

**BRIARCLIFF MANOR  
UNION FREE SCHOOL DISTRICT  
45 INGHAM ROAD  
BRIARCLIFF MANOR, NY 10510**

**MS4PY4 STORMWATER  
PROGRAM**

**FACT SHEET # 2  
JANUARY 2014**

**GREEN INFRASTRUCTURE  
PROGRAM BY THE NYC  
DEPARTMENT OF  
ENVIRONMENTAL PROTECTION**

**FOR MORE INFORMATION CONTACT  
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### **1. DEP Green Infrastructure Program**

In 2012, the New York City Department of Environmental Protection (DEP) entered an agreement with the New York State Department of Environmental Conservation (NYSDEC) to reduce stormwater pollution from Combined Sewer Over Flows (CSOs). The information contained in this fact sheet highlights some of the principal DEP actions to reduce pollution from stormwater by implementing green subsurface and rooftop stormwater design concepts.

### **2. Lessons Learned from the DEP**

The purpose of citing these green measures in this fact sheet are several-fold:

**1. Understanding the Successes of the NYC Green Infrastructure Program:** The District can initiate a green infrastructure program, based on lessons learned from the DEP initiatives

**2. Public Education through MS4 Inter-Regional Participation:** The green infrastructure program developed by the DEP has been approved by NYSDEC for stormwater pollution control. Through an inter-regional MS4 participation, successful procedures adopted by the DEP that may be applicable to the District.

**3. Stormwater Outreach Program:** the District can coordinate tours and visits by students, staff and administrators, to view some of the projects completed by the City. Alternatively, DEP officials can make presentations to the District on the success of the DEP green infrastructure program.

### **3. Relevant DEP Accomplishments**

The following are relevant DEP stormwater accomplishments:

**1. Guidelines:** DEP published *Guidelines for the Design and Construction of Stormwater Management Systems*, which focused on the planning, design and construction of onsite source controls

**2. Retrofit Design Projects for Schools:** In 2012, DEP reviewed designs for five (5) schoolyard sites, identifying opportunities for green infrastructure retrofits.

**3. Subsurface and Rooftop Design Concepts:** In 2012, DEP awarded grants for projects spread across four boroughs that included green roofs, rain gardens, porous pavements and bio-infiltration

**4. Public Outreach Program:** As a part of the public outreach program, the DEP Office of Green Infrastructure has established a green infrastructure steering committee

**5. The Steering Committee Initiatives:** The principal focus of the committee is to

- Help foster *greater stakeholder participation* in the development of the green infrastructure program
- *Raise awareness* in the community
- *Promote green infrastructure practices*

**6. Implementations:** the steering committee initiatives are implemented through:

- *Quarterly public meetings*
- *Newsletters and fact Sheets*
- *Public workshops*
- *Public webinars*
- *Presentations to school officials* and other civic organizations

**4. High Line Park, Green Roof Concepts**  
The High Line Park, located from Gansevoort St. to West 34<sup>th</sup> St. in NYC, was constructed

utilizing the green roof design concepts for stormwater drainage. The paths along either side of the elevated walkway contain a variety of plants, shrubs, wild flowers and grasses, to reflect many of the original micro-climates of the High Line. The open-jointed concrete planks, with pea gravel, and soil medium, act as a filter system, and the plants provide absorption and treatment as well as runoff reduction through evapo-transpiration.

**5. NYC Subsurface and Rooftop Systems**  
Subsurface and rooftop systems utilized by the DEP consists of :

- **Precast concrete structures** built with or without bottom slabs, depending on the permeability of the soils
- **Gravel Beds:** consists of excavated areas filled with uniformly-graded gravel. The void space detains water or can also be used to infiltrate water underground
- **Perforated Pipes:** perforated pipes provide detention and infiltration
- **Stormwater Chambers:** detain water and also promote infiltration through open-bottom systems
- **Rooftop Systems:** consists of blue roofs (controlled flow roof drain systems) and green roofs ( vegetated plants in specially designed soil above a drainage layer)

**6. Complying with the Clean Water Act**  
Utilizing the green infrastructure, USEPA suggests (EPA, 2011) is a cost-effective, flexible and environmentally-sound approach to reduce stormwater pollution under the Clean Water Act. EPA encourages this program as it also provides a variety of community sustainable benefits.