



Green Infrastructure & Stormwater Management CASE STUDY

Mount Tabor Middle School Rain Garden

Location: Portland, OR

Client: City of Portland, Bureau of Environmental Services

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

Landscape architect/Project contact: Kevin Robert Perry, ASLA

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ASLA Chapter: Oregon



Photo: Kevin Robert Perry, ASLA

Project Specifications

Project Description: The Mount Tabor Middle School Rain Garden project is unique to Portland and the United States in the way this schoolyard has been transformed to sustainably manage stormwater runoff on the site. The project demonstrates the City of Portland's commitment to promote a more natural approach to stormwater management, and many regard this "urban rain garden" project as one of Portland's most successful stormwater management retrofit projects to date. In a collaborative effort between the City of Portland and Portland

Public Schools, the Mount Tabor Middle School Rain Garden project converts what was previously 4,000 sq/ft of under-utilized asphalt parking area abutting the school's courtyard entrance into an innovative rain garden designed to capture, slow, cleanse, and infiltrate nearly an acre of the school's runoff. After a careful site analysis, the design team recognized several inefficiencies in the layout of the parking lot. By reorganizing the courtyard space, the design team was able to provide sufficient room for a 2,000 sq/ft rain garden and an entry plaza with bike parking and student seating, while maintaining adequate parking for school staff. Overall, the design of the Mount Tabor Middle School Rain Garden has met three primary goals: 1) it is low-cost in its design and execution; 2) it benefits the environment and embodies community livability; and 3) it acts a model for other sustainable stormwater retrofit projects.

Project Type:

Institutional/education

A retrofit of an existing property

Design features: Rain garden**This project was designed to meet the following specific requirements or mandates:**

Relieve local basement sewer backups

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**The regulatory environment and regulator was** supportive of the project.**Cost & Jobs Analysis****Estimated Cost of Stormwater Project:** \$100,000-\$500,000 (Public funding: Local)**Was a green vs. grey cost analysis performed?** Yes, the green solution was cheaper than upsizing the CSO pipe system.**Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)?** Slightly reduced costs (1-9% savings).**Number of jobs created:** Not available**Job hours devoted to project:** Not available

Planning and Design: Not available

Construction: Not available

Annual Maintenance: Not available

Performance Measures

Stormwater reduction performance analysis:

Detailed data for the project can be found at:

<http://www.portlandonline.com/bes/index.cfm?c=45388&a=217429>

Community & economic benefits that have resulted from the project: This project enhanced the function and aesthetics of the middle school, provides shading of classrooms, and is a safer pedestrian environment. The project is considered a significant community asset.

Project Recognition

2007 General Design Honor Award

Additional Information

Links to images: Pictures can be available by contacting Kevin Robert Perry at 503-239-0600 or email at kevin@nevuengan.com



Photo: Kevin Robert Perry. ASLA