

**STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,  
BIHAR.**

Ref No: **300**

Patna dated: 16/01/14

To,

The Secretary,

Building Construction Department,  
Govt.of Bihar,  
Vishweswaiya Bhawan;,  
Baily Road,Patna-800015.


**Sub: Proposed Extension of High Court Building at Patna.**

Sir,

This has reference to your application No.742 dated 29/7/2013 and subsequent letter No. 1099/WE dated 31/8/13 as well as letter No. 1602 dated 23/12/2013, the proposal has been examined by SEAC and processed in accordance with the EIA Notification,2006 and its amendment thereof. It is noted that salient features o the project for which Environmental Clearance has been accorded are as follows:

**Salient Features of the Project:**

Name of the Project		Patna High Court Extension Building Project.
Project Proponent		Building Construction Department, Division -2, Govt. of Bihar
Category		Building & Construction project. 8(a)-B2

  
**MEMBER SECRETARY  
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ASSESSMENT AUTHORITY  
(SEIAA) BIHAR**

Location of the Project		Mouza- Mahuli, Thana No. -6, Plot Nos- 136,138,195-198,201,203-205,218-222&226 (All Part), Tehsil- Patna Sadar, District-Patna Geo- Coordinates: 25 <sup>0</sup> 36'31.24" N & 85 <sup>0</sup> 7'34.31"E
Type of Project		Building & Construction Project
Total Plot Area		1,09,102.40 m <sup>2</sup> (29.96 Acres)
Existing built up Area		39,046.33 m <sup>2</sup> (Bar Association Building exists on a part o the proposed land to be utilized for extension building)
Green – belt/Landscape Area	27,114 m <sup>2</sup>	
Parking Area	6287.2 m <sup>2</sup>	
Project Cost	116 Crores	
No of Structure/Buildings	No of Blocks – 2.	
Nearest Railway Station	Patna Railway Station-2.5 Km.	
Nearest Airport	JP Narayan International Airport – 5 Km.	
Nearest River	River Ganga -3 Km	
Source of Water	Primary Source: Govt. (Municipal) Water Supply	
Water Requirement	Water requirement during construction phase:50m <sup>3</sup> /day Flushing water requirement: 27 KLD Total water requirement during operation phase: 105 Kld (Fresh/domestic water requirement-67 KLD+STP treated water-38 KLD). Fire fighting water requirement to be met by STP treated water.	
Source of Water	Bore Wells	
Rain water harvesting	Rain water harvesting with filtration system to be provided. Rain water from roofs & terraces of the proposed building to be collected & to be channelized	

	to the soak pits to recharge the ground water.  Total Annual water harvesting potential: 10004 m <sup>3</sup>
Emissions	<ul style="list-style-type: none"> <li>i) PM, Nox, So<sub>2</sub> &amp; Co from DG sets.</li> <li>ii) Air emissions from vehicles operating within the premises (vehicles traffic movement).</li> <li>iii) Fugitive emission due to handling, transport &amp; unloading of construction materials.</li> </ul>
Capacity of STP	150 KLD. STP based technology( Fluidized Aerobic Bed Reactor)
Solid waste generation	<ul style="list-style-type: none"> <li>i) Construction waste- Left over cement &amp; mortars, concrete bricks ,aggregate sand &amp; other inorganic materials.</li> <li>ii) Excavated earth quantity- 139900 m<sup>3</sup> Appox.</li> <li>iii) Operation Phase-Domestic waste, 1202 Kg'/day</li> </ul>
Disposal	<ul style="list-style-type: none"> <li>i) Sewage: During Construction Phase, sewage to be treated &amp; disposed through septic tanks with soaks pits. During operation phase, sewage effluent to be sent to STP for treatment within project premises STP (150 m<sup>3</sup>/day capacity) treated sewage water to be used in toilet flushing, gardening &amp; HVAC cooling tower make up dried from the STP to be used as manure for green belt development.</li> <li>ii) Solid waste: Generated solid waste to be disposed off through the municipal waste collection system. Excavation waste to be used in backfilling &amp; other area development activities. Domestic wastes to be segregated into biodegradable (kitchen &amp; other organic wastes) and non- biodegradable (Papers, Cartons, Thermocol, Plastics, Glass etc) components &amp; organic water to be treated inside the premises.</li> </ul>
Noise & Vibration	<ul style="list-style-type: none"> <li>i) PM, Nox, SO<sub>2</sub> &amp; CO from DG sets.</li> <li>ii) Air emissions from vehicles operations within the premises (vehicular Traffic movement).</li> <li>iii) Fugitive emission due to handling, transport</li> </ul>

	& unloading of construction materials.
Power Requirement	Total requirement: 4425 KW from Bihar Power Holding Co. Ltd. Power backup. DG sets- 03 Nos, each of 1600 KVA capacity.
Parking Facilities	Total parking proposed: 480 Nos of 4 wheelers & 100 Nos of 2 wheelers; 6287.2 m <sup>2</sup> area allocated as parking area.
Fire safety measures	<p>Fire fighting system includes:</p> <ul style="list-style-type: none"> <li>i) Fire water static storage tanks: 4 Nos. of Fire water storage tanks capacity- 75 m<sup>3</sup>, Outlets dia- 63 mm</li> <li>ii) Fire Pimping System: Electrical pump for hydrant &amp; sprinkler (capacity- 2280 LPM, 70m Head); Diesel engine driven pump (capacity- 2280 LPM, 70m Head); &amp; Jockey pump-hydrant (capacity- 180 LPM, 70m Head)</li> <li>iii) Internal &amp; External System: Automatic sprinkler system to be provided throughout the public area.</li> <li>iv) Portable fire extinguisher of gas expelled water type, Co<sub>2</sub> type &amp; foam type to be provided.</li> </ul>

## **PART A – SPECIFIC CONDITIONS**

### **I. Construction Phase**

#### **Facility of Labourers during Construction :-**

- 1 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, mobile STP, 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.
- 2 Provision of drinking water, waste water disposal, solid waste 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 waste from construction camps shall be cleared regularly.

- 3 Adequate safety measures shall be adopted for the construction workers.
- 4 All the labourers to be engaged for the construction work 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 :-**

- 1 All the top soil excavated during construction activities shall be stored for the use in horticulture/ landscape development within the project site.
- 2 Earth material generated from excavation shall be reused to the maximum possible extent as filling materials during site development. The construction debris and surplus excavated material shall be disposed of by mechanical transport through the authorized agency of Patna Municipal Corporation.
- 3 Disposal of muck including excavated material during construction phase shall not create any adverse effects on the neighboring communities and disposed of taking the necessary precautions for general safety and health aspects.
- 4 Low sulphur diesel type 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 and noise emission standards.
- 5 All vehicles/equipments deployed during construction phase shall be ensured in good working condition and shall conform to the prescribed air and noise emission standards. These shall be operated only during non-peaking hours. Public way should not be used as parking of vehicle.
- 6 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.
- 7 Construction activities carried out shall be preferably carried out during day time. Only limited necessary construction shall be done during night time. No unloading

of construction materials shall be done at night. Use of pressure hoes shall be strictly prohibited. Appropriate noise barriers shall be provided.

- 8 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 materials must be secured so that they do not leach into the ground water.
- 9 Proper and prior planning, sequencing and scheduling of all major construction activities shall be done. Construction materials 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 ensued.
- 10 Accumulation /stagnation of water shall be avoided ensuring vector control.
- 11 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.
- 12 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 :-**

- 1 Use of energy efficient construction materials shall be ensured to achieve the desired thermal comfort.
- 2 Use fly ash based bricks/blanks/tiles/products shall be explored to the maximum extent possible.
- 3 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.
- 4 Reduce the use of glazed surface as per National Building Code 2005. Use of glass in various buildings of the projects may be reduced up to 40% to reduce the electricity consumption and load on air –conditioning. Roof of the various buildings of the project should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement.

- 5 Use of energy efficient construction materials to achieve the desired thermal comfort shall be incorporated. The desired level of roof assembling 'U' factor and insulator '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 modifications of specifications and building technologies. The provisions of National Building Code 2005 shall be strictly followed.
- 6 Modern electrical power transmission & distribution system shall be installed. Power supply for up to 33 KV shall be supplied through underground distribution system. Power supply at 132 KV or above shall be supplied through overhead system.
- 7 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 used for outdoor lighting.
- 8 Adequate vertical and horizontal separation between telephone and electric cable shall be maintained.
- 9 Reduce hard paving-onsite (open area surrounding buildings) and /or provide shade on hard paved surfaces to minimize heat island effect and imperviousness of the site.

**Water Supply :-**

- 1 Project proponent shall provide adequate measuring arrangements 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.
- 2 Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- 3 Water budget should be adopted as per the plan submitted in the supplementary EMP.

**Greening Programme :-**

- 1 The green belt of the adequate width and density preferably with local species along the periphery of the plot/each bungalow shall be raised in the construction phase so as to provide protection against particulars and noise.

- 2 The plantations shall consist of mixture of available indigenous, fast growing and sturdy species of trees, shrubs and herbs. Preferably plantation of flowering trees with less timber and fruit value shall be carried out.

### **Sewage Management :-**

Sewage treatment plant shall be constructed as per the EMP submitted in the application form.

### **Rain Water Harvesting Scheme :-**

- 1 Rain water harvesting for roof run-off and surface run-off, as per 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.
- 2 Every block of the building project shall have independent rainwater harvesting facilities.
- 3 The storm water flowing in roadside drains shall also be recycled and reused to maintain the vegetation and discharge into the ground water recharging wells.

### **Transport Management :-**

- 1 Heavy vehicular movement during construction phase to be restricted to daytime only and adequate parking facility shall be provided as per plan submitted.
- 2 Dedicated pedestrian paths shall be provided within the Project Building as per plan submitted.
- 3 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.
- 4 All utilities lines (electricity, telephones, 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.
- 5 The road drainage shall be designed to enable quick runoff of surface water and prevent water logging.



### **Others :-**

- 1 The existing trees within the project site must be preserved and no tree is to be cut without the prior permission of the Department of Forest, Govt. of Bihar, and Patna as per rule.
- 2 Unskilled construction labourers shall be recruited from the local areas. Construction materials shall be procured locally as far as possible.
- 3 Provision shall be made for the integration of solar water heating system.
- 4 Provision of vermin-composting for the biodegradable solid wastes generated from the Residential Building Complex as well as the large amount of biomass which shall be available from the tree plantation shall be made.
- 5 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 groundwater level shall be maintained properly. The ground water shall not be abstracted without prior permission from the competent authority.
- 6 The storm water management plan shall be designed in such a manner that the storm water is discharged through an existing storm water outfall only.
- 7 The height of the stack of the DG sets should be as per prescribed norms of CPCB.
- 8 The various blocks of the building complex should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.
- 9 Erection of façade (Screen) along the boundary wall should be provided.

## **II. Operation Phase**

### **Sewerage Treatment Plant :-**

- 1 Project proponent shall operate and maintain the sewerage 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.

- 2 Properly treated and disinfected (Ultra Violet) sewage shall be utilized in flushing the toilets, gardening purpose, make up water in the air conditioning system etc.
- 3 Non-mixing of fecal matter with the municipal solid wastes shall be strictly ensured.
- 4 Non- mixing of sewage /sullage with rainwater shall be strictly ensured.
- 5 Adequate measures should be taken to prevent odour problem from solid waste processing plant and STP.

**Emission of Diesel Generator Set :-**

- 1 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 prescribed Central Pollution Control Board norms.
- 2 Back up energy supply shall be based on cleaner fuel subject to their availability.
- 3 The project proponent shall resort to solar energy at least for the street lighting and water heating for Residential Building Complex, gardens/park areas.
- 4 During maintenance, energy efficient electric light fittings & 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.
- 5 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 :-**


- 1 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)

- 2 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 roadside and inside the building. Covered dustbins/garbage collector in convenient places to collect the municipal solid wastes shall be provided.
- 3 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).
- 4 The use of hand gloves, shoes and safety dress for all waste collectors and sorters shall be enforced.

### **PART B – GENERAL CONDITIONS**

- 1 The environmental safeguard and mitigation measures contained in the application shall be implemented in letter and spirit.
- 2 These stipulations would be enforced among others under the provision 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.
- 3 Six monthly monitoring reports shall be submitted to the Bihar State Pollution Control Board (BSPCB) who shall be monitoring the implementation of environmental safeguards and the other officials of BSPCB should be given full cooperation, facilities and documents/data by the project proponents during their inspection. A complete set of all documents shall be submitted to the state Environmental Impact Assessment Authority, Bihar.
- 4 In case of any change(s) in the scope of the project, the project shall require a fresh appraisal by the SEAC/SEIAA.
- 5 Risk Assessment study along with Disaster Management Plan (DMP) shall be prepared. The mitigative measures for disasters prevention and control shall be prepared and get it approved from competent authority. All other statutory clearances/licenses/permissions from concerned State Govt. Departments, Boards, and Corporations shall be obtained. Project proponent shall follow direction issued by Central Government/State Government, Central Pollution Control Board/Bihar State Pollution Control Board from to time to time regarding control of water & air pollution and for environmental conservation.

- 6 The project proponent should advertise in at least two local Newspaper widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental clearance and copy of clearance letters are available with the Bihar State Pollution Control Board and may also be seen on the website of the SEIAA, Bihar ([www.seiaabihar.org](http://www.seiaabihar.org)) and Ministry of Environment and Forest at <http://www.envfor.nic.in>. The advertisement should be made within 10 days from the date of receipt of the clearance and a copy of the same should be forwarded to the regional office of this Ministry at Bhubaneswar.
- 7 Copy of environmental clearance, status of compliance to the various stipulated environmental conditions and environmental safeguards will be permanently uploaded by the project proponent in its website.
- 8 The SEAC/SEIAA Bihar shall have the right to amend the above conditions and add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provision of the Environmental (Protection) Act 1986, to ensure effective implementation of the suggested safeguard measures in a time-bound and satisfactory manner.
- 9 Any appeal against this environmental clearance shall be with National Green Tribunal, if preferred within a period of 30 days as prescribed under 16 of the National Green Tribunal Act, 2010.

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


(S.K.Karn )  
Member Secretary.

Memo No. :- 300

Patna, dated: 16/01/14

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, Chandrasekharapur, 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.