



Rain Gardens in the City of St. Louis

A rain garden is a landscaped bed designed to collect and absorb stormwater runoff. Rain Gardens are constructed by filling a basin in a low-lying area with a special soil blend, native plants, mulch, and gravel to provide drainage. A rain garden is permeable surface area that often has the benefit of being both attractive and providing habitat for native plants, birds, and insects. The primary purpose of a rain garden is to manage stormwater by absorbing and slowing down runoff during and after a rain, while also filtering and cleaning excess water before it can enter the sewer system. Large storms often create an initial flush of sediment, oil and debris -- all of which can be successfully intercepted by rain gardens. Stormwater management is particularly important in the City of St. Louis because of the combined sewer system. (a sewer system that handles both waste water and stormwater in the same pipe, which becomes overcharged during heavy rain events). The City is actively promoting the use of green infrastructure techniques, such as rain gardens, and has many partners in this effort. The following list highlights some examples of successful rain garden projects in the City. To learn more about sustainability initiatives in the City of St. Louis, please visit stlouis-mo.gov/sustainability/



Brightside St. Louis Demonstration Garden

Rain gardens are one of several stormwater best management practices featured at the Brightside St. Louis demonstration garden, which will serve as an educational resource for the community. The garden is divided into four sections simulating local habitats and showcasing native plants in natural growing conditions, and includes porous concrete, pervious pavers, cisterns and rain gardens to collect and filter rainwater, as well as non-point source pollution from surface runoff. Funding for this Demonstration Garden has been contributed by foundations, corporations and government grants, including a Section 319 Clean Water Act grant through EPA Region 7 and Missouri Department of Natural Resources.

Brightside St. Louis: The rain garden helps address nonpoint source runoff concerns caused by the 75,000 cars that use the nearby intersection on a daily basis.

South Grand Great Streets Initiative

The City and East-West Gateway Council of Governments collaborated with numerous partners on the South Grand Great Streets initiative. Part of the initiative's green infrastructure strategy is to create rain gardens in vegetated curb extensions along South Grand Boulevard between Arsenal Street and Utah Street. Each of these areas will be planted with native plants which have deep roots that allows rainwater to infiltrate into the ground. Irrigation during plant establishment and proper maintenance is essential for successful rain gardens. Once established, rain gardens will be very tolerant of both wet and dry conditions. The South Grand Community Improvement District is responsible for the maintenance of the rain gardens.



South Grand Boulevard: Phase two completion expected fall of 2013.



Missouri Botanical Garden

The Missouri Botanical Garden used the opportunity of renovating its east visitor parking lot to demonstrate stormwater best management practices, including porous pavements and a rain garden. The new installations will significantly reduce runoff, flash floods, soil erosion, and water pollution. Native plants were selected by landscape architects and horticulturists from the Garden's Shaw Nature Reserve. The rain garden was constructed with special rock, filter fabric, soil, and native plants. Stormwater facilities within these areas are projected to capture up to 90% of an average St. Louis rain event (1.14 inches in a 24-hour period).

Missouri Botanical Garden: The parking lot rain garden was completed in the summer of 2011.



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St. Louis City Housing Authority

The St. Louis Housing Authority (SLHA) received funding from HUD to create a citywide stormwater retention and solar demonstration project at SLHA locations in the City. The SLHA partnered with McCormack Baron Salazar and US Bancorp Community Development Corporation to undertake energy efficient retrofits and increase environmental performance at 10 properties throughout the City. As part of the stormwater harvesting part of the project, rain gardens were selected for two locations: King Louis Square Development and North Sarah. The rain gardens were designed by Pizzo & Associates to filter parking area stormwater runoff through the use of native plant species and subsurface engineered drainage material.

SLHA: Native plants make the garden at King Louis Square both attractive and functional.

Habitat for Humanity Saint Louis Homes – North St. Louis

In partnership with the City, the U.S. Green Building Council, Greenscape Gardens, and Metropolitan St. Louis Sewer District, the St. Louis affiliate of Habitat for Humanity included rain gardens around homes constructed in the Jeff VanderLou and Old North St. Louis neighborhoods. The rain gardens are designed for the capacity of a 1.14 inch storm, and feature low maintenance native plants. They are constructed with mulch, water absorbent soil, and sand, which serve to filter runoff collected from the yard, roof and local hardscape. The rain gardens also help slow stormwater runoff, reducing stress on the combined sewer system.



Habitat for Humanity: Urban rain gardens remove pollutants from city streets.



Chouteau Crossing

Sheet Metal Workers' Local 36 worked with MSD, the City, Stock & Associates, and Green Street Development Group to install 10 rain gardens around their new headquarters, a building project aiming for LEED Platinum certification. The rain gardens, completed in November of 2011, collect runoff from the parking lot and roof of the building. Collected water is filtered through a mixture of plants, stone, soil and sand.

Chouteau Crossing: One of 10 rain gardens near Chouteau and South Jefferson Avenues.

Citygarden

Citygarden is a partnership between the City and the Gateway Foundation. The park opened in July of 2009 and has six separate rain gardens that cover more than 5,000 square feet. They collect and filter stormwater from two-thirds of the site's surfaces. Citygarden's sophisticated use of rain gardens and other drainage techniques places it in the forefront of sustainable urban parks. Existing soil was replaced with native, sand-based engineered soils that maximize drainage. For more information, please click here.



Citygarden: In addition to stormwater management, Citygarden serves as a community gathering space.



Downtown St. Louis Pilot

The City, Downtown St. Louis Community Improvement District, HOK, Midwest Products, St. Louis Composting, and Forest Keeling Nursery installed a demonstration rain garden at 11th and Pine Streets. The pilot project employs a new segmental wall and curb system called Freno™ that offers a cost-effective, modular method of building an urban rain garden. A key feature is the observation well which facilitates performance monitoring and testing of the rainwater.

11th Street: A Freno™ system rain garden absorbs stormwater runoff. Photo courtesy of Peter Wilson.

Additional Resources

- ♣ Metropolitan St. Louis Sewer District - [Landscape Guide](#)
- ♣ Missouri Department of Natural Resources - [Missouri Guide to Green Infrastructure \(2012\)](#)
- ♣ Missouri Botanical Garden - [Guide to Rain Gardens for Homeowners](#)
- ♣ Missouri Department of Conservation - [Guide to Native Plants for Your Landscape](#)

