

## **Manipal University Jaipur Wastewater Treatment**

In their pursuit of sustainability and responsible resource management, Manipal University Jaipur has implemented wastewater treatment processes. Manipal University Jaipur has developed and integrated wastewater treatment systems into their operations, turning wastewater into a valuable resource. Wastewater, often generated from various campus activities, contains contaminants that can harm the environment if not treated properly. These contaminants include organic matter, chemicals, and pathogens. Treating wastewater before discharge helps safeguard local ecosystems and water bodies, preventing pollution and the negative impact on aquatic life. Treated wastewater can be repurposed for non-potable uses like irrigation, cooling systems, or flushing toilets, reducing the demand on freshwater resources.

### **Wastewater Treatment Processes**

Manipal University Jaipur employs a range of wastewater treatment processes.

#### **Primary Treatment**

This initial stage involves physical processes like screening and settling to remove large particles and solids from the wastewater.

#### **Secondary Treatment**

Here, biological processes are employed to break down organic matter and remove nutrients like nitrogen and phosphorus. Activated sludge and aerobic digestion are commonly used methods.

#### **Tertiary Treatment**

In this advanced stage, additional filtration or chemical processes further purify the water, making it suitable for reuse in non-potable applications.

#### **Disinfection**

Before discharge or reuse, wastewater is often disinfected to eliminate harmful pathogens. Chlorination, ultraviolet (UV) treatment, or ozonation are common disinfection methods.

Manipal University Jaipur employs necessary infrastructure, including treatment plants, pipelines, and storage facilities, tailored to the institution's size and needs. Manipal University Jaipur explores innovative technologies like membrane bioreactors and water recycling systems to improve treatment efficiency and water quality. Treated wastewater is utilized for various purposes, such as landscape irrigation, cooling towers, and even toilet flushing. Implementing dual plumbing systems to distribute treated water is a common approach. Implementing wastewater treatment processes offers multiple sustainability benefits for the university. By reusing treated wastewater, Manipal University Jaipur reduces its reliance on freshwater sources, contributing to water conservation efforts. Proper wastewater treatment minimizes the release of harmful pollutants into the environment, helping maintain ecological balance. Wastewater treatment is an essential component of a university's commitment to sustainability and environmental responsibility.



## LIQUID WASTE MANAGEMENT-INHOUSE- SEWAGE TREATMENT PLANT

MUJ is equipped with **4 STP** Plants with different capacity 1000 KLD, 350 KLD(two) and 150 KLD **IN TOTAL 1850 KLD**. Sewage treatment removes contaminants from wastewater, which includes physical, chemical, and biological processes to remove these contaminants and produce environmentally safer treated water (it has been used for flushing and gardening). In normalcy are producing 1850KL treated water per day.







**MANIPAL UNIVERSITY  
JAIPUR**

*(University under Section 2(f) of the UGC Act)*



NAAC A+ GRADE WITH 3.28 SCORE

## LIQUID WASTE MANAGEMENT-INHOUSE- SEWAGE TREATMENT PLANT







**MANIPAL UNIVERSITY  
JAIPUR**

*(University under Section 2(f) of the UGC Act)*

## LIQUID WASTE MANAGEMENT-INHOUSE- SEWAGE TREATMENT PLANT





## Rainwater harvesting- water canals in campus



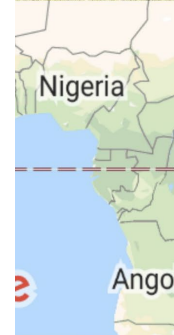
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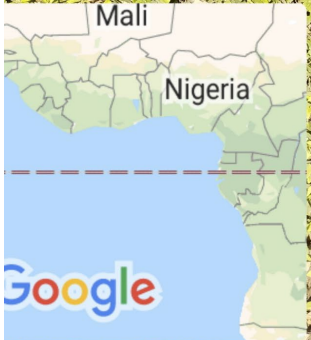
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# More than 14 KM of Water Canals in University for water harvesting



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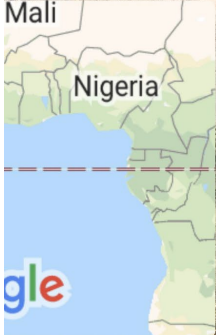


# Poen well recharges through Ponds

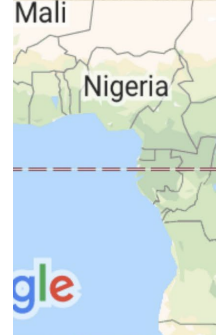




# Construction of Ponds



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# Construction of Ponds



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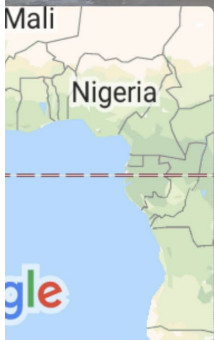


# Water Treatment Plants





# Water Treatment Plants



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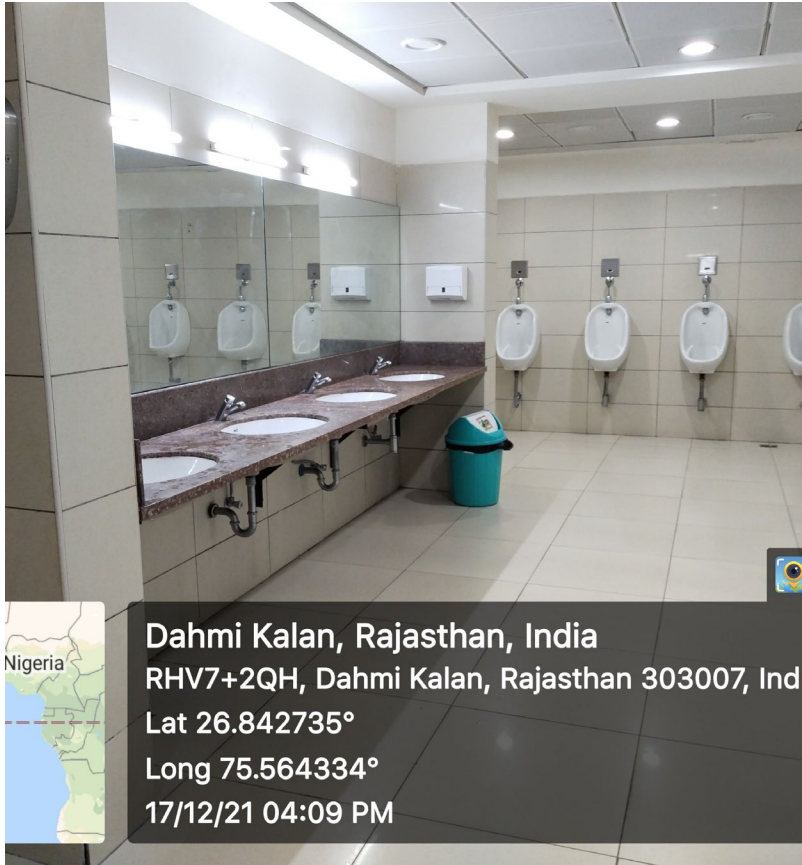
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# Water distribution System









# Sensor Based Water Conservation



Water Aerator Installed in all



Drip Irrigation