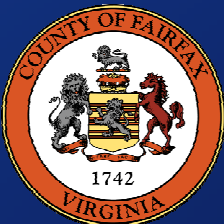


# Fairfax County's Post-Construction Facility Maintenance Implementation – Policy & Process

CWEA Fall Stormwater Seminar  
October 21, 2015  
Rockville, Maryland

Department of Public Works and Environmental Services  
*Working for You!*



A Fairfax County, VA, publication  
October 21, 2015

# Today's Presentation...

- Drivers and County Program Descriptions
- County Contractor Awareness Training Concepts
- County Contractor Awareness Training Implementation
- Initial Contractor Awareness Training Session
- Conclusions & Lessons Learned



# Drivers and County Program Descriptions

## Fairfax County Overview



- Washington, DC metropolitan area
- 400 square miles
- 30 Watersheds
  - Chesapeake Bay Watershed
- 1.1 Million residents
- Phase 1 MS4 Permittee
- Latest Permit (VA0088587) became effective April 1, 2015

# Drivers and County Program Descriptions

- MS4 Permit: Privately Maintained SWM Facilities (Part I.B.2.h)
  - 2(a): “The permittee shall...implement a program to ensure proper maintenance of each privately maintained SWM facility that discharges into the MS4 system as documented in the MS4 Program Plan.”
  - 2(a)(2): “...the permittee shall inspect all privately maintained facilities no less than once per 5 years and conduct follow up activities to ensure the required maintenance has been completed.”



# Drivers and County Program Descriptions

- MS4 Permit: Publicly Maintained SWM Facilities (Part I.B.2.h)
  - 1(a): “The permittee shall provide for adequate long-term operation and maintenance of SWM facilities owned or operated by the permittee in accordance with written inspection and maintenance procedures included in the MS4 Program Plan.”
  - 1(b): Inspect annually or alternative schedule based on risk assessment.



# Drivers and County Program Descriptions

- Corresponding State Regulations:
  - Virginia Pollutant Discharge Elimination System Permit Program (VPDES)-VDEQ
  - Virginia Chesapeake Bay Preservation Act (9VAC25-830)
  - Virginia Erosion and Sediment Control (9VAC25-840)
  - Virginia Stormwater Management Program (VSMP) (9VAC25-870)
- And Corresponding Local Ordinances:
  - Chapter 104: Erosion and Sediment (E&S) Control
  - Chapter 112: Zoning Ordinance
  - Chapter 118: Chesapeake Bay Preservation Ordinance
  - Chapter 124: Stormwater Ordinance



# Drivers and County Program Descriptions

## Fairfax County Program Statistics

- Fairfax County conducts inspections on all privately owned SWM/BMPs at least once every 5 years (750+/year).
- ~70% (3,900 of the 5,600) of SWM/BMP facilities in the County inventory are privately owned and/or maintained.
- The County's inventory of facilities continues to grow...
  - VSMP encourages post construction LID / runoff reduction BMPs
  - The variety of facility types also continues to grow





# Drivers and County Program Descriptions

- **Above-Ground Facilities**

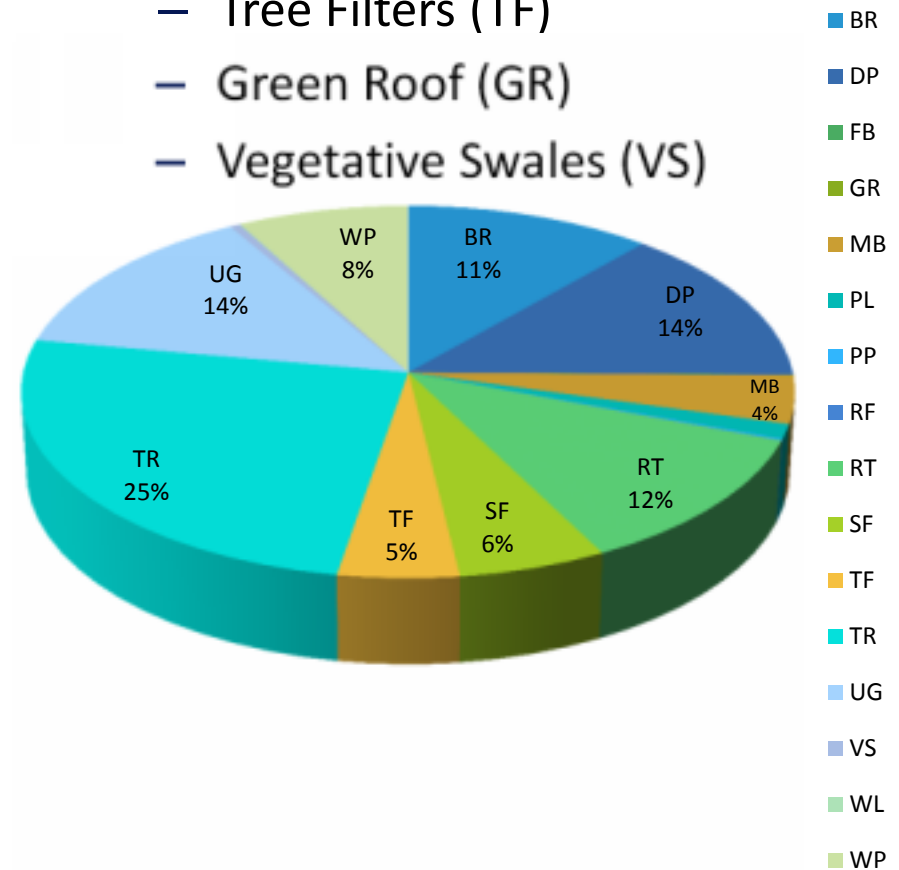
- Wet and Dry Ponds (WP, DP)
- Infiltration Trenches (TR)
- Wetlands (WL)
- Permeable Pavement (PP)
- Rooftop Detention (RT)

- **Below Ground Facilities**

- Underground Detention (UG)
- Sand Filters (SF)
- Manufactured BMPs (MB)
  - Proprietary
  - Non-proprietary

- **Vegetative Practices**

- Bioretention (BR)
- Tree Filters (TF)
- Green Roof (GR)
- Vegetative Swales (VS)

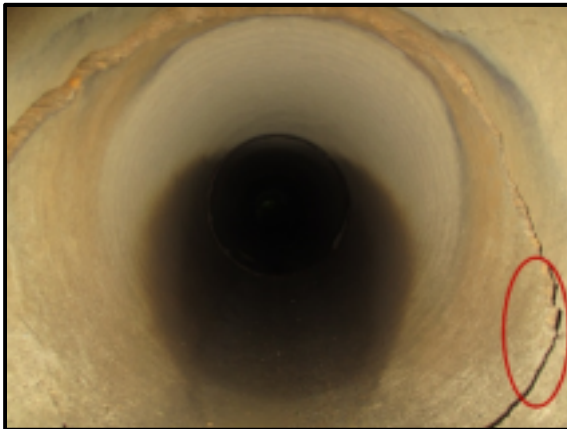




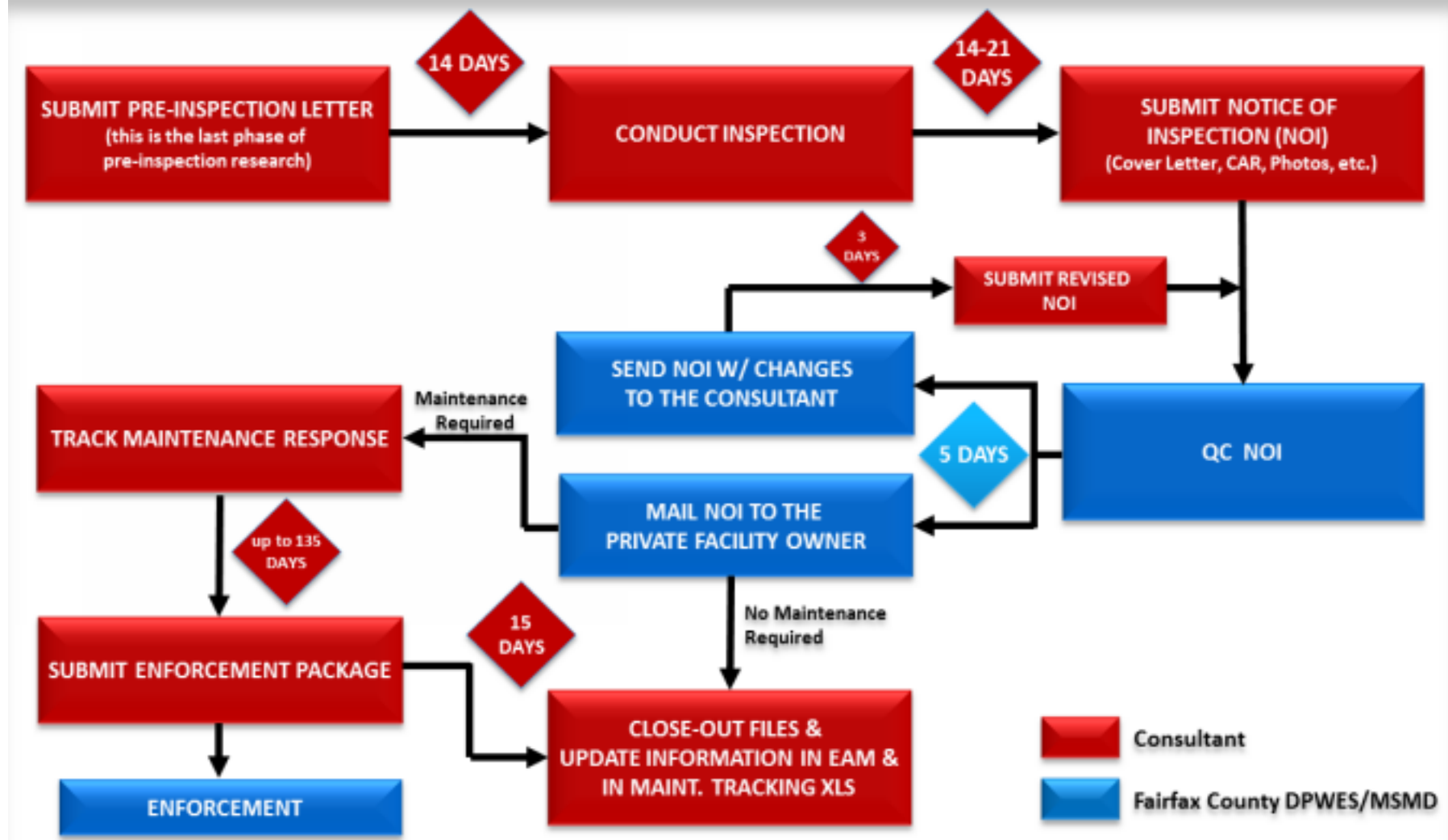
# Drivers and County Program Descriptions

## Fairfax County Program Statistics

- More than 80% of privately owned facilities required maintenance (noted deficiencies) in the last inspection cycle.

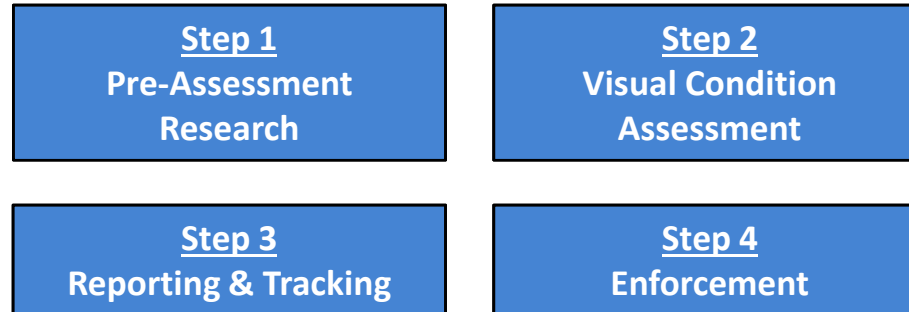


# Fairfax County Inspections-Basic Overview



# Fairfax County Inspections- Basic Overview

## Private Inspection Program's 4 basic steps:



- **Step 1**
  - The County notifies the owner in advance of an inspection.
  - Inspectors prepare appropriate maps/documents (e.g., appropriate County Inspection form for the SWM/BMP type, easement information, etc.).
- **Step 2**
  - Visual condition assessments (inspections) are conducted & facility components documented by photograph.
  - Common maintenance items are recorded by relative severity on a field inspection form and any unusual items are noted.

# Fairfax County Inspections- Basic Overview

- **Step 3**

- Inspection results are then verified, reviewed, and formatted in the office into a formal report provided to the owner.
- Owner responses are tracked in a County database, with checkpoints at specific dates from when the owner received the inspection report and follow-up correspondence.
  - 45-days (deadline for maintenance completion/written response)
  - 90- & 135-days (responses are delinquent)
  - **A completed/signed Maintenance Activity Report (MAR) MUST be received to close the inspection file!**

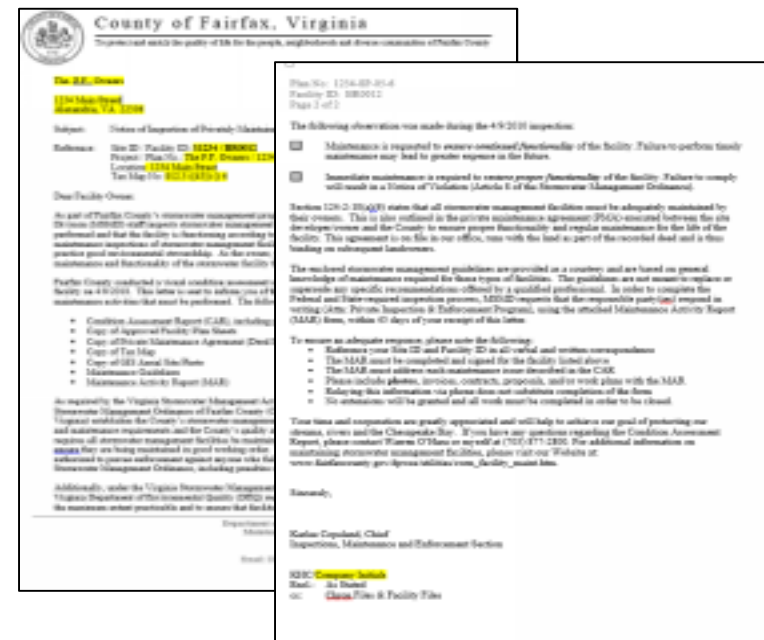


**NOTE:** Inspections are only a “point in time” observation of the condition at a SWM/BMP facility.

# Fairfax County Inspections- Reports & Forms

- Within approximately thirty (30) days of a completed inspection, the County provides a *Notice of Inspection (NOI)* to the facility owner, which currently includes all available documents as follows:

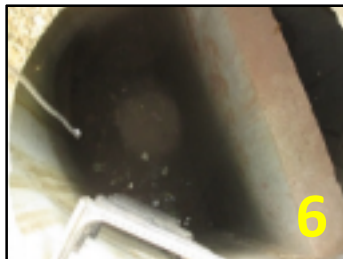
- Cover letter
- Condition Assessment Report (CAR)
- Photos with captions and an orientation sketch
- Maintenance Activity Report (MAR)
- Private Maintenance Agreement (PMA), if applicable
- Site Plans
- Tax and GIS Maps
- Maintenance Guidelines and “Owner’s Guide” Brochure



# Fairfax County's Post-Construction Facility Maintenance Implementation – Policy & Process

## Fairfax County Inspections-CAR

### Examples of a CAR:



Site ID / Facility ID: S0213 / UG0056

### UNDERGROUND DETENTION CONDITION ASSESSMENT REPORT (CAR)

**Facility Overall:**

Not Fully Accessible  
 Signs

**Inflow(s):**

Blockage  
 Damage / Deterioration  
 Trash / Debris / Sediment  
 Erosion / Bare Spots  
 Inconsistent with Plans  
 Other

**Detection Pipe / Vault:**

Not Fully Accessible  
 Blockage  
 Damage / Deterioration  
 Trash / Debris / Sediment  
 • Trash, debris, and/or sediment was noted in the detection pipe/vault. These materials must be removed. **Photo # 7**

Inconsistent with Plans  
 Other

**Control Structure:**

Not Fully Accessible  
 Missing / Not Found / Non-Functional  
 Blockage  
 • The low-flow or/lines have become blocked. All blockages must be removed. **Photo # 8**

Damage / Deterioration  
 Trash / Debris / Sediment  
 • Trash, debris, and/or sediment was noted in the control structure. These materials must be removed. **Photo # 8**

Vegetation  
 Inconsistent with Plans  
 Other

Page 2 of 3

UNDERGROUND DETENTION  
CONDITION ASSESSMENT REPORT (CAR)

Site ID / Facility ID: S0XXX/UG00XX

No deficiencies were noted during the assessment. Thank you for maintaining your stormwater management facility in good working order. Please continue routine maintenance.

Maintenance is required to ensure continued functionality of the facility. Failure to perform timely maintenance may lead to greater expense in the future.

Immediate maintenance is required to restore proper functionality of the facility. Failure to comply will result in a Notice of Violation (Article 5 of the Stormwater Management Ordinance).

**Summary of Condition Assessment**

Continue Routine Maintenance	Deficiencies Noted, Action Required	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Facility Overall
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Inflow(s)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Detection Pipe / Vault
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Control Structure
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Outfall Structure

This stormwater management Condition Assessment Report (CAR) offers a "joint-in-time" representation of observed conditions at the facility and is not intended to provide any information regarding the functional integrity of the structure nor provide warranty as to present or future structure condition or performance. The CAR is not meant to replace or supersede any specific recommendation offered by a qualified professional.



# Fairfax County Inspections- MAR/Owner Response

- To ensure an adequate response, a *fully completed MAR* should note the following:
  - Site ID and Facility ID, as noted on the NOI and all inspection forms
    - Please make sure this is also noted in any verbal/written correspondence.
  - Must address each maintenance issue described in the CAR
    - Attach copies of photos, invoices, contracts, proposals, and/or work plans to MAR.
  - MAR form completed and signed
  - A completed/signed MAR **MUST** be received to close the inspection file!

**MAINTENANCE ACTIVITY REPORT**  
(Response requested within 45 days of receipt)

According to County records you are the current owner of a privately maintained stormwater management facility that had deficiencies noted during an inspection on *Inspection\_Date*. This standard Maintenance Activity Report is requested as part of the private inspection/maintenance process. Failure to complete this form in a timely manner could result in a non-compliance status which could lead to enforcement activities.

Please complete this form legibly in ink and mail or email to the following address within 45 days of receipt.  
Please reference your Site ID and Facility ID in all correspondence.

**Attn: Visual Condition Assessment Program**  
Department of Public Works and Environmental Services  
Maintenance and Stormwater Management Section  
1800 West Drive  
Fairfax, Virginia 22030  
TEL: 703-677-2800  
Email: DPWRES-MSMD-Inspections@fairfaxcounty.gov

**Facility Information (to obtain an idea of context):**  
Project: *Plan Name*  
Plan No.: *Plan Number*  
Location: *Facility Address*  
Site Map: *Fac. Site Map*  
Site ID / Facility ID: *SITE\_ID* / *FACILITY\_ID*  
Watershed: *Watershed*

**Ownership and Contact Information**

Current Owner: \_\_\_\_\_  
Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
Email: \_\_\_\_\_

Owner's Agent for Maintenance:  
Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
Email: \_\_\_\_\_

**Description of Work Completed**  
Attach any invoices, photos or other information relative to maintenance performed or planned

Description of Work Completed	Date Completed	Cost (optional)

See other side for additional pages.

I, \_\_\_\_\_, hereby certify that the statements above are true to the best of my knowledge.  
Printed Name: \_\_\_\_\_

Signature (Owner or Owner's Agent): \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

Legislative Regulations Pertaining to this Form:  
Fairfax County Code, Article 1, Section 15B-1.1, Storm Storage Facilities, maintenance and cleanups  
Fairfax County Code, Article 1, Section 15C-1.1, Reduction of Storm Runoff  
Federal Clean Water Act Section 402 (b) enabling the National Pollution Discharge Elimination System under which Fairfax County is required to meet Pollutant standards as required by the Municipal Separate Storm Sewer System (MS4) Permit # VAD000287  
Chesapeake Bay Preservation Act  
Virginia Stormwater Management Act

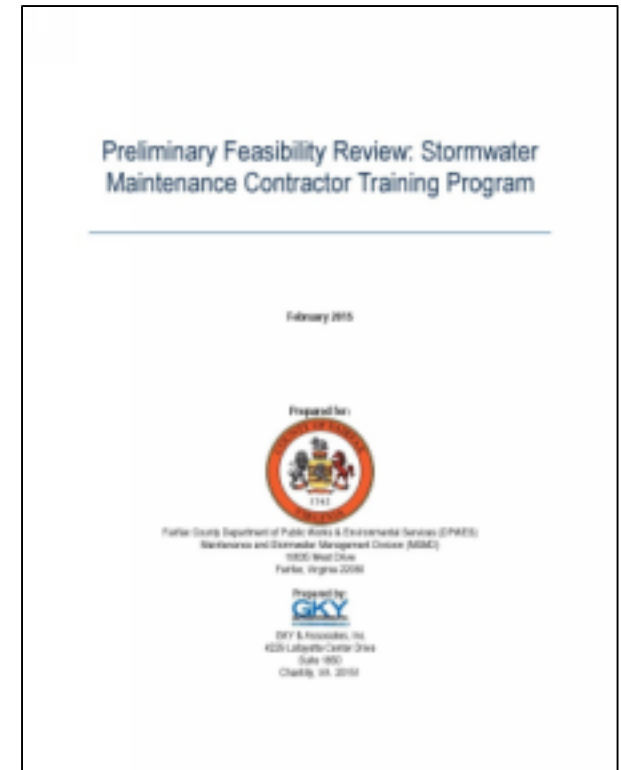


# Fairfax County Inspections-Response Timeframes

- **Step 4**
  - If facility deficiencies are noted, the owners are requested to return a *fully completed MAR*, upon maintenance completion and within 45 days.
    - If no response is submitted, owners receive 45- and 90-day follow-up letters, as required.
    - After 135 days and no MAR received by DPWES, the file is then forwarded for enforcement review and follow-up.
    - Non-compliance can face injunctions as well as civil/criminal penalties, dependent upon the circumstances and severity of the violation.
      - Public health, safety, and welfare are priority concerns.
  - **If a fully completed MAR is received within the allowable timeframe, the file is closed until the next scheduled inspection.**

# Awareness Training: Concepts

- County has implemented a robust inspection program.
- Some owners lack a full understanding of the maintenance requirements for their SWM/BMPs.
- Understanding the basic requirements & importance of *timely* maintenance/repairs serves everyone's interest, supports public safety, & helps facilities function as designed.
- County recognized a need to assist facility owners in a way that moves the program forward...engages a study on contractor awareness training...



# Awareness Training: Concepts

- Concepts identified in the study included...
  - Improving owner responses and timely completion of maintenance work.
  - Provide owners with a list of trained maintenance contractors to complete maintenance work highlighted on County inspection reports.
  - Improve the positive response rate thus reducing the number of facilities moving to enforcement, lessening the County's burden.
  - Offer the contracting community a potential marketing opportunity for its services.
  - Provide a public education and outreach opportunity.

Improve  
Response  
Time

Provide  
Resource

Provide  
Incentive

Educate

# Awareness Training: Concepts

- Study designed to answer a series of questions and issues, including:
  - Enabling authority and legal considerations
  - Maintenance performance metrics
  - Program equity (public vs. private facilities)
  - Potential liability
  - Current County inspection and reporting protocols and the need to evaluate in the event changes would be needed to accommodate a contractor training/listing program
  - Potential training topics, logistics, and cost



# Awareness Training: Study

- Study evaluated two similar programs in the Washington DC metro area
  - Montgomery County, Maryland
  - City of Alexandria, Virginia
- Each developed a published listing of stormwater maintenance contractors
- Each established differing criteria for listing...
  - Formal training program – student examination
  - Simple listing with disclaimer



# Awareness Training: Study

- Study recommendations included:
  - Make SWM maintenance contractor training available to the vendor community.
  - Note training attendance will get the contractor's firm listed on the County's web page, but attendance is not required to perform maintenance on facilities in the County.
  - Deliver training 2X/year as the program starts up.
  - For the vendor list, include caveat language to limit the County's liability in developing and posting such a list (no endorsement, etc.).
  - Include a re-training requirement of once every 3 years for firms to remain listed.
  - If needed, consider including a similar training requirement for County contractors working on public facility maintenance.
  - Retain the right to delist firms.

# Awareness Training: Program Implementation

- Fairfax County developed the training program...
  - Advertising (mail, web, social media...)
  - Online registration

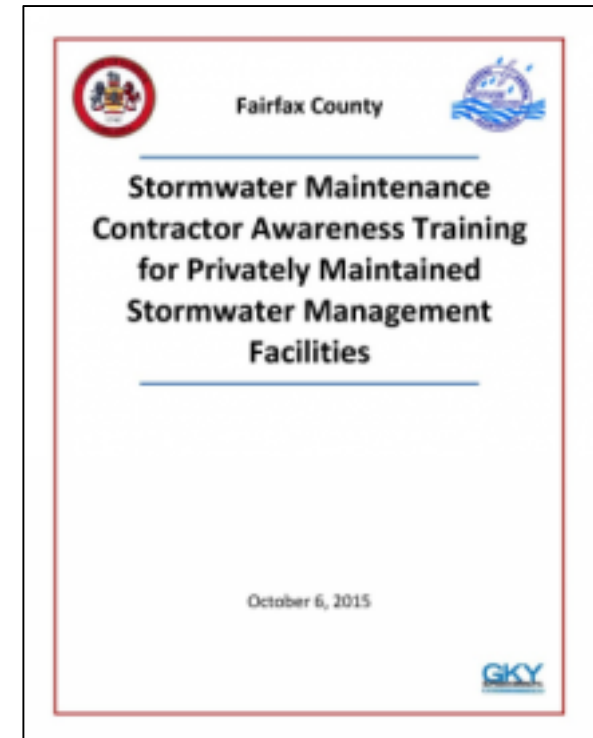




# Awareness Training: Program Implementation

## Training Course Outline:

- One day training class
  - History of SWM and regulations
  - County inspection basics
  - The inspection report and MAR
  - Common SWM/BMP types
    - Common maintenance issues-General
  - Common SWM/BMP types, deficiencies, and remedies
    - Above Ground Facilities
    - Below Ground Facilities
    - Vegetative Practices
  - Closing remarks/questions



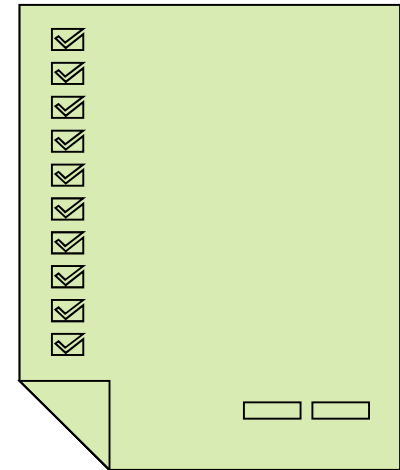
# Awareness Training: Program Implementation

- Initial training class conducted on October 6, 2015
  - ~45 participants
  - Wide variety of contractor expertise
    - Landscaping
    - Engineering
    - Roofing
    - Plumbing and Pipe
    - Subsurface Utilities
    - Wetlands and Pond Maintenance
    - HOAs
  - Initial feedback very positive



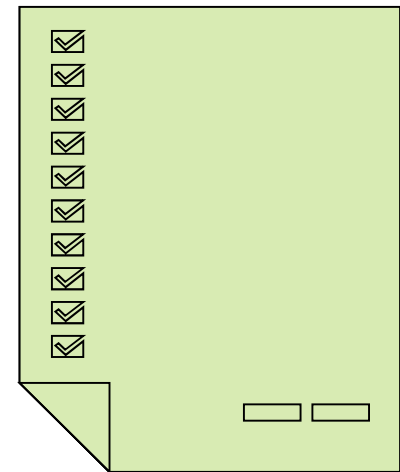
# Awareness Training: Program Implementation

- Participant comments and suggestions included:
  - Having County staff available for specific questions about the County program was very helpful.
  - Taking time to dig into the County's program and processes was universally praised.
  - Take the opportunity to highlight the owner's routine maintenance responsibilities more (maintenance agreement) than just the once every five years the County inspects and reports....
  - More information on anticipated life cycles of the facilities reviewed.
  - Appreciative of the section on safety.
  - Debris and sediment disposal....



# Awareness Training: Program Implementation

“Thanks for taking the time to share your experience with us and pass this information to us so we can help our customers better.”



## Awareness Training: Next Steps

- Post participating vendors on the County SWM web page and begin the tracking clock (3 years).
- Post training materials and slides on County SWM web page.
- Incorporate comments and suggestions into the training materials, as appropriate.
- Next training class scheduled for April 26, 2016.

# Awareness Training: Next Steps

Questions / Comments?



# Awareness Training: Next Steps

## Thank you!

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