

Design Standards and Permitting Requirements

Native Landscaping

DESCRIPTION

Vegetated areas consisting of a thick mulch layer and a minimum density of plants common to forests of the Pacific Northwest. Native plants are generally defined as those found west of the Cascade Range prior to the arrival of European settlers.

METHOD OF PHOSPHORUS REDUCTION

Native landscaping re-creates the natural soil chemistry and biology found in forested areas. Plants and mulch in the vegetated area capture, neutralize, and recycle phosphorus, turning extra nutrients into healthy plants and soil. Up to 40% of rainfall is captured by plants prior to reaching the ground, resulting in less runoff.



Above: HIP Native Landscape Installed in 2016

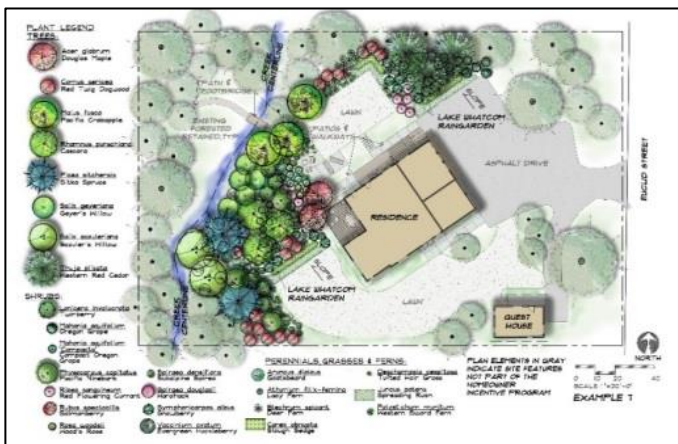
ADDITIONAL DESIGN FEATURES

Enhance your native landscape with one or more of the following site-specific options:

"**Wet Garden**" where moisture-loving native plants are installed in wet areas and thrive where other plants may struggle.

"**Vegetated Berm**" where strategically-placed soil piles are used to create visual complexity in the design.

"**Riparian Buffer**" a native plant garden that separates outdoor living spaces from streams, creeks, or shorelines.



Example of computer-generated native landscaping design

Note: This design methodology is applicable for HIP projects only. These methods may not be suitable for, and have not been evaluated for, compliance with regulations which require professional engineering.

MINIMUM REQUIREMENTS AND DESIGN LIMITATIONS

All HIP Native Landscaping projects must meet these minimum requirements:

DESIGN

- At least 4" of low-P mulch throughout
- Minimum density of plants (use plant density calculator) divided between at least two layers (trees, shrubs, and groundcover)
- At least 90% of plants installed must be native to Washington State based on USDA PLANTS Database or equivalent

LOCATION

- No trees or shrubs within 5' of a known utility on private property or within 10' of a known utility in the public rights-of-way
- No trees on or adjacent to septic tanks, drainfields, and reserve areas
- Site specific consultation required for all planting areas on or next to a slope >35%

CONSTRUCTION METHOD/ CRITICAL PATH

1. Define planting area. If desired, install edging material or a hand-dug trench around the perimeter to keep new mulch in place. Digging trenches is limited to summer months only.
2. Recommended: Place a single layer of cardboard over all flat, lawn-covered areas, leaving existing lawn in place. Cardboard is not recommended on slopes or landscaped areas without an existing lawn.
3. Install mulch to a depth of 4" on flat areas or 6" on sloped areas
4. Prepare hole for planting. Push mulch away. Cut an "X" in the cardboard (if any) and fold it back, exposing the ground below. Dig a hole as deep as the root mass and twice as wide.
5. Install plants. Remove potting media from the roots. Spread roots out and backfill gently with native soil.
6. Replace mulch to within 6" of plant stems.
7. Optional: Install irrigation system and rain barrels.
8. Water plants well.
9. Optional: Install temporary deer fencing.
10. Sweep any impervious surfaces that may have been dirtied by mulch or soil

NOTES ON SEQUENCING

- Construction step order may be adjusted to meet individual project needs.
- To phase the work, mulch first in the spring or summer then plant during the fall.
- If planting and mulching at the same time, during the summer months, plant first then immediately mulch. In winter, mulch must be spread first before planting is allowed.

NATIVE LANDSCAPING ON THE SHORELINE

Installing native landscaping along the Lake Whatcom shoreline is an effective way to reduce direct phosphorus runoff into the lake and provides an opportunity to create pleasing landscapes combined with other HIP BMPs and existing landscape features. When working on a native landscaping project next to the shoreline, make sure to:

- Assess soil conditions prior to plant selection and select appropriate native plants for the conditions. Many shoreline areas are affected by a high water table.
- Identify the high water mark and install a barrier like a straw wattle above it prior to starting work.
- Take extra care to keep exposed soil and sediment from coming into contact with water.

Design Submittal

Native Landscaping

Section I: System and Sizing Summary

<input type="checkbox"/>	I have defined the area that will be converted into native landscaping and have provided a site map showing the planting area.
Native landscaping will replace _____ ft² of lawn/existing landscape and/or _____ ft² of impervious surface	
<input type="checkbox"/>	If any of my planting is in the public right-of-way, I have received written approval from the jurisdiction that manages the public area (City or County).
The size of the area of the Right-of-Way I plan to landscape is _____ ft²	
<input type="checkbox"/>	I have selected a vegetation layer combination for each unique planting area (e.g., right-of-way area, front yard, back yard, etc...) and used the HIP plant density calculator to calculate the number of plants and yards of mulch required for each planting area.
The total combined quantities for <u>all</u> of my planting areas are: _____ cubic yards of approved mulch, _____ trees, _____ shrubs, and _____ groundcovers.	





















Section II: Site-Specific Planning

<input type="checkbox"/>	I will not be planting trees or shrubs within 5' of a known utility, including septic systems (on private property) or 10' from a utility (in public ROW).
<input type="checkbox"/>	I have received approval for right-of-way (ROW) area planting plans and will comply with site specific directions (not applicable to all projects).
<input type="checkbox"/>	I have obtained permission to plant on slopes >35% (not applicable to all projects).
<input type="checkbox"/>	I have a plan to prevent erosion or runoff during planting, and I will comply with the HIP Winter Work Allowances and Exemptions included in my City of Bellingham stormwater permit application.

Plant Density Calculator

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Instructions: Select one of the options listed below for each unique planting area and calculate the minimum required planting density and mulch. Note that existing plants may be counted to meet required plant density numbers.

Option	Vegetation Layer Combination	Plant Layer	Project area (sq ft)	Density Divider	Number of Plants
A	Tree, Shrub, and Groundcover	Trees		225 (15' o.c.*)	
		Shrubs		64 (8' o.c.)	
		Groundcovers		25 (5' o.c.)	
B	Tree and Shrub Only (No Groundcovers)	Trees		144 (12' o.c.)	
		Shrubs		36 (6' o.c.)	
C	Tree and Groundcover Only (No Shrub)	Trees		144 (12' o.c.)	
		Groundcovers		16 (4' o.c.)	
D	Shrub and Groundcover Only (No Tree)	Shrubs		49 (7' o.c.)	
		Groundcovers		25 (5' o.c.)	
Cubic Yards of Mulch				80	

*The abbreviation "o.c." stands for "on center", a convention used to describe the average distance between plants. For example, a tree that is planted 15' o.c. would be, on average, 15' from its nearest neighbor.

Plant List

Instructions: Submit a proposed plant list using the template provided or a similar format. List by scientific name with quantity categorized by tree, shrub, and groundcover. Include number of existing plants used to meet plant density requirements. Identify non-natives limit to no more than 10% of total plants. Consult with HIP Coordinator regarding planting native cultivars on county properties.