PC-7 WET SWALE

Reference: Maryland Stormwater Design Manual.

BMP Objectives

- ☒ **Perimeter Control**
- ☒ **Slope Protection**
- ☐ **Borrow and Stockpiles**
- ☒ **Drainage Areas**
- ☒ **Sediment Trapping**
- ☐ **Stream Protection**
- ☒ **Temporary Stabilizing**
- ☒ **Permanent Stabilizing**

Definition and Purpose

Wet swales are used to filter pollutants as stormwater runoff moves through them. This BMP is constructed as an open-channel drainage way with grass or other wetland vegetation to filter pollutants. Other features such as check dams, pre-treatment forebays, gravel pads, and riprap can be used to temporarily inhibit stormwater runoff and enhance treatment.

Appropriate Applications

- Flows from wet swales are generally conveyed through a surface outlet structure to an open channel or stream, or directly into a storm sewer.
- Drainage areas are generally less than 10 acres.
- If designed with check dams and/or depression storage, the swale can satisfy site runoff capture storage requirements.
- Runoff sources can be overland from impervious areas or flows from drainage pipes.
- Swale depressions can be used in place of aboveground islands in large parking lots.
- Wet swales:
  - Can be used to enhance stormwater quality and reduce peak runoff.
  - Are efficient for removing a variety of pollutants including suspended solids and nutrients.
  - Are ideal for treating highway runoff in flat terrain areas.
  - Can be used in residential areas if ponded water can be flushed frequently and wetland vegetation in the bottom of the channel can be established and

maintained. Extended periods of standing water may result in nuisance conditions and vector problems.

Standards and Specifications

- Generally, swales are designed to temporarily store the water quality volume for a maximum of 48 hours.
- A vegetative cover needs to be established as soon as possible to prevent erosion and scour. This should also be constructed early in the construction schedule before grading and paving increase runoff rates.
- The maximum ponding depth is generally no greater than 1.5 feet at the outlet.
- Longitudinal slope should be as flat as possible, to minimize velocities and enhance pollutant filtering, while still allowing for periodic flushing of standing water.

Maintenance and Inspection

- Conduct inspections as required by the NPDES permit or contract specifications during construction.
- Periodic inspection and maintenance will be required based on post-construction site conditions.
- Make any repairs necessary to ensure the measure is operating properly.
- Regular maintenance is necessary to remove surface sediment, trash, debris, leaf litter, and dead or diseased plant material.
- Frequent mowing is not required.