ENVIRONMENTAL AUDIT REPORT

FY 2025–26

IIHMR UNIVERSITY
JAIPUR, RAJASTHAN

Submitted by:

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April, 2026

Approval and Sign-off

Prepared By	For IIHMR University

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This report has been prepared based on the information provided by the institute, available records, and observations made during the site visit.

Contents

Executive Summary

This Environmental Audit assesses the environmental performance of IIHMR University, Jaipur, with reference to applicable environmental laws and standard practices. The audit evaluates key operational areas including air and noise quality, water management, and solid waste management, based on site observations, available records, and measurements.

Air and Noise: Ambient air quality on campus is observed to be influenced by regional trends, with generally moderate conditions and seasonal variation. The campus benefits from green cover and limited internal emission sources. Noise levels at monitored locations are within desirable limits. Diesel generator sets and vehicular movement are the primary emission sources.

Water Management: Groundwater is the primary source of water, with a total estimated demand of approximately 1,03,955 L/day. The institute meets its requirement through borewells and supplements demand through treated wastewater reuse. An operational STP treats approximately 35 KLD of wastewater, which is reused for landscaping and utilities, while an additional STP has been installed to enhance treatment capacity. Groundwater quality is within permissible limits for general use, while treated wastewater is suitable for irrigation, though treatment efficiency indicates scope for improvement. Rainwater recharge systems are implemented to support groundwater sustainability.

Solid Waste Management: The institute follows a two-bin system for waste segregation. Wet waste is collected through municipal services, while dry waste is routed to authorized recyclers. A biogas plant is installed for treatment of kitchen waste but is currently under maintenance. STP sludge is dried and reused for landscaping, and e-waste is stored separately and disposed through authorized recyclers. Waste quantification is not currently established, and segregation practices indicate scope for further improvement.

Key Risks Identified:

- Dependence on groundwater in a water-stressed region
- Existing STP capacity is lower than wastewater generation; additional installed capacity is expected to address this upon commissioning.
- Absence of waste quantification system
- Non-operational biogas unit affecting organic waste processing

The institute demonstrates a structured approach towards environmental management, with key systems in place for water reuse, waste handling, and regulatory compliance, while certain areas require strengthening to achieve higher levels of resource efficiency and monitoring maturity.

Key Recommendations: The audit recommends strengthening monitoring systems through flow metering and data tracking, improving wastewater treatment performance, and ensuring timely commissioning of additional capacity. Waste management should be enhanced through three-bin segregation, waste quantification, and consistent operation of the biogas unit, along with disposal through CPCB/RSPCB authorized handlers.

1. Introduction

Environmental auditing is a systematic process to evaluate the impact of institutional activities on the environment and to assess compliance with applicable environmental laws and standards. It helps identify gaps in existing practices and provides direction for improving environmental management and regulatory compliance.

This Environmental Audit of IIHMR University, Jaipur, has been conducted to assess the institute's performance in key areas including air and noise, water management, and solid waste management. The audit focuses on evaluating existing systems, identifying compliance gaps, and recommending practical measures to improve environmental performance and operational efficiency.

1.1 About Institute

IIHMR University, Jaipur, was established in 2014 under the IIHMR University Act, 2014 by the Government of Rajasthan. It has its origin in the Indian Institute of Health Management Research, founded in 1984, and functions as a postgraduate research university in the field of health and development studies.

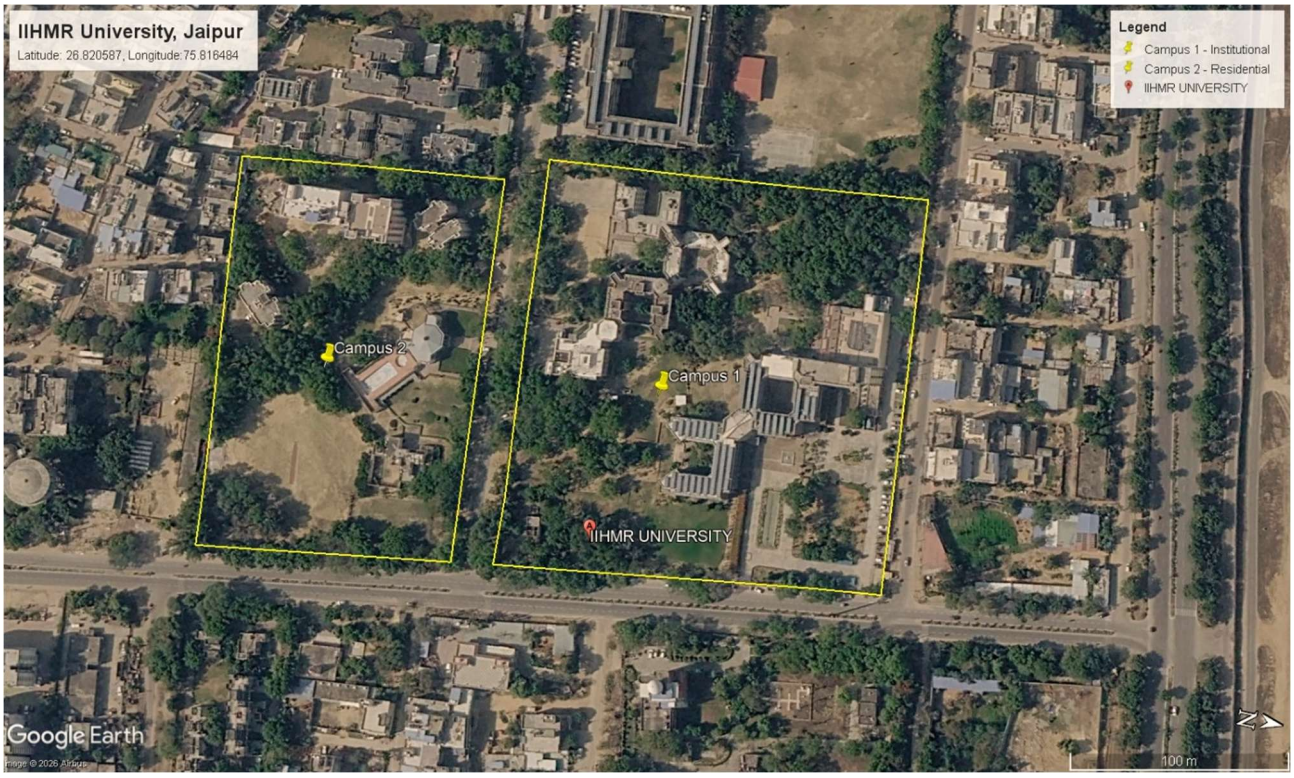
The campus is spread over approximately 14.37 acres and comprises academic, administrative, and residential facilities.

The University operates through five schools covering health management, public health, pharmaceutical management, development studies, and digital health. It offers MBA programs in Hospital and Health Management, Pharmaceutical Management, Healthcare Analytics, and Development Management, along with a Master of Public Health program. Doctoral programs are offered in public health, health management, hospital management, digital health, and development management, along with executive programs in related domains.

The University maintains academic collaborations with national and international institutions for academic exchange and research. It has a diverse student base from different regions and academic backgrounds, supporting an interdisciplinary learning environment.

1.2 Site Location

IIHMR University is located in Jaipur, Rajasthan, within a semi-arid climatic zone characterized by high temperatures, low to moderate rainfall, and water stress conditions.



1.3 Environmental Policy of the Institute

The university established its Climate Change Policy in the academic year 2022–23, with the primary objective of supporting climate action and promoting a sustainable, eco-friendly campus. The policy aims to conserve the environment, prevent pollution across the campus, and contribute as a responsible higher education institution in addressing climate change.

2. Objectives of the Audit

The objectives of environmental audit are:

- To assess the impact of institutional activities on the environment, with a focus on pollution generation and control.
- To evaluate the effectiveness of existing pollution control measures across air, water, and waste management.
- To verify compliance with applicable environmental laws, rules, and guidelines.

- To identify gaps in current practices and recommend practical measures for improvement.

3. Methodology

The methodology adopted for this audit followed a three-step approach:

i. **Data collection:** Data was collected through site visits, observations, interactions with responsible personnel, and review of available records. Information related to air and noise, water management, and solid waste management was gathered during this stage.

ii. **Data Analysis**: The collected data was analysed and compared with applicable standards, guidelines, and regulatory requirements.

iii. **Findings and Recommendations**: Based on the analysis and site observations, key findings were identified and practical recommendations were developed to improve environmental performance and ensure compliance.

All assessments are based on available records, standard engineering assumptions where required, and observations made during the site visit, ensuring a consistent and conservative representation of environmental performance.

4. Applicable Environmental Regulations

The environmental performance of the institute has been assessed with reference to the following applicable laws, rules, and guidelines governing air, water, waste management, and environmental protection in India:

Air & Noise

- Air (Prevention and Control of Pollution) Act, 1981
- Environment (Protection) Act, 1986
- CPCB Emission Norms for Diesel Generator (DG) Sets
- Noise Pollution (Regulation and Control) Rules, 2000

Water Management

- Water (Prevention and Control of Pollution) Act, 1974
- IS 10500: Drinking Water Specification (BIS)

- CGWA Guidelines for Groundwater Extraction

Solid & Hazardous Waste

- Solid Waste Management Rules, 2016
- Plastic Waste Management Rules, 2016 (as amended)
- E-Waste (Management) Rules, 2022
- Battery Waste Management Rules, 2022
- Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 *(applicable for used oil from DG sets and vehicles)*

5. Findings and Recommendations

5.1 Air and Noise

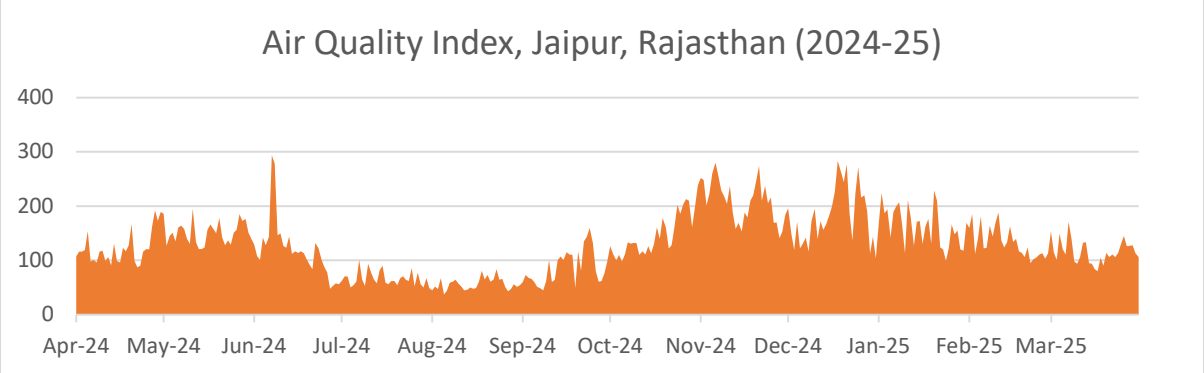
5.1.1 Ambient Air Quality

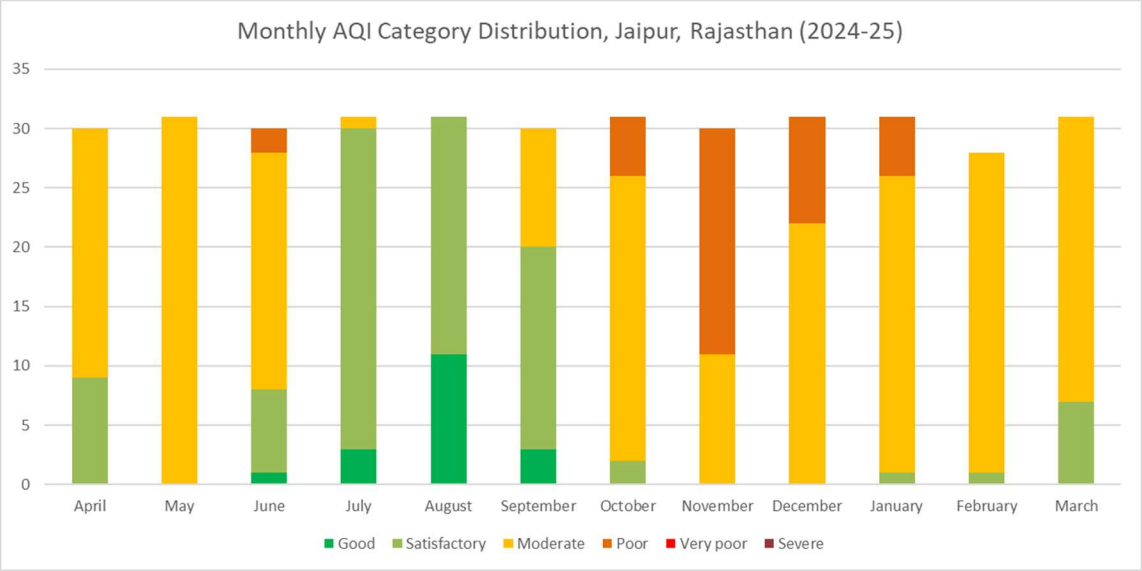
During the site visit, the campus environment was observed to have good perceived air quality due to green cover and low on-site pollution sources. However, in the absence of an on-campus monitoring system, regional data from CPCB (Jaipur, 2024–25) has been considered as a proxy.

The data indicates that air quality remains predominantly in the Moderate category, with limited days in Satisfactory/Good range and occasional Poor episodes, particularly during winter months. Seasonal variation is evident, with relatively better air quality during monsoon and deterioration during post-monsoon and winter.

Analysis of prominent pollutants shows that PM2.5 and PM10 dominate during winter, while ozone (O_3) becomes significant during summer months. Occasional presence of CO and NO_2 reflects urban and traffic-related influences.

This suggests that while campus-level conditions may feel better, the institute remains influenced by regional ambient air quality trends.





5.1.2 Noise Level

The noise level measurements were carried out using a noise meter at three locations. The noise levels measured on campus are found within the desirable limits.

Sr. No	Location	Min Reading (dB)	Max. Reading (dB)
1	Admin Building	42	48
2	Mess Area	57	59
3	Main Gate	48	55

Recommendations

- ✓ Carry out DG stack emission testing once every year through an approved laboratory and maintain records for inspection.
- ✓ Ensure DG stack height complies with CPCB norms and is clearly marked.
- ✓ Maintain logbook of DG operation hours and fuel consumption.
- ✓ Maintain DG maintenance records and service logs.
- ✓ Conduct noise monitoring once a year at boundary locations and DG area.
- ✓ Install one continuous ambient air quality monitoring system on campus to establish baseline and track trends.
- ✓ Ensure regular cleaning of internal roads and paved areas to control dust resuspension.

- ✓ Minimize exposed soil during landscaping or maintenance through turfing or mulching.
- ✓ Monitor indoor air quality in classrooms and hostels during high pollution periods.
- ✓ Display or communicate real-time CPCB AQI data for awareness and precaution.

5.2 Water Management

Total water demand of the campus is approximately 1,03,955 L/day. Out of this, about 79,403 L/day is met through groundwater abstraction, while the remaining demand is fulfilled through treated wastewater reuse and RO reject water.

5.2.1 Water Usage

The campus utilizes water for drinking, sanitation, kitchen operations, landscaping, and utility purposes. The following table presents an indicative daily water demand based on population, functional use, and reasonable engineering assumptions. In the absence of end-use metering, certain components such as irrigation and pool makeup are estimated.

S. No	Description	Basis	Daily Water Demand (L)
1	Domestic water requirement (residents)	411 residents @ 135 LPD *(excluding kitchen use)*	55,485
2	Kitchen and dining	411 residents @ 20 LPD	8,220
3	Non-resident campus population (staff, day scholars, visitors)	600 persons @ 15 LPD	9,000
4	Swimming pool makeup (outdoor)	Estimated (evaporation, splash, backwash)	4,000
5	Landscape irrigation*	17,500 sq.m @ ~1.5 L/sq.m/day	26,250
6	Road and floor washing	Lump sum estimate	1,000
		Total Estimated Demand	**1,03,955**

*Landscape area considered as ~30% of total campus area. Demand is indicative and may vary seasonally and with irrigation practices.

Source	Daily Water Supply (L)
Borewell withdrawal	79,403
STP recycled water (landscape and utilities)	22,000
RO reject water (reused)	2,552
Total Supply	**1,03,955**

Notes

- Domestic demand is considered exclusive of kitchen usage to avoid double counting.
- Landscaping demand is an estimated value and represents average requirement; actual demand may vary seasonally.

- Swimming pool makeup water is based on typical operational losses and not metered data.
- The assessment represents an estimated water balance, suitable for planning and benchmarking.

5.2.2 Wastewater Generation and Treatment

Approximately 55 KLD of wastewater is generated on campus. The institute operates a 35 KLD Sewage Treatment Plant (STP), with treated water being reused for landscape irrigation, thereby reducing freshwater demand.

This indicates a treatment gap, as the currently operational STP capacity is lower than the total wastewater generation.

An additional 25 KLD STP has been recently installed and is yet to be commissioned. Once operational, it will significantly enhance wastewater treatment capacity and enable higher levels of water recycling within the campus.

5.2.3 Water Quality

The university conducts water quality testing on a half-yearly basis for both borewell water and STP effluent.

The groundwater is generally within permissible limits; however, TDS is marginally above the desirable limit as per IS 10500:2012, supporting the use of an R.O. system for drinking purposes. The water is otherwise suitable for general use.

The treated wastewater is of moderate quality, with pH within acceptable range but relatively high BOD, COD, and suspended solids, indicating partial treatment. It is suitable for irrigation use; however, improving treatment efficiency would enhance reuse quality.

5.2.4 Rainwater harvesting

Since groundwater is the primary source of water for the institute, Rainwater harvesting and recharge structures are implemented across the campus to support groundwater replenishment.

Recommendations

- ✓ Install flow meters at each borewell and maintain monthly extraction records.
- ✓ Maintain monthly records of STP inflow, outflow, and treatment performance.

- ✓ Improve STP performance through regular maintenance and process optimization.
- ✓ Review applicability of groundwater regulations and ensure compliance.
- ✓ Install a piezometer to monitor groundwater levels and seasonal variation.
- ✓ Adopt micro-irrigation techniques for landscaping areas.
- ✓ Ensure zero discharge of untreated wastewater outside the campus.
- ✓ Test drinking water biannually as per IS 10500 and maintain records.
- ✓ Assess actual rainwater harvesting potential of the campus and enhance recharge structures.

5.3 Solid Waste Management

- The institute generates various kinds of waste, including paper, paper cups, metal, plastics, and other materials.
- Single-use plastics are banned on campus.
- Waste is segregated into wet and dry streams, with wet waste collected through municipal services and dry waste routed to authorized recyclers.
- Compostable waste from the mess kitchen is processed in a biogas plant, handling approximately 25 kg of kitchen waste per day. The unit is currently under maintenance, limiting effective treatment of biodegradable waste.
- STP sludge is dried in a drying bed and used as compost.
- E-waste is stored separately and sent to the recyclers periodically.
- Waste generation is not currently quantified, which limits performance tracking and planning.

Recommendations

- ✓ Establish a waste quantification system. Record type-wise waste generation on daily and monthly basis to enable tracking and planning.
- ✓ Strengthen segregation at source by adopting a three-bin system:

a) Green: Biodegradable waste (food waste, horticulture waste)
b) Blue: Recyclable dry waste (paper, plastic, metal, glass)
c) Black: Non-recyclable waste (Chips packets, wrappers, contaminated items, sanitary waste, sweep dust)

✓ Store E-waste, hazardous waste, and batteries in designated areas as per applicable norms:
a) Maintain inventory records for all such waste streams.
b) Dispose waste through CPCB/RSPCB authorized recyclers/handlers.
c) Maintain disposal records and certificates for verification.

✓ Utilize horticulture waste and leaf litter through on-site composting systems.

✓ Ensure regular operation and maintenance of the biogas plant for effective treatment of cooked food waste.

✓ Implement a structured waste disposal pathway as defined below:

Waste Type	Typical Components in Institute	Recommended Disposal / Management
Biodegradable Waste	Vegetable peels, garden waste, leaf litter	On-site composting or vermicomposting; excess to municipal collection
Cooked Food Waste	Mess food, leftovers	Animal feed (where feasible), or biogas production; avoid direct composting of oily food
STP Sludge	Sludge from STP (biological solids, organic matter, nutrients)	Dewatering (drying beds/filter press) followed by use as manure for landscaping if safe; otherwise dispose through authorized agency
Recyclable Dry Waste	Paper (records, notebooks), cardboard, plastic bottles, containers, metal cans, glass	Segregation and sale to authorized recyclers
Non-Recyclable / Inert Waste	Multi-layered plastic (snack wrappers, tetra packs), thermocol, contaminated paper cups	Municipal landfill or waste-to-energy facility (if available)
Hazardous Waste	Used oil from DG sets, vehicle oil, paint, chemicals (if any)	Disposal through CPCB/RSPCB authorized hazardous waste handlers
E-Waste	Computers, printers, servers, routers, switches, cables, UPS, batteries	Hand over to CPCB/RSPCB authorized e-waste recyclers as per E-Waste Management Rules
Biomedical / Sanitary Waste	Sanitary napkins, bandages, first-aid waste	Disposal through CPCB/RSPCB authorized biomedical waste handler;

		on-site incineration only if compliant with rules
Construction & Demolition Waste	Broken concrete, bricks, tiles, renovation debris	Sent to CPCB/RSPCB authorized C&D waste recycling facility or designated disposal site

6. Conclusion

The audit indicates that the institute has established foundational environmental management systems across key areas. Strengthening monitoring mechanisms, improving treatment efficiencies, and enhancing data-driven decision-making will enable the institute to progress towards higher environmental performance and sustainability benchmarks.

Annexures I – Groundwater Quality Report

OMEGA TEST HOUSE PVT. LTD.
An ISO Certified, FSSAI, MoEF & NABL Accredited Laboratory
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Head Office: 2/60, Malviya Nagar, Jaipur (Raj.)-302017
Contact: 09414074020, 09829051363, 0141-2521969, Email: omegatesthouse@gmail.com

TC-15122

NABL SCOPE

Format No:-OTHPL/QC/RF/25

TEST REPORT

Sample Name	Borewell No.2 Water Canteen Gate	Sample Code	25110351
Report No.	OTHPL/RN-202511046	Report Issue date	17/11/2025
ULR No.	TC151222500010591F	Page No.	01 OF 01
Reference to Sampling	QCOI008	Sample Collected By	Lab Representative

Customer Name & Address:		Sample Receiving Date:	10/11/2025
IIHMR University, 1, Prabhu Dayal Marg, Near Sanganer Airport, Maruti Nagar, Sanganer, Jaipur.		Date of Testing	11/11/2025
		Date of Completion	17/11/2025
		Sample Qty. & Condition	1 Ltr. & Ok
Environmental Conditions Under which test performed	Room Temperature	Registration No.	RAJ.1713/012971

Appearance: - Colorless Liquid. Having some suspended particles.

CHEMICAL ANALYSIS

S. No.	Parameters	Results	Test Method	Units	Limits IS : 10500/2012 Desirable Limit/ Rejection Limit
1.	Odor	Agreeable	IS : 3025 (P-5)	NA	Agreeable
2.	Turbidity	Nil	IS : 3025 (P-10)	NTU	1 Max./5 Max
3.	pH	7.66	IS : 3025 (P-11)	NA	6.5 to 8.5
4.	Total Dissolved Solids	535	IS : 3025 (P-16)	mg/l.	500 Max. / 2000 Max.
5.	Total Hardness as $CaCO_3$	268.24	IS : 3025 (P-21)	mg/l.	200 Max./ 600 Max.
6.	Calcium Hardness as Ca	56.09	IS : 3025 (P-40)	mg/l.	75 Max./ 200 Max.
7.	Magnesium Hardness as Mg	31.10	IS : 3025 (P-46)	mg/l.	30 Max./100 Max.
8.	Chloride as Cl	76.01	IS : 3025 (P-32)	mg/l.	250 Max./ 1000 Max.
9.	Alkalinity to (P) as $CaCO_3$	Nil	IS : 3025 (P-23)	mg/l.	------
10.	Alkalinity to (M) as $CaCO_3$	438.78	IS : 3025 (P-23)	mg/l.	200 Max./ 600 Max.
11.	Nitrate as NO_3	27.39	IS : 3025 (P-34)	mg/l.	45 Max./No relaxation
12.	Sulphate as SO_4	20.34	IS : 3025 (P-24)	mg/l.	200 Max./ 400 Max.
13.	Iron as Fe	BDL(<0.01)	IS : 3025 (P-53)	mg/l.	0.3 Max./ No relaxation
14.	Fluoride as F	0.36	IS : 3025 (P-60)	mg/l.	1.0 Max./ 1.5 Max.
15.	Sodium as Na	112.40	IS : 3025 (P-45)	mg/l.	150 Max

MICROBIOLOGICAL ANALYSIS

1.	*E.coli*./ 100ml	Absent/100 ml	IS : 15185-2016	Present or Absent/100 ml	Shall not be detectable in Any 100 ml of sample
2.	Coliform/ 100 ml	Absent/100 ml	IS : 15185-2016	Present or Absent/100 ml	Shall not be detectable in Any 100 ml of sample

Note: - 1.BDL- Below Detection Limit, NA- Not Applicable
2. The results relate only to items tested.
3. The information about the sample provided by customer.

END OF REPORT

(Microbiologist)
Authorized Signatory

(Quality Manager)
Authorized Signatory

Note:
(1.) The result listed refer only to the tested samples and applicable parameters. Endorsement of product is nether inferred nor implied
(2.) Total Liability of our concern is limited to the invoiced amount.
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Annexures II – STP Effluent Water Quality Report

OMEGA TEST HOUSE PVT. LTD.

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Head Office: 2/60, Malviya Nagar, Jaipur (Raj.)-302017
Contact: 09414074020, 09829051363, 0141-2521966 Email: omegatesthouse@gmail.com

NABL SCOPE

TC-18122

Format No.:OTHPL/QC/RF/25

TEST REPORT

Sample Name	STP Outlet Water	Sample Code	25110352
Report No.	OTHPL/RN-202511047	Report Issue date	17/11/2025
ULR No.	TC151222500010592F	Page No.	01 OF 01
Reference to Sampling	QCO1008	Sample Collected By	Lab Representative

Customer Name & Address:		Sample Receiving Date:	10/11/2025
IIHMR University, 1, Prabhu Dayal Marg, Near Sanganer Airport, Maruti Nagar, Sanganer, Jaipur.		Date of Testing	11/11/2025
		Date of Completion	17/11/2025
		Sample Qty. & Condition	1 Ltr. & Ok
Environmental Conditions Under which test performed	Room Temperature	Registration No.	RAJ.1713/012971

CHEMICAL ANALYSIS

S. No.	Parameters	Results	Test Method	Units	Limits Max. As per MOEF
1.	pH	7.40	IS : 3025 (P-11)	NA	5.5 to 9.0
2.	Total Dissolved Solids.	800	IS : 3025 (P-16)	mg/l.	----
3.	Total Suspended Solids	84	IS : 3025 (P-17)	mg/l.	50
4.	Oil & Grease	BDL (<5)	IS : 3025 (P-39)	mg/l.	10
5.	Chemical Oxygen Demand	268.80	IS : 3025 (P-58)	mg/l.	250
6.	Biochemical Oxygen Demand	95.35	IS : 3025 (P-44)	mg/l.	30

Note: 1. The results relate only to items tested.
2. The information about the sample provided by customer.

END OF REPORT

OMEGA TEST HOUSE PVT. LTD. Authorised
(Quality Manager)
Authorized Signatory

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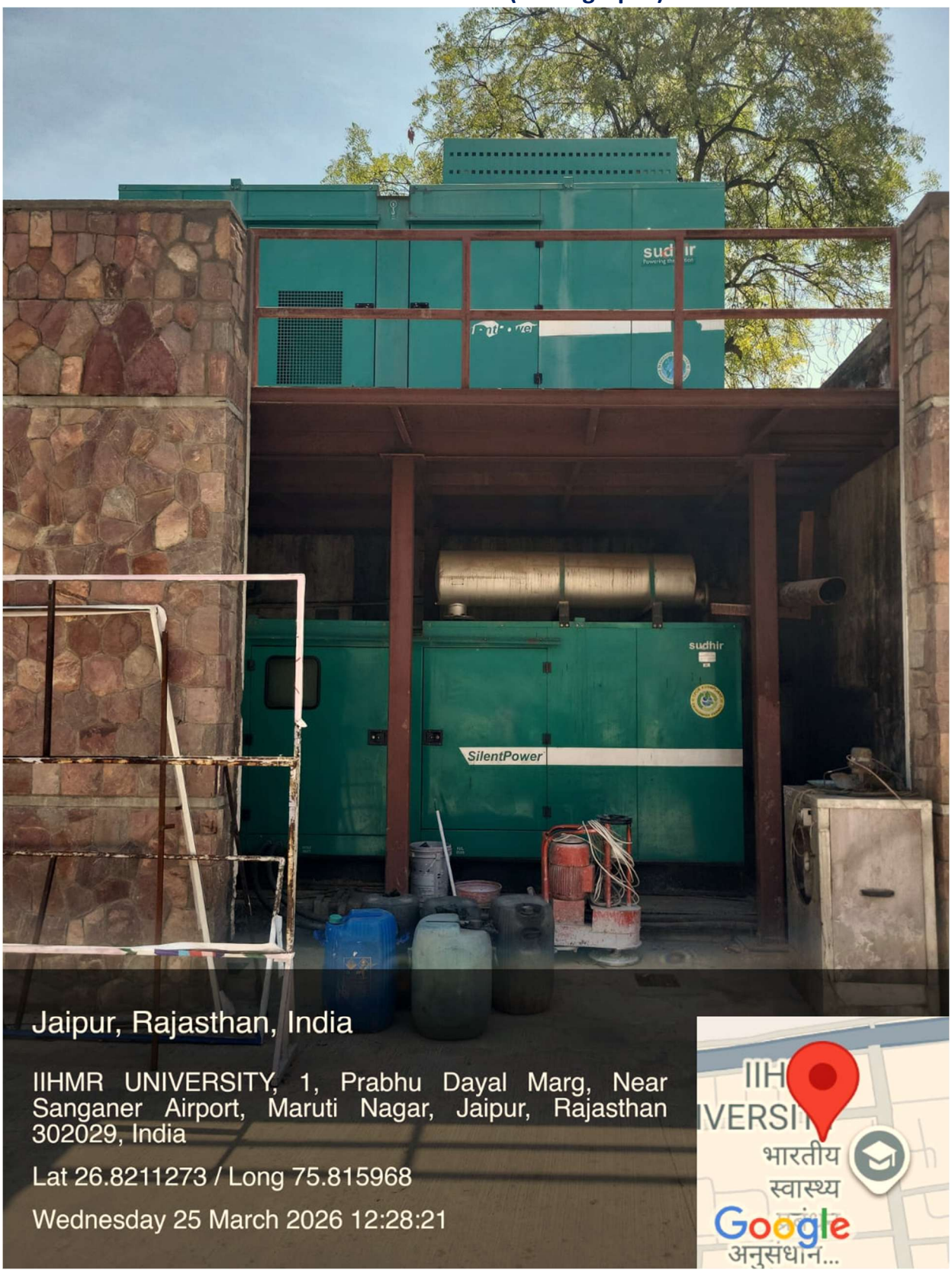
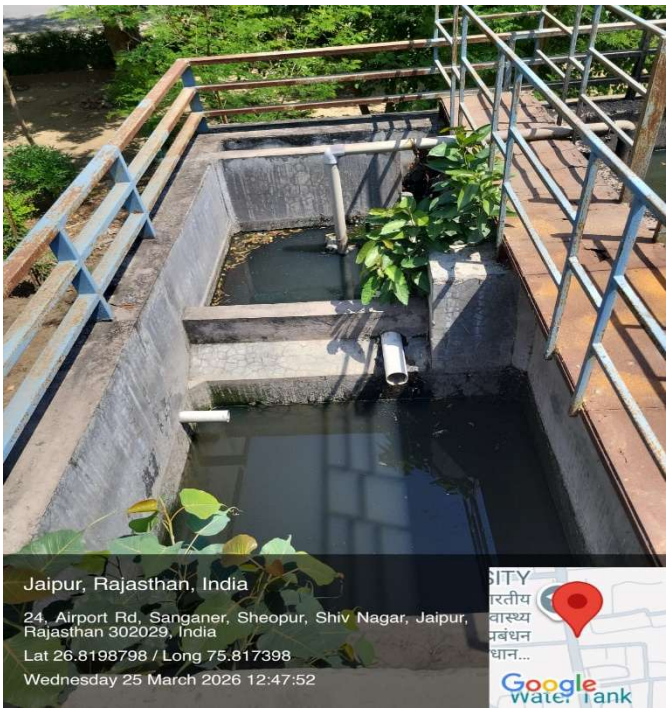
Annexures III -DG Sets (Photographs)

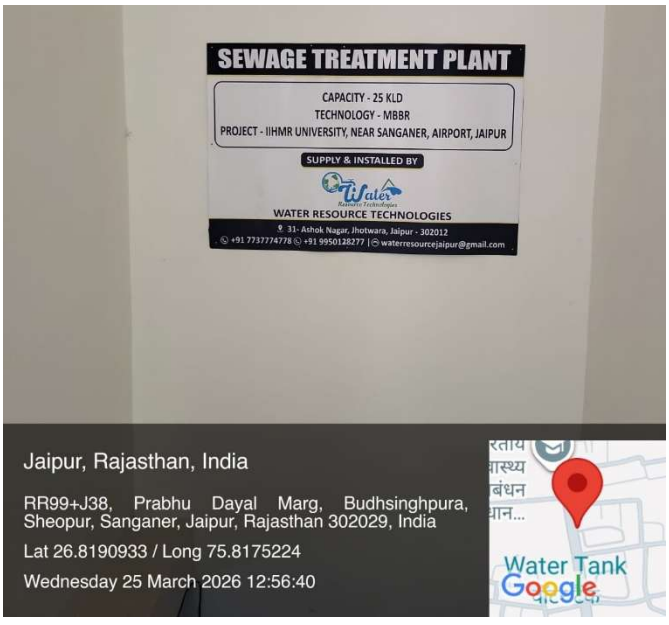


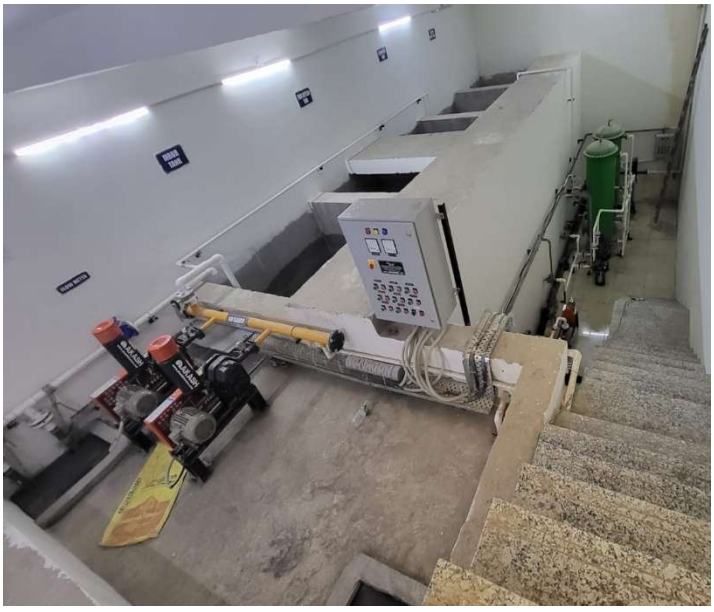
Annexures IV – Borewells (Photographs)

Annexures V – Sewage Treatment Plant (Photographs)



35 KLD Sewage Treatment Plant (Operational)





New 25 KLD Sewage Treatment Plant (Installed, not commissioned)

Annexures VI – Water Conservation Practices (Photographs)

Automatic Sensor Faucets

Rainwater Harvesting Recharge Structure

STP Treated Water Reuse for Landscape Irrigation

Annexures VII – Waste Management Practices (Photographs)

Biogas plant behind the Mess Area

Two bin waste collection system

Annexures VIII – Campus Greenery (Photographs)