MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE (MITS)
(Deemed to be University)
NAAC Accredited with A+ Grade, NIRF India Rankings 2025 - Band: 201-300 (Engg.)
NBA Accredited - B.Tech. (CIVIL, CSE, ECE, EEE, MECH,CST), MBA & MCA

SDG 6 – CLEAN WATER AND SANITATION
CAMPUS WATER STEWARDSHIP AND CONSERVATION FACILITIES



MITS campus facilities and managed green spaces

Drinking-water facilities | Rainwater recharge | Wastewater treatment | Water-efficient sanitation

Institutional facilities report • 2026

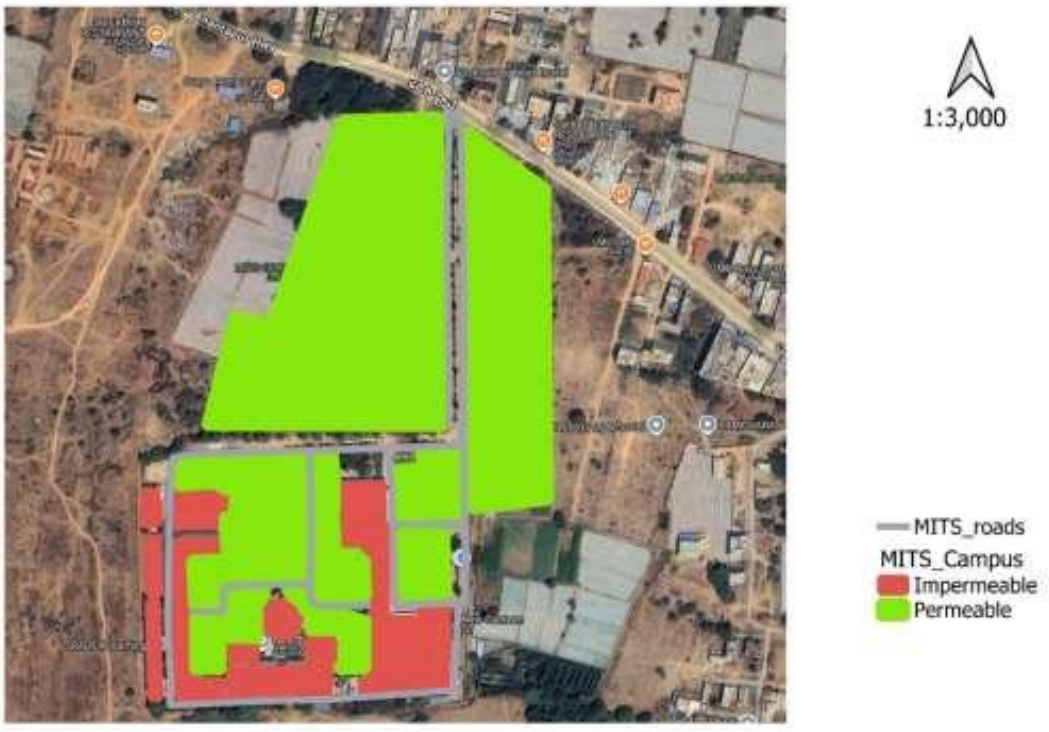
Water stewardship at MITS

Madanapalle Institute of Technology & Science (MITS), Deemed to be University, integrates water conservation into campus design, utility operations, drinking-water supply, sanitation and landscape management. The facilities include rainwater-recharge structures, reverse-osmosis (RO) purification systems, a sewage treatment plant (STP), treated-water reuse arrangements and water-efficient plumbing fixtures.

These complementary measures support SDG 6 by improving access to treated drinking water, encouraging efficient use, reducing avoidable wastage and supporting groundwater recharge.

Campus facilities at a glance

Facility / provision	Documented institutional particulars
Campus land area	105,906.23 m²
Water-absorption area	72,303.44 m² (approximately 68.3% of campus area)
Rainwater-recharge structures	2 structures; documented combined nominal capacity 207,000 L
Sewage treatment plant	50 kL/day design capacity
Reverse-osmosis facilities	Six units listed in campus RO facility records
Sanitation and water-efficient fixtures	Inventory covering toilets, wash basins, urinals, taps and drinking-water stations



Campus layout showing permeable land and the built environment.

1. Rainwater harvesting and groundwater recharge

MITS maintains rainwater-harvesting and recharge infrastructure to collect precipitation from rooftops and surface-drainage systems. Recharge and infiltration features help manage stormwater runoff while supporting replenishment of the local groundwater system.

The campus records two rainwater-recharge structures with a documented combined nominal capacity of 207,000 litres. This is an infrastructure-capacity figure and should not be interpreted as a metered annual quantity of water recovered.



Campus rainwater capture and water-conservation installations.

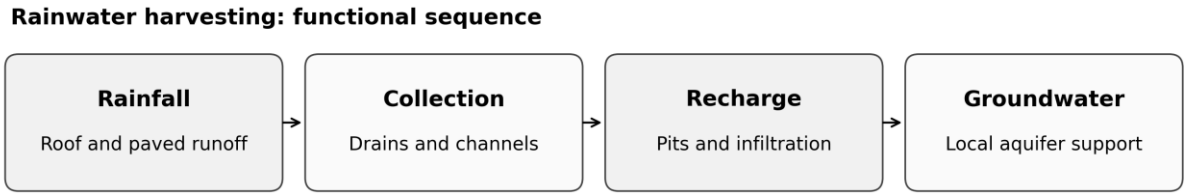


Figure 1. Conceptual rainwater collection and recharge sequence.

Conservation function

- Capture and channel rainwater to designated recharge locations.
- Limit unnecessary surface runoff from buildings and developed areas.
- Support maintenance of landscaping while preserving freshwater resources.

2. Water-conscious land use and campus landscaping

Water-conservation planning extends beyond treatment plants. Permeable land, unpaved surfaces and site landscaping contribute to infiltration and runoff moderation. Maintaining such areas reduces the concentration of surface flows during rainfall and supports water-sensitive campus development.

Area category	Area (m²)	Share of campus
Water-absorption area	72,303.44	68.3%
Other campus area	33,602.79	31.7%
Total campus area	105,906.23	100.0%



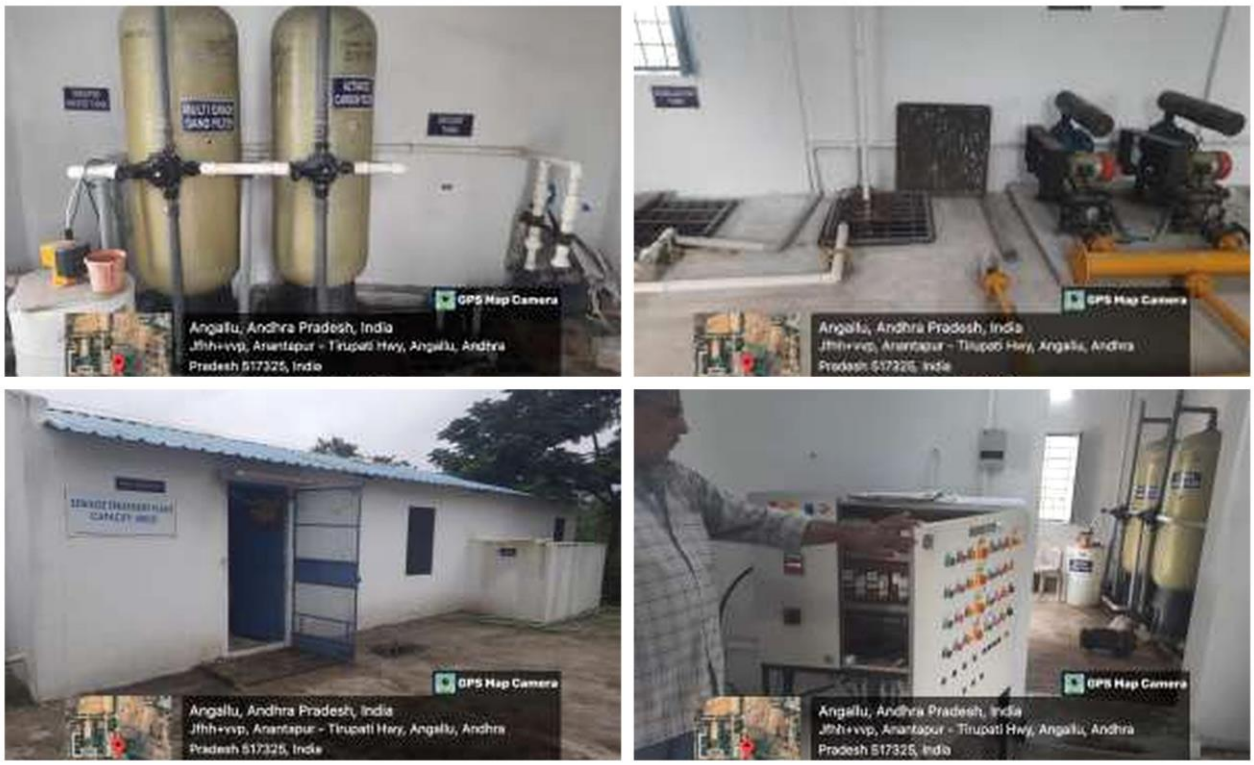
Mapped campus setting and the water-management context.

Practical site-management measures

- Maintain the permeability of available open ground and landscape areas.
- Inspect drainage routes and recharge structures before and during the monsoon.
- Apply water-conscious planting and irrigation methods to green spaces.
- Record periodic maintenance of channels, tanks and recharge structures.

3. Wastewater treatment and beneficial reuse

The campus sewage treatment plant provides an institutional facility for managing domestic wastewater and supporting treated-water reuse. Its design capacity is 50 kL/day (50,000 litres/day). The recorded commissioning date is 2 February 2018, and treated effluent is used for non-potable landscape applications such as gardens and trees.



Campus water-treatment equipment, pumping facilities and treatment infrastructure.

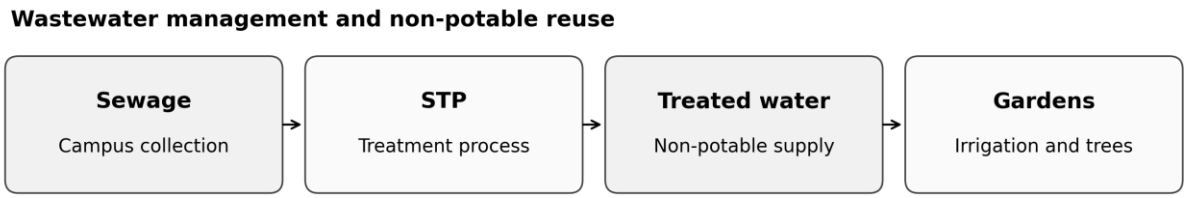


Figure 2. Simplified wastewater treatment and landscape reuse sequence.

Design capacity is not the same as actual treated throughput. Current daily discharge and reuse quantities are monitored as separate operational measures. Treated wastewater is not described as drinking water.

4. RO purification and treated drinking-water supply

MITS provides treated drinking water through RO systems installed in campus buildings and utility locations. The campus facility inventory lists six RO units serving academic and associated facilities. Purification units are supported by water storage, distribution points and maintenance activities.



RO purification equipment, treated-water storage and utility installations at MITS.

Location	Rated RO output
Western Building	500 L/hour
Southern Building	1,000 L/hour
Eastern Building	1,000 L/hour
Circular Building	150 L/hour
Eastern Canteen	1,000 L/hour
Hostel	500 L/hour

Rated equipment outputs describe the stated system capacities, not guaranteed current production. Treated drinking-water systems require scheduled service and quality verification at point of use.

5. Water-quality monitoring and treatment assurance

Water-quality monitoring is an important part of the institution's drinking-water and wastewater management arrangements. RO-water samples collected at seven campus locations were tested by the MITS Material and Quality Testing Laboratory in October 2025.

Measured parameter	Observed range across seven RO samples
pH	7.0–7.3
Total dissolved solids (TDS)	21–31 mg/L
Total hardness	80–95 mg/L



Additional water-treatment and drinking-water distribution infrastructure.

Technical interpretation

The October 2025 findings summarize the tested parameters for the sampled locations and dates. Earlier untreated borewell testing identified variations in groundwater quality, including elevated hardness and selected inorganic constituents in a source sample. These records underline the need for suitable treatment and periodic monitoring.

Routine assurance should cover the applicable physical, chemical and microbiological characteristics. The listed laboratory results are time-specific and do not establish continuous compliance for every constituent or sampling location.

6. Water-efficient sanitation and plumbing

Water efficiency is supported by sanitary fixtures, hand-washing points, urinals, kitchen and laboratory taps, and drinking-water stations. Appropriate selection of low-flow or self-closing components, regular maintenance and prompt leak repair help reduce unnecessary potable-water use.



Toilets, washroom facilities, urinals and hand-washing installations across campus.

Fixture category	Total	Water-efficient	Percentage
Toilets (WC)	90	80	89%
Hand-washing taps	929	363	39%
Urinals	140	125	89%
Kitchen taps	15	10	67%
Laboratory water taps	40	38	95%
Drinking-water stations	85	85	100%

7. Operation, maintenance and responsible water use

Sustainable water infrastructure depends on regular operation and maintenance. The university's campus management arrangements include service oversight for treatment and purification equipment, sanitation and water supply networks, landscaping, and repair of common utility systems.

Institutional implementation priorities

- Inspect and maintain STP mechanical equipment, pumps and treatment components.
- Schedule RO service and monitor drinking-water quality at distribution points.
- Maintain stormwater drains, recharge structures and irrigation networks.
- Replace inefficient fittings during campus renovations and investigate leaks promptly.
- Promote water-conscious practices among students, faculty, staff and visitors.



Dedicated campus water-treatment building and support infrastructure.

Learning and community engagement

The university connects conservation infrastructure to awareness activities and educational opportunities in water management, environmental engineering and responsible resource use. Campus facilities also provide useful practical examples for students and staff.

8. Sustainable water management: institutional outlook

The university's water infrastructure combines four essential strategies: replenishment of groundwater, conservation at the point of use, treatment of wastewater, and provision of treated drinking water. These measures support an integrated approach to SDG 6 and long-term stewardship of campus water resources.

Key facility indicators

Indicator	Documented measure	Interpretation
Groundwater recharge	2 structures, 207,000 L nominal capacity	Infrastructure capacity
Water-absorption land	72,303.44 m²	Site classification
Wastewater treatment	50 KLD STP	Design capacity
RO treated-water facilities	6 units	Listed equipment count
Water-efficient plumbing	Fixtures surveyed across six groups	Facility inventory

Continuous improvement

- Strengthen metering of total water abstraction, treated wastewater and actual reuse.
- Review recharge-pit dimensions and confirm nominal capacity during periodic facility audits.
- Update water-quality testing records and maintain trend information for major treatment units.
- Track water-efficient fixture replacement and site-maintenance outcomes over time.

MITS institutional information

SDG Cell: https://mits.ac.in/sdg-cell

SDG 6 – Clean Water and Sanitation: https://mits.ac.in/sdg6

University website: https://mits.ac.in