



**STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,
(SEIAA), ORISSA.**

(Constituted vide order No. S.O. 2674 (E) Date 17th Nov. 2008 of Ministry of Environment & Forest, Govt. of India, Under Environment Protection Act, 1986.) Qr. No. 5RF-2/1, Unit-IX, Bhubaneswar-751022
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Ref. No. _____

Dt. _____

SEIAA – 92/11

From

Bhagirathi Behera, IFS
Director, Environment-cum-
Spl. Secretary to Government
& Member Secretary, SEIAA, Odisha

To

Sri Umesh Patnaik
Chandaka Meadows
404, Saheed Nagar,
Bhubaneswar-751007,
Phone -9437016478/9437061396
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Sub: Environmental Clearance for Residential project “Chandaka Meadows” at mouza Bhola, Bhubaneswar in the district of Khurda.

Sir,

This has reference to your letter no. CM/ENV/214/11 dated 13.07.2011 and subsequent letters no. CM/ENV/243/11 dated 29.07.2011, no. CM/ENV/418/11 dated 29.08.2011 and no. CM/SEAC/491/11 dated 31.10.2011 on the above mentioned subject I am directed to say that the State Environment Impact Assessment Authority, Odisha have considered the application on the proposal for residential housing complex of “Chandaka Meadows” at Bhola, Bhubaneswar in the district of Khurda. Total plot area is 3.785 Acres (1,64,918 sqft.). Total built up area is 5,26,240 sqft.. Maximum height of the building is 34.29 m. Ground coverage is 54,374sqft (32.97%). Total green area is 77,351 sqft (39.6%). It is proposed to construct five blocks of stilt + 11 floors each with total 528 units of 2 & 3 bed room flats. Total water requirement is 393 KLD. Out of which fresh water requirement is 277 KLD and 116 KLD will be treated waste water. Total waste water to be generated is 314 KLD. The capacity of the STP proposed is 350 KLD. Source of water is ground water. Total treated water to be generated 283 m3/day. The treated water is to be used for flushing of toilet 116 m3/day, land scape and avenue plantation and others 167 m3/day. Total solid waste generated will be 1200 kg/day. The generated solid waste will be

taken by NGO Jagruti for disposal in BMC site. Around 18kg/day of STP sludge will be generated and same will be used as manure in gardening purpose. The power requirement is 3453 KW and source of power is Central Electricity Supply utility of Odisha. The proponent will install 3 nos. of DG sets of capacity 15 KVA each and one no. of DG set of capacity 45 KVA for backup power. The total cost of the project is Rs. 64crores. Sarpanch Kantabada G.P has approved the building plan on 01.07.2010. M/s. Ramky Enviro Engineers Ltd, Bangalore made a detail presentation on the proposal on behalf of the project proponent before the SEAC in its meeting held on 7th & 8th September 2011.

The SEAC decided to take decision on the proposal after receipt of certain information/document/clarification from the proponent. The proponent furnished the information/document/clarification and the committee verified the same. The proponent intimated that they would construct Block-A & B:S +10th floors and Block-C, D &E:S +9th floors each with total built up area of 4,57,362 and they will achieve FAR of 2.75.

Based on the information / documents and clarifications provided by the proponent and on recommendation of SEAC, Odisha the State Environment Impact Assessment Authority, Odisha hereby accords Environmental Clearance in favour of the project for a period of 5 (five) years under the provisions of Environment Impact Assessment Notification, 2006 and 2009 and subsequent amendments thereto under various MoEF, Govt. of India circulars thereunder subject to the following stipulated conditions.

Stipulated Conditions:-

General Conditions

- i) The applicant (Project proponents) will take necessary measures for prevention, control and mitigation of Air Pollution, Water Pollution, Noise Pollution and Land Pollution including solid waste management as mentioned by them in Form-1, Form-1A, and Environment Management Plan (EMP) in compliance with the prescribed statutory norms and standards.
- ii) The proponent shall submit land conversion document to the concerned authority before construction project.
- iii) The applicant will take statutory clearance/approval/permissions from the concerned authorities in respect of the project as and when required.
- iv) The applicant will submit half-yearly compliance report on post-environmental monitoring in respect of the stipulated terms and conditions in the Environmental Clearance to the State Environmental Impact Assessment Authority (SEIAA), Odisha, on 1st June and 1st December of each calendar year.
- v) The project proponent shall provide adequate wide open space all around the building blocks for movement of fire engine as per provisions of National Building Code (NBC)-2005 and as per stipulated conditions of by Fire Prevention Officer, Odisha.
- vi) The project proponent shall obtain periodic Occupancy Renewal Certificate from the competent authority at an interval of 3 to 5 years as per the provisions of National Building Code (NBC) 2005.

- vii) The project proponent shall comply to all the conditions stipulated by the Fire Prevention Officer, Odisha.
- viii) The applicant will adopt the prescribed norms, and standards provided in the National Building Code of India, 2005, specially relating to:
 - a) Fire protection and life safety of occupants of the buildings.
 - b) Safety of personnel during construction, operation and demolition of buildings.
 - c) Day lighting and natural ventilation of buildings.
 - d) Safety from electrical fire, shock and lightning of the buildings.
 - e) Air-conditioning, heating and mechanical ventilation of the buildings.
 - f) Acoustics and noise control of the buildings.
 - g) Maintenance and functioning with emissions from generators supplying power to common space / residential area in case of power failure along with fuel handling /storage.
 - h) Installation of lifts and escalators in the buildings.
 - i) Water supply, drainage and sanitation including solid waste management.
 - j) Landscaping of surrounding areas of the building.
- ix) Considering the peak water consumption of the occupants of the building project, the design of the water supply system and the sewage disposal system of the project should be based on the provisions of water consumption of 200 litres per capita per day (lpcd).
- x) In case the water and sewer connections from the public water supply and sewerage systems maintained by the PHED are not technically feasible for the proposed housing complex as certified by the PHED and in case the proponent establishes its own water supply or sewerage system for the proposed housing complex, the proponent shall take full charge to operate and maintain the utility systems, confirming to the requirements of relevant authorities for a minimum period of five years from the date of occupation of the last house in the complex. This provision will find a place in the project brochure circulated among intending buyers and will also form a condition in the agreement or contract signed between the proponent and the house owner (purchaser) in very clear terms during purchase of the house to ensure that the purchasers are assured of the desired services committee to them by the builder/proponent after occupation. During the period of operation and maintenance (O &M), the proponent shall build the capacity of the Housing Society to take over the O&M of the utility services to run the same beyond the stipulated period. However, the proponent and the housing society are free to enter into fresh contracts on extension of the O & M of the utility services by the proponent beyond the stipulated period on mutual agreement.
- xi) The proponent shall construct Block-A & B:S +10th floors and Block-C, D E:S +9th floors each with total built up area of 4,57,362Sq.ft. and they will achieve FAR of 2.75.

- xii) Presently the project area is coming under BDO jurisdiction. The proponent has to reapprove the plan from BDA if the area will come under BDA jurisdiction under CDP.
- xiii) The proponent shall furnish copy of structural sufficiency certificate to SEIAA, Odisha within 3 (three) months.

SPECIAL CONDITIONS

A. CONSTRUCTION PHASE

- (i) No ground water shall be extracted for the project work at any stage during construction phase.
- (ii) Provision shall be made for the housing of construction labourers 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 etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (iii) A First-Aid Room will be provided in the project site both during construction and operation of the project.
- (iv) All the top soil excavated during construction activities should be stored separately for use in land filling, horticulture/landscape development within the project site.
- (v) Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and will be disposed of taking the necessary precautions for general safety and health aspects of people only in approved sites with the approval of competent authority.
- (vi) 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.
- (vii) Construction spoils, including bituminous material and other hazardous materials should not be allowed to contaminate watercourses, ground water and dump sites by following safe dumping /disposal practice as per statutory rules and norms with necessary approval of the Odisha Pollution Control Board.
- (viii) The diesel generator sets to be used during construction phase shall be low sulfur diesel type and should conform to Environment (Protection) Rules 1986 prescribed for air emission and noise standards.
- (ix) The diesel required for operating DG sets shall be stored in underground tanks and, if required, clearance from the Chief Controller of Explosives shall be taken.
- (x) Vehicles used for bringing construction materials to the site should be in good condition and should have a pollution check certificate, covered and conform to statutory air and noise emission standards and should be operated only during non-peak hours of the day.
- (xi) Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be taken to

reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/OPCB.

- (xii) Fly ash bricks should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and as amended thereafter.
- (xiii) Ready mixed concrete would be used in building construction.
- (xiv) Storm water control and its re-use should be as per CGWB and BIS standards for these applications.
- (xv) Water demand during construction should be optimized by adopting best practices without compromising quality.
- (xvi) Separation of grey and black water supplies and collection should be done by the use of dual plumbing line. Grey and water should be treated separately before recycling/reuse.
- (xvii) Fixtures for showers, toilet flushing and drinking water should be of low flow type and restricted to requirements by use of aerators, avoiding wastage pressure reducing devices or sensor based controls.
- (xviii) Use of glass may be maximum upto 40% of total outer wall area to reduce the energy consumption and load on air-conditioning. If necessary, high quality double glass with special reflective coating may be used in the windows.
- (xix) Roof should meet the prescribed requirement as per Energy Conservation Building Code by using appropriate thermal insulation material.
- (xx) Opaque wall should meet prescriptive requirements as per Energy Conservation Building Code.
- (xxi) The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments etc. as per National Building Code of India, 2005 including protection measures from lightning etc.
- (xxii) Regular supervision of the above and other measures for monitoring should be in place all through the construction phase to avoid disturbances and pollution to the surroundings.

B. OPERATION PHASE

- i) The installation of the Sewage Treatment Plant (STP) should be certified by a competent agency and a report in this regard should be submitted to the SEIAA, Odisha before the project is commissioned for operation. Treated effluent from STP shall be recycled/reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done. Discharge of unused treated effluent shall conform to the norms and standards of the Odisha State Pollution Control Board. Necessary measures should be taken to mitigate the odour problem from STP.
- ii) The STP sludge should not be dried nor incinerated within the project site and should be disposed off as per norms of SPCB, Odisha.

- iii) The project proponent will ensure that under no circumstances, the environment is polluted due to non-functioning /under performance of sewerage disposal system of the project. To achieve this, a stand-by STP with similar capacity should be installed to be put into service during the maintenance /over hauling of the original STP.
- iv) The solid waste generated should be properly collected and segregated. Wet garbage should be disposed off to composted and dry / inert solid waste should be disposed off to a certified agency for safe disposal. Necessary approval / permission may be obtained from the concerned authorities.
- v) Diesel power generating sets proposed as source of back-up power for lifts elevators and common area illumination during operation phase should be of enclosed type and conform to Environment Protection (EP) rules 1986. The height of the stack of DG sets should be equal to the height needed for the combined capacity of all purposed DG sets put together and should be more than the highest building height. Low sulfur diesel should be used. The location of the DG sets may be decided in consultation with Odisha State Pollution Control Board. Care may be taken to avoid disposal of smoke/pollutants from DG sets in the residential area.
- vi) 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 sites shall be restricted to the permissible levels to comply with the prevalent regulations.
- vii) Green-belt & avenue plantation of trees over at least 20% of the site area shall be done using native tree species/plants improving greenery & keeping in view aesthetics considerations in the whole campus. Professional landscape architects should be engaged to design the green layout to provide for multi tier plantation and green fencing all around, mitigating various environmental parameters like dust, noise, emissions etc. and pathway for joggers.
- viii) Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Before recharging the runoff, pre-treatment must be done to remove suspended matter, oil grease and other soluble components as per norms. Rainwater recharge should be through specified recharge pits of required numbers. The surface runoff water should be stored suitably treated and reused for land scaping. The bore-well for rainwater recharging should be kept at least 5 mts. above the highest ground water table. The technology may preferably be adopted from a commercial firm with performance guarantee.
- ix) Weep holes in the compound walls shall be provided to ensure natural drainage of excessive rain water in the project area during the monsoon period after the harvesting operations. Care must be taken so that there is no water logging in the territory and drainage is 100%.
- x) The ground water level and its quality should be monitored regularly in consultation with Central/ State Ground Water Authority.
- xi) Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Traffic congestion shall be avoided inside the project

site. The area ear marked for parking shall not be used for any other purpose. Alternate entry and exit must be provided to handle excess traffic and emergency situations.

- xii) A Report on the energy conservation measures confirming to energy conservation norms finalized by the Bureau of Energy Efficiency should be prepared incorporating details about building materials & technology, R & U Factors etc and submitted to the SEIAA, Odisha in three months time before operation/habitation.
- xiii) Provisions of solar hot water storage /supplies at the roof top may be made as per statutory norms of CPCB/MoEF/SPCB, Odisha.
- xiv) Energy conservation measures like installation of CFLs/TFLs for lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid toxic contamination. Use of solar panels may be adopted to the maximum extent possible, especially for street lights.
- xv) The building blocks should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.
- xvi) The funds earmarked for the environment protection measures shall be judiciously utilized. Under no circumstances this funds shall be diverted for other purposes like Annual allocation and maintenance/monitoring etc. and expenditure for this fund should be reported to the SEIAA, Odisha.
- xvii) The need of the local people should be appropriately addressed in the CSR activities to be undertaken in the area. An action plan in this regard should be prepared and submitted.

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

Member Secretary

Memo No _____/Dt. _____

Copy to

1. Ministry of Environment & Forests, Govt. of India, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi for kind information.
2. Principal Secretary, Forests & Environment Dept., Government of Odisha for kind information.
3. Chairman, State Pollution Control Board, Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar for kind information.

4. Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment & Forests, A-31, Chandrasekharapur, Bhubaneswar for kind information.
5. Chairman, Central Pollution Control Board, CBD-cum-office Complex, East Arjun Nagar, New Delhi-110032 for kind information.
6. Vice Chairman, Bhubaneswar Development Authority, Akash Sobha Building, Secretariat Marg, Bhubaneswar-751001 for kind information.
7. Chief Engineer, PH (Urban), Odisha, 1st Floor, Heads of Dept. Building, Bhubaneswar-751001 for kind information.
8. Chief Engineer-cum-Member Secretary, Odisha Water Supply & Sewerage Board, Satya Nagar, Bhubaneswar-751007 for kind information.
9. Collector & District Magistrate, Khurda for kind information and necessary action.
10. Chairman/Member/Member Secretary, SEIAA for kind information.
11. Chairman, SEAC/Secretary, SEAC, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar for kind information.
12. Guard file for record.

Member Secretary