

Storm Water – Current Regulations and Issues

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- **Background of Storm Water Regulations**

- Phase I - 1990

- Applies to construction activities affecting > 5 acres, or < 5 acres if part of “larger common plan”

- Phase II – 1999

- Applies to “small construction activity” = land disturbances of 1 to 5 acres, or < 1 acre if part of “larger common plan of development”

■ Background

- DEP Storm Water Management Policy – 2002
 - Implemented federal Phase II NPDES storm water permit program in PA
 - Policy requires implementation of Best Management Practices (“BMPs”) for protection of surface and ground waters.

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- Why do we have these regulations?



- **Regulatory Overview – E&S Controls**
 - Erosion and Sediment Control Regulations – 25 Pa. Code Chapter 102
 - Specific requirements dependent upon size and nature of earth disturbance activity
 - Disturb $< 5,000 \text{ ft}^2$ - must implement and maintain E&S control BMPs to minimize potential for accelerated erosion and sedimentation
 - Disturb $> 5000 \text{ ft}^2$ - develop written E&S control plan



■ Requirements of E&S Control Plan

- ❑ Prepared by person trained and experienced
- ❑ Must contain a sequence of BMP installation and removal in relation to the scheduling of earth disturbance activities before, during and after earth disturbance activities
- ❑ Includes a maintenance program including inspection of BMPs on a weekly basis and after each measurable rainfall event



■ Discharge to HQ or EV Streams

- Earth disturbance resulting in discharge to HQ or EV waters requires E&S Control Plan regardless of size of disturbance
- Special sediment basin requirements apply
 - e.g. must dewater in at least 4 days and no more than 7 days when at full capacity
- Must implement BMPs designed to convey peak discharge from a 5-year frequency storm

- Permit Requirements for Storm Water Associated with Construction Activities
 - Individual or general NPDES permit required
 - Earth disturbance 5 acres or >
 - Earth disturbance < 5 acres if part of larger common plan of development 5 acres or >
 - 1 – 5 acres if a point source discharge of storm water to surface water
 - E&S control permit required for timber harvesting or road maintenance activity > 25 acres

- Permit options
- Individual NPDES permit
 - Submit application to regional DEP office 120 days before construction activities commence
 - Follow general NPDES application guidelines
- General NPDES Permit (PAG-2)
 - Submit NOI to county conservation district 30 days before construction activities commence.
 - Develop E&S control plan meeting Chapter 102

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- General Permit Requirements (cont.)
 - PPC plan
 - Post-construction storm water management plan
 - BMPs that protect and maintain water quality
 - Weekly site inspections w/ written report
 - Immediate reporting of non-compliance



- Construction activities ineligible for PAG-2
 - Discharges to HQ waters
 - Discharges containing hazardous pollutants
 - Discharges adversely affect threatened or endangered species
- Phased Permit Process – 3/29/03 Policy
 - Allows permittee to proceed w/ construction in phases on long term or large scale projects
 - Full application process for initial phase.

➤ Post Construction Storm Water Plans

- Federal NPDES regulations require identification of post construction storm water management BMPs in permit application
- To implement, DEP amended the permit application and NOI for PAG-2 to require
- One purpose is to implement DEP Anti-degradation requirements of §93.4a, which requires maintenance of existing instream water uses and water quality

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- PCSM Plans should be developed in accordance with various BMP Manuals, including draft DEP BMP Manual
 - Design to maximize infiltration technologies
 - Eliminate or minimize point source discharges
 - Preserve integrity of stream channels and biological and chemical qualities of stream



- PCSM Plan Integration into Act 167 Plans and MS4 Permits
 - Act 167 – Counties required to develop watershed based storm water management plans implemented by municipalities
 - Federal Phase II regs require NPDES permit for discharges from Municipal Separate Storm Sewer Systems (MS4)

- MS4 = any conveyance (including roads w/ drainage systems, catch basins, curbs, ditches, owned by local gov't designed to collect and convey storm water.
- MS4 requirement is to develop, implement and enforce a BMP based storm water program

➤ MS4 Permit elements

- Require E&S controls for construction activities
- Require BMPs to manage post-construction storm water for new development and redevelopment

➤ Where municipality controls storm water through MS4 NPDES permit, must design PCSM Plan in accordance with ordinance.

- **Antidegradation implementation in HQ Waters**
 - Maintain water quality, unless can show “social or economic justification” (SEJ)
 - Tiered approach for approval of new or increased discharges to HQ
 - (1) Evaluate nondischarge alternatives
 - (2) If nondischarge alternative not environmentally sound and cost-effective

- (a) use best available combination of cost-effective treatment, land disposal, pollution prevention and wastewater reuse technologies
- (b) Demonstrate the discharge will maintain and protect existing quality of receiving stream
- SEJ Exception
 - If applicant demonstrates that allowing lower water quality is necessary to accommodate important economic or social development in the area
 - Lower quality cannot preclude maintenance of existing and designated water uses.

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↓ NPDES Industrial Storm Water Permit Program

- Federal Phase I - includes 11 industrial categories required to be permitted, including construction activities disturbing 5 acres or >
 - Also includes heavy manufacturing, landfills, power plants, transportation facilities, metal scrapyards, sewage treatment plants

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- Permitting applies to storm water runoff from specific activities and/or areas w/in those industrial categories
 - Buildings, plant yards, access roads, material handling sites, shipping and receiving, storage of raw materials
- Structures and land separate from a plant's industrial activities, e.g. office buildings and parking lots, are excluded, as long as drainage from sites is not mixed w/ storm water from regulated areas

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↓ “No exposure certification” Exception

- Available to industrial categories except construction
- Allows bypassing of permit process if industrial activities and materials are not exposed to storm water
- Certification must be made on a facility wide basis and be resubmitted every 5 years

↓ BMP Manual Basics – for SWM Professionals

■ Recommended Control Guidelines

– Volume controls –

- ◆CG1 – no increase in runoff volume, pre-dev to post dev, for up to 2-yr/24-hr storm event
- ◆GC2 – Capture & remove runoff generated by 1.5" rainfall
– provide 24-hr extended detention of 1-yr/24-hr storm

– Rate control and Water Quality

- ◆Peak rate control of 2-yr to 100 yr storms
- ◆Reduction of 85% particulate
- ◆No increase in temperature > 3° F

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↓ Top principles for SWM

- Prevent storm water impacts first
- Mitigate second
- Manage storm water as a resource
- Integrate storm water in initial design
- Maintain water cycle balance for quantity and quality
- Preserve and utilize natural systems (soil, vegetation)

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- Status of BMP Manual
 - Central Office finalizing
 - Final draft expected mid 2006.
 - Public comment to follow.
 - Final manual expected towards end of 2006.