

**STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,
BELTRON BHAWAN, SHASTRINAGAR, PATNA- 800023**

Ref. no.:- 140

Patna, dated:- 16/09/13

From,

S.K. Karn,
Member Secretary,
(SEIAA Bihar)

To,

Executive Engineer,
Patliputra Division,
BCD, Patna


Sub: Environmental Clearance for the proposed Construction of Niyojan Bhawan at Bailey Road, Patna.

Sir,

This has reference to your application no. 2489, dated 17.07.2013 for Environmental Clearance your proposal which has been examined by SEIAA on the recommendation of SEAC and processed in accordance with the EIA Notification of 2006 and its amendment thereof.

It is noted that the salient features of project for which Environmental Clearance has been given in the table below:-

TOTAL PLOT AREA	9,958.88 Sq. M.
Built Up Area (BUA)	23,659.59 Sq. M.
Height of the Buildings	35 m. max ^m .
PARKING FACILITIES	
Four Wheelers (Car, Jeep etc.)	65 Nos.
Two Wheelers (Motorcycle, Scooter)	100 Nos.
Ambulance	4 Nos.


**MEMBER SECRETARY
STATE ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY
(SEIAA) BIHAR**

Water Requirement	141 KLD
Power Requirement	1500 kVA
Power Emergency Back-up	2 No. 500 KVA DG Set
Water Pollution Control	100 KLD STP
Air Pollution Control	DG sets will be equipped with Acoustic Enclosure & Stack height will be 3 m. above roof of the building in which DG set will be installed
Solid Waste Disposal	Through Patna Municipal Corporation

SPECIFIC CONDITIONS

1. Construction Phase

Facility of Labourers during Construction:-

- i) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel (kerosene/gas) for cooking, mobile toilets, safe drinking water, medical health care, etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- ii) Provision of drinking water, wastewater disposal, solid wastes management and primary health facilities shall be ensured for labour camps. Proper sanitation facilities shall be provided at the construction site to prevent health related problem. Domestic as well as sanitary wastes from construction camps shall be cleared regularly.
- iii) Adequate safety measures shall be adapted to the construction workers.
- iv) All the laborers to be engaged for construction works shall be screened for health and adequately treated before issue of work permits. The contractor shall ensure periodic health check-up of construction workers.

Environmental Management during Construction:

- i) All the top soil excavated during construction activities shall be stored for use in horticulture/landscape development within the project site. Proper erosion control and sediment control measures shall be adopted.
- ii) Earth material generated from excavation shall be reused to the maximum possible extent as filling material during site development. The construction debris and surplus

excavated material shall be disposed off by mechanical transport through the authorized agency of Patna Municipal Corporation/or through authorized agency of PMC.

- (iii) Disposal of muck including excavated material during construction phase shall not create any adverse effects on the neighboring communities and disposed off taking the necessary precautions for general safety and health aspects.
- iv) Low sulphur diesel type diesel generator sets should be used during construction phase. Diesel generator sets during construction phase shall have acoustic enclosures and shall conform to Environment (Protection) Rules, 1986 prescribed for air & noise emission standards.
- v) All Vehicles/equipments deployed during construction phase shall be ensured in good working condition and shall conform to applicable air and noise emission standards. They shall be operated only during non-peaking hours. Public way should not be used as parking of vehicle.
- vi) Ambient noise levels shall 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/BSPCB. The protective equipments such as earplugs etc shall be provided to construction personnel exposed to high noise levels.
- vii) Construction activities carried out shall be scheduled today time only. Only limited necessary construction shall be done during night time. No unloading of construction materials shall be done at night. Use of pressure horns shall be strictly prohibited. Appropriate noise barriers shall be provided.
- viii) Construction spoils, including bituminous material and other hazardous materials including oil from construction equipments must not be allowed to contaminate soil/ground water. The dump sites for such material must be secured so that they shall not leach into the ground water.
- ix) Proper and prior planning, sequencing and scheduling of all major construction activities shall be done. Construction material shall be stored in covered sheds. Truck carrying soil, sand and other construction materials shall be duly covered to prevent spilling and dust emission. Adequate dust suppression measures shall be undertaken to control fugitive dust emission. Regular water sprinkling for dust suppression shall be ensured.
- x) Accumulation /stagnation of water shall be avoided ensuring vector control.
- xi) 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 contaminations.
- xii) Regular supervision of the above and other measures shall be in place all through the construction phase so as to avoid disturbance to the surroundings.

Selection of Materials for Better Energy Efficiency.

- i) Use of energy efficient construction materials shall ensured to achieve the desired thermal comfort.
- ii) Use of fly ash based bricks/blocks/tiles/products shall be explored to the maximum extent possible.
- iii) Construction shall conform to the requirements of local seismic regulations. The project proponent shall obtain permission for the plans and designs including structural design, standard and specifications of all construction works from concerned authority.
- iv) Reduce the use of glazed surface as per National Building Code, 2005. Use of glass in various building of the project may be reduced up to 40% to reduce the electricity consumption and load on air -conditioning. Roof of the various building of the Project should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement.
- v) Use of energy efficient construction materials to achieve the desired thermal comfort shall be incorporated. The desired level of roof assembling 'U' factor and insulation 'R' value must be achieved. Roof assembling 'U' factor for the top roof shall not exceed 0.4 Watt/ sq.m/ degree centigrade with appropriate modification of specifications and building technologies. The provisions of National Building Code 2005 shall be strictly followed.
- vi) Modern electrical power transmission & distribution system shall be installed. Power supply for up to 33 KV shall be supplied through underground distributions system shall be installed. Power supply at 132 KV or above shall be supplied through overhead system.
- vii) Street/corridor lighting shall be energy efficient. The High Pressure Sodium Vapour (HPSV) Lamps & Compact Fluorescent Lamps (CFL) along Project Building premises shall be provided. High intensity high mast lights to be installed at few strategic points. Solar energy may be used for outdoor lighting.
- viii) Adequate cellular phones and landlines shall be provided. Adequate vertical and horizontal separation between telephone and electric cable shall be maintained.
- ix) Reduce hard paving-onsite (open area surrounding building) and /or provide shade on hard paved surfaces to minimize heat island effect and imperviousness of the site.

Water Body Conservation:-

- i) Improvement or rehabilitation of existing nallah (if any) shall be carried out without disturbing the ecological habitat.

Water Supply:-

- i) The water treatment plant shall be provided for treatment of water. The treatment shall include screening, sedimentation, filtration and disinfections. Appropriate arrangement shall be made for treatment and reuse of backwash water of filtration

- ii) Project proponent shall provide adequate measuring arrangement at the inlet point of water uptake and at the discharge point for the measurement of water utilized in different categories to monitor the daily water consumption.
- iii) 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.
- iv) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- v) Water budget should be adopted as per the plan submitted in the supplementary EMP.

Greening Programme:-

- i) The green belt of the adequate width and density preferably with local species along the periphery of the plot shall be raised in the construction phase so as to provide protection against particulates and noise.
- ii) The plantations shall consist of mixture of available indigenous, fast growing and sturdy species of trees, shrubs and herbs. Preferential plantation of flowering trees with less timber and fruit values shall be carried out.

Sewage Management:-

- i) Treated water recovered from STP would be used for flushing the toilets, gardening purpose, make-up water in air conditioning systems etc.. As proposed, FBR (Aerobic Fluidized Bed reactor) Technology type sewage treatment plant should be installed. The Sewage Treatment Plant shall be ensured before the completion of the Building Project.

Rain Water Harvesting Scheme:-

- i) 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 bore well for rainwater recharging should be kept at least 5 m above the highest ground water table.
- ii) The storm water flowing in roadside drains shall also be recycled and reused to maintain the vegetation and discharged into ground water recharging wells.

Transport Management:-

- i) Traffic congestion has 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 as paid or unpaid parking for employees and visitors.
- ii) Dedicated pedestrian paths shall be provided within the Project Building Complex. Appropriate access shall be provided for physically challenged people in the pedestrian paths.

- iii) Permeable (porous) paving in the parking areas, and walkways should be used to control surface water runoff by allowing storm water to infiltrate the soil and return to ground water.
- iv) All intersections shall be designed and developed as roundabouts.
- v) All utility lines (electricity, telephone, cable, water supply, sewage, drainage, etc.) shall be laid below ground level. Ducts shall be provided along and across the roads to lay the utility lines. Major trunk (water/ sewerage) lines are to be laid along the utility corridor.
- vi) The road drainage shall be designed to enable quick runoff of surface water and prevent water logging.
- vii) Adequate provision shall be made to cater the parking needs. Parking spaces standards as given in 'Manual on Norms and Standards for Environmental Clearance of Large Construction Projects' issued by Ministry of Environment & Forests, Government of India shall be adapted.

Others:

- i) All mandatory approvals and permissions as required from Airport Authority, Director of explosives and Fire Department etc. shall be obtained.
- ii) Unskilled construction laborers shall be recruited from the local areas. Construction materials shall be procured locally as far as possible.
- iii) Provisions shall be made for the integration of solar water heating system.
- iv) Provision of vermi- composting for the biodegradable solid wastes generated from the Building Complex as well as the large amount of biomass that shall be available from the tree plantation shall be made.
- v) Periodical monitoring of ground water table and quality shall be carried out . Construction of tube wells, bore wells shall be strictly regulated. Suitable number of Peizometer shall be installed to monitor the changes in ground water level and the data of ground water levels shall be maintained properly. The ground water shall not be abstracted without prior permission from the competent authority.
- vi) The storm water management plan shall be designed in such a manner that the storm water is discharged through an existing dedicated Storm water outfall only.
- vii) The height of the stack of the DG set should be as per norms of CPCB.
- viii) Erection of facade (screen) along the boundary wall.
- ix) No mobile towers should be installed within the premises either on the ground or on the roof.

II. Operation Phase

Sewage Treatment Plant:-

- i) Project proponent shall operate and maintain the sewage collection/conveyance system, sewage pumping system and sewage treatment system regularly to ensure the treated

water quality within the standards prescribed by Ministry of Environment and Forests, Government of India.

- ii) Properly treated and disinfected (Ultra Violet) sewage shall be utilized in flushing the toilets, gardening purpose, make up water in air conditioning systems etc.
- iii) Non- mixing of fecal matter with the municipal solid wastes shall be strictly ensured.
- iv) Non-mixing of sewage/sludge with rainwater shall strictly ensured.
- v) Adequate measures should be taken to prevent odor problem from solid waste processing plant and STP.

Emission of Diesel Generator Set:-

- i) Noise barriers shall be provided at appropriate locations so as to ensure that the noise levels do not exceed the prescribed standards. DG sets shall be provided with necessary acoustic enclosures as per Central Pollution Control Board norms.

Ensure Energy Efficiency:-

- i) Back up supply shall be based on cleaner fuel subject to their availability.
- ii) The project proponent shall resort to solar energy at least for street lighting and water heating for Building Complex, gardens/ park areas.
- iii) During maintenance, energy efficient electric light fitting & lamps- low power ballasts, low consumption high power luminaries, lux level limiters & timers for street lighting shall be provided . Used CFLs and TFLs should be properly collected and disposed off/ sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.
- iv) A report on the energy conservation measures confirming to energy conservation norms finalized by Bureau of Energy Efficiency should be prepared incorporating details about building materials & technology , 'R' value & 'U' factors etc. and should be submitted to SEIAA/ BSPCB .

Municipal Solid Waste/ Other Wastes:-

- i) Municipal solid waste generated in the Building Complex area shall be managed and handled in accordance with the compliance criteria and procedure laid down in Schedule- II of the Municipal Wastes (Management and Handling) Rules, 2000 (As amended).
- ii) Two chambered container or two separate containers (one for recyclable wastes and other for all organic and compostable wastes) shall be placed at appropriate distance on the road side and inside the building covered dustbins/ garbage collector in convenient places to collect the municipal solid wastes shall be provided.
- iii) Proper composting/ vermi- composting or municipal solid wastes shall be carried out. All municipal solid wastes shall be segregated, collected, transported, treated and

- disposed as per provisions of the Municipal Solid Wastes (Management and Handling) Rules, 2000 (As amended).
- iv) All hazardous wastes shall be segregated, collected, transported, treated and disposed as per provisions of the Hazardous Wastes (Management and Handling) Rules, 1989 (As amended).
 - v) The use of hand gloves, shoes and safety dress for all wastes collectors and sorters shall be enforced.
 - vi) Recycling of all recyclable wastes such as, newspaper, aluminum cans, glass, bottles, iron scrap and plastics etc. shall be encouraged through private participation. Project proponent shall take appropriate action to ensure minimum utilization of plastic carry bags and plastic small containers etc. within the Niyogan Bhawan Building. 100% collection and recycling of plastics used within the Building shall be ensured.

General Conditions:

- i) The implementation of Environmental Management Plan should be carried out, as proposed.
- ii) Regular monitoring should be carried out during construction and operation phases.
- iii) Risk Assessment study along-with Disaster Management Plan (DMP) shall be prepared. The mitigative measures for disaster prevention and control shall be prepared and get approved from competent authority.
- iv) Firefighting systems should be designed in compliance with the WBFS and NBC norms.
- v) First aid box shall be made readily available in adequate quantity at all the times.
- vi) Preventive measures should be adopted for Risk & Disaster Management as per the provisions of the National Building Code, 2005.
- vii) The proponent should abide by the Direction issued by the Department of Environment & Forests, Government of Bihar /CPCB/BSPCB.
- viii) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA/SEAC, Bihar.
- ix) Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- x) The project proponent should 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 Bihar State Pollution Control Board and may also be seen on the website of the SEIAA, Bihar and Ministry of Environment and Forests at

<http://www.envfor.nic.in>. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to SEIAA, Bihar and to the Regional Office of MoEF, Bhubaneshwar.

Yours faithfully,


Sd/-
(S.K. Karn)
Member- Secretary

Memo No. :- **140**

Patna, dated: 16/09/13

Copy forwarded to : The Secretary, Environment & Forests Department, Sichi Bhawan, Patna/ The Chairman, Bihar State Pollution Control Board, Beltron Bhawan, IInd Floor, LBS Nagar, Jawahar Lal Nehru Marg, Shastrinagar, Patna-800023/Chairman, SEAC, Bihar/Chairman, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-23/ Chief Conservator of Forest (C), Ministry of Environment & Forests, Regional Office (EZ), A/3, Chandrasekharpur, P.O. Rail Vihar, Bhubaneswar - 751023/, Advisor (EIA), Paryavaran Bhawan, Ministry of Environment & Forests, CGO Complex, Lodhi Road, New Delhi-110003/ Guard File.

Yours faithfully,


**MEMBER SECRETARY
STATE ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY
(SEIAA) BIHAR**

(S.K. Karn)
Member Secretary
SEIAA, Bihar.