Validity expires on 09/10/2024

सत्यमेव जयते

Proceedings of the State Environment Impact Assessment Authority Kerala

Present : Prof. (Dr.) K.P. Joy, Chairman, Dr. J. Subhashini. Member. Sri. James Varghese, I.A.S; Member Secretary.

Sub: Environmental Clearance for the Proposed Residential Project("Noel Ecoden") in Re-survey nos. 468/9, 469/2, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 484/1, 2, 7 & 8, at Vazhakkala Village, Thrikkakara Municipality, Kanayannur Taluk, Ernakulam District, by Mr. John Thomas, Managing Partner, M/s Noel Villas & Apartments– EC granted –Orders Issued.

STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY, KERALA

File No. 1101/EC/SEIAA/KL/2017 Dated, Thiruvananthapuram 10/10/2017

Ref: 1. Application dated 15.10.2016 from Mr.John Thomas, Managing Partner M/s.Noel Villas & Apartments , Noel House, Thrikkakkara.P.O., Kakkanad, Cochin, Kerala-682 021.

2. Minutes of the 69th meeting of SEAC held on 9th & 10th March 2017
3 Minutes of the 73rd meeting of SEAC held on 30th and 31st May 2017
4 Minutes of the 71st meeting of SEIAA held on 20th July 2017
5. Affidavit dated 10.08.2017 and 20/9/2017 submitted from Mr.John Thomas M/s Noel Villas & Apartments

Environmental Clearance No. 74/2017

Mr. John Thomas, Managing Partner M/s Noel Villas & Apartments Noel House, Thrikkakara P.O., Kakkanad, Cochin, Kerala-682021, vide his application read as (1) above has sought environmental clearance under the EIA Notification, 2006 for the proposed Residential project in Sy. Nos. Re-survey nos. 468/9, 469/2, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 484/1, 2, 7 & 8, Vazhakkala Village, Thrikkakara Municipality, Kanayannur Taluk, Ernakulam District, Kerala State.

The height of the proposed building is 59.90 m and the total plot area of the proposed project is 0.5923 ha. (5,923 sq.m.) and total built-up area is about 36,500 sq.m. Total of 110 apartments are in the proposed Residential project. The water consumption during construction phase is for meeting the domestic requirement (about 9 KLD) of the construction labourers and for construction purposes water requirement (about 18 KLD). The source of water will be from stored rain water & well water. During Operation phase, the

total daily domestic water consumption for the proposed project would be 77 KLD (which includes fresh water requirement of 50 KL) (taken @ 135 LPCD for residents & 45 LPCD for club area). The sources of water during operation phase for the proposed project are: - 1. Roof Rain water (Non-flushing req.) (Rainy days-Concurrent use) 2. Stored rain water/well water/ KWA supply (Non flushing req.) (non-rainy days) 3. Treated waste water from STP (Flushing Req.) (Entire Year). The total power requirement is 720 kW which will be sourced through Kerala State Electricity Board and D. G. Sets (200 kVA x 1 no.) (Stand by power back up arrangement).

The project area and it's surroundings falls under Zone-III, according to the Indian Standards Seismic Zoning Map and falls in Zone-III. No reported earth quake, subsidence, erosion, cloudburst in the area or in its surroundings. Also, there is no hilly area around the project site; there is no chance of landslide. No forest land is involved in the present project. The total project cost is Rs. 66.89 Crores.

Details of project as furnished by the applicant are as follows:-

BASIC INFORMATION OF BUILDING PROJECT
(To be filled in by the Project Proponent)
PART A

	Project details	
1.	File No	1101/EC/SEIAA/KL/2017
2.	Name /Title of the project	Environmental Clearance for the Proposed Residential Project ("*Noel Ecoden*") by M/s Noel Villas & Apartments
3.	Name and address of project proponent.	Mr. John Thomas, Managing Partner M/s Noel Villas & Apartments Noel House, Thrikkakara P.O., Kakkanad, Cochin, Kerala-682021.
4.	Owner of the land	Private owned land
5.	Survey Nos. District/Taluk/ and Village etc.	Re-survey nos. 468/9, 469/2, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 484/1, 2, 7 & 8, Vazhakkala Village, Thrikkakara Municipality, Kanayannur Taluk, Ernakulam District, Kerala
	PROJECT DETAILS	
6.	Date of submission of Application	15-10-2016
7.	Total Built up Area	36,500 sq. m.
8.	No of apartments	110 Apartments
9.	Height of the building	59.90 m.
10.	Brief description of the project.	Proposed residential project in plot area of about 0.5923 ha. and built-up area of about 36,500 sq.m. and total no. of apartments 110 Apartments with recreational area & supporting infrastructure facilities.
11.	Is it a new Project or	New project

	expansion/modification of an existing project?	
12.	Details of the Project Cost	Rs. 66.89 Crores
13.	Distance from nearby habitation	The project site is within the Thrikkakara Municipality limits and several houses located within the 500 m. radius.
14.	Distance from nearby forest, if applicable	None within the area
15.	Distance from protected area, Wildlife Sanctuary, National Park etc.	Mangalavanam Bird Sanctuary - about 8.5 km.
16.	Distance from nearby streams/rivers/National Highway Roads and Airport	*Water body :-* Drain : about 100 m. (S) Perandoor canal : about 5 km. (W) Muttar river : about 3.5 km. (NW) *Highway* : Seaport-Airport Road – abutting the site *Airport* : Cochin Int. Airport, Nedumbassery, about 21 km. (NE)
17.	Is ESA applicable? If so distance from ESA limit	Not applicable
	Impact on water	
18.	Details of water requirement per day in KLD	The total domestic water requirement of about 77 KLD (which includes daily fresh water requirement of about 50 KL). Treated water from STP to be used for flushing of toilets (about 27 KLD), Horticulture requirement (about 5 KLD).
19.	Water source/sources.	Source :- Stored Rain water (Tanks), Wells, KWA water supply and treated water from STP.
20.	Details of water requirements met from water harvesting.	The project has provision for rain water storage tanks which will be used as source of water during rainy days & non-rainy days. The total capacity of stored rain water tanks (about 500 KL).
21.	What are the impacts of the proposal on the ground water?	The project has provisions for well waters supply as standby arrangement during non rainy days and minimal use of ground water.
	WASTE MANAGEMENT	
22.	Explain the facilities for 1) Liquid waste Management	The treated water from STP to be used for flushing of toilets (about 27 KLD), Horticulture requirement (about 5 KLD).
	2) Solid Waste Management	The Solid Waste Management Rules, 2016 will be followed in the Solid Waste Disposal Mechanism at the site during operation phase. Provision of bio-gas generation plant within the project site for disposal of the bio-degradable solid waste.

	3) E-Waste Management	Not applicable
	4) Facilities for Sewage Treatment Plant	Provision of STP for treatment of sewage and it's partially recycling for meeting the water requirement for flushing & horticulture water requirement within the site.
23.	How much of the water requirement can be met from the recycling of treated waste water? (Facilities for liquid waste treatment)	The treated water from STP to be used for flushing of toilets (about 27 KLD), Horticulture requirement (about 5 KLD).
24.	What is the incremental pollution load from waste water generated from the proposed activities?	Disposal of excess treated water from STP (with BOD level as per KSPCB norms) will be only after providing additional aeration in the final treated water storage tank.
25.	How is the storm water from within the site managed?	➢ Provision of roof rain water storage tanks with total water storage capacity of about 500 KL. ➢ The external surface run-off in the north side of the project site also will be accommodated in the garland drain proposed within the site. ➢ The excess roof rain water and the surface runoff of the site will be chanalized through garland drain. Intermediate rain water harvesting pits will be constructed for ground water re-charge and excess runoff (if any) from the site will be chanalized to the public drain. The excess run-off will be discharged only after de-siltation & oil removal.
26.	Will the deployment of construction labourers particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation)	Solid waste generation from the project during construction phase will be about 50 Kg/day and domestic sewage will be about 7 KL/day. The non-biodegradable waste and other packaging material will be sold to the vendors. The bio-degradable solid waste will be disposed in a bio-bin system for microbial composting and a mobile STP for the treatment of domestic sewage from the labour colony.
27.	What on- site facilities are provided for the collection, treatment & safe disposal of sewage ? (Give details of the quantities of wastewater generation, treatment capacities with technology & facilities for recycling and disposal)	Provision of STP of about 53 KL capacity within the project premises to treat the sewage during operation phase. The technology for the treatment of the sewage is up to tertiary level treatment. The total quantity of sewage generation will be 62 KL/day. The treated water will be partially recycled for meeting the flushing & horticulture water requirement. There will be minimal sewage discharge from the proposed project premises

		after development of the proposed project.
28.	Give details of dual plumbing system if treated waste is used for flushing of toilets or any other use.	Treated water from STP to be used for flushing of toilets (about 27 KLD), Horticulture requirement (about 5 KLD).
Energy Conservation		
29.	Details of power requirement and source of supply, backup source etc. What is the energy consumption assumed per square foot of built-up area ? How have you tried to minimize energy consumption?	Power requirement :- about 720 kW Source :- KSEB & D. G. Sets (200 kVA x 1 no. as back-up) Energy conservation measures :- ➢ All the energy conservation measures as per IGBC guidelines will be followed. ➢ Building design to have maximum lighting in the inside portion of the building so as to minimize the energy requirement for lighting. ➢ Use of LED lamps which consume less energy would be adopted in the common areas. ➢ Use of solar street lights would be adopted in the green area and along the internal roads and in the open parking of the proposed project. ➢ The roof will be insulated to minimize heat gain with 50 mm expanded polystyrene or equivalent insulation. ➢ Installation of Solar panels of 1000 watts as back up for common area (stair and lobby) lighting.
30.	What type of, and capacity of power back-up to you plan to provide?	D. G. Sets (200 kVA x 1 no. as back-up)
31.	What are the characteristics of the glass you plan to use? Provide specifications of its characteristics related to both short wave and long wave radiation?	The glass used will be low emissivity and having U value as per ECBC norms.
32.	What passive solar architectural features are being used in the building? Illustrate the applications made in the proposed project	All the applicable relevant features are incorporated like the orientation of the building, shading effect etc.
33.	Does the layout of streets & buildings maximize the potential for solar energy devices ? Have you	Due consideration has been taken for maximum use of the solar energy while preparation of layout plan. The project proponent shall made provision

	considered the use of street lighting, emergency lighting and solar hot water systems for use in the building complex ? Substantiate with details	for solar panel system (hot water purpose) in apartment block area and solar energy devices will be used for street lighting, emergency lighting in the proposed project
34.	Is the shading effectively used to reduce cooling/heating loads? What principles have been used to maximize the shading of Walls on the East and the West and the Roof ? How much energy saving has been effected?	All the relevant features are incorporated like the orientation of the building, shading effect etc.
35.	Do the structure use energy-efficient space conditioning , lighting and mechanical systems? Provide technical details. Provide details of transformers and motor efficiencies, lighting intensity and air-conditioning load assumptions ? Are you using CFC and HCFC free chillers? Provide specifications.	Suitable energy optimization will be adopted during the calculation of energy load of the proposed project. The space heating load will be minimized using passive solar structure and suitable buildings envelop material. Uses of incandescent lamp and halogen lamps have been avoided and energy efficient LED lamps will be used for all common area. The diesel generator sets shall be automatically controlled to optimize their usage based on the actual load requirements at any time. Variable frequency drive systems would be adopted for the lifts, etc to maximize the energy saving
36.	What are the likely effects of the building activity in altering the micro-climates ? Provide a self assessment on the likely impacts of the proposed construction on creation of heat island & inversion effects?	More open spaces are proposed within the site to creation of any heat islands. The roads and parking spaces would be with concrete slabs intermittent with grass on surrounding.
37.	What are the thermal characteristics of the building envelope? (a) roof (b) external walls; and (c) fenestration? Give details of the materials used.	The building construction material namely bricks, concrete and steel are being used in the construction. U-factor, also known as Thermal Transmittance, is heat transmission in unit time through unit area of a material or construction and the boundary air films, induced by unit temperature difference between the environments on each side. Other details are given below :- WALLS (Cement plaster + Insulative internal plaster + 200 mm thick Cement Blocks, External enamel coating) with wall insulation. ROOF (115 mm RCC + 65 mm Vermiculate + 100 mm brick coba + 25 mm Roof Tiles finish) with Roof insulation. GLASS (Single Clear 4 mm Glass).

38.	What is the rate of air non-conventional energy technologies are utilized in the overall energy consumption? Provide details of the renewable energy technologies used.	The use of non-conventional source of energy in the proposed construction project are as follows: - o Use of Solar Water Heater o Use of Solar Street Light o Use of LED Lamps o Buildings of the proposed project is designed with natural ventilation and natural light so that the use of lights during day time can be minimized.
39.	Details of renewable energy (non – conventional) used.	Solar water heating system for the hot water generation and solar power operated street lights.
	IMPACT ON AIR ENVIRONMENT	
40.	What are the mitigation measures on generation of dust, smoke , odours, fumes or hazardous gases	The dust generation during construction phase will be controlled by enclosures at appropriate locations and also by sprinkling of water for suppression of dust. The gas/smoke generation expected is from D.G. sets only and the gases will be vented out through stack of appropriate height as per norms.
41.	Details of internal traffic management of the site.	The proposed project would provide vehicle parking facilities within the project premises. The parking plan for this project would follows KMBR guidelines. The total number of parking proposed is 217 Cars + 222 two wheelers. The proposed site development will provide minimum drive way as per KMBR for easy & smooth vehicular movement. It is proposed to have 7 m. wide entry/exit to the project site for the smooth movement of vehicles. Provision through ramps is proposed for access of the physically challenged people and parking space for their vehicles.
42.	Details of noise from traffic, machines and vibrator and mitigation measures	The proposed project is a residential project and there would be some increase in noise and vibration due to the vehicular movement within the project site. The project has provision of large area for the parking for the vehicles and the parking arrangement which is planned, that there would be easy movement of vehicles within the project area and smooth movement is provided for the vehicles to reduce the traffic congestion.
43.	Air quality monitoring in detail	The proposed project is housing project and it will not increase atmospheric concentration of gases, the project has provision of D.G. Sets for standby arrangement of electricity and will run only during

		power failure. The stack attached to the proposed D.G. Sets will follow all the rules and regulations of State Pollution Control Board and Central Pollution Control Board. The ambient air quality of the site carried out through an accredited laboratory.
44.	Will the proposal create shortage of parking space for vehicles? Furnish details of the present level of transport infrastructure and measures proposed for improvement including the traffic management at the entry & exit to the project site.	**No**
45.	Provide details of the movement patterns with internal roads, bicycles tracks, Pedestrian pathways, footpaths etc., with areas under each category	The conceptual plan clearly shows the internal traffic management with entry and exit to the proposed project site, all internal roads with width, pedestrian path ways etc. Further provision of ramps are proposed for the easy access to the building for physically challenged persons.
46.	Will there be significant increase in traffic noise & vibrations? Give details of the sources and the measures proposed for mitigation of the above.	The proposed project is a residential project and there would be some increase in noise and vibration due to the vehicular movement within the project site. The project has provision of large area for the parking for the vehicles and the parking arrangement which is planned, that there would be easy movement of vehicles within the project area and smooth movement is provided for the vehicles to reduce the traffic congestion.
47.	What will be impact of DG sets & other equipments on noise levels & vibration in & ambient air quality around the project site? Provide details	The D.G. sets which would be used for the project will be with sound proof acoustic enclosures and hence there will be no impact to the surroundings. The D.G. sets would be attached with proper anti vibration pads to reduce any vibration impact to the site surrounding. The flue gases from the D.G. sets will be vented out through stack of appropriate height as per C.P.C.B. norms to reduce the impacts on air quality around the project site. The ambient noise level of the site is carried out through an accredited laboratory.
SOCIO- ECONOMIC ASPECTS		
48.	Will the proposal result	The proposed project is a housing project. During

	in any change to the demographic structure of local population ? Provide the details.	operation phase, on full occupancy of the project, the maximum population expected is about 550 persons (residents) and hence there will be influx of people (fixed) to the project area and surrounding.
49.	Give details of the existing social infrastructure around the proposed project	There are several schools, colleges, religious places, commercial and residential buildings, Govt. and private offices, hospitals which are located around the proposed project.
50.	Will the project cause adverse effects on local communities, disturbances to sacred sites or other cultural values? What are the safeguards proposed?	The project would not cause any adverse effects on local communities, disturbance to sacred sites or other cultural values. The proposed project is a multistoried apartment project and thereby the living index of the people around the project site will definitely improve. Also there will be various ancillary activities like convenient shops, transport facilities etc. attached to the project which will benefit the local people and change their living condition.
	BUILDING MATERIALS	
51.	May involve the use of building materials with high –embodied energy. Are the construction materials produced with energy efficient process? (Give details of energy conservation measures in the selection of building materials and their energy efficiency)	The proposed housing project and the housing buildings are not a centrally air conditioned building, the selection of building materials plays a major role in the energy consumption. The proposed project will make all attempts to use to avoid building materials with high embodied energy. Cement blocks & hollow blocks will be replaced with country made red bricks. Further, the river sand will be replaced by manufactured sand from stone crushers. The glass used will be low emissivity and having U value as per ECBC norms.
52.	a) Transport and handling of materials during construction may result in pollution, noise & public nuisance. What measures are taken to minimize the impacts?	All vehicles which bring construction material to the site would possess Pollution Under Control Certificates (PUC). All vehicles would be of close body to avoid spread of dust from the loose materials, and vehicles which bring sand, stone dust, etc. would ensure that the above mentioned material are properly wetted during transportation to avoid dust generation. Pucca Road to be made in the construction site for the vehicle movement so that the dust generation due to the vehicular movement within the project site can be minimized. Stacking of construction material shall be confined to the project site only. All the D.G. Sets would have attached with Acoustic Enclosure for the sound pollution control and all sound generating construction activity to be minimized. Further barricading of the site with GI sheets of 10

		ft. height in the side abutting the public road during construction phase
53.	Are recycled materials used in roads and structures? State the extent of savings achieved?	The plastic (non-biodegradable solid waste) will be used along with coal tar during the construction of internal roads. This will increase the life of roads.
54.	Give details of the methods of collection, segregation & disposal of the garbage generated during the operation phases of the project.	➢ The Solid Waste Management Rules, 2016 will be followed in the Solid Waste Disposal Mechanism at the site during operation phase. ➢ Collection & segregation within the site (bio-degradable waste (green bins), non-biodegradable waste (blue bins) and domestic hazardous waste (yellow bins). ➢ The recyclable waste like packaging material, paper etc. would be sold through vendors and the area earmarked for the storage of the same (non-biodegradable waste). ➢ The Bio-degradable waste would be disposed through the bio-gas generation plant / bio bin system to be installed within the site. ➢ The domestic hazardous waste which includes discarded painted drums, pesticide cans, CFL bulbs, tube lights, expired medicines, broken mercury thermometers, used batteries, used needles and syringes and contaminated gauge etc. generated at the household level will be collected in yellow bins and to be handed over to authorized waste pickers or waste collectors. ➢ Further, the spent oil from the D.G. sets (defined as hazardous waste) will be sold to C.P.C.B. approved recyclers.
	Risk Management	
55.	Are there sufficient measures proposed for risk hazards in case of emergency such as accident at the site during construction & post construction phase.	Yes
56.	Storage of explosives/hazardous substance in detail	Yes, all precautionary measures in the storage & handling of HSD & PNG waste will be followed.
57.	What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans	All precautions & safety measures are proposed against the fire hazards as per norms of Fire & Rescue Department, Govt. of Kerala.
	AESTHETICS	
58.	Will the proposed constructions in any way result in the obstruction of a view, scenic	There is no scenic beauty near the project site.

<table>
<tr><td></td><td>amenity or landscapes? Are these considerations taken into account by the proponents?</td><td></td></tr>
<tr><td>59.</td><td>Will there be any adverse impacts from new constructions on the existing structures? What are considerations taken into account?</td><td>The surrounding area is residential / offices / institutional developments. In north direction there is access road to the site and in east direction a multi-storied apartment building is located. Also, there are individual houses with plantations. There will be no any adverse impacts due to the development of the proposed project.</td></tr>
<tr><td>60.</td><td>Whether there are any local considerations of urban form & urban design influencing the design criteria? They may be explicitly spelt out.</td><td>The proposed project would be constructed in conformity with the Kerala Municipal Building Rules (KMBR).
As per seismic classification, the project site falls in Zone-III. No reported cloudburst in the area. Also, there is no hilly area around the project site, there is no chance of landslide. Structural design aspects as per the seismic codes – IS 1893 (2002), IS 13920 (1993) and IS 456 (2000) as applicable would be incorporated in our project.</td></tr>
<tr><td>61.</td><td>Are there any anthropological or archaeological sites or artefacts nearby? State if any other significant features in the vicinity of the proposed site have been considered</td><td>The proposed project is located in Thrikkakara Municipality. There is no report of existence of any anthropological or archaeological site nearby the project area.</td></tr>
<tr><td>62.</td><td>Details of CSR activity and the amount set apart</td><td>Yes.
A detailed study on social status of the project site surroundings & need base study on proposed CSR activities were carried out. The summary of the report is given below :-
<table>
<tr><th>Sl. No.</th><th>Particulars</th><th>Rs in lakhs (approx.)</th></tr>
<tr><td>1</td><td>Promotion of education</td><td>Rs. 2.10 Lakhs (Recurring)
Rs. 5.05 Lakhs (Non-Recurring)</td></tr>
<tr><td>2</td><td>Environmental sustainability</td><td>Nil (Recurring)
Rs. 1.50 Lakhs (Non-Recurring)</td></tr>
<tr><td>3</td><td>Health care</td><td>Rs. 3.98 Lakhs (Recurring)
Nil (Non-Recurring)</td></tr>
<tr><td></td><td>Total</td><td>Rs. 6.08 Lakhs (Recurring)
Rs. 6.55 Lakhs (Non-Recurring)</td></tr>
</table></td></tr>
<tr><td>63.</td><td>Details of NABET approved EIA Consultant engaged-Their name, address and accreditation</td><td>M/s Environmental Engineers & Consultants Pvt. Ltd. (NABET Accredited Consultant Organization)</td></tr>
</table>

	details	Head Office :- A1-198, Janak Puri, New Delhi. Branch Office:- C-306, Kanchanjunga Apartments, Palarivattom P.O., Kochi, Kerala. Accreditation no. :- NABET/EIA/1518/RA010
64.	Details of Authorized Signatory and address for correspondence	Mr. John Thomas, Managing Partner M/s Noel Villas & Apartments Noel House, Thrikkakara P.O., Kakkanad, Cochin, Kerala-682021.
	Summary and Conclusion	
65.	a) Overall justification for implementation of the project.	The proposed project is a construction of residential project and the total implementation / completion period for the construction is about 36 months from the start of the construction.
66.	b) Explanation of how adverse impact have been mitigated.	It is predicted that socio-economic impact due to this project will positively increase the chance of more employment opportunities for local inhabitants. There are no Resettlement and Rehabilitation issues involved in this project. The project infrastructures will be of use to people of the area. The revenue of the State Govt. will be definitely increase due to the proposed activity. The entire project area is devoid of any endemic / endangered flora and fauna. As part of the eco restoration with native species to a maximum possible extent. Also, rain water tanks are proposed for storage of rain water and for its subsequent use so as to conserve fresh water consumption. Also, to construct rain water harvesting pits to recharge the ground level. The municipal solid waste will be handled and disposed as per norms. Thus the proposed project is not likely to affect the environment or adjacent ecosystem adversely and will ensure a sustainable development.

2. The proposal was placed in 69th meeting of SEAC held on 9th & 10th March 2017. Further to the intimation of SEAC, the proponent and Engineer attended the meeting and the engineer made a power point presentation about the salient features of the project briefly. The Committee appraised the proposal based on Form 1, Form I A and conceptual plan.

The proponent agreed to set apart an amount of Rs.25 lakh over a period of 3 years for CSR activities for the welfare of the local community in consultation with the Municipality.

The Committee decided to defer the item for field inspection and for submission of the proof for having applied for Wild Life Clearance.

Subsequently, the site visit to the quarry was carried out on 03/05/2017 by Dr K.G Padma Kumar and Sri S Ajayakumar. The report is as follows;

The proposal abuts the Seaport Airport Road and access is through its service road and do not have any problem with access or manoeuvring of vehicles. Adequate

parking is available at site. Cutting and filling is marginal and no earth needs to be transported to or from the plot. The plot is sloping down from the Seaport Airport road and therefor there is possibility of storm water collecting at the downstream side. This can be drained by two possible methods. One is by improving and maintaining the existing drain running along the boundary of the plot and other by connecting to another existing drain passing through the adjacent apartment project constructed by the proponent. Since the second one is more suitable, this alternative may be insisted and the proponent may be advised to improve the first alternative also.

3. The proposal was considered in the 73rd meeting of SEAC held on 30th and 31st May 2017. The proposal was appraised by SEAC considering Form I, Form IA, Conceptual plan, field visit report and all other documents and details provided by the proponent. The committee verified the additional documents submitted by the proponent and found satisfactory. The Committee decided to Recommend for issuance of EC subject to the general conditions in addition to the following specific conditions.

1. *Storm water drainage shall be ensured by connecting to the drain passing through the adjacent apartment project promoted by the proponent.*

The proponent agreed to set apart an amount of Rs.25 lakh over a period of 3 years for CSR activities for the welfare of the local community to be taken up in consultation with the local body.

4. The proposal was considered in the 71st meeting of SEIAA held on 20th July 2017. The Authority accepted the recommendation of SEAC and decided to issue EC after ascertaining whether the construction satisfies the CRZ norms under KCZMA. EC is recommended subject to general condition in addition to the following specific condition.

1. Storm water drainage shall be ensured by connecting to the drain passing through the adjacent apartment project promoted by the proponent.

The proponent agreed to set apart an amount of Rs.25 lakh over a period of 3 years for CSR activities for the welfare of the local community to be taken up in consultation with the local body. A notarised affidavit for the commitment of CSR activities and agreeing all the general and specific conditions should be submitted before the issuance of EC.

5. The proponent has submitted the affidavit on 11.07.2017 committing a CSR amount of Rs.25lakh and stating that all the specific and general conditions shall be strictly implemented. Affidavit stating that the site does not come under CRZ zone has also been produced on 20/9/2017. Therefore Environmental Clearance as per the EIA notification 2006 is hereby accorded for the proposed M/s Noel Villas, & Apartment of Mr.John Thomas, Noel House, Thrikkakara.P.O, Kakkanad, Cochin, Kerala- 682 021 subject to the clarifications, conditions mentioned in para 3 & 4 above. The clearance will be subject to all the environmental impact mitigation and management measures envisaged by the project proponent in the documents submitted to SEIAA, and the mitigation measures specified. The assurances in form 1A of the application (Appendix 1I) and clarifications given by the proponent will be deemed to be part of

these proceedings as if incorporated herein. Also the general conditions for projects other than mining appended hereto and the following green guidelines will be applicable and have to be strictly adhered to.

Green Guidelines

1. Adequate rain water harvesting facilities shall be arranged for.
2. Technology and capacity of the STP to be indicated with discharge point (if any) of the treated effluent.
3. Effluent water not conforming to specifications shall not be let out to water bodies.
4. Maximum reuse of grey water for toilet flushing and gardening and construction work shall be ensured.
5. Dual plumbing for flushing shall be done.
6. Provisions for disposal of e-wastes, solid wastes, non-biodegradables and separate parking facility for the buildings shall be provided.
7. Generation of solar energy to be mandatory for own use and/or to be provided to the grid.
8. There shall be no compromise on safety conditions and facilities to be provided by the project proponent, which shall be ensured for occupation, regularization or consent to operate.

6. Validity of the Environmental Clearance will be seven years from 10/10/2017 subject to earlier review in the event of noncompliance or violation of any of the conditions stipulated herein.

7. Compliance of the conditions herein will be monitored by the Directorate of Environment and Climate Change or its agencies and also by the Regional Office of the Ministry of Environment and Forests, Govt. of India, Bangalore.

i) Necessary assistance for entry and inspection by the concerned officials and staff should be provided by the project proponents.
ii) Instances of violation if any shall be reported to the District Collector, Ernakulam to take legal action under the Environment (Protection) Act 1986.
iii) The given address for correspondence with the authorized signatory of the project is, Mr.John Thomas, Managing Partner,M/sNoel Villas & Apartments, Noel House, Thrikkakara.P.O., Kakkanad, Cochin – 682 021.

Sd/-
James Varghese I.A.S
Member Secretary (SEIAA)

To,

Mr.John Thomas,
Managing Partner,
M/s Noel Villas & Apartments, Noel House,
Thrikkakara.P.O.,
Kakkanad, Cochin – 682 021.

Copy to

1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4th Floor, E&F Wing, II Block, Koramangala, Bangalore-560034
2. Additional chief Secretary to Government, Environment Department,
3. The District Collector, Ernakulam
4. The District Town Planner, Kochi
5. Tahsildar, Kanayannur
6. Member Secretary, Kerala State Pollution Control Board, Pattom
7. Chairman, SEIAA
8. The Secretary, Thrikkakara Municipality
9. Website
10. Stock File
11. O/c

Forwarded /By Order

Administrator(SEIAA)

GENERAL CONDITIONS *(for projects other than mining)*

(i) Rain Water Harvesting capacity should be installed as per the prevailing provisions of KMBR / KPBR, unless otherwise specified elsewhere.

(ii) Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.

(iii) Suitable avenue trees should be planted along either side of the tarred road and open parking areas, if any, inclusive of approach road and internal roads.

(iv) The project shall incorporate devices for solar energy generation and utilization to the maximum possible extent with the possibility of contributing the same to the national grid in future.

(v) Safety measures should be implemented as per the Fire and Safety Regulations.

(vi) STP should be installed and made functional as per KSPCB guidelines including that for solid waste management.

(vii) The conditions specified in the Companies Act, 2013 should be observed for Corporate Social Responsibility.

(viii) The proponent should plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.

(ix) Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating activity.

(x) All other statutory clearances should be obtained, as applicable, by project proponents from the respective competent authorities including that for blasting and storage of explosives.

(xi) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Authority.

(xii) The Authority 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 Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.

(xiii) The stipulations by Statutory Authorities under different Acts and Notifications should be complied with, including the provisions of 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 EIA Notification, 2006.

(xiv) The environmental safeguards contained in the EIA Report should be implemented in letter and spirit.

(xv) Provision should be made for supply of kerosene or cooking gas and pressure cooker to the labourers during construction phase.

(xvi) Officials from the Regional of MOEF, Banglore who would be monitoring the implementation of environmental safeguards should be given full co-operation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents submitted to MoEF should be forwarded to the CCF, Regional Office of MOEF, Bangalore.

(xvii) These stipulations would be enforces among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control Pollution) at 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.

(xviii) Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.

(xix) Any appeal against this Environmental Clearance shall lie with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under section 11 of the National Environment Appellate Act, 1997.

(xx) The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which (both the advertisement and the newspaper) shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the Department of Environment and Climate Change, Govt. of Kerala and may also be seen on the website of the Authority at www.seiaakerala.org. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same signed in all pages should be forwarded to the office of this Authority as confirmation.

(xxi) A copy of the clearance letter shall be sent by the proponent to concerned GramaPanchayat/ District Panchayat/ Municipality/Corporation/Urban Local Body and also to the Local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The Environmental Clearance shall also be put on the website of the company by the proponent.

(xxii) The proponent shall submit half yearly reports on the status of compliance of the stipulated EC conditions including results of monitored data **(both in hard copies as well as by e-mail)** and 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 respective Regional Office of MoEF, Govt. of India and also to the Directorate of Environment and Climate Change, Govt. of Kerala.

(xxiii) The details of Environmental Clearance should be prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman font of size of not less than 40.

(xxiv) The proponent should provide notarized affidavit *(indicating the number and date of Environmental Clearance proceedings)* that all the conditions stipulated in the EC shall be scrupulously followed.

SPECIFIC CONDITIONS

I.Construction Phase

i. "Consent for Establishment" shall be obtained from Kerala State Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at the site.

ii. All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.

iii. A First Aid Room will be provided in the project both during construction and operation of the project.

iv. 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 wastewater and solid wastes generated during the construction phase should be ensured.

v. All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.

vi. 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 sites with the approval of competent authority.

vii. 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.

viii. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.

ix. Any hazardous waste generated during construction phase, should be disposed off as per applicable rules and norms with necessary approval of the Kerala State Pollution Control Board.

x. The diesel generator sets to be during construction phase should be low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards.

xi. The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.

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

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

xiv. Fly ash should be used as building material in construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27th August 2003. (The above condition is applicable Power Stations).

xv. Ready mixed concrete must be used in building construction.

xvi. Storm water control and its re-use per CGWB and BIS standards for various applications.

xvii. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.

xviii. Permission to draw ground shall be obtained from the Computer Authority prior to construction/operation of the project.

xix. Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water.

xx. Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based control.

xxi. Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on airconditioning. If necessary, use high quality double glass with special reflective coating in windows.

xxii. Roof should meet prespective requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfil requirement.

xxiii. Opaque wall should meet perspective requirement as per energy Conservation Building Code which is proposed to be mandatory for all airconditioned spaces while it is aspirational for non-airconditioned spaces by use of appropriate thermal insulation material to fulfil requirement.

xxiv. 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 including protection measures from lightening etc.

xxv. 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.

xxvi. Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the protect proponent if it was found that construction of the project has been started without obtaining environmental clearance.

II. **Operation Phase**

i. 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 Ministry before the project is commissioned for operation. Treated affluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100% grey water by decentralised treatment should be done. Discharge of unused treated affluent shall conform to the norms and standards of the Kerala State Pollution Control Board. Necessary measures should be made to mitigate the odour problem from STP.

ii. The solid waste generated should be properly collected and segregated. Wet garbage should be composted and dry/inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material.

iii. Diesel power generating sets proposed as source of back up 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 combined capacity of all proposed DG sets. Use low sulphur diesel. The location of the DG sets may be decided with in consultation with Kerala State pollution Control Board.

iv. 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.

v. The green belt of the adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.

vi. Weep holes in the compound walls shall be provided to ensure natural drainage of rain water in the catchment area during the monsoon period.

vii. Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease. The borewell for rainwater recharging should be kept at least 5 mts.above the highest ground water table.

viii. The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.

ix. Traffic congestion near the entry and exit points from the roads adjoining the purposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.

x. A Report on the energy conservation measures confirming to energy conservation norms finalise by Bureau of Energy Efficiency should be prepared incorporating details about building materials & technology, R & U Factors etc and submit to the Ministry in three months time.

xi. Energy conservation measures like installation of CFLs/TFLs 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 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 mercury contamination. Use of solar panels may be done to the extent possible.

xii. Adequate measures should be taken to prevent odour problem from solid waste processing plant and STP.

xiii. The building should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.

III Post Operational Phase

Environmental Monitoring Committee with defined functions and responsibility should foresee post operational environmental problems e.g. development of slums near the site, increase in traffic congestion, power failure, increase in noise level, natural calamities, and increase in suspended particulate matter etc. solve the problem immediately with mitigation measures

For Member Secretary, SEIAA