



# Green Infrastructure & Stormwater Management CASE STUDY

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## South Waterfront Redevelopment

**Location:** Portland, OR

**Client:** Multiple - information can be provided upon request for specific uses

**Design Firm(s):** Otak, Inc.

**Landscape architect/Project contact:** Mandi Roberts, RLA, ASLA, Principal

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**ASLA Chapter:** Washington



### Project Specifications

**Project Description:** The thirty-acre South Waterfront District is transforming into a new urban mixed-use neighborhood with office, commercial, and residential uses and an integrated green infrastructure network. The City of Portland worked with developers to incentivize low impact development techniques and sustainable stormwater management facilities as part of the redevelopment project. The project also included riverbank restoration along the Willamette River.

### Project Type:

Mixed use

Part of a redevelopment project

**Design features:** Rain garden, bioswale, green roof, cistern, porous pavers, curb cuts, groundwater recharge system, and remediation of the Willamette River streambank.

**This project was designed to meet the following specific requirements or mandates:**

State statute, local ordinance, and developer/client preference

**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?** Yes; the client is also considering further implementation of an eco-district.

### **Cost & Jobs Analysis**

**Estimated Cost of Stormwater Project:** <\$5,000,000 (Public funding: Local – the project received partial public dollars as well as private development funding for public infrastructure.)

**Related Information:** The cost of design and environmental services for this project was \$600,000. Overall, the redevelopment and construction costs for this urban district in the southern area of Portland, Oregon were in the millions.

**Was a green vs. grey cost analysis performed?** Yes. The grey option would have required a much longer and costlier run for the stormwater system.

**Cost impact of conserving green/open space to the overall costs of the site design/development project:** Conservation of green space/open space and design and development of that space was less costly than architectural development. These features added long term value to future uses in terms of public space for workers and customers, as well as space and recreational opportunities for residents.

**Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)?** Significantly reduced costs (10% or greater savings). It reduced redevelopment costs by covering a portion of the stormwater management within public rights-of-way and by reducing the overall capacity needs for grey infrastructure.

**Number of jobs created:** Thousands

**Job hours devoted to project:**

Planning and Design: Not available

Construction: Not available

Annual Maintenance: Shared responsibility of private development and City of Portland

## Performance Measures

### Stormwater reduction performance analysis:

Roughly 60% of a 2-year storm event is retained on site.

**Community & economic benefits that have resulted from the project:** The project has created a new urban neighborhood in Portland just minutes from Downtown - a desirable place to live with jobs and housing in balance and economic development opportunities (along with thousands of new jobs). See attached website links for more benefits.

## Project Recognition

Project of Distinction for Urban Land Institute/SW Washington's Second Annual Awards of Distinction (2008); ACEC Oregon Honor Award for Environmental Excellence- South Waterfront Streambank Restoration (2005)

## Additional Information

Links to images and additional information: <http://www.southwaterfront.com/>  
[http://en.wikipedia.org/wiki/South\\_Waterfront](http://en.wikipedia.org/wiki/South_Waterfront)

Otak, Inc. has been involved with the South Waterfront District redevelopment since 1996 providing interdisciplinary planning and design (master planning, civil engineering, landscape architecture, urban design, surveying, and construction management) services to support redevelopment. Several other design firms and consultants have also been involved in various portions of the redevelopment. Otak also prepared the stormwater master plan for the South Waterfront and has enjoyed carrying the stormwater facilities design through implementation.

