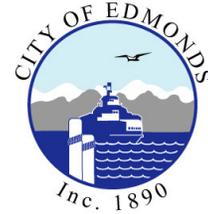


City of Edmonds Development Information



COMPOST-AMENDED SOIL: HOW TO MEET THE STORMWATER MANAGEMENT REQUIREMENT FOR SMALL SITE PROJECTS

This handout provides information on the options available to meet the stormwater management requirement for compost-amending soils on **Small Site Projects**. For more details on stormwater management requirements, see Handout #E72, Edmonds Community Development Code (ECDC) Chapter 18.30, including Exhibit A: Edmonds Stormwater Code Supplement (Supplement).

INTRODUCTION

This handout helps you to:

1. Determine which areas of your site, if any, require compost-amending.
2. Provides two options for meeting the requirement including detailed description of how to compost-amend the soil and what materials to use.

The requirements in this handout only apply to Small Site projects¹. Large Site Projects¹ that are subject to the requirements of the *Western Washington Phase II Municipal Stormwater Permit* (Ecology 2009) should not use this handout. If soil amending is required at a Large Site Projects, the soil quality and depth BMP T5.13 for compost-amending, in Chapter 5 of Volume V of the Stormwater Manual must be used.

APPLICABILITY

Small site projects that need to meet Minimum Requirement (MR) #5, Onsite Stormwater Management/Low Impact Development Techniques for Controlling Runoff and MR #7, Flow Control must also compost-amend soils in all ***disturbed pervious surface*** and ***converted pervious surface*** areas (see definitions below). This Best Management Practice (BMP) is required to restore the water holding capacity of the soil in these areas. The standards for MR#5 and/or MR #7 are based on the assumption that all disturbed pervious surface and converted pervious surface areas will be compost-amended

to City standards. For more information on whether your site is required to meet these requirements see Handout #E72, ECDC Chapter 18.30 and the Stormwater Code Supplement.

DEFINITIONS

Disturbed pervious surface: Any part of a pervious area that is disturbed during a development or redevelopment project, but remains pervious after the project is completed.

Converted pervious surface: Land cover changed from native vegetation to lawn, landscape, or pasture areas.

OPTIONS FOR MEETING THE STANDARD

Table 1 provides two options:

1. Compost-amending existing soils
2. Importing a topsoil/compost mix.

Either method is acceptable if the requirements in the table are met. The table is divided into two columns: the first column provides the information on how to comply with the requirement in turf (grass or lawn) areas; the second column provides the information on how to comply with the requirement for planting bed areas. Figures 1 and 2 are representative examples of a cross-section of the final product using compost-amending option.

¹ See Handout #E72 for site classification.

Table 1
Options for Meeting the Compost-Amended Soils Requirement for Turf and Planting Bed Areas

Option (Choose one)	Turf (grass or lawn) Areas	Planting Bed Areas
<p>1 – Compost-Amend existing soils (See Figure 1 for turf and Figure 2 for planting beds)</p>	<ol style="list-style-type: none"> 1. Ensure that there is at least 6 inches (in) of existing soil in the disturbed area (if not add topsoil). 2. Place 1 ½ to 1 ¾ in of compost on top of existing soil. Till or otherwise mix the compost into the top 6 inches of existing soil such that the depth right after mixing is about 9.5 in (mixing will entrain air into the mixture and make it fluffy). It may be necessary to loosen (scarify) existing soil to facilitate this mixing. 3. Water or roll to <u>slightly</u> compact to the 9.5 inch compost-amended soil layer to approximately 8 inches. 4. Rake to smooth and remove surface woody debris and rocks larger than 1 inch in diameter (if any). <p><u>For 100 square feet of turf area:</u> A 1 ½ to 1 ¾ inch lift requires ~14 cubic feet or ~ ½ cubic yard of compost.</p>	<ol style="list-style-type: none"> 1. Ensure that there is at least 5 in of existing soil in the disturbed area (if not add topsoil). 2. Place 3 in of compost on top of existing soil. Till or otherwise mix the compost into the top 6 inches existing soil such that the depth right after mixing is about 9.5 in (mixing will entrain air into the mixture make it fluffy). It may be necessary to loosen (scarify) existing soil to facilitate this mixing. 3. Water or roll to <u>slightly</u> compact to the 9.5 inch compost-amended soil layer to approximately 8 inches. 4. Rake to smooth and remove surface rocks larger than 2 inch in diameter (if any) 5. Mulch planting beds with 2 to 4 inches of organic mulch (i.e., arborist wood chips, leaves, bark) – Recommended not required. <p><u>For 100 square feet of planting bed area:</u> A 3 inch lift requires 25 cubic feet or ~1 cubic yard of compost.</p>
<p>2 – Import Topsoil/Compost Mix</p>	<ol style="list-style-type: none"> 1. Place a 3 inch thick layer of a topsoil/compost mixture that contains 4% to 5% organic matter (typically 25-35% compost by volume – the balance shall be sand and or sandy loam soil). 2. Till or otherwise mix into the top 2 inches of existing soil. It may be necessary to loosen (scarify) existing soil to facilitate this mixing. 3. Place a second lift of 3 inches of the topsoil/compost mixture on the surface. 4. Water or roll to <u>slightly</u> compact. 5. Rake to smooth and remove surface woody debris and rocks larger than 1 inch in diameter (if any). <p><u>For 100 square feet of turf area:</u> each 3 inch lift will require 25 cubic feet (~1 cubic yard) of the topsoil/compost mix. This mix will have approximately 30% compost by volume (0.3 cubic yards, ~ 8.1 cubic feet) and 70 % topsoil by volume (0.7 cubic yards, ~19 cubic feet).</p>	<ol style="list-style-type: none"> 1. Place a 3 inch thick layer of a topsoil/compost mixture that contains approximately 10% organic matter (typically 40% compost by volume) – the balance shall be sand and or sandy loam soil). 2. Till or otherwise mix into the top 2 inches of existing soil. It may be necessary to loosen (scarify) existing soil to facilitate this mixing. 3. Place a <u>second lift</u> of 3 inches of the topsoil/compost mixture on the surface. 4. Rake to smooth and remove surface rocks larger than 2 inch in diameter (if any) 5. Mulch planting beds with 1 to 2 inches of organic mulch (i.e., leaves, bark) – Recommended not required. <p><u>For 100 square feet of planting bed area:</u> the each 3 inch lift will require 25 cubic feet (~1 cubic yard) of the topsoil/compost mix. This mix will have approximately 40% compost by volume (0.4 cubic yards, ~11 cubic feet) and 60 % topsoil by volume (0.6 cubic yards, ~16 cubic feet).</p>

Table 1
Options for Meeting the Compost-Amended Soils Requirement for Turf and Planting Bed Areas

Compost is defined by the Washington Dept. of Ecology as: 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. The Department of Ecology has a current list of composting facilities that meet this standard. Go to <http://www.ecy.wa.gov/programs/swfa/compost/> and look for “Current Composting Facilities in Washington.” As of May 2011, the following suppliers were on Ecology’s most recent list of approved compost suppliers in Snohomish County:

- Bailand Farms Yardwaste (Bailey) Compost
- Cedar Grove Composting Co.
- Lenz Enterprises Inc
- Misich Farms/Riverside Topsoils
- Pacific Topsoils (PTI)

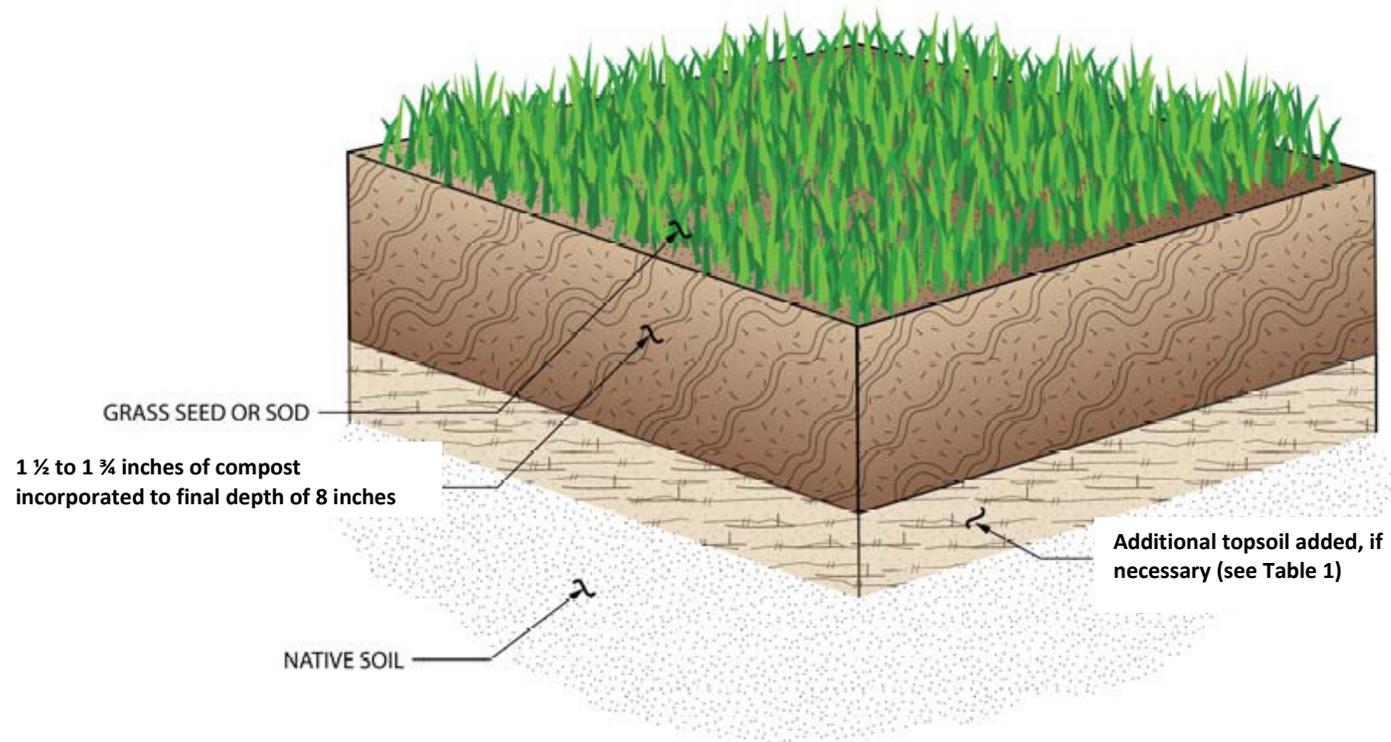
Some of these suppliers’ compost can be found at local home improvement stores in 1 or 1.5 cubic feet bags.

Topsoil/Compost mix contains compost meeting requirements above and sand or sandy loam per USDA soil texture classification. For turf areas this comes under several brand names such as “Builders Topsoil Mix”. For planting beds this comes under several brand names such as “Two-way” mix.

For additional information go to: http://www.soilsforsalmon.org/pdf/Soil_BMP_Manual.pdf

FIGURE 1

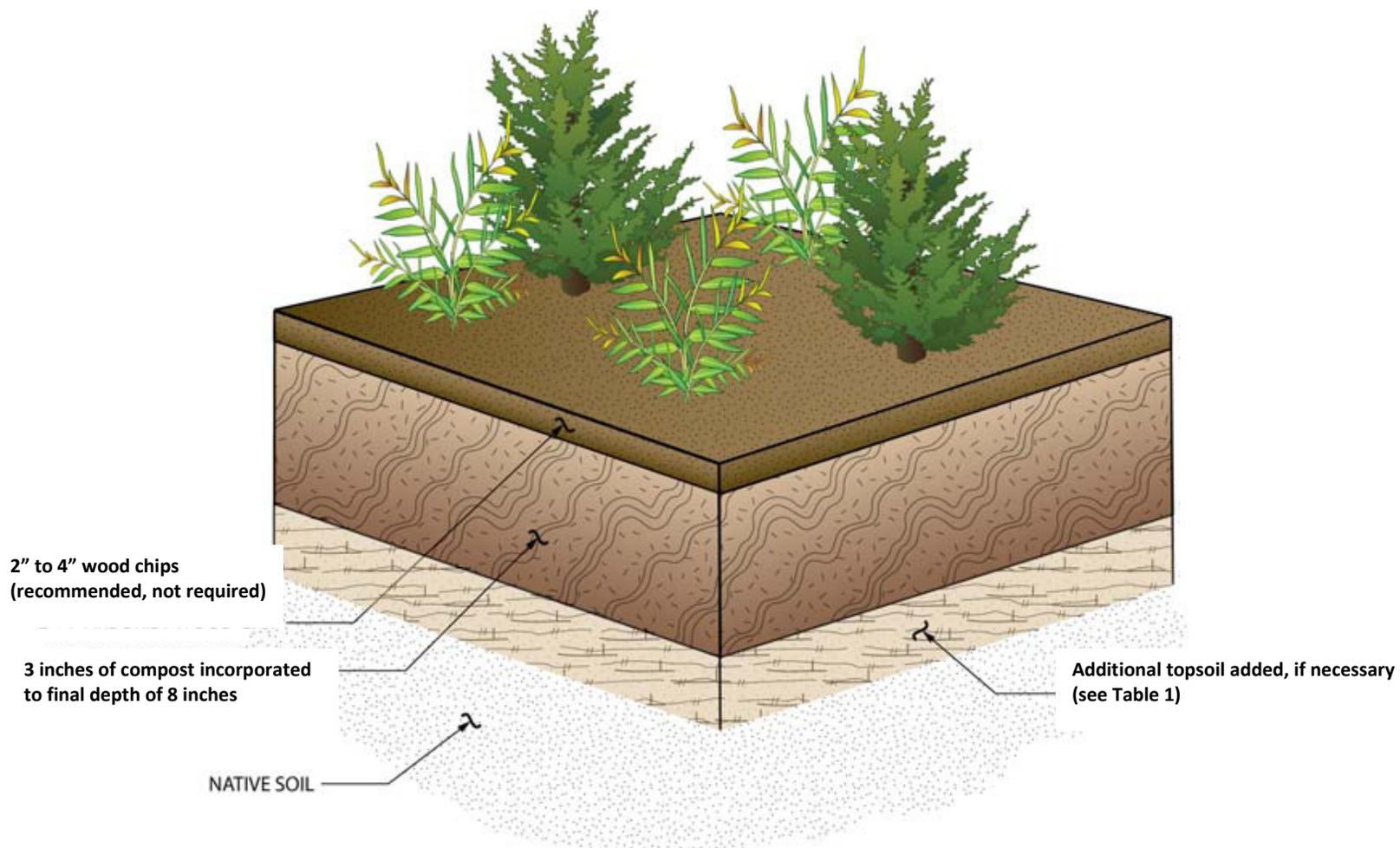
Example of Turf with Compost-Amended Soil



Modified from City of Seattle, 2009. *Stormwater Manual Vol. 3 of 4: Stormwater Flow Control and Water Quality Treatment Technical Requirements Manual*, Department of Planning and Development, Director's Rule 17-2009 and Seattle Public Utilities, Director's Rule 2009-005.

FIGURE 2

Example of Planting Bed with Compost-Amended Soil



From City of Seattle, 2009. *Stormwater Manual Vol. 3 of 4: Stormwater Flow Control and Water Quality Treatment Technical Requirements Manual*, Department of Planning and Development, Director's Rule 17-2009 and Seattle Public Utilities, Director's Rule 2009-005.