Green Infrastructure & Stormwater Management CASE STUDY

Bronx River Floodplain

Location: Burke Ave Bridge on Bronx River in Bronx Park, New York City, NY
Client: NYC Parks & Recreation
Design Firm(s): NYC Parks NRG & Capital; Volmer Associates; Interfluve, Inc.
Landscape architect/Project contact: Marit Larson
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ASLA Chapter: New York

Project Specifications

Project Description: This project provided floodplain restoration to increase stormwater capture functions, reduce invasive species, address inappropriate site uses and provide riparian habitat restoration.

Project Type:
Open space - park
A retrofit of an existing property

Design features: Bioretention though floodplain restoration.

This project was designed to meet the following specific requirements or mandates: To meet funding criteria

Impervious area managed: greater than 5 acres

Amount of existing green space/open space conserved or preserved for managing stormwater on site: 1 acre to 5 acres

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? Sustainability and maintenance were major concerns.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: $1,000,000-$5,000,000 (Public funding: State, local)

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: Reduced site redevelopment and long-term maintenance costs.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Slightly reduced costs (1-9% savings).

Number of jobs created: ~ 10 per year on average during course of the 4-year project from design to construction

Job hours devoted to project:

Planning and Design: 546
Construction: 1,820
Annual Maintenance: 91

Performance Measures

Stormwater reduction performance analysis:

The project was estimated to show a slight, incremental reduction in the peak hydrograph for the 2-year storm. The small area (3 acres) compared to the size of the contributing drainage area (34 sq. mi.) means it was difficult to quantify the change.

Community & economic benefits that have resulted from the project: Benefits include increased trees for public health and ecological restoration for increase biodiversity.

Project Recognition

Design award by the Connecticut chapter of the American Society of Landscape Architects

Additional Information

Links to images:

http://www.nycgovparks.org/sub_about/parks_divisions/nrg/bronx_river_epa/BxR_watersheds_

wetlands_mapping/Wetlands_restorations/BxR_floodplain_channel/Floodplain_channel_rehabilitation/bond_act_floodplain_restoration.html