Enhancing New York City’s Public Properties with Stormwater Management

NEWEA/NYWEA Spring Meeting
June 6, 2016
Overview

• NYC’s green infrastructure program
• Past projects on City properties
• Current on-site approach and opportunities
New York City’s Green Infrastructure Plan

1. Build cost-effective grey infrastructure
2. Optimize the existing wastewater system
3. Control runoff from 10% of impervious surfaces through green infrastructure and other source controls
4. Institutionalize adaptive management, model impacts, measure CSOs, and monitor water quality
5. Sustain stakeholder engagement
Consent Order

• DEP and DEC amended consent order to reduce CSOs in March 2012

• Included commitments to:
  – Manage runoff from 10% of impervious surfaces citywide by 2030 with green infrastructure
  – Incorporate green infrastructure into the LTCP
  – Construct three neighborhood demonstration areas of green infrastructure
Past Designs

Shoelace Park

1. Shoelace Park Drainage Areas
2. Bioretention concept in Shoelace Park
Past Designs

Shoelace Park
Past Designs
North and South Conduit

To Sewer
Past Designs

North and South Conduit
Past Designs
Bronx River Houses
Bioswales
Bioswales
On-Site Green Infrastructure Partners

Parks

Public Schools

Public Housing
On-Site Designs

Priorities are

- Maximizing effectiveness of green infrastructure
- Visibility to the public
- Ease of construction
- Maintenance of on-site programming (unless partner is open to change)
What to Implement

Bioretention

Underground Storage

Pervious Paving

Turf Field
Schools

Focus is on schoolyards

- Avoids construction on buildings (limited construction window)
- Simpler access for site selection process
- Opportunities for education
- Co-benefits for the schools (new paving, fields, etc).
Public Housing

• Maximize use of existing pipe network
• Incorporate open space into green infrastructure
Parks

- Bioretention where feasible
- Porous paving where aesthetically cohesive with existing paving
- Proximity to existing trees/vegetation is important siting concern
Site Selection Process

Desktop analysis

- Confirm sites are connected to combined sewers
- Review existing site plans for utility locations/topography
- Evaluate tree cover
- Develop concepts of potential GI for review in field
Site Selection Process

- Walkthrough with agency partners
- Revise conceptual designs after walkthrough
- Perform geotechnical investigations
- Update conceptual design sizing based on results
- Solicit survey for suitable sites
Current Designs

Currently in design at

• 2 housing projects
• 4 schools
• 5 parks
• 3 jointly operated playgrounds (shared between school and park)
Gowanus Houses
Gowanus Houses

Water line with 15’ easement

Building sump dewatering to catch basin
Park Slope Playground

- Underground Storage
- Turf field with painted track
Next Steps

• Complete site surveys
• Conduct tree surveys with arborists at parks
• Coordinate with School Construction Authority and Parks on schematic designs
• Advance designs at Gowanus Houses to 100% design in coordination with Sandy recovery work
Thank You

- DEP Office of Green Infrastructure
  - Magdi Farag, PE
  - Adriana Kocovic
  - Kevin Dahms
  - Kerry Lowe
  - Margot Walker
Questions?

Dahlia Thompson, PE
Hazen and Sawyer
dthompson@hazenandsawyer.com
212-539-7151