



AMITY UNIVERSITY

MADHYA PRADESH

Established vide Government of Madhya Pradesh Act No. 27 of 2010

Green Building Practices at Amity University Madhya Pradesh Campus

Amity University has always envisioned a campus that reflects environmental responsibility, energy efficiency, and sustainable development. The university's planning, design, and operational strategies are deeply rooted in the principles of **resource conservation, occupant well-being, and environmental protection**. Amity University Madhya Pradesh Campus continuously enhances its campus infrastructure and operational systems to achieve a balance between built and natural environments. Through data-driven monitoring and innovative practices, the university aims to set an example of a **model green campus** for higher education institutions in India.

Objectives of Green Building Measures

1. **Promote Sustainable Development:** To integrate eco-friendly design, construction, and operational strategies across all campus facilities.
2. **Enhance Resource Efficiency:** To minimize energy, water, and material consumption through conservation technologies and behavioural initiatives.
3. **Improve Indoor Environmental Quality:** To ensure healthier, well-lit, and comfortable learning spaces that support productivity and well-being.
4. **Encourage Renewable Energy Integration:** To progressively increase the share of clean and renewable energy in the total energy mix.
5. **Achieve Long-Term Environmental Stewardship:** To create a self-sustaining and resilient campus ecosystem through continual improvement, audits, and stakeholder participation.

Key Green Building Highlights

- Installation of **solar photovoltaic systems** and energy-efficient electrical infrastructure.
- Adoption of **LED lighting**, motion sensors, and smart energy management systems.
- **Rainwater harvesting** structures and **wastewater recycling** for landscaping and sanitation.
- **Extensive green cover** with native, drought-resistant species maintained using treated wastewater.
- Use of **eco-friendly materials** and **low-VOC finishes** in building interiors.
- Active **student and faculty participation** through awareness campaigns, research, and the Green Campus Committee.
- Periodic **energy and water audits** for performance monitoring and continuous improvement.

Through these integrated efforts, Amity University reaffirms its commitment to environmental leadership and sustainable growth. The institution aims to serve

as a living laboratory for sustainability, demonstrating how educational campuses can lead the transition towards a greener and more responsible future. The detailed report is attached with relevant supporting document.

Detail report

1. Introduction

This report documents the existing Green Building Measures at Amity University Campus. It highlights sustainable initiatives across various categories including site management, water, energy, materials, and indoor environmental quality. The measures with relevant documents are mentioned below in different section based on their target and impact.

2. Sustainable Site and Facility Management

The 102-acre campus of Amity University Madhya Pradesh has been developed following principles of compact layout planning, ecological preservation, and accessibility. The master plan emphasizes pedestrian circulation, green corridors, and a balanced land-use distribution between built-up and landscaped areas.

- **Landscape Management:** Over **40%** of the campus area is dedicated to open green zones comprising native species. Regular mulching and use of treated wastewater for irrigation reduce freshwater demand. The campus proud to accommodate a total number of more than 15000 trees, plant and shrubs out of which approximately 9765 are native and 4698 are planted greenery.
- **Stormwater and Groundwater Recharge:** The campus integrates **rainwater harvesting pits, permeable pavements, and stormwater channels** to promote groundwater recharge. There is a total of 13 pits with total capacity of 30000 litres, used for groundwater recharge. (refer figure 1-5)
- **Mobility:** Dedicated pedestrian pathways and parking facility, along with limited vehicular zones, encourage low-carbon commuting.
- **Waste Management:** Solid waste segregation is practiced at source, and biodegradable waste is processed in **organic composting pits** located near the horticulture yard.

3. Water Efficiency

Water management is a key sustainability priority. The university adopts a combination of **conservation, recycling, and reuse** measures to minimize its freshwater footprint.

- **Rainwater Harvesting:** A network of **13 recharge pits** captures rainwater (refer figure 1-5).
- **Wastewater Treatment and Reuse:** The on-campus **STP (Sewage Treatment Plant)** treats approximately **6.4 lakh litre per day**, with over **80% reuse** for landscape irrigation.
- **Sprinkler Systems:** Landscape irrigation relies on **sprinkler systems** that reduce water use by approximately **35%** compared to conventional watering.

Estimated Annual Water Saving: ~18,000 m³/year compared to baseline conventional usage.

4. Energy Efficiency

Energy performance is a cornerstone of the university's sustainability agenda. The integration of **solar photovoltaic systems** and continuous monitoring mechanisms has led to measurable reductions in grid dependency and carbon footprint. Additionally, the campus is equipped with centralised HVAC System that provide the required thermal comfort with efficiency. The academic blocks are planned to provide passive thermal comfort including:

Optimised shading by using corridor in direction of solar gain, shading achieved by façade elements, roof cover, light painted roof, basement using the terrain.

The classrooms manage to receive daylight upto a daylight factor of 2.5, which limits the uses of artificial lighting and the used lights are LEDs that further reduce the total energy demand.

With these mentioned measures, The Amity University Madhya Pradesh campus aims to reduce its carbon footprint and have minimal impact of environment.

Solar Power Generation Data (2024)

Amity University's solar plant operates with a total installed capacity of **307.2 KWp**, generating approximately **412836 kWh per year**. The details about total generation and percent contribution along with other highlights of solar panela are mentioned in table 1.

Table 1: Solar Power Generation data (refer figure 6)

Parameter	Value	Remarks
Installed Capacity	307.2 kWp	Rooftop mounted PV systems
Average Generation	35000 kWh/month	As per monitoring data
Annual Generation	412836 kWh	Total generation of year 2024
Average Solar Share	10% of total electricity demand	Reduces dependency on grid power
Annual Savings	₹20–21 lakh	Based on ₹5.15 per unit
Annual CO ₂ Reduction	≈ 350 tons	Based on 0.85 kg CO ₂ /kWh grid emission factor

Interpretation:

The solar installation offsets nearly **ten percent of the total annual electricity demand**, resulting in substantial savings and emission reduction. Surplus generation during peak summer months is exported to the state grid under net metering.

5. Materials and Resource Management

The university emphasizes circular economy principles through procurement and waste minimization strategies.

- **Sustainable Materials:** Preference is given to materials with recycled content, locally sourced aggregates, and low-VOC paints and adhesives.
- **Construction Waste:** During new projects, debris is reused in landscaping and sub-base preparation.
- **Segregation and Recycling:** Waste bins are color-coded for segregation at source—biodegradable, recyclables, and hazardous waste.
- **Paper Reduction:** Digital submission systems and double-side printing policies minimize paper consumption.

6. Indoor Environmental Quality

Amity University ensures optimal indoor comfort through the following strategies:

- **Daylighting Optimization:** Classroom layouts are designed for uniform natural illumination; average daylight factor exceeds 2.5%.
- **Thermal Comfort:** Building envelopes use high-reflectance roofing and shaded exterior walls for reduced heat gain. The temperature and humidity is maintained through highly efficient centralised HVAC systems that maintain the indoor temperature at 26°C. Continuous monitoring and maintenance further improves the system efficiency and maintains the indoor thermal comfort to provide comfortable teaching and learning environment for both teachers and students.
- **Air Quality:** Regular IAQ monitoring is conducted; CO₂ levels maintained below 800 ppm in occupied zones. Continuous monitoring ensures the optimum levels are maintained. The lush green campus supports in maintaining the quality of air.
- **Acoustic Design:** Lecture halls are equipped with audio and visual systems to ensure smooth functioning of classes. The stepped classroom design aids to the acoustics.
- **Low-Emission Finishes:** All attempts are made to use the low-VOC paints and other materials with lower emission and impact.

7. Innovation and Community Engagement

- **Smart Monitoring Systems:** IoT-enabled meters track real-time power and water usage.
- **Research and Training:** Students participate in live projects on renewable energy, building performance, and ecological landscaping.
- **Awareness Initiatives:** Annual “Green Week” campaigns promote waste segregation, tree plantation, and environmental education. Behavioural changes to save energy. Signs and measures for minimizing energy wastage.
- **Green Campus Committee:** A Green campus committee jointly review sustainability targets and audit findings. Member details are mentioned in Table 2.

Table: Composition of Green Campus Committee

Sl. No	Name	Designation	Department/Position	Roles and Responsibilities
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			in Committee	
1	Prof. (Dr.) M.P.Kaushik	Pro Vice Chancellor (R) & Dean (Research) Amity University Madhya Pra desh Gwalior	Chairperso n	Provides strategic direction for sustainability initiatives, approves annual green action plan.
2	Prof. Kaustubh Das	Director, Amity School of Architecture and Planning, Amity University Madhya Pra desh Gwalior	Co- Chairperso n	Reviews overall campus environmental performance.
3	Prof. (Dr.) Swapnil Rai	Associate Dean Research, Amity University Madhya Pra desh Gwalior	Member	Guides environmental awareness programs and ensures compliance with environmental regulations.
4	Ar. Aditya Anand	Assistant Professor, Amity School of Architecture and Planning, Amity University Madhya Pra desh Gwalior	Coordinator , Green Campus Committee	Leads documentation and coordination of green building initiatives, supervises report preparation.
5	Dr. Saurabh Dubey	Assistant Professor, Amity School of Engineering and Technology University Madhya Pra desh Gwalior	Member	Oversee implementation of site, landscape, and infrastructure.

8. Future Roadmap

- Expand solar generation capacity to **1 MWp** by 2027.
- Implement **building automation systems** for lighting and HVAC in all academic blocks.
- Achieve **net-zero water balance** through 100% wastewater reuse.
- Introduce **greywater reuse systems** in hostels and residences.



Figure 1: Location of rainwater harvesting pits



Figure 2: Image of one of the pit

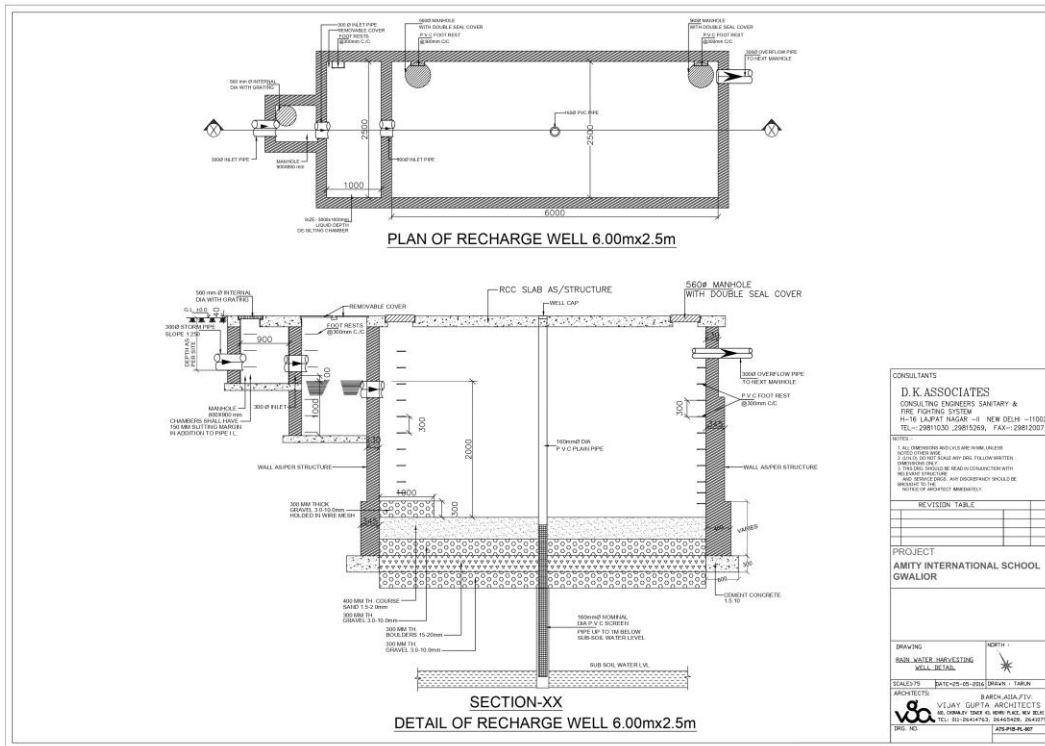


Figure 3: Plan and cross section of Rainwater Harvesting Pit

पत्रिका

सिटीजन .05

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पत्रिका, ग्वालियर, मंगलवार, 10.01.2017

निर्देश

हाईकोर्ट परिसर में वाटर हारवेस्टिंग के लिए अब तक क्या हुआ बताएं

शासन को भी पेश करना है पालन प्रतिवेदन

प्रिसिपल रजिस्ट्रार को अगली सुनवाई पर रिपोर्ट पेश करने के निर्देश

पत्रिका न्यूज नेटवर्क

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ग्वालियर. उच्च न्यायालय ने वाटर हारवेस्टिंग मामले में उच्च न्यायालय खंडपीठ ग्वालियर के प्रिसिपल रजिस्ट्रार को निर्देश दिए हैं कि उच्च न्यायालय परिसर में वाटर हारवेस्टिंग के लिए अब तक क्या किया गया है, इसकी रिपोर्ट अगली सुनवाई पर पेश करें।

उन्होंने इस संबंध में कहा, त्वरित कार्रवाई की जाए। वहीं न्यायालय के निर्देश पर नगरीय विकास विभाग तथा पीएचई सहित चार विभागों को पार्टी बनाया गया है। न्यायमूर्ति शील नागु तथा न्यायमूर्ति सुश्रुत अरविंद धर्माधिकारों की युगलपीठ ने डॉ. राखी शर्मा द्वारा प्रस्तुत जनहित

याचिका पर सुनवाई करते हुए यह निर्देश दिए। वर्ष 2016 में मानसून से पूर्व शहर में वाटर हारवेस्टिंग करण जाने के लिए पेश जनहित याचिका पर जब भी सुनवाई हुई तब न्यायालय द्वारा यह टिप्पणी की जाती रही कि क्या मानसून के बाद वाटर हारवेस्टिंग की जाएगी? शहर की समस्या को देखते हुए न्यायालय ने इस याचिका को प्रमुखता से लिया है। सोमवार को हुई सुनवाई में युगलपीठ ने इस संबंध में रिपोर्ट पेश करने के निर्देश दिए हैं। याचिकाकर्ता के अधिवक्ता राजू शर्मा के अनुसार चार विभागों को इस मामले में पार्टी बनाया गया है। इस मामले में शासन की ओर प्रतिपालन रिपोर्ट पेश करने के लिए तीन सप्ताह का समय मांगा गया। इस पर न्यायालय ने कलेक्टर व निगम आयुक्त को अगली सुनवाई पर पालन प्रतिवेदन प्रस्तुत करने के निर्देश दिए हैं।

जेयू और एमटी की प्रशंसा



सुनवाई के दौरान न्यायालय में जौवाजी विश्वविद्यालय तथा एमटी विश्वविद्यालय की अधिवक्ता अनुष्ठा सिंह ने बताया, उनके द्वारा सबसे पहले प्रतिपालन रिपोर्ट पेश की गई थी। इस पर न्यायालय ने दोनो विश्वविद्यालयों को इस कार्य के लिए प्रशंसा भी की।

Figure 4: Recognition of rainwater harvesting initiative by High Court 1



नई दुनिया

नई सोच, नया अंदाज

गालियर, डेरा, भेसा (शुद्धि), अकभूर, रावत, विकसित और विश्व-स्तर पर (एनटी संस्करण) में एकलव्य प्रकाशित

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सुरक्षा के मोर्चे पर बढ़ती चुनौतियां - खलस (पृष्ठ 4)

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गालियर, मंगलवार 10 जनवरी 2017

महानगर

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कोर्ट ने कहा-एमिटी व जेयू से सीख लें सभी विभाग

गालियर। हाईकोर्ट की युगल पीठ ने रेन वाटर हार्वेस्टिंग सिस्टम लेकर दायर जनहित याचिका की सुनवाई करते हुए कहा कि जीवाजी और एमिटी यूनिवर्सिटी के कार्य से सभी विभाग सीख लें। वे वाटर हार्वेस्टिंग को लेकर पालन प्रतिवेदन रिपोर्ट पेश करें। दरअसल डॉ. राखी शर्मा ने रेन वाटर हार्वेस्टिंग सिस्टम को लेकर जनहित याचिका दायर की है। याचिकाकर्ता की ओर से बताया गया कि 23 सितंबर 2016 के आदेश का पालन नहीं किया गया है। पीडब्ल्यूडी, निगम, जल संसाधन विभाग ने जल संरक्षण के लिए कोई कदम नहीं उठाया है। वहीं जेयू व एमिटी की अधिवक्ता अनुराधा सिंह ने बताया कि हम पालन प्रतिवेदन रिपोर्ट कर चुके हैं। परिसर में रेन वाटर हार्वेस्टिंग सिस्टम बना दिए गए हैं। इस पर कोर्ट ने सभी विभाग को निर्देशित किया कि जेयू व एमिटी के काम से सीख लें।

Figure 5: Recognition of rainwater harvesting initiative by High Court 2


 GWALIOR AmityPower MANAGEMENT	
AU, Gwalior	
Month	Generation in KWH
1	2
Jan'24	23474
Feb'24	33877
Mar'24	44234
Apr'24	44350
May'24	44677
Jun'24	37618
Jul'24	32841
Aug'24	31339
Sep'24	29771
Oct'24	35202
Nov'24	27699
Dec'24	27755
Total	412836

Figure 6: Energy generation through solar panels in 2024

ASSET MANAGEMENT




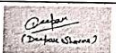

JMR-JOINT METER READING (September 2025)		CleanMax™	
Site Asset ID:- N 087			
Project name & Capacity		Amity University Gwalior Capacity : 307.2 Kw	
Energy Meter(ACDB) S.no		Make/Model(ACDB)	Schneider EMG400
Energy Meter(Customer) S.no	NA	Make/Model(Customer)	NA
Meter Reading Details		ACDB Meter Block A	ACDB Meter Block B
Last Date & Time of Meter Reading		31-08-2025 14:44	31-08-2025 14:50
Last reading in kWh (A)		1552405	830357
Current Date & Time of Meter Reading		30-09-2025 17:21	30-09-2025 17:23
Current reading in kWh (B)		1570652.919	840226.728
Billable Reading in kWh		18247.919	9869.728
		7668.411	
			
Remarks:			
Prepared by		Witness By	
			
		JITENDRA SINGH Sr. Manager (Electrical) Amity University, Gwalior	
Name:Raghuraj -Representative Cleanmax		Name	

Figure 7: Meter Reading for solar power generation