

BMP 16.00. Rock Filter Berm

DESIGN CONSIDERATIONS

Objectives

A Rock Filter Berm is a perimeter sediment control device designed to prevent sediment in silt-laden sheet flow from leaving the construction site. A properly installed berm intercepts sheet drainage, contains sediment on-site, and does not permit spillover or bypass.

Description

A Rock Filter Berm is a gravel berm placed down slope from erosion-susceptible terrain to trap sheet flow run-off before it exits the project site. Intercepted sheet flow pools along the uphill side of the Rock Filter Berm and standing water promotes settling sediment out of suspension. The Rock Filter Berm blocks suspended particles and restricts water exfiltration.

Other Names

Gravel Filter Berm.

Applicability

Rock Filter Berms are applicable where temporary measures are necessary to retain sediment from sheet flow.

Selection Considerations

Barrier locations are chosen based on site features and conditions (e.g., soil types, climate, terrain features, sensitive areas, etc.), design plans, existing and anticipated drainage courses, and other available erosion and sediment controls. Typical barrier sites are at the toe of fill or on side slopes above waterways or drainage channels.

Rock Filter Berms may be difficult to remove when construction is complete. They may be incorporated into stabilized rock embankments or other permanent stabilized features.

Use of this sediment control measure and the level of effort should be commensurate to the potential problem. A Rock Filter Berm is not to be used solely as a project delineator.

Allow room for equipment access during installation, maintenance, and removal that will

avoid encroachment on sensitive areas such as wetlands.

Design

Berm Placement: Berms should be placed on level contours at the toe of slope. Provide sufficient area for ponded water on the upgradient side of the berm.

The standard drawing includes a rock type that is typically sufficient and is intended to keep fine soil particles from migrating through the berm.

Relationship to Other ESC Measures

Sediment control measures are secondary to erosion prevention or soil stabilization measures. Rock Filter Berms may be used as part of a sequential system with other temporary or permanent measures such as soil stabilization or revegetation.

Common Failures or Misuses

- Incidents in which berm height is affected, such as vehicular traffic over the berm.
- Berm wash-out due to high levels of impounded water or sediment.
- Berm function impairment due to sediment build-up or other lack of maintenance.
- Release of sediment-laden water through a bypass or gap in the Rock Filter Berm.

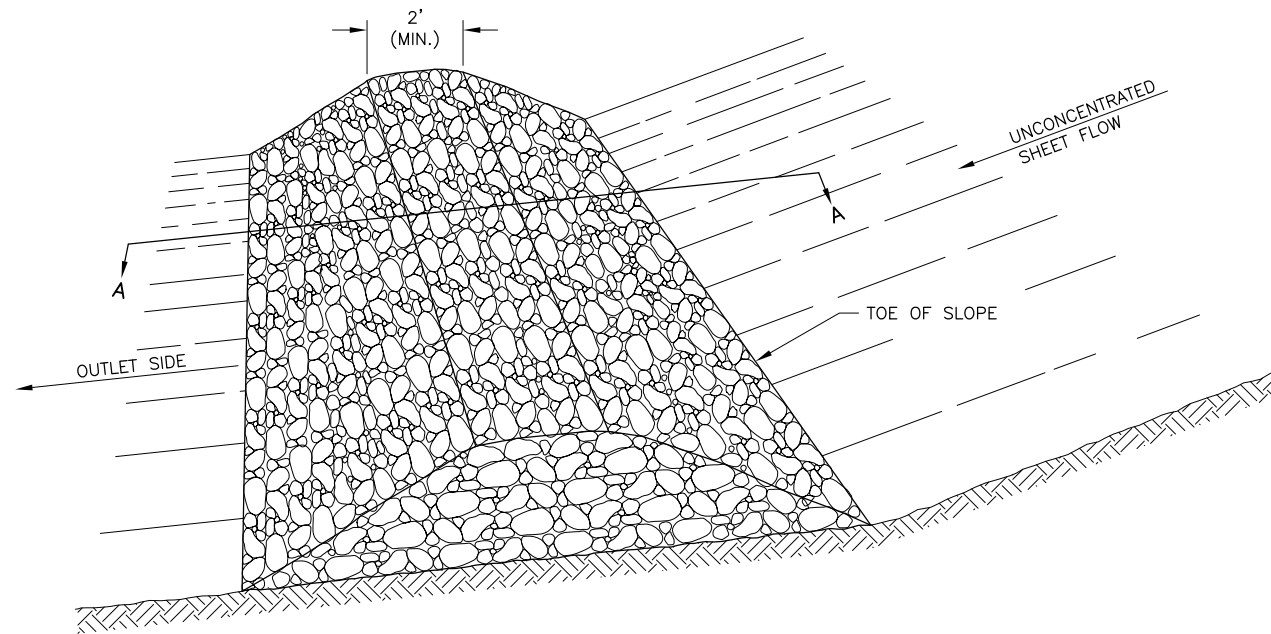
SPECIFICATIONS

Standard Specification

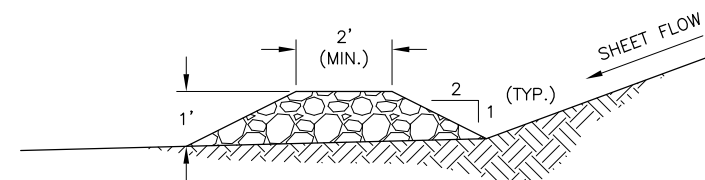
- 678 – Rock Filter Berm

Drawing

- BMP-16.00 -- Rock Filter Berm



PLAN
NOT TO SCALE



SECTION A-A
NOT TO SCALE

ROCK FILTER BERM NOTES:

MATERIALS

ROCK: WELL GRADED 3-INCH MINUS THAT WILL NOT RELEASE SEDIMENT AND HAS LESS THAN 5 PERCENT PASSING THE #200 SIEVE.

INSTALLATION

1. PLACE THE ROCK BERM AS SHOWN ON THE PLANS WITHIN 24 HOURS AFTER GRUBBING.

INSPECTION

1. OBSERVE FOR BERM CONTINUITY INCLUDING COLLAPSE, DAMAGE, COMPROMISED INTEGRITY, OR OTHER FUNCTIONAL INADEQUACIES.
2. LOOK FOR EVIDENCE OF SEDIMENT FLOW OR EROSION ON THE DOWNHILL EDGE OF THE BERM.
3. NOTE DEPTH OF SEDIMENT BEHIND BERM TO SEE IF SEDIMENT IS CLOSE TO ONE-HALF THE BERM HEIGHT.
4. LOOK TO SEE IF THE BERM IS FILTERING OR WHETHER IT HAS BECOME CLOGGED OR OTHERWISE NON-FUNCTIONING.

MAINTENANCE

1. REPAIR OR RESTORE ANY BERM DISCONTINUITIES, DAMAGE, OR POINTS OF FAILURE.
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.

REMOVAL

1. INCORPORATE THE ROCK BERM INTO THE SLOPE, UNLESS DIRECTED OTHERWISE. STABILIZE BARE GROUND AND THE FILL SLOPE.

REVISIONS		
Date	Description	By

State of Alaska ADOT&PF

**ROCK FILTER
BERM**

A
P
P
R
O
V
E
D

Date 12/2015 X/XX/XX