



Rain Gardens capture runoff and Recharge Groundwater.

Benefits of Rain Gardens -

Decreased flooding and erosion. Flooding and erosion occur when a large volume of rainwater overloads creeks and streams. By delaying rainwater runoff, rain gardens reduce the risk of flooding and erosion.

Cleaner water. Rain gardens filter water runoff. After soaking through the soil, water leaving the rain garden is dramatically cleaner than the water that enters it. Holding back the runoff helps prevent pollutants, in this case from automobiles, from washing into storm sewers and eventually into nearby streams. This means that streams, such as our own Yellow Creek, will be cleaner. Rain gardens may also help to replenish ground water supplies.

Benefits of Rain Gardens - *continued*

Beauty and habitat. Rain gardens are heavily planted, typically with a variety of native species. These plants add beauty to our environment and provide habitat to wildlife.

No mosquitoes! Rain gardens retain water for no more than a few days. Because mosquitoes require standing water for at least 7 days to complete their life cycle, rain gardens do not harbor mosquitoes.

Successful completion of this project will demonstrate innovative practices for passively treating and managing storm water drainage and reducing nonpoint source pollution loadings.

SITE MAP



Photos courtesy of:
ceramics.org-pervious-concrete-swallows-400-gallons/ Google and Bath Township.

OHIO EPA SWIF GRANT

Bath Township

Permeable Parking Area / Public Rain Garden

Clean water is important to each of us as individuals, but water quality is also a regional concern.

The Surface Water Improvement Fund (SWIF), was created in 2008 with the passage of [Ohio House Bill 119](#) and authorizes the Ohio Environmental Protection Agency to provide grant funding to applicants such as local governments, park districts, conservation organizations and others.

The SWIF Grants are designed to improve Ohio's rivers, streams and communities in general. This will be done by addressing nonpoint source pollution, management of innovative storm water projects as well as stream and wetland restoration in Ohio's communities.

The Ohio EPA received 132 applications. Bath Township was one of 19 projects that were successful and are being awarded 2010 SWIF grants. Grants are awarded for two-year periods with effective start dates of June 1, 2010.

The \$34,560 grant will go toward the improvement of the parking lot of the Bath Center complex with the installation of a permeable parking area and rain garden.

YELLOW CREEK ACTION PLAN

In 2004, the Northeast Ohio Four County Regional Planning and Development Organization (NEFCO) completed the Yellow Creek Watershed Action Plan. Within that plan, one of the seventy target areas were the Parking Lots located at the four corners area known as Bath Center. The proposed action was to “reduce parking lot size; and reduce imperviousness”.

Within Bath Center many impervious surfaces exist between both Bath Township and the Revere School complexes such as roofs, walkways, roadways and parking lots. Reducing the size or the need of any one of them would be difficult at best. The existing Bath Center parking lot drains by sheet, flowing across the parking area from west to east, then entering a catch basin along the southeast berm of the parking lot and then exiting the storm sewer system into the North Fork tributary of Yellow Creek.

Bath Township will convert the main parking lot area into a more permeable site by installing a pervious concrete portion to capture the runoff and drain it into a rain garden to store the storm water.

Pervious Concrete - According to the U.S. Environmental Protection Agency (EPA) the proper utilization of pervious concrete is a recognized Best Management Practice by providing the first flush pollution control for storm water management.

Pervious concrete does this by reducing runoff from paved areas. It also naturally filters storm water and can reduce pollutant loads from entering into streams and rivers. The pollutants cling to the vast surface area within the material, which gives microorganisms a time to break them down into less toxic chemicals before entering the rain garden.



Pervious Concrete allows Groundwater Recharge.

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Rain gardens are designed to capture rainwater. They are located in depressions and planted with vegetation selected to tolerate both wet and dry conditions. They mimic natural processes by allowing rainwater to soak into the ground or evaporate, rather than running directly and rapidly into nearby creeks and streams. They fill with a few inches of water and allow the water to slowly filter into the ground rather than running off to storm drains. Compared to a conventional lawn, a rain garden allows about 30% more water to soak into the ground.

With the help of the Summit County Engineer, Bath Township requested them to perform a hydraulic analysis of the main parking lot area at the Bath Township Complex and recommend the size rain garden needed for the site.

The hydraulic analysis was based on an average rainfall event of 0.75 inches. The main parking lot has a drainage area of 0.40 acres. This would require a retention area capable of handling a water volume of 566 cubic feet.