



# Cedar Grove Landscape & Construction Services

<http://www.cedar-grove.com/services.asp>

## BIORETENTION / RAIN GARDEN SOIL MIX

*Bioretention Swales and Rain Gardens are attractive landscape features that filter and infiltrate storm run-off. Properly designed swales include 18"-24" of Bioretention Mix to allow almost 100% of run-off to infiltrate soil without surface ponding*

Cedar Grove cooperated with WSU scientists to develop a Bioretention/Rain Garden soil mix providing:

- High porosity for rapid infiltration.
- Sufficient fine particles to filter pollutants and retain moisture for plants.
- Organic matter to promote vigorous plant growth and soil life that decompose pollutants.

### CEDAR GROVE BIORETENTION & RAINGARDEN SOIL MIX

A mix of compost and well-graded aggregate to meet regulations and public agencies' specifications.

**Compost:** 35-40% volume

**Aggregate:** 60-65% volume

**Infiltration Rate:** Meets WDOE requirements of 1-12 inches/hour (ASTM D-5084)

### CEDAR GROVE COMPOST

**Feedstocks:**

80-90% landscape waste (Type I)

10-20% food waste (Type I and III)

Meets 'Composted Material' requirements in WAC 173-350-220, and US Composting Council Seal of Testing Approval (STA)

**Organic Content:** 40-60% dry weight basis

*Dispersed Bioretention Swales can be a cost-effective alternative to storm sewers or large detention ponds*

### Bioretention Swales & Rain Gardens

Swales can include diverse plants, depending on site conditions.



Soil and vegetation remove most sediment and contaminants.



# Cedar Grove Bioretention & Raingarden Mixes Specifications

## BIORETENTION MIX MEETS SEATTLE PUBLIC UTILITIES AND WSU SPECIFICATIONS

Bioretention Soil shall consist of a well-blended mixture by volume of 2 parts compost and 3 parts mineral aggregate meeting the requirements below. Organic matter in the mix should be as close to 8 to 10 percent as possible. **Approved products include Cedar Grove Bioretention Mix.**

## MINERAL AGGREGATE FOR TURF AND LANDSCAPE BIORETENTION SOIL

Mineral aggregate shall be analyzed by an accredited lab using #200, #100, #60, #40, #20, #10, #4, 3/8 and 1-inch sieves; and meet the following:

	<b>Bioretention Mix</b>
Sieve Size	Percent Passing
3/8"	100
No. 4	95-100
No.10	75-90
No. 40	25-40
No. 100	4-10
No. 200	2-5

Efforts should be made to use aggregate with gradation meeting Coefficient of Uniformity equal to 6 or above; and Coefficient of Curve of 1 to 3.

## COMPOSTED MATERIAL

Compost shall be the result of the biological degradation of Type I or III Feedstocks, under controlled conditions designed to promote aerobic decomposition, per WAC 173-350-220, and meet the following physical criteria.

1. Compost shall be certified in compliance with U.S. Composting Council Seal of Testing Assurance (STA) program.
2. Compost shall meet the following particle size gradation:

Sieve Size	Percent Passing
1"	99-100
5/8"	90-100
1/4"	40-90



**US Composting Council**  
Seal of Testing Assurance

3. pH shall be between 5.5 and 8.0.
4. Manufactured inert material shall be less than 1.0 percent by dry weight.
5. Organic matter content shall be between 45 and 65 percent by dry weight.
6. Soluble salt content less than 6.0 mmhos/cm.
7. Maturity shall be over 80% per TMECC 05.05-A, "Germination and Vigor".
8. Stability shall be 7 or below per TMECC method 05.08-B.
9. Contain a minimum of 65 percent by volume recycled plant waste as defined in WAC 173-350-100 as "Type 1 Feedstocks." May contain a maximum of 35 percent by volume of "Type III Feedstocks" including post-consumer food waste, as defined in WAC 173-350-100, but not including biosolids.
10. Feedstocks shall originate from local recycling collection programs.
11. Carbon to nitrogen ratio shall be less than 25:1. For plantings composed entirely of plants native to the Puget Sound Lowlands region, carbon to nitrogen ratio may be 35:1.