

TO: Board Members

THROUGH: Jeff Walker, Executive Administrator
John T. Dupnik, Deputy Executive Administrator, Water
Science and Conservation
Todd Chenoweth, General Counsel

FROM: Kevin Kluge, Director, Conservation and Innovative Water
Technologies
Matthew Webb, Innovative Water Technologies

DATE: March 7, 2018

SUBJECT: 2017 Texas Rain Catcher Awards

ACTION REQUESTED

Consider approving the 2017 Texas Rain Catcher Awards.

BACKGROUND

The Texas Water Development Board (TWDB) launched its Texas Rain Catcher Award competition and recognition program in 2007 and is now celebrating its eleventh award cycle. The program promotes rainwater harvesting, educates the public about the benefits of rainwater harvesting, and recognizes those dedicated to conserving our precious water resources. The competition is open to all individuals, companies, organizations, municipalities, and other local and state governmental entities in Texas, except current TWDB employees and Board members. Winners are chosen by a panel of judges consisting of TWDB staff on the Rain Team.

As the state's lead agency for rainwater harvesting, the TWDB provides information and education to the public on all aspects of rainwater harvesting through our website and with printed materials. For example, the Texas Manual on Rainwater Harvesting (3rd edition, 2005), a popular guide published by the TWDB, provides an introduction to rainwater harvesting and to designing residential and small-scale commercial systems. The TWDB is also required to make rainwater harvesting training available to permitting staff of certain cities and counties.

[Our Mission](#)

To provide leadership, information, education, and support for planning, financial assistance, and outreach for the conservation and responsible development of water for Texas

[Board Members](#)

Peter Lake, Chairman | Kathleen Jackson, Board Member | Brooke T. Paup, Board Member
Jeff Walker, Executive Administrator

Since the creation of the Texas Rain Catcher Award program in 2007, the TWDB has recognized 41 entities and 2 individuals. For 2016, the TWDB presented five awards, and the first All-Star Rain Catcher Award was presented at the agency's Water for Texas conference in January of 2017.

KEY ISSUES

Staff scored each application according to the five criteria listed online. Staff recommends that the following five projects receive the 2017 Rain Catcher Award.

Commercial/Industrial: BAE Systems

BAE Systems installed a prototype rainwater harvesting system in 2015 at their 140-acre campus in Austin. It consists of a 2,500-gallon tank, pump, and filtration/disinfection equipment. Stored water is augmented by air handler condensate collection and is cross-connected to Austin Water municipal supply as a backup. It is used to provide water to toilets and urinals in one building on the campus. Expansion of the concept is planned across the 10-building complex. Also at the site are two 2,500-gallon tanks which provide water for irrigation of educational gardens and serve as a backup water source for water-chilling equipment.

Educational/Governmental – Civic: George Mills Memorial Rain Garden

The George Mills Memorial Rain Garden is located at the U.S. Department of Agriculture Service Center in Alpine. The project consists of managed stormwater collected from nearby roadways and channeled into a storage basin that is augmented by water harvested from the center's rooftop into two 2,500-gallon cisterns. This combination of sources irrigates an 8,000 square foot park. The park was engineered to retain up to 25,000 gallons of runoff and sculpted to simulate five ecological biomes of the Trans-Pecos region. The park captures large volumes of urban runoff, decreasing municipal water demand, flooding, and non-point pollution. The garden is used as a teaching tool for area civic and school groups and is open to the public.

Educational/Governmental - School: Sycamore Springs Elementary/Middle School

The Sycamore Springs Elementary/Middle School of the Dripping Springs Independent School District uses three rainwater harvesting system components in its project. Two components are used for toilet flushing, and each consists of a 15,000-gallon metal cistern, 500-gallon day tank, sand filter, UV disinfection system, and variable speed pump. They are equipped with auto-fill systems which use the municipal water source as a backup during times of low rainfall. These systems have the combined potential to harvest 200,000 gallons of water during an average year. Toilet flushing is typically a high-use item for a school, and the district views using harvested rainwater as a perfect opportunity to reduce its municipal water demand. The third system component is used to harvest rainwater for irrigating school grounds and consists of a 10,000-gallon cistern, internal-tank recirculating pump, sand filtration system element, and variable speed pump. The system is sized to capture 160,000 gallons in an average year and has an auto-fill system that uses municipal water as a backup.

Residential - Community: Las Pampas Colonia

Las Pampas is a small, unincorporated community (colonia) located outside of Presidio where mostly elderly residents rely on hauled water. To reduce that need, the community partnered with University of Texas at El Paso's (UTEP) Center for Environmental Resource Management (CERM), a university student organization, and Coca-Cola Bottling of El Paso to construct a rainwater harvesting demonstration project at two residences. The USDA National Institute of Food and Agriculture provided partial funding of supplies through a grant to UTEP. Volunteers from the university's Engineers for a Sustainable World student organization provided labor for the project and Coca-Cola donated 27 275-gallon tanks. Total installed storage capacity using eight tanks is 2,200 gallons and is used for gardening, landscaping, and watering small livestock. For the residents, the amount of hauled water has been cut by half, saving each demonstration household \$15 to \$20 per month, a significant amount in this low-resource community. The project has been successful in building interest among other residents in installing their own systems. Several will have the use of some of the remaining tanks donated by Coca-Cola to install their own domestic systems. The student group and faculty advisors from UTEP hope to continue with demonstration projects in other colonias in the area to spread awareness of the benefits of rainwater harvesting.

Residential - Single Family: Hennigan Residence

The Hennigan residence in San Antonio is a sustainable living demonstration remodel with rainwater management being one of several components (energy efficient design elements, solar energy, etc.). The rainwater component of the project employs both rooftop-capture and stormwater-runoff harvesting techniques. It collects rainwater from three rooftops on the property and stores it in three cisterns with a combined capacity of 23,200 gallons. The water is filtered, disinfected, and used as a potable water source for the home. The system is expected to decrease municipal water demand by 89 percent, assuming 30 inches of annual rainfall which is typical of the region. The site also captures stormwater runoff. Vegetated swales direct runoff from uphill, adjacent properties into two detention basins equipped with sump pumps. The water is then pumped into two 30,000 gallon cisterns and gravity fed to another 10,000 gallon cistern where it is used for irrigation. Overflow from the potable system is also directed to the irrigation system to maximize storage. The system can store the water from a 2-inch rain event from its nearly 2-acre catchment area, exceeding the Low-Impact Development Best Management Practices targets of the San Antonio River Authority.

RECOMMENDATION

Based on the scores submitted by the panel of judges, the Executive Administrator recommends presenting these nominees with Texas Rain Catcher Awards.