

F. No. 21-64/2017-IA-III
Government of India
Ministry of Environment, Forest and Climate Change
(IA.III Section)

Indira Paryavaran Bhawan,
Jor Bagh Road, New Delhi - 3

Date: 14th September, 2017

To,

M/s Delanco Homes & Resorts Pvt Ltd
F-2, Landscape Excelsor,
Opp. Kala Academy, DB Road,
Campal, Panjim-403002

Subject: "SAMARAYA" Proposed Residential Development at Survey No. 87-1/A-1& 87-/A-2, village-Reis Magos, Tal-Bardez, Goa by M/s Delanco Homes & Resorts Pvt Ltd – Environmental Clearance - reg.

Sir,

This has reference to your online proposal No. IA/GA/NCP/62297/2017 dated 04th February 2017, submitted to this Ministry for grant of Environmental Clearance (EC) in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986.

2. The proposal for "SAMARAYA" Proposed Residential Development at Survey No. 87-1/A-1& 87-/A-2, village-Reis Magos, Tal-Bardez, Goa by M/s Delanco Homes & Resorts Pvt Ltd, was considered by the Expert Appraisal Committee (Infra-2) in its meetings held on 12-14 April, 2017 and 26-28 July, 2017. The details of the project, as per the documents submitted by the project proponent, and also as informed during the above meeting, are under:-

- (i) The project is located at 15° 29'38.11" N Latitude and 73° 49'54.85"E longitude.
- (ii) The project is for expansion. The proponent had received environmental clearance dated 12th September, 2008 vide letter number 21-712/2007-IA.III from MoEFCC for total construction area of 67,185.00 sqm. The proponent had initiated work on site as per the earlier EC. The validity of the EC lapsed in 2013, after which work on the site was stopped.
- (iii) The total plot area is 1,06,345.66 sqm. FSI area is 42,097.19 sqm and total construction area of 52,589.14 sqm. The project will comprise of 84 Villas (ground + 2 upper floors) + 1 Club house. Maximum height of the building is 6 m.
- (iv) During construction phase, total water requirement is expected to be 20 KLD which will be met by PWD or from ground water. During the construction phase, soak pits and septic tanks will be provided for disposal of waste water. Temporary sanitary toilets will be provided during peak labor force.
- (v) During operational phase, total water demand of the project is expected to be 268 KLD and the same will be met from PWD and by the STP Recycled Water. Wastewater generated (94 KLD) will be treated in 1 STP of total 100 KLD capacity. 89 KLD of treated wastewater will be recycled (20 KLD for

flushing, 69 KLD for gardening). About 0 KLD will be disposed in to municipal drain.

- (vi) About 0.36 TPD solid waste will be generated in the project. The biodegradable waste (0.24 TPD) will be processed in OWC and the non-biodegradable waste generated (0.11 TPD) will be handed over to authorized local vendor.
- (vii) The total power requirement during construction phase is 125 KVA and will be met from Goa state Electricity Board and total power requirement during operation phase is 1000 KW and will be met from Goa state Electricity Board/ Solar energy.
- (viii) Rooftop rainwater of buildings will be collected in 1 RWH tank per villa of total 10 cum each capacity for harvesting after filtration.
- (ix) Parking facility for 92 four wheelers to be provided against the requirement of 84 (according to local norms).
- (x) The green development area will be kept as 54170 sqm (53%)
- (xi) Proposed energy saving measures would save about 202 KW of power.
- (xii) It is not located within 10 km of Eco Sensitive areas
- (xiii) There is no court case pending against the project.
- (xiv) Investment/Cost of the project is Rs. 200 in crore.
- (xv) Employment potential: During construction period, employment opportunities will be generated for local construction labourers.
- (xvi) Benefits of the project: The project involves construction of high end villas with swimming pools and a club house with amenities and facilities. It will serve as a tourist attraction

3. The EAC, in its meeting held on 26-28 July, 2017, after detailed deliberations on the proposal, has recommended for grant of Environmental Clearance to the project. As per recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance to the project "SAMARAYA" Proposed Residential Development at Survey No. 87-1/A-1& 87-/A-2, village-Reis Magos, Tal-Bardez, Goa by M/s Delanco Homes & Resorts Pvt Ltd, under the provisions of the EIA Notification, 2006 and amendments/circulars issued thereon, and subject to the specific and general conditions as under:-

PART A – SPECIFIC CONDITIONS:

I. Construction Phase

- (i) The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
- (ii) The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.)

Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.

- (iii) Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murrum, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.
- (iv) All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.
- (v) Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (vi) 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.
- (vii) 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.
- (viii) 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.
- (ix) 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.
- (x) 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.

- (xi) Sewage shall be treated in the STP with tertiary treatment i.e. Ultra Filtration. The treated effluent from STP shall be recycled/re-used for flushing, horticulture & DG cooling. Excess treated effluent shall be discharged in to Municipal sewer line as per CPCB norms.
- (xii) The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. As proposed, 1 nos. of rain water harvesting tanks of total capacity of 110 m³ shall be provided as per CGWB guidelines.
- (xiii) Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials. Wet garbage shall be composted in Organic Waste Converter. Adequate space shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from group housing project will be sent to dumping site.
- (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) A First Aid Room shall be provided in the project both during construction and operations of the project.
- (xvi) Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.
- (xvii) Disposal of muck during construction phase shall not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
- (xviii) The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.
- (xix) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- (xx) As proposed, no ground water shall be used during construction/ operation phase of the project.
- (xxi) Approval of the CGWA require before any dewatering for basements.
- (xxii) The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc as per National Building Code including protection measures from lightening etc.
- (xxiii) Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.
- (xxiv) Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to

applicable air and noise emission standards be operated only during non-peak hours.

- (xxv) Ambient noise levels shall conform to residential standards both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.
- (xxvi) Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.
- (xxvii) An assessment of the cumulative impact of all activities being carried out or proposed to be carried out by the project, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organisation of repute and specialising in Transport Planning shall be implemented to the satisfaction of the State Urban Development and Transport Departments shall also include the consent of all the concerned implementing agencies.
- (xxviii) A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
- Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
 - Traffic calming measures
 - Proper design of entry and exit points.
Parking norms as per local regulation

II.Operational Phase

- (i) The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.
- (ii) For indoor air quality the ventilation provisions as per National Building Code of India.
- (iii) Fresh water requirement from PWD Water Supply shall not exceed 20 m³/day.
- (iv) The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected

- by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.
- (v) The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
 - (vi) No sewage or untreated effluent water would be discharged through storm water drains.
 - (vii) Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
 - (viii) The provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016, the Construction and Demolition Waste Management Rules, 2016 and the Plastics Waste Management Rules, 2016 shall be followed.
 - (ix) Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.
 - (x) Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.
 - (xi) Energy conservation measures like installation of CFLs/ LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.
 - (xii) A minimum of 1 tree for every 80 sqm of land should be planted and maintained. The existing trees will be counted for this purpose. Preference should be given to planting native species. Where the trees need to be cut, compensatory plantation in the ratio of 1:3 (i.e. planting of 3 trees for every 1 tree that is cut) shall be done and maintained. As proposed 54170 sqm area shall be provided for green belt development.
 - (xiii) An environmental management plan (EMP) shall be prepared and implemented to ensure compliance with the environmental conditions specified above. A dedicated Environment Monitoring Cell with defined functions and responsibility shall be put in place to implement the EMP. The environmental cell shall ensure that the environment infrastructure like Sewage Treatment Plant, Landscaping, Rain Water Harvesting, Energy efficiency and conservation, water efficiency and conservation, solid waste management, renewable energy etc. are kept operational and meet the

required standards. The environmental cell shall also keep the record of environment monitoring and those related to the environment infrastructure.

- (xiv) The company shall draw up and implement a corporate social Responsibility plan as per the Company's Act of 2013.

PART B - GENERAL CONDITIONS

- (i) A copy of the environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.
- (ii) The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office.
- (iii) Officials from the Regional Office of MoEF&CC, Bangalore who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents submitted to MoEF&CC shall be forwarded to the APCCF, Regional Office of MoEF&CC, Bangalore.
- (iv) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Ministry.
- (v) The Ministry reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
- (vi) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
- (vii) These stipulations would be enforced among others under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and the EIA Notification, 2006.
- (viii) The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment, Forest and Climate Change at <http://www.envfor.nic.in>. The advertisement shall be made within Seven days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the Regional Office of this Ministry at Bangalore.
- (ix) Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

- (x) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.
- (xi) The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- (xii) The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.
4. This issues with the approval of the Competent Authority.


(Kushal Vashist)
Director

Copy to:

1. The Secretary, Department of Environment, Government of Goa, Panaji.
2. The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (SZ), Kendriya Sadan, 4th Floor, E&F Wings, 17th Main Road, Koramangala II Block, Bangalore – 560034.
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. The Chairman, Goa State Pollution Control Board, Dempo Tower, EDC Plaza, 1st Floor, Panaji, Goa- 403 001.
5. Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
6. Guard File/ Record File/ Notice Board.
7. MoEF&CC Website.


(Kushal Vashist)
Director