



Raingardens

This **Advanced Method and Material** was developed jointly by the City of Bellingham Public Works Department and Sustainable Connections to provide means for the use of raingardens to replace the stormwater runoff benefits that were once provided by native landscaping.



BENEFITS

Raingardens can significantly reduce stormwater runoff by infiltrating stormwater into the ground. Additionally, these gardens clean the water and slow its travel to nearby streams and eventually Bellingham Bay. Additional benefits include:

- Improved water quality
- Flow attenuation
- Reduced stream erosion
- Reduced maintenance costs
- Increased wildlife habitat
- Contribute LEED® points for your project

Raingardens are a smart and proven way of using beautiful landscaping to clean our waterways, protect our precious natural habitats, improve stormwater management for homes and neighborhoods, limit flooding and save millions of dollars in pollution clean-up and expensive stormwater projects. A raingarden acts like a native forest by collecting, absorbing, and filtering stormwater runoff from roads, roof tops, driveways, patios, and other surfaces that don't allow water to soak into soils.

POLICY/CONDITIONS (VOLUNTARY)

- If the Raingarden is not required by regulation, no technical review is necessary. Plan for overflow to not result in nuisance. Consider setbacks to protect structures and adjacent property including the right of way.

COMPLIANCE WITH THESE STANDARDS (REGULATORY)

A raingarden may be installed when the following regulatory conditions are met:

- Bellingham Municipal Code 15.42
- Low Impact Development Technical Guidance Manual for Puget Sound
- Stormwater Management Manual for Western Washington
- No soil disturbance in the Lake Whatcom Watershed from October 1 - May 31

SCOPE

Raingardens can be installed on almost any site as long as they meet the engineered soil allowances.

DEFINITIONS

Raingardens are an integrated stormwater management practice that uses the chemical, biological, and physical properties of plants, microbes, and soils to remove, or retain, pollutants from stormwater runoff. Numerous designs have evolved from the original application; however, there are fundamental design characteristics that define bioretention across various settings.

PERMIT REQUIREMENTS

Stormwater Permit: if area is greater than 500 square feet of land disturbance.

Public Works Permit: if the project is in the Public Right of Way.

Minor Grading Permit: If the total grading (import & export) is greater than 100 cubic yards, then a Grading Permit is required by the City.



Raingardens (cont'd)

REFERENCES / SOURCES

Puget Sound Action Team – Low Impact Development – current Technical Guidance Manual for Puget Sound
Washington Department of Ecology – current Stormwater Management Manual for Western Washington

FINANCIAL INCENTIVES

City of Bellingham

Use of a raingarden may help to meet criteria that could qualify a project for a 50% reduction in the stormwater development charges. See Bellingham Municipal Code 15.16.030(B)(3) or contact City staff for details and criteria about the reduced stormwater development charges.

Additionally, a raingarden can also be incorporated into a project to help avoid the triggering of the 0.1 cfs increase in flow for the 100-year storm threshold to require stormwater detention or to reduce the required size of stormwater mitigation facilities by using allowed stormwater modeling credits. Credits can be found in Stormwater Management Manual for Western Washington published in 2005 or the Low Impact Development Technical Guidance Manual for Puget Sound.

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ADDITIONAL RESOURCES

WSU Extension 12,000 Raingarden Project and Raingarden Handbook

Goal: 12,000 Raingardens by 2016, and the resources to get there. <http://raingarden.wsu.edu>

Puget Sound Partnership

A state agency established to lead efforts to protect and restore Puget Sound and its diversity of life. <http://www.psp.wa.gov>

Homeowner Incentive Program (HIP)

The HIP is a cooperative incentive program sponsored by the City of Bellingham and Whatcom County to increase Lake Whatcom friendly practices. Funded by an Ecology Water Quality Assistance Grant. <http://www.cob.org/services/environment/lake-whatcom/homeowner-incentive-program.aspx>

Low Impact Development Manual

A technical guidance manual for the Puget Sound. www.psp.wa.gov/downloads/LID/LID_manual2005.pdf

