



Green Infrastructure & Stormwater Management CASE STUDY

Village of Greenwood Lake Riparian Buffer

Location: Waterstone Road, Greenwood Lake, NY

Client: Village of Greenwood Lake

Design Firm(s): Lehman & Getz Engineering, P.C. & Karen Arent, Landscape Architect

Landscape architect/Project contact: Karen Emmerich, AICP and Karen Arent, ASLA

Email: karen@lehmangetz.com

ASLA Chapter: New York



Photo: Lehman & Getz Engineering, P.C.

Project Specifications

Project Description: A neglected shoreline that separates Waterstone Road from Greenwood Lake was eroding due to road runoff and was also overgrown with invasive plants. The Village sought grant funding to stabilize the shoreline with coir logs and install native plants.

Project Type:

Lake shoreline - privately owned, with Village easement to construct the project
A retrofit of an existing property

Design features: Using native plants to filter stormwater and stabilize the shoreline. Coir logs were used for erosion control and stabilization, and aquatic plants were planted in the logs to help stabilize the lakefront property.

This project was designed to meet the following specific requirements or mandates: State statute, to assist the Village in complying with NYS MS4 SPDES permit

Impervious area managed: less than 5,000 sq/ft

Amount of existing green space/open space conserved or preserved for managing stormwater on site: less than 5,000 sq/ft. There is no impervious area on the site, and none was created. The entire strip of shoreline was replanted with native shrubs and groundcover, as well as aquatic plants that were used to stabilize the shoreline.

The regulatory environment and regulator was supportive of the project.

Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements? The Village wanted to demonstrate a natural way to plant and protect the riparian property.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: \$10,000-\$50,000 (Public funding: Federal, local, ARRA funds, plus local match (10%))

Was a green vs. grey cost analysis performed? No

Cost impact of conserving green/open space to the overall costs of the site design/development project: The entire project was focused on preserving the green space. Grey infrastructure was not a viable option.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Significantly reduced costs (10% or greater savings). A stormwater filtration unit would have nearly doubled the costs.

Number of jobs created: 2

Job hours devoted to project:

Planning and Design: 150

Construction: 90

Annual Maintenance: Not available

Performance Measures

Community & economic benefits that have resulted from the project: The buffer has stabilized the shoreline. It's now attractive as well, instead of a neglected site that is overgrown with invasive plants.

Additional Information

Links to images:

<http://www.ocsoil.org/GreenInfrastructure/GreenwoodLakeRiparianBufferPhotos.pdf>