Rainwater Harvesting

The Warren Clinic Bishops Building Tulsa, Oklahoma

The Bishops Building was the first LEED Gold certified medical office building in the state of Oklahoma. The building utilizes one 40,000 gallon cistern and one 6,000 gallon overflow tank to capture runoff from the parking garage as well as grey water from inside the facility. The stored water is then used to supplement the facility's irrigation needs. It is estimated that the recycled water supplies 1/3 of the total irrigation needs of the facility. To prevent damage to the sprinkler heads, water from the parking garage is filtered through a hydronic filter prior to storage in the cistern. Grey water from inside the facility is captured into a separate cistern which is also used for irrigation purposes.

One 40,000 gallon cistern and one 6,000 gallon overflow tank are buried underneath the sloped garden areas.

Rainwater at the Bishops Building parking garage is collected and piped into an underground cistern.

A removable filter treats runoff before collection into cisterns, preventing damage to sprinkler heads.

The system collects around 80% of the runoff from the garage. Any runoff unable to pass through the filter will drain directly to the storm sewer system.

Managing Stormwater Runoff

The Warren Clinic Bishops Building also has two hydrodynamic separators that receive runoff from roadways throughout the facility. The separators remove pollutants before the runoff is discharged into the city's storm sewer system. The separator consists of three basins separated by baffles to remove floating and sinking debris and fine sediment, while at the same time reducing the velocity of runoff. Floatables and sludge can then be easily removed through three separate access points corresponding to each chamber of the system.

Floatable material caught in the second chamber of the hydrodynamic separator system.

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