

# NPDES Stormwater Permitting

Monroe and Pike County Conservation Districts

Wednesday March 3, 2010



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# PCSM Delegation Agreement

Craig Todd, MCCD District Manager  
Susan Beecher, PCCD Executive Director

- History of PCSM delegation
- Pre Application Meeting
- Admin Review
- PCSM Engineering Review by Staff P.E.
- Record of Decision – must document to DEP compliance w/ all NPDES requirements, including anti-deg.
- Permit Issuance
- Inspections of PCSM and E&S BMPs

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# Administration

Orianna Richards, Head Resource Conservationist  
Susan Beecher, PCCD Executive Director

- Program Changes
- Administrative Reviews – Common Errors
- Permit Processing
- Major / Minor Modifications
- Pre-Application Meetings
- PNDI / PNHP
- Time Extensions

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## Program Changes

- Recent Changes
  - Municipal Notification
  - Updated GIF and NOI
  - NPDES General Permit (PAG-02)
- Future Changes
  - Chapter 102 and E&S Manual Revisions
  - EPA Rule (280 NTU)
    - February 1, 2010
    - August 1, 2011
    - February 1, 2014

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## Administrative Reviews

- Common Errors
  - Blank spaces
  - Non-separate E&S and PCSM Plans
  - Inconsistent acres: NOI, GIF, PNDI, CD appl
  - NOI C.5, D.1 (rip. buffer), H
  - GIF project description/8.0, 537 ltr
  - Application checklist (3.a.v)
  - PNDI

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## Administration – Permit Processing

- General NPDES Permits – Completeness Review at the Conservation District Level - E&S and PCSM Review done at the Conservation District Level – Conservation District authorizes the use of the Permit
- Individual NPDES Permits – Completeness Review at the Conservation District Level - E&S and PCSM Review done at the Conservation District Level – Once the plan is adequate it is sent to DEP regional office with a record of decision for permit issuance.
- Common Delays in permit issuance
  - Permit Coordination
  - Compliance History – Section 609 of the Clean Streams Law
    - Any site in violation
    - Demonstrated non-compliance
  - Act 167 Consistency Letter
  - PNDI Conflict Resolution

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## Minor Modification

### Examples:

- Adjustments to or additions/deletions of BMPs within project disturbed area
- Minor changes to total disturbed area within original project area if handled by existing BMPs

How minor modifications are handled depends on nature of change(s) – contact District to discuss

- May require submittal of E&S and/or PCSM Plan revisions to District for review
- Some can be handled less formally

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## Major Modification

- Requires a NEW PERMIT APPLICATION meeting all procedural requirements, including publication of notice in PA Bulletin and 30-day public comment period
- Examples of changes requiring a Major Modification:
  - Expanding permit boundary (project area) beyond boundaries proposed in original permit
  - Proposed discharge to a receiving water not named in original permit
  - Adding a new point source discharge – generally resulting from increasing total disturbed area and adding new BMPs to handle increased disturbance

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## Pre-Application Meetings

- Done before detailed engineering is complete – concept phase
- Site-specific
- Saves time on technical review
- Discussion includes:
  - EV wetlands
  - Anti-degradation
  - Non-discharge alternatives
  - Discharge points

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## Time Extensions

- 60 days (or less) at a time
- Request in writing, include reason
- Limitations apply on a case-by-case basis

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## PCSM Plan Reviews

Drew Wagner, PE, Hydraulic Engineer  
Domenick DiPaolo, PE, District Engineer

- Watershed Modeling and How it Relates to NPDES Permits
- Common Errors and Omissions
- Act 167 Interaction with NPDES
- Common Permit Conditions

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## Watershed Modeling

- A non-structural to structural approach should be taken with all designs maintain pre-development hydrologic regimes
- Methods (Ch. 8 PCSM BMP Manual)
  - TR-55, TR-20, HEC HMS, Rational Method, etc
- Limitations
  - TR-55 Tc of 6 Min, Weighted CN < 40
  - Rational Method – Sites < 10 acres with high impervious – Rate only
- Runoff Volumes Worksheet 4 vs. Computer Modeling
  - Weighted Curve Numbers

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# Common Errors and Omissions

- Section D – Anti-degradation
- Part 1
  - Provide a detailed anti-degradation alternatives analysis within the PCSM narrative / report. Include how the checked items have been incorporated into the PCSM plan for anti-degradation, and explain why the unchecked items were not incorporated into the design.
- Part 2
  - Provide how the ABACT BMPs will prevent a degrading discharge within the alternatives analysis as noted above.

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<p><b>5. TYPICAL IMPACTS ANALYSIS</b> Please describe how typical impacts associated with this project were avoided.</p> <p>If Potential Effects cannot be avoided, describe how impacts were minimized and the BMPs for and Offsets were incorporated in a manner that will protect and replace water quality in receiving waters in accordance with 25 PA Code Chapter 103.</p>	
<p><b>SECTION 1 - ANTI-DEGRADATION ANALYSIS RESULTS</b> This Section is to be completed for Special Protection Watersheds Only, DSDV and DP Watersheds.</p>	
<p><b>Part 1 - Anti-degradation Alternatives Analysis</b> The applicant must provide and describe for any and all non-degrading alternatives for the entire project area which are:                  1. Feasible and practicable;                  2. Address all net change from pre-development to post-development relative size and concentration of pollutants to which apply.</p>	
<p><b>E &amp; S Plan</b></p> <p>One of the environmental goals/alternatives that the Applicant proposes (E&amp;S) that will be incorporated into the project design and construction. The E&amp;S Plan must be approved by the PA DEP and must include a description of the proposed alternative and how it will be implemented.</p>	<p><b>PCSM Plan</b></p> <p>One of the environmental goals/alternatives that the Applicant proposes (PCSM) that will be incorporated into the project design and construction. The PCSM Plan must be approved by the PA DEP and must include a description of the proposed alternative and how it will be implemented.</p>
<p><b>Best Management Practices (BMPs)</b></p> <p>1. Stormwater Management                  2. Erosion Control                  3. Sedimentation                  4. Nutrient Management                  5. Phosphorus Management                  6. Other</p>	<p><b>Best Management Practices (BMPs)</b></p> <p>1. Stormwater Management                  2. Erosion Control                  3. Sedimentation                  4. Nutrient Management                  5. Phosphorus Management                  6. Other</p>

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# Common Errors and Omissions

- Infiltration / Soils Testing Report should include the following components
  - Test Method
  - Soil profile log to limiting zone (describe limiting zone)
  - Description of the soils within the soil profile log
  - Elevation of infiltration test – The infiltration surface of the BMP should be placed at the elevation with the best soils for infiltration
  - 2 tests per BMP at the infiltration elevation – if test results are very dissimilar perform an additional test to see which is more representative of the soil characteristics
  - Test location, depth to limiting zone, test elevation, and ground elevation provided on a map.
  - Isolation distances are required to be maintained from infiltration facilities and wells, septic systems, and foundations
  - See Appendix C of the PA Stormwater BMP Manual

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## Common Errors and Omissions

- **Worksheet 2**
  - Overlapping resource areas not counted twice but no breakdown of the overlapping area provided
- **Worksheet 3**
  - "Protected areas" A) A land preservation/protection agreement, deed restriction or other enforceable instrument that ensures perpetual protection of the proposed areas has not been provided. B) Specify how the area will be managed and that the boundaries should be marked with permanent survey markers. C) Notation has not been provided on the PCSM plan to have these areas clearly delineated in the field prior to construction. D) Notation has not been provided to not disturb this sensitive feature during construction except for temporary impacts for mitigation or restoration efforts.
  - Protected areas not within the NPDES Permit boundary
  - Protected areas not labeled on the plan
  - "Downspouts to vegetated areas/rooftop disconnection" A.) Each rooftop for each downspout is less than or equal to 500 square feet. B) Each disconnection length for each point is equal to or greater than 75 feet unless a second BMP in series is utilized. C) Each disconnection flow path slope is less than or equal to 5 percent.
  - Area associated with Non-structural Volume Credits is not show on the plan
  - Areas counted more than once for Volume Credits

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## Common Errors and Omissions

- **Worksheet 4**
  - 20% of pre-development impervious not counted / identified as meadow
  - Curve number calculations not consistent with WS 4
  - Meadow, Woodland, and Impervious are the only cover types to be used in the pre-development condition
- **Worksheet 5**
  - Error with the form – Dry extended basins, vegetative swales, level spreaders, and water quality filters should not be used for volume reduction.
- **Worksheet 10**
  - Primary and secondary BMPs checked but not implemented / shown on the plan
  - Street sweeping identified but no schedule established on the plans
  - 90% of the disturbed area not controlled by a water quality BMP.

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## Common Errors and Omissions

- **Operation And Maintenance Plan Not Acceptable**
  - BMP-specific operation and maintenance procedures along with ownership responsibilities for the proposed permanent stormwater BMPs must be submitted. The individual, company, government agency or entity that is to have ownership and responsibility for the PCSM BMPs should be specifically named.
  - The O&M plan should provide information to inform the operator of BMP malfunction, i.e. a detention basin never holds water, the emergency spillway is activated during most storms on a detention / infiltration basin, The water ponds but never drains out of an infiltration BMP, etc.

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## Common Permit Conditions

- **Construction Oversight:**

During key stages of work, the permittee shall provide construction oversight for the installation of the \_\_\_\_\_ stormwater BMPs. A professional engineer with a thorough understanding and knowledge of these stormwater management systems, preferably the design engineer, should conduct these inspections. [FYI - this special condition has normally only been used for sub-surface systems, which are difficult or impossible to inspect after construction]

- **Submittal of As-built Drawings:**

The permittee shall submit As-Built Drawings for the Stormwater Management BMPs to the Pike/Monroe County Conservation District and to PADEP upon completion of all construction activities. These plans shall be signed & sealed by the Design Engineer verifying that the Stormwater BMPs have been constructed per the approved plan.

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## Common Permit Conditions

- **Amended Soils:**

The permittee and/or contractor shall perform in-situ infiltration testing as outlined in the PADEP SWM Manual in areas of amended soils for infiltration BMP's to confirm proposed percolation rates. The permittee shall submit results to the Pike/Monroe County Conservation District upon completion.

- **E&S for Individual Lots:**

The permittee and/or contractor shall provide Individual Lot E&S Plan(s) for high hazard pollution protection (i.e. steep slopes, close proximity to wetlands...) as outlined in the PADEP E&S Pollution Manual. The permittee shall submit said plan(s) to the Pike/Monroe County Conservation District for review and approval prior to commencement of activity on lots numbered \_\_\_\_\_.

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## Common Permit Conditions

- **Phased Projects:**

The permittee shall provide stand-alone Phasing Plan(s) for projects proposing earth disturbance in particular chronological fashion as outlined in the PADEP E&S Pollution Manual and PADEP SWM Manual. The permittee shall submit such Phasing Plan(s) to the Pike/Monroe County Conservation District.

Detailed construction drawings, plans, erosion and sediment control plans and other information, including antidegradation components, were reviewed by the Pike /Monroe County Conservation District only for the initial phase of construction (\_\_\_\_\_) of the total project area. Subsequent phases will be considered major modifications to the NPDES permit and must be submitted to the Pike/Monroe County Conservation District and/or DEP for review and approval prior to commencement of work in those areas/phases.

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## Common Permit Conditions

- **3<sup>rd</sup> Party Inspection:**

In order to ensure adequate oversight of the project and protection of the high quality and/or exceptional value water resources in the project area, the permittee shall assign a third party inspector(s) to the project specifically to track compliance with the erosion and sediment control and post construction stormwater management plans and NPDES Permit conditions.

- **Operation and Maintenance Responsible Party**

The responsible party for the operation and maintenance of all PCSM BMPs should be provided to the Pike/Monroe County Conservation District if different than as identified on the PCSM Plan

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## Common E&S Errors

Ellen Salak, Resource Conservationist  
John Mason, Resource Conservationist

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COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF WATER MANAGEMENT



### EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL

April 15, 2000

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## Channels

- Off-site drainage areas delineations
- Clean Water Diversions – Increased size of BMPs – minimize earth disturbance
- North American Green-Shear Stress Discrepancies
- Temporary and Permanent calculations for grass-lined swales

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## Sequence of Construction

- Site-specific
- Areas of earth disturbance broken down
- All areas of earth disturbance treated
- Temporary Access Roads
- Clean Water Diversions
- Label individual sections of BMP installation and provide road stations.
- PCSM BMP installation
- Protected areas should be delineated in field with construction fencing.
- Utility installation
- Chapter 105 activities
- Cut-Fill Analysis as work progresses

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## Compost Sock/Silt Fence

- Silt fence versus Compost Sock
- Install on contour
- Not for concentrated flow
- Label individual sections on plans

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## Downstream Analysis

- Must be supplied by the applicant / designer during the initial submission.
- Inadequate downstream stability analysis
- Post = pre is not sufficient.
- Flow has been altered from sheet flow to concentrated discharge point.

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## Individual Lot E&S BMPs

- Typical for each “type of lot” within a subdivision

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## NPDES Permit Renewals

Drew Wagner, PE, Hydraulic Engineer

- Submittal Requirements
- 180 Day / 90 Day Permit Condition
- Compliance with the Approved Plan

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## Submittal Requirements

- Pre - Application Meeting
  - Plan showing completed improvements / buildings
  - Pre / Post Development Drainage Area Plans
  - NOI Section C.2 and C.3– Drainage Area Specific
  - Worksheets – Drainage Area Specific

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## Submittal Requirements

- Initial Submission - 1 Copy Each
  - Current NOI – Drainage Area Specific
  - Current General Information Form (individual Permit)
  - New Municipal Notifications
  - Anti- degradation analysis
  - Worksheets – Drainage Area Specific
  - PCSM Plan and Narrative
  - Plan showing completed improvements / buildings
  - E&S Plan and Narrative
  - New PNDI

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## 180 Day - 90 Day Permit Condition

- A renewal application must be submitted at least 180(IP)/90 (GP) days before the permit expires
  - Complete Application needs to be received before the 180 (IP)/90 (GP) days prior to permit expiration to receive an automatic administrative extension

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## Compliance With The Plan

- When application is made, the project will be inspected to verify that the project is currently in compliance with the approved E&S and PCSM Plans. Any violations or discrepancies will need to be addressed prior to consideration of the renewal.

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## Questions?



dwmccd@ptd.net



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