



SEIAA Proposal No. SIA/OR/MIS/306106/2023

Dated 09th July, 2024
Bhubaneswar

To

Mr. Kantilal Patel, Director,
M/s Shuvam Construction Pvt Ltd
Plot No.564, Vivekananda Marg, Nageswar Tangi, Old Town,
Bhubaneswar, Pin - 751002

Subject: Application of M/s. Shuvam Construction Pvt. Ltd. for Amendment in Environmental Clearance for proposed construction of (2B+G+14) High Rise Residential Apartment Building Project Over a Plot area of 12,443.97 Sqmt. with revised Total Built-up area of 59,578.43 sqm located in Mouza- Ghatikia, Tahasil-Bhubaneswar, District-Khordha-Amendment in Environmental Clearance reg.

This has reference to your online proposal No. SIA/OR/MIS/306106/2023 dated 06.11.2023, submitted to SEIAA, Odisha for Amendment in EC for Proposed amendment in construction of (2B+G+14) High Rise Residential Apartment Building Project Over a Plot area of 12,443.97 Sqmt. with revised Total Built- up area of 59,578.43 sqm located in Mouza- Ghatikia, Tahasil-Bhubaneswar, District- Khordha filed by Sri Kantilal Patel, Director in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act,1986 and subsequent amendments thereto.

2.Proposal in Brief:-

Proposal No.	SIA/OR/MIS/306106/2023
Date of application	06.11.2023
File no.	227993/54-MIS/09-2021
Project Type	Proposal for Amendment of EC
Category	B2
Project/Activity including Schedule No.	8(a) Building & Construction Projects
Name of the Project	Proposal for Amendment of EC of M/s.

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**STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY, ODISHA**

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	Shuvam Construction Pvt. Ltd. for 2B+G+14 High Rise Residential Apartment Building over an built-up area 59,578.43 Sqmt in Mouza-Ghatikia, Tahasil-Bhubaneswar, District.- Khordha
Name of the company/Organization	Applicant:-M/s Shuvam Construction Pvt Ltd.; Sri Kantilal Patel, Director
Location of Project	Mouza-Ghatikia, Bhubaneswar, Dist.- Khurda

3. Project Details: The highlights of the proposal as ascertained from the application and as revealed from proceedings/discussion held during the meeting of SEAC/SEIAA, are given as under.

- (i) This is a proposal of M/s. Shuvam Construction Pvt. Ltd. for Amendment in Environmental Clearance for proposed construction of (2B+G+14) High Rise Residential Apartment Building Project Over a Plot area of 12,443.97 Sqmt. with revised Total Built- up area of 59578.43 sqm located in Mouza- Ghatikia, Tahasil-Bhubaneswar, District- Khordha filed by Sri Kantilal Patel, Director.
- (ii) The project was earlier granted Environmental Clearance by SEIAA Odisha vide EC Identification No.: EC22B038OR134872 dated 22.07.2022. The Plot area was 10,732.17 Sqmt.(2.652Acres) and the Total Built-up area was 56,722.86 Sqmt. Now, the Project Proponent has proposed amendment in the high rise residential apartment building project by changing the plot area from 10,732.17 Sqmt. to 12,443.97 Sqmt. and builtup area from 56,722.86 Sqmt. to 59,578.43 Sqmt..
- (iii) Location and Connectivity: The project is located at Mouza- Ghatikia, Bhubaneswar, District-Khurda, Odisha bounded by Latitude: 20°16'15.78"N and Longitude: 85°46'44.81"E. The Nearest Highway is NH-16 which is 1.44 km from the project site in East direction; NH-316 is 6.70 km towards SE direction, SH-13 is 14.45 km towards SSW direction. Ghatikia Main Road is at a distance of 0.80 km in North direction. The nearest Railway Station is Retang Railway Station at 8.36 km in South direction. Biju Patnaik International Airport Bhubaneswar is at 3 km in ESE direction from project site.
- (iv) Comparative statement of amendment (Existing EC & Proposed Amendment):

S. No.	Particulars	Existing Per	As	Proposed Amendment	Total(in Sqmt.) After Proposed
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		Earlier EC	in EC	Amendment
1	Total Plot Area (m ²)	10,732.17	1711.8	12,443.97
	• Future Development Area	--	1343.54	1,343.54
	• Total Road Area	--	594.88	594.88
	• Acquisition of Sewerage board	--	364.21	364.21
2.	Net Plot Area	10,732.17	-590.83	10,141.34
3.	Permissible Ground Coverage	6,439.3 (@60% of the plot area)	-354.496	6,084.804 (@60% of the net plot area)
4.	Proposed Ground Coverage	3,053.12 (@ 28.55% of the plot area)	-92.68	2960.44 (@29.19% of the net plot area)
5.	Permissible FAR	75,125.19 (@7 of the plot area)	-4135.81	70,989.38 (@7 of the net plot area)
6.	Proposed FAR	44,996.50 (@ 4.192 of the plot area)	-1674.17	43,322.33 (@ 4.271 of the net plot area)
7	Non FAR (Fire Tower, Balcony & Basement Area)	11,726.36	4529.74	16,256.1
8	Total Built Up Area (6 +7+ 8)	56,722.86	2,855.57	59,578.43
9	Green Area Proposed	2641.18 (@24.16% plot area)	-612.92	2028.26 (@20% of net plot area)
10	Maximum Height of the Building up to terrace level (meter)	50.93 (G+14)	--	50.26 (G+14) & 288 No. of Dwelling Units
11	Population (Nos.)	1672	194	1866
12	Total Water Requirement (KLD)	212	22	234
13	Domestic Water Requirement (KLD)	141	85	226
14	Fresh Water Requirement (KLD)	141	8	149

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15	Wastewater Generation (KLD)	180.16	15.84	196
16	STP Capacity (KLD)	200	40	240
17	Rainwater Harvesting Pits (Nos.)	14	20	34
18	Parking provided	22,308.36 sqm	-9,234.48 sqm	13,073.88 sqm
19	Power requirement (kW)	1482	118	1600
20	D.G sets	1000 kVA (2x 500)	-500kVA (-250 kVA)	500 kVA (2x 250)
21	Solid waste generation (kg/day)	796.8	90.2	887
22	Project cost (INR)	95 Crores	57 Crores	152 Crores

Requirement for the Project:

- (v) Water Requirement: The PP has submitted that the total water requirement for the project will be approx. 234 KLD which will be sourced from ground water. Out of 234KLD, domestic water demand is 226 KLD(drinking-149KLD & flushing-77KLD). The freshwater requirement will be 149 KLD for the project.
- (vi) Wastewater Generation & Management: It is estimated that the project will generate approx. 196 KLD of wastewater. The wastewater will be treated in onsite STP of 240 KLD capacity. The treated water of 177KLD will be reused for flushing, horticulture & other purposes. Surplus treated water of 92KLD in Summer season and 99KLD in Monsoon season will be discharged to external sewer after getting due permission from the competent authority.

Comparative water calculation:

S. No.	Description	Value as per earlier EC	Proposed Amendment	Total Quantity (EC accorded + Amendment)
1.	Total Water Requirement	212	+22	234
2.	Domestic Water Requirement	141	+85	226
3.	Fresh Water Requirement	141	+8	149
4.	Wastewater Generation	180.16	+15.84	196
5.	STP Capacity	200	+40	240

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- (vii) Rainwater harvesting details: Total 34 nos. of Rainwater harvesting pits will be provided for artificial ground recharge.
- (viii) Parking details: Total parking proposed is 13,073.88 Sqmt. with 146(LB)+142(UB)+43(Stack UB) = 331 ECS.
- (ix) Power Requirement: The requirement load for the project will be 1,600 kW. The power supply will be supplied by State Electricity Board. There is provision of 2 nos. of DG set of total 500 kVA capacity(i.e.2x250kVA) for power back up. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height will be provided for proper dispersion. The solar power provided is 80KW of the total demand load which comes around 5.0 % of the total demand. The solar load will be augmented as per demand during the operational phase of the project.
- (x) Fire-fighting Installations: Fire-fighting system will be installed as per recommendation of Odisha Fire Service Department and as per the guideline of NBC (part-4).
- (xi) Solid Waste Generation & Management: The total solid waste generation will be 887 kg/day for the proposed project. Approx. of solid waste would be generated 887 kg per day (@ 0.3 kg per capita per day for staff, @0.15 kg per capita per day for the visitor, 0.5 kg capita per day resident and landscape waste @0.2 kg/acre/day and STP Sludge).The solid waste will be collected and then segregated at source. Adequate number of colored bins (green, blue & dark grey) separate for bio-degradable and non-biodegradable are proposed to be provided at the strategic locations within the site. STP sludge is proposed to be used for horticultural purpose as manure. Horticultural Waste/ Biodegradable waste will be composted by Organic Waste Converter. Spent oil from DG sets will be sold to CPCB authorised recyclers. All solid waste disposal in the project will be as per Solid Waste Management Rules, 2016 & amendments thereafter
- (xii) Greenbelt: Total green area provided is 2,028.26 Sqmt. i.e. 20% of the net plot area. No. of trees required = 1 tree/80 sq.m. of net plot area =10141.34/80 = 126.766 say 127 Nos. So, total no. of trees proposed is 127 Nos.

S. No.	Botanical Name	Numbers
1	<i>Alstoniascholaris</i>	29
2	<i>Lagerstroemia flosreginae</i>	23
3	<i>Azadirachtaindica</i>	20
4	<i>Mimusopselengi</i>	28

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5	<i>Tamarindusindica</i>	5
6	<i>Syzygiumcumini</i>	10
7	<i>Mangiferaindica</i>	12
	Total	127

- (xiii) Project cost: Total estimated cost of the proposed project is Rs.152 Cr. including land and development cost. The capital cost for environmental management of the proposed project is estimated to be Rs.100.5 lakhs as capital cost and Rs. 28.00 lakhs/annum as recurring cost for implementing the measures.
- (xiv) The environment consultant M/s Grass Roots Research & Creation India (P) Ltd., Noida along with the proponent made a presentation on the proposal before the Committee on 21.11.2023.
- (xv) The proposed site was visited by the sub-committee of SEAC on 23.12.2023. Following are the observations of the sub-committee:
- The Project site is located in Ghatikia Bhubaneswar. The PP and Consultant were present and explained the layout.
 - There is no construction in the project site.
 - There is no blacktop road to site but a kacha road is connecting from the main road. PP informed that it is a 60 ft road connecting to main road. They need to submit the drawing on revenue map with BMC authentication or clarification about the 60 ft road and the sketch to be submitted to SEAC.
 - Also, BMC permission to develop the 60 ft road if any along with permission for constructing drain in road side to connect to the existing Nala which is at a distance of around 100 mts distance, for discharge of excess treated water and storm water.
- (xvi) The PP submitted ADS and also furnished the compliance to observations of Sub-Committee of SEAC on 15.02.2024.
4. This proposal conforms to the item no. 8(a)- 'Building & Construction Projects' in the schedule of EIA Notification, 2006 as amended time to time, and the Building & Construction project falls under Category B2 as the built-up area of the project is $\geq 20,000\text{Sqmt}$ and $< 1,50,000\text{Sqmt}$.
5. The proposal was placed in the SEAC meeting held on 01.05.2024 and the SEAC have recommended for grant of Environmental Clearance valid for 10 years with stipulated conditions in addition to specific conditions.

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6. The matter was further examined in the State Environment Impact Assessment Authority (SEIAA), Odisha in its 168th meeting held on 24.06.2024 & 25.06.2024, recommendation of SEAC, submission of PP and in accordance with the EIA Notification, 2006 and further amendments thereto. After detailed deliberations, the Authority decided to grant amendment in Environmental Clearance (EC) with usual stipulated conditions as applicable for building and construction project along with SEAC recommended specific conditions.
7. **Amendment in Environmental Clearance (EC) is granted to the project valid for a period of 10 years under the provisions of EIA Notification No. S.O. 1533 (E) dated the 14th September, 2006 of the Government of India in the erstwhile Ministry of Environment and Forests, as amended from time to time for "Proposed amendment in construction of (2B+G+14) High Rise Residential Apartment Building Project Over a Plot area of 12,443.97 Sqmt. with revised Total Built- up area of 59,578.43 sqm located in Mouza- Ghatikia, Tahasil-Bhubaneswar, District- Khordha by M/s. Shuvam Construction Pvt. Ltd." with the following stipulations (specific and standard), environmental conditions and safeguards.**

A. STIPULATIONS AT A GLANCE:

Specific conditions:

- 7.1 This Amendment in EC will be in supersession to previous EC granted vide letter no. EC22B038OR134872 dated 22.07.2022.
- 7.2 The following thrust area of environmental sustainability shall be adhered to by the project proponent comprising of **15 parameters and EC stipulations** mentioned against each parameter:

Sl.No.	Parameters	EC Stipulations
(a)	Brief description of the project	<ul style="list-style-type: none">➤ Proposed amendment in construction of (2B+G+14) High Rise Residential Apartment Building Project Over a Plot area of 12,443.97 Sqmt. with revised Total Built- up area of 59,578.43 sqm located in Mouza- Ghatikia, Tahasil-Bhubaneswar, District- Khordha.➤ Estimated Population of the Project- 1866Persons.

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(b)	Environmental impact on project land	<ul style="list-style-type: none">➤ Total plot area- 12,443.97 Sqmt..➤ Total Built-up Area-59,578.43 Sqmt.➤ Proposed FAR-43,322.33 Sqmt.➤ No.of Dwelling Units-288Nos.➤ Maximum Height of Building-50.26meter
(c)	Water Requirement	<ul style="list-style-type: none">➤ Total water requirement-234KLD➤ Total fresh makeup water requirement-149KLD
(d)	Waste Water Treatment	<ul style="list-style-type: none">➤ Total waste water generation-196KLD➤ STP Capacity of 240KLD to be installed.➤ Net Zero Liquid Discharge(ZLD) from project site. PP is required to submit NOC from BMC/competent authority to SEIAA, Odisha for any change in ZLD.
(e)	Drainage	<ul style="list-style-type: none">➤ PP is required to submit site specific drainage plan for drainage of storm water from BMC/Competent Authority to SEIAA, Odisha.
(f)	Ground water	<ul style="list-style-type: none">➤ Not allowed during construction.➤ After Construction with permission from WRD/CGWB.➤ 34nos.of recharging pits of adequate capacity to be constructed within the premises.
(g)	Solid Waste Generation & Management	<ul style="list-style-type: none">➤ Total solid waste generation-887Kg/day➤ Organic Waste Converter (OWC) of adequate capacity to be installed within the premises to treat compostable waste.➤ Inorganic waste (inerts) to be disposed off through authorized vendor.
(h)	Air Quality & Noise levels	<ul style="list-style-type: none">➤ Maximum ambient noise level of 55dB to be maintained during construction.➤ DG Set of capacity 2x250 KVA to be installed.
(i)	Energy Conservation	<ul style="list-style-type: none">➤ Solar power to be installed-80KW, (5.0 % minimum of total power required, as proposed).➤ Flyash brick, AACs, other environmental friendly bricks & blocks to be used-20%

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(j)	Traffic Circulation	<ul style="list-style-type: none">➤ Minimum width of the access road (right of way) shall be between 24m-30m as height of building is between 45m-60m➤ 13,073.88 Sqmt./331 ECS parking space to be provided with e-vehicle charging facility.
(k)	Green Belt Development	<ul style="list-style-type: none">➤ 2,028.26Sqm (20% of Plot area) to be raised before occupancy.
(l)	Disaster /Risk Management Plan	<ul style="list-style-type: none">➤ Firefighting system shall be provided as per the fire NOC.
(m)	Socio Economic & CSR	<ul style="list-style-type: none">➤ A First Aid Room with other facilities as proposed to be provided in the project.
(n)	Environment Management Plan(EMP)	<ul style="list-style-type: none">➤ EMP cost: Rs. 100.50Lakhs as capital cost & Rs. 28.00 Lakhs as recurring cost to be utilized each year.
(o)	Any other related parameter of the project	<ul style="list-style-type: none">➤ The Project Proponent shall convert the land to Gharabari and shall take the ownership of the land if not already taken.

7.3 Any change in the EC/amendment in EC stipulations of the parameters above shall require prior approval of SEIAA. The PP is required to obtain amendment in EC before making any changes, failing which it will be construed as violation under Environment (P) Act,1986. The Project Proponent shall ensure submission of all permission/documents as applicable to the project for monitoring of compliance of EC conditions. These certificates/permission/documents should be submitted by the PP to SPCB,BDA/BMC, SEIAA, Odisha and to the Integrated Regional Office of MoEF & CC, Govt. of India who can assess / evaluate / monitor the compliance of conditions of EC order of the project to ensure sustainable environmental management due to the proposed project.

7.4 The SPCB, Odisha shall ensure that there is no change in the project w.r.t. the EC/amendment in EC stipulations mentioned against each parameter before giving 'consent to operate' to this project and by the local urban bodies and the Bhubaneswar Development Authority/or BMC while giving the 'occupancy certificate' to this project.

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**B. SPECIFIC ENVIRONMENTAL CONDITIONS AND SAFEGUARDS WHICH
NEED TO BE COMPLIED WITH BY THE PROJECT PROPONENT BEFORE
BREAKING OF LAND:**

7.5 Statutory Compliance:

- (i) The Proponent shall also obtain permission/NOC from Executive Engg. (PHD) and / or from the appropriate authority for disposal of excess STP treated water to the nearest drain and also submit the same to SEIAA, Odisha before start of construction work. Also, in case of the connecting drain passing through others land (Govt. or Private land), the Proponent shall obtain the permission and possession as the case may be.
- (ii) The proponent shall obtain BMC permission to develop the 60 ft road if any along with permission for constructing drain in road side to connect to the existing Nala which is at a distance of around 100 mts distance, for discharge of excess treated water and storm water.
- (iii) The PP needs to stick to the EC conditions and BDA approval for both phases (earlier one ongoing and new one yet to be started) as far as construction details are concerned and other conditions.
- (iv) Before starting the construction project physical properties as well as engineering properties of the soil along with its bearing capacity should be undertaken and the report should be submitted.
- (v) Parking shall be provided as per MOEF guideline with provisions for visitors parking.
- (vi) Before starting the construction project physical properties as well as engineering properties of the soil along with its bearing capacity should be undertaken and the report should be submitted.
- (vii) Trees located within the project area, if any shall be transplanted alongside of the boundary green development area.
- (viii) The approval of the Competent Authority shall be obtained in regard to structural safety of buildings against earthquake, adequacy of fire-fighting equipment as per National Building Code including protection measures from lightning.
- (ix) The project proponent shall obtain all necessary clearance/ permission from all concerned agencies including BDA/BMC authority before commencement of work in accordance with the local building byelaws.
- (x) When the public water supply will be available adjacent to/ in the vicinity of the proposed project in future, the PP shall avail it following due procedure of the Govt

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if the concerned authority agrees and dispense with the drawl of ground water except one borewell for emergency purpose. The PP shall take up suitably for the purpose with the concerned authority of the Government.

- (xi) The proponent shall obtain permission from concerned Fire Safety Authority and implement all conditions stipulated in the NOC.
- (xii) The project proponent shall maximize utilization of treated water in flushing, plantations and ground washings etc. as per need to reduce water discharge to the drain.
- (xiii) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
- (xiv) The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the SEIAA, Odisha. The advertisement shall be made within Seven days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the Regional Office of MoEF&CC, Bhubaneswar.
- (xv) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tahsildar's office for 30 days.

C. SPECIFIC ENVIRONMENTAL CONDITIONS AND SAFEGUARDS WHICH NEED TO BE COMPLIED WITH BY THE PROJECT PROPONENT DURING CONSTRUCTION PHASE:

7.6 Water Requirement: The project shall adopt & implement net 'Zero liquid discharge' principle and shall maximize recycling and reuse of treated waste water generated in the project. All waste water generated shall be treated in the STP and the treated waste water shall be recycled and reused within the project so as to minimize

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extraction of ground water. Also ground water recharge by surplus waste water in the project plot area shall be maximized. For discharge of any quantity of treated waste water to outside the project area premises during monsoon period, the exact location of drain, etc. to which such discharge will be made and permission of competent authority allowing such discharge have to be reported. The layout of pipe lines, etc to take the waste water to the approved discharge point has to be elaborately depicted on map and submitted.

- (ii) No ground water shall be extracted for the project work at any stage during the construction phase without obtaining the permission from the Water Resources Department, Govt. of Odisha/ CGWB.
- (iii) A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
- (iv) When the public water supply will be available adjacent to/ in the vicinity of the proposed project in future, the PP shall avail it following due procedure of the Govt if the concerned authority agrees and dispense with the drawl of ground water except one borewell for emergency purpose. The PP shall take up suitably for the purpose with the concerned authority of the Government.
- (v) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.

7.7 Disposal of Solid Waste: The solid waste shall be duly segregated into biodegradable and non-biodegradable components and handled in separate areas earmarked for segregation of solid waste, as per Solid Waste Management Rules, 2016. The biodegradable waste generated shall be utilized through the Organic Waste Converter to be installed at the project site. Solid waste disposal shall be by micro composting of all bio degradable waste inside the premises. The inert waste (bio-non degradable components like plastics) shall be disposed off as per norms only at authorized site. The mode of disposal of all such waste at any approved site shall be reported, even if it is handed over to any authorized vendor. Construction & Demolition (C&D) waste from the project (debris) shall be segregated and managed as per C&D Waste Management Rules, 2016 and the detailed mode of disposal to the final disposal point shall also be reported. The PP shall formulate a concrete

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implementation plan and submit a report showing on the layout plan of the final disposal point of biodegradable waste, non-biodegradable waste and debris generated during construction. The EC is likely to be revoked if such report is not submitted by PP.

- 7.8 Air Quality Management and Noise Management:** (i) Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3-meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murrum, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.
- (ii) All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.
- (iii) Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding mandatory implementation of dust mitigation measures for construction and demolition activities for projects requiring environmental clearance shall be complied with.
- (iv) Ambient noise levels shall conform to residential standard both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000 for the project. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

- 7.9 Natural Drainage:** (i) The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape and other Sustainable Urban Drainage Systems (SUDS) are allowed for

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maintaining the drainage pattern and to harvest rain water. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.

- (ii) The permission from competent authority will be obtained to discharge the excess storm water to drain if any. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially.

7.10 Provision for construction labour: (i) Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

- (ii) A First Aid Room shall be provided in the project both during construction and operations of the project.

7.11 Top Soil Preservation and Reuse: Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

D. SPECIFIC ENVIRONMENTAL CONDITIONS AND SAFEGUARDS WHICH NEED TO BE COMPLIED WITH BY THE PROJECT PROPONENT DURING OPERATION PHASE:

7.12 Water Requirement and Rain Water Harvesting:

- (i) For meeting the total fresh water requirement for the project upto maximum 149KLD (Total water requirement -234KLD (approx.) i.e. first time before recycle) from ground water source, necessary prior permission has to be obtained from the Water Resources Department, Govt. of Odisha/ CGWB, failing which no ground water is allowed to be tapped. **PP shall install water meter at all water drawal and intake points for the project.**
- (ii) The PP shall install one piezometer for ground water level monitoring and water level data shall be made available to CGWA through web portal as a part of six monthly compliance report. The PP shall comply with all conditions laid down in the NOC of CGWB.
- (iii) The PP shall comply with all conditions as specified by CGWB/ Water Resources Department, Govt. of Odisha for the project for abstraction of ground water.
- (iv) The quantity of fresh water usage, water recycling and rainwater harvesting shall be

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measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Integrated Regional Office, MoEF&CC and SEIAA, Odisha along with six monthly Monitoring reports.

- (v) Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
- (vi) Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.
- (vii) Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
- (viii) Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering. The proponent shall also obtain permission from Water Resources Department, Govt. of Odisha for drawl of water.
- (ix) The proponent shall keep one bore well as standby domestic water source once municipal water supply is made available in the project area.
- (x) A complete plan for rainwater harvesting at the proposed site shall be drawn up and implemented. The complete rainwater harvesting plan shall be submitted to SEIAA within one month from this day. As proposed, 34 nos. of rain water harvesting pits for artificial ground water recharge shall be installed as per CGWB guidelines.

7.13 Solid Waste Management:

- (i) The provisions of the Solid Waste (Management) Rules, 2016, E-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
- (ii) Disposal of muck during construction phase shall 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.
- (iii) Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into bio-degradable and inert materials. Bio-degradable waste shall be composted in Organic Waste Converter as per the guidelines of CPCB. Adequate area shall be provided for solid

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waste management within the premises which will include area for segregation, composting. The inert waste from the project will be sent to dumping site.

- (iv) Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.
- (v) A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste generated from project shall be obtained.

7.14 Sewerage Treatment Plant:

- (i) STP of 240 KLD capacity shall be installed before start of the operation phase of the building. Treatment of 100% grey water by decentralized treatment should be done. The treated waste water from STP shall be recycled / reused to the maximum extent possible. Flushing, washing, watering of the lawns and gardening, filter backwash, cleaning of the floors, etc. facilities are to be met by recycled water. Discharge of unused treated waste water shall conform to the norms and standards of the Odisha State Pollution Control Board. Necessary measures should be taken to mitigate the odour problem from STP. The sewage treatment plant shall be made functional before the completion of Building Complex. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
- (ii) Excess treated water shall be discharged to the drain only after getting the permission from the concerned authority. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially.
- (iii) A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/disposal/drainage systems along with the final disposal point.
- (iv) The wastewater generated shall not be allowed to mix with storm water. The Project Proponent shall ensure separate approved line for discharge of treated waste water and that of storm water. No sewage or untreated effluent water would be discharged through storm water drains.
- (v) Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.

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- (vi) The proponent shall obtain permission from the concerned authority to discharge the liquid waste to any drain i.e. the competent authority of the drain and “Nala” before commencement of any activity at the project site.

7.15 Energy Conservation:

- (i) Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
- (ii) Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.
- (iii) The proponent shall use renewable energy/ solar power of at least 5.0% of projected power requirement for the building premises as proposed.
- (iv) Solar energy shall be installed to meet electricity generation equivalent to 3-5% of the demand load/as proposed or as per the state level/ local building bye-laws requirement, whichever is higher & feasible. The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.
- (v) Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher.
- (vi) Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provision of Fly Ash

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Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.

- (vii) A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be submitted.

7.16 Air Quality Management and Noise Management:

- (i) The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.
- (ii) For indoor air quality the ventilation provisions as per National Building Code of India shall be provided.

7.17 Greenbelt Development:

- (i) Green-belt, lawn area & avenue plantation of trees over the area of 2,028.26 Sqmt (20% of plot area) shall be done using native tree species/shrubs improving greenery & keeping in view aesthetics considerations in the whole complex. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Professional landscape architects should be engaged to design the green layout to provide for multi-tier plantation and green fencing all around, mitigating various environmental pollutants like dust, noise, emissions etc. A minimum of 1 tree for every 80 Sqmt of land should be planted and maintained.
- (ii) Rainwater from open spaces shall be collected and reused for landscaping and other purposes. Roof top rain water harvesting shall be adopted for the proposed Buildings. Rainwater harvesting at the proposed site shall be implemented. Before recharging the surface runoff, pre-treatment must be done to remove suspended matter, oil and grease.

7.18 Parking, Traffic & Transportation:

- (i) A comprehensive mobility plan, as per Ministry of Urban Development best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
- Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.



- Traffic calming measures
 - Proper design of entry and exit points.
 - Parking norms as per local regulation
- (ii) A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 01 km radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 01 km radius of the site and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.
- (iii) Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.
- (iv) A dedicated entry/exit and parking shall be provided for commercial activities.
- (v) Barricades shall be provided around project boundary.
- (vi) Speed of the vehicles shall be restricted upto 15 kmph by erecting speed bumps at regular intervals at project site and proper signage shall be provided for guided vehicular movement and speed restrictions.
- (vii) Parking shall be prohibited on the access road to the proposed project site.
- (viii) Parking in terms of ECS & space, both for 4 wheelers / 2 wheelers for the project shall be provided as per the norms considering the residents and visitors in the project.
- (ix) Footpath shall be seamless with sufficient width.
- (x) No vehicles shall be allowed to stop and stand in front of the gate on main access.
- (xi) A buffer of minimum 10 m shall be maintained between the entry/exit gate and the road to avoid traffic congestion.

7.19 **Environment Management Plan:** (i) The company shall have a well laid down environmental policy duly approve by the Board of Directors/project authority. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements /

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deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the Integrated Regional Office, MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha as a part of six-monthly report.

- (ii) An Environmental Management Plan (EMP) shall be prepared and implemented to ensure compliance with the environmental conditions specified above. A dedicated Environment Monitoring Cell with defined functions and responsibility shall be put in place to implement the EMP. The environmental cell shall ensure that the environment infrastructure like sewage treatment plant, landscaping, rain water harvesting, energy efficiency and conservation, water efficiency and conservation, solid waste management, renewable energy etc. are kept operational and meet the required standards. The environmental cell shall also keep the record of environment monitoring and those related to the environment infrastructure.
- (iii) Action plan for implementing EMP(as proposed) and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Integrated Regional Office, MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha along with the Six Monthly Compliance Report.

7.20 Half-yearly Compliance Report: (i)It shall be mandatory for the project management to six (06) monthly compliance reports on post environmental monitoring in respect of the stipulated terms and conditions in this Environmental Clearance to the State Environment Impact Assessment Authority (SEIAA),Odisha, SPCB & Integrated Regional Office of the Ministry of Environment & Forest, Odisha, the respective Zonal Office of CPCB and the SPCB in soft copies on 1st June and 1st December of each calendar year. No hard copy of six (06) monthly compliance reports shall be accepted by SEIAA. The proponent shall upload the compliance report including results of monitored data, as applicable in the PARIVESH website of the Ministry for monitoring of EC Conditions, failing which EC is liable to be revoked.

- (ii)Officials from the Integrated Regional Office of MoEF&CC, Bhubaneswar/SPCB, Odisha who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection.



(iii) The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Integrated Regional Offices of MoEF&CC, Govt. of India by E-mail.

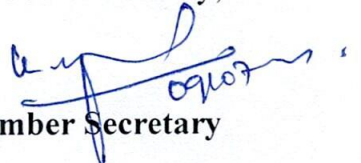
E. MISCELLANEOUS ENVIRONMENTAL CONDITIONS WHICH NEED TO BE COMPLIED WITH BY THE PROJECT PROPONENT:

7.21 Other Conditions:

- (i) The project proponent shall inform the Integrated Regional Office, MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of operation by the project.
 - (ii) No further expansion/revision or modifications in the project shall be carried out without prior approval of SEIAA, Odisha. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA, Odisha.
 - (iii) The SEIAA, Odisha reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner. The company in a time bound manner shall implement these conditions.
- 8 All EC condition stipulations would be enforced among others under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and the EIA Notification, 2006.
- 9 Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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Yours faithfully,


Member Secretary



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Copy to:

1. **Joint Secretary (IA Division)**, Ministry of Environment, Forests and Climate Change Govt. of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi-110003 for information.
2. **Additional Chief Secretary**, Forests & Environment Dept., Government of Odisha for information.
3. **Secretary**, SEAC, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar for information.
4. Guard file for record/Website/Parivesh Portal.

Copy for information and necessary action:

1. **Member Secretary**, State Pollution Control Board, Odisha, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar.
2. **Deputy D.G.Forest**, Integrated Regional Office (IRO), Ministry of Environment & Forests, GOI, A/3, Chandrasekharpur, Bhubaneswar.
3. **Regional Director**, CGWA, South Eastern Region, Bhujal Bhawan, Khandagiri, Bhubaneswar, Pin-751030.
4. **Vice Chairman**, BDA, Bhubaneswar Development Authority, Akash Shova Building, Sachivalay Marg, Bhubaneswar, Pin-751001.
5. **Executive Engineer**, Bhubaneswar Municipal Corporation, Vivekananda Marg, Near Kalpana Square, Bhubaneswar, Pin-751014.
6. **Member Secretary**, OWSSB, Unnati Bhawan, 2nd floor, Satya Nagar, Bhubaneswar, Pin-751007.
7. **Engineer-in-Chief**, PHD, Unnati Bhawan, 1st floor, Satya Nagar, Bhubaneswar, Pin-751007.
8. **Collector, District Magistrate**, Khordha, District-Khordha.

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Member Secretary