FREE-FLO

Catching and recycling rainwater for everyday use

By Jennifer Taylor

Water restrictions, drought conditions and brush fires are plaguing residents in piedmont North Carolina. Watering the garden and washing the car are spring chores most of us look forward to this time of year. As the weather warms up and the days grow longer, it is easy for kids to be drawn to the lawn for a quick run through a cold sprinkler. Unfortunately, these activities are coming to a halt as local officials monitor water consumption and enforce restrictions due to the dry conditions.

Like so many others struggling to keep their lawns green, Mark Urban, a Wake EMC member, decided to find a solution. Tired of water restrictions and relying on city and well water, Urban had an idea that washed the water concerns away—a water recycling system that filters and stores rainwater. After two years of hard work, Urban's recycling concept changed into a design and FREE-FLO underground rainwater catching systems began. Urban is currently installing these unique systems and recently applied for a patent.

How it works

The FREE-FLO system collects rainwater from the roof of a home or structure and funnels the water into an underground storage tank. Rainwater is the main source, but other water sources can also be plumbed to the holding tank. Filters and cleaner boxes are strategically placed throughout the system to keep the water clear and clean. The system has an automatic jet mixer in the storage tank so additives can easily be mixed with the water for fertilizing gardens or lawns. From the tank, a series of pipes direct the water to different locations such as water hoses and spigots.

When it rains, the system is replenished with fresh water. For example, the average home with an irrigation system uses approximately 50 to 80 percent of water for outdoor use. With a 1,700-gallon residential tank, it takes about one inch of rain water to fill the tank for use. If the system uses 100 gallons of water for your lawn and plants a day, the water supply would last for 17 days without any other source. Every time a summer thunderstorm passes through, the tank is refilled.

The benefit of this system is for everyone. If developers installed the systems in subdivisions, millions of gallons of water could be saved. Water from the tanks can be used for washing cars, boats and pets. With proper filters and health inspections, the systems can be used as the primary water source for houses. FREE-FLO does not lose water through evaporation or attract mosquitoes and insects. The pump and tank are non-freezing and the design does not allow for algae growth.

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A 1,200-gallon residential tank is being installed (above) for use as a secondary water source. The system can be used for gardening, washing cars and watering the lawn. After the underground system is installed, (top) it is quiet and virtually invisible.

Commercial use

If you are interested in using this system for commercial purposes, Urban has designed tanks that can meet your needs. Underground fiberglass tanks range in size from 2,000 gallons up to 50,000 gallons and can be installed on golf courses, farms or apartment complexes where mass irrigation is needed. These larger systems have multiple pumping stations, jet mixers and automatic overflow pumps. Above ground tanks are also available with sizes from 4,000 gallons to 20,000 gallons. Larger sizes can be special ordered.

Cost and specifications

Each location will be evaluated to determine the specific cost. For builders, FREE-FLO has prefab kits that include the necessary components and instructions for easy installation. Residential tanks come in four different sizes: 350 gallons, 550 gallons, 1,200 gallons and 1,700 gallons. The FREE-FLO system is guaranteed to be installed correctly.

Urban hopes this system will change the way people look at water conservation.