



Tier B

Municipal Stormwater Guidance Document

NJPDES General Permit No NJ0141861



New Jersey Department of Environmental Protection
Division of Water Quality
Municipal Stormwater Regulation Program

Tier B Municipal Stormwater Guidance Document

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Governor James E. McGreevey

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Commissioner Bradley M. Campbell

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Chapter 1 - Introduction

BACKGROUND

As result of U. S. Environmental Protection Agency's (USEPA) Phase II rules published in December 1999, the New Jersey Department of Environmental Protection (Department) has developed the Municipal Stormwater Regulation Program. This program addresses pollutants entering our waters from certain storm drainage systems owned or operated by local, county, state, interstate, or federal government agencies. USEPA regulations refer to these systems as

“municipal separate storm sewer systems” (MS4s). As a result of USEPA's new Phase II rules, the Department's Municipal Stormwater Regulation Program has issued New Jersey Pollutant Discharge Elimination System (NJPDES) permits to municipalities throughout the state, as well as public complexes, and highway agencies. Public complexes include certain large public colleges, prisons, hospital complexes and military bases. Highway Agencies include county, state, interstate, or federal government agencies that operate highways and other thoroughfares such as each of the 21 counties, the New Jersey Department of Transportation, the Port Authority of N.Y. and N.J., the New Jersey Turnpike Authority, and the South Jersey Transportation Authority. The Department's revised NJPDES stormwater rules were signed on January 5, 2004 by Commissioner Bradley Campbell, and appear in the February 2, 2004 edition of the New Jersey Register at 36 N.J.R. 813(a).

WHY IS THIS HAPPENING?

It is widely understood that stormwater/nonpoint sources are the largest remaining major source of pollutants in our waters. It is estimated that up to 60 percent of our existing water pollution problems are attributable to stormwater/nonpoint pollution. The quality of our surface and ground waters is directly related to the health of our ecosystems and the quality of our lives. Impaired



The Municipal Stormwater Regulation Program is part of the Clean and Plentiful Water initiative

water quality impacts shellfish production, tourism at beaches and coastal communities, and increases drinking water treatment costs.



“Floatables,” like the trash seen here, contribute to stormwater/nonpoint pollution

Stormwater/nonpoint pollution can often be linked to our daily activities and lifestyles. The way we plan communities, build shopping centers, commute, and maintain lawns all impact stormwater quality. Many times people do not know or understand that there are alternatives. For example, homeowners can have a green lawn without massive doses of fertilizers and pesticides; pet owners should deposit pet waste in the trash or in the toilet and not leave it at the curb. Often there is a lack of public awareness. People are unaware that storm drains

often discharge directly to water bodies. When people allow motor oil, trash, and their pet's waste to enter the storm sewer in their street, they don't realize that it may end up in the lake down the block or many miles away. Individually these acts may seem insignificant, but the cumulative impacts of these activities contribute to stormwater/nonpoint source pollution and reduce water quality.

USEPA and the State of New Jersey realize the critical importance of substantially reducing stormwater/nonpoint pollution entering into the waters of the state. The Municipal Stormwater Regulation Program attempts to do just that, through the implementation of Statewide Basic Requirements (SBRs) and best management practices including public education, contained in the NJPDES Stormwater General Permits.

PROGRAM AND PERMIT DEVELOPMENT

The Department developed the Municipal Stormwater Regulation Program with input from members of the regulated community, affected governmental agencies, and the public. The Department established an advisory group that included representatives from municipalities and groups such as the New Jersey State League of Municipalities, New Jersey County Planners Association and the Association of New Jersey Environmental Commissions. A Best Management Practice Subcommittee was also formed to assist in the development of practical best management practices for the general permits. This subcommittee included representatives of municipal and county public works departments, highway agencies, and New Jersey Department of Transportation.



Opportunities to engage in boating, swimming and fishing are diminished if water quality is impaired.

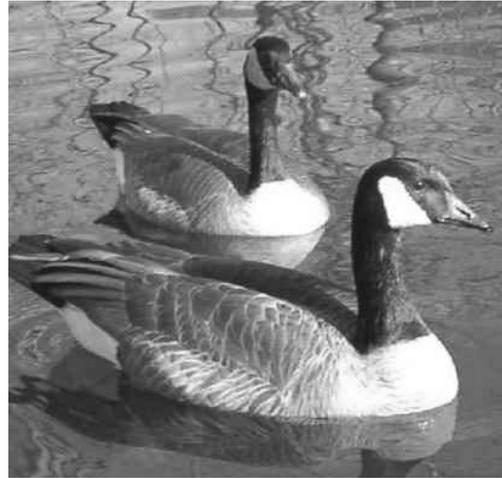
PERMITS AND PERMIT REQUIREMENTS

The Department has issued four general permits to implement the Municipal Stormwater Regulation Program: the Tier A Municipal Stormwater General Permit (Tier A Permit); the Tier B Municipal Stormwater General Permit (Tier B Permit); the Public Complex Stormwater General Permit (Public Complex Permit); and the Highway Agency Stormwater General Permit (Highway Permit).

The permits address stormwater quality issues related to new development, redevelopment and existing developed areas by requiring the development of a Stormwater Program and implementation of specific permit requirements referred to as Statewide Basic Requirements (SBRs). SBRs may also require the permittee to implement related best management practices (BMPs). All SBRs and related BMPs contain minimum standards, measurable goals, and implementation schedules. New development and redevelopment is addressed, in part, by requiring municipalities to adopt and enforce a stormwater management plan and ordinance in accordance with N.J.A.C. 7:8. Existing developed areas are addressed through broad topics including Local Public Education, and (for the Tier A, Public Complex and Highway Permits) Improper Disposal of Waste, Solids and Floatable Controls, Maintenance Yard Operations and Employee Training.

The Tier A Permit, Tier B Permit, Public Complex Permit and Highway Permit may require the implementation of Additional Measures (AMs). AMs are measures (non-numeric or numeric effluent limitations) that may modify or be in addition to the SBRs required by the permits, and whose inclusion in a Stormwater Program may be required by a Water Quality Management Plan (WQM plan). AMs may be required by TMDLs approved or established by USEPA, regional stormwater management plans, or other elements of WQM plans. (See Chapter 5 for more details.)

The permits also allow for the inclusion of Optional Measures (in the Tier B Permit they are referred to as “Other Measures”). These are BMPs that are not specifically required by the permit but are recommended as ways to further enhance a Stormwater Program and improve water quality.



Wildlife management, a voluntary Other Measure, may include geese population control techniques.

PURPOSE OF THIS GUIDANCE DOCUMENT

The purpose of this Guidance Document is to assist the Tier B Municipalities in understanding what is required under the Phase II Municipal Stormwater Regulation Program, and how to assist in complying with the Tier B Permit.

The Guidance Document includes various chapters, some of which are solely dedicated to discussing specific permit requirements. These permit requirements are either Statewide Basic Requirements (SBRs) or related Best Management Practices (BMPs). Each specific permit requirement, whether it be a SBR or BMP, is broken down into three section headings: “**What is required?**,” “**What does this mean?**” and “**Want to know more?**” These section headings are intended to make understanding and implementing the permit language easier.

“**What is required?**” is language taken **directly** from the permit, and follows the same convention as in the permit: **minimum standard, measurable goal, and implementation schedule**. The minimum standard is one or more minimum actions that must be taken to comply with the requirements of the permit. The measurable goal is the mechanism for reporting to the Department your progress in meeting the minimum standard and is usually accomplished through the submittal of the Annual Report and Certification. The implementation schedule sets the deadlines for permit compliance.

“**What does this mean?**” explains the SBR or BMP minimum standard in an easier to understand format.

“**Want to know more?**” covers other information that may be of interest to your municipality, but is not necessary to know in order to comply with the permit. This section discusses why each BMP is important and what environmental benefits may result from their implementation. The Department may also make recommendations in “Want to know more?” that may be beneficial in implementing your program, but are not required by the permit.

Chapter 2 - Post-Construction Stormwater Management in New Development and Redevelopment

The Post-Construction Stormwater Management in New Development and Redevelopment SBR requires the Tier B Municipality to develop, implement, and enforce a program that addresses stormwater runoff from certain new development and redevelopment projects that discharge into the Tier B Municipality's MS4. Under this SBR, the Tier B Municipality must comply with a minimum standard that has several different but related requirements.

WHAT IS REQUIRED?

Minimum Standard

To prevent or minimize water quality impacts, the Tier B Municipality shall develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects (including projects operated by the municipality itself) that disturb one acre or more, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the municipality's small MS4. The municipality shall in its post-construction program:

- i. Adopt and reexamine a municipal stormwater management plan (or adopt amendments to an existing municipal stormwater management plan) in accordance with N.J.A.C. 7:8-4.
- ii. Adopt and implement a municipal stormwater control ordinance or ordinances in accordance with N.J.A.C. 7:8-4. The ordinance(s) will control stormwater from non-residential development and redevelopment projects.
- iii. Ensure that any residential development and redevelopment projects that are subject to the Residential Site Improvement Standards for stormwater management (N.J.A.C. 5:21-7) comply with those standards (including any exception, waiver, or special area standard that was approved under N.J.A.C. 5:21-3).
- iv. Where necessary to implement the municipal stormwater management plan, the municipal stormwater control ordinance(s) will also:
 - Control aspects of residential development and redevelopment projects that are not pre-empted by the Residential Site Improvement Standards; and
 - Set forth-special area standards approved by the Site Improvement Advisory Board for residential development or redevelopment projects under N.J.A.C. 5:21-3.5.
- v. Ensure adequate long-term operation and maintenance of BMPs.

- vi. Enforce, through the stormwater control ordinance(s) or a separate ordinance, compliance with standards set forth in Attachment A of the permit to control passage of solid and floatable materials through storm drain inlets.
- vii. This post-construction program shall also require compliance with the applicable design and performance standards established under N.J.A.C. 7:8 for major development, unless:
 - Those standards do not apply because of a variance or exemption granted under N.J.A.C. 7:8; or
 - Alternative standards are applicable under an areawide or Statewide Water Quality Management Plan adopted in accordance with N.J.A.C. 7:15.

Measurable Goal

Tier B Municipalities shall certify annually that they have developed, implemented, and are actively enforcing a program to address stormwater runoff from new development and redevelopment projects that discharge into the Tier B Municipality's small MS4 in accordance with the minimum standard.

Implementation Schedule

- i. Upon the effective date of permit authorization, Tier B Municipalities shall for new development and redevelopment projects:
 - Ensure that any residential development and redevelopment projects that are subject to the Residential Site Improvement Standards for stormwater management (N.J.A.C. 5:21-7) comply with those standards (including any exception, waiver, or special area standard that was approved under N.J.A.C. 5:21-3).
 - Ensure adequate long-term operation and maintenance of BMPs on property owned or operated by the municipality.
- ii. Within 12 months from the effective date of permit authorization, Tier B Municipalities shall:
 - Adopt a municipal stormwater management plan (or adopt amendments to an existing municipal stormwater management plan) pursuant to the Stormwater Management Rules (N.J.A.C. 7:8-4);
 - Comply with the standards set forth in Attachment A of the permit to control passage of solid and floatable materials through storm drain inlets for storm drain inlets the municipality installs within the Tier B Municipality's small MS4.
- iii. Within 12 months from the adoption of the municipal stormwater management plan, Tier B Municipalities shall adopt a stormwater control ordinance(s) to implement that plan, and shall submit the adopted municipal stormwater management plan and ordinance(s) to the appropriate county review agency for approval.
- iv. Tier B Municipalities shall enforce stormwater control ordinance(s) when approved in accordance with N.J.A.C. 7:8-4.
- v. Within 24 months from the effective date of permit authorization Tier B Municipalities shall:

- Ensure adequate long-term operation and maintenance of BMPs on property not owned or operated by the municipality;
- Enforce, through the stormwater control ordinance(s) or a separate ordinance compliance with the standards set forth in Attachment A of the permit to control passage of solid and floatable materials through storm drain inlets for storm drain inlets not installed by the Tier B Municipality.

WHAT DOES THIS MEAN?

To prevent or minimize pollution of surface waters and groundwater by stormwater runoff from certain new development and redevelopment projects, Tier B Municipalities must develop, implement, and enforce a “post-construction program” to control post-construction stormwater runoff from these projects.



Many projects that disturb one acre or more are subject to the New Development and Redevelopment Post-construction program.

The projects addressed under this SBR are new development and redevelopment projects (including projects operated by the municipality itself) that:

1. disturb one acre or more (including projects less than one acre that are part of a larger common plan of development or sale); and
2. discharge stormwater into the municipality’s small MS4.

(Note - This SBR does not require Tier B Municipalities to control post-construction stormwater runoff from new development and redevelopment on public property, such as

county, State, or Federal property, that municipalities have no statutory authority to regulate.)

For the purpose of this SBR the following terms are defined as:

“Disturbance” means the placement of impervious surface or exposure and/or movement of soil or bedrock or clearing, cutting, or removing of vegetation.

“Impervious surface” means a surface that has been covered with a layer of material so that it is highly resistant to infiltration by water. Impervious surfaces include areas such as paved parking lots and concrete sidewalks.

“Redevelopment” refers to alterations that change the “footprint” of a site or building in such a way that results in the disturbance of one acre or more of land. The term is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse stormwater quality impacts and offer no new opportunity for stormwater controls. The Department does not consider

pavement resurfacing projects that do not disturb the underlying or surrounding soil, remove surrounding vegetation, or increase the area of impervious surface to be “redevelopment projects.”

“Common plan of development or sale” means a contiguous area where multiple separate and distinct development or redevelopment activities have occurred, are occurring, or are proposed to occur under one plan. The “plan” in a “common plan of development or sale” is broadly defined as any announcement or piece of documentation (including, but not limited to, a sign, public notice or hearing, advertisement, drawing, permit application, zoning request) or physical demarcation (including, but not limited to, boundary signs, lot stakes, surveyor markings).

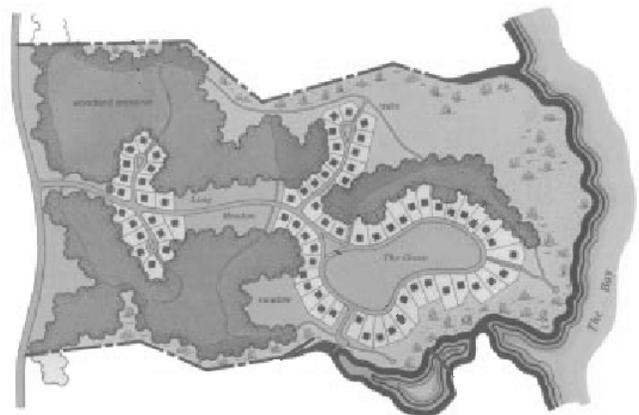
To develop, implement, and enforce this post-construction program, the Tier B Municipality must meet several different but related requirements. These requirements are concerned with:

- The Department’s **Stormwater Management rules (N.J.A.C. 7:8)**, which are implemented in part through the Residential Site Improvement Standards; govern the contents of municipal stormwater management plans and stormwater control ordinances; and establish stormwater management design and performance standards for new development and redevelopment
- The **Residential Site Improvement Standards (RSIS)** for stormwater management established by the New Jersey Department of Community Affairs (NJDCA) at N.J.A.C. 5:21
- **Municipal stormwater management plans and stormwater control ordinances** adopted under the Stormwater Management Act (N.J.S.A. 40:55D-93 to 99), which is a portion of the Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.)
- **Long-term operation and maintenance of BMPs**
- **Storm drain inlets**

Overview of the Stormwater Management Rules

On February 2, 2004, the Department’s new Stormwater Management rules were published in the New Jersey Register and became effective (36 N.J.R. 670(a) and 781(a)). This is the first major update of these rules since their adoption in 1983, and includes fundamental changes in how systems and structures for managing stormwater runoff in New Jersey are planned, designed and implemented.

The new Stormwater Management rules provide a framework and incentives for managing runoff and resolving nonpoint source impairment on a drainage area basis for new development and redevelopment and existing developed areas, and establish a hierarchy for implementation of stormwater management measures with initial reliance on low impact site design techniques to maintain natural vegetation and drainage before incorporating structural BMPs. These new rules also establish new runoff control performance standards for groundwater recharge, water



Low impact site design seeks to reduce and/or prevent adverse runoff impacts through sound site planning.

quality and water quantity; establish special area protection measures (buffers) for pristine and exceptional value (“Category One”) waters; provide regulatory consistency among local and State regulatory agencies; and provide safety standards for stormwater management basins.

Municipal officials involved with land-use decisions, along with their consultants, need to become familiar with the new requirements in these rules; the guidance contained in the New Jersey Stormwater Best Management Practices Manual; and effective nonstructural stormwater management techniques, such as maintaining natural drainage paths and vegetation, and minimizing increases in impervious cover, that will preserve and protect water resources for the future.

A courtesy copy of these rules, answers to “**Frequently Asked Questions**,” and the **New Jersey Stormwater Best Management Practices Manual** are available at www.njstormwater.org.

Questions or submissions regarding the **Stormwater Management rules** should be directed to the Division of Watershed Management, New Jersey Department of Environmental Protection, P.O. Box 418, Trenton, New Jersey 08625.

The new Stormwater Management rules have six subchapters as follows:

Subchapter 1. General Provisions

Subchapter 2. General Requirements for Stormwater Management Planning

Subchapter 3. Regional Stormwater Management Planning

Subchapter 4. Municipal Stormwater Management Planning

Subchapter 5. Design and Performance Standards for Stormwater Management Measures

Subchapter 6. Safety Standards for Stormwater Management Basins

Tier B Municipalities are directly affected by subchapters 1, 2, 4, 5, and 6 of these new rules, and may also be directly affected by subchapter 3 if a regional stormwater management planning area includes all or part of the municipality. Several provisions of subchapters 2, 4, and 5 are discussed further below.

Major Development

“Major development” is one of the most important terms in these new rules and this SBR. The design and performance standards in subchapter 5 apply to “major development” only, and each municipal stormwater management plan and stormwater control ordinance adopted under subchapter 4 must address stormwater-related water quality, groundwater recharge, and water quantity impacts of “major development.” For purposes of these plans and ordinances, the RSIS, and this SBR, “major development” is limited to development and redevelopment projects that ultimately disturb one or more acres of land.

(**Note:** Under N.J.A.C. 7:8-1.6 (“Applicability to Major Development”), major development which has received certain municipal approvals or Department permits prior to February 2, 2004 is **not** required to comply with the new Stormwater Management rules, but instead shall be subject to the stormwater management requirements in effect on February 1, 2004, copies of which are available from the Department’s Division of Watershed Management at the address specified above.)

Design and Performance Standards for Major Development

This post-construction program shall require compliance with the applicable design and performance standards for major development established in N.J.A.C. 7:8, unless those standards do not apply because of a variance or exemption granted under N.J.A.C. 7:8, or unless alternative standards under a Water Quality Management (WQM) Plan (adopted in accordance with the Department's Water Quality Management Planning rules at N.J.A.C. 7:15) are applicable. Tier B Municipalities shall require such compliance through the RSIS, and through municipal stormwater management plans and stormwater control ordinances.

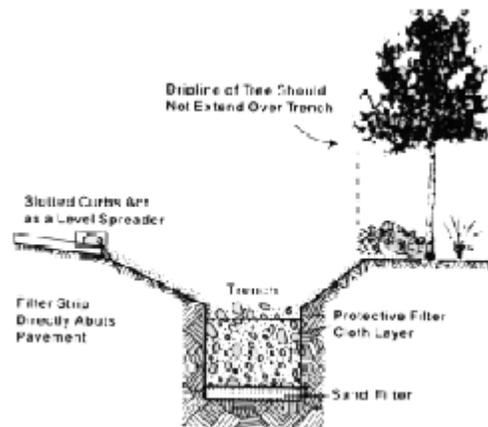
In the new Stormwater Management Rules, subchapter 5 establishes design and performance standards for “stormwater management measures” for “major development” intended to minimize the adverse impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in receiving water bodies.

“Stormwater management measure” is defined in these rules as “any structural or nonstructural strategy, practice, technology, process, program, or other method intended to control or reduce stormwater runoff and associated pollutants, or to induce or control the infiltration or groundwater recharge of stormwater or to eliminate illicit or illegal nonstormwater discharges into stormwater conveyances.”

The standards specified in subchapter 5 do not apply to major development if alternative design and performance standards that are at least as protective as would be achieved through subchapter 5 when considered on a regional stormwater management area basis are applicable under a regional stormwater management plan adopted in accordance with N.J.A.C. 7:8 or a WQM plan adopted in accordance with N.J.A.C. 7:15.

Subchapter 5 consists of the following sections:

- 7:8-5.1 Scope
- 7:8-5.2 Stormwater management measures for major development
- 7:8-5.3 Nonstructural stormwater management strategies
- 7:8-5.4 Erosion control, groundwater recharge and runoff quantity standards
- 7:8-5.5 Stormwater runoff quality standards
- 7:8-5.6 Calculation of stormwater runoff and groundwater recharge
- 7:8-5.7 Standards for structural stormwater management measures
- 7:8-5.8 Maintenance requirements
- 7:8-5.9 Sources for technical guidance



N.J.A.C. 7:8-5.4 includes new standards to encourage and control infiltration and groundwater recharge.

Some of the most important new design and performance standards in subchapter 5 include:

- The requirements in N.J.A.C. 7:8-5.2 and 5.3 to incorporate the following **nonstructural stormwater management strategies** into the design:
 - ❑ Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;
 - ❑ Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;
 - ❑ Maximize the protection of natural drainage features and vegetation;
 - ❑ Minimize the decrease in the "time of concentration" from pre-construction to post-construction. "Time of Concentration" is defined as the time it takes for runoff to travel from the hydraulically most distant point of the drainage area to the point of interest within a watershed;
 - ❑ Minimize land disturbance including clearing and grading;
 - ❑ Minimize soil compaction;
 - ❑ Provide low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers and pesticides;
 - ❑ Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas; and
 - ❑ Provide other source controls to prevent or minimize the use or exposure of pollutants at the site in order to prevent or minimize the release of those pollutants into stormwater runoff (see N.J.A.C. 7:8-5.3(a)9 and the New Jersey Stormwater Best Management Practices Manual for examples).
- The standard in N.J.A.C. 7:8-5.4 to encourage and control **infiltration and groundwater recharge**, including requirements that the design engineer (except in certain specified circumstances) either:
 - ❑ Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100 percent of the average annual pre-construction groundwater recharge volume for the site; **or**
 - ❑ Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from pre-construction to post-construction for the two-year storm is infiltrated.
- The standard in N.J.A.C. 7:8-5.4 to control **stormwater runoff quantity impacts**.
 - ❑ This standard provides the design engineer with various alternatives, such as, for example, designing stormwater management measures so that the post-construction peak runoff rates for the two, 10 and 100-year storm events are 50, 75 and 80 percent, respectively, of the pre-construction peak runoff rates.

- The “**Stormwater runoff quality standards**” in N.J.A.C. 7:8-5.5, including:
 - The requirement that stormwater management measures be designed to reduce the post-construction load of **total suspended solids** (TSS) in stormwater runoff generated from the water quality design storm by 80 percent of the anticipated load from the developed site, expressed as an annual average. Table 2 in N.J.A.C. 7:8-5.5 presents the presumed TSS removal rates for certain BMPs designed in accordance with the New Jersey Stormwater Best Management Practices Manual.
 - The requirement that stormwater management measures be designed to reduce, to the maximum extent feasible, the post-construction **nutrient** load of the anticipated load from the developed site in stormwater runoff generated from the water quality design storm.
 - The requirement that the applicant preserve and maintain **300-foot “special water resource protection areas”** along all waters designated “Category One” in the Department’s Surface Water Quality Standards at N.J.A.C. 7:9B, and along perennial or intermittent streams that drain into or upstream of the Category One waters as shown on the U.S. Geological Survey (USGS) Quadrangle Maps or in the County Soil Surveys, within the associated hydrologic unit code 14 (HUC14) drainage.
- The **maintenance requirements** in N.J.A.C. 7:8-5.8 (see the discussion below under “Maintenance Requirements in the New Stormwater Management Rules and in the Residential Site Improvement Standards”).



Without “special water resource protection areas” development can occur along stream corridors contributing to the degradation of Category One waters.

The requirement in the Tier B Permit for “compliance with the applicable design and performance standards established under N.J.A.C. 7:8” pertains to **all** applicable design and performance standards established under the Stormwater Management rules, not just to the “Stormwater runoff quality standards” in N.J.A.C. 7:8-5.5. Problems such as human-induced base-flow reduction (due to reduced recharge) and exacerbation of flooding and erosion also present water quality problems because they alter the chemical, physical, or biological integrity of the waters of the State, or otherwise contribute to water pollution.

Technical and maintenance guidance for stormwater management measures can be found in the New Jersey Stormwater Best Management Practices Manual and other documents listed in N.J.A.C 7:8-5.9.

Training

The Department has provided and will continue to provide training to local officials on implementation of the new Stormwater Management rules. Training on the updated stormwater rule performance standards has occurred and will continue to occur by request from the Department directly and through the Rutgers Office of Continuing Education. Information on training opportunities will be made available on the Department's stormwater website at www.njstormwater.org and on the Rutgers Office of Continuing Education website at <http://aesop.rutgers.edu/~ocpe/>. Please call Rutgers at (732) 932-9271 and request that you be put on the mailing list to receive notice of upcoming training opportunities.

Residential Site Improvement Standards

Upon the effective date of permit authorization, the Tier B Permit requires Tier B Municipalities to ensure that any residential development and redevelopment projects (including projects operated by the municipality itself) that are subject to the Residential Site Improvement Standards (RSIS) for stormwater management at N.J.A.C. 5:21-7 (and that disturb one acre or more as discussed above) comply with those standards (including any exception, waiver, or special area standard that was approved under N.J.A.C. 5:21-3).

The RSIS already require municipalities to ensure that any residential development and redevelopment projects that are subject to the RSIS comply with the RSIS. Many but not all aspects of residential development and redevelopment projects are subject to the RSIS. The general provisions of the RSIS, including scope and applicability, administration and enforcement, and violations, are set forth at N.J.A.C. 5:21-1. The RSIS and its Appendices, including an Appendix on Special Area Standards, are available at www.nj.gov/dca/codes/nj-rsis/index.shtml, and from the Department of Community Affairs Publications Unit, PO Box 802, 101 South Broad Street, Trenton, NJ 08625-0802 (\$10 check payable to: Treasurer, State of New Jersey).

The RSIS for stormwater management address general stormwater management system strategy; runoff estimation techniques; runoff collection system design; inlets, catch basins, manholes, and outlets; detention basins and other stormwater facilities, and water quality. The RSIS for stormwater management also reference the NJDEP Stormwater Management rules for the standards for stormwater management facilities. The NJDEP Stormwater Management Rules establish the NJDEP stormwater standards under the RSIS (see N.J.A.C. 7:8-1.5(c)). **Under the RSIS and those NJDEP rules, the new NJDEP Stormwater Management rules, including the new design and performance standards for major development in subchapter 5 of those rules (see discussion above), are to be implemented through the RSIS upon February 2, 2004** (the effective date of the new NJDEP Stormwater Management rules). Where conflict exists between the NJDEP stormwater requirements and the RSIS, the NJDEP standards control. See, *League of Mun. v. Commun. Affairs*, 310 N.J. Super. 224 (App. Div. 1998).

Municipal Stormwater Management Plan and Stormwater Control Ordinance(s)

Under the Municipal Land Use Law (MLUL), a municipal stormwater management plan is an integral part of any master plan prepared by the municipality pursuant to the MLUL (specifically, it is part of the utility service plan element of the master plan). The municipal planning board has

authority under the MLUL to prepare and, after public hearing, adopt or amend all or part of a master plan. In the context of this SBR, the municipal stormwater management plan documents the strategy of a specific municipality to address the impacts of stormwater runoff from new development and redevelopment projects, and provides the structure and process for addressing such impacts.

A municipal stormwater control ordinance or ordinances is prepared under the MLUL to implement the municipal stormwater management plan. The governing body of the municipality has authority to adopt or amend a municipal stormwater control ordinance(s).

To assist municipalities in developing municipal stormwater management plans and stormwater control ordinances, the Department has prepared a **Sample Municipal Stormwater Management Plan and a Model Stormwater Control Ordinance**. In addition, Chapter 3 of the New Jersey Stormwater Best Management Practices Manual presents guidance on the development of municipal stormwater management plans (with a particular focus on mitigation plans, build-out analysis, and evaluation of the entire master plan and development regulations). The Department urges Tier B Municipalities to review this sample plan, model ordinance, and planning guidance before developing municipal stormwater management plans and municipal stormwater control ordinances.

The Sample Municipal Stormwater Management Plan has all of the required elements described in the new Stormwater Management rules. This sample plan also includes additional recommended elements to enable municipalities to better manage the impact of stormwater on the receiving waters of the State from new development and redevelopment and existing developed areas. The provisions in the Model Stormwater Control Ordinance are based on the required elements of a municipal stormwater management plan, and on standards set forth in Attachment A of the Tier B Permit to control passage of solid and floatable materials through storm drainage inlets.

Important Note: The **Sample Municipal Stormwater Management Plan** and the **Model Municipal Stormwater Control Ordinance for Municipalities** are located in Appendix C and Appendix D, respectively, of the amended New Jersey Stormwater Best Management Practices Manual (BMP Manual). A copy of the BMP manual can be found on the Department's Division of Stormwater Management website at <http://www.nj.gov/dep/watershedmgt/rules.htm> or at the Department's Stormwater website at <http://www.njstormwater.org>. The BMP manual is also on the CD of guidance material provided by the Department to all Tier B Municipalities and from Maps and Publications, Department of Environmental Protection, 428 East State Street, P.O. Box 420, Trenton, New Jersey, 08625; telephone (609) 777-1038.

General Requirements

All stormwater management plans and stormwater control ordinances, including those adopted or amended by Tier B Municipalities to comply with the Tier B Permit, must comply with subchapter 2 ("General Requirements for Stormwater Management Planning") of the Department's new Stormwater Management rules. As applied to municipalities, these general requirements are discussed below.

- All municipal stormwater management plans and stormwater control ordinances shall be designed to achieve the following goals (set forth at N.J.A.C. 7:8-2.2):

- ❑ Reduce flood damage, including damage to life and property
 - ❑ Minimize, to the extent practical, any increase in stormwater runoff from any new development
 - ❑ Reduce soil erosion from any development or construction project
 - ❑ Assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures
 - ❑ Maintain groundwater recharge
 - ❑ Prevent, to the greatest extent feasible, an increase in nonpoint pollution
 - ❑ Maintain the integrity of stream channels for their biological functions, as well as for drainage
 - ❑ Minimize pollutants in stormwater runoff from new and existing development in order to restore, enhance and maintain the chemical, physical, and biological integrity of the waters of the State, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial and other uses of water
 - ❑ Protect public safety through the proper design and operation of stormwater management basins
- A municipal stormwater management plan shall include structural and nonstructural stormwater management strategies necessary to meet the stormwater management goals of the new Stormwater Management rules (N.J.A.C. 7:8).
 - A municipal stormwater management plan shall comply with the requirements of subchapters 2 and 4 of the new Stormwater Management rules (N.J.A.C. 7:8-2 and -4). The requirements of subchapter 4 are discussed further below.
 - A municipal stormwater management plan shall incorporate the safety standards for stormwater management basins at subchapter 6 of the new Stormwater Management rules (N.J.A.C. 7:8-6).
 - In developing a stormwater management plan and identifying appropriate stormwater management measures under that plan, each municipality shall consider the physical characteristics and ecological resources of that municipality.
 - A municipal stormwater management plan and any municipality stormwater control ordinance shall be coordinated with any other stormwater management plans related to the same river basin or drainage area.

A municipality conducting stormwater management planning may petition the Department at the Division of Watershed Management address provided above for an exemption to the requirements of new Stormwater Management rules by submitting documentation to demonstrate that, if granted, the exemption will not result in an increase in flood damage, water pollution, including threats to the biological integrity, or constitute a threat to the public safety.

Content of Municipal Stormwater Management Plans

Once a municipality's "municipal stormwater control ordinance" is effective, non-residential "major development" will be subject to the new Stormwater Management rules

Within 12 months from the effective date of permit authorization, Tier B Municipalities must adopt a municipal stormwater management plan (or adopt amendments to an existing municipal stormwater management plan) "in accordance with N.J.A.C. 7:8-4."

N.J.A.C. 7:8-4 is subchapter 4 ("Municipal Stormwater Management Planning") of the Department's new Stormwater Management rules. The Tier B Municipality's new or amended municipal stormwater management plan must satisfy N.J.A.C. 7:8-4.2 ("Municipal stormwater management plan and elements"), the requirements of which are discussed below.

- A municipal stormwater management plan shall address stormwater-related water quality, groundwater recharge and water quantity impacts of "major development" (see discussion of that term above). The plan addresses such impacts by incorporating stormwater design and performance standards for such development. The plan may also address stormwater-related water quality, water quantity and groundwater recharge impacts of existing land uses, but addressing such impacts is outside the scope of this SBR.
- A municipal stormwater management plan (and stormwater control ordinance(s)) shall conform with applicable regional stormwater management plan(s).
 - For information about regional stormwater management planning under the Department's new Stormwater Management rules, see subchapter 3 of those rules, and Chapter 3 of the New Jersey Stormwater Best Management Practices Manual. Also see the discussion of "Reexamination and Amendment" below.
- A municipal stormwater management plan shall, at a minimum:
 1. Describe how the municipal stormwater management plan will achieve the goals set forth at N.J.A.C. 7:8-2.2 (see "General Requirements" above);
 2. Include maps showing water bodies based on Soil Surveys published by the U.S. Department of Agriculture; the U.S. Geological Survey Topographic Map, 7.5 minute quadrangle series; or other sources of information depicting water bodies in similar or greater detail;
 3. Map groundwater recharge areas and well head protection areas based on maps prepared by the Department under N.J.S.A. 58:11A-13 or a municipal ordinance;
 4. Describe how the municipal stormwater management plan incorporates design and performance standards in N.J.A.C.7:8-5 (discussed above) or alternative design and performance standards adopted as a part of a regional stormwater management plan or WQM plan;

5. Describe how adequate long-term operation as well as preventative and corrective maintenance (including replacement) of the selected stormwater management measures will be ensured;
 - ❑ Municipalities can ensure such operation and maintenance in a number of ways, and such maintenance is also closely related to N.J.A.C. 7:8-5.8, Maintenance requirements. See the discussion of “Long-term operation and maintenance of BMPs” below.
6. Describe how the plan will ensure compliance with Safety Standards for Stormwater Management Basins at N.J.A.C. 7:8-6;
7. Describe how the municipal stormwater management plan is coordinated with the appropriate Soil Conservation District and any other stormwater management plans, including any adopted regional stormwater management plan, prepared by any stormwater management planning agency related to the river basins or drainage areas to which the plans and/or ordinances apply;
8. **The following requirement is not operative until February 2, 2006.** Evaluate the extent to which the municipality’s entire master plan (including the land use plan element), official map and development regulations (including the zoning ordinance) implement principles expressed in the nonstructural stormwater management strategies set forth in N.J.A.C. 7:8-5.3(b). This evaluation shall also be included (with updating as appropriate) in the reexamination report adopted under N.J.S.A. 40:55D-89;
 - ❑ For specific guidance concerning this evaluation, see the Department’s Sample Municipal Stormwater Management Plan, and Chapters 2 and 3 and Appendix B of the New Jersey Stormwater Best Management Practices Manual.
9. The following requirement is not operative until February 2, 2006. Include a map of the municipality showing:
 - ❑ Projected land uses assuming full development under existing zoning, and
 - ❑ The HUC14 drainage areas as defined by the USGS; and an estimate, for each HUC14 drainage area, of the total acreage in the municipality of impervious surface and associated future nonpoint source pollutant load assuming full build out of the projected land uses;
 - ❑ For specific guidance concerning build-out analysis, see the Department’s Sample Municipal Stormwater Management Plan, and Chapter 3 of the New Jersey Stormwater Best Management Practices Manual.
10. At the option of the municipality, document that the municipality has a combined total of less than one square mile of vacant or agricultural lands rather than provide the information required in items 8 and 9 above. Agricultural lands may be excluded if the development rights to these lands have been permanently purchased or restricted by covenant, easement or deed. Vacant or agricultural lands in environmentally constrained areas may be excluded if the documentation also includes an overlay map of these areas.
 - ❑ Documentation shall include an existing land use map at an appropriate scale to display the land uses of each parcel within the municipality. Such a map shall display the following land uses: residential (which may be divided into single family, two-to-

four family, and other multi-family), commercial, industrial, agricultural, parkland, other public uses, semipublic uses, and vacant land;

11. In order to grant a variance or exemption from the design and performance standards in N.J.A.C. 7:8-5, include a mitigation plan that identifies what measures are necessary to offset the deficit created by granting the variance or exemption. The mitigation plan shall ensure that mitigation is completed within the drainage area and for the performance standard for which the variance or exemption was granted;
 - For specific guidance concerning the mitigation plan, see the Department's Sample Municipal Stormwater Management Plan, and Chapter 3 of the New Jersey Stormwater Best Management Practices Manual.
12. Include a copy of the recommended implementing stormwater control ordinance(s) requiring stormwater management measures; and
13. The municipal stormwater management plan may also include a stream corridor protection plan to address protection of areas adjacent to water bodies. For water bodies subject to N.J.A.C. 7:8-5.5(h) ("Category One" waters and certain streams that drain into or are upstream of those waters), the plan shall provide, at a minimum, protections equivalent to those provided at N.J.A.C. 7:8-5.5(h) and be approved by the Department.

Additional Mapping Guidance

Mapping required for a municipal stormwater management plan is not unduly complex, but availability of Geographical Information System (GIS) software will ease compliance. Information in GIS format is available from the Department on its website at: www.nj.gov/dep/gis. A link to a free version of the GIS software ArcExplorer is also available on this website.

Mapped HUC14 subwatersheds for all municipalities are available on the Department website at www.state.nj.us/dep/gis/digidownload/metadata/statewide/dephuc14.htm.

Information on well head protection areas and aquifer recharge areas is available at:

<http://www.state.nj.us/dep/njgs/geodata/dgs02-2.htm>; and

<http://www.state.nj.us/dep/njgs/enviroed/aqfrchrg.htm>.

Many local watershed associations and environmental commissions have GIS and can help create maps for municipal stormwater management plans. The Rutgers University Center for Remote Sensing and Spatial Analysis can also assist in preparing these maps. Detailed direction on how to create maps is provided at <http://rwqp.rutgers.edu/univ/nj/>.

Municipal Stormwater Control Ordinance(s)

Within 12 months after the adoption of the municipal stormwater management plan, Tier B Municipalities must adopt a municipal stormwater control ordinance(s) in accordance with N.J.A.C. 7:8-4 in order to implement that plan.

- The municipal stormwater control ordinance(s) will control stormwater from **non-residential** development and redevelopment projects (including projects operated by the municipality itself). Many aspects of **residential** development and redevelopment projects are subject to the RSIS. While these aspects are not controlled through the municipal stormwater control ordinance(s) (except for any special area standards set forth in that ordinance), the municipality is responsible

as discussed above for ensuring compliance with the RSIS, including the new NJDEP Stormwater Management rules referenced in the RSIS.

- Where necessary to implement the municipal stormwater management plan, the municipal stormwater control ordinance(s) will also:
 - Control aspects of residential development and redevelopment projects (including projects operated by the municipality itself) that are not pre-empted by the RSIS (for example, requirements for preservation of existing natural resources, requirements concerning development intensity or off-tract improvements, or requirements conforming to the Pinelands Comprehensive Management Plan); and
 - Set forth special area standards for stormwater management approved by the Site Improvement Advisory Board for residential development or redevelopment projects under the RSIS at N.J.A.C. 5:21-3.5. A special area designation may be applied by ordinance by a municipality or group of municipalities to an area or areas of a municipality or municipalities exhibiting or planned to exhibit a distinctive character or environmental feature that the municipality or municipalities by ordinance have identified and expressed a desire to preserve and enhance. One example of a special area is an area where environmental systems such as watersheds may require special environmental controls.
- Either the municipal stormwater control ordinance(s) or a separate municipal ordinance must require compliance with the standard set forth in Attachment A of the Tier B Permit to control passage of solid and floatable materials through storm drain inlets. The Department recommends use of the municipal stormwater control ordinance(s) for this purpose.
 - For further information about this standard, see the discussion under “Storm Drain Inlets” below.

Approval of Municipal Stormwater Management Plan and Ordinance(s)

Tier B Municipalities shall enforce municipal stormwater control ordinance(s) when approved in accordance with N.J.A.C. 7:8-4. The approval process for the adopted plan and ordinance is addressed by N.J.A.C. 7:8-4.3 and 4.4. **Within 12 months after the adoption of the municipal stormwater management plan, Tier B Municipalities shall submit the adopted plan and the adopted municipal stormwater control ordinance(s) to the appropriate county review agency for approval.** The adopted plan and ordinance(s) shall not take effect without approval by the county review agency.

“County review agency” means an agency designated by the County Board of Chosen Freeholders to review municipal stormwater management plans and implementing ordinance(s). The county review agency may either be:

1. A county planning agency; or
2. A county water resources association created under the Flood Hazard Area Control Act at N.J.S.A. 58:16A-55.5, if the ordinance or resolution delegates to that association authority to approve, conditionally approve, or disapprove municipal stormwater management plans and implementing ordinances.

The Tier B Municipality shall also submit a copy of the adopted municipal stormwater management plan and the adopted municipal stormwater control ordinance(s) to the Department's Division of Watershed Management at the address specified above.

In reviewing the adopted plan and ordinance(s), the county review agency shall consider whether the plan and ordinance(s) conform with the requirements of the Department's new Stormwater Management rules.

In accordance with the Stormwater Management Act at N.J.S.A. 40:55D-97, it is the county review agency's responsibility to review and approve, conditionally approve (specifying the necessary amendments to the plan and ordinance(s)) or disapprove the adopted plan and ordinance(s) within 60 calendar days of receipt of the plan and ordinance(s). If the county review agency does not approve, conditionally approve, or disapprove the plan or ordinance(s) within 60 calendar days, the plan and ordinance(s) shall be deemed approved by that agency. The county review agency shall issue a written decision to the municipality, with a copy to the Department.

A municipal stormwater management plan and stormwater control ordinance(s) approved by the county review agency shall take effect immediately. A municipal plan and ordinance(s) conditionally approved by the county review agency shall take effect upon adoption by the municipality of the amendments specified by the county review agency.

Within 30 days of the effective date of the municipal stormwater management plan and municipal stormwater control ordinance(s), the municipality shall either:

1. Place the plan and ordinance(s) on its website and notify the Department, the Soil Conservation District and State Soil Conservation Committee, or:
2. Submit a copy of the approved plan and ordinance(s) to the Department; provide notice of such approval to the Soil Conservation District and the State Soil Conservation Committee; and, upon request, submit a copy of the approved plan and ordinance(s) to the District and/or Committee.

In accordance with N.J.A.C. 7:8-4.5, the Department reserves the right to review stormwater management plans and stormwater control ordinances for compliance with the Department's new Stormwater Management rules and make recommendations to correct any deficiencies. In addition, if a Tier B Municipality does not comply with the Tier B Permit conditions requiring it to adopt a municipal stormwater management plan and stormwater control ordinance in accordance with N.J.A.C. 7:8-4, that municipality is subject to enforcement action.

Additional Municipal/County Coordination

- The Department **strongly encourages** Tier B Municipalities and county review agencies to communicate with each other throughout the development of municipal stormwater management plans and municipal stormwater control ordinances. This may reduce the risk that the county review agency will disapprove, or require amendments to, the adopted plan and ordinance(s).
- As required by the County Planning Act at N.J.S.A. 40:27-4 (also see N.J.S.A. 40:55D-13), the Tier B Municipality shall:

- ❑ Forward a copy of any **proposed** municipal stormwater management plan (or amendment to that plan) to the county planning board for review and report at least 20 days prior to the date of the public hearing held by the municipal planning board.
- ❑ Transmit, within 30 days after adoption, a copy of any **adopted** municipal stormwater management plan (or amendment to that plan) to the county planning board for its information and files (even if the county planning board is not the “county review agency”).
- As required by the Municipal Land Use Law at N.J.S.A. 40:55D-15.b and -16, the Tier B Municipality shall:
 - ❑ Provide a copy of any proposed municipal stormwater control ordinance (or amendment to that ordinance) to the county planning board at least 10 days prior to the date of the public hearing held by the municipal governing body.
 - ❑ File a copy of any adopted municipal stormwater control ordinance (or amendment to that ordinance) with the county planning board (even if the county planning board is not the “county review agency”).

Reexamination and Amendment

The Tier B Permit requires Tier B Municipalities to reexamine municipal stormwater management plans in accordance with N.J.A.C. 7:8-4. Under N.J.A.C. 7:8-4.3, the municipality must reexamine the municipal stormwater management plan at each reexamination of the municipality’s master plan in accordance with the Municipal Land Use Law at N.J.S.A. 40:55D-89.

In addition, N.J.A.C. 7:8-4.3 requires the municipality to amend the municipal stormwater management plan and municipal stormwater control ordinance(s) as necessary, to submit the amended plan and amended ordinance(s) to the county review agency for approval. N.J.A.C. 7:8-4.3 also provides more specifically that within one year of the adoption of a regional stormwater management plan as an amendment to the Areawide Water Quality Management Plan, or an amendment thereto, each municipality within the regional stormwater management planning area shall amend their respective municipal stormwater management plans (and stormwater control ordinance(s)) to implement the regional stormwater management plan.

Variance or Exemption from Design and Performance Standards

Under N.J.A.C. 7:8-4.6, a Tier B Municipality may grant a variance or exemption from the design and performance standards for stormwater management measures set forth in its approved municipal stormwater management plan and stormwater control ordinance(s), provided:

- The municipal stormwater management plan includes a **mitigation plan** in accordance with N.J.A.C. 7:8-4.2(c)11 (see item 11 under “Content of Municipal Stormwater Management Plans” above); and
- The municipality submits a written report to the county review agency and the Department describing the variance or exemption and the required mitigation.

Operation and Maintenance of BMPs



Without long-term operation and maintenance, many structural BMPs, like this constructed wet pond, fail.

As a part of the post-construction program, the Tier B Municipality must ensure adequate long-term operation and maintenance of BMPs. This means that for any BMP that is installed in order to comply with the requirements of the post-construction program (including a BMP installed by the municipality itself), the Tier B Municipality must ensure adequate long-term operation as well as preventative and corrective maintenance (including replacement).

As noted above under “Content of Municipal Stormwater Management Plans,” those plans must describe how adequate long-term operation as well as preventative and corrective maintenance (including replacement) of the selected stormwater management measures will be ensured.

This requirement can be met in a number of ways, for example:

- Requiring the property or easement to be dedicated to the municipality (with the municipality performing the operation and maintenance).
- Making arrangements with counties or other governmental entities to perform the operation and maintenance.
- Adopting and enforcing in the municipal stormwater control ordinance(s) a provision that requires the private entity, such as a homeowners’ association, to perform the operation and maintenance, with penalties if the private entity does not comply. If, for example, the private entity does not perform the required maintenance, the municipality can perform the maintenance and charge the private entity.
 - See Section 9 (“Maintenance and Repair”) of the Department’s Model Stormwater Control Ordinance.

Maintenance Requirements - Stormwater Management Rules and RSIS

As noted above under “Residential Site Improvement Standards (RSIS)” and “Content of Municipal Stormwater Management Plans,” the new design and performance standards for major development in subchapter 5 of the new Stormwater Management rules (or alternative design and performance standards adopted as a part of a regional stormwater management plan or WQM plan) are to be implemented through the RSIS, and must also be incorporated in municipal stormwater management plans that are to be implemented through municipal stormwater control ordinances.

Among the most important design and performance standards in N.J.A.C.7:8-5 are the maintenance requirements in N.J.A.C. 7:8-5.8, which are discussed below:

1. The design engineer shall prepare a maintenance plan for the stormwater management measures incorporated into the design of a major development.
2. The maintenance plan shall contain:

- Specific preventative maintenance tasks and schedules
- Cost estimates, including estimated cost of sediment, debris, or trash removal
- The name, address, and telephone number of the person or persons responsible for preventative and corrective maintenance (including replacement).

Maintenance guidelines for stormwater management measures are available in the New Jersey Stormwater Best Management Practices Manual (BMP Manual). If the maintenance plan identifies a person other than the developer (for example, a public agency or homeowners' association) as having the responsibility for maintenance, the plan shall include documentation of such person's agreement to assume this responsibility, or of the developer's obligation to dedicate a stormwater management facility to such person under an applicable ordinance or regulation.

- N.J.A.C. 7:8-5.8 does not specifically assign the responsibility for maintenance of stormwater management measures to municipalities, homeowners, or homeowner's associations. Instead, the rule simply requires that the entity responsible for maintenance be specified. The decision whether and to whom a developer assigns responsibility is a site-specific one based on the particular facts and circumstances involved. A municipality may choose to assume responsibility for maintenance, but it is not obligated to do so under this rule. The applicant is responsible for indicating the person or entity responsible for maintenance.

The rule generally prohibits the transfer of maintenance responsibilities to a single individual property owner (see **(3)** below). However, the maintenance responsibility can be transferred to a homeowners' association. The selection of BMPs, and the maintenance needs associated with the BMPs, should take into account the ability of the future users to maintain the proposed stormwater facility. Guidance on the maintenance of specific BMPs is provided in the BMP Manual.

3. Responsibility for maintenance shall not be assigned or transferred to the owner or tenant of an individual property in a residential development or project, unless such owner or tenant owns or leases the entire residential development or project.

- This provision allows individuals to maintain nonstructural stormwater management strategies that are on their individual lots, provided that the municipality will ensure the maintenance of the on-lot stormwater management measures.



Guidance on the maintenance of specific BMPs is provided in the NJ Stormwater BMP Manual.

4. If the person responsible for maintenance identified under **(2)** above is not a public agency, the maintenance plan and any future revisions based on **(8)** below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.
5. Preventative and corrective maintenance shall be performed to maintain the function of the stormwater management measure, including repairs or replacement to the structure; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; and repair or replacement of nonvegetated linings.
6. The person responsible for maintenance identified under **(2)** above shall maintain a detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders.

- The maintenance plan and any revisions, as well as the maintenance record, must be maintained for the life of the stormwater management measures on the site. Maintenance logs for the most recent three years, as well as the maintenance plan and any revisions should remain available for review by public entities with jurisdiction over the activities on the site. If members of the public wish to review the maintenance plan or record, they should contact a public entity or the municipal engineer.

The Department is not requiring a specific format for the maintenance plan or the maintenance logs. Sample maintenance forms are available in the NJDEP Division of Water Resources “Ocean County Demonstration Study Stormwater Facilities Maintenance Manual,” dated June 1989, and updated samples may be available in the future.

7. The person responsible for maintenance identified under **(2)** above shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.
 - The Department recognizes that maintenance for each major development will vary depending on the stormwater management measures implemented within the development, and has provided guidance for maintenance measures in the BMP Manual, including the type and frequency of maintenance. The effective implementation of the maintenance is based on the implementation of the approved maintenance plan. The frequency of maintenance is to be documented on maintenance logs that are required for the stormwater management measures under **(6)** above.
8. The person responsible for maintenance identified under **(2)** above shall retain and make available, upon request by any public entity with administrative, health, environmental or safety authority over the site, the maintenance plan and the documentation required by **(6)** and **(7)** above.
9. Nothing in N.J.A.C. 7:8-5.8 shall preclude the municipality in which the major development is located from requiring the posting of a performance or maintenance guarantee in accordance with N.J.S.A. 40:55D-53.

The need for a maintenance plan, and implementation of that plan, cannot be overemphasized. The lack of maintenance is one of the major reasons for the failure of structural BMPs to provide the level of treatment for which they were designed. Basic maintenance procedures are contained in the

BMP Manual. Unique or innovative maintenance procedures for those measures that are not specified in the BMP Manual may be used subject to approval by the municipality.

The RSIS also set forth maintenance requirements at N.J.A.C. 5:21-7.5(f)7 as follows:

“7. Stormwater management facilities shall be regularly maintained to insure they function at design capacity, and to prevent health hazards associated with debris buildup and stagnant water.

“i. Maintenance and upkeep responsibility depend on ownership of the facilities. If the drains, basins, and/or other features of the stormwater system in the residential development are part of a public drainage system, then the municipality or an appropriate public entity is responsible for maintenance and upkeep. If part or all of the residential stormwater management system is privately owned, then the privately owned portion of the system must be privately maintained, unless the municipality or other appropriate public agency agrees to assume responsibility for the facilities. The terms of the agreement shall be in a form satisfactory to the municipal attorney and may include, but are not limited to, maintenance easements, personal guarantees, deed restrictions, covenants, and bonds.

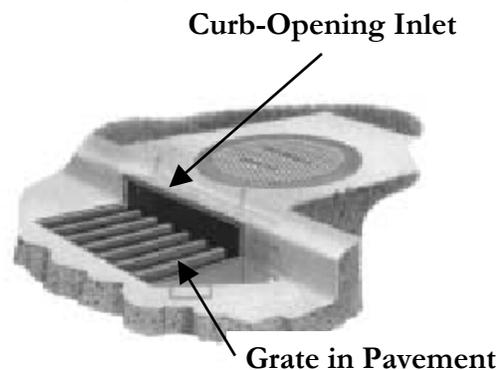
“ii. In cases where there is common ownership of property that is not part of a publicly owned drainage system, a homeowner's association or similar permanent entity may be established as the agent responsible for upkeep, absent an agreement with the municipality or other appropriate public entity.”

Where conflict exists between the NJDEP stormwater requirements and the RSIS, the NJDEP standards control.

Storm Drain Inlets (New Development and Redevelopment)

For new development and redevelopment projects (public or private) subject to this SBR, Tier B Municipalities must enforce, through the municipal stormwater control ordinance(s) or a separate ordinance, compliance with the design standard in Attachment A of the Tier B Permit to control passage of solid and floatable materials through storm drain inlets. The Department recommends use of the municipal stormwater control ordinance(s) for this purpose (see Section 3.E.3 of the Department's Model Stormwater Control Ordinance).

There are separate design standards for grates in pavement or other ground surfaces, and for curb-opening inlets. Each standard is described below. These standards help prevent certain solids and floatables (e.g., cans, plastic bottles, wrappers, and other litter) from reaching the surface waters of the State.

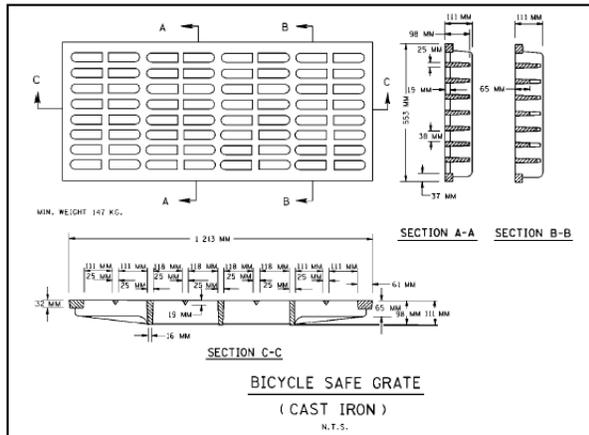


Grates in Pavement or other Ground Surfaces

The standard applies to grates that are used in pavement or another ground surface to collect stormwater into a storm drain or surface water body under the grate.

- Examples of storm drain inlet grates subject to this standard include grates in grate inlets, the grate portion (non-curb-opening portion) of combination inlets, grates on storm sewer manholes, ditch grates, trench grates, and grates of spacer bars in slotted drains. Examples of ground surfaces include surfaces of roads (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels, and stormwater basin floors.

NJDOT “Bicycle Safe” Grate



Source: Standard Roadway Construction Details, NJDOT

Many grate designs meet the standard. The first option (especially for storm drain inlets along roads) is simply to use the New Jersey Department of Transportation (NJDOT) bicycle safe grate. This grate is described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines, which is available at:

http://www.state.nj.us/transportation/publicat/bike_guidelines.htm.

The other option is to use a different grate, as long as each “clear space” in the grate (each individual opening) is:

- No bigger than seven (7.0) square inches; or
- No bigger than 0.5 inches (1/2 inch) across the smallest dimension (length or width).

Curb-Opening Inlets (Including Curb-Opening Inlets in Combination Inlets)

If the storm drain inlet has a curb opening, the clear space in that curb opening (or each individual clear space, if the curb opening has two or more clear spaces) must be:

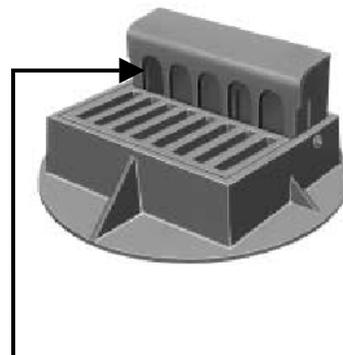
- No bigger than two (2.0) inches across the smallest dimension (length or width) - many curb-opening inlets installed in recent years meet this criterion; or
- No bigger than seven (7.0) square inches

Option 1 (Example)



A curb-opening with a “clear space” no bigger than 2” across the smallest dimension

Option 2 (Example)



Each individual hole (“clear space”) in the curb-opening is no bigger than 7 square inches

Exemptions

The requirements of this standard do not apply whenever any of the following exemptions listed in Attachment A are applicable:

- A “Hydraulic Performance Exemption” where the Tier B Municipality or other review agency (for example, a county) determines that this standard would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets that meet this standard.
- Either of two “Alternative Device Exemptions”:
 - The first of these exemptions is where flows from the “water quality design storm” as specified in N.J.A.C. 7:8 are conveyed through any device or combination of devices (e.g., end of pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent the passage of all solid and floatable materials that could not fit through one of the following:
 1. A rectangular space that is four and five-eighths ($4\frac{5}{8}$) inches long and one and one-half ($1\frac{1}{2}$) inches wide (this option does not apply for outfall netting facilities); or
 2. A bar screen that has a $\frac{1}{2}$ inch (0.5 inches) opening between each bar.
 - The second of these exemptions is where flows are conveyed through a trash rack that has parallel bars with one-inch (1.0 inch) spacing between the bars, to the elevation of the “water quality design storm” as specified in N.J.A.C. 7:8.

One of the requirements in the new Stormwater Management rules at N.J.A.C. 7:8-5.7(a)2 is that “trash racks shall be installed at the intake to the outlet structure as appropriate, and shall have parallel bars with one-inch spacing between the bars to the elevation of the water quality design storm” [emphasis added]. **This second “Alternative Device Exemption” will therefore be applicable to many new development and redevelopment projects.**

In the new Stormwater Management Rules, the “water quality design storm” is specified at N.J.A.C. 7:8-5.5(a).
- A “Historic Places Exemption” where the Department determines, pursuant to the New Jersey Register of Historic Places Rules at N.J.A.C. 7:4-7.2(c), that action to meet this standard is an undertaking that constitutes an encroachment or will damage or destroy the New Jersey Register listed historic property.

WANT TO KNOW MORE?

Stormwater runoff from lands modified by urbanization can harm surface water and groundwater resources by changing natural hydrologic patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations and loadings. These adverse environmental impacts can be more effectively prevented or minimized for new development and redevelopment projects (as required in this SBR) than for existing developed areas.

For a brief description of the hydrologic cycle and how development affects the cycle, see the “Stormwater Discussion” in the Department’s Sample Municipal Stormwater Management Plan. For more detailed description of the adverse impacts that unmanaged land development can have on

groundwater recharge and stormwater runoff quality and quantity both at and downstream of a development site, see Chapter 1, “Impacts of Development on Runoff,” of the New Jersey Stormwater Best Management Practices Manual. That Chapter also reviews the fundamental physical, chemical, and biological aspects of the rainfall-runoff process and how they can be altered by development. In doing so, that Chapter demonstrates the need for the new Stormwater Management Rules at N.J.A.C. 7:8, which have been developed to directly address these adverse impacts. In addition, that Chapter seeks to increase understanding of these physical, chemical, and biological processes in order to improve the design of structural and non-structural measures mandated by the Rules’ groundwater recharge, stormwater quality, and stormwater quantity requirements.

In regard to the design of storm drain inlets, every piece of solid or floatable material that is caught before it enters or leaves a storm drainage system will benefit the environment. Minimizing the size of spaces in storm drain inlet grates and curb openings will trap certain solid and floatable materials before they reach our waterways. However, these spaces must also be large enough to provide adequate hydraulic performance.

Several resources providing information related to this SBR were identified in the pages above. For convenience, some of these resources are also listed below:

- A courtesy copy of the new Stormwater Management Rules (N.J.A.C. 7:8), and answers to “Frequently Asked Questions” about those rules, are available at www.njstormwater.org.
- The New Jersey Stormwater Best Management Practices Manual, including the Department’s Sample Municipal Stormwater Management Plan and Model Stormwater Control Ordinance, is available at www.njstormwater.org and from Maps and Publications, Department of Environmental Protection, 428 East State Street, P.O. Box 420, Trenton, New Jersey, 08625; telephone (609) 777-1038.
- The Residential Site Improvement Standards (N.J.A.C. 5:2) and its Appendices, including an Appendix on Special Area Standards, are available at www.nj.gov/dca/codes/nj-rsis/index.shtml, and from the Department of Community Affairs Publications Unit, PO Box 802, 101 South Broad Street, Trenton, NJ 08625-0802 (\$10 check payable to: Treasurer, State of New Jersey).

Chapter 3 - Local Public Education

This SBR requires Tier B Municipalities to educate their residents and businesses on the impact of their day to day activities on stormwater quality. Topics include things such as proper use and disposal of fertilizers and pesticides, using native or well-adapted vegetation that requires little or no fertilization, and properly disposing of pet wastes, used motor oil and household hazardous wastes. In addition, the Local Public Education Program may include information on how residents can become involved in local stream and/or shoreline restoration activities, as well as activities that are coordinated by local youth service and conservation corps or other citizen groups. The Division of Watershed Management, Office of Outreach and Education offers numerous materials and programs that can assist municipalities in developing and implementing a Local Public Education program. Information on these programs and educational materials can be found on the Department's Division of Watershed Management website at www.state.nj.us/dep/watershedmgt. The Department will also provide supplemental educational information on a compact disk supplied to each municipality that can be used to expand the Local Public Education Program.



Educational activities like "Enviroscape" can enhance your Local Public Education program

Local Public Education Program

WHAT IS REQUIRED?

Minimum Standard

The Local Public Education Program shall ensure that the annual mailing of the informational brochure and the annual educational event are conducted as required below. The Annual Report and Certification shall summarize how the Tier B Municipality distributed educational information and how the educational activities, including the educational event, will be conducted to satisfy this minimum standard. The following SBR and/or BMP topics shall be included in the Local Public Education Program:

- Stormwater/Nonpoint Source Education – impact of stormwater discharges on surface and ground waters of the State and steps that the public can take to reduce pollutants in stormwater runoff.
- Storm Drain Inlet Labeling – hazards of dumping materials into the storm drain, and fact that storm drains are usually connected to water bodies and do not receive treatment.
- Fertilizer/Pesticide Education –proper application, storage and disposal of pesticides and fertilizers, and the benefits of using native or well adapted vegetation that requires little or no fertilization.

- Waste Disposal Education – identification, proper handling and proper disposal of wastes (including the locations of hazardous waste collection facilities in the area) and the hazards associated with illicit connections and improper disposal of waste.

Tier B Municipalities shall provide for the duplication and annual mailing (or other means of delivery) to all residents and businesses within the municipality of the informational brochure provided by the Department. The informational brochure covers all the topics above. The Department may periodically provide the Tier B Municipality with an updated brochure for duplication and distribution.

As part of this program, Tier B Municipalities shall also conduct each year, at minimum, one education effort in the form of an “event.” An event may be an activity established primarily to satisfy this requirement or may be part of a bigger existing event such as municipal festivals, county fairs, or an Earth Day, Arbor Day or 4th of July celebration. During this event, the informational brochure shall also be made available to the public.

Measurable Goal

Tier B Municipalities shall certify annually that that they have met the Local Public Education Program minimum standard and shall provide the date(s) of the annual mailing (or other means of delivery) and annual event, including a description of the event.

Implementation Schedule

Within 12 months from the effective date of permit authorization, Tier B Municipalities shall have developed and begun implementing the Local Public Education Program minimum standard.

WHAT DOES THIS MEAN?

Tier B Municipalities shall develop and implement a Local Public Education Program that includes all of the SBRs that have an educational message.

Annual Distribution of Information

Tier B Municipalities are required to duplicate and mail (or otherwise distribute) the educational brochure (provided by the Department and found at the end of this Chapter) annually to their residents and businesses. The Department may choose to periodically provide an updated version of this brochure, which shall then be duplicated and distributed annually.

Annual Event

As a part of the Local Public Education Program the Tier B Municipality is required to conduct or participate in an annual event during which educational materials are to be distributed. The annual event may be its own event or it can be a part of an existing event, for example, a municipal festival (e.g., a “Shad Festival”, “Cranberry Festival” or “Chowderfest”), Earth Day, Arbor Day or Fourth of July celebration. Or the annual event may be part of a larger event conducted by another entity in the area like a county fair or Agricultural Field Day, as long as residents are welcome to attend.



Your annual event can be part of an existing Earth Day celebration.

During this event, the educational brochure provided by the Department shall be made available to the public.

WANT TO KNOW MORE?

It is estimated that up to 60% of our existing water pollution problems are attributable to **stormwater/nonpoint pollution**. This pollution can often be linked to our daily activities and lifestyles - things like walking pets, washing cars, changing motor oil, fertilizing the lawn, and littering. When it rains, pollutants from these activities can be washed into stormdrains and eventually flow into New Jersey's surface and ground waters. These pollutants can contaminate our drinking water, as well as degrade aquatic populations and habitats and beaches.

Many people and businesses use fertilizers and pesticides to enhance their lawns and gardens. However, if they are not careful, such use can contaminate stormwater through pesticide (including herbicide and insecticide) and fertilizer runoff, and soil erosion. In many cases, this stormwater flows directly or indirectly into local rivers, lakes, reservoirs, streams, and coastal water bodies. When pesticides are introduced into an aquatic ecosystem they can harm or kill aquatic life, cause population decreases by damaging the food chain, decreasing reproductive success, or reduce the oxygen levels in the water by destroying plant populations and by plant decomposition. When used improperly, pesticides can also denude an area of vegetation, which can result in soil erosion. Overfertilization can also have adverse effects on an ecosystem. As surface runoff carries excess fertilizer into the water, the nutrient levels increase, leading to excessive plant and algal growth which is directly related to a loss of habitat and wildlife, including fish kills, and eutrophication. Eutrophication is water pollution caused by excessive plant nutrients. High nutrient concentrations can stimulate blooms of algae (e.g., phytoplankton) eventually causing some species to be choked out. Eutrophication can permanently change the character of a lake by increasing the organic content, eventually converting it into marsh and land areas.

One way to help prevent overfertilization and excessive pesticide use is to educate the residents and businesses on how to properly store, handle and apply fertilizers and pesticides, and to make them aware of the need for soil testing and how to do it properly. Soil testing is a very important step in responsible fertilizer application to determine what nutrients, if any, are needed.

For more information on fertilizer use, pest identification and soil testing, contact the local agriculture extension service. A copy of the *Citizen's Guide to Pest Control and Pesticide Safety*, and other information on pesticide control and use can be found on the Pesticide Control Program of New Jersey's website at www.pcpnj.org.

The **improper disposal of hazardous wastes** can also impact stormwater, ground water and surface water quality. Many of the products found in homes and businesses (including automotive wastes) contain chemicals that are harmful to people and the environment. These can include things like oven cleaners, floor care products, drain cleaners, spot removers, paint, solvents, fluorescent lights, motor oil, battery acid and lead, engine cleaner, antifreeze, rust preventative, and degreasers. These products may contain petroleum hydrocarbons, lye, phenols, trichlorobenzene, and other toxic, flammable, or corrosive chemical components, all of which may be introduced into the environment if not properly disposed. When such wastes are deliberately or inadvertently discharged into the storm drain (e.g., dumping of used motor oil, flushing of radiator coolant) they can have a significant impact on stormwater quality. Disposing these wastes directly onto the ground can

impact ground water quality and disposing of them into a septic system can impact ground water quality and destroy helpful bacteria in the septic system. When hazardous wastes are discharged into the sewer system they may destroy bacteria used for treatment at the sewage treatment plant (STPs). In addition, STPs are not designed to treat hazardous wastes, which pass through the plant, and are consequently discharged to surface water. Additional information on household hazardous wastes (including information on each county's hazardous waste collection programs) may be found at the Association of New Jersey Household Hazardous Waste Coordinators website at: <http://www.njhazwaste.com/index.htm>

RECOMMENDATIONS

Listed below are some activities and resources that can be used to assist in developing a Local Public Education Program. These resources are not required to be used by the permit, however, the Tier B Municipality may choose to use them, or encourage residents and businesses to use them, to enhance the success of its Local Public Education Program.

Municipal Level

- Develop and maintain a municipal web page containing appropriate downloadable information regarding required public education aspects of the Stormwater Program.
- Make information sheets available year-round at appropriate municipal facilities.
- Conduct appropriate workshops, seminars, and/or presentations at the annual event and/or at other events (e.g., school assemblies, town meetings, etc.).
- At the annual event and/or at other events, provide appropriate magnets, bookmarks, pencils, buttons, t-shirts, etc. to the residents and businesses in the municipality.

Individual Level

- Wash your vehicle only when necessary – consider using a commercial car wash that recycles its wash water. If you wash your car at home use a non-phosphate detergent and wash it on the lawn. This will help prevent detergents and car grime from entering the drain and ending up in our waterways.
- Service your vehicle regularly – this will prevent oils and other fluids from leaking onto the pavement so they don't wash into the storm drains.
- Don't pour motor oil, antifreeze or other chemicals down the sink or on the ground – dispose of them on collection days or recycle them by taking them to a local public or private recycling center. One quart of motor oil dumped down a storm drain can create a two-acre oil slick.
- Compost leaves and grass clippings, or leave them on the lawn – this will return valuable nutrients to the soil and result in lower fertilization requirements (see Chapter 6 – Yard Waste Collection Program – Want to Know More?). Fact sheets and Bulletins on composting are available at the Rutgers Cooperative Extension website at: <http://www.rce.rutgers.edu/pubs/subcategory.asp?cat=5&sub=36>
- Use environmentally responsible, phosphate free cleaning products (e.g., baking soda, vinegar, etc.).

Education Resources

Project WET is a nationally renowned program that offers teachers a better understanding about the world's water resources through hands-on, multi-disciplinary lessons. Project WET teaches the importance and value of water in our every-day life with formal and non-formal educators while

offering specialized programs about New Jersey's water resources and watersheds. NJ Project WET focuses on water supply, nonpoint source education, water conservation, watershed management, land use planning and wetlands. Additionally, the program offers a Water Festival Grant Program. The festivals offer participants a series of learning stations that examine water use over time, water's role in shaping our country, what a watershed is, how water is cleaned and used again, etc. The festivals involve both the community and schools. Finally, NJ Project WET offers a Watershed Stewards Program for high school students. This program prepares young people to initiate and implement a community watershed service project that will address an environmental concern. More information on NJ Project WET can be found on the Department's website (Division of Watershed Management) at <http://www.state.nj.us/dep/watershedmgt>.

New Jersey Watershed Ambassadors Program is a community-oriented Americorps environmental program designed to raise awareness about watershed issues in New Jersey. Through this program, Ambassadors are placed in watershed management areas across the state to serve their local communities. The program works to improve water quality by exploring the relationship between people and the environment, nurturing community-based environmental activities and empowering residents to make responsible and informed decisions regarding their watershed. Ambassadors conduct water quality monitoring, initiate community-based nonpoint source service projects and conduct nonpoint source education programs using hands-on activities and models such as Enviroscope.

NJ Watershed Ambassadors can help organize and implement:

- Stream or Shoreline Cleanups – to remove trash and debris from in and around the stream. These items are not only potential pollution sources, but they can also block the flow of the stream, which can increase flooding and erosion.
- Stream or Shoreline Surveys – walk or boat the waterway to identify potential problems along the shoreline or stream channel. While surveying the stream or shoreline look for things like fish and wildlife present, visible erosion, sewage overflow points, fish migration barriers, etc.
- Volunteer Plantings – plant native or well-adapted trees and shrubs in a watershed to help restore a healthy stream environment. Plantings will help to improve local water quality by preventing erosion, slowing stormwater runoff, and by providing food and shelter for wildlife.

More information on the NJ Watershed Ambassador program may be found at http://www.nj.gov/dep/watershedmgt/ambassadors_index.htm.

Clean Water Raingers Program offers educators a number of teaching materials for their students as well as background information on watersheds and nonpoint source pollution. Educators who participate in the Clean Water Raingers program are provided with free booklets and associated materials for their elementary school age students. The Clean Water Rainger Coloring Book, How to be a Clean Water Rainger booklet and the Clean Water Rainger stickers are also popular give-aways at family oriented events and festivals. More information on the Clean Water Raingers Program can be found on the Department's website (Division of Watershed Management) at www.state.nj.us/dep/watershedmgt.

Storm Drain Inlet Labeling

WHAT IS REQUIRED?

Minimum Standard

Tier B Municipalities shall establish a storm drain inlet labeling program and label all storm drain inlets that are along municipal streets with sidewalks, and all storm drain inlets within plazas, parking areas, or maintenance yards that are operated by the municipality. The program shall establish a schedule for labeling, develop a long term maintenance plan, and when possible, coordinate efforts with watershed groups and volunteer organizations.



Examples of appropriate storm drain inlet labels

Measurable Goal

Tier B Municipalities shall certify annually that a storm drain inlet labeling program has been developed or is being implemented, and shall identify the number of storm drain inlets labeled within the year.

Implementation Schedule

Within 12 months from the effective date of permit authorization, Tier B Municipalities shall develop a labeling program for the storm drain inlets identified in the minimum standard. Tier B Municipalities must either:

- Label a minimum of 50% of the storm drain inlets within 36 months from the EDPA; and label all remaining storm drain inlets on or before 60 months from EDPA; or
- Divide the municipality into two sectors for the purposes of storm drain inlet labeling. Prepare a map of the two sectors. Label the storm drain inlets in one sector within 36 months from the EDPA; and label all remaining storm drain inlets on or before 60 months from EDPA.

WHAT DOES THIS MEAN?

The storm drain inlet-labeling program, generally undertaken by local volunteer groups in cooperation with the municipality, involves labeling storm drain inlets with a cautionary message about dumping pollutants. The Tier B Municipality is responsible for placing a label with such a message on or adjacent to all of the storm drain inlets that are along municipally operated streets with sidewalks, and all storm drains within plazas, parking areas, or maintenance yards that are operated by the municipality. The message may be a short phrase such as “The Drain is Just for Rain,” “Drains to [Local Waterbody],” “No Dumping. Drains to River,” “You Dump it, You Drink it. No Waste Here.” or it may be a graphic such as a fish. However, although a stand-alone graphic is permissible, the Department strongly recommends that a short phrase accompany the graphic. These labels serve as a reminder to individuals that the storm sewer system connects to local surface and/or ground water bodies and that pollutants that enter via this pathway will ultimately end up in those water bodies.

WANT TO KNOW MORE?

Citizens may not be aware that water in storm sewers is not treated at sewage treatment plants before it reaches its ultimate destination. Additionally, some individuals view storm sewers as trash receptacles for general trash, used oil from their automobiles, paint from home-improvement projects, leftover herbicides, and various other pollutants. The storm drain inlet-labeling program provides an opportunity to educate the public about the connection between storm sewers and local water bodies.

A key factor in the success of this program is visibility. Publicity can play a major role in bringing the issue of nonpoint source pollution into light by announcing and covering the labeling event. Another effective device is to place door hangers in targeted neighborhoods announcing the event and explaining its objectives.

Public participation, through volunteer groups such as environmental organizations, or school groups, are beneficial to the program and shall be used when possible. However, since storm drains are municipal property, an alternative could be for the municipality to perform the labeling work, although, this lacks the public participation element which lends itself to education. Another option is to have the work overseen by the municipality but carried out by volunteers to ensure adherence to permit and safety requirements.

Most people, when informed that the storm sewer discharges to the surface or ground water, will not use the storm sewer as a trash can. Education, especially of young children, continues to pay benefits into the future. The storm drain inlet label stimulates interest in the subject matter of stormwater quality and nonpoint pollution control. Once there is that interest, the rest of the message is easier to convey. Surveys continue to show that the environment, and especially water quality, is a top concern of New Jersey residents. The storm drain inlet-labeling program addresses those residents' concerns, shows an effort to improve water quality, and starts the education process that will last a lifetime. For more information on how to plan and implement a Storm Drain Inlet labeling program, go to the Department's website (Division of Watershed Management) at www.state.nj.us/dep/watershedmgt. The Division of Watershed Management has produced a manual that will assist you in planning your storm drain inlet-labeling program.

RECOMMENDATIONS

Since storm drain inlet labeling is an effective educational tool, and due to the relatively low cost involved, it is recommended that all municipally operated storm drain inlets be labeled. In addition, it is further recommended to expand the labeling program to include storm drain inlets in private residential and commercial areas. Ideal private commercial locations for expanded storm drain inlet labeling are areas with significant pedestrian traffic, strip malls, and shopping centers with fast food restaurants and/or auto parts stores.

Chapter 4 - Additional Measures

Additional Measures (AMs) are measures (non-numeric or numeric effluent limitations) that are expressly required to be included in the Stormwater Program by an areawide or Statewide Water Quality Management Plan (WQM plan). AMs may modify or be in addition to SBRs.

Additional Measures may be required by a Total Maximum Daily Load (TMDL) approved or established by US Environmental Protection Agency, a regional stormwater management plan, or other elements of adopted areawide or Statewide WQM plans. If a Tier B Municipality has to implement an AM as a result of such a WQM plan, the Department will provide written notice of the AM to that municipality. The Department will also list each required AM in the permit through minor modifications to the permit. The AMs, other than numeric effluent limitations, will specify the measures that must be implemented, the measurable goals and an implementation schedule for each BMP.

A Water Quality Management Plan is a plan that is prepared pursuant to Sections 208 and 303 of the Federal Act and the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., including the Statewide, areawide, and county WQM plans. Department rules governing WQM plans are found at N.J.A.C. 7:15.

The Total Maximum Daily Load is the sum of individual wasteload allocations for point sources, load allocations for nonpoint sources of pollution, other sources such as tributaries or adjacent segments, and allocations to reserve or margin of safety for an individual pollutant.

More information on Water Quality Management Plans, and the most recent updates concerning Total Maximum Daily Loads can be found at the following website:

<http://www.nj.gov/dep/watershedmgt/programs.htm>

Regional stormwater management planning is a water resource management strategy that identifies and develops solutions to problems that can be managed most effectively on a regional basis. The product of this planning process, the regional stormwater management plan, spans the boundaries of individual properties, neighborhoods, municipalities, and even county borders. A plan may address an existing water quantity issue, such as localized flooding; an existing water quality issue, such as excess pollutant loading; or issues of water quantity and quality that may be generated by future development. Regional stormwater planning creates a combination of regulations and actions tailored to the specific needs of a drainage area, but it does not reduce environmental protection. Rather, it allows regulations more flexibility to match the concerns, conditions, and features of regions that are connected by a common drainage area. More information on regional stormwater management plans can be found in subchapter 3 of the Stormwater Management rules (N.J.A.C. 7:8) and in Chapter 3 of the New Jersey Stormwater Best Management Practices Manual (<http://www.state.nj.us/dep/watershedmgt/bmpmanualfeb2004.htm>).

As of the date this guidance document was issued, no AMs have been adopted.

Chapter 5 - Other Measures (Voluntary)

At the Tier B Municipality's discretion, the Stormwater Program may also include Other Measures, which are best management practices that are not implemented for Statewide Basic Requirements or Additional Measures but that prevent or reduce the pollution of the waters of the State. These Other Measures (OMs) are voluntary BMPs that may further enhance a Tier B Municipality's Stormwater Program and may target a specific pollutant of concern or problem affecting the municipality. If a municipality does not implement an OM, the municipality will not be considered to be in violation of the permit.

Suggested Other Measures include:

- **Wildlife Management;**
- **Fertilizer and Pesticide Management Ordinances;**
- **Retrofit of Existing Stormwater Management Measures;**
- **Road De-icing;**
- **Adoption of Abandoned Stormwater Management Basin; and**
- **Planting of Native Vegetation in Existing Landscapes.**

Tier B Municipalities are not limited to those topics and may develop an OM on their own if they feel it will help to reduce or prevent the pollution of the waters of the State. Whenever an OM is implemented it should be reviewed periodically to check its effectiveness. If the desired results are not being accomplished the OM should either be improved, modified or abandoned.

This Chapter also contains examples of each of the ordinances that Tier A Municipalities must adopt and enforce. The Department recommends that Tier B Municipalities consider adopting the same or similar ordinances. These model ordinances are to assist in developing your municipal ordinance. A Tier B Municipality may change the model ordinances to fit its individual needs. Your municipal attorney should review all ordinances before adoption.

Important Note: The **Sample Municipal Stormwater Management Plan** and the **Model Municipal Stormwater Control Ordinance for Municipalities** are located in Appendix C and Appendix D, respectively, of the amended New Jersey Stormwater Best Management Practices Manual (BMP Manual). A copy of the BMP manual can be found on the Department's Division of Stormwater Management website at <http://www.nj.gov/dep/watershedmgt/rules.htm> or at the Department's Stormwater website at <http://www.njstormwater.org>. The BMP Manual is also on the CD of guidance material provided by the Department to all Tier B Municipalities and from Maps and Publications, Department of Environmental Protection, 428 East State Street, P.O. Box 420, Trenton, New Jersey, 08625; telephone (609) 777-1038.

Model Ordinance - Pet Waste

Ordinance # [] - Pet Waste

SECTION I. Purpose:

An ordinance to establish requirements for the proper disposal of pet solid waste in **[insert name of municipality]**, so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

SECTION II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word "shall" is always mandatory and not merely directory.

- a. Immediate – shall mean that the pet solid waste is removed at once, without delay.
- b. Owner/Keeper – any person who shall possess, maintain, house or harbor any pet or otherwise have custody of any pet, whether or not the owner of such pet.
- c. Person – any individual, corporation, company, partnership, firm, association, or political subdivision of this State subject to municipal jurisdiction.
- d. Pet - a domesticated animal (other than a disability assistance animal) kept for amusement or companionship.
- e. Pet solid waste – waste matter expelled from the bowels of the pet; excrement
- f. Proper disposal – placement in a designated waste receptacle, or other suitable container, and discarded in a refuse container which is regularly emptied by the municipality or some other refuse collector; or disposal into a system designed to convey domestic sewage for proper treatment and disposal.

SECTION III. Requirement for Disposal:

All pet owners and keepers are required to immediately and properly dispose of their pet's solid waste deposited on any property, public or private, not owned or possessed by that person.

SECTION IV. Exemptions:

Any owner or keeper who requires the use of a disability assistance animal shall be exempt from the provisions of this section while such animal is being used for that purpose.

SECTION V. Enforcement:

The provisions of this Article shall be enforced by the **[Police Department and the Local Board of Health]** of **[insert name of municipality]**.

SECTION VI. Violations and Penalty:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed **[insert amount]**.

SECTION VII. Severability:

Each section, subsection, sentence, clause and phrase of this Ordinance is declared to be an independent section, subsection, sentence, clause and phrase, and the finding or holding of any such portion of this Ordinance to be unconstitutional, void, or ineffective for any cause, or reason, shall not affect any other portion of this Ordinance.

SECTION VIII. Effective date:

This Ordinance shall be in full force and effect from and after its adoption and any publication as may be required by law.

ALL OF WHICH IS ADOPTED this _____ day of _____, 200_, by the _____.

Model Ordinance - Litter Control

Ordinance #[] - Litter Control

SECTION I. Purpose:

An ordinance to establish requirements to control littering in **[insert name of municipality]**, so as to protect public health, safety and welfare, and to prescribe penalties for the failure to comply.

SECTION II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word "shall" is always mandatory and not merely directory.

- a. Litter - any used or unconsumed substance or waste material which has been discarded, whether made of aluminum, glass, plastic, rubber, paper, or other

natural or synthetic material, or any combination thereof, including, but not limited to, any bottle, jar or can, or any top, cap or detachable tab of any bottle, jar or can, any unlighted cigarette, cigar, match or any flaming or glowing material or any garbage, trash, refuse, debris, rubbish, grass clippings or other lawn or garden waste, newspapers, magazines, glass, metal, plastic or paper containers or other packaging or construction material, but does not include the waste of the primary processes of mining or other extraction processes, logging, sawmilling, farming or manufacturing.

- b. Litter Receptacle – a container suitable for the depositing of litter.
- c. Person – any individual, corporation, company, partnership, firm, association, or political subdivision of this State subject to municipal jurisdiction.

SECTION III. Prohibited acts and regulated activities:

1. It shall be unlawful for any person to throw, drop, discard or otherwise place any litter of any nature upon public or private property other than in a litter receptacle, or having done so, to allow such litter to remain.
2. Whenever any litter is thrown or discarded or allowed to fall from a vehicle or boat in violation of this ordinance, the operator or owner, or both, of the motor vehicle or boat shall also be deemed to have violated this ordinance.

SECTION IV. Enforcement:

This ordinance shall be enforced by the **[Police Department and/or other Municipal Officials]** of **[insert name of municipality]**.

SECTION V. Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed **[insert amount]**.

SECTION VI. Severability:

Each section, subsection, sentence, clause and phrase of this Ordinance is declared to be an independent section, subsection, sentence, clause and phrase, and the finding or holding of any such portion of this Ordinance to be unconstitutional, void, or ineffective for any cause, or reason, shall not affect any other portion of this Ordinance.

SECTION VII. Effective date:

This Ordinance shall be in full force and effect from and after its adoption and any publication as may be required by law.

ALL OF WHICH IS ADOPTED this _____ day of _____, 200_, by the _____.

Model Ordinance - Improper Disposal of Waste

Ordinance # [] - Improper Disposal of Waste Ordinance

SECTION I. Purpose:

An ordinance to prohibit the spilling, dumping, or disposal of materials other than stormwater to the municipal separate storm sewer system (MS4) operated by the **[insert name of municipality]**, so as to protect public health, safety and welfare, and to prescribe penalties for the failure to comply.

SECTION II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words, and their derivations shall have the meanings stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word “shall” is always mandatory and not merely directory.

- a. Municipal separate storm sewer system (MS4)– a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that is owned or operated by **[insert name of municipality]** or other public body, and is designed and used for collecting and conveying stormwater. **NOTE:** In municipalities with combined sewer systems, add the following: “MS4s do not include combined sewer systems, which are sewer systems that are designed to carry sanitary sewage at all times and to collect and transport stormwater from streets and other sources.”
- b. Person – any individual, corporation, company, partnership, firm, association, or political subdivision of this State subject to municipal jurisdiction.
- c. Stormwater – water resulting from precipitation (including rain and snow) that runs off the land’s surface, is transmitted to the subsurface, is captured by separate storm sewers or other sewerage or drainage facilities, or is conveyed by snow removal equipment.

SECTION III. Prohibited Conduct:

The spilling, dumping, or disposal of materials other than stormwater to the municipal separate storm sewer system operated by **[insert name of municipality]** is prohibited. The spilling, dumping, or disposal of materials other than stormwater in such a manner as to cause the discharge of pollutants to the municipal separate storm sewer system is also prohibited.

SECTION IV. Exceptions to Prohibition:

- a. Water line flushing and discharges from potable water sources

- b. Uncontaminated ground water (e.g., infiltration, crawl space or basement sump pumps, foundation or footing drains, rising ground waters)
- c. Air conditioning condensate (excluding contact and non-contact cooling water)
- d. Irrigation water (including landscape and lawn watering runoff)
- e. Flows from springs, riparian habitats and wetlands, water reservoir discharges and diverted stream flows
- f. Residential car washing water, and residential swimming pool discharges
- g. Sidewalk, driveway and street wash water
- h. Flows from fire fighting activities
- i. Flows from rinsing of the following equipment with clean water:
 - Beach maintenance equipment immediately following their use for their intended purposes; and
 - Equipment used in the application of salt and de-icing materials immediately following salt and de-icing material applications. Prior to rinsing with clean water, all residual salt and de-icing materials must be removed from equipment and vehicles to the maximum extent practicable using dry cleaning methods (e.g., shoveling and sweeping). Recovered materials are to be returned to storage for reuse or properly discarded.

Rinsing of equipment, as noted in the above situation is limited to exterior, undercarriage, and exposed parts and does not apply to engines or other enclosed machinery.

SECTION V. Enforcement:

This ordinance shall be enforced by the **[Police Department and/or other Municipal Officials]** of **[insert name of municipality]**.

SECTION VI. Penalties:

Any person(s) who continues to be in violation of the provisions of this ordinance, after being duly notified, shall be subject to a fine not to exceed **[insert amount]**.

SECTION VII. Severability:

Each section, subsection, sentence, clause and phrase of this Ordinance is declared to be an independent section, subsection, sentence, clause and phrase, and the finding or holding of any such portion of this Ordinance to be unconstitutional, void, or ineffective for any cause, or reason, shall not affect any other portion of this Ordinance.

SECTION VIII. Effective date:

This Ordinance shall be in full force and effect from and after its adoption and any publication as may be required by law.

ALL OF WHICH IS ADOPTED this ___ day of _____, 200_, by the _____.

Model Ordinance - Wildlife Feeding

Ordinance # [] - Wildlife Feeding Ordinance

SECTION I. Purpose:

An ordinance to prohibit the feeding of unconfined wildlife in any public park or on any other property owned or operated by **[insert name of municipality]**, so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

SECTION II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word "shall" is always mandatory and not merely directory.

- a. Feed – to give, place, expose, deposit, distribute or scatter any edible material with the intention of feeding, attracting or enticing wildlife. Feeding does not include baiting in the legal taking of fish and/or game.
- b. Person – any individual, corporation, company, partnership, firm, association, or political subdivision of this State subject to municipal jurisdiction.
- c. Wildlife – all animals that are neither human nor domesticated.

SECTION III. Prohibited Conduct:

- a. No person shall feed, in any public park or on any other property owned or operated by **[insert name of municipality]**, any wildlife, excluding confined wildlife (for example, wildlife confined in zoos, parks or rehabilitation centers, or unconfined wildlife at environmental education centers).

SECTION IV. Enforcement:

- a. This ordinance shall be enforced by the **[Police Department and/or other Municipal Officials]** of **[insert name of municipality]**.
- b. Any person found to be in violation of this ordinance shall be ordered to cease the feeding immediately.

SECTION V. Violations and Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed **[insert amount]**.

SECTION VI. Severability:

Each section, subsection, sentence, clause and phrase of this Ordinance is declared to be an independent section, subsection, sentence, clause and phrase, and the finding or

holding of any such portion of this Ordinance to be unconstitutional, void, or ineffective for any cause, or reason, shall not affect any other portion of this Ordinance.

SECTION VII. Effective date:

This Ordinance shall be in full force and effect from and after its adoption and any publication as may be required by law.

ALL OF WHICH IS ADOPTED this _____ day of _____, 200_, by the _____.

Model Ordinance - Containerized Yard Waste

Ordinance #[] - Containerized Yard Waste

SECTION I. Purpose:

An ordinance to establish requirements for the proper handling of yard waste in **[insert name of municipality]**, so as to protect public health, safety and welfare, and to prescribe penalties for the failure to comply.

SECTION II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word "shall" is always mandatory and not merely directory.

- a. Containerized – means the placement of yard waste in a trash can, bucket, bag or other vessel, such as to prevent the yard waste from spilling or blowing out into the street and coming into contact with stormwater.
- b. Person – any individual, corporation, company, partnership, firm, association, or political subdivision of this State subject to municipal jurisdiction.
- c. Street - means any street, avenue, boulevard, road, parkway, viaduct, drive, or other way, which is an existing State, county, or municipal roadway, and includes the land between the street lines, whether improved or unimproved, and may comprise pavement, shoulders, gutters, curbs, sidewalks, parking areas, and other areas within the street lines.
- d. Yard Waste – means leaves and grass clippings.

SECTION III. Prohibited Conduct:

The owner or occupant of any property, or any employee or contractor of such owner or occupant engaged to provide lawn care or landscaping services, shall not sweep, rake,

blow or otherwise place yard waste, unless the yard waste is containerized, in the street. If yard waste that is not containerized is placed in the street, the party responsible for placement of yard waste must remove the yard waste from the street or said party shall be deemed in violation of this ordinance.

SECTION IV. Enforcement:

The provisions of this ordinance shall be enforced by **[insert appropriate department]**.

SECTION V. Violations and Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed **[insert amount]**.

SECTION VI. Severability:

Each section, subsection, sentence, clause and phrase of this Ordinance is declared to be an independent section, subsection, sentence, clause and phrase, and the finding or holding of any such portion of this Ordinance to be unconstitutional, void, or ineffective for any cause, or reason, shall not affect any other portion of this Ordinance.

SECTION VII. Effective date:

This Ordinance shall be in full force and effect from and after its adoption and any publication as may be required by law.

ALL OF WHICH IS ADOPTED this _____ day of _____, 200_, by the _____.

Model Ordinance - Yard Waste Collection Program

Ordinance #[] - Yard Waste Collection Program

SECTION I. Purpose:

An ordinance to establish a yard waste collection and disposal program in **[insert name of municipality]**, so as to protect public health, safety and welfare, and to prescribe penalties for the failure to comply.

SECTION II Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word "shall" is always mandatory and not merely directory.

- a. Containerized – means the placement of yard waste in a trash can, bucket, bag or other vessel, such as to prevent the yard waste from spilling or blowing out into the street and coming into contact with stormwater.

- b. Person – any individual, corporation, company, partnership, firm, association, or political subdivision of this State subject to municipal jurisdiction.
- c. Street – means any street, avenue, boulevard, road, parkway, viaduct, drive, or other way, which is an existing State, county, or municipal roadway, and includes the land between the street lines, whether improved or unimproved, and may comprise pavement, shoulders, gutters, curbs, sidewalks, parking areas, and other areas within the street lines.
- d. Yard Waste – means leaves and grass clippings.

SECTION III. Yard Waste Collection

Sweeping, raking, blowing or otherwise placing yard waste that is not containerized at the curb or along the street is only allowed during the seven (7) days prior to a scheduled and announced collection, and shall not be placed closer than 10 feet from any storm drain inlet. Placement of such yard waste at the curb or along the street at any other time or in any other manner is a violation of this ordinance. If such placement of yard waste occurs, the party responsible for placement of the yard waste must remove the yard waste from the street or said party shall be deemed in violation of this ordinance.

SECTION IV. Enforcement:

The provisions of this ordinance shall be enforced by **[insert appropriate department]**.

SECTION V. Violations and Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed **[insert amount]**.

SECTION VI. Severability:

Each section, subsection, sentence, clause and phrase of this Ordinance is declared to be independent section, subsection, sentence, clause and phrase, and the finding or holding of any such portion of this Ordinance to be unconstitutional, void, or ineffective for any cause, or reason, shall not affect any other portion of this Ordinance.

SECTION VII. Effective date:

This Ordinance shall be in full force and effect from and after its adoption and any publication as may be required by law.

ALL OF WHICH IS ADOPTED this _____ day of _____, 200_, by the _____.

Model Ordinance - Illicit Connection

Ordinance # [] - Illicit Connection Ordinance

SECTION I. Purpose:

An ordinance to prohibit illicit connections to the municipal separate storm sewer system(s) operated by the **[insert name of municipality]**, so as to protect public health, safety and welfare, and to prescribe penalties for the failure to comply.

SECTION II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words, and their derivations shall have the meanings stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word “shall” is always mandatory and not merely directory. The definitions below are the same as or based on corresponding definitions in the New Jersey Pollutant Discharge Elimination System (NJPDES) rules at N.J.A.C. 7:14A-1.2.

- a. Domestic sewage - waste and wastewater from humans or household operations.
- b. Illicit connection – any physical or non-physical connection that discharges domestic sewage, non-contact cooling water, process wastewater, or other industrial waste (other than stormwater) to the municipal separate storm sewer system operated by the **[insert name of municipality]**, unless that discharge is authorized under a NJPDES permit other than the Tier B Municipal Stormwater General Permit (NJPDES Permit Number NJ0141852). Non-physical connections may include, but are not limited to, leaks, flows, or overflows into the municipal separate storm sewer system.
- c. Industrial waste - non-domestic waste, including, but not limited to, those pollutants regulated under Section 307(a), (b), or (c) of the Federal Clean Water Act (33 U.S.C. §1317(a), (b), or (c)).
- d. Municipal separate storm sewer system (MS4)– a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that is owned or operated by **[insert name of municipality]** or other public body, and is designed and used for collecting and conveying stormwater. **NOTE:** In municipalities with combined sewer systems, add the following: “MS4s do not include combined sewer systems, which are sewer systems that are designed to carry sanitary sewage at all times and to collect and transport stormwater from streets and other sources.”

- e. NJPDES permit – a permit issued by the New Jersey Department of Environmental Protection to implement the New Jersey Pollutant Discharge Elimination System (NJPDES) rules at N.J.A.C. 7:14A
- f. Non-contact cooling water - water used to reduce temperature for the purpose of cooling. Such waters do not come into direct contact with any raw material, intermediate product (other than heat) or finished product. Non-contact cooling water may however contain algaecides, or biocides to control fouling of equipment such as heat exchangers, and/or corrosion inhibitors.
- g. Person – any individual, corporation, company, partnership, firm, association, or political subdivision of this State subject to municipal jurisdiction.
- h. Process wastewater - any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Process wastewater includes, but is not limited to, leachate and cooling water other than non-contact cooling water.
- i. Stormwater – water resulting from precipitation (including rain and snow) that runs off the land’s surface, is transmitted to the subsurface, is captured by separate storm sewers or other sewerage or drainage facilities, or is conveyed by snow removal equipment.

SECTION III. Prohibited Conduct:

No person shall discharge or cause to be discharged through an illicit connection to the municipal separate storm sewer system operated by the **[insert name of municipality]** any domestic sewage, non-contact cooling water, process wastewater, or other industrial waste (other than stormwater).

SECTION IV. Enforcement:

This ordinance shall be enforced by the **[Police Department and/or other Municipal Officials]** of **[insert name of municipality]**.

SECTION V. Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed **[insert amount]**.

SECTION VI. Severability:

Each section, subsection, sentence, clause and phrase of this Ordinance is declared to be an independent section, subsection, sentence, clause and phrase, and the finding or holding of any such portion of this Ordinance to be unconstitutional, void, or ineffective for any cause, or reason, shall not affect any other portion of this Ordinance.

SECTION VII. Effective date:

This Ordinance shall be in full force and effect from and after its adoption and any publication as may be required by law.

ALL OF WHICH IS ADOPTED this ___ day of _____, 200_, by

Wildlife Management

The Canada goose (*Branta canadensis*) is probably the most commonly recognized bird in New Jersey, and with good reason. New Jersey currently has about 85,000 geese, which places us with the highest density of Canada geese in the United States: 12 geese per square kilometer.

However, this wasn't always the case. In 1967, one subspecies, the Aleutian Canada goose, was listed as endangered by the U.S. Fish and Wildlife Service. This was primarily due to the introduction of a non-native arctic fox species to their nesting island, which became predatory on the defenseless geese. This introduction led to a population decline to approximately 800 geese. The Canada goose population was declining so rapidly that state and federal biologists resorted to importing thousands of mating pairs of geese from the Midwest in the 1960's to ensure their survival in the Mid-Atlantic States. Under the cover of the 1916 Migratory Bird Treaty (which prohibited spring shooting, limited the shooting season, and put a quota system on bag limits) and the federal wildlife agency, the geese began to thrive.

Today, Canada geese populations are broken down into two distinct groups: the migratory population and the resident population. Currently, the migratory population is below management objectives, and thus is still strictly protected by the U.S. Fish and Wildlife Service and the 1916 Migratory Bird Treaty. The resident population, however, continues to grow at an alarming rate. If nothing is done to control the resident geese in the Atlantic flyway, their population is estimated to exceed 1.6 million by 2012.

This Other Measure addresses the concerns raised by the ever increasing Canada goose population in New Jersey, and the impacts they have on our environment.

Canada geese are grazers, their diet consisting mainly of grasses and other green vegetation. They tend to be attracted to urban sites with short lawns, and they will almost always choose fertilized lawns over unfertilized lawns. For these reasons geese are often found congregating on golf courses, school grounds, playgrounds, sports fields and any other well-manicured lawn.

Canada geese nest in the spring and nesting sites are usually surrounded by, or very close to, water. Water provides the geese with access to food, drink and an escape from predators. Nesting females also tend to use the same nesting site year after year, which makes it difficult to remove them once they breed in an area. In addition to this, once a year the geese begin a complete molt of their flight feathers. During this period the geese will be unable to fly, thus making it necessary for them to be in areas near water with a close food source.

These characteristics of the Canada goose, in addition to their increasing populations, often conflict with human interests, necessitating some form of management. Depending on the severity of the problem, non-lethal or lethal methods may be chosen. The management control methods listed

below are only recommendations and may be implemented as needed. However, using two or more of the following techniques will provide better results than relying on just one method.

Non-Lethal Control Measures

Barriers

Barriers can be effective in small areas where the geese tend to walk from their feeding source to the water. A low fence or other barrier, such as high vegetation, that prevents the geese from easily moving from grassy areas to the water may be all that is needed to solve the problem. Fencing works best during their summer molt when the birds cannot fly into the water. The barriers can either be permanent or temporary.

Overhead Wire Grids

Overhead wire grids are typically made out of polypropylene lines and placed over a body of water, which is usually supported by fiberglass rod posts that are evenly spaced around the perimeter. A two-strand perimeter fence should also surround the area to deny entry to the pond from the sides. The overhead wire grid prevents the geese from landing in the water by reducing the long take-off and landing zones needed by the Canada geese.

Scare Decoys

Scare decoys, such as the Dead Canadian Goose, will discourage geese from nesting or feeding near a body of water. This method is typically most effective where the problem area is small in size.

Repellants

Repellants are substances that can be sprayed on the lawn to deter the geese by making the grass taste bad to them. Biodegradable deterrents using human-safe food flavoring derived from grapes (methyl anthranilate) can be sprayed on an area and will last about 14 days per application. Other deterrents contain an ultraviolet repellent to visually deter the birds. Before this method is used, however, local regulations must be checked to ensure use near ponds or wetlands.

Sound Deterrents

Sound deterrents must be in place early in the season to be effective. Sound deterrents can be as simple as banging on ordinary pots and pans, or as complex as pistol-launched pyrotechnics, firecrackers, or liquid propane gas cannons. To be most effective the sound deterrents should go off under the birds as they come in to land. Sound deterrents are the best option for large-scale geese problems, but may not be suitable for residential or public areas. Additionally, a permit to discharge a firearm may be required.

Visual Deterrents

Visual deterrents include items such as balloons, streamers, flags and scarecrows. Large red, white, yellow, or mylar balloons have proven to be most effective. They should be filled with helium and tethered on a monofilament line to scare the geese. To increase the balloons' effectiveness, large eyespots can be drawn on. Any visual deterrent used should be moved periodically to make sure that the geese don't become accustomed to them.

Hazing

Hazing the geese includes chasing the geese from any area where they are not welcome. People or livestock herding dogs that are trained to chase geese can be used to haze the geese, however special

permits may be required to use dogs to haze geese. This can be an effective method of control in areas where noise and appearance are important considerations.

Education

Educating the public is a very important part of goose management. Many times people attract large number of geese to an area by feeding them. By feeding the geese, they are only encouraged to stay in the area. (Many people also don't realize that bread is not a nutritional food source for geese and can actually harm them.) In addition to educating the public about not feeding the geese, they should also be made aware of the ideal habitat of the Canada goose, and what they can do to make their property less attractive to the geese. Since geese typically like to live near ponds, access to these ponds should be limited. In the springtime, the ponds can be fenced off, or high vegetation can be allowed to grow around the pond. If the pond has an aerator, it should be turned off in the wintertime to allow the pond to freeze over. Also, old goose nests or goose nest platforms should be removed (no permit is required to remove these).

Lethal Control Measures

Hunting

The most effective, but controversial, method of population control of the Canada geese is to allow a hunting season for them. Several states, including New Jersey, currently have a hunting season for Canada geese. There are presently three hunting seasons for Canada geese in New Jersey: the regular Canada goose season, September season and winter season, with bag limits ranging from two to five geese. More information can be found on this topic by visiting the New Jersey Fish and Wildlife webpage (www.njfishandwildlife.com), or the NJDEP webpage (www.state.nj.us/dep/fgw).

Egg Addling, Oiling, or Replacing

One means of population control for the Canada goose is to ensure that they don't produce offspring. The easiest way to accomplish this is to alter their eggs so that they are no longer viable. There are several ways that this can be done, however, it should be kept in mind that if a goose cannot find its egg, or realizes that it has been tampered with, it will simply find a new nest and lay more eggs. Additionally, all of these methods can be very time consuming and dangerous. The nest must be watched for times when the geese are not nearby so that they do not see their eggs being tampered with. If the geese do see someone near their nest, they may become aggressive.

Egg addling means that the eggs are shaken to mix up the contents, or a small hole is poked in the shell so that the inside can be stirred up. Both of these methods will destroy the egg, making sure it does not hatch.

Egg oiling involves rubbing a thin layer of oil on the outside of the entire shell. This prevents the egg from "breathing" and suffocates it.

Replacing the real eggs with wooden or other artificial eggs may also be effective. Remember, if the eggs are simply removed, the geese will just lay more. If the eggs are replaced with artificial eggs, though, the geese will continue to incubate them as if they were real.

Although the resident population of the Canada goose continues to grow at an alarming rate, and continue to claim more and more recreational areas as their own, this is not the major complaint. The major complaint is not attributed to what they take from these areas, but rather what they leave behind. The average Canada goose produces two to four pounds of droppings a day. These droppings can contain salmonella bacteria that persist (in wet droppings) for up to one month.

Substances that are derived from goose droppings can cause water quality problems, including noxious algal blooms, beach closings, and the spread of fowl related diseases.

When geese droppings are allowed to enter the water, the nutrient level increases. This can lead to excessive plant and algal growth, which is directly related to a loss of habitat and wildlife including fish kills and eutrophication. Eutrophication can permanently change the character of a lake by increasing the organic content, eventually converting it into marsh and land areas.

Many beach closings have also been attributed to geese. When an excessive number of geese congregate near a beach or waterway, their fecal matter can sometimes overload the normal capacity of a beach to absorb natural wastes, thus degrading the water quality and requiring the area to close to the public.

Finally, geese can be responsible for the spread of some fowl related diseases. Among these are viral, bacterial and parasitic diseases, to which only waterfowl are susceptible.

The costs associated with implementing this optional measure can be highly variable, depending on the method(s) chosen, and the frequency they must be repeated. Additionally, some of the options are more time consuming or require special permits, which may add to the pre-existing cost of the actual control measure.

While it is difficult to quantify the benefits an area will receive through managing goose populations, it is reasonable to assume that any reduction in their population will have a positive effect on the environment. The amount of benefits received will depend on the severity of the problem in the first place, the method(s) chosen to control the goose populations, and how frequently the control methods are repeated.

More information on this topic can be found at:

http://www.state.nj.us/dep/watershedmgt/DOCS/BMP_DOCS/Goosedraft.pdf

<http://www.fw.umn.edu/research/goose/html/default.html>

<http://www.wildlifedamagecontrol.com/canadageese.htm>

http://www.pacd.org/resources/lake_notes/geese02.htm

<http://www.ai.org/dnr/fishwild/goose.htm>

<http://www.birdcontrolsupplies.com/bobbexg.htm>

<http://www.dnr.state.mi.us/wildlife/pubs/gooseconflictcontrol.asp>

<http://www.wnrmag.com/stories/1998/dec98/geese.htm>

Fertilizer and Pesticide Management Ordinances

The Local Public Education Program includes educating the public on proper application, storage and disposal of pesticides and fertilizers, and the benefits of using native or well adapted vegetation that requires little or no fertilization. The Department recommends that Tier B Municipalities adopt, as an Other Measure, fertilizer and pesticide management ordinances that restrict the use of such chemicals. This is important in communities located near lakes, rivers or bays.

Fertilizer Ordinance

A local fertilizer ordinance may include the following restrictions:

- Require soil samples to be tested to determine which nutrients, if any, are necessary before any fertilizers are applied.
- Allow nitrogen-based fertilizers only in slow-release formulas.
- Forbid the use of phosphorous-based fertilizers unless soil testing demonstrates a need for it.
- Prohibit the use of fertilizer within 25 feet of any lake, stream, drain, river, wetland, or natural waterway.
- Require that fertilizers be watered within 24 hours of application.
- Prohibit fertilizer applications when heavy rainfall is anticipated.
- Ban the application of fertilizers before April 15 and after November 15, when there is a risk that frost will prevent the nutrients from being absorbed into the soil.
- Require applicators to take precautions against applying fertilizers to impervious surfaces, such as driveways and sidewalks, where the nutrients will simply wash away into storm sewers or nearby waterways with the next rainfall.

Pesticide Ordinance

A local pesticide ordinance may be passed as long as it is in conformance with, and no more stringent than, the Pesticide Control Code (N.J.A.C. 7:30). A pesticide ordinance may address the following issues:

- The proper storage of pesticides (N.J.A.C. 7:30–1.9, 9.4)
- Pesticide application/use and safety equipment (N.J.A.C. 7:30–2.2, 2.3, 9.3, 9.7, 10.3)
- The proper methods of disposal of pesticides, their containers, and equipment that holds or has held a pesticide (N.J.A.C. 7:30–9.6, 11.2, 11.3)
- Accidental pesticide misapplications, spills, and emergency containment (N.J.A.C. 7:30–9.14, 9.15, 11.1)

Retrofit of Existing Stormwater Management Measures

For more information on this topic please see Chapter 8 of the New Jersey Stormwater Best Management Practices Manual

(<http://www.state.nj.us/dep/watershedmgt/bmpmanualfeb2004.htm>).

Road De-icing

Road de-icing is a common practice during and after winter storms. Essentially it consists of applying salt (NaCl), or other types of de-icing materials, to lower the freezing temperature of the precipitation. Lowering the freezing temperature of the snow and ice causes it to melt quicker, and allows motorists to travel roadways safely. Excessive use of de-icers can be environmentally detrimental due to increasing sediment loads and soluble materials entering surface and ground water. The excessive use of de-icers may adversely affect roadside vegetation, pollute waterways and/or groundwater, as well as adversely affect aquatic life or cause corrosion.

However, the use of road salt is a public safety issue as well as a water quality issue. The short term need for clear, safe winter roadways outweighs the environmental impacts. None of the recommendations here are to be construed as advocating the reduction of de-icing efforts to the

point of jeopardizing public safety. Rather, most are simple techniques that can be easily integrated into existing de-icing practices that can reduce the impact on surface and ground water quality.

Road salts were identified in the early 1970's as a pollutant source after high levels of sodium, calcium and chloride were found in public water supply wells. Aside from contaminating potable surface and ground water, high levels of sodium chloride can kill roadside vegetation, impair aquatic ecosystems and corrode infrastructure such as bridges, roads and stormwater management devices.

Application of typical de-icers and alternative de-icers should be considered when formulating a de-icing policy. New, safer alternatives are being developed that may lessen our dependence on traditional de-icers. Alternative de-icing materials and techniques should be considered whenever possible.

Application of De-icing Materials

In general, the DEP promotes the smart use of salt and other de-icing materials. This concept encourages municipalities, commercial facilities and others to consider a wide range of options when formulating a management policy on the application of de-icing materials. These de-icing policies should take into consideration storm characteristics, roadway conditions, road characteristics, the type and availability of equipment, and availability and need of alternative de-icing materials (other than NaCl). Reduced application rates and alternative de-icing practices should be incorporated in environmentally sensitive areas, areas that drain to surface drinking water sources (reservoirs), and groundwater recharge areas (e.g., ground water supply wells, and wellhead protection areas). Reduced application rates may also be considered on secondary roads or on other roads rarely traveled (traffic density).

One of the most effective means in preventing over-application is the use of calibrated spreaders, which ensure delivering de-icing materials at the predetermined optimal application rate. Automated controls on spreaders are recommended to ensure a consistent and correct application. The spreader should be calibrated prior to a snow storm event and periodically during the snow season, regardless of whether or not automatic or manual controls are used. A regular schedule of maintenance for snow removing equipment (including salt spreaders) should be incorporated into a snow management policy. Poor maintenance of the snow removal equipment is often responsible for excessive salt use. Guidelines for the calibration of spreaders and determination of application rates are given in the EPA document *Manual for De-icing Chemicals: Application Practices*.

Salting is recommended for snowfalls of less than two inches and for road surfaces with packed snow already on the road surfaces. A management policy of salting of roadways should consider factors such as length and duration of the snowfall and initial conditions of the roadway which will be salted. The salting of road surfaces after the snow has accumulated will only result in the applied rock salt being removed with the snow when plowed.

De-icing Materials and Alternative De-icing Materials

In most instances winter de-icing materials consist of rock salt (NaCl) or a combination of rock salt and sand. The effectiveness of this mixture is significantly reduced at temperatures below 25 degrees Fahrenheit. As a result, it is not practical to increase the amount of rock salt when spreading below 25 degrees Fahrenheit. At temperatures lower than 25 degrees Fahrenheit, rock salt can be applied with calcium chloride (CaCl), which increases the effectiveness of the deicer at temperatures down to -25 degrees Fahrenheit.

Various mixtures of sodium chloride, calcium chloride and sand can be used depending on the sensitivity of the area. The State of Connecticut recommends a 7:2 sand pre-mix be used in sensitive areas. Pre-mix is 3.5 parts sodium chloride and 1 part calcium chloride by weight. Use of higher ratios of calcium salts is recommended environmentally since calcium poses fewer problems than sodium.

New de-icing materials are periodically developed which are more environmentally friendly and can be used in sensitive areas or as an alternative to traditional de-icers. In some instances, the costs of these new materials are prohibitive on a large-scale basis but they could be used in smaller target areas.

One of the best alternatives to de-icing materials is sand. Sand has no de-icing properties but when used as a mix with rock salt, can be helpful in areas where increased traction is needed and where a reduction of rock salt is desired. Ash and cinders are another low tech alternative to calcium chloride. While using sand, gravel, ash and cinders reduce the amount of sodium, they have their own environmental problems, specifically, causing sedimentation and increasing suspended solids in receiving waters.

NOTE: The New Jersey Department of Environmental Protection does not promote the use of any specific product discussed below.

Calcium Chloride: Has a lower freezing point than rock salt. Absorbs moisture readily and stays on the pavement longer than rock salt. Used in "wetting" of roadways prior to snowfall.

Calcium Magnesium Acetate: Less effective, better environmentally.

Magnesium Chloride: Basically as effective as calcium chloride in adhering to the road surface and has comparable freezing temperature.

Potassium Acetate: Does not have the chloride residual problems associated with other de-icers. Does not cause corrosion and has a low environmental impact.

Potassium Chloride: Is similar in performance and cost to calcium chloride and magnesium chloride. Has a similar chloride residual problem.

Urea: Less corrosive than rock salt and has little to no effect on roadside vegetation.

Reduction of the Application of De-icing Materials

Remote sensors along roadways can be used to determine which parts of roadways have ice on them. Some sensors can detect ice as thin as 0.005 inches. Using this technology will enable the effective delivery of de-icing material to sections of roadway that need it most rather than spreading on the entire roadway.

The state of Vermont has used a strategy that employs an application curve for efficient salting. Application rates vary with temperature. The study "Smart Salting: A Winter Maintenance Strategy" is available from the Vermont Agency of Transportation.

Structural controls are another way to reduce over-application of de-icing materials. Snow fences are used to keep snow from being blown into drifts. Studies show that fences minimize costs associated with snow clearing, reduce the formation of compacted snow, and reduce the need for chemicals. Mechanical snow removal costs approximately 100 times more than trapping snow with fences.

Adoption of Abandoned Stormwater Management Basins

Stormwater management basins are excavations or embankments and related areas designed to retain stormwater runoff for flood control and/or water quality purposes. Stormwater management basins are frequently used to comply with municipal, county, or state flood control and/or water quality requirements. Examples of such basins include stormwater detention basins at retail shopping centers, strip malls, and residential developments.

After construction, ownership of the management basins is transferred from the builder to a private owner such as a homeowners association, an individual homeowner, a retail management company, or a commercial facility. Often private owners lack the skill and ability, desire or funds to maintain stormwater runoff control facilities. Subsequently, the lack of maintenance results in decreased efficiency and other problems. This Other Measure encourages municipalities to take over the operation and maintenance of the stormwater management basins by obtaining ownership.

Planting of Native Vegetation in Existing Landscapes

For new development and redevelopment projects the Stormwater Management rules require low maintenance landscaping that encourages the retention and planting of native vegetation, and that minimizes the use of lawns, fertilizers and pesticides. The Department is recommending that as an Other Measure municipalities incorporate these same concepts into their own existing developed areas and open space, and provide incentives for other property owners to do the same. Planting native (or well-adapted) trees and shrubs in a watershed will help restore a healthy stream environment. Plantings help to improve local water quality by preventing erosion, slowing stormwater runoff, and provide food and shelter for wildlife. NJ Watershed Ambassadors can help organize and implement volunteer plantings. Information on the NJ Watershed Ambassadors program may be found at http://www.nj.gov/dep/watershedmgt/ambassadors_index.htm. For more information on landscaping and native species please see Chapter 7 of the New Jersey Stormwater Best Management Practices Manual (<http://www.state.nj.us/dep/watershedmgt/bmpmanualfeb2004.htm>).

Chapter 6 – Annual Report and Certification Form

This Chapter contains information regarding the Annual Report and Certification, including reporting requirements, and the Annual Report and Certification form to be submitted to the Department.

The Annual Report and Certification form is on the CD provided to you by the Department and may also be downloaded at www.state.nj.us/dep/dwq/municstw.html. The form is available as both a PDF file, which may be printed and completed by hand or as an MS Word fill in form document, which can be completed using MS Word and saved for later updates and changes.

Annual Report and Certification

Tier B Municipalities shall complete an Annual Report (on a form provided by the Department, see below) summarizing the status of compliance with this permit including measurable goals and the status of the implementation of each SBR contained in Part I, Section F of the permit. This report shall include a certification that the municipality is in compliance with this permit, except for any incidents of noncompliance. Any incidents of noncompliance with permit conditions shall be identified in the Annual Report and Certification. A copy of each Annual Report and Certification shall be kept at a central location and shall be made available to the Department for inspection.

- If there are incidents of noncompliance, the report shall identify the steps being taken to remedy the noncompliance and to prevent such incidents from recurring.
- The Annual Report and Certification shall be signed and dated by the Tier B Municipality, and shall be maintained for a period of at least five years. This period may be extended by written request of the Department at any time.

The Annual Report and Certification shall be submitted to the Department pursuant to the following submittal schedule:

- Submit an Annual Report and Certification: **on or before July 1, 2005 and every 12 months thereafter.**

The Department recognizes that in some of the annual reports, especially the first annual report submitted on or before July 1, 2005, that many of the permit requirements will not have been completed and the municipality will enter “No” or “Not Applicable” or give the implementation status.

The Annual Report and Certification shall be submitted to the following address:

**New Jersey Department of Environmental Protection
Municipal Stormwater Regulation Program
Bureau of Nonpoint Pollution Control
PO Box 029
Trenton, NJ 08625-0029**

Annual Report and Certification Form

Chapter 7 - Municipally Operated Industrial and Construction Activity

Provisions within the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 temporarily exempted certain discharges from the need to obtain an industrial stormwater discharge permit under the Federal Clean Water Act. The exempted discharges included those associated with Phase I industrial activities at facilities owned or operated by municipalities with populations of less than 100,000 (with the exception of powerplants, airports, and uncontrolled sanitary landfills). This “ISTEA” exemption was later extended by U.S. Environmental Protection Agency and Department regulations. The Department’s Phase II Rule further extended the deadline to apply for a permit for these previously exempted industrial activities to **March 3, 2004**.

It is important to note that the Tier B Municipal Stormwater General Permit **does not** authorize the discharge of stormwater associated with industrial activity and that **a municipality must apply for a separate NJPDES permit if the municipality operates those types of facilities**. Types of facilities that a Tier B Municipality may operate and that are considered to be engaging in “industrial activity” include but are not limited to:

- certain landfills and recycling facilities;
- certain transportation facilities (including certain local passenger transit and air transportation facilities);
- certain facilities handling domestic sewage or sewage sludge (including certain Sewage Treatment Plants);
- steam electric power generating facilities; and
- construction activity that disturbs five acres or more

(See N.J.A.C. 7:14A-1.2 for the full definition of “stormwater discharge associated with industrial activity.”)

A municipality must apply for a separate NJPDES permit if it operates any of these activities regardless of the size of the population of the municipality in which they are located.

In addition, the Tier B Municipal Stormwater Permit **does not** authorize “stormwater discharge associated with small construction activity” as defined in N.J.A.C. 7:14A-1.2. In general, this is the discharge to surface water of stormwater from construction activity that disturbs at least one but less than five acres. Any municipality that operates a construction site with such a discharge must apply for a separate NJPDES permit for that discharge. In most cases, this permit is the Department’s Construction Activity Stormwater General Permit (NJ0088323) obtained through the Soil Conservation District. This general permit is also used for construction activity that disturbs five acres or more.

Chapter 8 - Important Names, Addresses and Contacts

Listed below are names, addresses and contacts that may be helpful to the Tier B Municipality when preparing and implementing its Stormwater Program.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION CONTACT INFORMATION

Bureau of Nonpoint Pollution Control

Division of Water Quality

PO Box 029

Trenton, New Jersey 08625-0029

Tele: (609) 633-7021

Home of the Municipal Stormwater Regulation Program (MSRP), which implements the Phase II Rules, issues permit authorizations under the MSRP, and provides outreach and compliance assistance. Also issues NJPDES permits for industrial stormwater discharges and discharges to ground water.

Division of Watershed Management

PO Box 418

Trenton, New Jersey 08625-0418

(609) 984-0058

For assistance with the Stormwater Management rules:

- Bureau of Northern Planning**
Ken Klipstein, Bureau Chief
(609) 633-3812
- Bureau of Southern Planning**
Steve Jacobus or Bob Mancini
(609) 984-6888

For assistance with **technical questions** regarding the Stormwater Management rules:

- Sandra Blick, Supervising Environmental Specialist
Division of Watershed Management at:
(609) 633-1441

For assistance with education and outreach:

- Bureau of Outreach and Education**
Kerry Kirk Pflugh, Section Chief
(609) 292-2113

For other sites related to watershed management (e.g., watershed associations) see: <http://www.nj.gov/dep/watershedmgt/links.htm>

Bureau of Permit Management

Division of Water Quality

PO Box 029

Trenton, New Jersey 08625-0029

(609) 984-4428

Reviews and processes requests for authorization (RFAs) under the Municipal Stormwater General Permits. RFA, permit fee and billing questions should be submitted to this bureau.

New Jersey Environmental Infrastructure Trust

PO Box 440

Trenton, NJ 08625

(609) 219-8600

Provides low-cost financing for the capital equipment purchase and construction components of environmental infrastructure projects (including stormwater projects) that enhance and protect ground and surface water resources, ensure the safety of drinking water supplies, and make possible responsible and sustainable economic development. Administers the Municipal Stormwater Grant program.

Land Use Regulation, Compliance and Enforcement

PO Box 439

Trenton, New Jersey 08625-0439

(609) 292-0060

Reviews applications for permits to build or develop on environmentally sensitive land such as freshwater wetlands, coastal areas and floodplains.

Solid Waste Regulation

PO Box 414

Trenton, NJ 08625-0414

(609) 984-5950

Responsible for the effective management of solid and hazardous wastes and recyclable materials, such as street sweeping and catch basin cleaning debris.

Bureau of Point Source Permitting

Issues permits for nonstormwater discharges to surface water including process wastewater, noncontact cooling water, or domestic sewage discharges.

Region 1

Serving northern and western parts of the State,
plus Monmouth and Ocean Counties

(609) 633-3869

Region 2

Serving southern and central parts of the State

(609) 292-4860

Regional NJDEP Water Compliance and Enforcement Offices

Conducts compliance evaluation inspections of NJPDES permitted facilities.

Northern (& Metro)

1259 Route 46 East
Parsippany, New Jersey 07054-4191
(973) 299-7592
Fax: (973) 299-7719
(serves Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex & Warren Counties)

Central

Horizon Center
PO Box 407
Robbinsville, New Jersey
08625-0407
(609) 584-4201
Fax: (609) 584-4220
(serves Mercer, Middlesex, Monmouth, Ocean & Union Counties)

Southern

One Port Center
2 Riverside Drive
Camden, New Jersey 08102
(856) 614-3655
Fax: (856) 614-3608
(serves Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester & Salem Counties)

NJ Geological Survey

29 Arctic Parkway
P.O. Box 427
Trenton, NJ 08625
(609) 292-1185
<http://www.state.nj.us/dep/njgs/>

The NJ Geological Survey is a public service and research agency within the NJ Department of Environmental Protection. Founded in 1835, the NJGS has evolved from a mineral resources and topographic mapping agency to a modern environmental organization that collects and provides geoscience information to government, consultants, industry, environmental groups, and the public.

CONTACT INFORMATION FOR OTHER GOVERNMENT / PUBLIC AGENCIES**New Jersey Department of Transportation**

Administrative Offices
1035 Parkway Avenue
Trenton, NJ 08625
<http://www.state.nj.us/transportation/>

Department of Community Affairs

Division of Codes and Standards
Residential Site Improvement Standards
(609) 984-7609
<http://www.state.nj.us/dca/>

A copy of the Residential Site Improvement Standards can be found at
<http://www.state.nj.us/dca/codes/nj-rsis/index.shtml>

State Soil Conservation Committee

New Jersey Department of Agriculture
CN330

Trenton, NJ 08625

<http://www.state.nj.us/agriculture/rural/natsrc.htm>

(see page 112 for a list of districts and their phone numbers)

U.S. Geological Survey

1-888-ASK-USGS (1-888-275-8747).

<http://www.usgs.gov/>

U.S. Environmental Protection Agency

Environmental Protection Agency

Ariel Rios Building

1200 Pennsylvania Avenue, N.W.

Washington, DC 20460

(202) 272-0167

<http://www.epa.gov/>

CONTACT INFORMATION FOR OTHER GROUPS AND ORGANIZATIONS**Watershed Associations**

Contact the Department's Division of Watershed Management for contact information for your local Watershed Association (<http://www.nj.gov/dep/watershedmgt/links.htm>)

New Jersey State League of Municipalities

407 West State Street

Trenton, NJ 08618

(609) 695-3481

<http://www.njslom.org/>

Association of New Jersey Environmental Commissions (ANJEC)

PO Box 157

Mendham, NJ 07945

Phone: (973) 539-7547

(609) 278-5088

ANJEC is a statewide non-profit organization that assists the efforts of environmental commissions, local officials, interested citizens, private organizations and government agencies. ANJEC protects natural resources through [smart growth](#) and [State Plan implementation](#), preserves [open space](#), protects [water resources](#) and cares for the [urban environment](#). ANJEC is active in the Coalition for Affordable Housing and the Environment and the [Highlands Coalition](#). They also work to protect the special resources of the [Pinelands](#) and the Delaware Bayshore.

Clean Ocean Action

P.O. Box 505, Highlands, New Jersey 07732-0505

Tele: (732) 872-0111

and

PO Box 1098,
Wildwood, New Jersey 08260
Tele: (609) 729-9262

Clean Ocean Action's south Jersey office is also the home of the new environmental education center, the [Institute of Coastal Education](#). The Wildwood Office organizes activities, programs, and citizen action events for the Cape May & Atlantic Counties area.

Clean Ocean Action's goal is to improve the degraded marine water quality off the New Jersey/New York coast, by identifying and attacking the sources of pollution by using research, public education, and citizen action to convince public officials to enact and enforce measures which will clean up and protect the ocean.

BULLETINS, DOCUMENTS, MANUALS, ETC.

Information concerning industrial stormwater permitting (for ISTEA or other facilities)

Contact the Bureau of Nonpoint Pollution Control

New Jersey Stormwater Best Management Practices Manual as amended

Contact the Division of Watershed Management, or visit www.njstormwater.org

NJPDES Rules (N.J.A.C. 7:14A) and the New Jersey Register

Official versions are available from:

West Group, Attn: COP

620 Opperman Drive

PO Box 64833

St. Paul, MN 55164-9742

To order call (800) 328-9352

Cost \$77 (NJPDES Rules), \$169. (New Jersey Register)

Unofficial version of the NJPDES rules are on the Division of Water Quality website at: www.njstormwater.org.

Code of Federal Regulations and Federal Register

Available from: State, university, law, and some county libraries. Also available at www.gpoaccess.gov

Standards for Soil Erosion and Sediment Control in New Jersey

Available from: State Soil Conservation Committee (SSCC) or your local SCD

New Jersey Residential Site Improvement Standards

<http://www.state.nj.us/dca/codes/nj-rsis/index.shtml>

Local Soil Conservation Districts**BERGEN**

327 Ridgewood Avenue
Paramus, NJ 07652
201-261-4407
201-261-7573 (fax)
973-538-1552*

BURLINGTON

Tiffany Square, Suite 100
2615 Route 38 - RD 2
Mount Holly, NJ 08060
609-267-7410
609-267-3347 (fax)
609-267-0811*

CAMDEN

403 Commerce Lane, Suite 1
W. Berlin, NJ 08091
856-767-6299
856-767-1676 (fax)
856-267-0811*

CAPE-ATLANTIC

Atlantic County Office Building
6260 Old Harding Highway
Mays Landing, NJ 08330
609-625-3144
609-625-7360 (fax)
609-205-1225*

CUMBERLAND

PO Box 144, Route 77
Deerfield, NJ 08313
856-451-2422
856-451-1358 (fax)
856-205-1225

FREEHOLD

(Monmouth & Middlesex)
211 Freehold Road
Manalapan, NJ 07726
732-446-2300
732-446-9140 (fax)
732-462-1079*

GLOUCESTER

301 Hollydell Dr.
Sewell, NJ 08080
856-589-5250
856-256-0488 (fax)
856-769-2790*

HUDSON, ESSEX & PASSAIC

15 Bloomfield Avenue
North Caldwell 07006
973-364-0786
973-364-0784 (fax)
973-538-1552*

HUNTERDON

Community Services Annex
8 Gauntt Place
Flemington, NJ 08822
908-788-1397
908-788-0795 (fax)
908-782-3915*

MERCER

508 Hughes Drive
Hamilton Square, NJ 08690
609-586-9603
609-586-1117 (fax)
732-462-1079*

MORRIS

Court House, PO Box 900
Morristown 07960
560 W. Hanover Avenue,
Morris Township, NJ
973-285-2953
973-285-8345 (fax)
973-538-1552*

OCEAN

714 Lacey Road
Forked River, NJ 08731
609-971-7002
609-971-3391 (fax)
609-267-0811*

SALEM

PO Box 168
Deerfield, NJ 08313
856-769-1124
856-451-1358 (fax)
856-769-2790*

SOMERSET-UNION

Somerset County 4-H Center
308 Milltown Road
Bridgewater, NJ 08807
908-526-2701
908-526-7017 (fax)
908-782-3915*

SUSSEX

186 Halsey Rd, Suite 2
Newton, NJ 07860
973-579-5074
973-579-7846 (fax)
908-852-5450*

WARREN

224 Stiger Street
Hackettstown, NJ 07840
908-852-2579
908-852-2284 (fax)
908-852-5450*

State Soil Conservation Committee

New Jersey Department of Agriculture
CN 330, Trenton, NJ 08625
609-292-5540
609-633-7229 (fax)
www.state.nj.us/agriculture/rural/natrsrc.htm