WILDLIFE HABITAT COUNCIL℠

Case Study 12

Low Impact Development Techniques on Residential Subdivision	
Name and Location	**Site Name:** SEA Streets Pilot **Site Location:** Seattle, Washington
Site Description	The community is a suburban housing development, with roof gutters and downspouts, to an open ditch drainage system. The community is in a suburban area. The development consists of 1 residential block with 18 houses.
Ecological Enhancement	This project provided areas of plantings attractive to habitat whereas a standard storm sewer system would have provided more paved and impermeable areas.
Site Reuse Description	SEA Streets is an alternative street design that uses grading, soil science, plant selection, and non-linear layout to function more like an undeveloped landscape. The ecological restorations include mixed plantings of over 100 deciduous and evergreen trees, 1100 shrubs, and native wetland and upland plant species. Ecological enhancements were chosen for this development to remove contaminants from runoff, to recharge groundwater, and to provide habitat. The community was an integral part of the project. The community had input on types and layout of hardscape, as well as types and locations of plantings.
Stakeholder Involvement	The stakeholders/partners for this development included the City of Seattle, State environmental officials, and the community. The State officials played a major role in embracing the technologies and providing permits and approvals, while the City showed great leadership in using unconventional techniques. The City of Seattle was concerned about removing contaminants from storm water runoff before it entered the surface water system, and also about recharging groundwater, as well as containing costs. Use of LID methods addressed all these concerns. The City of Seattle funded the project.
Site Assessment	There were no previous environmental impacts to contend with.

Approach and Cleanup	The concern was with the post development condition, when storm water runoff could potentially add contaminants to the local surface water system and lack of groundwater recharge could adversely affect subsurface hydrology. The LID practices used on this project included rain gardens, and planted roadside ditches. A rain garden is a shallow surface depression in the ground beneath a home's downspout, which is planted with various plants to accept roof drainage and encourage infiltration. Planted roadside ditches accept roadway runoff to filter contaminants and encourage infiltration. These techniques were chosen at this site to enhance groundwater recharge, remove storm water contaminants, and provide habitat and aesthetic enhancements. The plantings require long-term maintenance to optimize performance.
Reuse	The end use of the site as a residential development serves the community as housing, and as an attractive neighborhood for visitors. The LID practices met regulatory concerns to control storm water. The site enhancements provided the owners with very popular and attractive homes with enhanced resale value. The added landscaping has made the neighborhood more attractive to home-buyers, who enjoy the beauty and recreational opportunities.
Obstacles	None
Costs and Funding	The City of Seattle funded the project. The total cost of the project was $850,000. It is estimated the ecological enhancements at this location saved approximately $150,000 over the cost of a traditional curb and gutter system (or approximately 18%).
Economic and Other Incentives	The economic incentives to the City of Seattle included the potential cost savings due to reduced contaminant loadings to surface water; reduced cost of installing traditional curb/gutter systems; and increased property values. In addition, this pilot project was a public relations success, as well as an educational demonstration project.
Time	It took less than a year to complete this project.
Other	
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