

# Current Trends in Municipal Stormwater Permitting

**David W. Burchmore**

*Squire, Sanders & Dempsey L.L.P.*

4900 Key Tower

Cleveland, OH 44114

Phone: (216) 479-8779

Email: [dburchmore@ssd.com](mailto:dburchmore@ssd.com)

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**SQUIRE  
SANDERS** | LEGAL  
COUNSEL  
WORLDWIDE

1. PERMIT LITIGATION
2. TMDL REQUIREMENTS
3. LAND USE CONTROL

## PERMIT APPEALS:

- Continue state by state
- Some filed by permittees
- Some filed by environmental groups

## Past Cases:

- **Arizona:** Defenders of Wildlife appeals to EAB and Ninth Circuit (1998-1999)
- **Alaska:** Cook Inlet Keeper administrative appeal to EAB (1999)
- **Minnesota:** Mississippi River Revival challenges in state court (2001) and federal court (2002)
- **Texas:** Appeals of Phase II permit regulations by municipal coalitions and environmental groups (2000-2003)
- **North Carolina:** Environmental group challenge in administrative proceedings (2005-2007)

## Recent and Continuing Cases:

- **DC:** Environmental group appeals in 2000, 2004, 2006; next permit due in 2009; same groups expected to appeal again
- **California:** Municipal and construction industry appeals of San Diego, Los Angeles County, San Bernadino County permits from 2001-2006; draft Ventura County permit may be challenged soon
- **Oregon:** Environmental group challenges to MS4 permits in federal court (2000-2001); Land Use Board (2004-2008); and state courts (2006-present)
- **Washington State:** Appeals of Phase I and Phase II permits by everybody under the sun

# TMDL REQUIREMENTS:

Where do they come from?

**Statute > Regulation > Policy > Guidance**

# Clean Water Act

- Section 402(p)(3) states that permits for discharges associated with industrial activity shall meet all applicable provisions of §§ 402 and 301, but permits for MS4s shall reduce the discharge of pollutants to the “maximum extent practicable” (MEP)
- MEP is a separate standard for MS4 discharges, which are **not required** to comply with state water quality standards (*Defenders of Wildlife v. Browner*)
- Section 303(d) requires states identify impaired waters and to establish TMDLs at levels that are “necessary to implement the **applicable** water quality standards”

# NPDES Permit Rules

- 40 CFR § 122.44 requires each NPDES to meet certain requirements “**when applicable**”
- 40 CFR § 122.44(d)(1)(vii) provides that water quality-based effluent limits must ensure that:
  - (A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; and
  - (B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7
- *But § 122.44(d) is not “applicable” to MS4s*



## “Phase II” MS4 Permit Rules (12/8/99)

- 122.34(a) states that BMPs are “generally” the most appropriate way to meet MEP, but...
- 122.34(e) states that “you must comply with any more stringent effluent limitations . . . based on an approved TMDL or equivalent analysis. The permitting authority may include such more stringent limitations based on a TMDL or equivalent analysis that determines such limitations are needed to protect water quality.”
- Agency will consider cost effectiveness and ability to achieve WLA. “Narrative effluent limitations in the form of BMPs may still be the best means of achieving those reductions.”

# EPA Memo on TMDLs and WLAs for Stormwater Sources (11/22/02)

- Stormwater point sources must receive numeric WLAs like all other sources
- A single WLA may be assigned to all MS4 outfalls for a municipality
- All permits “must” contain limits “consistent with” an approved TMDL **[Not MS4s!]**
- “Most” limits in MS4 permits will be in the form of BMPs; numeric limits will be used “only in rare instances;” permitting authority will determine which is “appropriate”

# The Bottom Line?

- CWA does not require MS4 permits to comply with TMDL wasteload allocations
- MS4 permits should require compliance with TMDLs “to the maximum extent practicable”
- An iterative, BMP-based approach using adaptive management procedures leading to eventual compliance with water quality standards is proper; TMDLs can provide “benchmark” values to evaluate program effectiveness and guide development of new or revised BMPs
- Failure to implement program is a violation, but exceedance of WQS or benchmark values is not



**Total Maximum Daily Loads with Stormwater Sources:  
A Summary of 17 TMDLs**



- **July 2007** EPA/OWOW survey of 17 TMDLs for stormwater sources in 16 states
- Includes detailed, state-by-state summaries of allocation methods and implementation plans

[www.epa.gov/owow/tmdl/stormwater/](http://www.epa.gov/owow/tmdl/stormwater/)

**Total Maximum Daily Loads and National Pollutant  
Discharge Elimination System Stormwater Permits for  
Impaired Waterbodies:**

**A Summary of State Practices**

*September 15, 2007*


*(updated from March 9, 2007 version)*

**USEPA Region 5**

Prepared by Tetra Tech, Inc. under contract with USEPA Region 5

- **Sept 2007** Region 5 summary of state practices on TMDLs and stormwater permits for impaired waters
- Focus on permit requirements, with sample permit language
- Most states defining controls in terms of BMPs

[www.epa.gov/owow/tmdl/stormwater/](http://www.epa.gov/owow/tmdl/stormwater/)



United States Environmental Protection Agency and the EPA Region III Office of Pennsylvania, Maryland, Delaware, District of Columbia, Virginia and West Virginia

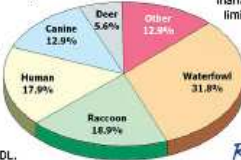
## Understanding Impaired Waters and Total Maximum Daily Load (TMDL) Requirements for Municipal Stormwater Programs

January 2008

*Executive Summary*

Does your municipal separate storm sewer system (MS4) contribute a pollutant of concern to an impaired waterbody, a waterbody with an approved Total Maximum Daily Load (TMDL), or to a tributary of the Chesapeake Bay? If so, you most likely need to take steps to modify your municipal stormwater management program to meet state and federal National Pollutant Discharge Elimination System (NPDES) regulations.

This document describes how municipal stormwater managers can determine if their storm drain system discharges to an impaired waterbody and how to update their stormwater management program to address the TMDL.



Sources of fecal coliform in Four Mile Run, Virginia

*Introduction*

In the Mid-Atlantic Region, stormwater runoff is a leading source of stream impairments. Stormwater runoff contributes to the primary pollutants impairing the Chesapeake Bay—nitrogen, phosphorus, and sediment.

Section 303(d) of the Clean Water Act requires that states develop impaired waters lists for rivers, lakes, coastal waters, and estuaries that do not meet water quality standards. These 303(d) lists are published biannually and are available at the web link listed in the Resources section of this document. TMDLs, developed for waterbodies placed on the list, specify the maximum amount of a pollutant that a waterbody can receive in order to meet water quality standards. Regulations governing the TMDL program (40 CFR 130.2 and 130.70) define the TMDL as "the sum of the individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources." Mathematically the TMDL can be represented by the following equation:

$$TMDL = \sum WLA + \sum LA + MOS$$

Where MOS is the margin of safety.

WLAs are generally expressed in numeric form (e.g., 500 lbs/day phosphorus). Municipal stormwater sources, which are regulated as point sources under the NPDES program, are included as part of the wasteload allocations. Non-NPDES permitted areas are included as LAs.

If your MS4 is affected by a TMDL, a numeric WLA will be assigned and your NPDES permit, when it is reissued or revised, will include effluent limits consistent with the requirements

of the WLA. These TMDL requirements convey the goal of the Clean Water Act and the implementing NPDES regulations which is to not cause or contribute to exceedance of water quality standards. However, EPA recognizes the difficulty in characterizing stormwater discharges because of the highly variable frequency and duration of storm events. Therefore, EPA issued a memorandum on November 22, 2002 that recommends initially expressing NPDES permit requirements (effluent limits) for NPDES-regulated municipal stormwater sources as best management practices (BMPs) rather than as numeric effluent limits. [www.epa.gov/npdes/pubs/finalwmtmdl.pdf](http://www.epa.gov/npdes/pubs/finalwmtmdl.pdf)

This BMP approach provides more flexibility to MS4s, but requires that MS4s monitor and evaluate BMPs. When BMPs are not found to be effective, expanded or better-tailored BMPs may be necessary to attain water quality.

*Steps to Address TMDL Requirements in MS4 Permits*

The following five steps will help you determine if TMDL requirements apply to you and, if so, how to comply with those requirements. The first two steps describe how to determine if your MS4 discharges to an impaired waterbody. If your MS4 does not discharge to an impaired waterbody, you will only need to complete steps 1 and 2.

1. Determine if the waterbody into which your MS4 discharges is impaired, has a TMDL assigned, or drains to the Chesapeake Bay
2. Determine what requirements apply to your MS4
3. Update your stormwater management program
4. Implement programs and practices to address the TMDL
5. Assess effectiveness of the stormwater program in addressing pollutant(s) of concern

**Step 1: Determine if the waterbody into which your MS4 discharges is impaired, has a TMDL assigned, or drains to the Chesapeake Bay**

The first step is to identify the waterbodies into which your MS4 discharges. Most MS4s have developed maps of their outfalls and receiving waters. You should use your maps to develop a list of all the named and unnamed waterbodies into which your outfalls discharge. To facilitate the process to determine impairment status, you should include stream codes as assigned by states.

One source of information on waterbodies is EPA's EnviroMapper for Water ([www.epa.gov/waters/enviromapper/index.html](http://www.epa.gov/waters/enviromapper/index.html)). This Web-based system can map receiving waters in your jurisdiction.

Once you have the list of waterbodies into which your MS4 discharges, you will need to determine if any of these waterbodies

- **Jan 2008 Region 3 Fact Sheet on TMDL requirements for MS4 programs**
- **Written for permittees; describes the implementation process in terms of BMP assessment and stormwater program review and revision**

[www.epa.gov/owow/tmdl/stormwater/](http://www.epa.gov/owow/tmdl/stormwater/)

# LAND USE CONTROLS:

## Post Construction Runoff

Voluntary Incentives or Mandatory Requirements?  
Federal, State or Local Control?

# “Phase I” Regulations

- 40 CFR § 122.26(d)(2)(4)(A)(2) states that Phase I stormwater management programs shall include a description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from MS4s which receive discharges from “areas of new development and redevelopment”
- Such plans shall address controls to reduce pollutants in discharges “after construction is completed”



## “Phase II” Regulations

- 40 CFR § 122.34(b) lists the “six minimum measures” that must be included in Phase II stormwater management programs
- (5) is “Post-construction storm water management in new development and redevelopment”
- Program must ensure that controls are in place to prevent or minimize WQ impacts, including:
  - a combination of structural and/or non-structural BMPs “appropriate for your community”
  - an ordinance or other regulatory mechanism to address post-construction runoff to the extent allowable under state or local law
  - adequate long-term operation & maintenance of BMPs

## “Phase II” Regulations (cont.)

- In the Preamble, EPA responded to comments that the mandatory Minimum Measures violated the Tenth Amendment, and the Post-Construction requirements amounted to federal land-use control, which was beyond the authority of the Clean Water Act:

“EPA recognizes that land use planning is within the authority of local governments. EPA disagrees, however, with the implication that today’s rule dictates any such land use decisions. . . . The rule provides the MS4 operator with flexibility to determine the appropriate BMPs to address local water quality concerns. EPA recognizes that these program goals may not be applied to every site, and expects that MS4s will develop and appropriate combination of BMPs to be applied on a site-by-site, regional or watershed basis.”

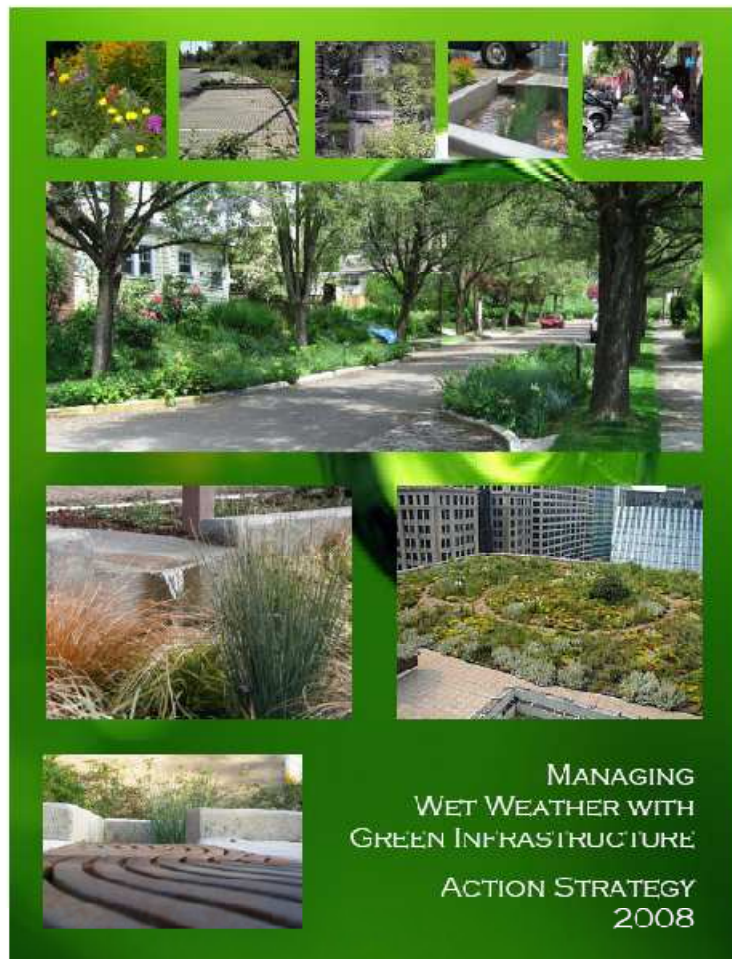
## “Phase II” Regulations (cont.)

- Nevertheless, the Phase II rules contain a lengthy “guidance” paragraph recommending that the BMPs chosen should include policies and ordinances that:
  - “attempt to maintain pre-development runoff conditions”
  - “provide requirements and standards to direct growth to identified areas”
  - “maintain and/or increase open space”
  - “provide buffers along sensitive water bodies”
  - “minimize impervious surfaces”and measures such as “minimization of percent impervious area after development”

# Recent EPA Initiatives

- **March 5, 2007** EPA memo on “Using Green Infrastructure to Protect Water Quality in Stormwater, CSO, Nonpoint Source and other Water Programs”
- **April 19, 2007** EPA/NACWA/NRDC/LIDC/ASWIPCA “Green Infrastructure Statement of Intent”
  - strategies include “opportunities and incentives for the use of green infrastructure provisions in MS4 permits”
- **August 16, 2007** EPA memo on “Use of Green Infrastructure in NPDES Permits and Enforcement”
  - permits may be structured “to encourage permittees to utilize green infrastructure approaches, where appropriate, in lieu of or in addition to more traditional controls”

<http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm>



- **2008** EPA *et al.* Green Infrastructure Action Strategy
- Objective IV.2: Develop model language for MS4 permits to incorporate green infrastructure management practices
- Pilot programs with West Virginia and Tennessee are underway

[cfpub.epa.gov/npdes/greeninfrastructure/information.cfm](http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm)

# Draft West Virginia MS4 Permit

- **Part II.C.5:** “Controlling runoff from New Development and Redevelopment”
- 7 pages of requirements, including
  - Watershed Protection Elements
    - must minimize impervious surfaces, preserve sensitive areas, protect trees, vegetation and native soils, etc.
  - Site and Neighborhood Design
    - must infiltrate, evapotranspire and reuse at least the first 1” of rainfall from 24 hour storm
    - first 1” must be 100% managed with no discharge to surface waters
    - incentive reductions of the 1” standard may be applied to certain types of redevelopment, brownfields, vertical density and mixed use projects
    - offsite mitigation and payment-in-lieu is available



# Mandates or Incentives?

- **Idaho [Region 10]:** Phase II permits “encourage” cities to consider the use of LID practices
- **Maryland:** 2007 Stormwater Management Act requires the use of environmental site design for new development and redevelopment
- **Delaware:** requires that “green technology BMPs” be considered first for development projects; other practices can be used only if these are eliminated for engineering or hardship reasons
- **Minnesota:** Local jurisdictions can establish “credit systems” for LID, conservation, reforestation, stream buffers, etc.

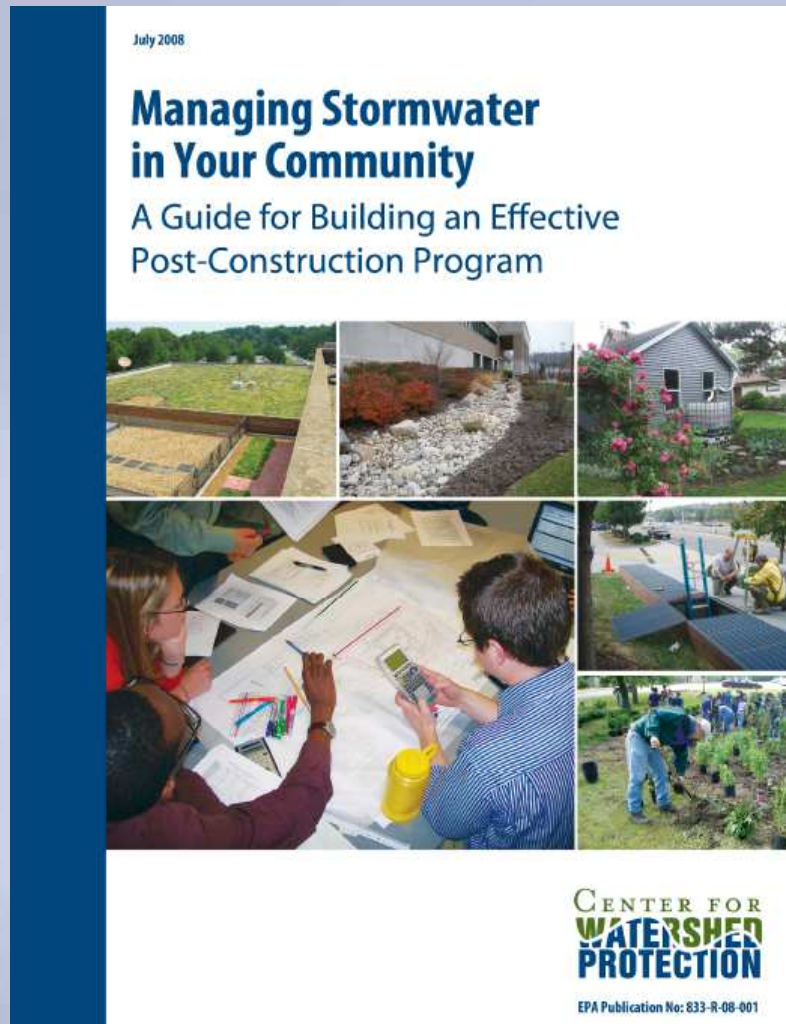
# Mandates or Incentives?

- **North Carolina:** Phase II permits require engineered controls for “high impact development” exceeding certain “impervious area” thresholds
- **California:**
  - San Diego permit requires use of LID techniques and hydromodification controls
  - Draft Ventura County permit requires that all development projects integrate LID principles into project design; MS4s must develop LID technical guidance document
  - Draft San Francisco MRP (189 pages!) has extensive requirements for LID integration, treatment system hydraulic design, and hydromodification controls



# Mandates or Incentives?

- **Washington State:** Administrative appeals board has just ruled that both state and federal law (MEP and AKART) require the use of LID “where feasible”
- **Ohio:** Draft renewal of Phase II MS4 General Permit will require cities to adopt ordinances “no less stringent than” the requirements in Ohio’s Construction General Permit, which requires:
  - detention of the “water quality volume” (WQv) equivalent to the runoff from a 0.75” rainfall for 24-40 hours for all large (>5 acres) projects
  - offsite mitigation is available if detention not feasible
  - credit toward reduction of the WQv requirement can be obtained for LID practices (riparian setbacks, green roofs, permeable pavements, etc.)



- **July 2008** CWP/EPA report on Effective Post-Construction Programs
- Describes current trends in post-construction stormwater management
- Includes detailed survey and links to stormwater management manuals from 36 states

[www.cwp.org/Resource\\_Library/](http://www.cwp.org/Resource_Library/)