



## The Rain Garden Reserve

The City of Cuyahoga Falls was one of the Northeast Ohio communities most severely impacted by flooding in the last decade, and was declared a federal disaster zone by the Federal Emergency Management Agency (FEMA) twice in a two-year period. City officials worked with FEMA and the Ohio Emergency Management Agency to develop a plan to reduce stormwater runoff in a specific neighborhood that experienced severe and repetitive flooding. With the use of FEMA funds and cooperation of the residents involved, the city purchased and demolished four flood-prone homes in a low-lying area. In their places the city created an engineered bioretention system or rain garden along with smaller retention areas and other Best Management Practices (BMPs) incorporated into the design.



### The major goals of the project included:

- ◆ Create a "First of its Kind" FEMA mitigation site using a municipal scale rain garden.
- ◆ Educate the public on the benefits of rain gardens and their effect on stormwater management.
- ◆ Provide a design model for rain gardens that can be placed into other city projects.
- ◆ Build a public space that balances security and openness with intimate site lighting, strategically placed plant material, and ADA (American Disability Act) accessible walkways.
- ◆ Use a Low Impact/Low Maintenance design that incorporates native non-invasive plant material that requires lower maintenance.
- ◆ Demonstrate innovative design measures through the use of, rain gardens providing flood relief, pervious pavers and permeable concrete allowing for rain water infiltration, and solar lighting keeping this facility off the power grid.



**Total construction cost of the project was about \$160,000.00 including fencing and other site needs.**



- ◆ Design costs-\$43,333.00 (Includes soil sampling/testing)
- ◆ Excavation costs-\$13,240.00
- ◆ Permeable asphalt and concrete-\$4819.00
- ◆ Pipes/drainage/sump pump-\$4650.00
- ◆ Native plants and trees-\$22,572.00
- ◆ Rain garden amended soil-\$10,485.00

**The larger rain garden drains about 3.11 acres and can hold and filter 30,000 gallons of water.**

Sources: The City of Cuyahoga Falls, URS

Through the use of grant funds and donations and support from community organizations, businesses and residents, Cuyahoga Falls was able to complete an innovative and successful storm water management project which has alleviated flooding problems in an extremely vulnerable area.

