



## **Rock Permanent Stabilization Materials**

**Approved: Rebecca Esau, March 16, 2022**

**Director**

**Effective: March 16, 2022**

### **Authority and Scope:**

The Director of the Bureau of Development Services (BDS) administers Title 10 and the Erosion and Sediment Control Manual (ESCM) for all ground disturbing activity as specified under PCC 10.10.030.A. PCC 10.10.030.C allows the Director to issue interpretations on the meaning and intent of the Erosion and Sediment Control Regulations. This Interpretation applies to ground disturbing activity as specified under PCC 10.10.030.A.1.

### **Requirement:**

PCC 10.30.020.B.4 and 7 require permanent soil stabilization to denuded development site areas so that soil is not exposed to the elements upon completion of development activity.

### **Issue:**

The ESCM includes mulch as an erosion prevention best management practice (BMP) for permanent soil stabilization. Section 4.5.3 of the ESCM states that:

*Mulch is the name given to various organic or inorganic natural or synthetic materials that are spread or blown on the soil surface to prevent movement of soil by wind and rain. Mulches protect exposed soil surfaces from the force of falling rain, slow downslope flows, increase heat and moisture content for seeding and other vegetation, discourage weed growth, and, when adequately anchored, can provide slope stabilization. Mulches can be loose materials (compost), rock, or organic fibers in a water-based matrix that dry as mats on the soil surface (hydraulic mulch, bonded fiber matrix).*

Table 4.5-D is a table of Mulch Application Rates and Notes. The table includes examples of mulch material / quality standards. The table only includes the following rock mulch material:

*Crushed Rock 1 ½ inch fractured face, Clean, with less than 10% fines.*

Because the manual only includes the above reference to rock mulch material, is this the only rock mulch material that can be used for permanent soil stabilization?



**Considerations:**

Rock mulch material is regularly used as a permanent soil stabilization application for both residential and commercial development projects. Rock material comes in a variety of sizes and may be used for a variety of outdoor areas such as walkways, pathways, patio areas, vehicle maneuvering areas, storage areas, etc. Rock material is commonly used as a soil cover for demolished building sites until redevelopment occurs. Rock mulch material that is used as soil cover for permanent stabilization cannot replace any required landscaping from the Portland Zoning Code or Tree Code for residential and commercial sites. In addition, the Portland Bureau of Transportation allows rock material of ¾'-0 with fines on unimproved alleys, streets, and shoulders.

The ESCM states that mulch is the name given to *various* materials. Section 4.5.3 does not provide further specification on approved mulch materials and table 4.5-D provides application rates for listed examples. Rock mulch material is routinely used as final stabilization for projects, including roadway surfacing requirements. If Table 4.5-D was interpreted to be the only allowed mulch material and not guidance on application rates for listed mulch examples, it would prohibit the use of rock larger than 1 ½ inches.

**Interpretation:**

Based on the above considerations, allowing a wide range of rock mulch material as a permanent soil stabilization measure (once ground disturbing activity has ended) is not anticipated to increase the potential for discharge of a significant amount of sediment or turbidity to surface waters.

The following rock mulch materials are approved for the situations described below:

**Areas Accessible to Vehicle Traffic.** Rock mulch material must be a crushed rock with at least one fractured face and conform to the following gradation:

Sieve Size	Maximum Percent Passing by Weight
1/2-inch	85
3/8-inch	65
No. 10	20
No. 100	5

**Non-Vehicle Areas.** Rock mulch material must conform to the following gradation. This is not an exhaustive list. Other materials may be approved on a case-by-case basis:

Sieve Size	Maximum Percent Passing by Weight
1/4-inch	60
No. 200	20



**Decomposed Granite.** Decomposed granite is a landscape surfacing material commonly used in pedestrian walkways, courts, and decorative areas. It is acceptable for use in areas not intended for vehicle maneuvering, provided the area slope is less than 10 percent or is contained by berms, curbs, or other elevated structures. Decomposed granite must conform to the following gradation:

Sieve Size	Maximum Percent Passing by Weight
No. 8	80
No. 30	40
No. 200	10

In addition, installed rock mulch materials must provide a stable protective layer over the soil with a minimum depth of application of 2 inches of rock mulch material. Regardless of the minimum standards described above, evidence of significant erosion, transport or tracking of the rock mulch will be grounds for disapproval of the stabilization measures.

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