

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

STORMWATER MANAGEMENT PROGRAM



**HIGHWAY AGENCY
STORMWATER GENERAL PERMIT
NJPDES Permit No. NJ0141887**

**MARCH 2006
REVISED DECEMBER 2009**

MAINTAINED BY:



**PREPARED BY:
T&M ASSOCIATES**



**11 TINDALL ROAD
MIDDLETOWN, NJ 07748**

**DELAWARE RIVER
JOINT TOLL BRIDGE COMMISSION**

New Jersey Department of Environmental Protection

**HIGHWAY AGENCY STORMWATER
GENERAL PERMIT
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Delaware River
Joint Toll Bridge
Commission


STORMWATER MANAGEMENT PROGRAM

**MARCH 2006
REVISED JUNE 2006**



KEITH W. HENDERSON, P.E., P.P.
VICE PRESIDENT

6/19/06
DATE



KEVIN M. SKEELS, P.E.
ASSISANT CHIEF ENGINEER
STORMWATER PROGRAM COORDINATOR

7/28/06
DATE

PREPARED BY:
T&M ASSOCIATES



11 TINDALL ROAD
MIDDLETOWN, NJ 07748

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Bureau of Nonpoint Pollution Control
Division of Water Quality
PO Box 029
Trenton, NJ 08625-0029
Phone: (609) 633-7021
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AUTHORIZATION TO DISCHARGE R12 -Highway Agency Stormwater General Permit

Facility Name:

PI ID #: 222834

DELAWARE RIVER JOINT TOLL BRIDGE COMM

Facility Address:

NJPDES #: NJG0153052

110 WOOD ST
MORRISVILLE, PA 19067

Type of Activity: Stormwater Discharge General Permit Authorization New

Owner:

DELAWARE RIVER JOINT TOLL BRIDGE COMM
110 WOOD ST
MORRISVILLE, PA 19067

Operating Entity:

DELAWARE RIVER JOINT TOLL BRIDGE COMM
110 WOOD ST
MORRISVILLE, PA 19067

Issuance Date:

03/24/2004

Effective Date:

04/01/2004

Expiration Date:

02/28/2009

Your Request for Authorization under NJPDES General Permit No. NJ0141887 has been approved by the New Jersey Department of Environmental Protection.

Date: 03/24/2004

Barry Chalofsky, P.P., Chief
Bureau of Nonpoint Pollution Control
Division of Water Quality
New Jersey Department of Environmental Protection



NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

Permit Number: NJ0141887

P.I. ID# 50577

Final: Highway Agency Stormwater Master General Permit

Permittee:

Division Of Water Quality
401 E State Street
Trenton, New Jersey 08625

Co-Permittee:


Property Owner:

Location Of Activity:

NJPDES Master General Permit Program
Interest
401 E State Street
Trenton, New Jersey 08625

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
R12 -Highway Agency Stormwater General Permit	02/02/2004	03/03/2004	02/28/2009

By Authority of:
Commissioner's Office


DEP AUTHORIZATION
Barry Chalofsky, P.P., Chief
Bureau of Nonpoint Pollution Control
Division of Water Quality

(Terms, conditions and provisions attached hereto)

Highway Agency Stormwater General Permit (NJ0141887)

FINAL - NJPDES Master General Permit Renewal

PART I NARRATIVE REQUIREMENTS:

A. Authorization Under this Permit

1. Permit Area

- a. This permit applies to all areas of the State of New Jersey.

2. Eligibility

- a. This permit may authorize all new and existing stormwater discharges to surface water and groundwater from small municipal separate storm sewer systems (MS4s) at highways or other thoroughfares owned or operated by a Highway Agency (Highway Agency) under N.J.A.C. 7:14A-25.2(a)3 except as provided in A.5 below.
- b. A "Highway Agency" is a county, State, interstate, or Federal agency that operates a small MS4 at a highway or other thoroughfare (including a maintenance or service facility or rest area for such a thoroughfare). For purposes of N.J.A.C. 7:14A-25 and this permit, a "highway or other thoroughfare" does not include:
 - i. Any thoroughfare confined to the grounds of a single building, or of two or more buildings that are not a "public complex" pursuant to N.J.A.C. 7:14A-25.2(a)2 (unless that building(s) is a maintenance or service facility for a highway or other thoroughfare not confined to such grounds);
 - ii. Any thoroughfare confined to the grounds of a "public complex" (each such thoroughfare is instead part of the "public complex"); or
 - iii. Any thoroughfare (other than the Palisades Interstate Parkway) confined to an officially designated park, forest, recreational area, natural area, wildlife management area, or set aside for water supply protection.
- c. On a case-by-case basis, the Department may use this permit to authorize new and existing stormwater discharges to surface water and groundwater from municipal separate storm sewers owned or operated by a county, State, interstate, or Federal agency at a thoroughfare identified under b.iii above, or by an agency (other than a county, State, interstate, or Federal agency) at a thoroughfare not identified under b.i or b.ii above. As used in this permit, the term "Highway Agency" includes such agencies, and the term "small MS4" includes such municipal separate storm sewers, pursuant to this provision of this permit. This provision does not apply to:
 - i. Any municipal separate storm sewer that is owned or operated by a municipality that is assigned to Tier A under N.J.A.C. 7:14A-25.3(a)1; or
 - ii. Any municipal separate storm sewer that is owned or operated by a municipality that is assigned to Tier B under N.J.A.C. 7:14A-25.3(a)2, unless the stormwater discharge from that sewer is identified under N.J.A.C. 7:14A-

25.2(a)4 (special designations) but the Department does not determine that such identification warrants assignment of the municipality to Tier A under N.J.A.C. 7:14A-25.3(a)1v.

d. After the Effective Date of Permit Authorization (EDPA), the permit authorizes the following new and existing non-stormwater discharges from small MS4s owned or operated by Highway Agencies:

- i. Water line flushing and discharges from potable water sources
- ii. Uncontaminated ground water (e.g., infiltration, crawl space or basement sump pumps, foundation or footing drains, rising ground waters)
- iii. Air conditioning condensate (excluding contact and non-contact cooling water)
- iv. Irrigation water (including landscape and lawn watering runoff)
- v. Flows from springs, riparian habitats and wetlands, water reservoir discharges and diverted stream flows
- vi. Residential car washing water, and residential swimming pool discharges
- vii. Sidewalk, driveway and street wash water
- viii. Flows from fire fighting activities including the washing of fire fighting vehicles
- ix. 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 in the above situations is limited to exterior, undercarriage, and exposed parts and does not apply to engines or other enclosed machinery.

e. If any of the discharges listed in 2.d above are identified by the Highway Agency as a significant contributor of pollutants to or from the MS4, the Highway Agency must address the discharge as an illicit connection or as an improper disposal of waste as specified in Part I, Section F of this permit.

3. Authorization

a. In order to obtain authorization under this permit (except for automatic renewal of authorization under A.4 below) a complete Request for Authorization (RFA) shall be submitted in accordance with the requirements of this permit. Upon review of the RFA, the Department may, in accordance with N.J.A.C. 7:14A-6.13, either:

- i. Issue notification of authorization under this permit, in which case, authorization is deemed effective the first day of the following month of the date of the notification of authorization;
 - ii. Deny authorization under this permit and require submittal of an application for an individual permit; or
 - iii. Deny authorization under this permit and require submittal of an RFA for another general permit.
- b. For discharges from a small MS4 authorized by this permit, the Highway Agency is exempt from N.J.A.C. 7:14A-6.2(a)2. This exemption means that the discharge of any pollutant not specifically regulated in the NJPDES permit or listed and quantified in the NJPDES application or RFA shall not constitute a violation of the permit.
- c. Authorization under this permit shall cease to be effective under N.J.A.C. 7:14A-6.13(f), (h), (j) and (o), where applicable.

4. Automatic Renewal of Authorization

- a. Authorization under this permit will be automatically renewed when this general permit is reissued as provided by N.J.A.C. 7:14A-6.13(d)9 and 25.4(a)3 so long as the discharge authorized under the general permit continues to be eligible. The Department shall issue a notice of renewed authorization to the Highway Agency.
- b. If the Highway Agency is aware of any information in the most recently submitted RFA that is no longer true, accurate, and/or complete, the Highway Agency shall provide the correct information to the Department within 90 days of the effective renewal authorization notice.

5. Stormwater Discharges Not Authorized

- a. This permit does not authorize "stormwater discharge associated with industrial activity" as defined in N.J.A.C. 7:14A-1.2. Types of facilities that a Highway Agency 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, 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"). Any Highway Agency that operates an industrial facility with such a discharge must submit a separate request for authorization (RFA) or individual permit application for that discharge. An RFA submitted for the Highway Agency Stormwater General Permit does not qualify as an RFA for such a discharge.
 - i. Deadlines to apply for a NJPDES permit for "stormwater discharge associated with industrial activity" are set forth in N.J.A.C. 7:14A-24.4(a)1. If such a discharge is from a facility (other than an airport, powerplant, or uncontrolled sanitary landfill) that is owned or operated by a Highway Agency with a population of less than 100,000, the Highway Agency shall submit the RFA or individual permit application by March 3, 2004. If such a discharge is from any other industrial facility, N.J.A.C. 7:14A-24.4(a)1 specifies earlier deadlines to apply.

b. This 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 (see N.J.A.C. 7:14A-1.2 for the full definition). Any Highway Agency that operates a construction site with such a discharge must submit a separate RFA or individual permit application for that discharge. An RFA submitted for the Highway Agency Stormwater General Permit does not qualify as an RFA for such a discharge.

c. This permit does not authorize any stormwater discharge that is authorized under another NJPDES permit. A Highway Agency does not have to implement measures contained in this NJPDES permit for stormwater discharges at facilities owned or operated by that Highway Agency that are regulated under a separate NJPDES stormwater permit authorizing those discharges.

d. This permit does not authorize stormwater discharges from projects or activities that conflict with an adopted areawide or Statewide WQM plan.

B. Requests for Authorization Requirements

1. Deadline for Requesting Authorization for an Existing Discharge

a. An RFA for the existing discharges from the small MS4 owned or operated by a Highway Agency must be submitted to the Department on or before March 3, 2004, except as provided below.

i. The Department may, in its discretion, accept an RFA submitted after the foregoing deadline; however, the Highway Agency may still be held liable for violating the deadline to apply in accordance with N.J.A.C. 7:14A-25.4 and for discharging pollutants without a valid NJPDES permit in accordance with N.J.A.C. 7:14A-2.1(d).

2. Deadline for Requesting Authorization for a New Discharge

a. An RFA for discharges from a new small MS4 owned or operated by a Highway Agency must be submitted to the Department at least ninety (90) days prior to the operation of the new MS4 system.

i. A Highway Agency that already has authorization to discharge from a small MS4 under the Highway Agency Stormwater General Permit does not need to submit an additional RFA for the expansion of an existing small MS4.

ii. A new small MS4 is a small MS4 that did not exist on March 1, 2009 and results in a new discharge to surface or ground waters of the State.

3. Requesting Authorization

a. A separate RFA shall be submitted by each Highway Agency applying for authorization under this permit.

i. A single RFA may be submitted for the stormwater discharge from an entire small MS4 owned and operated by a Highway Agency, or the Highway Agency may divide the small MS4 into smaller regions and submit a separate RFA for each of these smaller regions.

- ii. The Department may choose to issue single or multiple authorizations under this permit to a Highway Agency regardless of whether the Highway Agency submitted a single or multiple RFAs.

4. Contents of the Request for Authorization

- a. A completed RFA shall include all of the following information regarding the Highway Agency and shall be completed using the Department's RFA form:
 - i. The name of the Highway Agency that operates the small MS4, and the address of the main Highway Agency office (or other appropriate office if the RFA is for a smaller region).
 - ii. The name and mailing address of the Stormwater Program Coordinator of the Highway Agency who will submit any reports or certifications required by the permit and to whom the Department shall send all correspondence concerning the permit.
 - iii. A certification acknowledging the best management practices and measurable goals specified in the permit.
 - iv. A list of the locations of any maintenance facilities, service areas, or rest stops on property owned or operated by the Highway Agency.
 - v. If the RFA is for a smaller region, a map identifying the region.
 - vi. A list of other NJPDES Stormwater Permits held by the Highway Agency.
 - vii. Additional information may be required by the Department to be included as part of the RFA if the Department determines that such additional information (including other data, reports, specifications, plans, permits, or other information) is reasonably necessary to determine whether to authorize the discharge under this permit.

5. Where to Submit

- a. A completed and signed RFA shall be submitted to the Department at the address specified on the Department's RFA form.

C. Definitions

1. The following definitions apply to this permit.

- a. "Catch Basin" means a cistern, vault, chamber or well that is usually built along a street as part of the storm sewer system to capture sediment, debris, and pollutants.
- b. "EDPA" means Effective Date of Permit Authorization.
- c. "Existing Highway Agency" means a Highway Agency that was authorized to discharge under the Highway Agency Stormwater General Permit on February 28, 2009 (or whose authorization to discharge under that permit was transferred from such a Highway Agency).
- d. "Illicit connection" means any physical or non-physical connection that discharges the following to a municipal separate storm sewer system, unless that discharge is authorized under a NJPDES permit other than the NJPDES permit for discharges from

that system (non-physical connections may include, but are not limited to, leaks, flows, or overflows into the municipal separate storm sewer system);

- i. Domestic sewage;
- ii. Non-contact cooling water, process wastewater, or other industrial waste (other than stormwater); or
- iii. Any category of non-stormwater discharges that a Highway Agency for the MS4 identifies as a source or significant contributor of pollutants pursuant to 40 C.F.R. 122.34(b)(3)(iii).

e. "MS4" means a municipal separate storm sewer system.

f. "Municipal separate storm sewer" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

- i. Owned or operated by the United States, an interstate agency, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface water or groundwater;
- ii. Designed and used for collecting or conveying stormwater;
- iii. Which is not a combined sewer;
- iv. Which is not part of a POTW; and
- v. Which is not either of the following:
 - A separate storm sewer(s) that is at an industrial facility, and that collects or conveys stormwater discharges associated with industrial activity that occurs at that facility; or
 - A separate storm sewer(s) that is at a construction site, and that collects or conveys stormwater discharges associated with small construction activity that occurs at that site.

g. "New Highway Agency" means a Highway Agency that obtains its first authorization to discharge under the Highway Agency Stormwater General Permit after February 28, 2009 (unless that authorization was transferred from a Highway Agency that obtained that authorization before February 28, 2009).

h. "Original EDPA" means the initial date of authorization to discharge under the Highway Agency Stormwater General Permit issued on February 2, 2004.

i. "Permanent Structure" means a permanent building or permanent structure that is anchored to a permanent foundation with an impermeable floor, and that is completely roofed and walled (a door is recommended, but not required). A fabric frame structure is a permanent structure if it meets the following specifications:

- i. structure must be designed to withstand at least 110 mph winds;

- ii. structure must be covered by a PVC or other similar fire rated material with a minimum twenty (20) year warranty;
 - iii. concrete blocks, jersey barriers or other similar material must be placed around the interior of the structure to protect the side walls during loading and unloading de-icing materials;
 - iv. the design must prevent stormwater run-on and run through;
 - v. structure must be erected on an impermeable slab;
 - vi. structure cannot be open sided; and
 - vii. must have a roll up door or other means of sealing the access way from wind driven rainfall.
- j. "Small municipal separate storm sewer system" or "small MS4" means all municipal separate storm sewers (other than "large" or "medium" municipal separate storm sewer systems as defined in N.J.A.C. 7:14A-1.2) that are:
- i. Owned or operated by municipalities described under N.J.A.C. 7:14A-25.1(b);
 - ii. Owned or operated by county, State, interstate, or Federal agencies, and located at public complexes as described under N.J.A.C. 7:14A-25.2(a)2;
 - iii. Owned or operated by county, State, interstate, or Federal agencies, and located at highways and other thoroughfares as described under N.J.A.C. 7:14A-25.2(a)3; or
 - iv. Owned or operated by county, State, interstate, Federal or other agencies, and receive special designation under N.J.A.C. 7:14A-25.2(a)4.
- k. "Solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids.
- l. "Stormwater" means 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.
- m. "Stormwater facility" includes, but is not limited to: catch basins, detention basins, filter strips, riparian buffers, infiltration trenches, sand filters, constructed wetlands, wet basins, bioretention systems, low flow bypasses, and stormwater conveyances.
- n. "Yard waste" means loose leaves and grass clippings.

D. Special Conditions

1. Sharing of Responsibilities

- a. A Highway Agency may rely on another governmental, private, or nonprofit entity (for example, a watershed association) to satisfy the Highway Agency's NJPDES permit obligations to implement one or more control measures (or component(s) thereof) pursuant to N.J.A.C. 7:14A-25.7(a) if:
 - i. The other entity, in fact, implements the measure(s), or component(s) thereof;

- ii. The particular measure(s), or component(s) thereof, is at least as stringent as the corresponding NJPDES permit requirement;
- iii. The other entity agrees in writing (or is required by law) to implement the measure(s), or component(s) thereof, on the Highway Agency's behalf. The Highway Agency is responsible for compliance with this permit if the other entity fails to implement the measure(s), or component(s) thereof. In the annual reports the Highway Agency must submit under Part I, Section H.3, the Highway Agency shall specify that it is relying on another entity to satisfy some of the Highway Agency's NJPDES permit obligations.
- iv. If the Highway Agency is relying on another entity regulated under the NJPDES permit program to satisfy all of that Highway Agency's NJPDES permit obligations, including that Highway Agency's obligation to file these annual reports, the Highway Agency shall notify the Department of this reliance in writing, and shall also note this reliance in the Highway Agency's SPPP.

E. Stormwater Program and Stormwater Pollution Prevention Plan

1. Stormwater Program

- a. Highway Agencies are required to develop, implement, and enforce a stormwater program. This program shall be designed to reduce the discharge of pollutants from the Highway Agency's small MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Federal Act and the State Act by including the Statewide Basic Requirements (SBRs) set forth in Part I, Section F and any Additional Measures (AMs) required under Part I, Section G below. At the Highway Agency's discretion, the stormwater program may also include Optional Measures (OMs) also in accordance with Part I, Section G below.

2. Stormwater Pollution Prevention Plan (SPPP)

- a. (NEW PERMITTEE) A Highway Agency shall prepare and implement a written Stormwater Pollution Prevention Plan (SPPP) that describes the Highway Agency's stormwater program and serves as the mechanism for the implementation of the Statewide Basic Requirements. The SPPP must address stormwater quality issues related to new development, redevelopment and existing development at the Highway Agency's small MS4. The SPPP shall be prepared and implemented in accordance with the deadlines specified in Part I, Section H. The SPPP shall include, at a minimum, all of the information and items identified in Attachment A.
 - i. (NEW PERMITTEE) The SPPP shall be signed, dated and retained by the Stormwater Program Coordinator of the Highway Agency.
- b. (EXISTING PERMITTEE) Highway Agencies shall have prepared and implemented a written Stormwater Pollution Prevention Plan (SPPP) that describes the Highway Agency's stormwater program and serves as the mechanism for the implementation of the Statewide Basic Requirements. The SPPP must address stormwater quality issues related to new development, redevelopment and existing development. The SPPP shall include, at a minimum, all the items identified in Attachment A.

- i. (EXISTING PERMITTEE) Highway Agency's shall revise their SPPP on or before June 1, 2009 to incorporate additional Statewide Basic Requirements, best management practices and other changes required by the renewal of the Highway Agency Permit.
- ii. (EXISTING PERMITTEE) The SPPP shall be signed, dated and retained by the Stormwater Program Coordinator of the Highway Agency.
- c. For any projects or activities which the Highway Agency contracts out to private contractors after the EDPA, the awarded contract must require the contractor to conduct projects or activities in a manner that complies with the Highway Agency's SPPP and this permit's conditions. The Highway Agency is responsible for any violations of this permit resulting from a contractor's noncompliance.
- d. SPPPs may be amended so long as they continue to meet the requirements of this permit. Any amended SPPPs shall be signed, dated, implemented, retained, and otherwise treated in the same manner as the original SPPP. The Highway Agency shall retain each previous SPPP for a period of at least five years from the date of that previous SPPP. This period may be extended by written request of the Department at any time.

F. Statewide Basic Requirements (SBRs)

1. Stormwater quality issues related to new development, redevelopment and existing development at the Highway Agency's small MS4 are to be addressed through the implementation of the following Statewide Basic Requirements (SBRs). The permit specifies the BMPs that will be implemented for those SBRs. These SBRs and related BMPs are to be detailed in the Highway Agency's SPPP.

- a. Additional information is provided and each of the SBRs and related BMPs are described in more detail in the Department's Highway Agency Stormwater Permit Guidance Document.

2. Public Notice

- a. Minimum Standard - Highway Agencies shall comply with applicable State and local public notice requirements when providing for public participation in the development and implementation of the Highway Agency's stormwater program.
- b. Measurable Goal - Highway Agencies shall certify annually that all applicable State and local public notice requirements were followed.
- c. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter.
- d. (NEW PERMITTEE) Implementation - Upon the effective date of permit authorization and thereafter.

3. Post-Construction Stormwater Management in New Development and Redevelopment

- a. Minimum Standard - To prevent or minimize water quality impacts, the Highway Agency shall develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects on property owned or operated by the Highway Agency 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

Highway Agency's small MS4. The Highway Agency shall in its post-construction program:

- i. Comply 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.
 - ii. Ensure adequate long-term operation and maintenance of BMPs.
 - iii. Comply with standards set forth in Attachment C of the permit to control passage of solid and floatable materials through storm drain inlets.
 - iv. (EXISTING PERMITTEE) Projects that do not require any Department permits (the term "permit", in this case, shall include transition area waivers under the Freshwater Wetlands Protection Act) under the Flood Hazard Area Control Act (N.J.S.A. 58:16A-50 et seq.), Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq.), Coastal Area Facility Review Act (N.J.S.A. 19-1 et seq.), or Waterfront and Harbor Facilities Act (N.J.S.A. 12:5-3) are not considered "new development or redevelopment projects" if construction began prior to 12 months from the original EDPA, or if the projects went to bid or had right-of-way authorization prior to the original EDPA.
 - v. (NEW PERMITTEE) Projects that do not require any Department permits (the term "permit", in this case, shall include transition area waivers under the Freshwater Wetlands Protection Act) under the Flood Hazard Area Control Act (N.J.S.A. 58:16A-50 et seq.), Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq.), Coastal Area Facility Review Act (N.J.S.A. 19-1 et seq.), or Waterfront and Harbor Facilities Act (N.J.S.A. 12:5-3) are not considered "new development or redevelopment projects" if construction began prior to the implementation deadline for this SBR, or if the projects went to bid or had right-of-way authorization prior to the date on which the permittee received authorization under this permit.
- b. Measurable Goal – Highway Agencies shall certify annually that they have developed, implemented, and are actively enforcing a program to address stormwater runoff from new development and redevelopment projects in accordance with the minimum standard.
- c. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall:
- i. (EXISTING PERMITTEE) Implement applicable design and performance standards established under N.J.A.C. 7:8 for major development at the Highway Agency pursuant to 3.a.i. above.
 - ii. (EXISTING PERMITTEE) Comply with the standards set forth in Attachment C of the permit to control passage of solid and floatable materials through storm drainage inlets for storm drain inlets the Highway Agency installs within the Highway Agency's small MS4.

- iii. (EXISTING PERMITTEE) Ensure adequate long-term operation and maintenance of BMPs on property owned or operated by the Highway Agency.
- d. (NEW PERMITTEE) Implementation
 - i. (NEW PERMITTEE) Upon the effective date of permit authorization, Highway Agencies shall ensure adequate long-term operation and maintenance of BMPs on property owned or operated by the Highway Agency.
 - ii. (NEW PERMITTEE) Within 12 months from the effective date of permit authorization, Highway Agencies shall:
 - Comply with the standards set forth in Attachment C of the permit to control passage of solid and floatable materials through storm drainage inlets for storm drain inlets the Highway Agency installs within the Highway Agency's small MS4.
 - Adopt and implement applicable design and performance standards established under N.J.A.C. 7:8 for major development at the Highway Agency pursuant to 3.a.i. above.

4. Local Public Education

- a. Local Public Education Program
 - i. Minimum Standard – The Local Public Education Program shall describe how the Highway Agency will distribute educational information to appropriate users and employees of the Highway Agency to satisfy this minimum standard. The following SBR topics shall be included in the Local Public Education Program: Storm Drain Labeling, Pet Waste Control, Improper Waste Disposal Control and Wildlife Feeding Control. To satisfy the requirement to distribute educational material, Highway Agencies shall provide information material in any form (e.g., calendars, brochures, signs, sheets, booklets) by locating this material at rest areas and service areas located along the Highway Agency's small MS4.
 - ii. Measurable Goal - Highway Agencies shall certify annually that they have met the Local Public Education Program minimum standard.
 - iii. (EXISTING PERMITTEE) Implementation – On March 1, 2009 and thereafter, Highway Agencies shall comply with the Local Public Education Program minimum standard.
 - iv. (NEW PERMITTEE) Implementation – Within 12 months from the effective date of permit authorization, Highway Agencies shall comply with the Local Public Education Program minimum standard.
- b. (EXISTING PERMITTEE) Storm Drain Inlet Labeling and Maintenance
 - i. (EXISTING PERMITTEE) Minimum Standard - Highway Agencies shall label and maintain the legibility of labels on all storm drain inlets located at rest areas, service areas, maintenance facilities, and storm drain inlets along streets with sidewalks within the Highway Agency's small MS4.

- ii. (EXISTING PERMITTEE) Measurable Goal - Highway Agencies shall certify annually that a storm drain inlet labeling maintenance program has been developed and is being implemented.
- iii. (EXISTING PERMITTEE) Implementation - Within 60 months from the original EDPA and thereafter, Highway Agencies shall ensure, for the storm drains identified in the minimum standard that all storm drain inlets are labeled and that the labels are being maintained.
- c. (NEW PERMITTEE) Storm Drain Inlet Labeling
 - i. (NEW PERMITTEE) Minimum Standard - Highway Agencies shall establish a storm drain inlet labeling program and label all storm drain inlets located at rest areas, service areas, maintenance facilities, and storm drain inlets along streets with sidewalks within the Highway Agency's small MS4. 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.
 - ii. (NEW PERMITTEE) Measurable Goal - Highway Agencies 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.
 - iii. (NEW PERMITTEE) Implementation - Within 12 months from the effective date of permit authorization, Highway Agencies shall develop a labeling program for the storm drain inlets identified in the minimum standard. Highway Agencies 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 Highway Agency's small MS4 into two sectors for the purposes of storm drain inlet labeling and include a map of the two sectors in the SPPP. 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.

5. Improper Disposal of Waste

- a. Pet Waste Control
 - i. Minimum Standard - Highway Agencies shall, to the extent allowable under law, adopt and enforce an appropriate regulatory mechanism that requires pet owners or their keepers to immediately and properly dispose of their pet's solid waste deposited at rest areas and service areas within the Highway Agency's small MS4.
 - ii. Measurable Goal - Highway Agencies shall certify annually that they have met the Pet Waste Control minimum standard.
 - iii. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall have fully implemented the Pet Waste Control minimum standard.

iv. (NEW PERMITTEE) Implementation - Within 18 months from the effective date of permit authorization, Highway Agencies shall have fully implemented the Pet Waste Control minimum standard.

b. Litter Pick Up Program

i. Minimum Standard - Highway Agencies shall develop and implement a litter pick up program that includes roadside clean up of trash and debris and regular collection of refuse from litter receptacles owned and operated by the Highway Agency including those located at rest areas and service areas. Highway Agencies shall maintain records of roadside clean ups and estimates of the total amount of trash and debris collected.

ii. Measurable Goal - Highway Agencies shall certify annually that they have met the Litter Pick Up Program Control minimum standard and shall report dates of roadside clean ups and estimates of trash and debris collected.

iii. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall have fully implemented the Litter Pick Up Program minimum standard.

iv. (NEW PERMITTEE) Implementation - Within 12 months from the effective date of permit authorization, Highway Agencies shall have developed and begin implementing the Litter Pick Up Program minimum standard.

c. Improper Waste Disposal Control

i. Minimum Standard - Highway Agencies shall, to the extent allowable under law, adopt and enforce an appropriate regulatory mechanism prohibiting the Highway Agency and its employees from the improper spilling, dumping, or disposal of materials other than stormwater into the Highway Agency's small MS4 (excluding those authorized in Part I, Section A.2.d). If the Highway Agency observes anyone else engaging in the improper spilling, dumping, or disposal of materials other than stormwater, the Highway Agency shall report the incident to the Department's Action Hotline (877-927-6337).

ii. Measurable Goal - Highway Agencies shall certify annually that they have met the Improper Waste Disposal Control minimum standard.

iii. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall have fully implemented the Improper Waste Disposal Control minimum standard.

iv. (NEW PERMITTEE) Implementation - Within 18 months from the effective date of permit authorization, Highway Agencies shall have fully implemented the Improper Waste Disposal Control minimum standard.

d. Wildlife Feeding Control

i. Minimum Standard - Highway Agencies shall, to the extent allowable under law, adopt and enforce an appropriate regulatory mechanism that prohibits the feeding on any property owned or operated by the Highway Agency of any wildlife (excluding confined animals, for example, wildlife confined in zoos, parks, or rehabilitation centers or unconfined wildlife at environmental

education centers or feral cats as part of an approved Trap-Neuter-Release (TNR) program.)

ii. Measurable Goal - Highway Agencies shall certify annually that they have met the Wildlife Feeding Control minimum standard.

iii. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall have fully implemented the Wildlife Feeding Control minimum standard.

iv. (NEW PERMITTEE) Implementation - Within 18 months from the effective date of permit authorization, Highway Agencies shall have fully implemented the Wildlife Feeding Control minimum standard.

c. Refuse Containers and Dumpsters

i. Minimum Standard - Highway Agencies shall ensure that dumpsters and other refuse containers that they own and operate, and that are outdoors or exposed to stormwater, are covered at all times, and prevent the spilling, dumping, leaking, or otherwise discharge of liquids, semi-liquids or solids from the containers (excluding temporary demolition containers, litter receptacles, and containers that hold large bulky items).

ii. Measurable Goal - Highway Agencies shall certify annually that they have met the Refuse Containers and Dumpsters minimum standard.

iii. (EXISTING PERMITTEE) Implementation - Highway Agencies shall have fully implemented the Refuse Containers and Dumpsters minimum standard on or before September 1, 2010.

iv. (NEW PERMITTEE) Implementation - Within 18 months from the effective date of permit authorization, Highway Agencies shall have fully implemented the Refuse Containers and Dumpsters minimum standard.

6. Illicit Connection Elimination and MS4 Outfall Pipe Mapping

a. (EXISTING PERMITTEE) Minimum Standard

i. (EXISTING PERMITTEE) Storm Sewer Outfall Pipe Mapping -- Highway Agencies shall complete and maintain an outfall pipe map showing the location of the end of all MS4 outfall pipes owned and operated by the Highway Agency which discharge to a surface water body (e.g., a lake, ocean, or stream including an intermittent stream).

ii. (EXISTING PERMITTEE) Prohibiting Illicit Connections - Each Highway Agency shall, to the extent allowable under law, effectively prohibit through an appropriate regulatory mechanism, illicit connections to the Highway Agency's small MS4, and implement appropriate enforcement procedures and actions.

iii. (EXISTING PERMITTEE) Illicit Connection Elimination Program -- Highway Agencies must complete an initial physical inspection of all its outfall pipes and maintain an ongoing program to detect and eliminate illicit connections in accordance with the procedures found in Attachment B of the permit. The ongoing program will respond to complaints and reports of illicit

connections, including those from operating entities of interconnected small MS4s, and continue to investigate dry weather flows discovered during routine inspections and maintenance of the small MS4.

b. (NEW PERMITTEE) Minimum Standard

i. (NEW PERMITTEE) Storm Sewer Outfall Pipe Mapping – Highway Agencies must develop a map showing the location of the end of all MS4 outfall pipes that are operated by the Highway Agency, and that discharge from the Highway Agency's small MS4 into a surface water body (e.g., a lake, ocean, or stream including an intermittent stream). This map shall also show the location (and name, where known to the Highway Agency) of all surface water bodies receiving discharges from those outfall pipes. Each outfall pipe mapped shall be given an individual alphanumeric identifier, which shall be noted on the map. The outfall pipes shall be mapped on either a tax map prepared in accordance with Title 18, Chapter 23A of the New Jersey Administrative Code or on another map drawn to equal or larger (more detailed) scale. The Highway Agency shall submit a copy of its outfall pipe map to the Department upon request.

ii. (NEW PERMITTEE) Prohibiting Illicit Connections - Each Highway Agency shall, to the extent allowable under law, effectively prohibit through an appropriate regulatory mechanism, illicit connections to the Highway Agency's small MS4, and implement appropriate enforcement procedures and actions.

iii. (NEW PERMITTEE) Illicit Connection Elimination Program - Each Highway Agency must develop and implement a program to detect and eliminate their illicit connections into the Highway Agency's small MS4. The program, at minimum, must include an initial physical inspection of all its outfall pipes. All outfall pipes that are found to have dry weather flow are to be further investigated.

iv. (NEW PERMITTEE) The inspections of outfall pipes and investigations of dry weather flows are to be conducted in accordance with the procedures for detecting, investigating, and eliminating illicit connections contained in Attachment B of the permit. Results of the inspections of outfall pipes and dry weather flows are to be recorded on the Department's Illicit Connection Inspection Report form contained in the Department's "Highway Agency General Permit Guidance Document". Inspection reports for dry weather flows discovered as a result of initial physical inspections or as part of the ongoing program must be submitted to the Department with the annual certification. If the dry weather flow is intermittent, the Highway Agency must perform, at minimum, three (3) additional investigations in an attempt to locate the illicit connection. If an illicit connection cannot be located or is found to emanate from an entity other than the Highway Agency then the Highway Agency must submit to the Department a written explanation detailing the results of the investigation. If the illicit connection is found to be from another public entity, the Highway Agency shall also notify that entity. All illicit connections found that result from the Highway Agency's own illicit connections must be eliminated within six (6) months of the discovery.

After the completion of the initial physical inspection of all outfall pipes, Highway Agencies must maintain an ongoing program to detect and eliminate illicit connections. The ongoing program will respond to complaints and reports of illicit connections, including complaints and reports from operating entities of interconnected small MS4s, and continue to investigate dry weather flows discovered during routine inspections and maintenance of the small MS4.

c. Measurable Goal

- i. Highway Agencies shall certify annually that an outfall pipe map has been completed or is being prepared in accordance with permit conditions and shall report the number of outfall pipes mapped within the year being reported and the total number of outfall pipes mapped to date.
- ii. Highway Agencies shall submit an annual certification to the Department certifying that an appropriate regulatory mechanism is in place prohibiting illicit connections and is being actively enforced.
- iii. Highway Agencies shall certify annually that an illicit connection elimination program has been developed in accordance with permit conditions to detect and eliminate illicit connections into the Highway Agencies' small MS4. Annual certifications shall also include the number of outfalls physically inspected, the number of outfalls found to have dry weather flow, the number of illicit connections found and the number of illicit connections eliminated. Copies of inspection reports shall be submitted with the annual certification for those outfalls found to have dry weather flow.

d. (EXISTING PERMITTEE) Implementation

- i. (EXISTING PERMITTEE) Storm Sewer Outfall Pipe Mapping – Within 60 months from the original EDPA, Highway Agencies shall have mapped the location of, and performed an initial inspection of, all outfall pipes subject to the minimum standard.
- ii. (EXISTING PERMITTEE) Ordinance Prohibiting Illicit Connections – On March 1, 2009 and thereafter, Highway Agencies shall have adopted and shall enforce a regulatory mechanism to prohibit illicit connections to the Highway Agency's small MS4.
- iii. (EXISTING PERMITTEE) Illicit Connection Elimination Program – On March 1, 2009 and thereafter, Highway Agencies shall continue to implement a program to detect and eliminate illicit connections into the Highway Agency's small MS4.

e. (NEW PERMITTEE) Implementation

- i. (NEW PERMITTEE) Storm Sewer Outfall Pipe Mapping – Highway Agencies shall divide the Highway Agency's small MS4 into two (2) sectors for the purposes of outfall mapping. A diagram of the Highway Agency showing the two (2) sectors shall be part of the Highway Agency's SPPP. Highway Agencies shall map the location of the end of small MS4 outfall pipes in one sector 36 months from EDPA; and map the location of the end of all small MS4 outfall pipes on or before 60 months from the EDPA.

ii. (NEW PERMITTEE) Prohibiting Illicit Connections - Within 18 months from the effective date of permit authorization, Highway Agencies shall effectively prohibit through an appropriate regulatory mechanism, illicit connections in accordance with the minimum standard.

iii. (NEW PERMITTEE) Illicit Connection Elimination Program - Within 18 months from the effective date of permit authorization, Highway Agencies shall have developed and begun implementing a program to detect and eliminate illicit connections in accordance with the minimum standard. Highway Agencies shall perform an initial physical inspection of all outfall pipes using the Department's Illicit Connection Inspection Report form within 60 months from the EDPA.

7. Solids and Floatable Controls

a. Street Sweeping

i. Minimum Standard –

(For County Agencies Only) County Highway Agencies shall sweep, at a minimum of once per month (weather and street conditions permitting) all streets (including roads or highways) that meet all of the following criteria:

- the street is owned or operated by the County Agency;
- the street is curbed and has storm drains;
- the street has a posted speed limit of 35 mph or less;
- the street is not an entrance or exit ramp; and
- the street is in a predominantly commercial area.

Highway Agencies other than County Highway Agencies shall sweep at a minimum of once per quarter (weather and street conditions permitting) all streets (including roads or highways) that meet all of the following criteria:

- the street is owned or operated by the Highway Agency;
- the street is curbed and has storm drains;
- the street has a posted speed limit of 35 mph or less;
- the street is not an entrance or exit ramp; and
- the street is in a predominantly commercial area.

All remaining streets (including roads or highways) that they own or operate shall be swept at a minimum of once every 2 years.

ii. Measurable Goal - Highway Agencies shall certify annually that they have met the Street Sweeping minimum standard. Highway Agencies must maintain records including the date and areas swept, number of miles of streets swept and the total amount of materials collected. Information shall be reported to the Department in the annual report and certification.

iii. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall have fully implemented a street sweeping program that meets the minimum standard above.

iv. (NEW PERMITTEE) Implementation - Within 12 months of effective date of permit authorization Highway Agencies shall have developed and begun

implementing a street sweeping program that meets the minimum standard above.

b. Storm Drain Inlets

- i. Minimum Standard - Retrofitting of existing storm drain inlets to meet the standard contained in Attachment C of the permit is required where such inlets are in direct contact with repaving, repairing (excluding repair of individual potholes), reconstruction, resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen), or alterations of facilities owned or operated by the Highway Agency. For exemptions to this standard, refer to "Exemptions" in Attachment C.
- ii. Measurable Goal - Highway Agencies shall certify annually that such storm drain inlets have been retrofitted to meet the minimum standard contained in Attachment C, unless otherwise exempted.
- iii. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall retrofit all such storm drain inlets in accordance with the Storm Drain Inlets minimum standard.
- iv. (NEW PERMITTEE) Implementation - Within 12 months of the effective date of permit authorization, and thereafter, Highway Agencies shall retrofit all such storm drain inlets in accordance with the Storm Drain Inlets minimum standard.

c. Stormwater Facility Maintenance

- i. (EXISTING PERMITTEE) Minimum Standard - Highway Agencies shall continue to implement a stormwater facility maintenance program for cleaning and maintenance of all stormwater facilities operated by the Highway Agency. Stormwater facilities include, but are not limited to: catch basins, detention basins, filter strips, riparian buffers, infiltration trenches, sand filters, constructed wetlands, wet ponds, bioretention systems, low flow bypasses, and stormwater conveyances. The stormwater facility maintenance must be performed as required to ensure the proper function and operation of the stormwater facility.
- ii. (NEW PERMITTEE) Minimum Standard - Highway Agencies shall develop and implement a stormwater facility maintenance program for cleaning and maintenance of all stormwater facilities operated by the Highway Agency. Stormwater facilities include, but are not limited to: catch basins, detention basins, filter strips, riparian buffers, infiltration trenches, sand filters, constructed wetlands, wet ponds, bioretention systems, low flow bypasses, and stormwater conveyances. The stormwater facility maintenance must be performed as required to ensure the proper function and operation of the stormwater facility.
- iii. Measurable Goal - Highway Agencies shall certify annually that all stormwater facilities are properly functioning in accordance with the minimum standard. If stormwater facilities were found not to be functioning properly and repairs were not made, a schedule for such repairs shall be included in the annual report and certification. Highway Agencies shall also maintain records

of inspections, maintenance and repairs that were performed which shall be reported in the annual report and certification.

iv. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall have implemented a stormwater facility maintenance program in accordance with the minimum standard.

v. (NEW PERMITTEE) Implementation - Within 12 months from the effective date of permit authorization, Highway Agencies shall have developed and begun implementing a stormwater facility maintenance program in accordance with the minimum standard.

d. Catch Basin Inspection and Cleaning

i. (EXISTING PERMITTEE) Minimum Standard – Highway Agencies shall inspect all catch basins operated by the Highway Agency for accumulated sediment, trash, and debris; and clean those basins to remove sediment, trash, or debris (if any observed during inspection). Highway Agencies with:

– less than 10,000 catch basins shall annually inspect and (to the extent noted above) clean at least 2,000 catch basins, or as many catch basins as they own and operate.

– 10,000 or more catch basins shall inspect and (to the extent noted above) clean all catch basins that they own and operate by February 28, 2014.

ii. (NEW PERMITTEE) Minimum Standard -- Highway Agencies shall inspect all catch basins operated by the Highway Agency for accumulated sediment, trash, and debris; and clean those basins to remove sediment, trash, or debris (if any observed during inspection). Highway Agencies with:

– less than 10,000 catch basins shall annually inspect and (to the extent noted above) clean at least 2,000 catch basins, or as many catch basins as they own and operate.

– 10,000 or more catch basins shall inspect and (to the extent noted above) clean all catch basins that they own and operate by 60 months after the effective date of permit authorization.

iii. Measurable Goal -- Highway Agencies shall certify annually that all municipally owned and operated catch basins have been inspected and cleaned, as necessary. Highway Agencies shall maintain records including the number of catch basins owned and operated, the number of catch basins inspected, the number of catch basins cleaned, and the amount of materials collected during catch basin cleaning activities. This information shall be reported in the annual report and certification.

iv. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall inspect and clean all catch basins in accordance with the Catch Basin Inspection and Cleaning minimum standard.

v. (NEW PERMITTEE) Implementation – Upon the effective date of permit authorization and thereafter, Highway Agencies shall inspect and clean

all catch basins in accordance with the Catch Basin Inspection and Cleaning minimum standard.

e. Outfall Pipe Stream Scouring Remediation

i. (EXISTING PERMITTEE) Minimum Standard - Highway Agencies shall implement a stormwater outfall pipe scouring detection, remediation and maintenance program to detect and control localized stream and stream bank scouring in the vicinity of outfall pipes operated by the Highway Agency. This program shall identify all areas where localized stream and bank scouring occurs as a result of stormwater discharges from the Highway Agency's MS4. These areas shall then be prioritized and repairs shall be scheduled and completed. Repairs shall be made in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey at N.J.A.C. 2:90-1 (e.g., Conduit Outlet Protection 12-1), or N.J.A.C. 16:25A where NJDOT is the Highway Agency.

ii. (NEW PERMITTEE) Minimum Standard - Highway Agencies shall develop and implement a stormwater outfall pipe scouring detection, remediation and maintenance program to detect and control localized stream and stream bank scouring in the vicinity of outfall pipes operated by the Highway Agency. This program shall identify all areas where localized stream and bank scouring occurs as a result of stormwater discharges from the Highway Agency's MS4. These areas shall then be prioritized and repairs shall be scheduled and completed. Repairs shall be made in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey at N.J.A.C. 2:90-1 (e.g., Conduit Outlet Protection 12-1), or N.J.A.C. 16:25A where NJDOT is the Highway Agency.

iii. Measurable Goal - Highway Agencies shall certify annually that they have met the Outfall Pipe Stream Scouring Remediation minimum standard. In addition, the Highway Agency shall list the location of outfall scouring identified, the dates control measures are to begin, and the dates any control measures were completed.

iv. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall have implemented an outfall pipe stream scouring detection, remediation and maintenance program in accordance with the minimum standard.

v. (NEW PERMITTEE) Implementation - Within 18 months of the effective date of permit authorization, Highway Agencies shall have developed and begun implementing an outfall pipe stream scouring detection, remediation and maintenance program. This program shall identify and prioritize all stormwater outfall pipes needing repairs, and then schedule and complete the repairs.

f. Roadside Vegetation Management

i. (EXISTING PERMITTEE) Minimum Standard - Highway agencies shall implement a Roadside Vegetation Management Program that limits the application of herbicides and restricts the methods by which mulch is applied. Highway Agencies shall only apply herbicides in a 2 foot radius around

structures where it is not practical to mow (such as around guardrails, signposts, telephone poles, etc.). If mulch is applied, it shall be stabilized in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey N.J.A.C. 2:90-1 (or N.J.A.C. 16:25A where NJDOT is the Highway Agency) to prevent it from being washed away with stormwater into the waters of the State.

ii. (NEW PERMITTEE) Minimum Standard - Highway agencies must develop a Roadside Vegetation Management Program that limits the application of herbicides and restricts the methods by which mulch is applied. Highway Agencies shall only apply herbicides in a 2 foot radius around structures where it is not practical to mow (such as around guardrails, signposts, telephone poles, etc.). If mulch is applied, it shall be stabilized in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey N.J.A.C. 2:90-1 (or N.J.A.C. 16:25A where NJDOT is the Highway Agency) to prevent it from being washed away with stormwater into the waters of the State.

iii. Measurable Goal – Highway Agencies shall certify annually that they have met the Roadside Vegetation Management minimum standard.

iv. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall have implemented the Roadside Vegetation Management minimum standard.

v. (NEW PERMITTEE) Implementation - Within 12 months of the effective date of permit authorization, Highway Agencies shall have developed and begun implementing the Roadside Vegetation Management minimum standard.

8. Maintenance Yard Operations (including Maintenance Activities at Service Areas, and Ancillary Operations)

a. De-icing Material Storage

i. (EXISTING PERMITTEE) Minimum Standard - Highway Agencies shall store salt and other de-icing materials in a permanent structure (a permanent building or permanent structure that is anchored to a permanent foundation with a impermeable floor, and that is completely roofed and walled) and shall perform regular maintenance and inspections of both the permanent structure and the surrounding area (see Good Housekeeping in Appendix D). Sand may be stored outside and uncovered if a 50-foot setback is maintained from storm sewer inlets, ditches or other stormwater conveyance channels, and surface water bodies.

ii. (NEW PERMITTEE) Minimum Standard - Highway Agencies must construct a permanent structure (a permanent building or permanent structure that is anchored to a permanent foundation with a impermeable floor, and that is completely roofed and walled) for the storage of salt, and other de-icing materials, if applicable. Once completed, Highway Agencies shall perform regular maintenance and inspections of the permanent structure. Seasonal tarping shall be used as an interim BMP until the permanent structure is completed. Sand may be stored outside and uncovered if a 50-foot setback is

maintained from storm sewer inlets, ditches or other stormwater conveyance channels, and surface water bodies.

iii. Measurable Goal - Highway Agencies shall certify annually that they have met the De-icing Material Storage minimum standard.

iv. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall store salt, and other de-icing materials in accordance with the De-icing Material Storage minimum standard.

v. (NEW PERMITTEE) Implementation - Within 12 months from the effective date of permit authorization, Highway Agencies shall implement the interim seasonal tarping BMP. Within 12 months of the effective date of permit authorization, Highway Agencies will comply with the 50-foot buffer requirement for the outside storage of sand. Within 36 months from the effective date of permit authorization Highway Agencies shall store all salt and de-icing materials in a permanent structure.

b. Equipment and Vehicle Washing

i. Minimum Standard - Highway Agencies shall manage any equipment and vehicle washing activities so that there are no unpermitted discharges of wash wastewater to the surface or ground waters of the State. Highway Agencies shall maintain a record of where and when equipment and vehicle washing occurs to document proper management of wash water discharge.

ii. Measurable Goal - Highway Agencies shall certify annually that there is no unpermitted discharge from vehicle and equipment washing activities and describe the BMP implemented at each of the locations where vehicle and equipment washing activities occur.

iii. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall manage any equipment and vehicle washing activities so that there are no unpermitted discharges of wash wastewater to the surface or ground waters of the State.

iv. (NEW PERMITTEE) Implementation - On the effective date of permit authorization and thereafter, Highway Agencies shall manage any equipment and vehicle washing activities so that there are no unpermitted discharges of wash wastewater to the surface or ground waters of the State.

c. Standard Operating Procedures

i. (EXISTING PERMITTEE) Minimum Standard - Highway Agencies shall implement standard operating procedures, which include the required practices listed in Attachment D, for each of the following activities:

- Vehicle fueling and receiving of bulk fuel deliveries;
- Vehicle maintenance and repair activities; and
- Good housekeeping practices for all materials or machinery listed in the Inventory Requirements for Maintenance Yard Operations prepared in accordance with Attachment D.

- ii. (NEW PERMITTEE) Minimum Standard - Highway Agencies must develop and implement standard operating procedures, which include the required practices listed in Attachment D, for each of the following activities:
 - Vehicle fueling and receiving of bulk fuel deliveries;
 - Vehicle Maintenance; and
 - Good housekeeping practices for all materials or machinery listed in the Inventory Requirements for Maintenance Yard Operations prepared in accordance with Attachment D.
- iii. Measurable Goal - Highway Agencies must certify annually that there are standard operating procedures in place for vehicle fueling, vehicle maintenance, and good housekeeping practices.
- iv. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall implement the required standard operating procedures.
- v. (NEW PERMITTEE) Implementation - Within 12 months of the effective date of permit authorization, Highway Agencies shall have developed and begun implementing the Standard Operating Procedures minimum standard.

9. Employee Training

- a. Minimum Standard - Highway Agencies shall conduct an annual employee training for all employees on those stormwater topics which are applicable to their job and title. At a minimum, annual employee training will include the following topics:
 - i. Waste Disposal Education – Training shall include how to respond to inquiries regarding proper waste disposal.
 - ii. Control Measures – Training shall include an overview of proper disposal of pet waste and littering, negative effects of feeding wildlife, what are illicit connections, proper application, storage and disposal of fertilizer and pesticides; appropriate refuse containers and dumpsters, enforcement policy, and hazards associated with improper waste disposal.
 - iii. Roadside Vegetation Management – Training shall include herbicide and mulch application requirements.
 - iv. Illicit Connection Elimination and Outfall Pipe Mapping – Training shall include information regarding the hazards associated with illicit connections and details of the program including investigation techniques, physical observations, field sampling, and mapping procedures.
 - v. Street Sweeping – Training shall include sweeping schedules and record keeping requirements.
 - vi. Stormwater Facility Maintenance - Training shall include catch basin cleaning schedules and record keeping requirements.
 - vii. Outfall Pipe Stream Scouring Remediation – Training shall include identifying outfall pipe scouring and repairs.

- viii. Maintenance Yard Operations (including Ancillary Operations) – Training shall include de-icing material storage, fueling, vehicle maintenance, equipment/vehicle washing and good housekeeping SOPs, if applicable.
 - ix. Equipment and Vehicle Washing - Training shall include proper management of wash water discharge and record keeping requirements.
 - x. Construction Activity / Post-Construction Stormwater Management in New Development and Redevelopment – Training shall include information regarding the requirement to obtain a NJPDES construction activity stormwater permit (see Part I, Section A.5.a and A.5.b of this permit) and requirements for Post-Construction Stormwater Management in New Development and Redevelopment (See Part I, Section F.3 of this permit).
- b. Measurable Goal - Highway Agencies must certify annually the date of the annual employee training.
 - c. (EXISTING PERMITTEE) Implementation - On March 1, 2009 and thereafter, Highway Agencies shall implement employee training in accordance with the minimum standard.
 - d. (NEW PERMITTEE) Implementation – Training shall begin 12 months from the effective date of permit authorization.

10. Construction Site Stormwater Runoff Control

- a. Pursuant to N.J.A.C. 7:14A-25.6(b)2 and 25.7(b), the Department is responsible for developing, implementing, and enforcing a NJPDES permit program to reduce pollutants in stormwater runoff to small MS4s from construction activities. The Highway Agency is not required to include this SBR in its stormwater program or discuss this SBR in its SPPP.

G. Additional Measures and Optional Measures

1. Additional Measures

- a. Additional Measures (AMs) are non-numeric or numeric effluent limitations that are expressly required to be included in the stormwater program by an adopted areawide or Statewide Water Quality Management Plan (WQM plan). AMs may modify or be in addition to SBRs. AMs may be required by a TMDL approved or established by USEPA, a regional stormwater management plan, or other elements of adopted areawide or Statewide WQM plans.
- b. The Department will provide written notice of the adoption of an AM to each Highway Agency whose stormwater program will be affected, and will list each adopted AM in the permit by making a minor modification to the permit. The AMs, other than numeric effluent limitations, will specify the BMPs that must be implemented and the measurable goals for each BMP. The AMs will also specify time periods for implementation.

2. Optional Measures

- a. At the Highway Agency's discretion, the stormwater program may also include Optional Measures (OMs), which are BMPs that are not implemented for SBRs or AMs but that prevent or reduce the pollution of the waters of the State.

H. Deadlines and Certifications

1. Stormwater Pollution Prevention Plan

- a. (EXISTING PERMITTEE) On or before June 1, 2009, the Highway Agency shall revise their SPPP to incorporate changes required by the renewal of the Highway Agency Permit.
 - i. (EXISTING PERMITTEE) The SPPP shall include, at a minimum, all of the information and items identified in Attachment A. The SPPP shall be signed, dated and retained by the Highway Agency.
- b. (NEW PERMITTEE) Within twelve (12) months from the effective date of permit authorization, the Highway Agency shall prepare an SPPP.
 - i. (NEW PERMITTEE) The SPPP shall include, at a minimum, all of the information and items identified in Attachment A. The SPPP shall be signed, dated, and retained by the Highway Agency.

2. Statewide Basic Requirements

- a. Each SBR contained in Part I, Section F of the permit has a specific implementation schedule based on the effective date of permit authorization. Each SBR shall be implemented in accordance with that schedule. Highway Agencies shall certify in the Annual Report and Certification the status of the implementation of each SBR and the date implementation was completed, as appropriate.
 - i. The Department may grant a six-month extension to the deadlines contained in an implementation schedule for any of the SBRs if the Highway Agency submits a written request for such extension, at least 30 days prior to the deadline, establishing to the Department's satisfaction that the Federal, State and local permits and approvals necessary for the construction of best management practices could not with due diligence be obtained within the time period set forth in Section F above. The written request shall be submitted to:
NJDEP
Division of Water Quality
Bureau of Nonpoint Pollution Control
Municipal Stormwater Regulation Program
P.O. Box 029
Trenton, NJ 08625-0029

3. Annual Report and Certification

- a. Highway Agencies shall complete an Annual Report (on a form provided by the Department) summarizing the status of compliance with this permit including measurable goals and the status of the implementation of each SBR and BMP contained in Part I, Section F of the permit. This report shall include a certification that the Highway Agency is in compliance with its stormwater program, SPPP and 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.

- i. 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.
 - ii. The Annual Report and Certification shall be signed and dated by the Highway Agency, 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.
- b. The Annual Report and Certification shall be submitted to the Department pursuant to the following submittal schedule:
 - i. Submit an Annual Report and Certification: on or before every May 2nd annually.
 - ii. The Annual Report and Certification shall include information for activities and projects conducted by the Highway Agency between January 1 and December 31 of each reporting year.

I. Standard Conditions

1. The following general conditions are incorporated by reference. The Highway Agency is required to comply with the regulations, which were in effect as of March 1, 2009.

- a. General Permits N.J.A.C. 7:14A-6.13
- b. Penalties for Violations N.J.A.C. 7:14-8.1 et seq.
- c. Incorporation by Reference N.J.A.C. 7:14A-2.3
- d. Toxic Pollutants N.J.A.C. 7:14A-6.2(a)4i
- e. Duty to Comply N.J.A.C. 7:14A-6.2(a)1 & 4
- f. Duty to Mitigate N.J.A.C. 7:14A-6.2(a)5 & 11
- g. Inspection and Entry N.J.A.C. 7:14A-2.11(e)
- h. Enforcement Action N.J.A.C. 7:14A-2.9
- i. Duty to Reapply N.J.A.C. 7:14A-4.2(e)3
- j. Signatory Requirements for Applications and Reports N.J.A.C. 7:14A-4.9
- k. Effect of Permit/Other Laws N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
- l. Severability N.J.A.C. 7:14A-2.2
- m. Administrative Continuation of Permits N.J.A.C. 7:14A-2.8
- n. Permit Actions N.J.A.C. 7:14A-2.7(c)
- o. Reopener Clause N.J.A.C. 7:14A-6.2(a)10, 16.4(b) & 25.7(b)
- p. Permit Duration and Renewal N.J.A.C. 7:14A-2.7(a) & (b)
- q. Consolidation of Permit Process N.J.A.C. 7:14A-15.5
- r. Confidentiality N.J.A.C. 7:14A-18.2 & 2.11(g)
- s. Fee Schedule N.J.A.C. 7:14A-3.1
- t. UIC Corrective Action N.J.A.C. 7:14A-8.4

- u. Additional Conditions Applicable to UIC Permits N.J.A.C. 7:14A-8.9
- v. UIC Operating Criteria N.J.A.C. 7:14A-8.16

2. Operation And Maintenance

- a. Need to Halt or Reduce not a Defense N.J.A.C. 7:14A-2.9(b)
- b. Proper Operation and Maintenance N.J.A.C. 7:14A-6.12

3. Monitoring And Records

- a. Monitoring N.J.A.C. 7:14A-6.5
- b. Recordkeeping N.J.A.C. 7:14A-6.6
- c. Signatory Requirements for Monitoring Reports N.J.A.C. 7:14A-6.9

4. Reporting Requirements

- a. Planned Changes N.J.A.C. 7:14A-6.7
- b. Reporting of Monitoring Results N.J.A.C. 7:14A-6.8
- c. Noncompliance Reporting N.J.A.C. 7:14A-6.10 & 6.8(h)
- d. Hotline/Two Hour & Twenty-four Hour Reporting N.J.A.C. 7:14A-6.10(c) & (d)
- e. Written Reporting N.J.A.C. 7:14A-6.10(e) & (f) & 6.8(h)
- f. Duty to Provide Information N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
- g. Compliance Schedules N.J.A.C. 7:14A-6.4
- h. Transfer N.J.A.C. 7:14A-6.2(a)8 & 16.2

5. Copies of the NJPDES rules may be purchased by contacting Lexis Nexis – Customer Service at (800) 223-1940, or go to the Lexis Nexis bookstore on the internet at www.lexisnexis.com/bookstore.

J. Additional Conditions

1. Agency and Public Review

- a. The Highway Agency shall make the SPPP available upon request to an authorized representative of the Department and to the owner of and operating entity for any municipal separate storm sewer system that receives discharges from the Highway Agency's small MS4.
- b. Upon review by an authorized representative, the Department may notify the Highway Agency at any time that the SPPP does not meet one or more of the minimum requirements. Within 30 days after receiving such notification (unless otherwise specified by the Department), the SPPP shall be amended to adequately address all deficiencies, and written certification of such amendments shall be submitted to the Department.
- c. Highway Agencies shall make records required by this permit, including its SPPP, available to the public at reasonable times during regular business hours (see N.J.A.C. 7:14A-18 for confidentiality provisions).

2. Other Laws

a. In accordance with N.J.A.C. 7:14A-6.2(a)7, this permit does not authorize any infringement of State or local law or regulations, including, but not limited to the Pinelands rules (N.J.A.C. 7:50), N.J.A.C. 7:1E (Department rules entitled "Discharges of Petroleum and other Hazardous Substances"), the New Jersey Register of Historic Places Rules (N.J.A.C. 7:4), and all other Department rules. No discharge of hazardous substances (as defined in N.J.A.C. 7:1E-1.6) resulting from an onsite spill shall be deemed to be "pursuant to and in compliance with [this] permit" within the meaning of the Spill Compensation and Control Act at N.J.S.A. 58:10-23.11c.

3. Operations and Maintenance Manual

a. In accordance with N.J.A.C. 7:14A-6.12(c), for a discharge authorized by this permit, the Highway Agency is exempt from the requirement to prepare an operations and maintenance manual.

Attachment A

CONTENTS OF THE STORMWATER POLLUTION PREVENTION PLAN

A. SPPP Team

1. The Stormwater Pollution Prevention Plan (SPPP) shall identify the person or persons responsible for implementing or coordinating the SPPP activities (including, at the Highway Agency's discretion, OMs).

B. Description of Required Best Management Practices

1. The SPPP shall identify and discuss each Statewide Basic Requirement (SBR) and best management practice (BMP) required by the Highway Agency Stormwater General Permit.
2. The SPPP shall identify and discuss each Additional Measure (AM), if any, required by the Highway Agency Stormwater General Permit.
3. The SPPP shall identify and discuss any Optional Measures (OMs) the Highway Agency chooses to include in its stormwater program.
4. For each SBR, AM, or OM included in the Highway Agency's stormwater program, the SPPP shall:
 - a. Describe the method of implementation;
 - b. Include detailed record keeping, as appropriate or as required;
 - c. Include an implementation schedule consistent with permit requirements, including interim milestones;
 - d. Include any special diagrams required by the permit (i.e., Storm Drain Inlet Labeling and Illicit Connection Elimination and MS4 Outfall Pipe Mapping);
 - e. Sharing responsibilities (If the Highway Agency wants to share responsibilities for implementing one or more control measures (other than OMs) with one or more other entities pursuant to N.J.A.C. 7:14A-25.7(a), the SPPP must describe which measure(s) the Highway Agency will implement, and identify the entity(ies) that will implement the other measure(s));
 - f. Maintenance schedules, as appropriate; and
 - g. Inspection schedules, as appropriate.

C. Identifying Areas Served by Combined Sewer

1. Highway Agencies that want to exclude any "combined sewer area" from the stormwater program must include a map showing the boundaries of the combined sewer area. A "combined sewer area" is an area that is excluded because all stormwater from that area (and operated by the Highway Agency) is discharged to combined (or sanitary) sewer systems.

Attachment B

PROCEDURES FOR DETECTING, INVESTIGATING, AND ELIMINATING ILLICIT CONNECTIONS

Detection

An illicit connection for the purposes of this permit, is 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 Highway Agency's small MS4, unless that discharge is authorized under a NJPDES permit other than this Highway Agency Stormwater General Permit (non-physical connections may include, but are not limited to, leaks, flows, or overflows into the municipal separate storm sewer system). An illicit connection is also any category of non-stormwater discharges that a Highway Agency identifies as a source or significant contributor of pollutants pursuant to 40 C.F.R. 122.34(b)(3)(iii).

MS4 outfall pipes, for the most part, should not be discharging during substantial dry periods (72 hours after a rain event). Such flow is frequently referred to as "dry weather flow", which may be the result of an illicit connection. All dry weather flows are generally non-stormwater discharges, however not all dry weather flows are illicit connections. Some non-stormwater flows result from the improper disposal of waste (e.g., radiator flushing, engine degreasing, improper disposal of oil) and some may be the result of allowable discharges such as residential car washing, irrigation runoff, permitted (NJPDES) discharges and natural waters (e.g., spring water and groundwater infiltration). By using the Department's Illicit Connection Inspection Report form and making physical observations, a Highway Agency will compile information that will help determine if the dry weather flow is an illicit connection and the most likely source of the illicit connection. After making these physical observations, additional chemical field testing will enable a Highway Agency to further narrow the potential sources of the illicit connection.

The first physical observation is to observe if there is a dry weather flow. Some dry weather discharges are continuously flowing and some are intermittent. Observations will allow the Highway Agency to establish with reasonable certainty if there is an intermittent flow. If there are indications of intermittent flows (staining, odors, deterioration of outfall structure) follow-up investigations are required (see Investigation section). An estimate of the flow rate of the discharge shall also be noted (flow rate can be estimated by various methods, including timing how long it takes to fill a container of a known size). Additional physical observations and measurements shall be made for odor, color, turbidity, floatable matter, temperature, deposits and stains, vegetation and algal growth, and condition of outfall structure (see Illicit Connection Inspection Report form). Information compiled from physical observations and field monitoring should be used to help identify potential sources. These observations are very important since they are the simplest method of identifying grossly contaminated dry weather flows. If physical observations alone are sufficient to warrant further investigation, then field testing is not required.

If a dry weather flow exists and after making all physical observations (unless physical observations are enough to warrant further investigation), the Highway Agency shall field test for surfactants (detergents). If these flows contain surfactants in excess of the detection limit, Highway Agencies shall field test for ammonia (as N) and potassium to help distinguish sanitary wastewater sources from other non-stormwater flows that contain detergents. Non-stormwater discharges that are absent of surfactants shall be tested for fluoride to help distinguish potable from

non-potable sources. Highway Agencies should refer to the "Highway Agency Stormwater General Permit Guidance Manual" for assistance and interpretation of field testing results.

All of the tests for the tracing of illicit connections may be performed in the field by employees of the Highway Agency or may be contracted out. Lab certification for those parameters is **not** required, however all person(s) responsible for calibrating, maintaining, and taking field samples shall be trained in the use of the equipment and appropriate field testing protocol.

Investigation

Any storm sewer outfall pipe found during the initial inspection or on any subsequent inspection to have a non-stormwater discharge or indications of an intermittent non-stormwater discharge requires further investigation by the Highway Agency to identify and locate the specific source. Non-stormwater discharges suspected of being sanitary sewage and/or significantly contaminated shall be prioritized and investigated first. Investigations of non-stormwater discharges suspected of being cooling water, washwater, or natural flows may be delayed until after all suspected sanitary sewage and/or significantly contaminated discharges have been investigated, eliminated and/or resolved.

Dry weather flows believed to be an immediate threat to human health or the environment shall be reported immediately to the Department's Action Hotline at 1-877-WARNDEP (1-877-927-6337).

Physical observations and field testing can help narrow the identification of potential sources of a non-stormwater discharge. However it is unlikely that either will pinpoint the exact source. Therefore, Highway Agencies will need to perform investigations "upstream" to identify illicit connections to systems with identified problem outfalls.

All non-stormwater discharges, whether continuous or intermittent must be investigated by the Highway Agency. All investigations must be resolved. If the source is found to be a non-stormwater discharge authorized under Part I, Section A.2.d of the permit, no further action is required. If a non-stormwater discharge is found but no source is able to be located within six (6) months of beginning the investigation, then the Highway Agency shall submit to the Department a Closeout Investigation form to close out the investigation. The Highway Agency must document that a good faith effort was made to find the source of the dry weather discharge and document each phase of the investigation. If the observed discharge is intermittent the Highway Agency must document, in the Illicit Connection Inspection Report form, that a minimum three (3) separate investigations were made to observe the discharge when it is flowing. If these attempts are unsuccessful, the Highway Agency shall submit to the Department the Closeout Investigation form noted above. However, since this is an ongoing program, the Highway Agency should periodically recheck these suspected intermittent discharges.

Elimination

Non-stormwater discharges traced to their source and found to be the Highway Agency's own illicit connections shall be eliminated within six (6) months of their discovery. The Highway Agency may apply for a NJPDES permit for the discharge, but the discharge shall be ceased until a valid NJPDES permit has been issued by the Department. Highway Agencies are required to verify that the illicit discharge was eliminated within the specified timeframe and ensure that

measures taken to eliminate the discharge are permanent and are not done in such a manner that would allow easy reconnection to the MS4.

If an illicit connection cannot be located or is found to emanate from an entity other than the Highway Agency then the Highway Agency must submit to the Department a written explanation detailing the results of the investigation. If the illicit connection is found to be from another public entity, the Highway Agency shall also notify that entity.

Attachment C

DESIGN STANDARD - STORM DRAIN INLETS

This standard applies to storm drainage inlets installed as part of new development and redevelopment projects that disturb one acre or more. In addition, retrofitting of existing storm drainage inlets to this standard is required where such inlets are in direct contact with repaving, repairing (excluding repair of individual potholes), reconstruction or alterations of facilities owned or operated by the Highway Agency. For exemptions to this standard see "Exemptions" below.

Grates in Pavement or Other Ground Surfaces

Design engineers shall use either of the following grates whenever they use a grate in pavement or another ground surface to collect stormwater from that surface into a storm drain or surface water body under that grate:

1. The New Jersey Department of Transportation (NJDOT) bicycle safe grate, which is described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines (April 1996).
2. A different grate, if each individual clear space in that grate has an area of no more than seven (7.0) square inches, or is no greater than 0.5 inches across the smallest dimension.

(In regard to whether the different grate must also be bicycle safe, the Residential Site Improvement Standards include requirements for bicycle-safe grates.)

Examples of 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.

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

Whenever design engineers use a curb-opening inlet, the clear space in that curb opening (or each individual clear space, if the curb opening has two or more clear spaces) shall have an area of no more than seven (7.0) square inches, or be no greater than two (2.0) inches across the smallest dimension.

Exemptions

Retrofitting Exemptions

1. Repaving, repairing, reconstruction or alterations projects that began construction prior to March 3, 2004, and projects that were awarded bid prior to March 3, 2004, are exempted from the storm drain inlet design standard.
2. Existing curb-opening inlets do not need to be retrofitted to meet the design standard if each individual clear space in the curb opening has an area of no more than nine (9.0) square inches.

Hydraulic Performance Exemptions

1. New Development and Redevelopment Projects - Where the review agency determines that this standard would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drainage inlets that meet these standards.
2. Retrofitting of existing storm drain inlets - Where the review agency determines that this standard would cause inadequate hydraulic performance.

Alternative Device Exemptions

1. Where flows from the water quality design storm as specified in N.J.A.C. 7:8 are conveyed through any device (e.g., end of pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:
 - a. A rectangular space four and five-eighths inches long and one and one-half inches wide (this option does not apply for outfall netting facilities); or
 - b. A bar screen having a bar spacing of 0.5 inches.
2. Where flows are conveyed through a trash rack that has parallel bars with one-inch (1") spacing between the bars, to the elevation of the water quality design storm as specified in N.J.A.C. 7:8.

Note - The preceding exemptions do not authorize any infringement of requirements in the Residential Site Improvement Standards for bicycle-safe grates in new residential development (N.J.A.C. 5:21-4.18(b)2 and 7.4(b)1).

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.

Attachment D

REQUIRED PRACTICES FOR FUELING OPERATIONS, VEHICLE MAINTENANCE, AND GOOD HOUSEKEEPING SBRs

D. The following BMPs must be implemented at maintenance yards, including maintenance activities at Service Areas and ancillary operations (for example, impound yards, solid waste transfer stations, mobile fueling), where applicable, that are operated by the Highway Agency:

1. Inventory Requirements for Maintenance Yard Operations (including Service Areas, and Ancillary Operations)

a. Highway Agencies shall include for maintenance yard operations an inventory that includes the following:

- i. A list to be made part of the SPPP of general categories of all materials or machinery located at the maintenance yard, which could be a source of pollutants in a stormwater discharge. The materials in question include, but are not limited to: raw materials; intermediate products; final products; waste materials; by-products; machinery and fuels; and lubricants, solvents, and detergents that are related to the maintenance yard operations or ancillary operations. Materials or machinery that are not exposed to stormwater or that are not located at the maintenance yard or related to its operations do not need to be included.

2. Fueling

- a. No topping off vehicles, mobile fuel tanks, and storage tanks. Drip pans must be used under all hose and pipe connections and other leak-prone areas during bulk transfer of fuels.
- b. During bulk transfer block storm sewer inlets, or contain tank with temporary berms or temporary absorbent booms during the transfer process. If temporary berms are being used instead of blocking the storm sewer inlets, all hose connection points associated with the transfer of fuel must be within the temporary berms during the loading/unloading of bulk fuels. A trained employee must always be present to supervise during bulk fuel transfer.
- c. Clearly post, in a prominent area of the facility, instructions for safe operation of fueling equipment, and appropriate contact information for the person(s) responsible for spill response.
- d. Any equipment, tanks, pumps, piping and fuel dispensing equipment found to be leaking or in disrepair must immediately be repaired or replaced.

3. Vehicle Maintenance

- a. Perform all vehicle and equipment maintenance at an indoor location with a paved floor whenever possible. For projects that must be performed outdoors that last more than one day, portable tents or covers must be placed over the equipment being serviced when not being worked on, and drip pans must be used.

4. General Good Housekeeping

- a. Properly mark or label all containers. Labels must be kept clean and visible. All containers must be kept in good condition and tightly closed when not in use. When practical, containers must be stored indoors. If indoor storage is not practical, containers may be stored outside as long as they are covered and placed on spill platforms. An area that is graded and/or bermed that prevents run-through of stormwater may be used in place of spill platforms. Outdoor storage locations must be regularly maintained.
- b. Conduct cleanups of any spills or liquids or dry materials immediately after discovery. Clean all maintenance areas with dry cleaning methods only. Spills shall be cleaned up with a dry, absorbent material (i.e., kitty litter, sawdust, etc.) and the rest of the area is to be swept. Collected waste is to be disposed of properly. Clean-up materials, spill kits and drip pans must be kept near any liquid transfer areas, protected from rainfall.

5. Good Housekeeping Practices for Salt and De-icing Material Handling

- a. The SPPP for De-icing Material Storage shall include the following required practices to ensure that Maintenance Yard Operations prevent or minimize the exposure of salt and de-icing materials to stormwater runoff from storage, loading and unloading areas and activities:
 - i. Prevent and/or minimize the spillage of salt and de-icing materials during loading and unloading activities.
 - ii. At the completion of loading and unloading activities, spilled salt and de-icing materials shall be removed using dry cleaning methods and either reused or properly discarded.
 - iii. Sweeping by hand or mechanical means of storage and loading/unloading areas shall be done on a regular basis. More frequent sweeping is required following loading/unloading activities. Sweeping shall also be conducted immediately following, as practicable, loading/unloading activities.
 - iv. Tracking of materials from storage and loading/unloading areas shall be minimized.
 - v. Minimize the distance salt and de-icing materials are transported during loading/unloading activities.
- b. Interim Seasonal Tarping - All Highway Agencies must tarp all de-icing materials until a permanent structure is built. Interim storage measures must include, but are not limited to the following:
 - i. Tarping materials that are not actively being used.
 - ii. The storage of de-icing materials (salt and de-icing products) outside is limited to October 15th through April 30th. All salt and de-icing materials must be removed from the site prior to May 1st and may not be stored outside again until October 15th.
 - iii. The implementing of a regular inspection, sweeping and housekeeping program to ensure that the material is maintained and stored in a proper manner.

6. Inspections

a. Inspections of all Municipal Maintenance Yard Operations shall be conducted regularly.

b. Discharge of Stormwater from Secondary Containment

i. The discharge pipe/outfall from a secondary containment area must have a valve and the valve must remain closed at all times except as described below. A Highway Agency may discharge stormwater that accumulated in the secondary containment area if a visual inspection is performed to ensure that the contents of aboveground storage tank have not come in contact with the stormwater to be discharged. Visual inspections are only effective when dealing with materials that can be observed, like petroleum. If the contents of the tank are not visible in stormwater, the Highway Agency must rely on previous tank inspections to determine with some degree of certainty that the tank has not leaked. If the Highway Agency cannot make a determination with reasonable certainty that the stormwater in the secondary containment area is uncontaminated by the contents of the tank, then the stormwater should be hauled for proper disposal.

NJPDES Highway Agency Stormwater
General Permit

Stormwater Pollution Prevention Team Members

Number of team members may vary.

Completed by: Keith W. Henderson, P.E., P.P.
Title: Consulting Engineer
Highway Agency Name: DRJTBC - District 3

NJPDES #: NJG0153052
PIID #: 222834
Effective Date of Permit Authorization
(EDPA): April 1, 2004
Date form complete: March 2006
Date of most recent update: December
2009

Stormwater Program Coordinator: Roy Little, P.E.

Title: Assistant Chief Engineer

Office Phone #: (267) 790-1071

Emergency Phone #: Same as above.

Public Notice Coordinator: Richard McClellan

Title: Director of Community Affairs

Office Phone #: (215) 295-1063

Emergency Phone #: Same as above.

Post-Construction Stormwater Management Coordinator: Roy Little, P.E.

Title: Assistant Chief Engineer

Office Phone #: (267) 790-1071

Emergency Phone #: Same as above.

Local Public Education Coordinator: Richard McClellan

Title: Director of Community Affairs

Office Phone #: (215) 295-1063

Emergency Phone #: Same as above

Regulatory Mechanism Coordinator: James Stettner

Title: Director of Security, Safety, and Training

Office Phone #: (610) 559-0444 ext. 4066

Emergency Phone #: Same as above.

Physical Operations Coordinator: Frank Tolotta

Title: Deputy Executive Director of Operations

Office Phone #: (215) 862-7621

Emergency Phone #: Same as above.

Employee Training Coordinator: James Stettner

Title: Director of Security, Safety, and Training

Office Phone #: (610) 559-0444 ext. 4066

Emergency Phone #: Same as above.

Other: See Attached Sheet

Title: _____

Office Phone #: _____

Emergency Phone #: _____

Stormwater Pollution Prevention Team Members

NJPDES Highway Agency Stormwater General Permit

Other: Frank Beruta
Title: Director of Plants and Facilities

Other: Jack Prior
Title: District 1 Superintendent

Other: Stephen Wells
Title: Assistant District 1 Superintendent

Other: James Ley
Title: District 1 Maintenance Foreman

Other: Dan Pasciullo
Title: District 1 Maintenance Foreman

Other: Lendell Jones
Title: District 2 Superintendent

Other: James Shelly
Title: Assistant District 2 Superintendent

Other: Robert Varju
Title: District 2 Maintenance Foreman

Other: Mark Dilts
Title: District 2 Maintenance Foreman

Other: Bryan Hill
Title: District 3 Superintendent

Other: Jeanne Pomager
Title: District 3 Assistant Superintendent

Other: Tom Chirico
Title: District 3 Maintenance Foreman

SPPP Form 2 - Public Notice

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES # : NJG0153052 PI ID #: 222834

Team Member/Title: Richard McClellan, Director of Community Affairs

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: December 2009

Briefly outline the principal ways in which you comply with applicable State and local public notice requirements when providing for public participation in the development and implementation of your stormwater program.

The Delaware River Joint Toll Bridge Commission (The Commission) does not currently own or operate any public rest areas or service areas in the State of New Jersey. As such the Public Notice requirements of the General Permit do not apply.

Update 6/30/07

SPPP Form 3 – New Development and Redevelopment Program

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES # : NJG0153052 PI ID #: 222834

Team Member/Title: Roy Little, P.E., Stormwater Coordinator

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: June 2007

Describe in general terms your post-construction stormwater management in new development and redevelopment program (post-construction program), and how it complies with the Highway Permit minimum standard. This description must address how adequate long term operation and maintenance of BMPs will be ensured; compliance with the standard in Attachment C of the permit (new storm drain inlet design standard); adoption and implementation of applicable design and performance standards established under N.J.A.C. 7:8 for major development; and use of the Post-Construction Program Design Checklist for Individual Projects. Attach additional pages as necessary.

The Commission includes requirements for their consultants to comply with Agency regulations in their Standard Consultant Professional Services Agreement.

The Commission will incorporate the applicable design and performance standards outline in NJAC 7:8 for major development into its standard Policy and Procedures for all future development/construction projects. Compliance with these regulations will be verified through the completion of the enclosed "Post-Construction Program Design Checklist for Individual Projects" (located in Appendix 1). During design review, the Engineering Department will confirm that the checklist has been completed and all stormwater requirements have been met by the Design Consultant.

Each District will provide long term operation and maintenance of existing and proposed BMPs through its existing stormwater infrastructure maintenance program to accommodate the proper function and operation of the stormwater facilities.

SPPP Form 4 - Local Public Education Program

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES #: NJG0153052 PI ID #: 222834

Team Member/Title: Richard McClellan, Director of Communities Affairs

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: December 2009

Local Public Education Program

Describe your Local Public Education Program. Be specific on how you will distribute your educational information.

The Commission does not have any existing rest areas or services areas at its facilities located in New Jersey; therefore a local public education program is not required.

Brochures prepared by the NJDEP and other agencies will be made available to employees and users at the three (3) main district facilities.

See Appendix 2 for additional information and for copies of the educational material to be provided.

Updated 6/30/07

SPPP Form 5 – Storm Drain Inlet Labeling

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES # : NJG0153052 PI ID #: 222834

Team Member/Title: Frank Beruta, Director of Plants and Facilities

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: June 2007

Storm Drain Inlet Labeling

Describe your storm drain inlet labeling program, including your labeling schedule, the details of your long-term maintenance plan, and plans on coordinating with watershed groups or other volunteer organizations.

The Commission completed its entire labeling program utilizing district facility personnel.

The Commission has labeled each inlet with a plastic label. Label show a fish in the center and state "No Dumping - Drains to Waterway".

All storm drain labels will be inspected, at minimum, on a yearly basis by facility personnel during their routine catch basin inspections. Any label that becomes damaged/unreadable will be removed and replaced.

See Appendix 3 for additional details.

Updated 6/30/07

SPPP Form 6 – MS4 Outfall Pipe Mapping

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES # : NJG0153052 PI ID #: 222834

Team Member/Title: Frank Tolotta, Deputy Executive Dir. of Operations

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: June 2007

Explain how you will prepare your map (include its type and scale, and the schedule for the mapping process). Who will prepare your map (e.g., employees, a consultant, etc.)?

The Commission requested a proposal from a Consulting Engineer to prepare an outfall map in accordance with the DEP permit requirements. The map includes the locations of outfalls, and surrounding surface water and was completed in its entirety in June, 2007.

Updated 6/30/07

SPPP Form 7 – Illicit Connection Elimination Program

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES # : NJG0153052 PI ID #: 222834

Team Member/Title: Frank Tolotta, Deputy Executive Dir. of Operation

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: June 2007

Describe your Illicit Connection Elimination Program, and explain how you plan on responding to complaints and/or reports of illicit connections (e.g., hotlines, etc.). Attach additional pages as necessary.

The Commission has initiated the illicit connection inspection of each outfall through a contract with a Consulting Engineer. The DEP provided Illicit Connection Inspection Report Form (located in Appendix 4) was utilized to conduct the inspections. Copies are included in the SPPP. Outfalls found to have a dry weather flow or evidence of an intermittent non-stormwater flow will be re-inspected. If an illicit connection is identified and located, the responsible party will be cited for being in violation of the Regulatory Mechanism prohibiting Illicit Connections and the connection will be eliminated (see Appendix 6). Commission personnel and/or its representative will locate illicit connections when necessary; however, if after three investigation attempts, the illicit connection is not found, a Closeout Investigation Form (Appendix 4) will be prepared and submitted along with the Commission's Annual Inspection and Recertification Report.

Updated 6/30/07

SPPP Form 8 – Illicit Connection Records

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES # : NJG0153052 PI ID #: 222834

Team Member/Title: Frank Tolotta, Deputy Executive Dir. of Operation

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: _____

Prior to July 1, 2006

Note: Attach a copy of each illicit connection report form for outfalls found to have a dry weather flow.

Total number of inspections performed this year? _____

Number of outfalls found to have a dry weather flow? _____

Number of outfalls found to have an illicit connection? _____

How many of the Highway Agency's own illicit connections were eliminated? _____

Of the Highway Agency's own illicit connections found, how many remain? _____

How many illicit connections found to emanate from another entity were reported to NJDEP? _____

July 1, 2006 – June 30, 2007

Note: Attach a copy of each illicit connection report form for outfalls found to have a dry weather flow.

Total number of inspections performed this year? 92

Number of outfalls found to have a dry weather flow? 11

Number of outfalls found to have an illicit connection? _____

How many of the Highway Agency's own illicit connections were eliminated? _____

Of the Highway Agency's own illicit connections found, how many remain? _____

How many illicit connections found to emanate from another entity were reported to NJDEP? _____

July 1, 2007 – June 30, 2008

Note: Attach a copy of each illicit connection report form for outfalls found to have a dry weather flow.

Total number of inspections performed this year? _____

Number of outfalls found to have a dry weather flow? _____

Number of outfalls found to have an illicit connection? _____

How many of the Highway Agency's own illicit connections were eliminated? _____

Of the Highway Agency's own illicit connections found, how many remain? _____

How many illicit connections found to emanate from another entity were reported to NJDEP? _____

July 1, 2008 – June 30, 2009

Note: *Attach a copy of each illicit connection report form for outfalls found to have a dry weather flow.*

Total number of inspections performed this year? _____

Number of outfalls found to have a dry weather flow? _____

Number of outfalls found to have an illicit connection? _____

How many of the Highway Agency's own illicit connections were eliminated? _____

Of the Highway Agency's own illicit connections found, how many remain? _____

How many illicit connections found to emanate from another entity were reported to NJDEP? _____

SPPP Form 9 – Litter Pick Up Program

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES # : NJG0153052 PI ID #: 222834

Team Member/Title: Frank Tolotta, Deputy Executive Dir. of Operation

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: June 2006

Please describe your litter pick up program. Be sure to include the refuse collection schedule and detail how rest area, service area, and roadside clean ups will be implemented.

(NOTE: Attach a litter pick up log containing the following information: dates of roadside clean ups and estimates of the total amount of trash and debris collected.)

The Commission does not own or operate any rest areas or service areas in the State of New Jersey. However, litter pick up along Commission roadways and parking areas is conducted by facility personnel as follows:

District 1:

Litter Pick-Up is typically scheduled on a weekly basis. Receptacles at the Park & Ride are also collected. Additional litter pickup is scheduled as needed if excessive litter is noted during routine facility inspections.

District 2:

Minor litter pick ups are scheduled on a weekly basis. Large debris is picked-up daily. Receptacles located at the I-78 Welcome Center (located in Pennsylvania) are also collected.

District 3:

Litter Pick-Up is scheduled on a daily basis.

Personnel from each district will document the dates of the litter pick up and provide estimates of the amount of trash and debris collected. Copies of the work logs will be provided to the Facility Manager and included in the SPPP. See Appendix 5 for sample recordkeeping logs.

SPPP Form 10 – Regulatory Mechanisms

Highway Agency Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES # : NJG0153052 PI ID #: 222834

Team Member/Title: James Stettner, Dir. Security, Safety, & Training

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: June 2006

For each regulatory mechanism, give the date of adoption. If not yet adopted, explain the development status:

Pet Waste *(See Below)*

(NOTE: If the Highway Agency is not developing a pet waste regulatory mechanism because the Agency does not operate any rest areas or service areas for the Agency facilities subject to this permit, provide that explanation above.)

Improper Disposal of Waste OP 06-06 - June 2006

Wildlife Feeding *(See Below)*

Illicit Connections OP 05-06 - June 2006

What is the nature of these regulatory mechanisms and how will they be enforced?

The Commission does not operate any rest areas or service areas in New Jersey; therefore the pet waste and wildlife feeding regulatory mechanism are not required.

Improper disposal of waste and illicit connections regulatory mechanisms were issued as operating orders to Commission employees.

If your position is that the Highway Agency has no legal authority to adopt and/or enforce a mechanism to regulate pet waste disposal or wildlife feeding by the general public on Highway Agency property, attach a statement from your attorney supporting this position.

Updated 6/30/07

SPPP Form 11 – Storm Drain Inlets (Retrofitting)

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES #: NJG0153052 PI ID #: 222834

Team Member/Title: Frank Tolotta, Deputy Executive Dir. of Operations

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: June 2007

What type of storm drain inlet design will generally be used for retrofitting?

The Commission will utilize NJDEP and PENNDOT approved grates and inlets.

Repaving, repairing, reconstruction or alteration project name (attach additional pages as necessary)	Projected start date	Start date	Date of completion	# of storm drain inlets	# of storm drains with exemptions
<i>CENTRE BRIDGE-STOCKTON TOLL SUPPORTED BRIDGE REHABILITATION</i>		<i>January 2007</i>	<i>July 2007</i>	<i>2</i>	<i>Zero (0)</i>
<i>TRENTON-MORRISVILLE TOLL BRIDGE REHABILITATION AND ONE AUXILIARY NORTHBOUND LAN</i>		<i>December 2006</i>	<i>December 2009</i>	<i>18</i>	<i>Zero (0)</i>
<i>I-78 ROADWAY REHABILITATION</i>		<i>April 2007</i>	<i>April 2009</i>	<i>188</i>	<i>Zero (0)</i>

Are you claiming any alternate device exemptions or historic place exemptions for any of the above projects? Please explain.

No

SPPP Form 12 – Street Sweeping and Road Erosion Control Maintenance

Highway Agency Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES #: NJG0153052 PI ID #: 222834

Team Member/Title: Frank Tolona, Deputy Executive Dir. of Operation

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: June 2006

Street Sweeping

Please describe the street sweeping schedule that you will maintain.

(NOTE: Attach a street sweeping log containing the following information: date and area swept, # of miles swept and the total amount of materials collected.)

The Commission will continue their existing programs as follows:

District 1: Approaches and solid deck bridges swept monthly, weather dependent.

District 2: Approaches and solid deck bridges swept bi-monthly, or as needed, weather dependent

District 3: Approaches and solid deck bridges swept bi-monthly, or as needed, weather dependent.

See Appendix 8 for more details and sample recordkeeping logs.

Road Erosion Control Maintenance

Describe your Road Erosion Control Maintenance Program, including how you will perform inspections and frequency. A list of all sites of roadside erosion and the repair technique(s) you will be using for each site should be attached to this form.

(NOTE: Attach a road erosion control maintenance log containing the following information: location, repairs, date)

The Commission employs an outside contractor to annually inspect the roadways and bridges. Deficiencies are reported to the Commission. Maintenance facilities are inspected every 6 months by Commission personnel. Each district also inspects its roadways and bridges daily. Minor repair work is reported to the Facility foreman and District Superintendent, and repaired immediately. Areas of severe erosion are reported to the Commission's Engineering Department to coordinate further investigation and repair. Erosion noted in the State of New Jersey will be repaired in accordance with the Soil Erosion and Sediment Control Standards of New Jersey.

See Appendix 8 for more details.

SPPP Form 13 – Stormwater Facility Maintenance

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES #: NJG0153052 PI ID #: 222834

Team Member/Title: Frank Tolotta, Deputy Executive Dir. of Operation

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: June 2006

Please describe your annual catch basin cleaning program and schedule. Attach additional pages as necessary.

The Commission has approximately a total of 400 catch basins located throughout the three Districts in New Jersey and Pennsylvania. District personnel will continue with their existing catch basin cleaning program as noted below. At a minimum, each catch basin will be inspected on an annual basis, and cleaned, if necessary. Problem areas will be inspected as needed. Catch basins will be cleaned and jetted or vacuumed where appropriate.

District 1: Catch basins inspected/cleaned bi-annually; problem areas cleaned as needed. PA catch basins cleaned by PADOT.

District 2: Catch basins inspected/cleaned annually, problem areas cleaned as needed.

District 3: Catch basins clean annually; problem areas cleaned as needed.

See Appendix 9 for more details and sample logs.

Please describe your stormwater facility maintenance program for cleaning and maintenance of all stormwater facilities operated by the Highway Agency. Attach additional pages as necessary.

(NOTE: Attach a maintenance log containing information on any repairs/maintenance performed on stormwater facilities to ensure their proper function and operation.)

The Commission's stormwater system comprises of storm sewer pipes, catch basins/inlets, outfalls and swales located throughout its roadways, maintenance yards, and facility parking areas.

Swales and outfalls are routinely inspected for litter and debris, and cleaned as needed. Stormwater piping is also inspected and cleaned on an as needed basis.

Facility personnel will document when maintenance work on the stormwater system is performed and note any repairs made. Copies of the work orders or logs will be provided to the Facility Manager for inclusion in the SPPP.

See Appendix 9 for more details and sample logs.

SPPP Form 14 - Roadside Vegetation Management

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES #: NJG0153052 PI ID #: 222834

Team Member/Title: Frank Tolotta, Deputy Executive Dir. of Operation

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: June 2006

Describe your roadside vegetation management program to limit the application of herbicides and mulch. Attach additional pages as necessary.

The Commission's existing program consists of herbicide ("Round Up" type) and mulch application in localized areas throughout its maintenance yards. No herbicides or mulch is applied to Commission roadways.

The Commission will continue with their existing program and ensure that all "Round Up" type application is confined within a 2 foot radius of the application area. Mulch will be stabilized as needed in accordance with Soil Erosion and Sediment Control Standards of New Jersey at its Easton-Phillipsburg facility.

SPPP Form 15 - Outfall Pipe Stream Scouring Remediation

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES #: NJG0153052 PI ID #: 222834

Team Member/Title: Frank Tolotta, Deputy Executive Dir. of Operation

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: June 2006

Describe your stormwater outfall pipe scouring detection, remediation and maintenance program to detect and control active, localized stream and stream bank scouring. Attach additional pages as necessary.

(NOTE: Attach a prioritized list of sites observed to have scouring, date of anticipated repair, method of repair and date of completion.)

The Commission, in conjunction with the Outfall Mapping and Illicit Connection Elimination Program, will request a proposal from a Consulting Engineer to conduct inspections of the outfalls for evidence of stream bank scouring and/or erosion. Areas identified will be prioritized and reported to the District Superintendent for repair. Additionally, annual inspections of Commission facilities is conducted by an outside consultant and the findings are reported to the Commission for evaluation.

All repair work completed will be documented and copies provided to the District Superintendent for inclusion in the SPPP.

See Appendix 10 for more details.

SPPP Form 16 – De-icing Material Storage

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES # : NJG0153052 PI ID #: 222834

Team Member/Title: Frank Tolotta, Deputy Executive Dir. of Operations

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: December 2009

De-icing Material Storage

Describe how you currently store your highway agency's de-icing materials, and describe your inspection schedule. If your current storage practices do not meet the de-icing material storage SBR describe your construction schedule and your seasonal tarping interim measures. If you plan on sharing a storage structure, please include its location, as well as a complete list of all concerned public entities. If you store sand outdoors, describe how it meets the minimum standard.

The Commission currently operates one salt storage facility in New Jersey, located at its Easton - Phillipsburg Toll Bridge Facility. Salt at this facility is stored in a three-sided structure, with a paved floor and structural roof. In September 2009, a fabric roll-up door was installed to completely enclose the salt storage area. Facility personnel will continue to inspect and perform routine maintenance on the storage facility after loading and unloading activities.

Leftover liquid magnesium chloride at the end of the season is stored at this facility in a 55 gallon drum on spill pallet.

SPPP Form 17 – Standard Operating Procedures

Highway Agency
Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES # : NJG0153052 PI ID #: 222834

Team Member/Title: Frank Tolotta, Deputy Executive Dir. of Operation

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: June 2006

BMP	Date SOP went into effect	Describe your inspection schedule
Fueling Operations (including the required practices listed in Attachment D of the permit)	<i>July 27, 2006</i>	<i>Inspections to be held on a monthly basis to ensure the SOP is being met. See Appendix 11 for copy of the SOP.</i>
Vehicle Maintenance (including the required practices listed in Attachment D of the permit)	<i>July 27, 2006</i>	<i>Inspections will be held on a minimum of a monthly basis to ensure that the standard operating procedure is being met. See Appendix 11 for copy of SOP</i>
Good Housekeeping Practices (including the required practices listed in Attachment D of the permit) Attach inventory list required by Attachment D of the permit	<i>July 27, 2006</i>	<i>Indoor/outdoor storage areas, containers & surrounding areas around the Commission's Fueling and Maintenance Facilities will be inspected on a monthly basis. See Appendix 11 for a copy of SOP</i>

SPPP Form 18 – Employee Training

Highway Agency Information

Highway Agency Name: Delaware River Joint Toll Bridge Commission

NJPDES # : NJG0153052 PI ID #: 222834

Team Member/Title: James Stettner, Dir. Security, Safety & Training

Effective Date of Permit Authorization (EDPA): April 1, 2004

Date of Completion: March 2006 Date of most recent update: June 2006

Describe your employee training program. For each required topic, list the employees that will receive training on that topic, and the date the training will be held. Attach additional pages as necessary.

The Commission will request a proposal from a Consulting Engineer to coordinate and conduct the annual employee training program. At a minimum the program will include the following topics and be attended by the following personnel:

<i>Waste Disposal Education</i>	<i>Maintenance Personnel</i>
<i>Control Measures</i>	<i>Maintenance Personnel</i>
<i>Roadside Vegetation Management</i>	<i>Maintenance Personnel</i>
<i>Street Sweeping</i>	<i>Maintenance Personnel</i>
<i>Stormwater Facility Maintenance</i>	<i>Maintenance Personnel, Engineering Dept.</i>
<i>Maintenance Yard Operations</i>	<i>Maintenance Personnel</i>
<i>Illicit Connection Elimination and Outfall Pipe Mapping</i>	<i>Maintenance Personnel, Engineering Dept.</i>
<i>Road Erosion Control and Outfall Pipe Stream Scouring Remediation</i>	<i>Maintenance Personnel</i>
<i>Post-Construction Stormwater Management in New Development and Redevelopment</i>	<i>Maintenance Personnel, Engineering Dept.</i>

See Appendix 12 for more info.

Highway Agency Stormwater General Permit Post-Construction Program Design Checklist for Individual Projects

For each question, attach additional sheets as necessary

Highway Agency
Information

Highway Agency: _____

NJPDES # : NJG _____ PI ID #: _____

Team Member: _____

Date: _____ Effective Date of Permit Authorization (EDPA): _____

1. Location of Project

- a. Project Name _____
- b. Highway Agency Project Number (if applicable): _____
- c. Road Name(s) (if applicable): _____
- d. Municipality(ies): _____
- e. County(ies): _____

2. Description (type of project)

- a. New alignment, widening, bridge replacement, intersection improvement, or other (describe): _____
- b. Area of proposed disturbance: _____ acres (include disturbance for easements, on/off ramps, etc. that are part of the project)
- c. Area of proposed additional impervious surface: _____ acres (include proposed additional impervious surface for easements, on/off ramps, etc. that are part of the project)
- d. Discharges to (identify surface water body(ies)): _____

3. Related NJDEP Permits

How much (if any) of the project requires at least one NJDEP permit (stream encroachment permit; freshwater wetlands permit or transition area waiver; CAFRA, coastal wetlands, or waterfront development permit) granted under the following statutes?

Application Number (if available)

Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 et seq. _____
Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq. _____
Coastal Area Facility Review Act, N.J.S.A. 13:19-1 et seq. _____
Waterfront and Harbor Facilities Act, N.J.S.A. 12:5-3 _____

Answer (check one): ☐ The entire project ☐ Part of the project ☐ None of the project

4. Compliance with NJDEP Design and Performance Standards (N.J.A.C. 7:8)

a. Nonstructural stormwater management strategies

To the maximum extent practicable, does the project meet the applicable erosion control, groundwater recharge, and stormwater runoff quantity and quality standards at N.J.A.C. 7:8-5.4 and 5.5 by incorporating nonstructural stormwater management strategies at N.J.A.C. 7:8-5.3 into the design? Y (☐) N (☐)

Also see question #4.j in regard to the Low Impact Development Checklist.

b. Threatened and endangered species

Are the project's stormwater management measures designed to avoid adverse impacts of concentrated flow on habitat for threatened and endangered species as documented in the Natural Heritage Database established under N.J.S.A. 13:1B-15.147 through 15.150, particularly *Helonias bullata* (swamp pink) and/or *Clemmys muhlenbergi* (bog turtle)? Y (☐) N (☐)

c. Exemption for certain utility line and public pedestrian access projects

How much (if any) of the project is exempt under N.J.A.C. 7:8-5.2(d) from the groundwater recharge and stormwater runoff quantity and quality requirements at N.J.A.C. 7:8-5.4 and 5.5? Y (☐) N (☐) If "yes," check whichever of the following are applicable:

☐ The entire project ☐ Part of the project ☐ None of the project

If you checked "The entire project" or "Part of the project," check whichever of the following are applicable:

☐ Underground utility line ☐ Aboveground utility line ☐ Public pedestrian access

If you checked "The entire project," skip questions #4.d, #4.f, #4.g, and #4.h.

d. Waiver for certain roadway, railroad, and public pedestrian access projects

Are you claiming, for the enlargement (widening) of an existing public roadway or railroad or the construction or enlargement of a public pedestrian access, a waiver under N.J.A.C. 7:8-5.2(e) from strict compliance with the groundwater recharge and stormwater runoff quantity and quality requirements at N.J.A.C. 7:8-5.4 and 5.5? Y (☐) N (☐) If "yes":

- Check whichever of the following are applicable:
☐ Enlargement of existing public roadway or railroad ☐ Public pedestrian access

- Attach written documentation making the demonstration required under N.J.A.C. 7:8-5.2(e), unless "The entire project" or "Part of the project" is checked under question #3, and you have submitted or will submit this documentation to the NJDEP to obtain the related NJDEP permit(s).
- Check whether the waiver is for:

☐ The entire project ☐ Part of the project ☐ None of the project

If you checked "The entire project," skip questions #4.f, #4.g, and #4.h.

e. Erosion control

Is the project in its post-construction condition designed to meet the erosion control standards established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq. and implementing rules? Y (☐) N (☐)

Does the project have a soil erosion and sediment control plan certified under that Act and those rules? Y (☐) N (☐) If "no," please explain: _____

f. Groundwater recharge

Under N.J.A.C. 7:8-5.4(a)2ii, how much (if any) of the project is outside the scope of the groundwater recharge requirement at N.J.A.C. 7:8-5.4(a)2i?

Answer (check one): ☐ The entire project ☐ Part of the project ☐ None of the project

If you checked "The entire project" or "Part of the project," check whichever of the following are applicable:

☐ Urban redevelopment area ☐ High pollutant loading area ☐ Industrial "source material"

If you checked "Part of the project" or "None of the project," is the project designed to meet the groundwater recharge requirement at N.J.A.C. 7:8-5.4(a)2i? Y (☐) N (☐) Also see question 4.j.

Will there be recharge of any stormwater from high pollutant loading areas, or of industrial stormwater exposed to "source material"? Y (☐) N (☐)

Is the project designed to avoid adverse hydraulic impacts on the groundwater table? Y (☐) N (☐)

g. Stormwater runoff quantity

Will the post-construction stormwater runoff flow only into tidal waters where the increased volume of stormwater runoff will not increase flood damages below the point of discharge? Y (☐) N (☐)

If "no," is the project designed to meet the stormwater runoff quantity standard at N.J.A.C. 7:8-5.4(a)3? Y (☐) N (☐) Also see question 4.j.

h. Stormwater runoff quality

Is the project subject to the requirement at N.J.A.C. 7:8-5.5(a) for 80 percent total suspended solids (TSS) reduction? Y (☐) N (☐)

If "yes," is the project designed to meet this requirement? Y (☐) N (☐) Also see question 4.j.

If "no," check whichever of the following are applicable:

☐ Less than ¼ acre of additional impervious surface ☐ NJPDES-based exemption

Is the project designed to meet the nutrient reduction standard at N.J.A.C. 7:8-5.5(e)? Y (☐) N (☐)

Are the project's stormwater management measures designed to prevent any increase in stormwater runoff to waters classified as FW1? Y (☐) N (☐) N/A (☐) (N/A if there is no stormwater runoff from the project to FW1 waters)

Does the project propose any encroachment within a special water resources protection area established under N.J.A.C. 7:8-5.5(h) to protect Category One waters? Y (☐) N (☐) Also see question 4.j.

If "yes," has the NJDEP approved the proposed encroachment? Y (☐) N (☐) Please explain if the NJDEP has not approved the proposed encroachment:

i. Other special circumstances

Are there special circumstances besides those noted above (e.g., alternative design and performance standards recognized under N.J.A.C. 7:8-5.1(b), and hardship waivers under N.J.A.C. 7:13-4.8) that result in one or more of the design and performance standards at N.J.A.C. 7:8-5 not being applicable to all or part of the project? Y (☐) N (☐)

If "yes," describe the circumstances and identify the standard(s) that are not applicable:

j. Calculations and stormwater engineering report

Was stormwater runoff calculated in accordance with N.J.A.C. 7:8-5.6? Y (☐) N (☐)

Attach a stormwater engineering report that includes the following information (unless the Exception below applies):

- A copy of Parts 1, 3, and 4 of the Low Impact Development Checklist (see Appendix A of the New Jersey Stormwater Best Management Practices Manual)
- A copy of a USGS topographical map(s), 7.5 minute quadrangle series, showing the project location and its HUC-14 watershed(s), and indicating any special water resources protection area(s) established under N.J.A.C. 7:8-5.5(h)
- Proof that the applicable groundwater recharge and stormwater runoff quantity and quality standards at N.J.A.C. 7:8-5.4 and 5.5 (or applicable alternative standards recognized under N.J.A.C. 7:8-5.1(b)) are met. This proof shall include complete printouts of all calculations (including detention, retention, and infiltration calculations for all basins), and shall compare existing and proposed recharge and discharge rates. The proof shall clearly explain how the attached calculations demonstrate compliance with the applicable standards. If the requirement at N.J.A.C. 7:8-5.5(a) for 80 percent TSS reduction is applicable, the proof shall detail how TSS reduction is achieved.

Exception: If "The entire project" is checked under question #3, have you submitted or will you submit the above information to the NJDEP to obtain the related NJDEP permit(s)? Y (☐) N (☐)

If "yes," it is not necessary to attach a stormwater engineering report.

k. Structural stormwater management

Is the project designed to meet the applicable standards for structural stormwater management measures at N.J.A.C. 7:8-5.7? Y (☐) N (☐)

l. Maintenance

Has the design engineer prepared for the project the maintenance plan required by N.J.A.C. 7:8-5.8? Y (☐) N (☐)

If "yes," attach the maintenance plan unless "The entire project" or "Part of the project" is checked under question #3, and you have submitted or will submit the maintenance plan for the entire project to the NJDEP to obtain the related NJDEP permit(s).

5. Compliance with NJDEP Design Standard for Storm Drain Inlets

Does the project include installation of any storm drain inlets? Y (☐) N (☐)

If "yes," is the project designed to comply with the standard set forth in Attachment C of the permit to control passage of solid and floatable materials? Y (☐) N (☐)

Attach a list of any storm drain inlets in the project that have hydraulic performance exemptions.

Are you claiming any alternative device exemptions or historic place exemptions for any of the storm drain inlets in this project? Y (☐) N (☐) If "yes," please explain:

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

NEW DEVELOPMENT AND REDEVELOPMENT PROGRAM

**POST-CONSTRUCTION PROGRAM DESIGN CHECKLIST
FOR INDIVIDUAL PROJECTS**

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

NEW DEVELOPMENT AND REDEVELOPMENT PROGRAM

MAJOR DEVELOPMENT DESIGN AND PERFORMANCE STANDARDS
(N.J.A.C. 7:8)

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CHAPTER 7A FRESHWATER WETLANDS PROTECTION ACT RULES

7:7A-4.3 Conditions that apply to all general permit authorizations

(a) (No change)

(b) The following conditions apply to all activities conducted under the authority of a general permit:

1.-9. (No change.)

10. If activities under the general permit meet the definition of "major development" at N.J.A.C. 7:8-1.2, the Stormwater Management Rules at N.J.A.C. 7:8 apply.

11.-16. (No change.)

(c)-(f) (No change.)

7:7A-5.11 General permit 11 - Outfalls and intake structures

(a)-(e) (No change.)

(f) Stormwater discharged from an outfall authorized under general permit 11 shall be managed in accordance with the Stormwater Management Rules at N.J.A.C. 7:8.

(g)-(j) (No change.)

CHAPTER 7E COASTAL ZONE MANAGEMENT

SUBCHAPTER 8. RESOURCE RULES

7:7E-8.7 Stormwater management

If a project or activity meets the definition of "major development" at N.J.A.C. 7:8-1.2, then the project or activity shall comply with the Stormwater Management rules at N.J.A.C. 7:8.

CHAPTER 8 STORMWATER MANAGEMENT

SUBCHAPTER 1. GENERAL PROVISIONS

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7:8-1.1 Scope and purpose

(a) This chapter establishes general requirements for stormwater management plans and stormwater control ordinances, as well as content requirements and procedures for the adoption and implementation of regional stormwater management plans and municipal stormwater management plans under the Municipal Land Use Law N.J.S.A. 40:55D-1 et seq.; the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq.; the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.; and the Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 et seq.; and implementing rules.

(b) This chapter establishes design and performance standards for stormwater management measures required by rules pursuant to the Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 et seq.; the Coastal Area Facility Review Act, N.J.S.A. 13:19-1 et seq.; the Wetlands Act of 1970, N.J.S.A. 13:9A-1 et seq.; the Waterfront Development Law, N.J.S.A. 12:5-3; the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq.; and the Dam Safety Act, N.J.S.A. 58:4-1 et seq.

(c) This chapter establishes safety standards for stormwater management basins pursuant to N.J.S.A. 40:55D-95.1.

7:8-1.2 Definitions

The following words and terms, when used in this chapter, shall have the following meanings unless the context clearly indicates otherwise.

"CAFRA Planning Map" means the geographic depiction of the boundaries for Coastal Planning Areas, CAFRA Centers, CAFRA Cores and CAFRA Nodes pursuant to N.J.A.C. 7:7E-5B.3.

"CAFRA Centers, Cores or Nodes" means those areas within boundaries accepted by the Department pursuant to N.J.A.C. 7:8E-5B.

"Compaction" means the increase in soil bulk density.

"Core" means a pedestrian-oriented area of commercial and civic uses serving the surrounding municipality, generally including housing and access to public transportation.

"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

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2. A county water resources association created under N.J.S.A. 58:16A-55.5, if the ordinance or resolution delegates authority to approve, conditionally approve, or disapprove municipal stormwater management plans and implementing ordinances.

"Department" means the Department of Environmental Protection.

"Designated Center" means a State Development and Redevelopment Plan Center as designated by the State Planning Commission such as urban, regional, town, village, or hamlet.

"Design engineer" means a person professionally qualified and duly licensed in New Jersey to perform engineering services that may include, but not necessarily be limited to, development of project requirements, creation and development of project design and preparation of drawings and specifications.

"Development" means the division of a parcel of land into two or more parcels, the construction, reconstruction, conversion, structural alteration, relocation or enlargement of any building or structure, any mining excavation or landfill, and any use or change in the use of any building or other structure, or land or extension of use of land, for which permission is required under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq.

In the case of development on agricultural land, development means: any activity that requires a State permit; any activity reviewed by the County Agricultural Boards (CAB) and the State Agricultural Development Committee (SADC), and municipal review of any activity not exempted by the Right to Farm Act, N.J.S.A. 4:1C-1 et seq.

"Drainage area" means a geographic area within which stormwater runoff, sediments, or dissolved materials drain to a particular receiving waterbody or to a particular point along a receiving waterbody.

"Environmentally constrained area" means the following areas where the physical alteration of the land is in some way restricted, either through regulation, easement, deed restriction or ownership such as: wetlands, floodplains, threatened and endangered species sites or designated habitats, and parks and preserves. Habitats of endangered or threatened species are identified using the Department's Landscape Project as approved by the Department's Endangered and Nongame Species Program.

"Environmentally critical area" means an area or feature which is of significant environmental value, including but not limited to: stream corridors; natural heritage priority sites; habitats of endangered or threatened species; large areas of contiguous open space or upland forest; steep slopes; and well head protection and groundwater recharge areas. Habitats of endangered or threatened species are identified using the Department's

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Landscape Project as approved by the Department's Endangered and Nongame Species Program.

"Empowerment Neighborhoods" means neighborhoods designated by the Urban Coordinating Council "in consultation and conjunction with" the New Jersey Redevelopment Authority pursuant to N.J.S.A. 55:19-69.

"Erosion" means the detachment and movement of soil or rock fragments by water, wind, ice or gravity.

"Impervious surface" means a surface that has been covered with a layer of material so that it is highly resistant to infiltration by water.

"Infiltration" is the process by which water seeps into the soil from precipitation.

"Lead planning agency" means one or more public entities having stormwater management planning authority designated by the regional stormwater management planning committee pursuant to N.J.A.C. 7:8-3.2, that serves as the primary representative of the committee.

"Major development" means any "development" that provides for ultimately disturbing one or more acres of land or increasing impervious surface by one-quarter acre or more. Disturbance for the purpose of this rule is the placement of impervious surface or exposure and/or movement of soil or bedrock or clearing, cutting, or removing of vegetation. Projects undertaken by any government agency which otherwise meet the definition of "major development" but which do not require approval under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq., are also considered "major development."

"Municipality" means any city, borough, town, township, or village.

"Node" means an area designated by the State Planning Commission concentrating facilities and activities which are not organized in a compact form.

"Nutrient" means a chemical element or compound, such as nitrogen or phosphorus, which is essential to and promotes the development of organisms.

"Person" means any individual, corporation, company, partnership, firm, association, political subdivision of this State and any state, interstate or Federal agency.

"Pollutant" means any dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, refuse, oil, grease, sewage sludge, munitions, chemical wastes, biological materials, medical wastes, radioactive substance (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. §§2011 et seq.)), thermal waste,

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wrecked or discarded equipment, rock, sand, cellar dirt, industrial, municipal, agricultural, and construction waste or runoff or other residue discharged directly or indirectly to the land, ground waters or surface waters of the State, or to a domestic treatment works. "Pollutant" includes both hazardous and nonhazardous pollutants.

"Recharge" means the amount of water from precipitation that infiltrates into the ground and is not evapotranspired.

"Sediment" means solid material, mineral or organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water or gravity as a product of erosion.

"Site" means the lot or lots upon which a major development is to occur or has occurred.

"Soil" means all unconsolidated mineral and organic material of any origin.

"State Development and Redevelopment Plan Metropolitan Planning Area (PA1)" means an area delineated on the State Plan Policy Map and adopted by the State Planning Commission that is intended to be the focus for much of the State's future redevelopment and revitalization efforts.

"State Plan Policy Map" is defined as the geographic application of the State Development and Redevelopment Plan's goals and Statewide policies, and the official map of these goals and policies.

"Stormwater" means water resulting from precipitation (including rain and snow) that runs off the land's surface, is transmitted to the subsurface, or is captured by separate storm sewers or other sewage or drainage facilities or conveyed by snow removal equipment.

"Stormwater runoff" means water flow on the surface of the ground or in storm sewers, resulting from precipitation.

"Stormwater management basin" means an excavation or embankment and related areas designed to retain stormwater runoff. A stormwater management basin may either be normally dry (that is, a detention basin or infiltration basin), retain water in a permanent pool (a retention basin), or be planted mainly with wetland vegetation (most constructed stormwater wetlands).

"Stormwater management measure" means 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.

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"Stormwater management planning agency" means a public body authorized by legislation to prepare stormwater management plans.

"Stormwater management planning area" means the geographic area for which a stormwater management planning agency is authorized to prepare stormwater management plans, or a specific portion of that area identified in a stormwater management plan prepared by that agency.

"Tidal Flood Hazard Area" means a flood hazard area, which may be influenced by stormwater runoff from inland areas, but which is primarily caused by the Atlantic Ocean.

"Urban Coordinating Council Empowerment Neighborhood" means a neighborhood given priority access to State resources through the New Jersey Redevelopment Authority.

"Urban Enterprise Zones" means a zone designated by the New Jersey Urban Enterprise Zone Authority pursuant to the New Jersey Urban Enterprise Zones Act, N.J.S.A. 52:27H-60 et seq.

"Urban Redevelopment Area" is defined as previously developed portions of areas:

1. Delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PA1), Designated Centers, Cores or Nodes;
2. Designated as CAFRA Centers, Cores or Nodes;
3. Designated as Urban Enterprise Zones; and
4. Designated as Urban Coordinating Council Empowerment Neighborhoods.

"Waters of the State" means the ocean and its estuaries, all springs, streams, wetlands, and bodies of surface or ground water, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction.

"Wetlands" or "wetland" means an area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

7:8-1.3 Program information

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

7:8-1.4 Severability

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If the provisions of any section, subsection, paragraph, or clause of this chapter shall be judged invalid by a court of competent jurisdiction, such order or judgment shall not affect or invalidate the remainder of any section, subsection, paragraph, or clause of this chapter.

7:8-1.5 Relationship to other regulatory programs

(a) Nothing in this chapter shall be construed as preventing the Department or other agencies or entities from imposing additional or more stringent stormwater management requirements necessary to implement the purposes of any enabling legislation including those measures necessary to achieve the Surface Water Quality Standards at N.J.A.C. 7:9B.

(b) If a stormwater management measure is used as a soil erosion or sediment control measure, the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., shall also apply.

(c) These stormwater requirements are the Department's standards referenced by the stormwater management provisions of the Residential Site Improvement Standards at N.J.A.C. 5:21-7.

7:8-1.6 Applicability to Major Development

(a) Except as provided in (b) below, all major development shall comply with the requirements of this chapter.

(b) The following major development shall be subject to the stormwater management requirements in effect on February 1, 2004, copies of which are available from the Department at the address specified in N.J.A.C. 7:8-1.3:

1. Major development which does not require any of the Department permits listed in (c) below and which has received one of the following approvals pursuant to the Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.) prior to February 2, 2004:

- i. Preliminary or final site plan approval;
- ii. Final municipal building or construction permit;
- iii. Minor subdivision approval where no subsequent site plan approval is required;
- iv. Final subdivision approval where no subsequent site plan approval is required; or
- v. Preliminary subdivision approval where no subsequent site plan approval is required;

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2. Major development which has received one of the approvals pursuant to the Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.) in (1) above prior to February 2, 2004 and has secured at least one of the applicable permits listed in (c) below from the Department by February 2, 2004, and provided that the permit included a stormwater management review component.

3. Major development undertaken by any government agency, which does not require approval under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq., provided the project has secured at least one of the applicable Department permits listed in (c) below prior to February 2, 2004, and provided that the permit included a stormwater management review component.

(c) For the purposes of this section, the term "permit" shall include transition area waivers under the Freshwater Wetlands Protection Act. In order to qualify under (b)2 or 3 above, the major development must have obtained at least one Department permit granted under the following statutes and, provided that the permit included a stormwater management review component, prior to February 2, 2004:

1. Flood Hazard Area Control Act, N.J.S.A. 58-16A-50 et seq.;
2. Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq.;
3. Coastal Area Facility Review Act, N.J.S.A. 13:19-1 et seq.;
4. Waterfront and Harbor Facilities Act, N.J.S.A. 12:5-3;

(d) An exemption provided by (b) above shall expire with the expiration, termination or other loss of duration or effect of either of the qualifying local approval or Department permit, whichever comes first. The expiration of local approvals under (b)1 above shall be governed by local ordinance. In the event there are multiple qualifying Department permits under (c) above, the expiration date is governed by that permit which expires last provided that the permit is still in effect. Once the exemption expires, the major development shall be subject to all requirements of this chapter upon reapplication for that permit and all subsequent permits or local approval(s) under the Municipal Land Use Law.

(e) An exemption under (b) above is limited to the land area and the scope of the project addressed by the qualifying approval(s) and permit(s). Exemptions under this section shall be deemed void if revisions are made to the qualifying approval or permit in (b) above, including approvals under the Municipal Land Use Law, unless upon application, the Department determines that each revision would have a de minimis impact on water resources. In making this determination, the Department shall consider the extent of any impacts on water resources resulting from the revision, including, but not limited to:

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- 1) increases in stormwater generated;
- 2) increases in impervious surface;
- 3) increases in stormwater pollutant loading;
- 4) changes in land use;
- 5) new encroachments in special water resource protection areas; and,
- 6) changes in vegetative cover.

(f) In case of conflict with the Coastal Permit Program Rules at N.J.A.C. 7:7-4.4(a)4, the requirements of this chapter shall supersede.

SUBCHAPTER 2. GENERAL REQUIREMENTS FOR STORMWATER MANAGEMENT PLANNING

7:8-2.1 Scope

This subchapter provides general principles applicable to all stormwater management plans and stormwater control ordinances, including the goals of stormwater management planning, the process for identification of stormwater management planning agencies, and stormwater management plan requirements.

7:8-2.2 Goals of stormwater management planning

(a) All stormwater management plans and stormwater control ordinances shall be designed to:

1. Reduce flood damage, including damage to life and property;
2. Minimize, to the extent practical, any increase in stormwater runoff from any new development;
3. Reduce soil erosion from any development or construction project;
4. Assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures;
5. Maintain groundwater recharge;
6. Prevent, to the greatest extent feasible, an increase in nonpoint pollution;

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7. Maintain the integrity of stream channels for their biological functions, as well as for drainage;

8. 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; and

9. Protect public safety through the proper design and operation of stormwater management basins.

7:8-2.3 Stormwater management planning agencies

(a) The following entities may be stormwater management planning agencies provided they are authorized under their enabling legislation to prepare stormwater management plans:

1. A municipality;
2. A county;
3. A county water resources agency or association;
4. A designated planning agency under N.J.A.C. 7:15;
5. A Soil Conservation District, in coordination with the State Soil Conservation Committee;
6. The Delaware River Basin Commission;
7. The Pinelands Commission;
8. The Delaware and Raritan Canal Commission;
9. The New Jersey Meadowlands Commission;
10. The Department; or
11. Other regional, State or interstate agencies.

7:8-2.4 Stormwater management plan requirements

(a) A stormwater management plan shall include structural and nonstructural stormwater management strategies necessary to meet the stormwater management goals of this chapter.

(b) A regional stormwater management plan shall comply with the requirements of this subchapter and N.J.A.C 7:8-3.

(c) A municipal stormwater management plan shall comply with the requirements of this subchapter and N.J.A.C 7:8-4.

(d) A stormwater management plan shall incorporate the safety standards for stormwater management basins at N.J.A.C. 7:8-6.

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(e) In developing a stormwater management plan and identifying appropriate stormwater management measures thereunder, each stormwater management planning agency shall consider the physical characteristics and ecological resources of the stormwater management planning area.

(f) A stormwater management plan and any stormwater management ordinance shall be coordinated with any other stormwater management plans related to the same river basin or drainage area.

7:8-2.5 Exemptions

A municipality or other entity conducting stormwater management planning under this chapter may petition the Department at the address provided at N.J.A.C. 7:8-1.3 for an exemption to the requirements of this chapter 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.

SUBCHAPTER 3. REGIONAL STORMWATER MANAGEMENT PLANNING

7:8-3.1 Scope

(a) This subchapter describes stormwater management planning and implementation at the regional level, including plan elements; planning process; characterization; development of drainage area-specific objectives and standards; selection of stormwater management measures; strategy for implementing the measures and evaluating the effectiveness of the regional stormwater management plan; plan review, adoption, amendment or revision; and implementation and periodic evaluation of the plan.

(b) A regional stormwater management plan shall address stormwater-related water quality, ground water recharge and/or water quantity impacts of new and existing land uses in a regional stormwater management planning area. A regional stormwater management planning area shall consist of one or more continuous drainage areas. For example, a drainage area could be an area defined by a hydrologic unit code 14 (HUC14) as defined by the United States Geological Survey.

7:8-3.2 Regional stormwater management planning committee and lead planning agency

(a) A regional stormwater management planning committee (the committee) shall be established for the purposes of creating a regional stormwater management plan.

(b) A person or entity seeking to establish a regional stormwater management committee shall solicit participation from municipalities, interstate agencies, regional agencies, counties, designated planning agencies under N.J.A.C. 7:15, Soil Conservation

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Districts, regional environmental commissions, Pinelands Commission, mosquito control and extermination commissions, public water supply and wastewater treatment utilities and agencies, lake associations, watershed associations, the watershed management planning area public advisory committee, environmental organizations, businesses, the Department and other appropriate State and Federal agencies and, members of the general public in the drainage area(s) to be addressed by the proposed plan. The solicitation for members of the general public to be part of the regional stormwater management planning committee can be performed through notices in local paper.

(c) The regional stormwater management planning committee shall designate a lead planning agency, which shall be recognized as the primary contact for the committee. The regional stormwater management planning committee, through the lead planning agency, shall:

1. Prepare the regional stormwater management plan;
2. Coordinate the regional stormwater management planning process with any applicable watershed management area planning process;
3. Provide opportunities for public participation throughout the regional stormwater management planning process; and
4. Perform other activities appropriate to facilitate the regional stormwater management planning process, including mediation, public information, providing technical assistance, and seeking and providing grants or other financial assistance, as available, to municipalities and/or local or regional agencies pursuant to N.J.S.A. 40:55D-99 or other applicable authority.

(d) A request for recognition as a regional stormwater management planning committee shall be submitted to the Department at the address listed in N.J.A.C. 7:8-1.3 by the lead planning agency, and include the following information:

1. A draft work plan and schedule for completing a regional stormwater management plan;
2. A copy of the mailing list used to solicit participation, including the entities identified in (b) above;
3. A copy of the letter of invitation to participate in the committee;
4. A copy of each response to the letter of invitation; and
5. In cases where no response from a public entity to the letter of invitation is

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received within 60 days, the group shall send a follow-up request by certified mail, return receipt requested, and submit proof of such follow-up.

(e) The Department shall respond in writing within 45 days of the receipt of a complete request for recognition as a regional stormwater management planning committee. The Department shall either approve the application, request additional information or deny the request for recognition. Denials will include a justification for the decision.

The Department shall base approval or denial on the information submitted in the draft work plan and schedule for plan completion, completion of the requirements to involve and notify impacted parties, and whether there are other competing or overlapping requests for recognition for the same regional stormwater management planning area.

7:8-3.3 Regional stormwater management plan and elements

(a) A regional stormwater management plan shall incorporate, at a minimum, the following elements:

1. Identification of the lead planning agency and a description of the structure and members of the committee;
2. A statement of authority to develop and implement a stormwater management plan from public entities, as appropriate, represented on the regional stormwater management planning committee.
3. A characterization and assessment of the regional stormwater management planning area prepared in accordance with N.J.A.C. 7:8-3.4;
4. A statement of drainage area-specific water quality, groundwater recharge, and water quantity objectives established under N.J.A.C. 7:8-3.5;
5. The drainage area-specific stormwater-related water quality, groundwater recharge and water quantity design and performance standards established under N.J.A.C. 7:8-3.6;
6. The stormwater management measures selected in accordance with N.J.A.C. 7:8-3.7 and a summary of the rationale for the selection of each measure;
7. A description of the strategy for implementing the selected stormwater management measures for the regional stormwater management planning area and for evaluating the effectiveness of the regional stormwater management plan in accordance with N.J.A.C. 7:8-3.8, including a long-term monitoring program; and
8. To the extent elements of the plan do not represent the consensus of the committee, the plan shall identify and provide a discussion of the majority and minority positions.

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(b) The regional stormwater management plan may also include:

1. Innovative stormwater measures and strategies such as nonpoint source pollutant trading, mitigation strategies, or special protection measures; and
2. A stream corridor protection plan to address protection of areas adjacent to waterbodies. For waterbodies subject to N.J.A.C. 7:8-5.5(h), the plan shall provide, at a minimum, protections equivalent to those provided at N.J.A.C. 7:8-5.5(h) and demonstrate that the functional value and overall condition of the special water resource protection area will be maintained or enhanced.

7:8-3.4 Characterization and assessment of the regional stormwater management planning area

(a) The regional stormwater management plan shall include a characterization and assessment that addresses the following components, unless the committee determines that a component is not appropriate for the regional stormwater management planning area and provides a rationale for not including the component:

1. Maps showing the following information. Maps developed on a Geographical Information System shall meet the Digital Data standards in N.J.A.C. 7:1D unless a rationale for a different format is provided.
 - i. The regional stormwater management planning area boundary;
 - ii. Existing land uses;
 - iii. Projected land uses assuming full development under existing zoning;
 - iv. Soil mapping units based on the detailed soil maps in County Soil Surveys published by the U.S. Department of Agriculture or, in areas for which County Soil Surveys are not available, on information obtained from Soil Conservation Districts;
 - v. Topography based on the U.S. Geological Survey Topographic Map, 7.5 minute quadrangle series, or other sources of information depicting topography in similar or greater detail;
 - vi. Water bodies based on detailed map sheets in County 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;

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vii. Coastal wetlands based on maps prepared by the Department under the Wetlands Act of 1970, N.J.S.A. 13:9A-1 et seq., and freshwater wetlands based on maps prepared by the Department under the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq.;

viii. Flood hazard areas based on delineations made by the Department under the Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 et seq. For a water body for which the Department has not delineated the flood hazard area, a map of the flood hazard area prepared in accordance with N.J.A.C. 7:13 is acceptable;

ix. Groundwater recharge areas and well head protection areas based on maps prepared by the Department or ordinances of an affected municipality;

x. Environmentally constrained areas and environmentally critical areas;

xi. River areas designated under the New Jersey Wild and Scenic Rivers Act, N.J.S.A. 13:8-45 et seq., or the Federal Wild and Scenic Rivers Act, 16 U.S.C. §§1278 et seq.;

xii. For each waterbody in the regional stormwater management planning area, identification of the waterbody or waterbody segment, the drainage area, and the classification of the waterbody pursuant to N.J.A.C. 7:9B-1.15;

xiii. Each waterbody designated as a water quality limited surface water pursuant to N.J.A.C. 7:15-6;

xiv. Man-made stormwater conveyance, storage and discharge systems, including municipal separate storm sewer outfall pipes and the drainage areas as appropriate for these outfall structures; and

xv. Source water areas of potable public surface water supply intakes and public water supply reservoirs available on the Departments webpage at www.nj.gov/dcp/swap/;

2. A map showing jurisdictional boundaries within the regional stormwater management planning area of municipal, county, and other agencies with responsibility for implementing stormwater management;

3. Identification of the physical characteristics of the regional stormwater management planning area pertinent to stormwater management, such as slopes, swales and impoundment areas as necessary for completing the analysis in N.J.A.C. 7:8-3.4(a)4;

4. A water quality, groundwater recharge and water quantity hydrologic and hydraulic model or analysis of the regional stormwater management planning area which addresses existing land uses and projected land uses assuming full development under existing zoning and taking into account permanently preserved lands;

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5. An identification and evaluation of existing municipal, county, State, Federal, and other stormwater-related groundwater recharge, water quality and water quantity regulations and programs shall be conducted, including, where applicable, programs to develop total maximum daily loads (TMDLs) in accordance with N.J.A.C. 7:15-7; and

6. A summary of information that has been identified as useful for purposes of stormwater management planning but that is not available for technical, financial, or other reasons.

(b) The Department encourages the use of existing information to the extent that it is available to minimize the cost of data acquisition, such as information available on the Department's Geographical Information System web site (www.state.nj.us/dep/gis) or as developed through a watershed planning process.

(c) The characterization and assessment shall include information on locations and activities outside the regional stormwater management planning area that drain into the planning area (for example, stormwater originating in an adjacent drainage area that is transferred to the stormwater management planning area).

(d) Using the modeling or other information obtained under (a) through (c) above, the stormwater-related water quality impacts of existing land uses and projected land uses assuming full development under existing zoning shall be identified and ranked in accordance with the following process:

1. Inventory existing and potential stormwater-related pollutant sources and stormwater-related pollutants in the regional stormwater management planning area.

i. Stormwater-related pollutant sources include, for example, urban and suburban development, roads, storm sewers, agriculture, mining, and waterfront development.

ii. Stormwater-related pollutants include, for example, nutrients, pathogens, hydrocarbons, metals, pesticides, sediments, and suspended solids;

2. For surface water bodies and/or segments thereof and aquifers and/or portions thereof in the regional stormwater management planning area, identify and describe the existing or designated uses that are or may be adversely affected by stormwater-related pollutants, and to the extent feasible, identify the source(s) of the pollutant. The use of the report and list prepared by the Department to comply with Federal Clean Water Act, Section 303(d) and 305(b) (33 USC §§1313(d) and 1315(b)) and underlying data, including biological assessments, is encouraged; and

3. Identify and rank the most significant existing and potential stormwater-related pollutants and, for each pollutant, identify and rank the sources.

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(e) Using the modeling or other information obtained under (a) through (c) above for stormwater-related water quantity impacts and stormwater-related groundwater recharge impacts of existing and projected land uses assuming full development under existing zoning, the most significant existing and potential stormwater-related water quantity problems, including flooding, erosion, mosquitoes, base-flow reduction, ground water depletion, and associated ecosystem impacts, shall be identified and described. The problems shall be ranked based on consideration of threat to public health, safety, and welfare as evidenced by history of or potential for flood damage; risk of loss of or damage to water supplies; and risk of damage to the biological integrity of water bodies.

7:8-3.5 Drainage area-specific water quality, groundwater recharge and water quantity objectives

(a) The regional stormwater management plan shall identify drainage area-specific water quality, groundwater recharge and water quantity objectives that are consistent with the goals of stormwater management planning at N.J.A.C. 7:8-2.3, and address each of the stormwater-related pollutant sources and pollutants ranked under N.J.A.C. 7:8-3.4(d) and the water quantity and groundwater recharge problems ranked under N.J.A.C. 7:8-3.4(e). The objectives shall address the elimination, reduction, or minimization of stormwater-related impacts associated with new and existing land uses. The objectives developed for the regional stormwater management plan may take into consideration environmental, social, and economic factors.

(b) Notwithstanding (a) above, the drainage area -specific objectives for major development shall provide, at a minimum, the protection that would be achieved through the application of N.J.A.C. 7:8-5, Design and Performance Standards for Stormwater Management Measures.

(c) If a TMDL has been established pursuant to N.J.A.C. 7:15 for a waterbody or waterbody segment in the regional stormwater management planning area, drainage area-specific objectives shall incorporate the loading reductions established in the TMDL for stormwater sources of pollution. In addition, if a waterbody or waterbody segment in the regional stormwater management planning area is on the Department's list prepared to comply with Federal Clean Water Act, Section 303(d) (33 USC §§1313(d)) for one or more designated uses by stormwater runoff, then drainage area objectives shall be included that address the pollutants or pollution for which the waterbody is threatened or impaired.

7:8-3.6 Drainage area-specific design and performance standards

(a) The regional stormwater management plan shall identify drainage area-specific design and performance standards in order to meet the drainage area-specific water quality, groundwater recharge and water quantity objectives identified under N.J.A.C. 7:8-3.5.

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(b) Drainage area-specific design and performance standards may include performance standards for control of stormwater quantity, erosion, groundwater recharge and stormwater quality, as well as design standards for particular structural and nonstructural stormwater management strategies.

(c) The design and performance standards for stormwater management measures for major development described in N.J.A.C. 7:8-5 shall be incorporated into the regional stormwater management plan. Alternative drainage area-specific design and performance standards may be developed provided the alternative standard is at least as protective as would be achieved under N.J.A.C. 7:8-5 when considered on a regional stormwater management planning area basis.

(d) For structural stormwater management measures, drainage area-specific design and performance standards shall conform to the general standards at N.J.A.C. 7:8-5.7.

(e) Drainage area-specific design and performance standards do not have to be uniform throughout a drainage area provided the drainage area, when considered in its entirety, satisfies N.J.A.C. 7:8-5.

7:8-3.7 Selection of stormwater management measures

(a) The regional stormwater management plan shall identify stormwater management measures necessary to achieve the drainage area-specific water quality, groundwater recharge and water quantity objectives developed in accordance with N.J.A.C. 7:8-3.5, and design and performance standards developed in accordance with N.J.A.C. 7:8-3.6.

(b) Stormwater management measures in the following categories shall be considered and selected, as appropriate:

1. Stormwater management measures for new land uses;
2. Stormwater management measures for existing land uses, including, for example, retrofit measures for the modification of existing structural stormwater management measures or other structures affecting stormwater runoff; elimination of illicit or illegal discharges; prevention or minimization of the exposure of pollutants to stormwater; and control of floatables;
3. Stormwater management measures that enhance, protect, and/or preserve land or water areas possessing characteristics or features that provide for flood control, maintenance or improvement of water quality, or conservation of natural resources (for example, land use controls, local and regional open space plans and taxes, buffer zones, redirecting, recharging or minimizing stormwater discharges, pretreatment and/or end-of-pipe treatment); and

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4. Public education programs that address stormwater quantity and quality.

(c) A written rationale shall be provided for each selected stormwater management measure, including an analysis of feasibility, benefits and costs, estimated percent pollutant load reduction and anticipated performance longevity;

(d) Each selected stormwater management measure shall include, as appropriate, a program for preventative and corrective maintenance, including a long-term implementation schedule and identification of the entity responsible for implementation and maintenance.

7:8-3.8 Strategy for implementing and evaluating effectiveness of stormwater management measures

(a) The regional stormwater management plan shall include a strategy for implementing the stormwater management measures. The lead planning agency or another entity designated by the committee shall be responsible for coordination and tracking of the implementation of the regional stormwater management plan, including the long-term monitoring program.

(b) The implementation strategy shall:

1. Identify agencies and/or entities necessary to implement the measures and conduct the long-term monitoring program;
2. Identify the respective measures and/or monitoring each agency and/or entity will implement and the enabling mechanisms by which the measures will be implemented, including, for example, new or amended municipal ordinances or interagency agreements;
3. Establish a schedule for the implementation of the measures based on priority, including specific milestones for all mechanisms identified under (b)2 above;
4. Provide an estimate of short term and long term implementation costs to be incurred; and
5. Identify existing and potential private, local, State, and Federal funding sources to implement the regional stormwater management plan.

(c) The implementation strategy shall include a long-term monitoring program that will provide information about land use, water quality, water quantity, groundwater resources and riparian and aquatic habitat condition, as appropriate. Information for the monitoring program may include data obtained through watershed management, local, county, State, interstate, and/or Federal monitoring programs, including volunteer monitoring programs.

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3. In accordance with the Residential Site Improvement Standards at N.J.A.C. 5:21-7, if a stormwater management plan for the region has been approved by the Department, stormwater management systems must conform with that plan.

4. The Department shall not issue a permit for a project or activity that conflicts with an Areawide Water Quality Management Plan pursuant to N.J.A.C. 7:15-3.1.

SUBCHAPTER 4. MUNICIPAL STORMWATER MANAGEMENT PLANNING

7:8-4.1 Scope

This subchapter describes stormwater management planning and implementation at the municipal level, including plan elements, county review and technical assistance, the schedule for adoption of the plan and ordinances, and variance or exemption from design and performance standards for stormwater management measures.

7:8-4.2 Municipal stormwater management plan and elements

(a) A municipal stormwater management plan shall address stormwater-related water quality, groundwater recharge and water quantity impacts of major development, and may also address stormwater-related water quality, water quantity and groundwater recharge impacts of existing land uses. For purposes of this subchapter, major development is limited to projects that ultimately disturb one or more acres of land.

(b) A municipal stormwater management plan and stormwater control ordinance(s) shall conform with applicable regional stormwater management plan(s).

(c) A municipal stormwater management plan shall, at a minimum:

1. Describe how the municipal stormwater management plan will achieve the goals of stormwater management planning set forth at N.J.A.C. 7:8-2.3;
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 or alternative design and performance standards adopted as a part of a regional stormwater management plan or water quality management plan;

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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;
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. 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 the principles expressed 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;
9. Include a map of the municipality showing:
 - i. Projected land uses assuming full development under existing zoning, and
 - ii. The hydrologic unit code 14 (HUC14) drainage areas as defined by the United States Geological Survey; 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.
10. At the option of the municipality, document that it has a combined total of less than one square mile of vacant or agricultural lands rather than provide the information required in (c)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 at the same scale as the map under (c)10i below.
 - i. 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;

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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;

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 waterbodies. For waterbodies subject to N.J.A.C. 7:8-5.5(h), 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.

7:8-4.3 Schedule for adoption of municipal stormwater management plan and ordinances

(a) A municipality shall adopt a municipal stormwater management plan as an integral part of its master plan and official map in accordance with the schedule in (a)1 or 2 below, whichever is sooner. The requirements in N.J.A.C. 7:8-4.2(c)8 and 9 are not operative until February 2, 2006.

1. By the deadline established in a New Jersey Pollutant Discharge Elimination System permit obtained by the municipality for a municipal separate storm sewer system under N.J.A.C. 7:14A; or

2. By the next reexamination of the master plan under N.J.S.A. 40:55D-89, if a grant for 90 percent of the costs for the preparation of the municipal stormwater management plan has been made available to a municipality by the Department;

(b) Within one year after the municipality adopts the municipal stormwater management plan, the municipality shall adopt stormwater control ordinance(s) to implement the adopted plan and shall submit the adopted municipal stormwater management plan and ordinance(s) to the county review agency for approval. The adopted municipal stormwater management plan and ordinance(s) shall not take effect without approval by the county review agency.

(c) The municipality shall amend the municipal stormwater management plan and stormwater control ordinance(s) as necessary and submit the amended plan and amended ordinance(s) to the county review agency for approval.

(d) The municipality shall reexamine the municipal stormwater management plan at each reexamination of the municipality's master plan in accordance with N.J.S.A. 40:55D-89.

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(e) 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.

7:8-4.4 County review process

(a) A municipality shall submit a copy of the adopted stormwater management plan and stormwater control ordinance(s) to the county review agency and the Department.

(b) In reviewing the adopted municipal stormwater management plan and ordinance(s), the county review agency shall consider whether the plan and ordinance(s) conform with the requirements of this chapter.

(c) In accordance with 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 municipal stormwater management 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. The county review agency shall issue a written decision to the municipality, with a copy to the Department.

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

(e) Within 30 days of the effective date of the municipal stormwater management plan and ordinance(s) under (d) above, the municipality shall place the plan and ordinance(s) on its website and notify the Department, the Soil Conservation District and State Soil Conservation Committee, or:

1. Submit a copy of the approved municipal stormwater management plan and ordinance(s) to the Department; and
2. 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).

7:8-4.5 Reservation of rights

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The Department reserves the right to review stormwater management plans and ordinances for compliance with this subchapter and make recommendations to correct any deficiencies.

7:8-4.6 Variance or exemption from the design and performance standards for stormwater management measures

A 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 plan includes a mitigation plan in accordance with N.J.A.C. 7:8-4.2(c)11 and the municipality submits a written report to the county review agency and the Department describing the variance or exemption and the required mitigation.

SUBCHAPTER 5 DESIGN AND PERFORMANCE STANDARDS FOR STORMWATER MANAGEMENT MEASURES

7:8-5.1 Scope

(a) This subchapter 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.

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

7:8-5.2 Stormwater management measures for major development

(a) Stormwater management measures for major development shall be developed to meet the erosion control, groundwater recharge, stormwater runoff quantity, and stormwater runoff quality standards at N.J.A.C. 7:8-5.4 and 5.5. To the maximum extent practicable, these standards shall be met by incorporating nonstructural stormwater management strategies at N.J.A.C. 7:8-5.3 into the design. If these measures alone are not sufficient to meet these standards, structural stormwater management measures at N.J.A.C. 7:8-5.7 necessary to meet these standards shall be incorporated into the design.

(b) The development shall incorporate a maintenance plan under N.J.A.C. 7:8-5.8 for the stormwater management measures.

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(c) Stormwater management measures shall avoid adverse impacts of concentrated flow on habitat for threatened and endangered species as documented in the Department's Landscape Project or Natural Heritage Database established under N.J.S.A. 13:1B-15.147 through 15.150, particularly *Helonias bullata* (swamp pink) and/or *Clemmys muhlenbergi* (bog turtle).

(d) The following linear development projects are exempt from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements at N.J.A.C. 7:8-5.4 and 5.5:

1. The construction of an underground utility line provided that the disturbed areas are revegetated upon completion;
2. The construction of an aboveground utility line provided that the existing conditions are maintained to the maximum extent practicable; and
3. The construction of a public pedestrian access, such as a sidewalk or trail with a maximum width of 14 feet, provided that the access is made of permeable material.

(e) A waiver from strict compliance from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements at N.J.A.C. 7:8-5.4 and 5.5 may be obtained for the enlargement of an existing public roadway or railroad, or the construction or enlargement of a public pedestrian access, provided that the following conditions are met:

1. The applicant demonstrates that there is a public need for the project that cannot be accomplished by any other means;
2. The applicant demonstrates through an alternatives analysis, that through the use of nonstructural and structural stormwater management strategies and measures, the option selected complies with the requirements of N.J.A.C. 7:8-5.4 and 5.5 to the maximum extent practicable;
3. The applicant demonstrates that, in order to meet the requirements at N.J.A.C. 7:8-5.4 and 5.5 existing structures currently in use, such as homes and buildings would need to be condemned; and
4. The applicant demonstrates that it does not own or have other rights to areas, including the potential to obtain through condemnation lands not falling under (e)3 above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate for requirements of N.J.A.C. 7:8-5.4 and 5.5 that were not achievable on-site.

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7:8-5.3 Nonstructural stormwater management strategies

(a) To the maximum extent practicable, the standards in N.J.A.C. 7:8-5.4 and 5.5 shall be met by incorporating nonstructural stormwater management strategies at N.J.A.C. 7:8-5.3 into the design. The persons submitting an application for review shall identify the nonstructural strategies incorporated into the design of the project. If the applicant contends that it is not feasible for engineering, environmental, or safety reasons to incorporate any nonstructural stormwater management strategies identified in (b) below into the design of a particular project, the applicant shall identify the strategy and provide a basis for the contention.

(b) Nonstructural stormwater management strategies incorporated into site design shall:

1. Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;
2. Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;
3. Maximize the protection of natural drainage features and vegetation;
4. 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;
5. Minimize land disturbance including clearing and grading;
6. Minimize soil compaction;
7. Provide low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers and pesticides;
8. Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas; and
9. 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. These source controls include, but are not limited to:
 - i. Site design features that help to prevent accumulation of trash and debris in drainage systems;

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- ii. Site design features that help to prevent discharge of trash and debris from drainage systems;
 - iii. Site design features that help to prevent and/or contain spills or other harmful accumulations of pollutants at industrial or commercial developments; and
 - iv. When establishing vegetation after land disturbance, applying fertilizer in accordance with the requirements established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules.
- (c) Any land area used as a non structural stormwater management measure to meet the performance standards in N.J.A.C. 7:8-5.4 and 5.5 shall be dedicated to a government agency, subjected to a conservation restriction filed with the County Clerk's office, or subject to Department approved or equivalent restriction that ensures that measure or an equivalent stormwater management measure approved by the reviewing agency is maintained in perpetuity.
- (d) Guidance for nonstructural stormwater management strategies is available in the New Jersey Stormwater Best Management Practices Manual available from the Department through the address listed at N.J.A.C. 7:8-1.3.

7:8-5.4 Erosion control, groundwater recharge and runoff quantity standards

(a) This section contains minimum design and performance standards to control erosion, encourage and control infiltration and groundwater recharge, and control stormwater runoff quantity impacts of major development.

1. The minimum design and performance standards for erosion control are those established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq. and implementing rules.
2. The minimum design and performance standards for groundwater recharge are as follows:
 - i. The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at N.J.A.C. 7:8-5.6, either:
 - (1) 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
 - (2) 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.

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ii. This groundwater recharge requirement does not apply to projects within the "urban redevelopment area," or to projects subject to iii below.

iii. The following types of stormwater shall not be recharged:

(1) Stormwater from areas of high pollutant loading. High pollutant loading areas are areas in industrial and commercial developments where solvents and/or petroleum products are loaded/unloaded, stored, or applied, areas where pesticides are loaded/unloaded or stored; areas where hazardous materials are expected to be present in greater than 'reportable quantities' as defined by the United States Environmental Protection Agency (EPA) at 40 CFR 302.4; areas where recharge would be inconsistent with Department approved remedial action work plan or landfill closure plan and areas with high risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and

(2) Industrial stormwater exposed to "source material." "Source material" means any material(s) or machinery, located at an industrial facility, that is directly or indirectly related to process, manufacturing or other industrial activities, which could be a source of pollutants in any industrial stormwater discharge to groundwater. Source materials include, but are not limited to, raw materials; intermediate products; final products; waste materials; by-products; industrial machinery and fuels, and lubricants, solvents, and detergents that are related to process, manufacturing, or other industrial activities that are exposed to stormwater.

iv. The design engineer shall assess the hydraulic impact on the groundwater table and design the site so as to avoid adverse hydraulic impacts. Potential adverse hydraulic impacts include, but are not limited to, exacerbating a naturally or seasonally high water table so as to cause surficial ponding, flooding of basements, or interference with the proper operation of subsurface sewage disposal systems and other subsurface structures in the vicinity or downgradient of the groundwater recharge area.

3. In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at N.J.A.C. 7:8-5.6, complete one of the following:

i. Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the two, 10, and 100-year storm events do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events;

ii. Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construction condition, in the peak runoff rates of stormwater leaving the site for the two, 10, and 100-year storm events and that the increased volume

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or change in timing of stormwater runoff will not increase flood damage at or downstream of the site. This analysis shall include the analysis of impacts of existing land uses and projected land uses assuming full development under existing zoning and land use ordinances in the drainage area;

iii. Design 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 percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed; or

iv. In tidal flood hazard areas, stormwater runoff quantity analysis in accordance with i, ii, and iii above shall only be applied if the increased volume of stormwater runoff could increase flood damages below the point of discharge.

(b) Any application for a new agricultural development that meets the definition of major development at N.J.A.C. 7:8-1.2 shall be submitted to the Soil Conservation District for review and approval in accordance with the requirements of this section and any applicable Soil Conservation District guidelines for stormwater runoff quantity and erosion control. For purposes of this section, "agricultural development" means land uses normally associated with the production of food, fiber and livestock for sale. Such uses do not include the development of land for the processing or sale of food and the manufacture of agriculturally related products.

7:8-5.5 Stormwater runoff quality standards

Stormwater management measures shall 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. Stormwater management measures shall only be required for water quality control if an additional one-quarter acre of impervious surface is being proposed on a development site. The requirement to reduce TSS does not apply to any stormwater runoff in a discharge regulated under a numeric effluent limitation for TSS imposed under the New Jersey Pollutant Discharge Elimination System (NJPDES) rules, N.J.A.C. 7:14A, or in a discharge specifically exempt under a NJPDES permit from this requirement. The water quality design storm is 1.25 inches of rainfall in two hours. Water quality calculations shall take into account the distribution of rain from the water quality design storm, as reflected in Table 1 below. The calculation of the volume of runoff may take into account the implementation of non-structural and structural stormwater management measures.

Table 1: Water Quality Design Storm Distribution

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Time (Minutes)	Cumulative Rainfall (Inches)	Time (Minutes)	Cumulative Rainfall (Inches)
0	0.0000	65	0.8917
5	0.0083	70	0.9917
10	0.0166	75	1.0500
15	0.0250	80	1.0840
20	0.0500	85	1.1170
25	0.0750	90	1.1500
30	0.1000	95	1.1750
35	0.1330	100	1.2000
40	0.1660	105	1.2250
45	0.2000	110	1.2334
50	0.2583	115	1.2417
55	0.3583	120	1.2500
60	0.6250		

(b) For purposes of TSS reduction calculations, Table 2 below presents the presumed removal rates for certain BMPs designed in accordance with the New Jersey Stormwater Best Management Practices Manual. The BMP manual may be obtained from the address identified in N.J.A.C. 7:8-1.3 or found on the Department's website at www.njstormwater.org. The BMP manual and other sources of technical guidance are listed in N.J.A.C. 7:8-5.9(a). TSS reduction shall be calculated based on the removal rates for the BMPs in Table 2 below. Alternative removal rates and methods of calculating removal rates may be used if the design engineer provides documentation demonstrating the capability of these alternative rates and methods to the review agency. Where the Department is not the review agency, a copy of any approved alternative rate or method of calculating the removal rate shall be provided to the Department at the address at N.J.A.C. 7:8-1.3.

(c) If more than one BMP in series is necessary to achieve the required 80 percent TSS reduction for a site, the applicant shall utilize the following formula to calculate TSS reduction:

$$R = A + B - (AXB)/100$$

Where

R = total TSS percent load removal from application of both BMPs, and

A = the TSS percent removal rate applicable to the first BMP

B = the TSS percent removal rate applicable to the second BMP

Table 2: TSS Removal Rates for BMPs

Best Management Practice	TSS Percent Removal Rate
Bioretention Systems	90

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Constructed Stormwater Wetland	90
Extended Detention Basin	40-60
Infiltration Structure	80
Manufactured Treatment Device	See N.J.A.C. 7:8-5.7(d)
Sand Filter	80
Vegetative Filter Strip	60-80
Wet Pond	50-90

(d) If there is more than one onsite drainage area, the 80 percent TSS removal rate shall apply to each drainage area, unless the runoff from the subareas converge on site in which case the removal rate can be demonstrated through a calculation using a weighted average.

(e) Stormwater management measures shall also 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. In achieving reduction of nutrients to the maximum extent feasible, the design of the site shall include nonstructural strategies and structural measures that optimize nutrient removal while still achieving the performance standards in N.J.A.C. 7:8-5.4 and 5.5.

(f) Additional information and examples are contained in the New Jersey Stormwater Best Management Practices Manual, which may be obtained from the address identified in N.J.A.C. 7:8-1.3.

(g) In accordance with the definition of FW1 at N.J.A.C. 7:9B-1.4, stormwater management measures shall be designed to prevent any increase in stormwater runoff to waters classified as FW1.

(h) Special water resource protection areas shall be established along all waters designated Category One at N.J.A.C. 7:9B and perennial or intermittent streams that drain into or upstream of the Category One waters as shown on the USGS Quadrangle Maps or in the County Soil Surveys, within the associated HUC 14 drainage. These areas shall be established for the protection of water quality, aesthetic value, exceptional ecological significance, exceptional recreational significance, exceptional water supply significance, and exceptional fisheries significance of those established Category One waters. These areas shall be designated and protected as follows:

1. The applicant shall preserve and maintain a special water resource protection area in accordance with one of the following:

i. A 300-foot special water resource protection area shall be provided on each side of the waterway, measured perpendicular to the waterway from the top of bank outwards, or from the centerline of the waterway where the bank is not defined, consisting of existing vegetation or vegetation allowed to follow natural succession is provided.

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ii. Encroachment within the designated special water resource protection area under (h)1.i above shall only be allowed where previous development or disturbance has occurred (for example, active agricultural use, parking area or maintained lawn area). The encroachment shall only be allowed where applicant demonstrates that the functional value and overall condition of the special water resource protection area will be maintained to the maximum extent practicable. In no case shall the remaining special water resource protection area be reduced to less than 150 feet as measured perpendicular to the top of bank of the waterway or centerline of the waterway where the bank is undefined. All encroachments proposed under this subparagraph shall be subject to review and approval by the Department.

2. All stormwater shall be discharged outside of but may flow through the special water resource protection area and shall comply with the Standard For Off-Site Stability in the "Standards for Soil Erosion and Sediment Control in New Jersey," established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq. (See N.J.A.C. 2:90-1.3).

3. If stormwater discharged outside of and flowing through the special water resource protection area cannot comply with the Standard For Off-Site Stability in the "Standards for Soil Erosion and Sediment Control in New Jersey," established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., (see N.J.A.C. 2:90-1.3), then the stabilization measures in accordance with the requirements of the above standards may be placed within the special water resource protection area, provided that:

- i. Stabilization measures shall not be placed within 150 feet of the waterway;
- ii. Stormwater associated with discharges allowed by this paragraph shall achieve a 95 percent TSS post construction removal rate;
- iii. Temperature shall be addressed to ensure no impact on receiving waterway;
- iv. The encroachment shall only be allowed where the applicant demonstrates that the functional value and overall condition of the special water resource protection area will be maintained to the maximum extent practicable;
- v. A conceptual project design meeting shall be held with the appropriate Department staff and Soil Conservation District staff to identify necessary stabilization measures; and
- vi. All encroachments proposed under this section shall be subject to review and approval by the Department.

4. A stream corridor protection plan may be developed by a regional stormwater management planning committee as an element of a regional stormwater management plan, or by a municipality through an adopted municipal stormwater management plan. If a stream corridor protection plan for a waterway subject to this subsection has been approved by the Department, then the provisions of the plan shall be the applicable special water resource protection area requirements for that waterway. A stream corridor protection plan for a waterway subject to this subsection shall maintain or enhance the

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current functional value and overall condition of the special water resource protection area as defined above in (h)1i. In no case shall a stream corridor protection plan allow reduction of the Special Water Resource Protection Area to less than 150 feet as measured perpendicular to the waterway subject to this subsection.

5. This subsection does not apply to the construction of one individual single family dwelling that is not part of a larger development on a lot receiving preliminary or final subdivision approval on or before February 2, 2004, provided that the construction begins on or before February 2, 2009.

7:8-5.6 Calculation of stormwater runoff and groundwater recharge

(a) Stormwater runoff shall be calculated in accordance with the following:

1. The design engineer shall calculate runoff using one of the following methods:

i. The USDA Natural Resources Conservation Service (NRCS) methodology, including the NRCS Runoff Equation and Dimensionless Unit Hydrograph, as described in Section 4, National Engineering Handbook (NEH-4), dated July 2002, incorporated herein by reference as amended and supplemented. This methodology is additionally described in Technical Release 55 - Urban Hydrology for Small Watersheds (TR-55), dated June 1986, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the Natural Resources Conservation Service website at <http://www.wcc.nrcs.usda.gov/water/quality/common/neh630/4content.html> or at Natural Resources Conservation Service, 220 Davidson Avenue, Somerset, New Jersey 08873; (732) 537-6040; or

ii. The Rational Method for peak flow and the Modified Rational Method for hydrograph computations. The rational and modified rational methods are described in "Appendix A-9 Modified Rational Method" in the Standards for Soil Erosion and Sediment Control in New Jersey, July 1999. This document is available from the State Soil Conservation Committee or any of the Soil Conservation Districts listed at N.J.A.C. 2:90-1.3(a)4. The location, address, and telephone number of each Soil Conservation District is available from the State Soil Conservation Committee, P.O. Box 330, Trenton, NJ 08625, 609-292-5540.

2. For the purpose of calculating runoff coefficients and groundwater recharge, there is a presumption that the pre-construction condition of a site or portion thereof is a wooded land use with good hydrologic condition. The term "runoff coefficient" applies to both the NRCS methodology at N.J.A.C. 7:8-5.6(a)1i and the Rational and Modified Rational Methods at N.J.A.C. 7:8-5.6(a)1i. A runoff coefficient or a groundwater recharge land cover for an existing condition may be used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the site or portion of the site for at least five years without interruption prior to the time of application. If more than

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one land cover have existed on the site during the five years immediately prior to the time of application, the land cover with the lowest runoff potential shall be used for the computations. In addition, there is the presumption that the site is in good hydrologic condition (if the land use type is pasture, lawn, or park), with good cover (if the land use type is woods), or with good hydrologic condition and conservation treatment (if the land use type is cultivation.)

3. In computing pre-construction stormwater runoff, the design engineer shall account for all significant land features and structures, such as ponds, wetlands, depressions, hedgerows, or culverts, that may reduce pre-construction stormwater runoff rates and volumes.

4. In computing stormwater runoff from all design storms, the design engineer shall consider the relative stormwater runoff rates and/or volumes of pervious and impervious surfaces separately to accurately compute the rates and volume of stormwater runoff from the site. To calculate runoff from unconnected impervious cover, urban impervious area modifications as described in the NRCS Technical Release-55, Urban Hydrology for Small Watersheds or other methods may be employed.

5. If the invert of the outlet structure of a stormwater management measure is below the flood hazard design flood elevation as defined at N.J.A.C. 7:13, the design engineer shall take into account the effects of tailwater in the design of structural stormwater management measures.

(b) Groundwater recharge may be calculated in accordance with the following:

1. The New Jersey Geological Survey Geological Survey Report GSR-32 A Method for Evaluating Ground-Water-Recharge Areas in New Jersey, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the New Jersey Stormwater Best Management Practices Manual; at New Jersey Geological Survey website at <http://www.state.nj.us/dep/njgs/>, or at New Jersey Geological Survey, 29 Arctic Parkway, P.O. Box 427, Trenton, NJ 08625-0427; (609) 984-6587.

7:8-5.7 Standards for structural stormwater management measures

(a) Standards for structural stormwater management measures are as follows:

1. Structural stormwater management measures shall be designed to take into account the existing site conditions, including, for example, environmentally critical areas; wetlands; flood-prone areas; slopes; depth to seasonal high water table; soil type, permeability and texture; drainage area and drainage patterns; and the presence of solution-prone carbonate rocks (limestone).

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2. Structural stormwater management measures shall be designed to minimize maintenance, facilitate maintenance and repairs, and ensure proper functioning. Trash racks shall be installed at the intake to the outlet structure as appropriate. The parallel bars at the outlet structure shall be spaced no greater than one-third the width of the diameter of the orifice or one-third the width of the weir, with a minimum spacing between bars of one-inch and a maximum spacing between bars of six inches. For outlets with a width or diameter less than three inches, the parallel bars shall be spaced one inch apart. In addition, the design of trash racks must comply with the requirements of N.J.A.C. 7:8-6.2(a).

3. Structural stormwater management measures shall be designed, constructed, and installed to be strong, durable, and corrosion resistant. Measures that are consistent with the relevant portions of the Residential Site Improvement Standards at N.J.A.C. 5:21-7.3, 7.4 and 7.5 shall be deemed to meet this requirement.

4. At the intake to the outlet from the stormwater management basin, the orifice size shall be a minimum of two and one-half inches in diameter.

5. Stormwater management basins shall be designed to meet the minimum safety standards for stormwater management basins at N.J.A.C. 7:8-6.

(b) Stormwater management measure guidelines are available in the New Jersey Stormwater Best Management Practices Manual. Other stormwater management measures may be utilized provided the design engineer demonstrates that the proposed measure and its design will accomplish the required water quantity, ground water recharge and water quality design and performance standards established by this subchapter.

(c) Manufactured treatment devices may be used to meet the requirements of this subchapter, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department.

7:8-5.8 Maintenance requirements

(a) The design engineer shall prepare a maintenance plan for the stormwater management measures incorporated into the design of a major development.

(b) The maintenance plan shall contain specific preventative maintenance tasks and schedules; cost estimates, including estimated cost of sediment, debris, or trash removal; and 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. If the maintenance plan identifies a person other than the developer (for example, a public agency or homeowners'

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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.

(c) 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.

(d) If the person responsible for maintenance identified under (b) above is not a public agency, the maintenance plan and any future revisions based on (h) below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.

(e) 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.

(f) The person responsible for maintenance identified under (b) 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.

(g) The person responsible for maintenance identified under (b) above shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.

(h) The person responsible for maintenance identified under (b) 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 (f) and (g) above.

(i) Nothing in this section 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.

7:8-5.9 Sources for technical guidance

(a) Technical guidance for stormwater management measures can be found in the documents listed at (a)1 and 2 below, which are available from Maps and Publications, Department of Environmental Protection, 428 East State Street, P.O. Box 420, Trenton, New Jersey, 08625; telephone (609) 777-1038.

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1. Guidelines for stormwater management measures are contained in the New Jersey Stormwater Best Management Practices Manual, 2002 as amended. Information is provided on stormwater management measures such as:

- i. Bioretention systems;
- ii. Constructed stormwater wetlands;
- iii. Dry wells;
- iv. Extended detention basins;
- v. Infiltration structures;
- vi. Manufactured treatment devices;
- vii. Pervious paving;
- viii. Sand filters;
- ix. Vegetative filter strip, and
- x. Wet pond.

2. The New Jersey Department of Environmental Protection Stormwater Management Facilities Maintenance Manual, as amended.

(b) Additional technical guidance for stormwater management measures can be obtained from the following:

1. The "Standards for Soil Erosion and Sediment Control in New Jersey" promulgated by the State Soil Conservation Committee and incorporated into N.J.A.C. 2:90. Copies of these standards may be obtained by contacting the State Soil Conservation Committee or any of the Soil Conservation Districts listed in N.J.A.C. 2:90-1.3(a)4. The location, address, and telephone number of each Soil Conservation District may be obtained from the State Soil Conservation Committee, P.O. Box 330, Trenton, New Jersey 08625, 609-292-5540;

2. The Rutgers Cooperative Extension Service, 732-932-9306; and

3. The Soil Conservation Districts listed in N.J.A.C. 2:90-1.3(a)4. The location, address, and telephone number of each Soil Conservation District may be obtained from the State Soil Conservation Committee, P.O. Box 330, Trenton, New Jersey 08625, 609-292-5540.

SUBCHAPTER 6. SAFETY STANDARDS FOR STORMWATER MANAGEMENT BASINS

7:8-6.1 Scope

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(a) This subchapter sets forth requirements to protect public safety through the proper design and operation of stormwater management basins. This subchapter applies to any new stormwater management basin.

(b) The provisions of this subchapter are not intended to preempt more stringent municipal or county safety requirements for new or existing stormwater management basins. Municipal and county stormwater management plans and ordinances may, pursuant to their authority, require existing stormwater management basins to be retrofitted to meet one or more of the safety standards in N.J.A.C. 7:8-6.2(a), (b) and (c)1 for trash racks, overflow grates, and escape provisions at outlet structures.

7:8-6.2 Requirements for trash racks, overflow grates and escape provisions

(a) A trash rack is a device designed to catch trash and debris and prevent the clogging of outlet structures. Trash racks shall be installed at the intake to the outlet from the stormwater management basin to ensure proper functioning of the basin outlets in accordance with the following:

1. The trash rack shall have parallel bars, with no greater than six-inch spacing between the bars;
2. The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure;
3. The average velocity of flow through a clean trash rack is not to exceed 2.5 feet per second under the full range of stage and discharge. Velocity is to be computed on the basis of the net area of opening through the rack; and
4. The trash rack shall be constructed of rigid, durable, and corrosion resistant material and designed to withstand a perpendicular live loading of 300 lbs./ft sq.

(b) An overflow grate is designed to prevent obstruction of the overflow structure. If an outlet structure has an overflow grate, the grate shall comply with the following requirements:

1. The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance;
2. The overflow grate spacing shall be no greater than two inches across the smallest dimension; and
3. The overflow grate shall be constructed of rigid, durable, and corrosion resistant material and designed to withstand a perpendicular live loading of 300 lbs./ft sq.

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(c) Stormwater management basins shall include escape provisions as follows:

1. If a stormwater management basin has an outlet structure, escape provisions shall be incorporated in or on the structure. Escape provisions include the installation of permanent ladders, steps, rungs, or other features that provide easily accessible means of egress from stormwater management basins. With the prior approval of the reviewing agency pursuant to N.J.A.C. 7:8-6.3(a), a free-standing outlet structure may be exempted from this requirement;
2. Safety ledges shall be constructed on the slopes of all new stormwater management basins having a permanent pool of water deeper than two and one-half feet. Safety ledges shall be comprised of two steps. Each step shall be four to six feet in width. One step shall be located approximately two and one-half feet below the permanent water surface, and the second step shall be located one to one and one-half feet above the permanent water surface. See N.J.A.C. 7:8-6 Appendix A for an illustration of safety ledges in a stormwater management basin; and
3. In new stormwater management basins, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than three horizontal to one vertical.

7:8-6.3 Variance or exemption from safety standards

A variance or exemption from the safety standards for stormwater management basins may be granted only upon a written finding by the appropriate reviewing agency (municipality, county or Department) that the variance or exemption will not constitute a threat to public safety.

Appendix A: Illustration of safety ledges in a new stormwater management basin. Depicted is an elevational view.

CHAPTER 13 FLOOD HAZARD AREA CONTROL

SUBCHAPTER 2. PROJECT STANDARDS

7:13-2.8 Stormwater management

If a project or activity meets the definition of "major development" at N.J.A.C. 7:8-1.2, then the project or activity shall comply with the Stormwater Management rules at N.J.A.C. 7:8.

CHAPTER 15 WATER QUALITY MANAGEMENT PLANNING

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SUBCHAPTER 3. PLAN ASSESSMENT, AMENDMENT AND ADOPTION

7:15-3.4 Water quality management plan amendment procedures

(a) (No change.)

(b) Procedures for amendment of the Statewide WQM Plan are as follows:

1. Water quality related provisions in present and future rules adopted by the Department shall be considered to be part of the Statewide WQM Plan. Such provisions may not be adopted, amended, or repealed through the WQM plan amendment process under (b) 6 below.

2. Priority systems, intended use plans and project priority lists for wastewater facilities that are developed by the Department and accepted by the United States Environmental Protection Agency (USEPA) pursuant to USEPA regulations, or that otherwise are developed by the Department under N.J.A.C. 7:22, shall be considered to be part of the Statewide WQM Plan. Such priority systems and project priority lists shall be adopted or revised in accordance with USEPA regulations and N.J.A.C. 7:22, as appropriate, and shall not be adopted or revised through the WQM plan amendment process under (b) 6 below.

3. Statewide Sludge Management Plans, District Sludge Management Plans and sludge management rules that are promulgated or approved by the Department pursuant to N.J.S.A. 13:1E-1 et seq. shall be considered to be part of the Statewide WQM Plan. Such plans and rules shall be promulgated, revised, updated or approved in accordance with N.J.S.A. 13:1E-1 et seq., and shall not be promulgated, revised, updated, or approved through the WQM plan amendment process under (b) 6 below.

4. Lists of water quality limited segments, lists of segments where TMDLs will be developed, and project priority lists for TMDL development which are developed by the Department under N.J.A.C. 7:15-6 shall be adopted as amendments to the Statewide WQM Plan. TMDLs developed in accordance with N.J.A.C. 7:15-7 shall be adopted as amendments to the relevant Arcawide WQM Plan(s). However, such lists, and TMDLs shall be adopted or revised in accordance with N.J.A.C. 7:15-6 or 7:15-7, as appropriate, and shall not be adopted or revised through the WQM plan amendment process under (b) 6 below. The Department may also publish a draft amendment as an Interested Party Review document or as a pre-proposal prior to formal proposal of the amendment.

5. A regional stormwater management plan prepared in accordance with N.J.A.C. 7:8-3 shall be submitted only by a lead planning agency as a proposed amendment to the applicable areawide WQM plan. In addition, the following changes to an adopted

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regional stormwater management plan shall be processed as amendments to applicable areawide WQM Plans under this section:

- i. The addition, deletion or modification to any of the drainage area-specific water quality, ground water recharge or water quantity objectives identified under N.J.A.C. 7:8-3.5;
- ii. The addition, deletion or modification to any drainage area-specific design or performance standard developed under N.J.A.C. 7:8-3.6;
- iii. Any modification to a regional stormwater management plan that the Department or designated planning agency determines is likely to have a significant environmental, social, or economic impact; or
- iv. Any modification that the applicant requests be processed as an amendment.

6. Components of the Statewide WQM Plan other than (b)1 through 5 above may be amended by using the procedure specified in (g) below, except that the Commissioner shall render the final decision identified in (g)9 below.

(c)-(f) (No change.)

(g) Except as provided in (h) below, the Department procedure for amendment of areawide WQM plans is as follows:

1. 2. (No change.)

3. The Department shall notify the applicant and the applicable designated planning agency, if any, in writing of its decision under (g)2 above. If the Department's decision is to proceed further with the amendment request under (g)2iii above, then this notification shall include the public notice that shall be given for the proposed amendment. If the proposed amendment is a regional stormwater management plan, the Department shall also notify the Department of Community Affairs and the Department of Agriculture. The applicant shall request written statements of consent under (g)4 below, and shall give public notice by publication in a newspaper of general circulation at the applicant's expense. The Department shall maintain a list identifying the newspaper that shall be used for this purpose in each planning area. The public notice shall also be published in the New Jersey Register. In cases where such Department decisions include a requirement for a non-adversarial public hearing, the public notice shall provide at least 30 days notice of the hearing.

4.-11. (No change.)

(h)-(l) (No change.)

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7:15-3.5 Water quality management plan review, revision, and certification

(a) (No change.)

(b) The Department and the designated planning agencies shall prepare revisions to Statewide and areawide WQM Plans under this section whenever such revisions are necessary to:

1. - 2. (No change.)

3. Revise schedules for submission of wastewater management plans under N.J.A.C. 7:15-5.23(g);

4. Provide for the following substantive changes in Statewide and areawide WQM plans where the Department determines no significant individual or cumulative impacts will occur to environmentally sensitive areas or other natural resources (such as water supplies) due to the proposed revision (individually or in combination with past revisions in the area), that the changes are consistent with N.J.A.C. 7:15-3.6 and 3.7, and that certain directly affected municipal and county agencies and other interests as identified by the Department have been provided an opportunity to review and comment on the proposed revision:

i. - iv. (No change.)

v. Expansion of a future sewer service area to contiguous lots, where the expansion involves less than 100 acres, contributes less than 8,000 gallons per day of additional wastewater flow, and does not create a significantly new pattern of sewer development such that a significant potential or incentive is created for additional revisions or amendments to open new areas to sewer development; or

5. Provide for any modification in an adopted regional stormwater management plan that does not require an amendment under N.J.A.C. 7:15-3.4(b)5.

(c) - (f) (No change.)

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CHAPTER 20 DAM SAFETY STANDARDS

SUBCHAPTER 1. APPLICATION PROCEDURE; DESIGN CRITERIA FOR DAM CONSTRUCTION; DAM INSPECTION PROCEDURE

7:20-1.3 Permit-by-rule

(a) All dams must be designed, constructed, operated, maintained or removed in compliance with the rules in this subchapter except as set forth below:

1. Owners and operators of Class IV dams (see N.J.A.C. 7:20-1.8), Dam classification) are not required to file documents with nor obtain a permit from the Department, but must meet the following requirements, in addition to those set forth elsewhere in this subchapter:

- i. (No change.)
- ii. All necessary local approvals must be obtained;
- iii. A New Jersey licensed professional engineer must design the Class IV Dam to meet all technical requirements of this subchapter; and
- iv. If the Class IV dam is designed or constructed for stormwater management purposes, the dam shall comply with the Stormwater Management Rules at N.J.A.C. 7:8.

2. (No change.)

(c) (No change.)

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

LOCAL PUBLIC EDUCATION PROGRAM

Statewide Basic Requirement:

Local Public Education Program – Highway Agencies shall describe how they will distribute educational information and specifics on how 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:

- *Storm Drain Labeling*
- *Pet Waste Control*
- *Improper Waste Disposal Control*
- *Wildlife Feeding Control*

Optional Measures:

The Commission does not have any rest areas or service areas in the State of New Jersey; therefore, the Local Public Education Program requirement is not applicable.

As an additional measure, the Commission will provide copies of the enclosed educational brochures at its three main district facilities for employees and users.

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

LOCAL PUBLIC EDUCATION PROGRAM

NJDEP STORMWATER BROCHURE

Solutions to Stormwater Pollution

Solutions to Stormwater Pollution

Easy Things You Can Do Every Day To Protect Our Water

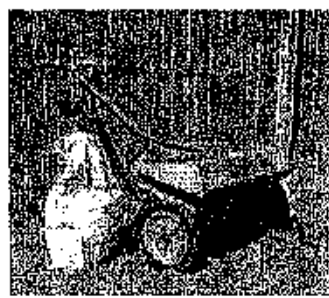
A Guide to Healthy Habits for Cleaner Water

Pollution on streets, parking lots and lawns is washed by rain into storm drains, then directly to our drinking water supplies and the ocean and lakes our children play in. Fertilizer, oil, pesticides, detergents, pet waste, grass clippings. You name it and it ends up in our water.

Stormwater pollution is one of New Jersey's greatest threats to clean and plentiful water, and that's why we're all doing something about it.

By sharing the responsibility and making small, easy changes in our daily lives, we can keep common pollutants out of stormwater. It all adds up to cleaner water, and it saves the high cost of cleaning up once it's dirty.

As part of New Jersey's initiative to keep our water clean and plentiful and to meet federal requirements, many municipalities and other public agencies including colleges and military bases must adopt ordinances or other rules prohibiting various activities that contribute to stormwater pollution. Breaking these rules can result in fines or other penalties.



As a resident, business, or other member of the New Jersey community, it is important to know these easy things you can do every day to protect our water.

Limit your use of fertilizers and pesticides

- Do a soil test to see if you need a fertilizer.
- Do not apply fertilizers if heavy rain is predicted.
- Look into alternatives for pesticides.
- Maintain a small lawn and keep the rest of your property or yard in a natural state with trees and other native vegetation that requires little or no fertilizer.
- If you use fertilizers and pesticides, follow the instructions on the label on how to correctly apply it.



Make sure you properly store or discard any unused portions.

Properly use and dispose of hazardous products

- Hazardous products include some household or commercial cleaning products, lawn and garden care products, motor oil, antifreeze, and paints.
- Do not pour any hazardous products down a storm drain because storm drains are usually connected to local waterbodies and the water is not treated.

- If you have hazardous products in your home or workplace, make sure you store or dispose of them properly. Read the label for guidance.

- Use natural or less toxic alternatives when possible.

- Recycle used motor oil.

- Contact your municipality, county or facility management office for the locations of hazardous-waste disposal facilities.



Keep pollution out of storm drains

- Municipalities and many other public agencies are required to mark certain storm drain inlets with messages reminding people that storm drains are connected to local waterbodies.

- Do not let sewage or other wastes flow into a stormwater system.

Clean up after your pet

- Many municipalities and public agencies must enact and enforce local pet-waste rules.

- An example is requiring pet owners or their keepers to pick up and properly dispose of pet waste dropped on public or other people's property.

- Make sure you know your town's or agency's requirements and comply with them. It's the law. And remember to:

- Use newspaper, bags or pooper-scoopers to pick up wastes.

- Dispose of the wrapped pet waste in the trash or unwrapped in a toilet.

- Never discard pet waste in a storm drain.

Don't feed wildlife

- Do not feed wildlife, such as ducks and geese, in public areas.

- Many municipalities and other public agencies must enact and enforce a rule that prohibits wildlife feeding in these areas.



Don't litter

- Place litter in trash receptacles.

- Recycle. Recycle. Recycle.

- Participate in community cleanups.

Dispose of yard waste properly

- Keep leaves and grass out of storm drains.

- If your municipality or agency has yard waste collection rules, follow them.

- Use leaves and grass clippings as a resource for compost.

- Use a mulching mower that recycles grass clippings into the lawn.



Contact information

For more information on stormwater related topics, visit www.njstormwater.org or www.nonpointsource.org

Additional information is also available at U. S. Environmental Protection Agency Web sites: www.epa.gov/npdes/stormwater or www.epa.gov/nps

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Nonpoint Pollution Control
Municipal Stormwater Regulation Program
(609) 633-7021



April 2004

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

LOCAL PUBLIC EDUCATION PROGRAM

NJDEP EDUCATIONAL BROCHURES

Pet Waste Pollutes Our Waters

What You Can Do To Help Protect Our Water

Clean and plentiful water is important to our families, our environment, our economy and our quality of life.

Did you know that animal waste from pets can pollute our waters? When left on the ground, pet waste is washed by rain and melting snow and ice into storm drains that carry it to our rivers, lakes, the ocean and drinking water.

Animal waste contains a high concentration of nutrients as well as bacteria and disease-causing microorganisms that can cause problems.

What you can do

Pet owners or anyone who takes your pet for walks must properly dispose of the waste by picking it up, wrapping it and either placing it in the trash or flushing it unwrapped down the toilet.

Your municipality is required to adopt and enforce local pet-waste laws. At a minimum, your community must require that pet owners or their keepers **immediately** and **properly** dispose of their pet's solid waste deposited on **any public or private property not owned or possessed by that person**. People with assistance animals such as Seeing Eye dogs are exempt.

Make sure you know what your municipality requires – and follow it.

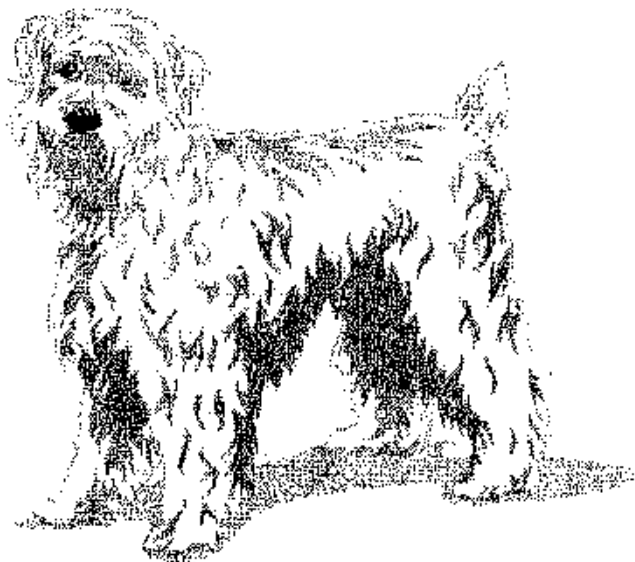
Thank you for doing your part to keep New Jersey's waters clean.

For more information, please contact the following:

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Nonpoint Pollution Control
Municipal Stormwater Regulation Program
(609) 633-7021

Visit www.njstormwater.org or www.nonpointsource.org

Additional information is also available at U.S.
Environmental Protection Agency Web sites
www.epa.gov/npdes/stormwater or www.epa.gov/hps





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Pets

Your everyday activities can affect water quality. Help reduce the amount of pollution that flows into our waterways by following the tips below.

- ▶ In The Garden
- ▶ Pets
- ▶ Vehicle & Garage Tips
- ▶ In The Home
- ▶ Litter & Recycling Tips

Related Links

- ▶ Frequently Asked Questions
- ▶ Educational Resources for the Public
- ▶ Educational Resources for Teachers

- Pick up after your pet. Properly dispose of pet waste into the trash or toilet. Animal waste contains coliform bacteria, which is harmful to our health and, when washed into swimming waters, can result in beach closings.
- Carry a newspaper or plastic bag to pick up the waste when you walk your pet. Nuisance laws prohibit you from allowing your pet's waste to remain on private or public land.
- When treating your pet and yard for fleas or ticks, check with your veterinarian for safe substitutes. Never dispose of flea dip liquid on the ground or in the storm drain. It should be disposed of as a household hazardous waste. Visit www.state.nj.us/dep/dshw/rtp/hhwcpd.htm for a list of county household hazardous waste disposal centers.
- Do not feed wildlife such as geese, pigeons, ducks and deer. Feeding results in more pollution from their wastes.


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Vehicle & Garage Tips

Your everyday activities can affect water quality. Help reduce the amount of pollution that flows into our waterways by following the tips below.

- ▶ In The Garden
- ▶ Pets
- ▶ Vehicle & Garage Tips
- ▶ In The Home
- ▶ Litter & Recycling Tips

Related Links

- ▶ Frequently Asked Questions
- ▶ Educational Resources for the Public
- ▶ Educational Resources for Teachers

- Take your car to a service center to change oil or antifreeze. If you do change your own oil or antifreeze, do it in a garage, never on the street. Use a self-contained oil pan and discard the oil at a local service center for recycling. NEVER discard oil, gas or antifreeze into a stormwater drain. Antifreeze should be discarded at a household hazardous waste facility. Visit www.state.nj.us/dep/dshw/rtrp/hhwcp for a list of local household hazardous waste facilities.
- If you spill hazardous fluids, contain it immediately with rags or cat litter. Clean up the spill and properly dispose of the waste.
- Check your car for leaks and schedule regular tune-ups. If you find leaks or drips, have your car repaired.
- Store hazardous materials properly to prevent spills. Store them in the original closed container.


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Last Updated: February 1, 2006

Geese, Ducks, and Swans

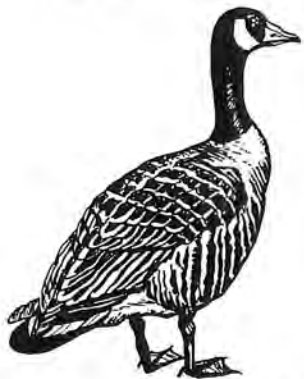
Geese, ducks, and swans have always been a treasured natural resource in Pennsylvania. These birds are enjoyed by millions of people each year, whether they are bird-watchers, hunters, or just those who appreciate their presence. The fall flights of geese and swans in their characteristic "V"-flock formation are familiar and welcome signs of the changing seasons. However, because of recent dramatic increases in waterfowl populations, these birds have become a nuisance in some places. A lack of predators, decreased opportunities for waterfowl hunting, food handouts, and landscapes consisting of large expanses of turfgrass have provided ideal conditions for these birds.

Although most people find a few ducks or geese acceptable, waterfowl populations can quickly get out of hand. For example, one pair of geese can, in five to seven years, easily become 50 to 100 birds that foul ponds and damage lawns, golf courses, and crops. This fact sheet provides information on controlling damage caused by Canada geese, ducks, and swans.

General Biology

Waterfowl have two primary habitat requirements. First, they need a permanent body of water on which to land, escape, rest, and roost. Second, they must have a suitable open feeding area that provides a place to land, has good visibility of the surrounding territory, and has abundant tender young grass and other vegetation for feeding. Mallards are primarily filter feeders and will consume almost anything edible. Swans eat aquatic plants, and geese eat a variety of terrestrial grasses.

All species will come on land to feed, typically twice a day, in the morning and late afternoon. However, they may feed at night if their normal daytime habits are disturbed. Normally waterfowl roost on open water at night.



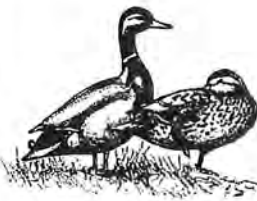
Canada Geese

Canada geese mate for life, with both parents caring for, and aggressively protecting, their young. Canada geese in Pennsylvania consist of both migratory and nonmigratory populations. Migratory populations are the Atlantic Population and the Southern James Bay Population. These two populations nest in

Canada and migrate south for the winter. Adults of both populations do not breed until three years of age. Both of these migratory populations have declined in size because

of poor survival and low reproduction since 1985.

By contrast, the nonmigratory, or resident, population in Pennsylvania has grown from approximately 2,400 from 1955-60 to more than 150,000 in 1993. Adults in this population can begin breeding at age two and have a higher survival rate than migrating birds. The resident population consists of nonmigratory birds that nest and reside in the Mid-Atlantic states, including Pennsylvania, throughout the year. Because harvest restrictions that protect the migratory populations also have protected the resident population, Pennsylvania has recently established special hunting seasons to target the resident population of geese. These seasons take place when migrant populations are not in the state.



Mallards

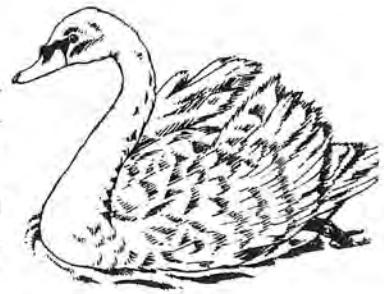
The number of mallards in Pennsylvania exceeds 160,000 birds. Most mallards in the state begin breeding as one-year-olds. They seek a new mate each year, and the female raises the young alone. Some nuisance mallards are wild birds, but many were

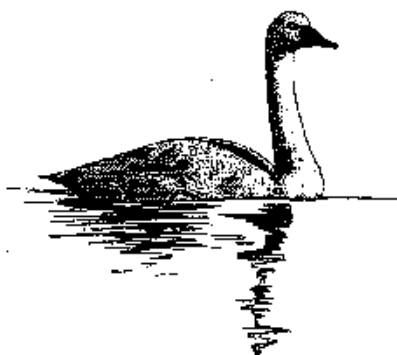
raised in captivity and released by private individuals or clubs. Many of these birds concentrate in urban and suburban ponds, along with large flocks of domestic ducks. Mallards born in Pennsylvania typically remain in the area until their water source freezes for the winter. They then migrate to southern parts of the state and to Maryland or the Chesapeake Bay.

Mute Swans

Mute swans are not native to North America but were first introduced from Europe in the late 1800s. Consequently, they are an unprotected species in Pennsylvania. They begin breeding at two or three years of

age, and their population has grown to more than 9,500 swans in the Northeast. They mate for life, and both adults care for the young. The adults can be extremely aggressive when protecting their young. Mute swans consume large amounts of aquatic vegetation that other fish and wildlife species depend on for food and shelter. Mute swans usually have an arching neck as they swim.





Tundra Swans

Unlike mute swans, tundra swans have a straight neck when swimming. Tundra swans are migrant visitors in Pennsylvania, breeding throughout arctic Canada, Alaska, and northeastern

Siberia. These swans begin breeding between ages three and five, and they mate for life. Both adults care for, and aggressively defend, their young.



Description of Damage

In Pennsylvania, most complaints about damage come from areas where birds congregate in public or private ponds and feed

in mowed areas in parks and near beaches, and on golf courses and lawns. Fecal droppings damage lawns and golf greens and can limit recreational use of the area. Fecal contamination of water may pose a local pollution problem, although it typically is not a threat to human health. Geese and swans defending their nests or young can injure people who come too close. Waterfowl at airports or on highways can be a threat to public safety.

Agricultural losses caused by waterfowl occur primarily in late winter and spring on wintering and migration areas. Generally, crop damage is light, although losses can be significant for some farmers. In the spring, waterfowl graze and trample crops such as sunflowers and cereal grains. Corn, soybeans, and alfalfa are most vulnerable at this time of year. In autumn, swathed grains can be eaten, trampled, and fouled by ducks and geese. Winter wheat can be pulled and trampled, particularly during wet periods.

Legal Status of Waterfowl

All native waterfowl in the United States are protected by the Federal Migratory Bird Treaty Act, as well as by state laws. Under these laws, it is illegal to hunt, kill, sell, purchase, or possess migratory birds without state and federal permits. In some situations where there is severe damage, wildlife agencies may issue a federal and state permit to remove a certain number of birds (see Lethal Removal Methods). A permit is not required to merely scare away migratory birds (other than endangered or threatened species) as long as the birds are not harmed. However, nesting birds may not be harassed without a federal permit. Domestic ducks and mute swans are not protected by the Migratory Bird Treaty Act.

Hunting as the Preferred Control Method

Hunting, where safe and legal, is the preferred method of reducing nonmigratory waterfowl populations, and over time may serve to decrease damage. Hunting also makes harassment techniques more effective. In some cases, municipal ordinances would need to be changed to permit hunting in nontraditional hunting areas such as parks, estates, golf courses, and corporate facilities, with perhaps special restrictions on hours and dates open to hunting. The Pennsylvania Game Commission can provide information on current waterfowl hunting regulations and seasons.

Nonlethal Control Measures

There are a number of nonlethal techniques that are effective in discouraging waterfowl. The key to their success is promptness and persistence. It is important to initiate control measures as soon as you notice these unwanted guests—don't wait until a large flock builds up. Once waterfowl become established, they are reluctant to leave and are more tolerant of control methods. A combination of methods works best since waterfowl quickly become accustomed to any single technique.

The following control techniques have been proven successful, but they will work only if they are applied with diligence and persistence.

Discontinue Feeding

Well-fed domestic "park ducks" and geese serve as decoys, encouraging wild birds to congregate in unnaturally high concentrations. Wild waterfowl are capable of finding their own food and will survive without handouts from people. Therefore, eliminating artificial feeding of waterfowl on public and private property should be the first control measure undertaken. Ordinances against feeding can be enacted and enforced by county or local authorities. It is important that a public education campaign accompany any anti-feeding ordinances to stimulate public interest, participation, and support.

Frightening

Waterfowl can be repelled by almost any large foreign object or mechanical noise-making device. Frightening devices should be in place before the start of the damage season to prevent waterfowl from establishing a use pattern. To improve their effectiveness and prevent birds from becoming accustomed to them, these devices should be moved every two to three days and used in varying combinations. All applicable laws must be observed when using these devices, particularly those governing the making of loud noises, discharging of firearms, use of pyrotechnics, and use of free-running dogs. Also, consider the possible reaction of neighbors.

Nesting waterfowl cannot be harassed without a federal permit. In addition, Canada geese molt their flight feathers from June through August and should not be harassed during this time.

Visual repellents such as flags, balloons, and scarecrows

can be used at a density of one per 3 to 5 acres before waterfowl settle in the area. If birds have already become accustomed to using an area, an additional one or more per acre may be necessary. Because geese can quickly become acclimated to visual repellents, reinforcement with audio repellents such as automatic exploders, pyrotechnics, or distress calls will be necessary.

Flags can be made by securely fastening 6 x 30-inch strips of orange plastic, or silver and red Mylar ribbon, to 4-foot poles. Place flags so that waterfowl can see them from all points in the field. Once birds land in a field and begin feeding, the flags' effectiveness may be lost.

Helium balloons staked in open fields or over water also have proven to be effective waterfowl repellents. Tether balloons with enough 75-pound test monofilament line to allow them to rise at least 10 feet into the air. Balloons larger than 2 feet in diameter are not recommended because of their increased wind resistance. Balloons with large contrasting eye spots seem more effective than those without eye spots.

Because adult mute swans aggressively protect their young from Canada geese, swan decoys arranged in "family groups" have been somewhat effective in discouraging geese from settling in an area. Each swan "family" should include two large, 35-inch styrofoam or wooden "adult" swans surrounding two or three smaller "young" swans. Swan decoys should be anchored on a tether with enough slack in the rope to allow for changes in water level and to allow decoys to move with the wind. To make this approach effective, use frightening devices to remove all waterfowl currently using the lake or pond, install enough swan groups to be visible from all parts of the pond, diminish other attractions in the area, and frighten away any small flocks of geese that land.

Scarecrows also can be used. Three concepts should be incorporated into scarecrow design: movement, bright colors, and large eyes. For maximum effect, the arms and legs should readily move in the wind. Scarecrows can be made of almost any material that has bright colors, such as red, blaze orange, or safety yellow.

Strips of 1/2-inch-wide Mylar tape have been successfully used to protect crops and other areas from bird damage. When properly installed, Mylar barriers combine three control strategies in one—exclusion, noise making, and visual repellents. Wind blowing over the tape produces a roaring sound, and the tape twists and flashes, reflecting sunlight. To make a Mylar grid, place 1- to 3-foot-tall posts 6 to 30 feet apart. Tie the Mylar tape between the posts. For a 20-foot span, the tape should be twisted one or two times between posts before tying it off. Over-twisting will reduce the flashing and roaring effect. To keep Mylar from breaking at the knot, cover the last foot of Mylar with nylon strapping tape before tying it off.

Automatic exploders, also known as propane cannons, make a loud noise without discharging a projectile. One exploder can protect up to 25 acres under ideal conditions. The rate of firing is manually adjustable, and exploders

should be set to fire about every five to 10 minutes. Their effectiveness can be increased by mounting them on a turntable so the cannons rotate a few degrees with each firing. This makes it less likely that birds will become used to the device. Exploders should be turned off after dusk and on again at dawn to reduce complaints from neighbors and to save on fuel. This also reduces the chance of birds getting used to the device. Clock timers or photocells are available for this purpose.

Pyrotechnics, such as shellcrackers, whistle bombs, screamer/banger rockets, and noise bombs, also can be used to repel waterfowl. These devices are fired from a 12-gauge shotgun or a modified .22 pistol, and have a range of 30 to 150 yards, depending on the model of the rocket. These rockets are more effective than firing guns into the air because they launch a charge that explodes in the air just over the birds. Caution should be used with these devices because allowing pyrotechnics to explode on the ground can ignite dry grass or weeds.

Dogs trained to chase waterfowl have been used to protect golf courses and grain fields. In certain situations, they can be very effective. Depending on the location and situation, these dogs can be free running, on slip-wires, tethered, or under the control of a handler.

Habitat Modification

Lakes and Ponds

There are several ways to make a pond and its surrounding area unattractive to waterfowl. Canada geese generally will not establish nesting territories in areas where they cannot easily walk in and out of the water. Therefore, constructing a pond so that there is an abrupt 18- to 24-inch vertical bank at the water's edge will deter geese. In locations such as levees or banks around airport runways, use large boulder rip-rap, which geese cannot easily climb over. Large boulder rip-rap, however, may provide nesting or loafing habitat for gulls.

Waterfowl also can be deterred by eliminating emergent aquatic vegetation with herbicides or an aquatic weed harvester, or by temporarily draining the pond. Contact the Pennsylvania Fish and Boat Commission at (814) 359-5147 for specific recommendations and permits for vegetation management in ponds. Unfortunately, removing vegetation also will reduce habitat quality for other wildlife and fish species, so use it with caution. If possible, discourage removal of woody brush from shorelines. In winter, shut off aerators to allow water to freeze. Reduce or eliminate fertilizer applications to areas surrounding ponds so that grass is less nutritious for grazing waterfowl. Prohibit feeding of waterfowl and construction of nesting structures around ponds, and plant shrubs on bare shorelines and on islands to reduce attractiveness for feeding, loafing, and nesting.

Lawns

Where feasible, limit lawn size and increase grass height to 10-14 inches, especially along shorelines. Consider replacing large lawn areas with shrubs, ground covers such as pachysandra and myrtle, or grass species that are not palatable to waterfowl. Geese prefer to feed in bluegrass (*Poa spp.*), so planting tall fescue (*Festuca arundinaceae*) will reduce grazing. Planting trees will interfere with birds' flight paths, and shrubs will reduce birds' ability to see from the ground. Groups of shrubs and trees should be planted to break up the open landscape and reduce visibility. Landscaping techniques that reduce birds' view to less than 25 to 30 feet discourages grazing, especially if harassment programs also are used.

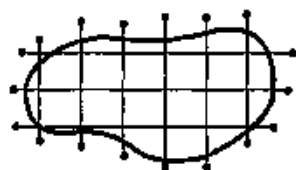
Exclusion

Canada geese may be discouraged from using ponds by installing a 30- to 36-inch-high poultry-wire fence at the water's edge. This technique, however, is not effective for ducks. Three-foot-high woven-wire fences around gardens and yards also will help keep geese out of these places because adult geese with young will not cross a fence and leave their young behind. Geese also are reluctant to pass under a wire fence, so installing a single-strand fence, or one made of Mylar flashing tape, at a height of about 15 inches may discourage geese from entering an area. A 2- to 3-strand goose-resistant fence can be placed around lawns, gardens, and crop areas. Place the first strand 1 foot above the ground, with each succeeding strand 1.5 feet above the previous strand. Snow drift fences and electric livestock fences have also proven effective.

Good results also have been reported using 20-pound test, or heavier, monofilament line to make a 2- to 3-strand fence in situations where aesthetics preclude the use of wire fencing. String the first line 6 inches off the ground, with each additional line spaced 6 inches above the preceding line. Suspend thin strips of aluminum foil at 3- to 6-foot intervals along the lines to increase visibility of the barrier for wildlife and people. The best results are obtained when the fence is in place before geese start grazing.

To stop waterfowl from using reservoirs, lakes, ponds,

and fish-rearing facilities, overhead grids can be constructed of thin cable visible to both humans and waterfowl. White or brightly colored cables may improve visibility. Because these materials are extremely light, several hundred feet can be sup-



ported between two standard, 5-foot, steel fence posts. Grids on 20-foot centers will stop geese, and grids on 10-foot centers will stop most ducks. Where necessary, grid lines should be installed high enough to allow people and equipment to move beneath them. Excessive rubbing will result in line breakage, so grid wires should be tied together wherever two lines cross. Attach lines independently to

each post and not in a constant run, to prevent having to rebuild the entire grid if a line breaks.

Where total exclusion is needed, use 1- to 1.5-inch mesh polypropylene UV-protected netting. Support the netting with at least 0.19-inch, 7 x 19-strand galvanized coated cable on 20-foot centers. Support cables must be well anchored to carry the weight of the netting and to allow the cable to be stretched tight to eliminate sag. High winds are the greatest hazard to this type of netting installation, so netting should be attached to the support cables to prevent wind-caused abrasion.

Repellents

Although not as effective as exclusion in the long term, repellents can be useful for short-term control. Methyl anthranilate, a chemical that has taste and olfactory repellent properties, is currently registered with the U.S. Environmental Protection Agency (EPA) for controlling waterfowl. This product is currently marketed under the trade name ReJeX-IT. It was developed using food-grade ingredients that have the unique ability to repel birds while remaining safe for birds, humans, and other mammals. There are three different ReJeX-IT products available—one for use on turf and lawns and two for use on nonfishbearing bodies of water.

Agricultural Control Measures

In addition to the methods described above, the following are control measures specific to agricultural areas. The most effective way to keep waterfowl away from agricultural crops is to repel them before they become established. Undisturbed waterfowl that establish a feeding pattern in a particular field will attract others and will become more difficult to eliminate. Legal hunting and scare devices will discourage geese that are beginning to use a field.

Agricultural damage can be reduced by timing planting or harvesting periods so they do not coincide with waterfowl migration. Many grains planted in spring are vulnerable to waterfowl damage during fall migration because they are swathed at harvest time, allowed to dry in the field, and then combined. Where conditions permit, production of winter grains instead of spring grains may limit waterfowl damage because winter grains usually can be straight combined in July and August, long before migrating waterfowl arrive in the area. A winter grain's rosette of leaves is vulnerable to grazing damage by waterfowl in fall and spring, however, research has shown that light grazing of the winter rosette actually can increase grain yield.

When production of winter grains is not practical, conduct spring planting in as short a time as possible, and harvest as quickly as possible to reduce the length of time that crops are vulnerable in the fall. Delay or eliminate fall plowing in areas where waterfowl damage standing or swathed grains.

Normally, Canada geese and tundra swans are wary and prefer to feed in open lands where they can see the surrounding countryside. They also require open areas in

which to land and are very reluctant to land in standing corn. Cornfields opened up by silage cutting, or by cutting the outer rows prior to picking, provide a landing space for waterfowl. If possible, do not open fields prior to the main harvest period. Once a field is open, harvest corn as soon as it is ripe and in as short a time as possible, and protect the field with one or more scare devices.

Waterfowl damage to unharvested fields can be limited by encouraging birds to feed in the stubble of harvested crops, in baited fields, or in lure crops that are planted to attract and hold waterfowl. Lure crops can be established in areas known to have high waterfowl damage and should be planted with grains that are particularly attractive for waterfowl. When using good-quality seed, plant at the normal rate. When using commodity grain or out-of-date seed, increase the planting rate by a factor of 1.5 to 2. Do not allow any hunting or harassment of waterfowl in the lure crop area until all surrounding crops are harvested and the threat of crop damage is over.

Field-baiting involves scattering grain in previously harvested fields or at natural waterfowl feeding areas to attract and hold waterfowl and keep them away from unharvested fields. Field baiting is most effective when done within two to three days of the birds' arrival. There are no set rules about the amount or type of bait to use, but provide enough to ensure that no birds will go elsewhere to feed, and use a grain that birds prefer. Often this can be the same seed that is grown in surrounding fields. Do not allow any harassment of waterfowl in the area of the baited field until all crops are harvested.

Regardless of the method used, it may be necessary to initially scare or herd the waterfowl away from surrounding fields until they have settled in the lure crop or in the baited field and have stopped visiting the other crops. State law requires that all artificial feeding be stopped and all grain removed at least 30 days before hunting waterfowl within the zone of influence of the baited area.

Lethal Methods of Removal (Permit Required)

In situations involving severe damage or threats to human health and safety, it may be possible to obtain permits from the U.S. Fish & Wildlife Service and the Pennsylvania Game Commission to kill migratory game birds, control reproduction, or remove adult birds. Permits will be considered only after it has been determined by the agencies that 1) artificial feeding has been terminated, 2) hunting has been implemented where feasible, and 3) appropriate nonlethal techniques have proven unsuccessful, or 4) there is an immediate and direct threat to human health and safety, such as birds congregating around an airport. Domestic ducks and mute swans are unprotected species in Pennsylvania, and no permit is required to remove or control them. In all cases, the complainant bears all the costs of removal methods. It also is the responsibility of the complainant to obtain support from the local community before lethal removal procedures are applied. Below is a list of phone numbers and addresses of federal and state

agencies to contact:

U.S. Fish & Wildlife Service
Migratory Bird Permit Office
P.O. Box 779
Hadley, MA 01035-0779
Phone: 413-253-8643
Fax: 413-253-8424
Email: permitsR5MB@fws.gov
www.fws.gov/

USDA
Wildlife Services
P.O. Box 459
1st and Water Streets
Summerdale, PA 17093
866-487-3297 (toll-free)
Email: jason.suckow@aphis.usda.gov
www.aphis.usda.gov/ws/pdf/pennsylvania.pdf

Pennsylvania Game Commission
Law Enforcement
2001 Elmerton Ave.
Harrisburg, PA 17110-9797
717-787-5740
www.pgc.state.pa.us/pgc/contact.asp

Regional Offices (toll-free):

Northwest Region: 877-877-0299

Southwest Region: 877-877-7137

Northcentral Region: 877-877-7674

Southcentral Region: 877-877-9107

Northeast Region: 877-877-9357

Southeast Region: 877-877-9470

Summary

The key to controlling nuisance flocks of ducks, geese, or swans is promptness and persistence. Methods of controlling damage will work only as well as their implementation. Once nuisance waterfowl are gone from an area, the area must be made unattractive to waterfowl, so that they will not return. As soon as one duck, goose, or swan lands, it should be frightened until it leaves. Otherwise, the bird will act as a decoy and attract others.

Materials and Suppliers

The following is an incomplete list of waterfowl control products and manufacturers and does not constitute an endorsement by Penn State or the Pennsylvania Game Commission. Many of these products can be purchased in local garden supply centers, feed mills, and department stores.

Frightening Devices

Automatic Exploders and Exploding Shotgun Shells

Reed Joseph International
P.O. Box 894
Greenville, MS 38701
800-647-5554
(gas cannons, pyrotechnics,
12-gauge shotshell)
www.reedjoseph.com/

Orchard Equipment &
Supply
P.O. Box 540
Conway, MA 01341
800-634-5557
Email: info@oescoinc.com
[www.oescoinc.com/
webcat/webcat.html](http://www.oescoinc.com/webcat/webcat.html)
(Zon Gun)

Sutton Ag. Enterprises, Inc.
746 Vertin Ave.
Salinas, CA 93901
831-422-9693
(Bird Bombs, Bird Whis-
tlers, Shell Cracker)

Stoneco Co., Inc.
P.O. Box 765
Trinidad, CO 81082
719-846-2853
(Shell Cracker)

Balloons

BIRDBUSTERS
300 Calvert Avenue
Alexandria, VA 22301
800-NO-BIRDS
[www.birdbusters.com/
bird_scare_products.html](http://www.birdbusters.com/bird_scare_products.html)

Bird-X, Inc.
300 N. Elizabeth St.
Chicago, IL 60607
800-662-5021
[www.bird-x.com/products/
index.html](http://www.bird-x.com/products/index.html)

Reflective (Mylar-type) Tape

Gardener's Supply Co.
128 Intervale Road
Burlington, VT 05401
888-833-1412 (toll-free)
[www.gardeners.com/
gardening/](http://www.gardeners.com/gardening/)
PB_Bird_Scare_Zone.asp

Orchard Equipment &
Supply
P.O. Box 540
Conway, MA 01341
800-634-5557
Email: info@oescoinc.com
[www.oescoinc.com/webcat/
webcat.html](http://www.oescoinc.com/webcat/webcat.html)

Exclusion Devices

Grid Materials
GridTech
294 Valley Rd.
Middletown, RI 02842
401-849-7920

Repellents

Martinson-Nicholls, Inc.
4910 East 345th Street
Willoughby, OH 44094
800-876-1312
Email: info@floormat.com
[www.floormat.com/
rejexit.html](http://www.floormat.com/rejexit.html)
(Rejex-It)

Nixalite of America, Inc.
1025 16th Avenue
East Moline, IL 61244
888-624-1189
www.nixalite.com
(Rejex-It)

Acknowledgments

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A Citizen's Guide to Understanding Stormwater



EPA 833-B-03-002
January 2003

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After the Storm

For more information contact:
www.epa.gov/nps/stormwater
or visit
www.epa.gov/nps

For more information contact:



What is stormwater runoff?



Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

Why is stormwater runoff a problem?



Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

The effects of pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.



- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.

Stormwater Pollution Solutions

Residential



Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids.

Don't pour them onto the ground or into storm drains.

Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.



- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.



- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Septic systems

Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.



- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.



- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.

Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.



Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for



rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.



Commercial

Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.



Construction

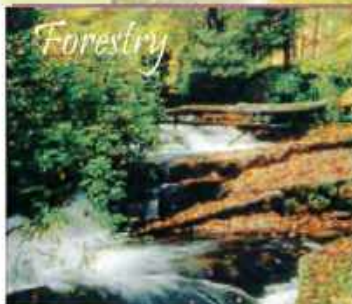
Agriculture

Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.



- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.

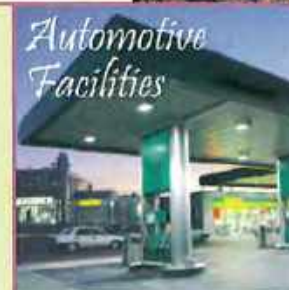
Forestry



Improperly managed logging operations can result in erosion and sedimentation.

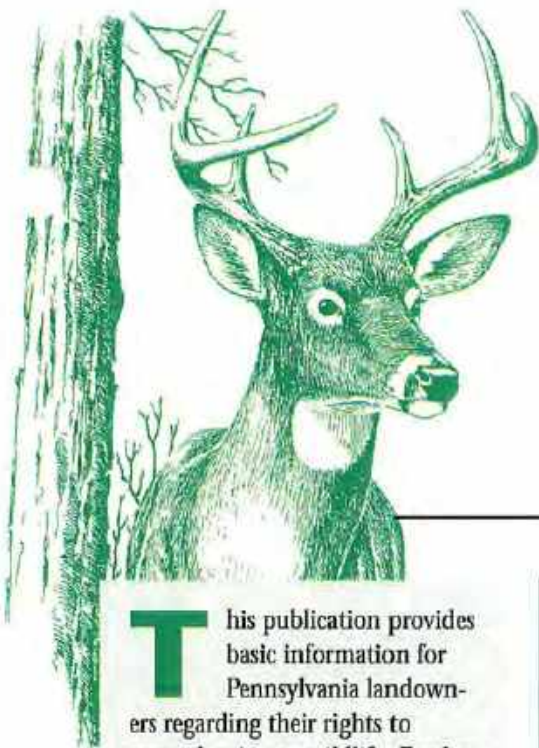
- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.

Automotive Facilities



Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.



Landowners' Guide to Wildlife Control and Prevention Laws in Pennsylvania

This publication provides basic information for Pennsylvania landowners regarding their rights to control nuisance wildlife. Further information for many of the species mentioned here can be found in the Wildlife Damage Control fact sheet series, published by Penn State Cooperative Extension. Direct additional questions to a regional office of the Pennsylvania Game Commission or your county extension office.

Control and Prevention Methods

Described below are various methods for controlling or preventing damage by nuisance wildlife. See the table to find out which methods may be used to control particular species. Remember that using more than one control method will give the most beneficial results.

Habitat modification

Modifying habitat is adjusting practices at home or on commercial lands to deter wildlife habitation. Such practices include keeping lands well manicured, containing garbage and food properly, reducing food availability through the use of insecticides and herbicides, and installing fencing around potential nesting or feeding sites.

Frightening

Frightening discourages habitation by causing the animal to leave on its own. Methods include shooting shell crackers; regularly detonating gas exploders to scare mammals or birds; and using predator or distress calls, electronic and vibration devices, and scarecrows.

Repellents

Repellents are chemicals that, when applied, deter wildlife habitation and feeding.^a

Toxicants

Toxicants are chemicals that, unlike repellents, kill or harm the animal or bird.^a

Fumigants

Fumigants are substances or mixtures of substances that produce gas, vapor, fume, or smoke intended to destroy rodents. Because of the complex nature of rodent burrows, fumigants often are not effective when used alone.^a

Kill trapping and live capture

In most cases, the use of traps where permitted is most effective. Various traps are available, depending on the situation. Live capture traps, like cage traps or box traps, can be set and left alone until the target species triggers them. All traps must be checked every 36 hours. Kill trapping may require a furtakers' license or permit from the Game Commission.

^aWhen using any chemical, read the label carefully for application methods and warnings. Use of certain chemicals requires permits and/or licenses. Contact the Pennsylvania Department of Agriculture, Pesticide Licensing (717-783-3959).

Shooting

Shooting live ammunition, whether to frighten or kill, has limited application. Generally, live ammunition may only be fired during hunting season or under permit. Discharge of cracker shells, firearms, or both may be regulated by municipality. Check your local ordinances.

All pest species can be excluded from an area to prevent infestation or damage before it begins. Check with your county extension agent for the proper exclusion methods to use for your particular pest.

Landowner Control of Wildlife Damage: Laws and Regulations

The Pennsylvania Game Commission's regulations for wildlife protection and damage control are printed below. If you have any concern that a control method violates these regulations, contact your regional Game Commission office before taking action to control nuisance wildlife. Also contact the office to notify them of any wildlife damage complaints.

- Protection is removed from wildlife, except migratory birds, big game, and threatened or endangered species, when personal property, other than an agricultural crop, is being destroyed or damaged (58 Code § 141.3.a.1). Only the owner or person in charge of the property may take wildlife (58 Code § 141.3.a.2).^b
- Protection is removed from wildlife, except migratory birds, big game, and threatened or endangered species, when an animal is obviously sick or diseased and poses a threat to human, farm animal, or pet safety. Only the owner or person in charge of the property, when the threat exists, may take these animals. The wildlife must be taken in a safe, expeditious, and lawful manner and

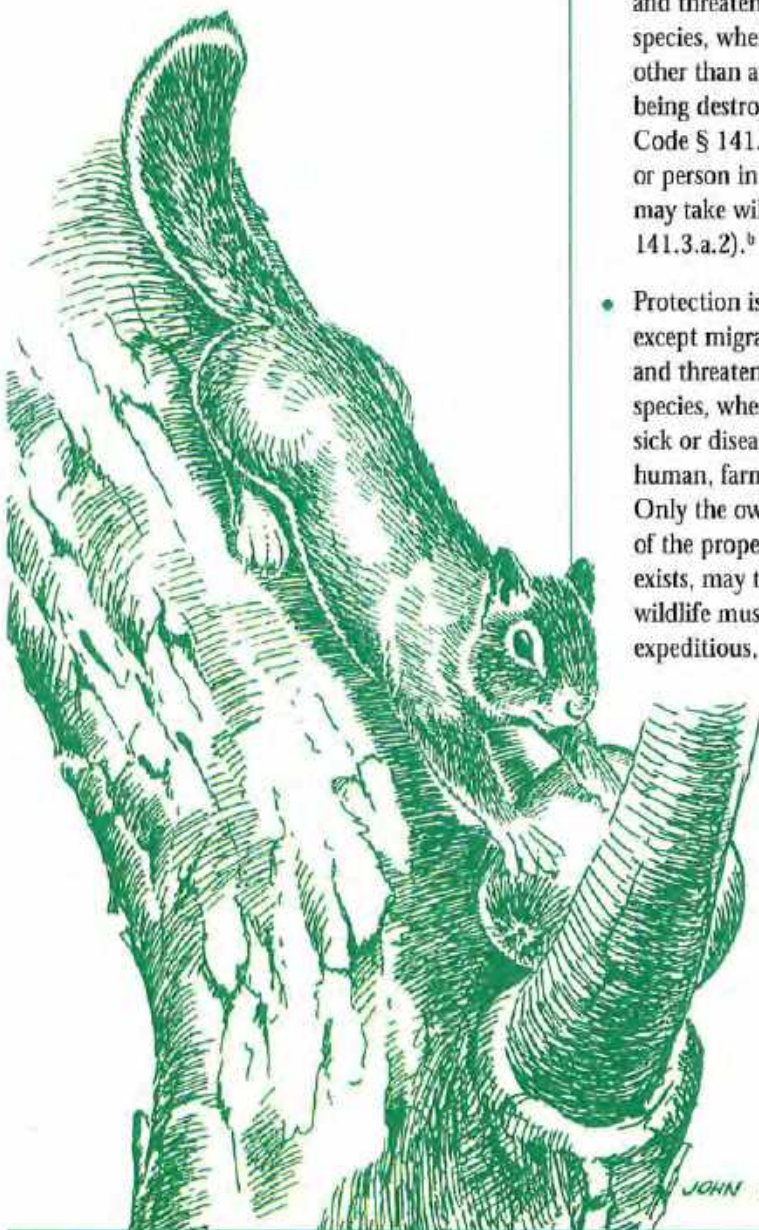
must be buried on the site where taken, destroyed by incineration or other proper disposal, or submitted for laboratory analysis (58 Code § 141.3.c-d).

- Wildlife taken to protect personal property must be taken in a humane and lawful manner (58 Code § 141.3.a.3).
- Wildlife taken to protect personal property must be turned over to a Game Commission representative as required in section 2125 (58 Code § 141.3.b.1).^c
- No wildlife may be retained alive, sold, or given away (58 Code § 141.3.b.2).

Farmers may protect from wildlife damage farm crops, fruit trees, vegetables, livestock, poultry, or beehives on any farmlands under their control. They may kill game for harming crops or livestock but must report the kill to a Wildlife Conservation Officer. For further information on farmers' rights, refer to the Pennsylvania Farm Bureau publication entitled *Farmers' Rights and Obligations Pertaining to the Game and Wildlife Code*, or call your regional Game Commission office.

^bTo take, as defined by the Game Commission, means "to harass, pursue, hunt for, shoot, wound, kill, trap, capture, possess, or collect any game or wildlife, including shooting at a facsimile of game or wildlife or attempt to harass, pursue, hunt for, shoot, wound, kill, trap, capture, or collect any game or wildlife."

^cSection 2125 states: "Except as otherwise provided in this subchapter, the entire carcass, including the head and hide, of all big game animals and the entire carcass of any other game or wildlife, other than raccoons, shall be made available, unless otherwise directed by an officer of the commission, intact, less entrails, to any commission officer calling for them."



	Modifying habitat	Frightening	Repellents	Toxicants	Fumigants	Kill trapping	Live capture	Shooting	Other methods
Bats	X	0	X	—	—	—	X	—	X
Beavers	PGC	X	—	—	—	PGC	PGC	PGC	PGC
Black bears	X	X	X	—	—	PGC	PGC	PGC	X
Blackbirds	X	X	X	PGC	—	PGC	PGC	PGC	—
Chipmunks	X	0	X	—	—	X	X	X	—
Deer	X	X	X	—	—	PGC	PGC	PGC	PGC
Field mice	X	0	X	X	—	X	X	0	X
Moles	X	X	X	X	X	X	X	0	X
Muskrats	X	0	—	—	—	X	X	PGC	—
Opossum	X	0	—	—	—	—	X	X	—
Rabbits	X	0	X	—	—	—	X	X	X
Raccoons	X	0	—	—	—	—	X	X	—
Shrews	X	0	—	—	—	X	X	0	X
Skunks	X	X	—	—	X	—	X	X	X
Snakes	X	0	X	—	—	—	X	X	—
House sparrows	X	X	X	X	—	X	X	X	X
Squirrels	X	0	X	—	—	X	X	X	—
Water fowl*†	X	X	X	—	—	—	PGC	PGC	PGC
Voles	X	0	X	X	X	X	X	0	—
Woodchucks	X	X	—	—	X	—	X	X	—
Woodpeckers†	X	X	—	—	—	PGC	PGC	PGC	PGC

* Ducks, geese, and swans

† Federally protected. A U.S. Fish and Wildlife permit is required in addition to the state permit before control measures can be taken.

X = Practice is lawful.

0 = Practice is lawful in all cases but may not be effective.

PGC-marked practices require authorization, permits, and/or the assistance of the Game Commission. Contact the Commission before using any of the PGC-marked methods.

Note: The Pennsylvania Game Commission is responsible for managing birds and mammals, while the Fish and Boat Commission is responsible for managing fishes, reptiles, and amphibians.



For Further Information

The Pennsylvania Game Commission

- Northwest, Franklin:
(877) 877-0299
- Southwest, Ligonier:
(877) 877-7137
- Northcentral, Jersey Shore:
(877) 877-7674
- Southcentral, Huntingdon:
(877) 877-9107
- Northeast, Dallas:
(877) 877-9357
- Southeast, Reading:
(877) 877-9470

Fish and Boat Commission
(717) 705-7800

Pennsylvania State Extension
Specialist
(814) 863-0401

USDA Wildlife Services
(717) 728-0400

Your county extension agent



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Illustrations by John Sidelinger

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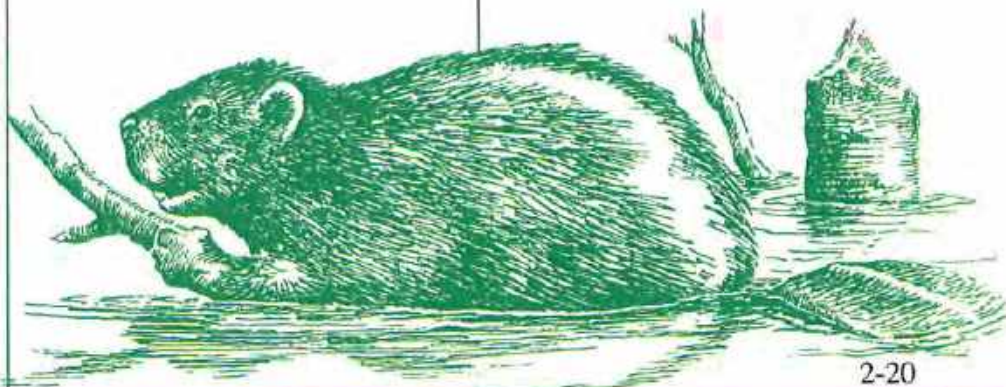
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Stormwater and the Construction Industry

Protect Natural Features



Bad



Good

- Minimize clearing.
- Minimize the amount of exposed soil.
- Identify and protect areas where existing vegetation, such as trees, will not be disturbed by construction activity.
- Protect streams, stream buffers, wild woodlands, wetlands, or other sensitive areas from any disturbance or construction activity by fencing or otherwise clearly marking these areas.

Construction Phasing



Bad



Good

- Sequence construction activities so that the soil is not exposed for long periods of time.
- Schedule or limit grading to small areas.
- Install key sediment control practices before site grading begins.
- Schedule site stabilization activities, such as landscaping, to be completed immediately after the land has been graded to its final contour.

Vegetative Buffers



Bad



Good

- Protect and install vegetative buffers along waterbodies to slow and filter stormwater runoff.
- Maintain buffers by mowing or replanting periodically to ensure their effectiveness.

Silt Fencing



Bad



Good

- Inspect and maintain silt fences after each rainstorm.
- Make sure the bottom of the silt fence is buried in the ground.
- Securely attach the material to the stakes.
- Don't place silt fences in the middle of a waterway or use them as a check dam.
- Make sure stormwater is not flowing around the silt fence.

Maintain your BMPs!

www.epa.gov/npdes/menuofbmps

Site Stabilization



Bad



Good

- Vegetate, mulch, or otherwise stabilize all exposed areas as soon as land alterations have been completed.

Construction Entrances



Bad



Good

- Remove mud and dirt from the tires of construction vehicles before they enter a paved roadway.
- Properly size entrance BMPs for all anticipated vehicles.
- Make sure that the construction entrance does not become buried in soil.

Slopes



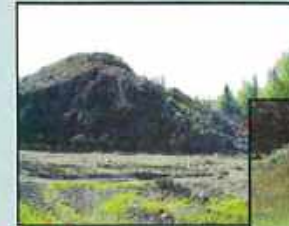
Bad



Good

- Rough grade or terrace slopes.
- Break up long slopes with sediment barriers, or under drain, or divert stormwater away from slopes.

Dirt Stockpiles



Bad



Good

- Cover or seed all dirt stockpiles.

Storm Drain Inlet Protection



Bad



Good

- Use rock or other appropriate material to cover the storm drain inlet to filter out trash and debris.
- Make sure the rock size is appropriate (usually 1 to 2 inches in diameter).
- If you use inlet filters, maintain them regularly.

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM

STORM DRAIN INLET LABELING PROGRAM

Statewide Basic Requirement:

Storm Drain Inlet Labeling Program – Highway Agencies shall establish a storm drain inlet labeling program and label all storm drain inlets within the Highway Agency along streets with sidewalks, within plazas, parking areas or maintenance yards operated by the Highway Agency. The program shall establish a labeling schedule, develop a long-term maintenance plan, and when possible, coordinate efforts with watershed groups or volunteer organizations.

Labeling Material Selection:

The Commission will utilize a combination of plastic/metal marker and stencils with the drawing of a fish in the center and the message "No Dumping - Drains to Waterway" around the perimeter of the marker/stencil.

Labeling Program:

Each District Superintendent will coordinate and schedule the labeling process for their district utilizing facility personnel to conduct the bulk of the labeling work. Inlet labeling will be scheduled to comply with the NJDEP implementation deadlines (50% by April 1, 2007 and the remaining 50% by April 1, 2009).

Markers will be placed in areas of minimal or no vehicular traffic and will occur during times where surface temperatures exceed 50 degrees for optimal adhesion to the inlets.

Stencils will also be placed in areas of minimal or no vehicular traffic.

Labeling Procedures:

Markers:

- A wire brush or broom will be utilized to clear away any loose debris from the inlet prior to labeling. Vegetative growth around the inlet will be removed as needed.
- Debris collected will be disposed of properly.
- Adhesive will be applied as per the manufacturer's recommendations. Protective gear (gloves, mask, etc.) will be used as needed and as recommended by the manufacturer.
- The curb marker will be applied to the cleaned area and held down to insure a proper seal with the adhesive.

Stencils:

- A wire brush or broom will be utilized to clear away any loose debris from the inlet prior to labeling. Vegetative growth around the inlet will be removed as needed.
- Debris collected will be disposed of properly.
- Firmly hold the stencil in place on the street in front of or behind the storm drain inlet. Brush or spray the paint onto the stencil. Protective gear (gloves, mask, etc.) will be used.
- Once painting is complete, lift the stencil straight up to prevent smearing.

Maintenance Procedures:

District personnel shall conduct periodic inspection of each inlet during routine maintenance activities. The markers or stencils will be inspected to ensure they are visible and/or firmly adhered to the inlet head. Markers or stencils found to require replacement will be replaced/re-stenciled as needed.

Personnel from each district shall provide certification bi-annually on the quantity of labeling work completed to date and confirm that maintenance is ongoing. Copies of the certification will be included in the SPPP.

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

STORM DRAIN INLET LABELING PROGRAM

STORM DRAIN LABELING GUIDELINES FOR NEW JERSEY

Storm Drain Labeling Guidelines for New Jersey

Prepared by
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Division of Watershed Management
PO Box 418
Trenton, NJ 08625
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March 2004

Storm Drain Labeling Guidelines for New Jersey

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Acknowledgements

This guide is compilation of several guides and other materials that are already in existence. Many thanks to the following organizations:

*Partnership for the Delaware Estuary
Whippany River Watershed Partnership
United States Environmental Protection Agency*

Storm Drain Labeling Guidelines for New Jersey

Why Label Storm Drains?

Storm drain labeling is a great way to make people in your community more aware of nonpoint source pollution and polluted runoff. Nonpoint Source Pollution, or people pollution, is a contamination of our ground water, waterways, and ocean that results from everyday activities such as fertilizing the lawn, walking pets, changing motor oil and littering. With each rainfall, pollutants generated by these activities are washed into storm drains that flow into our waterways and ocean. Polluted runoff is stormwater contaminated by nonpoint source pollution. It harms local waterways, which we rely on for recreation and drinking water.

Residents may not be aware that most storm drains empty directly into local waterways, without treatment. Some individuals may view storm drains as trash receptacles for trash, used motor oil, leftover paint, pet waste or other pollutants. Storm drain labeling serves as an educational tool to remind people about the connection between storm drains and local waterbodies.

By labeling storm drains we can make everyone more aware of the nonpoint source pollution and polluted runoff. This is one step in educating people so that they can change their attitudes and behaviors that contribute to the problem.

Storm drain inlet labeling is also a requirement of New Jersey's new municipal stormwater permitting program. All Tier A municipalities are required to establish a storm drain inlet labeling program and label all storm drain inlets that are along municipal streets with sidewalks, and all storm drains within plazas, parking areas, or maintenance yards operated by the municipality. This program establishes a schedule for labeling, develops a long term maintenance plan and when possible coordinates the efforts with watershed groups and volunteer organizations. On an annual basis, these Tier A municipalities must identify the number of storm drains labeled. For more information on this program, visit www.njstormwater.org or call 609-633-7021.

A key factor in the success of a storm drain labeling program is visibility. Publicity in the local media about the event and volunteer participation in the event greatly increases the value of the labeling program as an educational tool. Municipalities are not required to use volunteers or seek media attention, but these activities do greatly improve the overall value of the program. Municipalities may opt to label the storm drains themselves or organize the storm drain labeling activities of local volunteers.

Types of Labeling

There are two types of storm drain labeling that can be done, stenciling with paint or gluing storm drain markers. Stenciling involves using a stencil and paint to label the drain. This type of marking has been used since early 1990s. The paint generally lasts up to 2 years, depending on weather and traffic conditions. Marking involves gluing a purchased marker to the storm drain. This method may last up to 10 years.

In determining which type of labeling to use, consider the cost of materials and how long they will last. Stenciling costs less initially and lasts a shorter time than markers which costs more initially but last longer. Another consideration is the educational value of the actual labeling process for the participants and residents. Since stenciling is done more frequently, it provides a more frequent reminder about polluted runoff.

How to Label Storm Drains

Below we have outlined the various tasks necessary to conduct a successful labeling event. At each event there are unique circumstances that come up and must be addressed by the organizers. A coordinator should be designated to oversee the event.

Preparation before the Event

1. Form an organizing committee and designate tasks.
2. Determine whether or not you will use stencils or markers. Determine what your stencils or markers will say and whether or not you want to include a graphic such as a fish, turtle, heron or crab. Some suggested messages are: "NO DUMPING – DRAINS TO RIVER," "ONLY RAIN DOWN THE STORM DRAIN," and "DUMP NO WASTE – DRAINS LOCAL WATERWAY." These messages can be customized to include the names of local waterbodies. In addition, you may wish to print the message in other languages depending on the community. Spanish is included as a standard on some markers.
3. Determine whether you will be purchasing materials or looking for donations. Include time to manufacture the markers or stencils in your timeline.
4. Identify your targeted area for labeling. Survey the area to locate the storm drains and determine how many there are. This information will determine how many labels you will need to buy and how many people will be involved in the event.
5. Select a date and a rain date for the event. Select the time and meeting location for the event.
 - a. Find out if there are any other events planned for that time period that might conflict or compliment your labeling event. A litter clean-up by the local environmental commission or flower planting by the garden club would compliment your labeling.

- b. The pavement or storm drain structure must be over 50 degrees for marking so that the adhesives will work properly. The surface must be dry for either stencils or markers.
6. Obtain written permission from your county or municipality to conduct the labeling. Call your county or municipality to find out the appropriate person or department to obtain permission from, usually the public works, highway or sewage authority. Ask them for a map of storm drains that you have permission to label.
7. In order to involve more volunteers, call various groups in your school and neighborhood to find out if they would be interested in participating. Consider involving your local AmeriCorps New Jersey Watershed Ambassador (See Resources Available at NJDEP section).
8. Prepare a promotional flyer to distribute to potential volunteers. You may want to invite friends, family, school clubs, youth groups, community organizations and neighbors. It may be beneficial to call these groups and/or make a presentation at one of their meetings.
9. Request support from local businesses to provide refreshments either before or after the event. Local businesses may also wish to contribute stenciling supplies (garbage bags, paint, brushes, gloves, etc.).
10. Invite community leaders including elected officials to participate in the event.
11. Acquire or prepare an informational flier to hand out during the event. Many materials are available for no or low cost from government agencies such as the NJ Department of Environmental Protection, local environmental groups or watershed associations (See Resource Section at the back of this booklet).
12. Prepare a press alert at least two weeks prior to the event and send it to the local media. Follow-up by calling the reporters and editors before the event.
13. Survey the area before the event to familiarize yourself with it. Note any safety concerns.

Week before the event

14. Make sure all materials are on hand. Prepare packets of supplies and information for each of your teams. Include a map of their area to label. Prepare sign-in sheets, name tags, and copies.
15. Make follow-up phone calls to confirm volunteers. Advise them of who to call in case of inclement weather. Make sure they know the time and location for the event.

16. Confirm refreshments if you are providing them.
17. Make follow up phone calls to the news media and local officials.

Day of the Event

1. Plan to arrive early to allow time to set-up before volunteers arrive.
2. Register volunteers. Allow about 30 minutes for registration and refreshments.
3. Give an overview of the day and why their work is important.
4. Divide volunteers into teams. Assign a team leader. Teams should be composed of 4 to 6 people. Make sure they have enough supplies for the area they will cover. Go over safety considerations.
5. Give volunteers a lesson on how to label the storm drain.
6. Send teams out to different areas, making sure that each team is clear on what area they are to stencil. Give them a specific time to return.
7. Take photographs of the event in order to document it and/or use them in a post-event press release.
8. When they return, collect leftover supplies. Dispose of any collected trash and recyclables properly.
9. Ask volunteers for feedback on the event. Provide refreshments if appropriate.

Follow-up after the Event

1. Send thank you letters to volunteers, businesses, supporters and any others that assisted you in the project.
2. Send a post-event press release to the local media. Include photographs of the actual event. Be sure to mention volunteer groups, sponsors and community leaders that were involved in the event.
3. Put together a summary of the event and provide it to your municipality.

Labeling Tips

All surfaces must be dry for either stenciling or marking.

Remember while working in or near the street, there is inherent risk. Be very cautious of passing cars, especially if you are working with children. Consider wearing brightly-colored safety vests, using traffic cones to protect your team and assigning a team member to serve as look-out for traffic.

Storm Drain Stenciling Tips

Supplies you will need:

- Stencils
- Latex paint
- Foam brushes
- Safety Vests
- Educational flyers
- Gloves*
- Paint stirrer
- Wire brushes or brooms
- Dustpans
- Newspapers or rags
- Trash bags

Remember:

- A little paint goes a long way!! Using too much blurs the stencil image.
- Try to stencil in area where cars will not be driving directly on the paint. This greatly shortens the life of the paint.

How to stencil:

- Use a wire brush or broom to clear away any loose debris from the spot where the stencil will be placed. Pull weeds if necessary. Put debris in garbage bags and dispose of it properly. Keep recyclables separate and recycle any items that can be recycled.
- Designate one team member as the safety person to look out for vehicles.
- Have two team members hold down the stencil firmly on the street in front of or behind the storm drain. A third team member can gently sponge or brush paint onto the stencil. You do not need to soak the brush. The less paint you use the more control you will have in painting a clearly legible message. When using the foam brush, press straight up and down on the street to apply the paint. Wiping side to side will cause the paint to get trapped under the stencil blurring the message. All three of these team members should wear gloves.
- Once painting is completed, lift the stencil straight up to prevent smearing.
- While some team members are stenciling, others may hand out educational flyers to people passing by or to nearby businesses in the vicinity of the stenciled areas.

****Please note that many people have allergic reactions to latex gloves. Check with your team members before distributing them if you use latex gloves.***

Storm Drain Labeling Guidelines for New Jersey

Storm Drain Marking Tips

Supplies you will need:

- Markers
- Adhesive
- Safety Vests
- Educational flyers
- Gloves*
- Wire brushes or brooms
- Dustpans
- Newspapers or rags
- Trash bags

Remember:

- Try to place the marker in area where cars will not be driving directly on it. This can greatly shorten the life of the marker.
- Surface temperatures must be over 50 degrees for most of the adhesives used to seal properly.

How to apply a marker:

- Use a wire brush or broom to clear away any loose debris from the spot where the stencil will be placed. Pull weeds if necessary. Put debris in garbage bags and dispose of it properly. Keep recyclables separate and recycle any items that can be recycled.
- Designate one team member as the safety person to look out for vehicles.
- Have two team members apply the adhesive in a spiral pattern on the back of the marker. Be sure to wear gloves.
- Apply the marker to the cleaned area. Press down hard to insure a proper seal with the adhesive under the entire surface of the marker.
- While some team members are applying markers, others may hand out educational flyers to people passing by or to nearby businesses in the vicinity of the stenciled areas.

****Please note that many people have allergic reactions to latex gloves. Check with your team members before distributing them if you use latex gloves***

Storm drain markers are available from two sources:

This information does not constitute an endorsement by the NJDEP of either of these manufacturers.

ACP International
1010 Oakmead
Arlington, Texas 76011
817-640-0992
www.acpinternational.com

das Manufacturing
3610 Cinnamon Trace Drive
Valrico, Florida 33594
800-549-6024
www.dasmanufacturing.com

For storm drain stencils, you may purchase stencil materials locally and create your own
OR purchase pre-cut or custom stencils from:

Earthwater Stencils
Rochester, Washington
(360) 956-3774
www.earthwater-stencils.com

In addition, check with watershed association and environmental groups listed in the Additional Resources Section. They may have customized labels or markers for your watershed.

NonPoint Source Pollution Tips

Information in this section can be used in preparation of an educational flyer to distribute while labeling. Check with your local watershed association or environmental group listed in the Additional Resources Section for local educational materials.

Nonpoint Source Pollution is the contamination of our ground water, waterways, and ocean that results from everyday activities such as fertilizing the lawn, walking pets, changing motor oil and littering. With each rainfall, pollutants generated by these activities are washed into storm drains that flow into our waterways and ocean. They also can soak into the ground contaminating the ground water below.

Each one of us, whether we know it or not, contributes to nonpoint source pollution through our daily activities. As a result, nonpoint source pollution is the BIGGEST threat to many of our ponds, creeks, lakes, wells, streams, rivers and bays, our ground water and the ocean.

The collective impact of nonpoint source pollution threatens aquatic and marine life, recreational water activities, the fishing industry, tourism and our precious drinking water resources. Ultimately, the cost becomes the burden of every New Jersey resident.

But there's good news - in our everyday activities we can stop nonpoint source pollution and keep our environment clean. Simple changes in YOUR daily lifestyle can make a tremendous difference in the quality of New Jersey's water resources. Here are just a few ways you can reduce nonpoint source pollution.

LITTER: Place litter, including cigarette butts and fast food containers, in trash receptacles. Never throw litter in streets or down storm drains. Recycle as much as possible.

FERTILIZERS: Fertilizers contain nitrates and phosphates that, in abundance, cause blooms of algae that can lead to fish kills. Avoid the overuse of fertilizers and do not apply them before a heavy rainfall.

PESTICIDES: Many household products made to exterminate pests also are toxic to humans, animals, aquatic organisms and plants. Use alternatives whenever possible. If you do use a pesticide, follow the label directions carefully.

HOUSEHOLD HAZARDOUS PRODUCTS: Many common household products (paint thinners, moth balls, drain and oven cleaners, to name a few) contain toxic ingredients. When improperly used or discarded, these products are a threat to public health and the environment. Do not discard with the regular household trash. Use natural and less toxic alternatives whenever possible. Contact your County Solid Waste Management Office for information regarding household hazardous waste collection in your area.

Storm Drain Labeling Guidelines for New Jersey

MOTOR OIL: Used motor oil contains toxic chemicals that are harmful to animals, humans and fish. Do not dump used motor oil down storm drains or on the ground. Recycle all used motor oil by taking it to a local public or private recycling center.

CAR WASHING: Wash your car only when necessary. Consider using a commercial car wash that recycles its wash water. Like fertilizers, many car detergents contain phosphate. If you wash your car at home, use a non-phosphate detergent.

PET WASTE: Animal wastes contain bacteria and viruses that can contaminate shellfish and cause the closing of bathing beaches. Pet owners should use newspaper, bags or scoopers to pick up after pets and dispose of wastes in the garbage or toilet.

SEPTIC SYSTEMS: An improperly working septic system can contaminate ground water and create public health problems. Avoid adding unnecessary grease, household hazardous products and solids to your septic system. Inspect your tank annually and pump it out every three to five years depending on its use.

BOAT DISCHARGES: Dumping boat sewage overboard introduces bacteria and viruses into the water. Boat owners should always use marine sanitation devices and pump-out facilities at marinas.

As you can see, these suggestions are simple and easy to apply to your daily lifestyle. Making your commitment to change at least one habit can result in benefits that will be shared by all of us and add to the health and beauty of New Jersey's water resources.

Resources Available at NJDEP

These resources are available through the NJDEP Division of Watershed Management and are provided for low or no cost. Please call 609-292-2113 or visit www.nj.gov/dep/watershedmgt

The New Jersey Watershed Ambassadors Program

The New Jersey Watershed Ambassadors Program is a community-oriented AmeriCorps environmental program designed to raise awareness about water issues in New Jersey. Through this program, AmeriCorps members are placed across the state to serve their local communities. Watershed Ambassadors monitor the rivers of New Jersey through River Assessment and Biological Assessment volunteer monitoring protocols. Watershed Ambassadors also make interactive presentations to community organizations and schools. They also organize and participate in stewardship projects such as storm drain stenciling, litter clean-ups and restoration projects.

Project WET (Water Education for Teachers)

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 is the only program that teaches about 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 is a well-rounded program that focuses on water supply, water quality, water conservation, watershed management, land use planning and wetlands. Project WET provides educators with accurate insight into critical water issues while offering a large selection of creative teaching strategies.

In addition to workshops, NJ Project WET reaches another 5,000 students annually and an estimated 12,000 parents, volunteers, educators and administrators through its Water Festival Grant Program. A Water Festival is a one-day celebration of water with a focus on a school's watershed. Students participate in 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, how a molecule travels through the water cycle and much more. The festivals involve the community and attract positive media attention that reaches thousands of people across the state.

NJ Project WET offers a unique learning opportunity for high school students and teachers through its Watershed Stewards Program. This program focuses on a weekend leadership workshop for a high school team of four or five students. They are provided instruction and training in watershed topics and team-building experiences that prepare them to focus on a watershed service project that will address an environmental concern. Each Watershed Steward Team must work with three community organizations and solicit another 20 volunteers to assist with the project. Participants receive a small grant to conduct a Watershed Steward Project.

Harbor Watershed / Urban Fishing Program

The goal of the Urban Fishing Program is to educate young students living in the Newark

Storm Drain Labeling Guidelines for New Jersey

Bay Complex about the hazards of eating contaminated fish and help them to discover the beauty of the great natural resource. Students who participate in the program sample recreational opportunities that the bay has to offer while learning how to be responsible citizens within the estuary. The students experience four days of intense yet enjoyable instruction related to the Newark Bay Complex. Throughout the four days students are given hands-on experiences such as fishing, water monitoring, eco-cruising and community clean-ups which will endure with them over a lifetime. The program also includes a storm drain marking program that can help municipalities fulfill their stormwater permitting requirements.

Clean Water Raingers Program

This 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 Waters Raingers Program are provided with free booklets and associated materials for their elementary school age students. The *Clean Water Raingers Coloring Book*, *How to be a Clean Water Rainger Booklet* and the *Clean Water Raingers stickers* are also popular giveaways at family oriented events and festivals. These publications are also available online on the Department's environmental education web page.

Volunteer Monitoring Program - Watershed Watch

The Division has begun to implement a Volunteer Monitoring Program over the last several years. Volunteers are being encouraged to assess their local waterways using visual surveys or benthic macroinvertebrate studies. The Watershed Watch Network, comprised of volunteer monitors from across the state, works with the Department to better coordinate and improve the data collected by volunteers.

Publications

The DWM produces a number of stormwater related publications that are available for free distribution to municipalities, watershed associations, environmental groups or other organizations. These include *What's A Watershed?* Brochure, *New Jersey's Watersheds* Poster, and *Watershed Focus* Newsletter.

Additional Resources

There are many government agencies, environmental groups, and watershed association that have resources to help you. They can help you organize an event, provide volunteers, or provide educational resources. Please contact organizations in your area.

New Jersey Department of Environmental Protection
Division of Watershed Management
PO Box 418
Trenton, NJ 08625-0418
609-292-2113
www.nj.gov/dep/watershedmgt

Alliance for a Living Ocean
2007 Long Beach Boulevard
North Beach Haven, NJ 08008
609-492-0222
livingoceanato@comcast.net
<http://www.livingocean.org/index.html>

Clean Ocean Action
18 Hartshorn Drive
PO Box 505
Highlands, NJ 07732
732-872-0111
sandyhook@cleanoceanaction.org
<http://www.cleanoceanaction.org/>

Great Swamp Watershed Association
PO Box 300
New Vernon, NJ 07976
973-966-1900
everything@greatswamp.org
<http://www.greatswamp.org>

Jacques Cousteau National Estuarine Research Reserve
Jacques Cousteau Coastal Education Center
130 Great Bay Boulevard
Tuckerton, NJ 08087
609-812-0649
weiss@imcs.rutgers.edu
<http://www.icnerr.org/>
Lisa Weiss

Monmouth Coastal Watersheds Partnership
c/o Monmouth County Planning Board
One East Main Street
Freehold, NJ 07728
732-431-7460
Turner Shell
<http://www.visitmonmouth.com/area12/>

North Jersey Resource Conservation and Development Council
54 Old Highway 22
Clinton, NJ
908-735-0733
chalk@northjerseyrcd.org
<http://www.northjerseyrcd.org/>
Christine Hall

Partnership for the Delaware Estuary
1009 Philadelphia Pike
Wilmington, DE 19809
1-800-445-4935
partners@udel.edu
www.delawareestuary.org

Passaic River Coalition
246 Madisonville Road
Basking Ridge, N.J. 07920
908-766-7550
prewater@aol.com
<http://www.passaicriver.org/>
Ella Filippone

Pequannock River Coalition
PO Box 392
Newfoundland, NJ 07435
973-492-3212
pequannockguy@aol.com
Ross Kushner

Pohatcong Creek Watershed Association
256 Creek Road
Phillipsburg, NJ 08865
(908) 213-1550
www.pewa.org
Dawn Arcia

Pompeston Creek Watershed Association

Storm Drain Labeling Guidelines for New Jersey

551 New Albany Road
Moorestown, NJ 08057
(856) 235-9204
dlord@aol.com
Debbie Lord

Rockaway River Watershed Cabinet
c/o Morris 2000
2 Ridgedale Avenue
Cedar Knolls, NJ 07927
973-984-2000

South Branch Watershed Association
Lechner House, Echo Hill
Environmental Area, 51 Lilac Drive
Flemington, NJ 08822
908-782-0422
sbwa@eclipse.net
<http://www.sbwa.org>

Stony Brook Millstone Watershed Association
31 Titus Mill Road
Pennington, NJ 08534
609-737-3735
creed@thewatershed.org
www.thewatershed.org

Sussex County Municipal Utilities Authorities
34 Route 94 South
Lafayette, NJ 07848
973-579-6998
scmua@dnac.net
<http://www.wallkillriver.org/>
Nathaniel Sajdak

Ten Towns Great Swamp Watershed Management Committee
c/o Morris 2000
2 Ridgedale Avenue
Cedar Knolls, NJ 07927
973-984-2000
<http://www.tentowns.org>

Watershed Management Area 3 Public Advisory Committee
holzapfelg@waynetownship.com
George Hozapfel

Watershed Management Area 4 Public Advisory Committee

Ellen Gruber

mandegruber@hotmail.com

Watershed Management Area 5 Public Advisory Committee

Bergen County Department of Health Services

327 East Ridgewood Avenue

Paramus, NJ 07652

201-634-2600

avernick@aol.com or tdecandia@co.bergen.nj.us

Anthony Vernick or Anthony DeCandia

Watershed Management Area 19 Public Advisory Committee

Burlington County Office of Land Use Planning

P. O. Box 600

Mt. Holly, NJ 08060

Gina Berg

Wreck Pond Watershed Association

809 Central Avenue

Spring Lake Heights, NJ 07762

732-449-8764

wreckpond@hotmail.com

Clean Communities Program

Sandy Huber, Executive Director

Clean Communities Council

479 West State Street

Trenton, NJ 08618

609-989-5900

info@njclean.org

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

The Clean Communities Council works with the state departments of Environmental Protection and Treasury to oversee the implementation of litter abatement programs in 556 municipalities and 21 counties. The Council provides a clearinghouse for information about litter abatement, forums for the free exchange of ideas, and a voice for its constituents.

The Council also will ask towns and counties to report how Clean Communities grant money is spent—the number of cleanups held, number of volunteers who participated, the amount and type of litter and recyclables picked up, and the number and type of educational programs offered to schools and community groups. This information will be compiled in the Annual Report to the Governor and Legislature

Storm drain labeling is one of the allowable costs under this entitlement program. If you are planning a storm drain labelling event, please contact your local Clean Communities Coordinator to see if funding is available.

Useful websites

In addition, there are many valuable websites that can give you background information on nonpoint source pollution, polluted runoff, watershed and storm drain marking. They are listed below.

NJ Department of Environmental Protection

www.nj.gov/dep

features information on the Department's clean water initiatives, educational materials and regulatory programs

United States Environmental Protection Agency

www.epa.gov/owow/nps/

features basic information at the national level on nonpoint source pollution

The Watershed Institute

www.thewatershedinstitute.org

features information about watershed associations from across the state

Watershed Partnership for New Jersey

www.wpnj.org

features information on watershed educational resource in New Jersey

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

STORM DRAIN INLET LABELING PROGRAM

LABELING MANUFACTURER SPEC/ORDER SHEETS

Curb Markers

Storm Drain Markers

Stick It & Curb Pollution

In an effort to preserve the quality of America's drinking water through public education, storm drain marking programs have been implemented across the U.S.

Unfortunately storm drain marking with paint is messy, time consuming, contradictory to the environmental message being presented and ultimately expensive since it must be constantly redone.

The CWT Curb Marker offers the only performance proven alternative available:

- **Proven Performance:** Millions in use since 1983. Field-tested. Laboratory tested. References available from satisfied customers.
- **Easy To Use:** Requiring no tools or special surface preparation. The CWT Curb Marker Adhesive is available in two sizes, requires no mixing and forms a permanent bond between the marker and application surface. Perfect for volunteer installations.
- **Versatile:** CWT Curb Markers can be applied to just about any flat surface either vertical or horizontal. Three different styles available.
- **Aesthetically Pleasing:** The CWT Curb Marker can be manufactured in a variety of sizes, shapes, and colors with reflective or non-reflective backgrounds. Design a custom marker or choose one of our Stock Titles. Your message doesn't have to look like a stencil anymore!
- **Covered by our Warranty:** Every CWT Curb marker is covered against defects by our manufacturer's warranty and is imprinted with a lot number for quality control assurance.

Curb pollution and keep America beautiful with CWT Curb Markers!



The CWT Curb Marker can be permanently applied to the top...



or face of the curb.



Just apply the CWT Curb Marker Adhesive...



AND STICK IT!

3 Styles Available

Only CWT offers three different types of Storm Drain Marker. A marker to fit every application and every budget!

GOOD

The CWT **Economark** Curb Marker is made from a .030 clear polycarbonate (lexan) printed on the reverse side of the material. This protects the imprinted image from scratching. Double coated back to reduce see-through.

BETTER

The CWT **Standard** Curb Marker is made from a .030 proprietary white plastic with UV inhibitors and a layering of materials for flexibility and impact resistance. The printing is on the face of the material which is then covered with a layer of UV clearcoating for UV and abrasion resistance. Our original. Introduced in 1983.

BEST

The CWT **Duracast** Curb Marker is the same as the Standard with one additional feature. A polyurethane "dome" is applied to the face of the marker. This optically clear, self-healing, non-yellowing Duracast surface protects against mechanical and chemical abrasion. The Duracast surface effectively doubles U.V. resistance as well. It is our most Durable marker.

Custom Markers (examples pictured on the right) can be manufactured in just about any size, shape, or number of colors.

FREE DESIGN SERVICE!



Stock Title Price List

Prices Effective 10/1/02

All Stock Title Storm Drain Markers are Non-Reflective 4" Diameter Circles.

Marker artwork may not be reproduced without the prior written consent of das. © 1997 das Manufacturing, Inc.



SDR



SDL



SDC



SDP



SDT



SDS



SDW



SDB



SDO

Price Per Curb Marker

STYLE	100-499	500-999	1,000-UP
ECONOMARK	\$1.60	\$1.20	\$1.10
STANDARD	\$1.60	\$1.20	\$1.10
DURACAST	\$2.95	\$2.65	\$2.45

F.O.B. Newark, NJ Freight prepaid & added to invoice

Adhesives

CWT #RS-222-5 / Squeeze Tube 5 oz. . . . 4.95 EA
CWT #RS-222-10 / Caulk Tube 10.5 oz. . . . 8.90 EA
CWT #QS-888 / Epoxy Putty 4 oz. 6.90 EA

Extras

"Clean Hands" Antibacterial Towelette49 EA
Superior Wood Handle Wire Brush 2.90 EA

Also Available

The CWT Curb Marker can be custom manufactured in just about any size, shape or number of colors. We also offer other products to enhance your public education program. Please see our Custom Price List.

Starter Kits

Everything you need in one convenient package at a special price. Your choice of Stock Titles!

Kit Includes:

- 100 Markers
- 6 Hand Cleaners
- 6 Tubes 5 oz. Adhesive
- 1 Wire Brush
- 1 Fanny Pack

\$180 Economark or Standard Markers

\$300 Duracast Markers

FREE DESIGN SERVICE!

Storm Drain Stencils

STANDARD MARINE SYMBOLS



Generic 1



Generic 2



Tarpon



Trout



Bass



Sunfish



Muskie



Pompano



Striped Bass



Crab 1



Crab 2



Frog



Lobster



Lizard



Turtle



Sea Horse



Flounder

Standard Legends

NO DUMPING
DRAINS TO BAY
DRAINS TO LAKE
DRAINS TO STREAM
DRAINS TO WATERWAY
DRAINS TO RIVER
DRAINS TO OCEAN
DRAINS TO WETLAND
DRAINS TO CREEK
DUMP NO WASTE
PROTECT YOUR WATER
NO TIRE DESECHOS
PROTEJA SU AGUA

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 CONSULT FACTORY
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 800-248-2080**

If You Identify With Quality, You Identify with Us.™



EPA Paint Stencils



- High quality
- .055" thick HDPE
- Will not crack
- Paint over 100 stencils
- Chemical resistant
- Standard size is 17.5" x 24"
- Custom sizes & shapes
- Low cost
- Fast, easy to apply
- Reusable, lasts forever

3 STENCIL SIZES

17 1/2" x 24"

2-3 lines w/symbol

14" x 24"

large symbol

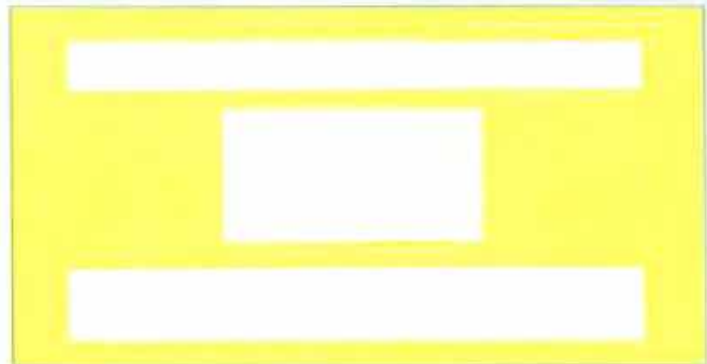
10" x 14"

small marine symbol

3 EASY STEPS:



**SELECT FROM STANDARD
LEGENDS OR DESIGN YOUR
OWN PAINT STENCIL**



Name _____ Title _____
 Company _____
 Address _____
 City _____ State _____ Zip _____
 Telephone No. _____
 Fax No. _____ E-Mail _____

MIN. ORDER IS 10 STENCILS

Quantity: _____

Legend: _____

Symbol: _____

Size: _____

Other: _____

TERMS: To open an account, submit 3 trade references and a bank referral or please include payment with your order. Almetek accepts MASTERCARD, VISA and AMERICAN EXPRESS. 1% - 10 Days, NET 30, FOB Hackettstown, NJ.



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 2 Joy Drive
 Hackettstown, NJ 07840

908-850-9700
 908-850-9618 Fax

800-248-2080
www.stormdrainstencils.com

Storm Drain Markers

PRODUCT LINE



Natural embossed metal 4" disc
Material: Aluminum, Stainless Steel, 0.62" thick. Available in 2 1/4" disc, 0.20" thick



Prismatic, embossed, natural, stainless or brass 4" disc
Material: Stainless Steel, brass, 0.62" thick. Available in 2 1/4" disc, 0.20" thick



Natural embossed 4" brass disc, .062" thick. Available in 2 1/4" disc, 0.20" thick



Prismatic, embossed, painted, 4" disc
Material: Stainless Steel .062" thick
Colors: Red, Blue, Green, Black, Amber. Available in 2 1/4" disc, 0.20" thick



Stainless, embossed edge, 4" disc with domed color center .062" thick



Prismatic, embossed, pointed, 4" disc with center custom color image domed
Material: Stainless, 0.62" thick



Domed, screen printed on vinyl in color, 4" round



Aluminum & Stainless tiles, 4 1/4" x 4 1/4" square, screen printed in 1-3 colors
Material: Aluminum, Stainless, .062" thick



Domed, color printed on 4 1/4" square vinyl and stainless. Also available in a rectangle size of 2 1/4" x 8 1/2"



3M Reflective Diamond grade sheeting screen printed & mounted to BriteSide extrusion for "U" channel post mountings 4" x 4". Also 4" x 12" panels with custom vinyl letters & numbers. Mounting hardware is included

Mechanical Fasteners - Requires no adhesives



Drive Rivet



Bolt/Anchor

Notice: Markers are available with or without holes



NO DUMPING



DRAINS TO STREAM

3M Reflective Engineering Grade D-lineators with screen printed copy, .025" thick aluminum, 2" x 12" with 6-1/8" dia. holes. Can be applied to wood poles.



Heavy-duty and tough storm drain point stencils: .055, .075 and .125 UV-HDPE
Sizes:

No. 1 open frame 35" x 38" with inside opening: 17 1/2" x 24"

No. 2 Screen stencils are 17 1/2" x 24" copy consists of 2 or 3 lines of letters & 1 marine image. Other custom styles & sizes are available. Chemical-resistant, can not tear or crack, and paints will not stick to stencil

5 Stack Marine Symbols

Fish, Crab, Lobster, Frog, Salamander
Custom Symbols are available

For Installation Hardware and Accessories Call Customer Service

STANDARD LEGENDS

NO DUMPING-
DRAINS TO BAY
DRAINS TO LAKE
DRAINS TO STREAM
DRAINS TO WATERWAY
DRAINS TO RIVER
DRAINS TO OCEAN

DRAINS TO WETLAND
DRAINS TO CREEK
DUMP NO WASTE
PROTECT YOUR WATER
NO TIRE DESECHOS
PROTEJA SU AGUA

Name _____ Title _____
Company _____
Address _____
City _____ State _____ Zip _____
Telephone No. _____
Fax No. _____ E-Mail _____

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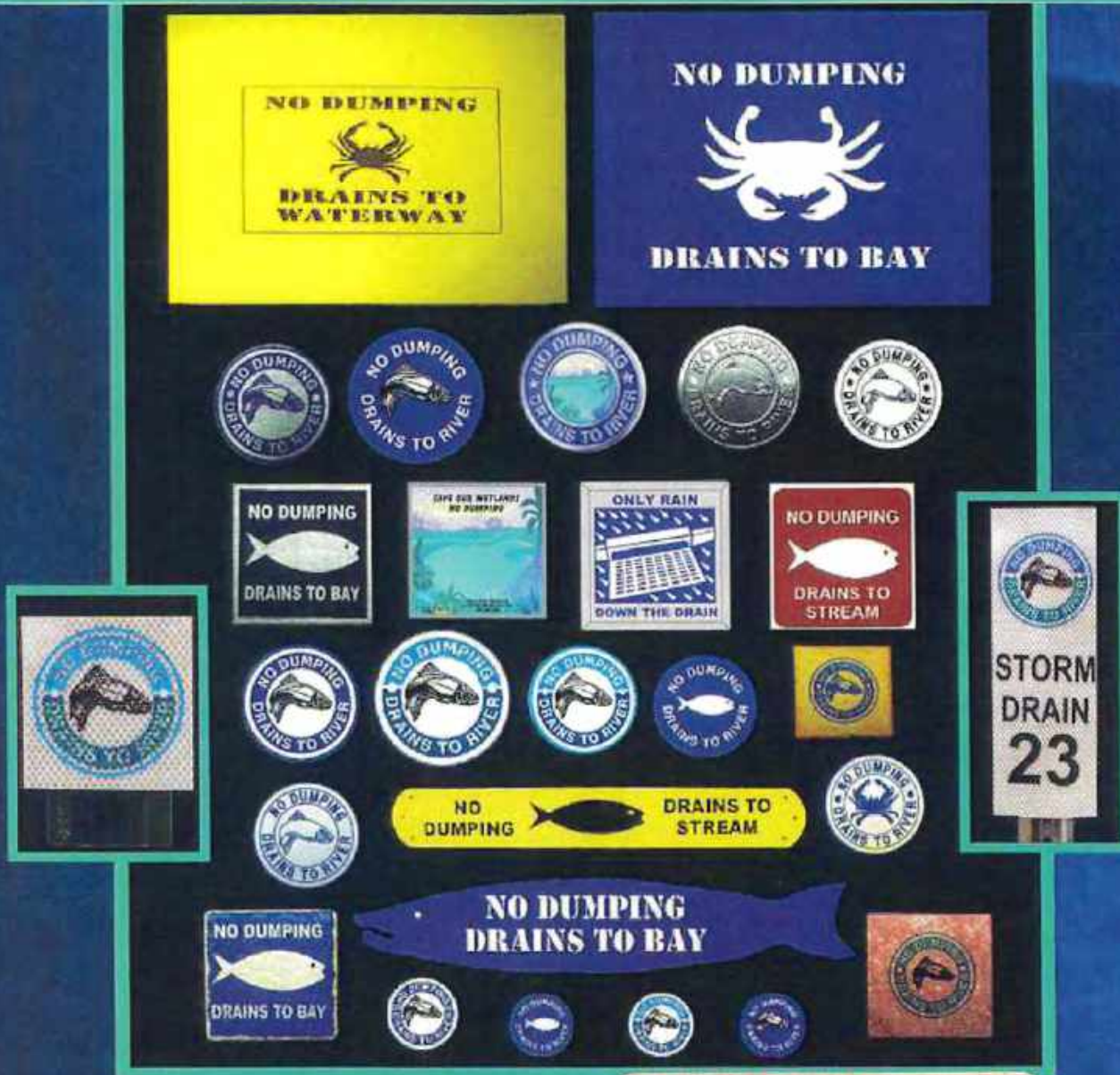
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Storm Drain Markers



A FULL PRODUCT LINE OF MARKERS:

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- 3M Reflective, Shapes
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- Mounting Adhesive & Fasteners
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If You Identify With Quality, You Identify With Us.™



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PRICES EFFECTIVE FEBRUARY 1, 2005

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- Long Lasting
- Satisfaction Guaranteed
- Customer Support

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PRICE LIST



9005 SERIES



ITEM NO.	PRODUCTS	100-499 ea.	500-999 ea.	1000-1999 ea.
SDENA	Aluminum, Natural, Embossed - Warranty for 12 yrs	\$ 1.55	\$ 1.45	\$ 1.39
SDEPA	Aluminum, Painted, Embossed - Warranty for 12 yrs	\$ 2.10	\$ 2.00	\$ 1.89
SEESS	Stainless, Natural, Embossed - Warranty for 30 yrs	\$ 2.69	\$ 2.49	\$ 2.39
SEESP	Stainless, Prismatic, Painted, Embossed - Warranty for 30 yrs.	\$ 3.35	\$ 3.15	\$ 2.99
SDEB	Brass, Natural, Embossed - Warranty for 30 yrs.	\$ 3.69	\$ 3.45	\$ 3.29
SDEPB	Brass, Painted, Embossed - Warranty for 30 yrs.	\$ 4.25	\$ 4.00	\$ 3.79
	OPTIONS FOR METAL MARKERS			
	Each Additional Color	\$.75	\$.70	\$.65
	Consecutive Serial Numbers	\$.70	\$.60	\$.50
	Square Hole for Mechanical Fastener	\$.35	\$.30	\$.25
SDVD1	Screen Printed, Vinyl Domed 4" Circle- 1 color	\$ 2.65	\$ 2.45	\$ 2.35
SDVD2	Screen Printed, Vinyl Domed 4" Circle- 2 colors	\$ 2.95	\$ 2.79	\$ 2.65
SDVD3	Screen Printed, Vinyl Domed 4" Circle- 3 colors	\$ 3.29	\$ 3.09	\$ 2.95
SDDG-4x4	3M Refl., Diamond Gr., Extrusion, 4"x4"-2 colors, "U" post	\$ 4.09	\$ 3.85	\$ 3.65
SDDG-4x12	3M Refl., Diamond Gr., Extrusion, 4"x12"- 2 colors, "U" post	\$ 9.69	\$ 9.09	\$ 8.65
SDDG-2x12M	3M Refl. Engineering Gr., .025" 2"x12", D-Lineator B/Y	\$ 1.65	\$ 1.55	\$ 1.45
SDSI-10x14	Stencil, Inside - 10" x 14"	\$11.75	CUSTOM STENCILS AVAILABLE	
SDSI-14x24	Stencil, Inside - 14" x 24"	\$13.95		
SDSI-17.5x24	Stencil, inside - 17.5" x 24"	\$27.95		
SDSO-35x38	Stencil, Outside Frame - 35" x 38"	\$14.95		

FASTENER:

DR-1/4"	1/4" x 3/8" Drive Bolt-SDTM	\$.25
CB-2"Set	2" Bolt, 2 Nuts, 1 Washer (for 2" post)	\$.50
CB-3"Set	3" Bolt, 1 Nut, Washer & Large Disk (all stainless steel) (For Bolt-3")	\$ 2.65
SIKS-ADH-MKABOND	10.111 oz., Cartridge	\$ 8.25
AWAD	Awesome Adhesive 75.4 Oz.	\$.70
DCG	Drain Guarding Gully	\$ 6.95

TOOLS:

CDB	Carbide 4" Dia. Drill Bit, Arrow, PAUL	\$14.00
CDB-1	1/4" Carbide Bit, for Surface Mount	\$ 9.99
SWB-1	Steel Wire Brush with wood handle	\$ 4.25

STANDARD LEGENDS

NO DUMPING
DRAINS TO: RIVER POND
BAY STREAM
CREEK OCEAN
LAKE WATERWAYS
WETLANDS
ONLY RAIN DOWN THE DRAIN

FOR CUSTOM MARKERS & LARGER
QUANTITIES CONSULT FACTORY



Serialized numbers
are available



square hole option

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NOTICE: Prices are subject to change without notice.

If You Identify With Quality, You Identify With Us.™

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9005-AD4-051R(280-0105)

3 DIFFERENT INSTALLATION METHODS FOR

Storm Drain Markers

VANDAL-RESISTANT

Surface Installation with Adhesive

Install in dry, warm, weather above 40°F.



Wire and bristle brush area. Remove loose gravel.

Vandal-resistant, turned down edge has patent pending.



Apply adhesive to back of embossed disc. (Use only enough adhesive to fill disc.)



Apply marker. Press down & clean edges of any excessive adhesive.

THEFT-RESISTANT

Surface Installation with Fastener

For all weather conditions and climates.



Drill a hole 1" deep. (1/4" dia. bit for Drive Rivet). Clean out hole.



Insert rivet into hole. OPTIONAL: add a small amount of adhesive.



Hit Drive Rivet with hammer to make it flush with the disc.

THEFT-RESISTANT

Sub-Surface Installation with Fastener (Patent Pending)

For all weather conditions and climates.



Using Almetek's carbide hole saw with center bit, drill a ring 1/8" deep into surface.



Brush surface clean. OPTIONAL: add a small amount of adhesive.



Install Drive Rivet into disc hole & hit with hammer to make it flush.

NOTICE: For embedding into new concrete use 2" carriage bolt with nuts.

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www.almetek.com

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Almetek Industries, Inc.

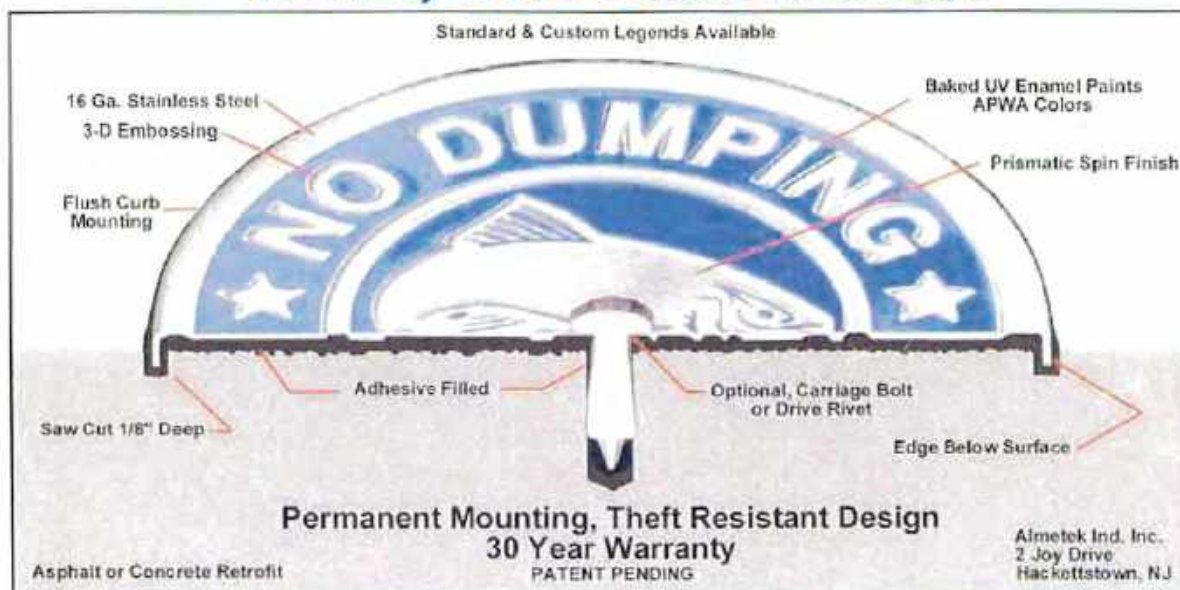
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Hackettstown, NJ 07840



Storm Drain Markers

Cut-Away of Sub-Surface Installation



Order Form

Company/Town _____

Name _____ Title _____

Address _____

City _____ State _____ Zip _____

Phone Number _____ Ext _____

Signature _____

Date _____

SHIP TO:

Name _____

Address _____

City _____ State _____ Zip _____

Attention _____

Department _____

Quantity	Item No.	Product Description/Legend	Unit Price	Total Price

Terms:

To open an account, submit three trade references and a bank referral. Otherwise, please include payment with your order. Almetek Industries accepts MasterCard, Visa and American Express. 1% - 10 days, NET 30 FOB Hackettstown, NJ

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DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM

ILLICIT CONNECTION ELIMINATION PROGRAM

Statewide Basic Requirement:

Illicit Connection Elimination Program - Each Highway Agency must develop and implement a program to detect and eliminate illicit connections into the Highway Agency's MS4. The program, at minimum, must include an initial physical inspection of all its outfall pipes. All outfall pipes that are found to have dry weather flow are to be further investigated. The inspections of outfall pipes and investigations of dry weather flows are to be conducted in accordance with the procedures for detecting, investigating, and eliminating illicit connections contained in Attachment B of the permit. Results of the inspections of outfall pipes and dry weather flows are to be recorded on the Department's Illicit Connection Inspection Report form. Inspection reports for dry weather flows discovered as a result of initial physical inspections or as part of the ongoing program must be submitted to the Department with the annual certification. If the dry weather flow is intermittent the Highway Agency must perform, at minimum, three (3) additional investigations in an attempt to locate the illicit connection. If an illicit connection cannot be located or is found to emanate from another public entity, Highway Agencies must submit to the Department a written explanation detailing the results of the investigation and notify that public entity. The Department will determine if such measures were adequate and will notify the Highway Agency of the determination. All illicit connections found and subject to the ordinance prohibiting illicit connections must be eliminated within six (6) months of the discovery.

After the completion of the initial physical inspection of all outfall pipes, Highway Agencies must maintain an ongoing program to detect and eliminate illicit connections. The ongoing program will respond to complaints and reports of illicit connections, including those from operating entities of interconnected MS4s, and continue to investigate dry weather flows discovered during routine inspections and maintenance of the MS4.

Definitions:

Highway Agency Delaware River Joint Toll Bridge Commission and/or its representative.

Illicit Connection Any physical or nonphysical connection that discharges the following to the Highway Agency's MS4, unless that discharge is authorized under a New Jersey Pollutant Discharge Elimination System (NJPDES) permit other than the Tier A Permit (non-physical connections may include, but are not limited to, leaks, flows, or overflows into the municipal separate storm sewer system):

- Domestic sewage;
- Non-contact cooling water, process wastewater, or other industrial waste (other than stormwater); or
- Any category of non-stormwater discharges that the Highway Agency identifies as a source or significant contributor of pollutants pursuant to 40 C.F.R. 122.34(b)(3)(iii).

These illicit connections may originate from sources such as improperly connected sanitary sewage lines, industrial flows and from leaking or overflowing sanitary sewer lines and pumping stations.

Procedures for Detecting Investigating and Eliminating Illicit Connections:

Detection

Highway Agency MS4 outfall pipes, for the most part, should not be discharging during substantial dry periods (72 hours after a rain event). Such flows are frequently referred to as "dry weather flows," which may be the result of an illicit connection. All dry weather flows are non-stormwater discharges, however not all dry weather flows are illicit connections. Some non-stormwater flows result from the improper disposal of waste (e.g., radiator flushing, engine degreasing, improper disposal of oil) and some may be the result of allowable discharges such as residential car washing, irrigation runoff, permitted discharges and natural waters (spring water

and groundwater infiltration). By conducting physical inspections/observations of the outfalls, data can be compiled to help determine if a dry weather flow is an illicit connection and the most likely source of the illicit connection.

A. Physical Inspection Procedures

1. The Highway Agency shall conduct physical inspections of each Highway Agency owned and operated outfall for evidence of dry weather flow.
 - i. Dry weather flow discharges can either be continuous or intermittent.
 - ii. Signs of intermittent flow may include staining, odors, and/or deterioration of the MS4 outfall structure.
2. Inspections shall occur after a substantially dry period, or 72 hours after a rain event.
3. Field inspectors shall note the estimate of the flow rate of any discharge. This can be accomplished via estimating the time it takes to fill a container of known size.
4. During the outfall inspections field inspectors shall note the following physical observations and record their findings in the NJDEP's *Illicit Connection Inspection Report* (See Table 1 for an interpretation of the physical observations and likely associated sources):
 - i. Odor
 - ii. Color
 - iii. Turbidity or cloudiness of the water
 - iv. Floatable matter
 - v. Temperature
 - vi. Deposits
 - vii. Stains
 - viii. Vegetation or algal growth
 - ix. Condition of outfall structure

5. If there are signs of dry weather flow, continuous or intermittent, follow-up investigations may be required.

B. Field Testing

Field testing will help determine the type of flow detected, and help prioritize the need for elimination. Flows can be analyzed using a spectrophotometer, colorimeter, or other reagent kit method and does not require laboratory certification.

1. If dry weather flow exists, the flow shall be tested for detergents.
 - i. Detergents (sanitary sewage test) – Test for surfactants using a test for Methylene Blue Active Substances (MBAS) with a detection limit of 0.06 mg/L. Flows with surfactant concentrations above 0.06mg/L may indicate sanitary sewer connections and should be given highest priority.
2. Dry weather flow that does not test positive for detergents and do not have physical characteristics of sanitary wastewater (odor, floatables and/or color) are unlikely to be from sanitary wastewater sources. However, they may be from industrial wastewater, rinse water, backwash or cooling water.
3. Non-stormwater discharges that are detergent-free, and therefore not sanitary, shall be tested for fluoride.
 - i. Fluoride (potable water test) – Potable water should have a total fluoride concentration between 1.0 – 2.5 mg/L. Results below the detection limit (0.13 using a HACH Colorimeter DR/850) generally indicate ground water infiltration, springs or streams. Also, flows registering non-detect for fluoride and surfactants may indicate non-contact, industrial cooling water. Temperature variations should indicate if it is a cooling water flow.
4. Non-stormwater discharges found to have a detergent level greater than 0.06 mg/L shall be further tested to distinguish it from sanitary wastewater or washwater source.

- i. Ammonia/Potassium Ratio (NH_3/K) (sanitary v. wastewater test) – Sanitary sewage will have an Ammonia/Potassium Ratio of greater than 0.60. Non-stormwater flows with a ratio less than 0.60 are likely to be wastewater flows.

Interpretations of Physical Observations and Likely Associated Sources

Observation	Interpretation & Likely Source
Odor	<i>Sewage</i> : smell associated with stale/septic sanitary wastewater
	<i>Sulfur or rotten eggs</i> : industries that discharge sulfide or organic compounds (meat packers, canneries, dairies, etc)
	<i>Oil and gas</i> : Petroleum refineries, facilities associated with vehicle maintenance or petroleum product storage.
	<i>Rancid -sour</i> : food preparation facilities, restaurants, hotels, etc.
Color	Important indicator of inappropriate industrial sources. Industrial dry weather discharges may be of any color, but dark colors, such as brown, gray or black are most common.
	<i>Yellow</i> : chemical plants, textile and tanning plants
	<i>Brown</i> : meat packers, printing plants, metal works, stone and concrete, fertilizers, and petroleum refining facilities
	<i>Red</i> : meat packers
	<i>Gray</i> : dairies, sewage
Turbidity	Often affected by the degree of gross contamination. Dry weather industrial flows with moderate turbidity can be cloudy, while highly turbid flows can be opaque. High turbidity is often a characteristic of undiluted dry weather industrial discharges.
	<i>Cloudy</i> : sanitary wastewater, concrete or stone operations, fertilizer facilities, and automotive dealers
	<i>Opaque</i> : food processors, lumber mills, metal operations, pigment plants
Floatable Matter	A contaminated flow may contain floating solids or liquids directly related to industrial or sanitary wastewater pollution. Floatables of industrial origin may include animal fats, spoiled foods, solvents, sawdust, foams, packing material, or fuel. Floatables in sanitary wastewater may include fecal matter, toilet paper, sanitary napkins, and condoms.
Deposits and Stains	Deposits and stains on outfall structures may be evidence of intermittent no-stormwater discharges. Deposits and stains may include coatings, residues or fragments of materials.
	<i>Grayish black deposits containing animal flesh or hair</i> may be from tanneries
	<i>White crystalline powder</i> is usually due to nitrogenous fertilizer wastes.
	Excessive sediment deposits may be attributed to construction site erosion.
	Sources of oily residues may include petroleum refineries, storage facilities, and/or vehicle service facilities
Vegetation	Vegetation surrounding an outfall may show the effects of industrial pollutants. Decaying organic matter from food processors may cause increased vegetation growth. Other toxic materials from industrial discharges may decrease or kill vegetation. Non-stormwater discharges that contain excessive nutrients from concentrated animal feeding activities may also kill vegetation.
Damage to Outfall Structures	Cracking, deterioration, and scouring of concrete or peeling paint of an outfall pipe may be caused by severely contaminated industrial discharges that are extremely acid or basic. Primary metal industries may discharge highly acidic batch dumps. Food processors with discharges that become "septic" produce hydrogen sulfide gas, which quickly deteriorates metal surfaces
Temperature	Both sanitary wastewater and cooling water may substantially increase the outfall discharge temperature. Elevated temperature measurements in discharges that test negative for detergents are likely to be cooling water discharges. Sources of cooling water discharges would be industrial facilities in the drainage area.

Investigation

NJ storm sewer outfalls found during the initial inspection, or on subsequent inspections to have a non-stormwater discharge, or indication of an intermittent non-stormwater discharge, must be further investigated in order to identify and locate the specific source. Priority should be given as follows:

1. Non-stormwater discharges suspected of being sanitary sewage and/or significantly contaminated shall be prioritized and investigated first.
2. Any dry weather flows noted believed to pose immediate threat to human health or the environment should be reported to the NJDEP immediately using the NJDEP Action Hotline 1-877-WARN DEP (1-877-927-6337).
3. All non-stormwater discharges suspected of being cooling water, washwater, or natural flows may be delayed until after all suspected sanitary sewage or significantly contaminated discharges have been investigated, eliminated and/or resolved.

Once a suspected non-stormwater discharge has been prioritized the Highway Agency must located the source within six (6) months. During that time, the Highway Agency should coordinate an investigation and make a minimum of three (3) separate attempts to locate the source. If after all attempts the source has not been located, the Highway Agency may fill out a *Closeout Investigation Form* for submittal to the NJDEP. The form will document the Highway Agency's effort and findings.

A. Procedures for Conducting an Investigation

1. Review the information compiled during the physical inspections and field testing.
2. Conduct an investigation of the upstream drainage facilities to observe for any additional turbidity, staining, odor or color in order to isolate the source of discharge.

3. Methods to use may include, but are not limited to visual inspections of upstream inlets/manholes, televised inspections of the upstream pipes, and/or smoke/dye testing of the storm sewer pipe.
4. Assess all industrial and/or commercial sites within the drainage area of the suspected discharge. Conduct a survey/inspection of said facilities for potential sources (i.e. floor drains, wash bays, and/or cooling water systems).

All investigations of non-stormwater discharges, continuous or intermittent, must be resolved. If the source of this discharge is determined to be a non-stormwater discharge authorized under NJDPES Permit Part I Section A.2.c, no further action is required. Otherwise additional investigations must be conducted as noted earlier in this section. Additionally, since this is an ongoing program, the Highway Agency should periodically recheck the suspected intermittent discharges.

Elimination

All non-stormwater discharges, which have been traced to their sources, and proven to be illicit connections, shall be eliminated. The responsible party(ies) shall be cited for violation of the of the Commission's Illicit Connection Regulatory Mechanism and given thirty (30) days to cease the discharge.

The responsible party(ies) may apply for a NJDPES Permit for the discharge, but must cease discharging until a valid NJDPES Permit is granted by the NJDEP. The Highway Agency shall inspect the disconnection to ensure it is permanent and does not allow easy reconnection to the stormwater sewer system.

If the responsible party fails to cease the discharge, the Highway Agency shall enforce its ordinance as required. The Highway Agency shall provide written notification to the NJDEP of pending action.

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

ILLCIT CONNECTION ELIMINATION PROGRAM

NJDEP ILLICIT CONNECTION INSPECTION REPORT

Illicit Connection Inspection Report Form

Highway Agency Information

Highway Agency: Delaware River Joint Toll Bridge Commission

NJPDES #: NJG0153052 PI ID #: 222834

Team Member: _____

Date: _____ Effective Date of Permit Authorization (EDPA): 4/1/04

Outfall #: _____ Location: _____

Receiving Waterbody: _____

1. Is there a dry weather flow? Y (☐) N (☐)
 2. If "YES", what is the outfall flow estimate? _____ gpm
(flow sample should be kept for further testing, and this form will need to be submitted with the Annual Report and Certification)
 3. Are there any indications of an intermittent flow? Y (☐) N (☐)
 4. If you answered "NO" to BOTH question #1 and #3, there is probably not an illicit connection and you can skip to question #7.
(NOTE: This form **does not** need to be submitted to the Department, but should be kept with your SPPP.)
- If you answered "YES" to either question, please continue on to question #5.
(NOTE: This form will need to be submitted to the Department with the Annual Report and Certification.)

5. PHYSICAL OBSERVATIONS:

- (a) ODOR: none ☐ sewage ☐ sulfide ☐ oil ☐ gas ☐ rancid/sour ☐ other: _____
- (b) COLOR: none ☐ yellow ☐ brown ☐ green ☐ red ☐ gray ☐ other: _____
- (c) TURBIDITY: none ☐ cloudy ☐ opaque ☐
- (d) FLOATABLES: none ☐ petroleum ☐ sheen ☐ sewage ☐ other: _____
- (e) DEPOSITS/STAINS: none ☐ sediment ☐ oily ☐ other: _____
- (f) VEGETATION CONDITIONS: normal ☐ excessive growth ☐ inhibited growth ☐
- (g) DAMAGE TO OUTFALL STRUCTURES:

IDENTIFY STRUCTURE: _____

DAMAGE: none ☐ concrete spalling/cracking ☐ peeling paint ☐
metal corrosion ☐ other damage: _____

6. ANALYSES OF OUTFALL FLOW SAMPLE:

* field calibrate instruments in accordance with manufacturer's instructions prior to testing.

(a) DETERGENTS: _____ mg/L

(if sample is greater than 0.06 mg/L, the sample is contaminated with detergents [which may be from sanitary wastewater or other sources]. Further testing is required and this outfall should be given the highest priority.)

(if the sample is not greater than 0.06 mg/L and it does not show physical characteristics of sanitary wastewater [e.g., odor, floatables, and/or color] it is unlikely that it is from sanitary wastewater sources, yet there may still be an illicit connection of industrial wastewater, rinse water, backwash or cooling water. Skip to question #6c.)

(b) AMMONIA (as N) TO POTASSIUM RATIO: _____

(if the Ammonia to Potassium Ratio is greater than 0.6:1, then it is likely that the pollutant is sanitary sewage)

(if the Ammonia to Potassium Ratio is less than or equal to 0.06:1, then the pollutant is from another washwater source.)

(c) FLUORIDE: _____ mg/L

(if the fluoride levels are between 1.0 and 2.5 mg/L, then the flow is most likely from fluoride treated potable water.)

(if the sample tests below a detection limit of 0.1 mg/L for fluoride, it is likely to be from groundwater infiltration, springs or streams. In some cases, however, it is possible that the discharge could originate from an onsite well used for industrial cooling water which will test non-detect for both detergents and fluoride. To differentiate between these cooling water discharges and ground water infiltration, you will have to rely on temperature.)

(d) TEMPERATURE: _____ °F

(If the temperature of the sample is over 70°F, it is most likely cooling water)

(If the temperature of the sample is under 70°F, it is most likely from ground water infiltration)

7. Is there a suspected illicit connection? Y (☐) N (☐)

If "YES", what is the suspected source? _____

If "NO", skip to signature block on the bottom of this page.

8. Has the investigation of the suspected illicit connection been completed?

Y (☐) N (☐)

If "YES", proceed to question #9.

If "NO", skip to signature block on the bottom of this page.

9. Was the source of the illicit connection found? Y (☐) N (☐)

If "YES", identify the source (including whether source is from Highway Agency or another entity). _____

What plan of action will follow to eliminate the illicit connection or report the illicit connection to the NJDEP?

Resolution: _____

If "NO", complete the Closeout Investigation Form and attach it to this Illicit Connection Inspection Report Form.

Inspector's Name: _____

Title: _____

Signature: _____

Date: _____

If there is a dry weather flow or evidence of an intermittent flow, be sure to include this form with your Annual Report and Certification.

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

ILLICIT CONNECTION ELIMINATION PROGRAM

NJDEP CLOSEOUT INVESTIGATION FORM

Closeout Investigation Form

Highway Agency
Information

Highway Agency: Delaware River Joint Toll Bridge Commission

NJPDES # : NJG0153052 PI ID #: 222834

Team Member: _____

Date: 04/01/06 Effective Date of Permit Authorization (EDPA): 04/01/04

Outfall #: _____ Location: _____

Receiving Waterbody: _____

Basis for Submittal:

- ☐ A non-stormwater discharge was found, but no source was located within six months.
- ☐ An intermittent non-stormwater discharge was observed, and three unsuccessful investigations were conducted to investigate the discharge while it was flowing.
- ☐ An illicit connection was found to emanate from an entity other than the Highway Agency.

Describe each phase of your investigation, including dates. Attach additional pages as necessary:

Inspector's Name: _____

Title: _____

Signature: _____

Date: _____

Complete and attach this form to the appropriate Illicit Connection Inspection Report Form and submit with the annual certification.

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

LITTER PICK UP PROGRAM

SAMPLE LITTER PICK UP LOG

DISTRICT: _____ SUPERINTENDENT: _____
FACILITY: _____ GENERAL FOREMAN: _____
EMPLOYEE NAME: _____
LITTER PICK UP PROGRAM

[illegible]

5-2

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

IMPROPER WASTE DISPOSAL PROGRAM

REGULATORY MECHANISMS

Improper Waste Disposal

Illicit Connections



Delaware River
Joint Toll Bridge
Commission

OPERATIONS ORDER NO. 06-06

DATE: JULY 21, 2006

FROM: FRANK G. McCartney, Executive Director

TO: SUPERINTENDENTS; SECURITY, SAFETY & TRAINING; ENGINEERING

VIA: FRANK J. TOLOTTA, Deputy Executive Director of Operations

SUBJECT: IMPROPER DISPOSAL OF WASTE REQUIREMENTS

Please be advised that this Operations Order supersedes all other directives and instructions relating to the above-captioned.

In accordance with the new regulations promulgated by the State of New Jersey Department of Environmental Protection, the Commission was issued a Highway Agency General Stormwater Permit which established various statewide basic requirements (SBRs) to minimize existing non-point stormwater pollution. One of these SBRs is to enforce the following new improper disposal of waste regulation to prohibit the spilling and dumping of materials other than stormwater to the municipal separate storm sewer system, so as to protect public health, safety and welfare:

Definitions: The following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text 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. Commission roadway – any roadway (portion of) or other thoroughfare operated by the Commission (including a maintenance facility or rest area for such a thoroughfare). For purposes of this policy and procedure, a “roadway or other thoroughfare” does not include:
 1. Any thoroughfare confined to the grounds of one or more buildings; or
 2. Any thoroughfare confined to a park or recreational area operated by the Commission.
- b. 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 the Commission or other public body, and is designed and used for collecting and conveying stormwater.

- 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.

Prohibited Conduct:

The Commission and its employees are prohibited from:

- a. spilling, dumping, or disposing of materials other than stormwater to the municipal separate storm sewer system located at Commission roadways; and
- b. spilling, dumping, or disposing of materials other than stormwater in such a manner as to cause the discharge of pollutants to the municipal separate storm sewer system located at Commission roadways.

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:
 - 1. 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 in the above situations is limited to exterior, undercarriage, and exposed parts and does not apply to engines or other enclosed machinery.

Penalties:

Any Commission employee who continues to be in violation of the provisions of this policy and procedure, after being duly notified, shall be subject to removal, suspension, demotion, or other disciplinary action.

- Please see that the appropriate personnel are notified.
- Effective immediately



Delaware River
Joint Toll Bridge
Commission

OPERATIONS ORDER NO. 05-06

DATE: JULY 21, 2006

FROM: FRANK G. McCartney, Executive Director

TO: SUPERINTENDENTS; SECURITY, SAFETY & TRAINING;
ENGINEERING

VIA: FRANK J. TOLOTTA, Deputy Executive Director of Operations

SUBJECT: PROHIBITING ILLICIT CONNECTIONS

Please be advised that this Operations Order supersedes all other directives and instructions relating to the above-captioned.

In accordance with the new regulations promulgated by the State of New Jersey Department of Environmental Protection, the Delaware River Joint Toll Bridge Commission was issued a Highway Agency General Stormwater Permit which established various statewide basic requirements (SBRs) to minimize existing non-point stormwater pollution. One of these SBRs is to enforce the following regulation and prohibit illicit connections into the municipal separate storm sewer system, so as to protect public health, safety and welfare:

Definitions: The following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text 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. Commission roadway – any roadway (portion of) or other thoroughfare operated by the Commission (including a maintenance facility or rest area for such a thoroughfare). For purposes of this policy and procedure, a "roadway or other thoroughfare" does not include:
 - 1. Any thoroughfare confined to the grounds of one or more buildings; or
 - 2. Any thoroughfare confined to a park or recreational area operated by the Commission.

- b. Domestic sewage - waste and wastewater from humans or household operations.
- c. 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
- d. system operated by the Commission, unless that discharge is authorized under a NJPDES permit other than the Highway Agency Municipal Stormwater General Permit (NJPDES Permit Number NJ0141887). Non-physical connections may include, but are not limited to, leaks, flows, or overflows into the municipal separate storm sewer system.
- a. 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)).
- e. 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 the Commission or other public body, and is designed and used for collecting and conveying stormwater.
- f. 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.
- g. 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 algacides, or biocides to control fouling of equipment such as heat exchangers, and/or corrosion inhibitors.
- 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.

Prohibited Conduct:

The Commission, its employees, or any other entity shall not discharge or cause to be discharged, through an illicit connection to the municipal separate storm sewer system located at Commission roadways, any domestic sewage, non-contact cooling water, process wastewater, or other industrial waste (other than stormwater).

Penalties:

Any Commission officer, employee who continues to be in violation of the provisions of this policy, after being duly notified, shall be subject to removal, suspension, demotion, or other disciplinary action.

Any entity found to be in violation of the provisions of this policy, after being duly notified, shall be required to remove the illicit connection at the entity's own cost within a designated time period.

- Please see that the appropriate personnel are notified.
- Effective immediately

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

STORMWATER INLET RETROFITTING

SAMPLE INLET RETROFITTING LOG

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

DISTRICT: _____ **SUPERINTENDENT:** _____

FACILITY: _____ **GENERAL FOREMAN:** _____

**SOLIDS AND FLOATABLE CONTROLS
STORM DRAIN INLET RETROFITTING**

REPAVING, REPAIRING, RECONSTRUCTION, OR ALTERATION PROJECT NAME	PROJECTED START DATE	START DATE	DATE OF COMPLETION	# OF STORMDRAIN INLETS	# OF STORMDRAIN INLETS W/ EXEMPTIONS

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION STORMWATER
MANAGEMENT PROGRAM**

**SOLID AND FLOATABLE CONTROLS
STREET SWEEPING AND ROAD EROSION CONTROL MAINTENANCE PROGRAM**

Statewide Basic Requirement:

Street Sweeping – Highway Agencies shall sweep all parking lots and curbed streets (including roads or highways) owned and operated by the Highway Agency with storm drains that have a posted speed limit of 35 mph or less (excluding all entrance and exit ramps) in predominantly commercial areas at a minimum of once per quarter, weather and street surface conditions permitting. All other roadways shall be swept every two (2) years.

Road Erosion Control Maintenance – Highway Agencies shall develop a roadside erosion control maintenance program to identify and repair erosion along streets (including roads or highways) operated by the Highway Agency.

Existing Street Sweeping:

The Commission will continue their existing street sweeping program. The sweeping programs for each district is as follows:

- District 1 – Monthly sweeping of approaches and solid deck bridges, surface and weather condition permitting.
- District 2 – Bi-monthly, or as needed, sweeping of approaches and solid deck bridges, surface and weather condition permitting.
- District 3 – Bi-monthly sweeping of approaches and solid deck bridges, surface and weather condition permitting.

Facility personnel shall provide copies of the work order logs or complete the enclosed recordkeeping log to document the date work is completed and the amount of material collected. Forms shall be included in the SPPP.

Road Erosion Control Maintenance:

Commission personnel shall inspect parking areas and roadways for signs of road erosion and instability of shoulders. Areas noted shall be reported to the District Manager for further evaluation. Any repairs shall be in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey, N.J.A.C. 2:90-1. Completion of work shall be documented by facility personnel and a copy forwarded to the SPPP for recordkeeping.

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

STREET SWEEPING AND ROAD EROSION CONTROL MAINTENANCE PROGRAM

SAMPLE STREET SWEEPING/ROAD EROSION LOG

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

STORMWATER MANAGEMENT PROGRAM

DISTRICT: _____ SUPERINTENDENT: _____

FACILITY: _____ GENERAL FOREMAN: _____

EMPLOYEE NAME: _____

**SOLIDS AND FLOATABLE CONTROLS
STREET SWEEPING & ROAD EROSION CONTROL PROGRAM**

DATE	STREET NAME	DEBRIS COLLECTED*	ADDITIONAL COMMENTS	MILES SWEEPED	EVIDENCE OF ROAD EROSION?	DATE EROSION REPORTED TO SUPERVISOR
					Y/N	
					Y/N	
					Y/N	
					Y/N	
					Y/N	
					Y/N	
					Y/N	
					Y/N	
					Y/N	
					Y/N	
					Y/N	
					Y/N	
					Y/N	
					Y/N	
					Y/N	
					Y/N	

* PERSONNEL TO NOTE THE AMOUNT OF DEBRIS COLLECTED IF POSSIBLE.

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

**SOLIDS AND FLOATABLE CONTROLS
STORMWATER FACILITY MAINTENANCE**

Statewide Basic Requirement:

Stormwater Facility Maintenance – Highway Agencies shall develop and implement a stormwater facility maintenance program for cleaning and maintenance of all stormwater facilities operated by the Highway Agency. Stormwater facilities include, but are not limited to: catch basins, detention basins, filter strips, riparian buffers, infiltration trenches, sand filters, constructed wetlands, wet basins, bioretention systems, low flow bypasses, and stormwater conveyances. The stormwater facility maintenance must be performed as required to ensure the proper function and operation of the stormwater facility. Highway Agencies shall also clean all catch basins annually to remove accumulated sediment, trash and debris.

Existing Stormwater Facilities:

The Commission will continue their existing stormwater facility maintenance program. The Commission's system consists of a collection of storm sewer pipe, catch basins/inlets, outfalls, grease traps and swales. The maintenance programs for each district is as follows:

- District 1 – Catch basins are inspected and cleaned bi-annually; problem areas as needed. Pennsylvania side catch basins are cleaned by PENNDOT. Outfalls are inspected periodically.
- District 2 – Catch basins are inspected and cleaned annually, and problem areas are inspected and cleaned as needed. Storm pipes are cleaned when blocked. Swales are mowed and trimmed and inspected for signs of erosion.
- District 3 – Catch basins are inspected and cleaned annually; problem areas as needed. Grease traps are cleaned every 5 years by an outside contractor. Outfalls and rip rap are inspected annually. Storm sewer pipes are cleaned as needed to resolve blockages.

Facility personnel shall provide copies of the work order logs or complete the enclosed recordkeeping log to document the date work is completed. Forms shall be included in the SPPP.

Inspection Program:

As part of Commission's regular maintenance program, each facility will coordinate an inspection program for stormwater facilities as follows:

- Inlets, at a minimum, shall be inspected on an annual basis. . Inlets found to be in disrepair shall be reported to the Facility Manager and/or District Superintendent for further evaluation or scheduling of maintenance. Records of maintenance conducted on inlets will be recorded and a copy included in the SPPP.
- Storm sewer pipes identified as problem areas shall be inspected after major storm events and on an as needed basis. Broken or collapsed storm sewer pipes shall be reported to the Facility Manager and District Superintendent.
- Outfalls shall be inspected on an as needed basis upon completion of the Outfall Pipe Scouring Inspection Program. Evidence of additional scouring or erosion will be reported to the Facility Manager and the District Superintendent for further evaluation.

Maintenance Program:

Based on field observations, the following routine maintenance will be performed as required:

- Inlets with evidence of debris will be cleaned by facility personnel as required.
- Inlet markers/stencils will be replaced/re-stenciled as needed once the initial labeling program is complete.
- Blocked storm sewer pipes/outfalls shall either be hand snaked or jetted to remove the blockage.

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

STORMWATER FACILITY MAINTENANCE

SAMPLE STORMWATER FACILITY MAINTENANCE LOG

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER COMPLIANCE PROGRAM**

DISTRICT: _____ SUPERINTENDENT: _____
FACILITY: _____ GENERAL FOREMAN: _____

EMPLOYEE NAME: _____

**SOLIDS AND FLOATABLE CONTROLS
STORMWATER FACILITY MAINTENANCE PROGRAM**

INSPECTION DATE	NAME OF FACILITY	MAINTENANCE REQUIRED	TYPE OF MAINTENANCE REQUIRED	DATE PERFORMED	DEBRIS REMOVED*	ADDITIONAL COMMENTS
		Y / N				
		Y / N				
		Y / N				
		Y / N				
		Y / N				
		Y / N				
		Y / N				
		Y / N				
		Y / N				
		Y / N				
		Y / N				
		Y / N				
		Y / N				
		Y / N				

* PERSONNEL TO NOTE THE AMOUNT OF DEBRIS COLLECTED IF POSSIBLE.

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM
STORMWATER FACILITY MAINTENANCE

SAMPLE INLET CLEANING LOG

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER COMPLIANCE PROGRAM**

DISTRICT: _____ **SUPERINTENDENT:** _____
FACILITY: _____ **GENERAL FOREMAN:** _____
EMPLOYEE NAME: _____

**SOLIDS AND FLOATABLE CONTROLS
INLET CLEANING LOG**

DATE OF INSPECTION	LOCATION	NO. OF STORM DRAIN INLETS	CLEANING REQUIRED	DEBRIS COLLECTED*	ADDITIONAL COMMENTS
			Y / N		
			Y / N		
			Y / N		
			Y / N		
			Y / N		
			Y / N		
			Y / N		
			Y / N		
			Y / N		
			Y / N		
			Y / N		
			Y / N		
			Y / N		
			Y / N		

* PERSONNEL TO NOTE THE AMOUNT OF DEBRIS COLLECTED IF POSSIBLE.

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

OUTFALL PIPE STREAM SCOURING REMEDIATION PROGRAM

Statewide Basic Requirement:

Outfall Scouring Remediation Program -- Each Highway Agencies must develop and implement a stormwater outfall pipe scouring detection, remediation and maintenance program to detect and control localized stream and stream bank scouring in the vicinity of outfall pipes operated by the Highway Agency. The program must identify all areas where localized stream and bank scouring occurs as a result of stormwater discharges from the Highway Agency's MS4. These areas shall then be prioritized and repairs shall be scheduled and completed. Repairs must be made in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey at N.J.A.C. 2:90-1 (e.g., Conduit Outlet Protection 12-1).

Definitions:

Highway Agency Delaware River Joint Toll Bridge Commission or its representative.

Outfall Remediation

Program A program to detect and control any active localized stream and stream bank scouring located on property operated by the Highway Agency near outfall pipes operated by the Highway Agency. The program does not apply to outfall pipes that discharge into the ocean or into any other waterways that are not "streams".

Scouring Scouring occurs when the velocity of stormwater leaving an outfall pipe erodes the stream bottom or the stream bank.

Stream Streams may be perennial or intermittent, may be tidal or non-tidal and may be called, for example, a "river", "brook", "creek", "run", "branch", "kill", or "ditch", or may have no name.

Procedures for Detecting and Remediating Outfall Pipe Scouring:

Detection

Detection of the outfall pipe scouring can occur concurrently with the outfall inspections for dry weather flow. NJ Outfalls found with evidence of scouring and/or erosion will be reported to the Commission Engineering Department for further action.

Scouring can be prevented from occurring by dissipating and reducing the exit velocity of the water from the outfall pipes. Other methods include stream bank stabilization, when vegetative stabilization practices are not practical and where the stream banks are subject to heavy erosion, infiltrating the stormwater to minimize the quantity of stormwater that reaches the eroding outfall (s), or implementing one or more of the engineering standards approved by the State Soil Conservation Committee.

A. Field Inspection

1. Field inspectors shall visually inspect each outfall and surrounding stream bank for signs of active scouring or erosion around the pipe and/or headwall.
2. Condition of the outfall shall be noted in an inspection report and several photographs of the outfall shall be taken for record purposes.
3. Outfalls shown to have evidence of scouring or bank erosion will be reported to the Facility Manager.

Remediation

As required by the NJDEP, outfalls identified as showing active evidence of scouring and/or erosion will be prioritized and repaired. It is understood that some repairs may not be completed within the initial five-year permit term, either due to access restriction or length of time required to receive approval of all requisite permits. However, the Highway Agency shall conduct an ongoing, good faith effort to accomplish the necessary repairs.

A. Remediation Procedures

1. Commission personnel will coordinate additional field investigation to verify the extent and severity of erosion.
2. Once the extent and severity of erosion has been identified, the outfall shall be prioritized accordingly and repairs scheduled. Repairs in areas that allow easy access and require no permits will be prioritized first, followed by those repairs that require permits or have access restrictions.
3. Repairs shall be in accordance with the methods found in the New Jersey's Standards for Soil Erosion and Sediment Control (N.J.A.C. 2:90-1).
4. Upon completion of the repairs, the Highway Agency will document the type of repairs done and the date of completion and include a copy of the report with their SPPP.

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM

STANDARD OPERATING PROCEDURES

Statewide Basic Requirement:

Maintenance and Facility Operations – Highway Agencies must develop and implement standard operating procedures for vehicle fueling, and receiving of bulk fuel deliveries at maintenance yard operations, vehicle maintenance and repair activities that occur at maintenance yard. Highway Agencies must also develop and implement good housekeeping procedures for operations and procedures for all materials or machinery listed in the Inventory Requirements for Maintenance and Facility Operations prepared in accordance with Attachment D of the Highway Agency Permit.

Standard Operating Procedures:

Attached are standard operating procedures for vehicle and equipment fueling, vehicle maintenance and good housekeeping practices for maintenance facilities.

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

STANDARD OPERATING PROCEDURES

EQUIPMENT AND VEHICLE FUELING STANDARD OPERATING PROCEDURES



Delaware River
Joint Toll Bridge
Commission

OPERATIONS ORDER NO. 08-06

FROM: FRANK G. McCartney, Executive Director

TO: SUPERINTENDENTS; SECURITY, SAFETY & TRAINING;
ENGINEERING

DATE: JULY 27, 2006

VIA: FRANK J. TOLOTTA, Deputy Executive Director of Operations

SUBJECT: Vehicle, Generator and Equipment Fueling Practices

Please be advised that this Operations Order supersedes all other directives and instructions relating to the above-captioned.

The following Standard Operating Procedure (SOP) contains the procedures and practices designed to minimize pollution to surface and ground waters to be implemented at Commission maintenance yards including maintenance areas at ancillary operations. This SOP does not cover responses for bridges, roadways, or right of ways.

PURPOSE:

This SOP provides guidelines for the Commission employees to implement for delivering and dispensing fuel into vehicles and equipment, storage tanks, and mobile fuel tanks in order to minimize pollution to surface and ground waters.

STANDARDS AND SPECIFICATIONS:

Vehicle, Generator, and Equipment Fueling

1. There is to be no smoking in the fueling area.
2. Shut off engine when fueling vehicles.
3. Ensure the proper type of fuel is used for each vehicle, generator, or piece of equipment.
4. Absorbent spill clean-up materials shall be available in all fueling areas, including on mobile fueling vehicles. Clean-up material shall be disposed of properly by a licensed disposal facility.
5. Nozzles used in fueling vehicles and equipment shall be equipped with automatic shut-off to prevent overfilling of tanks.
6. Fuel tanks shall not be "topped off."
7. Mobile fueling shall be minimized. Fueling shall only occur in designated areas, whenever possible.

Vehicle, Generator, and Equipment Fueling (Continued)

8. Absorbant booms should be used to protect stormwater facilities and floor drains downhill from where fueling operations are being performed.
9. In a prominent area, clearly post the instructions for safe operation of all fueling equipment, and appropriate Spill Response contact information.

Bulk Fueling

1. Bulk transfer to occur only during business hours.
2. Always use drip pans or absorbent pads under all hose and pipe connections and other leak prone areas.
3. Block storm drain inlets or contain tank trucks using temporary berms or absorbent booms. All hose connection points associated with bulk fueling must be contained within the berm during bulk loading/ unloading, if storm drain inlets are not blocked.
4. Protect fueling areas with berms or dikes to prevent run-on, runoff, and contain spills.
5. A trained employee must oversee bulk fuel transfer.

Spill Response and Reporting

1. Conduct clean-up of spill(s) immediately after discovery according to **District Incident Management Plan**.
2. Spills are to be cleaned-up using dry cleaning methods only.
3. For Environmental Emergencies Hazardous Materials spills:

Level 1: Contact Foreman or Assistant Foreman and Officer in Charge

District 1: coordinates with the local fire departments, which will then deploy the HazMat team, if necessary.

District 2 coordinates with the NJ State police dispatch in Hamilton, NJ, who will then deploy the HazMat team, if necessary. (The State police are responsible for calling the DEP if needed.)

District 3 coordinates with the respective County Emergency Services Teams who will then deploy the HazMat team, if necessary.

Level 2: Contact NJDEP at (877) WARN DEP or (877) 927-6337
Contact PADEP at 484-250-5900 (Southeast Region)
Or at 570-826-2511 (Northeast Region)
All required contacts in **Incident Management Plan**

Vehicle, Generator, and Equipment Fueling (Continued)

8. Absorbant booms should be used to protect stormwater facilities and floor drains downhill from where fueling operations are being performed.
9. In a prominent area, clearly post the instructions for safe operation of all fueling equipment, and appropriate Spill Response contact information.

Bulk Fueling

1. Bulk transfer to occur only during business hours.
2. Always use drip pans or absorbent pads under all hose and pipe connections and other leak prone areas.
3. Block storm drain inlets or contain tank trucks using temporary berms or absorbent booms. All hose connection points associated with bulk fueling must be contained within the berm during bulk loading/ unloading, if storm drain inlets are not blocked.
4. Protect fueling areas with berms or dikes to prevent run-on, runoff, and contain spills.
5. A trained employee must oversee bulk fuel transfer.

Spill Response and Reporting

1. Conduct clean-up of spill(s) immediately after discovery according to **District Incident Management Plan**.
2. Spills are to be cleaned-up using dry cleaning methods only.
3. For Environmental Emergencies Hazardous Materials spills:

Level 1: Contact Foreman or Assistant Foreman and Officer in Charge

District 1: coordinates with the local fire departments, which will then deploy the HazMat team, if necessary.

District 2 coordinates with the NJ State police dispatch in Hamilton, NJ, who will then deploy the HazMat team, if necessary. (The State police are responsible for calling the DEP if needed.)

District 3 coordinates with the respective County Emergency Services Teams who will then deploy the HazMat team, if necessary.

Level 2: Contact NJDEP at (877) WARN DEP or (877) 927-6337
Contact PADEP at 484-250-5900 (Southeast Region)
Or at 570-826-2511 (Northeast Region)
All required contacts in **Incident Management Plan**

Maintenance and Inspection

1. Inspect fueling area, storage tanks, and pumps monthly.
2. Keep an ample supply of spill clean-up material on the site. Used material should be disposed of properly.
3. Check for leaks and damaged equipment, periodically. Any generators, tanks, pumps, piping, equipment, and fuel dispensing equipment found to be damaged or leaking shall be repaired immediately.
4. Logs should be maintained for the following:
 - Pre-delivery spill containment inspection
 - Minimum monthly dispenser pan inspection
 - Minimum monthly containment device inspection.

Provide memorandum to District Superintendent reporting inspection, and any noted items in need of repair or further maintenance. A copy of this report should be kept with the District's Penalties:

Any Commission officer, employee who continues to be in violation of the provisions of this SOP, after being duly notified, shall be subject to removal, suspension, demotion, or other disciplinary action.

- Please see that the appropriate personnel are notified.
- This SOP will also become part of the Workplace Safety Manual.
- Effective immediately

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

STANDARD OPERATING PROCEDURES

EQUIPMENT MAINTENANCE STANDARD OPERATING PROCEDURES



Delaware River
Joint Toll Bridge
Commission

OPERATIONS ORDER NO. 09-06

FROM: FRANK G. McCartney, Executive Director
TO: SUPERINTENDENTS; SECURITY, SAFETY & TRAINING; ENGINEERING
DATE: JULY 27, 2006
VIA: FRANK J. TOLOTTA, Deputy Executive Director of Operations
SUBJECT: Vehicle Maintenance Practices

Please be advised that this Operations Order supersedes all other directives and instructions relating to the above-captioned.

The following Standard Operating Procedure (SOP) contains the basic vehicle maintenance practices to be implemented at Commission maintenance yards including maintenance areas at ancillary operations. This SOP does not cover responses for bridges, roadways, or right of ways.

PURPOSE:

This SOP provides guidelines for the Commission's vehicle maintenance for their maintenance yards and ancillary operations' maintenance areas.

STANDARDS AND SPECIFICATIONS:

Vehicle Maintenance

1. Conduct all vehicle maintenance only in designated areas.
2. When possible perform vehicle and equipment maintenance indoors and on a paved floor.
3. Always use drip pans.
4. Absorbent spill clean-up materials shall be available in all maintenance areas. Material shall be properly disposed of after use.
5. Protect maintenance areas from both stormwater runoff and stormwater run-on. Areas should be located 50' downstream of any drainage facility or watercourse.
6. Protect floor drains from spills using adsorbent booms.
7. Do not dump or dispose of oils, grease, fluids, or lubricants on the ground. Waste oil and waste antifreeze shall be disposed of in properly labeled containers. Dispose of these containers off-site by a properly licensed facility.
8. Do not dump or dispose batteries, used oils, antifreeze or other toxic fluids into a storm drain or watercourse.
9. Do not bury or burn tires.

Spill Response and Reporting

1. Conduct clean-up of spill(s) immediately after discovery according to **District Incident Management Plan**.
2. Spills are to be cleaned-up using dry cleaning methods only.
3. For Environmental Emergencies Hazardous Materials spills:

Level 1: Contact Foreman or Assistant Foreman and Officer in Charge

District 1: coordinates with the local fire departments, which will then deploy the HazMat team, if necessary.

District 2 coordinates with the NJ State police dispatch in Hamilton, NJ, who will then deploy the HazMat team, if necessary. (The State police are responsible for calling the DEP if needed.)

District 3 coordinates with the respective County Emergency Services Teams who will then deploy the HazMat team, if necessary.

Level 2: Contact NJDEP at (877) WARN DEP or (877) 927-6337
Contact PADEP at 484-250-5900 (Southeast Region)
Or at 570-826-2511 (Northeast Region)

All required contacts in **Incident Management Plan**

Maintenance and Inspection

1. Periodically check for leaks and damaged equipment and make necessary repairs.
2. Perform monthly inspections of all maintenance areas and containers, both in and outdoors.
3. Provide memorandum to District Superintendent reporting inspection, and any noted items in need of repair or further maintenance. A copy of this report should be kept with the District's SPPP.

Penalties:

Any Commission officer, employee who continues to be in violation of the provisions of this SOP, after being duly notified, shall be subject to removal, suspension, demotion, or other disciplinary action.

- Please see that the appropriate personnel are notified.
- This SOP will also become part of the Workplace Safety Manual.
- Effective immediately

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

STANDARD OPERATING PROCEDURES

GOOD HOUSE KEEPING PRACTICES STANDARD OPERATING PROCEDURES



OPERATIONS ORDER NO. 7-06

FROM: FRANK G. McCARTNEY, Executive Director

TO: SUPERINTENDENTS; SECURITY, SAFETY & TRAINING;
ENGINEERING

DATE: JULY 27, 2006

VIA: FRANK J. TOLOTTA, Deputy Executive Director of Operations

SUBJECT: Good Housekeeping Practices

Please be advised that this Operations Order supersedes all other directives and instructions relating to the above-captioned.

The following Standard Operating Procedure (SOP) contains the basic good housekeeping practices to be implemented at Commission maintenance yards including maintenance areas at ancillary operations. This SOP does not cover responses for bridges, roadways, or right of ways.

PURPOSE:

This SOP provides guidelines for the Commission's employees to implement Good Housekeeping Practices for their maintenance yards and ancillary operations' maintenance areas.

STANDARDS AND SPECIFICATIONS:

General

1. All containers should be properly marked and labeled. Labels should be clean and legible.
2. Keep all containers in good condition and sealed tightly when they are not in use.
3. Keep all hazardous materials, including automotive oils, anti-freeze, hydraulic fluids, industrial detergents, liquid herbicides, liquid pesticides, etc. in secondary containment.
4. Keep all chemicals, fluids, and supplies indoors and away from floor drains.
5. Keep storage areas clean and organized.
6. Keep spill kits and drip pans near any liquid transfer areas. Keep them protected from rain.

7. Absorbent spill clean-up materials must be available in maintenance areas and must be properly disposed of after spills.
8. Collect waste fluids such as waste oil, used anti-freeze, etc. and used rags in properly labeled containers, and dispose of them off-site at properly licensed facilities.
9. Maintain the recycling program by disposing of bottles, cans, paper, and trash in their designated containers.
10. Sweep and clean garages daily using dry cleaning methods.

Salt and De-icing Material Handling

1. Prevent or minimize spills during material loading and unloading. If de-icing materials are spilled, remove the material using dry cleaning methods, and reuse or dispose of the material properly.
2. Provide temporary covers over drain inlets during operations.
3. Inspect, sweep and clean area once per week to remove dirt and debris. Sweep area immediately following loading and unloading operations, when practical.
4. Minimize tracking material from the storage and loading areas.
5. Minimize the distance materials are transported during loading and unloading activities.
6. Tarp any materials stored outside when they are not in use.
7. If interim seasonal tarping is used, de-icing materials may only be stored outside between October 15th and April 30th.

Spill Response and Reporting

1. Conduct clean-up of spill(s) immediately after discovery according to **District Incident Management Plan**.
2. Spills are to be cleaned-up using dry cleaning methods only.
3. For Environmental Emergencies Hazardous Materials spills:

Level 1: Contact Foreman or Assistant Foreman and Officer in Charge

District 1: coordinates with the local fire departments, which will then deploy the HazMat team, if necessary.

District 2 coordinates with the NJ State police dispatch in Hamilton, NJ, who will then deploy the HazMat team, if necessary. (The State police are responsible for calling the DEP if needed.)

District 3 coordinates with the respective County Emergency Services Teams who will then deploy the HazMat team, if necessary.

Level 2: Contact NJDEP at (877) WARN DEP or (877) 927-6337
Contact PADEP at 484-250-5900 (Southeast Region)
Or at 570-826-2511 (Northeast Region)
All required contacts in **Incident Management Plan**

Maintenance and Inspection

1. Check for leaks and damaged equipment, periodically. Make repairs as necessary.
2. Perform monthly inspections of all storage areas and containers, both in and outdoors.
3. Provide memorandum to District Superintendent reporting inspection, and any noted items in need of repair or further maintenance. A copy of this report should be kept with the District's SPPP.
4. Perform overall facility inspection and maintenance, such as painting, annually, and provide annual maintenance memorandum report documenting the inspection to District Superintendent and District SPPP.

Penalties:

Any Commission officer, employee who continues to be in violation of the provisions of this SOP, after being duly notified, shall be subject to removal, suspension, demotion, or other disciplinary action.

- Please see that the appropriate personnel are notified.
- This SOP will also become part of the Workplace Safety Manual.
- Effective immediately

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

STANDARD OPERATING PROCEDURES

SAMPLE FACILITY INSPECTION LOG

STORMWATER MANAGEMENT PROGRAM

DISTRICT: _____ SUPERINTENDENT: _____

FACILITY: _____ GENERAL FOREMAN: _____

FACILITY SOP MAINTENANCE INSPECTION

TYPE OF INSPECTION: ☐ Vehicle Fueling ☐ Vehicle Maintenance ☐ Good Housekeeping

[illegible]

* PERSONNEL TO NOTE THE AMOUNT OF DEBRIS COLLECTED IF POSSIBLE.

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

STATEWIDE BASIC REQUIREMENT

REFUSE CONTAINERS / DUMPSTERS



OPERATIONS ORDER NO. 06-09

DATE: May 19, 2009

FROM: FRANK G. McCartney, Executive Director

TO: SUPERINTENDENTS
SECURITY, SAFETY & TRAINING
PLANTS & FACILITIES
ENGINEERING

VIA: FRANK J. TOLOTTA, Deputy Executive Director of Operations

SUBJECT: REFUSE CONTAINERS / DUMPSTERS

Please be advised that this Operations Order supersedes all other directives and instructions relating to the above-captioned.

In accordance with the new regulations promulgated by the State of New Jersey Department of Environmental Protection, the Commission was issued a Highway Agency General Stormwater Permit which established various statewide basic requirements (SBRs) to minimize existing non-point stormwater pollution. One of these SBRs is to enforce the following new regulation requiring dumpsters and other refuse containers that are outdoors or exposed to stormwater to be covered at all times. This will aid in prohibiting the spilling, dumping, leaking, or otherwise discharge of liquids, semi-liquids or solids from the containers to the municipal separate storm sewer system(s) operated by the Delaware River Joint Toll Bridge Commission and/or the waters of the State so as to protect public health, safety and welfare, and to prescribe penalties for the failure to comply.

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.

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

Operations Order No. 06-09

used for collecting and conveying stormwater. 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.

Person – any individual, corporation, company, partnership, firm, association, or political subdivision of this State subject to municipal jurisdiction.

Refuse container – any waste container that a person controls whether owned, leased, or operated, including dumpsters, trash cans, garbage pails, and plastic trash bags.

Stormwater – means 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.

Waters of the State - means the ocean and its estuaries, all springs, streams and bodies of surface or ground water, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction.

Prohibited Conduct:

Any person who owns, leases or otherwise uses a refuse container or dumpster must ensure that such container or dumpster is covered at all times and does not leak or otherwise discharge liquids, semi-liquids or solids to the municipal separate storm sewer system(s).

Exceptions to Prohibition:

- a. Permitted temporary demolition containers
- b. Litter receptacles (other than dumpsters or other bulk containers)
- c. Individual homeowner trash and recycling containers
- d. Refuse containers at facilities authorized to discharge stormwater under a valid NJPDES permit
- e. Large bulky items (e.g., furniture, bound carpet and padding, white goods placed curbside for pickup)

Penalties:

Any Commission employee who continues to be in violation of the provisions of this policy and procedure, after being duly notified, shall be subject to removal, suspension, demotion, or other disciplinary action.

- Please see that the appropriate personnel are notified.
- Effective immediately

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM

EMPLOYEE TRAINING PROGRAM

Statewide Basic Requirement:

Employee Training Program Highway Agencies shall develop and conduct an annual employee training program for appropriate employees on appropriate topics. At a minimum, annual employee training will include the following topics:

- *Waste Disposal Education*
- *Control Measures*
- *Roadside Vegetation Management*
- *Illicit Connection Elimination and Outfall Pipe Mapping*
- *Street Sweeping*
- *Stormwater Facility Maintenance*
- *Road Erosion Control (OPTIONAL) and Outfall Pipe Stream Scouring Remediation*
- *Maintenance and Facility Operations*
- *Construction Activity / Post-Construction Stormwater Management in New Development and Redevelopment*

Employee Training:

For each of the required training topics the Commission will coordinate training sessions outlining the benefits gained from each new program and any additional work activities that will be required with the implementation of this Stormwater Management Program. Field training will be given to those employees attending the training for illicit connection elimination and maintenance and facility operations.

Training will be as follows:

<u>Required Attendees</u>	<u>Course Covered</u>
Maintenance Employees & District Superintendent	Waste Disposal Education; Control Measures; Roadside Vegetation Management Illicit Connection Elimination;

Outfall Pipe Mapping;
Street Sweeping;
Stormwater Facility Maintenance;
Road Erosion Control (*Optional*)
Outfall Pipe Stream Scouring Remediation;
Maintenance and Facility Operations,

Other Appropriate Users**

Waste Disposal Education;
Control Measures

** Training for these users will be made via the issuance of memorandums outlining the new regulations for waste disposal and control measures.

Upon completion of the training sessions, Commission personnel shall update the SPPP to include the date of the training program and a list of attendees.

2006 OCT 26 PM 5:24

DRTB-00012

October 24, 2006

Julianne M. Dargan, P.E., Project Manager
Delaware River Joint Toll Bridge Commission
Administration Building
110 Wood Street
Morrisville, PA 19067

**Re: DRJTBC Contract No. C 425A-2/Capital Project No. 0453A-2
NJDEP & PADEP Municipal Stormwater Regulations Compliance Consultant
Employee Training Program**

Dear Ms. Dargan:

As you are aware, on Wednesday, October 18, 2006, T&M conducted the Stormwater Employee Training Program as required by the Commission's New Jersey Department of Environmental Protection (NJDEP) Highway Agency Stormwater General Permit. The training session was attended by various employees, as selected by the Commission, from each district.

The Stormwater Pollution Prevention Plan (SPPP) should be updated to reflect the execution of this first training session. Additionally, I have enclosed a digital copy of the training presentation slides and handouts for your future use.

If you have any questions or require additional information, please call.

Very truly yours,

T&M ASSOCIATES


ROSARIO R. SANTOS, P.E.
PRINCIPAL ENGINEER

KWH:RRS:scb
Enclosure

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**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

EMPLOYEE TRAINING PROGRAM

EMPLOYEE TRAINING SIGN-UP SHEET

NJDEP & PADEP MUNICIPAL STORMWATER REGULATIONS COMPLIANCE
CONTRACT NO. C-425A-2 / CAPITAL PROJECT NO. 0453A-2

October 18, 2006

Name	Company	Phone Number	Fax Number	Email Address
Steve Cerra	DRJTBCL	570-296-8581	570-296-7040	scerra@drjtbcl.org
Tom Chirico	DRJTBCL	570-476-0280	570-476-4062	tchirico@drjtbcl.org
Bryan L. Hill	"	570-476-0280	570-476-4062	blhill@drjtbcl.org
Lendell Jones	DRJTBCL	908-859-6417	610-559-0444	ljones@drjtbcl.org
CHARLES VORHEES	"	609-392-8251		
Ernest Bertram	"	908-859-6417		
MARK W DILTS SR	"	908-859-6417x2068	908-859-6458	mdilts@drjtbcl.org
FRED GARY	"	610-559-0444	610-559-0444	fgary@drjtbcl.org
JJ STEINER	"	267-790-1066	610-559-0444	jsteiner@drjtbcl.org
MICHAEL J. MEERER	DRJTBCL	570-476-4356	570-476-4259	mmeerer@drjtbcl.org
William M. Dugan	"	267-710-1082		jdugan@drjtbcl.org

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

EMPLOYEE TRAINING PROGRAM

SAMPLE EMPLOYEE TRAINING PRESENTATIONS

NJDEP MUNICIPAL STORMWATER COMPLIANCE EMPLOYEE TRAINING PROGRAM

FOR THE



T&M ASSOCIATES
11 TINDALL ROAD
MIDDLETOWN, NEW JERSEY 07748
(732) 671-6400

STORMWATER POLLUTION PREVENTION

Construction & Post Construction:
Stormwater Management
in New & Redevelopment





MAJOR DEVELOPMENT

- New development and redevelopment projects that disturb **one or more acres of land or increase impervious surface by more than 0.25 acres.**

Regulation Compliance

- NJ Residential Site Improvement Standards- (RSIS)
- Municipal Stormwater Management Plan
- Municipal Stormwater Control Ordinances
- PA & NJ Soil Conservation District Regulations
- NJ DOT & PENN DOT Standards
- NJDEP Permits
 - Examples
 - CAFRA
 - Stream Encroachment
- PADEP Permits



Possible Permits Required

- Soil Erosion & Sediment Control
- Stormwater RFA for Construction Site Activities
- Local Building Permits



WHAT IS REQUIRED?

- Adherence to new Design Standards & BMPs
- Long – Term Operation & Maintenance of BMPs
- Storm Drain Inlet Design Standard



The Buzz Words



- Disturbance
- Impervious Surface
- Redevelopment
- BMPS
 - Structural
 - Non-Structural
- Eutrophication



The Great Eight: Non-Structural Strategies

- Protect Areas of Water quality benefits, or likely to erode
- Minimize & disconnect impervious surfaces
- Maximize natural drainage
- Minimize decrease in Time of concentration
- Minimize land disturbance
- Minimize soil compaction
- Provide stable vegetated open channel conveyance
- Provide preventative source controls



Non- Structural BMPs

- Vegetated Filter Buffers
- Stream Corridor Buffers
- Stabilization of Banks, Slopes, & Shorelines
- Pond Configurations
- Deer & Geese Deterrents



Natural Resources Conservation Service



Structural BMPs

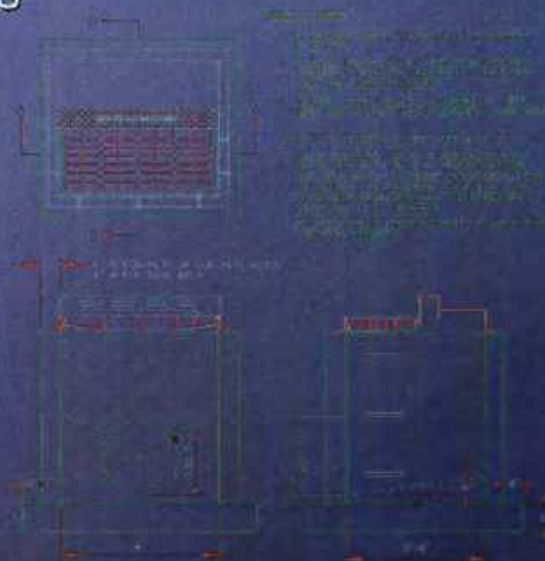
- Bioretention Systems
- Constructed Wetlands
- Dry Wells
- Extended Detention Basins
- Infiltration Basins
- Manufactured Treatment Devices
- Pervious Pavements
- Sand Filters
- Wet Ponds



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Storm Drain Inlets

- Retrofit / Install New
- When?
- Prevents solids and floatable from entering system



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NJ INLET DESIGN STANDARD

- New Inlets:
 - Campbell Type N
 - NJDOT Bike Safe Grate
- Retrofit
 - NJDOT Bike Safe Grate
 - Head openings less than 2"



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Inlet Design Exemptions

- With written permission of engineer only
 - Hydraulic performance
 - Historic places

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Long Term Maintenance?

- BMP
- Proper function
- Preventative & Corrective Maintenance



QUESTIONS?



**NJDEP MUNICIPAL STORMWATER
COMPLIANCE EMPLOYEE TRAINING
PROGRAM**

**FOR THE
DELAWARE RIVER JOINT
TOLL BRIDGE COMMISSION**

T&M ASSOCIATES
11 TINDALL ROAD
MIDDLETOWN, NEW JERSEY 07748
(732) 671-6400

**STORMWATER POLLUTION
PREVENTION**

MAINTENANCE PROGRAMS

STREET SWEEPING
STORMWATER FACILITY MAINTENANCE
ROAD EROSION CONTROL
OUTFALL PIPE STREAM SCOURING
REMEDICATION

STREET SWEEPING PROGRAM

- Existing Program
- Record Keeping

DATE	ROADWAY NAME	DEBRIS COLLECTED	# MILES SWEPT	ADDITIONAL COMMENTS	ROAD EROSION	DATE REPORTED TO SUPERVISOR
5/30/06	Ramp J		2	Branch in road	 / N	5/30/06

TM

ROAD EROSION CONTROL PROGRAM

- Inspect roadways, shoulders, embankments, and ditches during daily activities
- Report signs of erosion
- Repair as needed



TM

STORMWATER FACILITY MAINTENANCE



■ Storm Drain Inlets

- Cleaning
- Record Keeping



DATE OF INSPECTION	LOCATION	NO. OF STORM DRAIN INLETS	CLEANING REQUIRED	DEBRIS COLLECTED*	ADDITIONAL COMMENTS
9/28/06	Ramp A	5	<input checked="" type="radio"/> Y / <input type="radio"/> N	50 lbs	Trash Blocking Inlet
			<input type="radio"/> Y / <input type="radio"/> N		
			<input type="radio"/> Y / <input type="radio"/> N		

TM

STORMWATER FACILITY MAINTENANCE

- Storm Sewers
- Outfalls
- Swales



TM

STORMWATER FACILITY MAINTENANCE

■ Recordkeeping

INSPECTION DATE	NAME OF FACILITY	MAINTENANCE REQUIRED	TYPE OF MAINTENANCE REQUIRED	DATE PERFORMED	DEBRIS REMOVED*	ADDITIONAL COMMENTS
6/15/08	Drainage Pipe	Y / N	Clean Blockage	6/17/08	100lbs	none
		Y / N				
		Y / N				
		Y / N				

TM

OUTFALL PIPE STREAM SCOURING REMEDATION



■ Inspection

- Low flow
- Outfall Pipe

TM

QUESTIONS?



TM

NJDEP MUNICIPAL STORMWATER COMPLIANCE EMPLOYEE TRAINING PROGRAM



T&M ASSOCIATES
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(732) 671-6400

STORMWATER POLLUTION PREVENTION MAINTENANCE YARD OPERATIONS

STANDARD OPERATING PROCEDURES (SOP)

Vehicle Maintenance
Fueling Operations
Good Housekeeping Practices

VEHICLE MAINTENANCE OPERATIONS

- ❑ Conduct maintenance in designated areas
- ❑ Always use spill/drip pans
- ❑ Absorbent materials should be kept near maintenance areas
- ❑ Dispose of used fluids properly
- ❑ All spills should be reported



FUELING OPERATIONS



- ❑ Standard Operating Procedures
 - Fueling
 - Bulk Transfer
 - Spill Response
 - Maintenance & Inspection



GOOD HOUSEKEEPING PRACTICES

- Standard Operating Procedures
 - General
 - Maintenance & Inspection



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GOOD HOUSEKEEPING PRACTICES

- De-Icing Material Use & Storage
 - All de-icing material should be kept in bags when not being used
 - All salt storage areas should be swept after transfers
 - All salt, grit, and loose material should be removed prior to vehicle washing



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NJDEP MUNICIPAL STORMWATER COMPLIANCE EMPLOYEE TRAINING PROGRAM

FOR THE



T&M ASSOCIATES
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STORMWATER POLLUTION PREVENTION

Illicit Connection Elimination

WHY?



WHAT IS AN ILLICIT CONNECTION?



- ▶ Non-permitted discharge to storm sewers
- ▶ Dry Weather Flows

ILLECT CONNECTION REGULATION

- ▶ The **HIGHWAY AGENCY** and its officers, staff, agents, other employees, contractors, and/or visitors shall not discharge or cause to be discharged, through an illicit connection to the municipal separate storm sewer system operated by the Highway Agency, any domestic sewage, non-contact cooling water, process wastewater, or other industrial waste (other than stormwater)

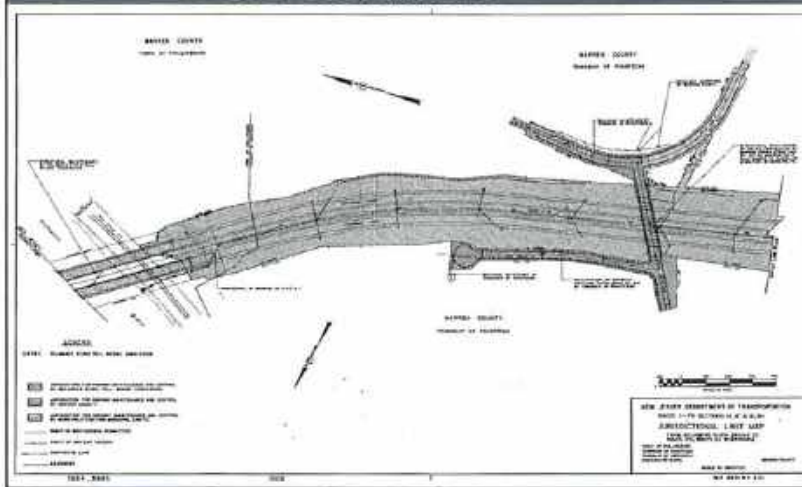
EXAMPLES

- ▶ Domestic Sewage
- ▶ Process Water
- ▶ Non-contact Cooling Water
- ▶ Industrial Wastes
- ▶ Wash Water



Outfall Map

- ▶ Alphanumeric Naming
- ▶ GPS Coordinates



INSPECTION FORMS

- ▶ Location
- ▶ Dry Weather Flow?
- ▶ Physical Observations
- ▶ Analysis

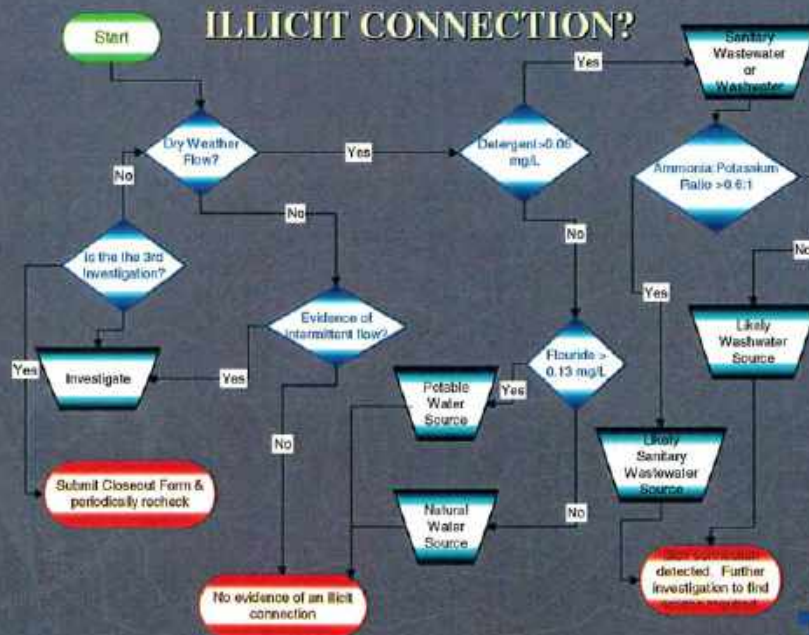
Illicit Connection Inspection Report Form	
Public Complex Information	Public Complex: _____
	PI ID #: _____
	Team Member: _____
	Date: _____ Effective Date of Permit Authorization (EOPA): _____
Outfall #: _____ Location: _____	
Receiving Waterbody: 1. Is there a dry weather flow? Y (<input type="checkbox"/>) N (<input type="checkbox"/>) 2. If "YES", what is the outfall flow estimate? _____ Gpm (Flow sample should be kept for further testing, and this form will need to be submitted with the Annual Report and Certification) 3. Are there any indications of an intermittent flow? Y (<input type="checkbox"/>) N (<input type="checkbox"/>) 4. If you answered "NO" to BOTH questions #1 and #3, then it is probably not an illicit connection and you can skip to question #7. (NOTE: This form will need to be submitted to the Department with the Annual Report and Certification) If you answered "YES" to either question, please continue on to question #5. (NOTE: This form will need to be submitted to the Department with the Annual Report and Certification)	
5. PHYSICAL OBSERVATIONS (a) ODO: none <input type="checkbox"/> sewage <input type="checkbox"/> sulfur <input type="checkbox"/> gas <input type="checkbox"/> noxious <input type="checkbox"/> other <input type="checkbox"/> _____ (b) COLOR: none <input type="checkbox"/> yellow <input type="checkbox"/> brown <input type="checkbox"/> green <input type="checkbox"/> red <input type="checkbox"/> grey <input type="checkbox"/> other <input type="checkbox"/> _____ (c) TURBIDITY: none <input type="checkbox"/> cloudy <input type="checkbox"/> opaque <input type="checkbox"/> _____ (d) FLOATABLES: none <input type="checkbox"/> petroleum <input type="checkbox"/> steam <input type="checkbox"/> sewage <input type="checkbox"/> other <input type="checkbox"/> _____ (e) DEPOSIT/TANK: none <input type="checkbox"/> sediment <input type="checkbox"/> sludge <input type="checkbox"/> other <input type="checkbox"/> _____ (f) VEGETATION CONDITIONS: normal <input type="checkbox"/> excessive growth <input type="checkbox"/> inhibited growth <input type="checkbox"/> _____ (g) DAM/BETO OUTFALL STRUCTURES: IDENTITY STRUCTURE: _____ (MATERIAL): none <input type="checkbox"/> concrete <input type="checkbox"/> steel <input type="checkbox"/> grouting <input type="checkbox"/> peeling paint <input type="checkbox"/> _____ status of structure: none <input type="checkbox"/> other <input type="checkbox"/> extra grout <input type="checkbox"/> _____	
6. ANALYSES OF OUTFALL FLOW SAMPLE: * Initial tests performed in accordance with manufacturer's instructions prior to testing. (a) DETERMINE: _____ mg/L If sample is greater than 0.05 mg/L, the sample is contaminated with dangerous levels may be from sanitary wastewater or other source. Further testing is required and this outfall should be given the highest priority. If the sample is not greater than 0.05 mg/L, and it does not show physical characteristics of sanitary wastewater (e.g., odor, floatables, and/or color) it is unlikely that it is from sanitary wastewater source, yet there may still be illicit connection of industrial wastewater, rain water, stormwater or cooling water. Skip to question #8.	

INSPECTIONS

- ▶ Inspection Forms
- ▶ Outfall Maps
- ▶ GPS
- ▶ Camera
- ▶ Tape Measure
- ▶ Thermometer
- ▶ Stopwatch
- ▶ Gallon Jugs
- ▶ Sample Jars
- ▶ Field Analysis Kits



ILLICIT CONNECTION?



INSPECTION CLOSEOUT FORMS

Closeout Investigation Form

Police Community Involvement	Public Complaint: _____ NIPDEC # / RAR: _____ FICD #: _____ Team Number / Title: _____
---	--

Outfit #: _____ Location: _____
 Reporting Year(s): _____

Basis for Submission:

☐ A non-stormwater discharge was found, but no source was located within six months.
☐ An imminent non-stormwater discharge was observed and three (3) source self-investigations were conducted to investigate the discharge with 1 year timing.

Describe each phase of your investigation, including dates. Attach additional pages as necessary:

Inspector's Name: _____
 Title: _____
 Signature: _____
 Date: _____

Complete and attach this form to the appropriate HHS Commission Inspection Report Form and submit with the annual certification.

Outfall Examples





**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

MAINTENANCE AND FACILITY OPERATIONS

FACILITY INSPECTION REPORTS

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Trenton–Morrisville Toll Bridge (US Route 1)
Date: February 28, 2006
Facility Location: Borough of Morrisville, PA & City Trenton, NJ
Inspector: Elizabeth Engelbert
Accompanied By: Jim Ley, DRJTBC

Facility Description: The Morrisville-Trenton Bridge structure consists of reinforced concrete deck that conveys stormwater runoff to a stormwater inlet and scupper system along both sides of the bridge deck. The approach area on the Pennsylvania (PA) side also conveys runoff to a series of inlet boxes that are set into the road curb that conveys flow directly to the Delaware River. These traditional stormwater inlets drain the area between the toll plaza and administration building. The Administration Buildings and Garages are attached around a courtyard, which is used for maintenance.

Location: PA Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 1 Outfall
4 Inlets (street & yard)

NOTES: There is another plastic pipe outfall on the PA side. This outfall is not owned by the Commission.

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Drains

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Location: Toll Plaza

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 5 Inlets (curb and lanes)

NOTES: Toll Plaza is a drainage divide.

Location: Employee Parking Lot

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 2 inlets

Location: Maintenance Courtvard/ Storage Alley

- Exposed Material Stockpile: Mulch
Batteries
Pipes
Tires
Traffic directing equipment
Fencing
Rebar
Angle irons
Scrap metal
Castings
Lighting stanchions
Sweepings (tarpd)
- Exposed Equipment: Vehicles
Plows
Fuel Dispenser (for 1,000gal gasoline UST)
Fuel Dispenser (for 1,000gal diesel UST)

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

- Exposed Containers: 500-gal Propane Tank (AST, fenced)
600 gal MgCl₂ fiberglass tank
300 gal MgCl₂ fiberglass tank
- Floor Drains: N/A
- Stormwater Facilities: Inlets

NOTES: Salt is stored in a three-sided bin with a paved floor and connecting roof. Abandoned vehicles are generally stored in the courtyard prior to auction. A 5KV Propane fired Cummins back-up generator is located off the courtyard. There is a 10,000 gal UST for No. 2 heating oil located in the courtyard. This tank supplies fuel to the garages and administration building.

Location: Maintenance Garage

- Exposed Material Stockpile: 60 lb bags of fertilizer
60 lb bags of cold patch
60 lb bags of SEVA patch
60 lb bags of flake salt
- Exposed Equipment: Vehicles
Plows
2 hydraulic lifts
Vehicles
Electric floor scrubber
Lawn mowers / tractors
- Exposed Containers: Propane Tank (fenced)
600 gal MgCl₂ fiberglass tank
300 gal MgCl₂ fiberglass tank
55-gal drums automotive fluids (most on pallets)
55-gal drums hydraulic fluid (containment pallets)
55-gal drum used oil
5-gal & 30 gal pails of grease
- Floor Drains: 3 to grease trap in front of garage
- Stormwater Facilities: Grease trap
Inlets

NOTES: Floor drains are connected to grease traps. There are several flammables cabinets containing gasoline jerry cans. Also paint and solvents are stored in a ventilated closet off the main garage.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Location: Welding Shop

- Exposed Material Stockpile: Metal
 Rebar

- Exposed Equipment: Grinder
 Drill Press
 Welding Apparatus

- Exposed Containers: None

- Floor Drains: 1 to grease trap in front of garage

- Stormwater Facilities: grease trap

NOTES: Floor drains are connected to grease trap.

Location: Administration Building Basement

- Exposed Material Stockpile: Storage room for janitorial supplies

- Exposed Equipment: None

- Exposed Containers: Storage room for janitorial supplies

- Floor Drains: 1

- Stormwater Facilities: None

Location: Administration Building Boiler Room

- Exposed Material Stockpile: None

- Exposed Equipment: Gas fired boiler
 Gas & oil fired heaters
 Secondary back-up generator

- Exposed Containers: None

- Floor Drains: 2

- Stormwater Facilities: Sump pit & pump

NOTES: Floor drains are connected to the sump pit.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Action Items:

- Provide secondary containment for all drums, ASTs, paints, solvents, soaps, chemicals, thinners, batteries, etc, including those stored in rooms with floor drains and sump pits. **Completed (11/17/06)**
- All containers should be properly labeled and stored away from floor drains or other stormwater infrastructure. **Completed (11/17/06)**
- Outdoor stockpiles should either be moved indoors, tarped or curbed to prevent runoff from these materials into the stormwater system. **Completed, outdoor stockpiles removed (11/17/06)**
- Salt storage has three walls, which are not all completely connected from floor to ceiling. Additionally, the courtyard is graded so all runoff, including that from the salt storage area, drains directly into the stormwater system. This should be evaluated to determine if the drainage path can be diverted. **Completed, salt pile tarped (11/17/06)**
- Due to the extent of the junkpile storage area, it is recommended that all items not essential to maintenance operations be removed from the facility grounds. **Completed, junkpile storage area removed (11/17/06)**
- Floor drains are directly connected into the stormwater conveyance system and leachfield. It is recommended these be closed off or blocked (if not needed), rerouted to the sanitary sewer system, or have additional treatment provided. **Will be addressed thorough future Task Order Assignment.**

STORMWATER COLLECTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY

Facility Name: Lower Trenton Toll Supported Bridge
Date: February 24, 2006
Facility Location: Morrisville, PA, Trenton, NJ
Inspector: Elizabeth Engelbert
Accompanied By: Jim Ley, DRJTBC

Facility Description: The five span Warren Truss Bridge with grated bridge roadway deck is the southern most toll supported bridge along the Delaware River.

Location: Officer's Shelter, PA Approach

- Exposed Material Stockpile: Fill Dirt
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Curb inlets in bowls
Yard inlets near park (part of flood control system)
Street inlets mostly owned by Morrisville, partially labeled
Outfall

Location: New Jersey Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Curb inlets in bowls and approach
Yard inlets in bowls
Street inlets mostly owned by NJ
Outfall

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Location: Bridge

- | | |
|-------------------------------|-----------------------------|
| • Exposed Material Stockpile: | None |
| • Exposed Equipment: | None |
| • Exposed Containers: | None |
| • Floor Drains: | N/A |
| • Stormwater Facilities: | Scuppers
Open grate deck |

NOTES: Officer's shelter under construction.

Action Needed: Fill dirt should be removed or relocated to a covered area.. **Completed, fill dirt removed (11/17/06)**

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Calhoun Street Bridge Toll Supported Bridge

Date: February 24, 2006

Facility Location: Borough of Morrisville, PA & City of Trenton, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Daniel Pasciullo and Jim Housel, DRJTBC

Facility Description: The Calhoun Street Bridge is an open grate Phoenix Pratt Truss that has limited property associated with this bridge. Security stations are located on both sides of the bridge that have salt barrel, oil dry and trash receptacles stationed in the vicinity of the station.

Location: PA Approach

- Exposed Material Stockpile: Broken concrete
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Outfall
Inlets

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: 55-gal sealed container of "Oil Dry"
- Floor Drains: N/A
- Stormwater Facilities: Outfall
Inlets

NOTES: Officer's shelter on both PA & NJ side.

Action Needed: Broken concrete should be removed, relocated or tarped. No action needed in the NJ Approach. **Completed, concrete removed (11/17/06)**

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Scudder Falls (I-95) Toll Supported Bridge

Date: February 24, 2006

Facility Location: Lower Makefield Township, PA & Ewing Township, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Daniel Pasciullo and Jim Housel, DRJTBC

Facility Description: The Scudder Falls Bridge carries I-95 traffic over the Delaware River by means of reinforced concrete road deck supported by deep steel beams that rest on concrete piers. The runoff from the bridge is collect in stormwater inlets by gutter flow that discharges through the scupper to areas on the underside of the bridge.

Location: PA Approach (under bridge)

- Exposed Material Stockpile: Wood chips
Brush
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Outfall
Inlets (bowls) / Scuppers

Notes: PA side drains to Canal

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Outfall
Inlets / Scuppers

NOTES: NJ side drains to Delaware River

Action Needed: Stockpiles of exposed material should be removed or relocated. No action for NJ approach. **Completed** (12/08/06)

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Washington Crossing Toll Supported Bridge

Date: February 24, 2006

Facility Location: Upper Makefield Township, PA & Hopewell, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Daniel Pasciullo and Jim Housel, DRJTBC

Facility Description:

The Washington Crossing Bridge is a six span double Warren Truss Bridge with open grate steel deck and a security station on the New Jersey side of the river.

Location: PA Approach

- Exposed Material Stockpile: N/A
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 1 Outfall
4 Inlets (street & yard)

Notes: PA side drains to Delaware River

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 1 Outfall
3 Inlets (street)

NOTES: NJ side drains to Delaware River. There is an officer's shelter on this approach.

Action Needed: No action needed.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: New Hope - Lambertville Toll Supported Bridge

Date: February 24, 2006

Facility Location: Borough of New Hope, PA & City of Lambertville, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Daniel Pasciullo and Jim Housel, DRJTBC

Facility Description: The New Hope-Lambertville Bridge is a six span truss bridge with open grate steel deck.

Location: PA Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 1 Outfall
 5 Inlets (street & yard)

Notes: PA side drains to Delaware River. The officer's shelter and office have been newly reconstructed on the PA side. A sanitary sewer pump station and force main to Lambertville, NJ have also been installed at this facility. It was also noted that the outfall is damaged and appears to leak where the pipe exits the surrounding wall.

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 1 Outfall
 3 Inlet (street)

NOTES: NJ side drains to Delaware River. There is an officer's shelter on this approach.

Action Needed: No action needed.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: New Hope- Lambertville Toll Bridge (US 202)

Date: February 28, 2006

Facility Location: Township of Solebury, PA & Township of Delaware, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Daniel Pasciullo and Jim Housel, DRJTBC

Facility Description: The New Hope-Lambertville bridge deck is reinforced concrete slab that is designed to convey runoff by gutter flow to the bridge scuppers. The bridge scuppers directly drain to either land areas below portion of the bridge or to the Delaware River. The infield areas of the interchange bordered by SR 202, and the on/off ramp intersection with SR 32 are vegetated. The north infield area drains to the SR 32 roadway gutter. The south infield area drainage is routed to a series of culverts and inlets that convey runoff underneath SR 32 to a drainage swale along the southern perimeter of the property. The runoff is then conveyed toward the river. The facility also consists of a main administration and garage building, salt storage shed, toll booths, and under bridge storage area.

Location: PA Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Outfall
Inlets (street & yard)
French Drains /Swales
Scuppers

NOTES: PA approached drain to the River.

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Outfalls
Inlets / Scuppers
French Drains/Swales

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

NOTES: NJ approaches and bowls drain to the Aggsaulton Creek.

Location: Toll Plaza

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Inlets (curb and lanes)

NOTES: Toll Plaza drains to the PA side.

Location: Employee Parking Lot

- Exposed Material Stockpile: None
- Exposed Equipment: fuel pump (gasoline & diesel)
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: inlets

NOTES: USTs for diesel, gasoline, and fuel oil are located under this parking lot.

Location: Maintenance Garage

- Exposed Material Stockpile: 60 lb bags of rapid set concrete mix
60 lb bags of cold patch
60 lb bags of flake salt
Batteries
Tires (new)

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

- Exposed Equipment: Vehicles
Plows
2 free standing hydraulic lifts
1 in-ground lift
Electric floor scrubber
Lawn mowers/ tractors
Spreaders
Emergency Generator (2,500 gal. liquid propane)
Paint shaker
- Exposed Containers: 55-gal drums automotive fluids (most on pallets)
55-gal drums hydraulic fluid (containment pallets)
55-gal drum used oil
5-gal & 30 gal pails of grease
5-gal latex line/traffic paint
- Floor Drains: Yes (unknown quantity)
- Stormwater Facilities: N/A

NOTES: Floor drains connect directly into the storm system, and after running through a seepage field, drain directly to the river. There are flammables cabinets containing gasoline and diesel jerry cans. Also paint and solvents are stored in a ventilated closet off the main garage.

Location: Foreman's Garage

- Exposed Material Stockpile: 60 lb bags Water Softener salt
- Exposed Equipment: Water softener
- Exposed Containers: 30-gal herbicide (Round-up)
- Floor Drains: 1
- Stormwater Facilities: N/A

NOTES: Floor drains are connected to grease trap.

Location: Administration Building Basement

- Exposed Material Stockpile: Storage room for janitorial supplies
- Exposed Equipment: None
- Exposed Containers: Storage room for janitorial supplies

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

- Floor Drains: 1
- Stormwater Facilities: None

Location: Storage Area (Salt Shed)

- Exposed Material Stockpile: Stone
Rebar
Scrap Metal
Sign posts
Wood
Pipe
Light post stanchions
Chain link fencing
Ladders
CMU block
Sweepings
Castings
Jersey barriers
Signs
Brush
- Exposed Equipment: Variable Message Board
- Exposed Containers: 2 3,000gal MgCl₂ Fiberglass Tanks
Steel AST (Not owned by DRJTBC)
- Floor Drains: N/A
- Stormwater Facilities: Outfall & Headwall to seepage area

NOTES: The salt shed has two bays storing approximately 100 tons of salt per bay. The shed has a roof, three walls and a paved floor. Most stockpiles lie on the river side of the salt storage area and extend under the bridge.

Location: Storage Shed

- Exposed Material Stockpile: Traffic control devices
- Exposed Equipment: Blasting machine
- Exposed Containers: Herbicides
- Floor Drains: None

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- Stormwater Facilities: None

NOTES: Shed door is always closed and locked when the building is not in use.

Action Items:

- Provide secondary containment for all drums, ASTs, paints, solvents, soaps, chemicals, thinners, batteries, etc. **Completed (12/08/06)**
- All containers should be properly labeled and stored away from floor drains or other stormwater infrastructure. **Completed (12/08/06)**
- Outdoor stockpiles should either be moved indoors, tarped or curbed to prevent runoff from these materials into the stormwater system. **Completed (12/08/06)**
- Salt storage shed has damage to the riverside exterior wall. Repairs should be considered to prevent salt from entering the river. **Completed (12/08/06)**
- Due to the extent of the junkpile storage area, it is recommended that all items not essential to maintenance operations be removed from the facility grounds. **Completed (12/08/06)**
- Please note that the storage area is in the direct drainage path to the river, precautions should be taken to prevent contaminated runoff. **Completed (12/08/06)**
- Materials stored under the bridge should be removed from the floodplain area, as they may be in conflict with US Army Corp of Engineers Permits, and may be washed into the river during flood events. **Completed (12/08/06)**
- Floor drains are directly connected into the stormwater conveyance system and leachfield. It is recommended these be closed off or blocked (if not needed), rerouted to the sanitary sewer system, or have additional treatment provided. **Will be addressed through future Task Order Assignment.**
- All ASTs that do not belong to the Commission should be removed if no longer in use. **Completed (12/08/06)**

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Centre Bridge – Stockton Toll Supported Bridge

Date: February 24, 2006

Facility Location: Centre Bridge, Solebury Township, PA & Borough of Stockton, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Daniel Pasciullo and Jim Housel, DRJTBC

Facility Description: The Centre Bridge-Stockton is a six span Warren Truss Bridge supported by concrete capped stone, mortar piers and a small reinforced concrete bridge section. One stormwater inlet was located at the intersection of SR 32 and Upper York Road on the Pennsylvania side and drains to the Delaware Canal.

Location: PA Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 1 Outfall
 2 Inlets

Notes: Facilities drain to Canal.

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 2 Outfall
 Inlets (bridge and roadway)
 Culverts (under driveway)

NOTES: Officer's shelter on NJ side connected to Stockton's utilities. Stormwater facilities drain to the Delaware River & the Raritan Canal.

Action Needed: No action needed.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Lumberville – Raven Rock Toll Supported Bridge

Date: February 24, 2006

Facility Location: Lumberville, Solebury Township, PA & Raven Rock, Delaware Township, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Daniel Pasciullo and Jim Housel, DRJTBC

Facility Description: The Lumberville-Raven Rock Bridge consists of steel cable suspension bridge supported by four cut stone and mortar piers with an 8 ft. wide reinforced concrete deck that limits use to pedestrians.

Location: PA Approach

- | | |
|-------------------------------|---|
| • Exposed Material Stockpile: | None |
| • Exposed Equipment: | None |
| • Exposed Containers: | None |
| • Floor Drains: | N/A |
| • Stormwater Facilities: | 1 Outfall
2 Inlets
2-4" curb cuts |

Notes: Facilities drain to the Delaware River. The Commission owns and maintains the two-story stone house on the eastbound approach.

Location: NJ Approach

- | | |
|-------------------------------|------|
| • Exposed Material Stockpile: | None |
| • Exposed Equipment: | None |
| • Exposed Containers: | None |
| • Floor Drains: | N/A |
| • Stormwater Facilities: | None |

NOTES: NJ approach consists of state park land.

Action Needed: No action needed.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Uhlertown-Frenchtown Toll Supported Bridge

Date: March 1, 2006

Facility Location: Uhlertown & Tinicum Township, PA & Borough of Frenchtown, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Jim Hinkel, DRJTBC

Facility Description: The Uhlertown-Frenchtown Bridge is a six span Warren Truss Bridge that was constructed with open grate steel roadway deck.

Location: PA Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 1 Outfall (down river)
3 Inlets

Notes: Facilities drain to the Delaware River.

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 1 Outfall (down river)
3 Inlets

NOTES: The Commission maintains an officer's shelter on the NJ approach which has a sanitary sewer connection.

Action Needed: No action needed.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Upper Black Eddy - Milford Toll Supported Bridge

Date: March 1, 2006

Facility Location: Upper Black Eddy, Bridgeton Township, PA & Borough of Milford, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Jim Hinkel, DRJTBC

Facility Description: The Upper Black Eddy-Milford Bridge is a three span Warren Truss Bridge with a grouted closed steel grated roadway deck. The runoff drains to either side of the bridge's road deck where it drains through a variety of openings to the area below the bridge.

Location: PA Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 2 Outfall (up river)
3 Inlets

Notes: Facilities drain to the Delaware River.

Location: NJ Approach

- Exposed Material Stockpile: Brush
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: 2 – officer's shelter stairwell to storm sewer
- Stormwater Facilities: 1 Outfall (up river)
1 Inlet

NOTES: The Commission maintains a two-story officer's shelter on the NJ approach.

Action Needed: Brush should be removed or relocated to covered area.

Action Taken: Brush removed by maintenance employees (09/20/06).

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Riegelsville Toll Supported Bridge

Date: March 1, 2006

Facility Location: Borough of Riegelsville, PA & Riegelsville, Pohatcong Township, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Jim Hinkel, DRJTBC

Facility Description: The second cable suspension in the upstream stream area consists of three steel cable suspension spans with open steel grate road deck supported by cut stone and a mortar pier system. The security stations are located on both banks and provide barrel and drum storage for the rock salt along with other safety equipment.

Location: PA Approach

- | | |
|-------------------------------|-------------------------|
| • Exposed Material Stockpile: | Cinders/ grit
Gravel |
| • Exposed Equipment: | None |
| • Exposed Containers: | None |
| • Floor Drains: | N/A |
| • Stormwater Facilities: | None |

Notes: The Commission maintains an officer's shelter on the PA approach, with only heat and electricity

Location: NJ Approach

- | | |
|-------------------------------|------|
| • Exposed Material Stockpile: | None |
| • Exposed Equipment: | None |
| • Exposed Containers: | None |
| • Floor Drains: | N/A |
| • Stormwater Facilities: | None |

NOTES: The Commission maintains an officer's shelter on the NJ approach with full utilities.

Actions Needed: Remove or relocated all exposed materials. No action needed for the NJ approach.

Action Taken: Exposed Stockpile Material (PA) removed by maintenance employees (09/20/06).

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Interstate-78 Toll Bridge

Date: March 1, 2006 and March 2, 2006

Facility Location: Williams Township & City of Easton, PA & Town of Phillipsburg, Township of Pohatcong, and Borough of Alpha, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Jed Varju, DRJTBC

Facility Description: The largest of the DRJTBC facilities in length of road over the Delaware River consists of a Welcome Center, Bridge, Toll Booths and 6.9 miles of roadway with multiple bridges and drainages structures. The PA side of the facility consists of 2.2 mile long roadway that incorporates roadside drainage swales and culvert pipes that route stormwater flows to an existing detention basin located northeast of the intersection of Morgan Hill Road and I-78 (west). The two roadside swales west of the toll booth and Welcome Center are stabilized and revegetated. In addition to the bridge, approaches, and welcome center, the facility also has a maintenance garage, salt dome, and "junkyard" storage area.

Location: PA Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Outfall
Inlets (street & yard)
Vegetated Swale
Trapezoidal Channel Swale
Rock bottomed swale
Scuppers

NOTES: All drainage exists on the Westbound PA approaches. The PA approach includes 2.25 miles of roadway.

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A

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- Stormwater Facilities: Outfalls
 Inlets (street & yard)
 Vegetated Swale
 Trapezoidal Channel Swale
 Rock bottomed swale
 Scuppers

NOTES: Rt. 519 acts as a drainage divide. A portion of the stormwater system is conveyed to the County system. For a portion of the NJ approach, stormwater is collected in a piped system, where flow is collected in a central interceptor located in the median. The NJ approach includes 4.7 miles and 6 bridges.

Location: Toll Plaza

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Inlets (curb and lanes)
 Roof leaders

NOTES: Toll Plaza drains to the PA side.

Location: Welcome Center Parking Lot

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: inlets

NOTES: USTs for diesel, gasoline, and fuel oil are located under this parking lot.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
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Location: Welcome Center

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Inlets

NOTES: USTs (fuel oil) are located beside the building.

Location: Maintenance Garage & Shop

- Exposed Material Stockpile: 60 lb bags of cold patch
Tires (new)
Spare parts
- Exposed Equipment: Vehicles
Plows
Electric floor scrubber
Lawn mowers/ tractors
Emergency Generator (2,500 gal. liquid propane)
- Exposed Containers: 55-gal drums automotive fluids (most on pallets)
55-gal drums hydraulic fluid (containment pallets)
55-gal drum used oil (Containment pallets)
5-gal & 30 gal pails of grease
5-gal pails of degreaser
55-gal drum biodegradable soap
- Floor Drains: 2 grated trench drains
- Stormwater Facilities: N/A

NOTES: Floor drains connect to grease traps then into the sanitary sewer system. There are flammables cabinets containing gasoline and diesel jerry cans. Also paint and solvents are stored in a ventilated closet off the main garage.

**STORMWATER COLLECTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
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PENNSYLVANIA & NEW JERSEY**

Location: Welding Garage

- Exposed Material Stockpile: Rebar
 Scrap metal

- Exposed Equipment: Tools
 Welding apparatus

- Exposed Containers: None

- Floor Drains: 1

- Stormwater Facilities: N/A

NOTES: Floor drains are connected to grease trap, then into the sanitary sewer.

Location: Storage Bay

- Exposed Material Stockpile: 60 lb bag of pellet salt
 60 lb bag of ready mix concrete
 Tar base

- Exposed Equipment: None

- Exposed Containers: None

- Floor Drains: N/A

- Stormwater Facilities: None

Location: Maintenance Garage Parking Area

- Exposed Material Stockpile: None

- Exposed Equipment: Fuel pumps
 Vehicles
 Salt spreaders

- Exposed Containers: None

- Floor Drains: N/A

- Stormwater Facilities: Inlets

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Location: Storage Area (Salt Dome)

- Exposed Material Stockpile: Sign blanks
- Exposed Equipment: None
- Exposed Containers: 5,000 gal MgCl₂ Fiberglass Tank
- Floor Drains: N/A
- Stormwater Facilities: None

NOTES: The salt dome stores approximately 1,500 tons of salt per bay. The dome has no door.

Location: Storage/Junk Yard

- Exposed Material Stockpile: Traffic control devices
Brush
¾" Stone
4" Stone
Pea gravel (tarpred, 3 walled bin)
Sand (tarpred, 3 walled bin)
Lumber
Batteries
Chain link fencing
Sweepings
Metal
Jersey barriers
Tires
- Exposed Equipment: None
- Exposed Containers: Empty 55-gal drums
55-gal Hazardous Material drums
- Floor Drains: N/A
- Stormwater Facilities: Natural Swale

NOTES: Hazardous Material is stored in sealed, labeled drums until removed by outside contractor. Sweepings are used as clean fill and grit, after all litter and recyclables have been removed.

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Action Needed:

- Provide secondary containment for all drums, ASTs, paints, solvents, soaps, chemicals, thinners, batteries, etc. **Completed (10/27/06)**
- All containers should be properly labeled and stored away from floor drains or other stormwater infrastructure. **Completed (10/27/06)**
- Outdoor stockpiles should either be moved indoors, tarped or curbed to prevent runoff from these materials into the stormwater system. **Completed (10/27/06)**
- Due to the extent of the junkpile storage area, it is recommended that all items not essential to maintenance operations be removed from the facility grounds. **Completed (10/27/06)**
- All unnecessary empty 55-gal drums should be removed. **Completed (10/27/06)**
- Rubble from outfalls and drainage facilities, in addition to the litter collection should be removed. **Completed (10/27/06)**
- Facility personnel should investigate areas of erosion under approach bridges and evaluate what repair is needed. **Completed (10/27/06)**

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Northampton Street Toll Supported Bridge

Date: March 1, 2006

Facility Location: City of Easton, PA & Town of Phillipsburg, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Jim Hinkel, DRJTBC

Facility Description: The Easton-Phillipsburg Bridge carries Northampton Street over the Delaware by a three span cantilever through truss structure that has two security stations, one on each bank.

Location: PA Approach

- Exposed Material Stockpile: Cinders / grit
Gravel
- Exposed Equipment: None
- Exposed Containers: 30-gal trash (covered)
20-gal sealed container of Salt
- Floor Drains: N/A
- Stormwater Facilities: None

Notes: All stormwater facilities are owned by the City of Easton. There is a small officer's shelter equipped with all utilities.

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: Traffic Cones
- Exposed Containers: 55-gal sealed container of "Oil Dry"
20-gal sealed container of Salt
- Floor Drains: N/A
- Stormwater Facilities: 2 Inlets
2 PVC Outfalls

NOTES: There is a small officer's shelter equipped with all utilities.

Action Needed: Remove and/or relocate exposed materials. No action needed in the NJ approach.

Action Taken: Exposed Stockpile Material (PA) removed by maintenance employees (09/20/06).

STORMWATER COLLECTION & PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
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PENNSYLVANIA & NEW JERSEY

Facility Name: Easton-Phillipsburg Toll Bridge (US 22)

Date: March 2, 2006

Facility Location: City of Easton, PA & Town of Phillipsburg, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Mark Dilts, Sr., DRJTBC

Facility Description: This multi span structure consists of five simple spans along the NJ approach, a main span comprised of a Pennsylvania Petit Truss, and a four lane limit access concrete highway at the Pennsylvania approach. There are five toll lanes on the NJ approach. The facility consists of the bridge and approaches, toll plaza, operation and maintenance building, maintenance garage, and under bridge storage areas.

Location: PA Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 5 Outfall
Inlets (street & yard)
Scuppers

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 1 Outfall
Inlets (street & yard)
Vegetated Swale
Scuppers

**STORMWATER POLLUTION PREVENTION PLAN
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Location: Toll Plaza (Westbound)

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Inlets (curb and lanes)
Roof leaders

Location: Vehicle Garage (NJ)

- Exposed Material Stockpile: Traffic calming devices
- Exposed Equipment: Vehicle
- Exposed Containers: None
- Floor Drains: 1
- Stormwater Facilities: None

NOTES: Used only as a parking facility.

Location: Mower Room (NJ)

- Exposed Material Stockpile: Spare parts
- Exposed Equipment: Mowers
Clean-O-Matic Parts washer
Natural Gas Fired Generator
- Exposed Containers: Solvents
Grease
- Floor Drains: 1
- Stormwater Facilities: N/A

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Location: Boiler Room (NJ)

- Exposed Material Stockpile: None
- Exposed Equipment: Gas-fired Boiler
- Exposed Containers: None
- Floor Drains: 2
- Stormwater Facilities: N/A

Location: Storage Room (NJ)

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: Janitorial supplies
Small containers of automotive oils
- Floor Drains: 1
- Stormwater Facilities: N/A

NOTES: This is a supply and storage room.

Location: Maintenance Garage & Shop

- Exposed Material Stockpile: 60 lb bags of salt
Spare parts
- Exposed Equipment: Vehicles
Plows
Lawn mowers/ tractors
2 under floor hydraulic lifts
Parts washer
Air compressor
- Exposed Containers: 55-gal drums automotive fluids (containment pallets)
55-gal drums hydraulic fluid (containment pallets)
2 55-gal drum used oil (Containment pallets)
5-gal & 30 gal pails of grease
5-gal pails of degreaser
55-gal drum biodegradable soap

**STORMWATER POLLUTION PREVENTION PLAN
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- Floor Drains: 4
- Stormwater Facilities: N/A

NOTES: Floor drains connected to storm sewer system. There are flammables cabinets containing gasoline and diesel jerry cans. Also paint and solvents are stored in a ventilated closet off the main garage.

Location: Welding Shop (NJ)

- Exposed Material Stockpile: Rebar
Scrap metal
- Exposed Equipment: Tools
Welding apparatus
- Exposed Containers: None
- Floor Drains: 2
- Stormwater Facilities: N/A

NOTES: Floor drains are connected to the storm sewer. The shop floor showed evidence of staining.

Location: Salt Storage/ Parking Lot

- Exposed Material Stockpile: See Notes
- Exposed Equipment: 250 gal Steel AST -Diesel
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Inlets
Storm sewer pipes

NOTES: Salt is stored in a three walled shed, with a roof and paved floor. The facility stores at most 200 tons of salt in this shed.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
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PENNSYLVANIA & NEW JERSEY**

Location: Storage Yard (Under NJ Approach)

- Exposed Material Stockpile: Scrap Metal
 Sweepings (3 sided bin)
 Rebar
 Rebar cages
 Wood
 Stanchions
- Exposed Equipment: None
- Exposed Containers: Empty 55-gal drums
- Floor Drains: None
- Stormwater Facilities: None

NOTES: Storage Yard is shared property with a local organization. There are trailers and other material/equipment onsite not owned by the Commission.

Location: Storage Yard Lean-to (Under NJ Approach)

- Exposed Material Stockpile: Traffic Control Devices
- Exposed Equipment: None
- Exposed Containers: Road tar
- Floor Drains: None
- Stormwater Facilities: None

NOTES: This structure is mostly used for miscellaneous storage.

Actions Needed:

- Provide secondary containment for all drums, ASTs, paints, solvents, soaps, chemicals, thinners, batteries, etc. **Completed (10/27/06)**
- All containers should be properly labeled and stored away from floor drains or other stormwater infrastrucutre. **Completed (10/27/06)**
- Outdoor stockpiles should either be moved indoors, tarped or curbed to prevent runoff from these materials into the stormwater system. **Completed (10/27/06)**

**STORMWATER POLLUTION PREVENTION PLAN
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- Due to the extent of the junkpile storage area, it is recommended that all items not essential to maintenance operations be removed from the facility grounds. The Owner of the equipment and material stored on Commission property should be notified to remove/relocate or tarp the exposed piles. **Completed (10/27/06)**
- Materials stored under the Easton-Phillipsburg Bridge should be removed from the floodplain area, as they may be in conflict with US Army Corp of Engineers Permits, and may be washed into the river during flood events. **Completed (10/27/06)**
- Floor drains located in the Mower Room, Maintenance Garage & Shop, Storage Room, and Vehicle Garage are directly connected into the stormwater conveyance system. It is recommended these be closed off or blocked (if not needed), rerouted to the sanitary sewer system, or have additional treatment provided. **Will be addressed thorough future Task Order Assignment.**
- Please note that onsite vehicle washing is permitted only till February 1, 2009. After February 1, 2009, the Commission must either obtain a permit for the discharge, go to a commercial facility, install an onsite vehicle washing facility or collect and dispose of the washwater discharge either at an offsite location or into the nearest sanitary sewer system. However, until then the Commission should implement maintenance procedures to minimize sediment entering into the Commission's storm sewer system (i.e blocking off nearby inlets during washin activities, and/or brushing excess sediment from vehicles prior to washing, etc.). **Will be addressed thorough future Task Order Assignment.**

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Riverton - Belvidere Toll Supported Bridge

Date: March 1, 2006

Facility Location: Riverton, Lower Mount Bethel Township, PA & Town of Belvidere, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Jim Hinkel, DRJTBC

Facility Description: The Riverton-Belvidere Bridge consists of a four span Warren Truss Bridge with an open grate steel roadway deck surface. The inspection revealed that no drainage structures are located in the Pennsylvania side of the river.

Location: PA Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: None

Location: NJ Approach / Maintenance Building

- Exposed Material Stockpile: Scrap metal
Mulch
- Exposed Equipment: None
- Exposed Containers: 55-gal sealed container of "Oil Dry"
- Floor Drains: N/A
- Stormwater Facilities: 1 Inlet
1 Outfall (under stone / rip-rap) (downriver side)

NOTES: There is a small officer's shelter equipped with all utilities. The Maintenance Building has a car port large enough for three vehicles.

Action Needed: Mulch and scrap metal pile should be removed or relocated to a covered area.

Action Taken: Material removed/relocated to a covered area (09/20/06).

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
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PENNSYLVANIA & NEW JERSEY**

Facility Name: Portland-Columbia Toll Supported Bridge

Date: March 1, 2006

Facility Location: Portland Borough, Upper Mount Bethel Township, PA & Columbia, Knowlton Township, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Jim Hinkel, DRJTBC

Facility Description: The last of the upstream toll supported structures consist a four span thru-deck girder superstructure with no drainage structures located in Pennsylvania.

Location: PA Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Scuppers

Location: NJ Approach / Maintenance Building

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Scuppers

NOTES: There are no facilities at this bridge.

Action Needed: No action needed.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Portland-Columbia Toll Bridge (PA Rt. 611/US 46)

Date: March 7, 2006

Facility Location: Portland Borough, Upper Mount Bethel Township, PA & Columbia, Knowlton Township, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Jim, DRJTBC

Facility Description: The Portland-Columbia Toll Bridge consist of a five spans of reinforced concrete deck slabs that are supported by steel girders resting on reinforced concrete capped stone and mortar piers. The runoff from the road deck area drains to stormwater inlets connected to scuppers that drain to the under side of the superstructure to the land and water surfaces below the bridge. The land area below the bridge is maintained and vegetated. The administration building, attached garage, shop area and the unattached maintenance building are also part of this facility.

Location: PA Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Outfall
Inlets (street & yard)
Scuppers

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 1 Outfall
Inlets (street & yard)
Scuppers

STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY

Location: Toll Plaza (Westbound)

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: Sealed drums of salt
Sealed drums of "Oil Dry"
- Floor Drains: N/A
- Stormwater Facilities: Inlets (curb and lanes)
Roof leaders

Location: Maintenance Bay/Garage

- Exposed Material Stockpile: Traffic calming devices
- Exposed Equipment: Propane Emergency generator
- Exposed Containers: None
- Floor Drains: 3
- Stormwater Facilities: None

NOTES: Drains have a top sediment trap and are connected into a seepage pit.

Location: Maintenance Garage #2

- Exposed Material Stockpile: Spare parts
2 pallets of 50 lb bags of CaCl₂
- Exposed Equipment: Loader
Truck
2 Trailers
Welding apparatus
- Exposed Containers: Solvents
Grease
55-gal drum Automotive fluids
55-gal drum Biodegradable soap (no secondary containment)
5 gal pails Degreasers
5 gal pails Strippers
- Floor Drains: 3

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

- Stormwater Facilities: N/A

NOTES: Drains have a top sediment trap and are connected into a seepage pit.

Location: Yard

- Exposed Material Stockpile: None
- Exposed Equipment: 500 gal 2x walled concrete Gasoline AST
500 gal 2x walled concrete Diesel AST
Fuel Dispensers
- Exposed Containers: 5 Cu Yd dumpster
- Floor Drains: N/A
- Stormwater Facilities: Inlet
Pipes

NOTES: Fuel tanks are common wall type.

Location: Upper Storage Yard

- Exposed Material Stockpile: Cold Patch (tarped)
Mulch
Cinders/Gravel
Sand (tarped)
Metal
Misc. Junk
Wood
Scrap Aluminum
CMU Block
Drainage Pipe
Sweepings
- Exposed Equipment: None
- Exposed Containers: Used Water storage tank
550 gal Used Oil AST
- Floor Drains: N/A
- Stormwater Facilities: N/A

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

NOTES: Natural Drainage.

Location: Small Storage Building

- Exposed Material Stockpile: Broken Stanchions
 Blocks
 Wood
- Exposed Equipment: Sewer-Vac Truck
- Exposed Containers: None
- Floor Drains: None
- Stormwater Facilities: N/A

Location: Large Storage Building

- Exposed Material Stockpile: New Tires
 Concrete mix
 Cold Patch
 Fertilizer
 CaCl₂ Ice melt
 Pipe
 Scrap metal
 Decorations
- Exposed Equipment: Truck
- Exposed Containers: None
- Floor Drains: 2
- Stormwater Facilities: N/A

NOTES: This is the overall storage facility for the district. All major bulk goods are stored here on pallets above the floor. All bags and containers are new and unopened.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Action Items:

- Provide secondary containment for all drums, ASTs, paints, solvents, soaps, chemicals, thinners, batteries, etc. **Additional Spill Containment platforms on order. 300 gallon waste oil tank pumped and cleaned for decommissioning and disposal. (11/9/06)**
- All containers should be properly labeled and stored away from floor drains or other stormwater infrastructure. **Completed (9/28/06)**
- Outdoor stockpiles should either be moved indoors, tarped or curbed to prevent runoff from these materials into the stormwater system. **Completed (10/18/06)**
- Due to the extent of the junkpile storage area, it is recommended that all items not essential to maintenance operations be removed from the facility grounds. **Completed (10/6/06)**
- Floor drains located are directly connected into the stormwater conveyance system and leachfield. It is recommended these be closed off or blocked (if not needed), rerouted to the sanitary sewer system, or have additional treatment provided. **Will be addressed thorough future Task Order Assignment.**

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Delaware Water Gap Toll Bridge (I-80)

Date: March 7, 2006

Facility Location: Williams Borough of Delaware Water Gap, PA & Township of Pahaquarry, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Don Rothrock, DRJTBC

Facility Description: The Delaware Water Gap, I-80 Bridge is a multi-span structure of reinforced concrete decks that is supported by deep steel beam resting on concrete cap stones and mortar piers. The roadway deck runoff is conveyed by gutter flow to stormwater inlets located along the roadway. The runoff flow from the gutter area is then conveyed to scuppers that discharge to areas below the superstructure. The areas under the bridge are utilized for storage of materials. The salt storage shed is located on a slight rise adjacent to the administration building. The red brick maintenance building and storage shed is across the road from the salt shed.

Location: PA Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Outfalls
Inlets (street & yard) / Scuppers
Vegetated Swale / French drain

NOTES: The PA stormwater facilities drain to the Cherry Valley Creek through a PennDOT owned outfall.

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 9 Outfalls
Inlets (street & yard) / Scuppers
Vegetated Swale/ French drain

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

NOTES: Stormwater facilities generally drain to the median then to the River and national park land.

Location: Toll Plaza

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Inlets (curb and lanes)
Roof leaders

NOTES: Toll Plaza is the drainage divide for the entire facility. All stormwater west of the toll booth drains to the PA side and Cherry Valley Creek, while the eastern flow drains to the Delaware River.

Location: PA Storage Lot (Under bridge, by Rail Road)

- Exposed Material Stockpile: Sweepings *
Traffic control devices *
Grit*
50lb bags of CRAFCO road sealant* (5pallets)
Wood
Structural steel
Chain link fencing
Batteries*
Castings, frame, covers, grates
Used tires
Guardrail
Plastic drainage piping
Railroad timber (owned by railroad)
Paves**
¾" stone**
3"-4" stone**
Subbase**
Broken concrete road decking
- Exposed Equipment: Variable Message Boards
Trailers
Tar spreader
Landscape equipment
Crane

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

- Exposed Containers: Paper recycling bins
Empty 55-gal drums
- Floor Drains: N/A
- Stormwater Facilities: Headwall & outfall

NOTES: * = Stored on paved surface, ** = Stored on paved surface with jersey barrier bins. The area provides shared storage with both the DRJTBC and the railroad.

Location: Maintenance Facility Grounds

- Exposed Material Stockpile: None
- Exposed Equipment: Fuel pumps
Flows
- Exposed Containers: 500-gal shared wall 2xwall concrete gasoline/diesel AST
4 small propane tanks for emergency generators
3,000gal MgCl₂ AST
5 yd³ Dumpster
500gal used oil AST (no Secondary containment)
55-gal drums used antifreeze
30-gal drum used thinner
- Floor Drains: N/A
- Stormwater Facilities: Inlets
Storm sewer pipes

NOTES: Salt shed has three walls, paved floor, and a roof, but no door. This facility stores about 100-150 tons of salt in the shed. Used oil, thinner, and antifreeze are disposed of by an outside contractor.

Location: Maintenance Garage & Shop

- Exposed Material Stockpile: 5-gal pails of cold patch
Tires (new)
Spare parts
Bags of ready mix concrete
- Exposed Equipment: Vehicles
Plows
Parts cleaner
Lawn mowers/ tractors
Emergency Generator (2,500 gal. liquid propane)

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

- Exposed Containers: 55-gal drums automotive fluids (most on pallets)
55-gal drums hydraulic fluid (containment pallets)
5-gal gal pails of grease
5-gal pails of degreaser
55-gal drum biodegradable soap
Pails of pesticide
- Floor Drains: 2
- Stormwater Facilities: N/A

NOTES: Floor drains connect to the storm sewer system. There are flammables cabinets containing gasoline and diesel jerry cans. Also paint and solvents are stored in a ventilated closet off the main garage.

Location: Parking Garage

- Exposed Material Stockpile: None
- Exposed Equipment: Propane fired Emergency generator
Cars
- Exposed Containers: None
- Floor Drains: 2
- Stormwater Facilities: N/A

NOTES: Floor drains are connected to grease trap, then the storm sewer.

Location: Boiler Room

- Exposed Material Stockpile: None
- Exposed Equipment: Boiler
- Exposed Containers: None
- Floor Drains: 3
- Stormwater Facilities: None

NOTES: Floor drains are connected to a grease trap then discharge into the storm sewer system.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Actions Needed:

- Provide secondary containment for all drums, ASTs, paints, solvents, soaps, chemicals, thinners, batteries, etc. **Additional Spill Containment platforms on order. 550 gallon waste oil tank pumped and cleaned for decommissioning and disposal. (11/9/06)**
- Outdoor stockpiles should either be moved indoors, tarped or curbed to prevent runoff from these materials into the stormwater system. **Completed (10/18/06)** Traffic control devices will be moved when there is a prediction of high water. There is no other location @ DWG for their storage.
- Due to the extent of the junkpile storage area, it is recommended that all items not essential to maintenance operations be removed from the facility grounds. **Completed (9/29/06)**
- Materials stored under the bridge should be removed from the floodplain area, as they may be in conflict with US Army Corp of Engineers Permits, and may be washed into the river during flood events. **Completed (10/18/06)** Traffic control devices will be moved when there is a prediction of high water. There is no other location @ DWG for their storage.
- Floor drains connected into the stormwater conveyance system should be closed off or blocked (if not needed), rerouted to the sanitary sewer system, or have additional treatment provided. **Completed (10/6/06)**

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Facility Name: Milford-Montague Toll Bridge (US 206)

Date: March 8, 2006

Facility Location: Town of Milford, PA &, Township of Montague, NJ

Inspector: Elizabeth Engelbert

Accompanied By: Paul Fountain, DRJTBC

Facility Description: The DRJTBC Milford-Montague Bridge is the northern-most toll facility that is located in a portion of the Delaware River. The Milford-Montague Bridge consists of four spans that are supported by a steel truss system that rest on reinforced concrete piers. The road deck drainage is routed to storm inlets that discharge via scuppers to areas below the superstructure. The administration building and maintenance garages are located north of the off-ramp toll booth area on the Pennsylvania side of the river.

Location: PA Approach

- Exposed Material Stockpile: None
- Exposed Equipment: Facility Well located in bowl of eastbound approach
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: 6 Outfalls
 Vegetated swale
 Rock bottomed swales
 Inlets
 Scuppers

NOTES: The PA stormwater facilities drain to the nearby creek on either side of the roadway. Each bowl and section of roadway is linked by a continuous swale. The outfalls empty into the main swale, then to the creek. Bridge scuppers drain under bridge to leader pipes, then the river.

Location: NJ Approach

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

- Stormwater Facilities: 6 Outfalls
Inlets (street & yard)
Vegetated Swale/ French drain
Scuppers

NOTES: Stormwater facilities generally drain to the swales then the river. One swale provides drainage to a spring located in the approach bowl. Bridge scuppers drain under bridge to leader pipes, then the river.

Location: Toll Plaza

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Inlets (curb and lanes)
Roof leaders

NOTES: N/A

Location: PA Storage Lot (Under bridge)

- Exposed Material Stockpile: Top soil
- Exposed Equipment: None
- Exposed Containers: None
- Floor Drains: N/A
- Stormwater Facilities: Headwall & outfalls

NOTES: This is the area where bridge scuppers and leader pipes drain to using pipes, outfalls and swales. It is the same on the NJ side.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Location: Maintenance Garage

- Exposed Material Stockpile: None
- Exposed Equipment: Fuel pumps
Plows
- Exposed Containers: 500-gal shared wall 2xwall concrete gasoline/diesel AST
4 small propane tanks for emergency generators
3,000gal MgCl₂ AST
5 yd³ Dumpster
500gal used oil AST (no Secondary containment)
55-gal drums used antifreeze
30 gal drum used thinner
- Floor Drains: N/A
- Stormwater Facilities: Inlets
Storm sewer pipes

NOTES: Salt shed has three walls, paved floor, and a roof, but no door. This facility stores about 100-150 tons of salt in the shed. Used oil, thinner, and antifreeze are disposed of by an outside contractor.

Location: Maintenance Garage & Shop

- Exposed Material Stockpile: Batteries
Tires (new)
Spare parts
60lbs bags of salt
60lbs bags of oil dry
- Exposed Equipment: Vehicles
Plows
Lawn mowers/ tractors
Portable welder
- Exposed Containers: 55-gal drums automotive fluids
55-gal drums hydraulic fluid
5-gal gal pails of grease
5-gal pails of degreaser
55-gal drum biodegradable soap
5 gal rag pail
30-gal drum Monsanto Roundup
5-gal propane tank

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

- Floor Drains: 2
- Stormwater Facilities: N/A

NOTES: Floor drains connect to the storm sewer system. There are flammables cabinets containing gasoline and diesel jerry cans, and spray paints.

Location: Paint Storage

- Exposed Material Stockpile: None
- Exposed Equipment: None
- Exposed Containers:
 - Paints
 - Solvents
 - Thinners
 - 5-gal pails of grease
 - 1 gal containers of antifreeze
 - Hydraulic fluid
 - Hydraulic water storage tanks
- Floor Drains: 2
- Stormwater Facilities: N/A

NOTES: The room is ventilated and has a sunken floor.

Location: Administration Building Garage

- Exposed Material Stockpile: None
- Exposed Equipment:
 - Slop sink
 - Carpet cleaner
 - 25KW emergency generator
 - Street sweeper (shared throughout District 3)
- Exposed Containers: None
- Floor Drains: 2
- Stormwater Facilities: None

NOTES: Floor drains and slop sink flow into the grease trap then discharge to the storm sewer system.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Location: Facility Yard

- Exposed Material Stockpile:
 - Rebar cages
 - Rebar
 - Guardrail
 - Angle iron
 - Bricks
 - Pipe
 - Tires
 - Pavers
 - Castings
 - Pallets
 - CMU block
 - 4-8" stone
 - Grit bags (tarped)
 - Cold patch (tarped)
 - Traffic control devices
 - Broken concrete
 - Boulders
 - Drain pipe
- Exposed Equipment:
 - Plows
 - Vehicles
 - Toll booth
 - Trailers
 - Generators
- Exposed Containers:
 - 550gal used oil AST
 - 55-gal drum used antifreeze
 - 30 gal used thinner
 - 500 gal shared wall 2xwall concrete gasoline/diesel AST 1
- Floor Drains:
 - N/A
- Stormwater Facilities:
 - Inlets
 - Pipes

NOTES: Approximately 100 tons of salt is stored in a shed with a paved floor, a roof, and three walls. The building does not have a door.

**STORMWATER POLLUTION PREVENTION PLAN
DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
MAINTENANCE AND FACILITY INVENTORY
PENNSYLVANIA & NEW JERSEY**

Location: Storage Building

- Exposed Material Stockpile: Wood
 Traffic control devices
 Signs
 Sign blanks
 60 lb bag of fertilizer
- Exposed Equipment: Tractor
 Lawn mowers
- Exposed Containers: None
- Floor Drains: None
- Stormwater Facilities: None

NOTES: N/A

Actions Needed:

- Provide secondary containment for all drums, ASTs, paints, solvents, soaps, chemicals, thinners, batteries, etc. **Additional Spill Containment platforms on order. 550 gallon waste oil tank pumped and cleaned for decommissioning and disposal. (11/9/06)**
- Outdoor stockpiles should either be moved indoors, tarped or curbed to prevent runoff from these materials into the stormwater system. **Completed (10/18/06)**
- Due to the extent of the junkpile storage area, it is recommended that all items not essential to maintenance operations be removed from the facility grounds. **Completed (9/29/06)**
- Floor drains connect into the stormwater conveyance system. It is recommended these be closed off or blocked (if not needed), rerouted to the sanitary sewer system, or have additional treatment provided. **Will be addressed through future Task Order Assignment.**

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

MAINTENANCE AND FACILITY OPERATIONS

FACILITY PHOTOS

Delaware River Joint Toll Bridge Commission

Maintenance Yard and Facility

SPPP Inspections:

Trenton-Morrisville

Bridge



- PA Approach



- Bridge Piers,
Scuppers

Maintenance Courtyard



- Fuel Pumps



- Fuel UST Fill Ports

Maintenance Courtyard



- Storage Area



- Batteries & Used Tires

Maintenance Courtyard



- Plows, Magnesium Chloride Tank



- Castings, Fencing

Maintenance Courtyard



- Storage Alley



- Scrap Metal

Maintenance Courtyard



- Propane Tank



- Salt Storage

Garage



- Storage Area



- Automotive Fluid Storage

Garage



- Cold Patch



- Tool Storage, Lounge

Maintenance Courtyard



- Courtyard (aerial views)

Delaware River Joint Toll Bridge Commission

Maintenance Yard and Facility

SPPP Inspections:

New Hope-Lambertville

Garage



- UST Alarm Panel
- Automotive Fluid Storage

Garage



- Line Paint, Paint Mixer



- Cold Patch

Garage



- Emergency Generator



- Bio-degradable Soap,
Degreasers

Bridge



- Toward NJ



- Typical Curb Inlet

Bridge



- Toward NJ



- Toll Booth Drainage System

Bridge



- Deck & Barrier Inlet



- PA Approach

Bridge



- PA Outfall



- Outfall Headwall

Storage Area



- Salt Shed/ Magnesium Chloride Tanks



- Rebar/ Welded Wire Fabric

Storage Area



- Misc. Equipment



- Castings, Concrete Blocks

Storage Area



- Sweepings, stone



- Jersey Barriers, Contractor's AST

Storage Area



- Salt Storage



- Salt Storage,
Magnesium Chloride
Tanks

Facility



- UST and Pumps



- UST

Bridge



- PA Outfall headwall



- Outfall Drainage Path

Bridge



- PA Outfall

Delaware River Joint Toll Bridge Commission

Maintenance Yard and Facility
SPPP Inspections:

I-78

Garage



- Lunchroom/ Storage



- Storage

Garage



- Equipment Storage

Paint Storage



- Solvents/ Herbicides



- Paints

Garage



- Degreaser



- Cold Patch

Garage



- Soap & Oil Storage



- Welding Equipment

Facility



- Magnesium Chloride Tank



- Salt Storage Area

Facility



- Fuel Pumps

Salt Storage Area



- Salt Dome



- Oil sheen

Facility



- Storage Area



- Sign Blanks

Storage Yard



- Scrap Metal



- Brush

Storage Yard



- Traffic Control Devices/ Tires



- Chain Link Fencing

Storage Yard



- Fence/Property Line



- Subbase

Bridge



- PA Approach

Bridge



- NJ Outfall



- Erosion

Delaware River Joint Toll Bridge Commission

Maintenance Yard and Facility

SPPP Inspections:
Easton- Phillipsburg

Facility



- Storage Area/ Office



- Parking Garage

Facility



- Mower Room Storage



- Mower Room Storage

Boiler Room



- Boilers



- Storage

Facility



- Storage Area



- Storage Area

Garage



- Floor Drain w/
Sediment Trap



- Paint Storage

Paint Storage Room



Bridge



- View from NJ



- NJ Approach

NJ Under Bridge Storage Area



- Metal Stockpile



- Sweepings / Welded Wire Fabric/ Rebar

NJ Under Bridge Storage Area



- Scrap Metal



- Brush

Bridge



- PA Outfalls



- PA Outfalls

Facility



- UST Alarm Panel



- UST/ Pump for Gasoline

Facility



- Salt Storage



- Parking Lot

Facility



- Salt Storage/ AST



- Diesel AST

Facility



- Drainage Path



- Facility Grounds/ NJ Approach

Delaware River Joint Toll Bridge Commission

Maintenance Yard and Facility

SPPP Inspections:

Portland-Columbia

Bridge



- PA Approach



- NJ Approach

Bridge



- Rubble Pile under PA Side of Bridge



- PA Outfall Area

Bridge



- Looking Toward NJ at Tollbooth
- Toll Lanes

Garage



- Typical Floor Drain
- Emergency Generator

Garage



- Maintenance Area



- Metal Shop

Facility



- Propane Tanks For Emergency Generator
- Garage

Facility



- Fuel AST



- Typical Inlet

Upper Storage Yard



- Salt Storage



- Magnesium Chloride Tank

Upper Storage Yard



- Scraped Signage



- Scrap Metal, Traffic Control Devices

Upper Storage Yard



- Brush & Abandoned Equipment



- Stanchions & CMU Block

Large Storage Building



- New Tire Storage



- Typical Floor Drain

Delaware River Joint Toll Bridge Commission

Maintenance Yard and Facility

SPPP Inspections:

Delaware Water Gap

Bridge



- NJ Approach



- NJ Approach

Bridge



- NJ Abutment



- Scuppers

Bridge



- NJ Outfall



- NJ Outfall (close-up)

Facility



- Salt Storage



- Salt Storage

Facility



- Magnesium Chloride Tank



- Plows in Parking Area

Facility



- Wood Stockpile



- Waste Oil & propane Tanks

Facility



- Waste Fluids Storage Area

Garage



- Tools Storage



- Equipment Storage

Bridge



- NJ Outfall Structure



- NJ Outfall Headwall

Bridge



- PA Storage Area



- PA Outfall

PA Storage Area



- Crane



- Traffic Control Equipment

PA Storage Area



- Empty 55-gal Drums



- Scrap Metal

PA Storage Area



- Sweepings & Brush



- Sweepings, & RR Storage Area

PA Storage Area / Facility



- Subbase & Variable Message Signs



- AST for gasoline & Diesel

Delaware River Joint Toll Bridge Commission

Maintenance Yard and Facility

SPPP Inspections:

Milford-Montague

Bridge



- NJ Approach



- Super Structure from PA

Bridge



- PA Piers & Soil Stockpile



- PA Scupper Drainage

Bridge



- PA Outfall to Swale



- PA Outfall to Swale
(close-up)

Bridge



- PA Approach



- PA Outfall to Swale;
Scour Hole

Bridge



- Drainage Air Gap



- PA Swale

Bridge



- Toward NJ



- Toward NJ

Garage



- Equipment Storage



- Rag Disposal

Garage



- Automotive fluids storage



- Welding Area

Garage



- Salt/ De-Icing Material



- Herbicide

Garage



- Bio-degradable Soap
- Battery Storage

Paint Storage Area



- Storage Area



- Paints & Greases

Garage



- Storage Area



- Equipment Storage

Facility



- Grounds



- Magnesium Chloride Tank

Facility



- Waste Oil, Thinners, & Anti-Freeeze



- Grounds Toward Storage Area

Facility



- Septic Leach Field



- AST for Gasoline & Diesel

Storage Area



- Salt & Plow Storage



- Trailers & Generators

Storage Area



- Salt Storage



- Salt Storage Bay,
Pallets, CMU Block

Storage Area



- Traffic Control Devices



- AC Units

Delaware River Joint Toll Bridge Commission

Maintenance Yard and Facility

SPPP Inspections:
Toll Supported Bridges

Belvedere



- Maintenance Garage



- NJ Approach

Belvedere



- Toward PA



- Maintenance Garage

Calhoun St.



- NJ Officer's Shelter



- PA side

Centre Bridge - Stockton



- NJ outfall near approach (Unknown ownership)



- NJ Approach gutter

Centre Bridge - Stockton



- PA Approach



- PA Scupper extension

Uhlerstown- Frenchtown



- NJ Approach & Officer's Shelter



- PA abutment

Uhlerstown- Frenchtown



- PA Outfall



- PA Approach

Lower Trenton



- NJ Approach



- NJ Approach

Lower Trenton



- PA Approach

- PA Officer's Shelter



Lumberville – Raven Rock Pedestrian Bridge



- PA Abutment (at officer's house)



- PA Side of Bridge

New Hope – Lambertville



- NJ Drainage Swale & Outfall



- Bridge from NJ Approach

New Hope – Lambertville



- PA Officer's Shelter /
Sanitary Sewage Pump
Station



- PA Outfall

Easton-Phillipsburg Northampton Street Bridge



- Bridge from PA Approach



- PA Officer's Shelter

Easton-Phillipsburg Northampton Street Bridge



- PA Officer's Shelter



- NJ Outfall

Easton-Phillipsburg Northampton Street Bridge



- Outfall Structure (not DRJTBC owned)



- NJ Officer's Shelter Area

Portland Columbia Pedestrian Bridge



- PA Approach



- Typical Stormwater Inlet

Portland Columbia Pedestrian Bridge



- NJ Storm Sewer Manhole



- NJ Abutment Road Erosion

Riegelsville Bridge



- NJ Abutment



- Bridge Deck and Sidewalk

Riegelsville Bridge



- Typical Scupper Extensions

Scudder Falls Bridge (I-95)



- NJ Approach & Bowl



- Typical Weep Hole

Scudder Falls Bridge (I-95)



- PA Storage Area for Woodchips



- PA French Drain System Outfall

Upper Black Eddy – Milford Bridge



- PA Outfalls

Upper Black Eddy – Milford Bridge



- Bridge



- Bridge Deck & Sidewalk

Upper Black Eddy – Milford Bridge



- NJ Officer's Shelter Area



- NJ Outfall Drainage Path

Upper Black Eddy – Milford Bridge



- NJ officer's Shelter
Floor Drains



- NJ Side of Bridge &
Sidewalk

Washington Crossing



- NJ Abutment & Bridge



- NJ Bridge Outfall

Washington Crossing

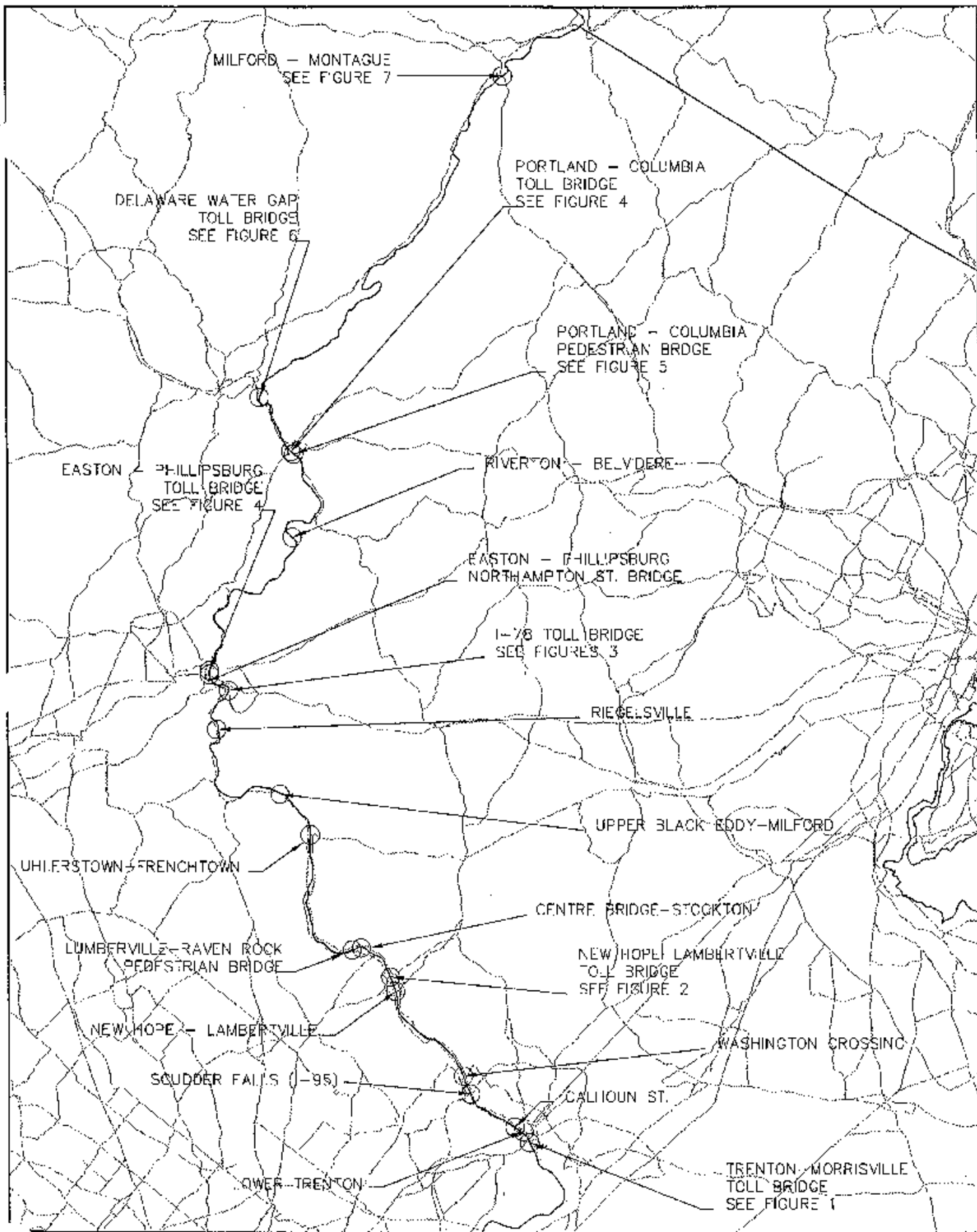


- NJ Owned Hydraulic Structure

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

MAINTENANCE AND FACILITY OPERATIONS

FACILITY LOCATION MAP



CONSULTING AND MUNICIPAL ENGINEERS

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

FACILITY LOCATION MAP

DR1B002-1

NOT TO SCALE

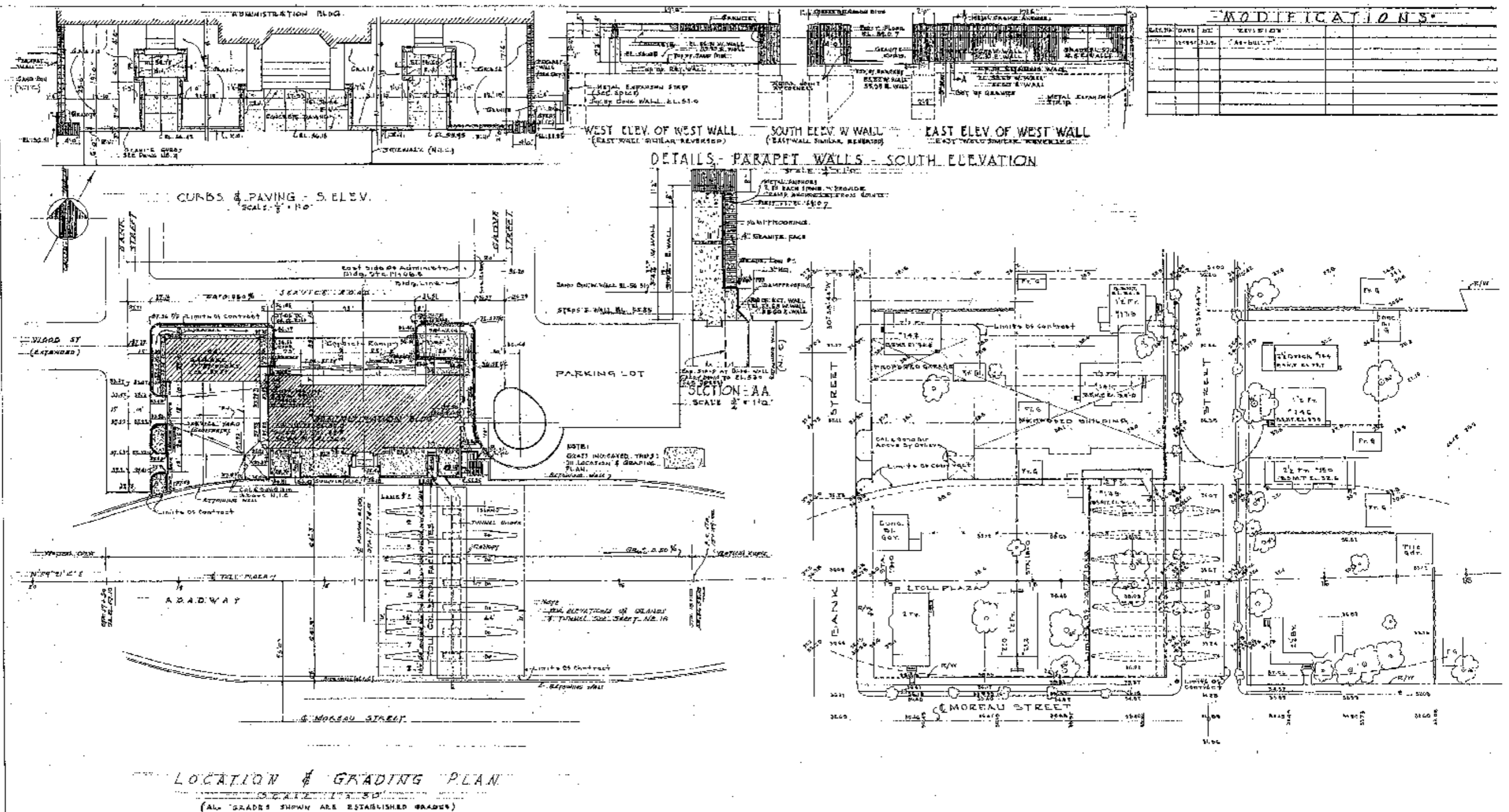
DR1B11-RRINGS

MARCH 2006

**DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION
STORMWATER MANAGEMENT PROGRAM**

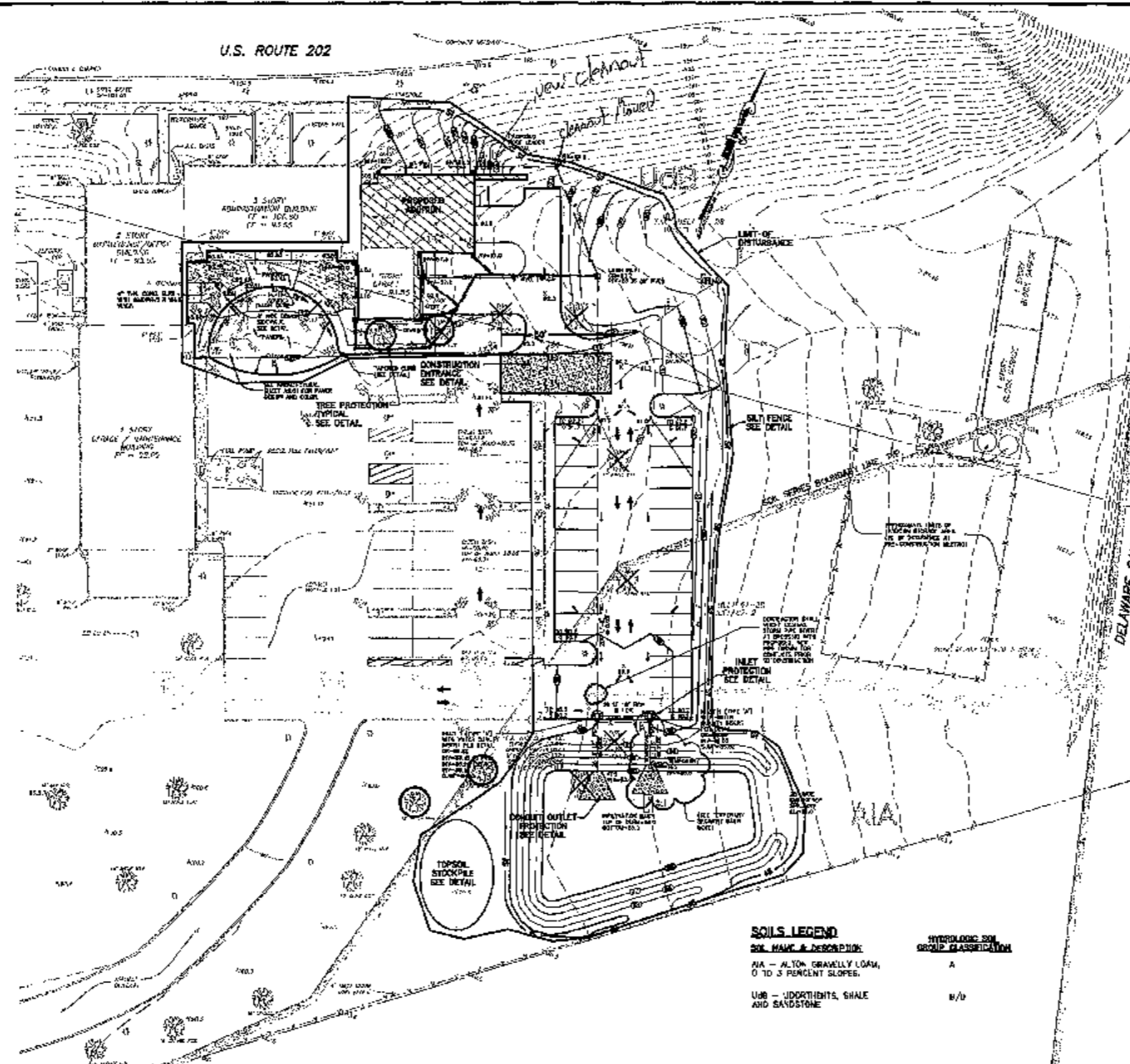
MAINTENANCE AND FACILITY OPERATIONS

FACILITY BOUNDARY MAPS



NOTE: DRAWING COURTESY OF THE
DELAWARE RIVER JOINT TOLL BRIDGE
COMMISSION

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION		
TM ASSOCIATES 11 NDALL ROAD MIDDLETOWN, NJ 07748 TEL: 732-871-8400 FAX: 732-621-7365	TOLL BRIDGE	
	ADMINISTRATION BUILDING MORRISVILLE, PA.	
	FIGURE NO.	1
DRB00211	DRB11-33T	MARCH 2006



SOILS LEGEND
SEE NAME & DESCRIPTION
 AIA - ALTON GRAVELLY LOAM,
 0 TO 3 PERCENT SLOPES.
 UGB - UDORTMENTS, SHALE
 AND SANDSTONE

**HYDROLOGIC SOIL
 GROUP CLASSIFICATION**
 A
 B/D

TEMPORARY SEDIMENT BASIN NOTES

1. THE BOTTOM OF THE STORMWATER BASIN SHALL BE CONSTRUCTED ONE FOOT HIGHER THAN THE FINAL EXCAVATION UNTIL THE SITE IS STABILIZED AND ALL SITE CONSTRUCTION HAS BEEN COMPLETED.
2. THE INVERT FROM INLET 1 TO THE BASIN SHALL BE TEMPORARILY BLUHEADED UNTIL FINAL EXCAVATION OF THE BASIN BOTTOM.
3. TEMPORARY PIPE FROM INLET 2 TO THE BASIN SHALL BE REMOVED AFTER FINAL EXCAVATION OF THE BASIN BOTTOM. INSTALLATION OF THE PIPE FROM INLET 1 TO THE BASIN AND THE RIP RAP HAS BEEN RELOCATED.

RWC - RELOCATED

VITETTA

ARCHITECTURAL CONSULTING FIRM
 PHILADELPHIA NAVAL BUSINESS CENTER
 4747 S. BROAD ST., PHILADELPHIA PA 19118
 T 215.218.4747 F 215.218.4748

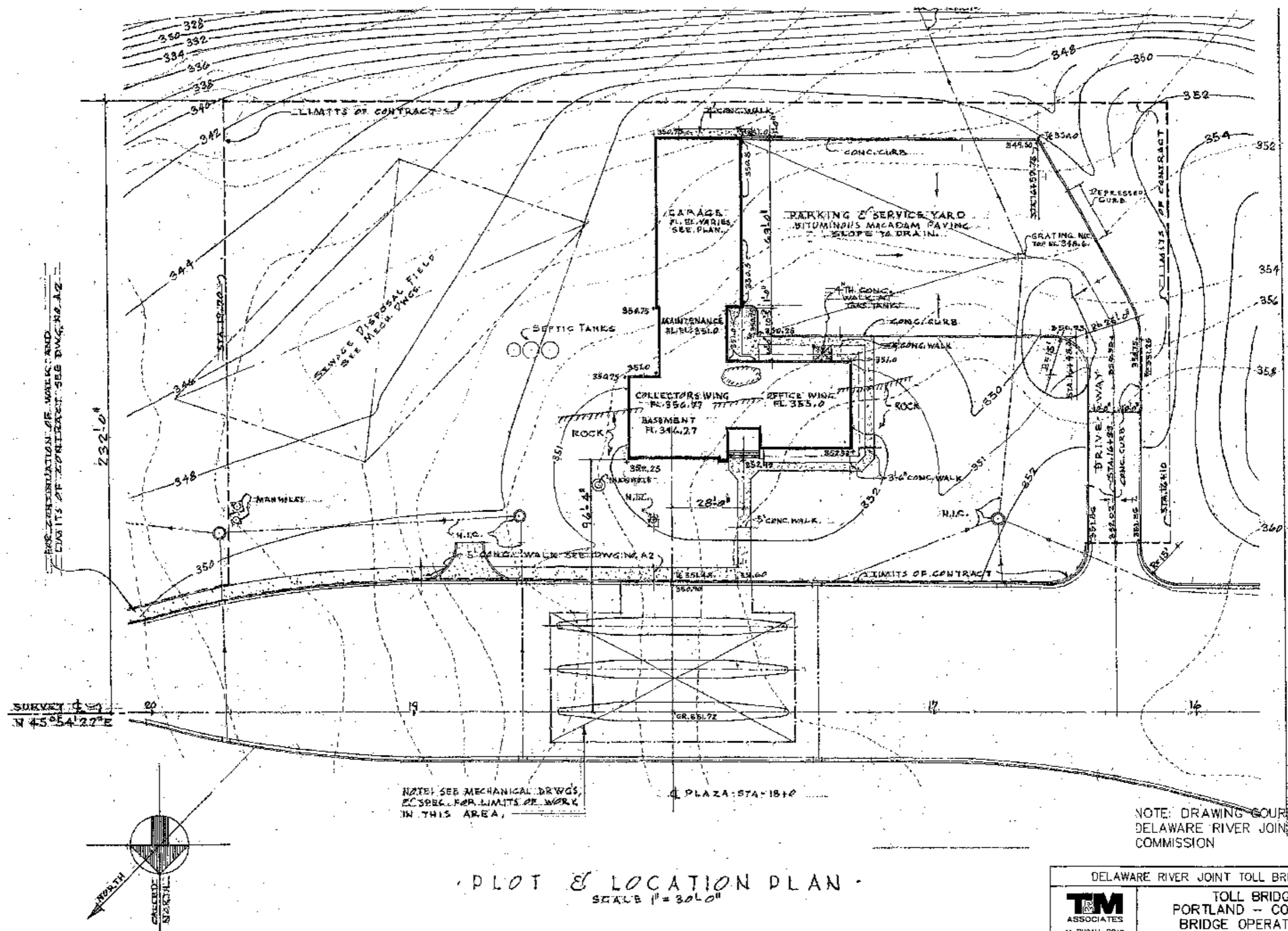
801 ROUTE 73, SUITE 110
 HARTFORD, NEW JERSEY 08003
 T 846.810.2800 F 856.610.2895

CONSULTANT:

ACT ENGINEERS, INC. WOE

1000 BROADWAY, SUITE 1000, NEW YORK, NY 10004

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PLOT & LOCATION PLAN
SCALE 1" = 30' 0"

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

TM
ASSOCIATES
11 THORNTON ROAD
MIDDLETOWN, NJ 07748
TEL 732-671-8400
FAX 732-671-7365

TOLL BRIDGE
PORTLAND - COLUMBIA
BRIDGE OPERATION &
MAINTENANCE BUILDING

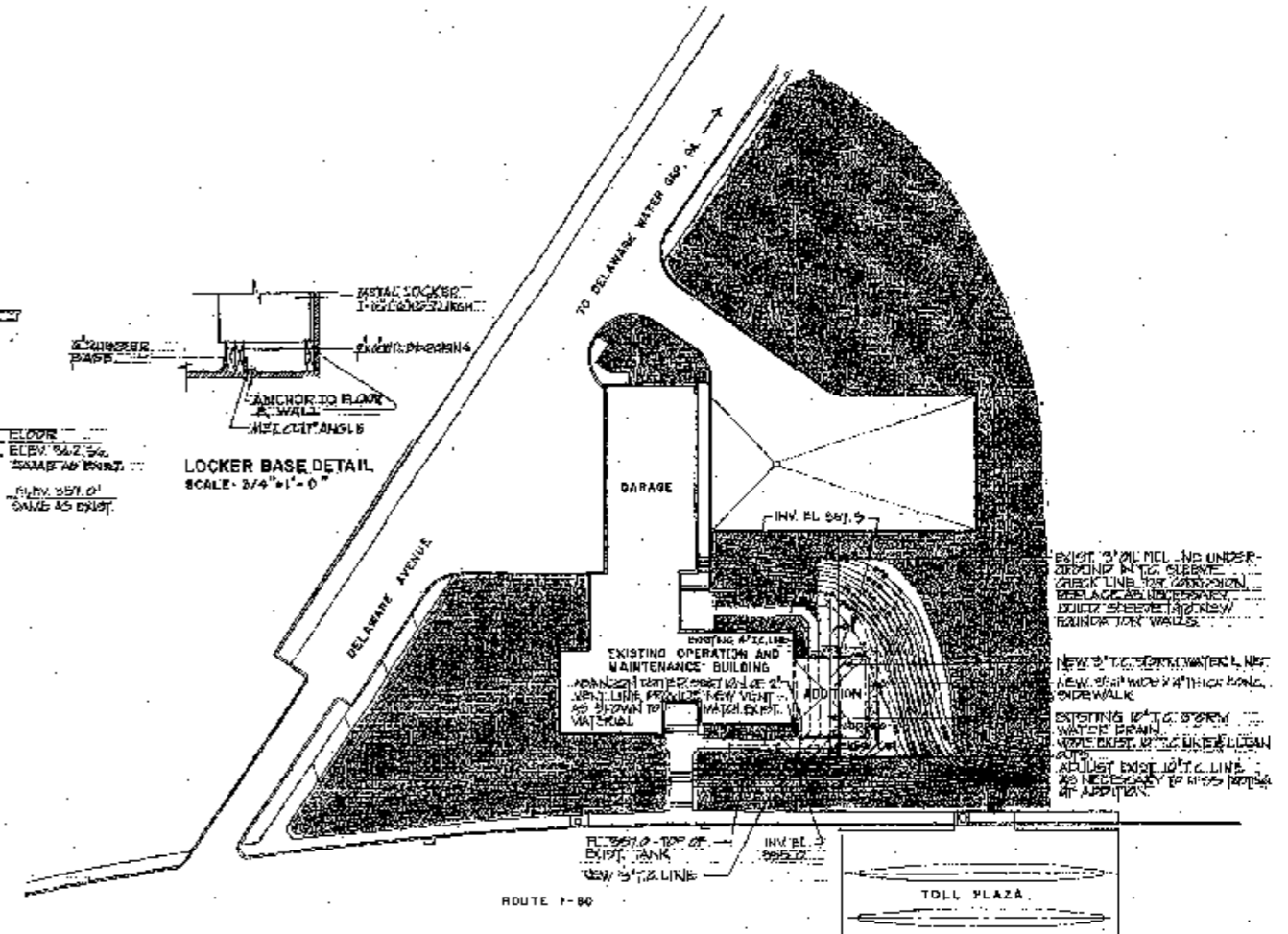
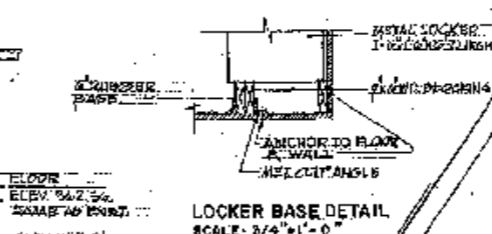
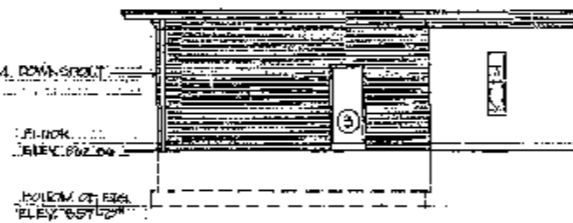
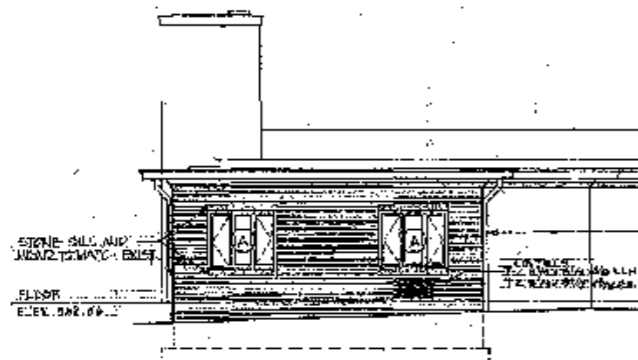
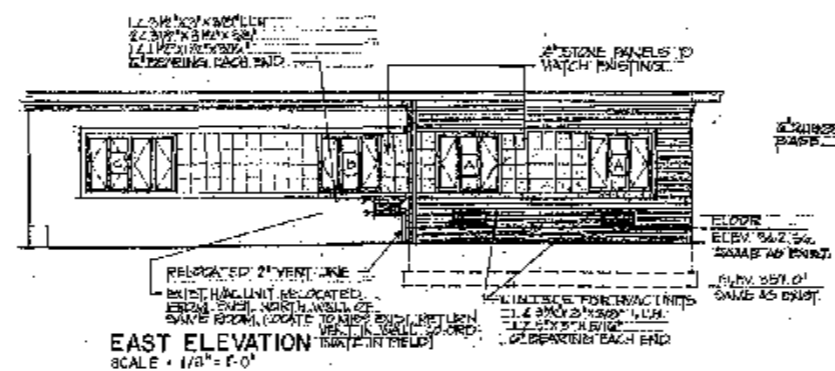
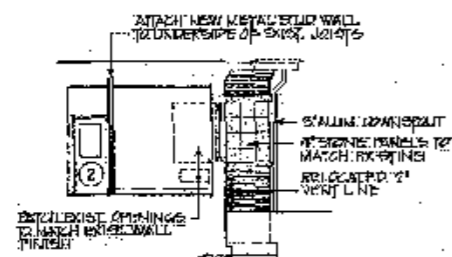
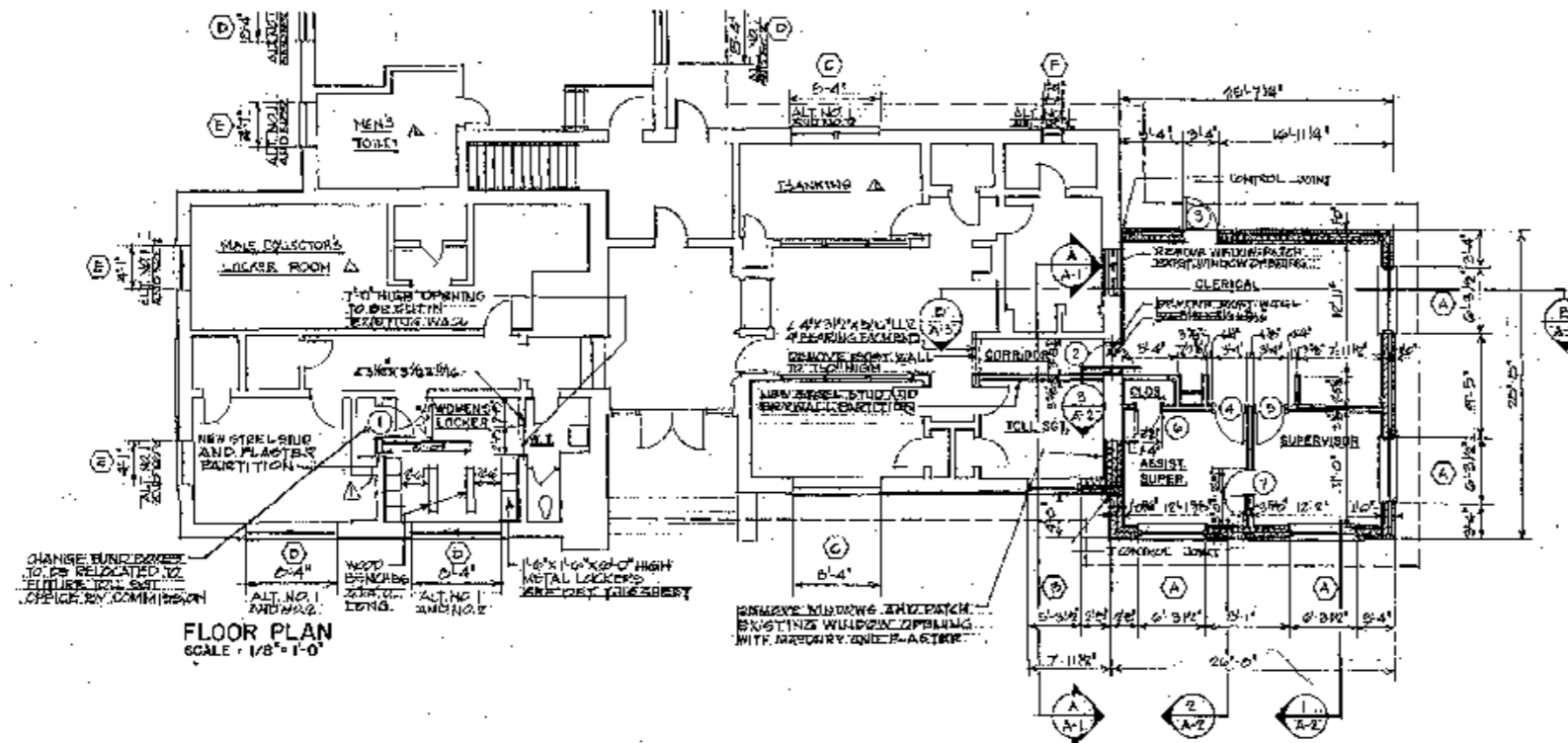
FIGURE NO.

5

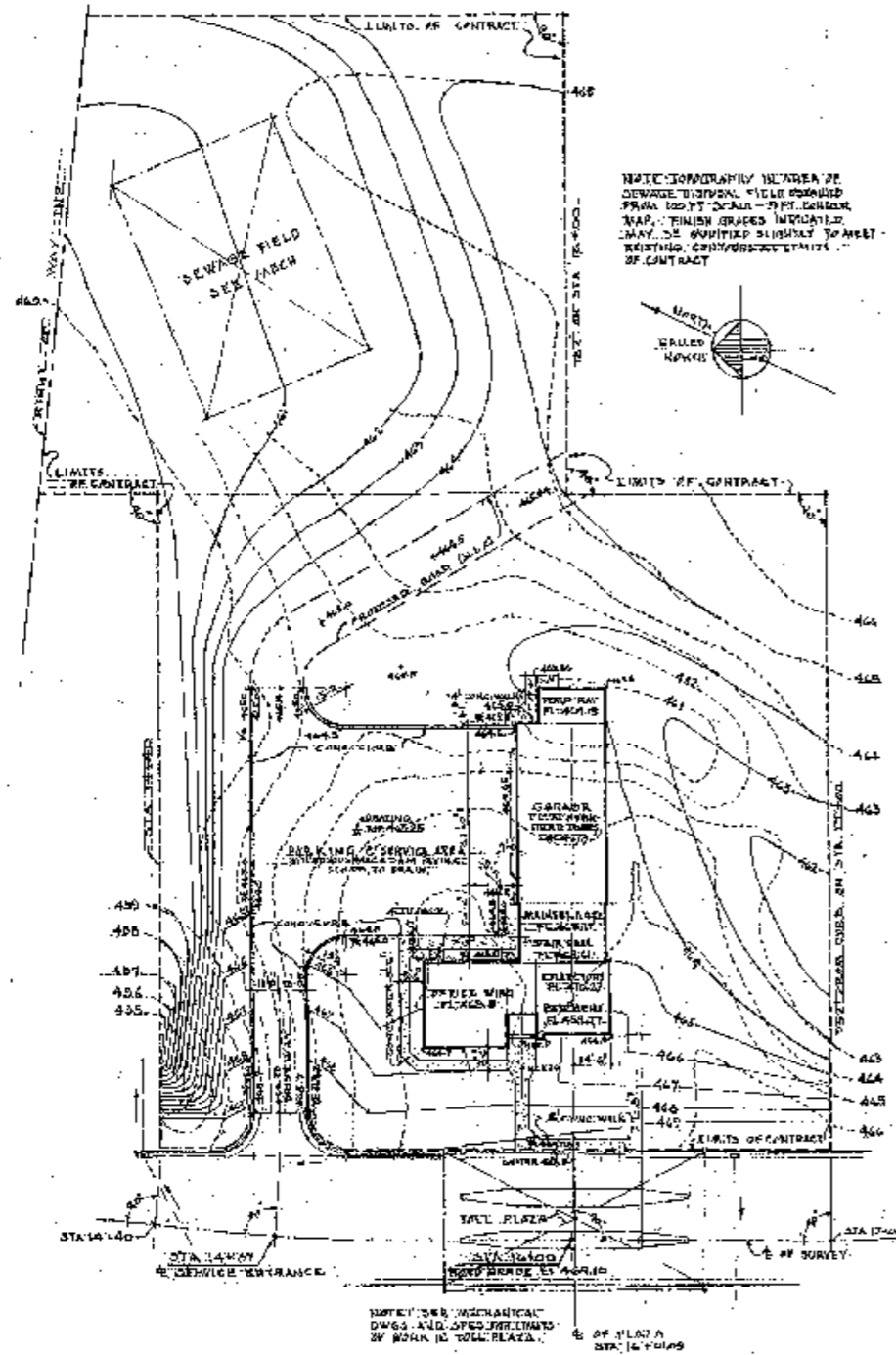
DR 190001

DRB11-40T

MARCH 2006



NOTE: DRAWING COURTESY OF THE DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION



• PLOT & LOCATION PLAN

SCALE 1" = 30'-0"

KEY TO PLAN:

- LIMITS OF THIS CONTRACT
- NOTE: FOR LIMITS OF MECHANICAL WORK SEE ARCH DWG'S & SPEC.
- ORIGINAL GRADES
- NEW FIN GRADES
- SPOT FIN GRADES
- TOP OF CURB ELEVATIONS

SEE ARCH DWG FOR LOCATION OF WALL PUMP HOUSE SEE DWG. NUMBER

NOTE: DRAWING COURTESY OF THE DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION

DELAWARE RIVER JOINT TOLL BRIDGE COMMISSION			
TM ASSOCIATES 11 HINDALL ROAD MIDDLETOWN, NJ 07748 TEL 732-671-6400 FAX 732-671-7385	TOLL BRIDGE MILFORD-MONTAGUE BRIDGE OPERATION & MAINTENANCE BUILDING		FIGURE NO
	<div style="font-size: 48pt; text-align: center;">7</div>		
DR100011	DR1011-43T	MARCH 2006	