New Seasons Market
2543 SE 20th Avenue
Portland, Oregon

PROJECT SUMMARY

Project Type:	Redevelopment—demonstration project
Technologies:	Stormwater swales, stormwater planters, innovative conveyance
Major Benefits:	• Stormwater from the site and from a portion of public right-of-way is infiltrated and treated onsite. The stormwater facilities have the potential to prevent up to one million gallons of stormwater runoff from entering the combined sewer system annually. • The project achieves multiple benefits of stormwater management, site enhancement, and neighborhood satisfaction.
Cost:	$50,000 for stormwater facilities, paid by EPA grant; additional costs were paid for by the private developer.
Constructed:	Completed August 2005

Overview of the Stormwater System

- The New Seasons Market redevelopment project involved remodeling and adding to an existing structure. The project included onsite stormwater management for the private property as well as stormwater management for a portion of adjacent public right-of-way.

- Interconnected stormwater swales and planters encircle the New Seasons Market building and parking lot. They capture runoff from the entire rooftop, the entire parking lot, sidewalks, and a portion of SE Division Street. The runoff slows as it enters the landscaped areas, water soaks into the ground, and the vegetation filters pollutants.

- Runoff from one of the roof downspouts is directed through an ornamental scupper to shower a sculpture at the building's northeast corner. It then passes through a culvert to a swale.

- All runoff initially goes to one of the vegetated facilities, where it is detained and filtered. A large portion infiltrates into the ground; the facilities currently prevent approximately 500,000 gallons of stormwater runoff from entering the combined sewer system annually. However, 100% retention has not been achieved. During large storm events, overflow runs off to catch basins and enters the combined sewer system. (See Successes and Lessons Learned, below)

- Stormwater management is integrated into the building and site design. The design takes advantage of landscape spaces for managing runoff as a resource rather than a waste. The landscape spaces reduce total impervious surface; this will also reduce stormwater management charges, which are based on impervious surface area.

Figure 1: Green Street along SE Division

Figure 2: Green Street along SE Division with rain

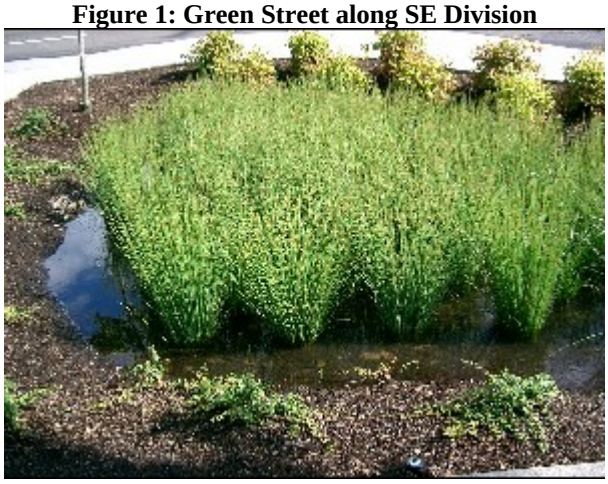

Figure 3

Figure 4

Figure 5

Figure 6

STORMWATER CAPACITY AND SYSTEM COMPONENTS

Stormwater Management Goal

The goal was to provide complete onsite stormwater infiltration and treatment and reduce the volume of stormwater entering Portland's combined sewer system. The project was designed in accordance with the City of Portland's 2004 *Stormwater Management Manual*.

System Components

Facility footprint: 4,500 square feet (swales and planters)

Drainage area: 51,500 square feet (26,000 roof, 20,500 parking lot, and 5,500 right-of-way)

Landscaping: Vegetation in the swales and planters is groove rush, common rush, and slough sedge. In keeping with landscaping code, additional vegetation is planted around the perimeter of the swales and planters, including decorative plants, western red cedars, and other trees.

BUDGET

The stormwater facilities cost $50,000, which was paid for by an EPA Innovative Wet Weather Projects (IWWP) grant.

Cost Comparisons

The onsite facilities reduced the amount of piping and inlets that would have been used with a traditional stormwater management approach. Because of the complexity of the project, however, total costs were probably comparable to the costs of a traditional approach. A bonus is that a portion of runoff from the public right-of-way is also managed.

MAINTENANCE AND MONITORING

The property owner has agreed to provide all maintenance associated with onsite facilities. The city is responsible for maintaining the facility located in the public right-of-way, but the property owner is voluntarily maintaining the vegetation and removing trash from that facility also.

The city is conducting soils tests to track the accumulation of stormwater pollutants in the facilities. The city is also conducting visual monitoring of the vegetation, infiltration capacity, and overall flow and conveyance functions.

PUBLIC INVOLVEMENT

New Seasons Market, the Hosford-Abernethy Neighborhood Association, and the Bureau of Environmental Services worked together to develop innovative, sustainable stormwater solutions for this project. The property owner and neighborhood were strongly interested in creating an environmentally responsible development that would enhance neighborhood aesthetics.

A permanent interpretive sign at the project site provides information on the sustainable stormwater management techniques used.

SUCCESSES AND LESSONS LEARNED

Positive project example: New Seasons Market is a good example of a successful private/public project. The stormwater facilities are well integrated into the overall site design and function, adding interest and appeal to the property. The project is in a visible location, providing an opportunity for the public to become more aware of innovative stormwater management techniques.

Early integration into the project: The stormwater facilities were not part of the site design from the beginning of the project. If they had been integrated into the design process earlier, there probably would have been some savings in cost and time.

Construction details: The project was complex and provided good information about technical details that will be instructive for other projects.

Infiltration: The subsoils are not infiltrating as well as anticipated, so the facilities are not achieving 100% retention. As the vegetation matures, the infiltration capacity of the facilities will increase, with the potential for complete retention. This would remove about one million gallons of runoff from the combined sewer system annually.