Green Infrastructure & Stormwater Management
CASE STUDY

GW Square 80 Public Plaza

Location: Washington, DC
Client: The George Washington University
Design Firm(s): STUDIO39 Landscape Architecture
Landscape architect/Project contact: Daniel Dove
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ASLA Chapter: Potomac

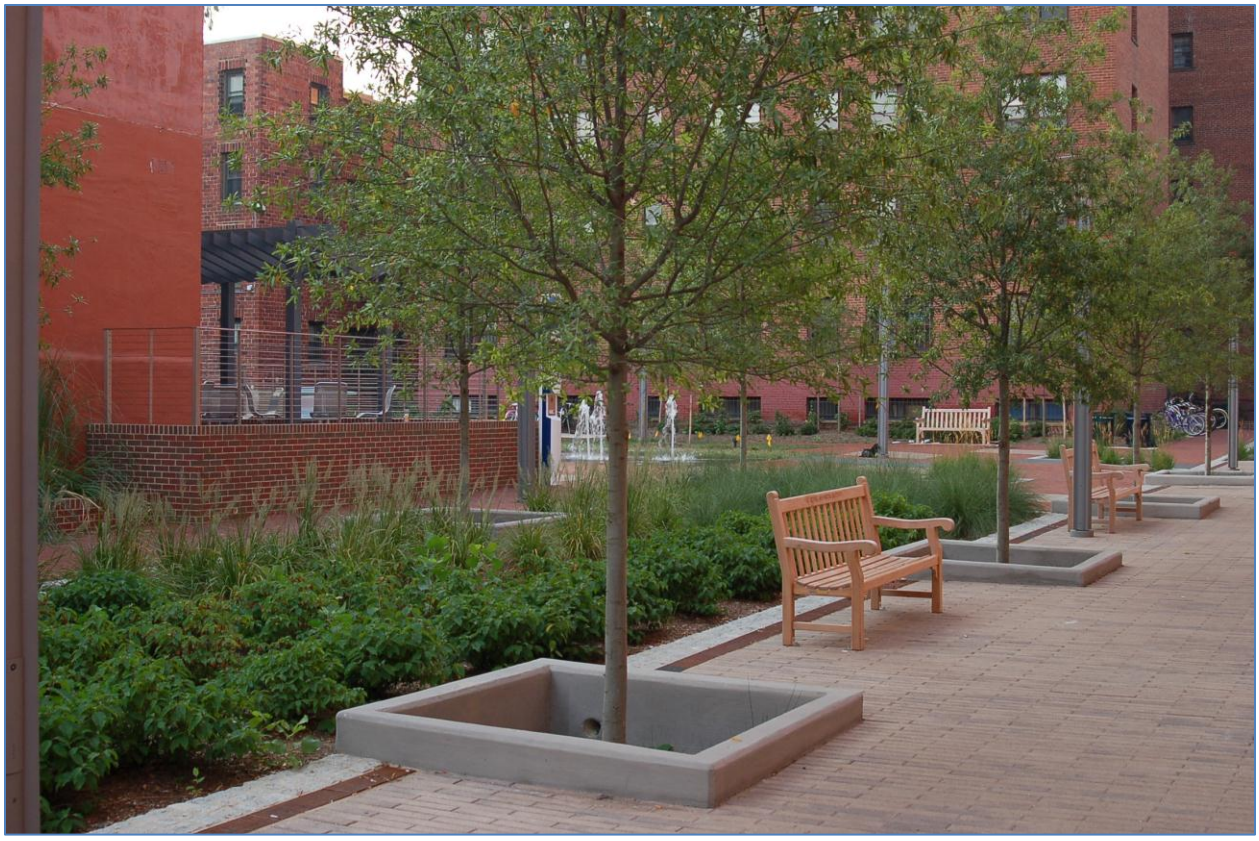

Photo: STUDIO39 Landscape Architecture

Project Specifications

Project Description: The Square 80 courtyard replaces an existing parking lot and service alleys with an urban plaza, expansive lawn, ornamental tree grove, extensive pedestrian network and an outdoor classroom for GW's new Sustainable Landscape program. Utilizing multiple LID techniques the goal is to retain close to 100% of on-site stormwater runoff.

Sustainable project elements include: biofiltration planters, pervious pavers, cisterns and rain barrel to capture overflow water and roof top rainwater for irrigation purposes and to use in the recycled sculptural water feature, native plant material, and finally the design includes the use of a rain garden and bio swale filtration in between the two residence halls. Pilot project for Sustainable Sites Initiative (SITES).

Project Type:
Institutional/Education
Part of a redevelopment project

Design features: Rain garden, bioswale, cistern, rain barrels, porous pavers, and biofiltration planters.

This project was designed to meet the following specific requirements or mandates:
Local ordinance, developer/client preference

Impervious area managed: 5,000 sq/ft to 1 acre

Amount of existing green space/open space conserved or preserved for managing stormwater on site: less than 5,000 sq/ft. There was a minimal amount of green space on site because it was previously a parking lot.

The regulatory environment and regulator was supportive of the project.

Photo: STUDIO39 Landscape Architecture

Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements? Yes. The project is to be used as an outdoor classroom for their sustainable landscape design program.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: $100,000-$500,000 (Public funding: None, GW is a private institution)

Related Information:

- Total = $287,000
- Permeable brick pavers = $78,890
- Permeable concrete pavers = $4,400
- PVC underdrain = $21,375
- Trench drains & grates = $31,670
- PVC piping = $18,620
- PVC drain basins = $700
- Ductile iron piping = $21,500
- Underground water cisterns = $90,000
- Rain barrel = $5,000
- Vortex water filters = $3,000

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: There was a minimal amount of green space on site because it was previously a parking lot.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Did not influence costs. There was a minimal amount of green space on site because it was previously a parking lot.

Number of jobs created: 0

Job hours devoted to project:

Planning and Design: 1,132 hrs.
Construction: 6 months of construction
Annual Maintenance: 780 hrs.

Performance Measures

Stormwater reduction performance analysis:
90% stormwater retained on site.

Community & economic benefits that have resulted from the project: Added green space/amenity area for GW at their Foggy Bottom campus in Washington, DC. They use this space for events.

Project Recognition

SITES Pilot Project. GW was a Finalist for WBJ 2010 Green Business Award for Design based on this project. Tour of project at White House Council's GreenGov Symposium.

Additional Information

Links to images: http://www.studio39.com/pages/projects/gwusq80/gwusq80.html

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