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Certificate No: 22EEGQ75

## CERTIFICATE

*This is to certify that*

**M/s AMITY UNIVERSITY, MADHYA PRADESH  
Gwalior, India 474005**

*has been assessed by us for the green practices implemented at the institute in order to meet the requirement of*

### Green Audit

*As per the findings outlined in the submitted report, it is verified that the green initiatives undertaken by the institute are deemed satisfactory.*

*The administration's commendable efforts to reduce the institute's carbon footprint are highly appreciated.*

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# GREEN AUDIT REPORT



**AMITY UNIVERSITY**

MADHYA PRADESH

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

**Amity University**  
**Madhya Pradesh, Gwalior**

**Submitted by:**



**Enviraj Consulting Private Limited**  
**(An ISO 14001:2015 & 50001:2018 Certified Company)**

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**2021-2022**

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## **Executive Summary**

This green audit aims to analyse green practices within the campus and a detailed account of the carbon footprint arising from the Institute internal operations in terms of carbon dioxide "equivalent" or CO<sub>2</sub>e. This can assist the institute in comparing actions to get a sense of scale and the environmental effects of its activities and operations.

During the audit, data for FY 2021-22 was collected and analysed to identify various sources of carbon emissions, and the emissions from each source were determined. Furthermore, the carbon sequestration from the plants and green projects was evaluated, and the net emissions were calculated.

The institute's gross carbon emissions for FY 2021-22 are estimated to be 1,444.20 tonnes. Approximately 77.8 percent of gross emissions are attributed to electrical consumption, 9.5 percent to transportation, 7.8 percent to DG sets and 4.9 percent to LPG consumption, respectively. Whereas carbon sequestration from trees and solar energy export can offset the 633.81 tonnes of emissions. The net emissions of the institute for FY 2021-22 are estimated to be 773.57 tonnes.

### **1. Introduction**

Climate Change is the defining issue of our time and we are at a defining moment. From shifting weather patterns that threaten food production, to rising sea levels that increase the risk of catastrophic flooding, the impacts of climate change are global in scope and unprecedented in scale.

With the rise in global population, economies, and living standards, the amount of greenhouse gases (GHGs) in the atmosphere has reached record levels, resulting in

global warming and climate change. To address this, governments and organizations around the world are pledging to achieve net-zero emissions of greenhouse gases. Government of India has launched a National Action Plan on Climate Change (NAPCC) outlining multiple National Missions on climate change, involving various stakeholders.

Educational institutions are the key stakeholders that plays an influential role in local and national level policymaking by informing society through research and educating graduates. It sets ground for imparting responsible perspectives to the young minds who act as successful incubators for innovation, from which many sustainability initiatives originate.

In this context, Amity University, Gwalior has been responsible and responsive to implementing green practises on campus, such as solar power, tree planting, rain water harvesting, solid waste management, and energy conservation.

To improve the efficacy and impact of green practises as well as to meet with NAAC Criteria 7; Institutional Values and Best Practices, the Institution has undergone the Green Audit. A green audit evaluates an organization's environmental impacts in terms of carbon footprint, while also suggests the ways to reduce it through resource conservation and effective resource utilisation, and raising environmental awareness.

## **About Institute**

Amity University Madhya Pradesh was established by Ritnand Balved Education Foundation (RBEF) vide Madhya Pradesh Government Legislature Act of 2010 with the view to promote professional, industry-oriented education in the state of Madhya Pradesh. Amity University Madhya Pradesh, Gwalior located on a sprawling campus of 102 acres of land opposite Gwalior Airport, imparts modern, practical, and research-

oriented courses which will lead to the development of professionals who are employable and industry ready. This in turn will drive the socio-economic upliftment of the region.

Amity University Madhya Pradesh provides future-focused and market-oriented programmes in Management, Engineering, Biotechnology, Law, Communication, Nanotechnology, Behavioural Science, Pharmacy, Fashion Design, Architecture and Liberal Arts among others.

Amity University Madhya Pradesh was adjudged the “Best Private University of Madhya Pradesh” by CMAI Association of India and has been accredited as “Premier University” by Accreditation Service for International Colleges (ASIC) UK. Amity University Madhya Pradesh is No. 1 Best Private University in Madhya Pradesh and Ranked No. between 151 – 200 in the University category by National Institutional Ranking Framework (NIRF) India Ranking 2020 and Amity Institute of Engineering & Technology was All India Ranked 162nd in the Engineering Category for the year 2020. Amity University Madhya Pradesh is ranked 24th among the best 62 private universities in India with the overall score of 1157.0 by India’s Best Universities Ranking Survey 2021 conducted by India Today.





## 2. Objectives of the Audit

The objectives of green audit are:

- Identify key emission sources of GHG in the institute
- Compute Scope 1 & Scope 2 emissions
- Record plant diversity in the campus and assess the carbon sequestration potential
- Evaluate the carbon credits from the green projects (i.e., solar power plant)
- Estimate the gross and net emissions and provide recommendations on reducing carbon footprint of the Institute

## 3. Methodology

The methodology adopted for this audit was a three-step process comprising of:

- 1. Data collection:** In this phase, exhaustive data collection was performed using different tools such as observation, survey communicating with responsible persons and measurements. Following steps were taken for data collection:
  - Site Visit
  - Data about the carbon emission sources, plants diversity was collected by observation and interview.
  - Electricity bills, solar power generation, LPG consumption data was collected from the responsible persons.
- 2. Data Analysis** - The carbon footprint analysis based on the international standard (*A Corporate Accounting and Reporting Standard*) was done for gross and net emissions estimation.
- 3. Findings & Recommendations** – On the basis data analysis results and site observations, steps for mitigating carbon footprint were recommended.

## 4. Findings and Recommendations

### 4.1 Carbon emissions

For GHG accounting and reporting purposes, Carbon emissions are typically divided into three scopes:

- Scopes 1 emissions are direct emissions occur from sources that are owned or controlled by the organization.
- Scope 2 are indirect emissions due to electricity import.
- Scope 3 covers other indirect emissions that are a consequence of the activities of the organization, but occur from sources not owned or controlled by it.

However, because of data limitations and the lack of a consistent standard for measuring Scope 3 emissions, this report is solely based on Scope 1 and scope 2 emissions.

#### 4.1.1 Scope 1 Emissions

##### *i.* Diesel Generators

The institute is equipped with five diesel generators for the electricity backup. Below is the electricity production and diesel consumption data for FY 2021-22.

Month	Units generated kWh	Quantity of diesel (L)	Carbon Emissions (tonnes)
<b>Apr'21</b>	9,017.00	2,995.00	8.03
May'21	7,101.00	2,338.00	6.27
Jun'21	4,428.00	1,472.00	3.94
Jul'21	13,887.00	4,633.00	12.42
Aug'21	23,209.00	7,668.00	20.55
Sep'21	28,118.00	9,475.00	25.39
Oct'21	17,625.00	5,895.00	15.80
Nov'21	3,435.00	1,149.00	3.08
Dec'21	5,960.00	2,005.00	5.37
Jan'22	2.00	3.00	0.01

Feb'22	6,639.00	2,225.00	5.96
Mar'22	3,349.00	1,115.00	2.99
<b>Total</b>	<b>1,22,770.00</b>	<b>40,973.00</b>	<b>109.81</b>

\*Diesel produces 2.68 kgs of CO<sub>2</sub> per litre burnt.

## ii. Transportation

From the observation, two categories of vehicles that ply at the roads of the institute are: sedans and motorcycles. Data collection and subsequent analysis were done based on these categories. Due to unavailability of outside vehicle data, only vehicles domiciled on the campus, were considered in this report.

The following assumptions were made while estimating carbon emissions from the vehicles.

- All vehicles entering the campus use the main entrance gate.
- The average distance covered by each vehicle is 2.0 kilometres: this is the measured to and from distance between the main gate to the hostel/admin Buildings.

S. N	Vehicle Type	Nos	Emission Factor	Annual Emission
1	Motorcycles	700	0.12761kgCO <sub>2</sub> e/km (WRI, 2008)	65.20-ton CO <sub>2</sub> e
2	Sedans	400	0.23398kgCO <sub>2</sub> e/km (IPCC, 2006)	68.32-ton CO <sub>2</sub> e
Total Emissions				133.52 tonnes

## iii. LPG Consumption

LPG is used in the hostel mess and canteen for cooking purposes. The mess contractors use 16kg commercial cylinders for this purpose. The contractors generally do not maintain accounts for LPG consumption data, but based on the interaction, an average annual LPG consumption in the institute is presented below:

Sr. No	Particulars	Observed Value	Unit
1	Annual LPG Consumption	23,040	kgs
2	LPG Emission Factor	2.983	--
3	Emissions	68.73	tonnes

#### 4.1.2 Scope 2 Emissions: Electricity Import

The data from the 5-year energy audit indicates that the highest amount of electricity imported from the grid occurred in 2022. In educational institutions, electricity consumption is one of the main sources of carbon footprints. Therefore, since the electrical consumption was at its peak in 2022, the institutional carbon footprint was calculated for that year.

Sr. No	Particulars	Observed Value	Unit
1	Import from grid (Without Solar)	15,46,626	kWh
2	GHGs emission factor (India)*	0.7082	kgCO <sub>2</sub> per kWh
3	Annual emissions	1,095.32	tonnes

\*Climate Transparency report 2021

#### 4.2 Carbon Sequestration from Trees

Estimating the amount of carbon sequestered by a single tree in one year is quite a complex process because it can vary depending on various factors such as the species of the tree, its age, size, and growing conditions. However, according to the Arbor Day Foundation, a mature tree can absorb more than 48 pounds (21.8 kg) of carbon dioxide (CO<sub>2</sub>) per year through photosynthesis. Some other sources suggest that it can go up to 50 kg per year. For our estimation, we have taken an average of 25 kg of carbon dioxide absorbed by each tree in one year, irrespective of their size, age, and species.

The campus has over 9,765 native trees and 4,592 planted trees, with the potential to sequester approximately 358.93 tonnes of CO<sub>2</sub> per year.

#### 4.2.1 Plants' diversity in the Institute

Sr. No	Plant Name	Type	Nos
1	Neem	Native	972
2	Dakhsni	Native	2039
3	Gulmohar	Native	183
4	Peepal	Native	6
5	Sheesham	Native	40
6	Raimaza	Native	1281
7	Khair	Native	2947
8	Heesh	Native	1185
9	Babul Desi	Native	75
10	Ber	Native	45
11	Anar	Native	3
12	Churail	Native	25
13	Hingota	Native	628
14	Ghot	Native	246
15	Kareel	Native	72
16	Shesho	Native	18
17	Amaltas	Planted	158
18	Gulmohar	Planted	67
19	Kushum	Planted	22
20	Boganbolia	Planted	1478
21	Kanair	Planted	727
22	Neem	Planted	603
23	Sheesham	Planted	193
24	Kanji	Planted	44
25	Maulshree	Planted	14
26	Arjun	Planted	176
27	Champa	Planted	521
28	Cycus	Planted	64
29	Alustinia	Planted	48
30	Tikoma	Planted	113
31	Bottle Brush	Planted	1
32	Bargad	Planted	2
33	Peepal	Planted	37
34	Kadam	Planted	17
35	Kalendera	Planted	49
36	Dhak	Planted	89
37	Dalmoth	Planted	12

38	Oomar	Planted	1
39	Palm	Planted	28
40	Alustonia	Planted	27
41	Bustoniya	Planted	99
42	Ambla	Planted	1
43	Shahtoot	Planted	1
<b>Total</b>			<b>14,357</b>

### 4.3 Carbon credits from Solar Power plant

Carbon credits represent a metric for measuring the reduction or removal of 1 ton of carbon emissions from the atmosphere resulting from a carbon-saving (green) project. In this case, a 307-kW grid-connected solar plant has been installed on campus, providing up to 15% of the total electricity needs of the institute, while also offsetting the institute's carbon footprint. The solar power generation data for the fiscal year 2021-22 is provided below.

S. N	Particulars	Observed Value	Unit
1	Total Solar Power Generation	3,88,141	kWh
2	GHGs emission factor	0.7082	kgCO <sub>2</sub> per kWh
3	Carbon credit	274.88	tonnes

### 4.4 Gross and net carbon emissions of an Institute (Year: 2022)

Particulars	Sources/Sink	Value	Unit
A. Scope 1 Emissions	LPG	68.73	tonnes
	DG Sets	109.81	tonnes
	Transportation	133.52	tonnes
	Total A	312.06	tonnes
B. Scope 2 Emissions	Electricity from grid (without solar)	1,095.32	tonnes
C. Carbon offset	Sequestration from Trees	358.93	tonnes
	Carbon credits from solar	274.88	tonnes
	Total C	633.81	tonnes
<b>Gross Emissions (A+B)</b>		<b>1407.38</b>	<b>tonnes</b>

	<b>Net Emissions (A+B-C)</b>	<b>773.57</b>	<b>tonnes</b>
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The institute's net carbon emissions for the fiscal year 2021-22 were 773.57 tonnes, but they appeared lower than expected due to reduced energy consumption during COVID-19 lockdowns. In normal circumstances, the institute's carbon emissions would be 2.5-2.8 times higher than what was observed during the assessed period.

#### 4.5 Recommendations

- ✓ The most of the emissions comes from the electricity import. Therefore, it is recommended the reduction in carbon emissions can be further done by usage of energy efficient appliances, smart switches and increasing the capacity of renewable energy system.
- ✓ Installing solar heating systems in the hostel area can reduce the electricity consumption required for water heating during winter months. This reduction in electricity consumption would also lead to a decrease in carbon emissions, making it a sustainable and eco-friendly solution.
- ✓ By considering natural lighting and air flow in a new construction and adhering to green building standards, it is possible to decrease the institute's carbon footprint.
- ✓ Bicycles shall replace motorbikes for internal commute. This will further reduce the emissions related to transportation.
- ✓ Emissions from outside vehicles can be included. The number of vehicles daily commuting in and out of the campus shall be determined by taking record of the numbers of each category of vehicle that enters the campus through its

main entrance between 06:00 hours and 23:59 hours for three weekdays and a weekend.

- ✓ Only tree plantation in the campus is accounted in the calculation. The total plantation around the campus may have further reduced the emissions.
- ✓ CO<sub>2</sub> sequestration from the soil can also be included after getting the effective area in the campus.
- ✓ Estimating CO<sub>2</sub> credits from other green projects/practices like rainwater harvesting, composting that are already present in the campus will have further reduced emissions.



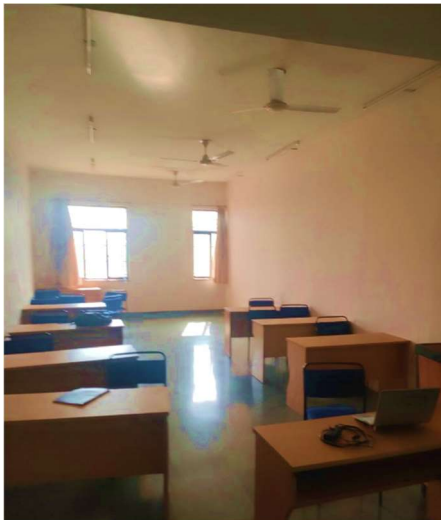
## Annexure: Photographs



*Greenery in campus*



*Tree Plantation in the campus*



*Natural light intensity in the classroom*



*Solar Power Plant*



Certificate No: 305022092751Q



Certificate No: 22EEGQ75

# CERTIFICATE

*This is to certify that*

## **M/s AMITY UNIVERSITY, MADHYA PRADESH Gwalior, India 474005**

*has been assessed by us for the institution's energy management in order to meet the requirement of*

### **Energy Audit**

*As per the submitted report, the energy management practices of the Institute have been verified and found to be satisfactory.*

*The administration's efforts towards promoting renewable energy, energy conservation and to comply with ISO 50001:2018, the global energy management systems standard, which specifies requirements for initiating, implementing, maintaining, and improving an EnMS are commendable and noteworthy.*

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# ENERGY AUDIT REPORT



**AMITY UNIVERSITY**

MADHYA PRADESH

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

**Amity University**  
**Madhya Pradesh, Gwalior**

**Submitted by:**



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**2021-2022**

## Quality Information

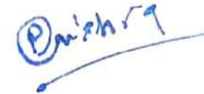
Prepared by

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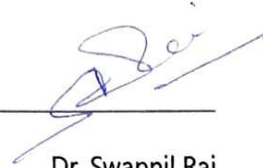
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## **Executive Summary**

This energy audit aims to evaluate an institute's energy demand and supply, analyze various energy sources, and assess the institute's energy consumption pattern. The primary objective is to identify areas where energy performance and efficiency can be improved, and recommend solutions for the same.

The audit found that the institute's major energy consumption was electricity, while LPG was used in the canteen/kitchen area through independent contractors. However, since the exact LPG consumption data was not maintained by them, this audit only analyzes electricity data.

The institute's primary electricity supply sources were from the grid, accounting for 70%, followed by solar at 23%, and DG sets at 7% on an annual basis. During FY 2021-22, the institute's electricity consumption was 14,74,906 kWh, which is 52-58% lower than FY 2018-2019 and FY 2019-2020 due to the COVID-19 lockdowns' impacts, resulting in the institute's electrical load not running at full capacity.

The majority of power consumption was attributed to lighting, electric fans, computers, and pumps, with chiller plants alone accounting for 30.9% of the institute's electricity demand.

The audit identified areas where energy performance and efficiency could be improved, and the recommendation section provides solutions for the same.

### **1. Introduction**

The energy demand of India is rising by every year. Approximately 75% of India's electricity grid is still coal-fired. As a result, there is a direct relationship between electricity consumption and the environmental sustainability.

The Amity University, Gwalior, has responsibly carried out clean energy projects in the campus to meet its energy needs and while ensuring environmental sustainability.

The Institution has undergone an Energy Audit to assess its energy performance trends of last five years and further improve its energy use efficiency, as well as to meet NAAC Criteria 7; Institutional Values and Best Practices. Energy auditing is a useful tool for gaining insight into an organization's energy sources, appliance inventory, energy demand, and consumption patterns, which can then be used to reduce energy costs, control pollution, and make decisions about implementing improved energy conservation measures and technology.

## **About Institute**

Amity University Madhya Pradesh was established by Ritnand Balved Education Foundation (RBEF) vide Madhya Pradesh Government Legislature Act of 2010 with the view to promote professional, industry-oriented education in the state of Madhya Pradesh. Amity University Madhya Pradesh, Gwalior located on a sprawling campus of 102 acres of land opposite Gwalior Airport, imparts modern, practical and research-oriented courses which will lead to the development of professionals who are employable and industry ready. This in turn will drive the socio-economic upliftment of the region.

Amity imparts education in almost all areas including management, engineering, architecture, biotechnology, law, communication, behavioural science, fine arts, fashion etc. Amity University Madhya Pradesh was adjudged the "Best Private University of Madhya Pradesh" by CMAI Association of India and has been accredited as "Premier University" by Accreditation Service for International Colleges (ASIC).

The University has one N.S.S. units sanctioned by the university, which are doing tremendous job through organizing activities like blood donations, tree plantations, health check-up, personality development etc. are conducted by this unit.





## 2. Objectives of the Audit

The key objectives of this audit are:

- To assess institute electricity demand and supply
- To assess the electrical load at various premises of the institute
- To identify the areas where the electricity can be conserved and provide suitable recommendations

## 3. Methodology

The methodology adopted for this audit was a three-step process comprising of:

1. **Data collection:** In this phase, exhaustive data collection was performed using different tools such as observation, survey communicating with responsible persons and measurements. Following steps were taken for data collection:

- Site Visit

- Data about the electrical appliances, electricity sources was collected by observation and interview.

**2. Data Analysis** - The collected data analysed and compared with the relevant standards.

**3. Findings & Recommendations** – On the basis data analysis results and site observations, recommended were made for further improving energy performance of the institute.

## 4. Findings and Recommendations

### 4.1 Power Profile

Parameter	Value
Sanctioned Load KVA	1600
Released Load KVA	1600
Billing Load KVA	1440
Length of line Km	0.5
Voltage KV	33
Meter No.	XE481822
Meter Make	Secure
Line CT Ratio A	30/5
Line PT Ratio KV/V	33/110
Meter CT Ratio A	-/5
Meter PT Ratio KV/V	33/110
Multiplying Factor (MF)	6
Demand charges	Rs.485 per KVA
Unit Charges	Rs.7.35 per KWh
No Of Transformer	2 Nos 1500 KVA each
No of DG Sets	4 Nos x750 KVA & 1No x250 KVA
Installed Solar Capacity	307 KWp

## 4.2 Electricity Consumption

Sr. No.	Outlet Name	Block Wise Electricity Consumption in KWH (FY 2021-22)	
		Total KWH	Consumption (%)
1	A- Block + Sports Ground	2,19,983	14.92%
2	B- Block (Pocket-3 & 4)	1,09,129	7.40%
3	Boys-Girls Hostel	80,904	5.49%
4	S1T1C1	1,93,102	13.09%
5	A-Block (AC)	15,083	1.02%
6	Pump House +B-Block (Pocket 1 & 2)	93,331	6.33%
7	Boys-Girls Hostel on MLTP-2	52,180	3.54%
8	Block-C (MLTP 1)	31,999	2.17%
9	Block-C (MLTP 2)	78,279	5.31%
10	S1T2C2	2,62,737	17.81%
11	Hostel No-3 & Hostel No-4	67,342	4.57%
12	A-Block 2nd AC feeder	17,308	1.17%
13	Old STP + New STP	1,37,657	9.33%
14	B & C Block -AIS	62,248	4.22%
15	Admin Block -AIS	10,548	0.72%
16	Multipurpose Hall-AIS	8,795	0.60%
17	Sub-Station Room-AIS	1,411	0.10%
18	Pump Hose-AIS	3,410	0.23%
19	B- Block 2nd Part-AIS	12,552	0.85%
20	Borewell-AIS	11,529	0.78%
21	Cafeteria A Block	52	0.00%
22	Boys Hostel Mess	1,045	0.07%
23	Mess Girls Hostel	573	0.04%

24	Canteen B-Block Ness Café	626	0.04%
25	Canteen C-Block Ness Café	546	0.04%
26	BSNL	929	0.06%
27	Photo Copy M/c	138	0.01%
28	Axis Bank ATM	108	0.01%
29	PS Food	780	0.05%
30	Kamlesh Laundry	232	0.02%
31	Dhobi Ghat	47	0.00%
32	Amul Dairy	303	0.02%
	<b>Total KWH</b>	<b>14,74,906</b>	<b>100.00%</b>

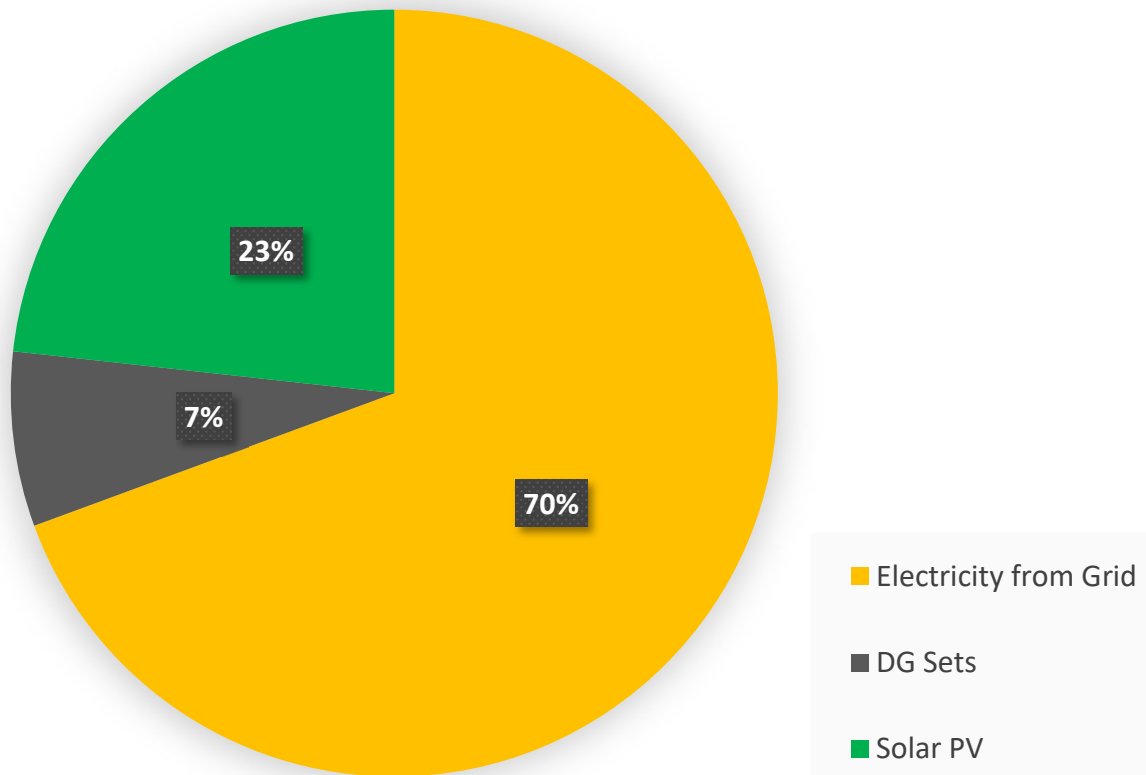
The total electrical consumption in FY 2021-22 was found to be 14,74,906 kWh. This consumption was 52-58% lower compared to FY 2018-2019 and FY 2019-2020 due to the impacts of COVID-19 lockdowns, during which the institute's electrical load was not running at full capacity.

The primary sources of power usage in the institute are lighting, electric fans, computers, and pumps. However, the chiller plant alone is responsible for 30.9% of the total power consumption.

### 4.3 Electricity Sources

The campus is powered by three primary electricity sources, consisting of 70% net grid electricity imports, 23% solar energy, and 7% from the diesel generator, as recorded in FY2021-22. However, solar energy's share appeared higher during the period due to reduced energy consumption resulting from COVID-19 lockdowns. Typically, under normal conditions, the solar energy contribution ranges from 15% to 18%.

### Electricity Sources (FY 2021-22)



#### 4.3.1 Net Import from Grid

Month	Units Received kWh	Units Received KVAh	Power Factor	Max Demand KVA
Apr'21	71,700	72,954	0.9828	780
May'21	28,356	29,736	0.9536	115
Jun'21	35,502	36,768	0.9656	576
Jul'21	1,26,828	1,29,120	0.9822	1020
Aug'21	1,67,130	1,68,720	0.9906	1020
Sep'21	1,67,586	1,69,572	0.9883	1068
Oct'21	1,59,156	1,60,638	0.9908	1116
Nov'21	78,984	80,040	0.9868	756
Dec'21	80,297	80,963	0.9918	238

Jan'22	75,174	75,738	0.9926	228
Feb'22	57,084	57,552	0.9919	161
Mar'22	1,10,688	1,11,264	0.9948	1236
<b>Total</b>	<b>11,58,485</b>	<b>11,73,065</b>	<b>0.9843</b>	<b>1236</b>

#### 4.3.2 Electricity Generated from DG Sets

The institution has installed five DG Sets as a power backup, among which four units have a capacity of 750KVA and one unit has a 250KVA capacity. The data below displays monthly electricity generation and diesel consumption for all five DG sets.

Month	Units generated kWh	Quantity of Diesel Lts
Apr'21	9017	2995
May'21	7101	2338
Jun'21	4428	1472
Jul'21	13887	4633
Aug'21	23209	7668
Sep'21	28118	9475
Oct'21	17625	5895
Nov'21	3435	1149
Dec'21	5960	2005
Jan'22	2	3
Feb'22	6,639	2,225
Mar'22	3,349	1,115
<b>Total</b>	<b>1,22,770</b>	<b>40,973</b>

### 4.3.3 Electricity generated from Solar Power Plant

Month	Solar Generation (kWh)
Apr'21	41,563
May'21	37,535
Jun'21	37,954
Jul'21	32,969
Aug'21	28,906
Sep'21	25,169
Oct'21	33,564
Nov'21	27,202
Dec'21	24,499
Jan'22	23,952
Feb'22	34,158
Mar'22	40,670
<b>Total</b>	<b>3,88,141</b>

### 4.4 Energy Balance

Particulars	Source	Value	Unit
A. Electricity Supply	Net import from the grid	11,58,485	kWh
	DG Sets	1,22,770	kWh
	Solar	3,88,141	kWh
	Total	16,69,396	kWh
B. Electricity Consumption	--	14,74,906	kWh
<b>Non-Technical /Technical Losses (A-B)</b>		<b>1,94,490</b>	<b>kWh</b>

## 4.5 Recommendations

- It is recommended to prepare a departmental inventory which includes list of electrical appliances with their corresponding power ratings. This will make it easier to estimate the electrical load and identify areas where energy can be saved. The information gathered from the inventory can also be used for electricity accounting and auditing purposes.
- Department-wise energy audit will be a useful tool for understanding the electrical consumption pattern in the institute's various locations and establishing a baseline. Furthermore, encouraging the various departments to conserve energy.
- The majority of power consumption is attributed to lighting, electric fans, computers, and pumps. Incandescent bulbs and CFL lights should be replaced with LED lights, even lighting distribution system should be ensured and electric fans should be serviced and bearings replaced wherever necessary.
- Obsolete technology in ACs, refrigerators, and freezers used in many departments is causing power loss. Consider replacing them with energy-efficient models to save power.
- Electric water heaters in hostels can be replaced with centralised solar water heaters.
- Installation of a suitable Bio-gas plant to save energy used for heating water in science laboratories.



- When constructing new buildings in the campus, it is important to prioritize natural light and air circulation in order to reduce energy waste.
- Compared to the overall energy demand of the campus, solar power contributes around 15-18% of the total energy demand (under normal conditions). In order to achieve a cost-benefit and reduce the carbon footprint of the institute, the solar power capacity can be increased.
- Encourage energy-efficient behaviour among students, faculty, and staff to reduce overall electricity demand.
- Energy saving signage can be displayed at various locations to encourage staff and students to conserve energy.
- The energy balance suggests that the energy supply has been meeting the demand but there is still room for improvement in terms of accessing data on electrical consumption to reduce both non-technical and technical losses including transmission and distribution losses.
- LPG consumption data can also be used in future energy audits.

## Annexure-I (Photographs)



*DG Set*



*LT Panel*



*Chiller Plant*



*Solar Power Plant*



*Transformer*



*HT Panel*



Global Waste  
Cleaning Network

Member Ref: GWCN/M22.926



Certificate No: 22EEGQ75

## CERTIFICATE

*This is to certify that*

**M/s AMITY UNIVERSITY, MADHYA PRADESH  
Gwalior, India 474005**

*has been assessed by us for institutional performance against its environmental policies and objectives to fulfil the requirement of*

### Environmental Audit

*As per the findings detailed in the submitted report, it has been verified that the Institute's environmental protection measures meet the required standards and are deemed satisfactory.*

*The administration's commendable efforts to mitigate environmental pollution while ensuring compliance with all relevant environmental standards are highly appreciated.*

enviraj  
CONSULTING



**Rajdeep Pandey**

Director

QCI Certified EMS Auditor

(Certificate No: PRA/EMS/2225/001)

**Enviraj Consulting Pvt. Ltd.**

F-29 Bhagat Singh Nagar, Behind Road Gwalior-474005 | P: 7987416317 | E: info@enviraj.com | W: [www.enviraj.com](http://www.enviraj.com)

# ENVIRONMENTAL AUDIT REPORT



**AMITY UNIVERSITY**

MADHYA PRADESH

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

**Amity University**  
**Madhya Pradesh, Gwalior**

**Submitted by:**



**Enviraj Consulting Private Limited**  
**(An ISO 14001:2015 & 50001:2018 Certified Company)**

F-29 Bhagat Singh Nagar,  
Bhind Road, Gwalior  
Madhya Pradesh - 474005  
[www.enviraj.com](http://www.enviraj.com)

**2021-2022**

## Quality Information

Prepared by

Internal Members



**Rajdeep Pandey**  
Environmental Consultant (ECPL)  
& QCI Certified EMS Auditor  
(Certificate No: PRA/EMS/2225/001)



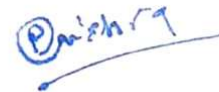
A blue ink signature of Dr. Kuldip Dwivedi.

**Dr. Kuldip Dwivedi**  
Professor, HOI,  
Dept. of Environmental Science (ASLS/EVS)



A blue ink signature of Dr. Nidhi Shukla.

**Dr. Nidhi Shukla**  
Asst. Professor  
Dept. of Environmental Science (ASLS/EVS)



A blue ink signature of Dr. Pankaj Mishra.

**Dr. Pankaj Mishra**  
Professor  
Department of Physics (ASET)



A blue ink signature of Shri. Umesh Kumar Sharma.

**Shri. Umesh Kumar Sharma**  
Dy. Director  
Administration, AUMP

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## **Executive Summary**

The purpose of this audit is to evaluate the environmental performance of the institute in accordance with relevant environmental laws and guidelines, as well as to assess the effectiveness of measures taken by the administration for continuous improvement. The findings of the audit can aid the institute in identifying areas for enhancing operational efficiency and establishing new environmental policy benchmarks.

During the audit, data from the past five years (2018-2022) was examined in three key areas: Air quality, water management, and solid waste management. This data was assessed for quality, usage, management, disposal, and discharge, and was compared against regulatory standards. It was determined that the institute is compliant with the relevant environmental guidelines.

In addition to compliance, the institute has implemented various initiatives to reduce pollution and enhance environmental performance on campus, such as sewage treatment and reuse, and rainwater harvesting. Recommendations specific to each area were provided to further improve the environmental performance of the institute.

### **1. Introduction**

Environmental auditing is essentially an environmental management tool for measuring the effects of institutional activities on the environment (air, water, and land) against set standards or environmental laws, as well as investigating, understanding, and identifying gaps in existing institutional performance and assisting in its improvement through recommendations.

Therefore, to assess its environmental performance as well as to meet with NAAC Criteria 7; Institutional Values and Best Practices, the Institution has undergone the Environmental Audit. This audit evaluates an organization's environmental

performance including air, water and waste management, while also suggests the ways to improve it.

## **About Institute**

Amity University Madhya Pradesh was established by Ritnand Balved Education Foundation (RBEF) vide Madhya Pradesh Government Legislature Act of 2010 with the view to promote professional, industry-oriented education in the state of Madhya Pradesh. Amity University Madhya Pradesh, Gwalior located on a sprawling campus of 102 acres of land opposite Gwalior Airport, imparts modern, practical, and research-oriented courses which will lead to the development of professionals who are employable and industry ready. This in turn will drive the socio-economic upliftment of the region.

Amity University Madhya Pradesh provides future-focused and market-oriented programmes in Management, Engineering, Biotechnology, Law, Communication, Nanotechnology, Behavioural Science, Pharmacy, Fashion Design, Architecture and Liberal Arts among others.

Amity University Madhya Pradesh was adjudged the “Best Private University of Madhya Pradesh” by CMAI Association of India and has been accredited as “Premier University” by Accreditation Service for International Colleges (ASIC) UK. Amity University Madhya Pradesh is No. 1 Best Private University in Madhya Pradesh and Ranked No. between 151 – 200 in the University category by National Institutional Ranking Framework (NIRF) India Ranking 2020 and Amity Institute of Engineering & Technology was All India Ranked 162nd in the Engineering Category for the year 2020. Amity University Madhya Pradesh is ranked 24th among the best 62 private universities in India with the overall score of 1157.0 by India’s Best Universities Ranking Survey 2021 conducted by India Today.



## 2. Objectives of the Audit

The objectives of environmental audit are:

- To determine the environmental performance status of an institute
- To monitor ambient environmental condition of the air and noise in the campus
- To assess water usage and solid waste management system
- To ensure compliance with relevant environmental laws and regulations

## 3. Methodology

The methodology adopted for this audit was a three-step process comprising of:

1. **Data collection:** In this phase, exhaustive data collection was performed using different tools such as observation, survey communicating with responsible persons and measurements. Following steps were taken for data collection:

- Site Visit
- Data about the air & noise, water, solid waste was collected by observation and interview.

**2. Data Analysis** - The collected data analysed and compared with the relevant standards.

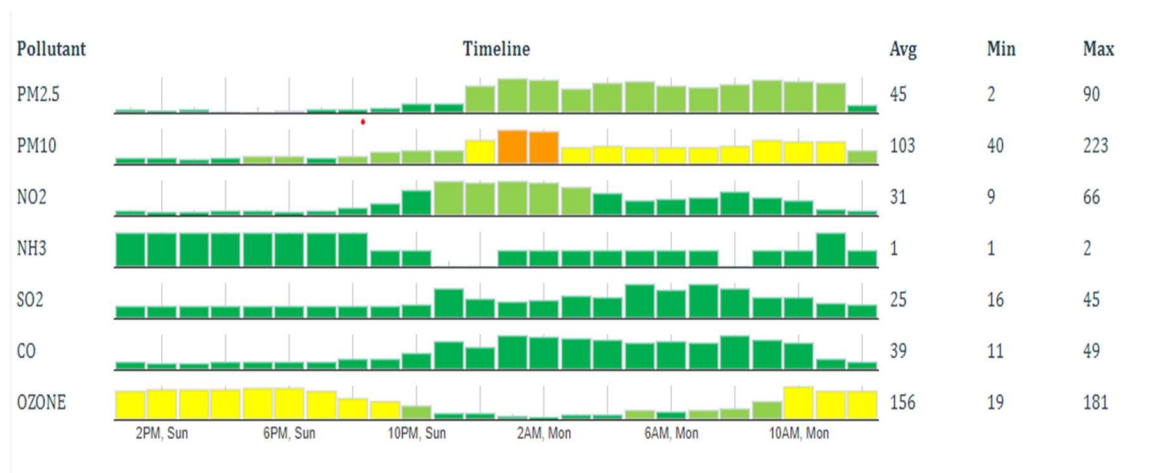
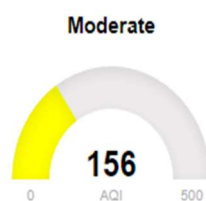
**3. Findings & Recommendations** – On the basis data analysis results and site observations, recommended were made for further improving environmental performance of the institute.

## 4. Findings and Recommendations

### 4.1 Air and Noise

#### 4.1.1 Ambient Air Quality

The closest air quality monitoring station to the institute is located at City Center, Gwalior. The monitoring data on 3<sup>rd</sup> March 2022 at 12:00 via Deen Dayal Nagar, Gwalior – MPPCB monitoring station is presented below.



#### 4.1.1 DG Stack Air Quality

The last stack monitoring of DG sets was conducted on 28/01/2019. All the monitoring parameters are found within the limits as specified the central pollution control board.

Parameters	Spec. As per CPCB	DG Stack 1 250KVA (S1D1)	DG Stack 2 750KVA (S1D2)	DG Stack 3 750KVA (S1D3)	DG Stack 4 750KVA (S1D4)	DG Stack 5 750KVA (S1D5)
Particulate Matter	0.3 g/kw-hr	0.23	0.18	0.14	0.16	0.20
NOx	9.2 g/kw-hr	1.66	3.04	2.19	3.31	2.66
CO	3.5 g/kw-hr	2.18	1.16	1.04	1.12	1.18
SO2	-	6.81	4.99	5.13	4.09	3.99
Hydrocarbon	1.3 g/kw-hr	0.11	0.16	0.17	0.29	0.106

#### 4.1.2 Noise level

The noise level measurements were carried out using noise meter at three locations.

The noise level measured in the campus are found within the permissible limit

Sr. No	Location		
1	Admin Building	55.3	59.1
2	Canteen Area	60.9	69.4
3	Main Gate	58.2	67.4

#### Recommendations

- ✓ The ambient air quality on the specified date was found moderate. On the close monitoring of historical data, it is found that air quality deteriorates in the region during the winter season. Also, monitoring station is 2.5 km far from the institute. Therefore, real-time monitoring of air quality within the campus is recommended.

- ✓ Noise levels in the monitoring areas was found under limit. Flyers and posters with the phrase "Keep Silence" can be displayed in the college canteen and main building corridors.
- ✓ Yearly air and noise monitoring of DG sets is recommended.

## 4.2 Water Management

Groundwater is the primary water supply source in the institute. There are ten borewells fulfilling the water requirements of the institute.

Details of Borewell	Yield/Discharge
Bore No-1 Discharge 4360 LPH (Behind BK-A) commissioned in 2010	69,760
Bore No-2 Discharge 3130 LPH (In front of Wksp) commissioned in 2011	1,565
Bore No-3 Discharge 3100 LPH (Rear of Wksp) commissioned in 2013	49,600
Bore No-4 Discharge 4500 LPH (Near STP-1) commissioned in May 2014	72,000
Bore No-5 Discharge 0 LPH (Near Hostel gate) Commissioned in May 14	0
Bore No-6 Discharge (AV)-600 LPH (Rear BK-C) commissioned in Nov 14	300
Bore No-7 Discharge (Av)- 3000 LPH (near STP-2) commissioned in Jul 15	3,000
Bore No-8 Discharge- 3000 LPH (front of BK-A) commissioned in Jul 15	1,500
Bore No-9 Discharge 2180 LPH (Back of H-1 Hostel) commissioned in Apr 2016	34,880
Bore No-10 Discharge 8000 LPH (Near Herbal Garden) commissioned in Feb 2019	48,000
<b>Availability (Approx)</b>	<b>2,80,605</b>

### 4.2.1 Groundwater Quality

The prevailing groundwater hardness in the campus is high, with an average TDS (total dissolved solids) level of 1800 PPM. To address this issue, a 30 KL (kiloliter) ION-EXCHANGE plant has been installed to improve the water quality.

### 4.2.2 Water Usage

The water on campus is used for drinking, toilet usage, and gardening purposes. Upon surveying the campus, no water loss due to leakages or overflow from overhead tanks was observed. The water usage breakup in different buildings/areas is given below:

<b>Building</b>	<b>Daily Water Consumption (Liters/day)</b>
Academic Block-A	20,000
Academic Block-B	30,000
Academic Block-C	30,000
Hostel H1	40,000
Hostel H2	30,000
Hostel H3	30,000
Horticulture	1,00,000

### 4.2.3 Drinking Water

To ensure the availability of safe drinking water that is free from impurities, the institute has installed 23 water purification systems, each with a capacity of 50 liters, to provide potable water. The TDS of Water from RO is found to be below 100 mg/L.

### 4.2.3 Wastewater Treatment

Two sewage treatment plants with a capacity of 210 KLD and 160 KLD are installed on the campus for the treatment of sewage water. The treated water is used for gardening and irrigation purposes.

Below are the STP effluent water quality tested on 4<sup>th</sup> June 2019 and compared with the MPPCB effluent discharge standards:

Sr. No	Parameters	STP-1	STP-2	MPPCB
		210KLD	160KLD	Standards
1	pH	6.95	7.97	5.5- 9.5
2	COD	62 mg/l	20	<50 mg/l
3	BOD	20 mg/l	7.50	<30 mg/l
4	TSS	26 mg/l	6.0	<30 mg/l
5	O&G	0.60 mg/l	0.20	<10 mg/l

There are no exceedances were observed in treated water when compared to the MPPCB standards.

### 4.2.4 Rainwater harvesting

The institute has undertaken the construction of 10 water harvesting pits with a capacity of 30,000 litres each, at various locations within the water catchment area. These pits have been equipped with ample filter media to prevent the accumulation of mud and silt during the rainy season. The implementation of rainwater harvesting in the campus has resulted in a significant improvement in the groundwater level, thereby enabling the institute to meet its water requirements during peak summer months.



## **Recommendations**

- ✓ To improve water management, it is necessary to install water meters at every inlet and outlet water source.
- ✓ Annual water audits are recommended to understand the water consumption patterns in various departments and identify losses and improve water use efficiency on campus.
- ✓ Periodic monitoring of groundwater level and quality is suggested to understand the effects groundwater recharge on water quality and efficiency of the RWH recharge structure.
- ✓ Since rainwater harvesting has been implemented on campus, it is important to ensure that all cleaning products used by university staff are eco-friendly and non-toxic. This will prevent contamination of the groundwater during the recharge.
- ✓ Yearly performance evaluation of STPs is recommended for its optimal functioning and maintenance.
- ✓ Adopting micro irrigation system shall further improve water use efficiency of the campus.
- ✓ It is recommended to periodically monitor the quality of drinking water produced by each RO plant in accordance with IS 10500 standards

### **4.3 Solid Waste Management**

- The institute generates various kind of waste that includes paper cups, metal, plastics etc.
- Waste generated from tree droppings and lawn management is a major solid waste generated in the campus.

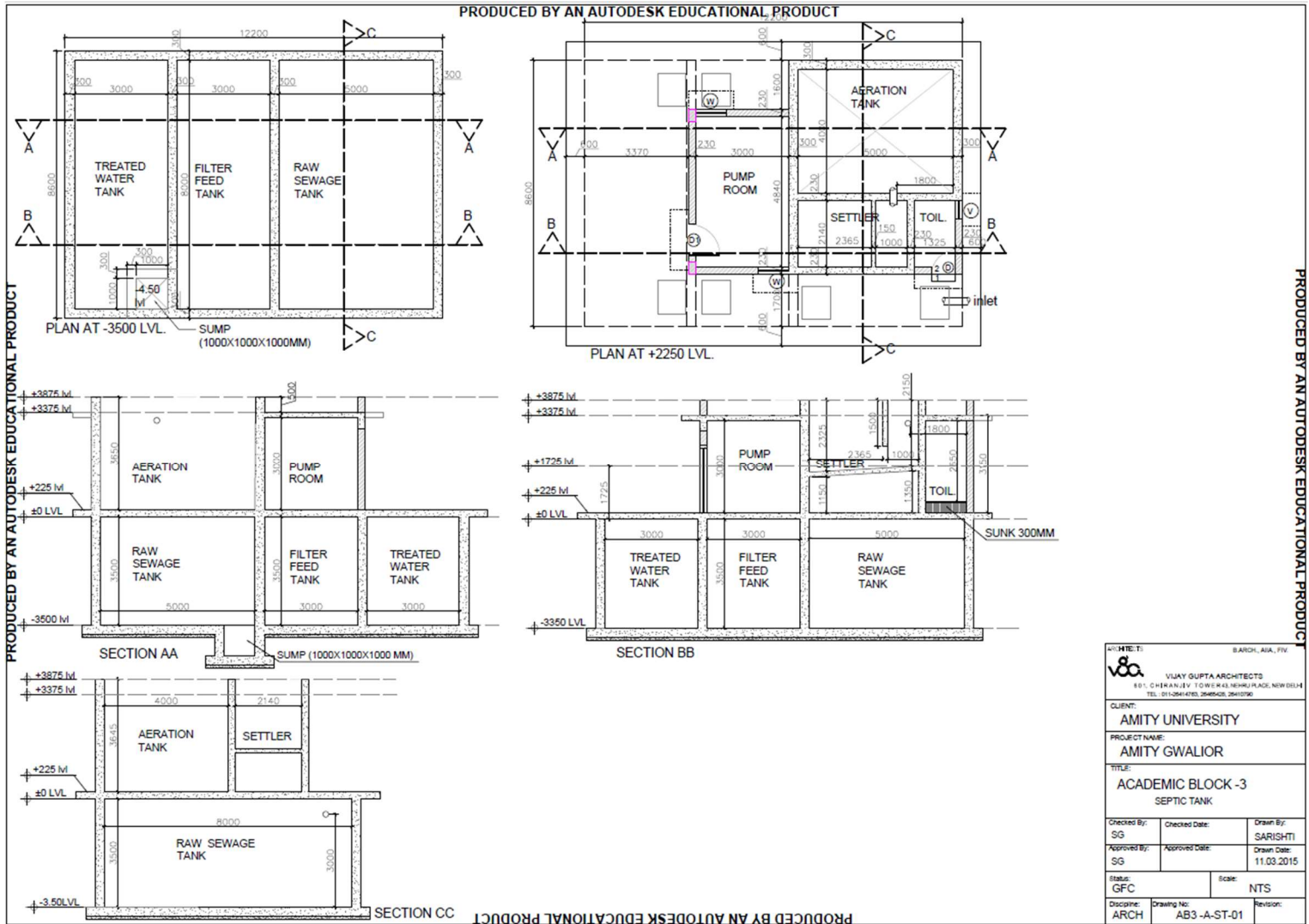
- Two bin waste collection system is adopted in the campus; hence segregation of waste is done in the form of dry (non-biodegradable) and wet (biodegradable) waste.
- The municipal corporation collects the solid waste and manages its disposal through their own methods.
- E-waste is supplied to certified E-waste recycler.
- Single sided used papers are recommended for use for writing and printing in all departments.
- For the safe disposal of hazardous waste, such as fuel oil, it is provided to a vendor registered with the MPPCB.

### **Recommendations**

- ✓ The segregation of waste is well practiced by the institute but the scope for quantification of different types of waste generated is recommended. Systemic waste generation report shall be prepared by group of students for various types of waste. This will be useful for setting baseline, taking new initiative for waste minimization, handling, treatment and disposal in the efficient manner.
- ✓ The compostable waste and food waste from mess and hostel kitchen can be used for composting. A compact food waste composting plant is recommended.
- ✓ Provisions for proper disposal of biomedical waste from the dispensary should be adopted.
- ✓ Use of banner near the two-bin system indicating proper use of bin for different kind of waste is recommended for the better segregation.
- ✓ Paper use shall be further minimised by adopting a paperless office culture.

# Annexure I

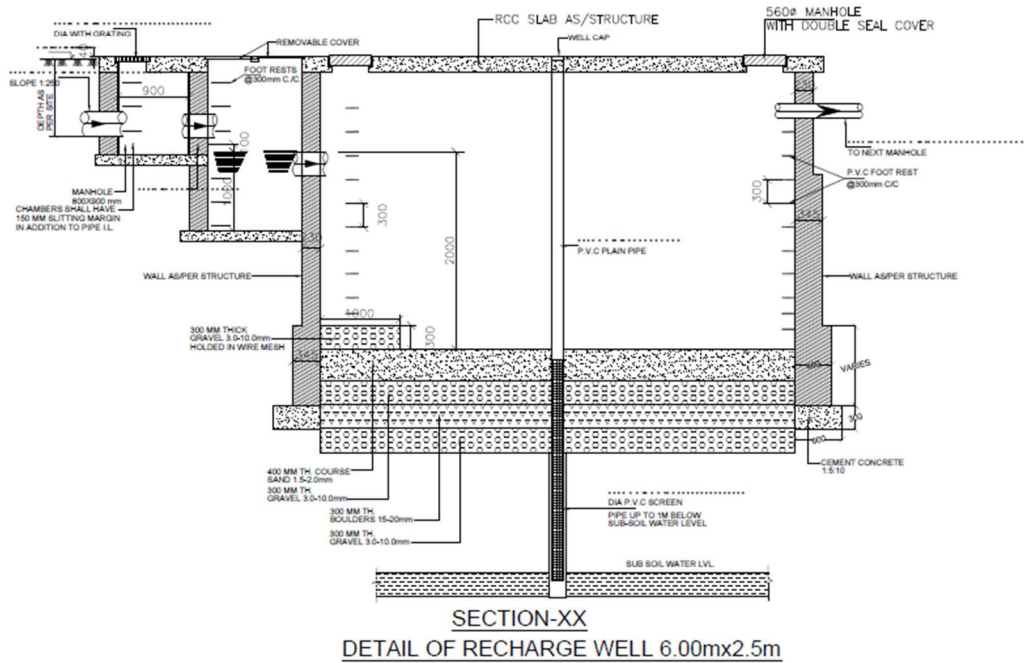
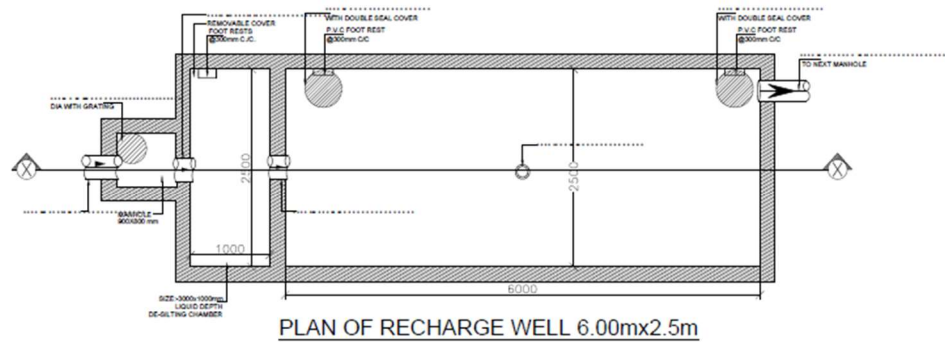
## STP-2 Process flow Chart



VGA		BARCH, ASA, FW	
VJAY GUPTA ARCHITECTS 801, CHERANJIV TOWER 43, NEHRU PLACE, NEW DELHI TEL: 011-26441453, 2646432, 26410190			
CLIENT: AMITY UNIVERSITY			
PROJECT NAME: AMITY GWALIOR			
TITLE: ACADEMIC BLOCK -3 SEPTIC TANK			
Checked By: SG	Checked Date:	Drawn By: SARISHTI	Drawn Date:
Approved By: SG	Approved Date:	11.03.2015	
Status: GFC	Scale: NTS		Revision:
Discipline: ARCH	Drawing No: AB3-A-ST-01	Revision:	

## Annexure II


### Rainwater Harvesting Recharge Well



CONSULTANTS	
D.K. ASSOCIATES	
CONSULTING ENGINEERS SANITARY & FIRE FIGHTING SYSTEM	
H-10, LAJPAT NAGAR - I, NEW DELHI - 110024	
TEL - 29811030, 29815269, FAX - 29812007	
NOTES:-	
1. ALL DIMENSIONS AND LVL ARE IN MM UNLESS NOTED OTHERWISE.	
2. DIMENSIONS OF FITTINGS SHALL BE AS PER IS STANDARDS UNLESS OTHERWISE SPECIFIED.	
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH RELEVANT SPECIFICATIONS AND SERVICE CONDITIONS. ANY DISCREPANCY SHOULD BE BROUGHT TO THE NOTICE OF ARCHITECT IMMEDIATELY.	
REVISION TABLE	
NO.	DESCRIPTION
PROJECT	
AMITY INTERNATIONAL SCHOOL GWALIOR	
DRAWING	DATE
SANITARY & FIRE FIGHTING WELL DETAIL	
SCALE: 1:10	DATE: 15/07/2024
APPROVED BY:	DESIGNED BY:
V. G. GUPTA ARCHITECTS	
REG. NO. D-10/2018, DELHI	
TEL: 011-26447733, 26447734	
WWW.VGARCHITECTS.COM	
REV. 1.0	DATE: 15/07/2024

## Annexure III

### E-waste disposal Certificate

	<b>ROCKET SALES</b> 604-A, 6th Floor, Manjusha Building 57, Nehru Place, New Delhi-110019 Ph.: 26466053, 9810659288   Email: ewastexperts@gmail.com www.rocket-salesdelhi.com	<b>E-WASTE MANAGEMENT FACILITY</b> I-12, Industrial Area M.G. Road, Ghaziabad Hapur-201001 (U.P.) info@ewastexperts.com www.ewastexperts.com
---	---	--

To,  
Amity University  
Maharajpura, Gwalior,  
Madhya Pradesh-474005.


Dated: 28.09.2020


Subject:- E-Waste Disposal Covering Letter.

Dear Sir,

This is to certify that the E-Waste material collected from your organization (Invoice No: AUMP/20-21/09/001, Dated 14.09.2020) will be disposed off in an environmental friendly manner as per the rules of the E-Waste Management and Handling Rules 2016 applicable in India.

Kind Regards....



**Naresh Yadav**  
  
604-A, Manjusha Building 57,  
Nehru Place, Delhi-19. INDIA  
Tel: 01126466053, 98106 59288.  
Email: [ewastexperts@gmail.com](mailto:ewastexperts@gmail.com)



D.C.NO:2113 /20-21

**CERTIFICATE OF REFURBISHMENT**

This Certificate is hereby issued to: **M/s. Amity University, Maharajpura, Gwalior, Madhya Pradesh, India.** The material received was repaired & processed according to all applicable Local, State and Pollution Control guidelines and in an environmentally controlled way, eliminating waste to landfill. This also conforms to the guidelines of the Used Electronic Waste, as prescribed under the Basel Convention (1994).

Materials were repaired, recovered and converted to raw materials/ useful form in our operation facility.

**Date of Pickup: 06/10/2020**

**Issue date: 19/12/2020**

**Invoice No. : DN/AU GWALIOR/61/20-21**

**Total Quantity of Material: 65 Nos.**

S.No.	Title	Quantity
1	Lenovo Laptop	65 Nos.

**M/S GREENSCAPE ECO MANAGEMENT PVT. LTD**

**Authorized Signatory,**



**(Shubhra Kumar)**

**Country Head-Customer Relations**

**Greenscape Eco Management Pvt. Ltd**

**Regd. Off: 512, Elegance Tower, Jasola, New Delhi-110025. | Tel: 011-40515662 | Fax: 011 40515661**



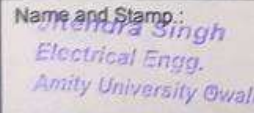
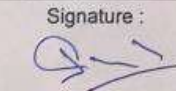


**Website: www.greenscape-eco.com | Email: info@greenscape-eco.com**

**CIN U93000DL2007PTC170264**

## Annexure IV

### FORM 10: MANIFEST FOR HAZARDOUS AND OTHER WASTE

FORM - 10  
[See Rule 19 (1)]  
**MANIFEST FOR HAZARDOUS AND OTHER WASTE**

1.	Sender's name and mailing address (including Phone No. And e-mail) :	Amity University Madhya Pradesh GWALIOR.
2.	Sender's authorization No. :	—
3.	Manifest Document No. :	217
4.	Transporter's name and address : (including Phone No. and e-mail) :	OWN VEHICLE
5.	Type of vehicle :	Truck <input type="checkbox"/> Tanker <input type="checkbox"/> Special Vehicle <input checked="" type="checkbox"/>
6.	Transporter's registration No. :	
7.	Vehicle registration No. :	MP07-1-2361
8.	Receiver's name and mailing address (including Phone No. and e-mail) :	M/s. JAITAL CHEMICALS PVT. LTD. Plot No. 7, Phase-II, Baraghata Industrial Area, Jhansi Road Gwalior (M.P.) Cont. No. 0751-4082818
9.	Receiver's authorization No. :	MPPCB/GWALIOR/REG/REN-03/0
10.	Waste description :	Used & BLACK OIL
11.	Total quantity : No. of Containers :	.....m <sup>3</sup> or MT 590 LTR Nos.
12.	Physical form :	Solid <input type="checkbox"/> Semi <input type="checkbox"/> Sludge <input type="checkbox"/> Oily <input checked="" type="checkbox"/> Tarry <input type="checkbox"/> Slurry <input type="checkbox"/> Liquid <input type="checkbox"/>
13.	Special handling instructions and additional information :	
14.	Sender's Certificate : I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorised, packed, marked and labelled, and are in all respects in proper conditions for transport by road according to applicable national government regulations :	
Name and Stamp : 		Signature :  Month      Day      Year 04   15   2019
15.	Transporter acknowledge of receipt of Wastes	
Name and Stamp : 		Signature :  Month      Day      Year 04   15   2019
16.	Receiver's certification for receipt of hazardous and other waste	
Name and Stamp : 		Signature : For Jaital Chemicals Pvt. Ltd.  Month      Day      Year 04   15   2019

**NOTE -**

1. White Copy 2. Yellow Copy 3. Pink Copy 4. Orange Copy 5. Green Copy 6. Blue Copy 7. White Copy	- To be forwarded to the State Pollution Control Board by the sender. - To be retained by the sender after taking signature on it from the transporter and the rest of the five signed copies to be carried by the transporter - To be retained by the receiver after receiving the waste and the remaining for copies are to be duly signed by the receiver - To be handed over to the transporter by the receiver after accepting waste - To be sent by the receiver to the state Pollution control board - To be sent by receiver to the sender - To be sent by the receiver to the state Pollution control board of the sender in case the sender is in another state
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## Annexure V Photographs



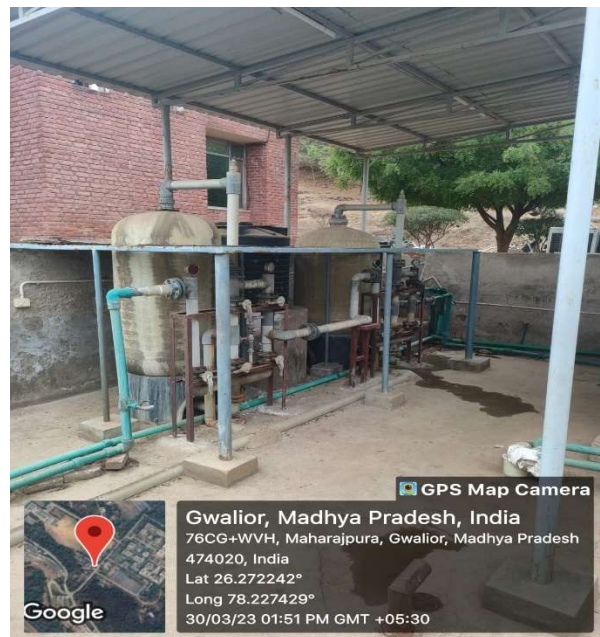
*Sewage Treatment Plant*



*Two bin system*



*50 LPH RO System*



*Softening Plant*





*Pumping Well*



*RWH Recharge Well*

Particulars of flora inside the campus**DETAILS OF TREE GROWN NATURALLY**

Name of Plant	Neem	Dakhsni	Gulmohar	Peepal	Sheesham	Raimaza	Khair	Heesh	Babul Desi	Ber	Anar	Churail	Hingota	Ghot	Kareel	Shesho	Total
<b>Location</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>13</b>	<b>14</b>	<b>5</b>	<b>6</b>	
<b>Forestry</b>																	
Block-A to Pump House No-1	16 4	11 5	78	4	5	14 0	37 7	54	8	6	2	5					95 8
Main Gate To Block-B(Back side)	22 2	41 2	16	2	1 7	29 1	55 3	65	9	1 0	1 1	1	25 4				18 63
Block-C to Pump House No-2		88 5	18			26 7			3 0	1 1			25	2	5 2		15 17
Pump House No-2 to Security Post		12 4					16 2	32	4	4			17	9	3		47 3
STP No-1 Area	20	31			3	3			1	4							62
Security Post to New Hostel	12 0	18 8	11		3	40 2	47 1	53 5		5	5	5	58	19 8		6	20 07
New Hostel to Partition Zali	32 0	28 4	60		9	87	12 85	47 3	1 8		5	4	27 4		1 1	1 8	28 85
<b>Total</b>	<b>97 2</b>	<b>20 39</b>	<b>18 3</b>	<b>6</b>	<b>4 0</b>	<b>12 81</b>	<b>29 47</b>	<b>11 85</b>	<b>7 5</b>	<b>4 5</b>	<b>3</b>	<b>5</b>	<b>62 8</b>	<b>24 6</b>	<b>7 2</b>	<b>1 8</b>	<b>97 65</b>

Registrar  
 Amity University Madhya Pradesh  
 Gwalior

**AMITY UNIVERSITY MADHYA PRADESH, GWALIOR**  
**DETAILS OF TREE PLANTED**

Name of Plant	Amaltas	Gulmohar	Kushum	Bogambolia	Kanair	Neem	Sheesham	Kanji	Maulshree	Arjun	Champa	Cycus	Alustmia	Tikoma	Bottle Brush	Bargad	Peepal	Kadam	Kalendera	Dhak	Dalmoth	Oomar	Palm	Alustoma	Bustoniya	Ambia	Shahtoot	Total
Location	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Main gate to Block-A Jn trench side	10	9	9	16	22	44	8	10	1																			254
Main gate to Block-A Jn bundry side	10	8	6	14	6	20	4	3																				201
Black-A to Hostel gate sport Gd side	45	1			70	26	6			23	82	32	22	61	11	33	1											299
Black-A to Hostel gate Boundry side	1			12	11	84	13			33	43		24	4		3												308
Behind Block-A		5		2	18	40			1											10	2							78
BK-B/C Jn to BK-A Turning Hill side				90	33	33	3		10	17	88			19									1					286
BK-B/C Jn to BK-A Turning BK-B side				55	60	10			1	6	47			28										1				219
Behind Block-B																							13					13
BK-C Front side		4		68	105	30	4					12		10										8				245
Behind BK-C		6				28	7																					41
Chiller Plant to Bk-C Jn Chiller			3	33	63	10				7	19			2														141

Director  
 Amity University Madhya Pradesh  
 Gwalior







**Rain Water Harvesting Pit (RWH), at the campus**





Tree Plantation, Green Initiatives, Bird Feeding



Sewage Treatment Plant (STP), at the campus







**National Service Scheme (NSS): Detailed survey of the residents of the NSS adopted village Chakraipur”.**

**(7<sup>th</sup> feb 2023)**

National Service Scheme volunteers of Amity University Madhya Pradesh conducted detailed survey of the residents of the NSS adopted village Chakraipur in respect of the Name of Family Head; House: Own/Rented; Available source of water; House: PUKKA/Kachcha, No. of earning members; Financial Status; Caste; Religion; Bank account; Driving licence, Ladli Lakshmi Yojana, Suknya Samraddhi Yojana; Blood.G; Education; samagra ID; Bank Acc.; Adhar Card; PAN card; Rashan Card; Gas connection; Driving License and Specific health issues". The program was conducted by 55 volunteers of NSS AUMP. The program was organized with the objective of enhancing the knowledge of the volunteers about the living conditions and social structures prevailing in the socially backward localities of Chakraipur village. The survey was inaugurated with the opening remarks of Program Officer, NSS, Dr. Rachana Kathal. Importance of awareness about living conditions in socially backward localities for a social volunteer to perform their social service duties was practically experienced by the NSS volunteers. The program positively met with the objective of inculcating the values of social concern, awareness, responsibility and connect with the felt needs of the society with the aim of preparing the NSS volunteers to be aware and ready for reaching out to them in the times of required help.



**Program Officer, NSS Dr. Rachana Kathal and Dr. Sanjeev S Bhadoriya with NSS Volunteers in Chakraipur**



**AMITY UNIVERSITY**

MADHYA PRADESH

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



**NSS Volunteers of AUMP conducting survey in Chakraipur**

*Ujjwal Jain*  
Registrar  
Amity University Madhya Pradesh  
Gwalior



**AMITY UNIVERSITY  
MADHYA PRADESH**

# **ECO CLUB ACTIVITY REPORT 2022**

**Amity University Madhya Pradesh, Maharajpura Gwalior**

**(M.P.) – 474005, India**

**Tel No. 91- 751 - 2496021, Fax No. 91-751- 2496023**

**E-mail:info@gwa.amity.edu**

**Website: www.amity.edu/Gwalior**

**ECO CLUB ACTIVITY REPORT (2022)**

  
Registrar  
Amity University Madhya Pradesh  
Gwalior

**Details of all the activities organized by Department of Environmental Science & Eco-Club, Amity University Madhya Pradesh, Gwalior for the year 2022**

**Eco-club Activities**

Eco-club of Amity University Madhya Pradesh, Gwalior has been constituted for spreading awareness among students, for generating knowledge about the environment and towards making clean and green campus. Eco-club is continuously organising World Environment Day, tree plantation, educational tour, special lectures and awareness programmes every year.

- Department of Environmental Science and Eco-club members joint hand in organizing International Conference on Sustainability & Environmental Perseverance in the Era of COVID-19 (ICSEPC 2022) on 17 February 2022.
- Eco-Club AUMP, Centre of Excellence for Environmental Conservation and Biodiversity along with Department of Environmental Science, AUMP under Institution's Innovation Council, organised a "Poster Making Competition" on 11<sup>th</sup> May 2022 on "Environmental Awareness, Positive Acts and Sustainable Changes to Protect the Earth".
- Eco-Club AUMP, Centre of Excellence for Environmental Conservation and Biodiversity along with Department of Environmental Science, AUMP organised a "Poster Making Competition" on 5<sup>th</sup> June 2022 on the occasion of World Environment Day 2022.
- Eco-Club AUMP, Centre of Excellence for Environmental Conservation and Biodiversity along with Department of Environmental Science, AUMP organised a webinar on National Energy Conservation Day under the mandate of Institute Innovation Council an Initiative of MOE on 14<sup>th</sup> December 2022.
- Eco-Club AUMP, Centre of Excellence for Environmental Conservation and Biodiversity along with Department of Environmental Science, AUMP organised a hands on workshop on "Solid Waste Management" on 20<sup>th</sup> December 2022.

  
Registrar  
Amity University Madhya Pradesh  
Gwalior





*Tijsh Jain*  
Registrar  
Amity University Madhya Pradesh  
Gwalior

**AMITY UNIVERSITY MADHYA PRADESH, GWALIOR**  
**DETAILS OF TREE GROWN NATURALLY**

Name of Plant	Neem	Dakhsni	Gulmohar	Peepal	Sheesham	Raimaza	Khair	Heesh	Babul Desi	Ber	Anar	Churail	Hingota	Ghot	Kareel	Shesho	Total
Location	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
<b>Forestry</b>																	
Block-A to Pump House No-1	164	115	78	4	5	140	377	54	8	6	2	5					958
Main Gate To Block-B(Back side)	222	412	16	2	17	291	553	65	9	10	1	11	254				1863
Block-C to Pump House No-2	99	885	18		3	267	99	26	30	11			25	2	52		1517
Pump House No-2 to Security Post	27	124				91	162	32	4	4			17	9	3		473
STP No-1 Area	20	31			3	3			1	4							62
Security Post to New Hostel	120	188	11		3	402	471	535	5	5		5	58	198	6		2007
New Hostel to Partition Zali	320	284	60		9	87	1285	473	18	5		4	274	37	11	18	2885
<b>Total</b>	<b>972</b>	<b>2039</b>	<b>183</b>	<b>6</b>	<b>40</b>	<b>1281</b>	<b>2947</b>	<b>1185</b>	<b>75</b>	<b>45</b>	<b>3</b>	<b>25</b>	<b>628</b>	<b>246</b>	<b>72</b>	<b>18</b>	<b>9765</b>

Registrar  
 Amity University Madhya Pradesh  
 Gwalior

**AMITY UNIVERSITY MADHYA PRADESH, GWALIOR**  
**DETAILS OF TREE PLANTED**

Name of Plant	Amaltas	Gulmohar	Kushum	Bogambolia	Kanair	Neem	Sheesham	Kanji	Maulshree	Arjun	Champa	Cycus	Alustinia	Tikoma	Bottle Brush	Bargad	Peepal	Kadam	Kalendera	Dhak	Dalmoth	Oomar	Palm	Alustonia	Bustoniya	Ambia	Shahtoot	Total
Location	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Main gate to Block-A Jn trench side	10	9	9	161	2	44	8	10	1																			254
Main gate to Block-A Jn bundry side	10	8	6	144	6	20	4	3																				201
Black-A to Hostel gate sport Gd side	45	1			70	26	6			23	82	32	2	6	1	1	3	1										299
Black-A to Hostel gate Boundry side	1			122	11	84	13			3	43		24	4			3											308
Behind Block-A		5		2	18	40			1											10	2							78
BK-B/C Jn to BK-A Turning Hill side				90	33	3	3		10	17	88			19					22			1						286
BK-B/C Jn to BK-A Turning BK-B side				55	60	10			1	6	47			28					12									219
Behind Block-B																							13					13
BK-C Front side		4		68	105	30	4					12		10					4			8						245
Behind BK-C		6				28	7																					41
Chiller Plant to BK-C Jn Chiller side			3	33	63	10				7	19			2					4									141
Chiller Plant to BK-C Jn Ahuja side	7			15	43	6	2	2		37	21		22	15				14	4									188
Generator side					38					8		1																47
Alustonia Park	3			30			3	1		2														14				53
Hostel JN to H1 Reception Hostel side	12	6		1	74	6	1	12	1		12			9						9					21			164
Hostel JN to H1 Reception STP side	14	4			10	21				3				7										12				71
AIS Gate to H1 Reception Fencing side					5	14				19									2									40
Hostel Plaza Area H1 side		2			19			2			104										2					27		156
Hostel Plaza Area H2 side					2						77															29		108
New Hostel H3 Area	1				9	11						19		2									7					49
H2 Hostel Park side	11	11		3	146			14			28			9					1	5	8			1	22			259
H2 Hostel Sport Complex side	8	10			9									2					2									31
Main Gate to Pump House No-2	36		4	123		17	5			51						1	1			8								246
STP-II to Pump House No-2		1		214	4	49	37										4				55					1	1	366
Pump No-2 to security Post 10				141		73	20													2								236
Security Post 10 to Partition Zali				276		86	80																					442
By UGC Team																	5											5
On 16 Jul 19 by Order of Ho'ble Governor at various locations																	20											20
By Hon'ble Guest ( Ex Dubai)																	1											1
Sep-19						25																						25
<b>Total</b>	<b>158</b>	<b>67</b>	<b>22</b>	<b>1478</b>	<b>727</b>	<b>603</b>	<b>193</b>	<b>44</b>	<b>14</b>	<b>176</b>	<b>521</b>	<b>64</b>	<b>48</b>	<b>113</b>	<b>1</b>	<b>2</b>	<b>37</b>	<b>17</b>	<b>49</b>	<b>89</b>	<b>12</b>	<b>1</b>	<b>28</b>	<b>27</b>	<b>99</b>	<b>1</b>	<b>1</b>	<b>4592</b>



## Waste Management

The university has segregated waste into three parts:

- Solid Waste
- Liquid Waste
- e-Waste

**Solid Waste:** The waste is generated by all sorts of routine activities carried out in the University that includes paper, plastics, glass, metals, foods, etc. The waste is segregated at each level and source. The administrative supervisor in each block ensures that the waste in each floor is collected at designated time intervals. The block cleaning workers in each floor collect, clean, segregate and compile the waste in the dustbins (Green and Blue) provided at each floor. The floor dustbins are emptied in movable containers/dustbins provided for each block and is taken to the dumping yard provided by the University.

The University has contacted an authorized vendor, who collects the waste from the designated place, segregates them, recycles them and disposes them at the landfills authorized by the government.

**Liquid Waste:** Liquid wastes generated by the university are of two types:

1. Sewage waste
2. Laboratory, Laundry and cafeteria effluent waste

The above waste is treated through Sewage Treatment Plants (STPs) and Effluent Treatment Plants (ETPs) and the water is used for horticulture and flushing in toilets.

**e-Waste Management:** Flip flops, memory chips, motherboard, compact discs, cartridges etc generated by electronic equipments such as Computers, Radio, TV, Phones, Printers, Fax and Photocopy machines are recycled properly. Instead of buying a new machine buyback option is taken for technology upgradation.

The e-waste generated from hardware which cannot be reused or recycled is being disposed off centrally through government authorized vendors.

  
  
Registrar  
Amity University Madhya Pradesh  
Gwalior

## AMITY UNIVERSITY MADHYA PRADESH, GWALIOR

### OTHER FACILITIES/STUDENT SUPPORTS

- 1 Shopping Complex to include ATM, Stationery Shop/Grocery and Amul Parlour.
- 2 Transport Facility available to the students. Approx 30% students are availing the facility.
- 3 08 Guest Houses 04 Each in Boys and Girls Hostel
- 4 Standby Power – 100%
- 5 Sufficient Parking available at each Block.
- 6 Landscaping and Greenery more than 70%
- 7 Plastic Free Campus.
- 8 Walking Pathways all along the Roads
- 9 Ramp/Rails/Handicap Toilets available in each Academic Block.
- 10 Gym and Recreation facilities available in each hostel.
- 11 Laundry Services available in the Campus.
- 12 Security- Sufficient Security staff and lightings available.
- 13 Entire Campus on LED lights.
- 14 Solar Plant of Capacity 307 KW installed in the Campus.
- 15 Well Organized Housekeeping Services. Participated in Swachhta Abhiyan under Agis of UGC.
- 16 Well Equipped Fire Fighting System in all Buildings.
- 17 Centrally Air-conditioned Campus.
- 18 Well Organized Water Harvesting System Ten in Nos available in the Campus, Appreciated by Hon'ble High Court, Gwalior.
- 19 Medical Facility with 24 Hours Ambulance/ Nursing Assistant available.



  
Amity University Madhya Pradesh  
Gwalior



## RAIN WATER HARVESTING IN THE CAMPUS

1 Amity University Madhya Pradesh was established in the year 2011 in 102 Acre of land. The requirement of water for the campus is being met by digging 10 Nos of Borewells as no water from Nagar Nigam is being supplied.

2 The borewells dug in the campus have not enough ground water to yield water continuously. Half numbers of the borewells dry up during continuous pumping. To recharge these existing borewells and to restrict the out-flow of rainwater Amity University arranged to construct 10 Nos of Water Harvesting Pits of capacity 30,000 ltrs at various location (Water Catchment Area) to conserve rainwater. These pits have been provided enough filter media to restrict the mud/silt during rains.

3 This has also been applauded by Hon'ble High Court Gwalior MP. Local Newspaper cuttings are attached for ref.

4 The above has brought sea change in saving of rainwater and has thus improved the water level, of our borewells which helps us in meeting our water requirement in peak summers.



  
Registrar  
Amity University Madhya Pradesh  
Gwalior



FOOD SAFETY AND STANDARDS  
AUTHORITY OF INDIA

*Inspiring Trust, Assuring Safe & Nutritious Food*  
Ministry of Health and Family Welfare, Government of India



# Amity University, Gwalior

is certified as



as per guidelines established by  
**Food Safety and Standards Authority of India**



**Excellent**

**Shri Arun Singhal**  
Chief Executive Officer  
FSSAI

**Registrar**  
Amity University Madhya Pradesh  
Gwalior

Auditing Partner  
Azad Agro

Training Partner  
Yari Qualitech

Implementation Partner  
Rakesh Gupta/Nirupama & Shubhankar  
Social Foundation

Valid up to: 08 October 2023

एक कदम स्वच्छता की ओर एक कदम स्वच्छता की ओर एक कदम स्वच्छता की ओर एक कदम स्वच्छता की ओर



Ministry of Human Resource Development  
Government of India



## 'SWACHHTA' Ranking 2017 of Higher Educational Institutions

The AMITY UNIVERSITY, GWALIOR, MADHYA PRADESH

has Participated in the 'SWACHHTA' Ranking 2017 & Shortlisted for final Selection.

Presented on 14th September, 2017 at Hotel The Ashok, New Delhi.

**Shri Prakash Javadekar**  
Minister of Human Resource Development



Secy (HE) MHRD

Registrar  
Amity University Madhya Pradesh  
Gwalior

एक कदम स्वच्छता की ओर एक कदम स्वच्छता की ओर एक कदम स्वच्छता की ओर एक कदम स्वच्छता की ओर