

7.1.4 WATER CONSERVATION FACILITIES AVAILABLE IN THE INSTITUTION



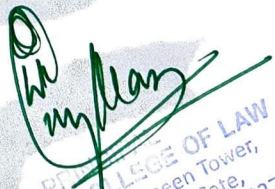
AL-AMEEN COLLEGE OF LAW

Affiliated to Karnataka State Law University

& Recognised by Bar Council of India

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Water conservation facilities available in the Institution:

1. Rain water harvesting
2. Bore well
3. Construction of tanks and bunds
4. Waste water recycling
5. Maintenance of water bodies and distribution system in the campus

RESPONSE:

Al-ameen College of Law felt the importance to water facilities in the campus there is a corporation Water supply for the college. The college depends on ground water for all Borewell needs. Hence, efficient usage of available water and adaptation of water conservation measures are essential. Hence awareness also created among the students to save water and for sustainable use of water through its Eco Club.

Al-Ameen College of Law has implemented several water conservation facilities and practices within its campus to ensure the efficient use of water resources.

These initiatives include:

1. Rainwater Harvesting: The college has established a rainwater harvesting system, where rainwater from roof surfaces and within the campus is collected and stored in percolation pits. This collected rainwater helps in recharging groundwater, reducing the dependence on external water sources.
2. Borewell Facility: The campus has its borewell facility to meet its water needs. Drinking water is supplied to various buildings and floors through a distribution system with control valves. Regular maintenance of the borewell and pump is conducted to ensure a continuous water supply.
3. Usage of Wastewater: The wastewater generated from the Reverse Osmosis (RO) water plants is not wasted. Instead, it is utilized for various purposes, such as floor cleaning and watering trees. This practice minimizes water wastage and ensures the efficient use of treated water.

4. **Maintenance of Water Distribution Systems:** The campus has multiple overhead storage tanks and a well-laid pipe network to distribute groundwater. A separate distribution system is in place for treated drinking water from the RO plant. The maintenance department closely monitors the entire distribution system to prevent leaks and water wastage, ensuring that water reaches its intended destinations efficiently.
5. **Awareness and Education:** The institution actively promotes water conservation awareness among its students and staff. Through its Eco Club and educational initiatives, students are educated about the importance of water conservation and the need for sustainable water usage.
6. **Efficient Fixtures:** The college has taken measures to reduce water usage through the installation of low-pressure flushes, which helps in minimizing water wastage during toilet flushing.

Al-Ameen College of Law is committed to the responsible and sustainable use of water resources within its campus. These water conservation facilities and practices not only contribute to the institution's sustainability goals but also instill a sense of responsibility for water conservation among its students and staff.

The following measures are taken for the conservation of water:

1. RAIN WATER HARVESTING


The rain water coming from roof tops and that flowing within the campus are collected in percolation pits constructed at all feasible points in the campus recharge ground water.

Collecting rainwater from rooftops and within the campus and directing it into percolation pits is an excellent method for recharging groundwater and conserving

water resources. Here's a closer look at how our process works:

1. **Rainwater Collection:** Rainwater from rooftop surfaces and other paved or impermeable areas within the campus is collected through a network of gutters and downspouts. The design ensures that rainwater is effectively channeled to collection points.
2. **Percolation Pits:** Percolation pits, also known as recharge pits or soakaways, are constructed at various suitable locations across the campus. These pits are typically excavated holes or trenches filled with gravel, coarse sand, or other porous materials.
3. **Storage and Infiltration:** The collected rainwater is directed into these percolation pits. The pits serve two primary purposes:
 - **Storage:** They temporarily store rainwater, preventing immediate runoff and reducing the risk of flooding during heavy rainfall.
 - **Infiltration:** Over time, the stored rainwater slowly infiltrates into the ground through the porous materials in the pit. This process recharges the groundwater aquifer.
4. **Sustainability:** Rainwater harvesting and groundwater recharge through percolation pits are sustainable practices as they utilize a naturally occurring resource (rainwater) and contribute to the conservation of local water resources.

The use of percolation pits to capture and infiltrate rainwater is an eco-friendly and efficient method to support groundwater recharge, reduce the strain on external water sources, and promote sustainable water management within the campus.


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2. BORE WELL FACILITY IN THE CAMPUS

College has Borewell facility in the campus to fulfill the need of the water in the campus. All the Building for various floors is supplied with drinking water from bore well. The pipe distribution system and control valves are installed at various places as shown below in photograph. Regular maintenance of pump installed in Borewell is done by maintenance in-charge. Maintenance staff and. non-teaching of each floor takes care of opening of control valves for supplying the drinking water to overhead water tanks installed at the terrace of respective department.

Having a Borewell facility on campus is a practical way for the college to meet its water needs, especially for drinking water purposes. Here's a breakdown of how our system typically works:

1. **Borewell Drilling:** A borewell is a deep, narrow hole drilled into the ground to access groundwater. The college have a borewell professionally drilled to tap into an underground aquifer as a source of water.
2. **Pump Installation:** Pump is typically installed in the borewell. This pump is responsible for drawing water from the aquifer and bringing it to the surface for further distribution.
3. **Water Treatment:** Depending on the quality of the groundwater, the water require treatment to meet drinking water standards.
4. **Distribution System:** A pipe distribution system is laid out across the campus to transport the water from the borewell to various buildings and floors. Control valves are strategically placed at different points along the distribution system to regulate the flow of water to different areas.
5. **Regular Maintenance:** Maintenance of the borewell and the pump is crucial to ensure a continuous and reliable water supply. The maintenance staff,

including non-teaching staff on each floor, plays a role in ensuring the system's proper functioning. Regular checks, cleaning, and repairs (if necessary) are conducted to prevent breakdowns.

- 6. Overhead Water Tanks:** Overhead water tanks are installed on the terrace of respective department buildings to store the water pumped from the borewell. These tanks serve as storage reservoirs, ensuring a consistent supply of water to various parts of the campus.
- 7. Control Valves:** The control valves play a vital role in regulating the flow of water to different areas within the campus. They can be opened or closed as needed to direct water to specific locations.

Having a well-maintained borewell facility is an effective way for the college to ensure a reliable and sustainable source of drinking water for its campus. Proper maintenance, distribution, and quality control are essential elements of a successful borewell-based water supply system.

2. USAGE OF WASTE WATER

Reusing wastewater discharged from Reverse Osmosis (RO) water plants for daily activities like floor cleaning and tree watering is a sustainable practice that helps conserve water resources and reduce environmental impact. Here's how this process typically works:

- 1. Wastewater Generation:** RO water plants are commonly used to purify water for drinking and other purposes. During the RO process, impurities and contaminants are removed from the water, resulting in purified water for consumption and wastewater (also known as brine or reject water) as a byproduct.

2. **Collection and Storage:** The wastewater generated during the RO process is collected and stored in appropriate storage tanks or containers and ensure that the stored wastewater is kept separate from the treated and potable water to prevent contamination.
3. **Reuse for Floor Cleaning:** The treated wastewater can be used for various non-potable purposes within the college campus. One common application is floor cleaning in buildings, where the quality of water is not as critical as for drinking.
4. **Reuse for Tree Watering:** Another common use for treated wastewater is watering trees and landscaping within the campus. Trees and plants can generally tolerate water with lower quality standards, making it a suitable option for irrigation.
5. **Conservation and Sustainability:** By reusing wastewater for these purposes, the college reduces its demand for fresh water from external sources, conserving valuable water resources. It also helps in minimizing the discharge of treated wastewater into the environment, reducing its environmental impact.

This practice demonstrates the college's commitment to responsible water management by maximizing the use of available water resources and minimizing wastage. It contributes to both water conservation and environmental sustainability.

3. MAINTENANCE OF WATER DISTRIBUTION SYSTEMS IN THE CAMPUS

The ground water is pumped into storage tanks located at different places in the campus. There are 4 numbers of over head storage tanks in the campus. The water is distributed through well laid pipe network. Drinking water after treating in RO plant is supplied through a separate set of distribution pipes and water for all other purpose is supplied through another set of distribution pipes. Entire distribution system is well supervised by maintenance department to ensure that there are no leakages and wastages of precious water through joints, valves etc. Waste usage of water is reduced using low pressure flushes. All the stakeholders of the college are well educated

to use water economically and efficiently.

The college's approach to water distribution and management is comprehensive and well-organized, with a focus on efficiency and sustainability. Here's a breakdown of the key components of the water distribution system and the measures taken to ensure responsible water use:


1. **Groundwater Pumping:** Groundwater is a valuable source of water for the campus, and it's pumped from the borewell into storage tanks located at different points within the campus. This ensures a consistent and reliable supply of water.
2. **Overhead Storage Tanks:** Having four overhead storage tanks allows for adequate storage capacity, ensuring that there's enough water to meet the daily needs of the campus. This is especially important during periods of high demand or when maintenance is required on the distribution system.
3. **Separate Distribution Systems:** The use of separate distribution pipes for drinking water from the RO plant and water for other purposes is a good practice. It ensures that water quality is maintained for drinking, while non-potable water can be used for other activities without the need for additional treatment.
4. **Maintenance and Leak Prevention:** The maintenance department plays a critical role in supervising the entire distribution system. Regular checks and maintenance are essential to identify and repair any leaks, damaged valves, or faulty joints. This proactive approach minimizes water wastage and ensures that water reaches its intended destinations efficiently.
5. **Low-Pressure Flushes:** The installation of low-pressure flushes is an effective water conservation measure. These fixtures use less water during toilet flushing

while still maintaining functionality. This reduces water consumption in restroom facilities.

6. **Water Education:** Educating all stakeholders, including students and staff, about the importance of using water economically and efficiently is crucial. This awareness-building effort helps promote responsible water use and ensures that everyone contributes to conservation efforts.
7. **Sustainability:** The entire system is designed with sustainability in mind. By relying on groundwater, using separate distribution systems, and minimizing water wastage, the college is reducing its environmental impact and promoting long-term sustainability.
8. **Quality Assurance:** Ensuring that the water is safe to drink is a top priority. Treating water from the RO plant and using it for drinking purposes is an effective way to maintain high water quality standards.

We have college's water management approach is commendable, demonstrating a commitment to responsible and efficient use of water resources while ensuring that the campus community has access to clean and safe drinking water. These practices contribute to both environmental conservation and the college's sustainability goals.

These facilities collectively promote responsible water use, reduce reliance on external water sources, and contribute to sustainability efforts within the institution. Implementing such water conservation measures is crucial in managing water resources effectively and minimizing environmental impact.


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