall make provision for charging points for electronic vehicles in the parking area.

**3. Project Proponent should implement Dust mitigation measures for construction**

**activities such as:**

- a. Roads leading to or at construction sites must be paved and blacktopped (i.e. metallic roads).
- b. No excavation of soil shall be carried out without adequate dust mitigation measures in place.
- c. No loose soil or sand or Construction & Demolition Waste or any other construction material that causes dust shall be left uncovered.
- d. Wind-breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided.
- e. Water sprinkling system shall be put in place.
- f. Dust mitigation measures shall be displayed prominently at the construction site for easy public viewing.
- g. New serial number 1070 has been inserted which relates to Mandatory Implementation of Dust Mitigation Measures for all Construction and Demolition Activities:

- h. Grinding and cutting of building materials in open area shall be prohibited.
- i. Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.
- j. No uncovered vehicles carrying construction material and waste shall be permitted.
- k. Construction and Demolition Waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site.
- l. Further, progress will be reviewed after six months (*minimum 3 times in a year depending upon progress of the work*). Further, the compliance to these conditions as and when submitted by PP will be verified /ascertained by the authority to propose additional conditions if any.

4. Further, the Authority has decided that PP needs to comply to the following “**General Conditions**”:-

- m. The PP should use Ready-Mixed Concrete (RMC) to minimize air / water / land pollution and water usage during the construction phase.
- n. **Solar power generation** - Every major consumer of conventional power will have to generate and opt for certain percentage of power generation from non-conventional sources. In this context, Project Proponent (PP) should necessarily make appropriate provision while constructing the roof-tops at the time of construction stage only to enable installation of solar panels as and when made applicable in future. In addition, south-facing walls to be utilized to install solar panels to harness optimum solar energy. Use of solar panels may be done to the extent possible like installing solar street lights, common solar water heater system. PP should install, after checking feasibility, solar-plus-hybrid non-conventional source as source of energy.
- o. PP should adopt roof-top rainwater harvesting / conservation measures to optimally utilize the water availability by constructing sumps for collection of rainwater as per the site-specific location details provided.
- p. PP should not disturb the natural drainage and as far as possible, maintain the original topography while designing for landscape development by planting local plant species and which are not alien to the prevailing environment.
- q. PP should clarify any issue related to public objections, if any, and should not conceal the scientific facts in light of the proposed developmental activity vis-à-vis its land use categorization / zoning.
- r. PP should submit half-yearly compliance report(s) in hard as well as soft copy format to the Authority for the period upto project completion.
- s. This environmental clearance is issued subject to land use verification. Local authority / planning authority should ensure this with respect to Rules, Regulations, Notifications, Government Resolutions, Circulars, etc. issued if any, from time to time. Judgements / Orders issued by Hon'ble High Court, NGT, Supreme Court regarding DCR provisions, environmental issues applicable in this matter should be verified by the competent authorities.

- t. PP should ensure and ascertain that ~~civil plans~~ which were submitted to the Committee/ Authority during the process of project appraisal be submitted to other line Departments / agencies concerned while seeking NOC / Consents/ Permissions, as applicable. If any discrepancy is found in the plans submitted or details provided may be reported to this Authority. This environmental clearance is issued with respect to the environmental considerations and it does not mean that Goa-SEIAA approved the proposed land.
- u. E-waste if any shall be disposed through Authorised vendor as per E-waste (*Management & Transboundary Movement*) Rules, 2016.
- v. This environmental clearance is issued subject to obtaining NOC from the Forestry & Wildlife angle including clearance from the Standing Committee of the National Board for wildlife, if applicable. The grant of environmental clearance does not necessarily imply that Forestry & Wildlife clearance has been granted to the project, which has to be dealt separately by the competent authorities in accordance with law.
- w. The height, construction gross built up area of proposed construction is **26,765.50 Sq.mts** shall be in accordance with the existing FSI/ FAR norms of the local body and planning authorities and it should ensure the same along with survey number before approving layout plan and before according commencement certificate to proposed work, Plan approving authority should also ensure the zoning permissibility for the proposed project as per the approved development plan of the area.
- x. All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.

5. Further, the PP is required to comply with the following **“General Conditions” during construction phase:-**

- kk. ~~Consent to Establish~~ shall be obtained from the Goa State Pollution Control Board (GSPCB) under Air Act and Water Act, as applicable and a copy shall be submitted to the Authority within 30 days of starting construction work at site.
- ll. Permission to draw groundwater, as applicable, shall be obtained from the Groundwater Cell of the Water Resources Department (WRD) Government of Goa.
- mm. Project proponent shall not make any change in the Surface Layout Plan / Civil Plan submitted to the Authority without its prior permission. **In case of any change(s) in the scope of the project and/or otherwise, the project proponent needs to inform this Authority.**
- nn. Project proponent shall make suitable provisions for sewage / wastewater disposal and storm water release independently.
- oo. The diesel generator sets (D.G. set) to be used during construction / after commissioning should be low-sulphur diesel type and should conform to Environment

(Protection) Rules prescribed for air and noise emission standards as laid down by the Goa State Pollution Control Board (GSPCB).

- pp. The installation of the Sewage Treatment Plant (STP) if any should be certified by the GSPCB and a report in this regard should be submitted to the Authority before the STP is commissioned.
- qq. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche and first aid room etc.
- rr. Adequate drinking water and sanitary facilities should be provided for construction workers at the site. Provision should be made for mobile toilets. The safe disposal of waste water and solid waste generated during the construction phase should be ensured.
- ss. The solid waste generated should be properly segregated. Dry /inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material.
- tt. Disposal of muck during construction phase should 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 site with the approval of competent authority.
- uu. Arrangements shall be made that waste water and storm water do not get mixed.
- vv. All the top soil excavated during construction activities should be stored if or used in horticulture/landscape development within the project site.
- ww. Additional soil for levelling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.
- xx. Green-belt development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the State Forest / Agriculture Department.
- yy. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
- zz. Construction spoils, including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the dump sites for such materials must be secured so that they should not leach into ground water.
- aaa. Any hazardous waste generated during construction phase should be disposed off as per applicable rules and norms with necessary authorisation of the GSPCB.
- bbb. The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from concerned authority shall be taken.
- ccc. 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 standard and should be operated during non-peak hrs.

- ddd. Ambient noise levels should conform to residential standards both during day and night. Incremental pollution load on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level construction phase, so as to conform to the stipulated standard by CPCB/ GSPCB.
- eee. The approval of competent authority shall be obtained for structural safety of the buildings due to any possible earthquakes, adequacy of fire fighting equipments etc. as per National Building Code (NBC) including measures from lighting.
- fff. Storm water controlled and its re-use as per Central Ground Water Board (CGWB) and Bureau of Indian Standards (BIS) for various applications.
- ggg. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- hhh. The groundwater level and its quality should be monitored regularly in consultation with ground water authority of the Water Resources Department (WRD), Government of Goa.
- iii. The installation of the sewage treatment plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the GSPCB before the project is commissioned for operation. Treated effluent released from STP shall be recycled / reused to the maximum extent possible. Discharge of this unused treated effluent, if any should be discharged in the sewer line. Treatment of 100% grey water through centralised treatment should be done. Necessary measures should be adopted to mitigate the odour problem from STP.
- jjj. Use of glass may be reduced upto 40% to reduce electricity consumption and load on air-conditioning. If necessary, use high quality double glass with special reflective coating in windows.
- kkk. Roof should meet prescriptive requirement as per energy conservation building code by using appropriate thermal insulation material.
- lll. Energy conservation measures like installation of LEDs for lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Use of CFLs / TFLs, if any, should be properly collected and disposed off / sent for recycling as per the prevailing guidelines / rules of the regulatory authority to avoid mercury contamination.
- mmm. Diesel power generating sets proposed as source of backup power for elevators and common area illumination during operation phase should be of enclosed type and conform to rules made under the Environment Protection Act 1986. The height of stack of DG sets should be equal to the height needed for the combine capacity of all proposed DG sets.
- nnn. Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.

- ooo. Traffic congestions near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalised and no public place should be utilised.
- ppp. Opaque wall should meet prescriptive requirement as per energy conservation board which is proposed to mandatorily for all air conditioned spaces while it is aspiration for non- air conditioned spaces by use of appropriate thermal insulation material to fulfil requirement.
- qqq. The buildings should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.
- rrr. Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.
- sss. Under the provisions of Environment Protection Act 1986, legal action shall be initiated against the PP if it was found that construction of the project has been started without obtaining EC.
- ttt. Six monthly compliance reports should be submitted to the MOEF with copy to the Goa-SEIAA and GSPCB.

6. Further, the Authority decided to direct the PP to comply with the following **“General Conditions” during post-construction phase:-**

- s. PP shall ensure completion of STP, MSW disposal facility, green belt development prior to occupation of the buildings. The PP to explore possibility of utilising excess treated water in the adjacent area for gardening before discharging into sewer line. No physical occupation of allotment will be given unless all above said environmental infra structure is installed and made functional including water requirement prior certification from appropriate authority shall be obtained.
- t. Wet garbage should be treated by organic waste convertor and treated waste (manure) should be utilised in the existing premises for gardening. No wet garbage will be disposed outside the premises. Local authority should ensure compliance to this.
- u. A complete set of all the documents submitted to Goa-SEIAA should be forwarded to local authority, GSPCB and Planning authority.
- v. In case of any change(s) in the scope of the project, the project would require a fresh appraisal by the Goa-SEIAA.
- w. Separate funds shall be allocated for implementation of environmental protection measures /EMP along with item wise break-up. The funds earmarked for the environment protection measures shall not be diverted for other purposes.
- x. A copy of the environmental clearance letter shall be sent by PP to the concerned Village Panchayat and planning authority as applicable, from which suggestions / representation, if any, were received while processing the proposal. The EC letter shall also be put on the company's website by PP within one week time period from the date of issue of environmental clearance.

- y. The PP shall upload the status of the compliance of the stipulated EC conditions, including results of monitoring data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF & CC, the respective Zonal office, CPCB and the GSPCB. The pollutant levels in respect of SPM, RSPM, SO<sub>2</sub> and NO<sub>x</sub> (*ambient levels as well as D.G. stack emissions*) shall be monitored.
- z. The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V is to be submitted to the GSPCB as prescribed under the Environment (*Protection*) Rules 1986 (as amended) and subsequently shall also be put on the company's website along with the status of the compliance of the EC conditions and shall also be sent to the respective Regional Office of the MoEF & CC.
- aa. Consent to Operate shall be obtained from GSPCB before operation, failing which the Environmental Clearance herein shall be deemed to be withdrawn.
- bb. Sewage Treatment Plant (STP) shall be installed at site. The STP should be certified by an independent expert and adequacy report in this regard should be submitted to GSPCB before the project is commissioned for operation. Necessary measures should be made to mitigate the odour problem from STP. There shall also be a comprehensive AMC of 5 years from the commissioning of the STP by the agency installing the STP.
- cc. The solid waste (dry as well as wet garbage) generated should be properly collected and segregated. Organic Waste Converter shall be installed by RWA for the treatment of biodegradable (wet) garbage generated within the complex. Non-Biodegradable waste should be outsourced properly after recovery of recyclable material. Adequate measures should be taken to prevent odour problem.
- dd. Utilization of Diesel power generating sets is subject to power failure condition only. The DG sets proposed as a source of power back up during operation phase should be of enclosed type, low sulphur diesel run and conform to rules made under the Environment (Protection) Act, 1986. The DG sets should be subjected to periodic noise and stack monitoring in consultation with GSPCB. Waste/used diesel should be stored and managed as per the Hazardous and other Wastes (*Management & Transboundary Movement*) Rules, 2016 as amended.
- ee. Noise should be controlled to ensure that it does not exceed the prescribed standards both during day & night time.
- ff. The ground water drawal from existing/proposed bore wells if any should be done only with the prior permission of Ground Water Board. The ground water level and its quality should also be monitored regularly both during construction and operation phase in consultation with Ground Water Board.
- gg. Traffic congestion near the entry and exit points from the roads adjoining the project site must be avoided. Parking should be fully internalized and no public space should be utilized.
- hh. Energy Conservation measures such as solar lighting for common area, solar water heating system, CFLs/TFLs for lighting of areas, LED lights for signage, solar inverters on the etc should be adopted.



- ii. Used CFLs/TFLs should be properly collected and disposed off/ sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.
  
- jj. A Report on energy conservation measures conforming to energy conservation norms finalized by Bureau of energy Efficiency should be prepared incorporating details about building materials and technology, R & U factors etc and submit to the State Expert Appraisal Committee and a copy to GSPCB in three months time.

**7. Additional agenda Item:**

1. Authority decided to call for joint meeting with Goa State Biodiversity Board , Forest department and Goa-SEAC/SEIAA along with the project proponents for whom the environmental clearances are granted by Goa-SEIAA and MOEF to decide on proposed Corporate Environmental Responsibility (CER) for the state of Goa in respect to Urban Forests.
  
2. Authority decided to revise the processing fees charged by this authority for granting environmental Clearance in following manner:
  - a. For Minor Mineral quarry projects (laterite quarry)-Rs. 25000/-.
  - b. For minor Mineral quarry projects (basalt quarry) Rs. 50,000/-
  - c. For Buiding and Construction projects: Rs.1,00000/-

Meeting concluded with a vote of thanks to the chair.

*Sd/-*

Smt. Reshma Mathew  
**Member, Goa-SEIAA**

*Sd/-*

Prof. Suhas Godse  
**Chairman, Goa-SEIAA**

*Sd/-*

Shri. Dasharath Redkar  
**Member Secretary, Goa-SEIAA**

Place: Patto, Panaji

Date: January 2021