

The background of the slide is a blurred, close-up photograph of green grass, creating a textured, organic feel. The text is centered within a white rectangular border.

# **OVERVIEW OF SWM PONDS & DRAINAGE**

# Government Regulations

Federal	<b>Clean Water Act (CWA)</b> – charges the EPA with creating and enforcing pollution control programs and regulations.
Federal/ State	<b>National Pollutant Discharge Elimination System (NPDES)</b> permit program - EPA and Va DEQ <b>Municipal Separate Storm Sewer System (MS4) Permit</b> – requires permit holder to submit annual reports detailing compliance on stormwater management practices, water quality monitoring results, education, and outreach efforts, TMDL Action Plan compliance and other relevant information.
State	<b>Storm Water Management Program</b> (Va DEQ) – primary role is to provide local program oversight, policy guidance, technical assistance and program compliance reviews. <b>Chesapeake Bay Act</b> – enacted by the Va General Assembly and adopted to protect and improve water quality in the Chesapeake Bay by requiring the implementation of effective land use management practices.
Prince William County	<b>Storm Water Management Regulations</b> – control stormwater runoff and pollution from entering our local waterways. The goal is to reduce or eliminate excess fertilizers, herbicides, insecticides, oil, grease, toxic chemicals, sediment, bacteria, pet waste, and discarded trash from entering waterways. These pollutants can degrade water quality, contaminate water supplies, interfere with aquatic habitats and discourage recreational use.



# Storm Water Management Facilities

- Required per State and County standards
- Provide storage for storm water runoff
- Peak runoff from site does not exceed pre-development rate
- Prevent flooding downstream, slows runoff
- Water quality
- Filter out pollutants by allowing sediment and nutrients to settle
- Reviewed/Approved by PWC
- Constructed by developer
- Easement dedicated to PWC



# Dry Detention Ponds

- Holds water during and after storm event
- Water can rise quickly
- Extended detention 48-72 hours
- Fencing required for most dry ponds
- Warning signs required





## DRY PONDS







## Wet Retention Pond

- Permanent pool of water
- Water level rises with storm
- No fencing required if conditions met
- Usually safety/aquatic bench on perimeter
- Warning signs required
- PWC - major maintenance on some wet ponds, based on the note on the plat/plan
- Recommend vegetative strip along pond edge









OTHER  
TYPES  
OF  
BMP's





# Wet Pond Algae

- Excess nutrients
  - Fertilizer, animal waste, and detergents
- Algae growth depletes oxygen levels
  - Loss of aquatic wildlife
  - Odor
- Prevention
  - Grass or vegetation filter strip
  - Nutrient management – limit fertilizer
- Removal
  - Chemical
  - Mechanical
- Fountain/Aerator may help





## Beaver/Muskrat Problems

- Can cause extensive damage
- PWC will trap if affecting the stream or pond function and is in a County easement
- Request signed affidavit from owner





# STORM DRAINAGE SYSTEMS





# MAINTENANCE RESPONSIBILITIES

## County Responsibilities

PWC has major maintenance within easements

- i. Structures – Inlets, Pipes, Culverts
- ii. Rip rap (erosion control stone)
- iii. Major erosion/sedimentation
- iv. PWC responsibility begins at bond release
- v. PWC inspections (post construction)

## Owner/HOA Responsibilities

Property owner / HOA has minor maintenance

- i. Mowing/trimming
- ii. Trash and debris removal
- iii. Trees/landscaping
- iv. Repaving surfaces
- v. Areas not covered by drainage easements

VDOT maintains systems in the right of way.

## COMMON DRAINAGE ISSUES





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## COMMON DRAINAGE ISSUES





# Mosquito Problems

Mosquito and Forest Pest Management

- Inspections
- Larvae Count
- Provide treatment as necessary
- 703-792-6279

