

FACILITY: OPEN CHANNELS - WET SWALE (O-2)*



GENERAL MAINTENANCE CARD

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PURPOSE AND FUNCTION

An open drainage channel or depression designed to retain water or intercept groundwater for water quality treatment.

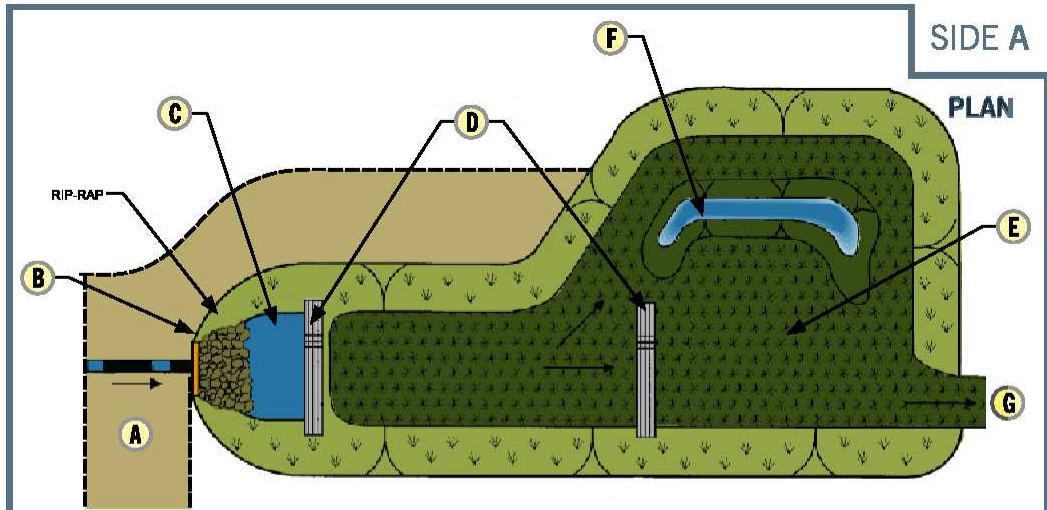
SHORT-TERM MEASURES (FREQUENCY: AT LEAST ONCE A MONTH)

Drainage Issues:

- Maintain contributing drainage area.**
 - Remove trash and debris and dispose off-site, as required.
 - Stabilize and mow area as required. Remove clippings.
 - Ensure that activities in the drainage area minimize oil/grease and sediment entry to the system.
- Inspect inlet (Location B) and forebay (Location C), or other pretreatment devices.**
 - Remove debris manually and dispose off-site, as required.
 - Note any cracks in pipe and concrete pipe collar.
 - Note any displaced field stone. Remove as required.
 - Note any evidence of altered flow around check dams (Location D).
- Inspect wet swale area (Location E) and additional storage pool (Location F).**
 - Remove debris manually and dispose off-site, as required.
 - Note any channels, soil exposure, or other evidence of erosion. Stabilize for further maintenance.
- Inspect outlet (Location G).**
 - Remove debris manually and dispose off-site, as required.
 - Note any undercut or eroded areas. Stabilize for further maintenance.

Landscaping:

- Inspect overall condition of vegetation onsite.**
 - Remove vegetative invasives manually, ensuring root removal, to the extent possible. Refer to Appendix 1: New York State Invasive Plants for key species. Note any significant establishment for future removal/maintenance.
 - Relocate rodents and/or provide exclusion devices, as required.
 - Trim shrubs and cut grass along street frontages, as required. Dispose of clippings off-site.
 - Mow wet swale vegetation as required. Mow only when swale is dry to avoid rutting. Dispose of clippings off-site.



MAJOR AREAS OF PRACTICE

- | | |
|--------------------------------|----------------------------|
| A. Maintenance Accessway | E. Wet Swale Area |
| B. Inlet Structure | F. Additional Storage Pool |
| C. Forebay | G. Outlet |
| D. Check Dam with V-Notch Weir | |

Perimeter Treatment (perimeter boundaries not shown in figures):

- Inspect overall condition of the perimeter treatment items.**
 - Remove accumulated litter/debris by hand; dispose off-site.
 - Secure gates, guiderails, signs, and boulders as required.

MEDIUM-TERM MEASURES (FREQUENCY: ONCE EVERY SIX MONTHS)

Drainage Issues:

- Measure sediment depth in pretreatment forebay (Location C) and additional storage pool (Location F).**
- Inspect inlet (Location B), and forebay (Location C), or other pretreatment devices.**
 - Repair cracks in pipe and concrete pipe collar, as required, if present.
 - Replace displaced field stone, as required.
 - Repair check dams (Location D), as required.
- Inspect wet swale (Location E) and repair eroded areas as required.**
- Inspect outlet (Location G) and repair eroded areas as required.**
- Inspect for unstable embankments.**
 - Repair/reinforce as required using erosion control matting, plantings, etc.

Landscaping:

- Inspect for plant mortality.**
 - Remove dead vegetation by hand; dispose off-site; replant as required.
 - Remove trees that start to grow in the vicinity of the swale (Location E), and dispose off-site, as required.
 - Note any bare areas. Cultivate soil and revegetate as required. Introduce alternative plantings, as required.

Albany County	City of Albany	Town of Bethlehem	City of Cohoes	Town of Colonie	Village of Colonie	Village of Green Island	Town of Guilderland	Village of Menands	Town of New Scotland	Village of Voorheesville	City of Watervliet	SUNY Albany
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* Facility abbreviations refer to 2003 NYSDEC Stormwater Design Manual practice labels

6. Inspect for significant establishment of invasives and develop an area-wide plan for removal.
7. Inspect for herbivore damage.
 - Repair burrows/damage created by rodents, as required.
 - Introduce alternative plantings, as required.

Perimeter Treatment (perimeter boundaries not shown on figures):

7. Lubricate locks and hinges on gates, as required.
8. Refurbish or mow accessway, as required.
9. Inspect and repair damaged locks, gates, guiderails, and signs, as required.

LONG-TERM MEASURES (FREQUENCY: ONCE EVERY YEAR)

Drainage Issues:

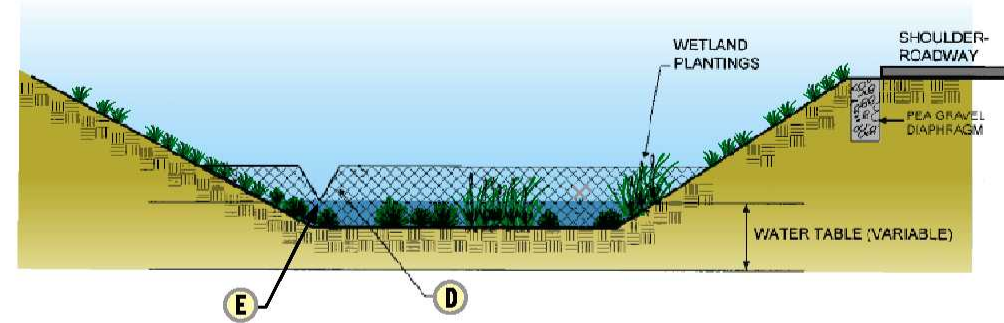
1. Remove sediment from forebay (Location C), additional storage pool (Location F), and adjacent catch basins; "vactoring" recommended.
2. Inspect wet swale area (Location E on Plan Figure).
 - If sediment accumulation is greater than 25% of channel capacity, remove sediment as required.
 - Inspect for uniformity in cross-section and longitudinal slope. Correct as required.
3. Inspect stone diaphragm for clogging. Remove accumulated sediment. Replace stone as required.

DEWATERING PROCEDURE AT PRETREATMENT DEVICE

The forebay must be dewatered before proceeding with "vactoring" operations.

Methodology:

1. Park the "vactor" truck along the maintenance accessway near the inlet (Location A). The boom should be extended in the direction of the forebay.
2. Ensure clear access for a two-person crew down the slope near the forebay (Location C).
3. Pump out the water from the forebay to the vegetated swale.
4. Proceed with "vactoring" operations.



MAJOR AREAS OF PRACTICE

- D. Check Dam with V-Notch Weir
- E. Wet Swale Area

"VACTORING" PROCEDURE AT PRETREATMENT DEVICE

Methodology:

1. Connect the "vactor" truck to an approved nearby source of clean water for "vactoring" purposes.
2. Place water jet hose reel down the slope of the forebay (Location C). Use water jet hose to loosen the accumulated sediment.
3. Place the flexible suction hose down the slope into the forebay (Location C).
4. Perform "vactoring" operations by simultaneously using the suction arm and water jet hose to remove slurry until the rip-rap base is reached.
5. Continue slurry removal until capacity of "vactor" truck is reached.
6. Stop "vactoring" work. Dispose of slurry off-site.
7. Repeat Steps 1-6 until all the sediment has been removed.
8. After "vactoring" work is complete, carefully remove the flexible suction hose and the water jet hose from the forebay, and transport them back to the truck.
9. Inspect the accessway and adjacent area for damage, such as dislodged field stone, wood chips, etc., and refurbish as required.

Note: Secure locks on gates as necessary prior to exiting site.

Paperwork and Reporting

- 1) Refer to site specific SWPPP and regulated MS4 for reporting requirements related to maintenance
- 2) Report practice failures to owner-operator and relevant regulated MS4

Maintenance Considerations During Design

- Erosion and Sediment Control
 - Inlet/Outlet Protection
 - Sediment Removal
- Pretreatment Devices
- Landscaping
- Maintenance Access
- Cold Climate Considerations