

# REILLY ELEMENTARY SCHOOL

## Texas Green Infrastructure Case Study

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One of five rain gardens located around Reilly Elementary.  
*Photo Credit: Austin Independent School District*

## PROJECT COMPONENTS

### Practice

#### **Rainwater Harvesting:**

Collecting and storing runoff from an impervious surface for later non-potable use.

**Rain Garden:** A shallow depression planted with native and adapted plants that collects rainwater from roofs, parking lots, and other surfaces.

**Biofilter:** Water is slowly filtered by plants to improve water quality in the watershed.

### Scale

**Site:** A practice designed to collect and naturally treat rainwater falling on a single site, such as an individual home or business. Examples: bio-swale, pervious pavement.

Green infrastructure practices are designed and engineered to work with nature to capture, store, and treat stormwater runoff in ways that provide both water quantity and water quality benefits. As part of a larger project to demonstrate green infrastructure in Austin, Texas, Reilly Elementary School was retrofitted with cisterns, rain gardens, and bioswales.

## PROJECT OVERVIEW

Reilly Elementary School was prone to rainwater standing on campus grounds for days, and water that did flow offsite carried pollutants into the waterways of Waller Creek Watershed. To resolve these issues, the school in 2019 and 2020 installed a system of green infrastructure practices.<sup>1</sup> These practices included cisterns and rain gardens installed around the campus to capture impervious surface runoff and infiltrate it. Additional runoff is captured in upgraded retention ponds. In combination, this system is estimated to capture 621,785 gallons of rainwater runoff per year from 76,627 square feet of rooftops and parking lots.<sup>2</sup>



Cistern at the entrance to Reilly Elementary.  
*Photo Credit: Austin Independent School District*

## PROJECT IN-DEPTH

A system of green infrastructure practices are laid out strategically around Reilly Elementary to capture rainwater. This project is part of the Rain Catcher Pilot Program, a greater plan by the City of Austin.<sup>1</sup> The program uses existing green infrastructure incentives and programs in the City to create a comprehensive management and conservation strategy in the Waller Creek Watershed.

### Rain Cisterns

A total of 12 cisterns are installed around the campus ranging in size from 500 gallons to 2,500 gallons.<sup>1,3</sup> Many of the cisterns have passive drip systems to water vegetation and reduce watering costs.<sup>1</sup> The cisterns on campus are made of stainless steel and polyethylene.

### Rain Gardens

Five rain gardens surround Reilly Elementary.<sup>1</sup> The gardens are designed with stone walls and inlets/outlets to reduce erosion and prevent sediment from escaping. Native vegetation planted in the gardens consists of tall native bunchgrasses with deep roots that allow water to infiltrate the ground within a 48-hour time frame.

### Biofilters

Biofilters were constructed in existing retention ponds using Emory's sedge, which can remove large amounts of nitrogen and phosphorus. In addition, Bermuda grass surrounds the pond because of its drought resistance and ability to be submerged.<sup>4</sup>

## FIND OUT MORE

The school is located in the Waller Creek Watershed or north of downtown Austin at 405 Denson Dr., Austin, TX 78752.

## FINANCING

The total project cost was \$374,210; this included building and installing rain gardens (\$290,710) and cisterns (\$83,500).<sup>1</sup> Funding was provided from 2019 to 2020 by the City of Austin's Watershed Protection Department Capital Improvement Funds.<sup>1</sup>



Green infrastructure practices at Reilly Elementary School and associated drainage areas.  
Photo Credit: Texas Water Development Board



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<sup>1</sup> <https://www.austintexas.gov/department/rain-catcher-pilot-program>

<sup>2</sup> [https://texaswaternewsroom.org/pressreleases/2022-10-5\\_reillyelementary.html](https://texaswaternewsroom.org/pressreleases/2022-10-5_reillyelementary.html)

<sup>3</sup> <https://www.austinisd.org/announcements/2021/01/08/reilly-elementary-wins-national-green-infrastructure-award>

<sup>4</sup> [https://www.austintexas.gov/sites/default/files/files/Watershed/MasterPlan/Green\\_Infrastructure.pdf](https://www.austintexas.gov/sites/default/files/files/Watershed/MasterPlan/Green_Infrastructure.pdf)



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