Supplement to:
Ecology Publication No. 13-03-009, "Case Study for Applying SUSTAIN to a Small Watershed in the Puget Lowland" at https://fortress.wa.gov/ecy/publications/SummaryPages/1303009.html
,

TECHNICAL MEMORANDUM

Puget Sound Stormwater BMP Cost Database

Prepared for

Washington State Department of Ecology
Environmental Assessment Program
P.O. Box 47600
Olympia, Washington 98504-7600

Prepared by

Herrera Environmental Consultants
2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
Telephone: 206.441.9080

January 4, 2012

Note:
Some pages in this document have been purposely skipped or blank pages inserted so that this document will copy correctly when duplexed.

Contents

Tables

Introduction and Purpose

As part of the Phase 3 study of toxic chemicals in surface runoff to Puget Sound, Herrera Environmental Consultants (Herrera) gathered costs for best management practices (BMPs) installed in the Puget Sound region to be integrated into the System for Urban Stormwater Treatment and Analysis INtegration (SUSTAIN) model. SUSTAIN was developed by the U.S. Environmental Protection Agency (EPA) as a decision support system to facilitate the selection and placement of BMPs and Low Impact Development (LID) techniques at strategic locations in urban watersheds. The BMP cost database is one of the key components of the SUSTAIN framework; however, it was developed using information obtained from national sources. In order to make this model more useful for local projects, BMP cost information for the following BMPs was collected from projects constructed in Puget Sound:

- Bioretention
- Cistern
- Constructed Wetland
- Grassed Swale
- Green Roof
- Infiltration Trench
- Porous Pavement
- Rain Barrel
- Vegetated Filter Strip
- Wet Pond

The purpose of this memorandum is to summarize the initial BMP cost compilation. While not intended as a comprehensive assessment, this initial compilation will be used to evaluate BMP options for a commercial basin in the City of Federal Way (Herrera 2012). The cost database is intended to be updated on a regular basis and will be available on the project website developed for the Phase 3 study: http://www.ecy.wa.gov/programs/eap/toxics/sustainmodeling.html.

The process for collecting this cost information included the following:

- Early August 2011 – Cost request templates (Microsoft Excel spreadsheets) were developed for each BMP listed above and posted on a project-specific webpage (http://www.herrerainc.com/bmpcostsforpugetsound)
- August 16, 2011 – Washington State Department of Ecology (Ecology) regional permit coordinators sent out a request to their permittees
- August-October 2011 – Internet research on cistern and rain barrel costs and existing cost documentation for stormwater BMP projects in the Puget Sound region
- August-October 2011 – Phone calls and e-mail requests to vendors with porous pavement, cistern, and green roof products

- September and October 2011 – Targeted phone calls and e-mail requests to local jurisdictions that had received Ecology grant funding or had recently constructed projects with stormwater BMP components

This memorandum summarizes the project information, unit costs, and total BMP costs that were gathered for each BMP type. The costs provided in this memorandum are the best estimate of cost per square foot (or cubic foot) based on the available information and may include varying levels of detail depending on the information available (bid tabs, construction drawings, etc.). Some of the cost estimates may include mobilization, erosion and sediment control, traffic control, plantings on other portions of the site, and other project components if the cost provided was the total for the entire project and could not be broken out based on specific stormwater BMPs. If bid tabs and quantities were available, the cost per square foot was calculated based on the line items that were directly related to the stormwater facility. These cost estimates typically did not incorporate mobilization, erosion and sediment control, and traffic control, but may have included surrounding landscaping in addition to plantings incorporated into BMP design. Cost estimates were converted to 2012 cost estimates using the Engineering News-Record construction cost index (CCI).

The master cost database is included as Attachment 1. Individual cost request spreadsheets received by or filled out from information received from cities, counties, ports, WSDOT, vendors, or private owners are included as Attachment 2.

Bioretention

Bioretention refers to engineered facilities (i.e., bioretention cells, bioretention swales, rain gardens) that store and treat stormwater by passing it through a specified soil profile.

Projects

Table 1 summarizes information related to bioretention facilities. Cost information for 21 bioretention facilities from 7 cities, 3 counties, and 1 port facility was gathered for the Puget Sound BMP cost database.

Unit Costs

Table 2 summarizes the minimum, average, and maximum costs for each bioretention component.

Unit costs currently in the SUSTAIN BMP cost database that were not provided during the Puget Sound BMP cost database data gathering effort include:

- Backfilling (CF)
- Grading/finishing (SF)

Table 1. Bioretention project information.

City/County/Vendor	Project Name	Source
City of Auburn	West Valley Highway Improvements Project	Bid tabs and takeoffs
City of Bellingham	Bloedel Donovan Park	Reining in the Rain report
City of Bellingham	Bellingham City Hall	Reining in the Rain report
City of Bellingham	Flynn Street Water Quality	Cost request spreadsheet
City of Issaquah	Central Park Lot	Bid tabs
City of Poulsbo	Caldart Avenue Improvements	Bid tabs
City of Puyallup	Puyallup Rain Garden Program	Cost request spreadsheet
City of Redmond	185th Avenue NE Extension	Bid tabs
City of Redmond	SR 202 and NE 124th Street Intersection	Bid tabs
Pierce County	Sprinker Parking Lot LID	Bid tabs and drawings
Port of Anacortes	Anthony's Parking Lot	E-mail from Port
Port of Anacortes	O Avenue	E-mail from Port
Seattle Public Utilities	Ballard Rain Gardens	Bid tabs
Seattle Public Utilities	Broadview Green Grid	City website
Seattle Public Utilities	High Point	Stage Gate-2 for Venema Natural Drainage System report (O&M cost only)
Seattle Public Utilities	Pinehurst Green Grid	Final cost estimate from City
Seattle Public Utilities	Rainwise – Private Rain Gardens	Life-cycle cost of Green Stormwater Infrastructure for the CSO LTCP report
Seattle Public Utilities	Rainwise – Roadside Rain Gardens	Life-cycle cost of Green Stormwater Infrastructure for the CSO LTCP report
Seattle Public Utilities	SEA Streets	City website
Snohomish County	Silver Creek Basin LID Retrofits	Engineer's estimate
Thurston County	Evergreen Terrace – Phase III	Bid tabs

Total Bioretention Cost

Table 3 summarizes the minimum, average, and maximum construction and operation and maintenance (O&M) costs for bioretention as a function of surface area (cost per square foot). Construction costs were calculated based on the unit cost information presented in Table 2 (when bid tabs and quantities were available) and jurisdictional "per square foot" costs (when provided). Note that these unit area facility costs do not necessarily reflect all associated construction costs because costs such as mobilization, temporary erosion and sediment control, and traffic control, were not included in the cost database. Design costs are presented in Table 3 as a percentage of the corresponding construction cost. Design costs were calculated based on jurisdiction submittals and projects where both design and construction costs were provided.

Table 2. Bioretention unit cost information.

BMP Component	Unit	n	Cost			Currently in SUSTAIN?
			Low	Average	High	
Check dam	Per unit	1	$155.20	$155.20	$155.20	No
Compost	CF	4	$0.66	$1.11	$1.68	No
Emergents	Per unit	1	$2.69	$2.69	$2.69	No
Excavation	CF	7	$0.20	$0.79	$1.58	Yes
Filter Fabric	SF	5	$0.28	$0.74	$1.15	Yes
Grass	SF	5	$0.02	$0.53	$1.26	Yes
Gravel	CF	8	$0.56	$1.78	$3.05	Yes
Ground Cover	Per unit	2	$3.29	$5.49	$7.69	No
Inlet Structure	Per unit	2	$1,390	$4,575	$7,760	Not as an option for this BMP type
Mulch	CF	8	$0.68	$1.28	$1.98	Yes
Observation Well	Per unit	1	$213.86	$213.86	$213.86	No
Outlet Structure	Per unit	3	$695.04	$5,297	$12,416	Not as an option for this BMP type
Perennials	Per unit	5	$1.66	$5.60	$10.09	Yes
	SF	1	$3.94	$3.94	$3.94	
Small Trees	Per unit	8	$3.05	$60.04	$222.46	Yes
Soil/Planting Media	CF	9	$0.77	$1.47	$2.17	Yes
Streambed Cobbles	CF	1	$7.92	$7.92	$7.92	No
Underdrain Pipe	Feet	3	$10.09	$24.75	$41.39	Yes
Woody Shrubs	Per unit	6	$6.57	$81.05	$435.67	Yes
	SF	3	$2.20	$3.99	$5.77	

n: number of facilities
CF: cubic feet
SF: square feet

Table 3. Bioretention project cost information.

BMP Component	Unit	n	Cost/Percentage			Currently in SUSTAIN?
			Low	Average	High	
Bioretention	SF	23	$4.28	$31.61	$88.75	No
O&M	SF	7	$0.19	$1.27	$2.78	No
Design [a]	%	5	12%	67%	159%	No

[a] Design costs are presented as a percentage of construction costs. A percentage of costs were calculated for the bioretention facilities if bid tabs and quantities were available.

n: number of facilities
SF: square feet

Cistern

Cisterns are underground or aboveground tanks constructed of fiberglass, polyethylene, concrete, metal, or wood that are used for water storage and reuse.

Projects and Products

Table 4 summarizes information related to cisterns. Cost information for 14 cisterns from 1 city and 4 vendors was gathered for the Puget Sound BMP cost database.

Table 4. Cistern project and product information.

City/Vendor	Project/Product Name	Source
Aquabarrel Rain Barrel	Complete Cistern	Vendor website
Aquabarrel Rain Barrel	Fat Boy Water Wall	Vendor website
Aquabarrel Rain Barrel	Rainwater Pillow	Vendor website
Berg Vault	Aboveground Cisterns	Vendor e-mail request
Berg Vault	Belowground Cisterns	Vendor e-mail request
BH Tanks	Highline Colorbond Tank	Vendor e-mail request
BH Tanks	Highline Zincalum Tank	Vendor e-mail request
Rain Tank Depot	Aquadra Modular Cisterns	Vendor website
Rain Tank Depot	Contain Rainwater Harvesting Wall	Vendor website
Rain Tank Depot	Plastic Cisterns	Vendor website
Rain Tank Depot	Plastic Underground Cisterns	Vendor website
Rain Tank Depot	Rainwater HOG Modular Cisterns	Vendor website
Rain Tank Depot	Water Wall	Vendor website
Seattle Public Utilities	Rainwise – Private Cisterns	Life-cycle cost of Green Stormwater Infrastructure for the CSO LTCP report

Total Cistern Cost

Table 5 summarizes the minimum, average, and maximum costs for cisterns per unit and as a function of volume (cost per cubic foot). The City of Seattle cistern costs were provided as a function of the mitigated drainage area (cost per square foot). Additional costs may also need to be added for shipping and tax.

Table 5. Cistern cost information.

BMP Component	Unit	n	Cost			Currently in SUSTAIN?
			Low	Average	High	
Cistern	Per unit	27	$2.07	$12.98	$46.56	Yes
	CF	27	$58.98	$4,360	$28,044	No
	SF	1	$2.78	$2.78	$2.78	No
Screen	Per unit	1	$19.66	$19.66	$19.66	No

n: number of products (Multiple costs [low, mid range, and high] were included for some cisterns)
CF: cubic feet
SF: square feet

Constructed Wetland

A constructed wetland is a shallow man-made pond that is designed to treat stormwater through biological processes associated with emergent aquatic plants.

Projects

Table 6 summarizes information related to constructed wetland facilities. Cost information for four constructed wetland facilities from three cities was gathered for the Puget Sound BMP cost database.

Table 6. Constructed wetland project information.

City	Project Name	Source
City of Arlington	Arlington Constructed Stormwater Wetland	E-mail from City
City of Bellingham	Brentwood Rock Plant Filter Retrofit	Cost request spreadsheet
City of Bellingham	Eliza Road Improvements	Cost request spreadsheet
City of Redmond	Bear Creek Park Water Quality Facility	Bid tabs and drawings

Unit Costs

Table 7 summarizes the minimum, average, and maximum costs for each constructed wetland component.

Table 7. Constructed wetland unit cost information.

BMP Component	Unit	n	Cost			Currently in SUSTAIN?
			Low	Average	High	
Excavation	CF	1	$0.77	$0.77	$0.77	Yes
Inlet Structure	Per unit	1	$2,256	$2,256	$2,256	Yes
Outlet Structure	Per unit	2	$5,586	$6,427	$7,269	Yes
Perennials	Per unit	1	$2.85	$2.85	$2.85	Yes
	SF	2	$1.52	$1.68	$1.83	
Seal (Clay Liner)	SF	1	$1.42	$1.42	$1.42	Not as an option for this BMP type
Small Trees	Per unit	3	$28.97	$121.75	$232.80	Not as an option for this BMP type
Soil/Planting Media	CF	1	$0.57	$0.57	$0.57	Yes
Woody Shrubs	Per unit	2	$9.31	$11.90	$14.49	Not as an option for this BMP type

n: number of facilities
CF: cubic feet
SF: square feet

Unit costs currently in the SUSTAIN BMP cost database that were not provided during the Puget Sound BMP cost database data gathering effort include:

- Backfilling (CF)
- Grading/finishing (SF)
- Mulch (CF) – not commonly used

Total Constructed Wetland Cost

Table 8 summarizes the minimum, average, and maximum construction costs for constructed wetlands as a function of surface area (cost per square foot). Construction costs were calculated based on the unit cost information presented in Table 7 (when bid tabs and quantities were available) and jurisdictional "per square foot" costs (when provided). Note that these unit area facility costs do not necessarily reflect all associated construction costs because costs such as mobilization, temporary erosion and sediment control, and traffic control, were not included in the cost database. Design costs are presented in Table 8 as a percentage of the corresponding construction cost. Design costs were calculated based on jurisdiction submittals and projects where both design and construction costs were provided. O&M costs were not provided by the cities submitting cost data on their constructed wetland facilities.

Table 8. Constructed wetland project cost information.

BMP Component	Unit	n	Cost/Percentage			Currently in SUSTAIN?
			Low	Average	High	
Constructed Wetland	SF	4	$2.10	$8.81	$12.90	No
Design [a]	%	2	14%	23%	32%	No

[a] Design costs are presented as a percentage of construction costs. A percentage of costs were calculated for the bioretention facilities if bid tabs and quantities were available.

n: number of facilities

SF: square feet

Grassed Swale

A grassed swale (e.g., vegetated swale, biofiltration swale) is a drainage conveyance designed to have a shallow flow depth (i.e., less than 1 foot) and is primarily lined with grass and other ground cover species.

Projects

Table 9 summarizes information related to grassed swale facilities. Cost information for three grassed swale facilities from one city and the Washington State Department of Transportation (WSDOT) was gathered for the Puget Sound BMP cost database.

Table 9. Grassed swale project information.

City/Agency	Project Name	Source
City of Mount Vernon	Freeway Drive Improvements Phase II	Cost request spreadsheet
WSDOT	SR 518 Control Biofiltration Swale	Compost-amended biofiltration swale TER
WSDOT	SR 518 Compost-Amended Biofiltration Swale	Compost-amended biofiltration swale TER

TER: Technical Evaluation Report

Unit Costs

Table 10 summarizes the minimum, average, and maximum costs for each grassed swale component.

Table 10. Grassed swale unit cost information.

BMP Component	Unit	n	Cost			Currently in SUSTAIN?
			Low	Average	High	
Excavation	CF	1	$0.30	$0.30	$0.30	Yes
Grass	SF	1	$0.87	$0.87	$0.87	Yes
Outlet Structure	Per unit	1	$2,287	$2,287	$2,287	Not as an option for this BMP type
Underdrain Pipe	Feet	1	$30.73	$30.73	$30.73	Not as an option for this BMP type

n: number of facilities
CF: cubic feet
SF: square feet

Unit costs currently in the SUSTAIN BMP cost database that were not provided during the Puget Sound BMP cost database data gathering effort include:

- Grading/finishing (SF)

Other unit costs that were not provided during this cost gathering effort and are currently not included in the SUSTAIN BMP cost database, but may be incorporated into grassed swale designs include:

- Gravel (CF) – used as a flow spreader at the inlet, in the swale for wide swales, bedding around underdrain pipes, and as energy dissipaters (where needed)
- Compost (CF) – tilled into native soil or used as a compost blanket in a compost-amended biofiltration swale
- Ground Cover (SF) – could be used in combination with grasses
- Inlet Structure (per unit) – used for facilities with piped inflow

Total Grassed Swale Cost

Table 11 summarizes the minimum, average, and maximum construction and O&M costs for grassed swales as a function of surface area (cost per square foot). The City of Mount Vernon design was designated as a grass-lined rain garden. The range in costs for the WSDOT design is for a standard biofiltration swale (on the low end) and a compost-amended biofiltration swale (on the high end). Construction costs were calculated based on the unit cost information presented in Table 10 (when bid tabs and quantities were available) and jurisdictional "per square foot" costs (when provided). Note that these unit area facility costs do not necessarily reflect all associated construction costs because costs such as mobilization, temporary erosion and sediment control, and traffic control, were not included in the cost database. Design costs are presented in Table 11 as a percentage of the corresponding construction cost. Design costs were calculated based on jurisdiction submittals and projects where both design and construction costs were provided.

Table 11. Grassed swale project cost information.

BMP Component	Unit	n	Cost/Percentage			Currently in SUSTAIN?
			Low	Average	High	
Grass-lined Rain Garden	SF	1	$9.42	$9.42	$9.42	No
Grassed Swale	SF	2	$4.30	$4.59	$4.87	No
O&M	SF	1	$0.49	$0.49	$0.49	No
Design [a]	%	1	51%	51%	51%	No

[a] Design costs are presented as a percentage of construction costs. A percentage of costs were calculated for the bioretention facilities if bid tabs and quantities were available.

n: number of facilities

SF: square feet

Green Roof

A green roof (e.g., vegetated roof, eco-roof) can either be designed as an intensive roof with a deep soil profile (6 inches and deeper) planted with ground cover species, shrubs, and trees or an extensive roof with a shallow soil profile (1 to 5 inches) planted with ground cover species.

Projects

Table 12 summarizes information related to green roofs. Cost information for 11 green roofs and green roof components from 2 cities, 5 private, and 3 vendors was gathered for the Puget Sound BMP cost database.

Table 12. Green roof project information.

City/Private/Vendor	Product/Project Name	Source
City of Mukilteo	Mukilteo City Hall	E-mail from City
City of Seattle	Seattle Justice Center	Seattle Green Roof Inventory
Private	2,500 SF green roof in Seattle	Seattle Green Roof Inventory
Private	8,355 SF green roof in Seattle	Seattle Green Roof Inventory
Private	27,000+ SF green roof in Seattle	Seattle Green Roof Inventory
Private	Leppanen Green Roof	Bellingham Green Roof Case Studies website
Private	Lightcatcher Museum Green Roof	Bellingham Green Roof Case Studies website
Seattle Public Library	Ballard Library	Seattle Green Roof Inventory
Swanson Bark & Wood Products	Roof-lite Media	Vendor e-mail request
The Garland Company	Extensive Green Roof	Cost request spreadsheet
Weston Solutions, Inc.	GreenGrid® Intensive Green Roof System	Vendor e-mail request

SF: square feet

Unit Costs

Table 13 summarizes the minimum, average, and maximum costs for each green roof component.

Table 13. Green roof unit cost information.

BMP Component	Unit	n	Cost			Currently in SUSTAIN?
			Low	Average	High	
Drainage Layer	SF	1	$3.10	$3.10	$3.10	No
Gravel	CF	1	$1.24	$1.24	$1.24	Not as an option for this BMP type
Root Barrier	SF	1	$2.28	$2.28	$2.28	No
Soil/Planting Media	CF	2	$3.41	$6.88	$10.35	Not as an option for this BMP type
Waterproof Membrane	SF	2	$9.31	$11.90	$14.49	No

n: number of facilities
CF: cubic feet
SF: square feet

Other unit costs that were not provided during this cost gathering effort and are currently not included in the SUSTAIN BMP cost database, but may be incorporated into green roof designs include:

- Mulch (CF)
- Grass (SF)
- Gravel (CF) – optional, sometimes used as ballast

- Perennials (SF or per unit) – optional
- Small Trees (SF or per unit) – optional
- Woody Shrubs (SF or per unit) – optional
- Outlet Drain (per unit)
- Irrigation System (SF) – optional

Total Green Roof Cost

Table 14 summarizes the minimum, average, and maximum construction and O&M costs for green roofs as a function of surface area (cost per square foot). Construction costs were calculated based on the unit cost information presented in Table 13 (when bid tabs and quantities were available) and jurisdictional "per square foot" costs (when provided). Note that these unit area facility costs do not necessarily reflect all associated construction costs because costs such as mobilization, temporary erosion and sediment control, and traffic control, were not included in the cost database. Design costs were not broken out separately from the total costs for these facilities.

Table 14. Green roof project cost information.

BMP Component	Unit	n	Cost			Currently in SUSTAIN?
			Low	Average	High	
Green Roof	SF	12	$11.32	$33.06	$121.46	Yes (as Green Roof System)
O&M	SF	1	$0.10	$0.10	$0.10	No

n: number of facilities
SF: square feet

Infiltration Trench

Infiltration trenches are long, narrow stormwater facilities backfilled with a coarse stone aggregate, allowing for temporary storage of stormwater in the void spaces. They are generally installed at grade, but can also be installed underground using a prefabricated infiltration gallery.

Projects

Table 15 summarizes information related to infiltration trenches. Cost information for four infiltration facilities (three infiltration galleries and one drywell) from one city and one county was gathered for the Puget Sound BMP cost database.

Table 15. Infiltration trench project information.

City/County	Project Name	Source
City of Lacey	2011 Street Overlay Project	Bid tabs
City of Lacey	Carpenter Road Reconstruction	Bid tabs
Thurston County	Evergreen Terrace - Phase 1	Bid tabs
Thurston County	Hawaiian Court Stormwater Improvements	Bid tabs

Unit Costs

Table 16 summarizes the minimum, average, and maximum costs for each infiltration trench component.

Table 16. Infiltration trench unit cost information.

BMP Component	Unit	n	Cost			Currently in SUSTAIN?
			Low	Average	High	
Excavation	CF	3	$0.47	$0.63	$0.92	Yes
Grass	SF	1	$0.32	$0.32	$0.32	Yes
Gravel	CF	2	$0.78	$1.26	$1.74	Yes

n: number of facilities
CF: cubic feet
SF: square feet

Unit costs currently in the SUSTAIN BMP cost database that were not provided during the Puget Sound BMP cost database data gathering effort include:

- Backfilling (CF)
- Filter Fabric
- Grading/finishing (SF)
- Mulch – not required by Ecology
- Observation Well
- Perennials – not required by Ecology
- Soil/Planting Media – not required by Ecology

Total Infiltration Trench Cost

Table 17 summarizes the minimum, average, and maximum construction costs for infiltration trenches per unit and as a function of surface area (cost per square foot). Construction costs were calculated based on the unit cost information presented in Table 16 (when bid tabs and quantities were available) and jurisdictional "per square foot" costs (when provided). Note that these unit area facility costs do not necessarily reflect all associated construction costs because costs such as mobilization, temporary erosion and sediment control, and traffic control, were not included

in the cost database. Design costs were not broken out separately from the total costs for these facilities. O&M costs were not provided by the jurisdictions submitting cost data for their infiltration trench facilities. None of the costs provided were for standard infiltration trenches since three of the designs involved infiltration galleries and once of the designs involved a drywell.

Table 17. Infiltration trench project cost information.

BMP Component	Unit	n	Cost			Currently in SUSTAIN?
			Low	Average	High	
Infiltration Trench	Per unit	1	$65,024	$65,024	$65,024	No
	SF	2	$83.48	$95.95	$108.43	No

n: number of facilities
SF: square feet

Porous Pavement

Porous pavement (i.e., permeable pavement) includes pervious concrete, porous asphalt, permeable pavers, and other forms of pervious or porous paving material (i.e., open-celled grids) intended to allow passage of water through the pavement section.

Projects

Table 18 summarizes information related to porous pavement installations. Cost information for 22 porous pavement installations in 6 cities, 1 county, 1 port facility, and 7 vendors was gathered for the Puget Sound BMP cost database. Pierce County's Sprinker Parking Lot LID project included two types of porous pavement and the City of Poulsbo's Mesford Pervious Sidewalk and Parking Lane project evaluated three types of porous pavement.

Unit Costs

Table 19 summarizes the minimum, average, and maximum costs for each porous pavement component.

Unit costs currently in the SUSTAIN BMP cost database that were not provided during the Puget Sound BMP cost database data gathering effort include:

- Grading/finishing (SF)
- Observation Well

Table 18. Porous pavement project and product information.

City/County/Vendor	Project/Product Name	Source
City of Auburn	West Valley Highway Improvements Project	Bid tabs and takeoffs
ACF West	Grassy Pavers	Cost request spreadsheet
Backstrom Curb & Sidewalk, Inc.	Porous Concrete Sidewalk (4" thick)	Cost request spreadsheet
Backstrom Curb & Sidewalk, Inc.	Wilson Toyota, Mercedes	Cost request spreadsheet
City of Bellingham	Northshore Water Quality EV-78	Cost request spreadsheet
City of Issaquah	Central Park Lot	Bid tabs
City of Poulsbo	Caldart Avenue Improvements Project	Bid tabs
City of Poulsbo	Mesford Pervious Sidewalk and Parking Lane Project	Bid tabs
City of Redmond	185th Avenue NE Extension	Bid tabs
City of Redmond	Bear Creek Park Water Quality Facility	Bid tabs and drawings
Hastings Pavement Company, Inc.	Hastings Checker Block®	Cost request spreadsheet
Mutual Materials	Eco Priora™ Pavers	Vendor phone request (recent Herrera project)
NW Linings	Hamilton Middle School – Seattle School District (Grasspave2)	Cost request spreadsheet
NW Linings	Rainier Vista – Seattle Housing Authority (Gravelpave2)	Cost request spreadsheet
Pierce County	139th Street E Cul-de-Sac	Bid tabs and drawings
Pierce County	Sprinker Parking Lot LID	Bid tabs and drawings
Port of Anacortes	O Avenue	E-mail from Port
Seattle Public Utilities	Ballard Green Alleys	Life-cycle cost of Green Stormwater Infrastructure for the CSO LTCP report
Seattle Public Utilities	Green Alleys	Life-cycle cost of Green Stormwater Infrastructure for the CSO LTCP report
Stoneway Concrete	Porous Concrete	Cost request spreadsheet
Willamette Graystone	Aqua Bric® Pavers	Vendor phone request (recent Herrera project)
Willamette Graystone	Aqua Loc® Pavers	Vendor phone request (recent Herrera project)

Table 19. Porous pavement unit cost information.

BMP Component	Unit	n	Cost			Currently in SUSTAIN?
			Low	Average	High	
Drainage Sand	CF	2	$1.40	$1.40	$1.40	No
Excavation	CF	4	$0.46	$0.72	$1.23	Yes
	SF	2	$0.20	$0.67	$1.14	Yes – with different units
Filter Fabric	SF	4	$0.08	$0.55	$1.15	Yes
Gravel1 (filter course)	CF	1	$1.54	$1.54	$1.54	Yes
Gravel2 (reservoir course)	CF	4	$0.96	$1.63	$3.52	Yes
Porous Paving Material	CY	1	$129.33	$129.33	$129.33	Yes
	SF	19	$1.36	$3.63	$7.54	Yes
Underdrain Pipe	Feet	4	$6.68	$18.26	$41.39	Yes

n: number of facilities
CF: cubic feet
SF: square feet

Total Porous Pavement Cost

Table 20 summarizes the minimum, average, and maximum construction and O&M costs for porous pavement as a function of surface area (cost per square foot). Construction costs were calculated based on the unit cost information presented in Table 19 (when bid tabs and quantities were available) and jurisdictional "per square foot" costs (when provided). Note that these unit area facility costs do not necessarily reflect all associated construction costs because costs such as mobilization, temporary erosion and sediment control, and traffic control, were not included in the cost database. Design costs are presented in Table 20 as a percentage of the corresponding construction cost. Design costs were calculated based on jurisdiction submittals and projects where both design and construction costs were provided.

Table 20. Porous pavement project cost information.

BMP Component	Unit	n	Cost/Percentage			Currently in SUSTAIN?
			Low	Average	High	
Porous Pavement	SF	15	$1.81	$14.41	$74.42	No
O&M	SF	1	$0.02	$0.02	$0.02	No
Design [a]	%	3	10%	63%	90%	No

[a] Design costs are presented as a percentage of construction costs.
n: number of facilities
SF: square feet

Rain Barrel

Rain barrels are 50- to 60-gallon polyethylene storage containers that are used for water storage and reuse, typically in a residential land use setting.

Projects and Products

Table 21 summarizes information related to rain barrels. Cost information for 43 rain barrels from 2 cities and 16 vendors was gathered for the Puget Sound BMP cost database.

Table 21. Rain barrel project and product information.

City/Vendor	Project/Product Name	Source
Aaron's Rain Barrels	Standard Rain Barrel	Vendor website
Aquabarrel Rain Barrel	Classic Aquabarrel	Vendor website
Arid Solutions	Octagon Rain Barrel	Vendor website
City of Bellingham	Residential Stormwater Retrofit Project	Cost request spreadsheet
City of Puyallup	Puyallup's 2011 Rain Garden Program	Cost request spreadsheet
Cypress Designs	Freewater Rain Collection System	Vendor website
Eagle Peak Containers, Inc.	Rain Collection Barrels	Vendor website
Gardeners Supply Company	Deluxe Rain Barrel	Vendor website
Gardeners Supply Company	Flat-Back Rain Barrel	Vendor website
Gardeners Supply Company	Madison Rain Barrel	Vendor website
Gardeners Supply Company	Rainwater Urn	Vendor website
Gardeners Supply Company	Santa Fe Rain Barrel	Vendor website
Grady Barrels	Grady Barrels	Vendor website
Natural Rain Water	Rain Barrel	Vendor website
Rain Dance Water Barrels	Rain Dance Water Barrels	Vendor website
Rain Ready	Rain Ready Rain Barrel	Vendor website
Rain Tank Depot	Villa Rain Barrels	Vendor website
Rain Tank Depot	Agua Fria Rain Barrel	Vendor website
Rain Tank Depot	Big Blue Rain Barrel	Vendor website
Rain Tank Depot	Cubo Rain Barrel	Vendor website
Rain Tank Depot	Flat-Back Rain Collection Barrel	Vendor website
Rain Tank Depot	Garden Pal Rain Barrel	Vendor website
Rain Tank Depot	Nino Rain Barrel	Vendor website
Rain Tank Depot	Peso Rain Barrels	Vendor website
Rain Tank Depot	Rain Water Collector	Vendor website
Rain Tank Depot	Rain Wizard Rain Barrel	Vendor website
Rain Tank Depot	Spruce Creek Rain Barrel	Vendor website
RainReserve	RainReserve Rain Barrel System (Oak Design)	Vendor website
Rainsaver Systems	80 Gallon Rainsaver Rain Barrel	Vendor website
Rainwater Harvesting Systems	RainPro, RainPro Plus, and RainPro Elite	Vendor website
Seattle Conservation Corps	Seattle Rain Barrels	Vendor website
The Green Culture	Aquaduct Rain Barrel	Vendor website
The Green Culture	Channel Islands Rain Barrel	Vendor website
The Green Culture	Flora Sherwood Rain Barrel & Planter	Vendor website
The Green Culture	Forester Rain Barrel	Vendor website
The Green Culture	Great American Rain Barrel	Vendor website
The Green Culture	Mega Rain Barrel	Vendor website
The Green Culture	Niagara Falls Rain Barrel	Vendor website
The Green Culture	Ocean Breeze Rain Barrel	Vendor website
The Green Culture	Prism Rain Barrel	Vendor website
The Green Culture	Shower Saver Rain Barrel	Vendor website
The Green Culture	The Rain Catcher	Vendor website
The Green Culture	Wood Grain Rain Barrel	Vendor website

Total Rain Barrel Cost

Table 22 summarizes the minimum, average, and maximum costs for rain barrels per unit. The City of Bellingham and City of Puyallup rain barrel costs included installation costs, but the rain barrel costs obtained from vendor websites did not include installation costs. Additional costs may also need to be added for shipping and tax.

Table 22. Rain barrel cost information.

BMP Component	Unit	n	Cost			Currently in SUSTAIN?
			Low	Average	High	
Connection/Use kit	Per Unit	1	$13.45	$13.45	$13.45	No
Gutter Connection	Per Unit	9	$2.59	$25.15	$31.04	Yes
Installation	Per Unit	2	$21.97	$25.99	$30.01	No
Rain Barrel	Per Unit	53	$25.35	$174.49	$361.10	Yes

n: number of products (multiple costs [low, mid range, and high] were included for some rain barrels)

Vegetated Filter Strip

Vegetated filter strips (i.e., buffer strips) are grassy areas with gentle slopes that treat stormwater runoff from adjacent paved areas before it becomes concentrated into a discrete channel.

Projects

Table 23 summarizes information related to vegetated filter strip facilities. Cost information for 2 vegetated filter strip installations in 1 city and for 1 WSDOT project was gathered for the Puget Sound BMP cost database. Both vegetated filter strip installations are compost-amended vegetated filter strips (CAVFS).

Table 23. Vegetated filter strip project information.

City/WSDOT	Project Name	Source
City of Redmond	SR 202 and NE 124th Street Intersection	Bid tabs
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road	WSDOT website

Total Vegetated Filter Strip Cost

Table 24 summarizes the minimum, average, and maximum construction costs for vegetated filter strips a function of surface area (cost per square foot). Construction costs were provided with the submittals. Design costs were not broken out separately from the total costs. O&M costs for vegetated filter strips were not provided by the City of Redmond or WSDOT.

Table 24. Vegetated filter strip project cost information.

BMP Component	Unit	n	Cost			Currently in SUSTAIN?
			Low	Average	High	
Vegetated Filter Strip	SF	2	$1.17	$1.28	$1.40	No

n: number of facilities
SF: square feet

Unit costs currently in the SUSTAIN BMP cost database that were not provided during the Puget Sound BMP cost database data gathering effort include:

- Grading/finishing (SF)
- Grass (SF)

Other unit costs that were not provided during this cost gathering effort and are currently not included in the SUSTAIN BMP cost database, but may be incorporated into vegetated filter strip designs include:

- Excavation (CF) – necessary for topsoil installation
- Gravel (CF) – used in Ecology manual design as a flow spreader at the inlet
- Topsoil (CF) – design could include a soil/planting media component
- Compost (CF) – included for the CAVFS option
- Woody Shrubs (SF or per unit) – could be incorporated into a CAVFS design

Wet Pond

Wet ponds are facilities that contain permanent pools of water filled with the first flush runoff from a storm event. Wet ponds are designed to optimize water quality by providing retention time to settle out suspended solids (and associated pollutants) and to allow biologic activity to occur (to treat nutrients and organic pollutants).

Projects

Table 25 summarizes information related to wet pond facilities. Cost information for 25 wet ponds in 3 cities, 1 county, and WSDOT was gathered for the Puget Sound BMP cost database.

Table 25. Wet pond project information.

City/County/WSDOT	Project Name	Source
City of Bellingham	Northridge Sand Filter Detention Pond	Cost request spreadsheet
City of Lacey	2011 Street Overlay Project	Bid tabs
Seattle Public Utilities	Norfolk - MLK Way Sub-basin Stormwater Improvements Project	Norfolk - MLK Way Sub-basin Stormwater Improvements Project Development Plan
Thurston County	Mallard Pond Wetland Enhancement Project	Bid tabs
Thurston County	Thompson Place – Phase 1 - 3	Bid tabs
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin CR-1	WSDOT website
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-10	WSDOT website
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-11	WSDOT website
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-12	WSDOT website
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-13	WSDOT website
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-15	WSDOT website
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-16	WSDOT website
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-1N	WSDOT website
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-1S	WSDOT website
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-3	WSDOT website
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-4	WSDOT website
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-6	WSDOT website
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-7	WSDOT website
WSDOT	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-8	WSDOT website
WSDOT	SR 18 – 180th to Maple Valley - Detention Pond A	WSDOT website
WSDOT	SR 18 – 180th to Maple Valley - Detention Pond B	WSDOT website
WSDOT	SR 18 – 180th to Maple Valley - Detention Pond G	WSDOT website
WSDOT	SR 18 – 180th to Maple Valley - Detention Pond H	WSDOT website
WSDOT	SR 18 – 180th to Maple Valley - Detention Pond J	WSDOT website
WSDOT	SR 18 – 180th to Maple Valley - Detention Pond M	WSDOT website

Unit Costs

Table 26 summarizes the minimum, average, and maximum costs for each wet pond component.

Unit costs currently in the SUSTAIN BMP cost database that were not provided during the Puget Sound BMP cost database data gathering effort include:

- Grading/finishing (SF)

Table 26. Wet pond unit cost information.

BMP Component	Unit	n	Cost			Currently in SUSTAIN?
			Low	Average	High	
Bird Exclusion Netting	Acre	1	$30,365	$30,365	$30,365	No
Debris Cage	Per Unit	1	$1,757	$1,757	$1,757	No
Dewatering	Constant	7	$10,545	$16,068	$21,089	No
Excavation	CF	4	$0.39	$1.01	$1.80	Yes
Grass	SF	5	$0.03	$0.33	$1.22	Yes
Gravel	CF	4	$1.03	$3.28	$6.97	Yes
Inlet Structure	Per Unit	1	$1,086	$1,086	$1,086	Yes
Outlet Structure	Per Unit	2	$2,550	$9,474	$16,397	Yes
Seal	SF	1	$0.79	$0.79	$0.79	Yes
Soil/Planting Media	CF	2	$0.42	$1.16	$1.89	No
Woody Shrubs	Per Unit	1	$23.08	$23.08	$23.08	No

n: number of facilities
CF: cubic feet
SF: square feet

Total Wet Pond Cost

Table 27 summarizes the minimum, average, and maximum construction and O&M costs for wet ponds as a function of volume (cost per cubic foot) or surface area (cost per square foot). Construction costs were calculated based on the unit cost information presented in Table 26 (when bid tabs and quantities were available) and jurisdictional "per square foot" costs (when provided). Note that these unit area facility costs do not necessarily reflect all associated construction costs because costs such as mobilization, temporary erosion and sediment control, and traffic control, were not included in the cost database. Design costs are presented in Table 27 as a percentage of the corresponding construction cost. Design costs were calculated based on jurisdictions submittals and projects where both design and construction costs were provided.

Table 27. Wet pond cost project information.

BMP Component	Unit	n	Cost/Percentage			Currently in SUSTAIN?
			Low	Average	High	
Wet Pond	CF	23	$1.26	$8.26	$40.86	No
	SF	1	$23.12	$23.12	$23.12	No
O&M	CF	1	$0.03	$0.03	$0.03	No
Design [a]	%	2	5%	12%	19%	No

[a] Design costs are presented as a percentage of construction costs.
n: number of facilities
CF: cubic feet
SF: square feet

Next Steps

The Puget Sound Stormwater BMP cost database was used in a pilot application of SUSTAIN in 2012 (Herrera 2012). However, Ecology also will evaluate options for periodic updates to the database if beneficial for other projects. Refer to the following website for additional information and updates: http://www.ecy.wa.gov/programs/eap/toxics/sustainmodeling.html.

References

Herrera. 2012. Quality Assurance Project Plan for Control of Toxic Chemicals in Puget Sound Phase 3: SUSTAIN Modeling for Controlling Toxic Chemicals in Small Streams. Prepared for the Washington State Department of Ecology by Herrera Environmental Consultants, Inc., Seattle, Washington. April 2012.

ATTACHMENT 1

Master Puget Sound BMP Cost Database

BMPTypeID	BMPCode	BMPType	ComponentID	ComponentText	UnitDesc	UnitCost	ConvFactor	AdjustedCost	DesignAsPercentConstruction	Notes	City/County/Port/Private/Vendor
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	Excavation	Cubic Feet	1.11	1.03	1.15		Ditch excavation, including hau	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	Excavation	Cubic Feet	0.43	1.06	0.46		Parking lot excavation, including hau	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	Excavation	Cubic Feet	0.19	1.03	0.20		Based on $5/CY	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	Excavation	Cubic Feet	1.48	1.07	1.58		Structure excavation Class B, does not inc. haul and disposa	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	Excavation	Cubic Feet	0.76	1.10	0.83			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	Excavation	Cubic Feet	0.81	1.26	1.02		Common excavation	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	Excavation	Cubic Feet	0.3	1.07	0.32			County
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	Filter Fabric	Square Feet	0.87	1.03	0.90			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	Filter Fabric	Square Feet	0.37	1.06	0.39		70 sq yds used	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	Filter Fabric	Square Feet	1.11	1.03	1.15			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	Filter Fabric	Square Feet	0.9	1.07	0.96		30 mil, black PVC liner; includes installatior	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	Filter Fabric	Square Feet	0.22	1.26	0.28			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	Grass	Square Feet	1.11	1.03	1.15		Lawn sod	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	Grass	Square Feet	0.16	1.03	0.17			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	Grass	Square Feet	0.02	1.03	0.02			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	Grass	Square Feet	1	1.26	1.26		Sodding	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	Grass	Square Feet	0.07	1.07	0.07		Seeding, fertilizing, and mulching	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Gravel2	Cubic Feet	2.14	1.03	2.21		Pea gravel, assumes 1 ton = 1.3 CY	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Gravel2	Cubic Feet	2.42	1.06	2.57		80 tons cobble and crsrd @ $36.30/ton	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Gravel2	Cubic Feet	0.91	1.03	0.94		Cost provided is per CF, however pricing is based on CY (industry std.	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Gravel2	Cubic Feet	1.69	1.03	1.75		Gravel backfill around underdrair	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Gravel2	Cubic Feet	1.85	1.07	1.98		Mineral aggregate, Type 26	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Gravel2	Cubic Feet	2.41	1.26	3.05		Quarry spalls, assumes 1.3 TN/CY	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Gravel2	Cubic Feet	0.52	1.07	0.56		Bedding around underdrain pipe	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Gravel2	Cubic Feet	1.11	1.07	1.19		Quarry spalls	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	11	Inlet Structure	Per Unit	7500	1.03	7760.06		Type 2 CB (48-inch diam) with flow splitter	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	11	Inlet Structure	Per Unit	1100	1.26	1390.48		Inlet Type 250A	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Mulch	Cubic Feet	0.64	1.06	0.68		1,500 cy of Hog Fuel	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Mulch	Cubic Feet	1.42	1.06	1.51		Bark or wood chip mulch	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Mulch	Cubic Feet	0.74	1.03	0.77		Cost provided is per CF, however pricing is based on CY (industry std.	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Mulch	Cubic Feet	1	1.03	1.03		Bark or wood chip mulch	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Mulch	Cubic Feet	1	1.03	1.03			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Mulch	Cubic Feet	1.85	1.07	1.98		Bark mulch	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Mulch	Cubic Feet	1.67	1.10	1.83			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Mulch	Cubic Feet	1.11	1.26	1.40		Shredded bark mulch	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	O&M	Square Feet	0.65	1.07	0.70			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	O&M	Square Feet	1.9	1.07	2.03		Low cost for O&M by SCC	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	O&M	Square Feet	2.2	1.07	2.35		Average cost for O&M by SCC	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	O&M	Square Feet	2.6	1.07	2.78		High cost for O&M by SCC	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	O&M	Square Feet	0.18	1.07	0.19		Low O&M cost	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	O&M	Square Feet	0.45	1.07	0.48		High O&M cost	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	O&M	Square Feet	0.32	1.07	0.34		Average O&M cost	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	14	Observation Well	Per Unit	200	1.07	213.86		Material price quote from HD Fowler. Includes 20% mtl markup and 30% labor markup	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	15	Outlet Structure	Per Unit	12000	1.03	12416.10		Type 2 CB (48-inch diam) with control structure	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	15	Outlet Structure	Per Unit	2200	1.26	2780.96		CB Type 240 A & B	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	15	Outlet Structure	Per Unit	650	1.07	695.04		Type I CB with overflow	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	Perennials	Per Unit	7	1.06	7.44			County
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	Perennials	Square Feet	3.81	1.03	3.94		Cost determined by total project plant cost/total rain garden area	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	Perennials	Per Unit	9.75	1.03	10.09		165 installed for project	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	Perennials	Per Unit	2.15	1.03	2.22		Mid range cost	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	Perennials	Per Unit	1.6	1.03	1.66		Low cost	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	Perennials	Per Unit	6.35	1.03	6.57		High cost	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	Small Trees	Per Unit	20	1.06	21.25			County
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	Small Trees	Per Unit	13.5	1.03	13.97		Low cost (for 85 trees)	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	Small Trees	Per Unit	215	1.03	222.46		High cost (for 21 trees)	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	Small Trees	Per Unit	9.55	1.03	9.88		High cost	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	Small Trees	Per Unit	6.35	1.03	6.57		Mid range cost	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	Small Trees	Per Unit	2.95	1.03	3.05		Low cost	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	Small Trees	Per Unit	85	1.10	93.35		Low cost (coniferous)	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	Small Trees	Per Unit	100	1.10	109.83		High cost (deciduous)	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Soil/Planting Media	Cubic Feet	1.67	1.03	1.73			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Soil/Planting Media	Cubic Feet	1.63	1.06	1.73		Bioretention soil mix	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Soil/Planting Media	Cubic Feet	0.74	1.03	0.77		Cost provided is per CF, however pricing is based on CY (industry std.	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Soil/Planting Media	Cubic Feet	1.35	1.03	1.40			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Soil/Planting Media	Cubic Feet	2.03	1.07	2.17		Bioretention soil	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Soil/Planting Media	Cubic Feet	1.36	1.10	1.49		Low cost (landscape mix)	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Soil/Planting Media	Cubic Feet	1.48	1.10	1.63		High cost (turf mix)	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Soil/Planting Media	Cubic Feet	1.11	1.26	1.40		Bioretention soil	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Soil/Planting Media	Cubic Feet	0.89	1.07	0.95		Soil amendment	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	22	Underdrain Pipe	Feet	40	1.03	41.39		8-inch diameter	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	22	Underdrain Pipe	Feet	9.75	1.03	10.09		6- or 8-inch pipe	City

BMPTypeID	BMPCode	BMPType	ComponentID	ComponentText	UnitDesc	UnitCost	ConvFactor	AdjustedCost	DesignAsPercentConstruction	Notes	City/County/Port/Private/Vendor
1	BIORETENTIONBASIN	BIORETENTION BASIN	22	Underdrain Pipe	Feet	22	1.03	22.76		6-inch pipe	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Woody Shrubs	Per Unit	7	1.06	7.44		Low cost	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Woody Shrubs	Per Unit	410	1.06	435.67		High cost	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Woody Shrubs	Per Unit	17.5	1.06	18.60		Mid range cost	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Woody Shrubs	Per Unit	10	1.03	10.35		Average shrub cost (967 installed for project)	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Woody Shrubs	Per Unit	6.35	1.03	6.57			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Woody Shrubs	Square Feet	5.4	1.07	5.77		High cost (Project 6A), includes all plantings	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Woody Shrubs	Square Feet	3.73	1.07	3.99		Low cost (Project 7A), includes all plantings	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Woody Shrubs	Per Unit	7	1.10	7.69		1,371 shrubs total	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Woody Shrubs	Square Feet	1.74	1.26	2.20		Average cost per SF for trees and shrubs	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	102	Check Dam	Per Unit	150	1.03	155.20		12 installed for project	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	103	Compost	Cubic Feet	0.89	1.03	0.92		Cost provided is per CF, however pricing is based on CY (industry std.	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	103	Compost	Cubic Feet	1.13	1.03	1.17			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	103	Compost	Cubic Feet	1.53	1.10	1.68			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	103	Compost	Cubic Feet	0.52	1.26	0.66			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	Design	Square Feet	0.51	1.06	0.54	12%	29,274 sf planted retro area. $0.51/sf. Associated adjusted construction cost $4.38 per sf.	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	Design	Square Feet	1.4	1.07	1.50	35%	Per SF mitigated; inc. public outreach, inspections, trainings. Associated adjusted construction cost $4.28 per sf	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	Design	Square Feet	3	1.03	3.10	37%	50% of design cost, assumes 10 foot width. Associated adjusted construction cost $8.44 per sf.	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	Design	Square Feet	52.47	1.07	56.11	90%	Soft costs (design, PM, CM, closeout) are 90% of const. costs. Associated adjusted construction cost $62.34 per sf	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	Design	Square Feet	21.32	1.03	22.06	159%	Includes design, specs, project mgt. Associated adjusted construction cost $13.86 per sf	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	108	Emergents	Per Unit	2.45	1.10	2.69			City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	8.16	1.03	8.44		Approx. cost per SF, inc. excavation, plantings, soil, mulch, check dams	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	44.47	1.06	47.25		Assumes 2,700 sf bioret. (inc. grading, landscaping, irrigation)	Port
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	44	1.10	48.32		Construction cost	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	23.3	1.41	32.76		550 sf rain garden	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	42.42	1.32	56.12		Assumes 20 ft width x 330 LF per block x 15 blocks	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	5	1.21	6.07		Assumes 800 ft bioretention swale length, 2 ft bottom width	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	4.25	1.03	4.40		8000 sf rain garden	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	18.67	1.41	26.25		300 sf rain garden	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	4.12	1.06	4.38		29,274 sf planted retro area. $4.12/sf	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	6.55	1.07	7.00		Assumes 9000 sf of swales, does not inc. traffic control, paving, or piping	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	49.24	1.48	73.08		Higher cost (pilot project), based on $325,000 per block, 20 ft wide swale	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	83.52	1.06	88.75		High cost (rain gardens & artistic watering can downspouts)	Port
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	34.12	1.06	36.26		Low cost (rain gardens only)	Port
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	23.29	1.26	29.44		Low (does not inc. paving), high (inc. paving), based on 13,200 sf, inc. drainage and landscapin	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	11.77	1.26	14.88		Low (does not inc. paving), high (inc. paving), based on 13,200 sf, inc. drainage and landscapin	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	13.4	1.03	13.86		Includes materials, plants, landscape contractor	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	4	1.07	4.28		Construction incentive (per SF mitigated)	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	58.3	1.07	62.34		Construction cost	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	36	1.07	38.49		Low cost (Project 7A)	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	49	1.07	52.39		High cost (Project 6A)	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	5.91	1.06	6.28		8,500 sf, includes excavation, soil, mulch, and plants	County
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	42.51	1.03	43.98		3,440 sf bioretention swale, inc. planting cos	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Bioretention	Square Feet	21.33	1.03	22.07		690' length, assumes 5' width	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	121	Ground Cover	Per Unit	7	1.10	7.69		High cost (1 gallon)	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	121	Ground Cover	Per Unit	3	1.10	3.29		Low cost (4" pot)	City
1	BIORETENTIONBASIN	BIORETENTION BASIN	124	Streambed Cobbles	Cubic Feet	7.41	1.07	7.92		4" streambed cobbles	County
2	BUFFER STRIP	BUFFER STRIP	120	Vegetated Buffer Strip	Square Feet	1.35	1.03	1.40		3,770 sf CAVFS	City
2	BUFFER STRIP	BUFFER STRIP	120	Vegetated Buffer Strip	Square Feet	0.83	1.41	1.17		79,020 SF	WSDOT
3	CISTERN	CISTERN	111	Screen	Per Unit	19	1.03	19.66			Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	1001	1.03	1035.71		214 gallons	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	35	1.03	36.21		214 gallons	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	1390	1.03	1438.20		650 gallons	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	16	1.03	16.55		650 gallons	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	2539	1.03	2627.04		Low (1,000 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	4411	1.03	4563.95		High (3,000 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	11	1.03	11.38		Low (3,000 gal)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	13	1.03	13.45		Mid (2,000 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	19	1.03	19.66		High (1,000 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	3476	1.03	3596.53		Mid (2,000 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	721	1.03	746.00		Mid (1350 gal.), tax not includec	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	7	1.03	7.24		High (305 gal)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	4	1.03	4.14		Mid (1100-3500 gal)	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	3342	1.03	3457.88		High (5,000 gal.), tax not includec	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	285	1.03	294.88		Low (305 gal.), tax not includec	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	3	1.03	3.10		Low (1550-3000 gal)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	10	1.03	10.35		Mid (550 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	12	1.03	12.42		High (325 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	521	1.03	539.07		Low (325 gal.), tax not includec	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	735	1.03	760.49		Mid (550-600 gal.), tax not includec	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	1591	1.03	1646.17		High (1,700 gal.), tax not includec	Vendor

BMPTypeID	BMPCode	BMPType	ComponentID	ComponentText	UnitDesc	UnitCost	ConvFactor	AdjustedCost	DesignAsPercentConstruction	Notes	City/County/Port/Private/Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	7	1.03	7.24		Low (1,700 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	3128	1.03	3236.46		Low (2,600 gal), materials only price	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	11697	1.03	12102.59		Mid (25,000 gal), materials only price	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	27104	1.03	28043.82		High (81,000 gal), materials only price	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	2.5	1.03	2.59		Low (81,000 gal)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	3.5	1.03	3.62		Mid range cost	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	9	1.03	9.31		High (2,600 gal)	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	10026	1.03	10373.65		Mid (25,000 gal), materials only price	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	9	1.03	9.31		High (2,600 gal)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	6	1.03	6.21		Mid range cost	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	21683	1.03	22434.85		High (81,000 gal), materials only price	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	3128	1.03	3236.46		Low (2,600 gal), materials only price	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	2	1.03	2.07		Low (81,000 gal)	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	301	1.03	311.44		75 gallons	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	30	1.03	31.04		75 gallons	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	19	1.03	19.66		See notes	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	180.34	1.03	186.59		71 gallons	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	4	1.03	4.14		Low (1200 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	642	1.03	664.26		Mid (1200 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	8355	1.03	8644.71		High (12,500 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	17	1.03	17.59		High (25 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	11	1.03	11.38		Mid range cost	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	57	1.03	58.98		Low (25 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	12	1.03	12.42		High (2650 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	434	1.03	449.05		Low (325 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	1380	1.03	1427.85		Mid (1200 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	4251	1.03	4398.40		High (2650 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	8.6	1.03	8.90		Low (1200 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	10	1.03	10.35		Mid (325 gal.)	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	45	1.03	46.56		50 gallons	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	301	1.03	311.44		50 gallons	Vendor
3	CISTERN	CISTERN	115	Cistern	Cubic Feet	13	1.03	13.45		650 gallons	Vendor
3	CISTERN	CISTERN	115	Cistern	Per Unit	1100	1.03	1138.14		650 gallons	Vendor
3	CISTERN	CISTERN	115	Cistern	Square Feet	2.6	1.07	2.78		Construction incentive cost per SF, inc. O&M	City
5	GREENROOF	GREEN ROOF	8	Gravel3	Cubic Feet	1.2	1.03	1.24		1-1/2 washed for perimeters	Vendor
5	GREENROOF	GREEN ROOF	9	Green Roof System	Square Feet	25	1.26	31.60		2,500 sf	Private
5	GREENROOF	GREEN ROOF	9	Green Roof System	Square Feet	100	1.21	121.46		27,000+ sf, roof deck with lots of amenities, outlier?	Private
5	GREENROOF	GREEN ROOF	9	Green Roof System	Square Feet	13	1.10	14.28		2,700 sf, assumes high end of $30,000 to 35,000 range	Private
5	GREENROOF	GREEN ROOF	9	Green Roof System	Square Feet	40	1.26	50.56		750 sf	Private
5	GREENROOF	GREEN ROOF	9	Green Roof System	Square Feet	19.5	1.13	22.08		Green Grid portion of green roof	Private
5	GREENROOF	GREEN ROOF	9	Green Roof System	Square Feet	22.5	1.13	25.48		ZeroFlor portion of green roof	Private
5	GREENROOF	GREEN ROOF	9	Green Roof System	Square Feet	20	1.26	25.28		20,500 sf total	City
5	GREENROOF	GREEN ROOF	9	Green Roof System	Square Feet	10	1.13	11.32		2,700 sf, doesn't include supporting roof structure	City
5	GREENROOF	GREEN ROOF	9	Green Roof System	Square Feet	19.25	1.32	25.47		8,500 sf total	City
5	GREENROOF	GREEN ROOF	9	Green Roof System	Square Feet	23	1.03	23.80		Low cost (dependent on how extensive the roof garden is	Vendor
5	GREENROOF	GREEN ROOF	9	Green Roof System	Square Feet	30	1.03	31.04		High cost (dependent on how extensive the roof garden is	Vendor
5	GREENROOF	GREEN ROOF	9	Green Roof System	Square Feet	13.91	1.03	14.39		5000sf GreenGrid; inc. modules, growth media, plants, geotextile, and delivery; does not inc. ta	Vendor
5	GREENROOF	GREEN ROOF	13	O&M	Square Feet	0.1	1.03	0.10		Dependent upon water schedule, plant maintenance, et	Vendor
5	GREENROOF	GREEN ROOF	21	Soil/Planting Media	Cubic Feet	3.3	1.03	3.41		Average cost for Rooflite media (2 CY super sacks); does not inc. trucking cost ($650)	Vendor
5	GREENROOF	GREEN ROOF	21	Soil/Planting Media	Cubic Feet	10	1.03	10.35		Pre-Engineered soil for lighter fully saturated loads	Vendor
5	GREENROOF	GREEN ROOF	110	Waterproof Membrane	Square Feet	14	1.03	14.49		High cost (dependent upon performance, warranty, access, etc.)	Vendor
5	GREENROOF	GREEN ROOF	110	Waterproof Membrane	Square Feet	9	1.03	9.31		Low cost (dependent upon performance, warranty, access, etc.)	Vendor
5	GREENROOF	GREEN ROOF	113	Drainage Layer	Square Feet	3	1.03	3.10			Vendor
5	GREENROOF	GREEN ROOF	119	Root Barrier	Square Feet	2.2	1.03	2.28			Vendor
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	2	Excavation	Cubic Feet	0.89	1.03	0.92		Extra excavation inc. hau	City
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	2	Excavation	Cubic Feet	0.44	1.07	0.47		Assumes equiv. to pond excavation inc. hau	City
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	2	Excavation	Cubic Feet	0.39	1.26	0.49		Structure excavation Class B inc. hau	County
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	5	Grass	Square Feet	0.25	1.26	0.32		Seeding cost	County
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	7	Gravel2	Cubic Feet	1.68	1.03	1.74		Backfill for drywells, assumes 1.4 TN/CY	City
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	7	Gravel2	Cubic Feet	0.62	1.26	0.78		1 1/2" washed drain rock, assumes 1.4 TN/CY	County
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	116	Infiltration Trench	Square Feet	101.4	1.07	108.43		Infiltration gallery - 60 Inch, 230 LF	City
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	116	Infiltration Trench	Square Feet	73.71	1.13	83.48		Infiltration gallery (5' diam.), washed rock, rebuild paved roadway	County
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	116	Infiltration Trench	Per Unit	51440	1.26	65023.83		60-Inch Perf. Alum. Steel 14 GA Pipe w/risers	County
7	POROUSPAVEMENT	POROUS PAVEMENT	2	Excavation	Cubic Feet	0.67	1.06	0.71		1100 cy @ $18/cy incl. hau	City
7	POROUSPAVEMENT	POROUS PAVEMENT	2	Excavation	Cubic Feet	1.19	1.03	1.23		Parking lot excavation, including hau	County
7	POROUSPAVEMENT	POROUS PAVEMENT	2	Excavation	Cubic Feet	0.43	1.07	0.46		Parking lot excavation, including hau	County
7	POROUSPAVEMENT	POROUS PAVEMENT	2	Excavation	Cubic Feet	0.43	1.07	0.46		Parking lot excavation, including hau	County
7	POROUSPAVEMENT	POROUS PAVEMENT	2	Excavation	Square Feet	0.19	1.03	0.20		Based on $5/CY	City
7	POROUSPAVEMENT	POROUS PAVEMENT	2	Excavation	Square Feet	1.1	1.03	1.14		Removal of existing trail	City
7	POROUSPAVEMENT	POROUS PAVEMENT	3	Filter Fabric	Square Feet	0.87	1.03	0.90			City
7	POROUSPAVEMENT	POROUS PAVEMENT	3	Filter Fabric	Square Feet	0.074	1.03	0.08		PermeaTex 4045 (4.5oz Non-Woven Geotextile), average of range provided	Vendor

BMPTypeID	BMPCode	BMPType	ComponentID	ComponentText	UnitDesc	UnitCost	ConvFactor	AdjustedCost	DesignAsPercentConstruction	Notes	City/County/Port/Private/Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	3	Filter Fabric	Square Feet	0.09	1.03	0.09		PermeaTex 4060 (6oz Non-Woven Geotextile), average of range providec	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	3	Filter Fabric	Square Feet	1.11	1.03	1.15			City
7	POROUSPAVEMENT	POROUS PAVEMENT	6	Gravel1	Cubic Feet	1.49	1.03	1.54		2" leveling course for porous concrete	County
7	POROUSPAVEMENT	POROUS PAVEMENT	7	Gravel2	Cubic Feet	1.04	1.03	1.08		11" minimum base course for porous concrete	County
7	POROUSPAVEMENT	POROUS PAVEMENT	7	Gravel2	Cubic Feet	0.9	1.07	0.96		7" gravel base and 6" leveling course for porous asphal	County
7	POROUSPAVEMENT	POROUS PAVEMENT	7	Gravel2	Cubic Feet	0.9	1.07	0.96		7" gravel base and 2" leveling course for porous concrete	County
7	POROUSPAVEMENT	POROUS PAVEMENT	7	Gravel2	Cubic Feet	3.4	1.03	3.52		Porous pavement base course (6" deep)	City
7	POROUSPAVEMENT	POROUS PAVEMENT	13	O&M	Square Feet	0.02	1.07	0.02			City
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	2.25	1.03	2.33		Grassy Pavers	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	3.9	1.03	4.04		6,750 sf pervious concrete sidewalk	City
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	7.1	1.06	7.54		Average (1400sy 4in @$62/sy, 2300sy 8in @$65/sy	City
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	3.5	1.03	3.62		Low cost, depends on size of project, Open Celled Grid Pavers	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	4.5	1.03	4.66		High cost, depends on size of project, Open Celled Grid Pavers	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	2.46	1.07	2.63		Eco Priora pavers, does not inc. underlying materials	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	2.1	1.03	2.17		Grasspave2, average of range provided ($2.05 - 2.15)	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	3.1	1.03	3.21		Gravelpave2, average of cost range provided ($3.05 - 3.15)	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	5.22	1.03	5.40		1,716 SY of porous concrete (7" depth)	County
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	1.27	1.07	1.36		4,645 SY of porous asphalt (3" depth)	County
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	3.63	1.07	3.88		5,380 SY of porous concrete (7" depth)	County
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	2.5	1.21	3.04		Porous concrete sidewalk (8,595 SF)	City
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	2.33	1.07	2.49		Porous asphalt parking (9,000 SF)	City
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	1.94	1.07	2.07		Porous asphalt sidewalk (10,035 SF)	City
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	4.33	1.07	4.63		Porous concrete sidewalk (10,035 SF)	City
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	3.62	1.03	3.75		6,840 sf porous concrete sidewalk	City
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	4.52	1.03	4.68		7,800 sf porous asphalt (HMA)	City
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	cubic yard	125	1.03	129.33		Delivered to job site in mixer; cost provided in CY, not SF	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	3.46	1.07	3.70		Aqua Bric pavers, does not inc. underlying materials	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Porous Paving Materia	Square Feet	3.53	1.07	3.77		Aqua Loc pavers, does not inc. underlying materials	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	22	Underdrain Pipe	Feet	40	1.03	41.39		8-inch diameter	City
7	POROUSPAVEMENT	POROUS PAVEMENT	22	Underdrain Pipe	Feet	14	1.06	14.88		6,600 lf in place with rock and fabric	City
7	POROUSPAVEMENT	POROUS PAVEMENT	22	Underdrain Pipe	Feet	6.25	1.07	6.68		4" perforated pipe	County
7	POROUSPAVEMENT	POROUS PAVEMENT	22	Underdrain Pipe	Feet	9.75	1.03	10.09		6- or 8-inch pipe	City
7	POROUSPAVEMENT	POROUS PAVEMENT	106	Design	Square Feet	1.094	1.06	1.16	10%	Portion of design cost for pavement/filter. Associated adjusted construction cost $11.13 per sf.	City
7	POROUSPAVEMENT	POROUS PAVEMENT	106	Design	Square Feet	29.7	1.07	31.76	90%	Soft costs (90% of construction costs). Associated adjusted construction cost $35.29 per sf.	City
7	POROUSPAVEMENT	POROUS PAVEMENT	106	Design	Square Feet	23.4	1.07	25.02	90%	Soft costs (90% of construction costs). Associated adjusted construction cost $27.80 per sf.	City
7	POROUSPAVEMENT	POROUS PAVEMENT	114	Drainage Sand	Cubic Feet	1.31	1.07	1.40		2" of drainage sand below reservoir course	County
7	POROUSPAVEMENT	POROUS PAVEMENT	114	Drainage Sand	Cubic Feet	1.31	1.07	1.40		2" of drainage sand below reservoir course	County
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	8.41	1.03	8.70		Inc. excavation, porous concrete, reservoir, & leveling course	County
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	33	1.07	35.29		134 LF x 4 ft wide porous pavement	City
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	7.32	1.03	7.57		7,800 sf porous asphalt (HMA), 6" base course, removal of existing trai	City
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	2.37	1.03	2.45		62,000 sf pervious asphalt parking lot	City
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	26	1.07	27.80		Construction cost	City
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	15	1.03	15.52		High cost, installation of Open Celled Grid Pavers	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	7.5	1.03	7.76		Low cost, installation of Open Celled Grid Pavers	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	1.75	1.03	1.81		Labor and equipment and plastic; 20,000 to 75,000 SF project	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	10.47	1.06	11.13		Pavement (33,300 SF) + underlying sand filter + excav	City
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	69.6	1.07	74.42		Assumes 2,500 sf permeable pavers, inc. underlying materia	Port
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	4.6	1.03	4.76		High cost, 4" porous concrete sidewalk	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	3.95	1.03	4.09		Low cost, 4" porous concrete sidewalk	Vendor
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	3.18	1.07	3.40		Inc. excavation, porous asphalt, drainage sand, reservoir, & leveling course	County
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	5.24	1.07	5.60		Inc. excavation, porous concrete, drainage sand, reservoir, & leveling course	County
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Porous Pavement	Square Feet	5.28	1.10	5.80		6" and 8" thick porous concrete	Vendor
8	RAINBARREL	RAIN BARREL	10	Gutter Connection	Per Unit	18	1.03	18.62		Downspout flex pipe	Vendor
8	RAINBARREL	RAIN BARREL	10	Gutter Connection	Per Unit	25.43	1.03	26.31		Connections, dispersal system, foundation	City
8	RAINBARREL	RAIN BARREL	10	Gutter Connection	Per Unit	29.95	1.03	30.99		Downspout diverter	Vendor
8	RAINBARREL	RAIN BARREL	10	Gutter Connection	Per Unit	29.95	1.03	30.99		Downspout diverter	Vendor
8	RAINBARREL	RAIN BARREL	10	Gutter Connection	Per Unit	29.95	1.03	30.99		Downspout diverter	Vendor
8	RAINBARREL	RAIN BARREL	10	Gutter Connection	Per Unit	29.95	1.03	30.99		Downspout diverter	Vendor
8	RAINBARREL	RAIN BARREL	10	Gutter Connection	Per Unit	23	1.03	23.80		Free shipping	Vendor
8	RAINBARREL	RAIN BARREL	10	Gutter Connection	Per Unit	30	1.03	31.04		Garden Watersaver Downspout	Vendor
8	RAINBARREL	RAIN BARREL	10	Gutter Connection	Per Unit	2.5	1.03	2.59		Includes flex elbow	City
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	150	1.03	155.20		Free shipping, inc. gutter connection, 58 gallons	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	99.25	1.03	102.69		55 gallons	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	148	1.03	153.13		54 gallons, does not inc. shipping ($21	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	197.94	1.03	204.80		95 gal brl,incl msqto scr., spgts & overflow	City
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	240	1.03	248.32		Low (50 gal.), free shipping	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	340	1.03	351.79		High (95 gal.), free shipping	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	24.5	1.03	25.35		Low cost; 50-55 gallon; does not inc. shipping ($32-60	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	36.5	1.03	37.77		Mid cost; 50-55 gallon; does not inc. shipping ($32-60	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	73.5	1.03	76.05		High cost; 50-55 gallon; does not inc. shipping ($32-60	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	169	1.03	174.86		75 gallon, does not inc. shipping ($45.28	Vendor

BMPTypeID	BMPCode	BMPType	ComponentID	ComponentText	UnitDesc	UnitCost	ConvFactor	AdjustedCost	DesignAsPercentConstruction	Notes	City/County/Port/Private/Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	199	1.03	205.90		50 gallon, does not inc. shipping ($43.88	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	199	1.03	205.90		40 gallon, does not inc. shipping ($33.88	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	149	1.03	154.17		Low (50 gal.), does not inc. shipping ($27.88 [50 gal.] or $46.28 [65 gal.]	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	219	1.03	226.59		High (65 gal.), does not inc. shipping ($27.88 [50 gal.] or $46.28 [65 gal.]	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	149	1.03	154.17		47 gallon, does not inc. shipping ($27.88	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	55	1.03	56.91		55-gallon, includes 3/4" faucet, does not inc. shipping	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	150	1.03	155.20		High (55 gal.), does not inc. shipping ($210	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	105	1.03	108.64		Low (50 gal.), does not inc. shipping ($210	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	120	1.03	124.16		Mid (65 gal.), does not inc. shipping ($210	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	200	1.03	206.93		50 gallon, shipping not included	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	300	1.03	310.40		80 gallon, free shipping	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	269	1.03	278.33		Low (Pro), free shipping	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	299	1.03	309.37		Mid (Pro Plus), free shipping	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	329	1.03	340.41		High (Pro Elite), free shipping	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	75	1.03	77.60		50-60 gallon, $15 delivery or free pick-up	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	260	1.03	269.02		54 gallon, does not inc. shipping ($55	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	195	1.03	201.76		47 gallon, does not inc. shipping ($45	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	259	1.03	267.98		55 gallon, does not inc. shipping ($65	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	168	1.03	173.83		50 gallon, does not inc. shipping ($45	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	166	1.03	171.76		60 gallon, does not inc. shipping ($55	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	349	1.03	361.10		80 gallon, does not inc. shipping ($95	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	177.5	1.03	183.65		50 gallon, does not inc. shipping ($45	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	127.5	1.03	131.92		55 gallon, does not include shipping ($40	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	295	1.03	305.23		54 gallon, does not inc. shipping ($40	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	260	1.03	269.02		54 gallon, does not inc. shipping ($55	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	170	1.03	175.89		54 gallon, does not inc. shipping ($45	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	215	1.03	222.46		50 gallon, does not inc. shipping ($45	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	85	1.03	87.95		50 gallon, does not inc. shipping ($35	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	85	1.03	87.95		Includes 60 gal rain barrel, assembled	City
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	129.5	1.03	133.99		Total pre-tax cost	City
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	85	1.03	87.95		55 gallons	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	189	1.03	195.55		90 gallon, pick-up near Seattle or Portland	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	225	1.03	232.80		55 gallon, does not inc. shipping ($210	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	80	1.03	82.77		55 gallon, does not inc. shipping ($145	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	185	1.03	191.41		55 gallon, does not inc. shipping ($210	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	80	1.03	82.77		50 gallon, does not inc. shipping ($78	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	62	1.03	64.15		55 gallon, does not inc. shipping ($15.40	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	190	1.03	196.59		55 gallon, does not inc. shipping ($69	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	135	1.03	139.68		Low (50 gal.), does not inc. shipping ($78 and $159	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	145	1.03	150.03		High (65 gal.), does not inc. shipping ($78 and $159	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	70	1.03	72.43		53 gallon, does not inc. shipping ($162	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	90	1.03	93.12		50 gallon, does not inc. shipping ($81	Vendor
8	RAINBARREL	RAIN BARREL	18	Rain Barrel	Per Unit	165	1.03	170.72		54 gallon, does not inc. shipping ($86	Vendor
8	RAINBARREL	RAIN BARREL	101	Installation	Per Unit	21.23	1.03	21.97		Labor at $12/hr, each barrel requires approx. 1.77 hrs for installation	City
8	RAINBARREL	RAIN BARREL	101	Installation	Per Unit	29	1.03	30.01		Includes cinder blocks, labor	City
8	RAINBARREL	RAIN BARREL	112	Connection/Use kit	Per Unit	13	1.03	13.45		Includes overflow hose, splitter	City
9	VEGETATIVESWALE	VEGETATIVE SWALE	2	Excavation	Cubic Feet	0.29	1.03	0.30		$7.95 per CY including hau	City
9	VEGETATIVESWALE	VEGETATIVE SWALE	5	Grass	Square Feet	0.84	1.03	0.87		$7.60 per SY	City
9	VEGETATIVESWALE	VEGETATIVE SWALE	13	O&M	Square Feet	0.47	1.03	0.49		Estimated on mowing (0.07) & Vactor (0.40)	City
9	VEGETATIVESWALE	VEGETATIVE SWALE	15	Outlet Structure	Per Unit	2210	1.03	2286.63		Catch Basin Type 2, 48-inch	City
9	VEGETATIVESWALE	VEGETATIVE SWALE	22	Underdrain Pipe	Feet	29.7	1.03	30.73		Underdrain pipe 12-inch diameter	City
9	VEGETATIVESWALE	VEGETATIVE SWALE	106	Design	Square Feet	4.66	1.03	4.82	51%	Very rough estimate. Associated adjusted construction cost $9.42 per sf	City
9	VEGETATIVESWALE	VEGETATIVE SWALE	122	Grassed Swale	Square Feet	4.3	1.13	4.87		Compost-amended bioswale	WSDOT
9	VEGETATIVESWALE	VEGETATIVE SWALE	122	Grassed Swale	Square Feet	3.8	1.13	4.30		Standard bioswale	WSDOT
9	VEGETATIVESWALE	VEGETATIVE SWALE	123	Grass Lined Rain Garden	Square Feet	9.1	1.03	9.42		$4,550 for entire facility	City
10	WETPOND	WETPOND	2	Excavation	Cubic Feet	0.444	1.10	0.49		1,200 cy @$12/cy	City
10	WETPOND	WETPOND	2	Excavation	Cubic Feet	1.3	1.03	1.35		Pond excavation inc. hau	City
10	WETPOND	WETPOND	2	Excavation	Cubic Feet	1.48	1.21	1.80		Includes excavation, haul, and disposa	City
10	WETPOND	WETPOND	2	Excavation	Cubic Feet	0.28	1.41	0.39		Overexcavation inc. hau	WSDOT
10	WETPOND	WETPOND	5	Grass	Square Feet	1.11	1.10	1.22		Sod 450 sy @$10/sy	City
10	WETPOND	WETPOND	5	Grass	Square Feet	0.1	1.03	0.10		Seeding, fertilizing, and mulching	City
10	WETPOND	WETPOND	5	Grass	Square Feet	0.21	1.21	0.26		Hydroseeding on pond slopes above WSE	City
10	WETPOND	WETPOND	5	Grass	Square Feet	0.018	1.41	0.03		Seeding, fertilizing, and mulching	WSDOT
10	WETPOND	WETPOND	5	Grass	Square Feet	0.018	1.48	0.03		Seeding, fertilizing, and mulching	WSDOT
10	WETPOND	WETPOND	8	Gravel3	Cubic Feet	6.74	1.03	6.97		Quarry spalls, assumes 1.4 TN/CY	City
10	WETPOND	WETPOND	8	Gravel3	Cubic Feet	2.96	1.21	3.60		Quarry spalls	City
10	WETPOND	WETPOND	8	Gravel3	Cubic Feet	0.73	1.41	1.03		Quarry spalls, assumes 1.4 TN/CY	WSDOT
10	WETPOND	WETPOND	8	Gravel3	Cubic Feet	1.04	1.48	1.54		Quarry spalls, assumes 1.4 TN/CY	WSDOT
10	WETPOND	WETPOND	11	Inlet Structure	Per Unit	1050	1.03	1086.41		Catch Basin Type 1	City
10	WETPOND	WETPOND	13	O&M	Cubic Feet	0.025	1.21	0.03		Does not include dredging (every 10-25 yrs	City
10	WETPOND	WETPOND	15	Outlet Structure	Per Unit	2465	1.03	2550.47		Catch Basin Type 2 - 48 In. Diam	City

BMPTypeID	BMPCode	BMPType	ComponentID	ComponentText	UnitDesc	UnitCost	ConvFactor	AdjustedCost	DesignAsPercentConstruction	Notes	City/County/Port/Private/Vendor
10	WETPOND	WETPOND	15	Outlet Structure	Per Unit	13500	1.21	16396.87		Pond outlet (Type 204A manhole,	City
10	WETPOND	WETPOND	19	Seal	Square Feet	0.56	1.41	0.79		Geosynthetic clay liner	WSDOT
10	WETPOND	WETPOND	21	Soil/Planting Media	Cubic Feet	1.56	1.21	1.89		Topsoil, type A	City
10	WETPOND	WETPOND	21	Soil/Planting Media	Cubic Feet	0.3	1.41	0.42		Topsoil, Class B	WSDOT
10	WETPOND	WETPOND	23	Woody Shrubs	Per Unit	19	1.21	23.08		Plantings at pond fringe	City
10	WETPOND	WETPOND	100	Bird Exclusion Netting	acre	25000	1.21	30364.58		Over pond maximum WSE	City
10	WETPOND	WETPOND	105	Debris Cage	Per Unit	1250	1.41	1757.42			WSDOT
10	WETPOND	WETPOND	106	Design	Cubic Feet	0.52	1.21	0.63	5%	Based on $165,000 consultant design cost. Associated adjusted construction cost $12.92 per cf.	City
10	WETPOND	WETPOND	106	Design	Square Feet	4.06	1.10	4.47	19%	$58,000 total. Associated adjusted construction cost $23.12 per sf.	City
10	WETPOND	WETPOND	107	Dewatering	Constant	15000	1.41	21089.07			WSDOT
10	WETPOND	WETPOND	107	Dewatering	Constant	10000	1.41	14059.38			WSDOT
10	WETPOND	WETPOND	107	Dewatering	Constant	10000	1.41	14059.38			WSDOT
10	WETPOND	WETPOND	107	Dewatering	Constant	15000	1.41	21089.07			WSDOT
10	WETPOND	WETPOND	107	Dewatering	Constant	15000	1.41	21089.07			WSDOT
10	WETPOND	WETPOND	107	Dewatering	Constant	7500	1.41	10544.54			WSDOT
10	WETPOND	WETPOND	107	Dewatering	Constant	7500	1.41	10544.54			WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	6.24	1.26	7.89		87,100 cf (added capacity), inc. plantings	County
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	10.64	1.21	12.92		Based on 317,988 CF (7.3 acre-ft)	City
10	WETPOND	WETPOND	109	Wet Pond	Square Feet	21.02	1.10	23.12		14,300 sf	City
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	1.67	1.48	2.48		60,113 CF detention pond	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	4.11	1.48	6.10		33,106 CF detention pond	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	5.61	1.48	8.33		42,263 CF detention pond	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	2.47	1.48	3.67		57,935 CF detention pond	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	0.85	1.48	1.26		58,370 CF detention pond	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	1.66	1.48	2.46		131,551 CF detention pond	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	3.34	1.41	4.70		59,044 CF wet pond, does not inc. ROW cost	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	3.58	1.41	5.03		101,451 CF wet pond, does not inc. ROW cost	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	7.74	1.41	10.88		29,820 CF wet pond, does not inc. ROW cost	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	4.93	1.41	6.93		27,832 CF wet pond	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	5.19	1.41	7.30		25,075 CF wet pond	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	4.43	1.41	6.23		17,070 CF wet pond	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	4.42	1.41	6.21		108,753 CF wet pond, does not inc. ROW cost	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	5.99	1.41	8.42		10,770 CF wet pond, does not inc. ROW cost	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	29.06	1.41	40.86		1,170 CF wet pond, does not inc. ROW cost	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	3.32	1.41	4.67		202,733 CF wet pond, does not inc. ROW cost	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	3.13	1.41	4.40		100,633 CF wet pond, does not inc. ROW cost	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	4.11	1.41	5.78		55,165 CF wet pond, does not inc. ROW cost	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	4.37	1.41	6.14		81,917 CF wet pond, does not inc. ROW cost	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	3.25	1.41	4.57		87,007 CF wet pond, does not inc. ROW cost	WSDOT
10	WETPOND	WETPOND	109	Wet Pond	Cubic Feet	17.28	1.32	22.86		37,300 cf retention pond, inc. 3 phases	County
11	WETLAND	WETLAND	2	Excavation	Cubic Feet	0.74	1.03	0.77		Pond excavation	City
11	WETLAND	WETLAND	11	Inlet Structure	Per Unit	2180	1.03	2255.59		Catch basin, Type 2 54" diameter	City
11	WETLAND	WETLAND	15	Outlet Structure	Per Unit	4730	1.18	5585.58			City
11	WETLAND	WETLAND	15	Outlet Structure	Per Unit	7025	1.03	7268.59		Rectangular vault (5'4" x 9'4" x 4'8")	City
11	WETLAND	WETLAND	16	Perennials	Square Feet	1.71	1.07	1.83		Lump Sum Plantings $28,200	City
11	WETLAND	WETLAND	16	Perennials	Square Feet	1.29	1.18	1.52		Lump sum $20,000 vegetation	City
11	WETLAND	WETLAND	16	Perennials	Per Unit	2.75	1.03	2.85			City
11	WETLAND	WETLAND	19	Seal	Square Feet	1.37	1.03	1.42		Geosynthetic clay liner and penetration	City
11	WETLAND	WETLAND	20	Small Trees	Per Unit	28	1.03	28.97		Low cost	City
11	WETLAND	WETLAND	20	Small Trees	Per Unit	100	1.03	103.47		Mid cost	City
11	WETLAND	WETLAND	20	Small Trees	Per Unit	225	1.03	232.80		High cost	City
11	WETLAND	WETLAND	21	Soil/Planting Media	Cubic Feet	0.55	1.03	0.57		Topsoil, Type A	City
11	WETLAND	WETLAND	23	Woody Shrubs	Per Unit	9	1.03	9.31		Low cost	City
11	WETLAND	WETLAND	23	Woody Shrubs	Per Unit	14	1.03	14.49		High cost	City
11	WETLAND	WETLAND	104	Constructed Wetland	Square Feet	2.03	1.03	2.10		8.7-acre wetland	City
11	WETLAND	WETLAND	104	Constructed Wetland	Square Feet	12.47	1.03	12.90		4,400 sf wetland, inc. excavation, inlet/outlet structures, plantings, line	City
11	WETLAND	WETLAND	104	Constructed Wetland	Square Feet	9.42	1.07	10.07		16,500 sf rock plant filter	City
11	WETLAND	WETLAND	104	Constructed Wetland	Square Feet	8.62	1.18	10.18		15,533 sf	City
11	WETLAND	WETLAND	106	Design	Square Feet	1.3	1.07	1.39	14%	$21,433 total, 16,500 sf rock plant filter. Associated adjusted construction cost $10.07 per sf.	City
11	WETLAND	WETLAND	106	Design	Square Feet	2.78	1.18	3.28	32%	43200. Associated adjusted construction cost $10.18 per sf.	City

BMPTypeID	BMPCode	BMPType	ComponentID	Company	Contact	Email	Phone	Project	ProjectType	ConstructionDate	ConstructionMonth_Other Notes
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	City of Auburn	Jacob Sweeting	jsweeting@auburnwa.gov	253-804-5059	West Valley Highway Improvements	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	Snohomish County	NA	NA	NA	Silver Creek Basin LID Retrofits (Projects 6A and 7A)	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	Seattle Public Utilities	NA	NA	NA	Ballard Roadside Rain Gardens	Public	2009	
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2005	Construction cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	Thurston County	Scott Lindblom	LINDBLS@co.thurston.wa.us	360-786-5133	Evergreen Terrace - Phase III	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	City of Auburn	Jacob Sweeting	jsweeting@auburnwa.gov	253-804-5059	West Valley Highway Improvements	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	EV-71 Flynn Street Water Quality	Public	2010	June - September
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	Snohomish County	NA	NA	NA	Silver Creek Basin LID Retrofits (Projects 6A and 7A)	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2005	Construction cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	City of Auburn	Jacob Sweeting	jsweeting@auburnwa.gov	253-804-5059	West Valley Highway Improvements	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2005	Construction cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	Thurston County	Scott Lindblom	LINDBLS@co.thurston.wa.us	360-786-5133	Evergreen Terrace - Phase III	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	City of Auburn	Jacob Sweeting	jsweeting@auburnwa.gov	253-804-5059	West Valley Highway Improvements	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	EV-71 Flynn Street Water Quality	Public	2010	June - September
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	City of Puyallup	Joy Rodriguez	jrodriguez@ci.puyallup.wa.us	253-841-5549	Puyallup's 2011 Rain Garden Program	Public	2011	May, July, and Sept.
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Snohomish County	NA	NA	NA	Silver Creek Basin LID Retrofits (Projects 6A and 7A)	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2005	Construction cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Thurston County	Scott Lindblom	LINDBLS@co.thurston.wa.us	360-786-5133	Evergreen Terrace - Phase III	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Thurston County	Scott Lindblom	LINDBLS@co.thurston.wa.us	360-786-5133	Evergreen Terrace - Phase III	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	11	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	11	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2005	Construction cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	EV-71 Flynn Street Water Quality	Public	2010	June - September
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	City of Puyallup	Joy Rodriguez	jrodriguez@ci.puyallup.wa.us	253-841-5549	Puyallup's 2011 Rain Garden Program	Public	2011	May, July, and Sept.
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Snohomish County	NA	NA	NA	Silver Creek Basin LID Retrofits (Projects 6A and 7A)	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Seattle Public Utilities	NA	NA	NA	Ballard Roadside Rain Gardens	Public	2009	
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2005	Construction cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	High Point	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2010	O&M cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2010	O&M cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2010	O&M cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Rainwise - Roadside Rain Gardens	Private	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Rainwise - Roadside Rain Gardens	Private	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Rainwise - Roadside Rain Gardens	Private	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	14	Snohomish County	NA	NA	NA	Silver Creek Basin LID Retrofits (Projects 6A and 7A)	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	15	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	15	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2005	Construction cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	15	Thurston County	Scott Lindblom	LINDBLS@co.thurston.wa.us	360-786-5133	Evergreen Terrace - Phase III	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	City of Puyallup	Joy Rodriguez	jrodriguez@ci.puyallup.wa.us	253-841-5549	Puyallup's 2011 Rain Garden Program	Public	2011	May, July, and Sept.
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	Seattle Public Utilities	NA	NA	NA	Ballard Roadside Rain Gardens	Public	2009	
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	Seattle Public Utilities	NA	NA	NA	Ballard Roadside Rain Gardens	Public	2009	
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	City of Auburn	Jacob Sweeting	jsweeting@auburnwa.gov	253-804-5059	West Valley Highway Improvements	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	City of Puyallup	Joy Rodriguez	jrodriguez@ci.puyallup.wa.us	253-841-5549	Puyallup's 2011 Rain Garden Program	Public	2011	May, July, and Sept.
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Snohomish County	NA	NA	NA	Silver Creek Basin LID Retrofits (Projects 6A and 7A)	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Seattle Public Utilities	NA	NA	NA	Ballard Roadside Rain Gardens	Public	2009	
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Seattle Public Utilities	NA	NA	NA	Ballard Roadside Rain Gardens	Public	2009	
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2005	Construction cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Thurston County	Scott Lindblom	LINDBLS@co.thurston.wa.us	360-786-5133	Evergreen Terrace - Phase III	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	22	City of Auburn	Jacob Sweeting	jsweeting@auburnwa.gov	253-804-5059	West Valley Highway Improvements	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	22	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	

BMPTypeID	BMPCode	BMPType	ComponentID	Company	Contact	Email	Phone	Project	ProjectType	ConstructionDate	ConstructionMonth_Other Notes
1	BIORETENTIONBASIN	BIORETENTION BASIN	22	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Snohomish County	NA	NA	NA	Silver Creek Basin LID Retrofits (Projects 6A and 7A)	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Snohomish County	NA	NA	NA	Silver Creek Basin LID Retrofits (Projects 6A and 7A)	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Seattle Public Utilities	NA	NA	NA	Ballard Roadside Rain Gardens	Public	2009	
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2005	Construction cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	102	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	103	City of Puyallup	Joy Rodriguez	jrodriguez@ci.puyallup.wa.us	253-841-5549	Puyallup's 2011 Rain Garden Program	Public	2011	May, July, and Sept.
1	BIORETENTIONBASIN	BIORETENTION BASIN	103	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	103	Seattle Public Utilities	NA	NA	NA	Ballard Roadside Rain Gardens	Public	2009	
1	BIORETENTIONBASIN	BIORETENTION BASIN	103	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2005	Construction cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	EV-71 Flynn Street Water Quality	Public	2010	June - September
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Rainwise	Private	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Rainwise - Roadside Rain Gardens	Private	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	City of Puyallup	Joy Rodriguez	jrodriguez@ci.puyallup.wa.us	253-841-5549	Puyallup's 2011 Rain Garden Program	Public	2011	May, July, and Sept.
1	BIORETENTIONBASIN	BIORETENTION BASIN	108	Seattle Public Utilities	NA	NA	NA	Ballard Roadside Rain Gardens	Public	2009	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Port of Anacortes	Connie Thoman	connie@portofanacortes.com	(360) 299-1818	Anthony's Parking Lot	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Seattle Public Utilities	NA	NA	NA	Ballard Roadside Rain Gardens	Public	2009	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	City of Bellingham	NA	NA	NA	Bloedel Donovan Park	Public	2003	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Seattle Public Utilities	NA	NA	NA	Broadview Green Grid	Public	2004	Construction cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	City of Poulsbo	Jim Groh	jgroh@cityofpoulsbo.com	360.779.4078	Caldart Ave. Improvements Project	Public	2006	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	City of Issaquah	Kerry Ritland, PE	KerryR@ci.issaquah.wa.us	(425) 837-3410	Central Park Lot	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	City of Bellingham	NA	NA	NA	City Hall	Public	2003	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	EV-71 Flynn Street Water Quality	Public	2010	June - September
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Thurston County	Scott Lindblom	LINDBLS@co.thurston.wa.us	360-786-5133	Evergreen Terrace - Phase III	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Seattle Public Utilities	NA	NA	NA	High Point	Public	2001	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Port of Anacortes	Connie Thoman	connie@portofanacortes.com	(360) 299-1818	O Avenue	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Port of Anacortes	Connie Thoman	connie@portofanacortes.com	(360) 299-1818	O Avenue	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2005	Construction cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Seattle Public Utilities	Tracy Tackett	Tracy.Tackett@seattle.gov	(206) 386-0052	Pinehurst Green Grid	Public	2005	Construction cost
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	City of Puyallup	Joy Rodriguez	jrodriguez@ci.puyallup.wa.us	253-841-5549	Puyallup's 2011 Rain Garden Program	Public	2011	May, July, and Sept.
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Rainwise	Private	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Rainwise - Roadside Rain Gardens	Private	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Snohomish County	NA	NA	NA	Silver Creek Basin LID Retrofits (Projects 6A and 7A)	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Snohomish County	NA	NA	NA	Silver Creek Basin LID Retrofits (Projects 6A and 7A)	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	City of Auburn	Jacob Sweeting	jsweeting@auburnwa.gov	253-804-5059	West Valley Highway Improvements	Public	2011	
1	BIORETENTIONBASIN	BIORETENTION BASIN	121	Seattle Public Utilities	NA	NA	NA	Ballard Roadside Rain Gardens	Public	2009	
1	BIORETENTIONBASIN	BIORETENTION BASIN	121	Seattle Public Utilities	NA	NA	NA	Ballard Roadside Rain Gardens	Public	2009	
1	BIORETENTIONBASIN	BIORETENTION BASIN	124	Snohomish County	NA	NA	NA	Silver Creek Basin LID Retrofits (Projects 6A and 7A)	Public	2010	
2	BUFFER STRIP	BUFFER STRIP	120	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	SR202 and NE 124th St. Intersection	Public	2011	
2	BUFFER STRIP	BUFFER STRIP	120	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road	Public	2003	
3	CISTERN	CISTERN	111	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Rainwater HOG Modular Cisterns		2011	
3	CISTERN	CISTERN	115	Aquabarrel Cisterns	NA	orders@Aquabarrel.com	301-253-8855	Complete Cistern		2011	
3	CISTERN	CISTERN	115	Aquabarrel Cisterns	NA	orders@Aquabarrel.com	301-253-8855	Complete Cistern		2011	
3	CISTERN	CISTERN	115	Aquabarrel Cisterns	NA	orders@Aquabarrel.com	301-253-8855	Fat Boy Water Wall		2011	
3	CISTERN	CISTERN	115	Aquabarrel Cisterns	NA	orders@Aquabarrel.com	301-253-8855	Fat Boy Water Wall		2011	
3	CISTERN	CISTERN	115	Aquabarrel Cisterns	NA	orders@Aquabarrel.com	301-253-8855	Rainwater Pillow		2011	
3	CISTERN	CISTERN	115	Aquabarrel Cisterns	NA	orders@Aquabarrel.com	301-253-8855	Rainwater Pillow		2011	
3	CISTERN	CISTERN	115	Aquabarrel Cisterns	NA	orders@Aquabarrel.com	301-253-8855	Rainwater Pillow		2011	
3	CISTERN	CISTERN	115	Aquabarrel Cisterns	NA	orders@Aquabarrel.com	301-253-8855	Rainwater Pillow		2011	
3	CISTERN	CISTERN	115	Aquabarrel Cisterns	NA	orders@Aquabarrel.com	301-253-8855	Rainwater Pillow		2011	
3	CISTERN	CISTERN	115	Aquabarrel Cisterns	NA	orders@Aquabarrel.com	301-253-8855	Rainwater Pillow		2011	
3	CISTERN	CISTERN	115	Berg Vault	Peggy	peggy@bergvaultinc.com	360-424-4999	Aboveground Cisterns		2011	
3	CISTERN	CISTERN	115	Berg Vault	Peggy	peggy@bergvaultinc.com	360-424-4999	Aboveground Cisterns		2011	
3	CISTERN	CISTERN	115	Berg Vault	Peggy	peggy@bergvaultinc.com	360-424-4999	Aboveground Cisterns		2011	
3	CISTERN	CISTERN	115	Berg Vault	Peggy	peggy@bergvaultinc.com	360-424-4999	Aboveground Cisterns		2011	
3	CISTERN	CISTERN	115	Berg Vault	Peggy	peggy@bergvaultinc.com	360-424-4999	Aboveground Cisterns		2011	
3	CISTERN	CISTERN	115	Berg Vault	Peggy	peggy@bergvaultinc.com	360-424-4999	Aboveground Cisterns		2011	
3	CISTERN	CISTERN	115	Berg Vault	Peggy	peggy@bergvaultinc.com	360-424-4999	Belowground Cisterns		2011	
3	CISTERN	CISTERN	115	Berg Vault	Peggy	peggy@bergvaultinc.com	360-424-4999	Belowground Cisterns		2011	
3	CISTERN	CISTERN	115	Berg Vault	Peggy	peggy@bergvaultinc.com	360-424-4999	Belowground Cisterns		2011	
3	CISTERN	CISTERN	115	Berg Vault	Peggy	peggy@bergvaultinc.com	360-424-4999	Belowground Cisterns		2011	
3	CISTERN	CISTERN	115	Berg Vault	Peggy	peggy@bergvaultinc.com	360-424-4999	Belowground Cisterns		2011	

BMPTypeID	BMPCode	BMPType	ComponentID	Company	Contact	Email	Phone	Project	ProjectType	ConstructionDate	ConstructionMonth_Other Notes
3	CISTERN	CISTERN	115	Berg Vault	Peggy	peggy@bergvaultinc.com	360-424-4999	Belowground Cisterns		2011	
3	CISTERN	CISTERN	115	BH Tank	Gerrick Burton	gerrick@bhtank.com	(559) 662-0600	Highline Tank (Colorbond)		2011	
3	CISTERN	CISTERN	115	BH Tank	Gerrick Burton	gerrick@bhtank.com	(559) 662-0600	Highline Tank (Colorbond)		2011	
3	CISTERN	CISTERN	115	BH Tank	Gerrick Burton	gerrick@bhtank.com	(559) 662-0600	Highline Tank (Colorbond)		2011	
3	CISTERN	CISTERN	115	BH Tank	Gerrick Burton	gerrick@bhtank.com	(559) 662-0600	Highline Tank (Colorbond)		2011	
3	CISTERN	CISTERN	115	BH Tank	Gerrick Burton	gerrick@bhtank.com	(559) 662-0600	Highline Tank (Colorbond)		2011	
3	CISTERN	CISTERN	115	BH Tank	Gerrick Burton	gerrick@bhtank.com	(559) 662-0600	Highline Tank (Colorbond)		2011	
3	CISTERN	CISTERN	115	BH Tank_Highline Tank	Gerrick Burton	gerrick@bhtank.com	(559) 662-0600	Highline Tank (Zincalum)		2011	
3	CISTERN	CISTERN	115	BH Tank_Highline Tank	Gerrick Burton	gerrick@bhtank.com	(559) 662-0600	Highline Tank (Zincalum)		2011	
3	CISTERN	CISTERN	115	BH Tank_Highline Tank	Gerrick Burton	gerrick@bhtank.com	(559) 662-0600	Highline Tank (Zincalum)		2011	
3	CISTERN	CISTERN	115	BH Tank_Highline Tank	Gerrick Burton	gerrick@bhtank.com	(559) 662-0600	Highline Tank (Zincalum)		2011	
3	CISTERN	CISTERN	115	BH Tank_Highline Tank	Gerrick Burton	gerrick@bhtank.com	(559) 662-0600	Highline Tank (Zincalum)		2011	
3	CISTERN	CISTERN	115	BH Tank_Highline Tank	Gerrick Burton	gerrick@bhtank.com	(559) 662-0600	Highline Tank (Zincalum)		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Aquadra Modular Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Aquadra Modular Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Contain Rainwater Harvesting Wal		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Contain Rainwater Harvesting Wal		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Plastic Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Plastic Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Plastic Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Plastic Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Plastic Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Plastic Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Plastic Underground Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Plastic Underground Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Plastic Underground Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Plastic Underground Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Plastic Underground Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Plastic Underground Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Rainwater HOG Modular Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Rainwater HOG Modular Cisterns		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Water Wall		2011	
3	CISTERN	CISTERN	115	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Water Wall		2011	
3	CISTERN	CISTERN	115	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Rainwise	Private	2010	
5	GREENROOF	GREEN ROOF	8	The Garland Company	Greg Carothers	gcarothers@garlandind.com	253-929-9089	Extensive Green Roof	Both	2011	
5	GREENROOF	GREEN ROOF	9	Private Owner	Seattle Green Roof Inventory	Joel.Banslaben@seattle.gov	206-684-3936	2,500 sf green roof in Seattle	Private	2005	
5	GREENROOF	GREEN ROOF	9	Private Owner	Seattle Green Roof Inventory	Joel.Banslaben@seattle.gov	206-684-3936	27,000+ sf green roof in Seattle	Private	2006	
5	GREENROOF	GREEN ROOF	9	Private Owner	Bellingham Green Roof Case Studies	NA	NA	Lightcatcher Museum Green Roof	Private	2009	
5	GREENROOF	GREEN ROOF	9	Private Owner	Bellingham Green Roof Case Studies	NA	NA	Leppanen Green Roof	Private	2005	
5	GREENROOF	GREEN ROOF	9	Private Owner	Seattle Green Roof Inventory	Joel.Banslaben@seattle.gov	206-684-3936	8,355 sf green roof in Seattle	Private	2008	
5	GREENROOF	GREEN ROOF	9	Private Owner	Seattle Green Roof Inventory	Joel.Banslaben@seattle.gov	206-684-3936	8,355 sf green roof in Seattle	Private	2008	
5	GREENROOF	GREEN ROOF	9	Seattle Public Library	Seattle Green Roof Inventory	Joel.Banslaben@seattle.gov	206-684-3936	Ballard Library	Public	2005	
5	GREENROOF	GREEN ROOF	9	City of Mukilteo	Jim Niggemyer	jniggemyer@ci.mukilteo.wa.us	(425) 263-8081	Mukilteo City Hall	Public	2008	
5	GREENROOF	GREEN ROOF	9	City of Seattle	Seattle Green Roof Inventory	Joel.Banslaben@seattle.gov	206-684-3936	Seattle Justice Center	Public	2004	
5	GREENROOF	GREEN ROOF	9	The Garland Company	Greg Carothers	gcarothers@garlandind.com	253-929-9089	Extensive Green Roof	Both	2011	
5	GREENROOF	GREEN ROOF	9	The Garland Company	Greg Carothers	gcarothers@garlandind.com	253-929-9089	Extensive Green Roof	Both	2011	
5	GREENROOF	GREEN ROOF	9	Weston Solutions, Inc.	Arnab Bhowmick	Arnab.Bhowmick@westonsolutions.com	(206) 521-7694	GreenGrid® Intensive Green Roof System	Both	2011	
5	GREENROOF	GREEN ROOF	13	The Garland Company	Greg Carothers	gcarothers@garlandind.com	253-929-9089	Extensive Green Roof	Both	2011	
5	GREENROOF	GREEN ROOF	21	Swanson Bark & Wood Products	Willie Palmer	willie@swansonbark.com	(800) 762-2319	Roof-lite Media		2011	
5	GREENROOF	GREEN ROOF	21	The Garland Company	Greg Carothers	gcarothers@garlandind.com	253-929-9089	Extensive Green Roof	Both	2011	
5	GREENROOF	GREEN ROOF	110	The Garland Company	Greg Carothers	gcarothers@garlandind.com	253-929-9089	Extensive Green Roof	Both	2011	
5	GREENROOF	GREEN ROOF	110	The Garland Company	Greg Carothers	gcarothers@garlandind.com	253-929-9089	Extensive Green Roof	Both	2011	
5	GREENROOF	GREEN ROOF	113	The Garland Company	Greg Carothers	gcarothers@garlandind.com	253-929-9089	Extensive Green Roof	Both	2011	
5	GREENROOF	GREEN ROOF	119	The Garland Company	Greg Carothers	gcarothers@garlandind.com	253-929-9089	Extensive Green Roof	Both	2011	
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	2	City of Lacey	Doug Christenson	dchriste@ci.lacey.wa.us	360-438-2686	2011 Street Overlay Project	Public	2011	
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	2	City of Lacey	Doug Christenson	dchriste@ci.lacey.wa.us	360-438-2686	Carpenter Road Reconstruction	Public	2010	
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	2	Thurston County	Scott Lindblom	lindbls@co.thurston.wa.us	360-786-5133	Hawaiian Court Stormwater Improvements	Public	2005	
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	5	Thurston County	Scott Lindblom	lindbls@co.thurston.wa.us	360-786-5133	Hawaiian Court Stormwater Improvements	Public	2005	
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	7	City of Lacey	Doug Christenson	dchriste@ci.lacey.wa.us	360-438-2686	2011 Street Overlay Project	Public	2011	
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	7	Thurston County	Scott Lindblom	lindbls@co.thurston.wa.us	360-786-5133	Hawaiian Court Stormwater Improvements	Public	2005	
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	116	City of Lacey	Doug Christenson	dchriste@ci.lacey.wa.us	360-438-2686	Carpenter Road Reconstruction	Public	2010	
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	116	Thurston County	Scott Lindblom	lindbls@co.thurston.wa.us	360-786-5133	Evergreen Terrace Phase 1	Public	2008	
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	116	Thurston County	Scott Lindblom	lindbls@co.thurston.wa.us	360-786-5133	Hawaiian Court Stormwater Improvements	Public	2005	
7	POROUSPAVEMENT	POROUS PAVEMENT	2	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Northshore Water Quality EV-78	Public	2009	June to Sept.
7	POROUSPAVEMENT	POROUS PAVEMENT	2	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	139th St E Cul-de-Sac	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	2	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	2	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	2	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	2	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	3	City of Auburn	Jacob Sweeting	jsweeting@auburnwa.gov	253-804-5059	West Valley Highway Improvements	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	3	NW Linings	Tony Bond	tonyb@northwestlinings.com	(206) 851-6326	Hamilton Middle School – Seattle School District (Grasspave2)		2011	May

BMPTypeID	BMPCode	BMPType	ComponentID	Company	Contact	Email	Phone	Project	ProjectType	ConstructionDate	ConstructionMonth_Other Notes
7	POROUSPAVEMENT	POROUS PAVEMENT	3	NW Linings	Tony Bond	tonyb@northwestlinings.com	(206) 851-6326	Rainier Vista – Seattle Housing Authority (Gravelpave2		2011	Sept.
7	POROUSPAVEMENT	POROUS PAVEMENT	3	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	6	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	139th St E Cul-de-Sac	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	7	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	139th St E Cul-de-Sac	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	7	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	7	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	7	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	13	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Green Alleys	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	ACF West	Don Pugh	don@acfwest.com	(425) 415-6115	Grassy Pavers	Various	2011	Assumed 2011 costs
7	POROUSPAVEMENT	POROUS PAVEMENT	17	City of Auburn	Jacob Sweeting	jsweeting@auburnwa.gov	253-804-5059	West Valley Highway Improvements	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Northshore Water Quality EV-78	Public	2009	June to Sept.
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Hastings Pavement Company, Inc.	Kevin Earley	kearley@nicolock.com	(631) 774-6431	Hastings Checker Block®		2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Hastings Pavement Company, Inc.	Kevin Earley	kearley@nicolock.com	(631) 774-6431	Hastings Checker Block®		2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Mutual Materials	Dave Parisi	DParisi@mutualmaterials.com	(425) 452-2359	Eco Priora Pavers	Both	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	NW Linings	Tony Bond	tonyb@northwestlinings.com	(206) 851-6326	Hamilton Middle School – Seattle School District (Grasspave2)		2011	May
7	POROUSPAVEMENT	POROUS PAVEMENT	17	NW Linings	Tony Bond	tonyb@northwestlinings.com	(206) 851-6326	Rainier Vista – Seattle Housing Authority (Gravelpave2		2011	Sept.
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	139th St E Cul-de-Sac	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	City of Poulsbo	Jim Groh	jgroh@cityofpoulsbo.com	360.779.4078	Caldart Ave. Improvements Project	Public	2006	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	City of Poulsbo	Jim Groh	jgroh@cityofpoulsbo.com	360.779.4078	Mesford Pervious Sidewalk and Parking Lane Project	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	City of Poulsbo	Jim Groh	jgroh@cityofpoulsbo.com	360.779.4078	Mesford Pervious Sidewalk and Parking Lane Project	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	City of Poulsbo	Jim Groh	jgroh@cityofpoulsbo.com	360.779.4078	Mesford Pervious Sidewalk and Parking Lane Project	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Stoneway Concrete	Mike Weeks	mweeks@stonewayconcrete.com	425-226-1000 x 3314	many projects over 10 years	Both	2011	2002 to present, assumed 2011 costs
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Willamette Graystone	NA	NA	(541) 726-7667	Aqua Bric Pavers	Both	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Willamette Graystone	NA	NA	(541) 726-7667	Aqua Loc Pavers	Both	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	22	City of Auburn	Jacob Sweeting	jsweeting@auburnwa.gov	253-804-5059	West Valley Highway Improvements	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	22	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Northshore Water Quality EV-78	Public	2009	June to Sept.
7	POROUSPAVEMENT	POROUS PAVEMENT	22	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	22	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	185th Ave NE Extension	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	106	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Northshore Water Quality EV-78	Public	2009	June to Sept.
7	POROUSPAVEMENT	POROUS PAVEMENT	106	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Ballard Green Alleys	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	106	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Green Alleys	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	114	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	114	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	139th St E Cul-de-Sac	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Ballard Green Alleys	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	City of Issaquah	Kerry Ritland, PE	KerryR@ci.issaquah.wa.us	(425) 837-3410	Central Park Lot	Public	2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Green Alleys	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Hastings Pavement Company, Inc.	Kevin Earley	kearley@nicolock.com	(631) 774-6431	Hastings Checker Block®		2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Hastings Pavement Company, Inc.	Kevin Earley	kearley@nicolock.com	(631) 774-6431	Hastings Checker Block®		2011	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Stoneway Concrete	Mike Weeks	mweeks@stonewayconcrete.com	425-226-1000 x 3314	many projects over 10 years	Both	2011	2002 to present, assumed 2011 costs
7	POROUSPAVEMENT	POROUS PAVEMENT	125	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Northshore Water Quality EV-78	Public	2009	June to Sept.
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Port of Anacortes	Connie Thoman	connie@portofanacortes.com	(360) 299-1818	O Avenue	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Backstrom Curb & Sidewalk, Inc	Don Backstrom	don@backstromconcrete.com	360.403.4866	Porous concrete sidewalk (4" thick)	Public	2011	Assumed 2011 costs
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Backstrom Curb & Sidewalk, Inc	Don Backstrom	don@backstromconcrete.com	360.403.4866	Porous concrete sidewalk (4" thick)	Public	2011	Assumed 2011 costs
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Pierce County	Dawn Anderson	danders@co.pierce.wa.us	253-798-4671	Sprinker Parking Lot LID - Phase 2	Public	2010	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Backstrom Curb & Sidewalk, Inc	Don Backstrom	don@backstromconcrete.com	360.403.4866	Wilson Toyota, Mercedes	Private	2009	
8	RAINBARREL	RAIN BARREL	10	Aquabarrel Rain Barrel	NA	orders@Aquabarrel.com	301-253-8855	Classic Aquabarrel		2011	
8	RAINBARREL	RAIN BARREL	10	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Residential Stormwater Retrofit Project	Public	2011	2008-2011, assumed 2011 costs
8	RAINBARREL	RAIN BARREL	10	Gardeners Supply Company	NA	NA	1-800-876-5520	Deluxe Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	10	Gardeners Supply Company	NA	NA	1-800-876-5520	Flat-Back Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	10	Gardeners Supply Company	NA	NA	1-800-876-5520	Rainwater Urn		2011	
8	RAINBARREL	RAIN BARREL	10	Gardeners Supply Company	NA	NA	1-800-876-5520	Santa Fe Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	10	Grady Barrels	NA	danny@gradybarrels.com	360-509-8361	Grady Barrels		2011	
8	RAINBARREL	RAIN BARREL	10	Rainsaver Systems	NA	sales1@cleanairgardening.com	214-370-0530	80 Gallon Rainsaver Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	10	City of Puyallup	Joy Rodriguez	jrodriguez@ci.puyallup.wa.us	253-841-5549	Puyallup's 2011 Rain Garden Program	Public	2011	July and Sept.
8	RAINBARREL	RAIN BARREL	18	Aaron's Rain Barrels	NA	rainbarrel@gmail.com	978.790.1816	Standard Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	Aquabarrel Rain Barrel	NA	orders@Aquabarrel.com	301-253-8855	Classic Aquabarrel		2011	
8	RAINBARREL	RAIN BARREL	18	Arid Solutions	NA	sales1@cleanairgardening.com	505-332-9911	Octogon Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Residential Stormwater Retrofit Project	Public	2011	2008-2011, assumed 2011 costs
8	RAINBARREL	RAIN BARREL	18	Cypress Designs	NA	info@cypressdesigns.com	360-224-1544	Freewater Rain Collection System		2011	
8	RAINBARREL	RAIN BARREL	18	Cypress Designs	NA	info@cypressdesigns.com	360-224-1544	Freewater Rain Collection System		2011	
8	RAINBARREL	RAIN BARREL	18	Eagle Peak Containers, Inc.	NA	eaglepeak@cda.twcbc.com	208-683-2618	Rain Collection Barrels		2011	
8	RAINBARREL	RAIN BARREL	18	Eagle Peak Containers, Inc.	NA	eaglepeak@cda.twcbc.com	208-683-2618	Rain Collection Barrels		2011	
8	RAINBARREL	RAIN BARREL	18	Eagle Peak Containers, Inc.	NA	eaglepeak@cda.twcbc.com	208-683-2618	Rain Collection Barrels		2011	
8	RAINBARREL	RAIN BARREL	18	Gardeners Supply Company	NA	NA	1-800-876-5520	Deluxe Rain Barrel		2011	

BMPTypeID	BMPCode	BMPType	ComponentID	Company	Contact	Email	Phone	Project	ProjectType	ConstructionDate	ConstructionMonth_Other Notes
8	RAINBARREL	RAIN BARREL	18	Gardeners Supply Company	NA	NA	1-800-876-5520	Flat-Back Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	Gardeners Supply Company	NA	NA	1-800-876-5520	Madison Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	Gardeners Supply Company	NA	NA	1-800-876-5520	Rainwater Urn		2011	
8	RAINBARREL	RAIN BARREL	18	Gardeners Supply Company	NA	NA	1-800-876-5520	Rainwater Urn		2011	
8	RAINBARREL	RAIN BARREL	18	Gardeners Supply Company	NA	NA	1-800-876-5520	Santa Fe Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	Grady Barrels	NA	danny@gradybarrels.com	360-509-8361	Grady Barrels		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Villa Rain Barrels		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Villa Rain Barrels		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Villa Rain Barrels		2011	
8	RAINBARREL	RAIN BARREL	18	RainReserve	NA	NA	(417) 429-1356	RainReserve Rain Barrel System (Oak Design)		2011	
8	RAINBARREL	RAIN BARREL	18	Rainsaver Systems	NA	sales1@cleanairgardening.com	214-370-0530	80 Gallon Rainsaver Rain Barre		2011	
8	RAINBARREL	RAIN BARREL	18	Rainwater Harvesting Systems	NA	info@irainharvest.com	(704) 657-0527	RainPro, RainPro Plus, and RainPro Elite		2011	
8	RAINBARREL	RAIN BARREL	18	Rainwater Harvesting Systems	NA	info@irainharvest.com	(704) 657-0527	RainPro, RainPro Plus, and RainPro Elite		2011	
8	RAINBARREL	RAIN BARREL	18	Rainwater Harvesting Systems	NA	info@irainharvest.com	(704) 657-0527	RainPro, RainPro Plus, and RainPro Elite		2011	
8	RAINBARREL	RAIN BARREL	18	Seattle Conservation Corps	NA	NA	206-684-0190	Seattle Rain Barrels		2011	
8	RAINBARREL	RAIN BARREL	18	The Green Culture	NA	NA	1-877-204-7332	Aquaduct Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	The Green Culture	NA	NA	1-877-204-7336	Channel Islands Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	The Green Culture	NA	NA	1-877-204-7336	Flora Sherwood Rain Barrel & Planter		2011	
8	RAINBARREL	RAIN BARREL	18	The Green Culture	NA	NA	1-877-204-7336	Forester Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	The Green Culture	NA	NA	1-877-204-7336	Great American Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	The Green Culture	NA	NA	1-877-204-7336	Mega Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	The Green Culture	NA	NA	1-877-204-7336	Niagara Falls Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	The Green Culture	NA	NA	1-877-204-7336	Ocean Breeze Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	The Green Culture	NA	NA	1-877-204-7336	Prism Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	The Green Culture	NA	NA	1-877-204-7336	Shower Saver Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	The Green Culture	NA	NA	1-877-204-7336	The Rain Catcher		2011	
8	RAINBARREL	RAIN BARREL	18	The Green Culture	NA	NA	1-877-204-7336	Wood Grain Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	Natural Rain Water	NA	naturalrainwater@yahoo.com	(253) 272-8173	Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	City of Puyallup	Joy Rodriguez	jrodriguez@ci.puyallup.wa.us	253-841-5549	Puyallup's 2011 Rain Garden Program	Public	2011	July and Sept.
8	RAINBARREL	RAIN BARREL	18	City of Puyallup	Joy Rodriguez	jrodriguez@ci.puyallup.wa.us	253-841-5549	Puyallup's 2011 Rain Garden Program	Public	2011	July and Sept.
8	RAINBARREL	RAIN BARREL	18	Rain Dance Water Barrels	NA	raindancebarrels@gmail.com	NA	Rain Dance Water Barrels		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Ready	NA	NA	(360) 424-0356	Rain Ready Rain Barre		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Agua Fria Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Big Blue Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Cubo Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Flat-Back Rain Collection Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Garden Pal Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Nino Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Peso Rain Barrels		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Peso Rain Barrels		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Rain Water Collector		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Rain Wizard Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	18	Rain Tank Depot	NA	info@tank-depot.com	866-926-5603	Spruce Creek Rain Barrel		2011	
8	RAINBARREL	RAIN BARREL	101	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Residential Stormwater Retrofit Project	Public	2011	2008-2011, assumed 2011 costs
8	RAINBARREL	RAIN BARREL	101	City of Puyallup	Joy Rodriguez	jrodriguez@ci.puyallup.wa.us	253-841-5549	Puyallup's 2011 Rain Garden Program	Public	2011	July and Sept.
8	RAINBARREL	RAIN BARREL	112	City of Puyallup	Joy Rodriguez	jrodriguez@ci.puyallup.wa.us	253-841-5549	Puyallup's 2011 Rain Garden Program	Public	2011	July and Sept.
9	VEGETATIVESWALE	VEGETATIVE SWALE	2	City of Mount Vernon	Blaine Chesterfield	blainec@mountvernonwa.gov	360-336-6204	Freeway Drive Improvements Phase II	Public	2011	July - August
9	VEGETATIVESWALE	VEGETATIVE SWALE	5	City of Mount Vernon	Blaine Chesterfield	blainec@mountvernonwa.gov	360-336-6204	Freeway Drive Improvements Phase II	Public	2011	July - August
9	VEGETATIVESWALE	VEGETATIVE SWALE	13	City of Mount Vernon	Blaine Chesterfield	blainec@mountvernonwa.gov	360-336-6204	Freeway Drive Improvements Phase II	Public	2011	July - August
9	VEGETATIVESWALE	VEGETATIVE SWALE	15	City of Mount Vernon	Blaine Chesterfield	blainec@mountvernonwa.gov	360-336-6204	Freeway Drive Improvements Phase II	Public	2011	July - August
9	VEGETATIVESWALE	VEGETATIVE SWALE	22	City of Mount Vernon	Blaine Chesterfield	blainec@mountvernonwa.gov	360-336-6204	Freeway Drive Improvements Phase II	Public	2011	July - August
9	VEGETATIVESWALE	VEGETATIVE SWALE	106	City of Mount Vernon	Blaine Chesterfield	blainec@mountvernonwa.gov	360-336-6204	Freeway Drive Improvements Phase II	Public	2011	July - August
9	VEGETATIVESWALE	VEGETATIVE SWALE	122	WSDOT	Mark Maurer	MaurerM@wsdot.wa.gov	(360) 705-7260	SR 518 Compost-Amended Biofiltration Swale	Public	2008	
9	VEGETATIVESWALE	VEGETATIVE SWALE	122	WSDOT	Mark Maurer	MaurerM@wsdot.wa.gov	(360) 705-7260	SR 518 Control Biofiltration Swale	Public	2008	
9	VEGETATIVESWALE	VEGETATIVE SWALE	123	City of Mount Vernon	Blaine Chesterfield	blainec@mountvernonwa.gov	360-336-6204	Freeway Drive Improvements Phase II	Public	2011	July - August
10	WETPOND	WETPOND	2	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Northridge Sand Filter Detention Pond	Public	2008	August/September
10	WETPOND	WETPOND	2	City of Lacey	Doug Christenson	dchriste@ci.lacey.wa.us	360-438-2686	2011 Street Overlay Project	Public	2011	
10	WETPOND	WETPOND	2	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Norfolk - MLK Way Sub-basin Stormwater Improvements Project	Public	2006	Report date
10	WETPOND	WETPOND	2	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin CR-1	Public	2003	
10	WETPOND	WETPOND	5	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Northridge Sand Filter Detention Pond	Public	2008	August/September
10	WETPOND	WETPOND	5	City of Lacey	Doug Christenson	dchriste@ci.lacey.wa.us	360-438-2686	2011 Street Overlay Project	Public	2011	
10	WETPOND	WETPOND	5	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Norfolk - MLK Way Sub-basin Stormwater Improvements Project	Public	2006	Report date
10	WETPOND	WETPOND	5	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin CR-1	Public	2003	
10	WETPOND	WETPOND	5	WSDOT	NA	NA	NA	SR 18 – 180th to Maple Valley - Detention Pond A	Public	2001	
10	WETPOND	WETPOND	8	City of Lacey	Doug Christenson	dchriste@ci.lacey.wa.us	360-438-2686	2011 Street Overlay Project	Public	2011	
10	WETPOND	WETPOND	8	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Norfolk - MLK Way Sub-basin Stormwater Improvements Project	Public	2006	Report date
10	WETPOND	WETPOND	8	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin CR-1	Public	2003	
10	WETPOND	WETPOND	8	WSDOT	NA	NA	NA	SR 18 – 180th to Maple Valley - Detention Pond A	Public	2001	
10	WETPOND	WETPOND	11	City of Lacey	Doug Christenson	dchriste@ci.lacey.wa.us	360-438-2686	2011 Street Overlay Project	Public	2011	
10	WETPOND	WETPOND	13	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Norfolk - MLK Way Sub-basin Stormwater Improvements Project	Public	2006	Report date
10	WETPOND	WETPOND	15	City of Lacey	Doug Christenson	dchriste@ci.lacey.wa.us	360-438-2686	2011 Street Overlay Project	Public	2011	

BMPTypeID	BMPCode	BMPType	ComponentID	Company	Contact	Email	Phone	Project	ProjectType	ConstructionDate	ConstructionMonth_Other Notes
10	WETPOND	WETPOND	15	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Norfolk - MLK Way Sub-basin Stormwater Improvements Project	Public	2006	Report date
10	WETPOND	WETPOND	19	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin CR-1	Public	2003	
10	WETPOND	WETPOND	21	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Norfolk - MLK Way Sub-basin Stormwater Improvements Project	Public	2006	Report date
10	WETPOND	WETPOND	21	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin CR-1	Public	2003	
10	WETPOND	WETPOND	23	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Norfolk - MLK Way Sub-basin Stormwater Improvements Project	Public	2006	Report date
10	WETPOND	WETPOND	100	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Norfolk - MLK Way Sub-basin Stormwater Improvements Project	Public	2006	Report date
10	WETPOND	WETPOND	105	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin CR-1	Public	2003	
10	WETPOND	WETPOND	106	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Norfolk - MLK Way Sub-basin Stormwater Improvements Project	Public	2006	Report date
10	WETPOND	WETPOND	106	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Northridge Sand Filter Detention Pond	Public	2008	August/September
10	WETPOND	WETPOND	107	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-10	Public	2003	
10	WETPOND	WETPOND	107	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-11	Public	2003	
10	WETPOND	WETPOND	107	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-16	Public	2003	
10	WETPOND	WETPOND	107	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-3	Public	2003	
10	WETPOND	WETPOND	107	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-4	Public	2003	
10	WETPOND	WETPOND	107	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-7	Public	2003	
10	WETPOND	WETPOND	107	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-8	Public	2003	
10	WETPOND	WETPOND	109	Thurston County	Scott Lindblom	lindbls@co.thurston.wa.us	360-786-5133	Mallard Pond Wetland Enhancement Project	Public	2005	
10	WETPOND	WETPOND	109	Seattle Public Utilities	Emiko Takahashi	emiko.takahashi@seattle.gov	(206) 615-1695	Norfolk - MLK Way Sub-basin Stormwater Improvements Project	Public	2006	Report date
10	WETPOND	WETPOND	109	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Northridge Sand Filter Detention Pond	Public	2008	August/September
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 – 180th to Maple Valley - Detention Pond A	Public	2001	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 – 180th to Maple Valley - Detention Pond E	Public	2001	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 – 180th to Maple Valley - Detention Pond C	Public	2001	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 – 180th to Maple Valley - Detention Pond H	Public	2001	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 – 180th to Maple Valley - Detention Pond J	Public	2001	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 – 180th to Maple Valley - Detention Pond M	Public	2001	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin CR-1	Public	2003	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-10	Public	2003	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-11	Public	2003	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-12	Public	2003	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-13	Public	2003	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-15	Public	2003	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-16	Public	2003	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-1N	Public	2003	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-1S	Public	2003	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-3	Public	2003	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-4	Public	2003	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-6	Public	2003	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-7	Public	2003	
10	WETPOND	WETPOND	109	WSDOT	NA	NA	NA	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-8	Public	2003	
10	WETPOND	WETPOND	109	Thurston County	Scott Lindblom	lindbls@co.thurston.wa.us	360-786-5133	Thompson Place - Phase 1 - 3	Public	2004	
11	WETLAND	WETLAND	2	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
11	WETLAND	WETLAND	11	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
11	WETLAND	WETLAND	15	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Eliza Avenue Improvements, ES-0126	Public	2007	
11	WETLAND	WETLAND	15	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
11	WETLAND	WETLAND	16	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Brentwood Rock Plant Filter Retrofit	Public	2010	June - September
11	WETLAND	WETLAND	16	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Eliza Avenue Improvements, ES-0126	Public	2007	
11	WETLAND	WETLAND	16	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
11	WETLAND	WETLAND	19	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
11	WETLAND	WETLAND	20	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
11	WETLAND	WETLAND	20	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
11	WETLAND	WETLAND	20	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
11	WETLAND	WETLAND	21	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
11	WETLAND	WETLAND	23	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
11	WETLAND	WETLAND	23	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
11	WETLAND	WETLAND	104	City of Arlington	Eric Scott	EScott@arlingtonwa.gov	360-403-3512	Arlington Constructed Stormwater Wetland	Public	2011	
11	WETLAND	WETLAND	104	City of Redmond	Andy Rheaume	AJRHEAUME@redmond.gov	425-556-2741	Bear Creek Park WQ Facility	Public	2011	
11	WETLAND	WETLAND	104	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Brentwood Rock Plant Filter Retrofit	Public	2010	June - September
11	WETLAND	WETLAND	104	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Eliza Avenue Improvements, ES-0126	Public	2007	
11	WETLAND	WETLAND	106	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Brentwood Rock Plant Filter Retrofit	Public	2010	June - September
11	WETLAND	WETLAND	106	City of Bellingham	William M. Reilly	wreilly@cob.org	360-778-7955	Eliza Avenue Improvements, ES-0126	Public	2007	

BMPTypeID	BMPCode	BMPType	ComponentID	FundingSource
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	$500,000 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	Partial Federal Recovery Act funding
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	2	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	Storm and Surface Water Utility
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	$500,000 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	3	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	$500,000 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	5	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Storm and Surface Water Utility
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	Department of Ecology Capacity Grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	$500,000 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	7	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	11	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	11	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Storm and Surface Water Utility
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Department of Ecology Capacity Grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	$500,000 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	Partial Federal Recovery Act funding
1	BIORETENTIONBASIN	BIORETENTION BASIN	12	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	Public (incentives for private installations)
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	Public (incentives for private installations)
1	BIORETENTIONBASIN	BIORETENTION BASIN	13	Public (incentives for private installations)
1	BIORETENTIONBASIN	BIORETENTION BASIN	14	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	15	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	15	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	15	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	Department of Ecology Capacity Grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	$500,000 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	16	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	$500,000 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	$500,000 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	Partial Federal Recovery Act funding
1	BIORETENTIONBASIN	BIORETENTION BASIN	20	Partial Federal Recovery Act funding
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Department of Ecology Capacity Grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	$500,000 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Partial Federal Recovery Act funding
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	Partial Federal Recovery Act funding
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	21	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	22	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	22	$500,000 Department of Ecology LID grant

BMPTypeID	BMPCode	BMPType	ComponentID	FundingSource
1	BIORETENTIONBASIN	BIORETENTION BASIN	22	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1)
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1)
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1)
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	$500,000 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	Partial Federal Recovery Act funding
1	BIORETENTIONBASIN	BIORETENTION BASIN	23	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	102	$500,000 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	103	Department of Ecology Capacity Grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	103	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	103	Partial Federal Recovery Act funding
1	BIORETENTIONBASIN	BIORETENTION BASIN	103	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	Storm and Surface Water Utility
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	Public (incentives for private installations)
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	$500,000 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	Public (incentives for private installations)
1	BIORETENTIONBASIN	BIORETENTION BASIN	106	Department of Ecology Capacity Grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	108	Partial Federal Recovery Act funding
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	$500,000 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Partial Federal Recovery Act funding
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	$263,000 Department of Ecology LID Grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	$316,500 Department of Ecology LID grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Storm and Surface Water Utility
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Department of Ecology Capacity Grant
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Public (incentives for private installations)
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	Public (incentives for private installations)
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1)
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	117	NA
1	BIORETENTIONBASIN	BIORETENTION BASIN	121	Partial Federal Recovery Act funding
1	BIORETENTIONBASIN	BIORETENTION BASIN	121	Partial Federal Recovery Act funding
1	BIORETENTIONBASIN	BIORETENTION BASIN	124	NA
2	BUFFER STRIP	BUFFER STRIP	120	NA
2	BUFFER STRIP	BUFFER STRIP	120	NA
3	CISTERN	CISTERN	111	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	

BMPTypeID	BMPCode	BMPType	ComponentID	FundingSource
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	
3	CISTERN	CISTERN	115	Public (incentives for private installations)
5	GREENROOF	GREEN ROOF	8	NA
5	GREENROOF	GREEN ROOF	9	NA
5	GREENROOF	GREEN ROOF	9	NA
5	GREENROOF	GREEN ROOF	9	NA
5	GREENROOF	GREEN ROOF	9	NA
5	GREENROOF	GREEN ROOF	9	NA
5	GREENROOF	GREEN ROOF	9	NA
5	GREENROOF	GREEN ROOF	9	Libraries For All initiative
5	GREENROOF	GREEN ROOF	9	NA
5	GREENROOF	GREEN ROOF	9	NA
5	GREENROOF	GREEN ROOF	9	NA
5	GREENROOF	GREEN ROOF	9	NA
5	GREENROOF	GREEN ROOF	9	NA
5	GREENROOF	GREEN ROOF	13	NA
5	GREENROOF	GREEN ROOF	21	
5	GREENROOF	GREEN ROOF	21	NA
5	GREENROOF	GREEN ROOF	110	NA
5	GREENROOF	GREEN ROOF	110	NA
5	GREENROOF	GREEN ROOF	113	NA
5	GREENROOF	GREEN ROOF	119	NA
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	2	NA
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	2	NA
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	2	NA
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	5	NA
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	7	NA
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	7	NA
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	116	NA
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	116	Stormwater Utility Funding
6	INFILTRATIONTRENCH	INFILTRATION TRENCH	116	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	2	SSWU, Street Fund
7	POROUSPAVEMENT	POROUS PAVEMENT	2	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	2	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1)
7	POROUSPAVEMENT	POROUS PAVEMENT	2	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1)
7	POROUSPAVEMENT	POROUS PAVEMENT	2	$500,000 Department of Ecology LID grant
7	POROUSPAVEMENT	POROUS PAVEMENT	2	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	3	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	3	

BMPTypeID	BMPCode	BMPType	ComponentID	FundingSource
7	POROUSPAVEMENT	POROUS PAVEMENT	3	
7	POROUSPAVEMENT	POROUS PAVEMENT	3	$500,000 Department of Ecology LID grant
7	POROUSPAVEMENT	POROUS PAVEMENT	6	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	7	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	7	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
7	POROUSPAVEMENT	POROUS PAVEMENT	7	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
7	POROUSPAVEMENT	POROUS PAVEMENT	7	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	13	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	17	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	17	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	17	SSWU, Street Fund
7	POROUSPAVEMENT	POROUS PAVEMENT	17	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	17	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	
7	POROUSPAVEMENT	POROUS PAVEMENT	17	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	17	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
7	POROUSPAVEMENT	POROUS PAVEMENT	17	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
7	POROUSPAVEMENT	POROUS PAVEMENT	17	$263,000 Department of Ecology LID Grant
7	POROUSPAVEMENT	POROUS PAVEMENT	17	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	17	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	17	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	17	$500,000 Department of Ecology LID grant
7	POROUSPAVEMENT	POROUS PAVEMENT	17	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	17	Fed, state, city, county, and private work
7	POROUSPAVEMENT	POROUS PAVEMENT	17	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	17	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	22	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	22	SSWU, Street Fund
7	POROUSPAVEMENT	POROUS PAVEMENT	22	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
7	POROUSPAVEMENT	POROUS PAVEMENT	22	$500,000 Department of Ecology LID grant
7	POROUSPAVEMENT	POROUS PAVEMENT	106	SSWU, Street Fund
7	POROUSPAVEMENT	POROUS PAVEMENT	106	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	106	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	114	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
7	POROUSPAVEMENT	POROUS PAVEMENT	114	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
7	POROUSPAVEMENT	POROUS PAVEMENT	125	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	125	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	125	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	125	$316,500 Department of Ecology LID grant
7	POROUSPAVEMENT	POROUS PAVEMENT	125	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	125	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	Fed, state, city, county, and private work
7	POROUSPAVEMENT	POROUS PAVEMENT	125	SSWU, Street Fund
7	POROUSPAVEMENT	POROUS PAVEMENT	125	NA
7	POROUSPAVEMENT	POROUS PAVEMENT	125	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	
7	POROUSPAVEMENT	POROUS PAVEMENT	125	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
7	POROUSPAVEMENT	POROUS PAVEMENT	125	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1
7	POROUSPAVEMENT	POROUS PAVEMENT	125	
8	RAINBARREL	RAIN BARREL	10	
8	RAINBARREL	RAIN BARREL	10	Ecology Grant and SSWU
8	RAINBARREL	RAIN BARREL	10	
8	RAINBARREL	RAIN BARREL	10	
8	RAINBARREL	RAIN BARREL	10	
8	RAINBARREL	RAIN BARREL	10	
8	RAINBARREL	RAIN BARREL	10	
8	RAINBARREL	RAIN BARREL	10	
8	RAINBARREL	RAIN BARREL	10	Department of Ecology Capacity Grant
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	Ecology Grant and SSWU
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	

BMPTypeID	BMPCode	BMPType	ComponentID	FundingSource
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	Department of Ecology Capacity Grant
8	RAINBARREL	RAIN BARREL	18	Department of Ecology Capacity Grant
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	18	
8	RAINBARREL	RAIN BARREL	101	Ecology Grant and SSWU
8	RAINBARREL	RAIN BARREL	101	Department of Ecology Capacity Grant
8	RAINBARREL	RAIN BARREL	112	Department of Ecology Capacity Grant
9	VEGETATIVESWALE	VEGETATIVE SWALE	2	City and Transportation Improvement Board
9	VEGETATIVESWALE	VEGETATIVE SWALE	5	City and Transportation Improvement Board
9	VEGETATIVESWALE	VEGETATIVE SWALE	13	City and Transportation Improvement Board
9	VEGETATIVESWALE	VEGETATIVE SWALE	15	City and Transportation Improvement Board
9	VEGETATIVESWALE	VEGETATIVE SWALE	22	City and Transportation Improvement Board
9	VEGETATIVESWALE	VEGETATIVE SWALE	106	City and Transportation Improvement Board
9	VEGETATIVESWALE	VEGETATIVE SWALE	122	
9	VEGETATIVESWALE	VEGETATIVE SWALE	122	
9	VEGETATIVESWALE	VEGETATIVE SWALE	123	City and Transportation Improvement Board
10	WETPOND	WETPOND	2	SSWU
10	WETPOND	WETPOND	2	NA
10	WETPOND	WETPOND	2	NA
10	WETPOND	WETPOND	2	NA
10	WETPOND	WETPOND	5	SSWU
10	WETPOND	WETPOND	5	NA
10	WETPOND	WETPOND	5	NA
10	WETPOND	WETPOND	5	NA
10	WETPOND	WETPOND	5	NA
10	WETPOND	WETPOND	8	NA
10	WETPOND	WETPOND	8	NA
10	WETPOND	WETPOND	8	NA
10	WETPOND	WETPOND	8	NA
10	WETPOND	WETPOND	11	NA
10	WETPOND	WETPOND	13	NA
10	WETPOND	WETPOND	15	NA

BMPTypeID	BMPCode	BMPType	ComponentID	FundingSource
10	WETPOND	WETPOND	15	NA
10	WETPOND	WETPOND	19	NA
10	WETPOND	WETPOND	21	NA
10	WETPOND	WETPOND	21	NA
10	WETPOND	WETPOND	23	NA
10	WETPOND	WETPOND	100	NA
10	WETPOND	WETPOND	105	NA
10	WETPOND	WETPOND	106	NA
10	WETPOND	WETPOND	106	SSWU
10	WETPOND	WETPOND	107	NA
10	WETPOND	WETPOND	107	NA
10	WETPOND	WETPOND	107	NA
10	WETPOND	WETPOND	107	NA
10	WETPOND	WETPOND	107	NA
10	WETPOND	WETPOND	107	NA
10	WETPOND	WETPOND	107	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	SSWU
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
10	WETPOND	WETPOND	109	NA
11	WETLAND	WETLAND	2	NA
11	WETLAND	WETLAND	11	NA
11	WETLAND	WETLAND	15	SSWU
11	WETLAND	WETLAND	15	NA
11	WETLAND	WETLAND	16	SSWU
11	WETLAND	WETLAND	16	SSWU
11	WETLAND	WETLAND	16	NA
11	WETLAND	WETLAND	19	NA
11	WETLAND	WETLAND	20	NA
11	WETLAND	WETLAND	20	NA
11	WETLAND	WETLAND	20	NA
11	WETLAND	WETLAND	21	NA
11	WETLAND	WETLAND	23	NA
11	WETLAND	WETLAND	23	NA
11	WETLAND	WETLAND	104	$519,905 Department of Ecology stormwater grant
11	WETLAND	WETLAND	104	NA
11	WETLAND	WETLAND	104	SSWU
11	WETLAND	WETLAND	104	SSWU
11	WETLAND	WETLAND	106	SSWU
11	WETLAND	WETLAND	106	SSWU

BMPType_ID	BMPType_Code	BMPType_Desc
1	BIORETENTIONBASIN	BIORETENTION BASIN
2	BUFFER STRIP	BUFFER STRIP
3	CISTERN	CISTERN
4	DRYPOND	DRY POND
5	GREENROOF	GREEN ROOF
6	INFILTRATIONTRENCH	INFILTRATION TRENCH
7	POROUSPAVEMENT	POROUS PAVEMENT
8	RAINBARREL	RAIN BARREL
9	VEGETATIVESWALE	VEGETATIVE SWALE
10	WETPOND	WET POND
11	WETLAND	WETLAND

Components_ID	Components_TXT	Components_Desc
2	Excavation	Using light equipment
3	Filter Fabric	Can be placed between gravel reservoir and underlying/overlying soil to reduce clogging of the reservoir void spaces
5	Grass	Sod
6	Gravel1	Porous pavement filter course, smaller particle sizes (1/2 - 1 1/2")
7	Gravel2	Porous pavement base (or reservoir) course, bedding around underdrain pipe in bioretention facilities, backfill for drywells and washed drain rock in infiltration trenches; slightly larger particle sizes, no fines (1 1/2" to 3")
8	Gravel3	Erosion control (rocks/rip-rap) used in constructed wetland and wet pond designs
9	Green Roof System	Total cost for the installed facility (per square foot)
10	Gutter Connection	Connection assembly
11	Inlet Structure	Used to direct piped inflow into facility
12	Mulch	Shredded hardwood
13	O&M	Approximate annual operation and maintenance costs (per square foot)
14	Observation Well	4” PVC pipe for monitoring water depth
15	Outlet Structure	Used to connect facility back into drainage system
16	Perennials	Assumes planting density of 1’ o.c. for 1 gallon plants
17	Porous Paving Material	Top course (specify asphalt, concrete, pavers, or open-celled grid)
18	Rain Barrel	50-60 gallon rain barrel
19	Seal	Bentonite (as opposed to geotextile)
20	Small Trees	Assumes planting densities of 15’ o.c.
21	Soil/Planting Media	Highly permeable soil mixed thoroughly with compost amendment
22	Underdrain Pipe	4” perforated PVC
23	Woody Shrubs	Assumes planting densities of 3’ o.c.
100	Bird Exclusion Netting	Polypropylene mesh netting for keeping birds out of wet ponds
101	Installation	Labor cost for rain barrel installation
102	Check Dam	A low, fixed structure (constructed of timber, loose rock, masonry, or concrete) used to control water flow in a bioswale or bioretention facility
103	Compost	Organic residue or a mixture of organic residues and soil
104	Constructed Wetland	Total cost for the installed facility (per square foot)
105	Debris Cage	Cage-like attachments (polyethylene or metal) used to prevent floating and particulate debris from clogging outlet control structures.
106	Design	Estimated cost to develop plans and specifications (per square foot)
107	Dewatering	Removal and control of ground water by pumping, drainage, or evaporation to allow construction activities to proceed
108	Emergents	Aquatic plants rooted below the water surface (or in an area that is periodically submerged) and extend above the water surface
109	Wet Pond	Total cost for the installed facility (per cubic foot)
110	Waterproof Membrane	PVC, Hypolan, rubber (EPDM), polyolifins (can be part of green roof design)
111	Screen	Prevents mosquitoes, leaves, and debris from entering cisterns and rain barrels
112	Connection/Use kit	Optional rain barrel components (includes overflow hose, splitter)
113	Drainage Layer	Aggregate and/or manufactured material (can be part of green roof design)
114	Drainage Sand	Sand installed below reservoir course (can be part of porous pavement design)
115	Cistern	Storage tank made out of fiberglass, concrete, polyethylene, metal, wood, etc. Total cost for the installed facility (per cubic foot)
116	Infiltration Trench	Total cost for the installed facility (per square foot)
117	Bioretention	Total cost for the installed facility (per square foot)
119	Root Barrier	Dense inorganic material (polyethylene, EPDM, filter fabric) that inhibits root penetration (can be part of green roof design)
120	Vegetated Buffer Strip	Total cost for the installed facility (per square foot)
121	Ground Cover	Low-lying plants requiring minimal maintenance
122	Grassed Swale	Total cost for the installed facility (per square foot)
123	Grass Lined Rain Garden	Total cost for the installed facility (per square foot)
124	Streambed Cobbles	4" streambed cobbles
125	Porous Pavement	Total cost for the installed facility (per square foot)

ATTACHMENT 2

Cost Request Forms Submitted for the Puget Sound BMP Cost Database

Bioretention

Bioretention Cost Request Form

City/County/Company Name:	City of Auburn
Contact Name:	Jacob Sweeting
Contact Email:	jsweeting@auburnwa.gov
Contact Phone:	253-804-5059

Project Information

Project Name:	West Valley Highway Improvements
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	$73,579 (total bioretention swale cost)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

Bioretention swale = 690 LF (7.5 SF cross-sectional area)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet	$1.11	Ditch excavation, including haul
Filter Fabric (if used)	square feet	$0.87	
Grading/finishing	square feet		
Grass	square feet	$1.11	Lawn sod
Gravel (if used)	cubic feet	$2.14	Pea gravel, assumes 1 ton = 1.3 CY
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet		
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet	$1.67	
Underdrain Pipe (if used)	feet	$40	8-inch diameter
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$21.33	690' length, assumes 5' width
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Excavation - $30/CY
Filter Fabric - $7.80/SY
Grass - $10/SY
Gravel - $75/TN
Soil - $45/CY

Bioretention Cost Request Form

City/County/Company Name:	City of Bellingham
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	Bloedel Donovan Park
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$12,820
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

Bloedel Donovan Park has a heavily used parking lot that drains into Lake Whatcom. The City retrofitted a 550-square-foot section in the parking lot near the catch basin with a rain garden to reduce runoff into the lake. The rain garden treats runoff from about 80 parking spaces and two parking lanes.

Source: Reining in the Rain (Bellingham and PSAT 2004)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet		
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		Approx. 18 inches of drain rock
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet		
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		Amended an 18- to 24-inch layer of sand with 20 to 25% organic material
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$23.30	550 sf rain garden
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

The cost of the rain garden retrofit at Bloedel Donovan Park (2003):
Labor: $3,600
Vehicle use: $1,900
1 ½ day excavator rental: $500
Washed rock: $805
* Amended soil: $1,650
PVC/grates/catch basins/fabric/other misc: $1,000
Concrete: $1,200
Asphalt: $1,200
Debris removal: $300
Plants: $400
WCC crew planting time: $265
TOTAL: $12,820
*soil mixed with compost

Bioretention Cost Request Form

City/County/Company Name:	City of Bellingham
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	City Hall
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$5,600
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

At the Bellingham City Hall, City workers converted three of the 60 spaces in the parking lot into a rain garden.

Source: Reining in the Rain (Bellingham and PSAT 2004)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet		
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet		
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$18.67	300 sf rain garden
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Bioretention Cost Request Form

City/County/Company Name:	City of Bellingham
Contact Name:	William M. Reilly
Contact Email:	wreilly@cob.org
Contact Phone:	360-778-7955

Project Information

Project Name:	EV-71 Flynn Street Water Quality
Project Type (Public or Private):	Public
Construction Date(s):	2010 (June - September)
Total Project Cost:	$120,700
Funding Source (if Public Project):	Storm and Surface Water Utility

Brief Project Description (include number and types of BMPs installed):

Project was reforestation of right of way with all street water running into simulated forest duff layer acting as bioretention. Project was to capture all water and absorb and release water to ground. Special design to limit phosphorus runoff to phosphorus limited water body (Lake Whatcom). Provides treatment for approx. 1,600 lf of roadway

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet		
Filter Fabric (if used)	square feet	$0.37	70 SY used
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet	$2.42	80 tons cobble and crsrd @ $36.30/ton
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet	$0.64	1,500 CY of Hog Fuel
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$4.12	29,274 sf planted retrofit area
Design	square feet	$0.51	29,274 sf planted retrofit area
Annual O&M (if known)	square feet		Low

Additional Notes or Information

This may be called a bioretention area but it is generally encapsulating both sides of the roadway within a buffer of mulch and plantings 20 feet wide in one direction and 30 feet wide in the other direction with a 30 foot wide street. This roadway had the added benefit of having no driveways in the treatment section area. NOTE: calculations above for design include survey, CAD, and engineering. This is a special design to capture all water into mulch beds for infiltration. Design is to prevent phosphorus discharge. Hog fuel was used due to its low soluble reactive phosphorus content while still providing soil rhizomes.

Bioretention Cost Request Form

City/County/Company Name:	City of Issaquah
Contact Name:	Kerry Ritland, PE
Contact Email:	KerryR@ci.issaquah.wa.us
Contact Phone:	(425) 837-3410

Project Information

Project Name:	Central Park Lot
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	$510,651
Funding Source (if Public Project):	$316,500 Department of Ecology LID grant

Brief Project Description (include number and types of BMPs installed):

62,000 square foot pervious asphalt parking lot with an 8000 sf rain garden (for overflow)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet		
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet		
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$4.25	8000 sf rain garden
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Bioretention Cost Request Form

City/County/Company Name:	Pierce County
Contact Name:	Dawn Anderson
Contact Email:	danders@co.pierce.wa.us
Contact Phone:	253-798-4671

Project Information

Project Name:	Sprinker Parking Lot LID - Phase 2
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	$1.25 million ($1.7 million for Phase 1 and 2)
Funding Source (if Public Project):	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1)

Brief Project Description (include number and types of BMPs installed):

90,500 sf of impervious area converted to 48,500 sf porous concrete and 42,000 sf porous asphalt (Phase 1 and 2)
12,200 sf of impervious area converted to 3 bioretention areas (~ 600 plants)
305 sf recycled rubber sidewalk

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet	$0.43	Parking lot excavation, including haul
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet	$1.42	Bark or wood chip mulch
Outlet Structure (if used)	per unit		
Perennials	each	$7	
Small Trees (if used)	each	$20	
Soil/Planting Media	cubic feet	$1.63	Bioretention soil mix
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	each	$7, 17.50, 410	Low, mid, high cost

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$5.91	8,500 sf, includes excavation, soil, mulch, and plants
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Excavation - $11.60/CY
Mulch - $38.45/CY
Bioretention soil mix = $44/CY

Bioretention Cost Request Form

City/County/Company Name:	Port of Anacortes
Contact Name:	Connie Thoman
Contact Email:	connie@portofanacortes.com
Contact Phone:	(360) 299-1818

Project Information

Project Name:	Anthony's Parking Lot
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	$285,238 (total project cost)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

Anthony's parking lot (58,000 sf)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet		
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet		
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$44.47	Assumes 2,700 sf bioret. (inc. grading, landscaping, irrigation)
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Storm Drain: $51,519, includes 2 Filterra Units, catch basin, and other underground storm drain piping
Grading and Bioretention: $85,885, included the rain garden work
Paving and Concrete: $113,660
Landscaping and Irrigation: $34,174, includes plantings for the rain gardens

Bioretention Cost Request Form

City/County/Company Name:	Port of Anacortes
Contact Name:	Connie Thoman
Contact Email:	connie@portofanacortes.com
Contact Phone:	(360) 299-1818

Project Information

Project Name:	O Avenue
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	$245,000 (total project cost)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

Pervious paving and 4 rain gardens (850 sf total) with artistic watering can downspout connections

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet		
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet		
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$34.12, 83.52	Low (rain gardens only), high (rain gardens & artistic watering can downspouts)
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Pervious paving - $174,000
Rain Gardens (4) – $29,000
Watering cans and downspouts (4) – $42,000.

Bioretention Cost Request Form

City/County/Company Name:	City of Poulsbo
Contact Name:	Jim Groh
Contact Email:	jgroh@cityofpoulsbo.com
Contact Phone:	360.779.4078

Project Information

Project Name:	Caldart Ave. Improvements Project
Project Type (Public or Private):	Public
Construction Date(s):	2006
Total Project Cost:	Approx. $1 million
Funding Source (if Public Project):	$263,000 Department of Ecology LID Grant

Brief Project Description (include number and types of BMPs installed):

The purpose of the 2006 Caldart Ave. Improvements Project was to improve traffic and pedestrian safety on a 1/3 mile segment of Caldart Avenue in Poulsbo. Several LID elements were included in the project design - they consist of approximately 2,200 feet of new 5 feet wide porous concrete sidewalks, 800 feet of bioretention swales, and a traffic island bioretention cell. ACE Paving Co., of Bremerton, WA installed all of the LID elements including both the pervious concrete sidewalks and bioretention cells.

$8,000 total for 2 bioretention swales.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet		
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet		
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$5.00	Assumes 800 ft bioretention swale length, 2 ft bottom width
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Bioretention Cost Request Form

City/County/Company Name:	City of Puyallup
Contact Name:	Joy Rodriguez
Contact Email:	jrodriguez@ci.puyallup.wa.us
Contact Phone:	253-841-5549

Project Information

Project Name:	Puyallup's 2011 Rain Garden Program
Project Type (Public or Private):	Public
Construction Date(s):	2011 (May, July, and Sept.)
Total Project Cost:	$53,300
Funding Source (if Public Project):	Department of Ecology Capacity Grant

Brief Project Description (include number and types of BMPs installed):

The 2011 Rain Garden Program included three installations with rain garden, rain barrel, and riparian planting elements. A total of 19 rain gardens, 8 rain barrels, and 1 riparian planting were installed during this project. The total project cost above includes all elements, design, landscape contractor (no-cost donation for 2 of the 3 installations), materials and related event items.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet	$0.89	Cost provided is per CF, however pricing is based on CY (industry std.)
Excavation	cubic feet		
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet	$0.91	Cost provided is per CF, however pricing is based on CY (industry std.)
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet	$0.74	Cost provided is per CF, however pricing is based on CY (industry std.)
Outlet Structure (if used)	per unit		
Perennials	square feet	$3.81	Cost determined by total project plant cost/total rain garden area
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet	$0.74	Cost provided is per CF, however pricing is based on CY (industry std.)
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$13.40	Includes materials, plants, landscape contractor
Design	square feet	$21.32	Includes design, specs, project mgt
Annual O&M (if known)	square feet		

Additional Notes or Information

Bioretention Cost Request Form

City/County/Company Name:	City of Redmond
Contact Name:	Andy Rheaume
Contact Email:	AJRHEAUME@redmond.gov
Contact Phone:	425-556-2741

Project Information

Project Name:	185th Ave NE Extension
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	$747,168 (includes monitoring); $33,576 design cost; $513,301 construction and CM
Funding Source (if Public Project):	$500,000 Department of Ecology LID grant

Brief Project Description (include number and types of BMPs installed):

Green stormwater infrastructure (570 feet long x 10 feet wide [top] bioretention swale and 6,840 square feet of porous concrete sidewalk) as part of the 185th Avenue NE Extension project.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet	$0.19	Based on $5/CY
Filter Fabric (if used)	square feet	$1.11	
Grading/finishing	square feet		
Grass	square feet	$0.16	
Gravel (if used)	cubic feet	$1.69	Gravel backfill around underdrain
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet	$1.00	Bark or wood chip mulch
Outlet Structure (if used)	per unit		
Perennials	each	$9.75	165 installed for project
Small Trees (if used)	each	$13.50, 215	Low cost (for 85 trees), high cost (for 21 trees)
Soil/Planting Media	cubic feet	$1.35	
Underdrain Pipe (if used)	feet	$9.75	6- or 8-inch pipe
Woody Shrubs (if used)	each	$10	Average shrub cost (967 installed for project)
Check dam	each	$150	12 installed for project

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$8.16	Approx. cost per SF, inc. excavation, plantings, soil, mulch, check dams
Design	square feet	$3	50% of design cost, assumes 10 foot width
Annual O&M (if known)	square feet		

Additional Notes or Information

Bioretention soil = $36.50/CY
Mulch = $27/CY
Gravel backfill around underdrain = $46.50/CY
Check dam = $150 each
Geomembrane = $10/SY

Bioretention Cost Request Form

City/County/Company Name:	City of Redmond
Contact Name:	Andy Rheaume
Contact Email:	AJRHEAUME@redmond.gov
Contact Phone:	425-556-2741

Project Information

Project Name:	SR202 and NE 124th St. Intersection
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	$3M (all project components)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

3,440 sf (430 ft x 8 ft) bioretention swale
3,770 sf (290 ft x 13 ft) compost-amended filter strips

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet	$1.13	
Excavation	cubic feet		
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet	$0.02	
Gravel (if used)	cubic feet		
Inlet Structure (if used)	per unit	$7,500	Type 2 CB (48-inch diam) with flow splitter
Mulch (if used)	cubic feet	$1	
Outlet Structure (if used)	per unit	$12,000	Type 2 CB (48-inch diam) with control structure
Perennials	each	$1.60, 2.15, 6.35	Low, mid, high cost
Small Trees (if used)	each	$2.95, 6.35, 9.55	Low, mid, high cost
Soil/Planting Media	cubic feet		
Underdrain Pipe (if used)	feet	$22	6-inch pipe
Woody Shrubs (if used)	each	$6.35	

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$42.51	3,440 sf bioretention swale, inc. planting cost
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Bioretention swale = $35,260 ($82/LF, 430 LF total)
Mulch = $28/CY
Compost = $30.45/CY
Total planting cost (including mulch and compost) = $110,990

Bioretention Cost Request Form

City/County/Company Name:	Snohomish County
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	Silver Creek Basin LID Retrofits (Projects 6A and 7A)
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

Project 6A = 2 rain gardens (approx. 305 sf each)
Project 7A = 1 rain garden (approx. 830 sf)
Costs from engineer's construction cost estimate (100% design)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet	$1.48	Structure excavation Class B, does not inc. haul and disposal
Filter Fabric (if used)	square feet	$0.90	30 mil, black PVC liner; includes installation
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet	$1.85	Mineral aggregate, Type 26
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet	$1.85	Bark mulch
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet	$2.03	Bioretention soil
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet	$3.73, 5.40	Low (Project 7A) to high cost (Project 6A), includes all plantings
Observation Well	each	$200	Material price quote from HD Fowler, inc. 30% labor
Streambed Cobbles	cubic feet	$7.41	4" streambed cobbles

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$36, 49	Low (Project 7A) to high cost (Project 6A)
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Bioretention soil = $55/CY
Bark mulch = $50/CY
Mineral aggregate, Type 26 = $50/CY
Streambed cobbles = $200/CY
Excavation (Structure, Class B) = $40/CY
Planting costs = $3,300 (Project 6A), $3,100 (Project 7A)

Bioretention Cost Request Form

City/County/Company Name:	Seattle Public Utilities
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	Ballard Roadside Rain Gardens
Project Type (Public or Private):	Public
Construction Date(s):	2009
Total Project Cost:	$1.8 million
Funding Source (if Public Project):	Partial Federal Recovery Act funding

Brief Project Description (include number and types of BMPs installed):

Approx. 32,994 sf of rain gardens installed
Costs based on bid tabs and plan sheets posted on project website:
www.seattle.gov/util/Services/Drainage_&_Sewer/Keep_Water_Safe_&_Clean/CSO/CSOReductionProjects/BallardBasin/BallardRoadsideRaingardens

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet	$1.53	
Excavation	cubic feet	$0.76	
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet	$1.67	
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	each	$85, 100	Low (coniferous), high (deciduous)
Soil/Planting Media	cubic feet	$1.36, 1.48	Low (landscape mix), high (turf mix)
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	each	$7	1,371 shrubs total
Ground Cover	each	$3, 7	Low (4" pot), high (1 gallon)
Emergents	each	$2.45	

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$44	Construction cost
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Excavation = $20.65/CY
Bioretention Soil = $36.80/CY (landscape mix) - $40/CY (turf mix)
Compost = $41.25/CY
Mulch = $45/CY
$44/SF cost from Life-cycle cost of Green Stormwater Infrastructure for the CSO LTCP

Bioretention Cost Request Form

City/County/Company Name:	Seattle Public Utilities
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	Broadview Green Grid
Project Type (Public or Private):	Public
Construction Date(s):	2004 (Construction cost)
Total Project Cost:	$4.6 million
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

15 block area = approx. $280,000 per block (330 LF)
Both 'SEA Street' and 'Cascade' types
One sidewalk per block

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet		
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet		
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$42.42	Assumes 20 ft width x 330 LF per block x 15 blocks
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Construction Cost Source: Pinehurst Natural Drainage System Project, Drainage Fund – Flood Control and Local Drainage

Bioretention Cost Request Form

City/County/Company Name:	Seattle Public Utilities
Contact Name:	Emiko Takahashi
Contact Email:	emiko.takahashi@seattle.gov
Contact Phone:	(206) 615-1695

Project Information

Project Name:	High Point
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet		
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet		
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet		
Design	square feet		
Annual O&M (if known)	square feet	$0.65	

Additional Notes or Information

Source: O&M costs from 2010 report (Stage Gate-2 for Venema Natural Drainage System)

Bioretention Cost Request Form

City/County/Company Name:	Seattle Public Utilities
Contact Name:	Tracy Tackett
Contact Email:	Tracy.Tackett@seattle.gov
Contact Phone:	(206) 386-0052

Project Information

Project Name:	Pinehurst Green Grid
Project Type (Public or Private):	Public
Construction Date(s):	2005 (Construction cost), 2010 (O&M cost)
Total Project Cost:	$4.6 million
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

660 LF x 20 feet wide bioretention swales

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet	$0.52	
Excavation	cubic feet	$0.81	Common excavation
Filter Fabric (if used)	square feet	$0.22	
Grading/finishing	square feet		
Grass	square feet	$1.00	Sodding
Gravel (if used)	cubic feet	$2.41	Quarry spalls, assumes 1.3 TN/CY
Inlet Structure (if used)	per unit	$1,100	Inlet Type 250A
Mulch (if used)	cubic feet	$1.11	Shredded bark mulch
Outlet Structure (if used)	per unit	$2,200	CB Type 240 A & B
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet	$1.11	Bioretention soil
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet	$1.74	Average cost per SF for trees and shrubs

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$11.77, 23.29	Low (does not inc. paving), high (inc. paving), based on 13,200 sf, inc. drainage and landscaping
Design	square feet		
Annual O&M (if known)	square feet	$1.90, 2.20, 2.60	Low, average, high costs for O&M by SCC

Additional Notes or Information

Excavation (common) = $22/CY
Bioretention soil = $30/CY
Compost material = $14/CY
Shredded bark mulch = $30/CY
Streambed cobbles = $75/TN
Quarry spalls = $50/TN

O&M Source: Life-cycle cost of Green Stormwater Infrastructure for the CSO LTCP
From 2006 to 2009, the three years after completion of Pinehurst, Seattle Conservation Corp (SCC) was contracted to water, weed, replace plants and mulch sixteen blocks of NDS. The three years of maintenance for the 70,000 square feet of landscaped area at Pinehurst averaged $2.20/square foot. The annual average costs ranged from $1.90 to $2.60 per square foot.

Bioretention Cost Request Form

City/County/Company Name:	Seattle Public Utilities
Contact Name:	Emiko Takahashi
Contact Email:	emiko.takahashi@seattle.gov
Contact Phone:	(206) 615-1695

Project Information

Project Name:	Rainwise
Project Type (Public or Private):	Private
Construction Date(s):	2010
Total Project Cost:	NA
Funding Source (if Public Project):	Public (incentives for private installations)

Brief Project Description (include number and types of BMPs installed):

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet		
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet		
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$4.00	Construction incentive (per SF mitigated)
Design	square feet	$1.40	Per SF mitigated; inc. public outreach, inspections, trainings
Annual O&M (if known)	square feet		

Additional Notes or Information

Source: Life-cycle cost of Green Stormwater Infrastructure for the CSO LTCP

Bioretention cost listed above does not include:
- Soft cost ($1.40/sf) for SPU to coordinate public outreach, inspections, acquires funding for the incentives, reports on program progress and conducts contractor trainings
- Replacement cost (2% or $3.41/sf)
- O&M to be performed by homeowner (periodic replanting, mulching, weeding and watering)

Bioretention Cost Request Form

City/County/Company Name:	Seattle Public Utilities
Contact Name:	Emiko Takahashi
Contact Email:	emiko.takahashi@seattle.gov
Contact Phone:	(206) 615-1695

Project Information

Project Name:	Rainwise - Roadside Rain Gardens
Project Type (Public or Private):	Private
Construction Date(s):	2010
Total Project Cost:	NA
Funding Source (if Public Project):	Public (incentives for private installations)

Brief Project Description (include number and types of BMPs installed):

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet		
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet		
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$58.30	Construction cost
Design	square feet	$52.47	Soft costs (design, PM, CM, closeout) are 90% of const. costs
Annual O&M (if known)	square feet	$0.18, 0.32, 0.45	Low, average, high O&M costs

Additional Notes or Information

Source: Life-cycle cost of Green Stormwater Infrastructure for the CSO LTCP
- Construction cost ($3.50/sf mitigated, $58.30/sf bioretention)
- Soft cost ($3.15/sf mitigated, $52.47/sf bioretention) for design, project and construction management, and closeout costs
- Replacement cost ($0.10/sf)

Bioretention Cost Request Form

City/County/Company Name:	Seattle Public Utilities
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	High Point
Project Type (Public or Private):	Public
Construction Date(s):	2001
Total Project Cost:	$850,000
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

Seattle's pilot Street Edge Alternatives Project (SEA Streets).
Reduced impervious surfaces to 11 percent less than a traditional street, provided surface detention in swales, and added over 100 evergreen trees and 1100 shrubs.
This included an extensive design and communications budget due to the need to work closely with residents on the design. Future projects will cost less than traditional street
www.seattle.gov/util/About_SPU/Drainage_&_Sewer_System/GreenStormwaterInfrastructure/NaturalDrainageProjects/StreetEdgeAlternatives

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet		
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet		
Outlet Structure (if used)	per unit		
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$49.24	Higher cost (pilot project), based on $325,000 per block, 20 ft wide swale
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Bioretention Cost Request Form

City/County/Company Name:	Thurston County
Contact Name:	Scott Lindblom
Contact Email:	LINDBLS@co.thurston.wa.us
Contact Phone:	360-786-5133

Project Information

Project Name:	Evergreen Terrace - Phase III
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	$194,095 (Phase III)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

This project constructed 6 bioretention swales along 9th Ave and Torrey Street. Includes 18" of amended soil in each swale.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Compost	cubic feet		
Excavation	cubic feet	$0.30	
Filter Fabric (if used)	square feet		
Grading/finishing	square feet		
Grass	square feet	$0.07	Seeding, fertilizing, and mulching
Gravel (if used)	cubic feet	$0.52	Bedding around underdrain pipe
Inlet Structure (if used)	per unit		
Mulch (if used)	cubic feet		
Outlet Structure (if used)	per unit	$650	Type I CB with overflow
Perennials	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet	$0.89	Soil amendment
Underdrain Pipe (if used)	feet		
Woody Shrubs (if used)	square feet		
Gravel	cubic feet	$1.11	Quarry spalls

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Bioretention	square feet	$6.55	Assumes 9000 sf of swales, does not inc. traffic control, paving, or piping
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Excavation = $8/CY
Quarry Spalls = $30/CY
Gravel backfill around underdrain pipe = $14/CY

Buffer Strips

Vegetated (Buffer) Strip Cost Request Form

City/County/Company Name:	City of Redmond
Contact Name:	Andy Rheaume
Contact Email:	AJRHEAUME@redmond.gov
Contact Phone:	425-556-2741

Project Information

Project Name:	SR202 and NE 124th St. Intersection
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	$3M (all project components)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

3,440 sf (430 ft x 8 ft) bioretention swale
3,770 sf (290 ft x 13 ft) compost-amended filter strips

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Compost (if used)	cubic feet		
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Soil/Planting Media	cubic feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Vegetated Buffer Strip	square feet	$1.35	3,770 sf CAVFS
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Compost-amended filter strips = $5,075 ($17.50/LF, 290 LF)

Vegetated (Buffer) Strip Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

Filter strips with engineered soil (79,020 SF)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Compost (if used)	cubic feet		
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Soil/Planting Media	cubic feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Vegetated Buffer Strip	square feet	$0.83	79,020 SF
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Cisterns

Berg Vault Company of WA, Inc.

Post Office Box 1205
Mount Vernon, WA 98273
360-424-4999 Fax 360-424-5839

QUOTE

DATE	8/16/2011
QUOTE #	11-04590

Quote For	Job Site
Cash Sale-Taxable Herrera, Inc.	Rebecca Dugopolski rdugopolski@herrerainc.com

Quote Provided By	Terms
Peggy	COD

QTY	DESCRIPTION	PRICE EACH	TOTAL
	BELOW GROUND ONLY		
1	325 Gallon Round Potable Cistern - Below Ground Only - White Plastic, Part# 41321	500.00	500.00
1	550 Gallon Round Potable Cistern - Below Ground Only - White Plastic, Part# 40856	750.00	750.00
1	600 Gallon Potable Cistern - Below Ground Only - White Plastic, Part# 41328	750.00	750.00
1	1200 Gallon Potable Cistern - Below Ground Only - White Plastic, Part# 41329	1,060.00	1,060.00
1	1700 Gallon Potable Cistern - Below Ground Only - White Plastic, Part# 41330	1,510.00	1,510.00
	ABOVE GROUND ONLY		
1	305 Gallon Potable Water Tank - Green Plastic, Part# 40863	300.00	300.00
1	500 Gallon Potable Water Tank - GREEN, Part# 43105	405.00	405.00
1	550 Gallon Potable Water Tank - Green Plastic, Part# 40864	405.00	405.00
1	1100 Gallon Potable Water Tank - Green Plastic, Part# 40865	580.00	580.00
1	1350 Gallon Potable Water Tank - Green Plastic, Part# 40858	695.00	695.00
1	1550 Gallon Potable Water Tank - Green Plastic, Part# 40866	695.00	695.00
1	2500 Gallon Potable Water Tank - Green Plastic, Part# 40867	990.00	990.00
1	3000 Gallon Potable Water Tank - Green Plastic, Part# 40868	1,335.00	1,335.00
1	5000 Gallon Potable Water Tank - Green Plastic, Part# 40870	2,995.00	2,995.00

Thank you for the opportunity to provide a quote.
Please review for accuracy.
Materials quote good for 30 days.

Subtotal	$12,970.00
Sales Tax (8.2%)	$1,063.54
Total	$14,033.54

BH TANK INCORPORATED
A BlueScope Water Company

BH CORRUGATED RANCH TANK PRICES

Prices Effective July 1, 2011



Capacity		Dimensions		ZINCALUM (ZN)		COLORBOND (CB)	
Nominal Gallons Full	Useable Gallons with 6" Freeboard	Diameter Ft. - In.	Height Dec. Ft.	MATERIALS ONLY (Galvanized sidewalls and roof with Aqualiner)	INSTALLED PRICE (Excluding freight, accessories, foundation, engineering, permits)	MATERIALS ONLY (Factory coated sidewalls and roof with Aqualiner)	INSTALLED PRICE (Excluding freight, accessories, foundation, engineering, permits)
2600	**2468**	8.76	5.98	$ 3,021	$ 3,687	$ 3,219	$ 3,886
3900	**3771**		8.86	$ 3,718	$ 4,538	$ 4,016	$ 4,836
5200	**4975**		11.53	$ 4,371	$ 5,343	$ 4,767	$ 5,740
4200	**3863**	10.96	5.98	$ 3,649	$ 4,526	$ 3,897	$ 4,774
6200	**5901**		8.86	$ 4,505	$ 5,570	$ 4,877	$ 5,941
6000	**5568**	13.16	5.98	$ 4,396	$ 5,434	$ 4,694	$ 5,731
9000	**8506**		8.86	$ 5,420	$ 6,678	$ 5,866	$ 7,125
8200	**7584**	15.35	5.98	$ 4,836	$ 6,084	$ 5,183	$ 6,431
12200	**11585**		8.86	$ 6,055	$ 7,559	$ 6,576	$ 8,079
10800	**9910**	17.55	5.98	$ 5,636	$ 7,146	$ 6,033	$ 7,542
16000	**15140**		8.86	$ 7,664	$ 9,463	$ 8,259	$ 10,058
13600	**12548**	19.75	5.98	$ 8,292	$ 10,013	$ 8,739	$ 10,459
20300	**19170**		8.86	$ 9,838	$ 11,882	$ 10,507	$ 12,551
16900	**15497**	21.95	5.98	$ 9,169	$ 11,151	$ 9,665	$ 11,646
25000	**23674**		8.86	$ 10,925	$ 13,264	$ 11,668	$ 14,008
20400	**18705**	24.11	5.98	$ 10,083	$ 12,326	$ 10,629	$ 12,872
30200	**28576**		8.86	$ 11,981	$ 14,615	$ 12,799	$ 15,434
24300	**22271**	26.31	5.98	$ 12,878	$ 15,433	$ 13,473	$ 16,028
36000	**34023**		8.86	$ 13,771	$ 16,751	$ 14,589	$ 17,570
28500	**26147**	28.51	5.98	$ 13,499	$ 16,366	$ 14,144	$ 17,011
42300	**39945**		8.86	$ 15,808	$ 19,135	$ 16,775	$ 20,102
33100	**30335**	30.71	5.98	$ 14,607	$ 17,787	$ 15,301	$ 18,481
49100	**46342**		8.86	$ 17,092	$ 20,766	$ 18,134	$ 21,807
38000	**34833**	32.91	5.98	$ 17,880	$ 21,372	$ 18,624	$ 22,115
56300	**53214**		8.86	$ 20,526	$ 24,546	$ 21,642	$ 25,662
43200	**39642**	35.10	5.98	$ 19,357	$ 23,212	$ 20,151	$ 24,006
64100	**60560**		8.86	$ 22,128	$ 26,545	$ 23,318	$ 27,735
48700	***44683***	*37.27*	*5.98*	$ 21,615	$ 25,832	$ 22,458	$ 26,675
72300	***68262***		*8.86*	$ 24,567	$ 29,381	$ 25,832	$ 30,645
54600	***50109***	*39.47*	*5.98*	$ 20,717	$ 25,298	$ 21,610	$ 26,190
81100	***76551***		*8.86*	$ 25,605	$ 30,816	$ 26,944	$ 32,155

Prices are quoted FOB Madera, CA and do not include freight, accessories, taxes or other fees. Prices subject to change without notification

601 Noble Street • Madera, California 93637 • Phone: (559) 662-0600 • Fax (559) 662-0601

Cistern Cost Request Form

City/County/Company Name: Aquabarrel Cisterns
Contact Name: NA
Contact Email: orders@Aquabarrel.com
Contact Phone: 301-253-8855

Project Information

Project Name: Complete Cistern
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

Complete Cistern (214-gallon polyethylene) includes Submersible Pump, Downspout Debris Filter, Downspout to Tank Flex-Hose, Spigot, Access Cover, Drain Plug, and Overflow Port

66" long x 22" wide x 45" high

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit	$1,001	214 gallons
Gutter Connection	per unit		
Screen	per unit		
Water Treatment System	per unit		
Downspout Filter	per unit		Included with unit

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	cubic feet	$35	214 gallons
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

214 gallon (29 cubic feet) = $1001 ($35/cf)

Cistern Cost Request Form

City/County/Company Name:	Aquabarrel Cisterns
Contact Name:	NA
Contact Email:	orders@Aquabarrel.com
Contact Phone:	301-253-8855

Project Information

Project Name:	Fat Boy Water Wall
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

Fat Boy Water Wall (650-gallon polyethylene) includes 12" inlet screen and 3" overflow outlet

28" deep x 6'7" tall" x 7'6" long

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit	$1,390	650 gallons
Gutter Connection	per unit		
Screen	per unit		
Water Treatment System	per unit		
Downspout Filter	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	cubic feet	$16	650 gallons
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

650 gallon (87 cf) = $1390 ($16/cf)

Cistern Cost Request Form

City/County/Company Name: Aquabarrel Cisterns
Contact Name: NA
Contact Email: orders@Aquabarrel.com
Contact Phone: 301-253-8855

Project Information

Project Name: Rainwater Pillow
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

Rainwater Pillow (1000, 2000, or 3000-gallon reinforced polymer alloy) includes 2 filters (9" x 9"), .5 horse power pump, remote control, and fittings and hoses

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit	$2539, 3476, 4411	Low (1,000 gal.), mid (2,000 gal.), high (3,000 gal.)
Gutter Connection	per unit		
Screen	per unit		
Water Treatment System	per unit		
Downspout Filter	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	cubic feet	$11, 13, 19	Low (3,000 gal), mid (2,000 gal.), high (1,000 gal.)
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

1000 gallon (134 cf) = $2539 ($19/cf)
2000 gallon (267 cf) = $3476 ($13/cf)
3000 gallon (401 cf) = $4411 ($11/cf)

Cistern Cost Request Form

City/County/Company Name: Berg Vault
Contact Name: Peggy
Contact Email: peggy@bergvaultinc.com
Contact Phone: 360-424-4999

Project Information

Project Name: Aboveground Cisterns
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

Plastic Aboveground Cisterns

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit	$285, 721, 3342	Low (305 gal.), mid (1350 gal.), high (5,000 gal.), tax not included
Gutter Connection	per unit		
Screen	per unit		
Water Treatment System	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	cubic feet	$3, 4, 7	Low (1550-3000 gal), mid (1100-3500 gal), high (305 gal)
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

305 gallon - $285 ($7/CF)
500 gallon - $401 ($6/CF)
550 gallon - $441 ($6/CF)
1100 gallon - $588 ($4/CF)
1350 gallon - $721 ($4/CF)
1550 gallon - $621 ($3/CF)
2500 gallon - $1003($3/CF)
3000 gallon - $1203 ($3/CF)
5000 gallon - $3342 ($5/CF)

Cistern Cost Request Form

City/County/Company Name: Berg Vault
Contact Name: Peggy
Contact Email: peggy@bergvaultinc.com
Contact Phone: 360-424-4999

Project Information

Project Name: Belowground Cisterns
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

Plastic Belowground Cisterns

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit	$521, 735, 1591	Low (325 gal.), mid (550-600 gal.), high (1,700 gal.), tax not included
Gutter Connection	per unit		
Screen	per unit		
Water Treatment System	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	cubic feet	$7, 10, 12	Low (1,700 gal.), mid (550 gal.), high (325 gal.)
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

325 gallon - $521 ($12/CF)
550 gallon - $735 ($10/CF)
600 gallon - $722 ($9/CF)
1200 gallon - $1,123 ($7/CF)
1700 gallon - $1,591 ($7/CF)

Cistern Cost Request Form

City/County/Company Name:	BH Tank
Contact Name:	Gerrick Burton
Contact Email:	gerrick@bhtank.com
Contact Phone:	(559) 662-0600

Project Information

Project Name:	Highline Tank (Colorbond)
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

Corrugated steel aboveground tanks

Colorbond = factory coated sidewalls and roof with Aqualiner

Installed price = excludes freight, accessories, foundation, engineering, and permits

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit	$3128, 11697, 27104	Low (2,600 gal), mid (25,000 gal), high (81,000 gal), materials only price
Gutter Connection	per unit		
Screen	per unit		
Water Treatment System	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	cubic feet	$2.50, 3.5, 9	Low (81,000 gal), mid, high (2,600 gal)
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

2,600 gallons - $3,128 (Colorbond, materials only, $9/CF), $3,886 (Colorbond, installed price)
25,000 gallons - $11,697 (Colorbond, materials only, $3.50/CF), $14,008 (Colorbond, installed price)
81,100 gallons - $27,104 (Colorbond, materials only, $2.50/CF), $32,155 (Colorbond, installed price)

Vendor also has a range of sizes available between 2,600 and 81,100 gallons

Cistern Cost Request Form

City/County/Company Name: BH Tank_Highline Tank
Contact Name: Gerrick Burton
Contact Email: gerrick@bhtank.com
Contact Phone: (559) 662-0600

Project Information

Project Name: Highline Tank (Zincalum)
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

Corrugated steel aboveground tanks

Zincalum = galvanized sidewalls and roof with Aqualiner
Colorbond = factory coated sidewalls and roof with Aqualiner

Installed price = excludes freight, accessories, foundation, engineering, and permits

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit	$3128, 10026, 21683	Low (2,600 gal), mid (25,000 gal), high (81,000 gal), materials only price
Gutter Connection	per unit		
Screen	per unit		
Water Treatment System	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	cubic feet	$2, 6, 9	Low (81,000 gal), mid, high (2,600 gal)
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

2,600 gallons - $3,128 (Zincalum, materials only, $9/CF), $3,687 (Zincalum, installed price)
25,000 gallons - $10,026 (Zincalum, materials only, $3/CF), $13,264 (Zincalum, installed price)
81,100 gallons - $21,683 (Zincalum, materials only, $2/CF), $30,816 (Zincalum, installed price)

Vendor also has a range of sizes available between 2,600 and 81,100 gallons

Cistern Cost Request Form

City/County/Company Name: Rain Tank Depot
Contact Name: NA
Contact Email: info@tank-depot.com
Contact Phone: 866-926-5603

Project Information

Project Name: Aquadra Modular Cisterns
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

Aquadra Modular Cistern (75-gallon plastic tank) comes with a kit to mount the unit to your house and a hose adapter. The mounting kit allows you to bolt and secure the tank to the side of the house with two securing bolts.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit	$301	75 gallons
Gutter Connection	per unit		
Screen	per unit		
Water Treatment System	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	cubic feet	$30	75 gallons
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

Aquadra Modular Cistern (75-gallon) - $301 ($30/CF)

Cistern Cost Request Form

City/County/Company Name: Rain Tank Depot
Contact Name: NA
Contact Email: info@tank-depot.com
Contact Phone: 866-926-5603

Project Information

Project Name: Contain Rainwater Harvesting Wall
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

Contain Rainwater Harvesting Wall (71 gallon plastic tank) includes mounting brackets, tap assembly, and connector module.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit	$180.34	71 gallons
Gutter Connection	per unit		
Screen	per unit		
Water Treatment System	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	cubic feet	$19	See notes
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

Contain Rainwater Harvesting Wall (71-gallon) - $180.34 ($19/CF)

Cistern Cost Request Form

City/County/Company Name: Rain Tank Depot
Contact Name: NA
Contact Email: info@tank-depot.com
Contact Phone: 866-926-5603

Project Information

Project Name: Plastic Cisterns
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit	$57, 642, 8355	Low (25 gal.), mid (1200 gal.), high (12,500 gal.)
Gutter Connection	per unit		
Screen	per unit		
Water Treatment System	per unit		
Downspout Filter	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	cubic feet	$4, 11, 17	Low (1200 gal.), mid, high (25 gal.)
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

Ace / DenHartog 25 Gallon Vertical NSF-61 Tank - $57 ($17/CF)
1200 Gallon Snyder Vertical Water Storage Tank - $642 ($4/CF)
Ace / DenHartog 12500 Gallon Vertical NSF-61 Tank - $8355 ($5/CF)

Vendor also sells various sizes inbetween 25 and 12,500 gallons.

Cistern Cost Request Form

City/County/Company Name: Rain Tank Depot
Contact Name: NA
Contact Email: info@tank-depot.com
Contact Phone: 866-926-5603

Project Information

Project Name: Plastic Underground Cisterns
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit	$434, 1380, 4251	Low (325 gal.), mid (1200 gal.), high (2650 gal.)
Gutter Connection	per unit		
Screen	per unit		
Water Treatment System	per unit		
Downspout Filter	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	cubic feet	$8.60, 10, 12	Low (1200 gal.), mid (325 gal.), high (2650 gal.)
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

Ace Roto Mold 325 Gallon Cistern Tank - $434 ($10/CF)
Snyder 1200 Gallon Below Ground Cistern - $1380 ($8.60/CF)
Graf 2650 Gallon Carat XL Rainwater Retention Cistern - $4251 ($12/CF)

Vendor also sells various sizes inbetween 300 and 2,650 gallons.

Cistern Cost Request Form

City/County/Company Name: Rain Tank Depot
Contact Name: NA
Contact Email: info@tank-depot.com
Contact Phone: 866-926-5603

Project Information

Project Name: Rainwater HOG Modular Cisterns
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

Rainwater HOG (50-gallon plastic tank) is supplied with a connector kit to join up further units and an air vent for the top of each tank.

Rainwater HOG Accessories Inlet Outlet Kit Components per Kit: meshed inlet screen and plastic outlet ball valve.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit	$301	50 gallons
Gutter Connection	per unit		
Screen	per unit	$19	Rain Water Hog Inlet/Outlet Kit
Water Treatment System	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	cubic feet	$45	50 gallons
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

Rainwater HOG (50-gallon) - $301 ($45/CF)

Cistern Cost Request Form

City/County/Company Name:	Rain Tank Depot
Contact Name:	NA
Contact Email:	info@tank-depot.com
Contact Phone:	866-926-5603

Project Information

Project Name:	Water Wall
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

650 Gallon Waterwall Fatboy Rainwater Collection Tank
Inlet: A 12" mosquito proof leaf strainer supplied with the tank can be placed in any of three inlet positions on the top.
Overflow: A 3" flanged overflow outlet is provided, including rubber seal and screws for installing. There are overflow positions on either end of the tank.
Outlets: Two brass threaded 1" tap outlets - one in each end and one low on the front of the tank - plus one 3/4" tap outlet at knee height on the front of the tank.
Footing: A level, solid base is all that is required for Waterwall Fatboy such as cement pavers or a contained sand base.
Material: High density polyethylene, UV stabilised, FEA approved for holding potable water

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit	$1,100	650 gallons
Gutter Connection	per unit		
Screen	per unit		
Water Treatment System	per unit		
Downspout Filter	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	cubic feet	$13	650 gallons
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

Cistern Cost Request Form

City/County/Company Name:	Seattle Public Utilities
Contact Name:	Emiko Takahashi
Contact Email:	emiko.takahashi@seattle.gov
Contact Phone:	(206) 615-1695

Project Information

Project Name:	Rainwise
Project Type (Public or Private):	Private
Construction Date(s):	2010
Total Project Cost:	NA
Funding Source (if Public Project):	Public (incentives for private installations)

Brief Project Description (include number of cisterns, storage volume, and material [fiberglass, polyethylene, etc.]):

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Cistern	per unit		
Gutter Connection	per unit		
Screen	per unit		
Water Treatment System	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Cistern	square feet	$2.60	Construction incentive cost per SF, inc. O&M
Design	cubic feet		
Annual O&M (if known)	cubic feet		

Additional Notes or Information

Source: Life-cycle cost of Green Stormwater Infrastructure for the CSO LTCP

Cistern cost above does not include:
- Soft cost ($1.51/sf) for SPU to coordinate public outreach, inspections, acquires funding for the incentives, reports on program progress and conducts contractor trainings
- Replacement cost (2% or $5.39/sf)

Cistern cost does include:
- O&M performed by the homeowner. The incentive includes the present value cost of future maintenance done by residents. Cisterns will require periodic inspections and filter cleanings during the rainy months.

Constructed Wetlands

Constructed Wetland Cost Request Form

City/County/Company Name:	City of Arlington
Contact Name:	Eric Scott
Contact Email:	EScott@arlingtonwa.gov
Contact Phone:	360-403-3512

Project Information

Project Name:	Arlington Constructed Stormwater Wetland
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	$649,881 (estimated based on grant + 25% match)
Funding Source (if Public Project):	$519,905 Department of Ecology stormwater grant

Brief Project Description (include number and types of BMPs installed):

8.7 acre wetland project had a bid price of $770,000.

The City's largest stormwater outfall, draining 284 acres of Old Town Arlington, discharges into the Stillaguamish River. The constructed stormwater wetland will provide a natural treatment system to capture and remove nutrients and provide flood detention and storage capacity.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Mulch (if used)	cubic feet		
Outlet Structure	per unit		
Perennials	square feet		
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Constructed Wetland	square feet	$2.03	8.7-acre wetland
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Constructed Wetland Cost Request Form

City/County/Company Name:	City of Bellingham
Contact Name:	William M. Reilly
Contact Email:	wreilly@cob.org
Contact Phone:	360-778-7955

Project Information

Project Name:	Brentwood Rock Plant Filter Retrofit
Project Type (Public or Private):	Public
Construction Date(s):	2010 (June - September)
Total Project Cost:	$155,749
Funding Source (if Public Project):	SSWU

Brief Project Description (include number and types of BMPs installed):

Existing wet pond reconstructed into a rock plant filter (closest relation constructed wetland). Cost fairly indicative of new construction except no property cost. Rock Plant Filter is typically a design used in tertiary treatment for wastewater. Being used as a phosphorus limiting BMP.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Mulch (if used)	cubic feet		
Outlet Structure	per unit		
Perennials	square feet	$1.71	Lump sum plantings $28,200
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Constructed Wetland	square feet	$9.42	16,500 sf rock plant filter
Design	square feet	$1.30	$21,433 total, 16,500 sf rock plant filter
Annual O&M (if known)	square feet		

Additional Notes or Information

Lump sum for items makes discrimination difficult.

Constructed Wetland Cost Request Form

City/County/Company Name:	City of Bellingham
Contact Name:	William M. Reilly
Contact Email:	wreilly@cob.org
Contact Phone:	360-778-7955

Project Information

Project Name:	Eliza Avenue Improvements, ES-0126
Project Type (Public or Private):	Public
Construction Date(s):	2007
Total Project Cost:	$133,977 (Constructed wetland costs only)
Funding Source (if Public Project):	SSWU

Brief Project Description (include number and types of BMPs installed):

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Mulch (if used)	cubic feet		
Outlet Structure	per unit	$4,730	
Perennials	square feet	$1.29	Lump sum $20,000 vegetation
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Constructed Wetland	square feet	$8.62	15,533 sf
Design	square feet	$2.78	$43,200 total, 15,533 sf
Annual O&M (if known)	square feet		

Additional Notes or Information

Constructed Wetland Cost Request Form

City/County/Company Name:	City of Redmond
Contact Name:	Andy Rheaume
Contact Email:	AJRHEAUME@redmond.gov
Contact Phone:	425-556-2741

Project Information

Project Name:	Bear Creek Park WQ Facility
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	$442,127
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

This project includes construction of a stormwater wetland (4,400 sf) and associated piping and planting; construction of a concrete block retaining wall; stream buffer mitigation; tree replacement, installation of short soft-surface interpretative trail; and replacement of asphalt pedestrian/biking trail with porous pavement (7,800 sf).

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Excavation	cubic feet	$0.74	Pond excavation
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit	$2,180	Catch basin, Type 2 54" diameter
Mulch (if used)	cubic feet		
Outlet Structure	per unit	$7,025	Rectangular vault (5'4" x 9'4" x 4'8")
Perennials	each	$2.75	
Soil/Planting Media	cubic feet	$0.55	Topsoil, Type A
Seal	square feet	$1.37	Geosynthetic clay liner and penetration
Woody Shrubs	each	$9, 14	Low, high cost
Small Trees	each	$28, 100, 225	Low, mid, high costs

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Constructed Wetland	square feet	$12.47	4,400 sf wetland, inc. excavation, inlet/outlet structures, plantings, liner
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Pond excavation = $19.90/CY
Topsoil, Type A = $14.75/CY
2 inlet structures and 2 outlet structures used for wetland
Total planting cost = $16,922

Grassed Swales

Grassed (Vegetated) Swale Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	Mark Maurer
Contact Email:	MaurerM@wsdot.wa.gov
Contact Phone:	(360) 705-7260

Project Information

Project Name:	SR 518 Compost-Amended Biofiltration Swale
Project Type (Public or Private):	Public
Construction Date(s):	2008
Total Project Cost:	$30,000 (2 bioswales, inc. components to facilitate monitoring that are not inc. in cost/SF)
Funding Source (if Public Project):	

Brief Project Description (include number and types of BMPs installed):

100-foot long compost-amended biofiltration swale = approximately $2,800 ($4.30 per square foot)
The costs for the SR 518 site included:
- Layout, removing asphalt lined ditch, reshaping ditch, earthwork (a small excavator with a blade was used and cut and fill were balanced), fine grading (small hand tool work), compost blanket, inlet pipe (trenching, curb cuts and concrete work at inlet, pipe costs, pipe placement and cover, and splash protection at pipe outlet), hydroseeding (including seed and mulch)
- No outlet catch basin or piping was installed since there was already a catch basin located downstream of the biofiltration swales.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Inlet Structure (if used)	per unit		
Outlet Structure (if used)	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Grassed Swale	square feet	$4.30	Compost-amended bioswale
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Grassed (Vegetated) Swale Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	Mark Maurer
Contact Email:	MaurerM@wsdot.wa.gov
Contact Phone:	(360) 705-7260

Project Information

Project Name:	SR 518 Control Biofiltration Swale
Project Type (Public or Private):	Public
Construction Date(s):	2008
Total Project Cost:	$30,000 (2 bioswales, inc. components to facilitate monitoring that are not inc. in cost/SF)
Funding Source (if Public Project):	

Brief Project Description (include number and types of BMPs installed):

100-foot long standard biofiltration swale = approximately $2,500 ($3.80 per square foot).
The costs for the SR 518 site included:
- Layout, removing asphalt lined ditch, reshaping ditch, earthwork (a small excavator with a blade was used and cut and fill were balanced), fine grading (small hand tool work), inlet pipe (trenching, curb cuts and concrete work at inlet, pipe costs, pipe placement and cover, and splash protection at pipe outlet), hydroseeding (including seed, fertilizer, and mulch)
- No outlet catch basin or piping was installed since there was already a catch basin located downstream of the biofiltration swales.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Inlet Structure (if used)	per unit		
Outlet Structure (if used)	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Grassed Swale	square feet	$3.80	Standard bioswale
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Grassed (Vegetated) Swale Cost Request Form

City/County/Company Name:	City of Mount Vernon
Contact Name:	Blaine Chesterfield
Contact Email:	blainec@mountvernonwa.gov
Contact Phone:	360-336-6204

Project Information

Project Name:	Freeway Drive Improvements Phase II
Project Type (Public or Private):	Public
Construction Date(s):	July - August 2011
Total Project Cost:	$900,000
Funding Source (if Public Project):	City and Transportation Improvement Board

Brief Project Description (include number and types of BMPs installed):

To improve Freeway Drive from College way to Steward Road and to add sidewalks in some areas. This included grass lined rain gardens that would be able to treat the water quality event.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet	0.29	$7.95 per CY including haul
Grading/finishing	square feet	NA	Not noted in the bid items
Grass	square feet	0.84	$7.60 per SY
Inlet Structure (if used)	per unit	NA	
Outlet Structure (if used)	per unit	2210	Catch Basin Type 2, 48-inch
Underdrain Pipe	LF	29.7	Underdrain pipe 12-inch diameter

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Grass Lined Rain Garden	square feet	9.1	$4,550 for entire facility
Design	square feet	4.66	Very rough estimate
Annual O&M (if known)	square feet	0.47	Estimated on mowing (0.07) & Vactor (0.40)

Additional Notes or Information

Green Roofs

Green Roof Cost Request Form

City/County/Company Name:	Private Owner
Contact Name:	Seattle Green Roof Inventory
Contact Email:	Joel.Banslaben@seattle.gov
Contact Phone:	206-684-3936

Project Information

Project Name:	2,500 sf green roof in Seattle
Project Type (Public or Private):	Private
Construction Date(s):	2005
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include total green roof area, intensive or extensive design, soil media depth):

Planter boxes, 1-foot deep, grass

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Drainage Layer	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Irrigation System (if used)	square feet		
Mulch	cubic feet		
Outlet Drain	per unit		
Perennials (if used)	square feet		
Root Barrier (if used)	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Waterproof Membrane	square feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Green Roof	square feet	$25	2,500 sf
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Green Roof Cost Request Form

City/County/Company Name:	Private Owner
Contact Name:	Seattle Green Roof Inventory
Contact Email:	Joel.Banslaben@seattle.gov
Contact Phone:	206-684-3936

Project Information

Project Name:	27,000+ sf green roof in Seattle
Project Type (Public or Private):	Private
Construction Date(s):	2006
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include total green roof area, intensive or extensive design, soil media depth):

Intensive, planters, 12" media depth

Grasses, perennials, sedums

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Drainage Layer	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Irrigation System (if used)	square feet		
Mulch	cubic feet		
Outlet Drain	per unit		
Perennials (if used)	square feet		
Root Barrier (if used)	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Waterproof Membrane	square feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Green Roof	square feet	$100	27,000+ sf, roof deck with lots of amenities, outlier?
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Green Roof Cost Request Form

City/County/Company Name:	Private Owner
Contact Name:	Bellingham Green Roof Case Studies
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	Lightcatcher Museum Green Roof
Project Type (Public or Private):	Private
Construction Date(s):	2009
Total Project Cost:	$30,000 - 35,000 (everything installed above the roof decking)
Funding Source (if Public Project):	NA

Brief Project Description (include total green roof area, intensive or extensive design, soil media depth):

Information from: http://www.bellinghamgreenroofs.com/case-studies
Square Feet: 2,700
Waterproofing: single-ply "EverGaurd" TPO, 60 mil, installed by Western Roofing
Soil depth: 4" in layout, 6" at borders of mechanical structures (heat/ventilation) to allow for taller plants
Roof systems: modular flats of pre-planted vegetation from LiveRoof
Roof design: Renee LaCroix (City of Bellingham)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Drainage Layer	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Irrigation System (if used)	square feet		
Mulch	cubic feet		
Outlet Drain	per unit		
Perennials (if used)	square feet		
Root Barrier (if used)	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Waterproof Membrane	square feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Green Roof	square feet	$13	2,700 sf, assumes high end of $30,000 to 35,000 range
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Green Roof Cost Request Form

City/County/Company Name:	Private Owner
Contact Name:	Bellingham Green Roof Case Studies
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	Leppanen Green Roof
Project Type (Public or Private):	Private
Construction Date(s):	2005
Total Project Cost:	$30,000 (est.)
Funding Source (if Public Project):	NA

Brief Project Description (include total green roof area, intensive or extensive design, soil media depth):

Information from: http://www.bellinghamgreenroofs.com/case-studies
Contractor: Mallard Construction (David Leppanen)
Design: David and Teresa Leppanen
Engineering: Dipple Engineering (primary,) Bourne Engineering, Hadj Design
Plants: 25 flats of 4" pots of groundcover plants; 500 bulbs; ornamental grasses; herbs; larger plants in several pots
Soil mix: 15 yards – 75% crushed lava, 5% sand, 20% compost
Soil depth: 6 inches (avg.)
Drainage mat: J-DRain
Waterproofing: seamless single-sheet EPDM

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Drainage Layer	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Irrigation System (if used)	square feet		
Mulch	cubic feet		
Outlet Drain	per unit		
Perennials (if used)	square feet		
Root Barrier (if used)	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Waterproof Membrane	square feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Green Roof	square feet	$40	750 sf
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Green Roof Cost Request Form

City/County/Company Name:	Private Owner
Contact Name:	Seattle Green Roof Inventory
Contact Email:	Joel.Banslaben@seattle.gov
Contact Phone:	206-684-3936

Project Information

Project Name:	8,355 sf green roof in Seattle
Project Type (Public or Private):	Private
Construction Date(s):	2008
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include total green roof area, intensive or extensive design, soil media depth):

Extensive, sedum mix
Green roof consists of two components (ZeroFlor [4.5" media] and Green Grid [4" media])

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Drainage Layer	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Irrigation System (if used)	square feet		
Mulch	cubic feet		
Outlet Drain	per unit		
Perennials (if used)	square feet		
Root Barrier (if used)	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Waterproof Membrane	square feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Green Roof	square feet	$19.50	Green Grid portion of green roof
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Extra irrigation during establishment only, and as needed only on GreenGrid section.

Green Roof Cost Request Form

City/County/Company Name:	Private Owner
Contact Name:	Seattle Green Roof Inventory
Contact Email:	Joel.Banslaben@seattle.gov
Contact Phone:	206-684-3936

Project Information

Project Name:	8,355 sf green roof in Seattle
Project Type (Public or Private):	Private
Construction Date(s):	2008
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include total green roof area, intensive or extensive design, soil media depth):

Extensive, sedum mix
Green roof consists of two components (ZeroFlor [4.5" media] and Green Grid [4" media])

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Drainage Layer	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Irrigation System (if used)	square feet		
Mulch	cubic feet		
Outlet Drain	per unit		
Perennials (if used)	square feet		
Root Barrier (if used)	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Waterproof Membrane	square feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Green Roof	square feet	$22.50	ZeroFlor portion of green roof
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Extra irrigation during establishment only, and as needed only on GreenGrid section.

Green Roof Cost Request Form

City/County/Company Name:	Seattle Public Library
Contact Name:	Seattle Green Roof Inventory
Contact Email:	Joel.Banslaben@seattle.gov
Contact Phone:	206-684-3936

Project Information

Project Name:	Ballard Library
Project Type (Public or Private):	Public
Construction Date(s):	2005
Total Project Cost:	$10.6 million (for new library branch building, including the green roof)
Funding Source (if Public Project):	Libraries For All initiative

Brief Project Description (include total green roof area, intensive or extensive design, soil media depth):

Extensive green roof (20,500 sf), with viewing room open to the public. 4-6 inches of growing medium.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Drainage Layer	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Irrigation System (if used)	square feet		
Mulch	cubic feet		
Outlet Drain	per unit		
Perennials (if used)	square feet		
Root Barrier (if used)	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Waterproof Membrane	square feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Green Roof	square feet	$20	20,500 sf total
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

http://www.greenroofs.org/boston/index.php?page=ballardwin
Architect = Bohlin Cywinski Jackson
Landscape Architect = Swift & Co.
Green Roof Consultant = Rana Creek Habitat & Restoration
Builder = PCL Construction Services

Waterproofing membrane, insulation, and drainage/moisture retention elements (part of a Garden Roof® Assembly) supplied by American Hydrotech, Inc. Seamless waterproofing membrane = Monolithic Membrane 6125®EV-FR (fabric reinforced, environmental grade, 25% recycled content). Water retention/drainage/aeration element = lightweight panels of 100% recycled polyethylene, molded into retention cups and drainage channels.

Strom water runoff is filtered through the planted roof or absorbed by the site landscape. Water usage on the roof and throughout the building is conserved through devices such as a computer controlled irrigation system, low flow fixtures, sensor and timed faucets, and waterless urinals.

The roof top planting is a mix of self-sustaining, drought tolerant, indigenous grasses and sedums. While regular roof maintenance is required, the green roof was designed with mainly fescue and sedum type plants, which minimize any additional maintenance requirements.

4-to-6 inches of growing medium is used and the mix was a custom blend based on German FLL standards. It was blown onto the roof and a biodegradable coconut fiber mat helps the plants during the establishment period by reducing wind and water erosion.

Green Roof Cost Request Form

City/County/Company Name:	Weston Solutions, Inc.
Contact Name:	Arnab Bhowmick
Contact Email:	Arnab.Bhowmick@westonsolutions.com
Contact Phone:	(206) 521-7694

Project Information

Project Name:	GreenGrid® Intensive Green Roof System
Project Type (Public or Private):	Both
Construction Date(s):	2011
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include total green roof area, intensive or extensive design, soil media depth):

2'x2'x4" trays (approx. 1250) to cover 5000 sq ft.

Includes GreenGrid modules, growth media, plants (plugs planted on 6-inch on center), and a 2-ounce, non-woven geotextile root barrier lining the inside of each module.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Drainage Layer	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Irrigation System (if used)	square feet		
Mulch	cubic feet		
Outlet Drain	per unit		
Perennials (if used)	square feet		
Root Barrier (if used)	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Waterproof Membrane	square feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Green Roof	square feet	$13.91	5000sf GreenGrid; inc. modules, growth media, plants, geotextile, and delivery; does not inc. tax
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Assumptions for this project are as follow:
- Sales tax is not included in the cost estimate.
- Building permits, if required, will be obtained by others.
- Roof live-load limits (saturated; approximately 40 lbs/sq.ft.) have been documented by others, and a determination has been made by others that the GreenGrid green roof system will not overload the structure.
- An irrigation system (if desired) will be provided by others.

Green Roof Cost Request Form

City/County/Company Name:	City of Mukilteo
Contact Name:	Jim Niggemyer
Contact Email:	jniggemyer@ci.mukilteo.wa.us
Contact Phone:	(425) 263-8081

Project Information

Project Name:	Mukilteo City Hall
Project Type (Public or Private):	Public
Construction Date(s):	2008
Total Project Cost:	$6.9 million total cost
Funding Source (if Public Project):	NA

Brief Project Description (include total green roof area, intensive or extensive design, soil media depth):

2,700 sf steep pitched roof

Project also included the following BMPs; however, the costs for these BMPs could not be broken out separately:

- Bioretention
- Grassed Swale
- Porous Pavement
- Wet Pond

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Drainage Layer	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Irrigation System (if used)	square feet		
Mulch	cubic feet		
Outlet Drain	per unit		
Perennials (if used)	square feet		
Root Barrier (if used)	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Waterproof Membrane	square feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Green Roof	square feet	$10	2,700 sf, doesn't include supporting roof structure
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

The structure to support the roof was designed to support the green roof and is not included in this cost. This cost does not reflect the additional ongoing maintenance costs of this roof. The roof requires weeding and irrigation.

Green Roof Cost Request Form

City/County/Company Name: Swanson Bark & Wood Products
Contact Name: Willie Palmer
Contact Email: willie@swansonbark.com
Contact Phone: (800) 762-2319

Project Information

Project Name: Roof-lite Media
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include total green roof area, intensive or extensive design, soil media depth):

Certified Green Roof media (intensive, semi-intensive, and extensive)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Drainage Layer	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Irrigation System (if used)	square feet		
Mulch	cubic feet		
Outlet Drain	per unit		
Perennials (if used)	square feet		
Root Barrier (if used)	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet	$3.30	Average cost for Rooflite media (2 CY super sacks); does not inc. trucking cost ($650)
Waterproof Membrane	square feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Green Roof	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Rooflite extensive packaged in 2 yard super sacks - $90.40 per yard
Rooflite semi intensive packaged in 2 yard super sacks - $89.55 per yard
Rooflite intensive packaged in 2 yard super sacks - $88.95 per yard

Rooflite extensive bulk - $62.55 per yard
Rooflite semi intensive bulk - $61.70 per yard
Rooflite intensive bulk -$61.10 per yard

Trucking into Seattle – approximately $650 per truck

Green Roof Cost Request Form

City/County/Company Name:	City of Seattle
Contact Name:	Seattle Green Roof Inventory
Contact Email:	Joel.Banslaben@seattle.gov
Contact Phone:	206-684-3936

Project Information

Project Name:	Seattle Justice Center
Project Type (Public or Private):	Public
Construction Date(s):	2004
Total Project Cost:	$91,350,000 total cost (excluding land costs)
Funding Source (if Public Project):	NA

Brief Project Description (include total green roof area, intensive or extensive design, soil media depth):

Extensive green roof (8,500 sf), 6 inches of growing medium.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Drainage Layer	square feet		
Grass	square feet		
Gravel (if used)	cubic feet		
Irrigation System (if used)	square feet		
Mulch	cubic feet		
Outlet Drain	per unit		
Perennials (if used)	square feet		
Root Barrier (if used)	square feet		
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet		
Waterproof Membrane	square feet		
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Green Roof	square feet	$19.25	8,500 sf total
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

http://www.greenroofs.com/projects/pview.php?id=311
Greenroof System: American Hydrotech
Architects: NBBJ Design
Civil Engineer & Landscape Architect: SvR Design Company
Roofing Contractor: Snyder Roofing
Landscape Architect/Greenroof Designer: SvR Design Company

Multi-layered waterproofing membrane integrated with a 6" deep engineered soil support system that includes insulation and drainage/moisture retention elements, all part of a total assembly supplied by American Hydrotech. The Justice Center used a custom mixture of nitrolized pine bark, sand, pumice, nutrients and peat.

Point Reyes Creeper, Barren Strawberry, carpet bugle, bearberry cotoneaster, potentilla, sheep fescue, woolly thyme, creeping thyme and sedum stonecrop. Some of the plants had to be replaced perhaps due to the fact there was initially not enough watering for establishment - the roof was retrofitted with drip irrigation after the fact.

Peter Steinbrueck, reporting for The Seattle Times on January 13, 2005 says the city's initial investment is paying off - "A 2003 study, commissioned by Seattle's Office of Sustainability and the Environment, revealed the Justice Center is saving as much as $148,000 each year due to its green roof."

Green Roof Cost Request Form

City/County/Company Name:	The Garland Company
Contact Name:	Greg Carothers
Contact Email:	gcarothers@garlandind.com
Contact Phone:	253-929-9089

Project Information

Project Name:	Extensive Green Roof
Project Type (Public or Private):	Both
Construction Date(s):	2011
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include total green roof area, intensive or extensive design, soil media depth):

Evergreen State College (Extensive Green roof with 3 ply modified in Hot. 30 year warranty 24,000 sq ft)
Puget Sound Energy Factoria (Extensive Green roof with 3 ply modified in hot. 30 year warranty 18,000 sq ft)
Jones and Jones Architecture building for Bellevue Parks Dept. (Extensive Green Roof with 3 ply modified in hot 30 year warranty 1,200 sq ft)
Harrison Medical Center Bremerton (Extensive Green Roof with 3 ply modified Torch Applied. 30 year warranty 5,000 sq ft)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Drainage Layer	square feet	$3.00	
Grass	square feet		
Gravel (if used)	cubic feet	$1.20	1-1/2 washed for perimeters
Irrigation System (if used)	square feet		
Mulch	cubic feet		
Outlet Drain	per unit		
Perennials (if used)	square feet		
Root Barrier (if used)	square feet	$2.20	
Small Trees (if used)	square feet		
Soil/Planting Media	cubic feet	$10.00	Pre-Engineered soil for lighter fully saturated loads
Waterproof Membrane	square feet	$9, 14	Low, high cost (dependent upon performance, warranty, access, etc.)
Woody Shrubs (if used)	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Green Roof	square feet	$23, 30	Low, high cost (dependent on how extensive the roof garden is)
Design	square feet		Garland Services are included with material purchase
Annual O&M (if known)	square feet	$0.10	Dependent upon water schedule, plant maintenance, etc

Additional Notes or Information

The Garland Roofing company is a high performance roofing company based in Cleveland OH. We have 5 regional salesman throughout the State of Washington to help with any roofing needs. Our typical application for a green roof would be one of our many combinations of modified inner ply sheets and cap sheets. A 3 ply system is our most predominantly used arrangement since we believe in redundant water protection below the growth media. Once the soil is on the roof it is very difficult to detect and repair leaks if they happen so we look to provide the most "bullet proof" waterproofing system possible so it is a non issue in the future. We provide many services at no cost with our projects that include: 1) Initial building evaluation 2) Product recommendations and budgets 3) Specification and drawing package development 4) Assistance with bid walks and pre-construction meetings 5) Weekly job site inspections 6) Final close out with the issue of a typical Garland 30 year water tight warranty. Garland also is part of U.S. Communities group purchasing co-op which proves to be a very successful procurement option for public work. This meets all state RCW and bid laws.

Infiltration Trenches

Infiltration Trench Cost Request Form

City/County/Company Name:	City of Lacey
Contact Name:	Doug Christenson
Contact Email:	dchriste@ci.lacey.wa.us
Contact Phone:	360-438-2686

Project Information

Project Name:	2011 Street Overlay Project
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

Project included a stormwater component (drywells)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Excavation	cubic feet	$0.89	Extra excavation inc. haul
Filter Fabric	square feet		
Grading/finishing	square feet		
Grass (if used)	square feet		
Gravel	cubic feet	$1.68	Backfill for drywells, assumes 1.4 TN/CY
Mulch (if used)	cubic feet		
Observation Well	feet		
Perennials (if used)	square feet		
Soil/Planting Media (if used)	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Infiltration Trench	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Gravel backfill for dry wells = $32.40/TN
Excavation = $24/CY (extra excavation including haul)

Infiltration Trench Cost Request Form

City/County/Company Name:	City of Lacey
Contact Name:	Doug Christenson
Contact Email:	dchriste@ci.lacey.wa.us
Contact Phone:	360-438-2686

Project Information

Project Name:	Carpenter Road Reconstruction
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

Infiltration Gallery (60 inch, 230 LF)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Excavation	cubic feet	$0.44	Assumes equiv. to pond excavation inc. haul
Filter Fabric	square feet		
Grading/finishing	square feet		
Grass (if used)	square feet		
Gravel	cubic feet		
Mulch (if used)	cubic feet		
Observation Well	feet		
Perennials (if used)	square feet		
Soil/Planting Media (if used)	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Infiltration Trench	square feet	$101.40	Infiltration Gallery - 60 Inch, 230 LF
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Infiltration Gallery = $116,610 per 1,150 SF

Excavation = $11.75/CY (assumes pond excavation inc. haul)

Infiltration Trench Cost Request Form

City/County/Company Name:	Thurston County
Contact Name:	Scott Lindblom
Contact Email:	lindbls@co.thurston.wa.us
Contact Phone:	360-786-5133

Project Information

Project Name:	Evergreen Terrace Phase 1
Project Type (Public or Private):	Public
Construction Date(s):	2008
Total Project Cost:	$365,586
Funding Source (if Public Project):	Stormwater Utility Funding

Brief Project Description (include number and types of BMPs installed):

Stormwater retrofit project to reduce recurrent localized flooding in neighborhood caused by failing drywells. Major project components included traffic control, 7 new CBs, 610 lf of 12" storm pipe, stormwater treatment. Additional runoff treatment beyond pretreatment was required due to sensitive aquifer.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Excavation	cubic feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Grass (if used)	square feet		
Gravel	cubic feet		
Mulch (if used)	cubic feet		
Observation Well	feet		
Perennials (if used)	square feet		
Soil/Planting Media (if used)	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Infiltration Trench	square feet	$73.71	Infiltration gallery (5' diam.), washed rock, rebuild paved roadway
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Costs from project completed in 2008. 10' deep excavation, entire roadway width, 136' long. Includes washed rock backfill, three 5' diameter perf CMP, rebuilding roadway. Does NOT include the Stormfilter Treatment system ($100,233), catch basins, or conveyance leading to Stormfilter/gallery. Costs also do NOT include mobilization, design, inspection, permits, traffic control, erosion/sediment control, removal of structures/obstructions, trimming and cleanup.

Infiltration Trench Cost Request Form

City/County/Company Name:	Thurston County
Contact Name:	Scott Lindblom
Contact Email:	lindbls@co.thurston.wa.us
Contact Phone:	360-786-5133

Project Information

Project Name:	Hawaiian Court Stormwater Improvements
Project Type (Public or Private):	Public
Construction Date(s):	2005
Total Project Cost:	$174,380
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

Project involved removing existing storm drain system and installing new catch basins, a treatment device, and a storage/disposal gallery. Storage/disposal gallery cost provided as a lump sum cost.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Backfilling	cubic feet		
Excavation	cubic feet	$0.39	Structure excavation Class B inc. haul
Filter Fabric	square feet		
Grading/finishing	square feet		
Grass (if used)	square feet	$0.25	Seeding cost
Gravel	cubic feet	$0.62	1 1/2" washed drain rock, assumes 1.4 TN/CY
Mulch (if used)	cubic feet		
Observation Well	feet		
Perennials (if used)	square feet		
Soil/Planting Media (if used)	cubic feet		
Infiltration Gallery	each	$51,440	60-Inch Perf. Alum. Steel 14 GA Pipe w/risers

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Infiltration Trench	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

1 1/2" washed drain rock = $12/TN
Excavation (structure class B inc. haul) = $10.40/CY
Seeding = $11,000/acre

Porous Pavement

Porous Pavement Cost Request Form

City/County/Company Name:	ACF West
Contact Name:	Don Pugh
Contact Email:	don@acfwest.com
Contact Phone:	(425) 415-6115

Project Information

Project Name:	Grassy Pavers
Project Type (Public or Private):	Various
Construction Date(s):	2011
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet	$2.25	Grassy Pavers
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous Pavement Cost Request Form

City/County/Company Name:	City of Auburn
Contact Name:	Jacob Sweeting
Contact Email:	jsweeting@auburnwa.gov
Contact Phone:	253-804-5059

Project Information

Project Name:	West Valley Highway Improvements
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	NA

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

6750 sf pervious cement concrete sidewalk

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	square feet		
Filter Fabric	square feet	$0.87	
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet	$3.90	6,750 sf pervious concrete sidewalk
Underdrain Pipe	feet	$40	8-inch diameter

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous pavement cost provided as $35/SY
Filter fabric = $7.80/SY

Porous Pavement Cost Request Form

City/County/Company Name:	Backstrom Curb & Sidewalk, Inc
Contact Name:	Don Backstrom
Contact Email:	don@backstromconcrete.com
Contact Phone:	360.403.4866

Project Information

Project Name:	Porous concrete sidewalk (4" thick)
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

4" thick porous concrete sidewalk

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet		
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet	$3.95, 4.60	Low, high, 4" porous concrete sidewalk
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous Pavement Cost Request Form

City/County/Company Name:	Backstrom Curb & Sidewalk, Inc
Contact Name:	Don Backstrom
Contact Email:	don@backstromconcrete.com
Contact Phone:	360.403.4866

Project Information

Project Name:	Wilson Toyota, Mercedes
Project Type (Public or Private):	Private
Construction Date(s):	2009
Total Project Cost:	$568,000 (pervious concrete only)
Funding Source (if Public Project):	

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

Porous concrete pavement in substitution of conventional storm system. Just shy of 2.5 acres of porous pavement. We created the design specifications to suit the clients aesthetic desires.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet		
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet	$5.28	6" and 8" thick porous concrete
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous Pavement Cost Request Form

City/County/Company Name:	City of Bellingham
Contact Name:	William M. Reilly
Contact Email:	wreilly@cob.org
Contact Phone:	360-778-7955

Project Information

Project Name:	Northshore Water Quality EV-78
Project Type (Public or Private):	Public
Construction Date(s):	2009 (June to Sept.)
Total Project Cost:	$538,264 (Cost for stormwater facility elements)
Funding Source (if Public Project):	SSWU, Street Fund

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

Project was for creation of sidewalks and bike lanes adjacent to an existing arterial. Project added pervious sidewalks and pervious bike lanes and configured them to receive total runoff from the roadway. Below sidewalk and bike lanes a sand filtration system was constructed with underdrains and encapulated within filter fabric. Approximately 1 foot of space was left below the underdrain for infiltration into very tight soil. Short term infiltration rate of a approximately 0.1 inches per hour. A drainage area of approximately 9.3 acres including 1.83 acres of arterial street drains to a pervious area of 0.76 acres. To date there has been no outflow from the system. The entire area infiltrates to ground.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet	$0.67	1100 cy @ $18/cy incl. haul
Filter Fabric	square feet		Included with underdrain
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		Included with underdrain
Gravel (reservoir course)	cubic feet		Included with underdrain
Observation Well	feet		
Porous Pavement Material	square feet	$7.10	Average (1400sy 4in @$62/sy, 2300sy 8in @$65/sy)
Underdrain Pipe	feet	$14	6,600 lf in place with rock and fabric

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet	$10.47	Pavement (33,300 SF) + underlying sand filter + excav
Design	square feet	$1.09	Portion of design cost for pavement/filter
Annual O&M (if known)	square feet		

Additional Notes or Information

Design cost is portion attributable to stormwater of $36,457/by 33,300 sf of pervious pavement. Likewise Porous Pavement cost based on $348,630/33,300.

Porous Pavement Cost Request Form

City/County/Company Name:	Hastings Pavement Company, Inc.
Contact Name:	Kevin Earley
Contact Email:	kearley@nicolock.com
Contact Phone:	(631) 774-6431

Project Information

Project Name:	Hastings Checker Block®
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

CHECKER BLOCK - POROUS OPEN CELLED GRID PAVER, MANUFACTURED IN CALIFORNIA.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet	$3.50, 4.50	Low, high cost, depends on size of project, Open Celled Grid Pavers
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet	$7.50, 15	Low, high cost, installation of Open Celled Grid Pavers
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Hastings Pavement Company is a Manufacturer of Checker Block ONLY. The cost information for other materials along with design and installation is not in our control. From our experience, **installed open-celled grid projects in general cost between $7.50 and $15.00/SF**. There are many variables including design requirements, stormwater objectives, subgrade conditions, traffic loading, labor costs, aggregate availability and costs, edge restraint requirements, etc.

Porous Pavement Cost Request Form

City/County/Company Name:	City of Issaquah
Contact Name:	Kerry Ritland, PE
Contact Email:	KerryR@ci.issaquah.wa.us
Contact Phone:	(425) 837-3410

Project Information

Project Name:	Central Park Lot
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	$510,651
Funding Source (if Public Project):	$316,500 Department of Ecology LID grant

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

62,000 square foot pervious asphalt parking lot with an 8000 sf rain garden (for overflow)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	square feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet		
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet	$2.37	62,000 sf pervious asphalt parking lot
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Pervious asphalt cost provided as $89/TN for a total cost of $146,850

Porous Pavement Cost Request Form

City/County/Company Name:	Mutual Materials
Contact Name:	Dave Parisi
Contact Email:	DParisi@mutualmaterials.com
Contact Phone:	(425) 452-2359

Project Information

Project Name:	Eco Priora Pavers
Project Type (Public or Private):	Both
Construction Date(s):	2010
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

Eco Priora concrete pavers (ADA-approved, low bevel lip, flat areas, 3 1/8" thick)
Typ. No. 8 aggregate in openings
1.5 to 2" thick bedding course (Typ. No. 8 aggregate) - cost not included
4" thick No. 57 stone open graded base
Min. 6" thick No. 2 stone subbase
Optional geotextile on bottom and sides of open-graded base

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet	$2.46	Eco Priora pavers, does not inc. underlying materials
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous Pavement Cost Request Form

City/County/Company Name:	NW Linings
Contact Name:	Tony Bond
Contact Email:	tonyb@northwestlinings.com
Contact Phone:	(206) 851-6326

Project Information

Project Name:	Hamilton Middle School – Seattle School District (Grasspave2)
Project Type (Public or Private):	
Construction Date(s):	May 2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

Cost range provided for filter fabric ($0.65 - 0.68/SY).
Cost range provided for porous pavement ($2.05 - 2.15/SF).

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Filter Fabric	square feet	$0.07	PermeaTex 4045 (4.5oz Non-Woven Geotextile), average of range provided
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet	$2.10	Grasspave2, average of range provided ($2.05 - 2.15)
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Additional projects in WA: University of Puget Sound Commencement Walk – Tacoma, WA – currently under construction – GrassPave2 installation
Denny/Chief Sealth School – Seattle, WA – currently scheduled for install Sept. 2011 – GrassPave2 installation
High Point Phase 2 Parks – Seattle Housing Authority – Seattle, WA – currently scheduled for install fall 2011 – GrassPave2 installation
Pierce College – Puyallup, WA – installed June 2010, GrassPave2
Machias Elementary School – Snohomish School District – installed June 2011, GrassPave2
Tacoma Rescue Mission – Tacoma, WA – installed July 2011, GrassPave2

Porous Pavement Cost Request Form

City/County/Company Name:	NW Linings
Contact Name:	Tony Bond
Contact Email:	tonyb@northwestlinings.com
Contact Phone:	(206) 851-6326

Project Information

Project Name:	Rainier Vista – Seattle Housing Authority (Gravelpave2)
Project Type (Public or Private):	
Construction Date(s):	Sept. 2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

Cost range provided for filter fabric ($0.75 - 0.78/SY).
Cost range provided for porous pavement ($3.05 - 3.15/SF).

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Filter Fabric	square feet	$0.09	PermeaTex 4060 (6oz Non-Woven Geotextile), average of range provided
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet	$3.10	Gravelpave2, average of cost range provided ($3.05 - 3.15)
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous Pavement Cost Request Form

City/County/Company Name:	Pierce County
Contact Name:	Dawn Anderson
Contact Email:	danders@co.pierce.wa.us
Contact Phone:	253-798-4671

Project Information

Project Name:	139th St E Cul-de-Sac
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	$348,652
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

Existing cul-de-sac replaced with 15,444 sf of porous concrete

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet	$1.19	Parking lot excavation, including haul
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet	$1.49	2" leveling course for porous concrete
Gravel (reservoir course)	cubic feet	$1.04	11" minimum base course for porous concrete
Observation Well	feet		
Porous Pavement Material	square feet	$5.22	1,716 SY of porous concrete (7" depth)
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet	$8.41	Inc. excavation, porous concrete, reservoir, & leveling course
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Excavation - $32/CY
Porous concrete pavement = $47/SY
Gravel base = $20/TN
Gravel leveling course = $34/TN

Porous Pavement Cost Request Form

City/County/Company Name:	Pierce County
Contact Name:	Dawn Anderson
Contact Email:	danders@co.pierce.wa.us
Contact Phone:	253-798-4671

Project Information

Project Name:	Sprinker Parking Lot LID - Phase 2
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	$1.25 million ($1.7 million for Phase 1 and 2)
Funding Source (if Public Project):	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1)

Brief Project Description (include number and types of BMPs installed):

90,500 sf of impervious area converted to 48,500 sf porous concrete and 42,000 sf porous asphalt (Phase 1 and 2)
12,200 sf of impervious area converted to 3 bioretention areas (~ 600 plants)
305 sf recycled rubber sidewalk

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet	$0.43	Parking lot excavation, including haul
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet	$0.90	7" gravel base and 6" leveling course for porous asphalt
Observation Well	feet		
Porous Pavement Material	square feet	$1.27	4,645 SY of porous asphalt (3" depth)
Underdrain Pipe	feet	$6.25	4" perforated pipe
Drainage Sand	cubic feet	$1.31	2" of drainage sand below reservoir course

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet	$3.18	Inc. excavation, porous asphalt, drainage sand, reservoir, & leveling course
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Excavation - $11.60/CY
Porous asphalt pavement = $11.40/SY
Drainage sand = $35.50/CY
Gravel base = $24.40/CY

Porous Pavement Cost Request Form

City/County/Company Name:	Pierce County
Contact Name:	Dawn Anderson
Contact Email:	danders@co.pierce.wa.us
Contact Phone:	253-798-4671

Project Information

Project Name:	Sprinker Parking Lot LID - Phase 2
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	$1.25 million ($1.7 million for Phase 1 and 2)
Funding Source (if Public Project):	$1 million Department of Ecology LID grant ($115,000 grant for Phase 1)

Brief Project Description (include number and types of BMPs installed):

90,500 sf of impervious area converted to 48,500 sf porous concrete and 42,000 sf porous asphalt (Phase 1 and 2)
12,200 sf of impervious area converted to 3 bioretention areas (~ 600 plants)
305 sf recycled rubber sidewalk

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet	$0.43	Parking lot excavation, including haul
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet	$0.90	7" gravel base and 2" leveling course for porous concrete
Observation Well	feet		
Porous Pavement Material	square feet	$3.63	5,380 SY of porous concrete (7" depth)
Underdrain Pipe	feet		
Drainage Sand	cubic feet	$1.31	2" of drainage sand below reservoir course

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet	$5.24	Inc. excavation, porous concrete, drainage sand, reservoir, & leveling course
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Excavation - $11.60/CY
Porous concrete pavement = $32.69/SY
Drainage sand = $35.50/CY
Gravel base = $24.40/CY

Porous Pavement Cost Request Form

City/County/Company Name:	Port of Anacortes
Contact Name:	Connie Thoman
Contact Email:	connie@portofanacortes.com
Contact Phone:	(360) 299-1818

Project Information

Project Name:	O Avenue
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	$245,000 (total project cost)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

Pervious paving and 4 rain gardens (850 sf total) with artistic watering can downspout connections

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	square feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet		
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet	$69.60	Assumes 2,500 sf permeable pavers, inc. underlying material
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Pervious paving - $174,000
Rain Gardens (4) – $29,000
Watering cans and downspouts (4) – $42,000.

Porous Pavement Cost Request Form

City/County/Company Name:	City of Poulsbo
Contact Name:	Jim Groh
Contact Email:	jgroh@cityofpoulsbo.com
Contact Phone:	360.779.4078

Project Information

Project Name:	Caldart Ave. Improvements Project
Project Type (Public or Private):	Public
Construction Date(s):	2006
Total Project Cost:	Approx. $1 million
Funding Source (if Public Project):	$263,000 Department of Ecology LID Grant

Brief Project Description (include number and types of BMPs installed):

The purpose of the 2006 Caldart Ave. Improvements Project was to improve traffic and pedestrian safety on a 1/3 mile segment of Caldart Avenue in Poulsbo. Several LID elements were included in the project design - they consist of approximately 2,200 feet of new 5 feet wide porous concrete sidewalks, 800 feet of bioretention swales, and a traffic island bioretention cell. ACE Paving Co., of Bremerton, WA installed all of the LID elements including both the pervious concrete sidewalks and bioretention cells.

$21,459 for 8,595 SF of porous concrete sidewalk

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	square feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet	$2.50	Porous concrete sidewalk (8,595 SF)
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous Pavement Cost Request Form

City/County/Company Name:	City of Poulsbo
Contact Name:	Jim Groh
Contact Email:	jgroh@cityofpoulsbo.com
Contact Phone:	360.779.4078

Project Information

Project Name:	Mesford Pervious Sidewalk and Parking Lane Project
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	$400,000
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

This project was completed in 2010 and included construction of a 9' wide sidewalk, paved parallel parking and new pavement on the existing road. Low Impact Development (LID) techniques were used to handle storm water, including pervious concrete and pervious asphalt.

Received bids for porous concrete and porous asphalt sidewalk alternatives (10,035 SF). Also installed 9,000 SF of porous asphalt parking.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	square feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet	$2.33	Porous asphalt parking (9,000 SF)
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous Pavement Cost Request Form

City/County/Company Name:	City of Poulsbo
Contact Name:	Jim Groh
Contact Email:	jgroh@cityofpoulsbo.com
Contact Phone:	360.779.4078

Project Information

Project Name:	Mesford Pervious Sidewalk and Parking Lane Project
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	$400,000
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

This project was completed in 2010 and included construction of a 9' wide sidewalk, paved parallel parking and new pavement on the existing road. Low Impact Development (LID) techniques were used to handle storm water, including pervious concrete and pervious asphalt.

Received bids for porous concrete and porous asphalt sidewalk alternatives (10,035 SF). Also installed 9,000 SF of porous asphalt parking.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	square feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet	$1.94	Porous asphalt sidewalk (10,035 SF)
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous Pavement Cost Request Form

City/County/Company Name:	City of Poulsbo
Contact Name:	Jim Groh
Contact Email:	jgroh@cityofpoulsbo.com
Contact Phone:	360.779.4078

Project Information

Project Name:	Mesford Pervious Sidewalk and Parking Lane Project
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	$400,000
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

This project was completed in 2010 and included construction of a 9' wide sidewalk, paved parallel parking and new pavement on the existing road. Low Impact Development (LID) techniques were used to handle storm water, including pervious concrete and pervious asphalt.

Received bids for porous concrete and porous asphalt sidewalk alternatives (10,035 SF). Also installed 9,000 SF of porous asphalt parking.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	square feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet	$4.33	Porous concrete sidewalk (10,035 SF)
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous Pavement Cost Request Form

City/County/Company Name:	City of Redmond
Contact Name:	Andy Rheaume
Contact Email:	AJRHEAUME@redmond.gov
Contact Phone:	425-556-2741

Project Information

Project Name:	185th Ave NE Extension
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	$747,168 (includes monitoring); $33,576 design cost; $513,301 construction and CM
Funding Source (if Public Project):	$500,000 Department of Ecology LID grant

Brief Project Description (include number and types of BMPs installed):

Green stormwater infrastructure (570 linear feet of bioretention swales and 6,840 square feet of porous concrete sidewalk) as part of the 185th Avenue NE Extension project.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	square feet	$0.19	Based on $5/CY
Filter Fabric	square feet	$1.11	
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet	$3.62	6,840 sf porous concrete sidewalk
Underdrain Pipe	feet	$9.75	6- or 8-inch pipe

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous pavement cost provided as $32.55/SY
Gravel backfill around underdrain = $46.50/CY
Geomembrane = $10/SY

Porous Pavement Cost Request Form

City/County/Company Name:	City of Redmond
Contact Name:	Andy Rheaume
Contact Email:	AJRHEAUME@redmond.gov
Contact Phone:	425-556-2741

Project Information

Project Name:	Bear Creek Park WQ Facility
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	$442,127
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed):

This project includes construction of a stormwater wetland (4,400 sf) and associated piping and planting; construction of a concrete block retaining wall; stream buffer mitigation; tree replacement, installation of short soft-surface interpretative trail; and replacement of asphalt pedestrian/biking trail with porous pavement (7,800 sf).

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	square feet	$1.10	Removal of existing trail
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet	$3.40	Porous pavement base course (6" deep)
Observation Well	feet		
Porous Pavement Material	square feet	$4.52	7,800 sf porous asphalt (HMA)
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet	$7.32	7,800 sf porous asphalt (HMA), 6" base course, removal of existing trail
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous pavement (HMA) = $125/TN or $35,350
Porous pavement base course = $38.35/TN or $13,269.10
Removal of existing trail = $8,600

Porous Pavement Cost Request Form

City/County/Company Name:	Seattle Public Utilities
Contact Name:	Emiko Takahashi
Contact Email:	emiko.takahashi@seattle.gov
Contact Phone:	(206) 615-1695

Project Information

Project Name:	Ballard Green Alleys
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

Porous concrete (4-foot wide strip)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet		
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet	$33	134 LF x 4 ft wide porous pavement
Design	square feet	$29.70	Soft costs (90% of construction costs)
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous Pavement Cost Request Form

City/County/Company Name:	Seattle Public Utilities
Contact Name:	Emiko Takahashi
Contact Email:	emiko.takahashi@seattle.gov
Contact Phone:	(206) 615-1695

Project Information

Project Name:	Green Alleys
Project Type (Public or Private):	Public
Construction Date(s):	2010
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

Porous concrete (4-foot wide strip)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet		
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet	$26	Construction cost
Design	square feet	$23.40	Soft costs (90% of construction costs)
Annual O&M (if known)	square feet	$0.02	

Additional Notes or Information

SPU's estimate per square foot mitigated is $6.50 (assumes 25% sizing factor, total cost per SF is $26). This cost is higher than costs in other jurisdiction for a number of reasons. First, construction in the geographical area of Seattle is very expensive. In addition, traffic management, labor and mobilization costs and natural resources/ materials are high. Second, the designs are complex since alleys are narrow, space is very tight, and the porous pavement must meet two criteria: the ability to be swept by regenerative sweepers and also perform in conveying stormwater.

Porous Pavement Cost Request Form

City/County/Company Name:	Stoneway Concrete
Contact Name:	Mike Weeks
Contact Email:	mweeks@stonewayconcrete.com
Contact Phone:	425-226-1000 x 3314

Project Information

Project Name:	Many projects over 10 years
Project Type (Public or Private):	Both
Construction Date(s):	2002 to present
Total Project Cost:	
Funding Source (if Public Project):	Fed, state, city, county, and private work

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

We are a concrete material supplier in central King County. We have supplied thousands of cubic yards of pervious concrete over the last 10 years in our market. Many projects for cities, parks, DOT's, housing authorities, schools, and private projects. We do not place or finish concrete, we only supply to contractors who do the actual placement.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	cubic yard	$125	Delivered to job site in mixer; cost provided in CY, not SF
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet	$1.75	Labor and equipment and plastic; 20,000 to 75,000 SF project
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Stoneway Concrete mix EPC is designed for void contents of 15 to 25%. Actual in-place void content is dependant on placement methods and the work of others. The pervious material is per ACI 522. Our material includes a micro fiber and hydration stabilizer. Price includes these items and Environmental compliance. Addition items such as cold or hot weather placements, color, other admixtures are all additional to the $125/ CY noted above.

Porous Pavement Cost Request Form

City/County/Company Name:	Willamette Graystone
Contact Name:	NA
Contact Email:	NA
Contact Phone:	(541) 726-7667

Project Information

Project Name:	Aqua Bric Pavers
Project Type (Public or Private):	Both
Construction Date(s):	2010
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

Aqua Bric pavers (flat areas only)
2" thick bedding course
4" thick base course
Minimum 12" thick subbase

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet	$3.46	Aqua Bric pavers, does not inc. underlying materials
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Porous Pavement Cost Request Form

City/County/Company Name:	Willamette Graystone
Contact Name:	NA
Contact Email:	NA
Contact Phone:	(541) 726-7667

Project Information

Project Name:	Aqua Loc Pavers
Project Type (Public or Private):	Both
Construction Date(s):	2010
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include type of porous pavement installed [asphalt, concrete, pavers, open-celled grid]):

Aqua Loc pavers (flat areas only)
2" thick bedding course
4" thick base course
Minimum 12" thick subbase

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Filter Fabric	square feet		
Grading/finishing	square feet		
Gravel (filter course)	cubic feet		
Gravel (reservoir course)	cubic feet		
Observation Well	feet		
Porous Pavement Material	square feet	$3.53	Aqua Loc pavers, does not inc. underlying materials
Underdrain Pipe	feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Porous Pavement	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Rain Barrels

Rain Barrel Cost Request Form

City/County/Company Name:	Aaron's Rain Barrels
Contact Name:	NA
Contact Email:	rainbarrel@gmail.com
Contact Phone:	978.790.1816

Project Information

Project Name:	Standard Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Made from 20 pounds of thick 100% recycled food grade plastic.
Dimensions: 36" (high) X 23" (wide)
Color: Cool White – (Paintable)
Comes with a Universal Down Spout Adapter for direct connection to any gutter.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$150	Free shipping, inc. gutter connection, 58 gallons
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Aquabarrel Rain Barrel
Contact Name:	NA
Contact Email:	orders@Aquabarrel.com
Contact Phone:	301-253-8855

Project Information

Project Name:	Classic Aquabarrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

55-gallon pre-drilled plastic barrel
Includes shut off valve, 3-piece hose assembly, overflow port, downspout adapter
Purchase downspout to barrel connection separately

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$99.25	55 gallons
Gutter Connection	per unit	$18	Downspout flex pipe

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Arid Solutions
Contact Name:	NA
Contact Email:	sales1@cleanairgardening.com
Contact Phone:	505-332-9911

Project Information

Project Name:	Octagon Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Includes: brass spigot w/teflon tape, adjustable Y shut off (provides 2 hose outlets), additional garden hose outlet below spigot for connecting tanks at the bottom, 2 hose ends, plastic inlet screen screen, 2 overflow outlets,

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$148	54 gallons, does not inc. shipping ($21)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	City of Bellingham
Contact Name:	William M. Reilly
Contact Email:	wreilly@cob.org
Contact Phone:	360-778-7955

Project Information

Project Name:	Residential Stormwater Retrofit Project
Project Type (Public or Private):	Public
Construction Date(s):	2008-2011
Total Project Cost:	$74,603, barrel costs and installation only. Part of a larger grant including education, etc.
Funding Source (if Public Project):	Ecology Grant and SSWU

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

This project provided state of the art rain barrels to homes in our Lake Whatcom Watershed for flow reduction and to homes that had roof leaders tied into our sanitary sewer system. 152 homes were served with the grant which included installation of 95 gallon corner rain barrels and all necessary plumbing. Water is slowly let out through an orifaced dispersal system during the winter and water can be stored in summer for reuse. A total of 305 barrels were installed to derive this record.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$197.94	95 gal brl,incl msqto scr., spgts & overflow
Gutter Connection	per unit	$25.43	Connections, dispersal system, foundation
Installation Labor	per unit	$21.23	Labor at $12/hr, each barrel requires approx. 1.77 hrs for installation

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Cypress Designs
Contact Name:	NA
Contact Email:	info@cypressdesigns.com
Contact Phone:	360-224-1544

Project Information

Project Name:	Freewater Rain Collection System
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Polyethylene, includes self-cleaning filter assembly and hose adaptor, manufactured in Bellingham, sold through hardwaresales.com

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$240, 340	Low (50 gal.), high (95 gal.), free shipping
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Eagle Peak Containers, Inc.
Contact Name:	NA
Contact Email:	eaglepeak@cda.twcbc.com
Contact Phone:	208-683-2618

Project Information

Project Name:	Rain Collection Barrels
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Recycled and Reconditioned used Food Grade Poly Barrel.

Low price = barrel only, with 1 Spigot
Mid price = barrel only, with 2 Spigots
High price = barrel with Complete water Collection System & 2 Spigots, Barrel Modification, Drop in Basket Screen and Down Spout Adapter.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$24.50, 36.50, 73.50	Low, mid, high; 50-55 gallon; does not inc. shipping ($32-60)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

50-gallon drums can ship USPS for $32 each
55-gallon drums must ship FedEx for $60 each

Rain Barrel Cost Request Form

City/County/Company Name: Gardeners Supply Company
Contact Name: NA
Contact Email: NA
Contact Phone: 1-800-876-5520

Project Information

Project Name: Deluxe Rain Barrel
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Materials: Sturdy polyethylene with 25% recycled content
Size: 36" H x 28" diameter
Include debris screen, spigot, overflow outlet, 4' hose

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$169	75 gallon, does not inc. shipping ($45.28)
Gutter Connection	per unit	$29.95	Downspout diverter

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name: Gardeners Supply Company
Contact Name: NA
Contact Email: NA
Contact Phone: 1-800-876-5520

Project Information

Project Name: Flat-Back Rain Barrel
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Materials: Durable polyethylene with a solid brass spigot
Size: 25" W x 36" H x 19" D
Include debris screen, spigot, hose attachment

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$199	50 gallon, does not inc. shipping ($43.88)
Gutter Connection	per unit	$29.95	Downspout diverter

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name: Gardeners Supply Company
Contact Name: NA
Contact Email: NA
Contact Phone: 1-800-876-5520

Project Information

Project Name: Madison Rain Barrel
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Materials: High grade polyethylene with UV inhibitors
Size: 22" L x 19" W x 34-1/2" H; Planter is 16-1/2" L x 9-1/2" W x 8" H
Include 3' overflow hose and 4' garden hose with shut-off valve

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$199	40 gallon, does not inc. shipping ($33.88)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Gardeners Supply Company
Contact Name:	NA
Contact Email:	NA
Contact Phone:	1-800-876-5520

Project Information

Project Name:	Rainwater Urn
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Materials: UV-stabilized polyethylene
Size: 23" diameter x 33" H (50 gal.) or 20" diameter x 45-1/2" H (65 gal.)
Includes brass spigot, 4' hose (50 gal.) or 6' hose (65 gal.)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$149, 219	Low (50 gal.), High (65 gal.), does not inc. shipping ($27.88 [50 gal.] or $46.28 [65 gal.])
Gutter Connection	per unit	$29.95	Downspout diverter

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Gardeners Supply Company
Contact Name:	NA
Contact Email:	NA
Contact Phone:	1-800-876-5520

Project Information

Project Name:	Santa Fe Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Materials: UV-stable polyethylene
Size: 33-1/2" H x 20" square at top, 14" square at bottom
Includes two 2" overflow tubes in top back, debris screen, and 4' hose with shut-off valve

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$149	47 gallon, does not inc. shipping ($27.88)
Gutter Connection	per unit	$29.95	Downspout diverter

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Grady Barrels
Contact Name:	NA
Contact Email:	danny@gradybarrels.com
Contact Phone:	360-509-8361

Project Information

Project Name:	Grady Barrels
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Recycled 55 gallon food grade barrels from local companies.
Includes brass hose bib and optional overflow fitting.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$55	55-gallon, includes 3/4" faucet, does not inc. shipping
Gutter Connection	per unit	$23	Free shipping

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

We arrange frequent delivery trips. Any towns and cities located near the I-5 from Seattle down to Sacramento can receive a delivery. We can also arrange special trips to places like the Oregon Coast and Bend. A small delivery fee may be added to the cost of your rain barrel.

Rain Barrel Cost Request Form

City/County/Company Name:	Natural Rain Water
Contact Name:	NA
Contact Email:	naturalrainwater@yahoo.com
Contact Phone:	(253) 272-8173

Project Information

Project Name:	Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$85	50 gallon, does not inc. shipping ($35)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	City of Puyallup
Contact Name:	Joy Rodriguez
Contact Email:	jrodriguez@ci.puyallup.wa.us
Contact Phone:	253-841-5549

Project Information

Project Name:	Puyallup's 2011 Rain Garden Program
Project Type (Public or Private):	Public
Construction Date(s):	2011 (July and Sept.)
Total Project Cost:	$686.39
Funding Source (if Public Project):	Department of Ecology Capacity Grant

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

The 2011 Rain Garden Program included two installations with rain barrel elements. A total of 8 rain barrels where installed during this project, with much citizen interest and potential action resulting from education on this easy-to-implement LID feature.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$85	Includes 60 gal rain barrel, assembled
Gutter Connection	per unit	$2.50	Includes flex elbow
Connection/Use kit	per unit	$13	Includes overflow hose, splitter
Installation	per unit	$29	Includes cinder blocks, labor

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$129.50	Total pre-tax cost
Annual O&M (if known)	per unit		

Additional Notes or Information

For the 2011 program, 3 of the 8 rain barrels were donated by Dan Borba of Rain Water Gizmos and Gadgets (www.naturalrainwater.com). The Total Project Cost indicated on row 13 above is for 5 barrels, installed. The referenced website provides cost information as follows: Rain Barrel, 50 or 60 gal: $85; connector kit (overflow hose, splitter): $14.99.

Rain Barrel Cost Request Form

City/County/Company Name:	Rain Dance Water Barrels
Contact Name:	NA
Contact Email:	raindancebarrels@gmail.com
Contact Phone:	NA

Project Information

Project Name:	Rain Dance Water Barrels
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Each 55 gallon barrel is made from clean recycled food-grade plastic barrel and includes spigot and Watersaver system.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$85	55 gallons
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name: Rain Ready
Contact Name: NA
Contact Email: NA
Contact Phone: (360) 424-0356

Project Information

Project Name: Rain Ready Rain Barrel
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Measurements: 54" height x 42" width at base x 21" from house wall
Includes 2 faucets, debris screen, overflow cap, attachment and elbow for drain

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$189	90 gallon, pick-up near Seattle or Portland
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Rain Tank Depot
Contact Name:	NA
Contact Email:	info@tank-depot.com
Contact Phone:	866-926-5603

Project Information

Project Name:	Agua Fria Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

55 Gallons - 22 ¼" D x 33 ¾" H
Recyclable virgin resin with full UV protection.
¾" NPT drain valve (in PLUS Version)
1 ½" NPT primary overflow fitting (2" on 360 Gallon)
1 ½" NPT back up overflow / linking port
¾" NPR bucket high throttling valve (in PLUS Version)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$225	55 gallon, does not inc. shipping ($210)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Also available in the following sizes (not included on this form):
100 Gallons – 26 ¾" D x 42" H
200 Gallons - 35 ½" D x 47" H
360 Gallons - 48" D x 51 ½" H

Rain Barrel Cost Request Form

City/County/Company Name:	Rain Tank Depot
Contact Name:	NA
Contact Email:	info@tank-depot.com
Contact Phone:	866-926-5603

Project Information

Project Name:	Big Blue Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Made of durable recycled food-grade plastic resin
Includes brass spigot and inlet screen
Can be linked to other barrels for greater capacity
24" Diameter x 35" Tall

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$80	55 gallon, does not inc. shipping ($145)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Rain Tank Depot
Contact Name:	NA
Contact Email:	info@tank-depot.com
Contact Phone:	866-926-5603

Project Information

Project Name:	Cubo Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

55 Gallons - 22 1/4" D x 33 3/4" H
The Cubo is built with UV protection additive. The dark brown color helps to minimize algae growth and the built-in color pigment eliminates future paint chipping.
Fitting for drain valve (3/4" NPT fitting, single threaded, installed as close to bottom as possible
Fitting for primary overflow (1-1/2" NPT fitting, double threaded, installed as close to the top as possible

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$185	55 gallon, does not inc. shipping ($210)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Also available in the following sizes (not included on this form):
100 Gallons – 26 3/4" D x 42" H
200 Gallons – 35 ½" D x 47" H

Rain Barrel Cost Request Form

City/County/Company Name:	Rain Tank Depot
Contact Name:	NA
Contact Email:	info@tank-depot.com
Contact Phone:	866-926-5603

Project Information

Project Name:	Flat-Back Rain Collection Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Heavy duty rotational moulded construction, UV8 stabilizing package for protection from sunlight
Flat side to fit flush against wall
Shut-off valve for hose hook-up, dual overflow
Screen to keep out debris and insects
Does not include stand ($25)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$80	50 gallon, does not inc. shipping ($78)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Rain Tank Depot
Contact Name:	NA
Contact Email:	info@tank-depot.com
Contact Phone:	866-926-5603

Project Information

Project Name:	Garden Pal Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Constructed from 100% virgin UV inhibited polyethylene resin.
Includes an 8" manway ring with a 16 mesh mosquito-proof screen installed and a 3/4" male hose adapter
Size: 20"D x 38"H

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$62	55 gallon, does not inc. shipping ($15.40)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Also available in 100-gallon and 150-gallon version (not included on this form).

Rain Barrel Cost Request Form

City/County/Company Name:	Rain Tank Depot
Contact Name:	NA
Contact Email:	info@tank-depot.com
Contact Phone:	866-926-5603

Project Information

Project Name:	Nino Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

The Nino is a combination 55 gallon rain barrel and planter.
Includes a 3/4" drain valve with garden hose threads at the very bottom and an 1-1/2" hidden overflow.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$190	55 gallon, does not inc. shipping ($69)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name: Rain Tank Depot
Contact Name: NA
Contact Email: info@tank-depot.com
Contact Phone: 866-926-5603

Project Information

Project Name: Peso Rain Barrels
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

50 Gallons - 20" D x 36" H
65 Gallons - 20" D x 48" H
Materials: food grade plastic resin.
Includes screened top with Snap Ring; 2 installed welded fittings (a 3/4" Drain Valve with garden hose thread and a 1-1/2" external overflow)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$135, 145	Low (50 gal.), high (65 gal.), does not inc. shipping ($78 and $159)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Rain Tank Depot
Contact Name:	NA
Contact Email:	info@tank-depot.com
Contact Phone:	866-926-5603

Project Information

Project Name:	Rain Water Collector
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Made from recycled plastic
Wood grain effect
Includes water tap (spigot)
Stand not included ($37)

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$70	53 gallon, does not inc. shipping ($162)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

87-gallon rain barrel also available (not included on this form)

Rain Barrel Cost Request Form

City/County/Company Name:	Rain Tank Depot
Contact Name:	NA
Contact Email:	info@tank-depot.com
Contact Phone:	866-926-5603

Project Information

Project Name:	Rain Wizard Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Dimensions: 31"H x 22"D x 23"W
Made of 100% recycled plastic resin
Includes brass spigot and overflow valve

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$90	50 gallon, does not inc. shipping ($81)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

A stained model of this rain barrel is also available for $117.

Rain Barrel Cost Request Form

City/County/Company Name:	Rain Tank Depot
Contact Name:	NA
Contact Email:	info@tank-depot.com
Contact Phone:	866-926-5603

Project Information

Project Name:	Spruce Creek Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Size: 23"L x 23"W x 36"H
Materials: UV protected, durable plastic
Includes brass spigot and automatic overflow

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$165	54 gallon, does not inc. shipping ($86)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name: Rain Tank Depot
Contact Name: NA
Contact Email: info@tank-depot.com
Contact Phone: 866-926-5603

Project Information

Project Name: Villa Rain Barrels
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Made of thick food grade polyethylene resins.
Includes non-removable top with plastic basket strainers, plastic drain valves that fit a garden hose thread, 1-1/2" overflow fitting.
50-gallon size: 20"D x 36"H
55-gallon size: 22.25"D x 33.75"H
65-gallon size: 20"D x 48"H

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$105, 120, 150	Low (50 gal.), mid (65 gal.), high (55 gal.), does not inc. shipping ($210)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Also available in 100-gallon, 200-gallon, and 360-gallon sizes (not included on this form).

Rain Barrel Cost Request Form

City/County/Company Name: RainReserve
Contact Name: NA
Contact Email: NA
Contact Phone: (417) 429-1356

Project Information

Project Name: RainReserve Rain Barrel System (Oak Design)
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

The RainReserve Rain Barrel System (Oak Design) includes a plastic, wood-grain barrel and the complete RainReserve system. The rain barrel is made of recycled plastic resin in oak color, 50 gallon closed top.

The rain barrel system comes complete with the plastic, wood-grain barrel, rain diverter, 6 feet of plastic collapsible and expandable tubing, self-sealing fittings, and a high-flow spigot for attaching a soaker or garden hose. Adapter included for 3x4 downspouts.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$200	50 gallon, shipping not included
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Rainsaver Systems
Contact Name:	NA
Contact Email:	sales1@cleanairgardening.com
Contact Phone:	214-370-0530

Project Information

Project Name:	80 Gallon Rainsaver Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Base is 39 inches wide. Top is 30 inches wide. Base is 20 inches deep. Top is 15 1/2 inches deep. Assembled Rainsaver rain barrel is 55 inches tall.
Made of polyethylene
Includes tap for filling buckets or second hose, twin inlet troughs (one near either side), inlet screen

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$300	80 gallon, free shipping
Gutter Connection	per unit	$30	Garden Watersaver Downspout

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Rainwater Harvesting Systems
Contact Name:	NA
Contact Email:	info@irainharvest.com
Contact Phone:	(704) 657-0527

Project Information

Project Name:	RainPro, RainPro Plus, and RainPro Elite
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

The RainPro consists of 100% recycled materials.
The RainPro Plus is an upgraded model available in hunter green. It will blend with any landscape design, and is manufactured of 100% virgin plastic material.
The RainPro Elite model is manufactured of 100% virgin plastic material, and has the appearance of granite. It is available in two colors, sandstone and gray granite.
All units include: two solid brass spigots, overflow -manifold hose, Teflon tape, nuts bolts and washers, and built-in insect screens.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$269, 299, 329	Low (Pro), mid (Pro Plus), high (Pro Elite), free shipping
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	Seattle Conservation Corps
Contact Name:	NA
Contact Email:	NA
Contact Phone:	206-684-0190

Project Information

Project Name:	Seattle Rain Barrels
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Must be a Seattle resident to purchase rain barrels from this source.

Materials: recycled from the food industry (Greece or other Mediterranean countries)
190 liter barrels (~ 50 gallons) or 230-liter barrels (~ 60 gallons)

Includes drain valve, spigot and overflow, and mosquito screening for the lid.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$75	50-60 gallon, $15 delivery or free pick-up
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	The Green Culture
Contact Name:	NA
Contact Email:	NA
Contact Phone:	1-877-204-7332

Project Information

Project Name:	Aquaduct Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Size: 23" round and 36" tall
Material: food grade polyethylene plastic
Includes brass spigot for attaching garden hose, threaded attachment for connecting hose below spigot, automatic overflow with 6 foot hose, and double screen inlet

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$260	54 gallon, does not inc. shipping ($55)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	The Green Culture
Contact Name:	NA
Contact Email:	NA
Contact Phone:	1-877-204-7336

Project Information

Project Name:	Channel Islands Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Dimensions: 23"W x 18"D x 30" H
Materials: Made from UV Protected Polyethylene
Includes 4-ft garden hose, on/off hose valve, dual overflow on back of barrel, screened intake

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$195	47 gallon, does not inc. shipping ($45)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	The Green Culture
Contact Name:	NA
Contact Email:	NA
Contact Phone:	1-877-204-7336

Project Information

Project Name:	Flora Sherwood Rain Barrel & Planter
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

55 Gallon Rain Barrel doubles as planter
Includes 3/4 drain valve with garden hose threads and 1-1/2 hidden overflow
Size: 26" height x 26" width x 26" depth
Materials: Durable polyethelyne plastic

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$259	55 gallon, does not inc. shipping ($65)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	The Green Culture
Contact Name:	NA
Contact Email:	NA
Contact Phone:	1-877-204-7336

Project Information

Project Name:	Forester Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Size: 30 1/2"H x 22" Diameter (widest point)
Includes brass spigot and security screen

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$168	50 gallon, does not inc. shipping ($45)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name: The Green Culture
Contact Name: NA
Contact Email: NA
Contact Phone: 1-877-204-7336

Project Information

Project Name: Great American Rain Barrel
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Size: 39"H x 24" Diameter
Material: Recycled food-grade barrels
Each individual unit comes complete with threaded spigot (for easy hose attachment), overflow fitting, drain plug, screw-on cover, and complete instructions.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$166	60 gallon, does not inc. shipping ($55)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name: The Green Culture
Contact Name: NA
Contact Email: NA
Contact Phone: 1-877-204-7336

Project Information

Project Name: Mega Rain Barrel
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Size: 36"height x 27"width x 24"depth
Materials: Virgin resin
Includes reinforced screen inlets, internal overflow tube, bucket-high spigot

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$349	80 gallon, does not inc. shipping ($95)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	The Green Culture
Contact Name:	NA
Contact Email:	NA
Contact Phone:	1-877-204-7336

Project Information

Project Name:	Niagara Falls Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Size Dimensions: 22"W x 16"D x 32"H
Materials: Durable, UV-stable polyethylene
Includes removable debris screen, built-in 4-ft hose, and linking kit

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$177.50	50 gallon, does not inc. shipping ($45)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name: The Green Culture
Contact Name: NA
Contact Email: NA
Contact Phone: 1-877-204-7336

Project Information

Project Name: Ocean Breeze Rain Barrel
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Size: 24 Diam. x 35 H (inches)
Materials: recycled food-grade plastic resin
Includes brass spigot and debris screen

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$127.50	55 gallon, does not include shipping ($40)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name: The Green Culture
Contact Name: NA
Contact Email: NA
Contact Phone: 1-877-204-7336

Project Information

Project Name: Prism Rain Barrel
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Size: 30" W x 30" L x 18" H (octagonal shape)
Composition: UV stabilized polyethylene
Includes 2 adjustable hose outlets, mosquito screen, 2 overflow ports with vent holes, and brass spigot

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$295	54 gallon, does not inc. shipping ($40)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name: The Green Culture
Contact Name: NA
Contact Email: NA
Contact Phone: 1-877-204-7336

Project Information

Project Name: Shower Saver Rain Barrel
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Size: 36" high, 23" diameter
Composition: Made from UV protected, 3/16" thick polyethelyne plastic
Includes automatic overflow, brass spigot, hose converter fitting, and barrel plug

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$260	54 gallon, does not inc. shipping ($55)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name: The Green Culture
Contact Name: NA
Contact Email: NA
Contact Phone: 1-877-204-7336

Project Information

Project Name: The Rain Catcher
Project Type (Public or Private):
Construction Date(s): 2011
Total Project Cost:
Funding Source (if Public Project):

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Size: 32" H x 24" W
Composition: made from recycled materials
Strong aluminum mesh screen (non-corrosive), overflow feature draws water down and out of the bottom front of barrel

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$170	54 gallon, does not inc. shipping ($45)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Rain Barrel Cost Request Form

City/County/Company Name:	The Green Culture
Contact Name:	NA
Contact Email:	NA
Contact Phone:	1-877-204-7336

Project Information

Project Name:	Wood Grain Rain Barrel
Project Type (Public or Private):	
Construction Date(s):	2011
Total Project Cost:	
Funding Source (if Public Project):	

Brief Project Description (include number of rain barrels, storage volume, and material [polyethylene, etc.]):

Size: 33" Tall x 23" Wide x 18" Deep
Composition: UV stabilized plastic resin
Includes screen at top to keep out debris, spigot, shut off value for hose hook up, and overflow port
Optional Link Kit ($34.25) allows linkage to other barrels for increased water storage capacity.
Optional Barrel Stand ($72.90 + $20 shipping) creates larger offset between the spigot and the ground, making it easier to fill watering cans and for general use.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Rain Barrel	per unit	$215	50 gallon, does not inc. shipping ($45)
Gutter Connection	per unit		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Rain Barrel	per unit		
Annual O&M (if known)	per unit		

Additional Notes or Information

Wet Ponds

Wet Pond Cost Request Form

City/County/Company Name:	City of Bellingham
Contact Name:	William M. Reilly
Contact Email:	wreilly@cob.org
Contact Phone:	360-778-7955

Project Information

Project Name:	Northridge Sand Filter Detention Pond
Project Type (Public or Private):	Public
Construction Date(s):	2008 (August/September)
Total Project Cost:	$300,550
Funding Source (if Public Project):	SSWU

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Project converted an existing dry detention pond to a sand filter and detention pond. Sand filter used for removal of phosphorus in Lake Whatcom. Project costs include $40,000 for land to expand foot print of facility. Inlet and Outlet structures for detention reused.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet	$0.44	1,200 cy @$12/cy
Grading/finishing	square feet		
Grass	square feet	$1.11	Sod 450 sy @$10/sy
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	square feet	$21.02	14,300 sf
Design	square feet	$4.06	$58,000 total
Annual O&M (if known)	square feet		

Additional Notes or Information

Grading and planting of adjacent one acre field included in cost. It was a part of a contract with the landowner for property transaction. Estimated cost $20,000. This project was complicated by the City needing to deal with a homeowners association to trade property purchased by the City for 40 k with land immediately adjacent to the existing pond.

Wet Pond Cost Request Form

City/County/Company Name:	City of Lacey
Contact Name:	Doug Christenson
Contact Email:	dchriste@ci.lacey.wa.us
Contact Phone:	360-438-2686

Project Information

Project Name:	2011 Street Overlay Project
Project Type (Public or Private):	Public
Construction Date(s):	2011
Total Project Cost:	NA
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet	$1.30	Pond excavation inc. haul
Grading/finishing	square feet		
Grass	square feet	$0.10	Seeding, fertilizing, and mulching
Gravel	cubic feet	$6.74	Quarry spalls, assumes 1.4 TN/CY
Inlet Structure	per unit	$1,050	Catch Basin Type 1
Outlet Structure	per unit	$2,465	Catch Basin Type 2 - 48 In. Diam
Seal	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	square feet		
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Excavation = $35/CY (pond excavation including haul)
Seeding, fertilizing, and mulching = $4,400 per acre
Quarry spalls = $130/TN

Wet Pond Cost Request Form

City/County/Company Name:	Seattle Public Utilities
Contact Name:	Emiko Takahashi
Contact Email:	emiko.takahashi@seattle.gov
Contact Phone:	(206) 615-1695

Project Information

Project Name:	Norfolk - MLK Way Sub-basin Stormwater Improvements Project
Project Type (Public or Private):	Public
Construction Date(s):	2006 (report date)
Total Project Cost:	$4,424,000 (estimated)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

This cost estimate came from the Norfolk - MLK Way Sub-basin Stormwater Improvements Project Development Plan for the recommended treatment option (Treatment Option B: Construct a deep wet pond on the City-owned property west of I-5):
- 8-foot deep, 2-cell wet pond
- 7.3 acre-ft capacity
- High flow bypass

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet	$1.48	Includes excavation, haul, and disposal
Grading/finishing	square feet		
Grass	square feet	$0.21	Hydroseeding on pond slopes above WSE
Gravel	cubic feet	$2.96	Quarry spalls
Inlet Structure	per unit		
Outlet Structure	per unit	$13,500	Pond outlet (Type 204A manhole)
Seal	square feet		
Soil/Planting Media	cubic feet	$1.56	Topsoil, type A
Woody Shrubs	each	$19	Plantings at pond fringe
Bird Exclusion Netting	acre	$25,000	Over pond maximum WSE

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$10.64	Based on 317,988 CF (7.3 acre-ft)
Design	cubic feet	$0.52	Based on $165,000 consultant design cost
Annual O&M (if known)	cubic feet	$0.025	Does not include dredging (every 10-25 yrs)

Additional Notes or Information

Excavation = $40/CY
Mineral aggregate (Type 17) for maintenance access road and bottom of first pond cell = $31/CY
Quarry spalls (for erosion control spillway) = $47/TN, assumes 1.7 TN/CY
Topsoil (Type A) = $42/CY

Wet Pond Cost Request Form

City/County/Company Name:	Thurston County
Contact Name:	Scott Lindblom
Contact Email:	lindbls@co.thurston.wa.us
Contact Phone:	360-786-5133

Project Information

Project Name:	Mallard Pond Wetland Enhancement Project
Project Type (Public or Private):	Public
Construction Date(s):	2005
Total Project Cost:	$543,336
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Project increased the size of the existing stormwater pond and constructed two new ponds in the 200-foot buffer of the Mallard Pond wetlands. Existing size and capacity = 20,000sf and 91,500cf. New size and capacity = 47,000sf and 178,600cf. Added size and capacity = 27,000sf and 87,100cf.

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$6.24	87,100 cf (added capacity), inc. plantings
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet pond cost = $20.12 per SF or $6.24 per CF

Wet Pond Cost Request Form

City/County/Company Name:	Thurston County
Contact Name:	Scott Lindblom
Contact Email:	lindbls@co.thurston.wa.us
Contact Phone:	360-786-5133

Project Information

Project Name:	Thompson Place - Phase 1 - 3
Project Type (Public or Private):	Public
Construction Date(s):	2004
Total Project Cost:	$644,575
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Regional pond (37,300 cf of storage), total cost for Phases 1 - 3 is $644,575

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$17.28	37,300 cf retention pond, inc. 3 phases
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin CR-1
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $197,597
Right of Way Cost $904,100
Structure Footprint 1.69 acre
Capacity 59,044 cu ft
Impervious Area Treated 3.69 acre ($6.85/sq ft of impervious area)
Total Drainage Area 4.32 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet	$0.28	Overexcavation inc. haul
Grading/finishing	square feet		
Grass	square feet	$0.02	Seeding, fertilizing, and mulching
Gravel	cubic feet	$0.73	Quarry spalls, assumes 1.4 TN/CY
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet	$0.56	Geosynthetic clay liner
Soil/Planting Media	cubic feet	$0.30	Topsoil, Class B
Debris Cage	each	$1,250	

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$3.34	59,044 CF wet pond, does not inc. ROW cost
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Pond overexcavation inc. haul = $7.50/CY
Geosynthetic clay liner = $5/SY
Seeding, fertilizing, and mulching = $800/acre
Topsoil, Class B = $8/CY
Quarry spalls = $14.05/TN

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-10
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $ 363,478
Right of Way Cost $ 196,900
Structure Footprint 2.05 acre
Capacity 101,451 cu ft
Impervious Area Treated 3.54 acre ($3.63/sq ft of impervious area)
Total Drainage Area 8.63 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		
Dewatering	lump sum	$15,000	

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$3.58	101,451 CF wet pond, does not inc. ROW cost
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-11
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $ 230,814
Right of Way Cost $ 129,800
Structure Footprint 1.06 acre
Capacity 29,820 cu ft
Impervious Area Treated 1.31 acre ($6.32/sq ft of impervious area)
Total Drainage Area 1.97 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		
Dewatering	lump sum	$10,000	

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$7.74	29,820 CF wet pond, does not inc. ROW cost
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-12
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $ 137,131
Structure Footprint 0.42 acre
Capacity 27,832 cu ft
Impervious Area Treated 1.01 acre ($3.12/sq ft of impervious area)
Total Drainage Area 2.37 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$4.93	27,832 CF wet pond
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-13
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $ 130,197
Structure Footprint 0.42 acre
Capacity 25,075 cu ft
Impervious Area Treated 0.73 acre ($4.09/sq ft of impervious area)
Total Drainage Area 2.4 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$5.19	25,075 CF wet pond
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-15
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $ 75,659
Structure Footprint 0.33 acre
Capacity 17,070 cu ft
Impervious Area Treated 2.63 acre ($0.66/sq ft of impervious area)
Total Drainage Area 4.35 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$4.43	17,070 CF wet pond
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-16
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $ 480,963
Right of Way Cost $ 284,700
Structure Footprint 2.05 acre
Capacity 108,753 cu ft
Impervious Area Treated 5.2 acre ($3.38/sq ft of impervious area)
Total Drainage Area 8.71 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		
Dewatering	lump sum	$10,000	

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$4.42	108,753 CF wet pond, does not inc. ROW cost
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-1N
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $64,460
Right of Way Cost $60,500
Structure Footprint 0.22 acre
Capacity 10,770 cu ft
Impervious Area Treated 1.53 acre ($1.87/sq ft of impervious area)
Total Drainage Area 3.62 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$5.99	10,770 CF wet pond, does not inc. ROW cost
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-1S
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $34,003
Right of Way Cost $183,150
Structure Footprint 0.13 acre
Capacity 1,170 cu ft
Impervious Area Treated 0.23 acre ($21.67/sq ft of impervious area)
Total Drainage Area 0.23 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$29.06	1,170 CF wet pond, does not inc. ROW cost
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-3
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $673,913
Right of Way Cost $236,900
Structure Footprint 2.72 acre
Capacity 202,733 cu ft
Impervious Area Treated 6.26 acre ($3.34/sq ft of impervious area)
Total Drainage Area 15.94 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		
Dewatering	lump sum	$15,000	

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$3.32	202,733 CF wet pond, does not inc. ROW cost
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-4
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $314,775
Right of Way Cost $22,520
Structure Footprint 1.52 acre
Capacity 100,633 cu ft
Impervious Area Treated 3.88 acre ($2.00/sq ft of impervious area)
Total Drainage Area 8.78 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		
Dewatering	lump sum	$15,000	

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$3.13	100,633 CF wet pond, does not inc. ROW cost
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-6
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $226,629
Right of Way Cost $313,000
Structure Footprint 1.47 acre
Capacity 55,165 cu ft
Impervious Area Treated 2.22 acre ($5.58/sq ft of impervious area)
Total Drainage Area 3.67 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$4.11	55,165 CF wet pond, does not inc. ROW cost
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-7
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $357,951
Right of Way Cost $333,300
Structure Footprint 1.11 acre
Capacity 81,917 cu ft
Impervious Area Treated 3.62 acre ($4.38/sq ft of impervious area)
Total Drainage Area 5.37 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		
Dewatering	lump sum	$7,500	

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$4.37	81,917 CF wet pond, does not inc. ROW cost
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 Maple Valley to Issaquah Hobart Road - Basin TC-8
Project Type (Public or Private):	Public
Construction Date(s):	2003
Total Project Cost:	$8,170,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Construction Cost $ 282,961
Right of Way Cost $ 127,000
Structure Footprint 1.12 acre
Capacity 87,007 cu ft
Impervious Area Treated 3.44 acre ($2.74/sq ft of impervious area)
Total Drainage Area 6.42 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		
Dewatering	lump sum	$7,500	

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$3.25	87,007 CF wet pond, does not inc. ROW cost
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 – 180th to Maple Valley - Detention Pond A
Project Type (Public or Private):	Public
Construction Date(s):	2001
Total Project Cost:	$2,225,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Pond Cost $100,500
Structure Footprint 0.345 acre
Capacity 60,113 cu ft
Impervious Area Treated 11.2 acre ($0.21/sq ft of impervious area)
Total Drainage Area 17.4 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet	$0.02	Seeding, fertilizing, and mulching
Gravel	cubic feet	$1.04	Quarry spalls, assumes 1.4 TN/CY
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$1.67	60,113 CF detention pond
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Seeding, fertilizing, and mulching = $780/acre
Quarry spalls = $20/TN

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 – 180th to Maple Valley - Detention Pond B
Project Type (Public or Private):	Public
Construction Date(s):	2001
Total Project Cost:	$2,225,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Pond Cost $136,000
Structure Footprint 0.190 acre
Capacity 33,106 cu ft
Impervious Area Treated 3.8 acre ($0.82/sq ft of impervious area)
Total Drainage Area 10.9 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$4.11	33,106 CF detention pond
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 – 180th to Maple Valley - Detention Pond G
Project Type (Public or Private):	Public
Construction Date(s):	2001
Total Project Cost:	$2,225,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Pond Cost $237,000
Structure Footprint 0.24 acre
Capacity 42,263 cu ft
Impervious Area Treated 3.0 acre ($1.81/sq ft of impervious area)
Total Drainage Area 8.4 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$5.61	42,263 CF detention pond
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 – 180th to Maple Valley - Detention Pond H
Project Type (Public or Private):	Public
Construction Date(s):	2001
Total Project Cost:	$2,225,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Pond Cost $143,000
Structure Footprint 0.33 acre
Capacity 57,935 cu ft
Impervious Area Treated 15.7 acre ($0.21/sq ft of impervious area)
Total Drainage Area 53.8 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$2.47	57,935 CF detention pond
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 – 180th to Maple Valley - Detention Pond J
Project Type (Public or Private):	Public
Construction Date(s):	2001
Total Project Cost:	$2,225,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Pond Cost $49,500
Structure Footprint 0.34 acre
Capacity 58,370 cu ft
Impervious Area Treated 6.4 acre ($0.18/sq ft of impervious area)
Total Drainage Area 24.2 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$0.85	58,370 CF detention pond
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information

Wet Pond Cost Request Form

City/County/Company Name:	WSDOT
Contact Name:	NA
Contact Email:	NA
Contact Phone:	NA

Project Information

Project Name:	SR 18 – 180th to Maple Valley - Detention Pond M
Project Type (Public or Private):	Public
Construction Date(s):	2001
Total Project Cost:	$2,225,000 (stormwater treatment component of SR-18 project)
Funding Source (if Public Project):	NA

Brief Project Description (include number and types of BMPs installed, live and dead storage capacity of wet ponds):

Pond Cost $218,000
Structure Footprint 0.76 acre
Capacity 131,551 cu ft
Impervious Area Treated 7.4 acre ($0.68/sq ft of impervious area)
Total Drainage Area 18.5 acre

Estimated Costs per Facility Component

Item	Units	Unit Cost	Notes
Excavation	cubic feet		
Grading/finishing	square feet		
Grass	square feet		
Gravel	cubic feet		
Inlet Structure	per unit		
Outlet Structure	per unit		
Seal	square feet		
Soil/Planting Media	cubic feet		

Estimated Cost for Installed Facility

Item	Units	Unit Cost	Notes
Wet Pond	cubic feet	$1.66	131,551 CF detention pond
Design	square feet		
Annual O&M (if known)	square feet		

Additional Notes or Information