

APPENDIX E. Proposed Comprehensive Stormwater Management Policy

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**PROPOSED COMPREHENSIVE
STORMWATER MANAGEMENT POLICY**

DRAFT – October 27, 2001

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TITLE: Comprehensive Stormwater Management Policy

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AUTHORITY:

Pennsylvania Clean Streams Law (35 P.S. §§ 691.1-691.1001); Pennsylvania Stormwater Management Act (32 P.S. §§ 680.1-680.17); Federal Clean Water Act (33 U.S.C.A § 1342) and 40 CFR 122.26.

POLICY:

The Department will employ a comprehensive stormwater management program, using existing authority, to improve water quality, sustain water quantity (including ground water recharge and stream base flow) and integrate federal stormwater management obligations.

PURPOSE:

This policy is being developed in response to public comments and recommendations received during the water forums held throughout the state in the spring of 2001 and to address federal Clean Water Act Phase II Stormwater requirements.

APPLICABILITY:

This policy applies to stormwater management programs implemented by the Department.

DISCLAIMER:

The policies and procedures outlined in this guidance document are intended to supplement existing requirements. Nothing in the policies or procedures shall affect regulatory requirements. The policies and procedures herein are not adjudications or regulations. There is no intent on the part of DEP to give the rules in these policies that weight or deference. This document establishes the framework, within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

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EXECUTIVE SUMMARY

At the 15 water forums held throughout the Commonwealth in the spring of 2001, stormwater management was a consistent and recurring concern identified by the forum participants. Pennsylvania citizens are demanding a more modern approach to stormwater management which allows stormwater to be an integral part of progressive water resource management. Pennsylvania must also implement Phase II stormwater controls under the federal Clean Water Act within the next several years. Pennsylvania has identified a need to ensure that stormwater controls remain operational and efficient throughout the life of a project. The Commonwealth has also been faced with an increasing number of EHB appeals related to stormwater.

The Department is proposing to update its current stormwater management program, using existing authority, to improve water quality, sustain water quantity (including ground water recharge and stream base flow) and integrate federal stormwater management obligations.

The Department proposes a best management practices (BMP) approach to stormwater control that generally encourages, and sometimes requires, infiltration of stormwater flows. This approach will reduce pollutant loadings to streams, recharge groundwater tables, enhance stream base flow during times of drought and reduce the threat of flooding and stream bank erosion resulting from storm events. Permit conditions will require the use of stormwater BMPs as the means of managing stormwater from both Phase I and Phase II construction, as well as, post construction stormwater flows.

Administratively, the Department proposes to integrate its permitting programs with stormwater management plans developed on a watershed basis under the Stormwater Management Act (Act 167). Act 167 county plans will include water quality and quantity protections implemented by municipalities within the watershed. In addition, the Department will rely on these Act 167 plans to meet the NPDES permitting requirements for municipalities under the federal Clean Water Act Phase II municipal stormwater permitting program.

The Department is implementing this comprehensive approach to stormwater in several phases. The environmental futures planning process is being used to help prioritize the implementation efforts to address issues that have a direct impact on environmental indicators. The program uses a combination of local, state and federal authority to develop a common sense approach to stormwater planning.

The Federal NPDES Phase I program for stormwater discharges associated with construction, industrial and large municipalities has been implemented over the past 9 years. The Department has refined the Act 167 program over the past several years to include more complete consideration of water quality impacts associated with stormwater discharges. The Department is beginning to implement the existing use protection requirements of the water quality standards program to address post construction

stormwater impacts associated with new land development. Finally, the Department has implemented a grants program for addressing stream channel impacts resulting from flooding.

Over the next year and one-half, the Department will be developing the Phase II program for NPDES discharges from small construction sites, additional industrial activities and for the 700 municipalities subject to the requirements for separate storm sewer systems (MS4). A draft technical guidance for MS4 and industrial discharges will be released for public comment in the near future. The Department is working with the county conservation districts on developing the Phase II program technical guidance for small construction activities. It is anticipated that this technical guidance will be released early in 2002.

Protecting the existing uses of Pennsylvania's surface waters is also a priority for stormwater control. This includes aquatic life, water supply and recreational uses. The Department will continue to develop and implement updated controls for post construction stormwater to ensure that these public water uses are maintained and protected. The Department will be updating the existing stormwater construction requirements to integrate the requirement for construction, operation and maintenance of the post construction controls. This update will be made available for public comment over the next several months.

The 1998 "Pennsylvania Handbook of Best Management Practices for Developing Areas" is a site management and best management practice selection guide for local authorities, planners, contractors and others involved with planning, designing, reviewing, approving and building development projects. The Department intends to work with the Pennsylvania Association of Conservation Districts, the Soil and Water Conservation Society and the Natural Resource Conservation Service to update this handbook to include additional technical information consistent with the overall comprehensive approach to stormwater management.

IMPACT ANALYSIS:

The proposal will rely on existing authority and resources to implement the new integrated stormwater management program. There will be a need to prioritize regional and central office work effort to implement the integrated program so as to maximize the efficient use of resources and maximize benefits.

There will be additional costs for developers, industry and municipalities resulting from both the integration and development and implementation of the Phase II Stormwater Program. There will be clear environmental benefits achieved from implementation of this new program.

Overall, this integrated approach will reduce resource commitments compared to continuing implementation of stormwater programs under the existing structure.

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BACKGROUND

This policy document describes the Department's proposal to update its stormwater management program, using existing authority, to improve water quality, sustain water quantity (including ground water recharge and integrate stream base flow) and integrate federal stormwater management obligations.

Stormwater management consists of a comprehensive program to protect Pennsylvania's streams, lakes and rivers from water quality and water quantity impacts through the use of stormwater Best Management Practices (BMPs). Stormwater can flush pollutants into surface waters from the land surface and is a major cause of flash flooding, stream bank scouring, habitat destruction, water quality impairment, and streambed sedimentation. Conveying stormwater from the point of generation during rain events can mean that the groundwater table does not get recharged and there is inadequate ground water to provide stream base flow during times of drought. Properly managed stormwater is minimized and infiltrated through the soil to recharge ground water resources and provide base flow for surface waters during times of drought. It is becoming increasingly apparent that it is critical to "keep stormwater at home" to address Pennsylvania water resources needs.

The Department proposes a best management practices (BMP) approach to stormwater control that generally encourages, and sometimes requires, minimization and infiltration of stormwater flows. This approach will reduce pollutant loadings to streams, recharge groundwater tables, enhance stream base flow during times of drought and reduce the threat of flash flooding and stream bank erosion resulting from storm events. Permit conditions will require BMPs as the means of managing stormwater from both Phase I and Phase II construction, as well as, post construction stormwater flows.

Administratively, the Department proposes to integrate its permitting programs with stormwater management plans developed on a watershed basis under the Stormwater Management Act (Act 167). Act 167 county plans will include water quality and quantity protections implemented by municipalities within the watershed. The Department will, in appropriate circumstances, rely on these Act 167 plans to meet the NPDES permitting requirements for municipalities under the federal Clean Water Act Phase II municipal stormwater permitting program.

As discussed in greater detail in the following sections, the Department is implementing this comprehensive approach to stormwater in several phases. The environmental futures planning process is being used to help prioritize the implementation efforts to address issues that have a direct impact on environmental indicators. The program uses a combination of local, state and federal authority to develop a common sense approach to stormwater planning.

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discharges. The Department is beginning to implement the existing use protection requirements of the water quality standards program to address post construction stormwater impacts associated with new land development. Finally, the Department has implemented a grants program for addressing stream channel impacts resulting from flooding.

Over the next year and one-half, the Department will be developing the Phase II program for NPDES discharges from small construction sites, additional industrial activities and for the 700 municipalities subject to the requirements for separate storm sewer systems (MS4). A draft technical guidance for MS4 and industrial discharges will be released for public comment in the near future. The Department is working with the county conservation districts on developing the Phase II program technical guidance for small construction activities. It is anticipated that this technical guidance will be released early in 2002.

Protecting the existing uses of Pennsylvania's surface waters is also a priority for stormwater control. This includes aquatic life, water supply and recreational uses. The Department will continue to develop and implement updated controls for post construction stormwater to ensure that these public water uses are maintained and protected. The Department will be updating the existing stormwater construction requirements to integrate the requirement for construction, operation and maintenance of the post construction controls. This update will be made available for public comment over the next several months.

The 1998 "Pennsylvania Handbook of Best Management Practices for Developing Areas" is a site management and best management practice selection guide for local authorities, planners, contractors and others involved with planning, designing, reviewing, approving and building development projects. The Department intends to work with the Pennsylvania Association of Conservation Districts, the Soil and Water Conservation Society and the Natural Resource Conservation Service to update this handbook to include additional technical information consistent with the overall comprehensive approach to stormwater management.

STORMWATER GENERATED DURING CONSTRUCTION

Contact Person: Kenneth R. Reisinger, Chief, Division of Waterways, Wetlands & Erosion Control, 10th Floor, RCSOB P. O. Box 8775, Harrisburg, PA 17105-8775, 717-787-6827.

Pennsylvania regulates stormwater impacts occurring during construction under the erosion and sediment pollution control program. All earth disturbance of 5000 square feet or greater requires the development and implementation of an erosion and sediment control plan under Chapter 102. BMPs are used to prevent pollution from these activities. The “Erosion and Sediment Pollution Control Program Manual” and “Pennsylvania’s Handbook for Best Management Practices for Developing Areas” identify BMPs and their applicability to various situations. The “Erosion and Sediment Pollution Control Program Manual” also provides recommended site design standards and specifications. For High Quality (HQ) and Exceptional Value (EV) watersheds, there are more protective BMP requirements contained in Chapter 102.

Phase I Earth Disturbance 5 Acres or Greater

EPA regulations implementing the Clean Water Act require NPDES permits for construction activities of five (5) acres or greater (Phase I). These regulations also require identification of post construction stormwater management controls as part of the application process. Pennsylvania began to implement this Phase I NPDES program beginning in 1992.

Pennsylvania used the existing regulations under Chapter 102 as the mechanism to implement this Clean Water Act requirement. Based on the Department’s experience with implementation, those regulations were revised to codify the “NPDES Permit for Stormwater Associated with Construction Activities” requirements. Under the Department’s regulations, any earth disturbance of greater than 5 acres (including earth disturbance of less than 5 acres that occurs as part of a common plan of development greater than 5 acres) requires a permit prior to earth disturbance beginning.

The Department has implemented the program with an individual permit for projects located in HQ and EV watersheds. In most circumstances, a general permit is available for all other projects. In most counties, the Department has delegated administration of the program to the County Conservation Districts under the authority contained in the Conservation District Law.

BMPs are used to minimize erosion and sediment pollution during construction. The applicant is required to list post construction controls as part of the permit application (or Notice of Intent for General Permit users). However, because the permit is traditionally terminated once the earth disturbance activity is completed and the site is stabilized, there is no ongoing requirement to install, operate or maintain the post construction stormwater controls. The Department is proposing a mechanism to address this gap in water resource protection. (See Post Construction Stormwater Management Program).

Phase II Earth Disturbance Between 1 and 5 acres (under development)

In 1999, EPA promulgated Phase II stormwater regulations establishing NPDES permit requirements for construction activities with between one (1) and five (5) acres of earth disturbance (including earth disturbance of less than one (1) acre that occurs as part of a common plan of development greater than 1 acre). States operating an NPDES program are required to implement the Phase II requirements by December 8, 2002.

The Department, as in Phase I, proposes to implement the Phase II requirements using the BMP approach contained in Chapter 102. However, because the risk to water quality resulting from these smaller projects is less, the Department is proposing a regulatory approach with less oversight than under the Phase I program.

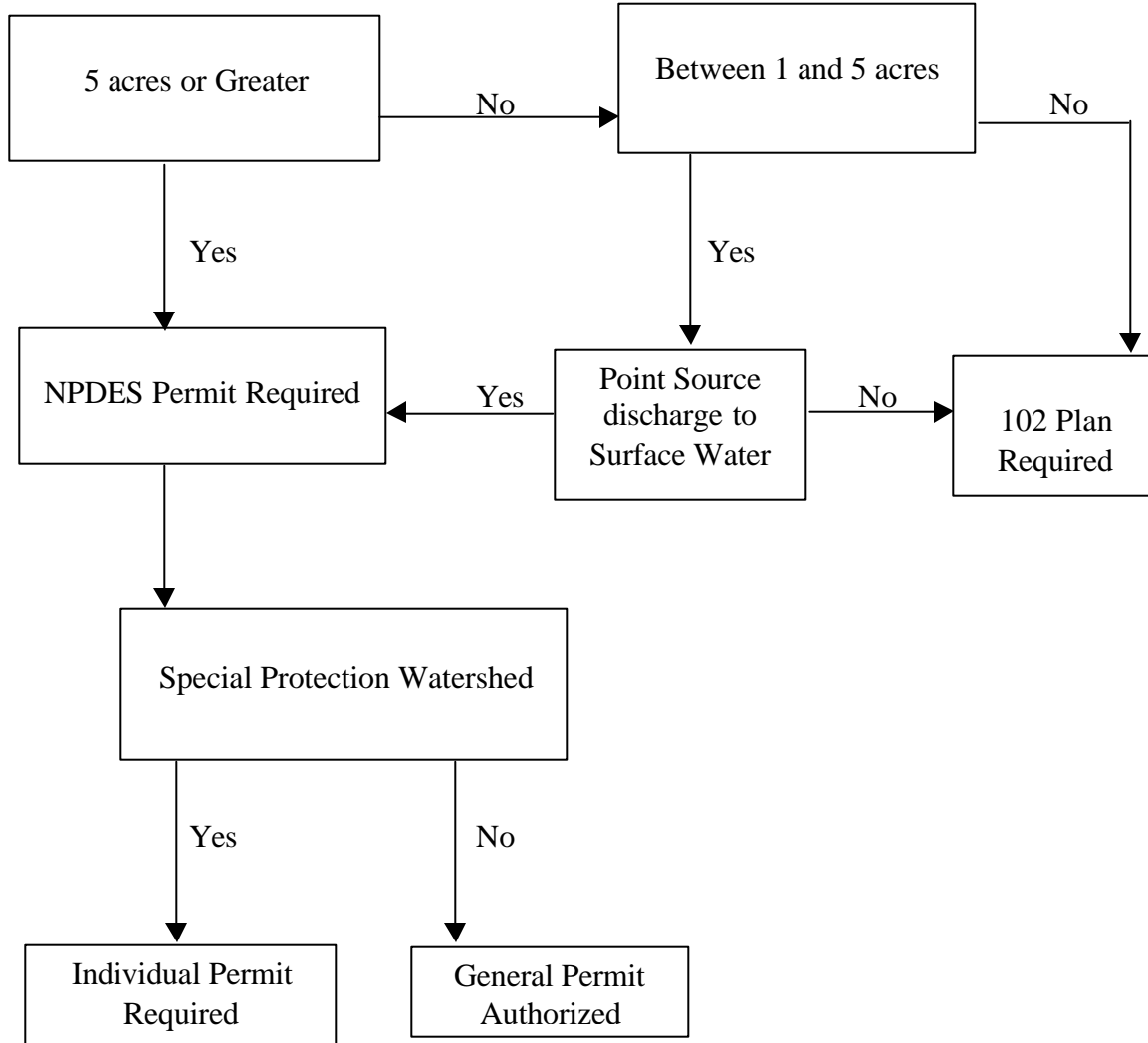
For earth disturbance activities that do not include a point source discharge, the erosion and sediment pollution control plan requirements in Chapter 102 will be used as the substantive environmental control requirements. These regulations require the development of a site-specific plan to control stormwater that is kept on site for inspection by the Department (or a delegated Conservation District) and implemented by the operator.

While not part of the Phase II requirement, it should be noted that many municipalities require the approval of earth disturbance activities by the County Conservation Districts prior to approval of a building permit for a project. For municipalities subject to the Municipal Separate Storm Sewer Systems (MS4) requirements described below, this Conservation District review will meet the MS4 erosion and sediment control requirements for construction activities.

For earth disturbance activities from small construction sites that include a point source discharge, the Department will require either a general or individual NPDES permit. As with Phase I, an individual permit will be required for discharges to HQ and EV waters and a general permit will be authorized in all other circumstances. A flow chart outlining the process appears on page 5.

The Department is working on the details of implementation and will be seeking additional public comment on those details.

FLOW CHART
NPDES STORMWATER CONSTRUCTION



POST CONSTRUCTION STORMWATER

It has become increasingly clear that control of post construction stormwater is essential to maintaining the quality of Pennsylvania's surface waters. Pennsylvania proposes use of a BMP approach for the regulation of post construction stormwater. One of the most effective methods of managing post construction stormwater is to encourage BMPs which minimize stormwater runoff and include infiltration. Infiltration of stormwater provides recharge of local ground water tables that are essential to maintaining base stream flow during times of drought. Infiltration also reduces both the volume and velocity of stormwater discharges to streams reducing the risk of flash flooding and stream bank erosion.

Pennsylvania is proposing a process, under existing statutory and regulatory programs, to integrate post construction stormwater control into stormwater construction planning and permitting. Essentially, it requires construction, operation and maintenance of the post construction stormwater BMPs described in the stormwater construction permitting process. The BMPs will be designed to protect and maintain the uses of the surface waters where the project is located.

The approach will be consistent with the water quality protective measures required to be included in Stormwater Management Plans developed under the Stormwater Management Act (Act 167) (see discussion below). These plans are developed by counties and implemented by municipalities on a watershed basis. Act 167 authorizes funding for both planning and implementation, although historically appropriations have only been provided for plan development purposes.

The Department plans to implement the integrated state/local approach as a mechanism for meeting the Phase II stormwater permitting requirements for municipalities with separate storm sewer systems (MS4). Under this approach, where a municipality has developed and implemented an Act 167 plan that includes MS4 requirements for protection of surface waters, NPDES permit requirements will be met.

Permitting Post Construction Stormwater BMPs for New Construction

Contact Person: Kenneth R. Reisinger, Chief, Division of Waterways, Wetlands & Erosion Control, 10th Floor, RCSOB, P. O. Box 8775, Harrisburg, PA 17105-8775, 717-787-6827.

The Department believes that it is essential to issue a permit for post construction stormwater BMPs for Phase I construction projects (5 acres or greater) and Phase II projects that require an NPDES permit (1-5 acres with a point source discharge). This will insure that the post construction stormwater controls identified during the construction phase of the project are constructed, operated and maintained.

Procedurally, the Department proposes to use a Water Quality Management Part II general permit to establish the post construction control requirements. An alternative approach is to add the post construction requirements to the NPDES Permit for Stormwater Discharges Associated with Stormwater Construction Activities and have that portion of the permit remain in force after the construction activity is completed.

Substantively, infiltration BMPs must be evaluated and used for all watersheds unless stormwater quality or site-specific conditions limit their use. For HQ and EV watersheds, the applicant must, during the stormwater construction permitting process, calculate a pre and post construction water budget. In general, post construction infiltration must equal or exceed preconstruction infiltration. For HQ watersheds, infiltration BMPs must be used unless the applicant demonstrates, during the stormwater construction permitting process, that their use is precluded. For EV watersheds where the applicant cannot meet the post construction infiltration requirement on site, an offsite compensation project that protects the base flow of the EV surface water must be implemented. Under current regulations, for any direct discharge to an HQ or EV surface water, the applicant must demonstrate that post construction discharge will not degrade the physical, chemical or biological characteristics of the surface water. Discharge to HQ waters may result in some degradation if the requirements for Social and Environmental Justification (SEJ) are met. Discharge to other waters must be managed to prevent flooding and preserve and protect the stream bank, streambed and structural integrity of the waterway.

The Department as well as other state and federal agencies have developed BMP manuals that describe and evaluate various post construction stormwater control practices. The Department proposes making these manuals available for use in the design, construction, operation and maintenance of the required BMPs.

The Water Quality Management Part II permit requirement will be streamlined. The general permit will require the post construction stormwater controls identified as part of the NPDES construction permitting process to be built, operated and maintained. The Notice of Intent (NOI) for use of the Part II permit will be submitted at the same time as the stormwater construction permitting documents. At the expiration of the stormwater construction permit and after the post construction stormwater BMPs are installed (when the site is stabilized) the post construction control requirements of the Part II permit will become applicable.

Administratively, it is proposed that this approach will continue to be administered through delegated Conservation Districts during the review and approval of the NPDES stormwater construction permit review. For projects proposed in HQ and EV watersheds, the Department will assist in evaluating the post construction controls, infiltration BMPs and water budgets.

Act 167 Program Requirements

Contact Person: William A. Gast, Chief, Division of Water Use Planning, 10th Floor, RCSOB, P. O. Box 8555, Harrisburg, PA 17105-8555, 717-772-5671.

Under Act 167, counties are required to establish a watershed based stormwater management plan that is implemented by affected municipalities. Both the statute and implementation guidelines require these plans to include water quality protective measures. These measures include water quality and water quantity provisions. Funding has generally been available from the Department to cover 75% of the cost of developing the plan. Act 167 contains authorization for a funding program for implementation of the Act 167 plan. However, this authorization has not been funded in previous years.

This program has evolved since it began in 1979. Currently, the Department is requiring the Act 167 plan to include water quality protective measures. The Department is proposing to use the same BMP approach described above for post construction stormwater activities to review and make decisions on the post construction aspects of Act 167 plans. This infiltration BMP approach will ensure that stream uses are maintained and protected at the state, county and local level. The Department will also encourage agreements between municipalities and County Conservation Districts to facilitate this cooperative approach.

The Department proposes to require Act 167 plans to include a reference to EPA's MS4 requirements discussed below. Act 167 plans can also include MS4 requirements (described below). In this way, municipalities required to meet the MS4 requirement will be able to do so using the municipal ordinances adopted to implement the Act 167 plans.

Many municipalities have already developed and are implementing stormwater programs at the local level that are not included in an Act 167 plan. As described in greater detail below, the Department proposes providing incentives to these municipalities, as part of the MS4 program, to incorporate their existing programs into a watershed based Act 167 county plan.

Phase II Municipal Stormwater NPDES Permitting (under development)

Contact Person: Milton K. Lauch, Chief, Division of Wastewater Management, 11th Floor, RCSOB, P. O. Box 8465, Harrisburg, PA 17105-8465, 717-787-8184.

In 1999, EPA promulgated Phase II stormwater regulations establishing NPDES permit requirements for municipal separate storm sewer system discharges (MS4). States operating an NPDES program are required to implement the Phase II requirements by December 2002. The Department estimates that there are approximately 700 municipalities that must meet the Phase II requirements.

In general terms, the MS4 permit requirements are:

1. develop, implement and enforce a BMP based stormwater program;
2. implement a public education program;
3. include public involvement in decision making;
4. eliminate or treat discharges not composed entirely of stormwater;
5. require erosion and sediment controls for construction activities;
6. require BMPs to manage post-construction stormwater for new development and redevelopment; and
7. require pollution prevention/good housekeeping for municipal operations.

EPA's Phase II regulations allow existing state and local regulatory programs to be used to meet the MS4 requirements. Pennsylvania proposes using the Act 167 Program as a centerpiece of the MS4 program for Pennsylvania. In general, municipalities that have developed and are implementing an Act 167 Plan developed on a watershed basis that includes the water quality protective measures, including MS4 requirements, will be able to meet the EPA MS4 NPDES requirements through the Act 167 process. Municipalities that have not developed an Act 167 Plan including the MS4 module will be encouraged to work with their county to develop a plan. Financial assistance is available for this program development effort. Municipalities that do not want to participate in the Act 167 process will be required to develop a separate municipal plan describing the process for meeting the MS4 requirements. Currently, funding is not available for this separate municipal effort.

INDUSTRIAL STORMWATER

Contact Person: Milton K. Lauch, Chief, Division of Wastewater Management, 11th Floor, RCSOB, P. O. Box 8465, Harrisburg, PA 17105-8465, 717-787-8184.

The existing Phase I of the Stormwater Permitting Regulations for industrial facilities includes eleven (11) categories of industrial activity. It includes the construction activities discussed previously. An NPDES permit is required, under Phase I, for a stormwater discharge for these industrial activities.

A permit exception is incorporated in the program. This exception is referred to as the “no exposure rule.” The exception allows for industrial activities to bypass the permitting process and requirements if their industrial activities and materials were not “exposed to storm water.” This exception, under Phase I, only applies to industrial activity, commonly referred to as “light industry.” “Light industry” operators were not required to submit any information supporting their claim for the exception.

The Phase II program covers the same industrial categories but expands the “no exposure” exception. The exemption previously enjoyed by “light industry” activities is now available to all categories (except for construction activity disturbing 1 or more acres) listed under the definition of “industrial activity.” The new rule allows for a simple and cost-effective way to comply with permitting provisions when industrial activities and materials are completely sheltered from storm water. Under the EPA rule, operators now have the option of applying for a permit or submitting a no exposure certification form, conditioned on the discharge not contributing “to the violation of, or interfering with the attainment or maintenance of, water quality standards, including designated uses.”

The Department intends to integrate the federal “no exposure certification” with the Department’s existing “Annual Self Inspection and Compliance Report” that is submitted by industrial storm water permittees, so that it becomes a routine part of the annual inspection/review. Initially, the Department does not intend to grant permit exemptions based on a no exposure certification. Instead, DEP will extend the use of the self-inspections to additional low risk/pollution potential storm water industrial activities and thereby provide some relaxation of permit requirements (reduced sampling, monitoring, reporting etc.). DEP will gradually expand this approach to other categories over time based on a risk assessment. To provide the data needed for such a risk assessment, the Department has initiated a statewide process of compiling and evaluating sampling data collected over last two permit cycles (~10 years) to determine discharge quality and the level of water quality improvement, if any, at these facilities as a result of implementation of the program. When available, the Department will use the results of this analysis to make any further decisions regarding the applicability of the no exposure certification.

The Phase II regulations require that permittees reduce Phase II pollution from storm discharges to the maximum extent practicable. The regulations list the activities required to achieve this level of protection. DEP will use elements of the program as well as other existing state programs related to the control of storm water to achieve reduction of pollution to the maximum extent practicable.

RELATED ISSUES

Smart Growth

Contact Person: Meredith Hill, Executive Policy Specialist, Office of Policy and Communications, 15th Floor, RCSOB, P. O. Box 2063, Harrisburg, PA 17105-2063, 717-783-8727.

In June 2000, Governor Ridge signed into law the Growing Smarter Initiatives in Act 67 and 68. Act 67 provides municipalities the ability to adopt growth boundaries and allow voluntary joint municipal comprehensive planning. Act 68 adds natural land preservation, joint planning, agricultural easements, and transfer of development rights, urban revitalization and other planning techniques to the Municipal Planning Code.

The Smart Growth legislation provides that state agencies shall consider and may rely upon comprehensive plans in the review of applications for funding and permitting of infrastructure. It further provides that state agencies shall consider and may give priority consideration to applications for financial or technical assistance for projects consistent with the county or multimunicipal plan.

The Department is evaluating the impact of Act 167 plans implemented by local municipalities through municipal ordinances on the Department's obligations under Act 67/68.

Chapter 105 Program

Contact Person: Kenneth R. Reisinger, Chief, Division of Waterways, Wetlands & Erosion Control, 10th Floor, RCSOB, P. O. Box 8775, Harrisburg, PA 17105-8775, 717-787-6827.

The Department's Dam Safety and Waterway Management program requires a permit, under Chapter 105, for stormwater related activities. Outfall structures, culverts, structures in flood plains and floodways and activities that affect the "course, current or cross section" of a watercourse, floodway or body of water all require a permit. The Department's wetland protection program is implemented under Chapter 105.

The 105 permitting process provides an integrated and comprehensive evaluation of the impact of the permitted activity on the chemical, physical and biological characteristics of the water body. The program also requires the Department to conduct a "consistency review" to ensure that the proposed activity is consistent with other related requirements. For example, the program includes consistency determinations with state and local stormwater and floodplain management requirements. Chapter 105 also requires the Department to evaluate the cumulative impact of the permitted activity with other activities in the area.

The program is implemented through both general and individual permits. It is coordinated with the Federal Clean Water Act 404 permitting program that permits the discharge of dredged or fill material. The Department has received limited authority to issue 404 permits for certain activities and has a joint 404/105 permitting program available for all other activities.

Many of the activities associated with stormwater management will require permits under the Dam Safety and Waterway Management program. The Department will update the 105 permitting process to ensure that decisions are consistent with and support the comprehensive planning efforts described above. This will include additional technical guidance and implementation procedures and may involve revised or additional general permits to facilitate improved stormwater control requirements.

FUNDING

There are a number of sources of funding for the development and implementation of stormwater control requirements. This section highlights several of the more significant funding sources.

PENNVEST

Contact Person: Peter T. Slack, Chief, Division of Municipal Financial Assistance, 11th Floor, RCSOB, P. O. Box 8466, Harrisburg, PA 17105-8466, 717-787-6744 and Paul K. Marchetti, Executive Director, Pennsylvania Infrastructure Investment Authority, (PENNVEST), 4th Floor, 22 South Third Street, Harrisburg, PA 17101, 717-783-4496.

The Pennsylvania Infrastructure Investment Authority (PENNVEST) provides loans to “government units” for stormwater projects. In general, PENNVEST funding is only available to government units that are part of a Stormwater Management Plan developed and implemented under Act 167. There are exceptions to this requirement if the project is specifically designed to maintain or improve water quality and is necessary to comply with NPDES requirements or where the municipality is implementing a stormwater management ordinance requiring that post construction runoff is no greater than preconstruction runoff.

Proposed stormwater projects are rated using factors that evaluate public health and safety, environmental impact, economic development, and adequacy and efficiency. Both grants and loans are authorized, however, if there is no user fee, grant funds are not provided. In general, stormwater funds have been undersubscribed.

ACT 167

Contact Person: William A. Gast, Chief, Division of Water Use Planning, 10th Floor, RCSOB, P. O. Box 8555, Harrisburg, PA 17105-8555, 717-772-5671.

The Stormwater Management Act (Act 167) authorizes funding for both the development and implementation of County Stormwater Management Plans developed on a watershed basis and implemented by municipalities. Act 167 provides a grant of 75% of the cost of the project. To date, only development of projects has been funded, funds have not been available for implementation. In general, available funds have been undersubscribed.

Application for funding is made with the submission of a letter from the County to the Department detailing the scope of work proposed for the development of the plan.

Growing Greener

Contacts Person: Dave Hogeman, Director, Growing Greener Grants Center, 15th Floor, RCSOB, P. O. Box 8776, Harrisburg, PA 17105-8776, 717-705-5400.

Grants are available through the Department's Growing Greener Program for watershed assessments, watershed restoration and protection plans, implementation of watershed restoration or protection projects, demonstration projects, education and outreach projects. Grants are not available to update or develop Act 167 plans.

Funds are available to government units as well as public nonprofit tax exempt organizations. The application process is very simple and workshops are regularly held to provide training for seeking funding.

Table E1. Listing of municipalities within sub-areas of the Neshaminy Creek basin where WLAs for sediment have been calculated due to impairments caused by runoff from urbanized and/or developing areas.

Sub-Area	Municipalities
Little Neshaminy	Warwick T., Warrington T., Montgomery T., Northampton T., Horsham T., Warminster T., Ivyland B., Lower Gwynedd T., Upper Dublin T.
Pine Run	Chalfont B., Plumstead T., Buckingham T., New Britain T., Doylestown T., New Britain B.
W. Branch Sub-basin #1	Hatfield T., Lansdale B.
W. Branch Sub-basin #2	Hatfield T., Lansdale B., Montgomery T.
W. Branch Sub-basin #3	Chalfont B., Hilltown T., New Britain T.
Neshaminy Tributary #1	Northampton T.
Neshaminy Tributary #2	Middletown T.
Neshaminy Tributary #3	Warwick T., Warrington T.
Mill Creek	New Britain T., Doylestown T. Warrington T.
Neshaminy South #1	Middletown T., Lower Southampton T., Langhorne Manor B., Penndel B., Bensalem T.
Neshaminy South #3	Middletown T., Bristol T., Penndel B., Bensalem T., Hulmeville B.

Note: T = Township, B = Borough

Table E2. Listing of sub-areas covered entirely or partially by municipalities within the Neshaminy Creek basin where WLAs for sediment have been calculated due to impairments caused by runoff from urbanized and/or developing areas.

Municipality	Sub-Area(s)
Bensalem T.	Neshaminy South #1, Neshaminy South #3
Bristol T.	Neshaminy South #3
Buckingham T.	Pine Run,
Chalfont B.	Pine Run, West Branch Sub-basin #3
Doylestown T.	Pine Run, Mill Creek
Hatfield T.	West Branch Sub-basin #1, West Branch Sub-basin #2
Hilltown T.	West Branch Sub-basin #3
Horsham T.	Little Neshaminy
Hulmeville B.	Neshaminy South #3
Ivyland B.	Little Neshaminy
Langhorne Manor B.	Neshaminy South #1
Lansdale B.	West Branch Sub-basin #1, West Branch Sub-basin #2
Lower Gwynedd T.	Little Neshaminy
Lower Southampton T.	Neshaminy South #1
Middletown T.	Nesham. Trib. #2, Nesham. South #1, Nesham. South #3
Montgomery T.	Little Neshaminy, West Branch Sub-basin #2
New Britain B.	Pine Run
New Britain T.	Pine Run, West Branch Sub-basin #3, Mill Creek
Northampton T.	Little Neshaminy, Neshaminy Tributary #1
Pennel B.	Neshaminy South #1, Neshaminy South #3
Plumstead T.	Pine Run
Upper Dublin T.	Little Neshaminy
Warminster T.	Little Neshaminy
Warrington T.	Little Neshaminy, Neshaminy Tributary #3, Mill Creek
Warwick T.	Little Neshaminy, Neshaminy Tributary #3

Note: T = Township, B = Borough

Table E3. Summary of Sediment-Related WLAs by Sub-Area in the Neshaminy Creek Watershed.

Sub-Area	WLA (lbs/yr)
Little Neshaminy	6,937,351
Pine Run	1,944,239
W. Branch Sub-basin #1	128,940
W. Branch Sub-basin #2	259,629
W. Branch Sub-basin #3	446,989
Neshaminy Tributary #1	209,543
Neshaminy Tributary #2	56,144
Neshaminy Tributary #3	263,400
Mill Creek	1,562,114
Neshaminy South #1	2,155,010
Neshaminy South #3	899,783

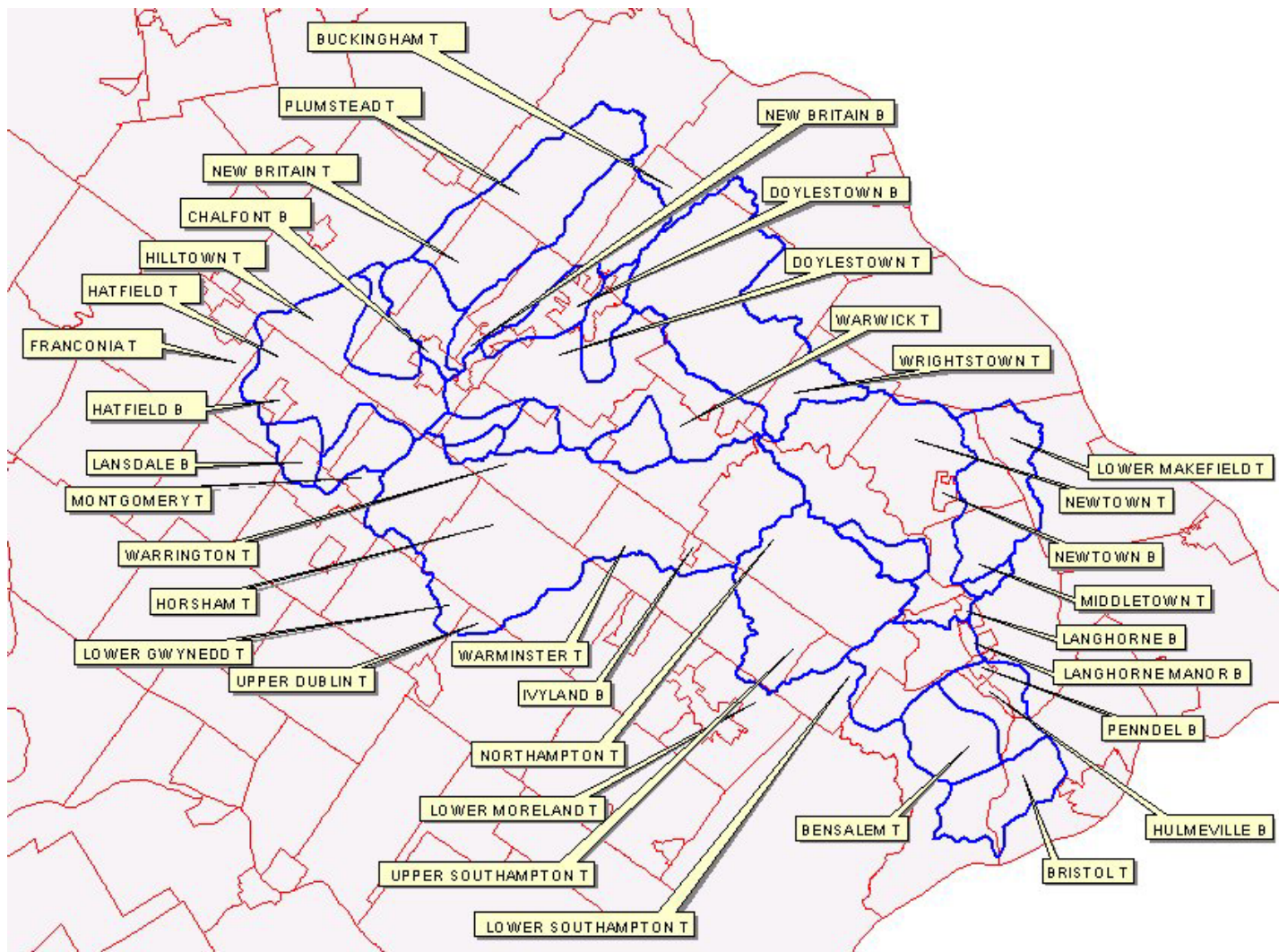


Figure E1. Location of municipalities identified in Table E1.