

City of Seattle Operation and Maintenance Cost Estimates¹

The City of Seattle has collected some initial data on the operation and maintenance costs for bioswale vegetation. The operation and maintenance costs for the first three years of the city's SEA Streets projects are outlined below. The City of Seattle's natural drainage projects were initiated under the assumption that residents will take on a portion of the maintenance responsibilities.

City of Seattle's Estimates for the Maintenance Costs of Bioretention Swale Vegetation.

LOS B – 47-290 SQ. FT	Total Present Value	Annual Value
Initial 3 year Landscape Establishment		
Assuming 0% community participation	\$177,614	\$65,221
Established (starting year 4, assuming 20 years of payments)		
0% community participation	\$562,228	\$28,615
25% community participation	\$421,671	\$21,461
50% community participation	\$281, 114	\$14,308
75% community participation	\$140,557	\$7,154
90% community participation	\$56,223	\$2,862
Soil Replacement (every 15 years)²	\$466,952	\$23,527

The City of Seattle decides what level of service (LOS) will be applied to each facility, where the LOS ranges from A-D with A being excellent service and D being poor service. The 'Total Present Value' is the cost of the maintenance in 2007 dollars for future payments, discounted at 5% to reflect the time value of money. The 'Annual Value' is the cost of the maintenance for the year in 2007 dollars. The City assumes responsibility of bioretention swales for the first three years until the plants are established. After the third year, the maintenance costs are estimated based on the level of community participation for required maintenance.

¹ From Seattle Public Utilities. Presentation by Drena Donofrio at the LID Technical Class Series hosted by WSU Extension and the Puget Sound Partnership, Bellingham, September 10-11, 2008.

² Assumes soil needs to be replaced. Initial investigations of bioretention soil quality on the U.S. east coast indicates that after ten years bioretention soils did not need to be replaced.