

BRONX RIVER WATERSHED INITIATIVE PROJECT ABSTRACTS

Project Title: Stormwater Capture at Scout Field

Recipient: Westchester County Department of Planning

NYS OAG/DEC BRWI Funds:	\$250,000
Match Funds:	\$306,700
<hr/>	
Total Project Costs:	\$556,700

Project Area: Bronxville, New York

The Westchester County Department of Planning will design and construct a 3.2 acre stormwater wetland to absorb and filter runoff discharging from a pipe into the Bronx River and stabilize an adjacent eroding river bank.

The project is one of 24 high priority sites identified by the Bronx River Watershed Coalition in its *Comprehensive Stormwater Pollution Control Plan*. The group is comprised of municipalities, nonprofits and county and state agencies who work together to improve water quality in the Bronx River by controlling stormwater pollution. It is designed in accordance with the standards of the *New York State Stormwater Management Design Manual*.

A stormwater wetland is a group of stormwater management practices that include shallow wetlands, detention wetlands, pond/wetland systems and pocket wetlands. This particular stormwater wetland will create a marsh to treat and reduce polluted urban stormwater runoff now directly discharging into the waterway from roads, houses and businesses. The way it works is stormwater runoff flows through the wetland, pollution is removed through settling and biological and chemical uptake from evaporation and by plants. Stormwater wetlands of this type are noted for their ability to remove phosphorus, nitrogen, heavy metals and pathogens from polluted stormwater.

The project also promotes park preservation and stewardship as envisioned in the *Westchester County Department of Parks, Recreation and Conservation's Master Plan*. Restoration of the shorelines and greenways is a high priority for the northernmost ten miles of the Bronx River Parkway Reservation where this project is located. Part of the work will involve removing trash and invasive plants and reducing erosion into the Bronx River from a severely degraded bank. Signs will be installed in this highly visibility area of athletic fields, a paved walkway near the Bronx River and near Midland Avenue to inform the public about the project and its benefits.

Project partners include the Westchester County Department of Parks, Recreation and Conservation, and Public Works; Westchester County Soil and Water Conservation District, and the Village of Bronxville.

The Bronx River Watershed Initiative (BRWI) is a new source of support for stormwater retrofit projects along the Bronx River. The funds come from a \$7 million settlement generated by the New York State Attorney General's Office (OAG) and Department of Environmental

Conservation (DEC) resulting from violations associated with discharges of raw sewage into the Bronx River from storm sewers. The BRWI will fund stormwater retrofit projects to address the root causes of pollution from stormwater outfalls to improve water quality and river ecology.

Project Title: Bronx River Rainwater Harvesting

Recipient: Bronx River Alliance, Inc.

NYS OAG/DEC BRWI Funds:	\$117,500
Match Funds:	\$62,693
<hr/>	
Total Project Costs:	\$180,193

Project Area: Bronxville, New York

The Bronx River Alliance will develop and implement a rainwater harvesting program at X sites capturing roof runoff in tanks and encouraging its reuse to prevent polluted stormwater from entering the sewers which discharge into the waterway.

The project will be implemented at sites identified in a targeted analysis conducted by the Bronx River Alliance and its municipal and nonprofit partners in 2007. The analysis focused on three parts of the Borough “sewersheds” that contribute the most polluted stormwater into the Bronx River. Sewersheds are areas of neighborhoods comprised of systems of pipes, manholes, pumps and drains that transport wastewater into sewers. When it rains such systems are frequently overwhelmed and then oil, fertilizers, animal waste and chemicals overflow into rivers and streams. In developed environments like the Bronx River Watershed where surfaces are roofs, parking lots and roads cover more than 60 percent of the landscape, rain is not captured or filtered by vegetation and soil. As a result, polluted stormwater quickly moves from these impervious surfaces through the sewershed discharging into rivers and streams.

Rainwater capture systems are an important technique available to improve the health of the Bronx River. As it rains, tanks associated with this project will fill to capacities of 300 to 1,000 gallons. Once a tank is full the water can be used by property owners for watering gardens and lawns. By diverting rooftop runoff into tanks and then reusing it less stormwater flows into the sewer system. While this is a pilot, one goal of the project is to develop guidance for widespread installation of rainwater harvesting systems that satisfy New York City building codes. For this reason, rainwater recapture and reuse resulting from projects of this type is one of the priority recommendations of the *Bronx River Ecological and Management Plan*.

Project partners include the Neighborhood Initiatives Development Corporation, Mosholu Preservation Corporation, the City of New York Department of Parks and Recreation, and the New York City Housing Authority.

The Bronx River Watershed Initiative (BRWI) is a new source of support for stormwater retrofit projects along the Bronx River. The funds come from a \$7 million settlement generated by the New York State Attorney General’s Office (OAG) and Department of Environmental Conservation (DEC) resulting from violations associated with discharges of raw sewage into the Bronx River from storm sewers. The BRWI will fund stormwater retrofit projects to address the root causes of pollution from stormwater outfalls to improve water quality and river ecology.

Project Title: Stormwater Capture Features along the Banks of the Bronx River

Recipient: New York City Department of Parks and Recreation

NYS OAG/DEC BRWI Funds:	\$250,000
Match Funds:	\$523,600
<hr/>	
Total Project Costs:	\$773,600

Project Area: The Bronx River at East 211th Street, Shoelace Park

The New York City Department of Parks and Recreation will develop a 360-square foot swale to capture 14,937 gallons of stormwater annually at Shoelace Park along the Bronx River.

The Bronx River Ecological and Watershed Management Plan recommends implementation of stormwater retrofits of this type to reduce the volume and peak flow of stormwater into the River; and to implement stormwater retrofit projects which demonstrate the capacity of state and local government and citizens groups to implement such projects. At the 211th Street site water flows overland from surrounding streets, sidewalks and rooftops into the park where it forms channels that erode parkland and river bank before flowing directly into the river. Additional flows are currently diverted to a storm drain catch basin that pipes polluted water into the river under Gun Hill Road.

Stormwater swales are depressions that collect runoff and disposes of it by allowing water to soak into the ground through pore spaces in the soil of the swale. This project will extend a drainage culvert already in place significantly improving its capacity to capture the most polluted first flush of stormwater after it rains. Piping will link the swale into a planned drainage system. A stone bedded vegetated trough “pocket swale” will be constructed along stepped down erosion control system designed to slow water and allow percolation and uptake of stormwater. Native vegetation will be planted associated with the swale to further control erosion into the Bronx River.

The project is a visible stormwater retrofit that illustrates the connection between rainwater runoff and water pollution. It is also part of comprehensive effort involving community organizations and federal, state and local government working in close collaboration called the Bronx River Greenway Team. This multi-entity collaboration aims to develop the Bronx River Greenway a linear park and multi-use path.

The Bronx River Watershed Initiative (BRWI) is a new source of support for stormwater retrofit projects along the Bronx River. The funds come from a \$7 million settlement generated by the New York State Attorney General’s Office (OAG) and Department of Environmental Conservation (DEC) resulting from violations associated with discharges of raw sewage into the Bronx River from storm sewers. The BRWI will fund stormwater retrofit projects to address the root causes of pollution from stormwater outfalls to improve water quality and river ecology.