



Green Infrastructure & Stormwater Management CASE STUDY

Tabor To The River Program

Location: Portland, OR

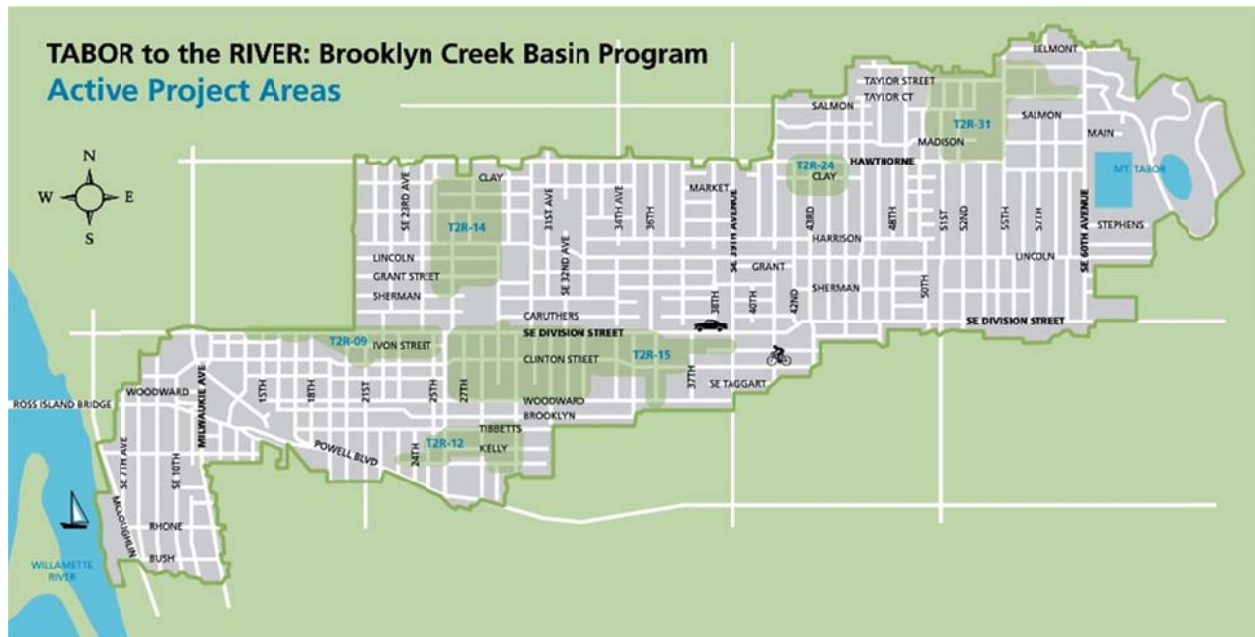
Client: City of Portland

Design Firm(s): City of Portland, Bureau of Environmental Services

Landscape architect/Project contact: Brian Wethington

Email: brian.wethington@portlandoregon.gov

ASLA Chapter: None



Project Specifications

Project Description: Tabor to the River integrates hundreds of sewer, green stormwater management, tree planting and other watershed projects to improve sewer system reliability, stop sewer backups in basements and street flooding, control combined sewer overflows (CSOs) to the Willamette River, and restore watershed health. The project includes construction of over 500 green street facilities and 80,000 linear feet of pipe, private property retrofits managing 352,000 sq/ft of impervious area, 3,500 street trees, 80 acres of natural area restoration. The project has a 15 year timeline and we are currently about 20% complete.

Project Type:

Comprehensive sewer and watershed improvement program
A retrofit of an existing property

Design features: Bioretention facility, rain garden, green roof, downspout removal, porous pavers, curb cuts, green streets, and street trees.

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

State statute, local ordinance, supports the City of Portland's Watershed Management Plan, and the Grey to Green Initiative.

Impervious area managed: greater than 5 acres

Amount of existing green space/open space conserved or preserved for managing stormwater on site: greater than 5 acres. Adding 10 acres of new green space in the public rights-of-way with construction of green streets and private property retrofit facilities.

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? The project objectives were:

1. eliminate basement sewer backups
2. preserve protect and improve sewer infrastructure
3. improve surface and groundwater hydrology
4. improve water quality
5. improve sustainability and community livability
6. reduce combined sewer overflows
7. find the most cost effective solution

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: >\$5,000,000 (Public funding: Local)

Related Information:

- Green streets and other public infrastructure - \$77,000,000
- Private property stormwater retrofits - \$1,800,000
- Street trees and natural area restoration - \$2,000,000
- Community education and outreach - \$120,000

Was a green vs. grey cost analysis performed? Yes, a \$144 million "grey" solution was replaced with an \$81 million solution combining green and grey improvements.

Cost impact of conserving green/open space to the overall costs of the site

design/development project: The cost of the program was reduced by \$63 million by adding the green infrastructure instead of additional pipe improvements.

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).

Number of jobs created: 540 (assumes 7 jobs per million dollars spent)

Job hours devoted to project:

Planning and Design: > 15,000 hrs

Construction: to date ~ 1,000

Annual Maintenance: Not available

Performance Measures**Stormwater reduction performance analysis:**

Once complete this will prevent 6 million gallons of untreated stormwater from entering the combined sewer system, or a 20% reduction of stormwater entering the system during a 3-year storm event.

Community & economic benefits that have resulted from the project: Increasing and improving green spaces and habitat throughout the basin by building green streets, planting street trees and restoring natural areas. Increase community engagement to improve watershed health.

Project Recognition

2008 Special Achievements Awards (APA Oregon Chapter) for program predesign phase (Integrated Taggart D Predesign Report)

Additional Information

Links to images: <http://www.portlandonline.com/bes/tabortoriver>