



GREEN STREETS | GREEN JOBS | GREEN TOWNS INITIATIVE

The Green Streets, Green Jobs, Green Towns Partnership (G3) aims to stimulate the green jobs market and enable families to work where they live and play. Small to mid-sized communities can boost their local economies and protect water resources through the use of watershed planning, design and construction of stormwater best management practices.

Borough of Northumberland, PA - Liberty Hollow Stormwater Improvements

A small borough aims a big project to help alleviate flooding and treat stormwater.



Project Location: Lower Susquehanna River Subwatershed (Upper Susquehanna-Lackawanna River), Borough of Northumberland, Northumberland County, PA



100s people engaged



permeable pavement



rain garden



trees

The Borough of Northumberland, PA is a small community about an hour's drive northeast of Harrisburg, PA. A small creek known as Liberty Hollow Run, a tributary to the Lower Susquehanna River, flows through the middle of Northumberland. Whenever there's a downpour, the creek can breach its low banks, potentially causing flooding, erosion, stormwater pipe collapse and significant water damage to nearby properties that impact more than 250 homeowners.

In 2013, the Borough requested and was awarded \$30,000 from the Green Streets, Green Jobs, and Green Towns (G3) grant. The goal was to identify green alternatives (rain barrels, rain gardens, tree

plantings, etc.) to help alleviate the intense flooding, storm drain collapses, erosion, and other issues that have plagued the Liberty Hollow community for the past decade or more.

The urban green stormwater infrastructure design, using best management practices, will also improve the quality of runoff from the Borough of Northumberland's impervious surfaces into the Susquehanna River.

Implementation of the new green infrastructure will provide employment opportunities during construction and in its maintenance afterward. This project would compliment a greater, county-wide, watershed plan.



Borough of Northumberland

PROJECT ELEMENTS

- **Permeable pavement** – Permeable pavement allows rain water to infiltrate and soak into the ground where it lands, rather than flowing off into the nearest storm drain.
- **Bioretention cells and bioswales**– These features filter and reduce stormwater runoff, allowing it to infiltrate into the ground, before it enters into the storm drain system.
- **Tree pits and stormwater planters**– Extended tree pits and planters into the reduces impervious surface cover and also reduces street area, narrowing the road and slowing traffic, increasing likelihood of pedestrian use.
- **Increased Urban Tree Canopy**– In urban areas a single tree can intercept from 500 to 4,000 gallons per year. Even young, small trees help, capturing 50 gallons per year. Trees not only treat stormwater, they provide a host of other benefits, including energy cost reduction in both summer (shade) and winter (proper placement can result in the reduction of energy use by 20-50%), aesthetics, property value enhancement, business traffic enhancement, and health benefits.
- **Rain barrels** – Rain barrels, when connected to a building’s downspouts, collect water coming from the roof during rain events. Water collected in the barrels can then be used later to water plants or can simply be released more slowly when the ground can soak it up.
- **Green roof**– Plants installed on a roof, generally flat roofs, along with proper media can absorb rainwater and prevent water from getting to the ground

G3 Grant Awarded: \$20,000
Status: Design Process Underway



Flooding in 2011

SUSTAINABILITY & GROWTH: ADDITIONAL GREEN ACTIVITIES

The Borough will fit this project into an overall context including several other green efforts:

- The Borough of Northumberland enacted a Stormwater Management Ordinance in April of 2002. The ordinance requires the use of Best Management Practices and alternative approaches that will minimize post-development runoff rates and volumes. The land located within the Liberty Hollow Run watershed was developed years before the ordinance was created.
- The Borough is currently working to identify potential sources of funding to implement a community watershed plan. The Borough is a small municipality of 3,806 people, where 40% of the population is over 50 years old, 19% have relatively fixed incomes, and 20% have no measurable income at all. It is the hope of the Borough to spark enough community interest through this stormwater improvements project to gain involvement and participation in creating a sustainable green community.
- A streambank erosion control project will include a path and greenway trail for community aesthetics and use.



Project Partners: City of Northumberland;
Chesapeake Bay Trust, U.S. Environmental
Protection Agency