



# **NPDES STORMWATER PERMITTING REQUIREMENTS**

## **WHAT 12-SW MEANS FOR INDUSTRIAL FACILITIES IN MARYLAND**

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October 15, 2015

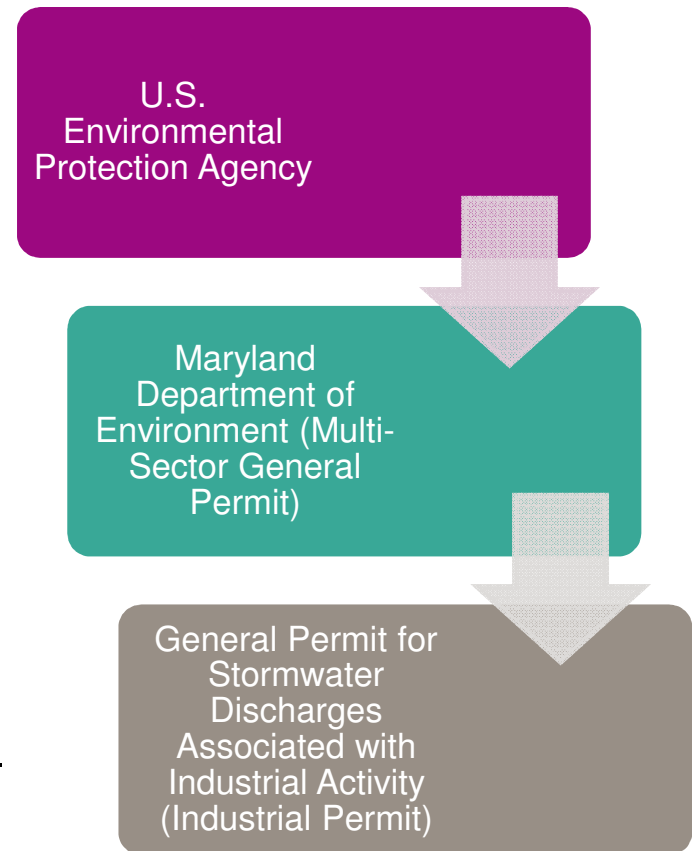
**AECOM**

# Presentation Overview

- NPDES Permit Background
- Requirements of MDE's General Permit 12-SW
- Challenges for Industrial Properties

# Industrial General NPDES Permit Background

- EPA issued Clean Water Act Amendments that established stormwater NPDES requirements for industries and municipalities in 1990
- Maryland, a delegated authority by EPA, has been issuing *General Permit 02-SW* since 1992
- Permit re-issued every 5 years
- Last Permit expired on November 30, 2007
- The General Permit 02-SW replaced by 12-SW on January 1, 2014



# Industrial NPDES Permits other than 12-SW

- General Permit 12-SW is not applicable for all industries requiring a permit:
  - Where industry-specific General Permits are available
    - Mineral quarries, borrow pits, concrete and asphalt plants
    - Surface coal mines
    - Marinas
    - Animal feeding lots
  - Where Individual Permits required
    - For certain industries subject to effluent guidelines
    - When MDE requires an individual permit

# Which industries are covered under 12-SW?

- Based on their Standard Industrial Classification (SIC), facilities that
  - Fall under the Primary Industrial Activity Sectors (Appendix A of 12-SW Permit)
  - Discharge stormwater runoff related to industrial activity as defined in 40 CFR 122.26 (b) (14) (i)-(ix) and (xi)

- Sector A - Timber Products
- Sector B - Paper and Allied Products Manufacturing
- Sector C - Chemical and Allied Products Manufacturing
- Sector D - Asphalt Paving and Roofing Materials Manufactures and Lubricant Manufacturers
- Sector E - Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing
- Sector F - Primary Metals
- Sector G - Not currently covered in this permit.
- Sector H - Not currently covered in this permit.
- Sector I - Oil and Gas Extraction and Refining
- Sector J - Not currently covered in this permit.
- Sector K - Hazardous Waste Treatment Storage or Disposal
- Sector L - Landfills and Land Application Sites
- Sector M - Automobile Salvage Yards
- Sector N - Scrap Recycling Facilities
- Sector O - Steam Electric Generating Facilities
- Sector P - Land Transportation
- Sector Q - Water Transportation
- Sector R - Ship and Boat Building or Repairing Yards
- Sector S - Air Transportation Facilities
- Sector T - Treatment Works
- Sector U - Food and Kindred Products
- Sector V - Textile Mills, Apparel, and other Fabric Products Manufacturing
- Sector W - Furniture and Fixtures
- Sector X - Printing and Publishing
- Sector Y - Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries
- Sector Z - Leather Tanning and Finishing
- Sector AA - Fabricated Metal Products
- Sector AB - Transportation Equipment, Industrial or Commercial Machinery
- Sector AC - Electronic, Electrical, Photographic and Optical Goods
- Sector AD - Designated by the Department

# 12-SW Permit Reissuance Process

- After the permit issuance, the facility is required to submit to MDE
  - Completed Notice of Intent (NOI)
  - Stormwater Pollution Prevention Plan (SWPPP)
  - A fee
- Exemption from 12-SW coverage
  - If there is no potential for stormwater runoff to be exposed to pollutants

**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
 GENERAL PERMIT Number 12-SW for DISCHARGES from  
 STORMWATER associated with INDUSTRIAL ACTIVITIES  
 Notice of Intent (NOI) for Permit No. 12-SW

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**DISCHARGE PERMIT NO. 12-SW      NPDES PERMIT NO. MDR000000**

Submission of this NOI constitutes notice that the party identified in Section I of this form intends to be authorized by a State/ National Pollutant Discharge Elimination System (NPDES) permit issued for discharges from stormwater associated with industrial activities identified in Section II of this form. All information requested must be provided in order to be considered for authorization to discharge under this permit. Instructions are provided at the end of this form.

SECTION I: Facility Operator Information			
(A) Owner/Operator Name			
(B) Primary Contact Name		Title	
Telephone Number		Email Address	
(C) Mailing Address			
City		State	ZIP Code
(D) IRS Employer Identification Number (EIN)		(E) Check Below	
		<input type="checkbox"/> Private <input type="checkbox"/> Federal <input type="checkbox"/> State/Local	
SECTION II: Facility Information			
(F) Name of Facility			
(G) Facility Address (if different than your mailing address)			
City		State	ZIP Code    County
		MD	Anne Arundel
(H) Worker's Compensation Insurance		Insurance Company Name	Policy Number
Identify number of above ground storage tanks at your facility		Total volume (in gallons) of above ground storage tanks	

Form Number: MDE/WMA/PER.004  
 Revision Date: March 14, 2014  
 TTY Users 1-800-735-2258

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# How different are the requirements from 02-SW?

Requirements	02-SW	12-SW
Development of SWPPP	✓	✓
Employee Training	✓	✓
Identification of Pollution Prevention Team	✓	✓
Implementation of best management practices (BMPs) (minimize exposure/preventive maintenance/good house keeping/spill prevention and response/erosion and sediment control)	✓	✓
Chesapeake Bay Restoration Requirements	x	✓
Visual Monitoring	x	✓
Additional monitoring requirements for industries discharging into impaired water bodies	x	✓
Industry-Specific Benchmark Monitoring	x	✓
Annual Report	x	✓

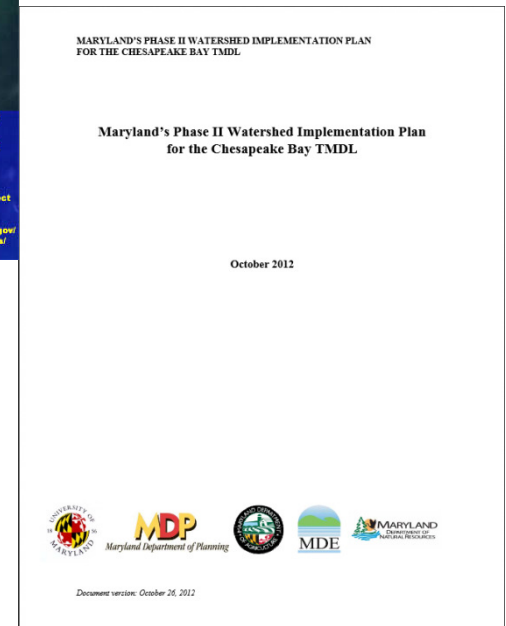


# Chesapeake Bay Restoration Requirements

**Requirement:** *Facilities must implement restoration measures to treat 20% of the untreated impervious area that exists on January 1, 2006*

## Applicability:

- Greater than 5 acres
- Located within the Chesapeake Bay Watershed within Phase I and II Municipal Separate Storm Sewer System (MS4) Jurisdictions
- Not owned/leased from a permitted MS4





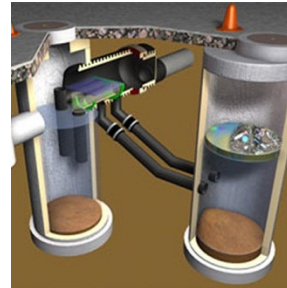
# Chesapeake Bay Restoration Requirements - Timelines

- Restoration measures must be implemented within
  - 5 years of the effective permit date for facilities previously covered under 02-SW
  - 4 years from the date of filing of NOI for all other permittees

# Potential Restoration Options – Traditional BMPs



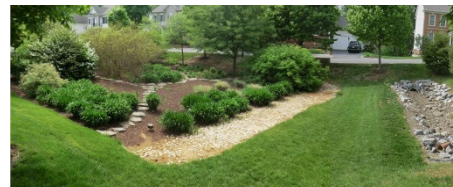
Sand Filters



Hydrodynamic Separators



Wet Ponds



Bioretentions



Infiltration Trenches



Vegetated Swales

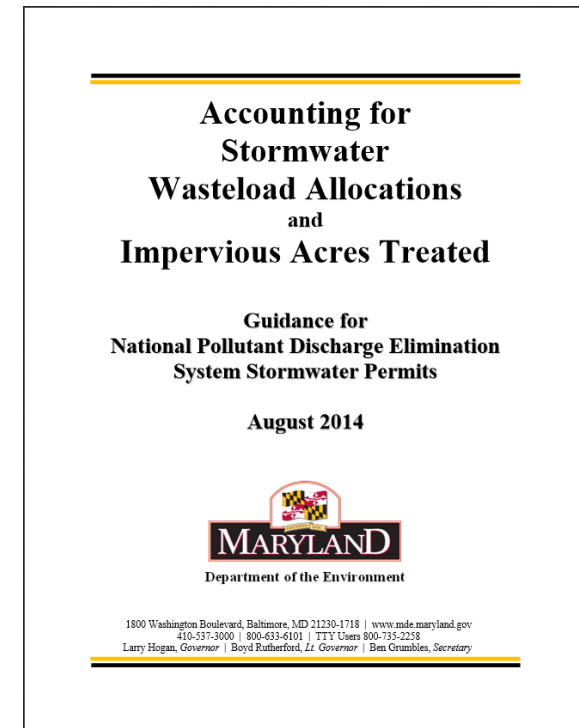


# Potential Restoration Options – Green Infrastructure Practices



# Potential Restoration Options – Alternative Urban BMPs

- Alternative Urban BMPs accepted by MDE
  - Street sweeping
  - Reforestation
  - Conversion of impervious cover to pervious/forest
  - Catch basin cleaning/storm drain vacuuming
  - Step pool conveyance system
  - Outfall stabilization
  - Stream restoration





## Chesapeake Bay Restoration Requirements- Potential Challenges

- *Challenge*
  - Lack of available open space
- *Solution*
  - Implementation of alternative urban BMPs such as street sweeping, catch basin cleaning, tree box filters, pervious pavements



Airgas Facility in Hyattsville, MD  
Source : Bing Maps



Example of Street Sweeping  
Source: <http://pubs.usgs.gov/sir/2007/5156/>

## Chesapeake Bay Restoration Requirements- Potential Challenges

- *Challenge*
  - Availability of funding
- *Solution*
  - Grants (e.g., CBT, MD DNR, )
  - Partnerships with local municipalities or other permit holders
  - Integrate with other improvement projects for site
  - Consider alternative solutions (tree planting, impervious area reduction)

## Chesapeake Bay Restoration Requirements- Potential Challenges

- *Challenge*
  - Regular maintenance and inspection of implemented BMPs to retain the credits and record keeping
- *Solution*
  - Employee volunteer programs
  - Education and outreach for employees
  - Consider maintenance requirement when selecting BMP
  - Include BMP maintenance components in SWPPP and SWPPP training





# Monitoring

- Visual monitoring
  - Quarterly for all permitted outfalls
- Bench mark monitoring
  - For specific industry sectors only
  - Analyze samples for all benchmark parameters for 4 quarters
  - Ensure average of 4 monitoring values do not exceed benchmark by implementing suitable controls
- Additional monitoring
  - As specified by MDE for facilities discharging to impaired

Quarterly Visual Monitoring Form			
Fill out a separate form for each sample collected (one form per outfall)			
Facility	Examiner's Name & Title		Permit ID: 10-MA
Outfall No.	Date / Time Collected:	Date / Time Examined:	
Quarter / Year:	Qualifying Storm?   Yes   No	Runoff Source:   Rainfall   Snowmelt	
Parameter	Parameter Description	Parameter Characteristics	
1. Color	Does the storm water appear to have any color? Yes      No (Clear)	If Yes, describe: Yellow Brown Red Gray Other:	
2. Clarity	Is the storm water clear? Yes      No	If not clear, which of the following best describes the clarity of the storm water? Suspended Solids Milky/Cloudy Opaque Other:	
3. Oil Sheen	Can you see a rainbow effect or sheen on the water surface? Yes      No	Which best describes the sheen? Rainbow sheen Floating oil globules Other:	
4. Odor	Does the sample have an odor? Yes      No	If Yes, describe: Chemical Musty Rotten Eggs Sewage Sour Milk Oil/Petroleum Other:	
5. Floating Solids	Is there anything on the surface of the sample? Yes      No	If Yes, describe: Suds Oily Film Garbage Sewage Water Fowl Excrement Other:	
6. Suspended Solids	Is there anything suspended in the sample? Yes      No	Describe:	
***wait 30 minutes***			
7. Settled Solids	Is there something settled on the bottom of the sample? Yes      No	Describe: (wait 30 mins after collection, note type, size and material)	
8. Foam	Is there foam or material forming on the top of the sample surface? Yes      No	Describe: (shake bottle gently, is there foam?)	

Detail any concerns, corrective actions taken and any other indicators of pollution present in the sample. This should include the identified source if there are visible indicators present in the sample.

Storm Water Examiner's Signature and Date: \_\_\_\_\_

Note - Sample should be collected and analyzed in a colorless glass or plastic bottle.

## **Bench Mark Monitoring Industry Sectors**

- Chemical and allied products manufacturing and refining
- Landfills and land application sites
- Automobile Salvage Yards
- Scrap recycling and waste recycling facilities
- Food and kindred products
- Fabricated metal products

# Annual Report

- Summarizing comprehensive annual site compliance evaluation
  - Events of exposure of potential pollutants to stormwater runoff
  - Leaks/spills
  - Offsite tracking of industrial or waste materials
  - Events of pollutants entering drainage system
  - Inspection and evaluation of outfalls
  - Inspection, maintenance and evaluation of performance of BMPs
  - Trainings
  - Visual and analytical monitoring
- Personnel performing evaluation and date of evaluation

# Conclusion

- 12-SW requirements include significant requirements related to the Chesapeake Bay TMDL
- Burden on industries with tight operating costs
- Need for additional labor effort and financial commitment to meet all the inspections, monitoring and record keeping requirements

Thank You