Green Infrastructure & Stormwater Management CASE STUDY

Florida Aquarium

Location: Tampa, FL
Client: Florida Aquarium, Inc.
Design Firm(s): Ekistics Design Studio, Inc. and Florida Technical Services, Inc
Landscape architect/Project contact: Thomas Levin
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ASLA Chapter: Florida

Project Specifications

Project Description: The Florida Aquarium parking lot and queuing garden became a laboratory to study alternative strategies for urban stormwater management. The project was patterned after a concept of "Stormwater Ecology" and consisted of a treatment train approach with bioswales, a pond, and rain gardens. A cooperative effort with the Southwest Florida Water Management District resulted in water quality monitoring of the designed system. The findings determined that increased infiltration resulted in substantial water quality benefits.

Project Type:
Institutional/education
Part of a redevelopment project

Design features: Bioretention facility, rain garden, and bioswale.

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

Impervious area managed: 1 acre to 5 acres

Amount of existing green space/open space conserved or preserved for managing stormwater on site: 5,000 sq/ft to 1 acre

The regulatory environment and regulator was indifferent to the project.

Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements? Yes, to maintain same number of parking spaces as the original conventional plan proposed.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: $100,000-$500,000 (Public funding: State)

Was a green vs. grey cost analysis performed? Yes. The money saved by reducing curbing and piping was redirected to landscaping for bioswales and rain gardens

Cost impact of conserving green/open space to the overall costs of the site design/development project: Basic costs were similar. Additional money was spent for educational signage, boardwalk and water monitring stations.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Did not influence costs.

Number of jobs created: 5

Job hours devoted to project:

Planning and Design: 250
Construction: Not available
Annual Maintenance: Not available

Performance Measures

Stormwater reduction performance analysis:
http://www.sfrc.ufl.edu/urbanforestry/Resources/PDF%20downloads/Rushton_2001.pdf

Community & economic benefits that have resulted from the project: Established an innovative stormwater project in a public and educational environment for a commercial scale project. Project was built in 1995 and has encourage development of alternative stormwater methodologies throughout the USA.

Project Recognition

1999 ASLA Medalion Award; EPA Gulf Guardian Award; Sustainable Sites Initiative Case Study; NRDC LID Case Study

Additional Information

Links: http://www.sustainablesites.org/cases/show.php?id=16
http://www.sfrc.ufl.edu/urbanforestry/Resources/PDF%20downloads/Rushton_2001.pdf
http://www.nrdc.org/water/pollution/storm/chap12.asp http://www.hcgdesign.com/wp/?p=36