



सत्यमेव जयते

Validity expires on 16.03.2025

Proceedings of the State Environment Impact Assessment Authority Kerala

*Present: Prof. (Dr.) K.P. Joy, Chairman, Dr. J. Subhashini, Member &
Sri. P.H.Kurian I.A.S Member Secretary.*

Sub: SEIAA- Environmental Clearance for the proposed Residential Building Project in Resurvey No.105/1C, 105/1 A1 and Sy. Nos. 989/1, 989/1, 2, at Kasaba Village, Kozhikode Taluk, Kozhikode District, Kerala by Sri.Viju Varghese , Deputy General Manager, M/s. Artech Malabar Hills - Granted-Orders issued

State Environment Impact Assessment Authority, Kerala

No. 1115/EC/SEIAA/KL/2017

dated, Thiruvananthapuram 17.03.2018

- Ref: 1. Application received on 07.03.2017 from Sri.Viju Varghese, Deputy General Manager , PEEVEEKAY Properties and Hotels Pvt. Ltd, 5th Floor, Indus Avenue, Kallayi Road, Calicut – 695 014
2. Minutes of the 73rd meeting of SEAC held on 30th & 31st May 2017
3. Minutes of the 75th meeting of SEAC held on 29th & 30th June 2017
4. Minutes of the 86th meeting of SEAC held on 27th February, 2018
5. Minutes of the 87th meeting of SEAC held on 3rd March 2018.
6. Minutes of the 82nd meeting of SEIAA held on 15th March 2018.
7. Affidavit dated 17.03.2018 from Sri.Viju Varghese

ENVIRONMENTAL CLEARANCE NO.52/2018

Sri.Viju Varghese, Deputy General Manager , PEEVEEKAY Properties and Hotels Pvt. Ltd, 5th Floor, Indus Avenue, Kallayi Road, Calicut – 695 014, vide his application received on 07.03.2017 has sought Environmental Clearance under EIA Notification, 2006 for the proposed Residential Project in Resurvey No.105/1C, 105/1 A1 and Sy. Nos. 989/1, 989/1, 2 at Kasaba Village, Kozhikode Taluk, Kozhikode District, Kerala . It is interalia, noted that the project comes under the Category B, 8(a) of Schedule of EIA Notification 2006.

BASIC INFORMATION OF BUILDING PROJECT
PART A

PROJECT DETAILS		
File No	1115/EC/SEIAA/KL/2017	
Name /Title of the project	Artech Malabar Hills Residential Building Project at Kasaba, Kozhikode	
Name and address of project proponent.	M/s PEEVEEKAY Properties and Hotels Pvt Ltd PEEVEEKAY Properties and Hotels Pvt Ltd 5th Floor, Indus Avenue, Kallayi Road, Calicut	
Owner of the land	PEEVEEKAY Properties and Hotels Pvt Ltd	
Survey Nos. District/Taluk/ and Village etc.	Re.Sy. No.: 105/1C, 105/1A1, and Survey Nos. 989/1, 989/1, 2 Kozhikode district, Kozhikode taluk, Kasaba Village	
Category/Sub Category and Schedule	8 a, Category (B2)	
Date of submission of Application	25 Nov 2016	
Total Built up Area & No. of Floors	Total construction built-up area for the project	51, 688.57 m ²
	No. of floors	G+21 floors
No of apartments	207 dwelling units	
Height of the building from the ground level	G+21 floors	
GPS Co-ordinate	Latitude (N)	11° 15' 59.73" N
	Longitude(E)	75° 97' 31.89" E
Brief description of the project.	Total Plot area	8277 m ²
	Total Built-up area	51, 688.57 m ²
	No. of Flats	207 dwelling units
	No. of Floors	G+21 floors
	Total occupancy estimated	1035 persons
	Green Area on ground	595.00m ²
	Green Area on podium	806.76 m ²
	Total recreation area provided	2027.54 m ²
Is it a new Project or expansion/modification of an existing project?	New Project	
Details of the Project Cost	INR 107.48 Crores	
If CRZ recommendation applicable?	Not Applicable	
Distance from nearby habitation	Kozhikode City, The site is inside Kozhikode Corporation limit	
Distance from nearby forest, if applicable	None within 15 km radius	
Distance from protected area, Wildlife Sanctuary, National Park etc.	Sarovaram Bio Park - Separated by highway and Canal at an aerial distance of 0.5 km.	
Distance from nearby streams/rivers/National Highway Roads and Airport	Waterbody	Kalipoika, Sarovaram Biopark, at an aerial distance of 0.3 km
	Airport	Calicut International Airport at an aerial distance of 29.0 km
	Nearest road	Byepass road at an aerial

Is ESA applicable? If so, distance from ESA limit	Not Applicable	distance of 0.05 km
IMPACT ON WATER		
Details of water requirement per day in KLD	Freshwater demand during operation phase is 99 kLD	
Water source/sources.	The source of water will be the wells, KWA supply and harvested rainwater.	
Details of water requirements met from water harvesting.	Rainwater harvesting system will be constructed for the project. The harvested rainwater will be stored in underground tank of capacity 1000 m ³ and used in the fill and draw mode during rainy days. Un-stored rain water will be used to charge ground water through recharge pits and rain gardens.	
What are the impacts of the proposal on the ground water?	Open wells at the site. Rainwater harvesting system will be installed for the recharge of ground water	
WASTE MANAGEMENT		
Explain the facilities for Liquid waste Management	During operation phase, the sewage generation from the building will be 121m ³ /day and will be treated in full-fledged Sewage Treatment Plant effluent of capacity 192 m ³ by MBBR process.	
Solid Waste Management	The total quantity of solid waste expected is 518 kg/day. Out of which 155 kg/day will be non-biodegradable and 363 kg/day will be biodegradable. The project proponents have proposed provision for segregation and collection of biodegradable & non-biodegradable waste within the premises. Biodegradable waste will be treated in Biogas Plant. The non-biodegradable waste will be handed over to recyclers. Dried sludge from STP will be used as manure within the premises for plants.	
E-Waste Management	E-waste generated during the operation phase of the project will be handed over to authorized e-waste collection centres.	
Facilities for Sewage Treatment Plant	Sewage Treatment Plant with capacity to treat 192 m ³ will be constructed to treat waste water. Design Basis of Treatment plant is Moving Bed Bio Reactor. Disinfected effluent meeting irrigation standards will be used for irrigating the landscape and for washing access roads.	
How much of the water requirement can be met from the recycling of treated waste water? (Facilities for liquid waste treatment)	All secondary requirements like flushing (47m ³ /day) and gardening (7m ³ /day) would be fulfilled by treated sewage from STP. Excess treated sewage during non-monsoon (55m ³ /day) and monsoon seasons (62m ³ /day) shall be discharged to subsurface flow constructed wetland.	
What is the incremental pollution load from waste water generated from the proposed activities?	During operation phase, the sewage generation from the building will be 121m ³ /day and will be treated in full-fledged Sewage Treatment Plant effluent by MBBR process. Treated sewage will be reused for flushing and gardening. Excess treated sewage during non-monsoon and non-monsoon season shall be discharged to subsurface flow constructed wetland. Details of the quantities and composition of wastewater	

	generated from the proposed activity is given in EC.
How is the storm water from within the site managed?	Storm water runoff will be minimized by intercepting the same in rain water harvesting tanks and recharge pits.
Will the deployment of construction labourers particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation)	<p>During construction phase, temporary toilets with connection to compact STP (portable) will be provided. Hence there will not be unsanitary conditions around the project site.</p> <p>On site accommodation will not be provided to the construction workers as they are from the nearby localities and they will have their permanent accommodation offsite. Laborers employed by contractor will be accommodated offsite as per contract terms.</p> <p>Regular segregation and disposal of solid waste generated by these workers shall be as per Municipal Solid Waste Management Rules and Construction and Demolition Waste Management Rules, 2016.</p> <p>First aid and medical facilities will be provided to all the employees and laborers working on the site. Proper housekeeping will be maintained throughout the premises.</p> <p>Pest and vector control measures will be done on site.</p>
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)	<p>Sewage Treatment Plant with capacity to treat 192 m³ will be constructed to treat waste water. Design Basis of Treatment plant is Moving Bed Bio Reactor.</p> <p>The treatment will include the following unit/ equipment:</p> <p>Preliminary Treatment: Screen Chamber Oil & Grease Trap Raw Sewage Collection Tank (Equalizer) Raw Sewage Transfer pumps</p> <p>Biological Treatment (Secondary Treatment): MBBR Bioreactor Secondary Clarifier Sludge pump for feeding into biogas plant and for residual sludge treatment</p> <p>Tertiary Treatment: Filter feed tank Pressure Sand Filter (PSF) Activated Carbon Filter (ACF) UV disinfection system</p> <p>Facilities for Recycling and disposal:- Treated sewage will be recycled for flushing and gardening The sludge from STP will be dried, composted and used as manure</p>
Give details of dual plumbing system if treated waste is used for flushing of toilets or any other use.	Colour coding for dual plumbing system shall be done as per standard practices. Recycling of treated sewage is used for flushing and gardening.
TRAFFIC MANAGEMENT	
Sufficiency of Parking Space	The project proponents have proposed to provide well organized

(Explain)	parking arrangement. The details of Parking Statement is as follows:-		
	Category	Parking Area provision	
	4 wheelers	314	
	2 wheelers	1621.37 m ²	
	Handicapped	9	
Width of access road	The project site is directly accessible from a 6.6 m wide road.		
ENERGY CONSERVATION			
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?	The details if the power requirement during operation phase is as follows :-		
		Power requirement	Source of Power
	Residential	2500 kVA	KSEB Transformer (2 Transformers of 1250 kVA each)
	Residential (Stand by)	Two DG sets of 200 kVA (In case of power failure)	
	The energy consumption is proposed to be reduced by the use of solar energy for common area and outdoor lighting. It is proposed to save 24 kW/month by the use of solar energy		
What type of, and capacity of power back-up to you plan to provide?	DG set will be provided for power back up. Two DG set of 200 kVA will be used for residential.		
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 project site is located in a place with predominantly tropical climate. Glass used should preferably avoid long and wavelengths (IR and UV). Soft glass which absorbs UV with special features to reflect IR radiation will be used for blazing. Typically locally available Saint Gobain™ neutral glass Evolite® or its equivalent will be used. Typical specifications are light transmission 50%, solar factor 0.5, shading coefficient 0.58 and U-value 5 (0.88 W/m ² K). Glass is not used as a wall material		
What passive solar architectural features are being used in the building? Illustrate the applications made in the proposed project	The following passive solar features are incorporated in the building design: Orientation: Building is oriented to take advantage of north facing during summer, partly compromising with alignment with access road. Open spaces equivalent to atrium are provided in interconnected rows of building. This provides partial shading from solar exposure from east and west for dwelling units coming on the interior side. Distributes breeze in summer to majority of units. In general the design and orientation of the building helps to avoid solar heat buildup and induces cooling to living spaces.		
Does the layout of streets & buildings maximize the potential for solar energy devices ? Have you considered the use of street lighting, emergency lighting and solar hot water systems for use in the building complex ? Substantiate with details	The building orientation and alignment are laid out in such a way that solar heating of the walls is minimized (at no time solar heating is needed since minimum night temperature is 23°C.) Front side of the building is access entry with aesthetically laid garden. This area can be partly used for solar energy harvesting. However, it is planned to install PV array on roof top on the south facing side. This will partly shade the roof.		
Is the shading effectively used to reduce cooling/heating loads?	The building is located at a place predominantly with tropical features, especially hot and humid climate. Cooling is the		

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?	preferred feature. Vertical walls on the east and west will be painted with white or light shade paints with low heat absorption.		
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.	Being a multiunit, affordable housing project central air conditioning is not provided. For common facilities like street lighting, common space illumination and water treatment facilities, electrical devices with green energy star certification will be used.		
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?	Un-shaded roof portion will be provided with expanded poly styrene sheet insulation to reduce adverse thermal effect. Paved areas will be covered under the canopy of shade trees in the landscape. Open spaces will be covered with grass turf and with garden shrubs so that heat absorption by paving materials and open soil can be minimized. Irrigation of landscape with treated effluent will keep the surroundings cool. This will mitigate heat island effect to a large extent.		
What are the thermal characteristics of the building envelope? (a) roof (b) external walls; and (c) fenestration? Give details of the materials used.	Material	Thermal mass C (kJ/Km ²)	Thermal inertia (Jm ² K ^{-0.5} S ^{-0.5})
	Cement plastering	1.480	1033.02
	Brick wall	1.601	1139.69
	EPS insulation	0.032	33.55
	Cellular concrete	0.739	372.78
	Dense concrete	2.120	1920.98
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 residential units are provided with facilities for incorporating air conditioning. Individual units will have its option based the attitude of the owner.		
Details of renewable energy (non – conventional) used.	Solar energy proposed to be utilized for common area and outdoor lighting. Solar PV units of 10 kVA capacity will be installed to meet power demand for lighting up the common spaces and outdoors. It is proposed to save 24 kW/month by the use of solar energy		
IMPACT ON AIR ENVIRONMENT			
What are the mitigation measures on generation of dust, smoke , odours, fumes or hazardous gases	The mitigation measures on generation of dust, smoke , odours, fumes or hazardous gases are The traffic congestion will be avoided by proper parking arrangement and maintaining smooth traffic flow Regular PUC check-up for vehicles DG sets will be used as per CPCB norms Proper maintenance of DG sets shall be done and Low sulphur fuel shall be used		
Details of internal traffic management of the site.	The project proponent will provide adequate driveways and walkways.		

Details of noise from traffic, machines and vibrator and mitigation measures	The proposed project being residential development, the source of noise is mainly vehicular noise. The project proponents have proposed to provide well organized parking arrangement and maintaining smooth traffic flow which would help in reducing traffic congestion and noise levels. Trees would act as noise barrier and will reduce the noise level.					
Air quality monitoring in detail	Parameters	Unit				NAAQ Standards
			A1	A2	A3	
	PM ₁₀	µg/m ³	70.2	65.4	59	100
	PM _{2.5}	µg/m ³	16.6	14.8	15.1	60
	SO ₂	µg/m ³	8.8	9.0	8.7	80
	NO ₂	µg/m ³	9.5	10.3	9.2	80
CO	µg/m ³	0.7	0.6	0.8	2	
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.	The project proponents have proposed to provide well organized parking arrangement. The details of Parking Statement is as follows:-					
	Category		Parking area provision			
	4 Wheelers		314			
	2 Wheelers		1621.37 m ²			
	Handicapped		9			
Provide details of the movement patterns with internal roads, bicycles tracks, Pedestrian pathways, footpaths etc., with areas under each category	The project proponent will provide adequate driveways and walkways. The project site is directly accessible from a 6.6 m wide road.					
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 being residential development, the source of noise is mainly vehicular noise. The project proponents have proposed to provide well organized parking arrangement and maintaining smooth traffic flow which would help in reducing traffic congestion and noise levels. Trees would act as noise barrier and will reduce the noise level.					
What will be impact of DG sets & other equipments on noise levels & vibration in & ambient air quality around the project site? Provide details	D.G. Sets will be operated only in case of power failures during operational phase. The Pollutants like SPM, SO2 that may arise from emissions from D.G. sets will be discharged through vent of proper height. D.G. sets are with inbuilt acoustic enclosures to reduce the noise of D.G. sets while in operation. Plantation of trees would act as noise barrier and will reduce the noise level.					
IMPACT ON BIODIVERSITY AND ECO RESTORATION PROGRAMMES						
Will the project involve extensive clearing or modification of vegetation (Provide details)	The project does not involve extensive clearing or modification of vegetation. The list of existing trees in the site is given in the table below. There are no endangered species in the site. All the trees were cleared and handed over to the project proponent by the owner of the land.					
	Common Name (Malayalam)	Scientific Name		No. of trees in the site		
	Coconut Tree (Thengu)	Cocos nucifera		26		

	Indian Almond	Terminalia catappa	10
	Acacia	Acacia auriculiformis	4
	Rain tree (Mazhamaram)	Samanea saman	3
	Vakamaram	Albizia lebbek	2
	Others		10
What are the measures proposed to minimize the likely impact on vegetation (details of proposal for tree plantation/ landscaping)	An area of 1401.76 m ² (podium and ground) is allocated for green belt. In addition, the sides of the internal roads will be provided with garden plants. The rain gardens will accommodate shrubs.		
Is there any displacement of fauna – both terrestrial and aquatic. – If so what are the mitigation measures? Presence of any endangered species or red listed category (in detail)	No, there will not be any displacement of fauna –both terrestrial and aquatic or creation of barriers for their movement. No endangered species or red listed category is sighted.		
SOCIO- ECONOMIC ASPECTS			
Will the proposal result in any change to the demographic structure of local population? Provide the details.	There will be maximum influx of 1035 people. These are people looking for affordable housing in the city and will enhance the metropolitan structure of the city.		
Give details of the existing social infrastructure around the proposed project	The project site is located in the inside of Kozhikode City. Educational institutions such as IIKM, engineering colleges and hospitals such as the Malabar hospital etc are located within 10 km radius. Civil amenities police station, hospitals, places of worship and recreation facilities are also available within 1 to 3 km radius.		
Will the project cause adverse effects on local communities, disturbances to sacred sites or other cultural values? What are the safeguards proposed?	As this project is a residential development, it will not cause adverse effects on local communities, disturbance to sacred sites or other cultural values.		
Out of the total plot area % of spaces provided for i)Recreational facility ii)Parking iii)Open Spaces	Recreational facility	2027.54 m ²	
	Parking	Parking provision provided inside the buildings	
	Open Spaces	3476.34 m ²	
BUILDING MATERIALS			
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)	Pozalona Portland cement shall be used which already contains 15% Fly ash. Construction materials from nearest source are chosen to minimize energy consumption for transportation. Construction materials like aggregates are purchased from within 25 km, thus the embedded transportation energy is only 25 km-tons. Cement will be procured from the nearest factory.		
Transport and handling of	The material required for construction activities shall be		

materials during construction may result in pollution, noise & public nuisance. What measures are taken to minimize the impacts?	procured from company's authorized / approved vendors only. The vendor's performance is monitored periodically. In case of urgency or non-availability of materials from authorized/approved vendors, it will be procured from the open market to maintain the pace of the work. The mode of transport for above materials will be by trucks and / or by trailers. The construction material will be carried in properly covered vehicles. Security staff presents at site will supervise loading and unloading of material at site. Construction material will be stored at identified site/ temporary go downs at site. The material handling location will be surrounded by a sheet wall up to 4 m.
Are recycled materials used in roads and structures? State the extent of savings achieved?	The construction waste will be used for laying the internal roads
Give details of the methods of collection, segregation & disposal of the garbage generated during the operation phases of the project.	Segregation of three types of garbage i.e. biodegradable, non-biodegradable and domestic hazardous shall be done Non- biodegradable garbage: Shall be segregated into recyclable and non-recyclable waste Recyclable waste: Shall be handed over to recyclers. Biodegradable garbage shall be treated in Biogas plant and slurry will be fed to the STP. The domestic hazardous waste shall be handed over to authorized waste collectors.
RISK MANAGEMENT	
Are there sufficient measures proposed for risk hazards in case of emergency such as accident at the site during construction & post construction phase.	This is residential project. Hence hazardous materials will not be handled except for fuels used in vehicles, and special oils used in vehicles and machinery.
Storage of explosives/hazardous substance in detail	Storage of reserve fuel will be permitted. No hazardous materials will be used.
What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans	The project proponents are implementing a fire safety plan based on National Building Code.
Litigation/court cases if any	No
AESTHETICS	
Will the proposed constructions in any way result in the obstruction of a view, scenic amenity or landscapes? Are these considerations taken into account by the proponents?	The project site is in the midst of occupied land with high rise buildings. The proposed construction will not cause any obstruction of a view, scenic amenity or landscapes.
Will there be any adverse impacts from new constructions on the existing structures? What are considerations taken into account?	No, The proposed buildings are coming up on a parcel of land well separated from existing buildings either by road width plus set back distance or with vacant land. There will not be any adverse impacts from the new construction on the existing structures.
Whether there are any local	The project site is not covered by any master plan for

considerations of urban form & urban design influencing the design criteria? They may be explicitly spelt out.	development. As such there is no restriction on the design, except those imposed by building rules and regulations. The building rules and regulations are compiled and clearance will be obtained from State Town Planning Department.		
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	No. There are no anthropological or archaeological sites or artefacts nearby the site		
Details of CSR activity and the amount set apart per year	Sl.No.	Particulars	Rs in lakhs
		Promotion of Health Care	4.50
		Promotion of Education including Special Education	6.20
		Contribution to PM's National Relief Fund	2.00
		Ensuring Environmental Sustainability	12.3
		Total	25 lakhs
Details of NABET approved EIA Consultant engaged-Their name, address and accreditation details	ULTRA-TECH Environmental Consultancy and Laboratory Door No. 27/2957 A1, First Floor, Vaniampilly, K P Vallon Road, Kadavanthra, Kochi - 682020. Mob : +91 9895 200 526 NABET Accreditation No: NABET/EIA/1417/RA010		
Details of Authorized Signatory and address for correspondence	Mr Viju Varghese Deputy General Manager (MEP) Artech Realtors Pvt Ltd, Artech House TC/24/2014(1), Thycaud, Thiruvananthapuram, 695014 Mob: 9388189889		
SUMMARY AND CONCLUSION			
Overall justification for implementation of the project.	The project will also create / add job opportunities for support staff like Security, Maintenance, Household Workers etc.		
Explanation of how adverse impact have been mitigated.	Environmental Management plan has been prepared considering all the likely adverse impacts. Proper implementation of the Environment Management plan as well as proper monitoring of the environmental parameters will ensure that all adverse impacts have been mitigated.		

2. The proposal was placed in the 73rd meeting of SEAC held on 30th & 31st May 2017 and the Committee decided to defer the item for field inspection. The Committee also directed the proponent to submit the following additional documents/ clarifications.

1. Copy of documents showing the nature of the land
2. Water yield study of the tube well
3. Does the site attracts the provisions of the CRZ notification?
4. Adequate provision for material recovery area.

Accordingly the Sub Committee members consisting of Sri P S Harikumar and Sri S. Ajayakumar has conducted the site visit on 17th June 2017. The report is as follows;

The proposal is for a residential project located along K P Chandran Road at about 25 m from the bye pass road. An access road having width of 10m provides access to the site, therefore adequate access is available. No basement is proposed adequate car parking is available. The proponent is asked to submit the following additional documents.

- a. Certificate showing that the plot satisfies the Kerala Paddy and Wetland Act 2008/ KLU order 1968*
- b. Borewell yield report to be submitted. RWH capacity to be enhanced*
- c. MRF/ solid waste disposal facility to be submitted*
- d. A drain is passing through the southern side. The rain water from the plot is to be drained to this drain. This drain is to be properly maintained by constructing side walls along the plot side. Topo sheet showing drain to be submitted.*
- e. A setback distance equal to the width of the drain should be provided from the nearby stream*
- f. Level of the finished ground level shall be at least 60 cm above bye pass road*

3. The proposal was placed in the 75th meeting of SEAC held on 29th & 30th June 2017 and decided to defer the item for submission of the following documents/details:

- 1. NOC from KCZMA.*
- 2. Clarification whether the land comes under the purview of the Kerala Paddy and Wetland Act 2008.*
- 3. Borewell yield test.*
- 4. Rainwater harvesting capacity to be enhanced.*
- 5. A drain is passing through the southern side. The rain water from the plot is to be drained to this drain. This drain is to be properly maintained by constructing side walls along the plot side. Topo sheet showing drain to be submitted.*
- 6. A setback distance equal to the width of the drain should be provided from the nearby stream*
- 7. Level of the finished ground level shall be at least 60 cm above bye pass road*

4. The proponent has submitted the documents sought by 75th SEAC. The proposal was placed in the 86th meeting of SEAC held on 27th February, 2018. The Committee decided to defer the item for personnel clarifications from the proponent.

5. The proposal was placed in the 87th meeting of SEAC held on 3rd March 2018. The

proponent was also heard during the meeting. The Committee appraised the proposal based on Form 1, Form I A, field inspection report of the Sub Committee and all other documents submitted with the proposal. The Committee verified the additional documents submitted by the proponent and found satisfactory. The Committee decided to Recommend for issuance of EC subject to general conditions in addition to the following specific conditions.

1. *Rainwater harvesting capacity to be enhanced to 1000 KL.*
2. *A drain is passing through the southern side. The rain water from the plot is to be drained to this drain. This drain is to be properly maintained by constructing side walls along the plot side.*
3. *A setback distance equal to the width of the drain should be provided from the nearby stream*
4. *Level of the finished ground level shall be at least 60 cm above bye pass road*

The proponent consented to set apart Rs.25 lakh per annum (recurring) for community welfare activities in consultation with the local body.

6. The proposal was finally placed in the 82nd meeting of SELAA held on 15th March 2018. Authority accepted the recommendation of SEAC and decided to issue EC subject to general conditions in addition to the above specific condition as suggested by SEAC.

As per the landmark judgment dated 3rd September 2017 of the Principal Bench of National Green Tribunal (NGT), developers should give a satisfactory explanation on the facilities provided for open space, recreational grounds and parking facilities at the project site as they have an important bearing on the life of people. The above direction has to be complied by the Proponent.

2% of the total project cost should be set apart for CSR activities for taking up welfare activities of the local community in consultation with the local body. An assurance should be obtained from Kerala Water Authority regarding the supply of dependable source of water. The CSR amount should be utilized before the completion of the project and should be included in the annual account of the company and the expenditure statement should be submitted to SELAA along with the compliance report after getting certified by a Chartered Accountant. A notarised affidavit for the commitment of CSR activities and also agreeing all the above specific and general conditions should be submitted before the issuance of EC. The proponent has submitted the affidavit vide reference 7th cited.

7. Environmental Clearance as per the EIA Notification 2006 is therefore granted for the proposed Residential Building Project in Resurvey No.105/1C, 105/1 A1 and Sy. Nos. 989/1,

989/1, 2, at Kasaba Village, Kozhikode Taluk, Kozhikode District, Kerala by Sri.Viju Varghese, Deputy General Manager , PEEVEEKAY Properties and Hotels Pvt. Ltd, 5th Floor, Indus Avenue, Kallayi Road, Calicut – 695 014, subject to the conditions in para 5 & 6 above and the usual general conditions for projects other than mining appended hereto and the following green conditions should be strictly adhered to.

Green Conditions.

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, regularisation or consent to operate.*
8. The Clearance will also be subject to full and effective implementation of all the undertakings given in the application form, all the environmental impact mitigation and management measures undertaken by the project proponent in the documents submitted to SEIAA, and the mitigation measures and waste management proposal as assured in the Form - 1 and Form-1A, Environment Management Plan as submitted. The assurances and clarifications given by the proponent in the application and related documents will be deemed to be part of these proceedings as conditions as undertaken by the proponent, as if incorporated herein.
9. Validity of the Environmental Clearance will be seven years from the date of issuance of E.C, subject to inspection by SEIAA on annual basis and compliance of the conditions, subject to earlier review of E.C in case of violation or non-compliance of any of the

conditions stipulated herein or genuine complaints from residents within the scrutiny area of the project.

10. Compliance of the conditions herein will be monitored by the State Environment Impact Assessment Authority 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, Kozhikkode to take legal action under the Environment (Protection) Act 1986.
- iii. The given address for correspondence with the authorized signatory of the project is,
Sri.Viju Varghese, General Manager , PEEVEEKAY Properties and Hotels Pvt. Ltd,
5th Floor, Indus Avenue, Kallayi Road, Calicut – 695 014.

Sd/-

P.H.KURIAN I.A.S
Member Secretary (SEIAA)

To,


Sri.Viju Varghese,
Deputy General Manager ,
PEEVEEKAY Properties and Hotels Pvt. Ltd,
5th Floor, Indus Avenue, Kallayi Road,
Calicut – 695 014

Copy to:

1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4th Floor, E&F Wing, II Block, Koramangala, Bangalore-560034
2. The Additional Chief Secretary to Government, Environment Department
3. The District Collector, Kozhikkode
4. The District Town Planner, Kozhikkode
5. The Tahsildhar, Kozhikkode Taluk
6. The Member Secretary, Kerala State Pollution Control Board
7. The Secretary, Kozhikkode ^{Corporation} Taluk, Kozhikkode District
8. Chairman, SEIAA, Kerala
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, Bangalore 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 project proponent if it was found that construction of the project has been started without obtaining environmental clearance.

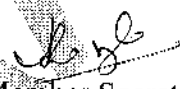
II. Operation Phase

- 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 effluent 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 effluent 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 proposed 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 conforming 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

