

Other Methods

There are many other approaches that are “green.” Listed below are a few more examples. Let us know of others that are in use in Jefferson County or about other methods you would like more information.

- [Open Space Design](#)
- [Land conservation](#)
- [Stormwater Wetlands](#)
- [Urban forestry – model to predict benefits](#)
- [Riparian buffer protection](#)

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JEFFERSON COUNTY SOIL AND WATER
CONSERVATION DISTRICT

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Natural Solutions to Stormwater Management

USING PLANTS, SOILS & NATURAL LANDSCAPES
TO ADDRESS STORMWATER MANAGEMENT



Our Vision . . .

A community with protected natural resources
and cleaner waters.

The Jefferson County Conservation District’s mission is conservation of soil and water resources in our county. The new “green” techniques for managing storm-water runoff fit in well with our goals. It’s a big topic and changing all the time, but we have assembled some information here to help people learn and get started. For more information, call our office for technical assistance and more resource materials. You’ll also want to watch our web site for new information and programs. www.jeffcd.org

What are Green Techniques?

These are ways to use natural systems, based on soils and plants rather than concrete and steel, to retain and treat runoff water that could otherwise harm our streams and groundwater. Native plants (those that have grown here for centuries) are preferred because they are adapted to our local environment. The species with very deep roots are especially beneficial in promoting water infiltration. Many non-natives and especially cool season grasses (bluegrass and fescue) have very shallow roots that extend only 2—3 inches. This figure shows how deep some of the native plant roots can go.



Additional sources for porous pavement:

[Porous pavement info, including a video](#)

[Porous pavement fact sheet from EPA](#)

Green Roofs

Green roofs or rooftop gardens are rooftops that have planted areas in a lightweight soil or planting material. These systems intercept and slow rain water, reducing runoff; they also insulate the buildings they cover, decreasing energy costs for heating and cooling and helping reduce the [heat island effect](#). Louisville has a few green roofs downtown, Bernheim Arboretum and Research Forest has one on its [visitors center](#), and Metro government is planning to install the first on a public building at 444 South Fifth Street.

- [EPA Green Roofs page](#)
- [Green Roofs for Healthy Cities](#)



Green rooftop
on Visitors
Center in
Bernheim
Forest.

Close-up view of porous concrete parking lot.



Water pouring out of the concrete truck and into the porous pavement during the October 27, 2006 workshop at the Girl Scout Headquarters, located off Lexington Ave. The “puddle” over the porous concrete never expanded any wider than what is shown here.

In the fall of 2006, the District partnered with other local agencies to sponsor a workshop on Natural Solutions to Stormwater Management. We talked about the need to understand your soil systems, plant selection, working with MSD and Public Works, and we went out and toured some projects in the parks. We plan to sponsor more programs and will advertise them in our newsletter and web site. Visit these sites for some general information.

- [Stormwater Runoff TV Special “After the Storm”](#)
- [U.S. EPA Homeowner's GreenScapes](#)
- [Green Infrastructure](#)
- [Native plant information](#)

The next several pages provide more information on the following techniques.

- Rain gardens
- Rain barrels
- Porous pavement
- Green roofs
- Other methods

Rain Gardens

A rain garden is an area of your property that functions as a natural buffer for stormwater flow. The garden's concave, or "bowl", shape and spongy mulch allows rainwater to be collected and slowly filtered into the soil. Rain gardens are planted with native bushes, plants and flowers. The deep roots of a native plant help the soil absorb rain water along with any nutrients or pollutants.



A Louisville rain garden serving two homes, installed by Louisville MSD



Another Louisville rain garden, including a water fountain and bridge.

Here are some additional links to more Rain Garden information:

- [Rain Garden Network](#)
- [Mt. Airy Rain Catchers project in Cincinnati](#)
- [10,000 Rain Gardens](#)
- [Rain Gardens of West Michigan](#)
- [Louisville Wild Ones - Native Plants, Natural Landscapes](#)
- [Louisville Nature Center – has native plant sales regularly](#)

Rain Barrels



Two rain barrels connected to collect and store more water.

Rain barrels are not really a new thing. Rural families have been using them for years to collect rain that runs off their roof for use in watering their gardens or washing clothes or even for drinking (not recommended without treatment).

Nowadays, we are using rain barrels to catch and hold some of the roof runoff from the gutter downspouts to reduce runoff into streams. There’s also the benefit of free water for the homeowner to use during periods of dry weather.

Here’s more information:

- [Rain Barrel Guide](#)
- [Louisville MSD rain barrel page](#)
- [Rain barrels described and how to install](#)



A rain barrel that overflows to a rain garden.

Porous Pavements

Imagine pouring a bucket of water onto the parking lot and it just soaks right in – now imagine a truck pouring about 100 gallons a minute onto the parking lot and that soaking in! There are types of concrete and asphalt that allow water to pass through. We have some demonstration areas in Louisville, such as the parking lot for the Girl Scout Building on Lexington Avenue, where you can actually see the pavement work. Porous pavement should only be installed over areas where the soil will allow water to “soak in” or gravel has been placed to help move the water from underneath the pavement.