

BMP 04.00. Compost Berm

DESIGN CONSIDERATIONS

Objectives

Compost Berms are intended to intercept and slow sheet flow runoff, allowing suspended sediments to settle or be filtered out by the compost material.

Description

Compost Berms are composed of trapezoidal shaped berms made with compost. The berms can be temporary or permanent installations.

Other Names

Filtration Berm

Applicability

Compost Berms can be used in place of sediment (silt) fences and fiber rolls. They can be a good choice near streams since compost is an organic, biodegradable, renewable material and is not required to be removed at the end of a project. Removal of other types of best management practices (BMPs) can disturb soil by dislodging vegetation and exposing soil. Compost Berms can also be easily reshaped if they become damaged. However, repeated damage may require replacement or the addition of more compost material. Compost Berms are not intended to be installed in areas with concentrated flow.

Selection Considerations

Compost used for berms needs to be stable and mature. It should consist of both small and larger particle sizes, which will affect the filtration performance and longevity. Coarser grade compost is better for filtration and is less likely to be disturbed by rainfall or runoff. Finer grade compost is better for vegetation establishment. For Compost Berms, the ratio of coarse to fine grades should be 1:1. No compost should have particle sizes larger than 3 inches. All permanent compost berm installations should be seeded (see BMP 53, Permanent Seeding). All compost used should conform to U.S. Composting Council (USCC) standards.

Design

Compost Berms can be installed on slopes 2H:1V or flatter. Compost Berms should be installed no less than 1 to 2 feet high with a 4- to 6-foot wide base,

the specified height and width depend on the slope (see table on the drawing BMP – 04.00). For maximum filtration, install berms with a 4- to 6-foot wide base and a 2- to 3-foot wide top. Larger berms can be constructed if they are required on steeper slopes. The general shape for any compost berm should be that the base is twice as wide as the height of the berm. Providing seeding or plantings in conjunction with the compost helps to break up sediments and creates root pathways for storm water to penetrate into the compost. This helps to prevent the compost from becoming plugged with sediment.

Relationship to Other Erosion and Sediment Control Measures

Compost Berms can be used in place of sediment fences, and fiber rolls. Compost filters sediment and allows the runoff to pass through relatively more easily than silt fence, which acts as a dam to create ponding and settling. Tackifiers can be applied to compost installations to enhance performance if needed.

Common Failures or Misuses

Common failures are generally due to faulty application and maintenance. These failures include:

- Non-certified compost used.
- Can become plugged with fines and sediments.
- Inadequate shape and size of berms constructed.
- Used in highly concentrated flow areas.
- Damaged by construction-related activities.
- Ends of berms are not pointed upwards towards the top of the slope.

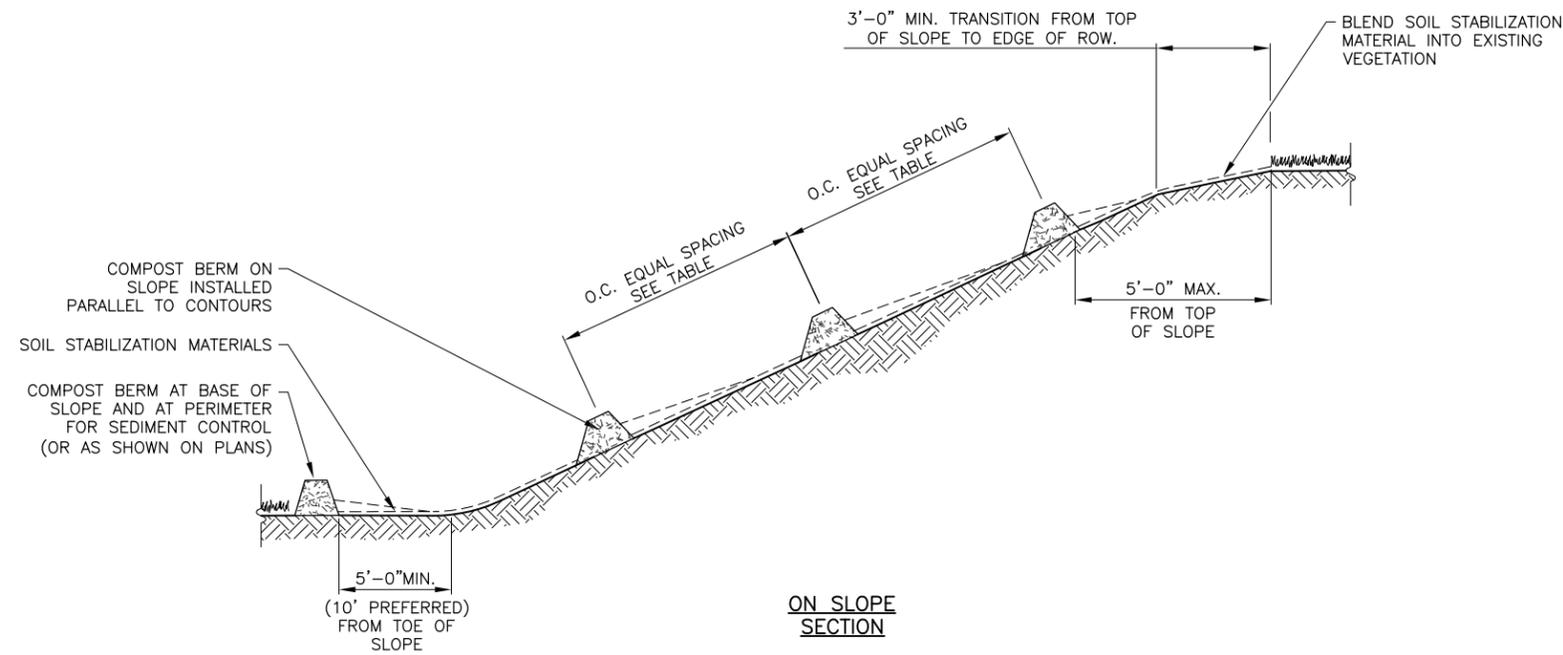
SPECIFICATIONS

Drawing

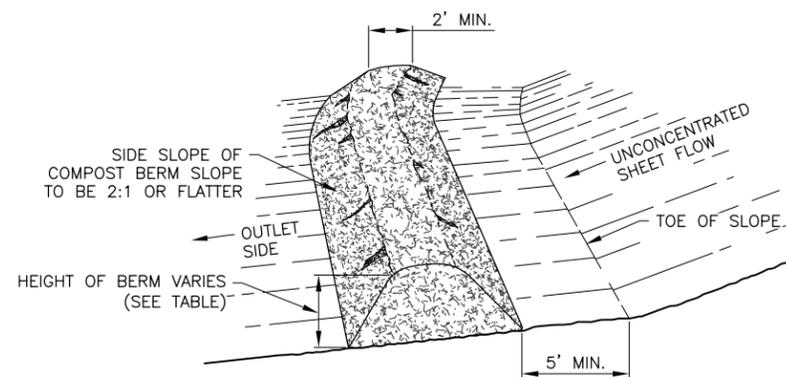
- BMP-04.00 – Compost Berm

Standard Specification

- 659 – Compost Berm
- 750 – Compost



ON SLOPE SECTION



PERSPECTIVE

COMPOST BERM
NOT TO SCALE

COMPOST BERM NOTES:
MATERIALS
COMPOST PER SECTION 750

INSTALLATION

1. INSTALL COMPOST BERMS AS SPECIFIED IN THE TABLE.
2. CONSTRUCT LARGER BERMS WHEN REQUIRED ON STEEPER SLOPES.
3. SHAPE ANY COMPOST BERM SO THE BASE IS TWICE AS WIDE AS THE HEIGHT OF THE BERM.
4. PROVIDE PERMANENT SEEDING FOR PERMANENT BERMS THAT ARE NOT BLADED SMOOTH.
5. SOIL STABILIZATION MATERIALS INCLUDE ROLLED EROSION CONTROL PRODUCTS, MULCH OR OTHER TEMPORARY GROUND COVER TO STABILIZE UNTIL VEGETATION IS ESTABLISHED.

INSPECTION

1. INSPECT FOR DAMAGE, CHANGES IN PRESCRIBED DIMENSIONS, SEDIMENT DEPTH, UNDERMINING, AND/OR OVERTOPPING.

MAINTENANCE

1. RESHAPE OR ADD ADDITIONAL COMPOST TO DAMAGED SECTIONS OF BERM TO PRESCRIBED DIMENSIONS.
2. REMOVE ACCUMULATED SEDIMENT BEFORE IT REACHES ONE-HALF OF THE BERM HEIGHT OR ONE-THIRD OF THE AVAILABLE STORAGE IF PROTECTING A WATER BODY OR STORM DRAIN INLET.
3. REPAIR DAMAGE DUE TO AND CORRECT FOR UNDERMINING AND OVERTOPPING.

REMOVAL

1. BLADE SMOOTH AND SEED ALL BERMS TO PREVENT POOLING UPON COMPLETION OF THE PROJECT. UNLESS THE CONTRACT OR ENGINEER DIRECTS THEY MAY BE LEFT AS PERMANENT BERMS.

COMPOST BERM DIMENSIONS AND SPACING BASED ON SLOPE

SLOPE (H:V)	BERM O.C. SPACING	BERM DIMENSIONS		
		HEIGHT	BOTTOM WIDTH	TOP WIDTH
5:1 - 2:1	50 FT	1.3 FT	5.5 FT (MIN.)	2 FT
> 2:1	25 FT	1.5 FT	6 FT (MIN.)	2 FT

REVISIONS		
Date	Description	By

State of Alaska DOT&PF

COMPOST BERM

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Date 12/2015 X/XX/XX