

# Alice Ott Middle School

12500 SE Ramona Street, Portland, Oregon

## PROJECT SUMMARY

<b>Project Type:</b>	Public school stormwater retrofit—demonstration project
<b>Technologies:</b>	Downspout disconnection to vegetated infiltration basins
<b>Major Benefits:</b>	<ul style="list-style-type: none"><li>• Roof runoff is filtered and treated by vegetation before it infiltrates into the ground, improving groundwater quality.</li><li>• The project provides a unique educational opportunity for school students.</li></ul>
<b>Cost:</b>	\$5,000 EPA grant funds. The school district also provided in-kind services.
<b>Constructed:</b>	Spring 2006

### Overview of the Stormwater System

- Four downspouts were disconnected from the school’s roof to discharge into four newly created vegetated infiltration basins (one downspout per basin). (See Figures 1 and 2.) The downspouts were previously connected to onsite sumps.
- During heavy rains, overflow from the basins flows over existing landscaping to the street for discharge to public sumps.



Figure 1: Site Map



Figure 2: Before Retrofit

## STORMWATER CAPACITY AND SYSTEM COMPONENTS

### Stormwater Management Goal

The stormwater management goal was to provide onsite treatment and infiltration of roof runoff. The project was designed in accordance with the City of Portland's 2004 *Stormwater Management Manual*.

### System Components

*Facility footprint:* 1,120 square feet total. Each vegetated basin is about 280 square feet (7 feet by 40 feet) and 8 to 12 inches deep.

*Catchment area:* 4,000 square feet total. The roof area draining to each downspout is 1,000 square feet.

*Landscaping:* For each basin, 3 trees, 12 large shrubs/small trees, 17 shrubs/large grass-like plants, and 150 groundcover plants were installed. School students selected the vegetation from *Stormwater Management Manual* lists of native plants.



Figure 3: Infiltration Basin



Figure 4: Disconnected downspout



Figure 5 : Infiltration Basin

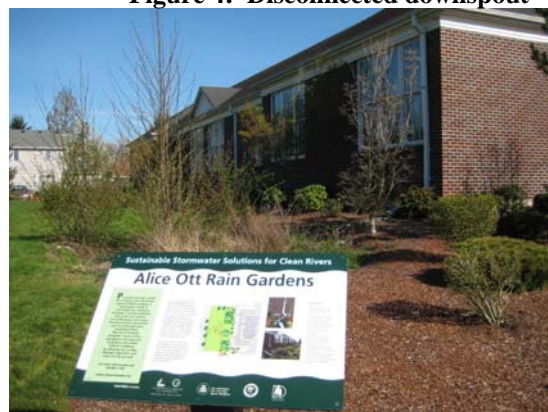


Figure 6: Official sign

## BUDGET

An EPA Innovative Wet Weather Projects grant to the Bureau of Environmental Services (BES) paid for \$5,000 of the project cost. The David Douglas School District contributed in-kind services, including design, excavation, project management, downspout disconnection, plants, budget management, and accounting.

### Cost Comparisons

Because volunteers contributed to the design and planting, project costs were probably lower than they would be for similar private-sector projects.

## MAINTENANCE AND MONITORING

Maintenance for this project will be incorporated into the school janitor's regular maintenance duties.

BES staff will periodically conduct a visual assessment of project performance.

## PUBLIC INVOLVEMENT

BES partnered with the David Douglas School District and parents on the project. The school district provided many in-kind services.

Alice Ott students designed the infiltration basins as part of their math and science curriculum. Students also provided volunteer labor for planting the infiltration basins with native vegetation.

A permanent interpretive sign was installed at the project site to provide information about the sustainable stormwater management techniques used.

## SUCCESSSES AND LESSONS LEARNED

**Public visibility:** This project is highly visible in the front of the school, providing a constant reminder of sustainable stormwater management.

**Partnerships:** The contributions of the school district and students helped lower project costs. This kind of interest and support from school staff, students, and parents is very beneficial in initiating and completing a project and ensuring its long-term success.

