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July 6, 2009

Barry Newman, Chief
Stormwater Planning and Management Section
Department of Environmental Protection
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P.O. Box 8775
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RE: Comments on Proposed NPDES General Permit for Small MS4s (PAG-13)

Dear Mr. Newman:

The undersigned member organizations of the Pennsylvania Campaign for Clean Water are pleased to submit these written comments on the proposed NPDES General Permit for Small Municipal Separate Storm Sewer Systems (MS4s) (PAG-13).

The Pennsylvania Campaign for Clean Water is a coalition of over 100 organizations dedicated to improving statewide policy protecting the Commonwealth's precious water resources. Addressing stormwater runoff has been one of our top priority issues since the formation of our coalition.

Proper management of stormwater is critical to Pennsylvania communities and watersheds. Runoff from land development is one of the largest pollution sources in Pennsylvania rivers and streams, with approximately 4,000 miles of Pennsylvania streams polluted from developed and developing areas.

This general permit will cover 940 (less those that have had MS4 designations waived) small MS4s across the Commonwealth. The final permit will establish requirements for controlling pollution from stormwater runoff over the next five years for all of these hundreds of municipalities across the Commonwealth. These small MS4 municipalities include areas experiencing some of the highest population growth and loss of open space to development in the state. As such, they can be expected to experience most of the increased stormwater runoff from new development in Pennsylvania. In addition, those already built-out communities are current sources of stormwater pollution to Pennsylvania rivers and streams, and are and will be faced with meeting significant pollution reduction requirements under the Clean Water Act.

Thus a comprehensive and robust small MS4 general permit is absolutely crucial to DEP's stormwater management program and the quality of Pennsylvania's rivers and streams.

Executive Summary

The draft general NPDES MS4 permit (PAG-13) currently proposed for public comment is an improvement from the first MS4 general permit issued in 2002. It falls short, however, on all of the elements that EPA has identified as important objectives for this round of MS4 permits: containing measurable goals, meeting TMDL requirements, and implementing green infrastructure or low impact development (LID). As such, we do not believe the present draft is sufficient to address pollution from stormwater as required under state and federal law. Specifically:

1. **The public participation opportunities should be strengthened and further emphasized.**

Outreach, education, and full engagement of the public are essential and important elements of the any successful MS4 program. The Minimum Control Measures (MCMs) that relate to public education, outreach, and participation should be strengthened, and wider public notice and comment opportunities should be afforded as stormwater management and TMDL implementation plans are developed.

2. **Low impact development (LID) must be required in order to reduce pollution to the maximum extent practicable (MEP).**

The federal Clean Water Act requires as a baseline measure that MS4s reduce pollution from stormwater to the maximum extent practicable (MEP). LID is not only practicable; it is widely accepted and the preferred method for stormwater management in Pennsylvania and nationwide. Thus this permit must be revised to require all permittees to meet the MEP standard through the adoption of LID processes and practices, as has been done in many other jurisdictions.

3. **More detailed requirements and guidance are needed with respect to all six MCMs to ensure that the MEP standard is met.**

In order to ensure that municipalities are implementing MCMs to reduce stormwater pollution to the maximum extent practicable, the draft permit must provide enough detail in terms of measurable goals, benchmarks, and timelines to achieve full compliance. While there is some good language in the permit, more detail is needed in each of the six MCMs to achieve compliance with MEP.

4. **Although the draft model ordinance is an improvement from the 2002 version, it must be finalized and strengthened, and disincentives to adopting even stronger ordinances should be removed.**

The requirement to adopt the model ordinance is one of the critical elements of the permit. However, the model ordinance is still in draft form and is not yet finalized, which makes it difficult to provide sufficient comment on the requirement to adopt the

ordinance. While the draft 2009 model ordinance is an improvement over the 2002 model ordinance, it is still not strong enough to meet the MEP standard. It must be strengthened and finalized. In addition, disincentives to adopting even stronger ordinances should be removed.

5. **The provisions of the permit setting forth requirements for discharges to impaired waters must be strengthened.**

The permit's provisions addressing discharges to impaired waters do not meet certain minimum requirements of the federal Clean Water Act and Pennsylvania law. The permit must contain more robust measures to ensure MS4s discharging into waters with an approved Total Maximum Daily Load (TMDL) will meet wasteload allocations. Furthermore, it must contain provisions prohibiting discharges that cause or contribute to the violation of water quality standards.

Comments

1. The public participation opportunities should be strengthened and further emphasized.

Outreach, education, and full engagement of the public are essential and important elements of the any successful MS4 program. Not only are public education, outreach, participation and involvement among the required Minimum Control Measures (MCMs) of the permit (MCM 1 and MCM 2), they are also valuable tools to insure comprehensive management of stormwater. In developed communities regulated under MS4 permits, each resident has a role to play in reducing stormwater impacts around the home, and each citizen has a voice in how their community should grow and develop in the future. Public participation opportunities should begin with the drafting of the MS4 general permit and continue throughout each permit's cycle, adjusting to continually achieve maximum effectiveness of public participation.

Initially DEP described the effort to draft this general permit as a multi-year process yet approximately ten months after the permit's original expiration date, DEP scheduled the first opportunity to involve other stakeholders. Further, this opportunity only involved a portion of Pennsylvania's public through a series of listening sessions for invited audiences. Three of the sessions were held prior to the April 4, 2009 notice of the draft permit to Pennsylvania's public through the *Pennsylvania Bulletin*.

We commend DEP for responding to public requests for an extension of the comment deadline and for scheduling three public hearings on the permit. We do however remain concerned that the western Pennsylvania hearing location chosen may have deterred prospective participants, as security clearance was required several days in advance of the meeting. We also have questions as to whether hearings and public comment periods held this close to the expiration date of the current permit will allow for adequate and full consideration by DEP of all public comments received before this permit must be finalized.

Public outreach must continue to receive priority after the permit is finalized While we do not believe the listening sessions were the proper vehicle to achieve broad-based public comment on the development of the permit, this format can be a valuable vehicle for permit implementation. Outreach, workshops, and training sessions for MS4 communities have produced stormwater programs with the most engagement, compliance, and success in managing stormwater.

Outreach would also be added by the development and distribution of strong reference materials. We believe the permit could be strengthened with greater reference to DEP's most compelling document, the Stormwater Best Management Practices Manual (BMP Manual).

We further believe that development of the stormwater management plan and TMDL implementation plan (if applicable) for each MS4 are critical steps in the permit

implementation process that must be opened up to broader public participation. Citizens living in downstream communities and public users of impacted waterways for fishing, swimming, and other recreational uses have a right under the Clean Water Act to provide input on the development of plans to reduce pollution to those waters. DEP should notice such plans as draft in the *Pennsylvania Bulletin* and allow the public the opportunity to comment on them.

Throughout the permit cycle, such outreach and guidance will help municipalities make all the correct steps so long as the permit defines these steps to be manageable, accountable, and directed at measurable goals toward achieving water quality improvements. In comment 3 below, specific comments on DEP's proposed actions to meet public outreach, education and participation MCMs are offered.

2. Low impact development (LID) must be required in order to reduce pollution to the maximum extent practicable (MEP).

Section 402(p)(3)(B)(iii) of the Clean Water Act set forth the standard of baseline pollution control that must be achieved by MS4 NPDES permits. It states:

> Permits for discharges from municipal storm sewers . . . shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.
> 33 U.S.C. § 1342(p)(3)(B)(iii).

Thus MS4 permits shall not be issued unless the permits "require controls to reduce the discharge of pollutants to the maximum extent practicable" (MEP). *Envtl. Def. Ctr., Inc. v. EPA*, 344 F.3d 832, 854-56 (9th Cir. 2003) (quoting 33 U.S.C. § 1342(p)(3)(B)(iii)).

MEP is the guiding principle and legal standard that will define how much and by what means a municipality will reduce stormwater pollution. As such, the MS4 general permit must guide municipalities to emphasize the 'maximum' and thoroughly explore that which is 'practicable.' EPA has advised that "General permits should… specify in objective terms what is expected of a Phase II MS4 in order to meet the MEP standard." (Letter from James A. Hanlon, Director, Office of Wastewater Management to Water Management Division Directors, Regions I-X on April 16, 2004, citing *Envtl. Def. Ctr., Inc. v. EPA*, 344 F.3d 832).

The Pennsylvania draft general permit proposes that MEP "requires MS4 permittees to optimize reductions in stormwater pollutants on a location-by-location basis by minimizing pollutant loads in stormwater discharges and maximizing technically achievable and cost-effective water quality improvements." This definition limits the scope of MEP and thus the potential effectiveness of the permit to meet water quality goals by choosing to highlight 'cost effectiveness' as a part of defining what's

practicable. In fact, the term 'practicable' in the Clean Water Act has been defined as meaning that technology is required unless the costs are "wholly disproportionate" to the pollution reduction benefits. *Rybachek v. EPA*, 904 F 2nd 1276, 1289 (9th Cir. 1990).

Indeed, the definition provided in the general permit further states that "MEP is an iterative, dynamic, flexible standard that the permittee shall evaluate and update continuously, as necessary, to better tailor or expand the program based on its effectiveness in reducing pollutant discharge load." The definition must reflect that the flexibility of MEP lies in its responsiveness to new technology.

Much of new technology that is practicable is best management practices defined as green infrastructure or Low Impact Development (LID). In the State of Washington, local government was ordered "to include LID more often and at broader scales as it continues to become more practicable." *Puget Soundkeeper Alliance v. Dep't of Ecology*, PCHB NOS. 07-022, 07-023 (2009). Further, EPA has recently remanded the San Francisco draft permit to "establish a clear, measurable performance standard to require landscape-based treatment, on-site retention, and/or storage for reuse" despite noting 'the permit encourages LID to the extent 'practicable'". EPA suggests that the permit should be "revised to remove qualifiers such as 'to the extent feasible' and 'as practicable'" and "clarify that regulated projects must utilize LID design elements to ensure onsite management of stormwater." (Letter to Dale Bowyer, San Francisco Bay Regional Water Quality Control Board, from Douglas E. Eberhardt, Chief, NPDES Permits Office, U.S. EPA, Region 9. April 3, 2009).

Using LID to meet MEP is not just a West Coast phenomenon. In 2007, EPA issued a memo noting the value of green infrastructure to protect water quality through stormwater, CSO, nonpoint source and other water programs (Memo to EPA Region Administrators from Ben H. Grumbles, Assistant Administrator, March 5, 2007), then suggested that states utilize green infrastructure in permits and enforcement activities and noted that green infrastructure can and will be used in future EPA enforcement. (Memo to Water Division Directors Region 1-10; Regional Counsel/Enforcement Coordinators Region 1-10, and State NPDES Directors from Linda Boornazian, Director of Water Permits Division and Mark Pollins, Director of Water Enforcement Division. August 16, 2007). A strategy for action has since evolved, developed by several organizations and endorsed by EPA. (Managing Wet Weather with Green Infrastructure, Action Strategy, 2008). Specific to Pennsylvania's MS4 general permit, Paula Estornell, EPA Region III, stated that (1) defining measurable goals, (2) including TMDL goals, and (3) the use of green infrastructure are three key expectations by EPA for state MS4 permits. (Personal conversation with Liz Garland, American Rivers, December, 2008)

LID has been incorporated into MS4 permits (Phase I: San Diego County, Ventura County, and Phase II: West Virginia), and these offer DEP guidance on the development of performance standards to achieve measurable water quality improvement. Similarly, DEP should be guided by draft guidance associated with Section 438 Energy Implementation Act requiring federal facilities to maintain predevelopment hydrology.

While the draft permit does contain language that encourages the use of LID, this does not go nearly far enough. in measurable ways, overall the permit does an insufficient job guiding urban municipalities. The draft MS4 permit must *require* not merely encourage the use of LID, and do a better job providing regulated MS4s guidance on MEP and how LID is to be employed to meet the MEP standards.. EPA states, "MEP should adapt continually to both current conditions and BMP effectiveness, but ultimately… achieve the objective of meeting water quality standards [and TMDLs]. (EPA Office of Wastewater Management, Measurable Goals Guidance for Phase II Small MS4s. Part I. Background and Regulatory Context). The permit could very easily provide this guidance by including more thorough and comprehensive references and guidance for use of the BMP Manual which, in Chapter 4, sets forth quite well the LID development process, and establishes a blueprint for choosing BMPs with a preference for non-structural BMPs (Chapter 5) and green infrastructure structural BMPs (Chapter 6) to maximize stormwater management benefits and achieve water quality goals.

LID is not only practicable; it is widely accepted and the preferred method for stormwater management in Pennsylvania and nationwide. Thus this permit must be revised to require all permittees to meet the MEP standard through the adoption of Best Management Practices of Low Impact Development with measurable activities and goals outlined in the municipal stormwater plan's six MCMs and the TMDL control measures if applicable.

3. More detailed requirements and guidance are needed with respect to all six Minimum Control Measures (MCMs) to ensure that the MEP standard is met.

In order to ensure that municipalities are implementing MCMs to reduce stormwater pollution to the maximum extent practicable, the draft permit must provide enough detail in terms of measurable goals, benchmarks, and timelines to achieve full compliance. While there is some good language in the permit, the permit overall should provide more detail to ensure that the MEP standard will be met. We provide specific comments on each of the six MCMs and accompanying menu of BMPs as follows.

MCM 1: Public Education and Outreach.
Each of the recommended public education and outreach BMPs need more specificity directing permittees to educate the public on pro-active onsite stormwater practices including LID practices, alternatives to the use of toxics, pest control, landscaping and lawn care, pet waste management, automobile maintenance etc.

The permit must require design of BMP strategies to be changed if the BMP does not achieve predicted changes in target audience behaviors.

For reference, we suggest that DEP review the Vermont MS4 Phase II permit (National Pollutant Discharge Elimination System General permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems, Permit No. VTR040000 at 4.2.1, State

of Vermont, Agency of Natural Resources, Department of Environmental Conservation, February 19, 2004).

BMP #1

Three things should be achieved by a Public Education and Outreach Program (PEOP). First, the public should be informed about the causes of stormwater and the pollution impact it is having *in their community*. Second, the public should be informed about what actions they can take on their own property or during their own activities. Third, the public should be informed about what actions are being or should be taken by their government. This information should be obtained and used to craft the education and outreach program.

Once crafted and instituted, the PEOP should be evaluated on the effectiveness of the BMP design to achieve measurable improvements in the target audience's understanding of stormwater pollution and ways for the public to help prevention.

Part of the education of property owners should be how to use Green Infrastructure/Low Impact Development on a property to reduce runoff. There are many practices of great benefit suitable for implementation at the homeowner level. In addition, the PEOP should include how to reduce fertilizer use and end pesticide use.

BMP #2

The activity "developing and maintaining lists of target audiences" does not go far enough toward education or outreach conveying information about stormwater impacts. This activity is integral to BMP #1. As this is only one step in implementing BMP #1, it should not take a year to complete.

We recommend that DEP include language in the permit encouraging target audience list development that is mindful of an audience's effectiveness, e.g., highlighting businesses that most interact with property owners including realtors and landscapers. This will further the education objectives beyond the specific municipal outreach efforts.

BMP #3

The measurable goal must quantify the BMP effectiveness in order to assess the level of outreach achieved.

Further, in this age of communication, print media should always be complementary to electronic media. Neither should be a stand alone product; information can be housed and updated on a web site and promoted through a newsletter, or a flyer may be distributed to mailboxes while the same information is reinforced via radio spots.

BMP #4

This activity should be background to, and thus a part of, the information in BMP #3.

The "general description of the permittees MS4 program requirements and activities" must highlight the steps that the public can take to reduce pollutants in stormwater runoff.

BMP #5
We reinforce our comment that combined forms of media are important.

This BMP requires more specific direction for the permittee to educate the public on practices encouraging pro-activity on stormwater management practices, particularly on-site LID.

MCM 2: Public Participation/Involvement
The introductory language which references the federal regulation requirement to "comply with applicable state and local public notice requirements" offers insufficient guidance for permittees designing BMPs. The full sentence within the code includes the preface "A MS4 must, at a minimum, comply…." Further, the 9th Circuit has stated that "the issuance of NPDES permits should be decided in the most open, accessible forum possible, and at a stage where the [permitting authority] has the greatest flexibility to make appropriate modifications to the permit.'" *Envtl. Def. Ctr., Inc. v. EPA*, 344 F.3d 832, 854-56 (9th Cir. 2003) (citing 44 Fed. Reg. 32, 854, 32, 885 (Jun 7, 1979)). The permit should thus be revised to include language indicating that compliance with state and local public notice requirements is a bare minimum, and that more robust public notice and participation is encouraged.

The public should be included in all stages of permit development, implementation and review. The permittee should make efforts to engage all the public within the community. All the BMPs, not just #3, should require the permittee to report the results of the public involvement/participant efforts after they have been instituted. Additional specificity in the measurable goals for BMP #2, 3, and 4 will insure all stages and efforts to reach all of the public are achieved.

BMP #1
The wording and intent of this BMP should be altered so that permittees are required to establish a public process to be used during permit development. For example, open public forums to discuss the permit prior to drafting were conducted in Maryland, Montgomery County (Phase I).

The measurable goals should be defined by an implementation schedule in months and years with interim milestones and a frequency of accountability. The Chesapeake Stormwater Network suggests the addition of these performance measures:

- No later than six months from the effective date of the permit, all MS4s shall create opportunities for the public to participate in the decision making process involving the development, implementation and update of their permit.
- No later than six months from the effective date of this permit, all permittees shall establish a method of routine communication to groups such as watershed associations and environmental organizations that are located in the same watershed(s) as the permittee, or organizations that conduct environmental stewardship in the same watersheds(s) or in close proximity to the permittee. This

measure makes these groups aware of opportunities for their direct involvement and participation in stormwater activities that are in their watershed

- Each permittee shall make their performance reports required under this permit available to the public when requested. Current stormwater education and stormwater performance reports shall be posted on the permittee's website. To comply with the posting requirement, a permittee that does maintain a website may submit updated stormwater plans and reports to PA DEP for electronic distribution when it is requested.

(E-mail communication, Tom Schueler, Draft PA-DEP Permit Comment Letter, May 2009)

BMP #3

DEP should refer to the U.S. EPA 2000 Storm water Phase II Final Rule: Public Participation/Involvement Minimum Control Measure, EPA-833-F-00-006, for a more comprehensive list of public activities.

This BMP should review illicit discharges as well as other activities. The public should be informed and engaged in construction erosion and sediment monitoring, post construction stormwater impacts on surrounding resources within the community, and other potential violation areas.

MCM 3: Illicit Discharge Detection and Elimination

This MCM does offer some strong direction. The following comments provide additional suggestions for improvement:

BMP# 1

Included in the written program should be an outreach effort to groups and communities explaining what an illicit discharge is, the harm it can do, how and to whom such discharges should be reported.

A time requirement to respond to such public reports should be defined.

BMP #2

More specificity will improve the usefulness of the required map data. In addition to mapping storm sewer outfalls and waterbodies, the municipality should also map authorized connections, other stormwater conveyances, and structural BMPs for which the municipality holds responsibility.

DEP should provide guidance for the permittee to utilize cartographic standards including a functional scale, resolution and size, and define and date data sources.

BMP #4

Measurable goals for this BMP should include more specific instruction on removal and correction activity. The Chesapeake Stormwater Network offers these suggested provisions:

- The permittee shall develop procedures to characterize the nature of, and potential public health or environmental threat post by, any illicit discharges found or reported to the permittee. Procedures shall include detailed instructions for evaluating whether the discharge must be immediately contained and steps taken for the containment of such discharge.
- Compliance with this provision shall be achieved by investigating within seven days, any complaint, reports or monitoring information that indicates a potential illicit discharge, spill or illegal dumping episode, and immediately investigating discharge violations determined to be emergencies or otherwise judges to be urgent or severe. In instances where imminent water quality impairment is deemed likely, the first step is to refer the incident to PA DEP.
- Procedures for removing the source of any discharge, including notification of appropriate authorities, notification of the property owner, technical assistance for eliminating the discharge, follow-up inspections, and escalating enforcement and legal remedies if the discharge is not eliminated.
- Compliance with the first and third provisions, above, shall be achieved by initiating an investigation within 15 days of a report or discovery of a suspected illicit connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection. Upon confirmation of the illicit nature of a storm drain connection, termination of the connection shall be verified within 90 days, using enforcement authority as needed.

BMP #6

The bullets describing educational outreach should be broadened to insure public participation toward the water quality goals. The permit should provide explicit ways for the public to participate in all stages: identifying, detecting, and reporting illicit discharges and other potential violations. Tools for participation should be expanded to include volunteer training programs, hot lines, reporting forms etc.

MCM 4: Construction Site Stormwater Runoff Control

This MCM should be prefaced with reference to the applicable provisions of the Pennsylvania Stormwater Best Management Practices Manual (2006) for which construction activity must be mindful, as well as the updated E&S Manual.

BMP #1

The program should call for the combination of construction site erosion and sediment control planning with post construction stormwater planning at the earliest point in site planning. It should also require numeric turbidity limits for construction sites with a monitoring and reporting requirement as well. The program should list specific E&S control practices e.g., 24 hour stabilization, specific requirements for stabilization

material and application such a depth and maintenance, and limits on acres opened for grading at any one time, etc. Enforcement of E&S control is vital and the program should require a clear and adequately funded enforcement component.

BMP #4
The permittee should keep all records on regulated construction activities within the MS4 including inspection reports, warning letters, and other enforcement documentation. A summary of erosion and sediment control construction inspection and enforcement actions must be a part of the MS4 performance reports.

The permit should provide further guidance on developing a clear protocol for responding to reported public complaints and inquiries, including suggested time frames for inspection and response to public complaints.

MCM 5: Post-Construction Stormwater Management in New and Re-Development Activities
As with MCM 4, specific reference to provisions or sections of the BMP Manual will help permittees adopt activities that will contribute toward water quality goals for developing sites, and are measurable and enforceable.

BMP #1
In the first bullet, minimum requirements must be defined by measurable goals for water quality and quantity. These goals should insure runoff volume and pollutant load is measurable to pre-development conditions.

We recommend adding water quality and channel protection criteria for sizing structural and non-structural BMPs used to protect streams from new development impacts.

The permit guidance should specify the options defined in the BMP Manual to be used within the municipality.

BMP #5
Maintenance agreements and accompanying plans for structural and non-structural BMPs should be required. Owners or operators must verify maintenance and transfer maintenance responsibilities with deed transactions. The permittee should be allowed to inspect and perform maintenance at recoverable cost if owner or operator neglect necessitates.

BMP #6
The use of LID practices should be required. An effective program for voluntary use of LID would require hefty incentives. Maryland's voluntary LID experience resulted in little measurable success, and it has now moved to institutionalize green infrastructure practices.

MCM 6: Pollution Prevention/Good Housekeeping for Municipal Operations
To serve the goal of preventing and reducing pollution from municipal operations, particularly new construction and land disturbances, DEP should adopt language from the 2008 legislation, section 438, of the Energy Independence and Security Act (EISA) scaled to the municipal level. Section 438 establishes stormwater runoff requirements for federal facilities based on maintaining predevelopment hydrology to minimize stormwater pollution:

> The sponsor of any development or redevelopment project involving a Federal facility… shall use site planning, design, construction, and maintenance strategies for the property to **maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property** with regard to the temperature, rate, volume, and duration of flow.

The standards in the EISA can be met by designing, constructing, and maintaining stormwater management practices that manage rainfall on-site, and prevent the off-site discharge of the precipitation from all rainfall events less than or equal to the 95th percentile rainfall event or through establishing controls based on an analysis of pre-development hydrology at the particular site.

BMP #1
A municipality will have knowledge of these facilities and activities prior to implementing this BMP. Therefore, development of the lists should be completed earlier in the permit cycle.

BMP #2
This is the foundation for a useful list, but the permit should stress that the list must be dynamic—the MS4 should provide continuous updates as the operations and maintenance program is developed and implemented.

BMP #3
The guidance offers a flexibility that may encourage training to be integral to day-to-day employee administration and management. However, it also offers opportunity for inconsistencies: some employees may not receive the same amount of training or the same type of training; there is no assurance that the messaging will provide a consistent approach to best serve water quality goals. The permittee must require structured learning experiences while integrating pollution prevention and good housekeeping into the daily oversight of employee activity at municipal operations.

4. Although the draft model ordinance is an improvement from the 2002 version, it must be finalized and strengthened, and disincentives to adopting even stronger ordinances should be removed.

The MS4 permit is substantially dependent upon DEP's Pennsylvania Draft Model Stormwater Management Ordinance. It (or a recent Act 167 Plan ordinance) is required to be adopted by MS4 municipalities.

However, the model ordinance is still in draft form and is not yet finalized. The fact that it is not yet finalized does make it difficult to provide sufficient comment on the requirement to adopt the ordinance. Without knowing what the specific provisions of the final model ordinance will be, it is hard to say whether the permit will meet the MEP standard required by the Clean Water Act.

That said, because adoption of the model ordinance a requirement of the MS4 permit, we feel it is necessary to comment on the draft model ordinance. On one hand, the 2009 draft model ordinance is an improvement over the 2002 model ordinance, and will get MS4 municipalities closer to water quality goals. On the other hand, it is clear that the draft 2009 model ordinance is not strong enough to meet the legal mandate to reduce pollution to the maximum extent practicable. We offer detailed comments on the draft model ordinance below.

Prior to offering section-by-section comments on the draft ordinance, we raise the following general comments. First, we note that the permit requires municipalities that want to develop and adopt an ordinance stronger than the model ordinance to apply for an individual permit. The requirement as drafted penalizes municipalities that have already adopted a stronger ordinance, and discourages adoption of such ordinances in the future. The draft model ordinance appears to be something of a compromise document designed to provide a minimum level of protection for all MS4 municipalities. However, it is not unreasonable for municipalities with greater than average development pressure and/or Special Protection Waters to adopt an ordinance that is more protective of their water resources. DEP should not discourage such an action by forbidding use of the general permit by such municipalities. Instead, DEP could:

- Develop a procedure to review and approve individual ordinances in advance of the submission of MS4 applications.
- Create a list of approved ordinances, including those that county planning commissions, environmental/engineering organizations, other groups have developed.
- Create a list of minimum requirements a permittee's stormwater ordinance would have to include in order to qualify for the general permit.

Second, we understand DEP's need to keep the model ordinance as brief as possible, but we urge DEP to offer the ordinance with annotated commentary inserted to help

municipalities understand what is required and why. We further urge DEP to consider offering the model ordinance with expanded and more rigorous language inserted as something of a higher and more comprehensive level for those municipalities that want to implement higher standards.

Third, The BMP Manual is referenced to some extent in the general permit but is not properly referenced or implemented throughout the draft model ordinance. If DEP plans to use the model ordinance to help municipalities meet the requirements of the MS4 permit, and both the permit and the ordinance are intended to implement the BMP Manual, then both documents should be internally consistent and should make frequent reference to the BMP Manual.

Finally, the ordinance is extremely weak on technical requirements generally in Article III. We comment below on the inconsistencies and incompatibilities between volume control requirements and Act 167 Plan release rate requirements. Additionally, there is a total lack of discussion relating to calculation methodologies (e.g., the increasingly powerful Small Storm Hydrology method), which are discussed in the BMP Manual. The ordinance needs to provide more technical guidance, compatible with the BMP Manual.

Some section-by-section comments are offered below. Although we have a considerable number of more detailed comments to make, we have refrained from making this already lengthy comment letter any longer than absolutely necessary.

Article I.
Section 103: While the cover page of the regulatory package notes that the purpose of the ordinance is "to establish municipal authority to administer, regulate and enforce proper implementation and maintenance of Stormwater Management (SWM) Best Management Practices (BMPs) and design standards such as the ones presented in the *Pennsylvania Stormwater Best Management Practices Manual*…", there is no mention of the BMP Manual in the Statement of Purpose (Section 103) of the ordinance itself. We recommend that DEP include such language in Section 103.

Article II.
Impervious Surface (Impervious Area): We appreciate that this definition includes language that encourages use of porous pavement by indicating that parking areas and driveways that do not prevent infiltration do not count as impervious areas.

Article III.
Section 301: Section H(3) includes the first mention of the BMP Manual. It should be referenced earlier in Section 301 to reinforce its importance. Also, the language in H(3) includes a qualifier "to the maximum extent practicable", which weakens the requirement to utilize the BMP Manual. We also suggest moving Section H ahead in this listing to indicate a higher priority for it.

Section 303: Subsection A: The language in Section A(2)(b) is positive in that it incentivizes redevelopment of existing impervious areas. However, the 20% figure may not be optimal everywhere. For example, in municipalities facing greater development pressures (demand), this percentage should be increased. We encourage DEP to allow flexibility depending on economic realities but always designed to promote redevelopment while trying to get maximum restoration value for the new site.

Section 303: Subsection B: We support the proposed language limited use of the Simplified Method (CG-2 in the BMP Manual) to regulated activities no greater than 1 acre. We believe the Design Storm Method is a stronger, more protective standard, and are glad that it is required for all larger sites.

Section 304: Subsection B: We are concerned that the release rate peaking analysis requirement for design storms specified could end up requiring that larger detention basins be constructed. Requirements for release rates – especially for the smaller storms – are especially disturbing when volumes for up to the 2-year storm are being held constant. Such release rate requirements are likely to result in unnecessarily large detention storage volumes (very likely for up to the 10-year storm, perhaps even larger storms). We encourage the ordinance to allow this analysis to be skipped if engineering studies and analysis show that the release rate analysis for larger storms is not needed on a particular site. We would urge DEP to consider adding a provision that if applicant can demonstrate that volumes are not being increased more than 10%, pre- to post-development, for any particular storm, then Act 167 Plan release rates may be waived.

Section 401: Subsection E(2): We are pleased that the model ordinance requires a determination of site conditions in accordance with the BMP Manual. However, the ordinance should go further and require use of the recommended site design process in the BMP Manual, including the checklist in the Manual. Consistent with this approach, the ordinance should give preference to preventive non-structural BMPs and then to mitigative non-structural BMPs.

Section 401: Subsection E(9): This section should be expanded to include clearer requirements for the required O&M Plan.

Section 403: Subsection B: The 45 or 90 day clock should not begin until a municipality has determined that the SWM Site Plan and Subdivision and Land Development Plan are administratively complete.

Article V.

This section (and Section 401(E)(9) referenced above) should include clearer and more detailed standards for what is required in an O&M Plan, including requirements regarding the frequency of inspections of BMPs, and long term responsibility for maintenance of BMPs. Systems should also be required to notify the property owner who will be responsible for BMP inspection and maintenance if such a system is to be included in the O&M Plan. Requirements in this Article should also be consistent with

new proposals in draft revisions to DEP's Chapter 102 regulations regarding frequency of inspection and other long-term maintenance matters.

Article VIII.
Section 802: Requirements for the frequency of inspections should be consistent with proposed changes to Chapter 102.

5. The provisions of the permit setting forth requirements for discharges to impaired waters must be strengthened.

The permit's provisions addressing discharges to impaired waters do not meet certain minimum requirements of the federal Clean Water Act and Pennsylvania law. As a fundamental flaw, those provisions that do address impaired waters are only applicable *after* a TMDL has been established. This approach would allow stormwater discharges to continue to contribute to violations of water quality standards until a TMDL is developed and approved for an impaired water.

Not only does this approach violate state and federal law, it is simply poor public policy. *See* John H. Minan, *Municipal Separate Storm Sewer System (MS4) Regulation Under the Federal Clean Water Act: The Role of Water Quality Standards?*, 42 SAN DIEGO L. REV. 1215, 1255. Such an approach will unnecessarily delay the cleanup of the Commonwealth's waters and ultimately increase the costs of that cleanup effort. For example, parts of the Schuylkill River were 303(d)-listed for algal growth and sediment pollution in 2002, but will not receive a TMDL until 2015. EPA, Listed Water Information, http://oaspub.epa.gov/tmdl/enviro.control?p_list_id=PA03F00924_990318-1430-ACW&p_cycle=2004 (last visited June 4, 2009). Under the draft permit, a municipality that discharges nutrients or sediment into the Schuylkill River through stormwater would not require additional measures in its MS4 permit until a TMDL is developed in 2015 at the earliest, and will continue to contribute to the impairment of the river until that time without any requirements other than meeting the baseline six MCMs.

The specific shortcomings of the permit with respect to impaired waters are:

- The provisions addressing discharges to impaired waters with an approved Total Maximum Daily Load (TMDL) do not contain measures to ensure compliance with wasteload allocations.
- The permit lacks any provisions necessary to achieve compliance with water quality standards in impaired waters, regardless of whether a TMDL has been approved.
- The permit lacks any provisions prohibiting the addition of new discharges that cause or contribute to the impairment.

Each of these shortcomings is discussed in detail below, and a set of recommendations for improving the permit is provided at the end of this comment section.

a. The permit's provisions addressing discharges to impaired waters with an approved TMDL do not contain measures sufficient to ensure compliance with the TMDL's wasteload allocations.

DEP's draft permit includes additional requirements for MS4s in impaired waters where a TMDL has been approved. While this is an improvement over the first MS4 Phase II permit that was finalized in 2002—which had no such requirements—it is a far cry from what is required under the Clean Water Act.

The Clean Water Act requires states to establish TMDLs for impaired waters so that the impairment can be remedied and water quality standards can be met. 33 U.S.C. § 1313(d)(1)(C); 40 C.F.R. § 130.7(c)(1). Point sources are assigned wasteload allocations (WLAs) necessary to meet the overall TMDL pollutant load cap. 40 C.F.R. § 130.2(h), (i). WLAs must be expressed in numeric form in the TMDL. *See id.* § 130.2(h), (i).

Once a TMDL is approved and specific WLAs have been established for point sources within the watershed, the NPDES permits for those point sources must be consistent with the terms of the TMDL and the WLA, and permit effluent limitations must be established that are "consistent with the assumptions and requirements of any available waste load allocation." 40 C.F.R. § 122.44(d)(1)(vii)(B); *see also Dioxin/Organochlorine Ctr. v. Clarke*, 57 F.3d 1517, 1520 (9th Cir. 1995) (citing 40 C.F.R. § 130.2). In this respect, the WLA is a type of water quality-based effluent limit (WQBEL) which must be imposed upon the point source in order for water quality standards to be met. 40 C.F.R. § 130.2(h); 25 PA. CODE §96.4(d).

Because MS4s are point sources under the Clean Water Act, if they are contributing to the impairment of waters for which a TMDL is developed, they must be given a specific, numeric WLA within the TMDL.. 40 C.F.R. § 130.2(h), (i). The NPDES MS4 permit in turn must incorporate permit conditions sufficient to ensure that WLAs are achieved so that water quality standards are met. *See* 25 PA. CODE § 96.4(f)(2) (WLAs and effluent limitations "shall be made more stringent if the cumulative loading . . . does not meet [applicable water quality standards]."); *see also Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs*, EPA Memorandum from Robert H. Wayland and James A. Hanlon to Water Division Directors, Regions 1-10 (EPA Memo) (November 22, 2002).

The draft permit requires the implementation "to the maximum extent practicable (MEP)" of a Stormwater TMDL Plan "that achieves the pollutant reductions consistent with the applicable TMDL." The permit requires the adoption of two of the seven listed TMDL Control Measures over the five year life of the permit. In noncommittal language, the permit also says that "all other measures needed to reduce the pollutant load consistent with the TMDL shall be implemented *as soon as practicable*, in accordance with the Plan timeline, to make *measurable progress* in *substantially reducing* the applicable pollutant loads" (emphasis added).

These permit conditions are not sufficient to meet the minimum requirements of the Clean Water Act. TMDLs are required under the Clean Water Act for waters for which technology-based effluent limits "are not stringent enough to implement any water quality standard." 33 U.S.C. § 1313(d)(1)(A), (C). MEP is akin to technology-based effluent limits for MS4s. 66 Fed. Reg. 68722, 68750 (describing MEP as "a different technology standard for all pollutants"). In impaired waters where stormwater discharges from MS4s are among the contributors to the impairments, baseline MEP limits are not sufficient to protect receiving waters—if they were sufficient, MS4s would not be contributing to the impairment. Rather, as discussed above, more stringent WQBELs, in the form of WLAs incorporated into NPDES permits, are required. 40 C.F.R. § 122.44(d)(1)(vii)(B); 25 PA. CODE § 96.4(b), (d); *see also* EPA Memo. Accordingly, as a matter of law, implementation "to the maximum extent practicable," "as soon as practicable," in order to make "measurable progress" in "substantially reducing" pollutants is just not good enough in a TMDL watershed. Rather, *full* implementation, to the level necessary to reduce pollutants to *fully* meet WLAs, is required.

To create additional uncertainty as to whether and how permittees will achieve compliance with WLAs, the permit requires permittees to establish a timeline for implementation of their TMDL Implementation Plans, but does not set a temporal limit on the timeline. Conceivably, a permittee could establish a 50-year timeline and be considered in compliance with the permit. This open-ended timeline for compliance is not permitted under Pennsylvania law. DEP is not permitted to issue NPDES permits without conditions necessary to ensure compliance with water quality standards. 25 PA. CODE §§ 92.2(b)(14); 92.31(a)(5), 92.73(5). Provisions that allow the implementation of a TMDL Implementation Plan to extend beyond the statutory maximum five-year term of the permit would violate this requirement because the permits would not contain effluent limits necessary to meet water quality standards within the life of the permit. Accordingly, DEP must specify in the permit that the maximum timeline for *full* compliance of the TMDL Implementation Plan is five years.

The section of the permit that sets forth the seven TMDL Control Measures and requires implementation of only two of them is woefully inadequate for several reasons. First, while some measures are good and should have true water quality benefits, others are weak. We are concerned that, when given the choice, municipalities will choose the two least burdensome practices without any consideration of pollution reduction potential. It is difficult to fathom how planting 25 trees and retrofitting one detention basin over five years will make any measurable difference in pollutant loads, let alone fully achieve WLA reduction requirements.

Second, the permit contains absolutely no requirements to quantify the pollution reductions achieved from implementing these practices. Quantification of pollution reductions is absolutely necessary in order to determine whether TMDL wasteload allocations have been achieved. *See* EPA Memo at 5 (requiring permitting authorities to include discussion of BMP selection and assumptions, which may be included in the plan, and suggesting that permitting authorities require permittees to provide supporting information as to how its plan will meet WLAs); *see also, e.g.*, Florida Stormwater

Association Educational Foundation Research Advisory Council, *Quantifying Pollutant Loads Associated with Particulate Matter and Stormwater Sediment Recovery through Current MS4 Source Control and Maintenance Practices* p. 3 (June 19, 2008) (quantification analysis methodology "is needed since MS4s are faced with quantifying load reductions in Basin Management Action Plans to achieve TMDLs.").

The hydrological analysis required to quantify pollution loads from stormwater runoff under specific BMP scenarios must identify the runoff contributions from the various land cover components of a specific area, as affected by soil characteristics and land cover type. It must address how such runoff changes in response to rainfall events of differing intensities and precipitation amounts. The hydraulic design elements must be able to realistically calculate the flow path components of runoff and route runoff through storage or infiltration structures. It should also be capable of partitioning overland discharge from subsurface infiltration components. And it must accurately estimate pollutant load and BMP efficiency scenarios on a site-specific basis.

There are a multitude of methodologies available to analyze and quantify pollutant loads from stormwater that meet these selection criteria. These include continuous simulation models such as PCSWMM and HSPF, the Long-Term Hydrologic Impact Assessment (L-THIA) model, TSA TOOLS LID Module, the Loading Simulation Program in C++ (LSPC), and WinSLAMM. Of course, each of these models must be calibrated for local conditions (e.g., precipitation, hydrology, soils, etc.) and modified so as to employ locally accepted event-mean-concentrations for the land uses in question.

Third, the permit does not contain sufficient requirements for monitoring progress toward meeting WLAs. EPA regulations and guidance require such monitoring. 40 C.F.R. § 122.44(i); EPA Memo at 5. Monitoring is necessary to ensure that the iterative, adaptive management approach for controlling pollution from MS4s achieves the water quality goals of the Clean Water Act. Requirements must be robust and frequent enough to inform DEP and the permittee of any BMP adjustments that are necessary to achieve WLAs within the five-year life of the permit.

Finally, we offer specific critiques of each of the seven proposed TMDL Control Measures:

TMDL Control Measure 1.
We recognize and value the importance of forest riparian buffers and their pollution reduction potential. However, the control measure lacks specific requirements to ensure that the pollution reduction benefits of riparian buffer restoration are achieved. It does not set a minimum goal, in terms of stream miles or acreage, for riparian buffer establishment. It does not require a minimum width for buffers restored, nor for the provisions of the buffer ordinance.

TMDL Control Measure 2.
The control measure does not specify whether the ordinance requiring disconnection is retroactive. We assume it is not, since retroactivity would eliminate the need to establish

and implement a disconnection program. Following this assumption, the control measure lacks minimum goals in terms of acreage of impervious surface disconnected or the like. Without minimum standards, the practice lacks any assurances that it will achieve meaningful reductions.

TMDL Control Measure 3.
There is no requirement to plant trees in strategic locations or in the manner (i.e., reforestation versus widely dispersed shade trees) where they will best be able to perform stormwater management and pollution removal functions. In addition, the minimum number of plants for both trees and tree seedlings is too low. This is particularly true for the larger trees. A requirement of 50 trees in larger Phase II municipalities and 25 trees in smaller Phase II municipalities is, to be frank, laughable.

TMDL Control Measure 4.
Again, there is no minimum acreage requirement for the amount of recharge/infiltration BMPs to be installed or the volume of stormwater such systems will infiltrate. Such requirements are critical in order to ensure that the TMDL Implementation Plan will actually achieve reductions.

TMDL Control Measure 5.
A minimum requirement to retrofit one basin over the five-year life of the permit is too weak and unlikely to lead to substantial reductions.

TMDL Control Measure 6.
Eroded stream banks are a symptom of poor stormwater management caused by the failure to control and properly manage stormwater upstream. Without fixing the problem of increased imperviousness and concentration of flows upstream of eroded stream banks, implementing stream bank restoration measures will be unsuccessful in reducing pollutant loads over the long term. It is akin to treating the symptom of a disease and not the cause. This measure should be undertaken by municipalities only after retrofits are implemented upstream to fix upstream causes.

TMDL Control Measure 7.
The minimum requirements for green roofs, rain gardens, and pervious pavement practices are only suggested, thus greatly diminishing the effectiveness of this measure. The term “green structural BMPs” should be used instead of “green infrastructure,” which has a much broader meaning than simply these three practices (*see* www.greeninfrastructure.org).

b. The permit lacks any provisions ensuring that discharges to impaired waters comply with water quality standards.

MS4s in TMDL-approved waters are not the only municipalities that must meet more stringent permit requirements under the Clean Water Act. In Pennsylvania, MS4 NPDES permits in all impaired waters, whether or not a TMDL has been developed and

approved, must contain more stringent limits necessary to achieve compliance with water quality standards.

The Clean Water Act is the nation's preeminent statute addressing pollution of our waters. Its overall objective is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). To meet this objective, it provides as a goal the attainment of water quality at levels sufficient to protect aquatic life and recreation (often referred to the "fishable and swimmable" goal). *Id.* § 1251(a)(2).

The Clean Water Act establishes two basic regulatory programs for meeting its water quality goals. First, the Act requires each state to establish water quality standards for its waters that are necessary to meet the Act's water quality goal of "fishable and swimmable" waters. Second, the Act requires point sources of pollution (such as MS4s) to obtain and comply with National Pollution Discharge Elimination System (NPDES) permits that contain effluent limitations on the pollution they discharge. *Id.* §§ 1311, 1342.

Under the Clean Water Act, NPDES permits must include effluent limitations on pollution discharged by point sources. *Id.* § 1311. An "effluent limitation" is defined by the Act as "any restriction established by a State or [EPA] on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources . . . ." *Id.* § 1362(11).

The establishment of effluent limitations on pollutants in NPDES permits is governed by section 301 of the Clean Water Act, 33 U.S.C. § 1311. This section requires two general categories of effluent limits on pollutants required by the Clean Water Act to be included in NPDES permits: (i) technology-based effluent limits; and (ii) if still necessary to meet water quality standards, more stringent water quality-based effluent limits. *Id.* § 1311(b)(1)(A), (B) (requiring technology-based limits); *Id.* § 1311(b)(1)(C) (requiring "any more stringent limitation . . . necessary to meet water quality standards").

By requiring NPDES permits to include more stringent water quality-based effluent limits, the Clean Water Act recognized that technology-based effluent limits may not be enough to meet state water quality standards for particular water bodies, and thus, alone may not satisfy the Act's "fishable and swimmable" goal.

In *Defenders of Wildlife v. Browner*, 191 F.3d 1159 (9th Cir. 1999), the Ninth Circuit interpreted section 402(p)(3)(B) of the Clean Water Act as not requiring MS4s to comply strictly with section 301(b)(1)(C). We disagree with the Ninth Circuit's decision in *Browner*, as it is fundamentally at odds with the Act's overarching water quality goal of "fishable and swimmable" waters, which necessarily requires achievement of water quality standards. Streams impaired by stormwater pollution from MS4s may indeed need permit limits that are more stringent than MEP to ensure that water quality standards are met so they become "fishable and swimmable."

But even under the *Browner* court's construct of the Clean Water Act, DEP is authorized, and indeed required, to include more stringent water quality-based effluent limits for MS4s in impaired waters. The court recognized in *Browner* that section 402(p)(3)(B)(iii) of the Clean Water Act gave the permitting agencies the authority to require stricter limits necessary to meet water quality standards in MS4 NPDES permits. *Browner*, 191 F.3d at 1166 (stating that, because the Act allows for inclusion in permits of "such other provisions as [EPA] or the State determines appropriate for the control of such pollutants," EPA (and the states) "ha[ve] authority to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants"); *see Bldg. Indus. Ass'n of San Diego County v. State Water Res. Control Bd.*, 22 Cal. Rptr. 3d 128, 134-35 (Cal. Ct. App. 2004) (holding that, pursuant to Section 402(p)(3)(B)(iii), the state had authority to issue an MS4 permit prohibiting discharges that "cause or contribute to the violation of water quality standards").

In Pennsylvania, DEP has this authority and, moreover, is mandated to use it. Pennsylvania's regulations governing NPDES permits, set forth in 25 Pa. Code Chapter 92, clearly *require* all such permits to contain provisions necessary to ensure compliance with state water quality standards. Specifically:

- An NPDES permit[1] cannot be issued if the permit conditions do not ensure compliance with applicable water quality requirements of all affected states. 25 PA. CODE §§ 92.73(5), 92.2(b)(2) (incorporating by reference 40 C.F.R. § 122.4(d)).

- An NPDES permit cannot be issued if the discharge is not in compliance with water quality-based effluent limits necessary to meet water quality standards as required by section 301 of the Clean Water Act. 25 PA. CODE § 92.31(a)(1).

- An NPDES permit cannot be issued if the discharge is not in compliance with any more stringent limitation required to implement any applicable water quality standard. *Id.* § 92.31(a)(5).

- Water quality-based effluent limitations "*must*" be placed on all pollutants which the permitting authority determines "are or may be discharged at a level which will cause, or contribute to an excursion above any State water quality standards, including State narrative criteria for water quality." *Id.* § 92.2(b)(14).

c. The permit lacks any provisions prohibiting the addition of new discharges that cause or contribute to the impairment.

Pursuant to 40 C.F.R. § 122.4(i), an NPDES permit shall not be issued to "a new source or a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards." 40 C.F.R. § 122.4(i). In impaired

[1] Chapter 92 defines "NPDES permit" broadly to include all permits or equivalent documents or requirements issued by EPA or DEP to regulate the discharge of pollutants under section 402 of the Clean Water Act, which includes MS4 NPDES permits. 25 PA. CODE § 92.1.

watersheds where a TMDL has been developed, a new source or discharger may be issued an NPDES permit if (i) a WLA has been allotted within the TMDL for the new source or new discharger; and (ii) compliance schedules have been established for all point and nonpoint sources within the watershed sufficient to correct the impairment. *See Friends of Pinto Creek v. EPA*, 504 F.3d 1007, 1015 (9th Cir. 2007), *cert. denied, Carlota Copper Co. v. Friends of Pinto Creek*, 2009 U.S. LEXIS 381 (U.S. 2009). In impaired watersheds where TMDLs have not been established, a new source or discharger that would cause or contribute to the impairment shall not be issued an NPDES permit. *Id.*

As new development proceeds within MS4 municipalities, new sources of stormwater will be added to the MS4. To meet the requirements of 40 C.F.R. § 122.4(i), the MS4 NPDES permit must include a provision prohibiting the MS4 from allowing new discharges of stormwater that cause or contribute to a violation of water quality standards. Where waters are already impaired, MS4s must ensure that any new development will result in no net increase in volume or pollutant loads from predevelopment conditions, unless a TMDL exists with WLAs for the new development and compliance schedules are in place to address all other sources of impairment within the watershed. The draft permit does not contain any such requirements.

d. Recommendations for discharges to impaired waters

As discussed above, the draft permit does not contain sufficient provisions to meet baseline requirements of the Clean Water Act, federal regulations, and state regulations concerning discharges to impaired waters. To address these legal and policy shortfalls, we recommend the following changes to the draft permit:

- **Add a new provision that prohibits the discharge of stormwater that causes or contributes to a violation of water quality standards.**

- **Add a new provision that incorporates by reference any applicable numeric WLAs into the permit and requires full compliance with TMDL WLAs.**

- **Revise TMDL Requirements (Part C) to include special requirements for MS4s discharging into *all* impaired waters, not just waters with approved TMDLs.** Separate sections for each type of waters should be provided. For waters with approved TMDLs, the permit should require development and implementation of a comprehensive Stormwater TMDL Implementation Plan setting forth specific projects, practices, and programs to reduce pollution from stormwater runoff. The plan must quantify such projects, practices, and programs to show that WLAs set forth in the approved TMDL will be met. In addition, it must include a specific timeline and milestones for full implementation of the plan so that WLAs will be fully achieved within the five-year term of the permit. Finally, it must require monitoring and annual reporting of progress in implementing the plan to show that WLAs have

actually been met. For discharged to impaired waters without an approved TMDL, similar provisions requiring implementation of a comprehensive stormwater pollution reduction implementation plan should be required.

- **Add a new provision that prohibits MS4s in impaired waters from allowing new development or redevelopment that causes or contributes to a violation of water quality standards.** We recommend including further guidance in the permit on this point, specifically by requiring the municipality to enact and implement an ordinance more stringent than the model ordinance. This ordinance would require all new development and redevelopment to achieve no net increase in volume of stormwater runoff and pollutant load from predevelopment conditions. This could be accomplished by requiring new development to implement a stringent LID process, establishing zero net nutrient loading criteria, requiring more stringent volume controls and sizing criteria (e.g., 1 year, 24 hour), and requiring the use of the Small Storm Hydrology Method (Pitts, 2003) or similar methodology to size, calculate, and place multiple stormwater BMPs throughout the site to treat runoff at the source.

Conclusion

We thank DEP for the opportunity to submit these comments. Our comments and recommendations are based on a thorough examination of the permit and applicable legal authority and requirements, examples from other jurisdictions, and in the input of nationally recognized stormwater management experts. We hope that you will carefully consider our comments and take steps to improve the draft permit so that the discharge of pollutants from stormwater is reduced to the maximum extent practicable and compliance with water quality standards is achieved.

If you have any questions concerning these comments or would like to discuss further, please contact Bob Wendelgass, Campaign Chair, at 215-545-5250.