THAPAR INSTITUTE
OF ENGINEERING & TECHNOLOGY
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)
Thapar Technology Campus,
Bhadson Road, Patiala - 147 004 (Punjab) India
Phone : +91-175-2393021
Email : registrar@thapar.edu
URL : www.thapar.edu

Date: 27.12.2024

To
The Additional Director
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office,
Bays Nos. 24-25, Sector 31 A,
Dakshin Marg,
Chandigarh – 160030
(Mail ids.: eccompliance-nro@gov.in and ronz.chd-mef@nic.in)

Subject: Submission of six monthly compliance report for period ending 30.09.2024 for the Project namely "Thapar Institute of Engineering and Technology" located at Bhadson Road, Patiala, Punjab.

Respected Sir,

With reference to the EIA Notification & its amendments regarding submission of six monthly compliance report, we are hereby submitting the six monthly compliance report for period ending 30.09.2024 for the above said project through mail for your perusal.
Kindly acknowledge the receipt of the same.

Thanking you
Sincerely,

Dr. Gurbinder Singh
Registrar, TIET, Patiasla

CC: Member Secretary, SEIAA Punjab, Ministry of Environment, Forest and Climate Change GoI, PBTI Complex, Knowledge City, Sector 81, Distt. SAS Nagar (Mohali), Punjab (Uploaded on Parivesh Portal).

2024

SIX MONTHLY COMPLIANCE REPORT
(Period ending 30.09.2024)

For

Thapar Institute of Engineering and Technology
(Deemed to be University)

At

Bhadson Road,
District Patiala, Punjab

Prepared by:

Eco Paryavaran Laboratories and Consultants Private Limited

E-207, Industrial Area, Phase-VIIIB (Sector-74), S.A.S Nagar (Mohali) Punjab

ems@ecoparyavaran.org, www.ecoparyavaran.org

Phone: 0172-4616225, 9915946784

CONTENT

Ministry of Environment, Forest and Climate Change
Northern Regional Office,
Chandigarh-160030

DATA SHEET

1.	**Project Type**	Educational Institute
2.	**Name of the Project**	"Thapar Institute of Engineering and Technology" (Deemed to be University)
3.	**Clearance letter (s)/O.M No. & dates**	Environmental Clearance has been granted by SEIAA, Punjab vide Letter No. SEIAA/3777 dated 26.06.2015 and copy of the same is attached as **Annexure 1(a).** Further, Institute has proposed expansion for which Environmental Clearance has been obtained vide Letter No. SEIAA/914 dated 25.01.16 and copy of the same is attached as **Annexure 1(b).** Later, Institute has proposed further expansion for which Environmental Clearance has been obtained by MoEF&CC vide File F. No. IA3-10/7/2021-IA.III dated 12.03.2021; copy of the same is enclosed as **Annexure 1(c).**
4.	**Location**	Bhadson Road
	a) District (s)	Patiala
	b) State (s)	Punjab
	c) Latitudes/ Longitudes	30°21'24.78" N & 76°21'31.05" E
5.	**Address for correspondence** a) Address of concerned project chief engineer b) Address of executive project engineer/manager	 a) Rajendra Nigam (Chief Engineer) Department: Project & Estate Thapar University Campus, Bhadson Road, Patiala, Punjab b) Anil Singla (Project Manager) Department: Project & Estate Thapar University Campus, Bhadson Road, Patiala, Punjab
6.	**Salient features**	
	a) of the project	As per last Environmental Clearance letter, the total plot area after expansion will remain same i.e. 10,08,194.06 sq.m. (249.13 acres). However, overall built-up area will become 4,45,678.09 sq.m. The proposed buildings were

		New Girl's Hostel Q, Guest House, Sport Center, etc.
	b) of the environmental management plans	As per last Environmental Clearance, the total water requirement for the project will be 1,279 KLD. Out of which, fresh water requirement will be 826 KLD which will be met through 4 existing installed tube wells. The total wastewater generation from the project will be 945 KLD which will be treated in already installed STP of 2.3 MLD capacity within the project premises. 926 KLD of treated wastewater will be re-used for flushing (355 KLD) and for green area demand & excess to 10 acres of land under Karnal Technology. Total solid waste generation from the project will be 5.36 TPD. The total power requirement will be 8,600 KW which will be taken from Punjab State Power Corporation Ltd.
7.	**Break-up of the project area**	
	a) Submergence area: Forest and Non-forest	Not applicable
	b) Others	Not applicable
8.	**Break-up of project affected population with enumeration of those losing houses/ dwelling units only, agricultural land only both dwelling units and agricultural land and landless labourers/artisans.**	Not applicable
	a) SC/ST/Adivasis	Not applicable
	b) Others *(Please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures. If a survey has been carried out give details and year of survey)*	Not applicable
9.	**Financial details:**	
	a) Project cost as originally planned and subsequent revised estimates and the year of price reference.	As per last EC letter, total estimated cost of the overall project was Rs. 1,097.4 Crores.

<table>
<tr><td></td><td>b) Allocations made for environmental management plans with item wise and year wise break up.</td><td>Allocations made for environmental management plan are listed below:
During Construction Phase:
<table>
<tr><th>Description</th><th>Capital Cost (Rs. Lakhs)</th></tr>
<tr><td>Waste water Management</td><td>100</td></tr>
<tr><td>Air & Noise Pollution Management</td><td>5</td></tr>
<tr><td>Landscaping</td><td>50</td></tr>
<tr><td>Rainwater Recharging</td><td>50</td></tr>
<tr><td>Environmental Monitoring</td><td>5</td></tr>
<tr><td>Solid Waste Management</td><td>10</td></tr>
<tr><td>Miscellaneous</td><td>10</td></tr>
<tr><td>Total</td><td>Rs. 230 Lakhs</td></tr>
</table>
During Operational Phase:
<table>
<tr><th>Description</th><th>Recurring Cost (Rs. Lakhs/Annum)</th></tr>
<tr><td>Waste water Management</td><td>15</td></tr>
<tr><td>Air & Noise Pollution Management</td><td>1</td></tr>
<tr><td>Landscaping</td><td>10</td></tr>
<tr><td>Rainwater Recharging</td><td>10</td></tr>
<tr><td>Environmental Monitoring</td><td>2</td></tr>
<tr><td>Solid Waste Management</td><td>5</td></tr>
<tr><td>Miscellaneous</td><td>2</td></tr>
<tr><td>Total</td><td>Rs. 45 Lakhs</td></tr>
</table></td></tr>
<tr><td></td><td>c) Benefit cost ratio/internal rate of return and the year of assessment</td><td>Will be calculated and submitted separately.</td></tr>
<tr><td></td><td>d) Whether (c) includes the cost of environmental management as shown in b) above.</td><td>Yes</td></tr>
<tr><td></td><td>e) Actual expenditure incurred on the project so far.</td><td>The actual expenditure done on the project till 30th September'2024 is Rs. 1,456.24 crores.</td></tr>
<tr><td></td><td>f) Actual expenditure incurred on environmental management plans so far.</td><td>Approx. Rs. 21.49 crores has been spent on Environmental Management Plan till 30th September, 2024.</td></tr>
<tr><td>10.</td><td>Forest land requirement:</td><td></td></tr>
<tr><td></td><td>a) the status of approval for diversion of forest land for non-forestry use</td><td>Not Applicable</td></tr>
<tr><td></td><td>b) the status of clear felling, if any</td><td>Not Applicable</td></tr>
</table>

	c) the status of compensatory afforestation, if any.	Not Applicable
	d) Comments on the viability & sustainability of compensatory Afforestation programme in the light of actual field experience so far.	Not Applicable
11.	**The status of clear felling in non-forest areas** *(such as submergence area of reservoir, approach road)* **if any, with quantitative information.**	Not applicable
12.	**Status of construction:**	As per last granted EC letter, 92% construction work has been done till 30th September, 2024. Photographs showing the status of construction are attached along as **Annexure 2.**
	a) Date of commencement (actual and/or planned)	Actual date of commencement: March, 1956
	b) Date of completion (actual and/or planned)	Completion as per EC (2015): 30.12.2017 Completion as per EC (2016): December,2020 Planned date of Completion as per EC (2021): July, 2025
13.	**Reasons for the delay, if the project is yet to start**	Not applicable

Compliance Report on conditions imposed in Environmental Clearance as per MoEF&CC for Period ending 30.09.2024

Compliance report on conditions imposed in Expansion in Environmental Clearance by SEIAA, Punjab vide Letter No. SEIAA/3777 dated 26.06.2015

Part A - Specific conditions

I. Pre - Construction Phase

S. No.	EC Conditions	Reply
i.	"Consent to Establish" shall be obtained from Punjab Pollution Control Board under Air (Prevention & Control of Pollution) Act, 1981 and Water (Prevention & Control of Pollution) Act, 1974 and a copy of the same shall be submitted to the Ministry of Environment & Forest/ State level Environment Impact Assessment Authority before the start of any construction work at the site.	"Consent to Establish" has already been obtained from Punjab Pollution Control Board under Air (Prevention & Control of Pollution) Act 1981 and Water (Prevention & Control of Pollution) Act 1974. Also, Extension in Consent to Establish (CTE) has been obtained from PPCB vide Certificate No. CTE/Ext/PTA/2024/ 25167783 dated 26.06.2024 valid till 31.03.2025. Copy of the same is attached as **Annexure 3**.
ii.	All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.	Agreed. All required sanitary and hygienic measures are in place and will be maintained throughout the construction phase.
iii.	A first aid room will be provided in the project both during construction and operation phase of the project.	Agreed. Dispensary has been provided within the campus having proper medical facility. Health checkup of construction workers are being done within the dispensary only and its record is being maintained. Copy of Health checkup record of construction workers are enclosed as **Annexure 27.**
iv.	The approval of 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.	Agreed. Structural safety certificate has been obtained from competent authority for earlier constructed buildings and same is being obtained for new construction also. Copy of Structural Safety Certificates of few constructed buildings are attached as **Annexure 4**. Copy of the fire NOC is attached as **Annexure 5**.

v.	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile STP, disposal of waste water & Solid waste in an environmentally sound manner, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	All the mandatory facilities which includes proper housing, medical and sanitation facilities have been provided at construction site. Ambulance has also been provided at site of construction. Photographs showing the same is enclosed as **Annexure 2.**
vi.	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.	No such appeal has been filed as 30 days have already been passed.

II. Construction Phase

S. No.	EC Conditions	Reply
i.	All the topsoil excavated during construction activities should be stored for use in horticulture/ landscape development within the project site in the project.	Yes. Top soil excavated during construction activities is being stored and used for the development of green belt within the project premises.
ii.	Disposal of muck during construction phase should not create any adverse effect on the neighboring communities and be disposed off after taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.	Muck generated from construction activities is being disposed off in environmentally safe manner. Further, dust mitigation measures are being adopted like water sprinkling, tarpaulin sheets, anti-smog gun, etc. so that there will be minimum impact on the environment. Photographs showing the same is enclosed as **Annexure 2.**
iii.	Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate water courses and the dump sites for such material must be secured so that they should not leach into the ground water.	Agreed. Construction spoils are kept to minimum so that there is no contamination of the ground water resources.
iv.	Construction/ provision of the STP, tubewell, DG sets, Utilities etc, earmarked by the project proponent of the layout plan, should be made in the earmarked area only. In any case the position/	Agreed. All the construction is being done as per the earmarked area on the layout plan.

	location of these utilities should not be changed later-on.	
v.	Vehicles hired for bringing construction materials to the site and other machinery to be used during construction should be in good condition and should conform to applicable air and noise emission standards.	Vehicles are being regularly monitored for the pollution levels and vehicles having valid PUCs are being used for construction material supply. Copy of few PUC certificates of construction vehicles are enclosed as **Annexure 6.**
vi.	Ambient noise levels should conform to prescribed 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 are being taken to reduce ambient air and noise level during construction phase. Regularly monitoring is being done. Recent test reports is enclosed as **Annexure** 7.
vii.	Fly ash should be used as construction material in the construction as per the provisions of Fly ash Notifications of September, 1999 and as amended on August, 2003 (This Condition is applicable only if the project is within 100 Km of Thermal Power Station).	Agreed. Fly ash containing PPC Cement is being used for construction within the project.
viii.	Ready mix concrete should be used in building construction as far as possible.	Ready mix concrete is being used for construction within the project.
ix.	Water demand during construction should be reduced by use of pre mixed concrete, curing agents and other best practices.	Agreed. Curing agents as well as other best practices are being used in construction work for reducing water demand.
x.	The project proponent shall adopt dual plumbing system for reuse of treated wastewater for flushing system & HVAC etc.	Agreed. Dual plumbing system is being provided in proposed buildings for utilization of treated water for flushing as well as for horticulture purpose.
xi.	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.	Agreed. Low flow fixtures are being provided for the reduction of water usage.
xii.	Adequate steps shall be taken to conserve energy by limiting the use of glass, provisions of proper thermal insulation and taking measures as prescribed under the Energy Conservation Building Code.	Agreed. Proper measures are being followed to conserve energy like Use of glass and thermal insulation, etc. as per the measures as prescribed under the Energy Conservation Building Code.
xiii.	The approval of the competent authority shall be obtained for structural safety of the buildings due	Agreed. Structural safety certificate has been obtained from competent authority for earlier

	to earthquake, adequacy of fire fighting equipments, etc. as per National Building Code including protection measures from lightening.	constructed buildings and same is being obtained for new construction also. Copy of Structural Safety Certificates of constructed buildings are attached as **Annexure 4**. Copy of fire NOC is attached as **Annexure 5**.
xiv.	The diesel generator sets to be used during construction phase should be low sulphur diesel types and should conform to the provision of Environment (Protection) Act, 1986 prescribed for air and noise emission standards.	Agreed. DG sets have been installed with proper stack height and inbuilt enclosure to control air and noise pollution as per provision of EPA rules. Low Sulphur diesel is being used in the DG set.
xv.	The project proponent will provide dual plumbing system for reuse of treated wastewater for flushing/ HVAC purposes etc. and colour of different pipe lines carrying water/ wastewater/ treated wastewater as follows: a. Fresh water: Blue b. Untreated wastewater: Black c. Treated Wastewater (for reuse): Green d. Treated wastewater (for discharge): Yellow e. Storm water: Orange	Agreed. Dual plumbing system is being provided in proposed buildings for utilization of treated water for flushing as well as for horticulture purpose.
xvi.	The installation of sewage treatment plant (STP) and adequacy of disposal system should be certified by Punjab Pollution Control Board and a report in this regard should be submitted to the Ministry of Environment & Forest/ State Level Environment Impact Assessment Authority before the project is commissioned for operation.	Agreed. STP of 2.3 MLD capacity has been installed with the campus.

III. Operation Phase and Entire Life

S. No.	Conditions	Reply
i.	"Consent to Operate" shall be obtained from Punjab Pollution Control Board under Air (Prevention & Control of Pollution) Act, 1981 and Water (Prevention & Control of Pollution)	Varied Consent to Operate (CTO) under Air and Water Act has been obtained for built-up area of 3,91,136.15 sq.m. from PPCB vide Certificate No. CTOA/Varied/PTA/

	Act, 1974 and a copy of the same shall be submitted to the Ministry of Environment & Forest/ State Level Environment Impact Assessment Authority at the time of start of operation.	2024/25220725 & CTOW/Varied/PTA/ 2024/25220756 dated 26.06.2024 valid till 25.12.2024. Copy of varied CTO is attached as **Annexure 8**. Further, renewal has been filed for.
ii.	The project proponent shall discharged all the treated waste water within the project premises onto land for irrigation/ plantation.	Treated wastewater is being used for the flushing purpose, irrigation of green area and the remaining is being discharged onto 10 acres of land already developed under Karnal technology within the project premises.
iii.	The project proponent shall provide electromagnetic flow meter at the outlet of the water supply, outlet of the STP and any pipeline to be used for re-using the treated wastewater back into the system for flushing and for horticulture purpose/ green etc. and shall maintain a record of readings of each such meter on daily basis.	Agreed. The electromagnetic flow meter has been provided at STP inlet and outlet. Also, the record of readings of meter is being maintained on daily basis. Copy of record is attached as **Annexure 9**.
iv.	The position/ location of the STP, tubewell, DG Sets, Utilities etc, installed by the project proponent as per the provisions made in the layout plan, should not be changed later-on under any circumstances.	Agreed. The location of the STP and tubewell has been installed as per the layout plan.
v.	Rainwater harvesting for rooftop run-off only should be implemented. Before recharging the rooftop run-off, pretreatment must be done to remove suspended matter, oil and grease.	33 No. of rain water recharging pits along with desilting chamber and oil and grease trap have been constructed for ground water recharging within the project premises. Photographs showing the same are enclosed as **Annexure 2.** Further, cleaning of roof water runoff system and rainwater harvesting pits are done twice a year specifically before the onset of monsoon. Photographs showing clean pits and roof top surface are enclosed as **Annexure 2.**

vi.	The solid waste generated should be properly collected and segregated. The recyclable solid waste shall be sold out to the authorized vendors and inert shall be sent to disposal facility. The Bio-degradable solid waste shall be composted through mechanical composter. Prior approval of competent authority should be obtained, if required.	Institute is complying with the Solid Waste Management Rules, 2016. The solid waste is being duly segregated into biodegradable and non-biodegradable components. Composter has been installed for treatment of biodegradable waste. For solid waste management including plastic waste, collaboration has been done through M/s SAAHAS Waste Management Pvt. Ltd. Agreement regarding the same is attached as **Annexure 10**.
vii.	Adequate & appropriate pollution control measures should be provided to control fugitive emissions to be emitted within the complex.	Agreed. The appropriate pollution control measures are being taken within the campus by provision of green tarpaulin sheets, anti amog-gun, sprinkler system, etc. Thus, there are as such no fugitive emissions. Further, permanent water sprinkling system will be provided along the periphery of the roads within 3 months' time.
viii.	Hazardous waste/ E-waste should be disposed off as per Rules applicable and with the necessary approval of the Punjab Pollution Control Board.	Hazardous waste is generated at construction site like used oil from DG sets, empty containers, etc. which are being taken care by the contractor only. Further, Hazardous waste Authorization has been obtained from PPCB vide Authorization No. HWM/Fresh/PTA/2021/14845984 dated 30.03.2021 and valid till 31.03.2025. Copy of the same is attached as **Annexure 11**.
ix.	Incremental pollution loads on the ambient air quality, noise and water quality should be periodically monitored.	Continuous ambient air quality monitoring station has been installed within project premises by PPCB. Further, ambient air quality is being monitored on half yearly basis. Recent test reports are attached along as **Annexure 7**.
x.	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.	Traffic management plan mentioning hierarchy of roads with proper segregation, internal road width, entry/exit and parking norms as per local regulation has been prepared as per current planning. Traffic circulation Plan is attached along as **Annexure 12**. Further, traffic calming measures are attached along as **Annexure**

		13. Further, Photographs showing the same are attached along as **Annexure 2**.
xi.	The project proponent shall obtain completion and occupancy certificate from the Competent Authority and submit a copy of the same to the SEIAA, Punjab.	Completion certificates of few constructed buildings are attached along as **Annexure 14**.
xii.	Adequate treatment facility for drinking water shall be provided, if required.	Agreed & accepted. Adequate treatment facility is being provided for drinking water.
xiii.	The green belt along the periphery of the plot shall achieve attenuation factor conforming to the day and night noise standards prescribed for residential land use. The open spaces inside the plot should be suitably landscaped and covered with vegetation of indigenous species/ variety.	Agreed. Proper green area has been provided. Photographs showing the same are attached along as **Annexure 2**.
xiv.	The project proponent should take adequate and appropriate measures to contain the ambient air quality within the prescribed standards. The proposal regarding mitigation measures to be taken at site should be submitted to the Ministry of Environment & Forest/ State Level Environment Impact Assessment Authority within three months.	All necessary steps like project boundary, water sprinkling by tankers, tarpaulin sheets for covering the construction site and vehicles carrying construction materials, anti-smog gun, etc. are being followed to reduce the air pollution during construction phase. Photographs showing the same is attached as **Annexure 2.**
xv.	Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating.	Solar lights have been installed in common areas. Further,10 KW of solar panel has been installed at rooftop of Director's Residence. In addition of above, solar water heater has been installed at roof top of hostels and photographs of the same is enclosed as **Annexure 2.**
xvi.	A report on the energy conservation measures conforming to energy conservation norms finalized by Bureau of Energy Efficiency should be prepared incorporating details about machinery of air conditioning, lifts, lighting, building materials, R & U Factors etc. and submitted to the respective Regional office of MoEF, the Zonal Office of CPCB and the SPCB/SEIAA in three months time.	Agreed. Report for energy conservation measures is enclosed as **Annexure 15.**
xvii.	Environmental Management Cell shall be formed during operation phase which will supervise and monitor the environment related aspects of the project.	Agreed, separate Environmental Cell has already been constituted to deal with environmental related issues. Names of persons involved in EMC is given below:

		1. Er. Rajendra Nigam (GM) 2. Dr. Amit Dhir (Head, School of Energy & Environment) 3. Er. Mahmood Alam (DGM) 4. Er. Anil Singla (AE) 5. Er. Arvind Gupta (JE) 6. Mr. Harnak Singh (Horticulture Supervisor) 7. Environment Consultant (Eco Paryavaran Laboratories & Consultants Pvt. Ltd.)
xviii.	Ambient noise levels should conform to prescribed standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase.	Agreed. Recent monitoring has been done at site and test reports for the same are enclosed as **Annexure 7.**
xix.	Separation of drinking water supply and treated sewage supply should be done by the use of different colors.	Agreed. Different color coding is being used for separation of drinking water supply and treated sewage supply.
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.	Agreed. Low flow fixtures for drinking and in toilet for flushing are being provided for the reduction of water usage.

Part B. General Conditions

I. Pre - Construction Phase

S. No.	Conditions	Reply
i.	This Environmental clearance will be valid for a period of five years from the date of its issue or till the completion of the project, whichever is earlier.	Noted.
ii.	The environmental safeguards contained in the application of the promoter/ mentioned during the presentation before State Level Environment Impact Assessment Authority/ State Expert Appraisal Committee should be implemented in letter and spirit.	Agreed. The environmental safeguards are being implemented in true letter and spirit.
iii.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest (Conservation) Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, by project proponents	Agreed. All required approvals are being obtained. • Structural safety certificate has been obtained from competent authority for earlier constructed buildings and same is being obtained for new construction

	from the competent authorities including Punjab Pollution Control Board and from other statutory bodies as applicable. The project proponent shall not start any construction activity at site without obtaining permission from NBWL; if applicable.	also. Copy of Structural Safety Certificates of few constructed buildings are attached as **Annexure 4**. • Approval for storage of diesel from Chief Controller of Explosives is not applicable, as the total quantity of diesel storage is not exceeding 25,000 litres in non-bulk (i.e. drums) or 1,000 litres in a receptacle/ tank (i.e. bulk) as per Petroleum Rules, 2002. • Copy of the fire NOC is attached as **Annexure 5**. • Wildlife clearance is not required as there is no Protected Area within 10 km radius of the project. • NOC from the Department of Forest under FCA, 1980 is not applicable as no forest land falls within the project area and neither diversion of forest land is involved. Further, land was allotted to Patiala Technical Education Trust by his highness Yadvindra Singh in the year 1966. Also, the project falls in the Educational/ Institutional Zone as per the approved Master Plan of Patiala. • NOC from the Civil Aviation Department has been obtained vide Letter No. WAC/S 5016/5/ATS (69/20) dated 01.01.2021 and copy of the same is attached as **Annexure 16**.
iv.	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 Punjab Pollution Control Board. The advertisement should be made within seven days from the day of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office, Ministry of Environment & Forests, Chandigarh and SEIAA, Punjab.	Agreed. Copy of advertisement has already been published & submitted.

v.	These stipulations would be enforced among others under the provisions of Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, Environmental (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.	Agreed.
vi.	The project proponent shall obtain permission from the CGWA for abstraction of groundwater & digging of borewell(s) and shall not abstract any groundwater without prior written permission of the CGWA, even if any borewell(s) exist at site.	Ad interim approval for ground water abstraction has been obtained from PWRDA. Copy of the same is attached along as **Annexure 17(a)**. Although as per final PWRDA guidelines, application has been filed to the PWRDA. Copy of acknowledgment is enclosed as **Annexure 17(b)**.
vii.	The project proponent shall comply with the conditions imposed by the competent authority while granting CLU vide letter no. 13157 dated 16.09.2013.	Institute lies in the approved Master Plan of Patiala and falls in the Educational/ Institutional Zone. Thus, CLU is not required.
viii.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/ 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.	Copy of Environmental Clearance has been submitted to the DC Office, Patiala and MC, Patiala. Copy of the acknowledgement is attached as **Annexure 18**. Environmental clearance letter and Compliance including results of monitored data has been uploaded on the Institute's website i.e. https://www.thapar.edu/misces/pages/eia-clearance. Copy of Screenshot stating the same is attached as **Annexure 19**.
ix.	The State Environment Impact Assessment Authority, Punjab reserves the right to add additional safeguards/ measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguards/ measures in a time bound and satisfactory manner.	Agreed.

II. Construction Phase

S. No.	Condition	Reply
i.	The environmental safeguards contained in the application of the promoter/ mentioned during the	Agreed. The environmental safeguards are being implemented in true letter and spirit.

	presentation before State Level Environment Impact Assessment Authority/State Expert Appraisal Committee should be implemented in letter and spirit.	
ii.	The entire cost of the environmental management plan (i.e. capital cost as well as recurring cost) will continue to be borne by the project proponent until the responsibility of environmental management plan is transferred to the occupier/ residents society under proper MOU after obtaining prior permission of the Punjab Pollution Control Board.	Agreed.
iii.	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by mail) to the respective Regional office of MoEF, the Zonal Office of CPCB, the SPCB and SEIAA, Punjab.	Agreed. Six monthly reports are being regularly submitted and copy of the acknowledgement of the last submitted compliance report for period ending 31.03.2024 is attached as **Annexure 20**.
iv.	Officials from the Regional Office of Ministry of Environment & Forests, Chandigarh/ State Level Environment Impact Assessment Authority/ State Level Expert Appraisal Committee/ Punjab Pollution Control Board 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. A complete set of all the documents submitted to State Environment Impact Assessment Authority should be forwarded to the CCF, Regional Office of Ministry of Environment & Forest, Chandigarh and State Level Environment Impact Assessment Authority, Punjab.	Agreed. Full cooperation, facilities and documents/ data will be given to the Officials from the Regional Office of Ministry of Environment & Forests, Chandigarh/ State Level Environment Impact Assessment Authority/ State Level Expert Appraisal Committee/ Punjab Pollution Control Board during their inspection.
v.	In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by State Environment Impact Assessment Authority, Punjab.	Agreed. If any changes will be made then fresh appraisal will be applied.
vi.	Separate distribution pipelines be laid down for use of treated effluent/ raw water for horticultural/gardening purposes with different colour coding.	Agreed. Separate pipelines are being laid for the treated wastewater and fresh water with different colour coding.

vii.	The project proponent shall adhere to the commitments made in the Environment Management Plan and Corporate Social Responsibility and shall spent the amount as proposed or at least minimum required to be spent under the provisions of the Companies Act 1956, whichever is higher.	Rs. 31.1396 Crores have already been spent under CSR activities till 30.09.2024. Details of CSR activities done is mentioned in **Annexure 21.**
viii.	The State Environment Impact Assessment Authority, Punjab reserves the right to add additional safeguards/ measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguards/ measures in a time bound and satisfactory manner.	Agreed.
ix.	Separation of drinking water supply and treated sewage supply should be done by the use of dual plumbing line.	Agreed. Dual plumbing system is being followed.

III. Operation Phase and Entire Life

S. No.	Conditions	Reply
i.	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 and decisions of any Competent Court, to the extent applicable.	Agreed.
ii.	The project proponent shall ensure that there will be no problem/ public nuisance due to parking of vehicles outside the campus.	Proper parking facilities have been provided within the campus. Thus, no vehicles will be parked outside the campus.
iii.	The entire cost of the environmental management plan (i.e. capital cost as well as recurring cost) will continue to be borne by the project proponent until the responsibility of environmental management plan is transferred to the occupier/ residents society under proper MOU after obtaining prior permission of the Punjab Pollution Control Board.	Approx. Rs. 21.49 crores have been spent on Environmental Management Plan of the project till 30.09.2024.
iv.	The project proponent shall submit six monthly reports on the status compliance of the stipulated EC conditions including results of monitored data	Agreed. Six monthly reports are being regularly submitted and copy of the acknowledgement of the last submitted

	(both hard copy as well as by mail) to the respective Regional Office of MoEF, Zonal Office of CPCB, the SPCB and the SEIAA, Punjab.	compliance report for period ending 31.03.2024 is attached as **Annexure 20**.
v.	Officials from the Regional Office of Ministry of Environment & Forests, Chandigarh/ State Level Environment Impact Assessment Authority/ State Level Expert Appraisal Committee/ Punjab Pollution Control Board 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. A complete set of all the documents submitted to State Environment Impact Assessment Authority should be forwarded to the CCF, Regional Office of Ministry of Environment & Forest, Chandigarh and State Level Environment Impact Assessment Authority, Punjab.	Agreed. Full cooperation, facilities and documents/ data will be given to the Officials from the regional Office of Ministry of Environment & Forests, Chandigarh/ State Level Environment Impact Assessment Authority/ State Level Expert Appraisal Committee/ Punjab Pollution Control Board during their inspection.
vi.	The proponent shall 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 Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; $PM_{2.5}$, PM_{10}, SO_2, NOx, CO, Pb, Ozone (ambient air as well as stack emissions) shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Agreed. The results of monitored data are being displayed on the Environment Monitoring Data Board. Photograph showing the same is enclosed as **Annexure 22.**
vii.	The project proponent shall adhere to the commitments made in the Environment Management Plan and Corporate Social Responsibility and shall spent the amount as proposed or at least minimum required to be spent under the provisions of the Companies Act 1956. Whichever is higher the project proponent shall submit six monthly compliance report of implementation of CSR activities.	Rs. 31.1396 Crores have already been spent under CSR activities till 30.09.2024. Details of CSR activities is provided in **Annexure 21.**
viii.	The State Environment Impact Assessment Authority, Punjab reserves the right to add additional safeguards/ measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provisions of the Environmental (Protection) Act,	Agreed.

	1986, to ensure effective implementation of the suggested safeguards/ measures in a time bound and satisfactory manner.	

Compliance report on conditions imposed in Expansion in Environmental Clearance granted by SEIAA, Punjab vide Letter No. SEIAA/914 dated 25.01.2016

Part A - Specific conditions

I. Pre - Construction Phase

S. No.	EC Conditions	Reply
i.	"Consent to Establish" shall be obtained from Punjab Pollution Control Board under Air (Prevention & Control of Pollution) Act, 1981 and Water (Prevention & Control of Pollution) Act, 1974 and a copy of the same shall be submitted to the Ministry of Environment & Forest/ State level Environment Impact Assessment Authority before the start of any construction work at the site.	"Consent to Establish" has already been obtained from Punjab Pollution Control Board under Air (Prevention & Control of Pollution) Act 1981 and Water (Prevention & Control of Pollution) Act 1974. Also, Extension in Consent to Establish (CTE) has been obtained from PPCB vide Certificate No. CTE/Ext/PTA/2024/25167783 dated 26.06.2024 valid till 31.03.2025. Copy of the same is attached as **Annexure 3**.
ii.	All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.	Agreed. All required sanitary and hygienic measures are in place and will be maintained throughout the construction phase.
iii.	A first aid room will be provided in the project both during construction and operation phase of the project.	Agreed. Dispensary has been provided within the campus having proper medical facility. Health checkup of construction workers are being done within the dispensary only and its record is being maintained. Copy of Health checkup record are enclosed as **Annexure 27.**
iv.	The approval of 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.	Agreed. Structural safety certificate has been obtained from competent authority for earlier constructed buildings and same is being obtained for new construction also. Copy of Structural Safety Certificates of few constructed buildings are attached as **Annexure 4**. Copy of fire NOC is attached as **Annexure 5**.
v.	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile STP, disposal of waste water & Solid waste in an environmentally sound manner, safe drinking	All the mandatory facilities which include proper housing, medical and sanitation facilities have been provided at construction site. Ambulance has also been provided at

	water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	site of construction. Photographs showing the same are enclosed as **Annexure 2.**
vi.	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.	No such appeal has been filed as 30 days have already been passed.

II. Construction Phase

S. No.	EC Conditions	Reply
i.	All the topsoil excavated during construction activities should be stored for use in horticulture/ landscape development within the project site in the project.	Yes. Top soil excavated during construction activities is being stored and used for the development of green belt within the project premises.
ii.	Disposal of muck during construction phase should not create any adverse effect on the neighboring communities and be disposed off after taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.	Muck generated from construction activities is being disposed off in environmentally safe manner. Further, dust mitigation measures are being adopted like water sprinkling, tarpaulin sheets, anti-smog gun, etc. so that there will be minimum impact on the environment. Photographs showing the same are enclosed as **Annexure 2.**
iii.	Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate water courses and the dump sites for such material must be secured so that they should not leach into the ground water.	Agreed. Construction spoils are kept to minimum so that there is no contamination of the ground water resources.
iv.	Construction/ provision of the STP, tubewell, DG sets, Utilities etc, earmarked by the project proponent of the layout plan, should be made in the earmarked area only. In any case the position/ location of these utilities should not be changed later-on.	Agreed. All the construction is being done as per the earmarked area on the layout plan.
v.	Vehicles hired for bringing construction materials to the site and other machinery to be used during construction should be in good condition and should conform to applicable air and noise emission standards.	Vehicles are being regularly monitored for the pollution levels and vehicles having valid PUCs are being used for construction material supply. Copy of few PUC

		certificates of construction vehicles are enclosed as **Annexure 6.**
vi.	Ambient noise levels should conform to prescribed 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 are being taken to reduce ambient air and noise level during construction phase. Regularly monitoring is being done. Recent test reports is enclosed as **Annexure** 7.
vii.	Fly ash should be used as construction material in the construction as per the provisions of Fly ash Notifications of September, 1999 and as amended on August, 2003 (This Condition is applicable only if the project is within 100 km of Thermal Power Station).	Agreed. Fly ash containing PPC Cement is being used for construction within the project.
viii.	Ready mix concrete should be used in building construction as far as possible.	Ready mix concrete is being used for construction within the project.
ix.	Water demand during construction should be reduced by use of pre mixed concrete, curing agents and other best practices.	Agreed. Curing agents as well as other best practices are being used in construction work for reducing water demand.
x.	The project proponent shall adopt dual plumbing system for reuse of treated wastewater for flushing system & HVAC etc.	Agreed, dual plumbing system is being provided in proposed buildings for utilization of treated water for flushing as well as for horticulture purpose.
xi.	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.	Agreed, low flow fixtures are being provided for the reduction of water usage.
xii.	Adequate steps shall be taken to conserve energy by limiting the use of glass, provisions of proper thermal insulation and taking measures as prescribed under the Energy Conservation Building Code.	Agreed. Proper measures are being followed to conserve energy like Use of glass and thermal insulation as per the measures as prescribed under the Energy Conservation Building Code.
xiii.	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.	Agreed. Structural safety certificate has been obtained from competent authority for earlier constructed buildings and same is being obtained for new construction also. Copy of Structural Safety Certificates of few constructed buildings are attached as **Annexure 4**.

		Copy of fire NOC is attached as **Annexure 5.**
xiv.	The diesel generator sets to be used during construction phase should be low sulphur diesel types and should conform to the provision of Environment (Protection) Act, 1986 prescribed for air and noise emission standards.	Agreed. DG sets have been installed with proper stack height and inbuilt enclosure to control air and noise pollution as per provision of EPA rules. Low Sulphur diesel is being used in the DG set.
xv.	The project proponent will provide dual plumbing system for reuse of treated wastewater for flushing/ HVAC purposes etc. and colour of different pipe lines carrying water/ wastewater/ treated wastewater as follows: a. Fresh water: Blue b. Untreated wastewater: Black c. Treated Wastewater (for reuse): Green d. Treated wastewater (for discharge): Yellow e. Storm water: Orange	Agreed. Dual plumbing system is being provided in proposed buildings for utilization of treated water for flushing as well as for horticulture purpose.
xvi.	The installation of sewage treatment plant (STP) and adequacy of disposal system should be certified by Punjab Pollution Control Board and a report in this regard should be submitted to the Ministry of Environment & Forest/ State Level Environment Impact Assessment Authority before the project is commissioned for operation.	Agreed. STP of 2.3 MLD capacity has been installed within the campus for treatment of wastewater generated from the campus.
xvii.	The project proponent shall provide chute system in new blocks to be added for collection of solid waste. The solid waste generated should be properly collected and proper onsite storage facility (covered) should be provided at site.	Agreed. Chute system has been provided for collection of solid waste. Photograph showing the same is enclosed as **Annexure 2.**
xviii.	The Project Proponent shall provide solar power plant of capacity 3.0 Mega Watt for its expansion project.	• Solar lights have been installed in common areas. • 10 KW of solar panel has been installed at rooftop of Director's Residence. In addition of above, solar water heater has been installed at rooftop of hostels and

		photographs of the same is enclosed as **Annexure 2.** Also, LOI has been issued to M/s Roofsol Energy Pvt. Ltd. for installation of 3 MW solar power plant within project premises. Copy of LOI is attached as **Annexure 23**. Further, solar power plant will be installed within the time frame of 3 months.

III. Operation Phase and Entire Life

S. No.	Conditions	Reply
i.	"Consent to Operate" shall be obtained from Punjab Pollution Control Board under Air (Prevention & Control of Pollution) Act, 1981 and Water (Prevention & Control of Pollution) Act, 1974 and a copy of the same shall be submitted to the Ministry of Environment & Forest/ State Level Environment Impact Assessment Authority at the time of start of operation.	Varied Consent to Operate (CTO) under Air and Water Act has been obtained for built-up area of 3,91,136.15 sq.m. from PPCB vide Certificate No. CTOA/Varied/PTA/ 2024/25220725 & CTOW/Varied/PTA/ 2024/25220756 dated 26.06.2024 valid till 25.12.2024. Copy of varied CTO is attached as **Annexure 8**. Further, renewal has been filed to PPCB.
ii.	The total water requirement for the project will be 1.70 ML/day, which shall be met through own tubewell.	The water requirement is being met by borewells.
iii.	The total wastewater generation from the project will be 1270 KL/day, which will be treated in a STP of capacity 1500 KL/day to be installed within the project premises. As proposed, 333 KL/day of treated wastewater shall be used for flushing purpose, 937 KL/day for irrigation of green area and remaining excess treated water shall be discharged into sewer in summer season. In winter season, 333 KL/day of treated wastewater will be used for flushing purpose, 422 KL/day for irrigation of green area and remaining excess treated water will be discharged into sewer. In rainy season, 333 KL/day of treated wastewater will be used for flushing purpose, 117 KL/day for irrigation of green area and remaining excess treated water will be discharged into sewer. The Project Proponent shall develop 10 acres land	Agreed. The wastewater generated is being treated in STP of 2.3 MLD capacity and treated water is reused for flushing purpose, irrigation of green area and remaining is being discharged onto 10 acres of land already developed under Karnal technology within the project.

	under Karnal technology to utilize all excess treated wastewater.	
iv.	The project proponent shall provide electromagnetic flow meter at the outlet of the water supply, outlet of the STP and any pipeline to be used for re-using the treated wastewater back into the system for flushing and for horticulture purpose/ green etc. and shall maintain a record of readings of each such meter on daily basis.	Agreed. The electromagnetic flow meter has been provided at STP inlet and outlet. Also, the record of readings of meter is being maintained on daily basis. Copy of record is attached as **Annexure 9.**
v.	The position/ location of the STP, tubewell, DG Sets, Utilities etc, installed by the project proponent as per the provisions made in the layout plan, should not be changed later-on under any circumstances.	Agreed. The location of the STP and tubewell has been installed as per the layout plan.
vi.	Rainwater harvesting for rooftop run-off only should be implemented. Before recharging the rooftop run-off, pretreatment must be done to remove suspended matter, oil and grease.	33 No. of rain water recharging pits along with desilting chamber and oil and grease trap have been constructed for ground water recharging within the project premises. Photographs showing the same are enclosed as **Annexure 2.** Further, cleaning of roof water runoff system and rainwater harvesting pits are done twice a year specifically before the onset of monsoon. Photographs showing clean pits and roof top surface are enclosed as **Annexure 2.**
vii.	The solid waste generated should be properly collected and segregated. The recyclable solid waste shall be sold out to the authorized vendors and inert shall be sent to disposal facility. The Bio-degradable solid waste shall be composted through mechanical composter. Prior approval of competent authority should be obtained, if required.	Institute is complying with the Solid Waste Management Rules, 2016. The solid waste is being duly segregated into biodegradable and non-biodegradable components. Composter has been installed for treatment of biodegradable waste. For solid waste management including plastic waste, collaboration has been done through M/s SAAHAS Waste Management Pvt. Ltd. Agreement regarding the same is attached as **Annexure 10**.
viii.	Adequate & appropriate pollution control measures should be provided to control fugitive emissions to be emitted within the complex.	Agreed. The appropriate pollution control measures are being taken within the campus by provision of green tarpaulin sheets, anti amog gun, sprinkler system, etc. Thus, there are as such no fugitive emissions. Photographs showing the same are enclosed

		as **Annexure 2.** Further, permanent water sprinkling system will be provided along the periphery of the roads within 3 months' time.
ix.	Hazardous waste/ E-waste should be disposed off as per Rules applicable and with the necessary approval of the Punjab Pollution Control Board.	Hazardous waste is generated at construction site like used oil from DG sets, empty containers, etc. which are being taken care by the contractor only. Further, Hazardous waste Authorization has been obtained from PPCB vide Authorization No. HWM/Fresh/PTA/2021/14845984 dated 30.03.2021 and valid till 31.03.2025. Copy of the same is attached as **Annexure 11**.
x.	Incremental pollution loads on the ambient air quality, noise and water quality should be periodically monitored.	Being a responsible and superior Educational Institute, several mitigation measures are being implemented in true letter and spirit as stated below: • Huge green area in form of parks and along internal roads has been developed and maintained through dedicated personals (adequate no. of gardeners, use of organic manure, etc.) • Regular water sprinkling through tankers at construction site and connecting internal roads to suppress dust. • Routine checkups and maintenance of DG sets installed. • Construction vehicles having valid PUC are allowed. • Installation of anti-smog gun at ongoing construction site. • 100 E carts provided within campus for students and faculty to reduce carbon foot printing. • Adequate parking area provided to avoid any traffic congestion within project. • Every Wednesday is marked as "**Zero Vehicle Movement Day**" in the campus towards greener & pollution free campus. • Continuous Ambient Air Quality monitoring system in association with PPCB to regularly monitor the ambient air quality.

		• MC Patiala has awarded the Campus as "Cleanest Campus" in the region. • Photographs showing the measures implemented towards mitigation of air pollution are enclosed as **Annexure 2.** Further, continuous ambient air quality monitoring station has been installed within project premises by PPCB. In addition, ambient air quality is being monitored on half yearly basis. Recent test reports are attached along as **Annexure** 7.
xi.	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.	Traffic management plan mentioning hierarchy of roads with proper segregation, internal road width, entry/exit and parking norms as per local regulation has been prepared as per current planning. Traffic circulation Plan is attached along as **Annexure 12**. Further, traffic calming measures are attached along as **Annexure 13**. Further, Photographs showing the same are attached along as **Annexure 2**.
xii.	The project proponent shall obtain completion and occupancy certificate from the Competent Authority and submit a copy of the same to the SEIAA, Punjab.	Completion certificates of few buildings are attached along as **Annexure 14**.
xiii.	Adequate treatment facility for drinking water shall be provided, if required.	Agreed & accepted. Adequate treatment facility is being provided for drinking water.
xiv.	The green belt along the periphery of the plot shall achieve attenuation factor conforming to the day and night noise standards prescribed for residential land use. The open spaces inside the plot should be suitably landscaped and covered with vegetation of indigenous species/ variety.	Agreed. Proper green has been provided. Photographs showing the same are attached along as **Annexure 2**.
xv.	The project proponent should take adequate and appropriate measures to contain the ambient air quality within the prescribed standards. The proposal regarding mitigation measures to be taken at site should be submitted to the Ministry of Environment & Forest/ State Level Environment Impact Assessment Authority within three months.	All necessary steps like project boundary, water sprinkling by tankers, tarpaulin sheets for covering the construction site and vehicles carrying construction materials, anti-smog gun, etc. are being followed to reduce the air pollution during construction phase. Photographs showing the same is attached as **Annexure 2.**

xvi.	Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating.	Solar lights have been installed in common areas. Further, 10 KW of solar panel has been installed at rooftop of Director's Residence. In addition of above, solar water heater has been installed at rooftop of hostels and photographs of the same is enclosed as **Annexure 2.**
xvii.	A report on the energy conservation measures conforming to energy conservation norms finalized by Bureau of Energy Efficiency should be prepared incorporating details about machinery of air conditioning, lifts, lighting, building materials, R & U Factors etc. and submitted to the respective Regional office of MoEF, the Zonal Office of CPCB and the SPCB/SEIAA in three months time.	Agreed. Report for energy conservation measures is enclosed as **Annexure 15.**
xviii.	Environmental Management Cell shall be formed during operation phase which will supervise and monitor the environment related aspects of the project.	Agreed, separate Environmental Cell has already been constituted to deal with environmental related issues. Names of persons involved in EMC is given below: 1. Er. Rajendra Nigam (GM) 2. Dr. Amit Dhir (Head, School of Energy & Environment) 3. Er. Mahmood Alam (DGM) 4. Er. Anil Singla (AE) 5. Er. Arvind Gupta (JE) 6. Mr. Harnak Singh (Horticulture Supervisor) 7. Environment Consultant (Eco Paryavaran Laboratories & Consultants Pvt. Ltd.)
xix.	Ambient noise levels should conform to prescribed standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase.	Agreed. Recent monitoring has been done at site and test reports for the same are enclosed as **Annexure 7.**
xx.	Separation of drinking water supply and treated sewage supply should be done by the use of different colors.	Agreed. Different color coding is being used for separation of drinking water supply and treated sewage supply.
xxi.	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.	Agreed. Low flow fixtures for drinking and in toilet for flushing are being provided for the reduction of water usage.

Part B. General Conditions

I. Pre - Construction Phase

S. No.	Conditions	Reply
i.	This Environmental clearance will be valid for a period of five years from the date of its issue or till the completion of the project, whichever is earlier.	Noted.
ii.	The environmental safeguards contained in the application of the promoter/ mentioned during the presentation before State Level Environment Impact Assessment Authority/ State Expert Appraisal Committee should be implemented in letter and spirit.	Agreed. The environmental safeguards are being implemented in true letter and spirit.
iii.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest (Conservation) Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, by project proponents from the competent authorities including Punjab Pollution Control Board and from other statutory bodies as applicable. The project proponent shall not start any construction activity at site without obtaining permission from NBWL.	Agreed. All required approvals are being obtained. • Structural safety certificate has been obtained from competent authority for earlier constructed buildings and same is being obtained for new construction also. Copy of Structural Safety Certificates of few constructed buildings are attached as **Annexure 4**. • Approval for storage of diesel from Chief Controller of Explosives is not applicable, as the total quantity of diesel storage is not exceeding 25,000 litres in non-bulk (i.e. drums) or 1,000 litres in a receptacle/ tank (i.e. bulk) as per Petroleum Rules, 2002. • Copy of fire NOC is attached as **Annexure 5**. • Wildlife clearance is not required as there is no Protected Area within 10 km radius of the project. • NOC from the Department of Forest under FCA, 1980 is not applicable as no forest land falls within the project area and neither diversion of forest land is involved. Further, land was allotted to Patiala Technical Education Trust by his highness Yadvindra Singh in the year 1966. Also, the project falls in the

		Educational/ Institutional Zone as per the approved Master Plan of Patiala. • NOC from the Civil Aviation Department has been obtained vide Letter No. WAC/S 5016/5/ATS (69/20) dated 01.01.2021 and copy of the same is attached as **Annexure 16**.
iv.	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 Punjab Pollution Control Board. The advertisement should be made within seven days from the day of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office, Ministry of Environment & Forests, Chandigarh and SEIAA, Punjab.	Agreed. Copy of advertisement has already been published & submitted.
v.	These stipulations would be enforced among others under the provisions of Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, Environmental (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.	Agreed.
vi.	The project proponent shall obtain permission from the CGWA for abstraction of groundwater & digging of borewell(s) and shall not abstract any groundwater without prior written permission of the CGWA, even if any borewell(s) exist at site.	Ad interim approval for ground water abstraction has been obtained from PWRDA. Copy of the same is attached along as **Annexure 17(a)**. Although as per final PWRDA guidelines, application has been filed to the PWRDA. Copy of acknowledgment is enclosed as **Annexure 17(b)**.
vii.	The project proponent shall obtain CLU from the competent authority, if any authority insists.	Institute lies in the approved Master Plan of Patiala and falls in the Educational/ Institutional Zone. Thus, CLU is not required.
viii.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/ Municipal Corporation, Urban local body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The	Copy of Environmental Clearance has been submitted to the DC Office, Patiala and MC, Patiala. Copy of the acknowledgement is attached as **Annexure 18**. Environmental clearance letter and Compliance including results of monitored data has been uploaded on the Institute's

	clearance letter shall also be put on the website of the Company by the proponent.	website i.e. https://www.thapar.edu/misces/pages/eia-clearance. Copy of Screenshot stating the same is attached along as **Annexure 19**.
ix.	The State Environment Impact Assessment Authority, Punjab reserves the right to add additional safeguards/ measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguards/ measures in a time bound and satisfactory manner.	Agreed.
x.	The environmental clearance is subject to their obtaining prior clearance from Forestry & Wildlife angle including clearance from Standing Committee of the National Board for Wildlife as applicable. The grant of environmental clearance does not necessarily implies that forestry & wildlife clearance shall be granted to the project and proposal for forestry & wildlife clearance will be considered by the respective authorities on their merits and decision taken. The investment made in the project, if any, based on environmental clearance so granted, in anticipation of the clearance from Forestry & Wildlife angle shall be entirely at the cost & risk of the project proponent and Ministry of Environment, Forests & Climate Change/SEIAA, Punjab shall not be responsible in this regard in any manner.	As no forest land is involved within the project and the project is located outside the eco-sensitive zone of the Sanctuary. Thus, there is no need of obtaining forest and NBWL clearance.

II. Construction Phase

S. No.	Condition	Reply
i.	The environmental safeguards contained in the application of the promoter/ mentioned during the presentation before State Level Environment Impact Assessment Authority/State Expert Appraisal Committee should be implemented in letter and spirit.	Agreed. The environmental safeguards are being implemented in true letter and spirit.

ii.	The entire cost of the environmental management plan (i.e. capital cost as well as recurring cost) will continue to be borne by the project proponent until the responsibility of environmental management plan is transferred to the occupier/ residents society under proper MOU after obtaining prior permission of the Punjab Pollution Control Board.	Agreed.
iii.	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by mail) to the respective Regional office of MoEF, the Zonal Office of CPCB, the SPCB and SEIAA, Punjab.	Agreed. Six monthly reports are being regularly submitted and copy of the acknowledgement of the last submitted compliance report for period ending 31.03.2024 is attached as **Annexure 20**.
iv.	Officials from the Regional Office of Ministry of Environment & Forests, Chandigarh/ State Level Environment Impact Assessment Authority/ State Level Expert Appraisal Committee/ Punjab Pollution Control Board 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. A complete set of all the documents submitted to State Environment Impact Assessment Authority should be forwarded to the CCF, Regional Office of Ministry of Environment & Forest, Chandigarh and State Level Environment Impact Assessment Authority, Punjab.	Agreed. Full cooperation, facilities and documents/ data will be given to the Officials from the Regional Office of Ministry of Environment & Forests, Chandigarh/ State Level Environment Impact Assessment Authority/ State Level Expert Appraisal Committee/ Punjab Pollution Control Board during their inspection.
v.	In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by State Environment Impact Assessment Authority, Punjab.	Agreed. If any changes will be made then fresh appraisal will be applied.
vi.	Separate distribution pipelines be laid down for use of treated effluent/ raw water for horticultural/gardening purposes with different colour coding.	Agreed. Separate pipelines are being laid for the treated wastewater and fresh water with different colour coding.
vii.	The project proponent shall adhere to the commitments made in the Environment Management Plan and Corporate Social Responsibility and shall spent the amount as proposed or at least minimum required to be spent under the provisions of the Companies Act 1956.	Rs. 31.1396 Crores have already been spent under CSR activities till 30.09.2024. Details of CSR activities done is provided in **Annexure 21.**

viii.	The State Environment Impact Assessment Authority, Punjab reserves the right to add additional safeguards/ measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguards/ measures in a time bound and satisfactory manner.	Agreed.
ix.	Separation of drinking water supply and treated sewage supply should be done by the use of dual plumbing line.	Agreed. Dual plumbing system is being followed.

III. Operation Phase and Entire Life

S. No.	Conditions	Reply
i.	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 and decisions of any Competent Court, to the extent applicable.	Agreed.
ii.	The entire cost of the environmental management plan (i.e. capital cost as well as recurring cost) will continue to be borne by the project proponent until the responsibility of environmental management plan is transferred to the occupier/ residents society under proper MOU after obtaining prior permission of the Punjab Pollution Control Board.	Approx. Rs. 21.49 Crores have been spent on Environmental Management Plan of the project till 30.09.2024.
iii.	The project proponent shall submit six monthly reports on the status compliance of the stipulated EC conditions including results of monitored data (both hard copy as well as by mail) to the respective Regional Office of MoEF, Zonal Office of CPCB, the SPCB and the SEIAA, Punjab.	Agreed. Six monthly reports are being regularly submitted and copy of the acknowledgement of the last submitted compliance report for period ending 31.03.2024 is attached as **Annexure 20**.
iv.	Officials from the Regional Office of Ministry of Environment & Forests, Chandigarh/ State Level Environment Impact Assessment Authority/ State Level Expert Appraisal Committee/ Punjab Pollution Control Board who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/ data by the project proponents during	Agreed. Full cooperation, facilities and documents/ data will be given to the Officials from the regional Office of Ministry of Environment & Forests, Chandigarh/ State Level Environment Impact Assessment Authority/ State Level Expert Appraisal Committee/ Punjab Pollution Control Board during their inspection.

	their inspection. A complete set of all the documents submitted to State Environment Impact Assessment Authority should be forwarded to the CCF, Regional Office of Ministry of Environment & Forest, Chandigarh and State Level Environment Impact Assessment Authority, Punjab.	
v.	The proponent shall 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 Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; $PM_{2.5}$, PM_{10}, SO_2, NOx, CO, Pb, Ozone (ambient air as well as stack emissions) shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Agreed. The results of monitored data are displayed on the Environment Monitoring Data Board. Photograph showing the same is enclosed as **Annexure 22.**
vi.	The project proponent shall adhere to the commitments made in the Environment Management Plan and Corporate Social Responsibility and shall spent the amount as proposed or atleast minimum required to be spent under the provisions of the Companies Act 1956.	Rs. 31.1396 Crores have already been spent under CSR activities till 30.09.2024. Details of CSR activities is mentioned in **Annexure 21.**
vii.	The State Environment Impact Assessment Authority, Punjab reserves the right to add additional safeguards/ measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguards/ measures in a time bound and satisfactory manner.	Agreed.

Compliance report on conditions imposed in Expansion in Environmental Clearance by MoEF&CC vide File F. No. IA3-10/7/2021-IA.III dated 12.03.2021

SPECIFIC CONDITIONS:

S. No.	EC Conditions	Reply
i.	As committed, PP shall develop solar power generation capacity of 3MW and implement the condition of existing EC with regard to energy conservation.	LOI has been issued to M/s Roofsol Energy Pvt. Ltd. for installation of 3 MW solar power plant within project premises. Copy of LOI is attached as **Annexure 23**. Further, solar power plant will be installed within the time frame of 3 months.
ii.	Area for greenery shall be provided as per the details provided in the project document i.e., area under plantation/greenery will be 2,36,885 sq. m. As proposed, at least 27,634 trees shall be maintained during the operation phase of the project. The landscape planning should include plantation of native species. A minimum of 01 tree for every 80 sq.m of land should be planted and maintained. The existing trees will be counted for this purpose. Plantations to be ensured species (cut) to species (planted). The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping.	• Green Area of 2,63,410 sq.m (65.09 acres) has been developed within the project premises in the form of parks and along internal roads. • More than 15,000 trees have already been planted within project premises with native species like *Azadirachta indica, Cassia fistula, Delonix regia, Mangifera indica, Syzygium cumini, Psidium guajava, Phyllanthus emblica, etc.* Letter from DFO, Patiala verifying that 16,824 trees have already been planted within the campus. Copy of the same is enclosed as **Annexure 24.**
iii.	Abstraction of groundwater shall be subject to the permission of Central Ground Water Authority (CGWA) and ground water recharge shall conform to CGWA norms or norms prescribed by the local authorities. Freshwater requirement shall not exceed 826 KLD during operational phase	Ad interim approval for ground water abstraction has been obtained from PWRDA. Copy of the same is attached along as **Annexure 17(a)**. Although as per final PWRDA guidelines, application has been filed to the PWRDA. Copy of acknowledgment is enclosed as **Annexure 17(b)**.
iv.	As proposed, waste water shall be treated in an onsite STP of total 2.3 MLD capacity. At least 926 KLD of treated wastewater shall be recycled and re-used (355 KLD for flushing and rest for green area	Agreed. STP of capacity 2.3 MLD has already been installed within the campus and treated waste water is being reused for flushing & horticulture

	demand and excess to 10 acres of land under Karnal Technology).	purpose and excess is being discharge to area under Karnal Technology. Photographs showing area under Karnal Technology is enclosed as **Annexure 2.**
v.	The project proponents would commission a third-party study on the implementation of conditions related to quality and quantity of recycle and reuse of treated water, efficiency of treatment systems, quality of treated water being supplied for flushing (specially the bacterial counts), comparative bacteriological studies from toilet seats using recycled treated waters and fresh waters for flushing, and quality of water being supplied through spray faucets attached to toilet seats.	Water audit report has been prepared by third-party (Mr. Anil Kumar Singla; Chartered Engineer, PPCB) including the quality and quantity of recycle and reuse of treated water, efficiency of treatment systems etc. and copy of the same is enclosed as **Annexure 25**.
vi.	The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. As proposed, 31 RWH pits shall be provided for rain water harvesting after filtration as per the CGWB norms.	33 No. of rain water recharging pits along with desilting chamber and oil and grease trap have been constructed for ground water recharging within the project premises. Photographs showing the same are enclosed as **Annexure 2.**
vii.	The solid waste shall be duly segregated into biodegradable and non-biodegradable components and handled in separate area earmarked for segregation of solid waste, as per SWM Rules, 2016. As committed, biodegradable waste shall be composted by use of Composter. Inert waste shall be dumped to authorized site. The recyclable waste shall be sold to resellers.	Institute is complying with the Solid Waste Management Rules, 2016. The solid waste is being duly segregated into biodegradable and non-biodegradable components. Composter has been installed for treatment of biodegradable waste. For solid waste management including plastic waste, collaboration has been done through M/s SAAHAS Waste Management Pvt. Ltd. Agreement regarding the same is attached as **Annexure 10**.
viii.	The PP shall provide electric charging points in the parking areas for e- vehicles as committed.	The electric charging points have been provided in proposed buildings. Photographs showing the same is attached as **Annexure 2.**
ix.	The Environmental Clearance to the project is primarily under provisions of EIA Notification, 2006. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes as applicable to the project.	Agreed. All the required approvals are being obtained as and when required. • Ad interim approval for ground water abstraction has been obtained from PWRDA. Copy

		of the same is attached along as **Annexure 17(a)**. Although as per final PWRDA guidelines, application has been filed to the PWRDA. Copy of acknowledgment is enclosed as **Annexure 17(b)**. • "Consent to Establish" has already been obtained from Punjab Pollution Control Board under Air (Prevention & Control of Pollution) Act 1981 and Water (Prevention & Control of Pollution) Act 1974. Also, Extension in Consent to Establish (CTE) has been obtained from PPCB vide Certificate No. CTE/Ext/PTA/2024/25167783 dated 26.06.2024 valid till 31.03.2025. Copy of the same is attached as **Annexure 3**. • Varied Consent to Operate (CTO) under Air and Water Act has been obtained for built-up area of 3,91,136.15 sq.m. from PPCB vide Certificate No. CTOA/Varied/PTA/ 2024/25220725 & CTOW/Varied/PTA/ 2024/25220756 dated 26.06.2024 valid till 25.12.2024. Copy of varied CTO is attached as **Annexure 8**. • Structural safety certificate has been obtained from competent authority for earlier constructed buildings and same is being obtained for new construction also. Copy of Structural Safety Certificates of few constructed buildings are attached as **Annexure 4**.

		• Copy of fire NOC is attached as **Annexure 5**. • NOC from the Civil Aviation Department has been obtained vide Letter No. WAC/S 5016/5/ATS (69/20) dated 01.01.2021 and copy of the same is attached as **Annexure 16**.

STANDARD CONDITIONS:

I. Statutory Compliance:

S. No.	EC Conditions	Reply
i.	The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.	All the required approvals are being obtained as and when required. • Ad interim approval for ground water abstraction has been obtained from PWRDA. Copy of the same is attached along as **Annexure 17(a)**. Although as per final PWRDA guidelines, application has been filed to the PWRDA. Copy of acknowledgment is enclosed as **Annexure 17(b)**. • "Consent to Establish" has already been obtained from Punjab Pollution Control Board under Air (Prevention & Control of Pollution) Act 1981 and Water (Prevention & Control of Pollution) Act 1974. Also, Extension in Consent to Establish (CTE) has been obtained from PPCB vide Certificate No. CTE/Ext/PTA/2024/25167783 dated 26.06.2024 valid till 31.03.2025. Copy of the same is attached as **Annexure 3**. • Varied Consent to Operate (CTO) under Air and Water Act has been obtained for built-up

		area of 3,91,136.15 sq.m. from PPCB vide Certificate No. CTOA/Varied/PTA/ 2024/25220725 & CTOW/Varied/PTA/ 2024/25220756 dated 26.06.2024 valid till 25.12.2024. Copy of varied CTO is attached as **Annexure 8**. • Structural safety certificate has been obtained from competent authority for earlier constructed buildings and same is being obtained for new construction also. Copy of Structural Safety Certificates of few constructed buildings are attached as **Annexure 4**. • Copy of fire NOC is attached as **Annexure 5**. • NOC from the Civil Aviation Department has been obtained vide Letter No. WAC/S 5016/5/ATS (69/20) dated 01.01.2021 and copy of the same is attached as **Annexure 16**.
ii.	The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc. as per National Building Code including protection measures from lightening etc.	Agreed. Structural safety certificate has been obtained from competent authority for earlier constructed buildings and same is being obtained for new construction also. Copy of Structural Safety Certificates of few constructed buildings are attached as **Annexure 4**. Copy of fire NOC is attached as **Annexure 5**.
iii.	The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.	NOC from the Department of Forest under FCA, 1980 is not applicable as no forest land falls within the project area and neither diversion of forest land is involved. Further, land was allotted

		to Patiala Technical Education Trust by his highness Yadvindra Singh in the year 1966 Also, the project falls in the Educational/ Institutional Zone as per the approved Master Plan of Patiala.
iv.	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.	The project falls outside of the eco-sensitive zone of wildlife sanctuary. Thus, permission from National Board of Wildlife is not applicable.
v.	The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.	"Consent to Establish" has already been obtained from Punjab Pollution Control Board under Air (Prevention & Control of Pollution) Act 1981 and Water (Prevention & Control of Pollution) Act 1974. Also, Extension in Consent to Establish (CTE) has been obtained from PPCB vide Certificate No. CTE/Ext/PTA/2024/25167783 dated 26.06.2024 valid till 31.03.2025. Copy of the same is attached as **Annexure 3**. Varied Consent to Operate (CTO) under Air and Water Act has been obtained for built-up area of 3,91,136.15 sq.m. from PPCB vide Certificate No. CTOA/Varied/PTA/ 2024/25220725 & CTOW/Varied/PTA/ 2024/25220756 dated 26.06.2024 valid till 25.12.2024. Copy of varied CTO is attached as **Annexure 8**. Further, renewal has been filed to PPCB.
vi.	The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.	Ground water approval has been obtained from DC, Patiala. Further, Ad interim approval for ground water abstraction has been obtained from PWRDA. Copy of the same is attached along as **Annexure 17(a)**. Although as per final PWRDA guidelines, application has been filed to the PWRDA. Copy of acknowledgment is enclosed as **Annexure 17(b)**.

vii.	A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.	Power requirement of the project after expansion will be 14,675 KVA (11,740 KW). Out of which, 7,740 KVA is the existing power load supplied by Punjab State Power Corporation Limited (PSPCL). Copy of recent electricity bill stating the sanctioned load is attached as **Annexure 30.**
viii.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities.	All statutory clearances are being obtained as and when required. • Approval for storage of diesel from Chief Controller of Explosives is not applicable, as the total quantity of diesel storage is not exceeding 25,000 litres in non-bulk (i.e. drums) or 1,000 litres in a receptacle/ tank (i.e. bulk) as per Petroleum Rules, 2002. • Copy of fire NOC is attached as **Annexure 5**. • NOC from the Civil Aviation Department has been obtained vide Letter No. WAC/S 5016/5/ATS (69/20) dated 01.01.2021 and copy of the same is attached as **Annexure 16**.
ix.	The provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste Management Rules, 2016, shall be followed.	Institute is complying with the Solid Waste Management Rules, 2016. The solid waste is being duly segregated into biodegradable and non-biodegradable components. Composter has been installed for treatment of biodegradable waste. For solid waste management including plastic waste, collaboration has been done through M/s SAAHAS Waste Management Pvt. Ltd. Agreement regarding the same is attached as **Annexure 10**.
x.	The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.	Adequate measures are being taken to conserve energy as efficient external wall, insulated roof, double glazed units, high COP chillers, high efficiency (Eff1) motors, use of LED

		lighting and occupancy sensors, use of low flow fixtures prescribed under the Energy conservation Building Code.

Air Quality Monitoring and Preservation:

S. No.	Conditions	Reply
i.	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.	Agreed. Water sprinkling is being carried out at the construction site through tankers. Also, green tarpaulin sheets around the construction area and anti-smog gun has been installed at the construction site. Photographs showing the same is enclosed as **Annexure 2.** Thus, there are as such no fugitive emissions. Further, permanent water sprinkling system will be provided along the periphery of the roads within 3 months' time.
ii.	A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.	Being a responsible and superior Educational Institute, several mitigation measures are being implemented in true letter and spirit, as stated below: • Huge green area in form of parks and along internal roads has been developed and maintained through dedicated personals (adequate no. of gardeners, use of organic manure, etc.) • Regular water sprinkling through tankers at construction site and connecting internal roads to suppress dust. • Routine checkups and maintenance of DG sets installed. • Construction vehicles having valid PUC are allowed. • Installation of anti-smog gun at ongoing construction site.

		• 100 E carts provided within campus for students and faculty to reduce carbon foot printing. • Adequate parking area provided to avoid any traffic congestion within project. • Every Wednesday is marked as "**Zero Vehicle Movement Day**" in the campus towards greener & pollution free campus. • Continuous Ambient Air Quality monitoring system in association with PPCB to regularly monitor the ambient air quality. • MC Patiala has awarded the Campus as "Cleanest Campus" in the region. • Photographs showing the measures implemented towards mitigation of air pollution are enclosed as **Annexure 2.** Further, continuous ambient air quality monitoring station has been installed within project premises by PPCB. In addition, ambient air quality is being monitored on half yearly basis. Recent test reports are attached along as **Annexure** 7.
iii.	The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g., PM_{10} and $PM_{2.5}$) covering upwind and downwind directions during the construction period.	Continuous ambient air quality monitoring station has been installed within project premises by PPCB. In addition, ambient air quality is being monitored on half yearly basis. Recent test reports are attached along as **Annexure** 7.
iv.	Diesel power generating sets proposed as source of backup power 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 of low Sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.	DG sets have been installed with proper stack height and inbuilt enclosure to control air and noise pollution as per provision of EPA rules. Low Sulphur diesel is being used in the DG set. Test report for the same is enclosed as **Annexure 7.**

v.	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, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.	All necessary steps like barricading sheets around construction area, tarpaulin sheets for covering vehicles carrying construction materials, regular sprinkling of water etc. are being followed to reduce the air pollution. Photographs showing the same are enclosed as **Annexure 2.**
vi.	Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.	The sand, cement, or other construction material is not being kept in open.
vii.	Wet jet shall be provided for grinding and stone cutting.	Agreed.
viii.	Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.	Water sprinklers has been installed in parks and play grounds. Along internal roads, water sprinkling is carried through own tankers purchased for sprinkling purpose. Photographs of the same is enclosed as **Annexure 2**.
ix.	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 Management Rules 2016.	The construction and demolition debris is being stored at earmarked area within the project and used for levelling purpose or construction of internal roads.
x.	The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.	DG set used at construction site is of low Sulphur diesel as per the norms. Test report for the same is enclosed as **Annexure 7.**
xi.	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.	Existing DG sets have been installed with proper stack height and inbuilt enclosure to control air and noise pollution as per provision of EPA rules. Further, the same will be followed for proposed DG sets. Test report for the same is enclosed as **Annexure 7.**

xii.	For indoor air quality the ventilation provisions as per National Building Code of India.	Agreed. National Building Code is being followed in the project.

Water Quality Monitoring and Preservation:

S. No.	Conditions	Reply
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 maintaining the drainage pattern and to harvest rain water.	Natural drainage is not being affected due to construction and operation of the project.
ii.	Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.	Agreed. The same is being followed.
iii.	The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly monitoring reports.	Electromagnetic flow meter has been installed on borewells and its record is being maintained and copy of the same is enclosed as **Annexure 26**.
iv.	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.	Ad interim approval for ground water abstraction has been obtained from PWRDA. Copy of the same is attached along as **Annexure 17(a)**. Although as per final PWRDA guidelines, application has been filed to PWRDA. Copy of acknowledgment is enclosed as **Annexure 17(b)**.
v.	At least 20% of the open spaces as required by the local building bye- laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.	Agreed. Proper open spaces are being provided as per the local building bye-laws.
vi.	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	Agreed. Dual plumbing system is being provided in proposed buildings for utilization of treated water for

	irrigation, car washing, thermal cooling, conditioning etc. shall be done.	flushing as well as for horticulture purpose.
vii.	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.	Agreed, low flow fixtures are being provided for the reduction of water usage.
viii.	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.	Agreed. Dual plumbing system is being provided in proposed buildings for utilization of treated water for flushing as well as for horticulture purpose.
ix.	Water demand during construction should be reduced by use of pre- mixed concrete, curing agents and other best practices referred.	Agreed. Curing agents as well as other best practices are being used during construction work for reducing water demand.
x.	A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built- up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.	33 No. of rain water recharging pits along with desilting chamber and oil and grease trap have been constructed for ground water recharging within the project premises. Photographs showing the same are enclosed as **Annexure 2.**
xi.	All recharge should be limited to shallow aquifer.	Noted.
xii.	No ground water shall be used during construction phase of the project.	No ground water is being used for construction purpose.
xiii.	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.	Ad interim approval for ground water abstraction has been obtained from PWRDA. Copy of the same is attached as **Annexure 17(a)**. Although as per final PWRDA guidelines, application has been filed to the PWRDA. Copy of acknowledgment is enclosed as **Annexure 17(b)**.
xiv.	The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.	Electromagnetic flow meter has been installed on borewells and its record is being maintained and copy of the same is enclosed as **Annexure 26**.

xv.	No sewage or untreated effluent water would be discharged through storm water drains.	The same is being taken care.
xvi.	Onsite sewage treatment of capacity of treating 100% waste water to be installed. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.	STP of 2.3 MLD capacity has been installed with the campus & treated water is being reused for flushing & horticulture purpose.
xvii.	Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odor problem from STP.	STP inlet & outlet monitoring is being done regularly. Adequate measures are being taken to mitigate odor problem. Test reports are enclosed as **Annexure 7.**
xviii.	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.	STP sludge generated from existing STP is being utilized as manure for green area within the project premises.

Noise Monitoring and Prevention:

S. No.	Conditions	Reply
i.	Ambient noise levels shall conform to residential area/commercial area/industrial area/silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. 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.	Ambient noise and air monitoring is being done recently. Test reports are enclosed as **Annexure 7.**
ii.	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	Ambient noise levels are being maintained. Ambient monitoring is being done recently. Test reports are enclosed as **Annexure 7.**

iii.	Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.	Existing DG sets has been provided with stack of adequate height and inbuilt enclosure. Also, ear plugs are being provided to workers and construction activities are confined to construction site only.

Energy Conservation Measures:

S. No.	Conditions	Reply
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.	Agreed. ECBC guidelines is being followed in the project.
ii.	Outdoor and common area lighting shall be LED.	Agreed. LED lights are being used in the project premises. Further, LED lights will be provided in the proposed buildings also.
iii.	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.	The same is being complied as per ECBC specifications.
iv.	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.	LED lights are being provided in the buildings and in addition, solar energy has been proposed as energy conservation.
v.	Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.	• Solar lights have been installed in common areas. • 10 KW of solar panel has been installed at rooftop of Director's Residence. In addition of above, solar water heater has been installed at rooftop of hostels and photographs of the same is enclosed as **Annexure 2.** Also, LOI has been issued to M/s Roofsol Energy Pvt. Ltd. for

		installation of 3 MW solar power plant within the project premises. Copy of LOI is attached as **Annexure 23**. Further, solar power plant will be installed within the time frame of 3 months.
vi.	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. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.	• Solar lights have been installed in common areas. • 10 KW of solar panel has been installed at rooftop of Director's Residence. In addition of above, solar water heater has been installed at rooftop of hostels and photographs of the same is enclosed as **Annexure 2.** Also, LOI has been issued to M/s Roofsol Energy Pvt. Ltd. for installation of 3 MW solar power plant within project premises. Copy of LOI is attached as **Annexure 23**. Further, solar power plant will be installed within the time frame of 3 months.

Waste Management:

S. No.	Conditions	Reply
i.	A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained.	Institute is complying with the Solid Waste Management Rules, 2016. The solid waste is being duly segregated into biodegradable and non-biodegradable components. Composter has been installed for treatment of biodegradable waste. For solid waste management including plastic waste, collaboration has been done through M/s SAAHAS Waste Management Pvt. Ltd. Agreement regarding the same is attached as **Annexure 10**.
ii.	Disposal of muck during construction phase shall not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of	Muck generated from construction activities are placed at separate area. It is duly covered by Tarpaulin sheet to avoid any further dust spreading.

	people, only in approved sites with the approval of competent authority.	Photographs showing the same are enclosed as **Annexure 2.** Further, dust mitigation measures are being adopted like water sprinkling, tarpaulin sheets etc. so that there will be minimum impact on the environment.
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 wet garbage and inert materials.	Separate wet and dry bins have been provided for segregation of solid waste.
iv.	Organic waste compost/ Vermiculture pit/ Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.	The Institute is complying with the Solid Waste Management Rules, 2016. The solid waste is being duly segregated into biodegradable and non-biodegradable components. Biodegradable waste is being composted by use of composter.
v.	All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.	Agreement for solid waste management including plastic waste has been made with M/s Saahas Waste Management Pvt. Ltd. Copy of agreement is attached as **Annexure 10**.
vi.	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.	Hazardous waste is generated at construction site like used oil from DG sets, empty containers, etc. which are being taken care by the contractor only. Further, Hazardous waste Authorization has been obtained from PPCB vide Authorization No. HWM/Fresh/PTA/2021/14845984 dated 30.03.2021 and valid till 31.03.2025. Copy of the same is attached as **Annexure 11**.
vii.	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 bricks and fly ash based cement are being used in the project.
viii.	Fly ash should be used as building material in the construction as per the provision of Fly Ash	PPC Cement is being used, which is constituted of Fly Ash. Further, PPC

	Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.	cement is being used in the buildings under construction.
ix.	Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.	Construction waste is being managed as per Construction and Demolition Waste Management Rules, 2016.
x.	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	Agreed.

Green Cover:

S. No.	Conditions	Reply
i.	No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concerned regulatory authority. Old trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Plantations to be ensured species (cut) to species (planted).	Agreed. The same is being complied.
ii.	Where the trees need to be cut with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut) shall be done and maintained. Plantations to be ensured species (cut) to species (planted). Area for green belt development shall be provided as per the details provided in the project document.	No tree cutting is involved in the project.
iii.	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.	During construction activities, the top soil excavated is being stored and used for the development of green belt within the project premises.

Transport:

S. No.	Conditions	Reply
i.	A comprehensive mobility plan, as per MoUD 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. a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic. b. Traffic calming measures. c. Proper design of entry and exit points. d. Parking norms as per local regulation.	Agreed. The same will complied.
ii.	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.	Vehicles are being regularly monitored for the pollution levels and vehicles having valid PUCs are being used for construction material supply. Copy of few PUC certificates of construction vehicles are enclosed as **Annexure 6.**
iii.	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 05 kms 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 05 Kms radius of the site in different scenarios of space and time 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.	Traffic management plan mentioning hierarchy of roads with proper segregation, internal road width, entry/exit and parking norms as per local regulation has been prepared as per current planning. Traffic circulation Plan is attached along as **Annexure 12**. Further, traffic calming measures are attached along as **Annexure 13**. Further, Photographs showing the same are attached along as **Annexure 2**.

Human Health Issues:

S. No.	Conditions	Reply
i.	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.	Personal Protection Equipments (PPEs) is being provided to construction workers for safety.
ii.	For indoor air quality the ventilation provisions as per National Building Code of India.	Agreed. The same is being followed.
iii.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Agreed.
iv.	Provision shall be made for the housing of construction labor 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.	All the mandatory facilities are being provided at construction site. Further, Proper sanitization and hygiene has been provided to construction labors. Photographs showing the same are enclosed as **Annexure 2.**
v.	Occupational health surveillance of the workers shall be done on a regular basis.	Dispensary has been provided within the campus having proper medical facility. Health checkup of construction workers are being done within the dispensary only and its record is being maintained. Copy of Health checkup record of construction workers are enclosed as **Annexure 27.**
vi.	A First Aid Room shall be provided in the project both during construction and operations of the project.	Dispensary has been provided within the campus having proper medical facility.

Miscellaneous:

S .No.	Conditions	Reply
i.	The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance	Agreed. Copy of advertisement has already been published. Copy of the same is enclosed as **Annexure 28.**

	and the details of MoEFCC/SEIAA website where it is displayed.	
ii.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Copy of Environmental Clearance has been submitted to the DC Office, Patiala and MC, Patiala. Copy of the acknowledgement is attached as **Annexure 18**.
iii.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	Environmental clearance letter and Compliance including results of monitored data has been uploaded on the institute's website i.e. https://www.thapar.edu/misces/pages/eia-clearance. Copy of Screenshot stating the same is attached along as **Annexure 19**.
iv.	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Agreed. Six monthly reports are being regularly submitted and copy of the acknowledgement of the last submitted compliance report for period ending 31.03.2024 is attached as **Annexure 20**.
v.	The company shall have a well laid down environmental policy duly approved by the Board of Directors. 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 / 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 MoEF&CC as a part of six-monthly report.	Institute is having well defined environment policy.
vi.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.	Agreed. Separate Environmental Cell has already been constituted to deal with environmental related issues. Names of persons involved in EMC is given below: 1. Er. Rajendra Nigam (GM) 2. Dr. Amit Dhir (Head, School of Energy & Environment) 3. Er. Mahmood Alam (DGM)

		4. Er. Anil Singla (AE) 5. Er. Arvind Gupta (JE) 6. Mr. Harnak Singh (Horticulture Supervisor) 7. Environment Consultant (Eco Paryavaran Laboratories & Consultants Pvt. Ltd.)
vii.	Action plan for implementing EMP 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 Ministry/ Regional Office along with the Six-Monthly Compliance Report.	• Approx. Rs. 21.49 Crores have been spent on Environmental Management Plan of the project till 30.09.2024. • Rs. 31.1396 Crores have already been spent under CSR activities till 30.09.2024. Details of CSR activities done is provided in **Annexure 21.**
viii.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	Environmental statement for each financial year in Form-V is being submitted to PPCB. Acknowledgement of last submitted Form-V for financial year 2023-24 is enclosed as **Annexure 29.**
ix.	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	Same is being submitted in datasheet attached along.
x.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Stipulations made by the State Pollution Control Board and the State Government are being strictly followed.
xi.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during their presentation to the Expert Appraisal Committee.	Agreed.
xii.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change (MoEF&CC).	Noted, No further expansion or modification will be done without prior approval of the Ministry of Environment, Forest and Climate Change (MoEF&CC).

xiii.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Agreed.
xiv.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted.
xv.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted.
xvi.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.	Full cooperation will be extended to the officer of the Regional Office and PPCB and requisite data/ information /monitoring reports will be given as demanded by them.
xvii.	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	Noted.
xviii.	Any appeal against this EC 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.	Not applicable, as 30 days' time period has been completed & no appeal has been made.

Thapar University, Bhadson Road, Patiala

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY PUNJAB
Ministry of Environment and Forests, Government of India
O/O Punjab Pollution Control Board,
Vatavaran Bhawan, Nabha Road,
Patiala - 147 001
Telefax:- 0175-2215636

No. SEIAA/ 3777 **Registered** Dated: 26-6-11

To

Sh. Gurbinder Singh, Registrar
Thapar University, Bhadson Road,
Patiala.

Subject: Environmental Clearance under EIA notification dated 14.09.2006 for construction of "Thapar University" in the revenue estate of Thapar University, Bhadson Road, Patiala.

This has reference to your application and subsequent presentation given before the State Level Expert Appraisal Committee (SEAC) seeking prior environmental clearance for subject cited project as required under the EIA Notification, 2006. The proposal has been appraised as per procedure prescribed under the provisions of EIA Notification, 2006 on the basis of the mandatory documents enclosed with the application viz., Form-1, 1-A, conceptual plan, EIA study report and the additional clarifications furnished in response to the observations of the SEAC.

It is inter-alia noted that the proposal involves development of project namely "Thapar University" at Bhadson Road, Patiala, Punjab in an area of 249.13 acre (10,08,194.06 sq m). The total builtup area is 309416.91 sqm. The land has been transferred, vide Memo No. 902-TE(I)-66/1191 dated 20.06.1967 in the name of project proponent. The total cost of the project is Rs. 118.77 crores. The total population of the University will be 8374 persons. Total water requirement for the project will be 875 KLD which will be met through the tubewells. The total wastewater generation from the project will be 700 KLD, which will be treated in a STP of 1 MLD capacity within the project premises. In Summer 1144 KLD of water will be required for irrigation @ 5.5 lit/sqm of green area. In winter 374 KLD of water will be required for irrigation @ 1.8 lit/sqm of green area, and remaining 326 KLD will be discharged on 10 acre of green area which will be developed under Kamal Technology. In monsoon 104 KLD of water will be required for irrigation @ 1.8 lit/sqm, and remaining 596 KLD will be discharged on 10 acre of green area which will be developed under

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Karnal Technology. The project proponent has proposed to provide 12 rainwater harvesting pits for tapping of rain water to recharge the aquifer out of which 4 have already installed. 58555 kl/year of rainwater will be harvested and recharged. The total quantity of solid waste to be generated from the proposed project has been estimated as 2.6 MT/Day, The solid waste will be segregated to biodegradable and non-biodegradable waste as per MSW Rules, 2000. The recyclable inorganic waste will be sold to local resellers. Separate area will be earmarked for handling of solid waste. Biodegradable waste shall be recycled by using mechanical composter. Any excess waste or non-usable will be sent to authorized dumping site for which NOC from MC has already been obtained. The e-waste is handled and managed as per the E-waste (Management & Handling) Rules, 2011. The used oil from the D.G. sets is sold out to the registered recyclers as per the provisions of the Hazardous Waste (Management, Handling & Transboundary Movement), Rules, 2008.

The total load of electricity required for proposed project is 5915 KW which is supplied by PSPCL. The project proponent has proposed to install 8 DG sets 3 of 400 KVA, 1 of 500KVA, 1 of 380KVA, 1 of 320 KVA, 1 of 120 KVA and 1 of 115 KVA capacity for backup power supply. Solar mixed street lighting has been proposed for the conservation of energy and LED lights shall be used for lighting.

Sh. Gurbinder Singh, Registrar of Thapar University, Patiala, will be responsible for implementation of EMP (Environment Management plan) / CSR (Corporate Social Responsibility). Rs. 240 lacs will be incurred for implementation of EMP as capital cost and Rs.11 Lacs will be incurred as recurring cost., 1% of total project cost i.e Rs. 1.1 crore will be used for CSR which, beside other things, will include:

A. EDUCATION

i) Providing toilet facilities in nearby schools for girls.
ii) Adoption of schools for providing better infrastructures
iii) Scholarships to meritorious students in and around the area.
iv) Programs for primary education, specifically for girl children in and around the area.

B. HEALTH

I) Medical facilities, periodical health check-up and vaccination for construction labour during

C. **CORPORATE SOCIAL RESPONSIBILITY**

i) Medical facilities, periodical health check-up and vaccination for construction labour during construction period.

ii) Dispensary for welfare of villager at the space offered by the villagers.

iii) Organizing Health camps in villages adjoining the project site.

D. **SOCIAL AWARENESS PROGRAMMES**

On issues like saving and well-upbringing of girl child, discouraging of alcohol, family feuds, etc., promoting tree plantations, rain water recharging, solar street lighting system in and around the area, etc

The case was considered by the SEIAA in its 73rd meeting held on 31.10.2014 and decided to issue directions under section 5 of the Environment (Protection) Act, 1986 as delegated by Ministry of Environment & Forests vide notification No. S.O. 637 (E) dated 28.02.2014 to restrain the promoter company from carrying out any further construction or operation activity of the project till the environmental clearance under EIA notification dated 14.09.2006 is obtained. The said directions were issued vide letter no. 3287 dated 07.11.2014.

The case was considered by the SEAC in its 103rd meeting held on 18.11.2014 wherein, the ToRs were issued to the project proponent vide letter no. 3491 dated 26.11.2014. The case was lastly considered by the SEAC in its 117th meeting held on 20.05.2015, wherein, the Committee observed that the project proponent has provided adequate and satisfactory clarifications of the observations raised by it, therefore, the Committee awarded **'Silver Grading'** to the project proposal and decided to forward the case to the SEIAA with the recommendation to grant environmental clearance to the project proponent under EIA notification dated 14.09.2006 subject to certain conditions in addition to the proposed measures.

Thereafter, the case was considered by the SEIAA in its 88th meeting held on 28.02.2015. The SEIAA observed that the case stands recommended by SEAC and the Committee awarded **'Silver Grading'** to the project proposal. The Authority looked into all the aspects of the project proposal in detail and was satisfied with the same.

Therefore, the Authority decided to grant environmental clearance for development of their Project namely "Thapar University" in an area of 249.13 acres

having total built up area 3,09,416.91 sqm at Bhadson Road, Patiala, Punjab, subject to the conditions as proposed by the SEAC, in addition to the proposed measures. Accordingly, SEIAA, Punjab hereby accords necessary environmental clearance for the above project under the provisions of EIA Notification dated 14.09.2006 and its subsequent amendments, subject to strict compliance of terms and conditions as follows:

PART A – Specific Conditions:

I. Pre-Construction Phase

(i) "Consent to establish" shall be obtained from Punjab Pollution Control Board under Air (Prevention & Control of Pollution) Act, 1981 and Water (Prevention & Control of Pollution) Act, 1974 and a copy of the same shall be submitted to the Ministry of Environment & Forests / State Level Environment Impact Assessment Authority before the start of any construction work at 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 phase of the project.

(iv) The approval of competent authority shall be obtained for structural safety of the buildings due to earthquakes, adequacy of fire fighting equipments etc. as per National Building Code including protection measures from lightning.

(v) Provision 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, disposal of waste water & solid waste in an environmentally sound manner, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

(vi) 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.

II. Construction Phase:

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

(ii) Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed off after taking the necessary precautions for general safety and health aspects of people with the approval of competent authority.

(iii) Construction spoils, including bituminous material and other hazardous material, 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 groundwater.

(iv) Construction/provision of the STP, tubewell, DG Sets, Utilities etc, earmarked by the project proponent on the layout plan, should be made in the earmarked area only. In any case the position/location of these utilities should not be changed later-on

(v) Vehicles hired for bringing construction material to the site and other machinery to be used during construction should be in good condition and should conform to applicable air and noise emission standards.

(vi) Ambient noise levels should conform to prescribed standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase.

(vii) Fly ash should be used as construction material in the construction as per the provisions of Fly Ash Notification of September, 1999 and as amended on August, 2003 and notification No. S.O. 2804 (E) dated 03.11.2009 (This condition is applicable only if the project is within 100 Km of Thermal Power Station).

(viii) Ready mixed concrete should be used in building construction as far as possible.

(ix) Water demand during construction should be reduced by use of premixed concrete, curing agents and other best practices.

(x) The project proponent shall adopt dual plumbing system for reuse of treated wastewater for flushing system & HVAC etc

(xi) 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.

(xii) Adequate steps shall be taken to conserve energy by limiting the use of glass, provision of proper thermal insulation and taking measures as prescribed under the Energy Conservation Building Code.

(xiii) The approval of competent authority shall be obtained for structural safety of the buildings due to earthquakes, adequacy of fire fighting equipments etc. as per National Building Code including protection measures from lightning.

(xiv) The diesel generator sets to be used during construction phase should be of low sulphur diesel type and should conform to the provisions of Environment (Protection) Act, 1986 prescribed for air and noise emission standards.

(xv) The project proponent will provide dual plumbing system for reuse of treated wastewater for flushing/ HVAC purposes etc. and colour coding of different pipe lines carrying water/wastewater/ treated wastewater as follows:

a.	Fresh water:	Blue
b.	Untreated wastewater:	Black
c.	Treated wastewater: (for reuse)	Green
d.	Treated wastewater: (for discharge)	Yellow
e.	Storm water:	Orange

(xvi) The installation of sewage treatment plant (STP) and adequacy of disposal system should be certified by Punjab Pollution Control Board and a report in

this regard should be submitted to the Ministry of Environment & Forests/State Level Environment Impact Assessment Authority before the project is commissioned for operation.

III. Operation Phase and Entire Life

i) "Consent to operate" shall be obtained from Punjab Pollution Control Board under Air (Prevention & Control of Pollution) Act, 1981 and Water (Prevention & Control of Pollution) Act, 1974 and a copy of the same shall be submitted to the Ministry of Environment & Forests / State Level Environment Impact Assessment Authority at the time of start of operation.

ii) The project proponent shall discharge all the treated waste water within the project premises onto land for irrigation/ plantation.

iii) The project proponent shall provide electromagnetic flow meter at the outlet of the water supply, outlet of the STP and any pipeline to be used for re-using the treated wastewater back into the system for flushing and for horticulture purpose/green etc. and shall maintain a record of readings of each such meter on daily basis.

iv) The position / location of the STP, tubewell, DG Sets, Utilities etc, installed by the project proponent as per the provisions made in the layout plan, should not be changed later-on under any circumstances.

v) Rainwater harvesting for rooftop run-off should be implemented. Before recharging the rooftop run-off, pretreatment must be done to remove suspended matter, oil and grease. However, run off from gardens/green area/roads/pavements may also be connected with the ground water recharging system after adequate treatment as per the CGWA guidelines.

vi) The solid waste generated should be properly collected and segregated. The recyclable solid waste shall be sold out to the authorized vendors and inert shall be sent to disposal facility. The Bio-degradable solid waste shall be adequately treated as per the scheme submitted by the project proponent. Prior approval of competent authority should be obtained, if required.

vii) Adequate & appropriate pollution control measures should be provided to control fugitive emissions to be emitted within the complex.

viii) Hazardous waste/E-waste should be disposed off as per Rules applicable and with the necessary approval of the Punjab Pollution Control Board.

ix) Incremental pollution loads on the ambient air quality, noise and water quality should be periodically monitored.

x) 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.

xi) The project proponent shall obtain completion and occupancy certificate from the Competent Authority and submit a copy of the same to the SEIAA, Punjab.

xii) Adequate treatment facility for drinking water shall be provided, if required.

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xiii) The green belt along the periphery of the plot shall achieve attenuation factor conforming to the day and night noise standards prescribed for residential land use. The open spaces inside the plot should be suitably landscaped and covered with vegetation of indigenous species/variety.

xiv) The project proponent should take adequate and appropriate measures to contain the ambient air quality within the prescribed standards. The proposal regarding mitigation measures to be taken at site should be submitted to the Ministry of Environment & Forests/ State Level Environment Impact Assessment Authority within three months.

xv) Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating.

xvi) A report on the energy conservation measures conforming to energy conservation norms finalized by Bureau of Energy Efficiency should be prepared incorporating details about machinery of air conditioning, lifts, lighting, building materials, R & U Factors etc. and submitted to the respective Regional office of MoEF, the Zonal Office of CPCB and the SPCB/SEIAA in three months time.

xvii) Environmental Management Cell shall be formed during operation phase which will supervise and monitor the environment related aspects of the project.

xviii) Ambient noise levels should conform to prescribed standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase.

xix) Separation of drinking water supply and treated sewage supply should be done by the use of different colors.

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.

PART B – General Conditions :

I. Pre-Construction Phase

i) This environmental clearance will be valid for a period of five years from the date of its issue or till the completion of the project, whichever is earlier.

ii) The environmental safeguards contained in the application of the promoter / mentioned during the presentation before State Level Environment Impact Assessment Authority/State Expert Appraisal Committee should be implemented in letter and spirit.

iii) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest (Conservation) Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, by project proponents from the competent authorities including Punjab Pollution Control Board and from other statutory bodies as applicable. The project proponent shall also obtain permission from the NBWL, if applicable.

iv) 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 Punjab Pollution Control Board. The advertisement should be made within seven days from the day of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office, Ministry of Environment & Forests, Chandigarh and SEIAA, Punjab.

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

vi) The project proponent shall obtain permission from the CGWA for abstraction of groundwater & digging of borewell(s) and shall not abstract any groundwater without prior written permission of the CGWA, even if any borewell(s) exist at site

vii) The project proponent shall comply with the conditions imposed by the Competent Authority while granting CLU vide letter no. 13157 dated 16.09.2013.

viii) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/ 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.

ix) The State Environment Impact Assessment Authority, Punjab reserves the right to add additional safeguards/ measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguards/ measures in a time bound and satisfactory manner.

II. Construction Phase

i) The environmental safeguards contained in the application of the promoter / mentioned during the presentation before State Level Environment Impact Assessment Authority/State Expert Appraisal Committee should be implemented in letter and spirit.

ii) The entire cost of the environmental management plan (i.e. capital cost as well as recurring cost) will continue to be borne by the project proponent until the responsibility of environmental management plan is transferred to the occupier/residents society under proper MOU after obtaining prior permission of the Punjab Pollution Control Board.

iii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by mail) to the respective Regional office of MoEF, the Zonal Office of CPCB, the SPCB and SEIAA, Punjab.

iv) Officials from the Regional Office of Ministry of Environment & Forests, Chandigarh / State Level Environment Impact Assessment Authority / State Level Expert Appraisal Committee / Punjab Pollution Control Board 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. A complete set of all the documents submitted to State Environment Impact Assessment Authority should be forwarded to the CCF, Regional Office of Ministry of Environment & Forests, Chandigarh and State Level Environment Impact Assessment Authority, Punjab.

v) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by State Environment Impact Assessment Authority, Punjab.

vi) Separate distribution pipelines be laid down for use of treated effluent / raw water for horticultural/gardening purposes with different colour coding.

vii) The project proponent shall adhere to the commitments made in the Environment Management Plan and Corporate Social Responsibility and shall spend the amount as proposed or atleast minimum required to be spent under the provisions of the Companies Act 1956, whichever is higher.

viii) The State Environment Impact Assessment Authority, Punjab reserves the right to add additional safeguards/ measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguards/ measures in a time bound and satisfactory manner.

ix) Separation of drinking water supply and treated sewage supply should be done by the use of dual plumbing line.

III. Operation Phase and Entire Life

i) 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 and decisions of any Competent Court, to the extent applicable.

ii) The project proponent shall ensure that there will be no problem/ public nuisance due to parking of vehicles outside the campus.

iii) The entire cost of the environmental management plan (i.e. capital cost as well as recurring cost) will continue to be borne by the project proponent until the responsibility of environmental management plan is transferred to the occupier/residents society under proper MOU after obtaining prior permission of the Punjab Pollution Control Board.

iv) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by mail) to the respective Regional office of MoEF, the Zonal Office of CPCB, the SPCB and SEIAA, Punjab.

v) Officials from the Regional Office of Ministry of Environment & Forests, Chandigarh / State Level Environment Impact Assessment Authority / State Level Expert Appraisal Committee / Punjab Pollution Control Board 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. A complete set of all the documents submitted to State Environment Impact Assessment Authority should be forwarded to the CCF, Regional Office of Ministry of Environment & Forests, Chandigarh and State Level Environment Impact Assessment Authority, Punjab.

vi) The proponent shall 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 Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; $PM_{2.5}$, PM_{10}, SO_2, NO_x, CO, Pb, Ozone (ambient air as well as stack emissions) shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

vii) The project proponent shall adhere to the commitments made in the Environment Management Plan and Corporate Social Responsibility and shall spend the amount as proposed or atleast minimum required to be spent under the provisions of the Companies Act 1956, whichever is higher. The project proponent shall submit 6 monthly compliance report of implementation of CSR activities.

x) The State Environment Impact Assessment Authority, Punjab reserves the right to add additional safeguards/ measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguards/ measures in a time bound and satisfactory manner.

Member Secretary (SEIAA)

Endst. No._____ **Dated_____**

A copy of the above is forwarded to the following for information & further necessary action please.

1. The Secretary to Govt. of India, Ministry of Environment and Forest, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-office Complex, East Arjun Nagar, New Delhi.
3. The Chairman, Punjab State Power Corporation Ltd., The Mall, Patiala.
4. The Deputy Commissioner, Patiala.
5. The Chairman, Punjab Pollution Control Board, Vatavaran Bhawan, Nabha Road, Patiala.
6. The Chief Conservator of Forests (North), Ministry of Environment and Forest, Regional Office, Bays No.24-25, Sector-31-A, Chandigarh.
7. The Chief Town Planner, Department of Town and Country Planning, Punjab, 6th Floor, PUDA Bhawan, Phase-8, Mohali
8. Monitoring Cell, Ministry of Environment and Forest, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi.

9. The Director (Environment), Ministry of Environment and Forest, Northern Regional Office, Bays No.24-25, Sector-31-A, Chandigarh. The detail of the authorized Officer of the project proponent is as under:

a)	Name of the applicant	Sh. Gurbinder Singh, Registrar
b)	Mobile/Phone No.	0175-2364498
c)	E-mail	registrar@thapar.edu

10. The Environmental Engineer (Computers), Punjab Pollution Control Board, Head Office, Patiala for uploading this document on the web site of the State Level Environment Impact Assessment Authority.

Member Secretary (SEIAA)

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY PUNJAB
Ministry of Environment and Forests, Government of India
O/O Punjab Pollution Control Board,
Vatavaran Bhawan, Nabha Road,
Patiala – 147 001
Telefax:- 0175-2215636

No. SEIAA/ 914 **REGISTERED** Dated: 25.01.2016

To

Sh. Gurbinder Singh, Registrar
Thapar University, Bhadson Road,
Patiala.

Subject: Application for obtaining Environmental Clearance under EIA notification dated 14.09.2006 for expansion of "Thapar University" in the revenue estate of Thapar University, Bhadson Road, Patiala

This has reference to your application and subsequent presentation given before the State Level Expert Appraisal Committee (SEAC) seeking prior environmental clearance for subject cited project as required under the EIA Notification, 2006. The proposal has been appraised as per procedure prescribed under the provisions of EIA Notification, 2006 on the basis of the mandatory documents enclosed with the application viz., Form-1, 1-A, conceptual plan, EIA study report and the additional clarifications furnished in response to the observations of the SEAC.

It is inter-alia noted that the proposal involves expansion of construction of project namely "Thapar University" at Bhadson Road, Patiala, Punjab. The total land area of the project before expansion was 1008194.06 sqm and after expansion will be 1008194.06 sqm. The land has been transferred, vide Memo No. 902-TE(I)-66/1191 dated 20.06.1967 in the name of project proponent. The total built up area before expansion was 309416.91 sqm and after expansion will be 333080.53 sqm. The total cost of the project is Rs. 111.67 crores. The total residential population of the University will be 9314 persons and the floating population will be 6410 person.

The total water requirement for the project before expansion was 875 KLD and after expansion will be 1.7 MLD.which will be met through the tubewells. The total wastewater generation from the project will be 1.27 MLD, which will be treated in a STP to be installed within the project premises.

The project proponent has proposed to use 333 KL/day of treated wastewater for flushing purpose, and remaining 937 KL/day will be used for irrigation of green area in summer season. In winter season, 333 KL/day of treated wastewater will be used for flushing purpose, and 422 KL/day will be used for irrigation of green area. In rainy season, 333 KL/day of treated wastewater will be used for flushing purpose and 117 KL/day will be used for irrigation of green area. Excess treated wastewater will be used for 10 acres of land available under Karnal Technology. Treated waste water will also be used for the construction purpose.

The project proponent has already provided 12 rainwater harvesting pits before expansion for tapping of rain water to recharge the aquifer. Additional 8 nos. of rainwater recharging pits will be established in the proposed expansion..

The solid waste generation from the existing site is 2.6 MT/Day and the total solid waste generation after expansion of the proposed project during operation phase has been estimated about 4.9 MT/Day. The provision of chute system will be made in new blocks to be added for collection of solid waste. The solid waste is segregated to biodegradable and non-biodegradable waste as per MSW Rules, 2000. The recyclable inorganic waste is sold to local resellers. Separate area is earmarked for handling of solid waste. Biodegradable waste shall be recycled by using mechanical composter Any excess waste or non-usable is sent to authorized dumping site for which NOC from MC has already been obtained which is segregated into bio-degradable and non-biodegradable waste as per the MSW Rules, 2000. All excavated soil will be consumed within the campus for filling purposes and no soil will be disposed off outside.The e-waste is handled and managed as per the E-waste (Management & Handling) Rules, 2011.. The used oil from the D.G. sets is sold out to the registered recyclers as per the provisions of the Hazardous Waste (Management, Handling & Transboundary Movement), Rules, 2008.

The total load of electricity before expansion was 4140 KW and 8 DG sets 3 of 400 KVA, 1 of 500KVA, 1 of 380KVA, 1 of 320 KVA, 1 of 120 KVA and 1 of 115 KVA capacity for backup power supply. After expansion, the total load of electricity will be 8800 KW which will be taken from the PSPCL. The project proponent has also proposed to install additional 9 DG sets (7 of 750 KVA, 1 of 380KVA, 1 of 180KVA).LED lights has been proposed for the lighting. The following aspects have been proposed in design and specification to reduce the energy load of the proposed buildings:-

i. Use of highly efficient autoclaved aerated concrete block walls having low U- Values.
ii. Use of 50mm thick XPS board for overdeck insulation to reduce heat ingress to the structure.
iii. Natural ventilated common spaces.
iv. Use of solar water heating system.
v. Double glazed unitis with high performance glass for learning blocks.
vi. Use of efficient sanitary fixture for water saving.
vii. Highly efficient and CFC free refrigerant for chillers and AC units.

Sh. Gurbinder Singh, Registrar of Thapar University, Patiala, will be responsible for implementation of EMP (Environment Management plan) / CSR (Corporate Social Responsibility). Rs. 236 lacs will be incurred for implementation of EMP as capital cost and Rs.11 Lacs will be incurred as recurring cost.. 1% of total project cost i.e Rs. 1.356 will be used for CSR which, besides other things, includes support to build IT infrastructure in computer lab at ITI Patiala and BN Khalsa school, patiala, Support to provide lab facilities for modern education & training for students in civil server course, adoption of Govt. School at village ablowal for construction and face lift of toilets and drinking water facility, plantation and cleanliness drive in and around university campus, blood donation camps, health checkup camps, old age home support services, construction of bus shelters, water

treatment plant in school at Ablowal, CCTV camera to Patiala police, computer and furniture to women polytechnic, toilet in environment part and civil lines, scholarship merit scheme.

The case was considered by the SEAC in its 134th meeting held on 23.10.2015 wherein, the ToRs were issued to the project proponent vide letter no. 5468 dated 18.11.2015. The case was lastly considered by the SEAC in its 137th meeting held on 04.12.2015, wherein, the Committee observed that the project proponent has provided adequate and satisfactory clarifications of the observations raised by it, therefore, the Committee awarded **'Silver Grading'** to the project proposal and decided to forward the case to the SEIAA with the recommendation to grant environmental clearance to the project proponent under EIA notification dated 14.09.2006 subject to certain conditions in addition to the proposed measures.

Thereafter, the case was considered by the SEIAA in its 101st meeting held on 13.01.2016.The SEIAA also observed that the case stands recommended by SEAC and the Committee awarded **'Silver Grading'** to the project proposal. The SEIAA looked into the details of the case and was satisfied with the same. Therefore, the Authority decided to accept the recommendations of SEAC and grant environmental clearance to the project proponent for expansion of "Thapar University in an area of 249.13 acres having total built up area 3,33,080.53 sqm at Bhadson Road, Patiala, Punjab, subject to the conditions as proposed by the SEAC, in addition to the proposed measures. Accordingly, SEIAA, Punjab hereby accords necessary environmental clearance for the above project under the provisions of EIA Notification dated 14.09.2006 and its subsequent amendments, subject to strict compliance of terms and conditions as follows:

PART A – Specific Conditions:

III. Pre-Construction Phase

(i) "Consent to establish" shall be obtained from Punjab Pollution Control Board under Air (Prevention & Control of Pollution) Act, 1981 and Water (Prevention & Control of Pollution) Act, 1974 and a copy of the same shall be submitted to the Ministry of Environment & Forests / State Level Environment Impact Assessment Authority before the start of any construction work at 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 phase of the project.

(iv) The approval of competent authority shall be obtained for structural safety of the buildings due to earthquakes, adequacy of fire fighting equipments etc. as per National Building Code including protection measures from lightning.

(v) Provision 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, disposal of waste water & solid waste in an environmentally sound manner, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

(vi) 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.

IV. Construction Phase:

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

(ii) Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed off after taking the necessary precautions for general safety and health aspects of people with the approval of competent authority.

(iii) Construction spoils, including bituminous material and other hazardous material, 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 groundwater.

(iv) Construction/provision of the STP, tubewell, DG Sets, Utilities etc, earmarked by the project proponent on the layout plan, should be made in the earmarked area only. In any case the position/location of these utilities should not be changed later-on

(v) Vehicles hired for bringing construction material to the site and other machinery to be used during construction should be in good condition and should conform to applicable air and noise emission standards.

(vi) Ambient noise levels should conform to prescribed standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase.

(vii) The project proponent shall use only treated sewage/wastewater for construction activities and no fresh water for this purpose will be used. The project proponent shall treat sewage with UV/Ozonator technology prior to use in construction activities.

(viii) Fly ash should be used as construction material in the construction as per the provisions of Fly Ash Notification of September, 1999 and as amended on August, 2003 and notification No. S.O. 2804 (E) dated 03.11.2009 (This condition is applicable only if the project is within 100 Km of Thermal Power Station).

(ix) Water demand during construction should be reduced by use of premixed concrete, curing agents and other best practices. Ready mixed concrete should be used in building construction as far as possible.

(x) The project proponent shall adopt dual plumbing system for reuse of treated wastewater for flushing system & HVAC etc.

(xi) 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.

(xii) Adequate steps shall be taken to conserve energy by limiting the use of glass, provision of proper thermal insulation and taking measures as prescribed under the Energy Conservation Building Code.

(xiii) The approval of competent authority shall be obtained for structural safety of the buildings due to earthquakes, adequacy of fire fighting equipments etc. as per National Building Code including protection measures from lightning.

(xiv) The diesel generator sets to be used during construction phase should be of low sulphur diesel type and should conform to the provisions of Environment (Protection) Act, 1986 prescribed for air and noise emission standards.

(xv) The project proponent will provide dual plumbing system for reuse of treated wastewater for flushing/ HVAC purposes etc. and colour coding of different pipe lines carrying water/wastewater/ treated wastewater as follows:

a.	Fresh water:	:	Blue
b.	Untreated wastewater:	:	Black
c.	Treated wastewater (for reuse)	:	Green
d.	Treated wastewater (for discharge)	:	Yellow
e.	Storm water:		Orange

(xvi) The installation of sewage treatment plant (STP) and adequacy of disposal system should be certified by Punjab Pollution Control Board and a report in this regard should be submitted to the Ministry of Environment & Forests/State Level Environment Impact Assessment Authority before the project is commissioned for operation.

(xvii) The project proponent shall provide chute system in new blocks to be added for collection of solid waste. The solid waste generated should be properly collected and proper onsite storage facility (covered) should be provided at site.

(xviii) The Project Propoent shall provide solar power plant of capacity 3.0 Mega Watt for its expansion project.

V. Operation Phase and Entire Life

i) "Consent to operate" shall be obtained from Punjab Pollution Control Board under Air (Prevention & Control of Pollution) Act, 1981 and Water (Prevention & Control of Pollution) Act, 1974 and a copy of the same shall be submitted to the Ministry of Environment & Forests / State Level Environment Impact Assessment Authority at the time of start of operation.

ii) The total water requirement for the project will be 1.70 ML/day, which shall be met through own tubewell.

iii) The total wastewater generation from the project will be 1270 KL/day, which will be treated in a STP of capacity 1500 KL/day to be installed within the project premises. As proposed, 333 KL/day of treated wastewater shall be used for flushing purpose, 937 KL/day for irrigation of green area and remaining excess treated water shall be discharged into sewer in summer season. In winter season, 333 KL/day of treated wastewater will be used for flushing purpose, 422 KL/day for irrigation of green area and remaining excess treated water will be discharged into sewer. In rainy season, 333 KL/day of treated wastewater will be used for flushing purpose, 117 KL/day for irrigation of green area and remaining excess treated water will be discharged into sewer. The Project Propoent shall develop 10 acres land under Karnal technology to utilize all excess treated waste water.

iv) The project proponent shall provide electromagnetic flow meter at the outlet of the water supply, outlet of the STP and any pipeline to be used for re-using the treated wastewater back into the system for flushing and for horticulture purpose/green etc. and shall maintain a record of readings of each such meter on daily basis.

v) The position / location of the STP, tubewell, DG Sets, Utilities etc, installed by the project proponent as per the provisions made in the layout plan, should not be changed later-on under any circumstances.

vi) Rainwater harvesting for rooftop run-off only should be implemented. Before recharging the rooftop run-off, pretreatment must be done to remove suspended matter, oil and grease.

vii) The solid waste generated should be properly collected and segregated. The recyclable solid waste shall be sold out to the authorized vendors and inert shall be sent to disposal facility. The Bio-degradable solid waste shall be composted through mechanical composter. Prior approval of competent authority should be obtained, if required.

viii) Adequate & appropriate pollution control measures should be provided to control fugitive emissions to be emitted within the complex.

ix) Hazardous waste/E-waste should be disposed off as per Rules applicable and with the necessary approval of the Punjab Pollution Control Board.

x) Incremental pollution loads on the ambient air quality, noise and water quality should be periodically monitored.

xi) 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.

xii) The project proponent shall obtain completion and occupancy certificate from the Competent Authority and submit a copy of the same to the SEIAA, Punjab.

xiii) Adequate treatment facility for drinking water shall be provided, if required.

xiv) The green belt along the periphery of the plot shall achieve attenuation factor conforming to the day and night noise standards prescribed for residential land use. The open spaces inside the plot should be suitably landscaped and covered with vegetation of indigenous species/variety.

xv) The project proponent should take adequate and appropriate measures to contain the ambient air quality within the prescribed standards. The proposal regarding mitigation

measures to be taken at site should be submitted to the Ministry of Environment & Forests/ State Level Environment Impact Assessment Authority within three months.

xvi) Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating.

xvii) A report on the energy conservation measures conforming to energy conservation norms finalized by Bureau of Energy Efficiency should be prepared incorporating details about machinery of air conditioning, lifts, lighting, building materials, R & U Factors etc. and submitted to the respective Regional office of MoEF, the Zonal Office of CPCB and the SPCB/SEIAA in three months time.

xviii) Environmental Management Cell shall be formed during operation phase which will supervise and monitor the environment related aspects of the project.

xix) Ambient noise levels should conform to prescribed standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase.

xx) Separation of drinking water supply and treated sewage supply should be done by the use of different colors.

xxi) 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.

PART B – General Conditions :

I. Pre-Construction Phase

i) This environmental clearance will be valid for a period of five years from the date of its issue or till the completion of the project, whichever is earlier.

ii) The environmental safeguards contained in the application of the promoter / mentioned during the presentation before State Level Environment Impact Assessment Authority/State Expert Appraisal Committee should be implemented in letter and spirit.

iii) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest (Conservation) Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, by project proponents from the competent authorities including Punjab Pollution Control Board and from other statutory bodies as applicable. The project proponent shall not start any construction activity at site without obtaining permission from NBWL...

iv) 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 Punjab Pollution Control Board. The advertisement should be made within seven days from the day of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office, Ministry of Environment & Forests, Chandigarh and SEIAA, Punjab.

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

vi) The project proponent shall obtain permission from the CGWA for abstraction of groundwater & digging of borewell(s) and shall not abstract any groundwater without prior written permission of the CGWA, even if any borewell(s) exist at site.

vii) The project proponent shall obtain CLU from the competent authority, if any authority insists.

viii) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/ 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.

ix) The State Environment Impact Assessment Authority, Punjab reserves the right to add additional safeguards/ measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguards/ measures in a time bound and satisfactory manner.

x) The environmental clearance is subject to their obtaining prior clearance from Forestry & Wildlife angle including clearance from Standing Committee of the National Board for Wildlife as applicable. The grant of environmental clearance does not necessarily implies that forestry & wildlife clearance shall be granted to the project and proposal for forestry & wildlife clearance will be considered by the respective authorities on their merits and decision taken. The investment made in the project, if any, based on environmental clearance so granted, in anticipation of the clearance from Forestry & Wildlife angle shall be entirely at the cost & risk of the project proponent and Ministry of Environment, Forests & Climate Change/SEIAA, Punjab shall not be responsible in this regard in any manner.

II. Construction Phase

i) The environmental safeguards contained in the application of the promoter / mentioned during the presentation before State Level Environment Impact Assessment Authority/State Expert Appraisal Committee should be implemented in letter and spirit.

ii) The entire cost of the environmental management plan (i.e. capital cost as well as recurring cost) will continue to be borne by the project proponent until the responsibility of environmental management plan is transferred to the occupier/residents society under proper MOU after obtaining prior permission of the Punjab Pollution Control Board.

iii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by mail) to the respective Regional office of MoEF, the Zonal Office of CPCB, the SPCB and SEIAA, Punjab.

iv) Officials from the Regional Office of Ministry of Environment & Forests, Chandigarh / State Level Environment Impact Assessment Authority / State Level Expert Appraisal Committee / Punjab Pollution Control Board 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. A complete set of all the documents submitted to State Environment Impact Assessment Authority should be forwarded to the CCF, Regional Office of Ministry of Environment & Forests, Chandigarh and State Level Environment Impact Assessment Authority, Punjab.

v) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by State Environment Impact Assessment Authority, Punjab.

vi) Separate distribution pipelines be laid down for use of treated effluent / raw water for horticultural/gardening purposes with different colour coding.

vii) The project proponent shall adhere to the commitments made in the Environment Management Plan and Corporate Social Responsibility and shall spent the amount as proposed or atleast minimum required to be spent under the provisions of the Companies Act 1956.

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ix) Separation of drinking water supply and treated sewage supply should be done by the use of dual plumbing line.

III. Operation Phase and Entire Life

i) 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 and decisions of any Competent Court, to the extent applicable.

ii) The entire cost of the environmental management plan (i.e. capital cost as well as recurring cost) will continue to be borne by the project proponent until the responsibility of environmental management plan is transferred to the occupier/residents society under proper MOU after obtaining prior permission of the Punjab Pollution Control Board.

iii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by mail) to the respective Regional office of MoEF, the Zonal Office of CPCB, the SPCB and SEIAA, Punjab.

iv) Officials from the Regional Office of Ministry of Environment & Forests, Chandigarh / State Level Environment Impact Assessment Authority / State Level Expert Appraisal Committee / Punjab Pollution Control Board 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. A complete set of all the documents submitted to State Environment Impact Assessment Authority should be forwarded to the CCF, Regional Office of Ministry of Environment & Forests, Chandigarh and State Level Environment Impact Assessment Authority, Punjab.

v) The proponent shall 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 Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; $PM_{2.5}$, PM_{10}, SO_2, NO_x, CO, Pb, Ozone (ambient air as well as stack emissions) shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

vi) The project proponent shall adhere to the commitments made in the Environment Management Plan and Corporate Social Responsibility and shall spent the amount as proposed or atleast minimum required to be spent under the provisions of the Companies Act 1956.

vii) The State Environment Impact Assessment Authority, Punjab reserves the right to add additional safeguards/ measures subsequently, if found necessary, and to take action including revoking of the environmental clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguards/ measures in a time bound and satisfactory manner.

Sd/-
Member Secretary (SEIAA)

Endst. No. 915-24 **Dated 25.01.2016**

A copy of the above is forwarded to the following for information & further necessary action please.

1. The Secretary to Govt. of India, Ministry of Environment and Forest, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-office Complex, East Arjun Nagar, New Delhi.
3. The Chairman, Punjab State Power Corporation Ltd., The Mall, Patiala.
4. The Deputy Commissioner, Patiala.
5. The Chairman, Punjab Pollution Control Board, Vatavaran Bhawan, Nabha Road, Patiala.
6. The Chief Conservator of Forests (North), Ministry of Environment and Forest, Regional Office, Bays No.24-25, Sector-31-A, Chandigarh.

7. The Chief Town Planner, Department of Town and Country Planning, Punjab, 6th Floor, PUDA Bhawan, Phase-8, Mohali

8. Monitoring Cell, Ministry of Environment and Forest, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi.

9. The Director (Environment), Ministry of Environment and Forest, Northern Regional Office, Bays No.24-25, Sector-31-A, Chandigarh. The detail of the authorized Officer of the project proponent is as under:

a)	Name of the applicant	Sh. Gurbinder Singh, Registrar
b)	Mobile/Phone No.	0175-2364498
c)	E-mail	registrar@thapar.edu

10. The Environmental Engineer (Computers), Punjab Pollution Control Board, Head Office, Patiala for uploading this document on the web site of the State Level Environment Impact Assessment Authority.

Sd/-
Member Secretary (SEIAA)

F. No. IA3-10/7/2021-IA.III
Government of India
Ministry of Environment, Forest and Climate Change
(IA.III Section)

Indira Paryavaran Bhawan,
Jor Bagh Road, New Delhi - 3
Tel: 011-24695363 Email: lk.bokolia@nic.in

Date: 12th March, 2021

To,

Dr. Gurbinder Singh, Registrar
M/s. Thapar Institute of Engineering and Technology
Bhadson Road,
Patiala, Punjab-147004
Email: thaparinstitute20@gmail.com

Subject: Environment Clearance for Expansion of Educational Institute namely "Thapar Institute of Engineering and Technology (Deemed to be University)" from built up area from 3,33,080.53 sq m to 4,45,678.09 sqm at Khasra No. 926(6-5), 939 (7-13), 940 (5-18), etc., Bhadson Road, Patiala, Punjab, by M/s. Thapar Institute of Engineering and Technology – Regarding

Sir,

This has reference to your Application/ Proposal No. IA/PB/MIS/191842/2020; received on 11th January, 2021 through Parivesh Portal for grant of Environment Clearance (EC) for Expansion of Educational Institute namely "Thapar Institute of Engineering and Technology (Deemed to be University)" from built up area from 3,33,080.53 sq m to 4,45,678.09 sq m at Khasra No. 926(6-5), 939 (7-13), 940 (5-18), etc., Bhadson Road, Patiala, Punjab by M/s. Thapar Institute of Engineering and Technology.

2. As per the provisions of the Environment Impact Assessment (EIA) Notification, 2006; as amended and notified under the Environment (Protection) Act, 1986 (29 of 1986), the above-mentioned project/activity is covered under category 'B' of item 8(b) 'Townships and Area Development Projects' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at State level. However, due to absence of SEIAA/SEAC in Punjab, the proposal required appraisal at Central level by sectoral EAC.

3. Accordingly, the abovementioned proposal for grant of Environmental Clearance, has been examined by the Expert Appraisal Committee (Infra-2) in its 60th meeting held during 27th – 28th January, 2021.

4. The details of the project, as per the Application and documents submitted by the project proponent, and also as informed during the above-mentioned meetings of EAC (Infra-2) are as under:

i. The project is located at Bhadson Road, Patiala, Punjab with coordinated 30°21'24.78"N Latitude and 76°21'31.05"E Longitude.

ii. The project is an expansion.

iii. Earlier, Environmental Clearance was obtained from SEIAA, Punjab vide Letter No. SEIAA/3777 dated 26.06.2015. Subsequently, the Environmental Clearance for expansion has also been obtained from SEIAA, Punjab vide Letter No. SEIAA/914 dated 25.01.2016. At present, 3,27,516.57sqm of construction has been done out of 3,33,080.53 sqm of built-up area as per earlier granted Environmental Clearance.

iv. ToR was issued by SEIAA, Punjab vide Letter No. SEIAA/2019/1747 dated 29.07.2020. Point-wise ToR compliance has been submitted along with EIA report.

v. The total plot area after expansion will remain same i.e., 10,08,194.06sqm (or 249.13 acres). However, built-up area will be increased to 3,27,516.57sqm to 4,45,678.09sqm. The proposed additional buildings are Guest house, sports center, etc. Maximum height of the building is 30m. The details of the proposed buildings are as follows:

Building Name	**Floors**	**G.F**	**Ist Floor**	**2nd Floor**	**3rd Floor**	**4th Floor**	**5th Floor**	**6th Floor**	**7th Floor**	**8th Floor**	**Total area (sq. ft.)**
Venture Lab	G+3	10,600	9,800	9,800	9,800						40,000
Guest House	G+2	12,000	9,000	9,000							30,000
Sports Center	G+1	30,750	30,750	SWIMMING POOL AREA (1,3500)							75,000
New Boys Hostel-M	G+8	38,500	38,500	29,000	29,000	29,000	29,000	29,000	29,000	29,000	2,80,000
New Boys Hostel 1250 PAX	G+8	42,000	42,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	3,15,000
New SS-7	G+1	13,000	12,000	0	0	0	0	0	0	0	25,000
Research Center	G+6	11,800	9,700	9,700	9,700	9,700	9,700	9,700			70,000
Proposed 2nd Floor of Laboratory Block II	G+2	0	0	7,000							7,000
Faculty Residences two towers	G+8	15,400	15,575	15,575	15,575	15,575	15,575	15,57	15,575	15,575	1,40,000

FRF & FRG								5			
Faculty Offices	G+3	9,000	7,000	7,000	7,000						30,000
Lecture Theatre	G+4	22,000	19,500	19,500	19,500	19,500					1,00,000
Multi story Parking	G+2	34,000	33,000	33,000							1,00,000
Total											**12,12,000 sq. ft. or 1,12,597. 56 sqm.**

vi. During construction phase, total water requirement is expected to be 20 KLD, which shall be met by treated water from already installed STP. During the construction phase, mobile toilets shall be provided. The wastewater generated from the toilets shall be treated in already installed STP.

vii. During operational phase, total water requirement of the project is expected to be 1,279 KLD and the same will be met by 826 KLD fresh water from 4 existing tube wells and 453 KLD of recycled water from the existing onsite STP. Wastewater generated (945 KLD) will be treated in already installed STP of 2.3 MLD capacity. 926 KLD of treated wastewater will be recycled and re-used (355 KLD for flushing and rest for green area demand and excess to 10 acres of land under Karnal Technology).

viii. About 5.36 TPD of solid waste will be generated in the project. The biodegradable waste (2.416 TPD) will be processed in installed Mechanical Composter of 7 Ton capacity and the non-biodegradable/domestic hazardous waste generated (2.944 TPD) will be handed over to authorized local vendor.

ix. The total power requirement during construction phase and operation phase is 150 KW and 8600 KW respectively, which will be met from Punjab State Power Corporation Limited (PSPCL).

x. Overall, 31 Rain water harvesting (RWH) pits have been proposed. As per previous EC dated 25.01.2016, 20 RWH pits were proposed, out of which, 15 RWH pits have been constructed. Additional 11 no. of RWH pits with dual bore will be provided for proposed buildings for artificial rain water recharge within the project premises.

xi. Total Parking area proposed is 45,503 sqm out of which, 9,290 sqm. area has been reserved for multi-story parking.

xii. Proposed energy saving measures would save about 35% of power.

xiii. Comparative analysis of existing /envision pollution load is as follows:

S. No.	Description	As per EC Accorded dated 25.01.2016	Proposed	Total (After Expansion)
1.	Total Plot Area	249.13 acres		
2.	Built up Area	3,33,080.53 sqm	1,12,597.56sq.m.	4,45,678.09sqm
3.	Estimated Population	15,724 Persons	500 Persons	16,224Persons (Residential: 10,614 Persons Floating: 5,610 Persons)
4.	Domestic Water Demand	1,700 KLD	-519 KLD	1,181 KLD*
5.	Wastewater generated	1300 MLD	-355 KLD	945 KLD
6.	STP capacity	Existing STP of 1 MLD capacity & additional 500 KLD	Upgraded STP of 2.3 MLD capacity	Already installed STP of 2.3 MLD capacity
7.	Solid waste generation	4,900 kg/day	468 kg/day	5,368 kg/day
8.	Rain water recharging Pits	20Recharge Pits (out of these 15 pits have been constructed)	Additional 11 Recharge pits	Total 31 Recharge Pits
9.	Power Load	Existing load 4600 KW	4000 KW	8600 KW
10.	DG sets	As per EC accorded, 17 DG sets (7 of 750 KVA capacity, 1 of 500 KVA, 3 of 400 KVA, 2 of 380 KVA, 1 of 320 KVA, 1 of 120 KVA, 1 of 180	4 DG Sets of 750 KVA	18 DG sets (9 of 750 capacity, 1 of 500 KVA, 3 of 400 KVA, 2 of

		KVA and 1 of 115 KVA) were proposed. But, 14 DG sets i.e. 5 of 750 KVA, 1 of 500 KVA, 3 of 400 KVA, 2 of 380 KVA, 1 of 320 KVA and 2 of 325 KVA have already been installed.	capacity	380 KVA, 1 of 320 KVA and 2 of 325 KVA capacity)

Note: Water requirement has been reduced as compared to earlier EC due to usage of water efficient fixtures; (-) indicates a decrease in value.

xiv. The project is not located in Critically Polluted area.

xv. Bir Moti Bagh Wildlife Sanctuary at distance of 5.5 km from project location. However, eco-sensitive zone of the Bir Moti Bagh Wildlife Sanctuary is only up to an area of 100 m all around the boundary of the sanctuary comprising an area of approx.111.10 hectares. NBWL clearance is not required as project is outside the eco-sensitive zone of the Bir Moti Bagh Wildlife Sanctuary.

xvi. Forest Clearance is not required for the project.

xvii. No court case is pending against the project.

xviii. Total Green area is 2,36,885 sqm. No tree felling is proposed.

xix. Expected timeline for completion of the project is December, 2024.

xx. Investment/Cost of the project is Rs. 1097.4 crores.

xxi. Employment potential: 100 persons during construction phase and 1020 persons during operation phase.

xxii. Benefits of the project: Providing better educational facility and other curricular activities to the students and staff.

5. The EAC also noted that the PP has obtained certified compliance report from MOEFCC Northern Regional Office, Chandigarh dated 29.09.2020. As per the report, no major non compliances were observed during the site visit dated 10.09.2020. However, implementation of solar energy with other conservation measures and taking authorization hazardous waste from SPCB are yet to be implemented and as such on this PP has committed to comply.

6. The EAC, based on information and clarifications provided by the project proponent and detailed discussions held on the issues, has recommended granting environment clearance to the project. The aforesaid recommendation of EAC (Infra-2) is subject to certain specific conditions, as stipulated during its 60th meeting held during 27th - 28th January, 2021.

7. Based on recommendations of EAC (Inra-2), the Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance to the

project for 'Expansion of Educational Institute namely "Thapar Institute of Engineering and Technology (Deemed to be University)" from built up area from 3,33,080.53 sq m to 4,45,678.09 sqm at Khasra No. 926(6-5), 939 (7-13), 940 (5-18), etc., Bhadson Road, Patiala, Punjab, by M/s. Thapar Institute of Engineering and Technology', under the provisions of the EIA Notification, 2006 and amendments/circulars issued thereon, and subject to the following specific and standard conditions:

A. Specific Conditions:

i. As committed, PP shall develop solar power generation capacity of 3MW and implement the condition of existing EC with regard to energy conservation.

ii. Area for greenery shall be provided as per the details provided in the project document i.e., area under plantation/greenery will be 2,36,885 sqm. As proposed, at least 27,634 trees shall be maintained during the operation phase of the project. The landscape planning should include plantation of native species. A minimum of 01 tree for every 80 sqm of land should be planted and maintained. The existing trees will be counted for this purpose. Plantations to be ensured species (cut) to species (planted). The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping.

iii. Abstraction of ground water shall be subject to the permission of Central Ground Water Authority (CGWA) and ground water recharge shall conform to CGWA norms or norms prescribed by the local authorities. Fresh water requirement shall not exceed 826 KLD during operational phase

iv. As proposed, waste water shall be treated in an onsite STP of total 2.3 MLD capacity. Atleast 926 KLD of treated wastewater shall be recycled and re-used (355 KLD for flushing and rest for green area demand and excess to 10 acres of land under Karnal Technology).

v. The project proponents would commission a third-party study on the implementation of conditions related to quality and quantity of recycle and reuse of treated water, efficiency of treatment systems, quality of treated water being supplied for flushing (specially the bacterial counts), comparative bacteriological studies from toilet seats using recycled treated waters and fresh waters for flushing, and quality of water being supplied through spray faucets attached to toilet seats.

vi. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. As proposed, 31 RWH pits shall be provided for rain water harvesting after filtration as per the CGWB norms.

vii. The solid waste shall be duly segregated into biodegradable and non-biodegradable components and handled in separate area earmarked for segregation of solid waste, as per SWM Rules, 2016. As committed, biodegradable waste shall be composted by use of Composter. Inert

waste shall be dumped to authorized site. The recyclable waste shall be sold to resellers.

viii. The PP shall provide electric charging points in the parking areas for e-vehicles as committed.

ix. The Environmental Clearance to the project is primarily under provisions of EIA Notification, 2006. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes as applicable to the project.

I. Statutory compliance:

i. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.

ii. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc. as per National Building Code including protection measures from lightening etc.

iii. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.

iv. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

v. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.

vi. The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.

vii. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.

viii. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities.

ix. The provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste Management Rules, 2016, shall be followed.

x. The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.

II. Air quality monitoring and preservation:

i. 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.

ii. A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.

iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM_{10} and $PM_{2.5}$) covering upwind and downwind directions during the construction period.

iv. Diesel power generating sets proposed as source of backup power 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 of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.

v. 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, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.

vi. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.

vii. Wet jet shall be provided for grinding and stone cutting.

viii. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

ix. 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 Management Rules 2016.

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

xi. 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.

xii. For indoor air quality the ventilation provisions as per National Building Code of India.

III. Water quality monitoring and preservation:

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 maintaining the drainage pattern and to harvest rain water.

ii. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.

iii. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.

iv. 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.

v. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.

vi. 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.

vii. 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.

viii. 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.

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

x. A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built-up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.

xi. All recharge should be limited to shallow aquifer.

xii. No ground water shall be used during construction phase of the project.

xiii. 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.

xiv. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.

xv. No sewage or untreated effluent water would be discharged through storm water drains.

xvi. Onsite sewage treatment of capacity of treating 100% waste water to be installed. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.

xvii. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.

xviii. 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.

IV. Noise monitoring and prevention:

i. Ambient noise levels shall conform to residential area/commercial area/industrial area/silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. 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.

ii. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

V. Energy Conservation measures:

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.

ii. Outdoor and common area lighting shall be LED.

iii. 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.

iv. 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.

v. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.

vi. 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. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

VI. Waste Management:

i. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained.

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 wet garbage and inert materials.

iv. Organic waste compost/ Vermiculture pit/ Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.

v. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.

vi. 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.

vii. 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.

viii. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.

ix. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.

x. 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.

VII. Green Cover:

i. No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concerned regulatory authority. Old trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Plantations to be ensured species (cut) to species (planted).

ii. Where the trees need to be cut with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut) shall be done and maintained. Plantations to be ensured species (cut) to species (planted). Area for green belt development shall be provided as per the details provided in the project document.

iii. 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.

VIII. Transport

i. A comprehensive mobility plan, as per MoUD 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.
   a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
   b. Traffic calming measures.
   c. Proper design of entry and exit points
   d. Parking norms as per local regulation.

ii. 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.

iii. 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 05 kms 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 05 Kms radius of the site in different scenarios of space and time 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.

IX. Human health issues:

i. 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.

ii. For indoor air quality the ventilation provisions as per National Building Code of India.

iii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

iv. Provision 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, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

v. Occupational health surveillance of the workers shall be done on a regular basis.

vi. A First Aid Room shall be provided in the project both during construction and operations of the project.

X. Miscellaneous:

i. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEFCC/SEIAA website where it is displayed.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

v. The company shall have a well laid down environmental policy duly approved by the Board of Directors. 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 / 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 MoEF&CC as a part of six-monthly report.

vi. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

vii. Action plan for implementing EMP 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 Ministry/Regional Office along with the Six Monthly Compliance Report

viii. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

ix. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

x. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

xi. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during their presentation to the Expert Appraisal Committee.

xii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change (MoEF&CC).

xiii. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xiv. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xv. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xvi. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xvii. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xviii. Any appeal against this EC 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.

8. The Environmental Clearance is being granted to M/s. Thapar Institute of Engineering and Technology for Expansion of Educational Institute namely

"Thapar Institute of Engineering and Technology (Deemed to be University)" from built up area from 3,33,080.53sqm to 4,45,678.09 sqm at Khasra No. 926(6-5), 939 (7-13), 940 (5-18), etc , Bhadson Road, Patiala, Punjab.

9. This issue with the approval of the Competent Authority.

(Lalit Bokolia)
Director

Copy to:

1. Secretary, Department of Science & Technology and Environment, Government of Punjab, Punjab Civil Secretariat-2, 9A, Sector-9, Chandigarh-160009
2. Regional Officer, Ministry of Environment, Forest and Climate Change, Integrated Regional Office (Northern Zone), Bays No. 24-25, Sector 31 A, Dakshin Marg, Chandigarh – 160030
3. Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. Member Secretary, Punjab Pollution Control Board, Vatavaran Bhawan, Nabha Road, Patiala- 147001, Punjab
5. Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
6. Guard File/ MoEF&CC website.

(Lalit Bokolia)

Annexure 2

Project Photographs

Rainwater Harvesting Pits


RECHARGE WELL


GPS Map Camera
Patiala, Punjab, India
993c+3m6, Adarsh Nagar, Prem Nagar,
Patiala, Punjab 147004, India
Lat 30.352847° Long 76.371697°
08/11/24 11:57 AM GMT +05:30
Google


GPS Map Camera
Patiala, Punjab, India
993c+3hg, Adarsh Nagar, Prem Nagar,
Patiala, Punjab 147004, India
Lat 30.352993° Long 76.371591°
08/11/24 11:52 AM GMT +05:30
Google

Solar Lights Provided within the Projects

10KW Solar Installed at rooftop of Director's Residence

Solar Water Heater installed at rooftop of hostels

Photographs Showing Water Sprinkling and Anti-Smog Gun


ANKUSH BATRA
Galaxy S21 FE 5G


VISION VIBRATECH


VISION VIBRATECH

Photographs Showing Green Cover Provided Around the Construction Site


Galaxy S21 FE 5G

Photographs Showing Muck Properly Covered by Tarpaulin Sheet

Photographs Showing Traffic Control Board and Speed Limit Provided Within the Project


2024.07.06 13:52
30


2024.07.06 13:57
20

Photographs Showing Labor Toilets

Green Area Within the Campus

Occupational Health Facility

Karnal Activity

EV Charging Station

STP

Chute System Provided for Collection of Solid Waste

PUNJAB POLLUTION CONTROL BOARD

Zonal office-1, Vatavaran Bhawan, Nabha Road, Patiala.

Website:- www.ppcb.gov.in

Office Dispatch No :	**Registered/Speed Post**	**Date:**
Industry Registration ID:	*R14PTA803193*	**Application No :** *25167783*

To,

Dr Gurbinder Singh
Thapar Institute Of Engineering & Technology Bhadson Road Patiala
Patiala,Punjab-147004

Subject: **Extension in validity of Consent to Establish/NOC for expansion granted under the provisions of Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981**

1.Particulars of Consent to Establish (NOC) for Extension granted to the Industry

Certificate No.	*CTE/Ext/PTA/2024/25167783*
Date of issue :	*26/06/2024*
Date of expiry :	*31/03/2025*
Certificate Type :	*Extension*
Previous CTE/CTO No. & Validity :	*CTE/Ext/PTA/2023/21451700 From:17/05/2023 To:31/03/2024*

2. Particulars of the Industry

Name & Designation of the Applicant	*Dr. Gurbinder Singh, (Registrar)*
Address of Industrial premises	*Thapar Institute Of Engineering & Technology, Bhadson Road, Patiala, Patiala,Patiala-147004*
Category of Industry	*Red*
Type of Industry	*1063: Building and construction projects irrespective of built up area and having waste water generation 100 KLD and above area.*
Scale of the Industry	*Large*
Office District	*Patiala*

This is with reference to the request made by the institute for obtaining extension in the validity of the consent to establish/NOC expansion granted to it under the provisions of the Water (Prevention & Control of Pollution) Act, 1974 & the Air (Prevention & Control of Pollution) Act, 1981.

The validity of consent to establish/NOC expansion under the provisions of the Water (Prevention & Control of Pollution) Act, 1974 & the Air (Prevention & Control of Pollution) Act, 1981 granted vide no. CTE/Ext/PTA/2023/21451700 dated 17/05/2023 having validity upto 31/03/2024 is hereby further extended upto 31/3/2025, with the same conditions as mentioned therein and special conditions as under:

1. The educational institute shall upgrade its existing STP installation of as per the timelines in the PERT chart submitted by it i.e. by 25.07.2024 and ensure that there is no odour nuisance in the residential area due to the operation of the STP.

2. The educational institute shall install odour measuring sensors near the boundary wall towards residential area within one month.

3. The educational institute shall make arrangement to cover the raw sewerage collection cum equalization tank in order to mitigate problem of odour from the said components.

4. The educational institute shall install sludge removal mechanism from the various components of STP within one month.

5. The educational institute shall ensure that all the residential as well as educational building within the premises of institute shall install water saving devices within one month.

6. The educational institute shall keep its discharge within the consented limits by adjusting the flow rate at the inlet of the STP and make equalization tank of adequate storage capacity (to accommodate additional effluent during rainy season also).

7. The educational institute shall obtain revised permission from PWRDA for ground water abstraction as per its discharge ratio.

8. The educational institute shall utilize the treated waste water for sprinkling on roads and katcha area within the institute on continues basis for suppression of dust.

9. The educational institute shall make its CAAQMS operational within one week and connect the same with the Board server.

10. The educational institute shall provide green belt along the complete boundary towards the residential area adjoining to it.

11. The educational institute shall install and commission mechanical composter of 3 TPD as proposed by it within one month and ensure that no solid waste is being dispose of outside premises of the institute.

12. The educational institute shall comply with all the conditions of Environmental Clearance granted to it by the Competent Authority within the specified time period and shall submit complete compliance while submitting the next six monthly report to the Board.

13. The education institute shall not exceed the built up area as mentioned in the EC granted to it and shall be liable to obtain revised EC for additional built up area and discharged beyond the consented limits.

14. The education institute shall devise the ways & means to minimize the generation of all kind of wastes through REDUCE, REUSE and RECYCLE activities. The generated waste, if any, shall be properly handled and managed as per the provisions of the Municipal Solid Waste Rules 2016 in an environmentally sound manner.

15. The education institute may also develop the vermicomposting/composting to manage the biodegradable solid waste. PP shall not throw, burn or bury any solid wastes in open, outside premises or in drain / water bodies.

16. The education institute shall ensure that there are no usages of plastic carry bags and single use plastic / thermocol disposable items such as water bottles / water pouches/water cups, plates, forks, spoons, straw etc. and single use decorating material made of plastic-thermocol or any other non-biodegradable material in the premises.

17. The education institute shall perform / promote its Corporate Environment Responsibility (CER) activities as well as use of alternatives of single use plastics (SUP) and awareness to discourage use of plastic (See attached banner/circular).

18.The education institute shall carry out awareness and activities for the themes / action points identified under Mission LiFE (Lifestyle for the Environment) by Ministry of Environment, Forests and Climate Change

All other contents shall remain unchanged. This letter shall remain appended with the consent to establish/NOC expansion vide no. CTE/Ext/PTA/2023/21451700 dated 17/05/2023 having validity upto 31/03/2024, issued to the education institute under the provisions of the Water (Prevention & Control of Pollution) Act, 1974 & the Air (Prevention & Control of Pollution) Act, 1981.

26/06/2024

(Navtesh Singla)
Environmental Engineer
For & on behalf
of
(Punjab Pollution Control Board)

Endst. No.: **Dated:**

A copy of the above is forwarded to the following for information and necessary action please:
Environmental Engineer, Punjab Pollution Control Board, Regional Office, Patiala.

26/06/2024

(Navtesh Singla)
Environmental Engineer
For & on behalf
of
(Punjab Pollution Control Board)

PERCEPTIVE IDEAS
CONSULTING ENGINEERS

STRUCTURAL STABILITY CERTIFICATE

Certified that, undersigned shall analyse and design the **Complete Structure** of **New Boys Hostel** – A 928 Pax being constructed at **Thapar Institute of Engineering & Technology, Patiala, Punjab**.

It is further certified that the structural design has been done in accordance with the provisions of relevant **I.S. Codes including IS: 456, IS:1786, IS:875 and IS:1893, IS:4326.**

Hence structure is Safe and Stable under the designed loads and natural hazards including earth-quake.

Thanking you,

Yours faithfully,
For, M/s. Perceptive Ideas Consulting Engineer Private Limited

Perceptive Ideas Consulting Engineers Pvt. Ltd. New Delhi

Mr. Ajay Gupta
Registration No. M -1474744 ;
CHARTERED ENGINEER (CIVIL DIVISION)
Institution of Engineers (India)

Date : 07/09/2023

PERCEPTIVE IDEAS
CONSULTING ENGINEERS

STRUCTURAL STABILITY CERTIFICATE

Certified that, undersigned had analysed and designed the **D-Hostel 928 Pax** in **Thapar University Extension** constructed at **Patiala.**

It is further certified that the structural design has been done in accordance with the provisions of relevant **I.S. Codes including IS: 456, IS:1786, IS:875 and IS:1893, IS:4326 for schematic zone IV.**

Hence Structure Design is Safe and Stable under the designed loads and natural hazards including Earth-Quake.

Thanking you,

Yours faithfully,
For, M/s. Perceptive Ideas Consulting Engineer Private Limited

Mr. Ajay Gupta
Registration No. M -1474744 ;
CHARTERED ENGINEER (CIVIL DIVISION)
Institution of Engineers (India)

Date : 15/10/2022

CHIEF GENERAL MANAGER
PROJECT & ESTATE
THAPAR INSTITUTE OF ENGG. & TECH.
PATIALA (PUNJAB) INDIA

PERCEPTIVE IDEAS CONSULTING ENGINEERS PRIVATE LIMITED – U31100DL2017PTC322063
C-486, GROUND FLOOR, C R PARK, NEW DELHI– 110019
E: info@perceptiveideas.org L: 01140455638/39

PERCEPTIVE IDEAS
CONSULTING ENGINEERS

STRUCTURAL STABILITY CERTIFICATE

Certified that, undersigned shall analyse and design the **Complete Structure of Anantam Hostel (M-Hostel) - Phase-2,** this includes 2 towers , dining hall & Podium area being constructed at **Thapar Institute of Engineering & Technology, Patiala, Punjab.**

It is further certified that the structural design has been done in accordance with the provisions of relevant **I.S. Codes including IS: 456, IS:1786, IS:875 and IS:1893, IS:4326.**

Hence structure is Safe and Stable under the designed loads and natural hazards including earth-quake.

Thanking you,

Yours faithfully,
For, M/s. Perceptive Ideas Consulting Engineer Private Limited

Perceptive Ideas Consulting Engineers Pvt. Ltd. New Delhi

Mr. Ajay Gupta
Registration No. M -1474744 ;
CHARTERED ENGINEER (CIVIL DIVISION)
Institution of Engineers (India)

Date : 01/03/2024

PERCEPTIVE IDEAS
CONSULTING ENGINEERS

STRUCTURAL STABILITY CERTIFICATE

Certified that, undersigned shall analyse and design the **Structure** of **Sports Hall** being constructed at **Thaper Institute of Engineering and Technology, Patiala**.

It is further certified that the structural design shall be done in accordance with the provisions of relevant **I.S. Codes including IS: 456, IS:1786, IS:875 and IS:1893, IS:4326 Seismic zone III.**

Hence structure shall be Safe and Stable under the designed loads and natural hazards including earth-quake.

Thanking you,

Yours faithfully,

For, M/s. Perceptive Ideas Consulting Engineer Private Limited

Mr. Ajay Gupta
Registration No. M -1474744 ;
CHARTERED ENGINEER (CIVIL DIVISION)
Institution of Engineers (India)

Date : 03/04/2023

PERCEPTIVE IDEAS
CONSULTING ENGINEERS

Date: 05th Nov 2018

TO WHOM IT MAY CONCERN

This to certify that the Structural Design of **FACULTY RESIDENCES – FRD & FRE at THAPPER UNIVERSITY, PATIALA PUNJAB**, has been designed by us, and considered safe in accordance with the permissible stresses and slenderness ratio in conformity with the National Building Code, I. S. Codes and takes into account the Seismic Loads and Soil Conditions at site.

Perceptive Ideas Consulting Engineers Pvt. Ltd.

AJAY GUPTA

M – 1474744

(Registration No. of Institute of Engineers)

PRINCIPAL CONSULTANT

For PERCEPTIVE IDEAS

PERCEPTIVE IDEAS
CONSULTING ENGINEERS

STRUCTURAL STABILITY CERTIFICATE

Certified that, undersigned shall analyse and design the **Structure** of **Faculty Residence - F** being constructed at **Thaper Institute of Engineering and Technology, Patiala.**

It is further certified that the structural design shall be done in accordance with the provisions of relevant **I.S. Codes including IS: 456, IS:1786, IS:875 and IS:1893, IS:4326 Seismic zone III.**

Hence structure shall be Safe and Stable under the designed loads and natural hazards including earth-quake.

Thanking you,

Yours faithfully,
For, M/s. Perceptive Ideas Consulting Engineer Private Limited

Mr. Ajay Gupta
Registration No. M -1474744 ;
CHARTERED ENGINEER (CIVIL DIVISION)
Institution of Engineers (India)

Date : 10/04/2023

Punjab Fire Services

(PATIALA MUNICIPAL CORPORATION)

FIRE SAFETY CERTIFICATE

ਫਾਇਰ ਸੇਫਟੀ ਪਮਾਣ ਪੱਤਰ

Annexure 5

NOC No: PB-FN-2023-08-20-058548 NOC Type: NEW Dated: 20/8/2023

Certified that the D-HOSTEL AT THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY PATIALA at TIET PATIALA, TIET PATIALA, Thapar Backside to Drain - B5 - A3, TIET PATIALA, Patiala, Patiala, 147001, comprised of 0 basements and 9 (Upper floor) owned/occupied by DR GURBINDER SINGH have compiled with the fire prevention and fire safety requirements of National Building Code and verified by the officer concerned of fire service on 20/8/2023 in the presence of DR GURBINDER SINGH (Name of the owner or his representative) and that the building/premises is fit for occupancy Zone 1 subdivision (3) (As per NBC) for period of one year from issue date. Subject to the following conditions.

Issued on 20/8/2023 at PATIALA MUNICIPAL CORPORATION

ਤਸਦੀਕ ਕੀਤਾ ਜਾਂਦਾ ਹੈ ਕਿ D-HOSTEL AT THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY PATIALA, TIET PATIALA, TIET PATIALA, Thapar Backside to Drain - B5 - A3, TIET PATIALA, Patiala, Patiala, 147001, ਸਮੇਤ 0 ਬੇਸਮਟ ਅਤੇ 9 (ਉਪਰਲੀ ਮੰਜ਼ਿਲ) ਮਲਕੀਅਤ/ ਕਬਜ਼ਾਦਾਰ D- HOSTEL AT THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY PATIALA ਰਾਸ਼ਟਰੀ ਬਿਲਡਿੰਗ ਕੋਡ ਅਨੁਸਾਰ ਅੱਗ ਬੁਝਾਉਣ ਦੇ ਪ੍ਰਭਾਵ ਅਤੇ ਬਚਾਅ ਦੀਆਂ ਲੋੜਾਂ ਨੂੰ ਪੂਰਾ ਕਰਦੀ ਹੈ ਜਿਸ ਨੂੰ ਸਬੰਧਤ ਫਾਇਰ ਅਧਿਕਾਰੀ ਵੱਲੋਂ DR GURBINDER SINGH (ਮਾਲਕ ਜਾਂ ਉਸ ਦੇ ਪ੍ਰਤਿਨਿਧੀ ਦਾ ਨਾਮ) ਦੀ ਮੋਜੂਦਗੀ ਵਿੱਚ 20/8/2023 ਨੂੰ ਪ੍ਰਮਾਣਿਤ ਕੀਤਾ ਗਿਆ ਅਤੇ ਇਮਾਰਤ / ਬਿਲਡਿੰਗ Zone 1 subdivision (3) (ਐਨ. ਬੀ. ਸੀ. ਦੇ ਅਨੁਸਾਰ) ਦੀ ਆਬਾਦੀ ਲਈ Issue date ਤੋਂ **ਇੱਕ ਸਾਲ** ਤੱਕ ਯੋਗ ਹੈ ਜਿਸ ਲਈ ਨਿਮਨ ਅਨੁਸਾਰ ਹਦਾਇਤਾਂ ਹਨ।

PATIALA MUNICIPAL CORPORATION ਵਿਖੇ ਜਾਰੀ ਕਰਨ ਦੀ ਮਿਤੀ 20/8/2023.

1. Fire Safety arrangements shall be kept in working condition at all times

ਹਰ ਸਮੇਂ ਅੱਗ ਬਚਾਅ ਦੇ ਯੰਤਰਾਂ ਨੂੰ ਚਾਲੂ /ਚੰਗੀ ਹਾਲਤ ਵਿੱਚ ਰੱਖਿਆ ਜਾਵੇ।

2. No, alteration/ addition/ change in use of occupancy is allowed.

ਕਿਸੇ ਵੀ ਤਰਾਂ ਦੇ ਬਦਲਾਅ/ ਵਾਧੇ/ ਕਬਜ਼ਾਦਾਰ ਵਿੱਚ ਬਦਲਾਵ ਦੀ ਮਨਾਹੀ ਹੈ।

3. Occupants/ owner should have trained staff to operate the operaon of fire safety system provided there in.

ਉਪਲੱਬਧ ਅੱਗ ਬੁਝਾਉਣ ਦੇ ਯੰਤਰ ਦੀ ਵਰਤੋਂ ਲਈ ਰਿਹਣ ਵਾਲੇ ਲੋਕਾਂ / ਮਾਲਕ ਨੂੰ ਜਾਣੂੰ ਕਰਵਾਇਆ ਜਾਣਾ ਯਕੀਨੀ ਬਣਾਇਆ ਜਾਵੇ।

4. Fire Officer can check the arrangements of fire safety at any time, this cerficate will be withdrawn without any notice if any deficiency is found.

ਫਾਇਰ ਬ੍ਰਿਗੇਡ ਅਧਿਕਾਰੀ ਕਿਸੇ ਵੀ ਵਕਤ ਇਨਾਂ ਸਾਰੇ ਪ੍ਰਬੰਧਾਂ ਨੂੰ ਚੈਕ ਕਰ ਸਕਦਾ ਹੈ, ਜੇਕਰ ਕੋਈ ਕਮੀ ਪਾਈ ਗਈ ਤਾਂ ਬਿਨਾਂ ਕਿਸੇ ਨੋਟਿਸ ਦੇ ਇਹ ਸਰਟੀਫਕੇਟ ਰੱਦ ਸਮਝਿਆ ਜਾਵੇਗਾ।

5.Occupants/ owner should apply for renewal of fire safety cerficate one month prior to expiry of this cerficate.

ਮਾਲਕ ਜਾਰੀ ਕੀਤੇ ਗਏ ਫਾਇਰ ਸੇਫਟੀ ਸਰਟੀਫਕੇਟ ਦੀ ਮਿਤੀ ਖਤਮ ਹੋਣ ਤੋਂ ਇੱਕ ਮਹੀਨਾ ਪਹਿਲਾਂ ਰੀਨੀਊ ਕਰਵਾਉਣ ਲਈ ਪਾਬੰਦ ਹੋਵੇਗਾ।

* Above Details cannot be used as ownership proof.

ਉਪਰੋਕਤ ਦਰਸਾਈ ਗਈ ਜਾਣਕਾਰੀ ਨੂੰ ਮਾਲਕਾਨਾ ਦੇ ਸਬੂਤ ਵਜ਼ੇ ਨਹੀਂ ਵਰਤਿਆ ਜਾਵੇਗਾ।

This is digitaly created cerificate, no signatue are needed

ਇਹ ਡਿਜੀਟਲੀ (ਕੰਪਿਊਟਰਾਈਜ਼ਡ) ਤਿਆਰ ਕੀਤਾ ਗਿਆ ਸਰਟੀਫਿਕੇਟ ਹੈ, ਜਿਸ ਵਿੱਚ ਦਸਤਖਤ ਦੀ ਕੋਈ ਲੋੜ ਨਹੀਂ ਹੈ।

Form 59

[See rules 115 (2)]

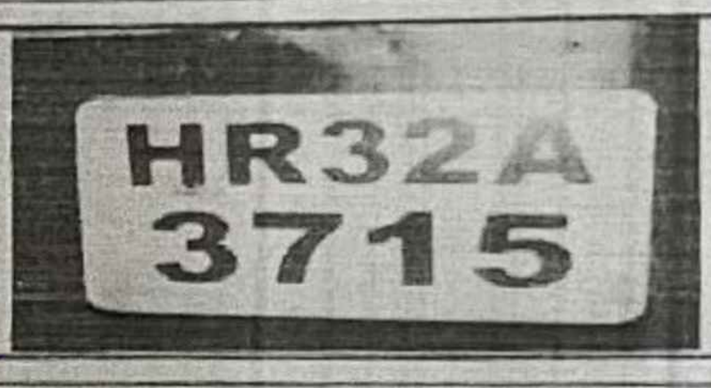
Pollution Under Control Certificate

Authorised By :
Government of Punjab

Date	:	**03/06/2024**
Time	:	**19:54:36 PM**
Validity upto	:	**02/12/2024**

Certificate SL. No.	:	PB0110210000003788
Registration No.	:	HR32A3715
Date of Registration	:	11/Apr/2000
Month & Year of Manufacturing	:	March-2000
Valid Mobile Number	:	******4504
Emission Norms	:	BHARAT STAGE I
Fuel	:	DIESEL
PUC Code	:	PB0110210
GSTIN	:	
Fees	:	Rs.100.00
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	0.45

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Punjab

Date	:	15/01/2024
Time	:	17:59:55 PM
Validity upto	:	14/07/2024

Certificate SL No	:	PB06500060005934
Registration No	:	HR37C9411
Date of Registration	:	08/Nov/2012
Month & Year of Manufacturing	:	October-2012
Valid Mobile Number	:	******3773
Emission Norms	:	BHARAT STAGE III
Fuel	:	DIESEL
PUC Code	:	PB0650006
GSTIN	:	
Fees	:	Rs.100.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm

Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda		1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	1.92

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

Form 59

[See rules 115 (2)]

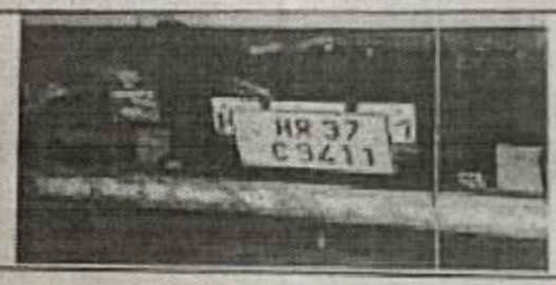
Pollution Under Control Certificate

Authorised By :
Government of Punjab

Date	:	**15/01/2024**
Time	:	**17:59:55 PM**
Validity upto	:	**14/07/2024**

Certificate SL No	:	PB06500060005934
Registration No	:	HR37C9411
Date of Registration	:	08/Nov/2012
Month & Year of Manufacturing	:	October-2012
Valid Mobile Number	:	******3773
Emission Norms	:	BHARAT STAGE III
Fuel	:	DIESEL
PUC Code	:	PB0650006
GSTIN	:	
Fees	:	Rs.100.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda		1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	1.92

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

SHIVRN MOTOR GARAGE
Pollution Che
Amritsar

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Punjab

Date	:	**19/03/2024**
Time	:	**12:38:30 PM**
Validity upto	:	**18/09/2024**

Certificate SL. No.	:	PB011020100004135
Registration No.	:	PB35Q4473
Date of Registration	:	14/Feb/2014
Month & Year of Manufacturing	:	November-2012
Valid Mobile Number	:	******2828
Emission Norms	:	BHARAT STAGE III/IV
Fuel	:	DIESEL
PUC Code	:	PB0110201
GSTIN	:	
Fees	:	Rs.100.00
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm

Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda		1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	1.62	0.58

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

Pollution Checking Centre ★ GMT Approved ★ By Punjab

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Punjab

Date	:	**15/01/2024**
Time	:	**17:59:55 PM**
Validity upto	:	**14/07/2024**

Certificate SL. No.	:	PB06500060005934
Registration No.	:	HR37C9411
Date of Registration	:	08/Nov/2012
Month & Year of Manufacturing	:	October-2012
Valid Mobile Number	:	******3773
Emission Norms	:	BHARAT STAGE III
Fuel	:	DIESEL
PUC Code	:	PB0650006
GSTIN	:	
Fees	:	Rs.100.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm

Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	1.92

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

SHARN MOTOR GARAGE
Sewara Pollution Che
...herpur

Form 59

[See rules 115 (2)]

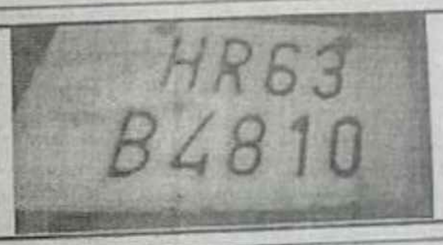
Pollution Under Control Certificate

Authorised By :
Government of Haryana

Date	:	**12/05/2024**
Time	:	**12:21:48 PM**
Validity upto	:	**11/11/2024**

Certificate SL. No.	:	HR04600810002689
Registration No.	:	HR63B4810
Date of Registration	:	02/Jan/2012
Month & Year of Manufacturing	:	December-2011
Valid Mobile Number	:	******7918
Emission Norms	:	EURO 3
Fuel	:	DIESEL
PUC Code	:	HR0460081
GSTIN	:	
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	0.66

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

चीमे वा चीमे
1st & 2nd पार्टी,
ONLINE [illegible] केन्द्र
HP [illegible]

3.Address	V P O ALIPUR,TEH DISTRIC,PANCHKI
4 Registration Mark of Vehicle	

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Punjab

Date	:	15/01/2024
Time	:	14:47:13 PM
Validity upto	:	14/07/2024

Certificate SL. No.	:	PB06501550000869
Registration No.	:	HR68A5084
Date of Registration	:	05/Mar/2012
Month & Year of Manufacturing	:	February-2012
Valid Mobile Number	:	******3773
Emission Norms	:	BHARAT STAGE III
Fuel	:	DIESEL
PUC Code	:	PB0650155
GSTIN	:	
Fees	:	Rs.100.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm

Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	0.53

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

restoring eco balance...

Eco Paryavaran Laboratories & Consultants Pvt. Ltd.

TEST REPORT

ULR No : TC1181824000100133F		**Test Report No :** NGWL281124EM005	
Type of Sample : Water- Ground Water			
Reference Type : Email		**Reference No :** Dt.: 21/11/2024	
Customer Name	"Thapar Institute of Engineering & Technology"		
Address	(Deemed to be University) at Bhadson Road, Distt Patiala, Punjab	**Period of Sampling**	28/11/2024 - 28/11/2024
Sampling Protocol	IS 17614 (Part 1), EL-MSP-7.3	**Date of Receipt of Sample**	28/11/2024
Sample Collection Mode	Sample collected by Laboratory	**Period of Analysis**	28/11/2024 - 30/11/2024
Testing Location	Permanent Facility	**Date of reporting**	30/11/2024
Sampling Location	Tubewell No.2 (Project Site)		
Sample Description	Clear, colourless liquid.		
Standard/Specifications	NA		
Packing, Markings, Seal & Qty.	PE Bottle-1 litre (T/28/01A),Glass Bottle-1 litre(T/28/01B),Glass Bottle-500ml (T/28/01C) & PE Bottle-500ml (T/28/01D)		

RESULTS

1. Chemical Testing

I. Water (Water- Ground Water)

Sr.No	Test Parameter	Unit	Result	Acceptable Limit	Permissible Limit in Absence of Alternate Source	Test Method
1	Colour	CU.	BDL (1)	5	15	IS 3025 (Part 4) Cl 2.0
2	Odour	-	Aggreable	Agreeable	Agreeable	IS 3025 (Part 5)
3	pH @ 25°C	-	7.27	-	-	IS 3025 (Part 11)
4	Taste	-	Aggreable	-	-	IS 3025 (Part 8)
5	Turbidity	NTU	BDL (0.1)	1	5	IS 3025 (Part 10)
6	Chloride as Cl	mg/l	102	250	1000	IS 3025 (Part 32)
7	Iron as Fe	mg/l	0.019	1.0	No relaxation	USEPA 3015A
8	Total Hardness as CaCO3	mg/l	272	200	600	IS 3025 (Part 21)

Mr. Mukesh Chand Agarwal
Authorized Signatory- Chemical

Mr. Mukesh Chand Agarwal
Authorized Signatory - Biological

ECO BHAWAN E-207, Industrial Area, Phase VIII-B (Sector-74), Mohali (Punjab) 160071

0172-4616225 9781303109 contact@ecoparyavaran.org I md@ecoparyavaran.org www.ecoparyavaran.org

TEST REPORT

ULR No : TC1181824000100133F **Test Report No :** NGWL281124EM005

Type of Sample : Water- Ground Water

2. Biological Testing

II. Water (Water- Ground Water)

Sr.No	Test Parameter	Unit	Result	Acceptable Limit	Permissible Limit in Absence of Alternate Source	Test Method
1	Total coliform	Present or Absent/100ml	Absent	-	-	IS 15185
2	Escherichia coli	Present or Absent/100ml	Absent	-	-	IS 15185

Remarks : NA

End of Report

OTHER INFORMATION

Abbreviation : ULR: Unique Lab Report, BDL: Below Detection Level, NA: Not Applicable

Terms & Conditions :

1. The results relate only to the items tested.
2. Giving opinions does not imply endorsement of the tested product by laboratory. Under no circumstances, laboratory accepts any liability caused by use or misuse of Test Report.
3. The Test Report shall not be reproduced except in full or part or used as advertisement or evidence in court of law without written approval of the laboratory. Samples drawn under special circumstances like legal cases, the customer must declare the same at the time of submission.
4. Complaint log book is with Quality Cell. Contact No. (M) 91 8872 04 3135, Phone 91 172 4616 225 Email: quality@ecoparyavaran.org
5. The samples tested may be preserved for a period but not exceeding 7 days from date of reporting, unless otherwise specifically desired by the customer or regulatory authorities. However, depending upon the nature of samples and effect of preservation the test results of preserved samples may vary. Laboratory also does not assume any responsibility in the test results of samples kept on hold for want of clarification.
6. All disputes are subjected to jurisdiction of Mohali (Punjab) India and maximum liability of the laboratory does not exceed the testing and sampling charges.
7. In case where sample is provided by the customer, the reported results shall apply to the sample as received.

Mr. Mukesh Chand Agarwal
Authorized Signatory- Chemical

Mr. Mukesh Chand Agarwal
Authorized Signatory - Biological

TEST REPORT

ULR No : TC1181824000100132F		**Test Report No :** NSL281124EM006	
Type of Sample : Soil			
Reference Type : Email		**Reference No :** Dt.: 21/11/2024	
Customer Name	"Thapar Institute of Engineering & Technology"		
Address	(Deemed to be University) at Bhadson Road, Distt Patiala, Punjab	**Period of Sampling**	28/11/2024 - 28/11/2024
Sampling Protocol	USEPA/600/R-92/128, EL-MSP-7.3	**Date of Receipt of Sample**	28/11/2024
Sample Collection Mode	Sample collected by Laboratory	**Period of Analysis**	28/11/2024 - 30/11/2024
Testing Location	Permanent Facility	**Date of reporting**	30/11/2024
Sampling Location	Central Park (Project Site)		
Sample Description	Brown, coloured soil.		
Standard/Specifications	Manual- Dept. of Agriculture (GoI); 2011		
Packing, Markings, Seal & Qty.	5 Kg Poly Bag Marked T/28/01		

RESULTS

1. Chemical Testing

I. Pollution & Environment (Soil)

Sr.No	Test Parameter	Unit	Result	Test Method
1	Conductivity	mS/cm	0.276	IS 14767
2	Organic Matter	%	1.18	IS 2720 (Part 22) Sec 1
3	pH @ 25°C	-	8.01	IS 2720 (Part 26) Cl 2
4	Texture	-	Sandy loam	IS 2720 (Part-4)
5	Sand	%	73	IS 2720 (Part-4)
6	Clay	%	15	IS 2720 (Part-4)
7	Silt	%	12	IS 2720 (Part-4)
8	Moisture Content	%	7.3	IS 2720 PART-2
9	Bulk Density	g/cc	1.56	IS : 2386:1963 (Part 3)

Remarks : NA

End of Report

Mr. Mukesh Chand Agarwal
Authorized Signatory- Chemical

ECO BHAWAN E-207, Industrial Area, Phase VIII-B (Sector-74), Mohali (Punjab) 160071

0172-4616225 9781303109 contact@ecoparyavaran.org | md@ecoparyavaran.org www.ecoparyavaran.org

TEST REPORT

ULR No : TC118182400010013 5F		**Test Report No :** NAAL291124EM001	
Type of Sample : Ambient Air		**Date of reporting :** 30/11/2024	
Reference Type : Email		**Reference No :** Dt.: 21/11/2024	
Customer	"Thapar Institute of Engineering & Technology", (Deemed to be University) at Bhadson Road, Distt Patiala, Punjab		
Sampling Protocol	IS 5182, EL-MSP-7.3	**Mode of Collection of Sample**	Sample collected by Laboratory
Period of Sampling	28/11/2024 - 29/11/2024	**Date of Receipt of Sample**	29/11/2024
Sampling Location	Near Hostel-J-Block (Project Site)	**Period of Analysis**	29/11/2024 - 30/11/2024
Standard/Specifications	National Ambient Air Quality: G.S.R.No.B-29016/20/19/PCI-L dated 18 Nov, 2009	**Environmental Condition**	Clear sky
Testing Location	On Site & Permanent Facility		

RESULTS

1. Chemical Testing

I. Atmospheric Pollution (Ambient Air)

Sr.No	Test Parameter	Unit	Result	Standard	Test Method
1	Respirable Suspended Particulate Matter as PM10	µg/m3	84	100	IS 5182 (Part 23)
2	Particulate Matter as PM2.5	µg/m3	44	60	IS 5182 (Part 24)
3	Sulphur Dioxide as SO2	µg/m3	12	80	IS 5182 (Part 2)
4	Oxides of Nitrogen	µg/m3	30	80	IS 5182 (Part 6)
5	Ammonia as NH3	µg/m3	27	400	IS 5182 (Part 25)
6	Ozone as O3	µg/m3	19	180	IS 5182 (Part 9)
7	Carbon Monoxide as CO	mg/m3	0.74	4	IS 5182 (Part 10) NDIR method

Remarks : NA

End of Report

Mr. Umesh Kumar
Authorized Signatory- Chemical

ECO BHAWAN E-207, Industrial Area, Phase VIII-B (Sector-74), Mohali (Punjab) 160071
0172-4616225 9781303109 contact@ecoparyavaran.org | md@ecoparyavaran.org www.ecoparyavaran.org

TEST REPORT

ULR No : TC118182400010O134F		**Test Report No :** NANL291124EM002	
Type of Sample : Ambient Noise		**Date of reporting :** 30/11/2024	
Reference Type : Email		**Reference No :** Dt.: 21/11/2024	
Customer Name	"Thapar Institute of Engineering & Technology"		
Address	(Deemed to be University) at Bhadson Road, Distt Patiala, Punjab		
Sampling Protocol	IS 9989, EL-MSP-7.3	**Mode of Collection of Sample**	Sample collected by Laboratory
Period of Sampling	28/11/2024 - 28/11/2024	**Date of Receipt of Sample**	29/11/2024
Sampling Location	Refer below^	**Period of Analysis**	29/11/2024 - 30/11/2024
Standard/Specifications	EPA 1986 Schedule-III	**Environmental Condition**	--
Testing Location	On Site & Permanent Facility		

RESULTS

I. Chemical Testing

1. Atmospheric Pollution(Ambient Noise Levels)

Sr.No	Location^	Unit	Result (Day)	Test Method
1	At project site	dB(A)	45.6	EL/SOP/AN/01

Ambient Noise Quality Standards as per Noise Pollution (Regulation and Control) Rules, 2000

Area Code	Category of Area/Zone	Limits in dB(A) Leq* Day Time	Limits in dB(A) Leq* Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

Day time shall mean from 6.00 a.m. to 10.00 p.m., Night time shall mean from10.00 p.m. to 6.00 a.m., Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority, Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority. *dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale 'A' which is relatable to human hearing

Remarks : NA

End of Report

Mr. Umesh Kumar
Authorized Signatory- Chemical

EL-FMT-7.8.2-AN

ECO BHAWAN E-207, Industrial Area, Phase VIII-B (Sector-74), Mohali (Punjab) 160071
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Sophisticated Analytical Instruments Laboratories Society *(Registered as Society with Registrar of Firms & Societies, Punjab, Chandigarh)*
Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

TEST REPORT

ULR No.	NA	Date:	04.11.2024
Service No.	NN(D)/24-25/595(01-06)	Customer's Ref.	Sample Sample collected by Mr. Amit Kumar dtd. 29.10.2024

Customer's name and address:

Assistant Engineer CMS
Thapar Institute of Engineering & Technology
Bhadson Road, Patiala– 147004 (Pb)
Kind Attn.: Mr. Arvind Gupta

Sample Description	Effluent
Condition of the sample received	OK
Customer's sample identification No. (if any)	**01-** Inlet **02-** UASB **03-** Aeration Tank **04-** After MGF **05-** After ACF **06-** After Chlorination
Quantity/number of samples	14 Liter / 6
Sampling Procedure (if any)/ Standard/Specification	IS:17614 (Part 10) 2021, SAI/SOP/03/47
Mode of Sampling / Environmental Conditions During Transportation	Grab (Drawn) Preserved in ice box
Test parameters	01- pH, TSS, TDS, BOD, COD, O&G, TKN, P, DO, F.Coli 02- pH, COD, BOD, VSS, Temp. 03- pH, COD, BOD, TKN, P, Alkalinity, MLSS, MLVSS 04 - pH, TSS, TDS, BOD, COD, TKN, P, DO, Odour, F.Coli 05- pH, TSS, TDS, BOD, COD, TKN, P, DO, Odour, F.Coli 06- pH, TSS, TDS, BOD, COD, O&G, TKN, P, DO, Odour F. Coli
Method followed	As mentioned below
Deviations (if any)	--

Date of Receipt of Job	Date of Completion of Job	Total Number of Pages
29.10.2024	04.11.2024	2

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

Note:
1. The results listed refer only to the tested samples and applicable parameters. Endorsement of products is neither inferred nor implied
2. Samples will be destroyed after 10 days from the date of issue of the test report unless otherwise specified
3. This report is not to be reproduced wholly or in part and cannot be used as an evidence in the products is neither inferred nor implied, court of law and should not be used in any advertising media without special permission in writing.
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URL: www.sailabs.org

Sophisticated Analytical Instruments Laboratories Society

(Registered as Society with Registrar of Firms & Societies, Punjab, Chandigarh)

Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

ULR No.	NA	Date:	04.11.2024
Service No.	NN(D)/24-25/595(01-06)	Customer's Ref.	Sample Sample collected by Mr. Amit Kumar dtd. 29.10.2024

TEST RESULTS

S. No.	Parameters	Test Method	Unit	Results					
				01	02	03	04	05	06
1	pH @ 25°C	IS 3025 (Part 11):2022 - Electrometric Method	--	7.4	7.2	7.5	7.7	7.8	7.8
2	Total Suspended Solid @ 105°C	IS 3025 (Part 17):2022 - Gravimetric Method	mg/l	54	--	--	14	62	54
3	Total Dissolved Solid @ 180°C	IS 3025 (Part 16):2023 - Gravimetric Method	mg/l	814	--	--	804	812	800
4	Chemical Oxygen Demand	IS 3025 (Part 58):2023- Open Reflux	mg/l	120	100	92	68	80	88
5	Biochemical Oxygen Demand for 3 days @ 27°C	IS 3025 (Part 44):2023 - Wrinkler Method	mg/l	34	30	22	12	17	15
6	Oil & Grease at 80°C	IS 3025 (Part 39):2021- Liquid Liquid Partition Gravimetric Method	mg/l	5.2	--	--	--	--	8.2
7	TKN	IS 3025 (Part 34): Sec 1 - 2023 Titrimetric Method	mg/l	14.8	--	20.5	24.3	25.1	27.1
8	Phosphorous as P	IS 3025 (Part 31): Sec 1- 2022 Vanadomolybdo Phosphoric Acid	mg/l	2.29	--	3.17	4.86	2.17	3.67
9	Dissolved Oxygen	IS: 3025 (Part 38)-1989	mg/l	Nil	--	Nil	Nil	Nil	Nil
10	Volatile Suspended Solid @ 550°C	APHA 24th. Edn.2540-D	mg/l	--	54	--	--	--	--
11	Temperature	By thermometer	°C	--	30	--	--	--	--
12	Total Alkalinity as $CaCO_3$	IS 3025 (Part 23):2023 - Indicator Method	mg/l	--	--	437	--	--	--
13	MLSS @ 105°C	APHA 24th. Edn.2540-D	mg/l	--	--	62	--	--	--
14	MLVSS @ 550°C	APHA 24th. Edn.2540-E	mg/l	--	--	60	--	--	--
15	Odour	IS:3025(Part-5)-1983	mg/l	--	--	--	Agreeable		
16	Faecal Coliform	APHA 24th. Edn.9221 E	MPN/100ml	$17X10^4$	--	--	<1.8	<1.8	<1.8

.....End of the report.....

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

Note:
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Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

TC-14778

TEST REPORT

ULR No.	NA	Date:	18.12.2024	Serial No.	181
Service No.	SE/24-25/017 (01-06)	Customer's Ref.	Sample collected by Mr. Amit Kumar on dtd. 12.12.2024		

Customer's name and address:

Assistant Engineer CMS
Thapar Institute of Engineering and Technology,
Patiala (Pb)
Kind Attn.: Mr. Anil Singla

Sample Description	Stack
Condition of the sample received	OK
Customer's sample identification No. (if any)	**01-** Sub Station 6 -750 KVA- DG-2(T.No 264), **02-** Sub Station 6 -750 KVA- DG-1(T.No 265) **03-** Sub Station 6 -750 KVA- DG-5(T.No 266), **04-** Sub Station 6 -380 KVA- DG-3(T.No 267) **05-** Sub Station 5 -750 KVA- DG-1(T.No 268), **06-** Sub Station 5 -750 KVA- DG-2(T.No 269)
Number of samples	Six
Sampling Procedure (if any)	IS:11255 (Part1),1985, SAI/SOP/01/09 SAI/FM/SP-01, EPA Method 0023A
Test parameters	PM ,PM @ 12% CO2, CO,NO_x,SO_2
Standard/Specification/Method followed	As Mentioned Below
Deviations (if any)	--
Documents constituting this report (if any)	--

Date of Receipt of Job	Date of Completion of Job	Total Number of Pages
12.12.2024	12.12.2024	1

TEST RESULTS

Sr. No.	Parameters	Test Method	Unit	Results					
				01	02	03	04	05	06
1	Particulate Matter	IS: 11255 (Part 1)-1985 Gravimetric	g/kw-hr	0.176	0.175	0.079	0.224	0.220	0.078
2	Particulate Matter @12% CO_2	IS: 11255 (Part 1)-1985 Gravimetric	mg/Nm^3	60.5	59.0	24.0	42.0	98.4	32.4
3	Carbon Monoxide as CO	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 10 SAI/SOP/02/02:2022	mg/Nm^3	321	250	286	257	200	218
4	Nitrogen Dioxide as NOx	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 6C SAI/SOP/02/02:2022	mg/Nm^3	242	339	428	194	203	216
5	Sulphur Dioxide as SO_2	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 6C SAI/SOP/02/02:2022	mg/Nm^3	0	0	0	0	0	0

.....End of the report.....

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

Note:
1. The results listed refer only to the tested samples and applicable parameters. Endorsement of products is neither inferred nor implied
2. Samples will be destroyed after 10 days from the date of issue of the test report unless otherwise specified
3. This report is not to be reproduced wholly or in part and cannot be used as an evidence in the products is neither inferred nor implied, court of law and should not be used in any advertising media without special permission in writing.
4. In case any reconfirmation of contents of the test report is required, please contact the authorized signatory of the test report within 7 days of the issue of test report

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Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

TEST REPORT

ULR No.	NA	Date:	18.12.2024
Service No.	NN(D)/24-25/679 (01-06)	Customer's Ref.	Sample collected by Mr. Amit Kumar on dated 11.12.2024
Customer's name and address:			
Assistant Engineer CMS **Thapar Institute of Engineering and Technology,** **Patiala (Pb)** **Kind Attn.: Mr. Azharuddin Rizvi**			
Sample Description		Stack	
Condition of the sample received		O.K.	
Customer's sample identification No. (if any)		**01-** Sub Station 6 -750 KVA- DG-2(T.No 264), **02-** Sub Station 6 -750 KVA- DG-1(T.No 265) **03-** Sub Station 6 -750 KVA- DG-5(T.No 266), **04-** Sub Station 6 -380 KVA- DG-3(T.No 267) **05-** Sub Station 5 -750 KVA- DG-1(T.No 268), **06-** Sub Station 5 -750 KVA- DG-2(T.No 269)	
Quantity/number of samples		--	
Sampling Procedure (if any)/ Standard/Specification		IS:11255 (Part1),1985, SAI/SOP/01/09 SAI/FM/SP-01, EPA Method 0023A	
Mode of Sampling/Environmental condition during transport		--	
Test parameters		Noise	
Method followed		As mentioned below	
Deviations (if any)		--	
Documents constituting this report (if any)		--	
Date of Receipt of Job	Date of Completion of Job		Total Number of Pages
18.12.2024	18.12.2024		1

TEST RESULTS

Sr. No.	Parameters	Test Method	Unit	Results					
				01	02	03	04	05	06
1	Noise Leq (Close Door	Sound Meter	dB(A)	80.9	81.0	81.3	79.6	73.3	73.8
	Noise Leq (Open Door)			94.6	95.6	96.6	95.2	92.7	91.8

.....End of the report.....

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

Note:
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Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

TC-14778

TEST REPORT

ULR No.	NA	Date:	18.12.2024	Serial No.	182
Service No.	SE/24-25/018 (01-06)	Customer's Ref.	Sample collected by Mr. Amit Kumar on dtd. 13.12.2024		
Customer's name and address:					
Assistant Engineer CMS **Thapar Institute of Engineering and Technology,** **Patiala (Pb)** **Kind Attn.: Mr. Anil Singla**					
Sample Description	Stack				
Condition of the sample received	OK				
Customer's sample identification No. (if any)	**01-** Sub Station 4 -320 KVA- DG (T.No 270), **02-** Sub Station 2 -500 KVA- DG-1(T.No 271) **03-** Sub Station 2 -750 KVA- DG-4(T.No 272), **04-** Sub Station 2 -750 KVA- DG-3(T.No 273) **05-** Sub Station 2 -500 KVA- DG-2(T.No 274), **06-** Sub Station 2 -1000 KVA- DG-5(T.No 275)				
Number of samples	Six				
Sampling Procedure (if any)	IS:11255 (Part1),1985, SAI/SOP/01/09 SAI/FM/SP-01, EPA Method 0023A				
Test parameters	PM ,PM @ 12% CO2, CO,NO_x,SO_2				
Standard/Specification/Method followed	As Mentioned Below				
Deviations (if any)	--				
Documents constituting this report (if any)	--				
Date of Receipt of Job	Date of Completion of Job	Total Number of Pages			
13.12.2024	13.12.2024	1			

TEST RESULTS

Sr. No.	Parameters	Test Method	Unit	Results					
				01	02	03	04	05	06
1	Particulate Matter	IS: 11255 (Part 1)-1985 Gravimetric	g/kw-hr	0.047	0.023	0.061	0.185	0.088	0.053
2	Particulate Matter @12% CO_2	IS: 11255 (Part 1)-1985 Gravimetric	mg/Nm^3	27.7	66.2	58.9	80.3	42.3	38.4
3	Carbon Monoxide as CO	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 10 SAI/SOP/02/02:2022	mg/Nm^3	257	196	197	252	206	224
4	Nitrogen Dioxide as NOx	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 6C SAI/SOP/02/02:2022	mg/Nm^3	194	174	184	265	173	184
5	Sulphur Dioxide as SO_2	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 6C SAI/SOP/02/02:2022	mg/Nm^3	0	0	0	0	0	0

.....End of the report.....

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

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Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

TEST REPORT

ULR No.	NA	Date:	18.12.2024
Service No.	NN(D)/24-25/680 (01-06)	Customer's Ref.	Sample collected by Mr. Amit Kumar on dated 12.12.2024
Customer's name and address:			
Assistant Engineer CMS **Thapar Institute of Engineering and Technology,** **Patiala (Pb)** **Kind Attn.: Mr. Azharuddin Rizvi**			
Sample Description	Stack		
Condition of the sample received	O.K.		
Customer's sample identification No. (if any)	**01-** Sub Station 4 -320 KVA- DG (T.No 270), **02-** Sub Station 2 -500 KVA- DG-1(T.No 271) **03-** Sub Station 2 -750 KVA- DG-4(T.No 272), **04-** Sub Station 2 -750 KVA- DG-3(T.No 273) **05-** Sub Station 2 -500 KVA- DG-2(T.No 274), **06-** Sub Station 2 -1000 KVA- DG-5(T.No 275)		
Quantity/number of samples	--		
Sampling Procedure (if any)/ Standard/Specification	IS:11255 (Part1) 1985, SAI/SOP/01/09 SAI/FM/SP-01, EPA Method 0023A		
Mode of Sampling/Environmental condition during transport	--		
Test parameters	Noise		
Method followed	As mentioned below		
Deviations (if any)	--		
Documents constituting this report (if any)	--		
Date of Receipt of Job	Date of Completion of Job	Total Number of Pages	
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TEST RESULTS

Sr. No.	Parameters	Test Method	Unit	Results					
				01	02	03	04	05	06
1	Noise Leq (Close Door)	Sound Meter	dB(A)	78.9	71.1	77.1	76.8	74.0	74.5
	Noise Leq (Open Door)			95.2	93.2	88.7	83.9	87.7	95.2

.....End of the report.....

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

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Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

TC-14776

TEST REPORT

ULR No.	NA	Date:	18.12.2024	Serial No.	185
Service No.	SE/24-25/019 (01)	Customer's Ref.	Sample collected by Mr. Amit Kumar on dtd. 13.12.2024		
Customer's name and address:					
Assistant Engineer CMS **Thapar Institute of Engineering and Technology,** **Patiala (Pb)** **Kind Attn.: Mr. Azharuddin Rizvi**					
Sample Description		Stack			
Condition of the sample received		OK			
Customer's sample identification No. (if any)		**01**- Sub Station 3 -380 KVA- DG (T No 276)			
Number of samples		One			
Sampling Procedure (if any)		IS:11255 (Part1),1985, SAI/SOP/01/09 SAI/FM/SP-01, EPA Method 0023A			
Test parameters		PM ,PM @ 12% CO2, CO,NO_x,SO_2			
Standard/Specification/Method followed		As Mentioned Below			
Deviations (if any)		--			
Documents constituting this report (if any)		--			
Date of Receipt of Job		Date of Completion of Job		Total Number of Pages	
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TEST RESULTS

Sr. No.	Parameters	Test Method	Unit	Results
				01
1	Particulate Matter	IS: 11255 (Part 1)-1985 Gravimetric	g/kw-hr	0.036
2	Particulate Matter @12% CO_2	IS: 11255 (Part 1)-1985 Gravimetric	mg/Nm^3	25.6
3	Carbon Monoxide as CO	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 10 SAI/SOP/02/02:2022	mg/Nm^3	345
4	Nitrogen Dioxide as NOx	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 6C SAI/SOP/02/02:2022	mg/Nm^3	413
5	Sulphur Dioxide as SO_2	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 6C SAI/SOP/02/02:2022	mg/Nm^3	0

.....End of the report.....

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

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TEST REPORT

ULR No.	NA	Date:	18.12.2024
Service No.	NN(D)/24-25/681 (01)	Customer's Ref.	Sample collected by Mr. Amit Kumar on dated 13.12.2024
Customer's name and address:			
Assistant Engineer CMS **Thapar Institute of Engineering and Technology,** **Patiala (Pb)** **Kind Attn.: Mr. Azharuddin Rizvi**			
Sample Description	Stack		
Condition of the sample received	O.K.		
Customer's sample identification No. (if any)	**01-** Sub Station 3 -380 KVA- DG (T.No 276)		
Quantity/number of samples	--		
Sampling Procedure (if any)/ Standard/Specification	IS:11255 (Part1),1985, SAI/SOP/01/09 SAI/FM/SP-01, EPA Method 0023A		
Mode of Sampling/Environmental condition during transport	--		
Test parameters	Noise		
Method followed	As mentioned below		
Deviations (if any)	--		
Documents constituting this report (if any)	--		
Date of Receipt of Job	Date of Completion of Job	Total Number of Pages	
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TEST RESULTS

Sr. No.	Parameters	Test Method	Unit	Results
				01
1	Noise Leq (Close Door)	Sound Meter	dB(A)	83.6
	Noise Leq (Open Door)			94.6

.....End of the report.....

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

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TC-14776

TEST REPORT

ULR No.	NA	Date	18.12.2024	Serial No.	183
Service No.	SE/24-25/020 (01)	Customer's Ref.	Sample collected by Mr. Amit Kumar on dtd. 18.12.2024		

Customer's name and address.

Assistant Engineer CMS
Thapar Institute of Engineering and Technology,
Patiala (Pb)
Kind Attn.: Mr. Azharuddin Rizvi

Sample Description	Stack
Condition of the sample received	OK
Customer's sample identification No. (if any)	**01-** Sub Station 1 -400 KVA- DG-Out Side (T.No 277)
Number of samples	One
Sampling Procedure (if any)	IS:11255 (Part1),1985, SAI/SOP/01/09 SAI/FM/SP-01, EPA Method 0023A
Test parameters	PM ,PM @ 12% CO2, CO,NO_x,SO_2
Standard/Specification/Method followed	As Mentioned Below
Deviations (if any)	--
Documents constituting this report (if any)	--

Date of Receipt of Job	Date of Completion of Job	Total Number of Pages
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TEST RESULTS

Sr. No.	Parameters	Test Method	Unit	Results
				01
1	Particulate Matter	IS: 11255 (Part 1)-1985 Gravimetric	g/kw-hr	0.032
2	Particulate Matter @12% CO_2	IS: 11255 (Part 1)-1985 Gravimetric	mg/Nm^3	73
3	Carbon Monoxide as CO	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 10 SAI/SOP/02/02:2022	mg/Nm^3	468
4	Nitrogen Dioxide as NOx	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 6C SAI/SOP/02/02:2022	mg/Nm^3	378
5	Sulphur Dioxide as SO_2	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 6C SAI/SOP/02/02:2022	mg/Nm^3	0

.....End of the report.....

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

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Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

TEST REPORT

ULR No.	NA	Date:	18.12.2024
Service No.	NN(D)/24-25/682 (01)	Customer's Ref.	Sample collected by Mr. Amit Kumar on dated 16.12.2024
Customer's name and address:			
Assistant Engineer CMS **Thapar Institute of Engineering and Technology,** **Patiala (Pb)** **Kind Attn.: Mr. Azharuddin Rizvi**			
Sample Description		Stack	
Condition of the sample received		O.K.	
Customer's sample identification No. (if any)		**01-** Sub Station 3 -400 KVA- DG- Out Side (T.No 277)	
Quantity/number of samples		--	
Sampling Procedure (if any)/ Standard/Specification		IS:11255 (Part1),1985, SAI/SOP/01/09 SAI/FM/SP-01, EPA Method 0023A	
Mode of Sampling/Environmental condition during transport		--	
Test parameters		Noise	
Method followed		As mentioned below	
Deviations (if any)		--	
Documents constituting this report (if any)		--	
Date of Receipt of Job	Date of Completion of Job	Total Number of Pages	
18.12.2024	18.12.2024	1	

TEST RESULTS

Sr. No.	Parameters	Test Method	Unit	Results
				01
1	Noise Leq (Close Door)	Sound Meter	dB(A)	78.3
	Noise Leq (Open Door)			90.8

.....End of the report.....

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

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Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

TC-14778

TEST REPORT

ULR No.	NA	Date:	18.12.2024	Serial No.	184
Service No.	SE/24-25/021 (01-02)	Customer's Ref.	Sample collected by Mr. Amit Kumar on dtd. 18.12.2024		
Customer's name and address:					
Assistant Engineer CMS **Thapar Institute of Engineering and Technology,** **Patiala (Pb)** **Kind Attn.: Mr. Azharuddin Rizvi**					
Sample Description		Stack			
Condition of the sample received		OK			
Customer's sample identification No. (if any)		**01-** Sub Station 1 -400 KVA- DG-In Side (T.No 278) **02-** Sub Station 1 -320 KVA- DG-In Side (T.No 279)			
Number of samples		Two			
Sampling Procedure (if any)		IS:11255 (Part1),1985, SAI/SOP/01/09 SAI/FM/SP-01, EPA Method 0023A			
Test parameters		PM ,PM @ 12% CO2, CO,NO_x,SO_2			
Standard/Specification/Method followed		As Mentioned Below			
Deviations (if any)		--			
Documents constituting this report (if any)		--			
Date of Receipt of Job		Date of Completion of Job		Total Number of Pages	
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TEST RESULTS

Sr. No.	Parameters	Test Method	Unit	Results	
				01	02
1	Particulate Matter	IS: 11255 (Part 1)-1985 Gravimetric	g/kw-hr	0.043	1.108
2	Particulate Matter @12% CO_2	IS: 11255 (Part 1)-1985 Gravimetric	mg/Nm^3	65.04	297.73
3	Carbon Monoxide as CO	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 10 SAI/SOP/02/02.2022	mg/Nm^3	161	373
4	Nitrogen Dioxide as NOx	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 6C SAI/SOP/02/02.2022	mg/Nm^3	1565	662
5	Sulphur Dioxide as SO_2	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 6C SAI/SOP/02/02.2022	mg/Nm^3	1024	209

.....End of the report.....

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

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TEST REPORT

ULR No.	NA	Date:	18.12.2024
Service No.	NN(D)/24-25/685 (01-02)	Customer's Ref.	Sample collected by Mr. Amit Kumar on dated 17.12.2024
Customer's name and address:			
Assistant Engineer CMS **Thapar Institute of Engineering and Technology,** **Patiala (Pb)** **Kind Attn.: Mr. Azharuddin Rizvi**			
Sample Description		Stack	
Condition of the sample received		O.K.	
Customer's sample identification No. (if any)		**01-** Sub Station 1 -400 KVA- DG- In Side (T No 278) **02-** Sub Station 1 -320 KVA- DG- In Side (T.No 279)	
Quantity/number of samples		--	
Sampling Procedure (if any)/ Standard/Specification		IS:11255 (Part1),1985, SAI/SOP/01/09 SAI/FM/SP-01, EPA Method 0023A	
Mode of Sampling/Environmental condition during transport		--	
Test parameters		Noise	
Method followed		As mentioned below	
Deviations (if any)		--	
Documents constituting this report (if any)		--	
Date of Receipt of Job	Date of Completion of Job	Total Number of Pages	
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TEST RESULTS

Sr. No.	Parameters	Test Method	Unit	Results	
				01	02
1	Noise Leq (Close Door)	Sound Meter	dB(A)	76.0	75.7
	Noise Leq (Open Door)			98.5	93.9

.....End of the report.....

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

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Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

TC-14776

TEST REPORT

ULR No.	NA	Date:	18.12.2024	Serial No.	186
Service No.	SE/24-25/022 (01)	Customer's Ref.	Sample collected by Mr. Amit Kumar on dtd. 18.12.2024		

Customer's name and address:

Assistant Engineer CMS
Thapar Institute of Engineering and Technology,
Patiala (Pb)
Kind Attn.: Mr. Azharuddin Rizvi

Sample Description	Stack
Condition of the sample received	OK
Customer's sample identification No. (if any)	**01-** Sub Station R&D -160 KVA- DG (T No 280)
Number of samples	One
Sampling Procedure (if any)	IS 11255 (Part1),1985, SAI/SOP/01/09 SAI/FM/SP-01, EPA Method 0023A
Test parameters	PM ,PM @ 12% CO2, CO,NO_x,SO_2
Standard/Specification/Method followed	As Mentioned Below
Deviations (if any)	--
Documents constituting this report (if any)	--

Date of Receipt of Job	Date of Completion of Job	Total Number of Pages
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TEST RESULTS

Sr. No.	Parameters	Test Method	Unit	Results
				01
1	Particulate Matter	IS: 11255 (Part 1)-1985 Gravimetric	g/kw-hr	0.138
2	Particulate Matter @12% CO_2	IS: 11255 (Part 1)-1985 Gravimetric	mg/Nm^3	54.7
3	Carbon Monoxide as CO	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 10 SAI/SOP/02/02:2022	mg/Nm^3	178
4	Nitrogen Dioxide as NOx	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 6C SAI/SOP/02/02:2022	mg/Nm^3	419
5	Sulphur Dioxide as SO_2	Flue Gas Analyzer (KM9106) USEPA ALT004 Method 6C SAI/SOP/02/02:2022	mg/Nm^3	191

.....End of the report.....

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

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Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

TEST REPORT

ULR No.	NA	Date:	18.12.2024
Service No.	NN(D)/24-25/686 (01)	Customer's Ref.	Sample collected by Mr. Amit Kumar on dated 18.12.2024
Customer's name and address:			
Assistant Engineer CMS **Thapar Institute of Engineering and Technology,** **Patiala (Pb)** **Kind Attn.: Mr. Azharuddin Rizvi**			
Sample Description		Stack	
Condition of the sample received		O.K.	
Customer's sample identification No. (if any)		**01-** Sub Station R&D -160 KVA- DG- (T No 280)	
Quantity/number of samples		--	
Sampling Procedure (if any)/ Standard/Specification		IS:11255 (Part1),1985, SAI/SOP/01/09 SAI/FM/SP-01, EPA Method 0023A	
Mode of Sampling/Environmental condition during transport		--	
Test parameters		Noise	
Method followed		As mentioned below	
Deviations (if any)		--	
Documents constituting this report (if any)		--	
Date of Receipt of Job	Date of Completion of Job	Total Number of Pages	
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TEST RESULTS

Sr. No.	Parameters	Test Method	Unit	Results
				01
1	Noise Leq (Close Door)	Sound Meter	dB(A)	86.3
	Noise Leq (Open Door)			94.7

.....End of the report.....

Mr. Rushil Kapur
Technical Manager
(Authorized Signatory)

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URL: www.sailabs.org

PUNJAB POLLUTION CONTROL BOARD

Zonal Office-1, Vatavaran Bhawan, Nabha Road, Patiala

Website:- www.ppcb.gov.in

Office Dispatch No :	**Registered/Speed Post**	**Date:**
Industry Registration ID:	*R14PTA803193*	**Application No :** *25220725*

To,

Dr. Gurbinder Singh
Thapar Institute Of Engineering & Technology Bhadson Road Patiala
Patiala,Punjab-147004

Subject: **Grant Varied 'Consent to Operate' u/s 21 of Air (Prevention & Control of Pollution) Act, 1981 for discharge of emissions arising out of premises.**

With reference to your application for obtaining Varied 'Consent to Operate' u/s 21 of Air (Prevention & Control of Pollution) Act, 1981, you are hereby, authorized to operate an industrial unit for discharge of the emission(s) arising out of your premises subject to the Terms and Conditions as mentioned in this Certificate.

1. Particulars of Consent to Operate under Air Act, 1981 granted to the industry

Consent to Operate Certificate No.	*CTOA/Varied/PTA/2024/25220725*
Date of issue :	*26/06/2024*
Date of expiry :	*25/12/2024*
Certificate Type :	*Varied*
Previous CTO No. & Validity :	*CTOA/Varied/PTA/2023/21449118* *From:17/05/2023 To:31/03/2024*

2. Particulars of the Industry

Name & Designation of the Applicant	*Dr. Gurbinder Singh, (Registrar)*
Address of Industrial premises	*Thapar Institute Of Engineering & Technology, Bhadson Road, Patiala, Patiala,Patiala-147004*
Capital Investment of the Industry	*146039.0 lakhs*
Category of Industry	*Red*
Type of Industry	*1063: Building and construction projects irrespective of built up area and having waste water generation 100 KLD and above area.*
Scale of the Industry	*Large*
Office District	*Patiala*
Consent Fee Details	Rs. 720000/- vide UTR no. SBINR52024032711712651
Raw Materials (Name with Quantity per day)	*Educational Institute (Built up area=391136.15 sq.m.)*
Products (Name with Quantity per day)	*Educational Institute (Built up area=391136.15 sq.m.)*
By-products, if any, (Name with Quantity per day)	*Nil*

Details of the machinery and process	*As per details mentioned in the Application no.25220725*
Quantity of fuel required (in TPD) and capacity of boilers/ Furnace/Thermo heater etc.	*3 no. DG sets of capacity 400 KVA each : HSD @ 36 Ltr/day in each of DG set.* *7 no. DG sets of capacity 750 KVA each : HSD @ 68 Ltr/day in each of DG set.* *2 no. DG sets of capacity 320 KVA : HSD @ 29 Ltr/day in each of DG set.* *2 no. DG set of capacity 500 KVA : HSD @ 45 Ltr/day in each of DG set.* *2 no. DG set of capacity 380 KVA : HSD @ 34 Ltr/day in each of DG set.* *1 no. DG set of capacity 750 KVA : HSD @ 68 ltr/day.* *1 no. DG set of capacity 160 KVA : HSD @ 14.4 ltr/day.*
Type of Air Pollution Control Devices to be installed	*3 no. DG sets of capacity 400 KVA each : Canopy on each DG set* *7 no. DG sets of capacity 750 KVA each : Canopy on each DG set* *2 no. DG sets of capacity 320 KVA : Canopy on each DG set* *2 no. DG set of capacity 500 KVA: Canopy on each DG set* *2 no. DG set of capacity 380 KVA: Canopy on each DG set* *1 no. DG set of capacity 750 KVA: Canopy* *1 no. DG set of capacity 160 KVA :Canopy*
Stack height provided with each boiler/thermo heater/Furnace etc.	*DG sets : Stack height H (in meter) shall be worked out according to the formula: H = h+0.2 (KVA)0.5 where h = height of the building in meters where the generator set is installed*
Sources of emissions and type of pollutants	*DG sets : SPM / SOx / NOx*
Standards to be acheived under Air(Prevention & Control of Pollution) Act, 1981	*Emissions standards as prescribed by the PPCB/CPCB and MOEF & CC from time to time*

26/06/2024

(Navtesh Singla)
Environmental Engineer
For & on behalf
of
(Punjab Pollution Control Board)

Endst. No.: **Dated:**

A copy of the above is forwarded to the following for information and necessary action please:

The Environmental Engineer, Punjab Pollution Control Board, Regional Office, Patiala.

26/06/2024

(Navtesh Singla)
Environmental Engineer

For & on behalf

of

(Punjab Pollution Control Board)

TERMS AND CONDITIONS

A. GENERAL CONDITIONS

1. This consent is not valid for getting power load from the Punjab State Power Corporation Ltd. or for getting loan from the financial institutions.
2. The industry shall apply for renewal /extension of consent at least two months before expiry of the consent.
3. The industry shall not violate any of the norms prescribed under the Air (Prevention & Control of Pollution) Act, 1981, failing which, the consent shall be cancelled / revoked.
4. The achievement of adequacy and efficiency of the air pollution control devices installed shall be the entire responsibility of the industry
5. The authorized fuel being used shall not be changed without the prior written permission of the Board.
6. The industry shall not discharge any fugitive emissions. All gases shall be emitted through a stack of suitable height, as per the norms fixed by the Board from time to time.
7. The industry shall provide port-holes, platforms and/or other necessary facilities as may be required for collecting samples of emissions from any chimney, flue or duct or any other outlets.

   Specifications of the port-holes shall be as under:-

   i) The sampling ports shall be provided atleast 8 times chimney diameter downstream and 2 times upstream from the flow disturbance. For a rectangular cross section the equivalent diameter (De) shall be calculated from the following equation to determine upstream, downstream distance:-

   De = 2 LW / (L+W)

   Where L= length in mts. W= Width in mts.

   ii) The sampling port shall be 7 to 10 cm in diameter

8. The industry shall put display Board indicating environmental data in the prescribed format at the main entrance gate.
9. The industry shall discharge all gases through a stack of minimum height as specified in the following standards laid down by the Board.

(i) Stack height for boiler plants

S.NO.	Boiler with Steam Generating Capacity	Stack heights
1.	*Less than 2 ton/hr.*	9 meters or 2.5 times the height of neighboring building which ever is more
2.	*More than 2 ton/hr. to 5 ton/hr.*	12 meters
3.	*More than 5 ton/hr. to 10 ton/hr*	15 meters
4.	*More than 10 ton/hr. to 15 ton/hr*	18 meters
5.	*More than 15 ton/hr. to 20 ton/hr*	21 meters
6.	*More than 20 ton/hr. to 25 ton/hr.*	24 meters
7.	*More than 25 ton/hr. to 30 ton/hr.*	27 meters
8.	*More than 30 ton/hr.*	30 meters or using the formula H = 14 Qg0.3or H = 74 (Qp)0.24 Where Qg = Quantity of SO2 in Kg/hr. Qp = Quantity of particulate matter in Ton/day.

Note : Minimum Stack height in all cases shall be 9.0 mtr. or as calculated from relevant formula whichever is more.

(ii) For industrial furnaces and kilns, the criteria for selection of stack height would be based on fuel used for the corresponding steam generation.

(iii) Stack height for diesel generating sets:

Capacity of diesel generating set	Height of the Stack	
0-50 KVA	Height of the building	+ 1.5 mt
50-100 KVA	-do-	+ 2.0 mt.
100-150 KVA	-do-	+ 2.5 mt.
150-200 KVA	-do-	+ 3.0 mt.
200-250 KVA	-do-	+ 3.5 mt.
250-300 KVA	-do-	+ 3.5 mt.

For higher KVA rating stack height H (in meter) shall be worked out according to the formula:

$$H = h+0.2 (KVA)0.5$$

where h = height of the building in meters where the generator set is installed.

10. The pollution control devices shall be interlocked with the manufacturing process of the industry to ensure its regular operation.

11. The existing pollution control equipment shall be altered or replaced in accordance with the directions of the Board, and no pollution control equipment or chimney shall be altered or as the case may be erected or re-erected except with the prior approval of the Board.

12. The industry will provide canopy and adequate stack with the D.G sets so as to comply with the provision of notification No GSR-371 E dated 17-5-2002(amended from time to time) issued by MOEF under Environment (Protection) Act, 1986.

13. The Govt. of Punjab, Department of Science, Technology & Environment vide its notification no.4/46/92-3ST/2839 dt. 29/12/1993 has put prohibition on the use of rice husk as fuel after 1.4.1995 except the following:-

ï¿½In the form of briquettes and use of rice husk in fluidized bed combustion.So the industry shall make the necessary arrangement to comply with the above notification.ï¿½

14. The industry shall submit balance sheet of every financial year to the concerned Regional Office by 30th June of every year

15. That the industry shall submit a yearly certificate to the effect that no addition / up-gradation/ modification/ modernization has been carried out during the previous year otherwise the industry shall apply for the varied consent.

16. a) The industry shall ensure that at any time the emission do not exceed the prescribed emissions standards laid down by the Board from time to time for such type of industry /emissions.

    b) The industry shall ensure that the emissions from each stack shall conform to the following emission standards laid down by the Board in respect of the Industrial Boilers.

Steam Generating capacity A.	*Required particulate matter B.*	
Area upto 5 Km from Other than the periphery of I and Class-II town	*Other than 'A' class*	
Less than 2 ton/hr.	800 mg/NM3	1200 mg/NM3
2 ton to 10 ton/hr.	500 mg/NM3	1000 mg/NM3
Above 10 ton to 15 ton/hr	350 mg/NM3	500 mg/NM3
Above 15 ton/hr	150 mg/NM3	150 mg/NM3

All emissions normalized to 12% carbon dioxide.

17. The industry shall ensure that the Hazardous Wastes generated from the premises are handled as per the provisions of theHazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008, without any adverse effect on the environment, in any manner.

18. The air pollution control equipments shall be kept at all time in good running condition and;

(i) All failures of control equipments.

(ii) The emissions of any air pollutant into the atmosphere in excess of the standards lay down by the Board occurring or being apprehended to occur due to accident or other unforeseen act or event. 'Shall be intimated through fax to the concerned Regional Office as well as to the Director of Factories, Punjab, Chandigarh as required under rule 10 of the Punjab State Board for the Prevention and Control of Air Pollution Rules, 1983'.

19. The industry shall plant minimum of three suitable varieties of trees at the density of not less than 1000 trees per hectare all along the boundary of the industrial premises.

20. The industry shall submit a site emergency plan approved by the Chief Inspector of Factories, Punjab as applicable.

21. The industry shall comply with the conditions imposed by the SEIAA/MOEF in the Environmental Clearance granted to it as required under EIA notification dated 14/9/06, if applicable.

22. The industry shall make necessary arrangements for the monitoring of stack emissions and shall get its emissions analyzed from lab approved / authorized by the Board:-

(i) Once in Year for Small Scale Industries.

(ii) Twice/thrice/four time in a Year for Large/Medium Scale Industries.

23. The industry shall maintain the following record to the satisfaction of the Board :-

(i) Log books for running of air pollution control devices or pumps/motors used for it.

(ii) Register showing the result of various tests conducted by the industry for monitoring of stack emissions and ambient air.

(iii) Register showing the stock of absorbents and other chemicals to be used for scrubbers.

24. The industry will install the separate energy meter for running pollution control devices and shall maintain record with respect to operation of air pollution control device so as to the satisfy the Board regarding the regular operation of air pollution control device and monthly reading / record may be sent to the Board by the fifth of the following month.

25. The industry shall provide online monitoring system as applicable, for in stack emission and shall maintain the record of the same for inspection of the Board Officers.

26. The Board reserves the right to revoke the consent granted to the industry at any time, in case the industry is found violating the provisions of Air (Prevention & Control of Pollution) Act, 1981 as amended from time to time.

27. The industry shall comply with any other conditions laid down or directions issued in due course by the Board under the provisions of the Air (Prevention & Control of Pollution) Act, 1981.

28. Nothing in this consent shall be deemed to neither preclude the institution of any legal action nor relieve the applicant from any responsibilities, liabilities or penalties to which the applicant is or may be subjected to under this or any other Act.

29. Any amendments/revisions made by the Board/CPCB/MOEF in the emission/stack height standards shall be applicable to the industry from the date of such amendments/revisions.

30. The industry shall dispose off its solid waste generated by the burning of fuel in an Environmentally Sound Manner within the premises/outside as approved by the Board, to avoid public nuisance and air pollution problem in the area.

31. The industry shall ensure that no air pollution problem or public nuisance is created in the area due to the discharge of emissions from the industry.

32. The industry shall provide adequate arrangement for fighting the accidental leakage/discharge of any air pollutant/gas/ liquids from the vessels, mechanical equipment's etc, which are likely to cause environmental pollution.

33. The industry shall not change or alter the manufacturing process(es) and fuel so as to change the quality/quantity of emissions generated without the prior permission of the Board.

34. The industry shall earmark a land within their premises for disposal of boiler ash in an environmentally sound manner, and / or the industry shall make necessary arrangements for proper disposal of fuel ash in a scientific manner and shall maintain proper record for the same, if applicable.

35. The industry shall obtain and submit Insurance cover under the Public Liability Insurance Act, 1991.

36. The industry shall provide proper and adequate air pollution control arrangements for control emission from its fuel handling area, if applicable.

37. The industry shall comply with the code of practice as notified by the Government/Board for the type of industries where the siting guidelines / Code of Practice have been notified.

38. The industry shall not cause any nuisance/traffic hazard in vicinity of the area

39. The industry shall ensure that the noise & air emission from D.G. sets do not exceed the standards prescribed for D.G. sets by the Ministry of Environment & Forests, New Delhi.

40. The industry shall ensure that there will not be significant visible dust emissions beyond the property line

41. The industry shall provide adequate and appropriate air pollution control devices to contain emissions from handling, transportation and processing of raw material & product of the industry.

42. The Industry shall ensure that its production capacity does not exceed the capacity mentioned in the consent and shall not carry out any expansion without the prior permission / NOC of the Board.

B. SPECIAL CONDITIONS

1. The educational institute shall upgrade its existing STP installation of as per the timelines in the PERT chart submitted by it i.e. by 25.07.2024 and ensure that there is no odour nuisance in the residential area due to the operation of the STP.

2. The educational institute shall install odour measuring sensors near the boundary wall towards residential area within one month.

3. The educational institute shall make arrangement to cover the raw sewerage collection cum equalization tank in order to mitigate problem of odour from the said components.

4. The educational institute shall install sludge removal mechanism from the various components of STP within one month.

5. The educational institute shall ensure that all the residential as well as educational building within the premises of institute shall install water saving devices within one month.

6. The educational institute shall keep its discharge within the consented limits by adjusting the flow rate at the inlet of the STP and make equalization tank of adequate storage capacity (to accommodate additional effluent during rainy season also).

7. The educational institute shall obtain revised permission from PWRDA for ground water abstraction as per its discharge ratio.

8. The educational institute shall utilize the treated waste water for sprinkling on roads and katcha area within the institute on continues basis for suppression of dust.

9. The educational institute shall make its CAAQMS operational within one week and connect the same with the Board server.

10. The educational institute shall provide green belt along the complete boundary towards the residential area adjoining to it.

11. The educational institute shall install and commission mechanical composter of 3 TPD as proposed by it within one month and ensure that no solid waste is being dispose of outside premises of the institute.

12. The educational institute shall comply with all the conditions of Environmental Clearance granted to it by the Competent Authority within the specified time period and shall submit complete compliance while submitting the next six monthly report to the Board.

13. The application of the institute for obtaining varied consent to operate and NOC extension under the Water Act, 1974 and Air Act, 1981 may be considered/granted for shorter period subject to the compliance of the above mentioned recommendations.

14. The educational institute shall devise the ways & means to minimize the generation of all kind of wastes through REDUCE, REUSE and RECYCLE activities. The generated waste, if any, shall be properly handled and managed as per the provisions of the Municipal Solid Waste Rules 2016 in an environmentally sound manner.

15. The educational institute may also develop the vermicomposting/composting to manage the biodegradable solid waste. PP shall not throw, burn or bury any solid wastes in open, outside premises or in drain / water bodies.

16. The educational institute shall ensure that there are no usages of plastic carry bags and single use plastic / thermocol disposable items such as water bottles / water pouches/water cups, plates, forks, spoons, straw etc. and single use decorating material made of plastic-thermocol or any other non-biodegradable material in the premises.

17. The educational institute shall perform / promote its Corporate Environment Responsibility (CER) activities as well as use of alternatives of single use plastics (SUP) and awareness to discourage use of plastic (See attached banner/circular).

18. The educational institute shall carry out awareness and activities for the themes / action points identified under Mission LiFE (Lifestyle for the Environment) by Ministry of Environment, Forests and Climate Change

26/06/2024

(Navtesh Singla)
Environmental Engineer

For & on behalf

of

(Punjab Pollution Control Board)

PUNJAB POLLUTION CONTROL BOARD

Zonal Office-1, Vatavaran Bhawan, Nabha Road, Patiala

Website:- www.ppcb.gov.in

Office Dispatch No : **Registered/Speed Post** **Date:**

Industry Registration ID: *R14PTA803193* **Application No :** *25220756*

To,

Dr Gurbinder Singh
Thapar Institute Of Engineering & Technology Bhadson Road Patiala
Patiala,Punjab-147004

Subject: **Grant Varied 'Consent to Operate'an outlet u/s 25/26 of Water (Prevention & Control of Pollution) Act, 1974 for discharge of effluent.**

With reference to your application for obtaining Varied 'Consent to Operate' an outlet for discharge of the effluent u/s 25/26 of Water (Prevention & Control of Pollution) Act, 1974, you are, hereby, authorized to operate an industrial unit fordischarge of the effluent(s) arising out of your premises subject to the Terms and Conditions as mentioned in this Certificate

1. Particulars of Consent to Operate under Water Act, 1974 granted to the industry

Consent to Operate Certificate No.	*CTOW/Varied/PTA/2024/25220756*
Date of issue :	*26/06/2024*
Date of expiry :	*25/12/2024*
Certificate Type :	*Varied*
Previous CTO No. & Validity :	*CTOW/Varied/PTA/2023/21795967 From:17/05/2023 To:31/03/2024*

2. Particulars of the Industry

Name & Designation of the Applicant	*Dr. Gurbinder Singh, (Registrar)*
Address of Industrial premises	*Thapar Institute Of Engineering & Technology, Bhadson Road, Patiala, Patiala,Patiala-147004*
Capital Investment of the Industry	*146039.0 lakhs*
Category of Industry	*Red*
Type of Industry	*1063: Building and construction projects irrespective of built up area and having waste water generation 100 KLD and above area.*
Scale of the Industry	*Large*
Office District	*Patiala*
Consent Fee Details	Rs. 720000/- vide UTR no.SBIN224082719390 dated 22.03.2024
Raw Materials(Name with quantity per day)	*Educational Institute (Built up area=391136.15 sq.m.)*
Products (Name with quantity per day)	*Educational Institute (Built up area=391136.15 sq.m.)*
By-Products, if any,(Name with quantity per day)	*Nil*
Details of the machinary and processes	*As per details mentioned in the Application no.25220756*

Details of the Effluent Treatment Plant	*STP to treat Domestic Effluent @843.0 KLD*
Mode of Disposal	*Treated waste water @ 694 KLD shall be discharged onto land for plantation (196416.44 sq.m2 Green area and Excess to 10 Acres area under Karnal Technology) and treated water @ 132 KLD shall be recycled for flushing purpose.*
Standards to be achieved under Water(Prevention & Control of Pollution) Act, 1974	*As per effluent standards prescribed by the Board/MoEF&CC and amended from time to time.*

26/06/2024

(Navtesh Singla)
Environmental Engineer
For & on behalf
of
(Punjab Pollution Control Board)

Endst. No.: **Dated:**

A copy of the above is forwarded to the following for information and necessary action please:

The Environmental Engineer, Punjab Pollution Control Board, Regional Office, Patiala.

26/06/2024

(Navtesh Singla)
Environmental Engineer
For & on behalf
of
(Punjab Pollution Control Board)

TERMS AND CONDITIONS

A. GENERAL CONDITIONS

1. This consent is not valid for getting power load from the Punjab State Power Corporation Limited or for getting loan from the financial institutions.
2. The industry shall apply for renewal/further extension in validity of consent atleast two months before expiry of the consent.
3. The industry shall ensure that the effluent discharging through the authorized outlet shall confirm to the prescribed standards as applicable from time to time.
4. The industry shall plant minimum of three suitable varieties of trees at the density of not less than 1000 trees per hectare all along the boundary of the industrial premises.
5. The achievement of the adequacy and efficiency of the effluent treatment plant/pollution control devices/re-circulation system installed shall be the entire responsibility of the industry.
6. The industry shall ensure that the Hazardous Wastes generated from the premises are handled as per the provisions of the Hazardous Wastes(Management, Handling and Trans boundary Movement) Rules, 2008 as amended time to time , without any adverse effect on the environment, in any manner
7. The responsibility to monitor the effluent discharged from the authorized outlet and to maintain a record of the same rests with the industry. The Board shall only test check the accuracy of these reports for which the industry shall deposit the samples collection and testing fee with the Board as and when required.
8. The industry shall submit balance sheet of every financial year to the concerned Regional Office by 30th June of every year.
9. The industry shall submit a yearly certificate to the effect that no addition/up-gradation/ modification/ modernization has been carried out during the previous year otherwise the industry shall apply for the varied consent.
10. During the period beginning from the date of issuance and the date of expiration of this consent, the applicant shall not discharge floating solids or visible foam.
11. Any amendments/revisions made by the Board in the tolerance limits for discharges shall be applicable to the industry from the date of such amendments/revisions.
12. The industry shall not change or alter the manufacturing process(es) so as to change the quality and/or quantity of the effluents generated without the written permission of the Board.
13. Any upset conditions in the plant/plants of the factory, which is likely to result in increased effluent and/or result in violation of the standards lay down by the Board shall be reported to the Environmental Engineer, Punjab Pollution Control Board of concerned Regional Office immediately failing which any stoppage and upset conditions that come to the notice of the Board/its officers, will be deemed to be intentional violation of the conditions of consent.
14. The industry shall provide terminal manhole(s) at the end of each collection system and a manhole upstream of final outlet (s) out of the premises of the industry for measurement of flow and for taking samples.
15. The industry shall for the purpose of measuring and recording the quantity of water consumed and effluent discharged, affix meters of such standards and at such places as approved by the Environmental Engineer, Punjab Pollution Control Board of the concerned Regional Office.
16. The industry shall maintain record regarding the operation of effluent treatment plant i.e. record of quantity of chemicals and energy utilized for treatment and sludge generated from treatment so as to satisfy the Board regarding regular and proper operation of pollution control equipment.
17. The industry shall provide online monitoring equipmenti¿½s for the parameters as decided by concerned Regional Office with the effluent treatment plant/air pollution control devices installed, if applicable.
18. The pollution control devices shall be interlocked with the manufacturing process of the industry.
19. The authorized outlet and mode of disposal shall not be changed without the prior written permission of the Board.
20. The industry shall comply with the conditions imposed by the SEIAA / MOEF in the environmental clearance granted to it as required under EIA notification dated14/9/06, if applicable.
21. The industry shall obtain and submit Insurance cover as required under the Public Liability Insurance Act, 1991.
22. The industry shall not use any unauthorized out-let(s) for discharging effluents from its premises. All unauthorized outlets, if any, shall be connected to the authorized outlet within one month from the date of issue of this consent.

23. The industry shall make necessary arrangements for the monitoring of effluent being discharged by the industry and shall monitor its effluents:-

    (i) Once in Year for Small Scale Industries.

    (ii) Four in a Year for Large/Medium Scale Industries.

    (iii) The industry will submit monthly reading/ data of the separate energy meter installed for running of effluent treatment plant/re-circulation system to the concerned Regional Office of the Board by the 5th of the following month.

24. The industry shall provide electromagnetic flow meters at the source of water supply, at inlet/outlet of effluent treatment plant within one month and shall maintain the record of the daily reading and submit the same to the concerned Regional Office by the 5th of the following month.

25. The Board reserves the right to revoke this consent at any time in case the industry is found violating any of the conditions of this consent and/or the provisions of Water (Prevention & Control of Pollution) Act, 1974 as amended from time to time.

26. The issuance of this consent does not convey any property right in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State or Local Laws or Regulations.

27. The consent does not authorize or approve the construction of any physical structures or facilities for undertaking of any work in any natural watercourse.

28. Nothing in this consent shall be deemed to neither preclude the institution of any legal action nor relieve the applicant from any responsibilities, liabilities or penalties to which the applicant is or may be subjected under this or any other Act.

29. The industry shall make necessary and adequate arrangements to hold back the effluent in case of failure of septic tank.

30. The diversion or bye pass of any discharge from facilities utilized by the applicant to maintain compliance with the terms and conditions of this consent is prohibited except.

    (i) Where unavoidable to prevent loss of life or some property damage or

    (ii) Where excessive storm drainage or run off would damage facilities necessary for compliance with terms and conditions of this consent. The applicant shall immediately notify the consent issuing authority in writing of each such diversion or bye-pass.

31. The industry shall ensure that no water pollution problem is created in the area due to discharge of effluents from its industrial premises.

32. The industry shall comply with the code of practice as notified by the Government/ Board for the type of industries where the siting guidelines/ code of practice have been notified.

33. Solids, sludge, filter backwash or other pollutant removed from or resulting from treatment or control of waste waters shall be disposed off in such a manner to prevent any pollutants from such materials from entering into natural water.

34. The industry shall re-circulate the entire cooling water and shall also re-circulate/reuse to the maximum extent the treated effluent in processes

35. The industry shall make necessary and adequate arrangements to hold back the effluent in case of failure of re-circulation system/ effluent treatment plant.

36. The industry shall make proper disposal of the effluent so as to ensure that no stagnation occurs inside and outside the industrial premises during rainy season and no demand period.

37. Where excessive storm water drainage or run off, would damage facilities necessary for compliance with terms and conditions of this consent, the applicant shall immediately notify the consent issuing authority in writing of each such diversion or bye-pass.

38. The industry shall submit a detailed plan showing therein the distribution system for conveying waste-water for application on land for irrigation along with the crop pattern for the year.

39. The industry shall ensure that the effluent discharged by it is toxicity free.

40. The industry shall not irrigate the vegetable crops with the treated effluents which are used/ consumed as raw.

41. Drains causing oil & grease contamination shall will be segregated. Oil & grease trap shall be provided to recover oil & grease from the effluent.

42. The industry shall establish sufficient number of piezometer wells in consultation with the concerned Regional Office, of the Board to monitor the impact on the Ground Water Quantity due to the industrial operations, and the monitoring shall be submitted to the Environmental Engineer of the concerned Regional Office by the 5th of every month.

43. The industry shall ensure that its production capacity & quantity of trade effluent do not exceed the quantity mentioned in the consent and shall not carry out any expansion without the prior permission/NOC of the Board.

B. SPECIAL CONDITIONS

1. The educational institute shall upgrade its existing STP installation of as per the timelines in the PERT chart submitted by it i.e. by 25.07.2024 and ensure that there is no odour nuisance in the residential area due to the operation of the STP.

2. The educational institute shall install odour measuring sensors near the boundary wall towards residential area within one month.

3. The educational institute shall make arrangement to cover the raw sewerage collection cum equalization tank in order to mitigate problem of odour from the said components.

4. The educational institute shall install sludge removal mechanism from the various components of STP within one month.

5. The educational institute shall ensure that all the residential as well as educational building within the premises of institute shall install water saving devices within one month.

6. The educational institute shall keep its discharge within the consented limits by adjusting the flow rate at the inlet of the STP and make equalization tank of adequate storage capacity (to accommodate additional effluent during rainy season also).

7. The educational institute shall obtain revised permission from PWRDA for ground water abstraction as per its discharge ratio.

8. The educational institute shall utilize the treated waste water for sprinkling on roads and katcha area within the institute on continues basis for suppression of dust.

9. The educational institute shall make its CAAQMS operational within one week and connect the same with the Board server.

10. The educational institute shall provide green belt along the complete boundary towards the residential area adjoining to it.

11. The educational institute shall install and commission mechanical composter of 3 TPD as proposed by it within one month and ensure that no solid waste is being dispose of outside premises of the institute.

12. The educational institute shall comply with all the conditions of Environmental Clearance granted to it by the Competent Authority within the specified time period and shall submit complete compliance while submitting the next six monthly report to the Board.

13. The application of the institute for obtaining varied consent to operate and NOC extension under the Water Act, 1974 and Air Act, 1981 may be considered/granted for shorter period subject to the compliance of the above mentioned recommendations.

14. The educational institute shall devise the ways & means to minimize the generation of all kind of wastes through REDUCE, REUSE and RECYCLE activities. The generated waste, if any, shall be properly handled and managed as per the provisions of the Municipal Solid Waste Rules 2016 in an environmentally sound manner.

15. The educational institute may also develop the vermicomposting/composting to manage the biodegradable solid waste. PP shall not throw, burn or bury any solid wastes in open, outside premises or in drain / water bodies.

16. The educational institute shall ensure that there are no usages of plastic carry bags and single use plastic / thermocol disposable items such as water bottles / water pouches/water cups, plates, forks, spoons, straw etc. and single use decorating material made of plastic-thermocol or any other non-biodegradable material in the premises.

17. The educational institute shall perform / promote its Corporate Environment Responsibility (CER) activities as well as use of alternatives of single use plastics (SUP) and awareness to discourage use of plastic (See attached banner/circular).

18. The educational institute shall carry out awareness and activities for the themes / action points identified under Mission LiFE (Lifestyle for the Environment) by Ministry of Environment, Forests and Climate Change

26/06/2024

(Navtesh Singla)
Environmental Engineer

For & on behalf

of

(Punjab Pollution Control Board)

Annexure 9

SEPTEMBER 2024 Inlet water Record STP

Date	Reading Start Day	Reading end Day	Qty inlet in KL	Signature
1/09/2024	318797	319741	944	
2/09/24	319741	320683	942	
3/09/24	320683	321586	903	
4/09/24	321586	322473	887	
5/09/24	322473	323245	772	
6/09/24	323245	324137	892	
7/09/24	324137	325119	982	
8/09/24	325119	326063	944	
9/09/24	326063	326952	889	
10/09/24	326952	327831	879	
11/09/24	327831	328708	877	
12/09/24	328708	329700	992	
13/09/24	329700	330682	982	
14/09/24	330682	331786	1104	
15/09/24	331786	332895	1109	
16/09/24	332895	334022	1127	
17/09/24	334022	334976	954	
18/09/24	334976	335720	744	
19/09/24	335720	336534	814	
20/09/24	336534	337463	929	
21/09/24	337463	338482	1019	
22/09/24	338482	339429	947	
23/09/24	339429	340322	893	
24/09/24	340322	341241	919	
25/09/24	341241	342184	943	
26/09/24	342184	343136	952	
27/09/24	343136	343918	782	
28/09/24	343918	345061	1143	
29/09/24	345061	346187	1126	
30/09/24	346187	347156	969	

October 2024 Inlet water Record STP

Date	Reading start Day	Reading end Day	Qty inlet in KL	Signature.
1/10/2024	347156	348258	1102	Rajneesh
2/10/24	348258	349277	1019	Rajneesh
3/10/24	349277	350404	1127	Rajneesh
4/10/24	350404	351492	1088	Rajneesh
5/10/24	351492	352495	1003	Rajneesh
6/10/24	352495	353517	1022	Rajneesh
7/10/24	353517	354473	956	Nishan
8/10/24	354473	355464	991	Nishan
9/10/24	355464	356433	969	Nishan
10/10/24	356433	357485	1052	Nishan
11/10/24	357485	358487	1002	Nishan
12/10/24	358487	359485	998	Nishan
13/10/24	359485	360457	972	Nishan
14/10/24	360457	361436	979	Nishan
15/10/24	361436	362455	1019	Rajneesh
16/10/24	362455	363578	1123	Rajneesh
17/10/24	363578	364705	1127	Rajneesh
18/10/24	364705	365839	1134	Rajneesh
19/10/24	365839	366892	1053	Rajneesh
20/10/24	366892	367891	999	Rajneesh
21/10/24	367891	368885	994	Pawan
22/10/24	368885	369754	869	Pawan
23/10/24	369754	370598	844	Pawan
24/10/24	370598	371561	963	Pawan
25/10/24	371561	372414	853	Pawan
26/10/24	372414	373281	867	Pawan
27/10/24	373281	374138	857	Pawan
28/10/24	374138	374897	759	Pawan
29/10/24	374897	375799	902	Pawan
30/10/24	375799	376162	363	Nishan
31/10/24	376162	376504	342	Nishan

Outlet Record September 2024

Outlet flow records of STP

Date	Reading at start Day	Reading end Day	Qty outlet in KL	Signature
1/09/2024	278999	279122	923	Nishan
2/09/2024	279122	280051	929	Nishan
3/09/24	280051	280893	842	Nishan
4/09/24	280893	281740	847	Nishan
5/09/24	281740	282482	742	Nishan
6/09/24	282482	283324	842	Nishan
7/09/24	283324	284265	941	Nishan
8/09/24	284265	285194	929	Pawan
9/09/24	285194	286068	874	Nishan
10/09/24	286068	286910	842	Nishan
11/09/24	286910	287761	851	Nishan
12/09/24	287761	288717	956	Nishan
13/09/24	288717	289669	952	Nishan
14/09/24	289669	290721	1052	Nishan
15/09/24	290721	291780	1059	Nishan
16/09/24	291780	292882	1102	Pawan
17/09/24	292882	293805	923	Pawan
18/09/24	293805	294529	724	Pawan
19/09/24	294529	295323	794	Pawan
20/09/24	295323	296217	894	Pawan
21/09/24	296217	297158	941	Pawan
22/09/24	297158	298081	923	Pawan
23/09/24	298081	298960	879	Pawan
24/09/24	298960	299857	897	Pawan
25/09/24	299857	300780	923	Pawan
26/09/24	300780	301704	924	Pawan
27/09/24	301704	302428	724	Pawan
28/09/24	302428	303482	1054	Nishan
29/09/24	303482	304581	1099	Nishan
30/09/24	304581	305508	927	Nishan

Outlet Record october 2024

Date	Reading start day	Reading end day	qty of outlet ink	Signature
1/10/2024	305508	306559	1051	Ravin
2/10/2024	306559	307551	992	Ravin
3/10/2024	307551	308643	1092	Ravin
4/10/2024	308643	309694	1051	Ravin
5/10/2024	309694	310635	941	Ravin
6/10/24	310635	311629	994	Ravin
7/10/24	311629	312563	934	Ravin
8/10/24	312563	313505	942	Rajnesh K
9/10/24	313505	314439	934	Ravin
10/10/24	314439	315393	954	Rajnesh
11/10/24	315393	316355	962	Ravin
12/10/24	316355	317327	972	Ravin
13/10/24	317327	318259	932	Ravin
14/10/24	318259	319197	938	Ravin
15/10/24	319197	320189	992	Ravin
16/10/24	320189	321281	1092	Rajnesh
17/10/24	321281	322374	1093	Rajnesh
18/10/24	322374	323468	1094	Rajneesh K
19/10/24	323468	324460	992	Rajneesh K
20/10/24	324460	325442	982	Rajneesh K
21/10/24	325442	326414	972	Rajnesh K
22/10/24	326414	327256	842	Rajneesh
23/10/24	327256	328088	832	Ravin
24/10/24	328088	328932	844	Rajneesh K
25/10/24	328932	329766	834	Nishant
26/10/24	329766	330603	837	Nishant
27/10/24	330603	331435	832	Nishant
28/10/24	331435	332174	739	Nishant
29/10/2024	332174	333016	842	Nishant
30/10/24	333016	333370	354	Nishant
31/10/24	333370	333691	321	Nishant

सत्यमेव जयते

INDIA NON JUDICIAL

Government of Karnataka

e-Stamp

Certificate No.	:	IN-KA51697639330207W
Certificate Issued Date	:	07-Mar-2024 03:21 PM
Account Reference	:	NONACC (FI)/ kacrsfl08/ BTM LAYOUT/ KA-JY
Unique Doc. Reference	:	SUBIN-KAKACRSFL08650691503498 85W
Purchased by	:	SAAHAS WASTE MANAGEMENT PRIVATE LIMITED
Description of Document	:	Article 5(J) Agreement (In any other cases)
Property Description	:	Service agreement
Consideration Price (Rs.)	:	0 (Zero)
First Party	:	SAAHAS WASTE MANAGEMENT PRIVATE LIMITED
Second Party	:	Eco Enviro Circular Solutions
Stamp Duty Paid By	:	SAAHAS WASTE MANAGEMENT PRIVATE LIMITED
Stamp Duty Amount(Rs.)	:	500 (Five Hundred only)

PKISSN BRANCH BTM LAYOUT, BANGALORE Authorised Signatory

Please write or type below this line

SERVICES AGREEMENT

This **SERVICES AGREEMENT** (**"Agreement"**) is dated March 07, 2024 (**"Execution Date"**) and is made by and between:

1. **SAAHAS WASTE MANAGEMENT PRIVATE LIMITED**, a private company incorporated under the laws of India, and having its office #32, 5th B Cross, MCHS Colony, 16th Main, BTM Layout 2nd Stage, Bengaluru – 560076, (hereinafter referred to as the **"Company"**, which expression shall, unless repugnant to the context or meaning thereof, be deemed to include its successors and permitted assigns); and

SAAHAS WASTE MANAGEMENT PRIVATE LIMITED #32, 5th B cross, MCHS colony, 16th main, BTM 2nd stage.

Statutory Alert:
1. The authenticity of this Stamp certificate should be verified at 'www.shcilestamp.com' or using e-Stamp Mobile App of Stock Holding

2. **Eco Enviro Circular Solutions** partnership firm constituted under partnership act 1932 under the laws of India, and having its office at GROUND FLOOR INFRONT OF FAUJI DAIRY KHATAN NO - 1,KHESHRA NO -673 AMRIT NAGAR HIGH SCHOOL,BAGODAR ROAD Hazaribag-825301 (hereinafter referred to as the **"Service Provider"**, which expression shall, unless repugnant to the context or meaning thereof, be deemed to include its successors and permitted assigns).

(The Service Provider and the Company are hereinafter, collectively referred to as the **"Parties"** and individually as a **"Party"**).

WHEREAS:

(A) The Company is engaged in complete waste management solutions including collection, segregation, transportation and processing of solid waste by itself or through authorized third parties and is authorized by the local government bodies.

(B) The Service Provider is engaged in providing services of collection, transport, and channelization of such waste to the co-processors.

(C) The Parties have now agreed to enter into this Agreement to set forth the agreed terms and conditions on which certain identified services pertaining to handling and management of reject waste shall be provided by the Service Provider to the Company.

IT IS AGREED BY AND AMONGST THE PARTIES HERETO AS FOLLOWS:

1. DEFINITIONS AND INTERPRETATIONS

1.1. In this Agreement, unless the context requires otherwise the following words and expressions shall have the following meanings:

"Business Day" means a day on which banks are open for normal banking business where an act is to be performed, notice is to be received or a payment is to be made (excluding Saturdays, Sundays and public holidays).

"Company Premises" means Thapar iinstitute of engineering & technology (TIET-Thaper university), at Bhadson Rd, Adarsh Nagar, Prem Nagar,Patiala -14700

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"Confidential Information" of a Party means any and all material information of a Party which has or may come into the possession or knowledge of the other Party in connection with or as a result of entering into this Agreement.

"Damages" shall mean actual and direct monetary (or where the context so requires, monetary equivalent of) damages, losses, fines, fees, penalties as applicable under applicable law, losses and reasonable out-of-pocket expenses.

"Dry Waste" shall mean any solid waste that cannot be degraded by micro- organisms into simpler stable compounds and includes within its meaning materials such as paper, plastic, glass, metal, peckaging and wood.

"Force Majeure" shall mean any event or circumstance or combination of events or circumstances that materially and adversely affects, prevents or delays any Party in the performance of its obligations in accordance with the terms of this Agreement, but only if and to the extent that such events and circumstances are not within the affected Party's control or was not foreseeable.

"Invoice" shall have the meaning ascribed to the term under Clause 4.1.

"Reject Waste" shall mean solid waste where different waste streams (such as Dry/Wet) have been mixed in any manner sent to the landfills and or for co-processing as per the nature of waste.

"Services" shall mean services that will be provided by the Service Provider to the Company under this Agreement, as fully described in **Schedule I**.

"Service Fee" shall mean the fees at which the Service Provider shall supply the Services to the Company as set out in **Schedule II**.

"Term" shall have the meaning ascribed to the term at Clause 8.1.

"Wet Waste" shall mean any organic material that can be degraded by micro-organisms into simpler stable compounds and includes within its meaning wastes such as fruit and vegetable peels, leftover and/or stale food, tea leaves, egg shells meat, bones and similar items.

2. SCOPE OF SERVICES

2.1. During the Term and in accordance with the terms of this Agreement, the Service Provider agrees to provide the Services at the Company Premises upon payment of the Service Fee (and applicable taxes). The Service Provider shall be responsible for effectively implementing the **scope of work** mentioned in **Schedule I** and timely performance of the Services.

3. PERSONNEL

The Company shall deploy personnel at the Designated Premises to aggregate and handover the Reject waste.

The Service Provider shall deploy personnel at to carry out the Services under this Agreement. The employees deployed by the Service Provider to carry out such Services. The employees shall all times, be and remain the employees of the Service provider and the Service Provider shall be

solely responsible for the payment of wages, allowances and other benefits to its employees under any applicable statutes and regulations.

4. INVOICING AND PAYMENT

4.1. The Service Provider shall submit to the Company an invoice setting out the Service Fees and details of taxes payable on a monthly basis on or prior to 5th of every month for the Services rendered as per **Schedule II**. The Company shall make payment of the Service Fee and the taxes quoted in the Invoice within 7 (seven) days from the date of receipt of the Invoice.

4.2. Any and all sums payable under this Agreement including the Service Fee are exclusive of applicable taxes and shall be charged in addition to the Service Fee.

REPRESENTATIONS AND WARRANTIES

4.3. Each of the Parties represents and warrants to the other Party it has the legal right, power and authority to enter into, deliver and perform this Agreement. This Agreement when executed will constitute the legal, valid and binding obligations of the Party and is enforceable against such Party in accordance with its terms. The person executing this Agreement (on behalf of the Party) has all requisite power and authority to execute and deliver this Agreement on behalf of such Party and has complied with all relevant procedural requirements relating to such execution.

4.4. Each of the Parties represents and warrants to the other Party it will not offer any gift, consideration or benefit of any kind, which constitutes illegal or corrupt practice to any one, either directly or indirectly, in connection with the Services under this Agreement.

4.5. The Service Provider represents and warrants that it shall use its best efforts in performing the Services under this Agreement in a professional and diligent manner, including, complying with the specifications and standards.

4.6. The Service Provider represents that it possesses all valid consents, registrations, authorisations under applicable laws including Solid Waste Management Rules, 2016(as amended from time to time)(**SWM Rules**) and follows all the applicable standards and relevant pollution control norms to undertake the Services under this Agreement.

4.7. The Service Provider represents and warrants that it will comply with all the applicable provisions of SWM Rules and other all applicable laws and requirements of government authorities in relation to occupational health, employment, safety and environment matters and shall be responsible for the compliance of all statutory regulations and guidelines as applicable to perform the Services under this Agreement including compliance with directions/notices from government authorities, payment of fees, charges etc. as applicable.

5. INDEMNITY AND LIMITATION OF LIABILITY

5.1. The service Provider agrees to indemnify, defend and hold the other Party and its representatives harmless against any and all Damages, environmental contamination, costs of response to any governmental inquiry, environmental compensation imposed by Central Pollution Control Board and/or state pollution control board, damage to property, which arise out of, or result from or may be payable by virtue of any default or breach by such Party of any of its covenants and obligations under this Agreement. The Company shall also indemnify the Service Provider.

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PARTNER

6. FORCE MAJEURE

6.1. Neither Party shall incur any liability due to failure or delay in performance of any obligation caused by Force Majeure, at least for the duration of the Force Majeure; provided, however, that the affected Party shall promptly notify the other of the existence of the Force Majeure and the effect on its ability to perform its obligations, and that the affected Party undertakes all reasonable efforts to mitigate the impact of the Force Majeure on the other Party.

6.2. If any Force Majeure endures more than 60 (sixty) days, the Parties shall meet and review in good faith the desirability and conditions of this Agreement including its termination.

7. TERM AND TERMINATION

7.1. Term and renewal

This Agreement shall be valid for a period of **1 year** from Execution Date (**"Term"**), unless terminated earlier in accordance with Clause 8.2. Upon expiry of the Term, the Company and Service Provider shall review and renew the term of the Agreement on mutually agreed terms and conditions.

7.2. Termination

(i) This Agreement shall terminate at the option of the non-defaulting Party, upon the breach, failure or refusal of the defaulting Party to perform any term, covenant or condition of this Agreement, which breach, failure or refusal shall continue for 30 (thirty) days following written notice thereof by the other, specifying such default.

(ii) Either Party may at any time terminate the MOU by giving 30 (thirty) days prior written notice to the other Party without assigning any reason whatsoever.

7.3. Consequences of termination

(i) The termination of this Agreement by a Party by reason of a default by the other Party shall not relieve such other Party of any of its obligations accrued under this Agreement before the effective date of such termination, or of any liability for breach of this Agreement.

(ii) Upon termination or expiry of this Agreement by either Party regardless of cause

(a) all rights granted and obligations created pursuant to this Agreement shall terminate and the Service Provider shall immediately discontinue the supply of the Services.

(b) all outstanding payments to the Service Provider shall be made within 7 (seven) days of termination or expiry of the Agreement;

(c) if applicable, the Service Provider shall remove all its fixtures, equipment's and machineries from the Designated Premises within 10 (ten) days from the termination or expiry of the Agreement;

(d) within 30 (thirty) calendar days from the date of termination, each Party shall return to the other all Confidential Information and all documents containing Confidential

Information, reports and all other documents created in pursuance of this Agreement

8. INTELLECTUAL PROPERTY RIGHTS

8.1. Each Party acknowledges and recognizes the exclusive ownership and right of other party's intellectual property rights, including without limitation trademarks as well as the insignia, logograms, designs and other intellectual property rights associated with each other. Each Party shall not be a party to the doing nor neglecting to do any act whereby violating any industrial or intellectual property including trade secrets and business reputation owned by each Party.

8.2. Notwithstanding anything contained herein, the Company grants the Service Provider the permission to use its logos and brand names in the Service Provider's advertising, literature and websites for the purpose of showcasing its business profile and clients.

9. CONFIDENTIALITY

The Parties agree and undertake that they and their affiliates, directors, officers, employees and professional advisors shall not reveal, to any third Person other than the foregoing parties any Confidential Information without the prior written consent of the other Party, provided that a Party may disclose Confidential Information, if and to the extent: **(i)** required to carry out the Services and/or obligations under the Agreement; **(ii)** required by applicable law and/or any governmental authority to which the Party making the disclosure is subject, whether or not such requirement has the force of law, *provided that*, such Party shall, to the extent practicable **(a)** provide in advance, a copy of the required disclosure to the other Party and incorporate any additions or amendments reasonably requested by such other Party; and **(b)** shall take all such reasonable measures to inform the governmental authority of the confidential nature of the information; **(iii)** the information has come into the public domain through no fault of the Party disclosing such information; or **(iv)** was already in the lawful possession of that Party; **(v)** for preparing case studies, analysis, reports and/or informational material on generation, handling and/or management of solid waste, or **(vi)** where other Party have given prior written approval to the disclosure.

10. NOTICES

10.1. A notice or other communication given under or in connection with this Agreement shall be: **(i)** in writing; **(ii)** in the English language; and **(iii)** sent by to the following address and email address

(a) In the case of notices to the Service provider:

Address	:	Ground floor infront of fauji dairy khatan no -1,kheshra no -673 amrit nagar high school,bagodar road Hazaribag - 825301
Attention	:	Kunal Singh Chauhan
Telephone	:	(+91) 9905347369
Email	:	the.ecochakra@gmail.com

(b) In the case of notices to the Company:

Address	:	#32, 5th B Cross, MCHS Colony, 16th Main, BTM Layout 2nd Stage, Bengaluru – 560076
Attention	:	Shobha Raghavan
Telephone	:	(+91) 98867 29135
Email	:	Shobha@saahaszerowaste.com

10.2. Notwithstanding the foregoing, a notice received on a day other than a Business Day, or after business hours in the place of receipt, shall be deemed to be given on the next following Business Day in such place.

11. GOVERNING LAW AND DISPUTE RESOLUTION

11.1. This Agreement shall be governed by and construed in accordance with the laws of India and subject to Clauses 12.3 to 12.3, the courts of Bengaluru shall have exclusive jurisdiction.

11.2. The Parties agree to use all reasonable efforts to resolve any dispute, controversy, claim or disagreement of any kind whatsoever between or among the Parties in connection with or arising out of this Agreement, including any question regarding its existence, validity or termination (**"Dispute"**), expediently and amicably to achieve timely and full performance of the terms of this Agreement.

11.3. In the event the Parties are unable to resolve the Dispute in an amicable manner as per Clause 12.2 above within 30 (thirty) days of such Dispute being communicated in writing to the relevant Party, subject to the provisions of Micro, Small and Medium Enterprises Development Act, 2006, such Dispute shall be resolved by arbitration by a sole arbitrator in accordance with the provisions of the Indian Arbitration and Conciliation Act, 1996 in force at the relevant time. In the event the Parties are unable to agree upon a sole arbitrator, the Dispute shall be referred to a panel of 3 (three) arbitrators, 1 (one) arbitrator to be nominated by each Party (the Company on the one hand and the Service Provider on the other hand) and the third arbitrator to be appointed by the 2 (two) arbitrators so appointed.

11.4. The place of arbitration shall be Bengaluru and the language of arbitration shall be English.

12. MISCELLANEOUS

12.1. **Entire Agreement**

The Parties acknowledge and agree that this Agreement, PO and Invoices constitute the entire agreement and understanding between the Parties concerning their subject matter and supersedes any prior agreements or understandings concerning this subject matter.

12.2. **Further Assurances**
Each of the Parties shall, at all times, act in good faith in the discharge of their obligations under this Agreement and not do anything which would constitute a contravention of its terms.

12.3. **Amendments**

No amendments of this Agreement shall be binding on any Party unless such amendment is in writing and signed by each Party.

12.4. **No Assignment**

No Party may assign or transfer or sub-contract any of its rights, benefits or obligations under this Agreement without the prior written consent of the other Party.

12.5. **Severability**

If any part or all of any provision of this Agreement is illegal or unenforceable, it may be severed from this Agreement and the remaining provisions of this Agreement shall continue to remain in force.

12.6. **Independent contracting parties**

The Parties are independent contracting parties and will have no power or authority to assume or create any obligation or responsibility on behalf of each other. This Agreement will not be construed to create or imply in any manner, any partnership, agency, trust, joint venture, or employer-employee relationship between the Parties.

12.7. **Surviving Provisions**

This Clause and Clauses 1 (*Definitions and Interpretations*), 6 (*Indemnity and Limitation of Liability*), 9 (*Confidentiality*) and 11 (*Notices*), 12 (*Governing Law and Dispute Resolution*) and 13 (*Miscellaneous*), to the extent applicable, will survive termination of this Agreement.

IN WITNESS WHEREOF the Parties hereto have executed this Agreement on the day and year first above written.

Signed and delivered for and on behalf of the **Company**

Name : Shobha Raghavan
Title : COO & DIRECTOR

Signed and delivered for and on behalf of the **Service Provider**

Name : Kunal Singh Chauhan
Title : Managing partner

SCHEDULE I

DETAILS OF PLASTIC WASTE

1	Name & address of WMA	SAAHAS WASTE MANAGEMENT PVT. LTD a private company incorporated under the laws of India & having its office at 32, 5th B Cross, 16th Main Rd, MCHS Colony, Stage 2, BTM Layout, Bengaluru, Karnataka-560076
2	State/UT	Plastic & Paper can be collected pan India on the basis of state UT's base set forth in the EPR action plan of PIBOs & channelized to PWPF
3	Name & address of PWPF	A.K Industries a private company incorporated under the laws of India & having its office at D-270,Rajpura Sirhind Bye Pass Road,Focal Point,Patiala, Patiala147001 Punjab, India,
4	Copy of registration issued to PWPF (to be enclosed)	Attached
5	Validity date of issued registration to PWPF	09.12.20219 – 30.09.2024
6	Type of plastic waste processed e.g. (LDPE, HDPE, PP)	As per the details mentioned in table no:01 of Schedule -01
7	Processing capacity of PWPF (TPD)	0.520 Kg
8	Type of Processing facility (Recycling, co-processing. Etc)	Washing, recycling
09	Any other condition	-
10	Date of signing of agreement	
11	Date of validity of agreement	
12	Agreement to be on legal stamp paper	

WASTE MANAGEMENT PRIVATE LIMITED
32, 5th B cross,
16th main,
BTM 2nd stage,
BENGALURU - 76

For A.K. Plastic Industries

Prop.

PUNJAB POLLUTION CONTROL BOARD

Zonal Office-I, Vatavaran Bhawan, Nabha Road, Patiala - 147001.

Website:- www.ppcb.gov.in

Office Dispatch No :	**Registered/Speed Post**	**Date:**

Industry Registration ID :	*R14PTA803193*	**Application No :**	*14845984*

To,

Prof Parkash Gopalan
Thapar Institute of Engineering & Technology Bhadson Road Patiala
Patiala,Punjab-147004

Subject: **Fresh Authorization for operating a facility for Collection, Generation, Storage, Disposal, of Hazardous Wastes as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 .**

Prof Parkash Gopalan of Thapar institute of engineering & technology is hereby granted an authorisation based on the enclosed signed inspection report for Collection, Generation, Storage, Disposal, on the premises situated at Bhadson road, patiala, Patiala, Patiala-147004

1. Particulars of Authorization granted to the Industry

Authorization No	*HWM/Fresh/PTA/2021/14845984*
Date of issue :	*30/03/2021*
Date of expiry :	*31/03/2025*
Authorization Type :	*Fresh*

2. Particulars of the Industry

Name & Designation of the Applicant	*Dr. Gurbinder Singh, (Registrar)*
Address of Industrial premises	*Thapar institute of engineering & technology, Bhadson road, patiala, Patiala,Patiala-147004*
Capital Investment of the Industry	*82610.0 lakhs*
Category of Industry	*Red*
Type of Industry	*Building, Const. projects, Township & Area development ..... covered under EIA notification dated 14/9/06*
Scale of the Industry	*Large*
Office District	*Patiala*

3. Particulars of Wastes

Category of Hazardous Waste as per the Schedules I,II and III of these rules	Authorised mode of disposal or recycling or utilisation or co-processing, etc	Quantity (ton/annum)
Schedule I 5.1-Used or spent oil	Generation , Collection , Storage , Disposal	1.5 KL/Annum

4.The authorisation is subject to the general and specific conditions as appended with the Authorization.

30/03/2021

(Gursharan Dass Garg)
Environmental Engineer
For & on behalf
of
(Punjab Pollution Control Board)

Endst. No.: **Dated:**

A copy of the above is forwarded to the following for information and necessary action please:
The Environmental Engineer, Punjab Pollution Control Board, Regional Office, Patiala. He is requested to ensure the compliance of the conditions of authorization granted under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

30/03/2021

(Gursharan Dass Garg)
Environmental Engineer
For & on behalf
of
(Punjab Pollution Control Board)

TERMS AND CONDITIONS

A. GENERAL CONDITIONS

1. The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.
2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.
3. The person authorised shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorisation.
4. Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.
5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;
6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on ï¿½Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penaltyï¿½.
7. It is the duty of the authorised person to take prior permission of the State Pollution Control Board to close down the facility.
8. The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.
9. The record of consumption and fate of the imported hazardous and other wastes shall be maintained.
10. The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilisation of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorisation.
11. The importer or exporter shall bear the cost of import or export and mitigation of damages if any.
12. An application for the renewal of an authorisation shall be made as laid down under these Rules.
13. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
14. Annual return shall be filed by June 30th for the period ensuring 31st March of the year.

B. SPECIFIC CONDITIONS

1. The industry shall dispose off its Hazardous waste category no. 5.1 @ 1.5 KL/Annum to the authorized recycler / re-processor having valid Registration Certificate-cum-Pass Book from Punjab Pollution Control Board, valid authorization of the Board under the said Rules and 'consents to operate' under the Water Act, 1974 and Air Act, 1981.

2. The industry shall make an agreement with the authorized recycler for disposal of its hazardous waste i.e. waste oil and submit the copy of same to the Board, thereafter.

3. The industry shall handle the Hazardous Waste(s) strictly in accordance with the provisions of the Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016 and guidelines issued by Central Pollution Control Board / Ministry of Environment & Forests and Climate Change, New Delhi.

4. The occupier generating hazardous waste/operator of a facility for collection and storage of hazardous waste shall maintain records of such operations in Form-3.

5. The occupier/operator of a facility shall send annual returns to the Board in form-4 on or before 30th day of the June following to the financial year to which that return relates.

6. The Authorized person shall report, about the accident, which occurs at the hazardous waste storage/treatment site immediately to the Board.

7. An occupier who is generating hazardous waste shall store his waste category wise on site in environmentally sound manner till its treatment.

8. An occupier /generator shall not store hazardous wastes in open ground. It must be stored in an isolated site away from plant operational area.

9. The storage tank/container of the hazardous wastes should be in good condition and made of (or lined with) an appropriate material which does not react with the waste contained in it and can withstand the physical and environment conditions during storage and handling.

10. The occupier generating hazardous waste shall mark each container holding hazardous waste with the marking "HAZARDOUS WASTE" both in English and Punjabi.

11. The storage area should be fenced properly and a sign Board indicating "DANGER" and 'HAZARDOUS WASTE' sign & nature of the waste shall be placed at storage site.

12. The occupier generating hazardous waste shall provide the required safety devices like safety mask, goggles, hand-gloves, gum boots etc to the workers for handling the hazardous waste. The occupier shall impart training to the personnel/workers for handling and storage of hazardous wastes.

13. There should be sufficient & efficient provisions to avoid under ground water contamination from waste storage of hazardous wastes.

14. The occupier shall be responsible for any damage of life/or property during storage of his waste and will obtain Public Liability Insurance, wherever applicable.

15. The occupier and operator of a facility also be liable to reinstate or restore damaged or destroyed elements of the environment at his cost, failing which the occupier or the operator of a facility, as the case may be, shall be liable to pay the entire cost of remediation or restoration and pay in advance an amount equal to the cost estimated by the State Pollution Control Board.

16. The industry shall take steps wherever feasible, for reduction in hazardous waste generated or recycled or reused.

17. The industry shall display on line data outside the main factory gate on display Board of size (6ft. 4ft.) on quantity and nature of hazardous chemicals being used in the plant, water & Air emissions and hazardous waste generated within factory premises.*

18. Non compatible hazardous waste and material shall not be mixed in the same storage container.

19. The occupier of the transport facility shall ensure that the hazardous waste are shifted in the container in a manner suitable for handling storage and transport and the labelling and packaging shall be easily visible and able to withstand physical condition and climatic factors.

20. Packaging, Labelling of Used/Waste oil shall be in accordance with the provisions of the rules made by the Central Government under the Motor Vehicles Act, 1988 and other guidelines issued from time to time.

21. All hazardous waste chamber shall be provided with a general label as given in Form-8.

22. No transporter shall accept hazardous waste from any occupier for disposal unless. It is accompanied by five copies of the manifest (form-9) as per the colour codes. The transporter shall give a copy of the manifest signed the dated in the occupier and retain the remaining four copies to be sued as prescribed in sub-rule (5).

23. The occupier shall provide the transporter of seven copies of the manifest as per the colour code indicated below and all the copies shall be signed by the occupier :

Copy 1(White).Forwarded to the Punjab Pollution Control Board by the Occupier
Copy 2(Light Yellow)Signed by the Transporter and retained by the Occupier
Copy 3(Pink).Retained by the Operator of facility
Copy 4(Orange).Returned to the Transporter by the operator of facility after accepting waste.
Copy 5(Green).Forward to Punjab Pollution control Board by the operator of facility after disposal.
Copy 6(Blue).returned to the occupier by the operator of facility after disposal.
Copy 7(Grey).To be sent by the operator of the facility to the Punjab Pollution Control Board of the occupier in case the occupier is in another state.

24. The occupier shall provide the transporter with relevant information in form to regarding the hazardous nature of the wastes and measures to be taken in case of an emergency.

25. The transporter shall transport the hazardous waste only in authorized for transportation of hazardous waste.

26. The person authorized for transportation of hazardous waste shall prior permission of the Board to close down the transportation facility.

27. The authorization is subject to the conditions mentioned above and also to such conditions as specified in the Hazardous waste (Management & Handling) Rules as amended from time to time framed under the Environment (Protection) Act 1986.

28. In case the industry fails to comply with the above conditions of authorization as well as provisions of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and/ or any other environmental law applicable to the industry and Rules, Circulars & Directions issued by the Board from time to time, the Board shall constrained to take action against the industry under the provisions of the Pollution Control Laws.

30/03/2021

(Gursharan Dass Garg)
Environmental Engineer
For & on behalf
of
(Punjab Pollution Control Board)

Annexure 12

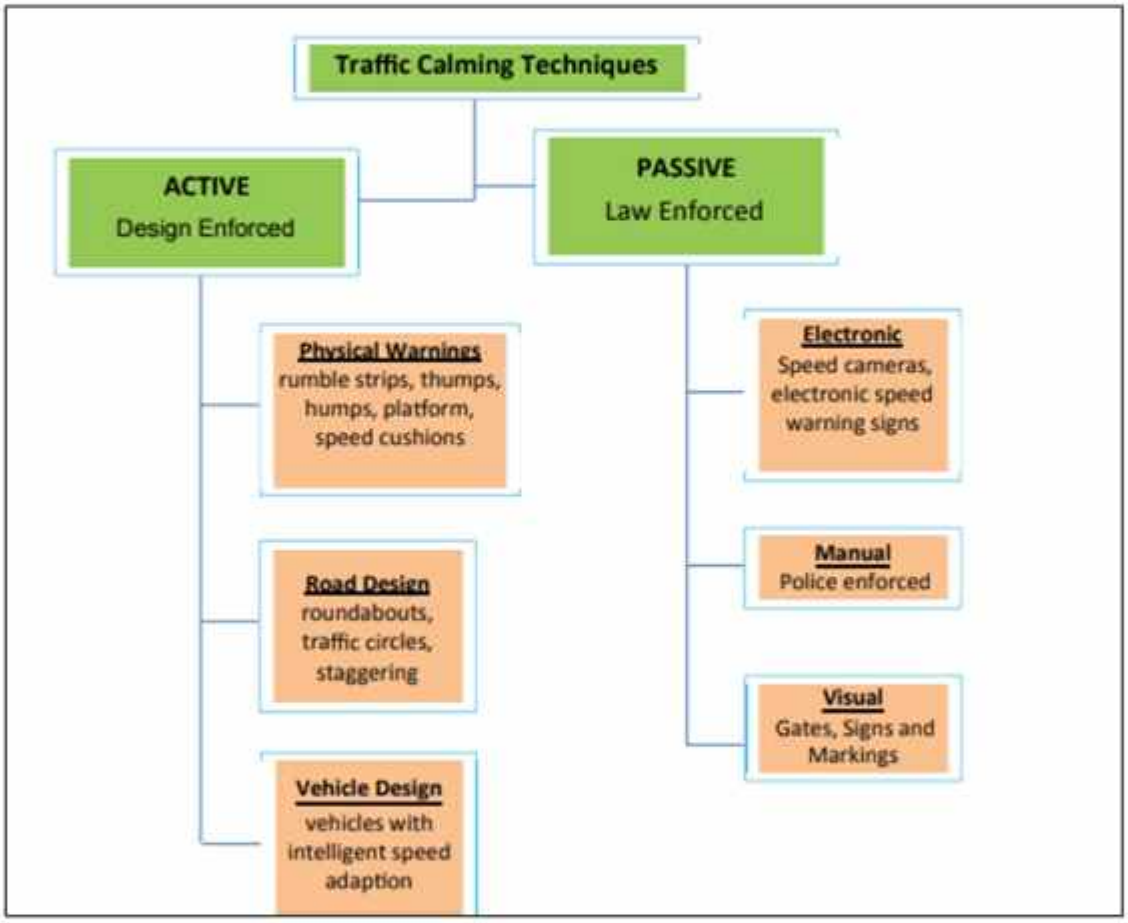

ROAD
PEDESTRIAN WALKWAY- 2M WIDE
CYCLE TRACK- 2M WIDE
INTERNAL ROAD 41,108 sq.m.
PERIPHERAL ROAD- 6M WIDE 26,260.18 sq.m.
FIRE TENDER SPINE ROAD- 6M WIDE 8847 sq.m.
PARKING 50,004.75 sq.m.
SOLID WASTE SEGREGATION
SEWERAGE TREATMENT PLANT
POPULAR PLANTATION
EUCALYPTUS PLANTATION
CRICKET GROUND
BOYS HOSTEL-K G+2
BOYS HOSTEL-L G+2
THAPAR POLYTECHNIC
PROPOSED FACULTY RESIDENCE G+8
TYPE - I QTRS.
TYPE - II QTRS.
TYPE-III QTRS.
TYPE-IV QTRS.
CHILDREN PARK
BAMBUSETUM
PROPOSED RESEARCH BLOCK-2 G+6
PROPOSED RESEARCH BLOCK-1 G+6
NURSERY
SCIENCE & TECHNOLOGY ENTERPRENEUR'S PARK
FOOD PROCESSING UNIT
ESS-2 (G)
SENIOR STAFF CLUB
DIRECTOR RESIDENCE
LABORTARY BLOCK-I
AC WORKSHOP
SAI LAB G+2
SUB STATION
TSLAS
PROPOSED VENTURE LAB
R & D CENTRE
GATE NO.2
GATEHOUSE
PRACTICE NET
PLAY GROUND
POPULAR TREES
CHANGING ROOM
OPEN THEATRE
COS COMPLEX
TENNIS GROUND
CRICKET PITCH
BASKET BALL GROUND
GYMNASIUM
SERVICE BLOCK
SWIMMING POOL
INDOOR SPORTS HALL G+1
SUB STATION - 3
GIRLS HOSTEL - E G+2
GIRLS HOSTEL - G G+2
GIRLS HOSTEL - I G+4
GIRLS HOSTEL - N G+6
COMPUTER SCIENCE (G + 5)
LEARNING BLOCK
LECTURE BUILDING (G + 3)
LIBRARY (G + 4)
MECHANICAL ENGINEER BLOCK
WORKSHOP
EXPERIENTIAL LEARNING (G+2)
CENTRAL JAIL
SUB STATION -6
CHOOL
PROPOSED EXTENSION HOSTEL - M G+8
HOSTEL - M G+8
OFFICE
GURUDWARA
HOSTEL-J G+5
HOSTEL - H G+3
FOOD COURT (GROUND)
POLYTECHNIC (TO BE DEMOLISHED)
NIRWANA
TAN
G - BLOCK
NEW LECTURE THEATER COMPLEX
CANTEEN
GUAVA ORCHARD
STAFF QTRS
SHOPS
GUEST HOUSE
PROPOSED GUEST HOUSE
Mango Orchard
BOYS HOSTEL-D G+8
HOSTEL - C G+1
WATER TANK
HOSTEL - O G+8
HOSTEL - B G+2
A HOSTEL 928 PAX (BOYS HOSTEL) G+8
SUB STATION - 2
PROPOSED GIRLS 928 HOSTEL-2 G+8
P.G. HOSTEL (TO BE DEMOLISHED)
PROPOSED GIRLS 928 HOSTEL-1 G+8
STRU. LAB (B)
DST FIRST SPONSORED CIVIL ENGINEER
TRANS. LAB (A)
SUB STATION NO.1
MECHANICAL ENGINEER
BLOCK-F
BLOCK-E
C- BLOCK EXTENSION
HYDRAULIC LABS G+1
BANK S.B.P.
CAFETERIA
DIRECTOR
LAWN
AUDITORIUM
T.B.M.=258.40m
GATE NO.1
PUNJAB JAIL TRAINING SCHOOL
SARHIND ROAD 1Km >>
FOREST RANGE OFFICE
SAW MILL
<< NABHA - PATIALA ROAD >>
PRTC WORKSHOP
MODEL TOWN
WATER SUPPLY & SANITATION OFFICE
PUNJAB POLLUTION CONTROL BOARD OFFICE
IRRIGATION DEPTT.
N
W
E
S

TRAFFIC CALMING MEASURES

INTRODUCTION:

Traffic calming uses physical design and other measures to improve safety for motorists, pedestrians and cyclists. It has become a tool to combat speeding and other unsafe behaviors of drivers in the neighborhoods. It aims to encourage safer, more responsible driving and potentially reduce traffic flow. Strategies for traffic calming include narrowed roads and speed humps.

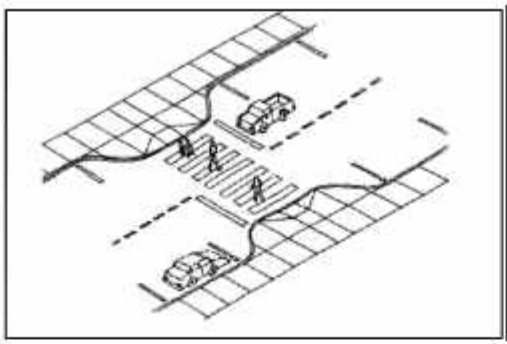
CLASSIFICATION OF TRAFFIC CALMING TECHNIQUES:

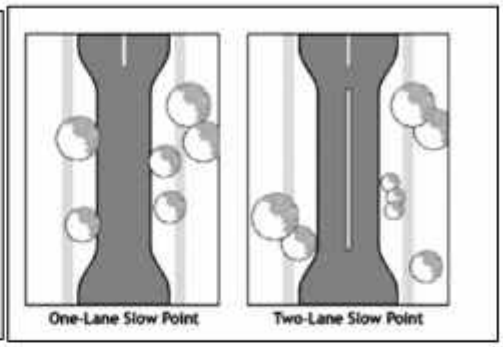


1. Active Measures:

- ***Lane Narrowing***

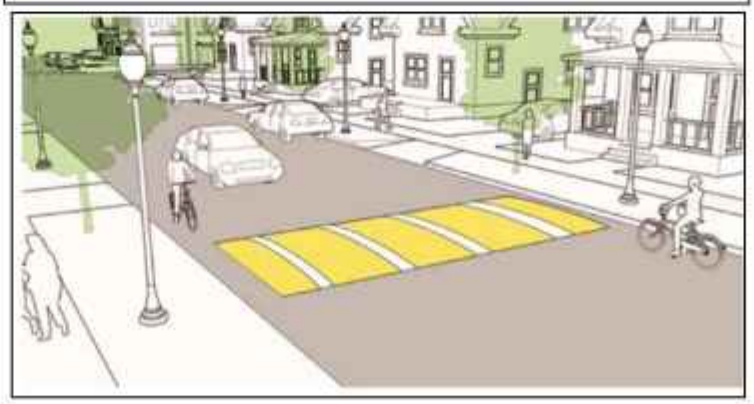
  It can reduce the speed of cars but its effect is minimal for two wheelers. Also, in the case of bicycle lanes, there are more chances of the lane being encroached upon by the motorized vehicle due to a constricted carriageway. As a suggestion, narrowing should be indicated using lane marking instead of geometric intervention.





- **Speed Breakers/ Humps**

  Speed breakers are commonly used to reduce speeds. However, the design and type of the speed breaker is critical. Speed breakers reduce the speed and result in an efficient traffic flow. The advantage of speed breakers is that they can be easily placed at identified locations. Humps as a speed reducing device work on the basis of the slight inconvenience in the form of a jerk and vertical acceleration, caused to the driver.



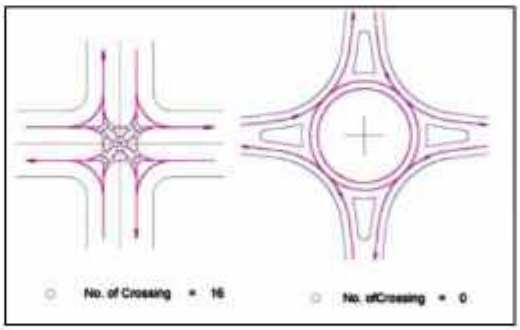
- **Speed Tables, Raised Crossings, Raised Intersections**

  These are effective methods to bring all users to a common speed limit without affecting the cyclists too much. They can be mainly used on nodes/junctions between access and arterial or access and distributor where the intervention does not affect the movement of through traffic in case of arterial and is done on the access arm.

  Raised crossings are standard designs used internationally to resolve conflicts between different kinds of traffic i.e. cars and other motor vehicles, cyclists and pedestrians and are predominantly used at minor junctions, property entrances, entry and exit to service roads; to provide comfort, convenience and safety to all users.

- **Roundabouts**

  Roundabout is a junction type to reduce the speed of traffic while passing through junction. The central island and deflecting islands are designed in such a way that traffic has to be deflected to reduce the speed before entering circulatory carriageway. In the roundabout high speed conflicts can be avoided.



2. Passive or Law enforced:

Passive or Law enforced Passive measures include speed cameras and electronically displayed speed warning signs and the restrictions enforced by police manually for certain traffic

movements, and also visual measures like gates, signs and markings, whereby law can be enforced for those who are violating the instructions and crossing the limits set therein

- **Visual Warnings or Pre-Warnings**

  Pre-warnings are applied to ensure that drivers become aware of the subsequent speed reducers or changing road speed classification.

  Pre-warnings will normally be applied on traffic roads before stretches of speed control and can be used for all traffic flows.

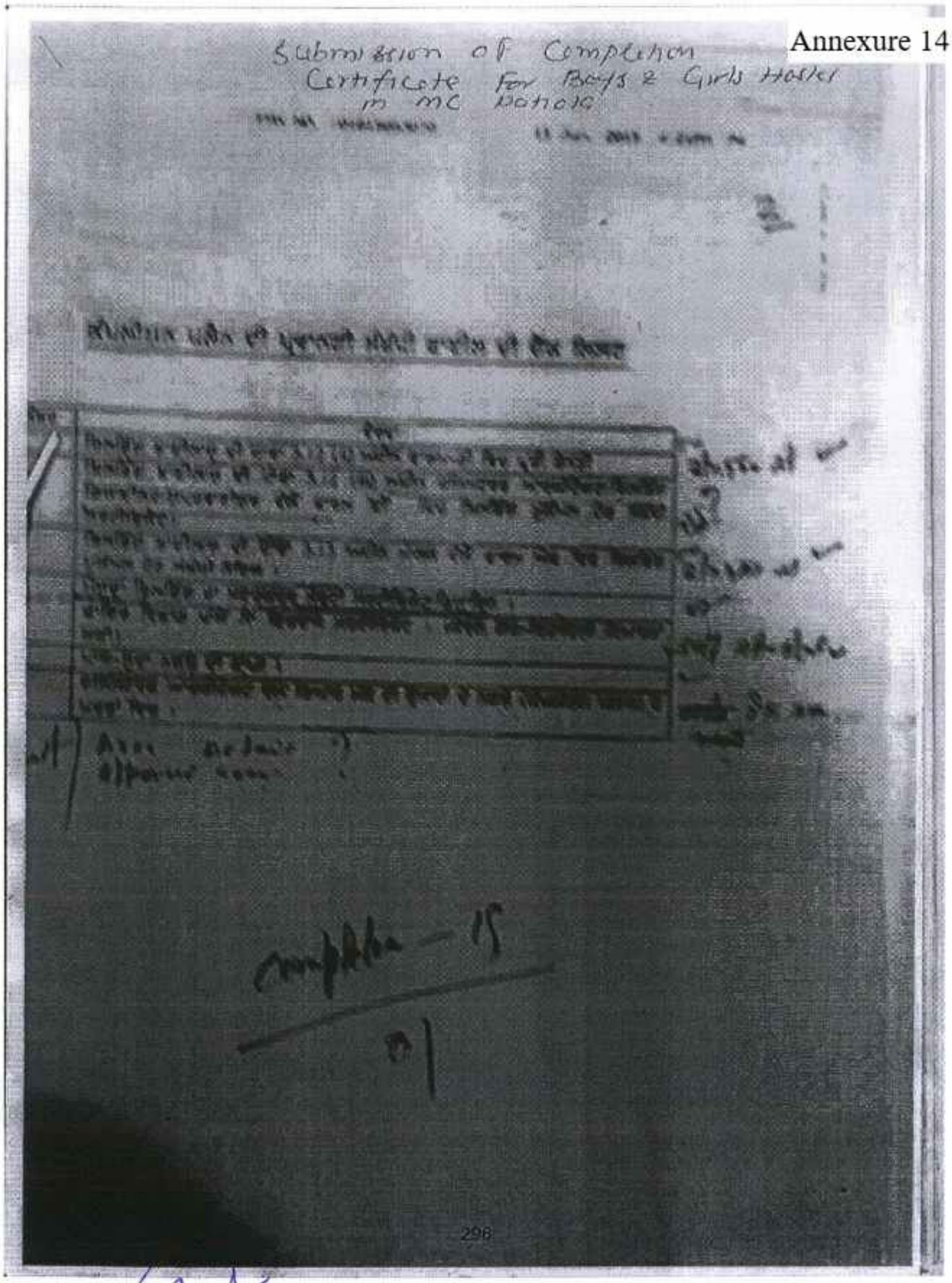
- **Signs**

  Road sign warns and informs the drivers about the nature of the road stretch that they are approaching and about the local speed limit or recommended speed for that road stretch. IRC:67 for "Code of Practice for Road Signs" have been followed for recommended road signs in India.

	Stop
	Give Way
	No Entry
	One Way
	Overtaking Prohibited
	Horn Prohibited
	No Parking
	Speed Limit
	Pedestrian Crossing
	Cycle Crossing

	Men at Work
	Round About

Annexure 14



Registrar
Thapar Institute of Engineering & Tech.
PATIALA-147 004 (India)

2

ਕੰਪਲੀਸ਼ਨ ਪਲੈਨ ਦੀ ਪੁਰਾਣਤੀ ਸੰਬੰਧੀ ਫਾਈਲ ਦੀ ਚੈੱਕ ਲਿਸਟ

ਲੜੀ ਨੰਬਰ	ਵੇਰਵਾ
1.	ਬਿਲਡਿੰਗ ਬਾਈਲਾਜ਼ ਦੀ ਧਾਰਾ 3.12 (i) ਅਧੀਨ ਫਾਰਮ-ਜੀ ਵਿਚ ਪੂਰੀ ਭਰੀ ਹੋਵੇ।
2.	ਬਿਲਡਿੰਗ ਬਾਈਲਾਜ਼ ਦੀ ਧਾਰਾ 3.12 (ii) ਅਧੀਨ ਪ੍ਰਮਾਣਤ ਆਰਕੀਟੈਕਟ/ਇੰਜੀਨੀਅਰ/ਡਿਜ਼ਾਈਨਰ/ਸੁਪਰਵਾਈਜ਼ਰ ਵੱਲੋਂ ਫਾਰਮ 'ਬੀ' ਵਿਚ ਬਿਲਡਿੰਗ ਮੁਕੰਮਲ ਦੀ ਸੰਬੰਧੀ ਸਰਟੀਫਿਕੇਟ।
3.	ਬਿਲਡਿੰਗ ਬਾਈਲਾਜ਼ ਦੀ ਧਾਰਾ 3.13 ਅਧੀਨ ਨੋਟਸ ਨੰਬਰ 2.6 ਫਾਰਮ ਐਫ ਵਿਚ ਬਿਲਡਿੰਗ ਪਲੈਨਾਂ ਦੇ ਨਾਲ ਲੱਗਾ ਹੋਵੇ।
4.	ਮੌਜੂਦਾ ਬਿਲਡਿੰਗ ਦੀ ਸਹਾਇਕਤਾ ਸੰਬੰਧੀ ਸਰਟੀਫਿਕੇਟ/ਡਿਕਲੇਰੇਸ਼ਨ।
5.	ਵਾਧਿਕ ਪਿਛਤ ਖਾਲੀ ਥਾਂ ਦਾ ਡਿਕਲੇਰੇਸ਼ਨ ਸਰਟੀਫਿਕੇਟ। (ਕੇਵਲ ਫੇਜ਼-ਵਿਹਾਰਿਸ਼ੀ ਡਿਸਟਰਿਕਟ ਲਈ)
6.	ਫਾਰਮ-ਐਫ ਨਕਸ਼ੇ ਦੀ ਫੋਟੋ।
7.	ਡਾਇਰੈਕਟਰ ਆਰਕੀਟੈਕਚਰ ਵੱਲੋਂ ਡਿਮਾਂਡ ਨੋਟ ਦੀ ਪੈਮਾਨਾ ਦੇ ਸਬੰਧੀ (ਅੰਤਮ ਪਲਾਨ) ਦੇ ਮਰਜ਼ਾ ਵਿਚ।

Registrar
Thapar Institute of Engineering & Tech
PATIALA-147 004 (Punjab)

PUNJAB MODEL BUILDING BYELAWS, 2016

FORM – 17

APPLICATION FOR PERMISSION TO OCCUPY under Building Bye-Laws No. 3.12(1)

To

The Executive Officer,
Municipal Council,

SUB: APPLICATION FOR PERMISSION TO OCCUPY

I/We beg to apply for permission to occupy building/part of the building sanctioned vide S. A. No. 448 Dated 20/10/2015 situated _____. The building / part of the building has been completed in all respects according to the sanctioned plan and is fit for use for which it had been erected.

Certificate in form 'E' from the Registered Architect / Building Designer / Supervisor who supervised the construction of the building is submitted herewith.

Yours faithfully,

Date:

Signature of owner

Name & Address of the Owner

Description of building / part of building

House No.

Road

Street

Description of building

(For office Use Only)

1 Date of receipt of notice

2 Date of issue of (a) permission to occupy

(b) refusal to occupy

Registrar
Thapar Institute of Engineering & Tech.
PATIALA-147004 (Punjab)

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FORM - E

(Certificate required under building bye-laws No.3.12 (iii))

TO WHOM SO EVER THIS MAY CONCERN

I/We hereby certify that the building / part of the building sanctioned vide B.A. No. 448 dated 20/10/2015 has been supervised by me and has been completed to my satisfaction in accordance with the sanctioned plan, that the workmanship and the whole of the materials used are of requisite quality and that no provision of the Punjab Municipal Corporation Act or the bye-laws and no requisition made, conditions prescribed or orders issued thereunder, has been transgressed in the course of the work.

Registered Architect / Engineer
Designer / Supervisor
License No.______

Date:

Registrar
Thapar Institute of Engineering & Tech.

(PART PUNJAB MODEL BUILDING BYE-LAWS) FORM

Form of Notice of Completion required under Bye-laws No. 3.13

The Executive Officer,
Municipal Council,
____

Sir,

I/We hereby give notice as required under Sub-section (1) of Section 272 of the Punjab Municipal Corporation Act, 1976, that I/We have completed the erection of the building described in the work in plot No. TIET House _____, Block No. Bhadson Road Street / Road _____ in pursuance of the sanction granted by the Executive Officer, vide his order No. 4448 dated 20/10/2018

Permission to occupy or use the building as required under Section 272 of the Punjab Municipal Corporation Act, 1976, may be granted.

Yours faithfully,

Signature of owner

Name & Address of the owner

Registrar
Thapar Institute of Engg. & Tech.
PATIALA (PUNJAB) INDIA

Date

Registrar
Thapar Institute of Engineering & Tech.
PATIALA 147 004 (India)

300

Office of Muncipial Corporation Patiala

No 543

Dated 29/3/16

Registrar
Thapar University
Patiala

Sub: **Completion Cum occupancy certificate**

Reference: **Your application dated 01-10-2015 and 9/3/2016**

It is certified that construction made as per sanctioned plan vide building application No 13484 dated 20-12-13 has been completed. Hence permission to occupy the building is granted. For further addition or alteration in the building, if required, prior approval from Municipal Corporation Patiala be obtained.

29/3/16

Municipal town planner
Municipal Corporation
Patiala

Municipal Town Planner.
Municipal Corp., Patiala.

Registrar
Thapar Institute of Engineering & Tech.
PATIALA-147 004 (India)

Office of Muncipial Corporation Patiala

No 548 Dated 29/3/16

Registrar
Thapar University
Patiala

Sub: **Completion Cum occupancy certificate**

Reference: **Your application dated 01-10-2015 and 9/3/2016**

It is certified that construction made as per sanctioned plan vide building application No 330 dated 14-08-14 has been completed. Hence permission to occupy the building is granted. For further addition or alteration in the building, if required, prior approval from Municipal Corporation Patiala be obtained.

29/3/16
Municipal town planner
Municipal Corporation
Patiala

Municipal Town Planner,
Municipal Corp., Patiala.

Registrar
Thapar Institute of Engineering & Tech.
PATIALA-147 004 (India)

Office of Muncipial Corporation Patiala

No 641/BLD

Dated 4/1/17

From

Commissiner,
Municipal Corporation, Patiala.

To

The Registrar,
Thapar University,
Patiala.

Sub: **Completion Cum Occupancy certificate.**

Ref: **Your application dated 01/08/2016.**

It is certifited that the construction made as per sanctioned plan vide building application No.448 dated 23/09/2015 and 723 dated 19/01/2016 has been completed and composition fee of Rs.3,834/- has been deposited vide G8 No 972/17 dated 23/12/2016. Hence permission to occupy the building is granted. For further addition or alteration in the building, if required, prior approval from Muncipial Corporation Patiala be obtained.

4/1/17

Senior Town Planner,
For Commissioner,
Muncipial Corporation Patiala.

Registrar
Thapar Institute of Engineering & Tech.
PATIALA-147 004 (India)

Intended for
Arch. / Client

ARCHITECT DPA
DESIGNPLUS ASSOCIATES SERVICES PVT LTD

PROJECT
Thapar University, Patiala

THAPAR UNIVERSITY

Document type
Report

Project no
Egis Project Number:

Date
20-02-2019

Work Stage:
Preliminary Energy Simulation Report for Thapar University Library, India

Document No.:
GB-Energy Simulation-02

THAPAR UNIVERSITY LIBRARY, PATIALA INDIA

PRELIMINARY ENERGY SIMULATION REPORT

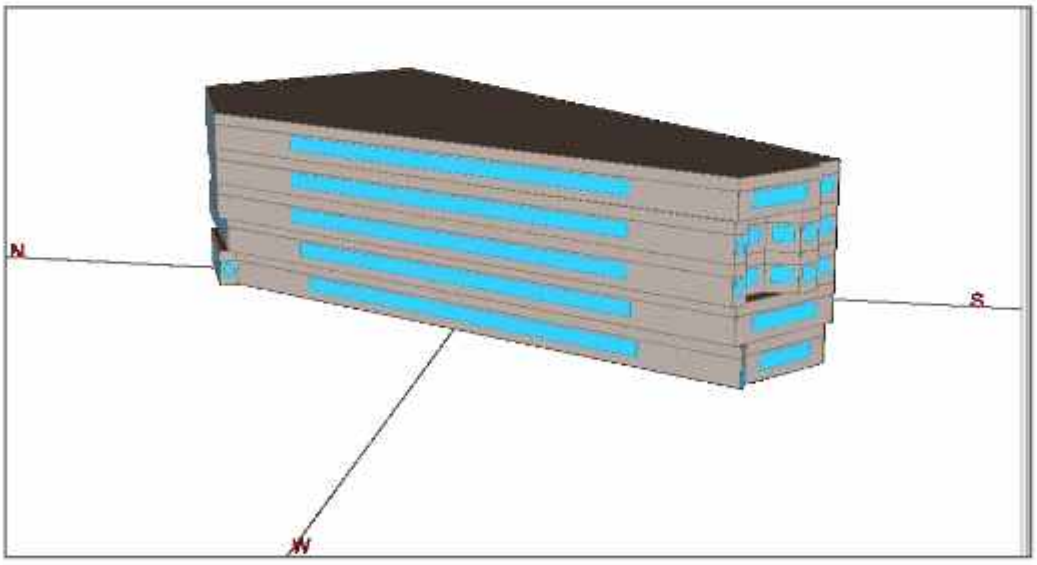

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Table of Contents

1 Executive Summary

General Information		
1	Office Space Area	1,17,541 ft^2
3	Building Type	Multi storey Library Building
4	Project Registration with USGBC	LEED NC 2009
5	Location	Patiala, Haryana, INDIA
USGBC LEED Core & Shell Credits Achieved		
1	EA Prerequisite 2 (Minimum Energy Performance)	**(Compliance Achieved) by 16.3% energy cost saving over ASHRAE 90.1-2007**
2	EA Credit 1 (Optimize Energy Performance)	**3 points** achieved @ **16.3%** energy cost saving from ASHRAE 90.1-2007 Energy Performance Standard by Proposed Energy Efficiency Measures
3	Total Points Achieved	**3**
Details of Proposed Energy Conservation Measures		
1	**Optimized Building Orientation in the Plot (Partially Achieved): Library** is oriented in an energy conscious way. The east and west sides are facing smaller facades in comparison to north and south sides.	
2	**Insulated Walls & Roof:** For exposed wall, use insulating AAC Blocks (200 mm thickness), with 12 mm and 8 mm plaster in outer and inner side of the walls. U-value of Exterior Wall = 0.11 *btu/hr.ft².°F* (0.625 W/ m².°K); b) Exposed Roof: U-value of Roof = 0.07 *btu/hr.ft².°F* {75 mm XPS insulation};	
3	**High Performance Glazing of Façade:** U-value of Exterior Exposed Glazing {vision glass = 0.3 *btu/hr.ft².°F* ; SHGC of Exterior Exposed Glazing 0.25 {vision glass = 0.18}; VLT of Exterior Exposed Glazing {vision glass = 45%} [16.3% Energy Savings; 19% Energy Cost Savings]	
4	**Radiant Cooling Floor System with Centralized water chilling.**	
5	**Energy Efficient Lighting:** LPD Value in common areas, corridors, hallways, etc.(= 0.8 Watt per Sq. ft)	

SUMMARY OF GLASS OPTIONS

Option #	Glass Type	U-Value (W/sq. m/C)	SF	VLT	Remarks	Energy Savings
1	DGU	1.8	0.25	45%	Preferred DGU as discuss with Architect	19%

2 Introduction

The report is prepared for Thapar University Library Building which is 110000 ft^2 Library building development in Patiala, Punjab, India. The client is aiming for USGBC LEED NC 2009, Gold rating for the project. Each floor contains office spaces. In each floor, there are also utility areas associated with the building. The chilled water will be supplied by the central plant (Energy Centre) comprising of Centrifugal Chillers, through a secondary pumping arrangement. The cooling system in the Library area is composed of Radiant Cooling through floor inserted water chilling pipes. The other spaces like utilities and toilets will be served by bleed air from the office space.

Since this is a New Construction project, the energy modeling is carried out for calculation of energy cost savings from the referenced ASHRAE 90.1-2007 standard. Energy modeling of building is an important tool for understanding the requirement of efficient design and development during the building design process. The energy modeling can be explained as a comprehensive process, which includes all the possible parameters like weather, occupancy schedule, building envelope and Systems.

Having said that we will shed some light on why at all energy modeling is required in LEED framework. USGBC's LEED NC 2009 is committed for Low energy building development by its Green rating system. The software available for energy modeling is sensitive enough to report a change in annual energy consumption even if we, for e.g. slightly alter the window size on any side of a large building. The above fact gives rise to huge number of possibilities of improvement and optimization during the design process of a green building. It also gives off certain financial indication about the feasibility of certain options over the other available options. This constitutes strong reasons to go for energy modeling in a building.

3 Methodology

We have performed a whole building energy simulation for showing improvement in the proposed building performance rating compared to the baseline building performance rating as per ASHRAE/IESNA standard 90.1-2007 described as base line standard.

3.1 General Building Model and Data Collection

The Architect provided the drawings (sections & elevations) of the site, floor plans for developing the initial thermal model. The MVAC & Electrical consultant gave us details of expected design for HVAC & lighting. Figure 2a is showing the thermally representative replica of the proposed building.

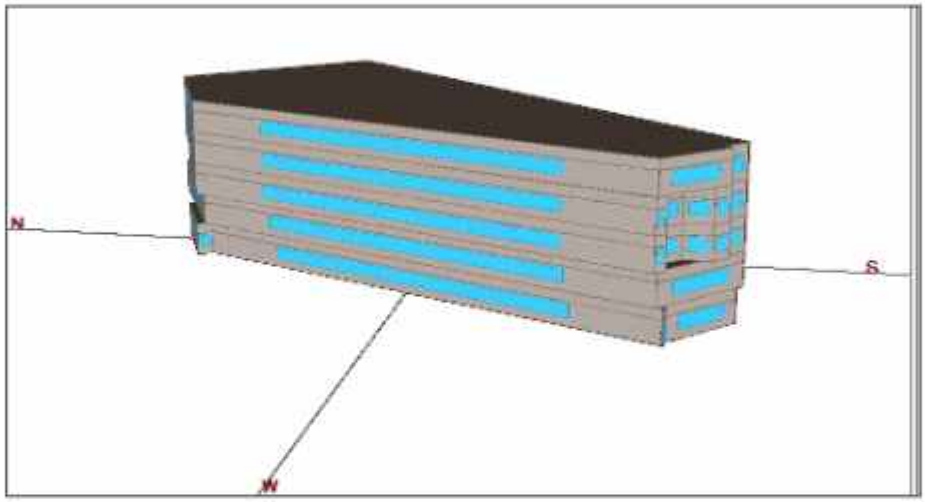


Figure 2a: Thermal Model of the Building space

The thermal model of the building is made in 35 different blocks; these blocks are inserted at different levels. For example, the ground floor and first floor are different, therefore two blocks with respective zoning details are used. Separate thermal zonings blocks for different towers & floors are used. The thermally simplified floor plans are depicted in the **Table 2a.**

3.2 General Model Information

The following table illustrates the general energy model information. The design condition, comfort design temperature and zone infiltration. It also illustrates the assumption related to geometry simplification such as number of zone modeled.

Table 2b: General simulation information for ASF Insignia – B1 building

S.No	Elements	Description	Model Parameters
1	Outside Design Conditions	Summer Design = 108 °F (41.8 °C), Mean Coincident Wet bulb = 72 °F (22.1 °C) @ 99.6 % time in Year	Winter Design = 44 °F (6.4 °C), @ 99.6 % time in Year Wind Speed = 7.1 m/s
2	Comfort Design Temperatures	Heating Design Temperature = 72 °F Cooling Design Temperature = 75 °F	
3	Air Supply Temperatures	Minimum Zone Air Supply Temperature = 55 °F (Cooling Mode) Maximum Zone Air Supply Temperature = 120 °F (Heating Mode)	
4	Envelope: Window to Wall ratio	The WWR ratio in the building is 25% (Recommended)	The total WWR = 25%
5	Zone Infiltration	Zone infiltration is modeled in all the zones	Zone infiltration is 0.038 CFM/ft^2 (ext wall area) for perimeter zones and 0.001 CFM/ft^2 (floor area) for core zones.
6	Equipment Power Densities	The Equipment Power Density	The Connected receptacle loads are kept 25% of baseline energy are considered same in the baseline and proposed design.
7	Utility Rates	Utility Electricity =INR 8 /KWh	
8	Energy Simulation Software	eQuest 3-65	

3.3 Comparison of the Proposed Building with the Baseline Building

The Appendix G in ASHRAE 90.1-2007 describes the hypothetical base-line building for any type of building proposed by the architects and developers. Thus these base line buildings when modeled in energy simulation software give some value for energy consumption. Additionally appendix G defined the calculation of base-line energy consumption requires the ASHRAE 90.1-2007 model building to be rotated to 90°, 180 °, and 270 ° and the respective annual energy consumption is averaged over for getting the reference energy consumption, which constitute the base line building.

	Subject Component		Baseline Building-Detail of Performance Criteria as per ASHRAE/IESNA Standard 90.1-2007	Proposed Building
Building Envelope or Fabric	1	Roof	U=0.063 *btu/hr.ft².°F* (0.357 W/m².°K), or R15 Continuous Insulation	U=0.07 *btu/hr.ft².°F* (0.35 W/m².°K)
	2	Walls	U=0.124 *btu/hr.ft².°F* (0.704 W/m².°K)	U=0.11 *btu/hr.ft².°F* (0.625 W/ m².°K)
	3	Glazing	For 25% onward window to wall ratio (WWR) the Glazing requirements are: U= 1.2 *btu/hr.ft².°F* (6.81 W/m².°K), SHGC= 0.25	For 25% onward window to wall ratio (WWR) the Glazing requirements for best energy savings U= 0.3 *btu/hr.ft².°F* (1.5 W/m².°K), SHGC= 0.25; VLT= 45%

HVAC	4	System	Cooling Coil	ASHRAE 90.1 System # 6: Packaged VAV with PFP Boxes, 15% over sized with constant controls, reset by warmest zone and proportional thermostatic control in the zone. (No heat Recovery) Chilled Water	Chilled water system with Radiant Cooling Floor inserted Pipes
			Heating Coil	25% over sized electric resistance coils in each zone with proportional thermostatic control in the zone. (No heat Recovery)	Electrical Reheat
			Fans	Vanes, 4 inch static pressure, medium efficiency fan motor	Vanes, 4 inch static pressure, medium efficiency fan motor
Lighting	5	Whole Building	LPD = 1.0 W/ft^2		LPD = 0.8 W/ft^2
Climate Zone	6	Zone	Climate Zone 1		Climate Zone 1
	7	Weather file	New Delhi, Source ISHRAE.		Amritsar, Source ISHRAE.

4 Compliance and Optimizations

This section of the report is elaborating on the compliance path and the outcome in terms of saving achieved. The reference standard is ASHRAE/IESNA Standard 90.1-2007.

4.1 EA Prerequisite 2 (Minimum Energy Performance)

The intent of this prerequisite is to establish the minimum level of energy efficiency in the building and systems. The design of our base case is in compliance with ASHRAE/IESNA Standard 90.1-2007 Standard. Further details are given in Table 2b.

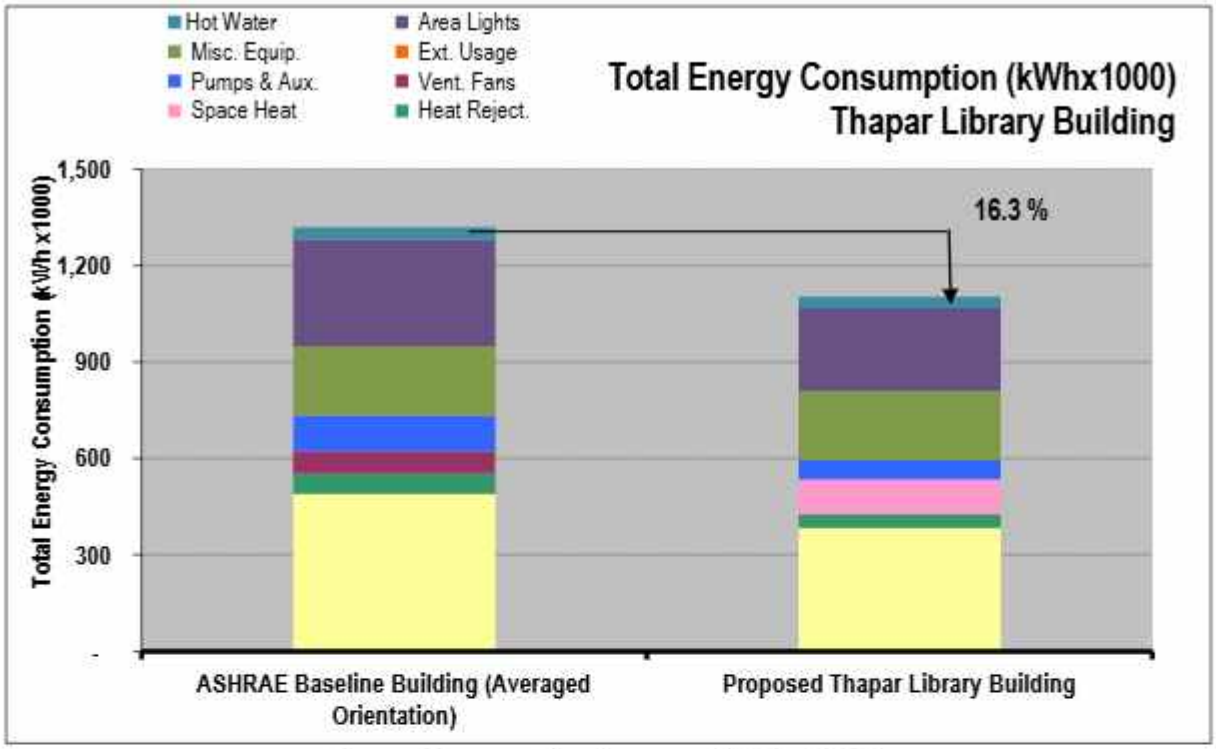
4.2 EA Credit 1 (Optimize Energy Performance)

The intent of these credits is to achieve increasing levels of energy performance above baseline in prerequisite standard to reduce environmental and economic impact associated with excessive energy use. To demonstrate this we have carried out whole building energy simulation exercise as per option 1. The Option 1 states that the Energy Modeler has to demonstrate a percentage improvement in proposed building performance rating compared to the baseline building performance rating as per ASHRAE/IESNA standards 90.1-2007 (without Addenda) by a whole building project simulation using the building performance rating method in appendix G of the standard.

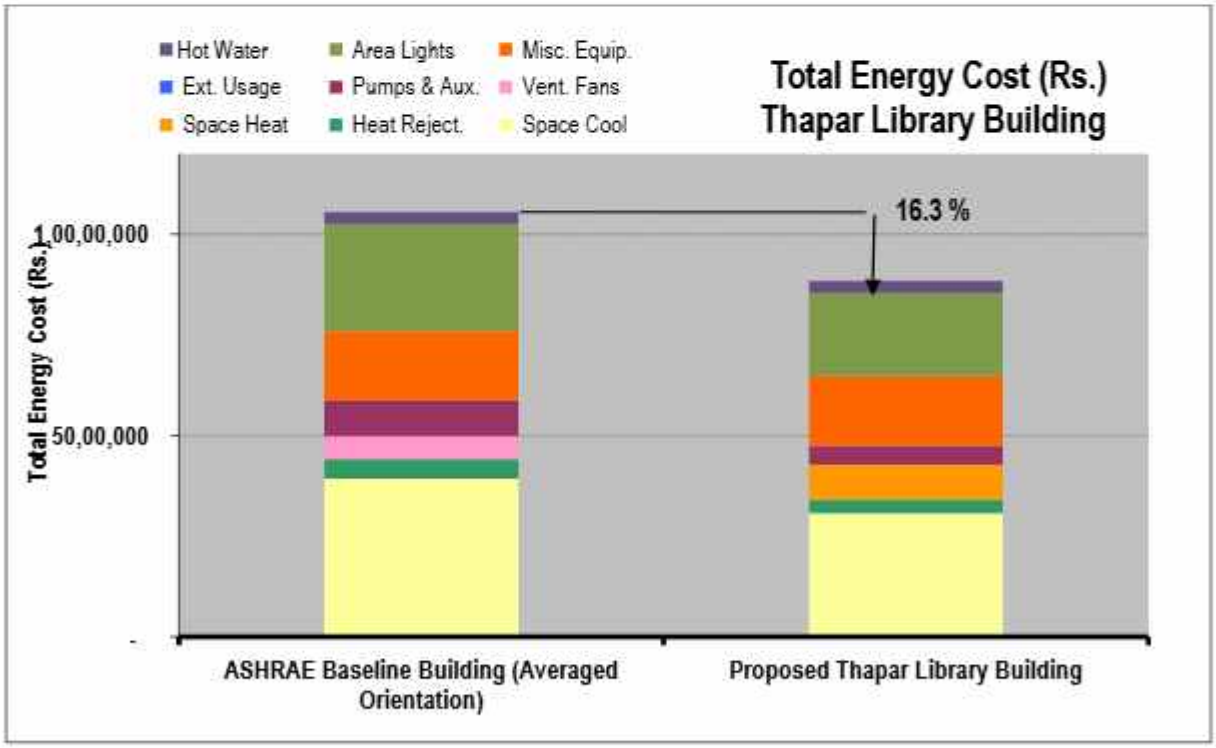
Based on current design & construction documentation provided for Thapar University Library Building, the project can reduce energy consumption by approximately **16.3%** below the Baseline Building energy consumption. The project can reduce energy cost by **16.3 %** below the Baseline Building and is likely to earn the project **three (3)** EAc1 point based on the LEED 2009 Core & Shell requirements. The project has adopted some energy efficiency measures in the current design so as to enhance its building's energy performance.

Table 3a: Annual Energy Consumption & Cost Summary

Total Energy Consumption		
kWhX1000	**ASHRAE Baseline Building (Averaged Orientation)**	**Proposed Thapar Library Building**
Space Cool	490.925	384.60
Heat Reject.	61.3	41.9
Refrigeration	0	0
Space Heat	0	108.3
HP Supp.	0	0
Hot Water	36.2	36.1
Vent. Fans	71.325	0
Pumps & Aux.	111.575	59.5
Ext. Usage	0	0
Misc. Equip.	214.6	214.6
Task Lights	0	0
Area Lights	332.6	258.9
Total	**1318.525**	**1104.1**
% Energy Savings		**16.3%**
Energy Cost Summary		
INR	**ASHRAE Baseline Building (Averaged Orientation)**	**Proposed Thapar Library Building**
Space Cool	3927400	3076800
Heat Reject.	490400	335200
Refrigeration	0	0
Space Heat	0	866400
HP Supp.	0	0
Hot Water	289600	288800
Vent. Fans	570600	0
Pumps & Aux.	892600	476000
Ext. Usage	0	0
Misc. Equip.	1716800	1716800
Task Lights	0	0
Area Lights	2660800	2071200
Total	**10548200**	**8831200**
% Cost Savings		**16.3%**



Energy Consumption Summary (kWh x1000)



Energy cost summary (Rs.)

4.3 Summary of Building Energy Efficiency Measures Incorporated in the Current Design

External Envelope Improvements

- AAC Blocks, High Performance Glazing & Façade;
- 50 mm thick XPS insulation with Green Roof;

Heating, Ventilation and Air-Conditioning Strategies

- High-efficiency Radiant cooling System

Lighting

- High-efficiency lighting luminaries (LPD = 0.8 Watts per sq. ft)

General Modeling Parameters

Analysis Tool: eQUEST v3.65 (DOE 2.2 Engine)

Energy Code Used: ASHRAE 90.1-2007 Appendix-G

Weather file: EPW Amritsar, Punjab

Climate Zone: 1

Building Area (excluding covered basement parking): around 1300000 ft^2

Number of Floors: Ground + 4 floors

Principal Cooling Source: Chilled Water

Principal Heating Source: Electricity (LEED purposes only)

Outside Air: Based on Design Brief

Utility Cost

Average Electric Rate: Rs. 8/kWh

5 Conclusions

Based on current design & construction documentation provided for Thapar Library Building, the project can reduce energy cost by **16.3%** below the Baseline Building and is likely to earn the project **Three (3)** EAc1 points based on the LEED NC 2009 requirements.

APPENDIX A – Whole Building Energy Simulation Output

Energy Simulation Reports

Proposed Case-BEPS

Proposed Thapar Library 19.02.2019 R6 DOE-2.2-48y 2/20/2019 8:38:37 BDL RUN 1

REPORT- BEPS Building Energy Performance WEATHER FILE- EPW Amritsar,Punjab.

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
ELECTRICITY													
MBTU	883.6	0.0	732.5	369.6	1319.0	143.2	203.2	0.0	0.0	0.0	123.2	0.0	3768.1
NATURAL-GAS													
MBTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MBTU	883.6	0.0	732.5	369.6	1319.0	143.2	203.2	0.0	0.0	0.0	123.2	0.0	3768.1

TOTAL SITE ENERGY 3768.09 MBTU 34.1 KBTU/SQFT-YR GROSS-AREA 34.1 KBTU/SQFT-YR NET-AREA
TOTAL SOURCE ENERGY 11304.38 MBTU 102.4 KBTU/SQFT-YR GROSS-AREA 102.4 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.00
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 0
HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 0

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

Proposed Case-BEPU

Proposed Thapar Library 19.02.2019 R6 DOE-2.2-48y 2/20/2019 8:38:37 BDL RUN 1

REPORT- BEPU Building Utility Performance WEATHER FILE- EPW Amritsar,Punjab.

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
ELECTRICITY													
KWH	258891.	0.	214621.	108294.	384645.	41947.	59541.	0.	0.	0.	36112.	0.	1104051.
NATURAL-GAS													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL ELECTRICITY 1104051. KWH 10.004 KWH /SQFT-YR GROSS-AREA 10.004 KWH /SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.00
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 0
HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 0

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

Energy Simulation Reports

Baseline Case-BEPS (0 Degree)

Baseline Thapar Library 28.04.2016 RS DOE-2.2-48y 2/19/2019 14:24:26 SDL RUN 11

REPORT- BEPS Building Energy Performance WEATHER FILE- EPW Amritsar,Punjab_

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
ELEC ELECTRICITY													
MBTU	1135.0	0.0	732.5	0.0	1656.0	206.1	367.9	246.4	0.0	0.0	123.5	0.0	4467.6
FUEL NATURAL-GAS													
MBTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MBTU	1135.0	0.0	732.5	0.0	1656.0	206.1	367.9	246.4	0.0	0.0	123.5	0.0	4467.6

TOTAL SITE ENERGY 4467.65 MBTU 40.5 KBTU/SQFT-YR GROSS-AREA 40.5 KBTU/SQFT-YR NET-AREA
TOTAL SOURCE ENERGY 13403.00 MBTU 121.4 KBTU/SQFT-YR GROSS-AREA 121.4 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.00
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 0
HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 0

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

Baseline Case-BEPU (0 Degree)

Baseline Thapar Library 28.04.2016 RS DOE-2.2-48y 2/19/2019 14:24:26 SDL RUN 11

REPORT- BEPU Building Utility Performance WEATHER FILE- EPW Amritsar,Punjab_

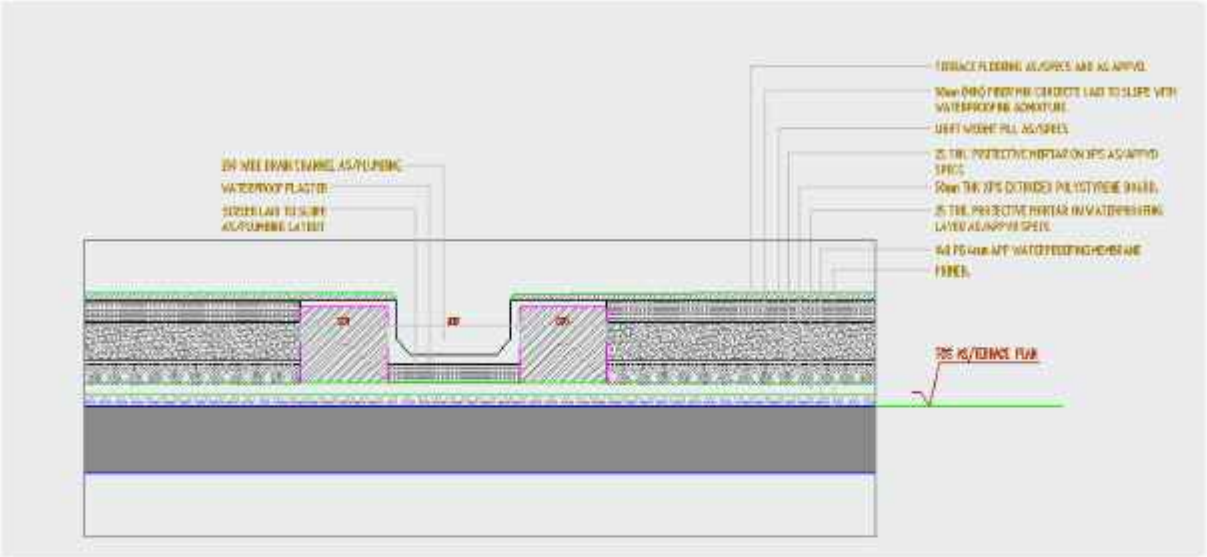
	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
ELEC ELECTRICITY													
KWH	332648.	0.	214621.	9.	485191.	60396.	107783.	72202.	0.	0.	36174.	0.	1309021.
FUEL NATURAL-GAS													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL ELECTRICITY 1309021. KWH 11.861 KWH /SQFT-YR GROSS-AREA 11.861 KWH /SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.00
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 0
HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 0

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

ROOF SECTION



Intended for

Designer / **Client**

REPORT ON DAYLIGHTING SIMULATION

FOR

THAPAR UNIVERSITY LIBRARY

PATIALA, PUNJAB

19 September 2016

Egis India Consulting Engineers Pvt Ltd.
Egis Tower | Plot No. 66, Sector - 32 | Gurgaon, Haryana-122001, India

TABLE OF CONTENTS

1. CREDIT DETAILS

Intent

To analyse the daylighting inside the building at different levels due to the presence of the windows on the wall.

Requirement

Demonstrate through computer simulations that at least 75% or more of all regularly occupied spaces achieve daylight luminance levels of a minimum of 25 foot candles and a maximum of 500 foot candles in a clear sky condition on September 21st at 9 AM and 3 PM; areas with luminance levels below or above the range do not comply. However designs that incorporate view preserving automated shades for glare control may demonstrate compliance for only the minimum 25 fc luminance level.

2. PROJECT DESCRIPTION

The Thapar University Library, Patiala is a five floor library building including the ground floor. The overall area of the building is 10,150 sqm. The building has seating/reading, group discussion, flexible and office areas.

This report contains the result of daylighting analysis of the regularly occupied areas in the building. This analysis will help us to understand how the worst case scenario for the project floor plate and interior layouts are designed with respect to daylight.

All calculations are based on the interior layout drawings provided.

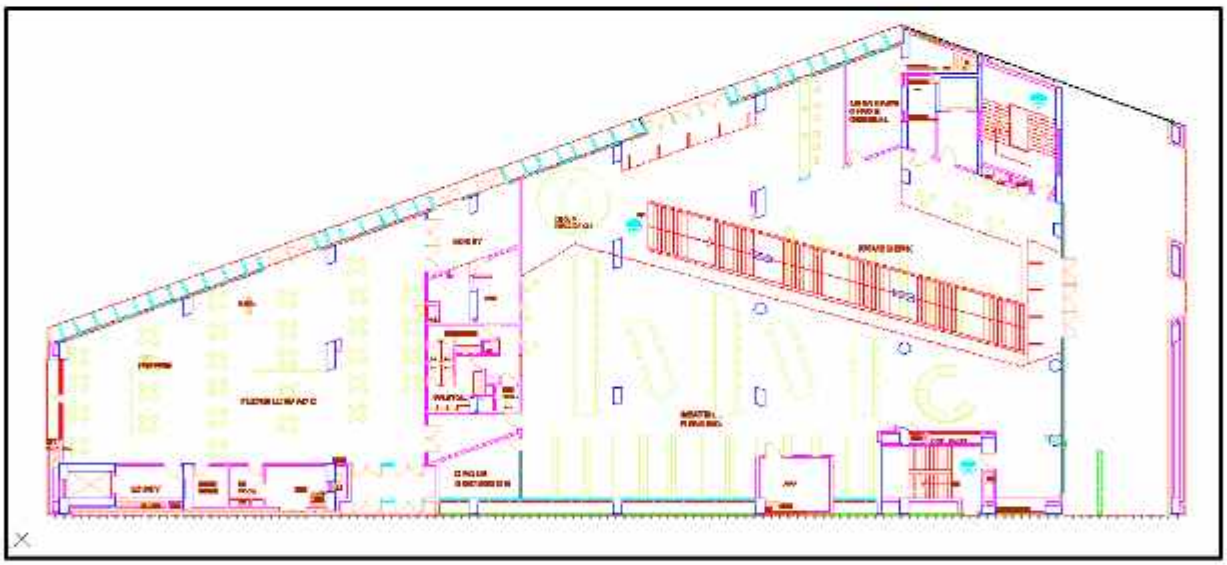
3. PROJECT INFORMATION

PROJECT NAME	**Thapar University Library**
PROJECT LOCATION	Patiala Punjab India
PROJECT AREA	10,150 sqm.

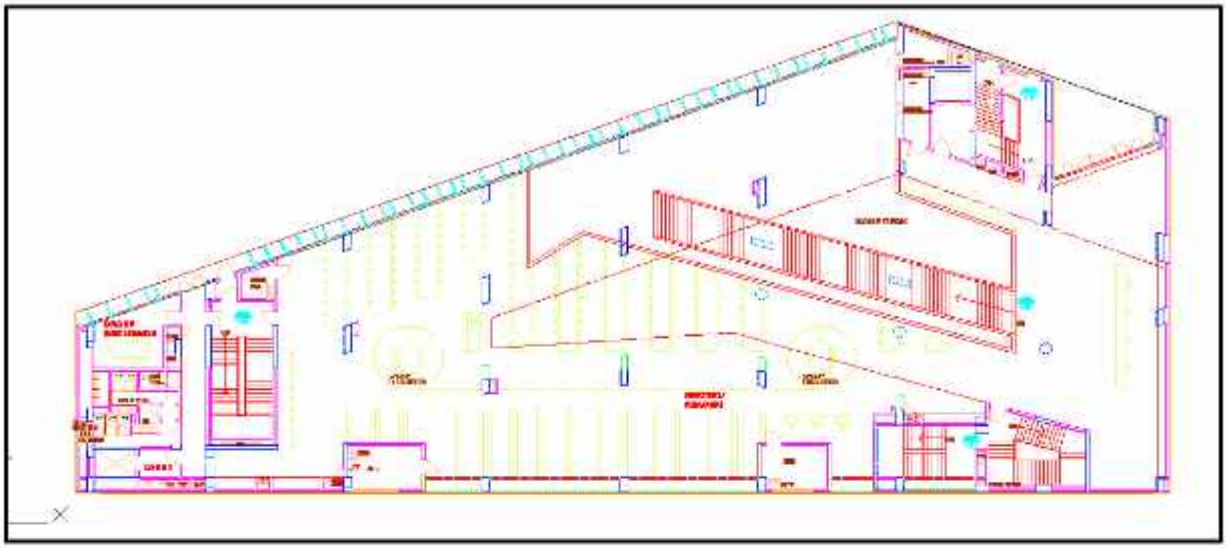
4. DAYLIGHT ANALYSIS BRIEF

1. Internal Partitions have been created as per drawing. (provided below)

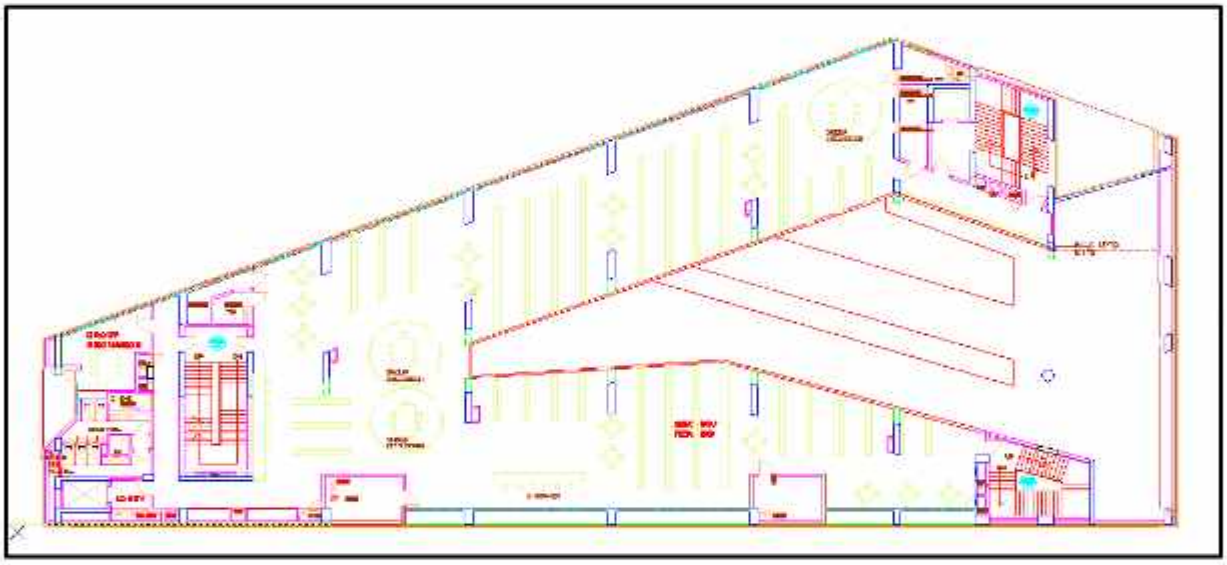
Ground Floor Layout



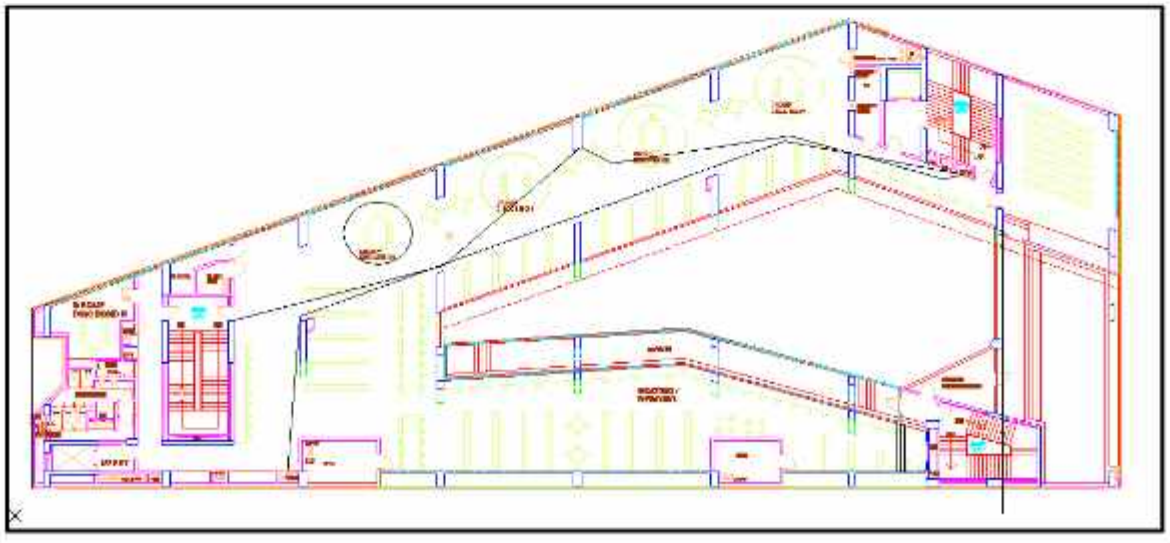
First Floor Layout



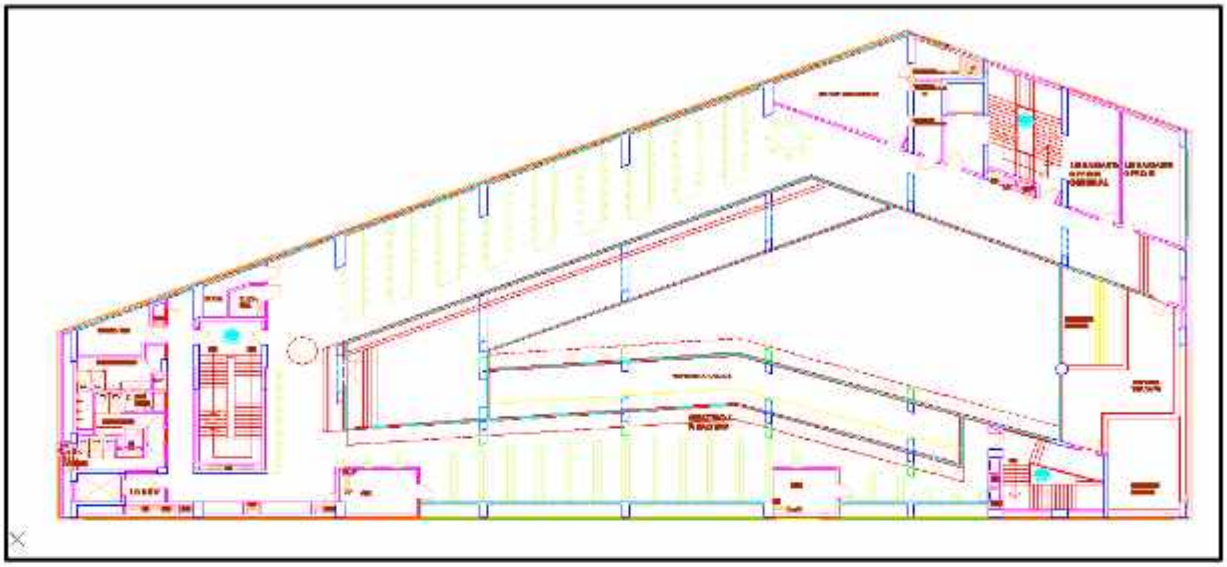
Second Floor Layout



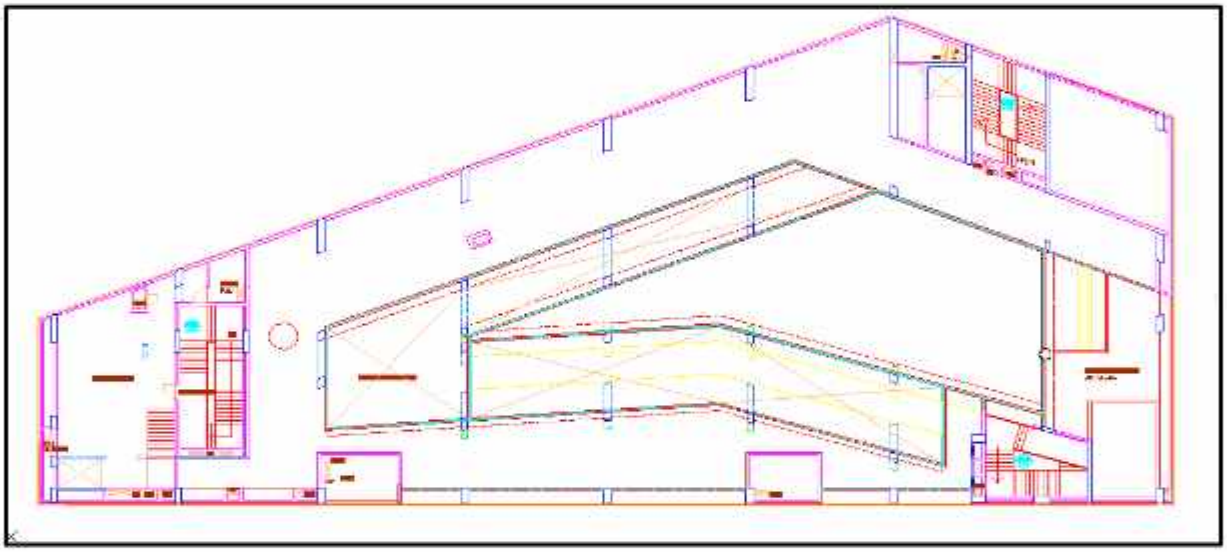
Third Floor Layout



Fourth Floor Layout



Fifth Floor Layout



5. SIMULATION INPUT / CALCULATION CRITERIA

S. No.	Input Parameters	Values
1	Orientation	As per Plan
2	No. of Floors	G+4F
3	Weather File	Amritsar.wea
4	Timing for Simulation	On 21st September at 9 am and 3 pm
5	Simulation Tool	Ecotect with Radiance
6	Glass Properties	i. Double Glazed Unit without shading effect of Jali on North Direction – (SHGC- 0.36 VLT- 0.45) ii. Double Glazed Unit with shading effect of Jali on West , NW, SW Direction- (SHGC- 0.22 VLT- 0.45)
7	Wall Reflectivity (Inner Surface)	56%
8	Roof Reflectivity (Inner Surface)	70%
9	Slab Reflectivity (Inner Surface)	59%

The shading effect of Jali on the window glass will reduce the overall SHGC of the glass. The calculation for this reduction is done using the appropriate guidelines (Energy Conservation Building Code-ECBC). The table 4.4 of ECBC user manual gives the calculation criteria for the shading effect of the overhangs and fins. The Jali can the considered as the combined effect of both overhangs and fins for shading. The Jali covers the 50% of the total area of the window glass in this building. So the M-factor (as defined in ECBC) for this case will be 0.60. This value should be multiplied with the actual SHGC of the glass to get the effective SHGC value. The effective SHGC after the shading effect of the Jali will be 0.22 whereas it is 0.36 without this effect.

6. RESULT SUMMARY

Sr. No	Regularly Occupied Space	Area (sqm.)	Avg. Lux Value (9 am)	Area with lux value b/w 270 lux-5400 lux @ 9 am	Avg. Lux Value (3 pm)	Area with lux value b/w 270 lux-5400 lux @ 3 pm	Reference Lux Value	Daylight Passed Area
1	Ground Floor	1833.5	790.9	1721.2 (93.8%)	1091.5	1804.8 (94.6%)	270 lux – 5400 lux	1721.2
2	First Floor	2074.6	527.4	1228.3 (59.2%)	602.7	1605.7 (77.4%)	270 lux – 5400 lux	1228.3
3	Second Floor	2147.4	542.0	1814.3 (84.4%)	878.5	1839.4 (85.6%)	270 lux – 5400 lux	1814.3
4	Third Floor	2035.7	900.2	1729.7 (85%)	854.4	1593.4 (78.3%)	270 lux – 5400 lux	1593.4
5	Fourth Floor	2058.0	1660.4	1860.4 (90.4%)	1510.0	1751.3 (85.1%)	270 lux – 5400 lux	1751.3

7. IMAGES OF THE ECOTECT MODEL

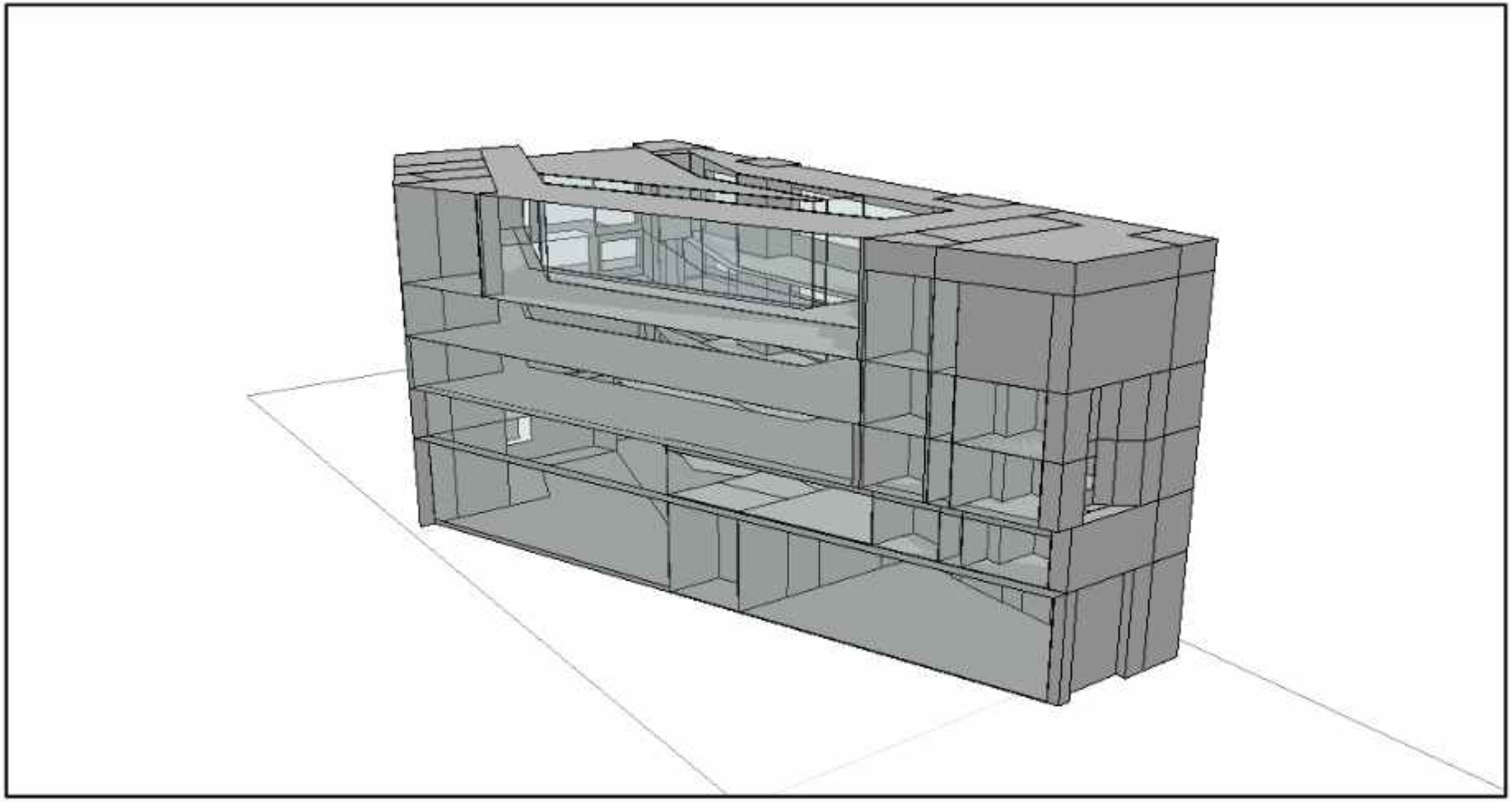


Figure 1 Building Model

8. GLASS PARAMETERS IN THE MODEL:

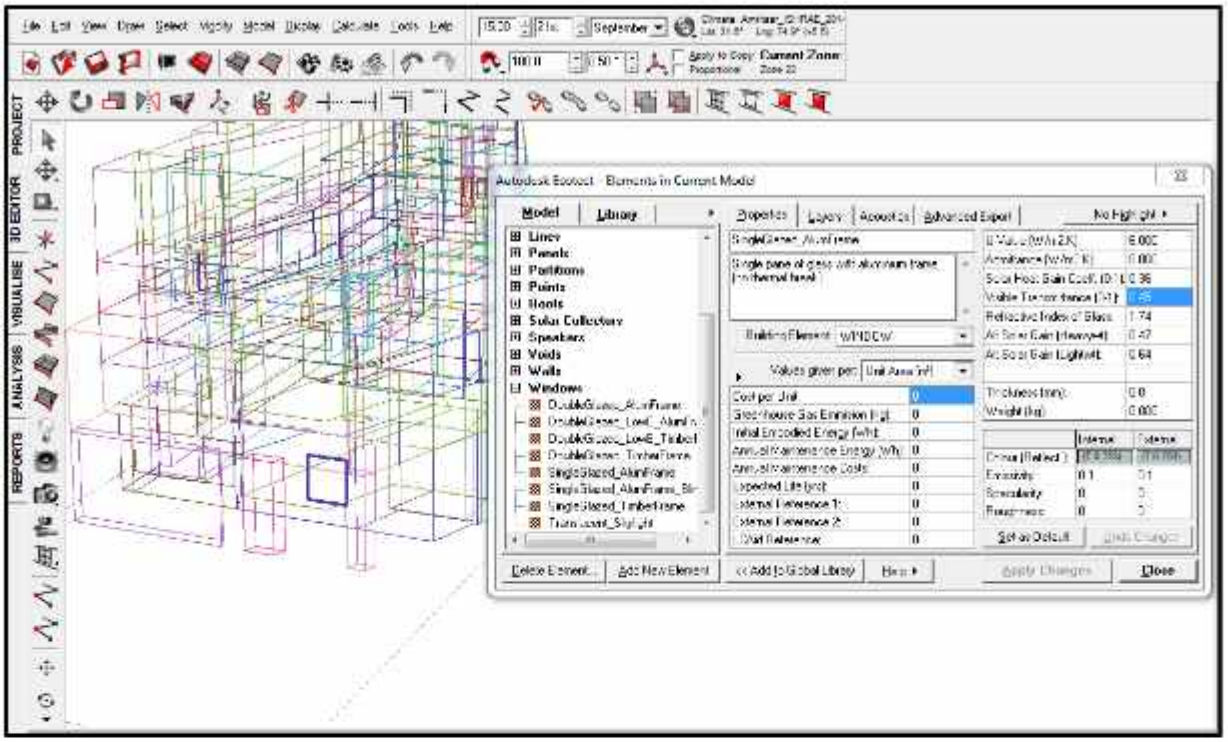


Figure 2 Double Glazed Unit without Shading Effect of Jali on North

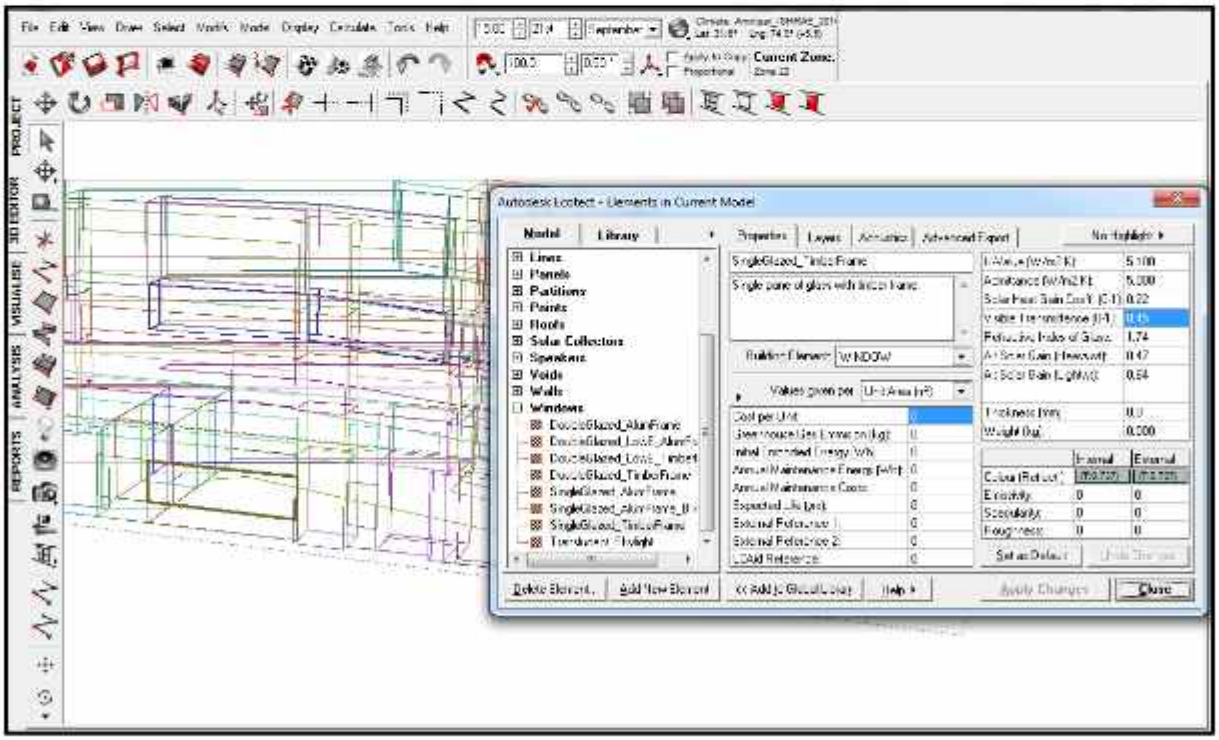
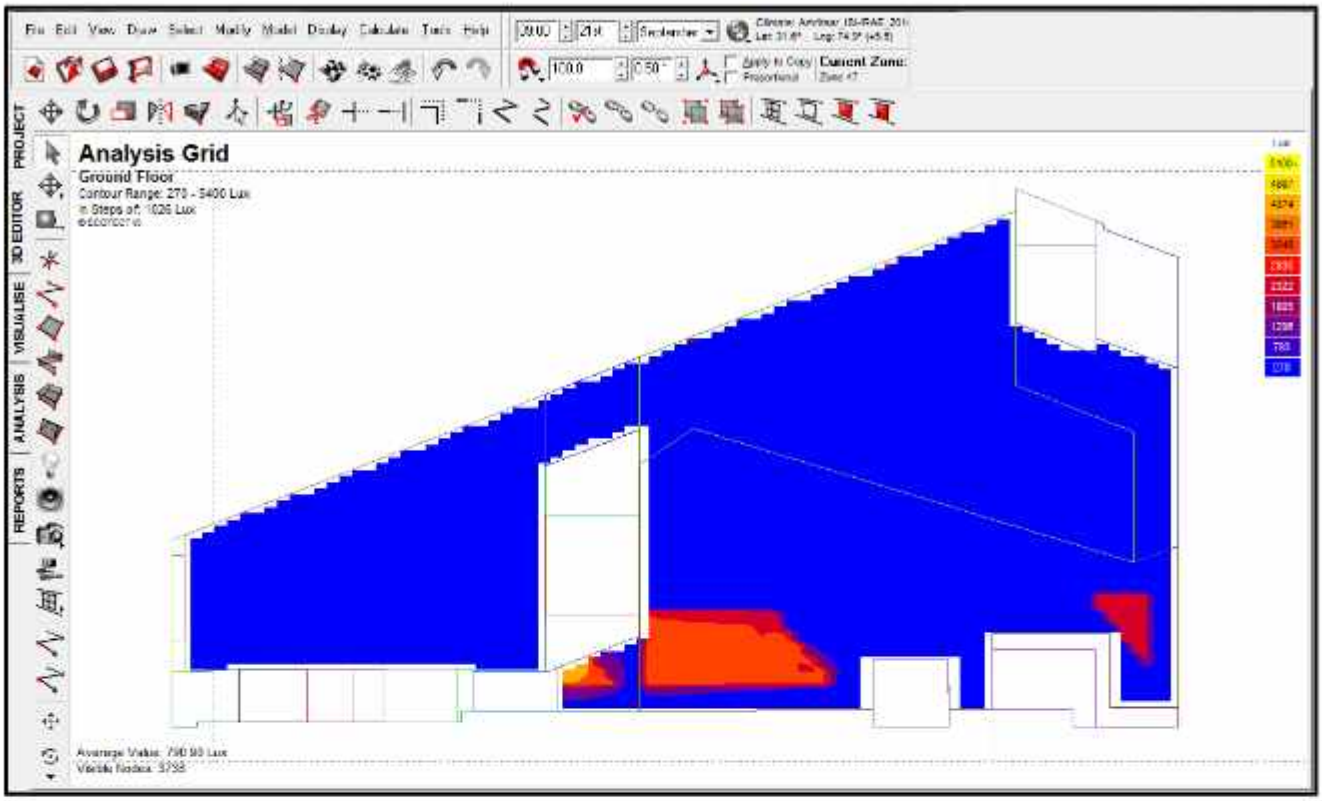


Figure 3 Double Glazed Unit with Shading Effect of Jali on West, NW, SW

9. SIMULATION RESULTS

- Ground Floor at 9 AM



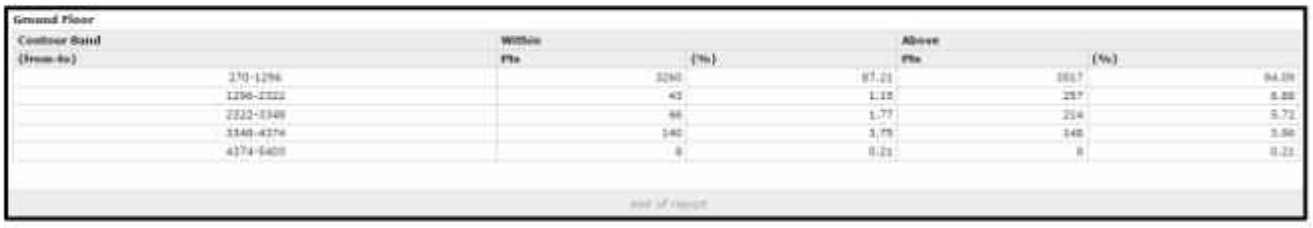
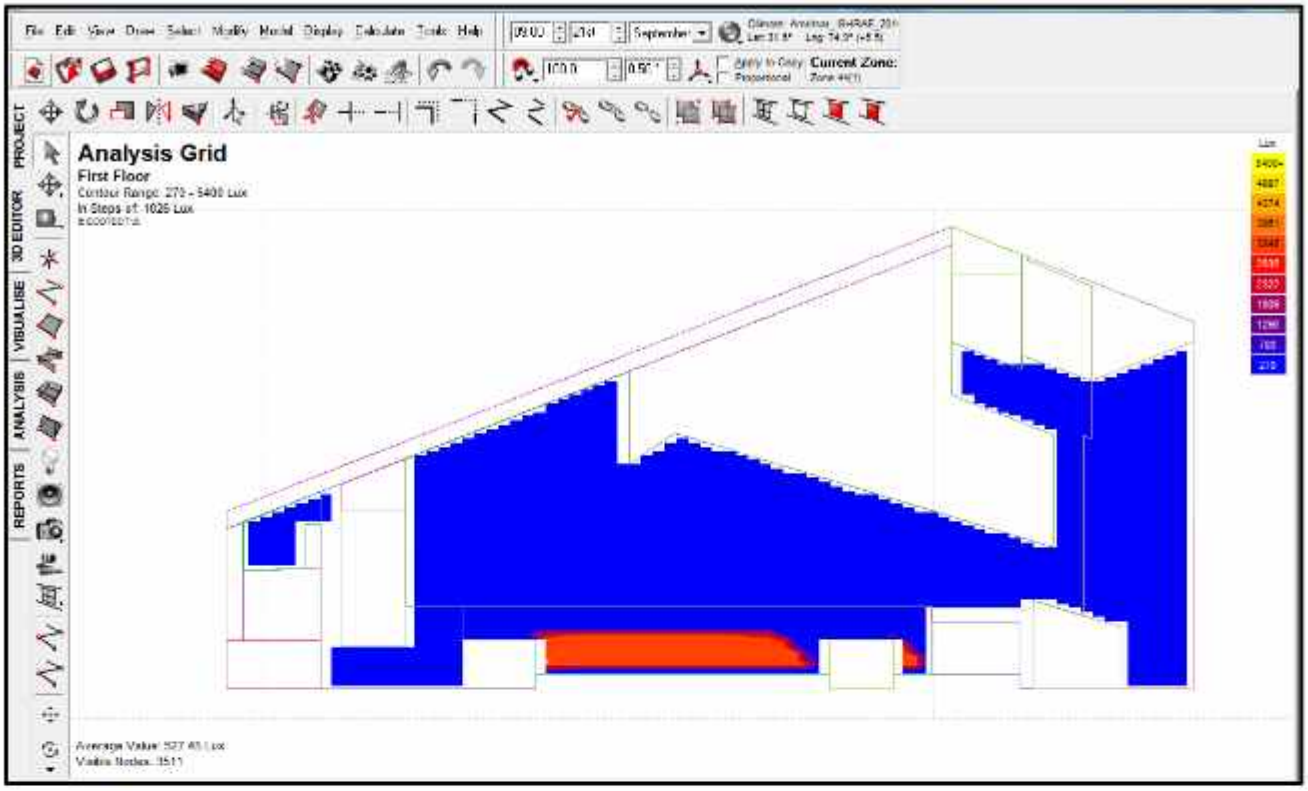


Figure 4 Ground Floor at 9 AM

- First Floor at 9 AM

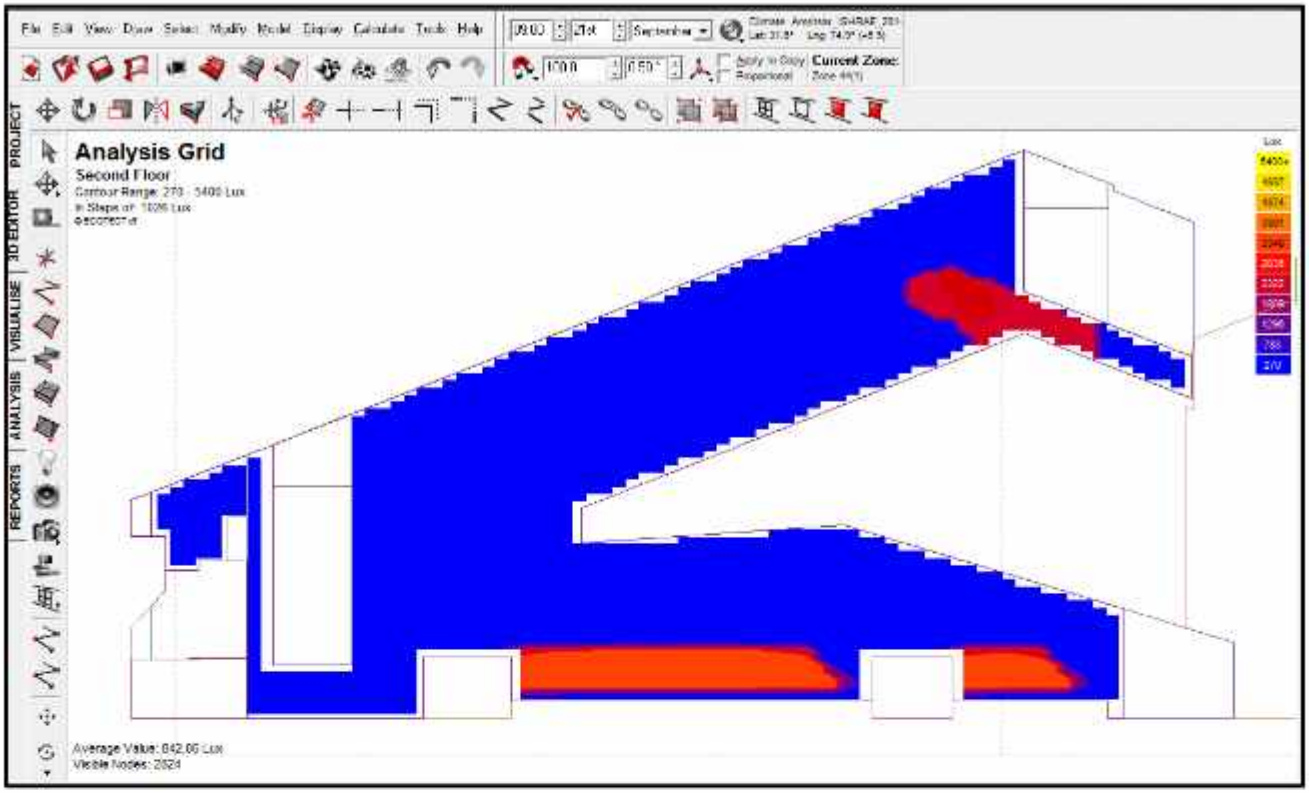


First Floor

Contour Band (from-to)	Within Pts	Within (%)	Above Pts	Above (%)
270-1296	2073	93.36	2081	99.27
1296-2322	24	6.58	208	5.92
2322-3348	28	0.28	184	5.24
3348-4374	172	4.38	174	4.46
4374-5400	2	0.06	2	0.06

Figure 5 First Floor at 9 AM

- Second Floor at 9 AM

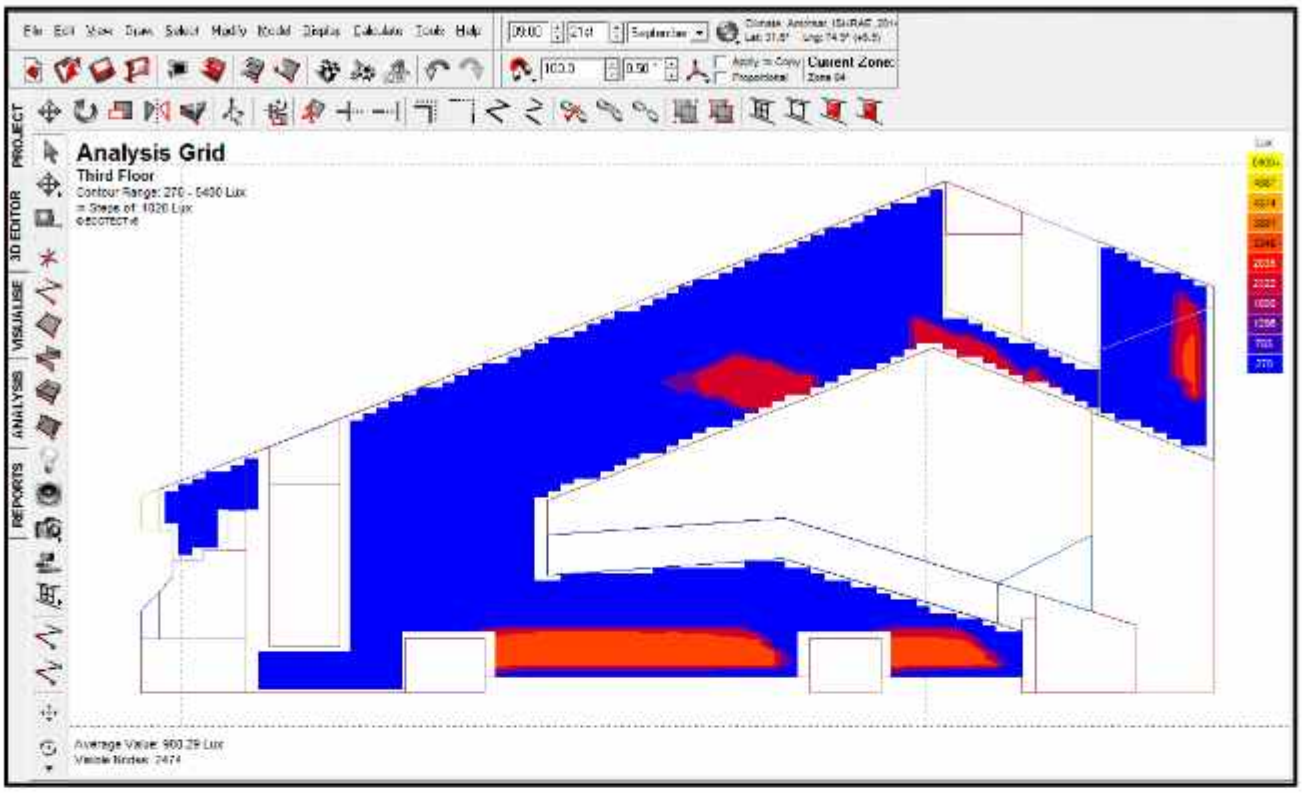


Second Floor

Contour Band (from-to)	Within Pts	(%)	Above Pts	(%)
270-1256	2262	71.69	2386	84.45
1256-2322	30	1.38	324	11.83
2322-3348	121	4.28	293	10.49
3348-4374	174	6.18	174	6.18
4374-5400	2	0.00	0	0.00

Figure 6 Second Floor at 9 AM

- Third Floor at 9 AM



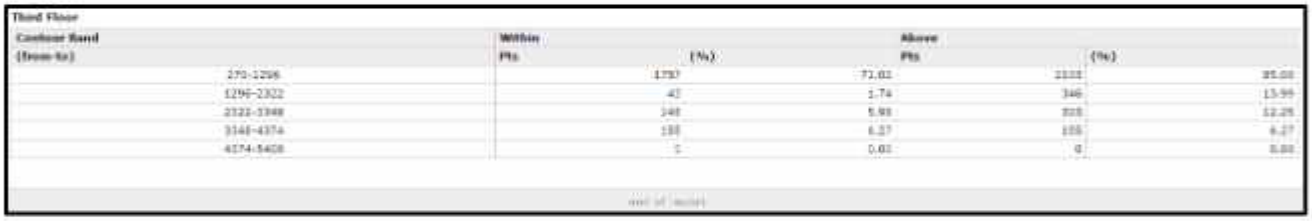
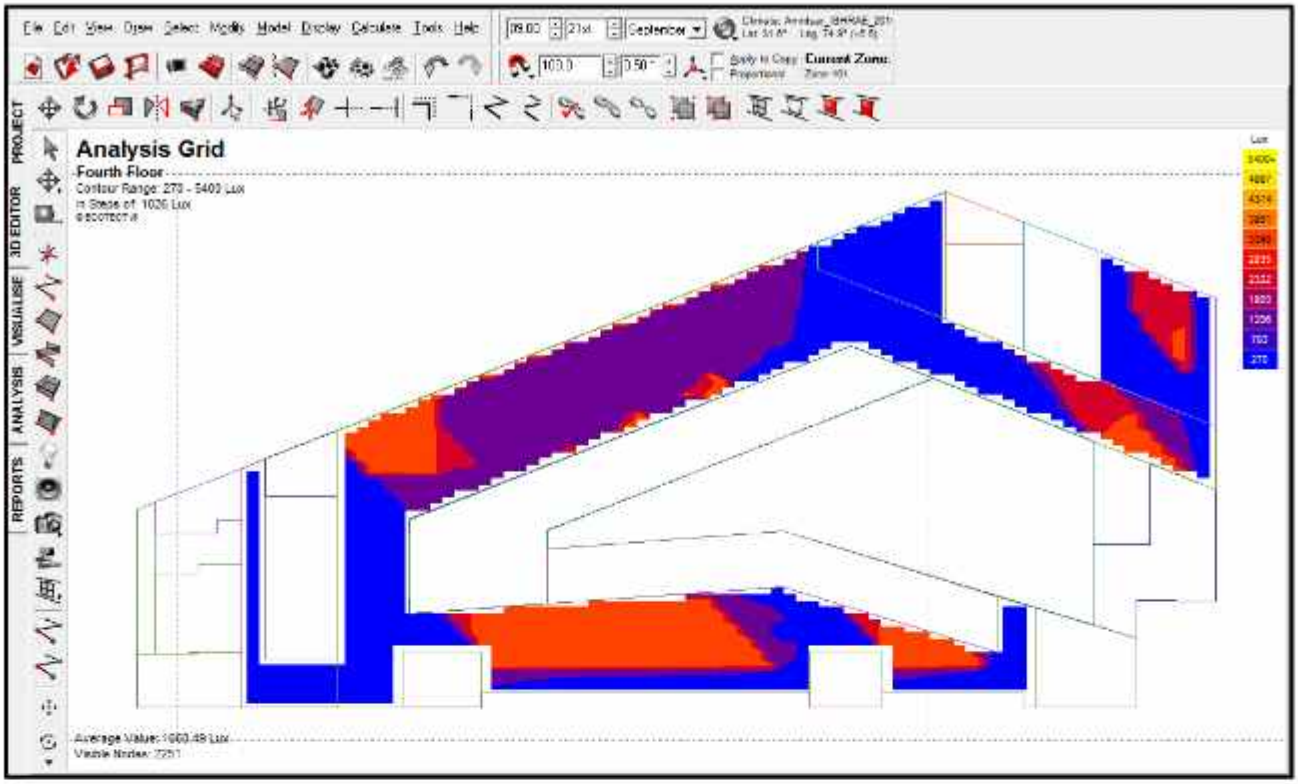


Figure 7 Third Floor at 9 AM

- Fourth Floor at 9 AM



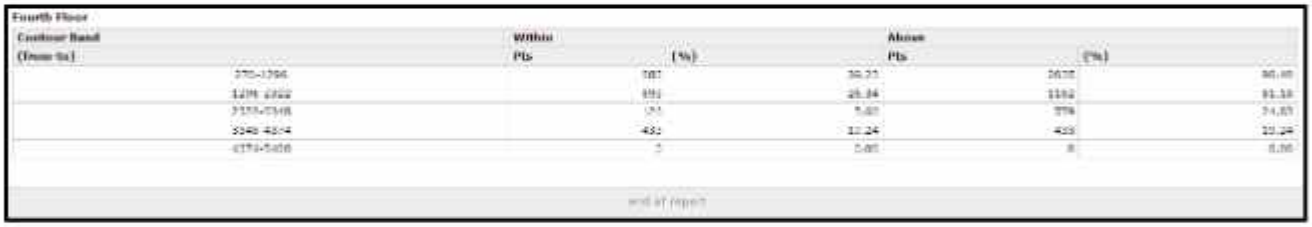
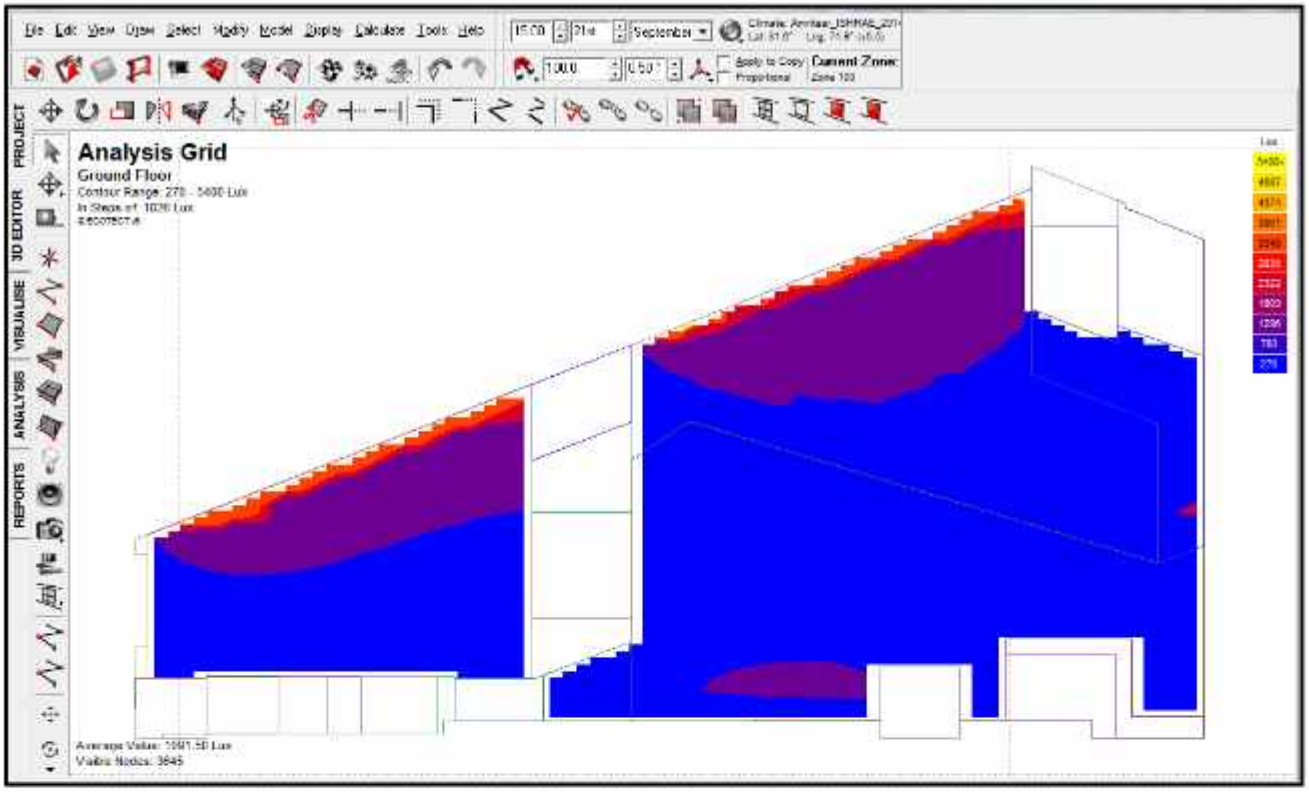


Figure 8 Fourth Floor at 9 AM

- Ground Floor at 3 PM

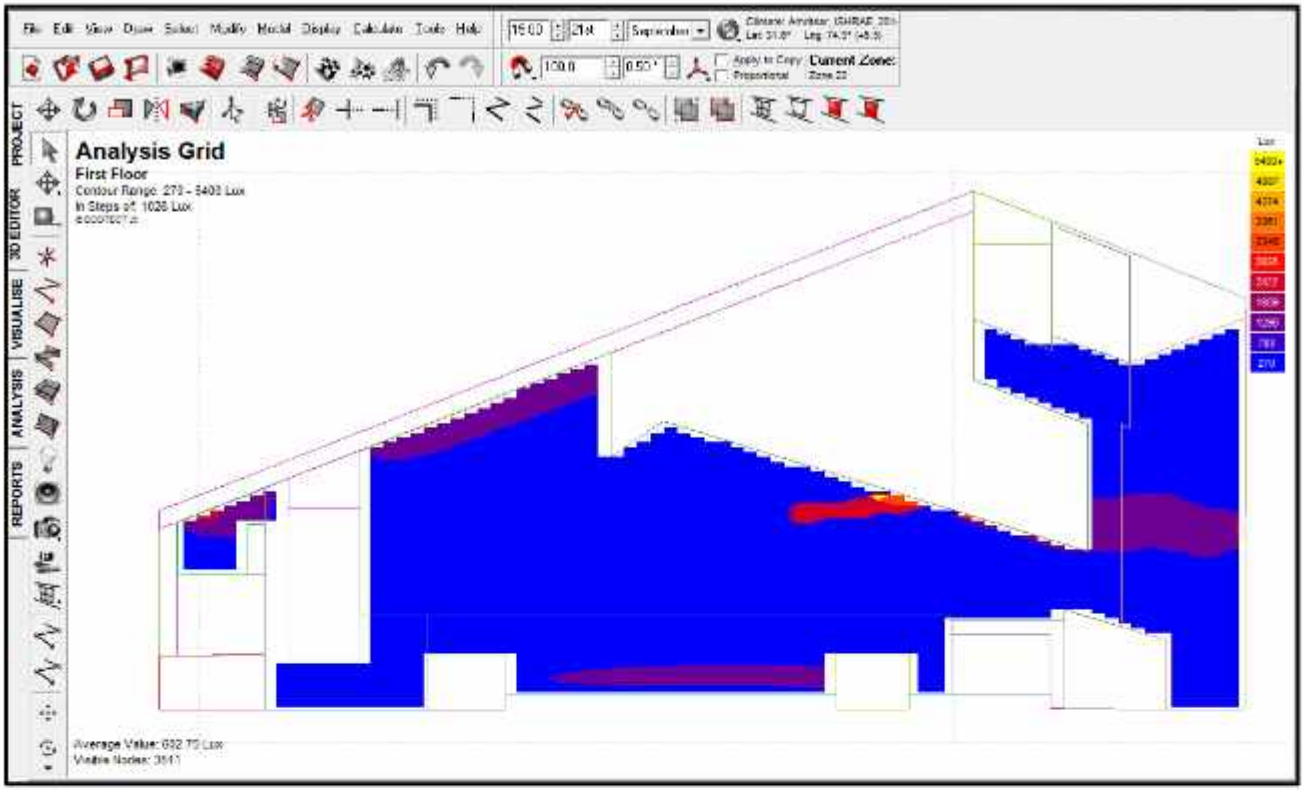


Ground Floor

Contour Band (from-to)	Within Pts	Within (%)	Above Pts	Above (%)
270-1296	2607	71.52	3591	98.52
1296-2322	812	22.28	984	27.00
2322-3348	38	1.04	172	4.72
3348-4374	131	3.59	134	3.68
4374-5400	2	0.05	3	0.08

Figure 9 Ground Floor at 3 PM

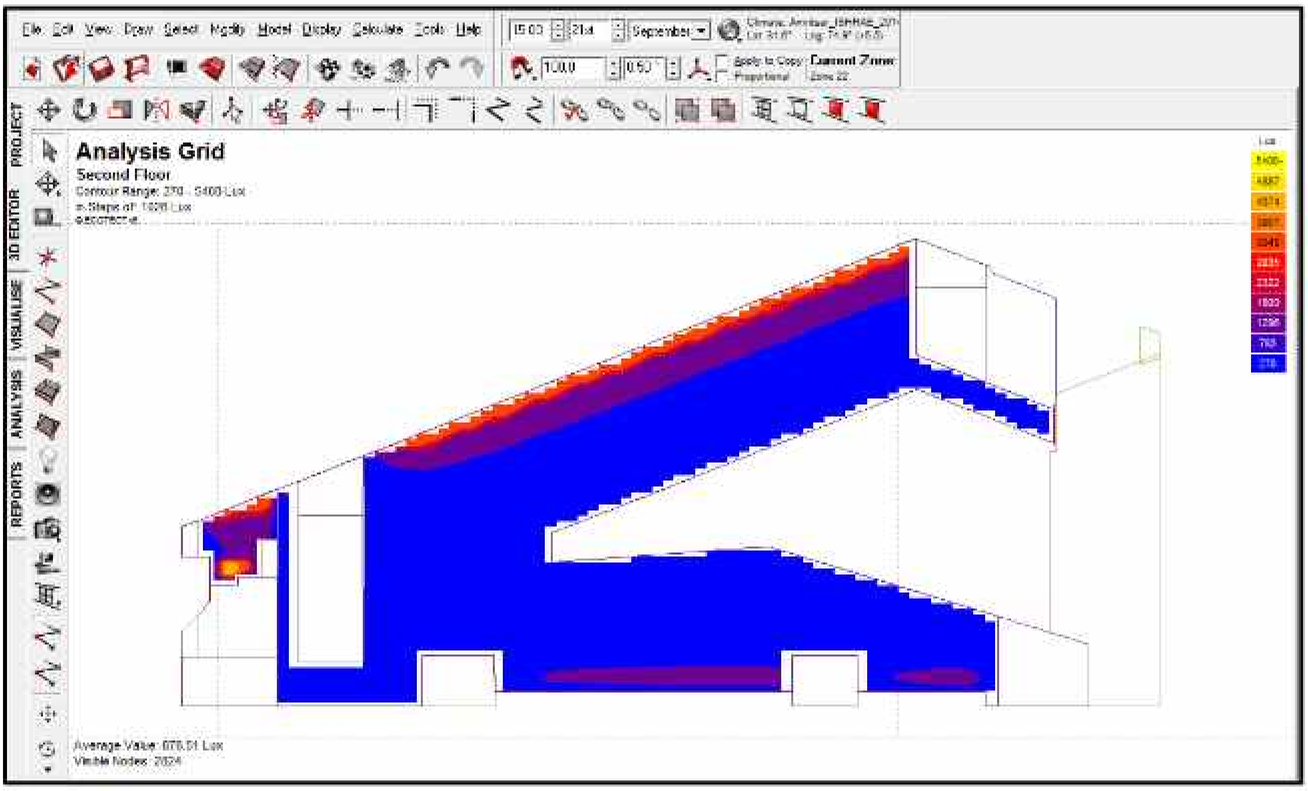
- First Floor at 3 PM



First Floor				
Contour Band (from-to)	Within		Above	
	Pts	(%)	Pts	(%)
270-1296	2208	98.74	2720	77.47
1296-2322	701	19.96	417	11.77
2322-3348	45	1.28	51	1.45
3348-4374	9	0.26	10	0.28
4374-8403	6	0.17	3	0.09

Figure 10 First Floor at 3 PM

- Second Floor at 3 PM



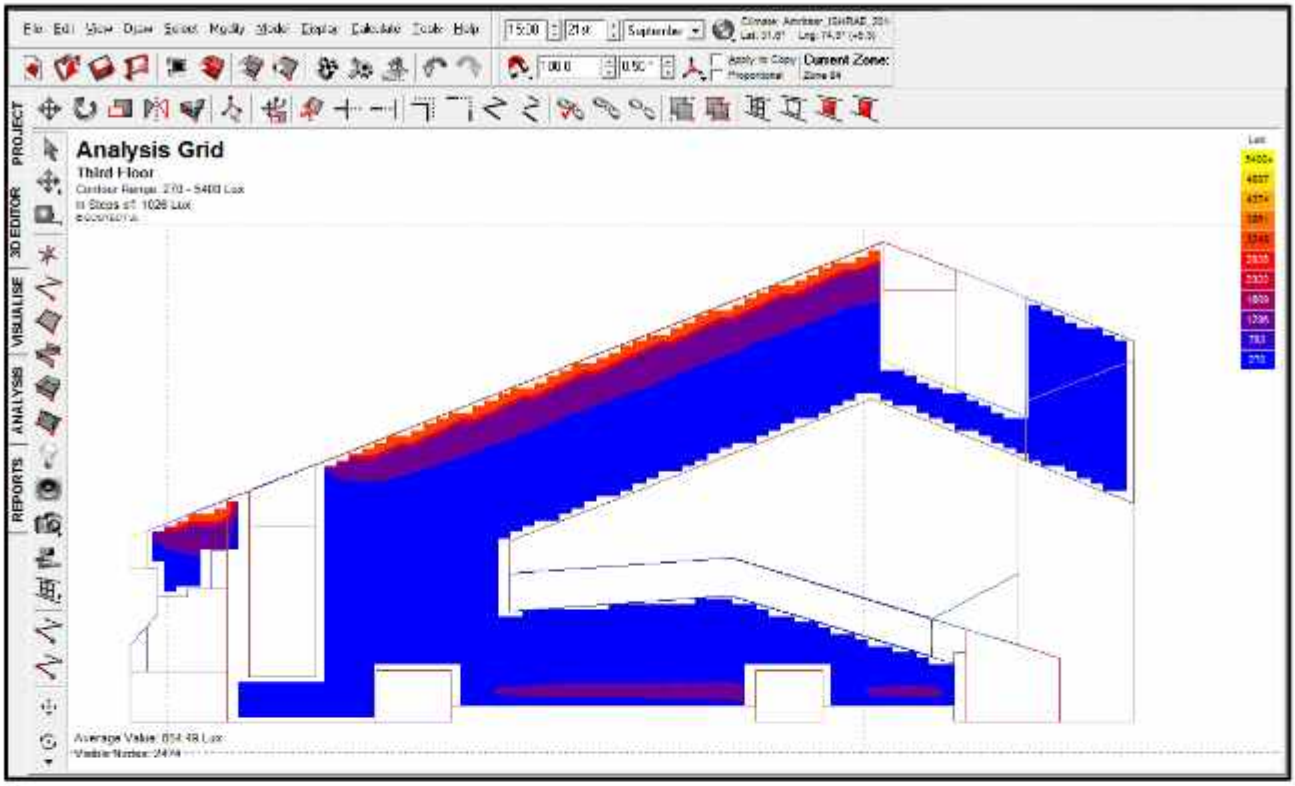
Second Floor

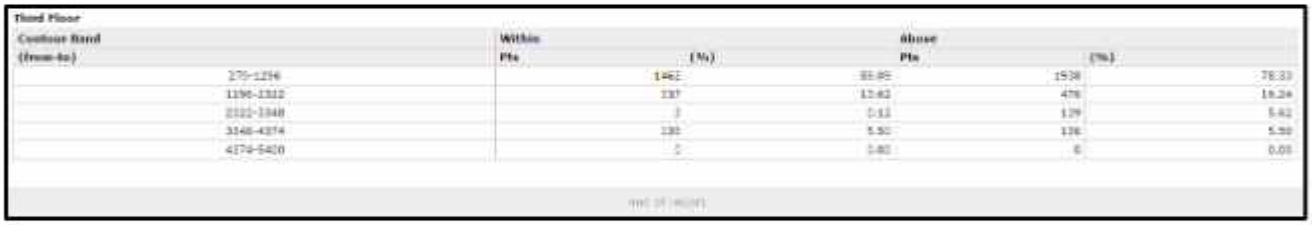
Contour Band (from to)	Within Pts	(%)	Above Pts	(%)
270–1296	[illegible]	[illegible]	[illegible]	[illegible]
1296–2322	[illegible]	14.20	[illegible]	[illegible]
2322–3348	[illegible]	[illegible]	101	[illegible]
3348–4374	[illegible]	[illegible]	[illegible]	[illegible]
4374–5400	[illegible]	[illegible]	[illegible]	[illegible]

end of report

Figure 11 Second Floor at 3 PM

- Third Floor at 3 PM

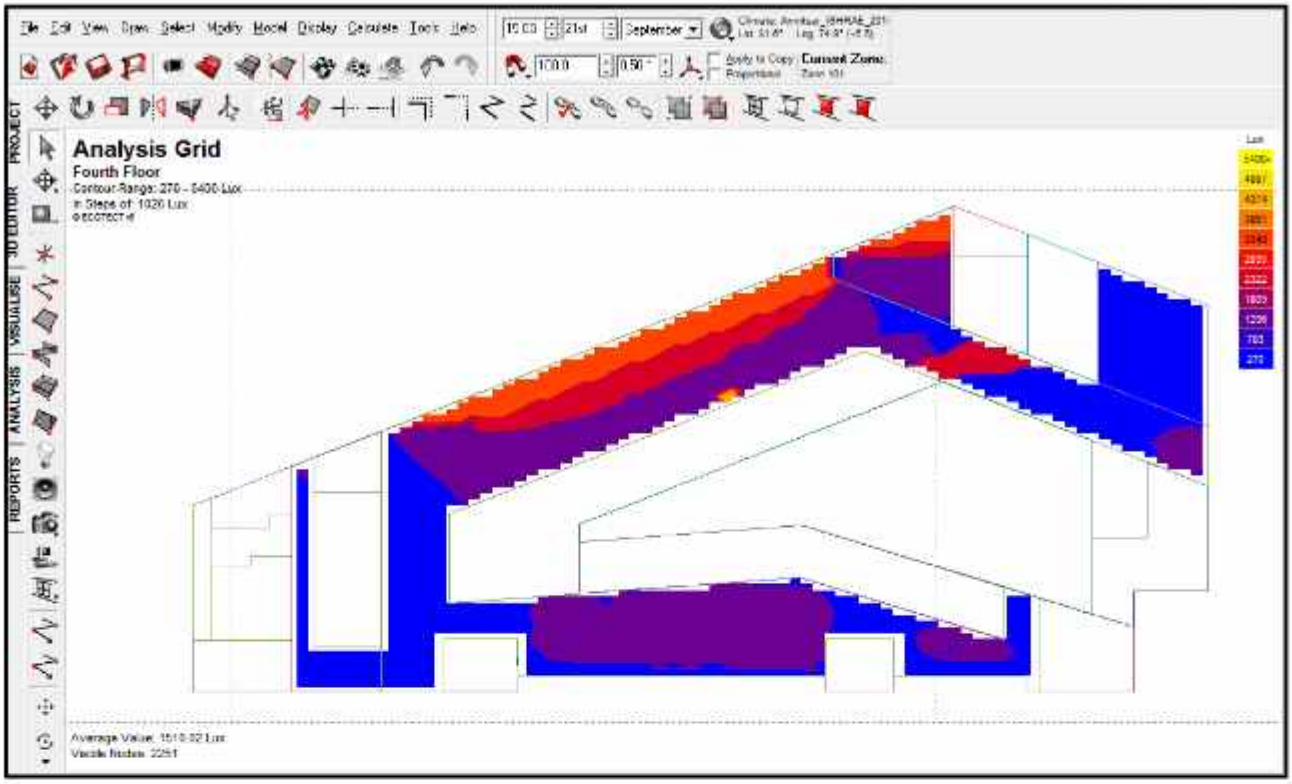




Third Floor				
Contour Band (from-to)	Within		Above	
	Pts	(%)	Pts	(%)
270-1296	1462	89.85	1538	78.33
1296-2322	337	12.62	476	18.24
2322-3348	3	0.11	129	5.62
3348-4374	130	5.50	136	5.50
4374-5400	0	0.00	6	0.00

Figure 12 Third Floor at 3 PM

- Fourth Floor at 3 PM



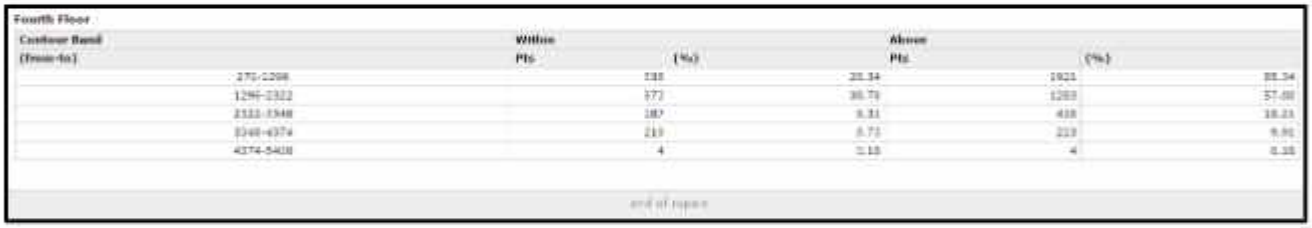


Figure 13 Fourth Floor at 3 PM

Benefits of using DGU (Proposed Glass):

Using DGU glass in the building reduce the excessive daylight (which cause glare) to penetrate inside the building. Using DGU with Jali controls the glare and allow the maximum daylight in the building.

Using DGU also prevents heat gains inside the building, by which heat load of the building will be reduced and hence more points in energy section may be claimed. Double glaze units improve sound insulation by creating a barrier between inside and outside.

10. CONCLUSION:

The daylight simulation results have been carried out with the computer simulation software, Ecotect with Radiance. The simulation results shows the lux value of natural light entering inside the building's regularly occupied area through the windows. As the proposed glass is double glazed unit, daylight with adequate lux levels (270 lux – 5400 lux) reaches inside the space of the building. To prevent excessive daylight, the Jali has been used in the West, NW and SW direction wall, which prevents the glare inside the building. The effect of shading was considered in the shading co-efficient of the glass to check the actual daylight levels falling on the work plane (760 mm offset from the bottom surface of the floor). The results also shows the different values of lux on each floor at two different times 9 am and 3 pm.

The simulation results show the average value of lux which is higher on the top floors, i.e. third and fourth floor.

As per the simulation output the project will be qualified for around 79% of regularly occupied area for daylight requirement in LEED NC v2009 rating system and 1 point can be claimed under IEQ-Daylight Credit.

Annexure 16

TIET/R/ 174
Dt. 12.1.21

By Regd Post

Tele: 011-25687194/ 5315

HQ Western Air Command, IAF
Subroto Park
New Delhi-10

WAC/S 5016/5/ATS (69/ 20)

01 January 2021

The Registrar,
Thapar University,
Bhadson Road, Patiala,
Punjab-147004

NOC FOR CONSTRUCTION OF BUILDING

1. Please refer your application dated 10 Dec 20 and 14 Sep 20 on the subject.

2. The application has been examined under Gazette of India GSR 751 (E), Works of Defence Act 1903 and other relevant orders on the subject. This HQ has no objection for construction of 35.67 m high building for educational and residential complex at Khasra No's (mentioned in submitted proposal), Thapar University Complex, Bhadson Road, Patiala, Punjab subject to following conditions:-

(a) The NOC with respect to Air Force Station Ambala is for construction of the subject building and cannot be used as document for any other purpose/ claim whatsoever including ownership of land.

(b) The applicant is responsible to obtain NOC/ all statutory clearance from the concerned authorities including approval of building plans. Clearance shall also be obtained separately from any other defence establishment in the vicinity of proposed construction.

(c) The site elevation and site coordinates provided by the applicant are taken for calculation of the permissible top elevation of the proposed structure. However, at any stage, if it is established that the actual site elevation and site coordinates are different from those provided by the applicant, the NOC will be invalid.

(d) Issue of the NOC is further subject to the provisions of Section 5 (2) of GSR 751 (E) read in conjunction with sub section (1) and clause (O) & clause (R) of sub section 2 of section 5 read with section 9 (A) of Aircraft Act 1934

(e) Vertical extent (highest point) of the building (s) proposed at coordinates mentioned overleaf shall not exceed 294.67 m AMSL or 35.67 m AGL. No extension or structure permanent or temporary (e.g. Cranes, Antennas, Mumtee, lightening Arresters, Lift machine room, Overhead water tank, Cooling towers, Sign boards, any attachment or fixtures of any kind) shall be permitted above the cleared height.

Corners	Latitude	Longitude	Site Elevation
A	30° 21' 08" N	76° 22' 26" E	259 m AMSL
B	30° 21' 16" N	76° 22' 21" E	258 m AMSL
C	30° 21' 31" N	76° 22' 23" E	257 m AMSL
D	30° 21' 25" N	76° 21' 31" E	255 m AMSL
E	30° 21' 01" N	76° 21' 34" E	256 m AMSL

(f) Standard obstruction lightings as per IS 5613 notification and International Civil Aviation Organization (ICAO) standards as stipulated in ICAO Annex-14 is to be provided by the company. The lights shall be kept 'ON' at all times. Provision shall be made for standby power supply to keep the lights 'ON' during power failure. Company shall carry out periodic maintenance of the lights to keep them in serviceable and visible condition.

(g) A proper garbage disposal system in accordance with the provisions of Solid Waste Management Rule, 2016 / Gazette Notification SO 1357 (E) (Para 4) or Environment (Protection) Act, 1986 including amendments shall be adhered to by the applicant for the purpose of avoiding bird activity.

(h) No light or a combination of lights which by reason of its intensity, configuration or colour may cause confusion with the aeronautical ground lights of the airport shall be installed at the site at any time during or after the construction of the building.

(j) The commencement and completion of construction including installation of obstruction lights shall be intimated to Air Officer Commanding, AF Station Ambala. Failure to render these certificates within the stipulated time shall lead to cancellation of NOC.

(k) The NOC is valid for Five years from the date of its issue. If the building is not constructed and completed within this period, the applicant shall be required to obtain a fresh/ extension of NOC from Indian Air Force. Request for revalidation of NOC will not be entertained after the expiry of validity period.

Yours sincerely,

(Pooja Khanna)
Wing Commander
Command ATC Officer

- GM (CMS)
- AR (Meetings)

12/1/21.

Copy to:

Air HQ (VB) (Wg Cdr Ops ATS-IV)

AF Stn Ambala (SATCO)

Internal:

C Nav O

Annexure 17(a)

PUNJAB WATER REGULATION AND DEVELOPMENT AUTHORITY
SCO 149-152, SECTOR 17, CHANDIGARH – 160017

ad interim PERMISSION FOR EXTRACTION OF GROUNDWATER

Name of Unit	Thapar Institute of Engineering & Technology (Deemed to be University)	
Activity of Unit:	Institutional	
Address of Unit:	Thapar Institute of Engineering & Technology (Deemed to be University), Bhadson Road, District Patiala	PIN Code: 147004
Assessment Unit (Block):	Patiala	Category: Orange
District:	Patiala	
Correspondence Address:	Thapar Institute of Engineering & Technology (Deemed to be University), Bhadson Road, District Patiala	PIN Code: 147004
Unit ID	1120300551	
Permission Number	PWRDA/09/2022/L2/467	Dated: 28.09.2022
Project Status:	Existing Unit	
Permission Type:	*ad-interim* Permission	
Validity Period:	For a period of three months from the date of publication of the final guidelines by the Authority, or for three years from the date of grant of this *ad interim* permission, whichever is earlier.	

Ground Water Extraction Permitted: 212 m^3/day

Fresh Water		Saline Water	
m^3/day	m^3/month*	m^3/day	m^3/month*
212	6,360	-	-

*Note:- Month is taken as 30 days for calculation of charges.

Fees and Charges Paid:

A. Application Fees for Groundwater Extraction:

Volume of Groundwater Extraction Applied For per day (in m3/day)	Fees Deposited (in Rs.)
212	20,000/-

B. Advance Deposit equivalent to two months of charges for the permitted quantity of groundwater extraction:

Category of Area	Extraction Permitted: (m^3/day)		212	Amount Deposited (Rs.)
Orange	Charges for two months			2,49,840/-
	<10 m^3/day	10-100 m^3/day	>100 m^3/day	
	4,800	97,200	1,47,840	

C. Tube-well Registration Fee paid:

No. of existing tube-wells	No. of Proposed tube-wells	No. of total tube-wells	Registration Fee applicable per tube-well	Total Registration Fee Paid (Rs.)
04	Nil	04	10,000/-	40,000/-

D. Total Amount Paid (Rs.):

Application Fee	Advance Deposit	Tube-well Registration Fee	Total(Rs.)
20,000/-	2,49,840/-	40,000/-	3,09,840/-

NOTE: This permission is granted in terms of the Draft Punjab Guidelines for Groundwater Extraction and Conservation published on November 12, 2020 under section 15 of the Punjab Water Resources (Regulation and Management) Act 2020 and is subject to the conditions given overleaf.

Dated: 28th Sep, 2022
Place: CHANDIGARH

Signature
Maninder Singh, A.O.I.-2
Executive Engineer
Punjab Water Regulation and Development Authority
Chandigarh.

ad interim PERMISSION CONDITIONS

1) The permission is valid for a period of three months from the date of publication of the final guidelines by the Authority, or for three years from the date of grant of this ad interim permission, whichever is earlier. The unit will apply again for Permission within one month after the publication of the final Guidelines.
2) Since, this Permission has been issued on the basis of self-assessment by the applicant and without any site inspection or verification of documents submitted by the applicant, hence the Authority may inspect the unit and documents at any time. In case any material difference is found in the information submitted and the site conditions or documents, the Authority may suspend the permission granted immediately and may revoke or modify the permission after giving a notice to the Unit.
3) The unit shall comply with the provisions of the Punjab Water Resources (Management and Regulation) Act, 2020, and the Regulations and Directions issued there under.
4) A Unit operational prior to 12/11/2020 shall be liable to pay groundwater extraction charges w.e.f. 12th Nov, 2020. A unit which is yet to begin operations shall be liable to pay the charges from the date of commencement of extraction of groundwater.
5) The unit shall install a water meter meeting with the specification approved by the Authority at each of its extraction structures within sixty days of issue of this permission letter. (Refer Para 7.1 of the Draft Guidelines)
6) Till the installation of water meter the Unit shall pay the full amount for the entire volume of groundwater permitted.
7) The Unit shall self-record the water meter readings in the format set by the Authority on the first working day of every month and submit the same and pay the applicable charges to PWRDA by 10th of every month.
8) Units permitted to extract 50m^3/day or more groundwater shall communicate water level data to PWRDA in the first week of every month. (Refer para 7.2 of the Draft Guidelines).
9) This Permission does not absolve the unit of its obligations to obtain other required statutory and administrative clearances from appropriate authorities.
10) The issue of this Permission does not imply that other statutory or administrative clearances shall necessarily be granted to the unit by the concerned authorities.
11) This Permission is being issued without any prejudice to the directions of any court of law in cases related to groundwater or any other related matters.
12) Water conservation credit claims (if any) will be examined and verified separately.
13) In view of the Covid-19 epidemic, the Groundwater Charges in the Draft Guidelines will be reduced by 20% till July 31st, 2021.
14) Since, the unit has not paid the GST. Hence, it will be bound to deposit the same within 7 days as and when required by the Authority.

X----------X

BACK TO WEB PORTAL

Gurbinder

Annexure 17(b)

- Dashboard
- Steps To Apply
- Groundwater Extraction
- Register New Unit
- Unit List
- Application List
- Transfer Unit
- Water Tanker
- Drilling Rig
- Payment History
- Credit History

PERMISSIONS OF GROUNDWATER EXTRACTION

Registered Units | Draft | Submitted | Approved | Rejected | Returned | Cancel / Suspension

Show 10 entries

Search:

#	Unit Identification Number.	Unit Name	Unit Type	Mobile No.	Action
1	20230300278	Thapar Institute of Engineering & Technology(Deemed to be University)	Institutional	8288008119	Select Service

Showing 1 to 1 of 1 entries

Previous 1 Next

Annexure 18

THAPAR INSTITUTE
OF ENGINEERING & TECHNOLOGY
(Deemed to be University)

No. TIET/R/

Dated : March 17, 2021.

The Deputy Commissioner
A-Block, Mini Secretariat
PATIALA.

17/3/2021

Dear Sir,

Please find enclosed herewith letter No. IA3-10/7/2021-IA.III dated March 12, 2021 of Ministry of Environment, Forest and Climate Change, Government of India.

As per the above letter, the Institute has been granted Environment Clearance for expansion of built up area from 3,33,080.33 to 4,45,678.09.

This is for your kind information please.

Thanking you,

With regards,

REGISTRAR

THAPAR INSTITUTE
OF ENGINEERING & TECHNOLOGY
(Deemed to be University)

No. TIET/R/ **Dated : March 17, 2021.**

The Commissioner
Municipal Corporation
PATIALA

Dear Sir,

Please find enclosed herewith letter No. IA3-10/7/2021-IA.III dated March 12, 2021 of Ministry of Environment, Forest and Climate Change, Government of India.

As per the above letter, the Institute has been granted Environment Clearance for expansion of built up area from 3,33,080.33 to 4,45,678.09.

This is for your kind information please.

Thanking you,

With regards,

REGISTRAR

17/3/21

EIA CLEARANCE

- **Six Month report period ending 31.03.2024**
- Six Monthly report period ending 30.09.2023
- Six Monthly report ending 31.03.2023
- Six Month report period ending 30.09.2022
- Six Month report period ending 31.03.2022
- Six month report period ending 30.09.2021

Regarding six-monthly compliance report for period ending 31.03.2024 for "Thapar Institute of Engineering & Technology

Anil Singla <asingla@thapar.edu>

Thu 30-May-24 12:03 PM

To:Environment Wing IRO Chandigarh <eccompliance-nro@gov.in>;ronz.chd-mef@nic.in <ronz.chd-mef@nic.in>
Cc:Rajendra Nigam <rajendra.nigam@thapar.edu>;registrar r <registrar@thapar.edu>

1 attachments (12 MB)

Thapar SM 31.03.2024_compressed (1).pdf;

Dear Sir,

Greetings of the day!!!
We are hereby submitting a six-monthly compliance report for period ending 31.03.2024 for Educational Institute "Thapar Institute of Engineering and Technology" (Deemed to be University)" at Bhadson Road, Distt. Patiala, Punjab .
Kindly acknowledge the receipt of the same.

Regards
Thanks & Regards,

Anil Singla
Project Manager - Project & Estate
Thapar Institute of Engineering & Technology ,Patiala
8288008139, 9780014839

Your (Environment Clearance) application has been Submitted with following details

Proposal No	IA/PB/MIS/191842/2020
Compliance ID	74056366
Compliance Number(For Tracking)	EC/M/COMPLIANCE/74056366/2024
Reporting Year	2024
Reporting Period	01 Jun(01 Oct - 31 Mar)
Submission Date	06-06-2024
IRO Name	Santosh Tiwari
IRO Email	bh158@ifs.nic.in
State	PUNJAB
IRO Office Address	Integrated Regional Offices, Chandigarh

Note:- SMS and E-Mail has been sent to Santosh Tiwari, PUNJAB with Notification to Project Proponent.

Annexure 21

Expenditure done on CSR activities

S. No.	Details of activities as per EC expansion	Amount	Current Status
1.	Support to build IT infrastructure in computer lab at ITI Patiala and BN Khalsa school, Patiala	Rs.3.25 Lakhs	Support to build IT infrastructure and furniture in computer labs of ITI's.
2.	Adoption of Govt. School at village Ablowal for construction of face lift of toilets, and drinking water facilities for students and staff	Rs. 5.60 Lakhs	Renovation work of toilets & others allied works in Govt. Elementary School, Ablowal. has been done
3.	Plantation and cleanliness drive in and around university campus	Rs. 3.2 Lakhs	Plantation at Baradari Garden
4.	Blood donation camps	Rs. 0.5 Lakh	Blood Donation camps are being arranged
5.	3 CCTV cameras at Patiala Police	Rs.11.96 Lakhs	Provision of CCTV cameras near the red light points near Institute
6.	Ladies toilet in Environment Park, Civil Lines	Rs. 2.5 Lakhs	Construction of Ladies Toilet at Environmental Park, Patiala. Has been done.
7.	Merit scheme every year (Scholarship)	3,086.95 Lakhs	Scholarships to students
	Total	**3,113.96 Lakhs (31.1396 Crores)**	

Annexure 22


THAPAR TECHNOLOGY CAMPUS
THAPAR INSTITUTE OF ENGINEERING & TECHNOLOGY
THAPAR POLYTECHNIC COLLEGE

THAPAR INSTITUTE
OF ENGINEERING & TECHNOLOGY
(Deemed to be University)

Letter of Intent

LOI No. TIET/NPS/24-25/240015 | 1077
Date: - 20-11-2024
Location: - TIET, Patiala

M/s. Roofsol Energy Pvt. Ltd.
1606, Lodha Supremus ,Saki Vihar Road ,
Powai , Andheri East ,
Mumbai – 400072.

Kind Att . Mr.Adnam Balbale
Contact no. +91 8879838046 . Email adman.balbale@roofsol.com

Subject : Letter of Intent for 3MW Solar Rooftop Power Plant at TIET, Patiala

Dear Sir

This has reference to your offer and subsequent discussion had with TIET *management* regarding 3MW Solar Rooftop Power Plant at our TIET, Patiala, this LOI is being issued on the following terms: -

Description	Solar Capacity (in KWP)	Solar Tariff (Rs. Per Unit)	Duration of PPA	Guaranteed Generation in Kwh)	Completion of Works
Solar Rooftop Power Plant at TIET, Patiala	3,000	Rs.4.12	15 Years	39,81,000	Within 3 Months from the date of LOI

Note: -- Detailed Scope of work, payment terms, other terms and conditions will be given in our formal order.

The formal order shall be released in another 20 days' time period. In case the formal detail order is not issued within the said 20 days' times then this LOI will automatically come to end without any liability of ours towards you on any account whatsoever.

Any dispute will be resolved through arbitration and only Patiala courts will have jurisdiction.

In the meantime, please make arrangement to ensure that mentioned delivery.

Thanking you

For Thapar Institute of Engineering & Technology

20/11/24

Head Commercial

Chief General Manager - (P&E)

For M/s. Roofsol Energy Pvt. Ltd.

Authorized Signatory

ਪੰਜਾਬ ਸਰਕਾਰ
ਵਣ ਅਤੇ ਜੰਗਲੀ ਜੀਵ ਸੁਰੱਖਿਆ ਵਿਭਾਗ,
ਦਫਤਰ ਵਣ ਮੰਡਲ ਅਫਸਰ,
ਪਟਿਆਲਾ।
Tel.No.0175-2921574, Email ID- Patialadfo@gmail.com,

Azadi Ka Amrit Mahotsav

G20 ਭਾਰਤ 2023 INDIA

वसुधैव कुटुम्बकम्
ONE EARTH • ONE FAMILY • ONE FUTURE

To,

Dr Gurbinder Singh,
Resgistrar,
Thapar Institute of Engineering & Technology,
Patiala.

ਨੰਬਰ. 1269/ ਮਿਤੀ. 3-12-24

Subject: **Verification for number of trees in TIET campus.**

ਹਵਾਲਾ. ਆਪ ਜੀ ਦਾ ਪੱਤਰ ਨੰ. NIL ਮਿਤੀ 02.09.2024.

ਉਪਰੋਕਤ ਵਿਸੇ ਸਬੰਧੀ ਹਵਾਲੇ ਅਧੀਨ ਪੱਤਰ ਦੇ ਸਬੰਧ ਵਿੱਚ ਵਣ ਰੇਜ ਅਫਸਰ,ਪਟਿਆਲਾ ਨੇ Thapar Institute of Engineering & Technology , Patiala ਦੇ ਨੁਮਾਇੰਦਿਆਂ ਨਾਲ ਸਾਂਝੀ ਇੰਸਪੈਕਸਨ ਕਰਕੇ ਇਸ ਦਫਤਰ ਨੂੰ ਆਪਣੇ ਪੱਤਰ ਨੰ:875 ਮਿਤੀ 26-11-2024 ਨਾਲ ਭੇਜੀ ਹੈ। ਵਣ ਰੇਜ਼ ਅਫਸਰ, ਪਟਿਆਲਾ ਵੱਲੋ ਭੇਜੀ ਗਈ ਰਿਪੋਰਟ ਆਪ ਨੂੰ ਸੂਚਨਾ ਅਤੇ ਅਗਲੀ ਲੋੜੀਦੀ ਕਾਰਵਾਈ ਲਈ ਭੇਜੀ ਜਾਦੀ ਹੈ।

ਨੱਥੀ- ਵਣ ਰੇਜ ਅਫਸਰ, ਪਟਿਆਲਾ ਦੀ
ਰਿਪੋਰਟ। (4)

ਵਣ ਮੰਡਲ ਅਫਸਰ
ਪਟਿਆਲਾ।

Divisional Forest Officer
Patiala Forest Division
Patiala.

No:.....875-P..........

Dated:.26-11-24....

From,

Forest Range Offier,
Patiala.

To,

Divisional Forest Officer,
Patiala.

Subject : Verification for Number of Trees in TIET Campus.

Reference: Yours officer letter No. 8526-27 Dated: 04.09.2024 — ਮਿਤੀ ਨੰ. ਲ਼ੀਰ

Citing the above mentioned subject it is mentioned that the Thapar University was visited for verification of number of trees/plants/shrubs by field staff. Total approx 16827 plants/trees/shrubs of below mentioned species were found to be there on the Campus.

1. Jamun 229,
2. Mango 585,
3. Guava 190,
4. Bel 21,
5. Mulberry 66,
6. Addu 52,
7. Cheeku 36,
8. Nashpati 16,
9. Lichi 11,
10. Amla 77,
11. Date 42,
12. Anar 9,
13. Mosambi 49,
14. Keenu 12,
15. Lemon 17,
16. Ber 8,
17. Imli 13,
18. Galgal 2,
19. Gulmohar 27,
20. Neem 213,
21. Kanak Champa 70,
22. Bottle Brush 83,
23. Semor 7,
24. Chiclassia 220,

25. Sejna 36,
26. Lukath 6,
27. Ashoka Pendula 435,
28. Lasoora 1,
29. Chithwin 56,
30 Amaltas 125,
31. Shisham 22,
32. Drek 232,
33. Moulsari 118,
34. Mahaguni 90,
35. Kachnar 93,
36. Saron 6,
37. Harshingaar 28,
38. Bottle Palm 130,
39. Pepal 30,
40. Legerstonia 175,
41. Bohar 14,
42. Silver Oak 121,
43. Jakranda 99,
44. Jheed 98,
45. Kathal 24,
46. Gulachin 140,
47. Kenokahpars 934,
48. Champa 121,
49. Guideinia 17,
50. Bhari Champa 28,
51. Arjun 77,
52. Eucalyptus 2094,
53. Ashoka 240,
54. Kanel 22,
55. Chandani 45,
56. Siris 13,
57. Ficus 1154,
58. Gijia 1,
59. Gular 22,
60. Anjeer 2,

61. Kusum 65,
62. Badbar 14,
63. Pilkhan 72,
64. Poplar 4044,
65. Chakotra 1,
66. Teak 28,
67. Dehapatar 1,
68. Fish Palm 27,
69. Machira 1,
70. Sohanjana 2,
71. Norangi 4,
72. Rabbar Plant 7,
73. Fostal Palm 8,
74. Albeginiya 4,
75. Shami 1,
76. Mangnolia 3,
77. Tun 5,
78. Arocaria 9,
79. Palmeria 4,
80. Kaddipatta 1,
81. Bailpatar 1,
82. Pongpong 4,
83. Cassuria 6,
84. Bamboo 3018,
85. Cossuria 6,
86. Mulakpur 2,
87. Aletari 10,
88. Lokhth 1,
89. Simbor 2,
90. Washting Stonia 4,
91. Trebling Palm 6,
92. Sukhchain 46,
93. Jathrapha 2,
94. Dakh 2,
95. Lahtoka 62,
96. Balamkheera 4,

97. Bahera 42,
98. Green Konokarparas 3,
99. Kegarnia 35,
100. Gaib 2,
101. Mahumara 6,
102. Tecoma 42,
103. Jwahancemia 38,
104. Malpiama 4,
105. Maria 310,
106. Rundraj 4,
107. Uttarachali 7,
108. Lasoori 4,
109. Maror Falli 12,
110. Satpati 11,
111. Tun 1,
112. Kaner 2,
113. Barmi
114. Drek 15,
115. Sag Palm 1,
116. Ficus Naheta 4,
117. Astar Kulia 8,
118. Daal Chini 1,
119. Bigan Bel 7,
120. Pahari Pepal 3,
121. Falsa 1,
122. Morpankhi 4,
123. Mahaval 1,
124. Sarujani 3,
125. Kikar 1,
126. Astar 42,
G. Total = 16824

The report is sent to you for further and necessary action.

Forest Range Officer,
Patiala.

THIRD-PARTY ASSESSMENT REPORT

OF THAPAR UNIVERSITY

Conducted by: Mr. Anil Kumar Singla, Chartered Engineer, Punjab Pollution Control Board

OBJECTIVE

To conduct a study on the quality and quantity of recycled and reused treated water, and the efficiency of treatment systems based on provided documents and observations.

SCOPE OF WORK

1. Document Review
    - Design Review: Examined the design documents of the Sewage Treatment Plant (STP)
    - Waste-Water Balance and Usage Analysis: Assessed the waste-water balance reports and usage statistics to determine the input-output relationship.
    - 72-Hour Monitoring Data Evaluation: Analysed the continuous monitoring data over a 72-hour period across various sections of the treatment systems and the final outcomes.
2. Dimensional Diagram Preparation
    - Created accurate dimensional diagrams of the STP based on the provided design documents, ensuring all key components and their dimensions are represented.
3. Assessment of Treated Water and Sludge Production

CHARTERED ENGINEER P.P.C.B.

- Treated Water Quantities: Compared the quantities of treated wastewater with the produced sludge to understand the relationship and balance.
- Efficiency Analysis: Analysed the data to evaluate the efficiency and performance of the treatment systems.

4. Reporting
    - Observations and Findings: Compiled all observations and findings into a detailed, yet concise, report.
    - Recommendations: Provided actionable recommendations based on the review and analysis of the provided documents and data.
    - Presentation to Stakeholders: Prepared and presented the final report to the university stakeholders, ensuring clarity and comprehensive understanding.

METHODOLOGY

Document Review

1. Design Review: Thoroughly examined the design and operational documents of the STP.
2. Balance and Usage Reports: Analyzed the provided reports for a detailed understanding of water usage patterns and balance.

Dimensional Diagram Preparation

1. Used design documents to create detailed diagrams, ensuring all dimensions and relevant features are accurately represented.

Assessment of Treated Water and Sludge Production

1. Compared data on treated water quantities and sludge production.
2. Conducted a performance analysis of the treatment systems based on efficiency metrics.

Reporting

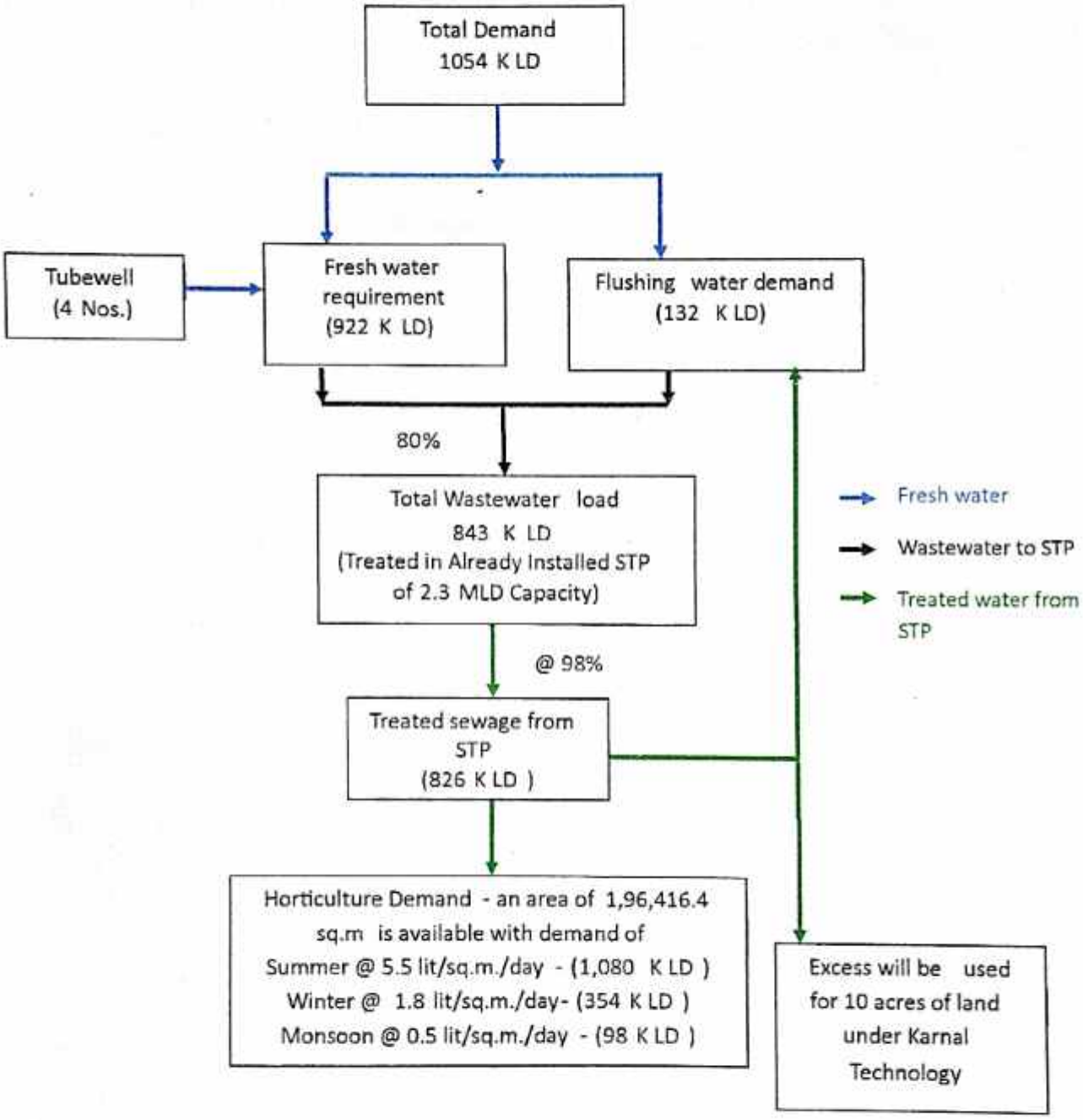
1. Organized and compiled data, observations, and findings into a structured report.
3. Formulated recommendations based on identified issues and areas of improvement.
4. Presented findings and recommendations to stakeholders, ensuring all key points were communicated effectively.

FINDINGS

❖ Water Balance as per CTO

The water balance document provides a detailed analysis of water demand, wastewater generation, and the efficiency of treatment systems. The key points are as follows:

- Net Water Demand: 1054 KLD
- Fresh Water Requirement: 922 KLD
- Flushing Water Requirement: 132 KLD
- Flow to Sewer (80%): 843 KLD
- Treated Water (98%): 826 KLD
- Horticulture Demand: The available area of 196,416.4 sq.m has water requirements as follows:
    - Summer: 1080 KLD (@ 5.5 lt./m²/day)
    - Winter: 354 KLD (@ 1.8 lt./m²/day)
    - Monsoon: 98 KLD (@ 0.5 lt./m²/day)



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P.P.C.B.

Design of STP

The design document for the STP provides comprehensive details about the plant's components, operational parameters, and structural design. Key highlights include:

- Influent Collection and Screening: Inlet chamber, bar screen chamber.
- Primary Treatment: Grit removal, primary settling tanks.
- Biological Treatment: Aeration tanks, diffused aeration system.
- Secondary Treatment: Secondary clarifiers, RAS system.
- Tertiary Treatment: Filtration units, disinfection system.
- Sludge Handling: Sludge thickening tanks, digesters, dewatering units.
- Effluent Disposal and Reuse: Final treated effluent storage, reuse system.

❖ Assessment of Treated Water and Sludge Production

- Compared the quantities of treated wastewater with the produced sludge.
- Analyzed data to evaluate the efficiency and performance of the treatment systems.

❖ Monitoring Test Reports from Third-Party Lab

Test Results (Sampling on 28.05.2024)

Sr. No.	Test Parameter	Results at different locations of STP						
		Inlet	UASB	Aeration Tank-01	Aeration Tank-02	After MGF	After ACF	Final Outlet
1	pH	7.4	7.5	7.8	7.9	8.0	8.0	8.0
2	Total Suspended Solids	152	72	160	162	24	18	26
3	Total Dissolved Solids	1198	1250	1346	1254	1194	1158	1280

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4	Chemical Oxygen Demand	315	131	196	173	77	54	65
5	Biochemical Oxygen Demand	62	67	22	24	17	8.0	9.0
6	Dissolved Oxygen	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Sr. No.	Test Parameter	Results	
		Inlet	Outlet
1	TKN	27.6	29.4
2	Phosphate as p	6.18	4.45

Sr. No.	Test Parameter	Location	Results		
			Inlet	After ACF	Outlet
1	Faecal coliform	Inlet-01	23	<1.8	<1.8

Test Results (Sampling on 15.06.2024)

Sr. No.	Test Parameter	Results					
		Inlet	UASB reactor	Aeration tank	After MGF	After ACF	After chlorination
1	pH	7.3	7.0	7.6	7.7	7.4	7.8
2	Total Suspended Solids	52	-	-	<10	<10	<10

CHARTERED ENGINEER P.P.C.B.

3	Total Dissolved Solids	752	-	-	776	756	732
4	Chemical Oxygen Demand	146	90	86	52	72	50
5	Biochemical Oxygen Demand	48	27	7.6	<5.0	<5.0	<5.0
6	Oil and Grease	8.7	-	-	-	-	6.0
7	TKN	18.2	-	23.8	23.0	24.1	22.3
8	Phosphate as p	3.80	-	3.50	3.92	4.21	3.87
9.	Dissolved Oxygen	Nil	-	2.5	4.9	3.3	6.9
10.	Volatile Suspended Solids	-	<10	-	-	-	-
11.	Temprature	-	32	-	-	-	-
12.	Total alkalinity	-	-	507	-	-	-
13.	MLSS	-	-	56	-	-	-
14.	MLVSS	-	-	52	-	-	-
15.	Odour	-	-	-	agreeable	agreeable	agreeable

Sr. No.	Test Parameter	Results			
		Inlet	After MGF	After ACF	After chlorination

CHARTERED ENGINEER P.P.C.B.

1	Faecal coliform	$17x10^4$	<1.8	<1.8	<1.8

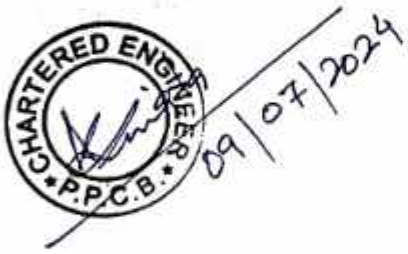
The assessment of the treated water quality from Thapar University's STP systems, based on sampling data from 28.05.2024 and 15.06.2024, reveals a consistently effective treatment process. The pH levels are maintained within a neutral range throughout the treatment stages, indicating stable chemical conditions. There is a significant reduction in Total Suspended Solids (TSS) and Biochemical Oxygen Demand (BOD), demonstrating efficient removal of suspended particles and biodegradable organic matter. The Chemical Oxygen Demand (COD) values also show substantial decreases, reflecting effective degradation of organic pollutants. Total Dissolved Solids (TDS) levels are managed well, with minor fluctuations but remaining within acceptable limits. However, the presence of dissolved oxygen increases notably post-filtration, suggesting enhanced aeration and oxygenation processes. Despite these positive outcomes, there is a slight increase in Total Kjeldahl Nitrogen (TKN) during treatment, indicating a need for further optimization in nitrogen removal. Overall, the treatment systems effectively improve water quality, ensuring treated water has agreeable odour and low pollutant levels, aligning with environmental standards and promoting sustainable water management practices.

RECOMMENDATIONS

1. Optimization of Treatment Processes: Implement advanced treatment technologies to further enhance the efficiency of the STP.
2. Regular Monitoring: Establish a continuous monitoring system to ensure consistent performance and early detection of any issues.
3. Maintenance and Upgrades: Schedule regular maintenance and consider upgrades to aging infrastructure to maintain optimal performance.
4. Water Reuse Strategies: Develop strategies to maximize the reuse of treated water for non-potable applications, reducing dependency on fresh water sources.
5. Training and Capacity Building: Conduct training programs for staff to ensure proper operation and maintenance of the treatment systems.

CONCLUSION

The assessment revealed that the existing treatment systems at Thapar University are functioning efficiently, with a high percentage of treated water being recycled and reused. However, there are opportunities for further optimization and enhancement. Implementing the recommendations provided will help in achieving greater efficiency and sustainability in water management practices.



ANIL KUMAR SINGLA

Chartered Engineer, PPCB

Sep- 2024 Tubewell No-2

Date	Reading in Start Day.	Reading in End Day	water in Consumed per day KL	Signature
1/09/2024	111073	111332	259	Daman Pal
2/09/2024	111332	111645	313	Manveer Sin
3/09/24	111645	111965	320	Manpreet Singh
4/09/24	111965	112232	267	Avatar Singh
5/09/24	112232	112510	278	Daman Pal
6/09/24	112510	112809	299	Aman
7/09/24	112809	113075	266	Manveer
8/09/24	113075	113388	313	Manveer
9/09/24	113388	113709	321	Avtar Sin
10/09/24	113709	113959	250	Daman Pal
11/09/24	113959	114173	214	Manveer Sin
12/09/24	114173	114492	319	Manpreet Sin
13/09/24	114492	114865	373	Daman Pal
14/09/24	114865	115105	240	Aman Pal
15/09/24	115105	115352	247	Manpreet Sin
16/09/24	115352	115626	274	Manveer Sin
17/09/24	115626	115895	269	Avtar Singh
18/09/24	115895	116178	283	Daman Pal
19/09/24	116178	116467	289	Manveer Sin
20/09/24	116467	116776	309	Daman Pal
21/09/24	116776	117078	302	Manpreet
22/09/24	117078	117480	402	Aman
23/09/24	117480	117721	241	Manveer Sin
24/09/24	117721	117980	259	Manveer Sin
25/09/24	117980	118273	293	Manveer Sin
26/09/24	118273	118562	289	Daman Pal
27/09/24	118562	118861	299	Aman Pal
28/09/24	118861	119170	309	Manveer Sin
29/09/24	119170	119491	321	Manpreet Sin
30/09/24	119491	119750	259	Daman Pal

October 2024 Tubewell No-2

Date	Reading Start Day	Reading end Day	Water Consumed Per Day.	Signature
1/10/2024	119750	120039	289	Daman Pure
2/10/2024	120039	120360	321	Daman Pure
3/10/2024	120360	120637	277	Jagpal s
4/10/2024	120637	120961	324	Aman
5/10/24	120961	121248	287	Daman
6/10/24	121248	121534	286	AVtr.
7/10/24	121534	121777	243	Manpure
8/10/24	121777	122120	343	Man Veer
9/10/24	122120	122373	253	Mandeep
10/10/24	122373	122622	249	Man Pure
11/10/24	122622	122901	279	Madan
12/10/24	122901	123203	302	Daman
13/10/24	123203	123510	307	Man Pure
14/10/24	123510	123787	277	Aman Pure
15/10/24	123787	124216	429	Daman Veer
16/10/2024	124216	124637	421	Aman pure
17/10/2024	124637	125010	373	Mandeep s
18/10/24	125010	125303	293	Daman Pure
19/10/24	125303	125605	302	Rgar
20/10/24	125605	125952	347	Jan
21/10/24	125952	126205	253	Daman
22/10/24	126205	126452	247	AVtr Singh
23/10/24	126452	126797	345	Daman p
24/10/24	126797	127099	302	Daman
25/10/24	127099	127373	274	Jagpal
26/10/24	127373	127650	277	Man Pure Singh
27/10/24	127650	127898	248	Daman Pure
28/10/24	127898	128197	299	Man Veer Singh
29/10/24	128197	128470	273	Madan Lal
30/10/24	128470	128744	274	Daman
31/10/24	128744	128983	239	

Tube Well No-3 September 2024

Date	Reading Starting Day	Reading Ending Day	Water Consumed in KL	Signature
01/9/24	098857	98998	141	Avtar
02/9/24	98998	99194	196	Avtar
03/9/24	099194	099395	201	Avtar
04/9/24	099395	99597	202	Avtar
05/9/24	099597	99797	200	Rayesh
06/9/24	099797	99975	178	Rayesh
07/9/24	99975	100198	223	Rayesh
08/9/24	100198	100377	179	Rayesh
09/9/24	100377	100554	177	Rayesh
10/9/24	100554	100732	178	Rayesh
11/9/24	100732	100912	180	Jagdeep
12/9/24	100912	101106	194	Jagdeep
13/9/24	101106	101288	182	Jagdeep
14/9/24	101288	101473	185	Jagdeep
15/9/24	101473	101659	186	Avtar
16/9/24	101659	101840	181	Avtar
17/9/24	101840	102021	181	Avtar
18/9/24	102021	102201	180	Rayesh
19/9/24	102201	102396	195	Damanpreet
20/9/24	102396	102574	178	Damanpreet
21/9/24	102574	102769	195	Damanpreet
22/9/24	102769	102996	227	Damanpreet
23/9/24	102996	103206	210	Rayesh
24/9/24	103206	103388	182	Rayesh
25/9/24	103388	103565	177	Rayesh
26/9/24	103565	103759	194	Rayesh
27/9/24	103759	103954	195	Avtar
28/9/24	103954	104145	191	Avtar
29/9/24	104145	104381	236	Damanpreet

Nov 9, 2024, 22:25

Tube Well No-3 October 2024

Date	Reading Starting Day	Reading ending Day	Water Consumed in KL	Signature
01/10/24	104570	104775	205	Jagdeep
02/10/24	104775	105019	244	Jagdeep
03/10/24	105019	105197	178	Jagdeep
04/10/24	105197	105376	179	Jagdeep
05/10/24	105376	105636	260	Jagdeep
06/10/24	105636	105823	186	Jagdeep
07/10/24	105823	106044	221	Damanpreet
08/10/24	106044	106231	187	Damanpreet
09/10/24	106231	106435	204	Damanpreet
10/10/24	106435	106637	202	Damanpreet
10/10/24	106637	106843	206	Avtar
12/10/24	106843	107043	200	Avtar
13/10/24	107043	107235	192	Avtar
14/10/24	107235	107436	201	Avtar
15/10/24	107436	107624	188	Avtar
16/10/24	107624	107803	179	Avtar
17/10/24	107803	108019	216	Avtar
18/10/24	108019	108220	201	Rayesh
19/10/24	108220	108411	191	Rayesh
20/10/24	108411	108614	203	Rayesh
21/10/24	108614	108820	206	Rayesh
22/10/24	108820	109066	246	Rayesh
23/10/24	109066	109211	145	Rayesh
24/10/24	109211	109274	63	Rayesh
25/10/24	109274	109368	94	Rayesh
26/10/24	109368	109462	94	Avtar
27/10/24	109462	109556	94	Avtar
28/10/24	109556	109650	94	Avtar
29/10/24	109650	109784	134	Avtar

Nov 9, 2024, 22:25

Tubewell No - 04

Date	Reading in start Day	Reading in end day	water Guzzled In K.L	Signature
01/09/24	158329	158939	610	Avtar
02/09/24	158939	159569	630	Avtar
03/09/24	159569	160079	510	Avtar
04/09/24	160079	160668	589	Avtar
05/09/24	160668	161278	610	Avtar
06/09/24	161278	161995	717	Avtar
07/09/24	161995	162550	555	Damanpreet
08/09/24	162550	163260	710	Damanpreet
09/09/24	163260	164035	775	Damanpreet
10/09/24	164035	164680	645	Damanpreet
11/09/24	164680	165290	600	Damanpreet
12/09/24	165290	165820	540	Rajesh
13/09/24	165820	166553	733	Rajesh
14/09/24	166553	167113	560	Rajesh
15/09/24	167113	167823	710	Rajesh
16/09/24	167823	168553	730	Jaydeep
17/09/24	168553	169272	719	Jaydeep
18/09/24	169272	169802	530	Jaydeep
19/09/24	169802	170462	660	Jaydeep
20/09/24	170462	171112	650	Avtar
21/09/24	171112	171722	610	Avtar
22/09/24	171722	172427	705	Avtar
23/09/24	172427	172967	540	Avtar
24/09/24	172967	173742	775	Avtar
25/09/24	173742	174297	555	Jaydeep
26/09/24	174297	174927	630	Jaydeep
27/09/24	174927	175660	733	Jaydeep
28/09/24	175660	176370	710	Jaydeep
29/09/24	176370	177100	730	Avtar
30/09/24	177100	177810	710	Avtar

Nov 9, 2024

Tubewell No 4

Date	Reading start Day	Reading end Day	water in Consumed in KL	
1/10/2024	177810	178264	454	Rajesh
2/10/2024	178264	178700	436	Rajesh
3/10/2024	178700	179164	464	Rajesh
4/10/2024	179164	179636	472	Rajesh
5/10/2024	179636	180114	478	Rajesh
6/10/2024	180114	180603	489	Rajesh
7/10/2024	180603	181095	492	Rajesh
8/10/2024	181095	181588	493	Rajesh
9/10/2024	181588	182073	485	Avtar
10/10/2024	182073	182583	510	Avtar
11/10/24	182583	182899	316	jagdeep
12/10/24	182899	183315	416	Avtar
13/10/24	183315	183732	417	Avtar
14/10/24	183732	184243	511	Avtar
15/10/24	184243	184809	566	Avtar
16/10/24	184809	185386	577	jagdeep
17/10/24	185386	185962	576	jagdeep
18/10/24	185962	186648	686	Rajesh
19/10/24	186648	186974	326	Rajesh
20/10/24	186974	187217	243	Rajesh
21/10/24	187217	187659	442	Damanpreet
22/10/24	187659	188104	445	Damanpreet
23/10/24	188104	188614	510	Damanpreet
24/10/24	188614	189126	512	Damanpreet
25/10/24	189126	189611	485	Damanpreet
26/10/24	189611	190083	472	Damanpreet
27/10/24	190582	190582	499	Rajesh
28/10/24	190582	190871	289	Rajesh
29/10/24	190871	191107	236	Rajesh

Sept 04 2024

Annexure 27

Sr. no.	B.P	Pulse	Temp.	Name
01	134/89	79	98.	Ramlakhan
02	122/86	86	96.4	Vishal
03	114/78	82	98.4	Fool Gai
04	120/71	78	96.4	Rohit
05	109/58	92	97.7	Dharma
06	138/68	65	97.3	Yashoda
07	119/61	67	98.2	Shyam
08	125/75	87	98	Abhishek
09	133/69	74	99.6	Rahul
10	139/86	96	97.2	Sunil
11	130/85	88	95.9	Halke
12	139/89	76	98.2	Parmod.

04/09/2024

Sept 14 2024

Date
Page

Sno.	BP	Pulse	Temp	Name
01	145/77	74	99.	Ravinder
02	123/84	86	98.2	Ramakant
03	134/84	65	96.4	Kiran
04	118/71	84	97.4	Dawesh
05	138/68	64	98.1	Shyam
06	112/73	77	96.8	Sidhik
07	122/73	96	95.4	Safikul
08	138/81	86	97.3	Gulzar
09	129/76	65	99.4	Nooralam
10	126/70	73	98.2	Vishal
11	133/86	69	97.3	Jivan

14/09/2024

Sept. 22 2024

Sno.	BP	Pulse	Temp.	Name.
01	119/68	65	98.2	Pawan
02	123/85	74	97.3	Ram
03	135/59	87	96.4	Aroodul
04	114/88	64	99.1	Rulati
05	135/90	98	99.7	Nabeen
06	139/70	58	98.6	Sanjay
07	148/80	73	97.5	Sunita
08	141/90	89	98.1	Kanuli
09	120/18	77	99.6	Anand
10	124/66	94	97.3	Abhishek
11	130/89	67	97.7	Rahul.

22/04/2024

Oct-04 2024

S.No.	BP	Pulse	Temp.	Name.
01	108/37	63	95.4	Laxmi
02	146/83	92	98.2	Ranjay
03	119/62	65	97.5	Jasbeer
04	133/71	89	98.2	Sumitra
05	115/76	67	97.7	Fukmi
06	104/62	64	98.1	Ranjeet
07	140/82	66	99.6	Sooroop
08	138/78	87	98.2	Ravi
09	127/75	72	96.41	Sanjeet
10	114/85	64	98.1	Lalita
11	135/76	84	95.4	Munna
12	128/80	67	99.2	Manish

04/10/2024

Oct 11 2024

Sr.no	BP	Pulse	Temp	Name.
01	134/78	86	98.2	Anil Kumar
02	126/85	67	95.9	Dinesh
03	133/74	70	98.9	Lakhan lal
04	146/71	92	99.2	Santosh
05	139/90	83	95.9	Ajit
06	105/62	68	97.3	Maninder
07	119/57	89	97.7	Pandit
08	135/89	99	98.2	Sanjay
09	114/65	62	97.3	Lalita
10	125/80	87	98.6	Munna
11	137/77	82	99	Manish
12	128/67	76	97.5.	Bapen.

BM
11/10/2024

CM

Oct 23. 2024

S.no.	BP	Pulse	Temp.	Name
1	139/89	67/-	97.5F	Laxmi Shu
2	133/74	58/-	99.2F	Mandeep
3	116/70	86/-	98.6F	Ravi
4	178/85	76/-	95.4F	Ramesh
5	131/67	87/-	98.2F	Suresh
6	126/76	84/-	96.4F	Pawan
7	122/77	79/-	95.6F	Rohit
8	145/90	64/-	97.3F	Gopal
9	125/83	92/-	98.4F	Padma
10	137/62	66/-	98.2F	Dinesh
11	109/68	82/-	97.2F	Kamlesh
12	118/81	87/-	98.8F	Pulbai
13	134/78	72/-	98.3F	Gagan
14	130/85	68/-	97.8F	Sona
15	112/68	78/-	98.2F.	Ajay.

23/10/2024

Oct 29 2024

Sl no	BP	Pulse	Temp.	Name
1	112/84	86/-	95.6 F	Sukhjeet
2	146/89	98/-	96.4 F	Mohit
3	100/68	65/-	97.2 F	Kamlesh
4	132/92	67/-	98.4 F	Rohit
5	110/83	74/-	97.6 F	Vimal
6	136/75	56/-	96.3 F	Fulbai
7	142/90	92/-	98.6 F	Gobal
8	117/65	85/-	97.4 F	Ravi
9	134/87	74/-	96.8 F	Paresh
10	133/72	96/-	98.4 F	Suresh
11	128/85	65/-	97.3 F	Pradeep
12	136/78	92/-	96.4 F	Ajay
13	137/87	93/-	97.3 F	Puja
14	104/78	87/-	98.4 F	Govind
15	114/75	68/-	97.6 F	Rajkumar

24/10/2024

Nov 03 2024

SL NO	BP	PULSE	TEMP.	Name.
01	133/74	78	98.F	Shyam
02	116/65	96	95.9F	Gopal
03	127/83	79	99.2F	Dinesh
04	132/62	82	98.4	Ghotelal
05	119/86	68	96.0	Ramesh
06	128/68	90	97.7	Laxmi sah
07	134/74	89	96.4	Bharat
08	117/79	67	98.2	Lakhan lal
09	137/84	95	97.5	Rakesh
10	134/64	82	97.7	Suresh
11	140/82	67	98.4	Nirmal
12	109/58	74	96.8	Mandeep

DW
03/11/2024

Photographs Showing Health checkup of construction

PUBLIC NOTICE

Ministry of Environment and Forest & Climate Changes (MoEF &CC), Govt. of India has granted the approval to their project "Expansion of **Thapar Institute of Engineering & Technology, Patiala"** vide letter no **F.No IA3-10/7/2021-IA.III. dated 12-03-21**

The copy of clearance containing the conditions to be complied is available at official website of MoEF &CC and TIET Patiala.

Either of the following mentioned officials may be contacted for further information:-

Dr. Gurbinder Singh Registrar,TIET Patiala
Er. Rajendra Nigam, General Manager (P&E) TIET Patiala

Government of Punjab

Tender Notice Reference No. 65 Dt. 24.03.2021

On behalf of the Governor of Punjab Executive Engineer, Provincial Division, PWD B&R, Sangrur invites online bids for the following works:-

Sr. No.	Item	Quantity
1	Construction of road along Police Line Boundary Wall up to Hareri road under Head 5054 RB-10 including maintainance of road for 5 years.	1
2	Periodical repair of Sunam-Jagatpura Khadial-Taranjikhera up to Sullar (NH-71) road (ORD-19) road length=3.00 Kms. (Under Head 3054) including maintainance of road for 3 years (One Year Defect Liability Period+2 Years Maintainance Period).	1

Closing date & time:- Will be intimated later on website **http:eproc.punjab.gov.in.** For details logon to:- **http:eproc.punjab.gov.in.**

Note: Any corrigendum(s) to the Tender Notice shall be published on the above website only.

Sd/- **Executive Engineer,**
Provincial Divn. PWD B&R,
Sangrur (Pb.).

DPR/Pb/3084

EXCISE & TAXATION DEPARTMENT U.T., CHANDIGARH

Corrigendum regarding change of venue for opening of Technical/Financial e-bids.

This is for information of the general public that venue [illegible] bid and Financial e-bid for

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ਰੂਪਨਗਰ ਇੰਪਰੂਵਮੈਂਟ ਟਰੱਸਟ, ਰੂਪਨਗਰ

ਪਬਲਿਕ ਨੋਟਿਸ

ਇਸ ਪਬਲਿਕ ਨੋਟਿਸ ਰਾਹੀਂ ਆਮ ਜਨਤਾ ਦੀ ਜਾਣਕਾਰੀ ਲਈ ਸੂਚਿਤ ਕੀਤਾ ਜਾਂਦਾ ਹੈ ਕਿ ਪਲਾਟ ਨੰ. 56, ਸਕੀਮ ਸ਼ਹੀਦ-ਏ-ਆਜ਼ਮ ਭਗਤ ਸਿੰਘ ਨਗਰ, ਰੂਪਨਗਰ ਟਰੱਸਟ ਰਿਕਾਰਡ ਅਨੁਸਾਰ ਸ੍ਰੀਮਤੀ ਸ਼ਸ਼ੀ ਬਾਲਾ ਪਤਨੀ ਸ੍ਰੀ ਮੋਹਿੰਦਰ ਕੁਮਾਰ, ਨੇੜੇ ਮੰਦਿਰ ਬੂਟੀ ਦਾਸ, ਛਤਹਿਗੜ੍ਹ ਚੂੜੀਆਂ, ਤਹਿ. ਬਟਾਲਾ, ਜ਼ਿਲ੍ਹਾ ਗੁਰਦਾਸਪੁਰ ਦੇ ਨਾਂ 'ਤੇ ਹੈ। ਮਿਤੀ 26.02.2021 ਨੂੰ ਸ੍ਰੀ ਮੋਹਿੰਦਰ ਕੁਮਾਰ ਸ਼ਰਮਾ ਪੁੱਤਰ ਸ੍ਰੀ ਬ੍ਰਹਮ ਸਾਗਰ ਨੇ ਸ੍ਰੀਮਤੀ ਬਾਲਾ ਉਰਫ਼ ਸ਼ਸ਼ੀ ਸ਼ਰਮਾ ਦੀ ਮੌਤ ਦਾ ਸਰਟੀਫਿਕੇਟ ਅਤੇ ਰਜਿਸਟਰਡ ਵਸੀਅਤ ਦੀ ਕਾਪੀ ਪੇਸ਼ ਕਰਦੇ ਹੋਏ ਬੇਨਤੀ ਕੀਤੀ ਹੈ ਕਿ ਮੇਰੀ ਪਤਨੀ ਸ਼ਸ਼ੀ ਬਾਲਾ ਉਰਫ਼ ਸ਼ਸ਼ੀ ਸ਼ਰਮਾ ਦੀ ਮੌਤ ਮਿਤੀ 02.02.2017 ਨੂੰ ਹੋ ਚੁੱਕੀ ਹੈ, ਇਸ ਲਈ ਪਲਾਟ ਨੰ. 56, ਸ਼ਹੀਦ-ਏ-ਆਜ਼ਮ ਭਗਤ ਸਿੰਘ ਨਗਰ, ਰੂਪਨਗਰ ਰਜਿਸਟਰਡ ਵਸੀਅਤ ਦੇ ਆਧਾਰ 'ਤੇ ਉਨ੍ਹਾਂ ਦੇ ਨਾਂ 'ਤੇ ਤਬਦੀਲ ਕੀਤਾ ਜਾਵੇ। ਹੁਣ ਪਲਾਟ ਨੰ. 56, ਸ਼ਹੀਦ-ਏ-ਆਜ਼ਮ ਭਗਤ ਸਿੰਘ ਨਗਰ ਰਜਿਸਟਰਡ ਵਸੀਅਤ ਮਿਤੀ 09.02.2021 ਦੇ ਆਧਾਰ 'ਤੇ ਸ੍ਰੀ ਮੋਹਿੰਦਰ ਕੁਮਾਰ ਸ਼ਰਮਾ ਪੁੱਤਰ ਸ੍ਰੀ ਬ੍ਰਹਮ ਸਾਗਰ ਦੇ ਨਾਮ ਮੌਤ ਦੇ ਆਧਾਰ 'ਤੇ ਤਬਦੀਲ ਕੀਤਾ ਜਾਣਾ ਹੈ। ਜੇਕਰ ਕਿਸੇ ਵੀ ਵਿਅਕਤੀ ਨੂੰ ਪਲਾਟ ਨੰ. 56, ਸ਼ਹੀਦ-ਏ-ਆਜ਼ਮ ਭਗਤ ਸਿੰਘ ਨਗਰ, ਰੂਪਨਗਰ ਰਜਿਸਟਰਡ ਵਸੀਅਤ ਦੇ ਆਧਾਰ 'ਤੇ ਸ੍ਰੀ ਮੋਹਿੰਦਰ ਕੁਮਾਰ ਸ਼ਰਮਾ ਪੁੱਤਰ ਬ੍ਰਹਮ ਸਾਗਰ ਦੇ ਨਾਮ 'ਤੇ ਕਰਨ ਵਿਚ ਕੋਈ ਵੀ ਇਤਰਾਜ਼ ਹੋਵੇ ਤਾਂ ਉਹ ਆਪਣਾ ਲਿਖਤੀ ਇਤਰਾਜ਼ ਇਸ ਨੋਟਿਸ ਦੇ ਛਪਣ ਦੀ ਮਿਤੀ ਤੋਂ 30 ਦਿਨਾਂ ਦੇ ਅੰਦਰ-ਅੰਦਰ ਇਸ ਦਫ਼ਤਰ ਵਿਖੇ ਲਿਖਤੀ ਰੂਪ ਵਿਚ ਪੇਸ਼ ਕਰ ਸਕਦਾ ਹੈ। ਮਿਥੇ ਸਮੇਂ ਤੋਂ ਬਾਅਦ ਕੋਈ ਵੀ ਇਤਰਾਜ਼ ਸਵੀਕਾਰ ਨਹੀਂ ਕੀਤਾ ਜਾਵੇਗਾ ਅਤੇ ਇਸ ਪਲਾਟ ਦੀ ਮਾਲਕੀ ਸ੍ਰੀ ਮੋਹਿੰਦਰ ਕੁਮਾਰ ਸ਼ਰਮਾ ਪੁੱਤਰ ਸ੍ਰੀ ਬ੍ਰਹਮ ਸਾਗਰ ਦੇ ਨਾਂ 'ਤੇ ਕਰ ਦਿੱਤੀ ਜਾਵੇਗੀ।

ਸਹੀ/- ਚੇਅਰਮੈਨ, ਨਗਰ ਸੁਧਾਰ ਟਰੱਸਟ, ਰੂਪਨਗਰ।

DPR/Pb/3122

Khadi India

राज्य कार्यालय, पंजाब एवं केन्द्रशासित चण्डीगढ़

State Office, Punjab & U.T. Chandigarh

in Mauli Jagran to attend the court hearing.

He is survived by three brothers and two sisters.

SHO of PS Mauli Jagran, ...ged to one Shubham of Mauli Jagran. Sources said Shubham gave the car to them for travelling. One of the injured in the shootout, Gaurav, was referred to GMCH-32 for the treatment.

THAPAR INSTITUTE OF ENGINEERING & TECHNOLOGY
Patiala (Punjab)
(Deemed to be University)

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SHRI KRISHNA AYUSH UNIVERSITY, KURUKSHETRA
(Umri Road, Sector-8, Kurukshetra, Haryana-136118)

3rd PHYSICAL COUNSELING /ADMISSION NOTICE
BAMS/BHMS FOR ACADEMIC SESSION 2020-21

The 3rd Physical Counseling for vacant seats of all affiliated/Pvt. University colleges of Haryana & UT Chandigarh will be held for BAMS/BHMS in Shri Krishna AYUSH University Kurukshetra on 31.03.2021. Interested NEET qualified candidates are required to reach University in between 9:00 A.M. to 12:30 P.M. All related schedule, terms & conditions, number of vacant seats & name of colleges are available on University Website www.skau.ac.in /UG_Admission.

REGISTRAR

2335/HRY

Centre for Development of Advanced Computing (C-DAC)

...of Electronics and Information

लिए प्रशासनिक स्तर पर शिविर लगाने की बात कही, जिससे छोटे

रोहतास सैनी, दीप चंद, कुलदीप सैनी आदि मौजूद रहे।

THAPAR INSTITUTE OF ENGINEERING & TECHNOLOGY
Patiala (Punjab)
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Er. Rajendra Nigam, General Manager (P&E) TIET Patiala

ट बैंक आफ इंडिया
एसेट्स मैनेजमेंट ब्रांच, एससीओ 99-107,
PH. 0172-4567164, Email:- sbi.04262@sbi.co.in

1)] कब्ज़ा सूचना (अचल प्रापर्टी हेतु)

ॉफ फाइनांशियल एस्सेट्स एंड इनफोर्समेंट ऑफ सिक्योरिटी इंट्रस्ट एक्ट 2002 (54/2002) के नैजमैंट ब्रांच, पहली मंजिल, एससीओ 99-107, सेक्टर 8-सी, चंडीगढ़ के अधिकृत अधिकारी फोर्समेंट) रूल्ज, 2002 के नियम 3 के साथ पठनीय धारा 13(12) अधीन प्रदत्त शक्तियों का ब्रांच, चंडीगढ़ (04262) में तैनात अधिकृत अधिकारी ने उक्त एक्ट की दफा 13(2) के तहत) करके खाते के गारंटर मै. जेकान इन्फ्रास्ट्रक्चर लिमि.) नामत : 1. श्री रोशन लाल मित्तल पुत्र टर-6, पंचकूला-134109 (हरियाणा), 2. योगिन्द्र मित्तल पुत्र श्री रोशन लाल मित्तल, मकान नं. श्री जतिन्द्र मित्तल पुत्र रोशन लाल मित्तल, मकान नं. 1464, ग्राउंड फ्लोर, सेक्टर 43-बी, चंडीगढ़- नी जतिन्द्र मित्तल, मकान नं. 1464, ग्राउंड फ्लोर, सेक्टर 43-बी, चंडीगढ़-160022 (यहां ये सभी त डिमांड नोटिस की प्राप्ति की तिथि से 60 दिन के अंदर 01.12.2020 से बनते आकस्मिक खर्चे, राशि पर अनुबंध दर वाले भविष्य के ब्याज समेत दिनांक 30.11.2020 के अनुसार रु. रने के लिए निर्देश दिए गए थे। कर्जदार राशि का भुगतान करने में असफल रहे। अतः कर्जदारों को नता को सूचित किया जाता है कि अधोहस्ताक्षरी द्वारा उक्त नियमों के नियम 8 के साथ पढ़े जाने वाले । प्रदान की गयी शक्तियों का प्रयोग करते हुए निम्नांकित प्रापर्टी का 25 मार्च, 2021 को प्रतीकात्मक

प्रापर्टी संबंधी कोई लेन-देन न करें और इस

THAPAR INSTITUTE
OF ENGINEERING & TECHNOLOGY
(Deemed-to-be-University u/s 3 of the UGC Act, 1956)
Thapar Technology Campus,
Bhadson Road, Patiala - 147 004 (Punjab) India
Phone : +91-175-2393021
Email : registrar@thapar.edu
URL : www.thapar.edu

O/C

Dated: -01-10-24

To,

The Environmental Engineer,

Punjab Pollution Control Board,

Regional Office,

Patiala, Punjab.

Subject: Submission of Environment Audit Report (Form V) for the Financial Year 2023-2024 for the project namely " Thapar Institute of Engineering & Technology" located at Bhadson Road, Patiala, Punjab.

Sir,

We are hereby submitting the Environment Audit Report (Form V) for the Financial Year 2023-2024 for the project namely "Thapar Institute of Engineering &Technology" located at Bhadson Road, Patiala, Punjab.

All relevant details /documents are attached along as annexures for your kind consideration.

Thanking you

Sincerely

Dr. Gurbinder Singh

Registrar, TIET, Patiala

Encl: As above

THAPAR INSTITUTE OF ENGG. & TECH. * PATIALA *

PUNJAB STATE POWER CORPORATION LIMITED
(Regd. Office P.S.E.B. Head Office, The Mall Patiala-147001,Ph. 1912). CIN: U40109PB2010SGC033813
E-mail: 1912@pspcl.in, Website: www.pspcl.in, GSTIN NO: 03AAFCP5120Q1ZC
Original for Recipient Duplicate for Supplier, Taxable Invoice, Invoice-cum-Bill of Supply

Billing Category: GSC/SAP-NONSBM-/BS HT BULK SUPPLY DPC

Sub Division	Division	Circle	Bill Cycle	Bill Date	Bill No.
MODEL TOWN COMMERCIAL - 1	MODEL TOWN DIVISION	PATIALA	02-2024	22-FEB-2024	50024268967

A/C No.: 3000058657
Consumer Name: M/S PRINCIPAL .
Address: 0. THAPER INST OF ENGG CENTRAL JAIL AREA PATIALA-147001-INDIA

GST No.:
Connection Date: 29-04-2009
Mobile No.: 97XXXXX529

Load	Contract Demand	Tariff Type	Bill Status	Due Date Cash/Online	Due Date DD/Cheque	Bill Amount
7740.00		BS HT BULK SUPPLY DPC	O	11-Mar-2024	06-Mar-2024	Rs.14454910/-

Voltage Supply	Details of Meter				Meter Status	CT Make	CT No.
	Meter Number	Make	Capacity	Digit			
66.00	X0824690	SECURE	1-1.2	6	O	OC9465/4/2/19	

Feeder Code	Date of New Reading	Date of Old Reading	Bill Period	Meter Security	Securit Cons	Security cons/Meter Security Interest
FDC0000004371	22-FEB-2024	21-JAN-2024	32	30010	13964930.75	

Meter Reading

Details	Old Reading	New Reading	Current Units	Meter Multiplier	Line CT Ratio	Meter CT Ratio	Overall Multiplier	MMTS Correction	Old Meter Cons	Unit Consumed
KWH	773.456	801.536		1.00	100/1	1/1	60000.00			1684800
KVAH	785.964	814.276		1.00	100/1	1/1	60000.00			1698750
MDI	0.027	0.064		1.00	100/1	1/1	60000.00			3870.00

(A) Fixed Charges

Contract Demand (L) KVA	Actual Demand KVA (A)	80% of (L) KVA (B)	A or B whichever greater KVA (C)	Rate per KVA per month (R)	Billing Days (D)	A: Fixed Charges Amount =CxRxDx12/365
	3870.00	3680.00	3870.00	340.00	32	1380511.00

(B) Energy Charges

	Units	Rate/kWh	Amount	B: Total Energy Charges
0-100	0		0.00	11517525
100-300	0		0.00	
300-500	0		0.00	
500 & ABOVE	0		0.00	

(C) Fuel Cost Adjustment Charges

Total Energy Charges	KVAH Consumption	Rate of FCS/KVAH	C: Amount
11517525			0.00

***Additional Surcharges**

Unit	Rate	Amount	C: FCA + Addl Surcharges
		0.00	11517525

(D) Rental Charges

Meter Rent for PSPCL Meter	MCB, CT/PT Unit Rental	Rent for any other equipment	Total Rent
185	0		185

GST

HSN Code	SGST	CGST	Total GST	D: Total Rent with Tax
	16.65	16.65	33.3	218.3

(E) Surcharges

Voltage Surcharge: Supply Voltage	Catered Voltage	Surcharge Rate	Voltage Surcharge Amount	Demand Surcharge: Demand in excess	Rate of Demand Surcharge	Amount of Demand Surcharge	ToD Surcharge: Peak Hours KVAH	Rate	Amount	E: Total Surcharge (Rs.)
66.00	66.00			0.00	0.00	0.00	0.00		0.00	0.00

(F) Rebates

Voltage Rebates: Units	HT/EHT Rebate	Amount	ToD Rebates: Non-Peak Hours KVAH	Rate	Amount	F: Total Rebates (Rs.)
1698750.00	424688.00	0.00	468030.00	1.00	468030.00	892718.00

(G) Previous Adjustment Amount Notice No.: and Date:

Units	Fixed Charges	Energy Charges	FCA	Rentals	Surcharges(+)	Rebates(-)	Taxes	Subsidy	Total	G: Net Previous Adjust
		/		/			/0		0/-100	0/-100

(H) Sundry Charges/Allowances Notice No.: - and Date: -

Late Payment Interest	Units	Fixed Charges	Energy Charges	FCA	Rentals	Surcharges(+)	Rebates(-)	Taxes	Subsidy	Total	H: N Cha (Re
	/	/	/ 0	/ 0	/ 0	/	/ 0	/ 0	/	/ 0	/ 0

(I) Subsidy

Rate for Subsidy	Amount	I: Net Subsidy (Rs.)

(J) Taxation

Electricity Duty	Municipal Tax	IDF	Cow Cess	Total Tax	Net Energy Charges	TCS/TDS	Curr/Prev Rounding Amount	NET BILL AMOUNT
								Rs.14454910/-
1560691.00	240106.00	600266.00	33975.00	2435038		14440.57		One Crore Forty Four Lakh Fifty Four Thousand Nine Hundred Ten Rupees Only

(K) Total Billed Amount

Due Date by Cash/Online	Due Date by DD/Cheque	Net Amount Payable by due date	Simple interest on delayed payment @1.5%p.m.	Amount Payable within 1 month after due date
11-Mar-2024	06-Mar-2024	14454910	216824	14671734

(L) Previous Cycle's Consumption

MONTH:FEB-23 MDI:2760 KWH:1283910 KVAH:1298580	MAR-23 2808 - 1102140	APR-23 5202 1588500 1610070	MAY-23 6648 2916270 2965020	JUN-23 6648 941760 969390	JUL-23 3804 1456450 1498710	AUG-23 7974 2999490 3064560	SEP-23 7200 4500270 4587330	OCT-23 7200 1555770 1576840	NOV-23 3432 1277250 1292520	DEC-23 2670 1303230 1316940	JAN-24 1668 1241400 1251420

Payment History:
Last Payment Amount:Rs. 10917300, Dated: 07-02-2024

Message:

1. **Payments exceeding Rs.20,000/- shall be accepted in digital mode only w.e.f. 01-07-2021.**
2. In case the payment of billed amount is not made by the due date,the power supply shall be liable for disconnection after expiry of 15 days of the due date and this may be taken as notice under section 56 of the Electricity Act 2003 read with regulation 32 of the Supply Code, 2014.
3. TCS UNDER SEC 206 C(1H) OF INCOME TAX ACT IS APPLICABLE ON RECEIPT ON ACCOUNT OF COLLECTION OF ELECTRICITY BILLS W.E.F. 01.10.2020
4. CHARGES HAS BEEN CHARGED AS ED @ 13% OF SOP, MT @ 2% OF SOP, IDF @ 5% OF SOP, COWCESS @ 1 OR 2 PAISA PER KWH/KVAH
5. ADJUSTMENT DETAIL WITH PERIOD:
6. - UNPAID DUES :- A) LATE PAYMENT SURCHARGES : 0 B) LATE PAYMENT INTEREST : 0
7. LATE PAYMENT INTEREST @1.5% PER MONTH ON GROSS UNPAID AMOUNT OF THE BILL TILL DEPOSIT OF OUTSTANDING AMOUNT AFTER DUE DATE SHALL BE CHARGED.

Description (HSN Code)	Quantity	UOC	Non-Taxable Amount	Taxable Amount	CGST 9%	SGST 9%	Total
Meter Rent (997319)	1	-	0	185	16.65	16.65	218.3
MCB Rent (997319)	1	-	0	0	0	0	0
Electrical Energy (271600)	1698750	UNT-Units	0	0	0	0	0

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Print Date: 02-23-2024 01:19 PM