



# Detention Pond Maintenance

Department of Water  
Resources



# Detention Pond Maintenance



# What is a BMP?

For our purposes,

BMP = Detention Pond

## Retention vs. Detention

- Retention: holds rainwater indefinitely
- Detention: holds rainwater for a calculated amount of time



# Why do we need Detention Ponds?

- They collect storm water runoff (non-point source pollution)
- They reduce pollution in waterways
- They provide flood protection in waterways
  - Retain water during rainfall events
  - Release water slowly over time



# Why do we need Detention Ponds?

- They collect silt during construction



- They collect debris and leaf litter after completed





# Why do we need Detention Ponds?

- They collect nutrients like fertilizers
- They collect trash that blows off the street into storm drains
- Do NOT add to this effect by dumping yard waste in the pond!



# Why do we need Detention Ponds?



## Flood Protection

- Runoff accumulates in the pond
- Water drains through an outlet control structure (OCS)
- Outlet Control Structures (OCS) designs are based on several factors
  - There are several different designs
  - The different designs normally determine the type of detention pond



# Get to know your Detention Pond

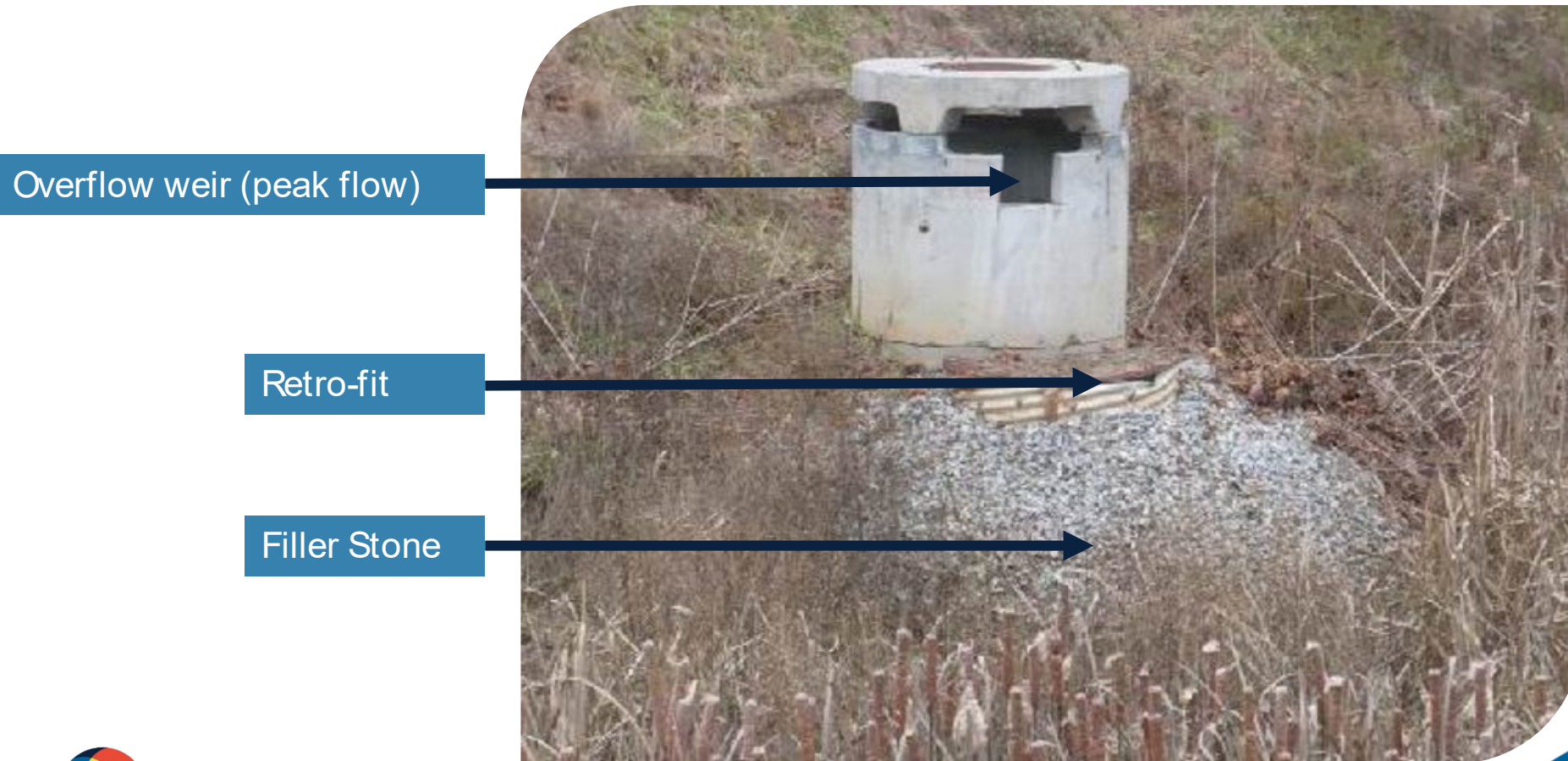
1. Extended Dry Detention Pond
2. Dry Detention Pond
3. Extended Wet Detention Pond
4. Wet Detention Pond



# Extended Dry Detention Pond



# Extended Dry Detention Pond Earthen Dam: OCS with Retro-fit



# Extended Dry Detention Ponds

- Has water quality orifice (WQ)
- Typically has channel protection orifice (CP)
- Has peak flow
- Typically has retro-fit
  - Made up of a perforated filter pipe which protects the WQ and CP pipes
  - Covered with a trash rack
  - Filter stone is placed around the filter pipe to collect silt



# Birds Eye View of Retro-Fit

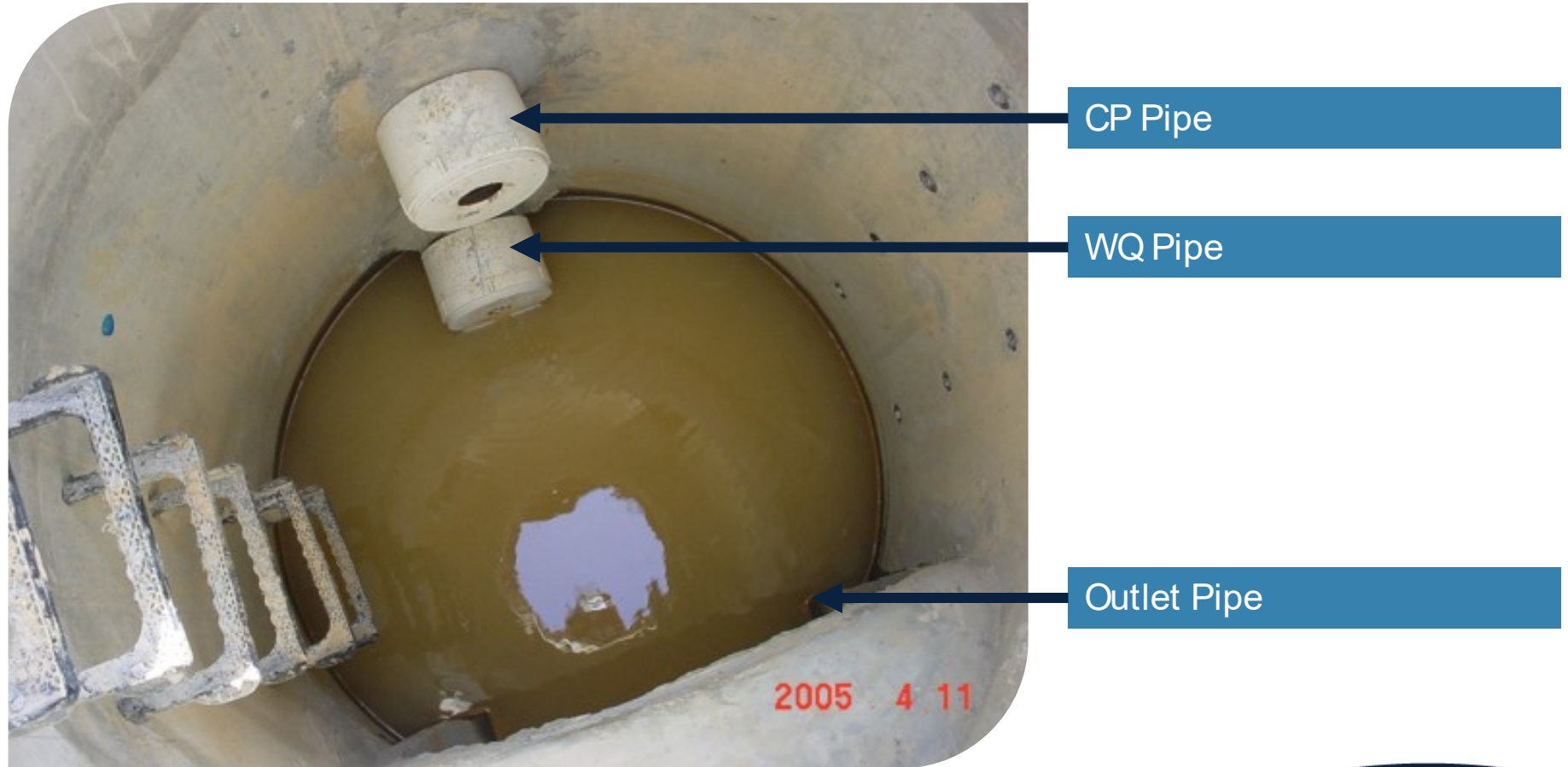
CP Pipe



Trash Rack

WQ Pipe

# Inside OCS





# Extended Dry Detention Pond Retaining Wall: OCS with Retro-Fit

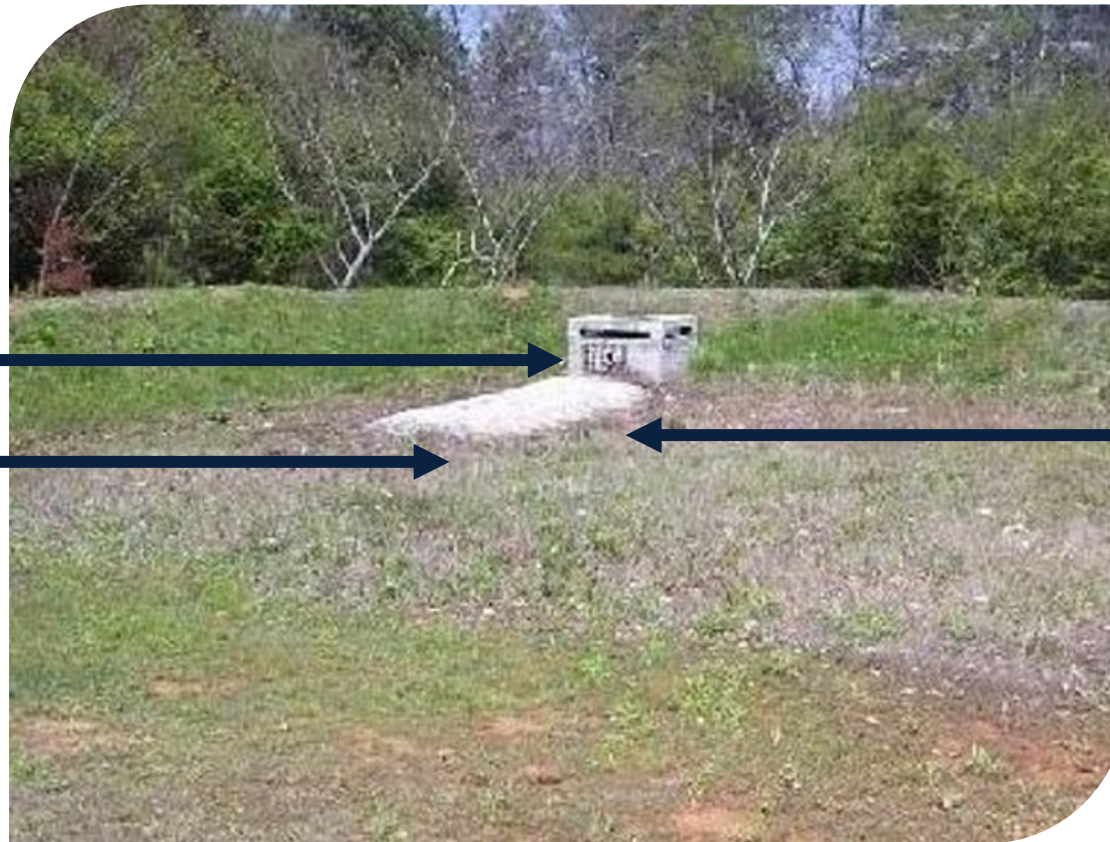




# Extended Dry Detention Pond Earthen Dam: OCS without Retro-fit

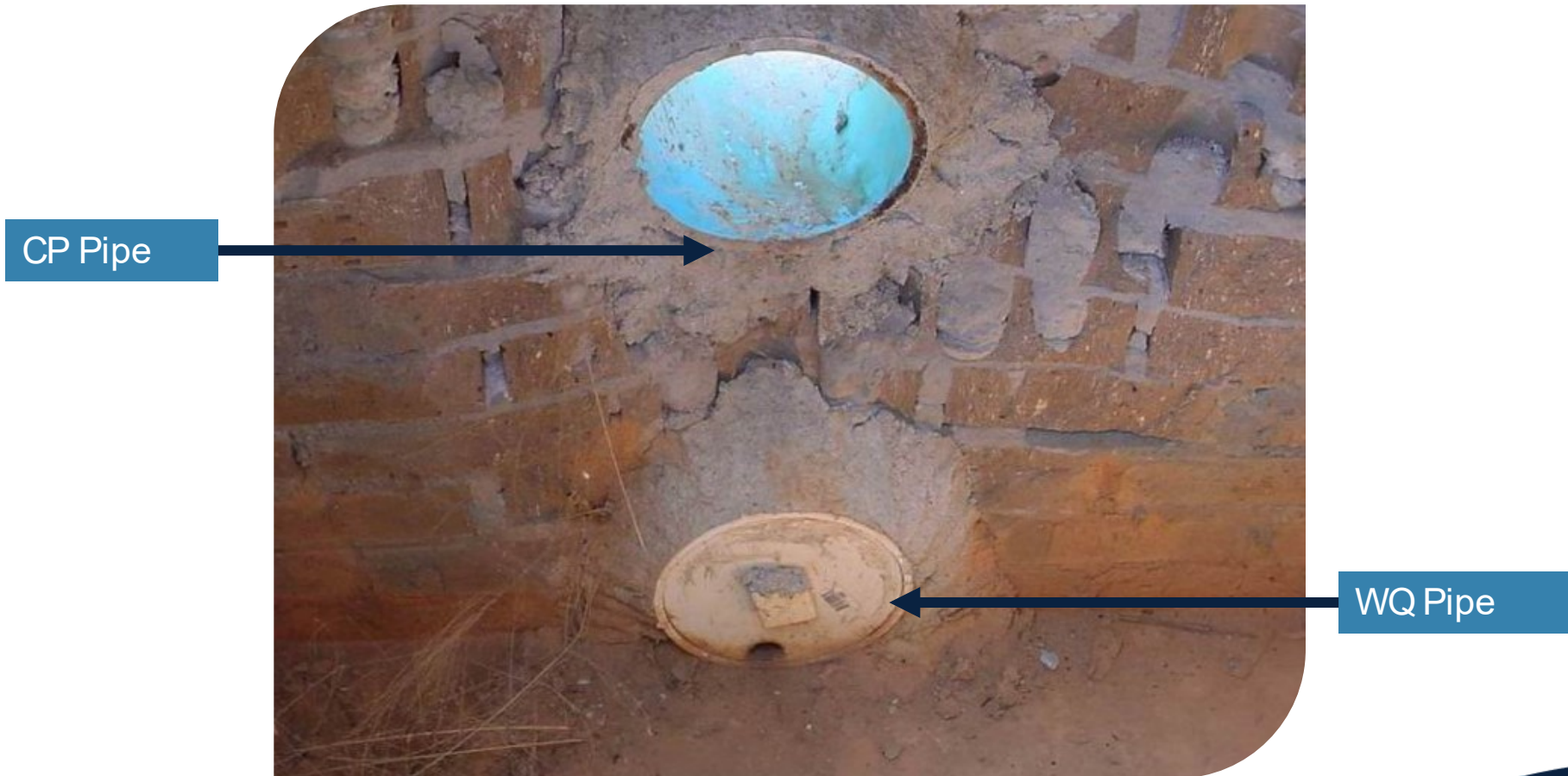
Overflow Weir (Peak Flow)

Water Quality Pipe



Channel Protection with  
Trash Rack

# Inside OCS





# Dry Detention Pond





# Dry Detention Pond OCS: Retaining Wall



# Dry Detention Ponds?

- Constructed prior to 2001
- No water quality component
- Only designed for Peak Flow and Channel Protection
- Simple OCS
- Large orifices

# Dry Detention OCS: Earthen Dam



Overflow Weir (Peak Flow)

Channel Protection Orifice

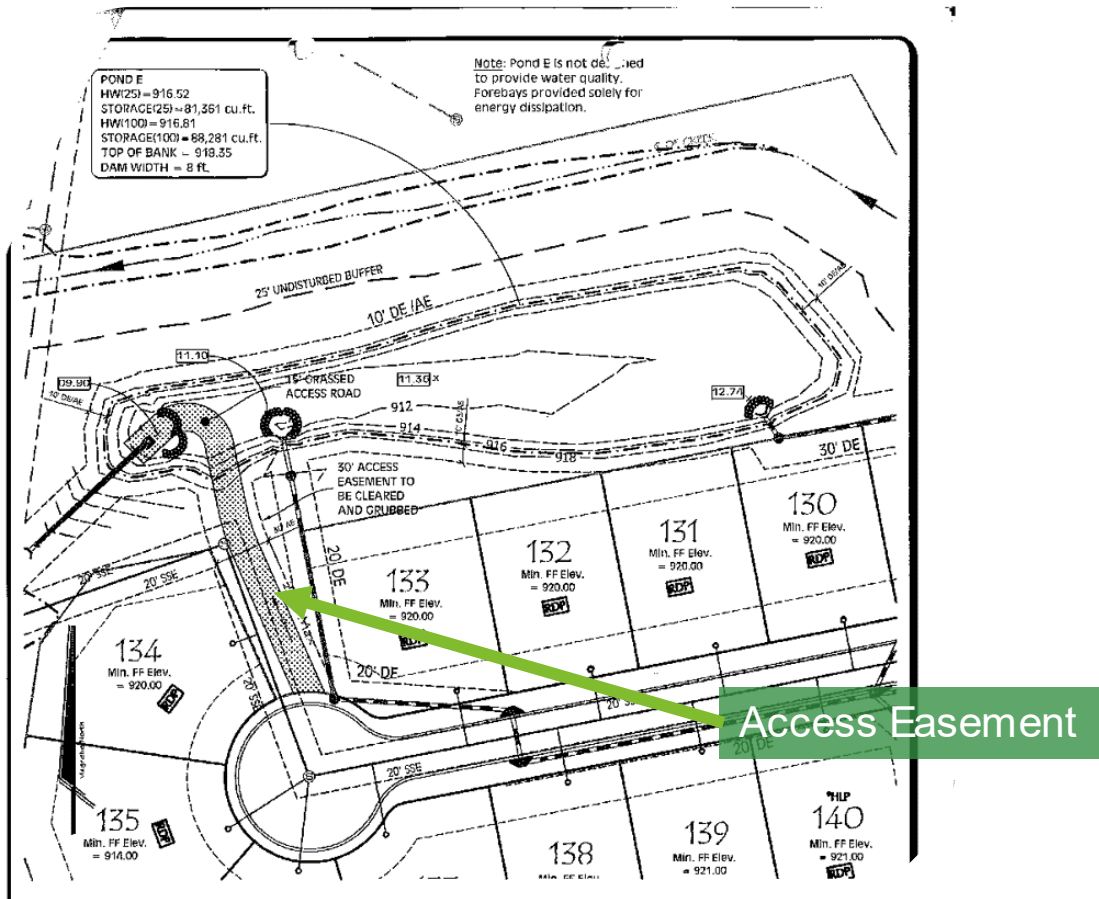


# Preventative Maintenance for Dry Detention Ponds

- Keep vegetation cut back in the easement to allow inspections to be conducted
- Repair erosion early
- Keep trees from growing on the dam
- Keep trash picked up
- Keep the OCS operational
- Repair the forebays
- Keep an eye on the pond, don't neglect maintenance
- Encourage HOA to organize workdays

# Access Easements Must Be Kept Clear

- Every access easement is shown on the final plat
- This is the area that is required to be kept cut back



# Cut Tall Vegetation in Access Easement





# Access Easement was Cleared



# Repair Erosion Rills and Gullies

- No vegetation on the slopes
- Erosion is washing silt into the pond



- Keep grass growing on the slopes





# Erosion was repaired and area was re-seeded



- Erosion was repaired and the slopes were re-seeded
- The slopes were covered with erosion control matting



# Keep Trees from Growing on the Dam



# Dam Breach Due to Trees





# Trees Were Cut Down



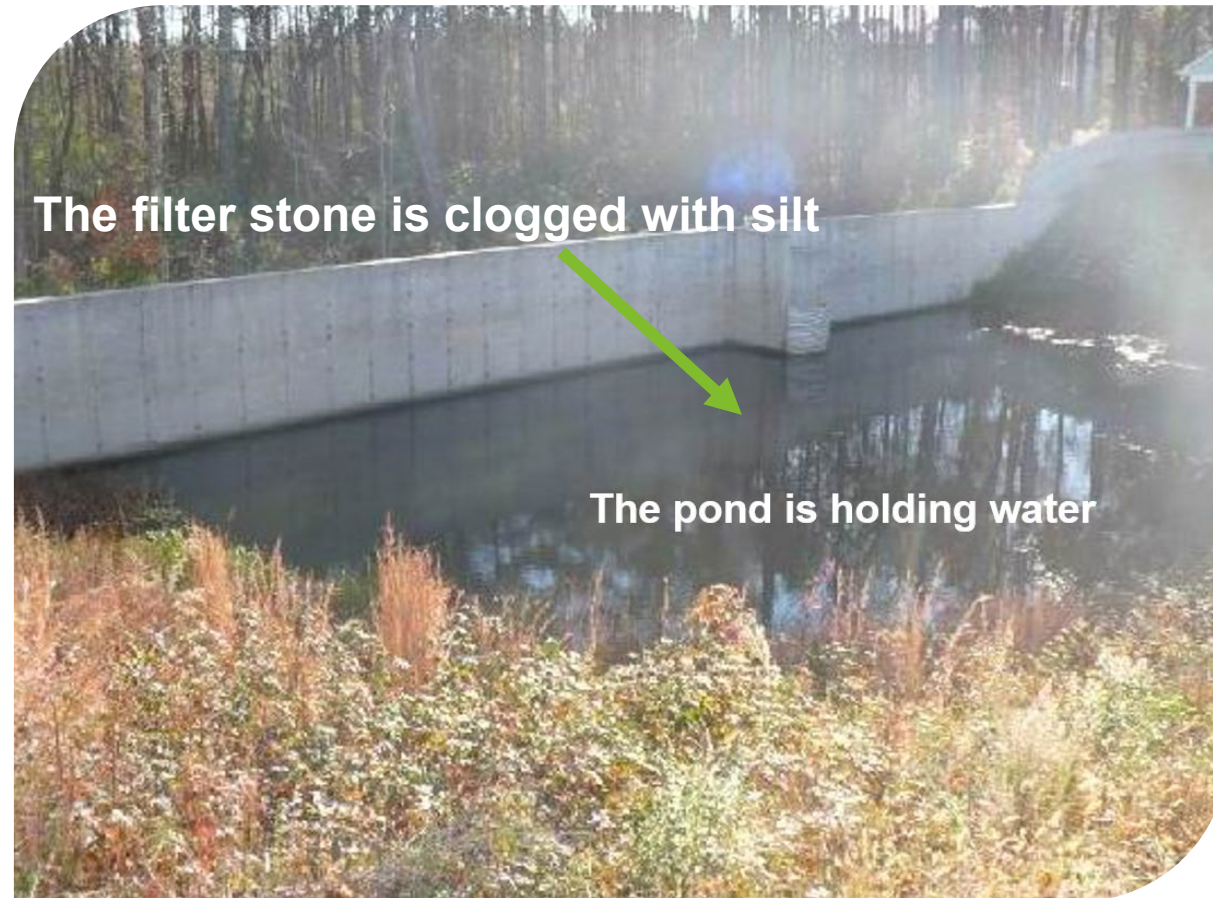


# Remove Trash and Debris



- Detention ponds collect trash from the street and parking areas
- Detention ponds should not be used to dump trash or yard waste
- Excessive trash and debris can wash into streams, so keep the area clean
- Make the community aware that storm drains do not lead to the sewer

# Keep the OCS Operational



# Keep the OCS Operational



No trash rack

The retrofit is full of trash



# Keep the OCS Operational



WQ Pipe is not  
draining

# Get the OCS Functioning

Pipe was unclogged with a long stick



# Get the OCS Functioning

Pond drained  
down in a few  
days





# Get the OCS Functioning



# Get the OCS Functioning

Trash rack was installed





# Repair the Forebays

What is a forebay?

Forebay





# Repair the Forebays



Forebays collect trash

# Repair the Forebays

Forebays collect silt

Forebays wash out

2003 10 1

# Forebay was repaired



Silt was removed from forebay, and washout repaired



# Retaining Wall Inspection



# Retaining Wall Inspection





# Retaining Wall Inspection





# Retaining Wall Inspection



# Retaining Wall Inspection



# Extended Wet Detention Pond

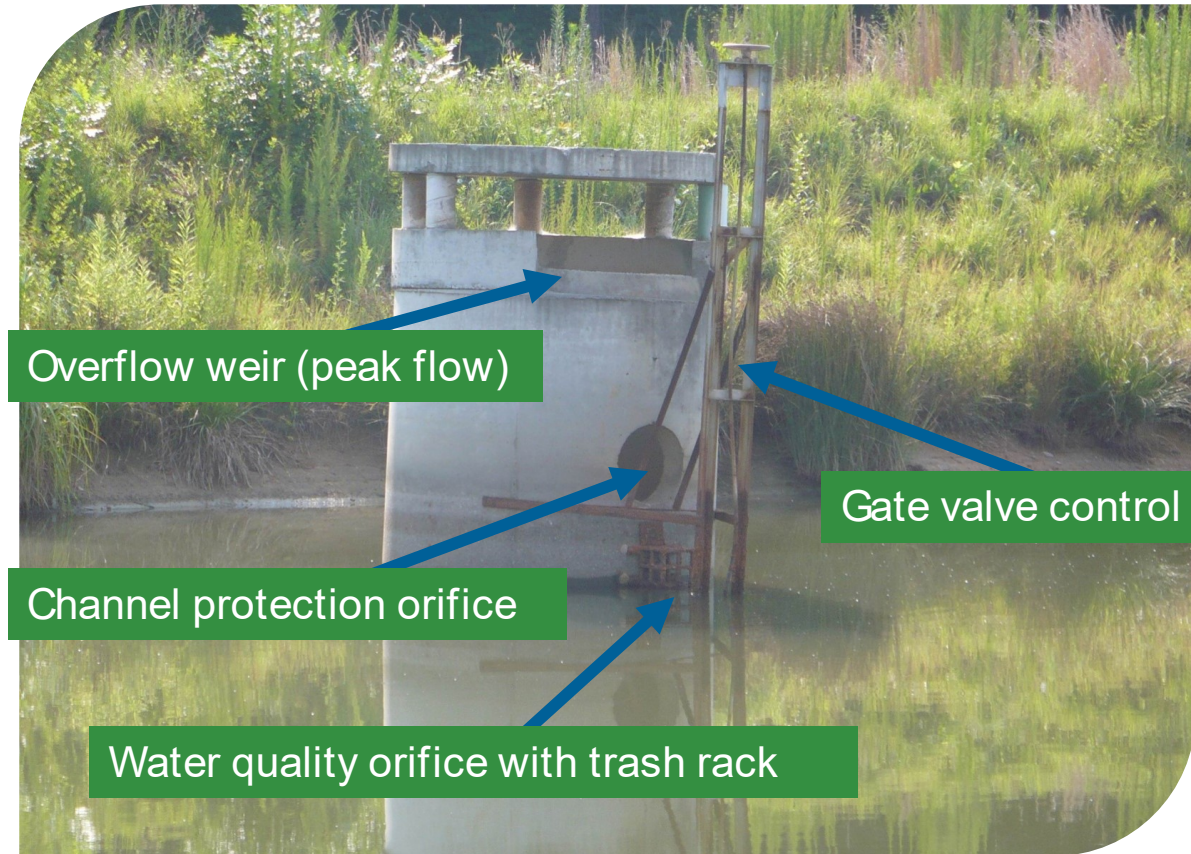




# Extended Wet Detention Pond

- Constructed after 2001
- Has water quality component
- Typically has channel protection component
- Has peak flow component
- Low Maintenance
- Repairs can be costly
- Pond must be drained for major repairs

# Extended Wet Detention Pond OCS



# Extended Wet Detention Pond OCS



Typically, inaccessible without a boat



# Wet Detention Pond



- Constructed prior to 2001
- No water quality component
- No channel protection component
- Only designed for peak flow
- Low maintenance
- Repairs can be costly
- Pond must be drained for major repairs

# Wet Detention Pond OCS



# County Assistance

- The county does have an erosion assistance program
- The county can provide erosion control mat
- The county can provide rip rap for the forebays and erosion control
- Call 678-376-7193 to request the rip rap or erosion control
- Call this number for any stormwater related drainage complaints



# Stormwater Utility Credits

- Both older ponds and newer ponds can qualify
- 3 Types of credits
  - Water quality
  - Channel Protection
  - Peak flow
- Maximum 10% credit EACH, for a possible total of a 30% credit

# Stormwater Utility Credits

Applying and Obtaining Credits for a pond

1. Credit Application Form

- a. Just like the form filled out tonight
- b. Can be obtained online

# Stormwater Utility Credits

Applying and Obtaining Credits for a pond

## 2. Volume Certification

- a. Shows old volume versus new volume
- b. Form can be obtained online and filled out by your engineer

## 3. Include the topo survey and a stage storage document

- a. Shows measurements of pond
- b. Show data and calculations used for Volume Certification document



# Stormwater Utility Credits

## Applying and Obtaining Credits for a pond

- Pond owner fills out Credit App
- Engineer will fill out Volume Certification and produce the survey and stage storage document

# Stormwater Utility Credits

Applying and Obtaining Credits for a pond

- Mail to: Gwinnett County Department of Water Resources
  - 684 Winder Highway, Lawrenceville, GA 30045
  - C/ O: Stormwater Utility Billing Customer Service
- For more information, call a Stormwater Utility Billing Customer Service representative at 678-376-7193, and choose option 5

# Stormwater Utility Credits

[Pay Water Bill](#) | [Online Services](#) | [A-Z Index](#) | [FAQ](#) | [Site Map](#)

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### Stormwater Utility Fee and Credits

[Pay My Bill](#)

[How to Report a Problem](#)

### Stormwater Utility Fee and Credits

To fund the efforts that keep the stormwater system fully operational, a Stormwater Utility fee is collected from Gwinnett County property owners. This fee is used to replace old pipes, reduce pollution, monitor water quality, and maintain the stormwater infrastructure. Much strategic planning and prioritization goes into decisions to allocate the funds received by the Stormwater Utility. The funds exclusively support the continual upkeep of the system to protect and preserve our community. To learn more about the activities under way to protect the County's stormwater management system, check out our [Stormwater Management page](#).

Fees are assessed according to the impervious surface area or stormwater "footprint" of each parcel, rather than property value. View the [Stormwater Utility Ordinance](#) for more information.

#### Locate Your Billing Information

Stormwater Utility fees can be found on your property tax bill, although they are not associated with property taxes. Visit the County GIS site below to view your property's assessed surface area.

[Find stormwater billing information on the web](#)  
[Stormwater Utility Rate Structure Resolution](#)

#### Appeals

If you feel that your Stormwater Utility fee has been incorrectly assessed, you may request a review or appeal.

[Appeals Procedure](#)  
[Staff Review Request Form](#)  
[Administrative Appeal Application Form](#)

#### Credits

There are many actions you can take as a Gwinnett County resident to reduce stormwater runoff and clean pollutants on your property. When you adopt stormwater Best Management Practices (BMPs) that reduce the burden on the community's drainage system, you are eligible to receive fee credits.

Credits are available in two areas: Watershed Stewardship and Water Quality. The total maximum credit for any property is 40 percent, and once credits are processed, they are applied to the Stormwater Utility Fee on your property tax bill. Taking advantage of fee credits both protects water quality and saves you money.

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#### Most Commonly Applied Credits

Some of the most commonly applied credits fall under the Watershed Stewardship category. They include:

- [Septic tank](#) maintenance: having your septic tank pumped out can earn you a 10 percent credit for five years
- County approved workshops and training programs: by learning to improve water quality or reduce stormwater runoff, you can earn a five percent credit every year that you participate in a workshop. Visit [Events and Workshops](#) to sign up for our next course
- [Public participation](#): you can earn a five percent credit by participating in an activity like stenciling storm drains, a stream clean-up project, or passing an Adopt-a-Stream training course
- Rain barrels: rain barrels collect rainwater from rooftops, reducing the amount that goes into the system. By installing one at each downspout, you can earn a three percent credit. Learn more about [rain barrels](#)
- Automatic sprinkler sensors: if you install sensors to prevent automatic sprinklers from operating during rain events, you can earn a 10 percent credit for a one-year term

For more information and ideas for credits, see the [Stormwater Credits Introduction](#).

For the full manual and details on credits, see the [Stormwater Credits Manual](#).

#### How to Obtain a Credit

You can apply to the Department of Water Resources for Stormwater Utility service fee credits free of charge by using the form and instructions included below.

[Stormwater Credits Application Form](#)  
[Guide to Obtaining Existing Stormwater BMP Online Volume Certification](#)  
[Underground Detention Credit Renewal](#)

For assistance with Stormwater Credits, call 678.376.7193.



# Questions?

For more information contact:

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