STORMWATER POLLUTION PREVENTION PLAN (SPPP)

Submitted To:

Township of Riverside
1 W. Scott Street
Riverside, NJ 08075

Submitted By:

Pennoni Associates Inc.
515 Grove Street, Suite 1B
Haddon Heights, NJ 08035

Hugh Dougherty, PE
New Jersey License No. 34634

Proj. No. RSTPX 18000.02

Date: October 3, 2018

SPPP Signature Page

Municipality Information

Municipality: Riverside Township County: Burlington

NJPDES # : NJG 0150011 PI ID #: 213691

Team Member/Title: Meghan Jack / Administrator

Effective Date of Permit Authorization (EDPA): 01/01/2018

Date of Completion: 04/05/2005 Date of most recent update: 10/03/2018

"I certify that this SPPP includes all of the information and items identified in Attachment A of the Tier A Municipal Stormwater General Permit. All attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information."

(Signature) (Date)

(Print Name) (Title)

(NOTE: A new SPPP signature page should be attached each time the SPPP is updated or modified, excluding data entries. Previous SPPP signature pages shall be retained as part of the SPPP.)

Tier A Municipal Stormwater Regulation Program

Stormwater Pollution Prevention Team Members

Number of team members may vary.

Completed by: *Pennoni Associates*
Title: *Township Engineer*
Date: *10/03/2018*
Municipality: *Riverside Township*
County: *Burlington*
NJPDES #: NJG*0150011*
PI ID #: *213691*

Stormwater Program Coordinator: *Meghan Jack*
Title: *Administrator*
Office Phone #: *856-461-0284*
Emergency Phone #: *911*

Public Notice Coordinator: *Susan Dydek*
Title: *Township Clerk*
Office Phone #: *856-461-1460*
Emergency Phone #: *911*

Post-Construction Stormwater Management Coordinator: *Meghan Jack*
Title: *Administrator*
Office Phone #: *856-461-0284*
Emergency Phone #: *911*

Local Public Education Coordinator: *Meghan Jack*
Title: *Administrator*
Office Phone #: *856-461-0284*
Emergency Phone #: *856-461-0284*

Ordinance Coordinator: *Meghan Jack*
Title: *Administrator*
Office Phone #: *856-461-0284*
Emergency Phone #: *856-461-0284*

Public Works Coordinator: *Andy Holt*
Title: *Public Works Director*
Office Phone #: *856-461-1534*
Emergency Phone #: *911*

Employee Training Coordinator: *Meghan Jack*
Title: *Administrator*
Office Phone #: *856-461-0284*
Emergency Phone #: *856-461-0284*

Other: *Hugh Dougherty*
Title: *Township Engineer*
Office Phone #: *856-547-0505*
Emergency Phone #: *609-820-5738*

SPPP Form 2 - Public Notice

Municipality Information

Municipality: *Riverside Township* County: *Burlington*

NJPDES # : NJG*0150011* PI ID #:*213691*

Team Member/Title:*Meghan Jack, Administrator*

Effective Date of Permit Authorization (EDPA):***1/1/18***

Date of Completion: *4/1/05* Date of most recent update: *10/03/2018*

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.

For meetings where public notice is required under the Open Public Meetings Act ("Sunshine Law," N.J.S.A. 10:4-6, et seq.), Riverside Township provides public notice in a manner that complies with the requirements of that Act. Also, in regard to passage of the ordinances, Riverside Township provides public notice in a manner that complies with the requirements of N.J.S.A. 40:49-1 et seq. In addition, for municipal actions (e.g. adoption of the municipal stormwater management plan) subject to public notice requirements in the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq., Riverside Township complies with those requirements. Riverside Township will also publicly announce any associated activities through the bulletin boards located in the Municipal Building and Town Square and distribute flyers in the schools.

Elements of the MS4 program are available to the public upon request and copis of the Stormwater Pollution Prevention Plan, Municipal Stormwater Management Plan and other related ordinances are posted on the Township's website.

The Township maintains records to demonstrate compliance and can produce them upon request.

SPPP Form 3 – New Development and Redevelopment Program

Municipality Information

Municipality: *Riverside Township* County: *Burlington*

NJPDES # : NJG *0150011* PI ID #: *213691*

Team Member/Title: *Meghan Jack, Administrator*

Effective Date of Permit Authorization (EDPA) ***1/1/18***

Date of Completion: *4/1/05* Date of most recent update: *10/03/18*

Describe in general terms your post-construction stormwater management in new development and redevelopment program (post-construction program), and how it complies with the Tier A Permit minimum standard. This description must address compliance with the Residential Site Improvement Standards for stormwater management; ensuring adequate long-term operation and maintenance of BMPs (including BMPs on property that you own or operate); design of storm drain inlets (including inlets that you install); and preparation, adoption, approval, and implementation of a municipal stormwater management plan and municipal stormwater control ordinance(s). Attach additional pages as necessary. Some additional specific information (mainly about that plan and ordinance(s)) will be provided in your annual reports.

To control stormwater from all new development and redevelopment projects throughout Riverside Township we have adopted, and implement, a Stormwater Management Plan (SWMP) and Stormwater Control Ordinance (attached) that complies with all the requirements of N.J.A.C. 7:8 and the Residential Site Improvement Standards.

The SWMP and Stormwater Control Ordinance are administered by the Planning Board on community development projects and by the Township Administrator and Engineer on capital improvement projects. They ensure compliance before issuing preliminary or final site plan approvals under the Municipal Land use Law.

The adopted SWMP and Stormwater Control Ordinance provide for the design, construction, and long-term maintenance and operation of storm water conveyance systems. The passage of solid and floatable materials is specifically addressed by the requirement of bicycle-safe grates and Eco-type curb heads (new and/or retro-fit) on inlets on all improvements within the Township that trigger compliance with the Tier A MS4 NJPDES permit.

Long-term maintenance of BMP's and stormwater facilities that are not owned and/or operated by the Township are provided for under the stormwater control ordinances by requiring design engineers to prepare a specific maintenance plan that identifies the parties responsible for ensuring naintenance and compliance. Also, facilities owners/operators are required to report to the Township annually. (See Form 13 for details)

The Township will complete a Major Development Stormwater Summary for each structural and non-structural stormwater measure associated with devlopment and redevelopment projects.

Engineers and others who review stormwater management design for development and redevelopment projects will complete the Department approved Stormwater Management Design Review Course once every 5 years. Township board members and governing body members who review applications will complete the online training tool.

Major Development Stormwater Summary (Attachment D)

Attachment D – Major Development Stormwater Summary

General Information	
1. Project Name:	
2. Municipality:	County: Block(s): Lot(s):
3. Site Location (State Plane Coordinates – NAD83):	E: N:
4. Date of Final Approval for Construction by Municipality: Date of Certificate of Occupancy:	
5. Project Type (circle all that apply): Residential Commercial Industrial Other (please specify) _____	
6. Soil Conservation District Project Number:	
7. Did project require NJDEP Land Use Permit? Yes No	Land Use Permit #:
8. Did project require the use of any mitigation measures? Yes No If yes, which standard was mitigated?	

Site Design Specifications	
1. Area of Disturbance (acres):	Area of Proposed Impervious (acres):
2. List all Hydrologic Soil Groups:	
3. Please Identify the Amount of Each Best Management Practices (BMPs) Utilized in Design Below: Bioretention Systems ___ Constructed Wetlands ___ Dry Wells ___ Extended Detention Basins ___ Infiltration Basins ___ Combination Infiltration/Detention Basins ___ Manufactured Treatment Devices___ Pervious Paving Systems ___ Sand Filters ___ Vegetative Filter Strips ___ Wet Ponds ___ Grass Swales ___ Subsurface Gravel Wetlands ___ Other _____	

Storm Event Information	
Storm Event: Rainfall (inches and duration)	2 yr.: _____ 10 yr.: _____ 100 yr.: _____ WQ DS: _____
Runoff Computation Method (circle one): NRCS: Dimensionless Unit Hydrograph NRCS: Delmarva Unit Hydrograph Rational Modified Rational Other: _____	

Basin Specifications (answer all that apply) *If more than one basin, attach multiple sheets*	
1. Type of Basin:	Surface/Subsurface (circle one)
2. Owner (circle one): Public Private: If so, Name:	Phone number:
3. Basin Construction Completion Date:	
4. Drain Down Time (hr.):	
5. Design Soil Permeability (in./hr.):	
6. Seasonal High Water Table Depth from Bottom of Basin (ft.):	Date Obtained:
7. Groundwater Recharge Methodology (circle one): 2 Year Difference NJGRS Other NA	
8. Groundwater Mounding Analysis (circle one): Yes No	If, Yes Methodology Used:
9. Maintenance Plan Submitted: Yes No	Is the Basin Deed Restricted: Yes No

Comments:_____

_____

_____

Name of Person Filling Out This Form: _____ Signature: _____

Title: _____ Date: _____

Basin Specifications (answer all that apply) *If more than one basin, attach multiple sheets*
10. Type of Basin: Surface/Subsurface (circle one)
11. Owner (circle one): Public Private: If so, Name: Phone number:
12. Basin Construction Completion Date:
13. Drain Down Time (hr.):
14. Design Soil Permeability (in./hr.):
15. Seasonal High Water Table Depth from Bottom of Basin (ft.): Date Obtained:
16. Groundwater Recharge Methodology (circle one): 2 Year Difference NJGRS Other NA
17. Groundwater Mounding Analysis (circle one): Yes No If, Yes Methodology Used:
18. Maintenance Plan Submitted: Yes No Is the Basin Deed Restricted: Yes No

Basin Specifications (answer all that apply) *If more than one basin, attach multiple sheets*
19. Type of Basin: Surface/Subsurface (circle one)
20. Owner (circle one): Public Private: If so, Name: Phone number:
21. Basin Construction Completion Date:
22. Drain Down Time (hr.):
23. Design Soil Permeability (in./hr.):
24. Seasonal High Water Table Depth from Bottom of Basin (ft.): Date Obtained:
25. Groundwater Recharge Methodology (circle one): 2 Year Difference NJGRS Other NA
26. Groundwater Mounding Analysis (circle one): Yes No If, Yes Methodology Used:
27. Maintenance Plan Submitted: Yes No Is the Basin Deed Restricted: Yes No

Basin Specifications (answer all that apply) *If more than one basin, attach multiple sheets*
28. Type of Basin: Surface/Subsurface (circle one)
29. Owner (circle one): Public Private: If so, Name: Phone number:
30. Basin Construction Completion Date:
31. Drain Down Time (hr.):
32. Design Soil Permeability (in./hr.):
33. Seasonal High Water Table Depth from Bottom of Basin (ft.): Date Obtained:
34. Groundwater Recharge Methodology (circle one): 2 Year Difference NJGRS Other NA
35. Groundwater Mounding Analysis (circle one): Yes No If, Yes Methodology Used:
36. Maintenance Plan Submitted: Yes No Is the Basin Deed Restricted: Yes No

Name of Person Filling Out This Form: _____ Signature: _____

Title: _____ Date: _____

2007-#06

RIVERSIDE TOWNSHIP

STORMWATER CONTROL ORDINANCE

Revised July 28, 2006

Table of Contents

		Page
Section 1:	Scope and Purpose	1
Section 2:	Definitions	2
Section 3:	General Standards	5
Section 4:	Stormwater Management Requirements for Major Development	5
Section 5:	Calculation of Stormwater Runoff and Groundwater Recharge	15
Section 6:	Standards for Structural Stormwater Management Measures	16
Section 7:	Sources for Technical Guidance	17
Section 8:	Safety Standards for Stormwater Management Basins	17
Section 9:	Requirements for a Site Development Stormwater Plan	20
Section 10:	Maintenance and Repair	25
Section 11:	Mitigation Projects	28
Section 12:	Effective Date	30
Section 13:	Severability	30

Section 1: Scope and Purpose

A. Policy Statement

Flood control, groundwater recharge, and pollutant reduction through nonstructural or low impact techniques shall be explored before relying on structural BMPs. Structural BMPs should be integratcd with nonstructural stormwater management strategies and proper maintenance plans. Nonstructural strategies inelude both environmentally sensitive site design and source controls that prevent pollutants from being placed on the site or from being exposed to stormwater. Source control plans should be developed based upon physical site conditions and the origin, nature, and the anticipated quantity or amount of potential pollutants. Multiple stormwater management BMPs may be necessary to achieve the established performance standards for water quality, quantity, and groundwater recharge.

B. Purpose

It is the purpose of this ordinance to establish minimum stormwater management requirements and controls for "major development," as defined in Seetion 2.

C. Applicability

1. This ordinance shall be applicable to all site plans and subdivisions for the following major developments that require preliminary or final site plan or subdivision review:

   a. Non-residential major developments; and

   b. Aspects of residential major developments that are not pre-empted by the Residential Site Improvement Standards at N.J.A.C. 5:21.

2. This ordinance shall also be applicable to all major developments undertaken by Riverside Township.

D. Compatibility with Other Permit and Ordinance Requirements

Development approvals issued for subdivisions and site plans pursuant to this ordinance are to be considered an integral part of development approvals under the subdivision and site plan review process and do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance. In their interpretation and application, the provisions of this ordinance shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare. This ordinance is not intended to interfere with, abrogate, or annul any other ordinances, rule or regulation, statute, or other provision of law except that, where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, the more restrictive provisions or higher standards shall control.

This ordinance is intended to supercede those paragraphs and standards listed in the Riverside Code where they are in conflict with this ordinance.

Section 2: Definitions

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application. The definitions below are the same as or based on the corresponding definitions in the Stormwater Management Rules at N.J.A.C. 7:8-1.2.

"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:

A county planning agency; or

A county water resource 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 New Jersey 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, by any person, for which permission is required under the Municipal Land Use Law , N.J.S.A. 40:55D-1 et seq. In the ease of development of agricultural lands, development means: any activity that requires a State permit; any activity reviewed by the County Agricultural Board (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, sediments, or dissolved materials drain to a particular receiving waterbody or to a particular point along a receiving waterbody.

"Environmentally critical areas" means an area or feature which is of significant environmental value, including but not limited to: stream corridors; natural heritage priority sites; habitat 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 Landscape Project as approved by the Department's Endangered and Nongame Species Program.

"Empowerment Neighborhood" means a neighborhood 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.

"Major development" means any "development" that provides for ultimately disturbing one or more acres of land. 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.

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

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

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

"Person" means any individual, corporation, company, partnership, firm, association, municipality, or political subdivision of this State subject to municipal jurisdiction pursuant to the Municipal Land Use Law , N.J.S.A. 40:55D-1 et seq.

"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, 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 struetural 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 non-stormwater discharges into stormwater conveyances.

"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 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:

Delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PA1), Designated Centers, Cores or Nodes;

Designated as CAFRA Centers, Cores or Nodes;

Designated as Urban Enterprise Zones; and

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.

Section 3: General Standards

A. Design and Performance Standards for Stormwater Management Measures

1. Stormwater management measures for major development shall be developed to meet the erosion control, groundwater recharge, stormwater runoff quantity, and stormwater runoff quality standards in Section 4. To the maximum extent practicable, these standards shall be met by incorporating nonstructural stormwater management strategies into the design. If these strategies alone are not sufficient to meet these standards, structural stormwater management measures necessary to meet these standards shall be incorporated into the design.

2. The standards in this ordinance apply only to new major development and are intended to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge. The standards do not apply to new major development to the extent that alternative design and performance standards are applicable under a regional stormwater management plan or Water Quality Management Plan adopted in accordance with Department rules.

   Note: Alternative standards shall provide at least as much proteetion from stormwater-related loss of groundwater recharge, stormwater quantity and water quality impacts of major development projects as would be provided under the standards in N.J.A.C. 7:8-5.

Section 4: Stormwater Management Requirements for Major Development

A. The development shall incorporate a maintenance plan for the stormwater management measures incorporated into the design of a major development in accordance with Section 10. A major development is defined as one which ultimately disturbs one (1) or more acres of land.

B. Stormwater management measures shall avoid adverse impacts of concentrated flow on habitat for threatened and endangered species as documented in the Department' 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 muhlnebergi (bog turtle).

C. The following linear development projects are exempt from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements of Sections 4.F and 4.G:

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.

D. A waiver from strict compliance from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements of Sections 4.F and 4.G 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 Sections 4.F and 4.G to the maximum extent practicable;

3. The applicant demonstrates that, in order to meet the requirements of Sections 4.F and 4.G, 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 D.3 above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate the requirements of Sections 4.F and 4.G that were not achievable on-site.

E. Nonstructural Stormwater Management Strategies

1. To the maximum extent practicable, the standards in Sections 4.F and 4.G shall be met by incorporating nonstructural stormwater management strategies set forth at Section 4.E into the design. The applicant shall identify the nonstructural measures 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 measures identified in Paragraph 2 below into the design of a particular project, the applicant shall identify the strategy considered and provide a basis for the contention.

2. Nonstructural stormwater management strategies incorporated into site design shall:

a. Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;

b. Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;

e. Maximize the protection of natural drainage features and vegetation;

d. 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 watershed to the point of interest within a watershed;

e. Minimize land disturbance including elearing and grading;

f. Minimize soil compaction;

g. Provide low-maintenance landscaping that eneourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers and pesticides;

h. Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas;

i. 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. Such source controls include, but are not limited to:

(1) Site design features that help to prevent accumulation of trash and debris in drainage systems, including features that satisfy Section 4.E.3. below;

(2) Site design features that help to prevent discharge of trash and debris from drainage systems;

(3) Site design features that help to prevent and/or contain spills or other harmful accumulations of pollutants at industrial or commercial developments; and

(4) 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.

3. Site design features identified under Section 4.E.2.i.(2) above shall comply with the following standard to control passage of solid and floatable materials through storm drain inlets. For purposes of this paragraph, "solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard see Section 4.E.3.c below.
   a. Design engineers shall use either of the following grates whenever they use a grate in pavement or another ground surfaee to eollect 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); or

(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.

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.

b. 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.

c. This standard does not apply:

(1) Where the review ageney determines that this standard would cause inadequate hydraulic performance that eould not practicably be overcome by using additional or larger storm drain inlets that meet these standards;

(2) Where flows from the water quality design storm as specified in Section 4.G.1 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.

(3) 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 Section 4.G.1; or

(4) Where the New Jersey Department of Environmental Protection 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.

4. Any land area used as a nonstructural stormwater management measure to meet the performance standards in Sections 4.F and 4.G shall be dedicated to a government agency, subjected to a conservation restriction filed with the appropriate County Clerk's office, or subject to an approved equivalent restriction that ensures that measure or an equivalent stormwater management measure approved by the reviewing agency is maintained in perpetuity.

5. Guidance for nonstructural stormwater management strategies is available in the New Jersey Stormwater Best Management Practices Manual. The BMP Manual may be obtained from the address identified in Section 7, or found on the Department's website at www.njstormwater.org.

F. Erosion Control, Groundwater Recharge and Runoff Quantity Standards

1. This subsection 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.

   a. 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.

   b. The minimum design and performance standards for groundwater recharge are as follows:

      (1) The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at Section 5, either:

         (a) 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

         (b) Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from pre-construction to post-construction for the 2-year storm is infiltrated.

      (2) This groundwater recharge requirement does not apply to projects within the "urban redevelopment area," or to projects subject to (3) below.

      (3) The following types of stormwater shall not be recharged:

         (a) 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

         (b) 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 produets; 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.

(4) 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 struetures in the vicinity or downgradient of the groundwater recharge area.

c. In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at Section 5, complete one of the following:

(1) 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;

(2) Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construetion 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 or ehange 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;

(3) Design stormwater management measures so that the post-construction peak runoff rates for the 2, 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. The percentages shall not be applied to post-construction stormwater runoff into tidal flood hazard areas if the increased volume of stormwater runoff will not increase flood damages below the point of discharge; or

(4) In tidal flood hazard areas, stormwater runoff quantity analysis in accordance with (1), (2) and (3) above shall only be applied if the increased volume of stormwater runoff could increase flood damages below the point of diseharge.

2. Any application for a new agricultural development that meets the definition of major development at Section 2 shall be submitted to the appropriate Soil Conservation District for review and approval in aceordance with the requirements of this section and any applicable Soil Conservation District guidelines for stormwater runoff quantity and erosion control. For the purposes of this section, "agrieultural development" means land uses normally associated with the produetion 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 manufaeturing of agriculturally related products.

G. Stormwater Runoff Quality Standards

1. Stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff 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 1/4 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 Pollution 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. 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

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		

2. 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 Section 7, or found on the Department's website at www.njstormwater.org. The BMP Manual and other sources of technical guidance are listed in Section 7. 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. A copy of any approved alternative rate or method of calculating the removal rate shall be provided to the Department at the following address: Division of Watershed Management, New Jersey Department of Environmental Protection, PO Box 418 Trenton, New Jersey, 08625-0418.

3. 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
Constructed Stormwater Wetland	90
Extended Detention Basin	40-60
Infiltration Structure	80
Manufactured Treatment Device	See Section 6.C
Sand Filter	80
Vegetative Filter Strip	60-80
Wet Pond	50-90

4. 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.

5. 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 Sections 4.F and 4.G.

6. Additional information and examples are contained in the New Jersey Stormwater Best Management Practices Manual, which may be obtained from the address identified in Section 7.

7. 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.

8. 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 HUC14 drainage area. 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:

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

        (1) 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 the 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.

        (2) Encroachment within the designated special water resource protection area under Subsection (1) above shall only be allowed where previous development or disturbance has occurred (for example, aetive 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.

b. All stormwater shall be diseharged outside of and 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.

c. If stormwater discharged outside of and flowing through the special water resource protection area cannot eomply 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., then the stabilization measures in aceordance with the requirements of the above standards may be placed within the special water resource protection area, provided that:

   (1) Stabilization measures shall not be placed within 150 feet of the Category One waterway;

   (2) Stormwater associated with discharges allowed by this section shall achieve a 95 percent TSS post-construction removal rate;

   (3) Temperature shall be addressed to ensure no impact on the receiving waterway;

   (4) 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;

   (5) A coneeptual project design meeting shall be held with the appropriate Department staff and Soil Conservation District staff to identify necessary stabilization measures; and

   (6) All encroachments proposed under this section shall be subject to review and approval by the Department.

d. 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 Section 4.G(8) has been approved by the Department of Environmental Protection, 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 G.8 shall maintain or enhance the current functional value and overall condition of the special water resource protection area as defined in G.8.a.(1) above. In no case shall a stream corridor protection plan allow the reduction of the Speeial Water Resource Protection Area to less than 150 feet as measured perpendicular to the waterway subjeet to this subsection.

e. Paragraph G.8 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.

Section 5: 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:

   a. The USDA Natural Resources Conservation Service (NRCS) methodology, including the NRCS Runoff Equation and Dimensionless Unit Hydrograph, as described in the NRCS National Engineering Handbook Section 4 – Hydrology and Technical Release 55 – Urban Hydrology for Small Watersheds; or

   b. The Rational Method for peak flow and the Modified Rational Method for hydrograph computations.

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 Section 5.A.1.a and the Rational and Modified Rational Methods at Section 5.A.1.b. 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 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 and 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 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 http://www.state.nj.us/dep/njgs/; or at New Jersey Geological Survey, 29 Arctic Parkway, P.O. Box 427 Trenton, New Jersey 08625-0427; (609) 984-6587.

Section 6: 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).

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, and shall have parallel bars with one-inch (1") spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the parallel bars at the outlet structure shall be spaced no greater than one-third (1/3) the width of the diameter of the orifice or one-third (1/3) the width of the weir, with a minimum spacing between bars of one-inch and a maximum spacing between bars of six inches. In addition, the design of trash racks must comply with the requirements of Section 8.D.

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 Section 8.

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, groundwater recharge and water quality design and performance standards established by Section 4 of this ordinance. Manufactured treatment devices may be used to meet the requirements of Section 4 of this ordinance, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department.

Section 7: Sources for Technical Guidance

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

1. Guidelines for stormwater management measures are contained in the New Jersey Stormwater Best Management Practices Manual, as amended. Information is provided on stormwater management measures such as: bioretention systems, constructed stormwater wetlands, dry wells, extended detention basins, infiltration structures, manufactured treatment devices, pervious paving, sand filters, vegetative filter strips, and wet ponds.

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 telcphone 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.

Section 8: Safety Standards for Stormwater Management Basins

A. This section sets forth requirements to protect public safety through the proper design and operation of stormwater management basins. This section applies to any new stormwater management basin.

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.

B. Requirements for Trash Racks, Overflow Grates and Escape Provisions

1. A trash rack is a device designed to cateh 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:

a. The trash rack should be constructed primarily of bars aligned in the direction of flow with one (1) inch spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the bars shall be spaced no greater than one-third (1/3) the width of the hydraulic opening it is protecting or six inches, whichever is less. Transvcrse bars aligned perpendicular to flow should be sized and spaced as necessary for rack stability and strength.

b. The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure.

c. The trash rack shall have sufficient net open area under clean conditions. The average velocity of flow through a clean trash raek is not to exeeed 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 raek.

d. The trash rack shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs/ft sq.

2. An overflow grate is designed to prevent obstruction of the overflow structure. If an outlet structure has an overflow grate, such grate shall meet the following requirements:

   a. The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance.

   b. The overflow grate spacing shall be no less than two inches aeross the smallest dimension.

   c. The overflow grate shall be construeted and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs./ft sq.

3. For purposes of this paragraph 3, escape provisions means the permanent installation of ladders, steps, rungs, or other features that provide easily accessible means of egress from stormwater management basins. Stormwater management basins shall include escape provisions as follows:

   a. If a stormwater management measure has an outlet structure, escape provisions shall be incorporated in or on the structure. Escape provisions means the permanent installation of ladders, steps, rungs, or other features that provide readily accessible means of ingress and egress from the outlet structure. With the prior approval of the reviewing agency identified in Seetion 8.C a free-standing outlet structure may be exempted from this requirement.

   b. 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. Such 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 Section 8.D for an illustration of safety ledges in a stormwater management basin.

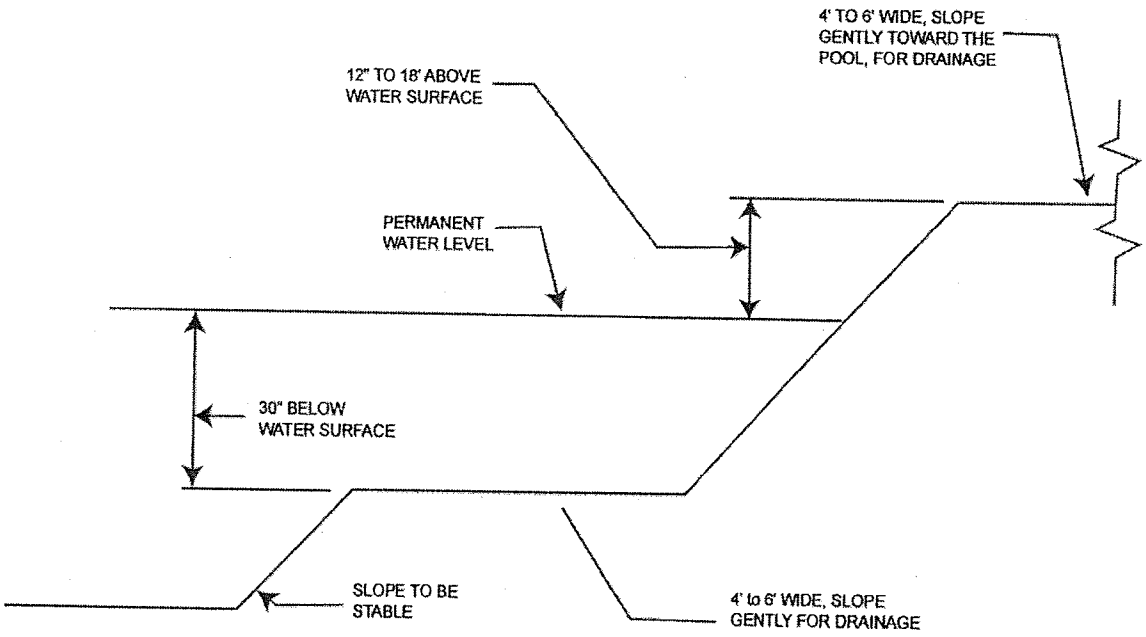
c. In new stormwater management basins, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than 3 horizontal to 1 vertical.

C. Variance or Exemption from Safety Standards

1. 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.

D. Illustration of Safety Ledges in a New Stormwater Management Basin

Depicted is an elevational view.



NOTE: NOT DRAWN TO SCALE

NOTE: FOR BASINS WITH PERMANENT POOL OF WATER ONLY

Section 9: Requirements for a Site Development Stormwater Plan

A. Submission of Site Development Stormwater Plan

1. Whenever an applicant seeks municipal approval of a development subject to this ordinance, the applicant shall submit all of the required components of the Cheeklist for the Site Development Stormwater Plan at Section 9.C below as part of the submission of the applicant's application for subdivision or site plan approval. These required components are in addition to any other information required under any provisions of Riverside Township's land use ordinance.

2. The applicant shall demonstrate that the project meets the standards set forth in this ordinance.

3. The applicant shall submit three (4) copies of the materials listed in the checklist for site development stormwater plans in accordance with Section 9.C of this ordinance.

B. Site Development Stormwater Plan Approval

1. The applicant's Site Development project shall be reviewed as a part of the subdivision or site plan review process by the municipal board or official from which municipal approval is sought. That municipal board or official shall consult the engineer retained by the Planning and/or Zoning Board (as appropriate) to determine if all of the ehecklist requirements have been satisfied and to determine if the project meets the standards set forth in this ordinance.

C. Checklist Requirements

Any application for approval of a major development shall include at least the following information. All required engineering plans shall be submitted to the Riverside Township in CAD Format 15 or higher, registered and rectified to NJ State Plane Feet NAD 83 or Shape Format NJ State Plan Feet NAD 83, and all other documents shall be submitted in both paper and commonly used electronic file formats such as PDF, word processing, database or spreadsheet files. Three (3) copies of each item shall be submitted. The municipality may choose to revise these criteria for eonsistency with their own software requirements.

1. Topographic Base Map

The applicant shall submit a topographic base map of the site which extends a minimum of two hundred (200) feet beyond the limits of the proposed development, at a scale of one (1) inch = two hundred (200) feet or greater, showing one (1) foot contour intervals. The map shall indicate the following: existing surface water drainage, shorelines, steep slopes, soils, highly erodible soils, perennial or intermittent streams that drain into or upstream of any Category One Waters, wetlands and floodplains along with their appropriate buffer strips, marshlands and other wetlands, pervious or vegetative surfaees, existing surface and subsurface human-made structures, roads, bearing and distances of property lines, and significant natural and manmade features not otherwise shown. Riverside Township may require upstream tributary drainage system information as neeessary.

2. Environmental Site Analysis

The applicant shall submit a written description along with the drawings of the natural and human-made features of the site and its environs. This description should include:

a. A discussion of environmentally critical areas, soil conditions, slopes, wetlands, waterways and vegetation on the site. Particular attention should be given to unique, unusual or environmentally sensitive features and to those that provide particular opportunities for or constraints on development; and

b. Detailed soil and other environmental conditions on the portion of the site proposed for installation of any stormwater BMPs, including, at a minimum: soils report based on onsite soil tests; locations and spot elevations in plan view of test pits and permeability tests; permeability test data and calculations; and any other required soil data (e.g., mounding analyses results) correlated with location and elevation of each test site; cross-section of proposed stormwater BMO with side-by-side depietion of soil profile drawing to scale and seasonal high water table elevation identified; and any other information necessary to demonstrate the suitability of the specific proposed structural and nonstructural stormwater management measures relative to the environmental conditions on the portion(s) of the site proposed for implementation of those measures.

3. Project Deseription and Site Plan

The applicant shall submit a map (or maps) at the scale of the topographieal base map indicating the location of existing and proposed buildings, roads, parking areas, utilities, structural facilities for stormwater management and sediment control, and other permanent structures. The map(s) shall also clearly show areas where alterations occur in the natural terrain and cover, including lawns and other landscaping, and seasonal high ground water elevations. A written description of the site plan and justification of proposed changes in natural conditions may also be provided.

4. Land Use Planning and Source Control Plan

a. The applicant shall submit a detailed Land se Planning and Source Control Plan which provides a description of how the site will be developed to meet the erosion control, groundwater recharge and stormwater runoff quantity and quality standards at Section 4 through use of nonstructural or low impact development techniques and source controls to the maximum extent practicable before relying on structural BMPs. The Land Use Planning and Source Control Plan shall include a detailed narrative and associated illustrative maps and/or plans that specifically address how each of the following nine(9) nonstructural strategies identified in Subchapter 5 of the NJDEP Stormwater Management Rules (N.J.A.C. 7:8-5) and set forth below (4.a.(1). through (9).) will be implemented to the maximum extent practicable to meet the standards at Section IV of this ordinance on the site. If one or more of the nine (9) nonstructural strategies will <u>not</u> be implemented on the site, the applicant shall provide a detailed rationale establishing a basis for the eontention that use of the strategy is not practicable on the site.

(1) Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;

(2) Minimize impervious 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 pre-development "time of concentration";

(5) Minimize land disturbance including clearing and grading;

(6) Minimize soil compaction and all other soil disturbanee;

(7) Provide low-maintenance landscaping that provides for the retention and planting of native plants 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 shall include, but are not limited to:

i. Site design features that help to prevent accumulation of trash and debris in drainage systems;

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. 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, when establishing vegetation after land disturbance.

b. For sites where stormwater will be generated from "high pollutant loading areas" or where stormwater will be exposed to "source material", the applicant shall also demonstrate in the Land Use Planning and Source Control Plan that the requirements of Section 4 have been met.

c. The use of nonstructural strategies to meet the performance standards in Section 4 of this ordinance is not required for development sites creating less than one (1) acre of disturbance. However, each application for major development and any other application where Riverside Township otherwise requires a landscaping plan shall

contain a landscaping or revegetation plan. In addition, the applicant shall demonstrate that, at a minimum, existing trees and vegetation on the developmcnt sitc will be preserved and protected according to the minimum standards established by provisions of the Riverside Township Land Use Ordinanee, Zoning Ordinance or by conditions of zoning or variance approval.

5. Stormwater Management Facilities Map

The applicant shall submit a map, at the same scale as the topographic base map, depicting the following information:

a. Total area to be disturbed, paved and/or built upon, proposed surface contours, land area to be occupied by the stormwater management facilities and the type of vegetation thereon, and details of the proposed plan to control and dispose of stormwater.

b. Details of all stormwater management facility designs, during and after construction, including discharge provisions, discharge capacity for each outlet at different levels of detention and emergency spillway provisions with maximum discharge capacity of each spillway.

6. Calculations

a. The applicant shall submit comprehensive hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in Section 5 of this ordinance. The standards for groundwater recharge and stormwater runoff rate, volume and quality required by Section 4 shall be met using the methods, calculations and assumptions provided in Section 5.

b. When the proposed stormwater management control measures (e.g., infiltration basins) depend on the hydrologic properties of soils, then a soils report shall be submitted. The soils report shall be based on onsite boring logs or soil pit profiles. The number and loeation of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soils present at the location of the eontrol measure.

7. Inspection, Maintenance and Repair Plan

The applicant shall submit a detailed plan describing how the proposed stormwater management measure(s) shall meet the maintenance and repair requirements of Section 10 of this ordinance. Said plan shall inelude, at a minimum, the following elements:

a. The frequency with which inspections will be made;

b. The specific maintenance tasks and requirements for each proposed structural and nonstruetural BMP;

c. The name, address and telephone number for the entity responsible for implementation of the maintenance plan;

d. The reporting requirements; and

e. Copies of the inspection and maintenance reporting sheets.

8. Waiver from Submission Requirements

The municipal official or board reviewing an application under this ordinance may, in consultation with the municipal engineer, waive submission of any of the requirements in Sections 9.C.1 through 9.C.6 of this ordinance when it can be demonstrated that the information requested is impossible to obtain or it would create a hardship on the applicant to obtain and its absence will not materially affect the review process.

Section 10: Maintenance and Repair

A. Applicability

Projects subject to review pursuant to Section 1.C of this ordinance shall comply with the requirements of Sections 10.B and 10.C below.

B. General Inspection, Maintenance and Repair Plan

1. The design engineer shall prepare an Inspeetion, Maintenance and Repair Plan for the stormwater management measures, including both structural and nonstructural measures incorporated into the design of a major development. This plan shall be submitted as part of the Checklist Requirements established in Section 9.C. Inspection and maintenance guidelines for stormwater management measures are available in the New Jersey BMP Manual.

2. The Inspeetion, Maintenance and Repair Plan shall contain the following:

a. Accurate and comprehensive drawings of the site's stormwater management measures;

b. Specific locations of each stormwater management measure identified by means of longitude and latitude as well as block and lot number;

c. Specific preventative and corrective maintenance tasks and schedules for such tasks for each stormwater BMP;

d. Cost estimates, including estimated cost of sediment, debris or trash removal; and

e. The name, address and telephone number of the person or persons responsible for regular inspections and preventative and corrective maintenance (including repair and replacement). If the responsible person or persons is a corporation, company, partnership, firm, association, municipality or political subdivision of this State, the name and telephone number of an appropriate contact person shall also be included.

3. The person responsible for inspection, maintenance and repair identified under Section 10.B.2 above shall maintain a detailed log of all preventative and eorrective maintenance performed for the site's stormwater management measures, including a record of all

inspections and copies of all maintenance-related work orders in the Inspection, Maintenance and Repair Plan. Said records and inspection reports shall be retained for a minimum of five (5) years.

4. If the Inspection, Maintenance and Repair Plan identifies a person other than the developer (for example, a public agency or homeowners' association as having the responsibility for inspection and 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 measure to such person under an applicable ordinance or regulation.

5. If the person responsible for inspection, maintenance and repair identified under Section 10.B.3 above is not a public agency, the maintenance plan and any future revisions based on Section 10.B.6 below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan shall be undertaken.

6. The person responsible for inspection, maintenance and repair identified under Section 10.B.2 above shall evaluate the effectiveness of the Inspection, Maintenance and Repair Plan at least once per year and update the plan and the deed as needed.

7. The person responsible for inspection, maintenance and repair identified under Section 10.B.2 above shall submit the updated Inspection, Maintenance and Repair Plan and the documentation required by Sections 10.B.2 and 10.B.3 above to Riverside Township once a year.

8. The person responsible for inspection, maintenance and repair identified under Section 10.B.2 above shall retain and make available, upon request by any public entity with administrative, health, environmental or safety authority over the site Inspection, Maintenance and Repair Plan and the documentation required by Sections 10.B.2 and 10.B.3.

C. Responsibility for inspection, repair and 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. Preventative and corrective maintenance shall be performed to maintain the function of the stormwater management measure, ineluding, but not limited to: repairs or replacement to any associated appurtenanee of the measure; removal of sediment, debris or trash; restoration of eroded areas; snow and ice removal; fence repair or replaeement; restoration of vegetation; repair or replacement of linings; and restoration of infiltration function.

E. Stormwater management measure easements shall be provided by the property owner as necessary for facility inspections and maintenance and preservation of stormwatcr runoff eonveyance, infiltration, and detention areas and facilities. The purpose of the easement shall be specified in the maintenance agreement.

F. In the event that the stormwater management measure becomes a public health nuisance or danger to public safety or public health, or if it is in need of maintenance or repair, Riverside Township shall so notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have fourteen (14) days to effect maintenance and repair of the facility in a manner that is approved by the municipal engineer or the municipal engineer's designee. Riverside Township, at its discretion, may extend the time allowed for effecting maintenance and repair for good cause. If the responsible person fails or refuses to perform such maintenance and repair within the allowable time, Riverside Township may immediately proceed to do so with its own forces and equipment and/or through contractors. The costs and expenses of such maintenance and repair by Riverside Township shall be entered on the tax roll as a special charge against the property and collected with any other taxes levied thereon for the year in which the maintenanee and repair was performed.

G. Requirements for Inspection and Repair of Stormwater BMPs that rely on infiltration

If a stormwater infiltration BMP is incorporated into the design of a major development, the applicant shall include the following requirements in its Inspection, Maintenance and Repair Plan:

1. Once per month (if needed): Mow side slopes, remove litter and debris, stabilize eroded bands, repair erosion at inflow structures(s);

2. After every storm exceeding one (1) inch of rainfall: Ensure that infiltration BMPs drain completely within seventy-two (72) hours after the storm event. If stored water fails to infiltrate seventy-two (72) hours after the end of the storm, corrective measures shall be taken. Raking or tilling by light equipment can assist in maintaining infiltration capacity and break up clogged surfaces;

3. Four times per year (quarterly): Inspect stormwater infiltration BMPs for clogging and excessive debris and sediment accumulation with BMP, remove sediment (if needed) when eompletely dry;

4. Two times per year: Inspect for signs of damage to structures, repair eroded areas, check for signs of petroleum contamination and remediate;

5. Once per year: Inspect BMPs for unwanted tree growth and remove if necessary, disc or otherwise aerate bottom of infiltration basin to a minimum depth of six (6) inches; and

6. After every storm exceeding one (1) inch of rainfall, inspect and, if necessary remove and replace K5 sand layer and accumulated sediment, to restore original infiltration rate.

7. Additional guidance for the inspection, maintenanee and repair of stormwater infiltration BMPs can be found in the New Jersey BMP Manual.

H. Maintenance Guarantee

1. The applicant shall provide a maintenance guarantee in accordance with N.J.S.A. 40:55D-53 to ensure that all stormwater management measures required under the provisions of this ordinance will be maintained in accordance with the specifications established herein.

2. Additionally, for those stormwater management measures that are to be inspected, maintained and repaired by a public agency, the Riverside Township shall collect an up-front fee from the applicant in the amount the Riverside Township determines is needed to provide long-term inspeetion, maintenance and repair of all stormwater management measures. This up-front fee shall be placed in a dedicated cash management account and expended by the Riverside Township for the sole purpose of conducting inspection, maintenance and repair activities for all stormwater management measures required under the applicant's major development application approval. The calculation of the fee shall be based upon the Inspection, Maintenance and Repair Plan (Plan) required to be prepared by the applicant and approved by the Riverside Township. The Plan shall include an estimate of the present value of the cost to inspeet, maintain and repair the stormwater management measure(s) in accordance with the Plan for the useful life of those measure(s). The Riverside Township shall furnish the applieant their published hourly rates as preseribed by their salary ordinance for public works' and other personnel having responsibilities associated with stormwater management. Added to this fee shall be an amount mutually determined by the Riverside Township and the applicant to account for the reconstruction of stormwater management measures that are reasonably anticipated to be subject to long term failure. After an agreed number of years, depending on the type of measure(s), the measure(s) will need to be reeonstrueted. The amount shall be based on the future value of the measure(s) being reconstrueted. Both inflation rates and bank interest rates shall be based on the ten year average published in the Wall Street Journal or other approved publication. Interest accruing in the account must also be accounted for at an agreed upon interest rate, to arrive at an amount. The costs for reconstructing the measure9s) shall be taken from the engineer's probable cost estimate that is utilized to determine the amount of the required performance guarantee. It is aceeptable to attach a percentage of failure to certain line items in the estimate.

3. Additionally, for those stormwater management measures that are to be inspected, maintained and repaired by a homeowners association, eondominium association or some other form of non-public ownership, no fee shall be collected by the Riverside Township. Instead, the ownership entity shall establish and maintain a fund for the annual inspection and testing program, annual maintenance and repair program and annual contribution to a eontingency fund for long-term reconstruction.

   The initial costs agreed to for the annual inspeetion and testing program and annual maintenance and repair program shall be based upon actual itemized proposals offered to the applicant by prospeetive vendors. The annual cost expended on inspection, testing and maintenance shall be reported to the Riverside Township to verify that maintenance is not being deferred and to inform the Riverside Township on the magnitude of those services.

The contingency fund shall require sufficient funds to be committed for long-term reconstruction of the stormwater management measure(s). Major reconstruction activities will necessitate proper financial planning. After an agreed number of years, depending on the type of measure(s), the measure(s) will need to be reconstructed. The contingency fund in the financial schedule shall be based on the future value of the measure being reconstructed. Both inflation rates and bank interest rates shall be based on the ten year average published in the Wall Street Journal or other approved publication. Interest accruing in the account must also be aceounted for at an agreed upon interest rate, to arrive at an annual contribution amount.

I. Nothing in this section shall preclude the municipality in which the major development is located from requiring the posting of a performance or maintenanee guarantee in accordance with N.J.S.A. 40:55D-53.

J. Violations and Penalties

Any person who violates or neglects to comply with any provision of the ordinance established herein or notiee issued pursuant thereto shall, upon conviction, be liable to the penalty established in the Riverside Township code.

Section 11: Mitigation Projects

A "Mitigation" project as may be required by the Riverside Township Municipal Stormwater Management Plan (MSWMP) must satisfy the following requirements. Additional information may be found in the NJDEP "Draft Guidance for the Development of Municipal Mitigation Plans – November 8, 2005":

A. Impact from noneompliance. Provide a table to show the required values, and the values provided in the project, and include an alternatives analysis demonstrating that on-site eompliance was maximized.

B. Narrative and supporting information regarding the need for the waiver.

1. The waiver cannot be due to a condition created by the applicant. If the applicant can provide compliance with the Stormwater Management rules through a reduction in the scope of the project, the applicant has created the condition and a waiver cannot be issued.

2. A discussion and supporting information of the site conditions that would not allow the eonstruction of a stormwater management facility to provide compliance with these requirements, AND/OR if the denial of the applieation would impose an extraordinary hardship on the applicant brought about by circumstances peculiar to the subject property. Site conditions to be considered are soil type, the presence of karst geology, acid soils, a high groundwater table, unique conditions that would create an unsafe design, as well as conditions that may provide a detrimental impact to public health, welfare, and safety.

3. Sensitive Receptor: Identify the sensitive receptor related to the performance standard from which a waiver is sought. Demonstrate that the mitigation site eontributes to the same sensitive receptor. Sensitive receptors are areas with specific sensitivity to impacts of stormwater, whether through changes in stormwater runoff quality, stormwater runoff quantity, and groundwater recharge. Within each municipality, a mitigation plan must

identify the sensitive receptors that are critical to accomplishing the goals of the Municipal Stormwater Management Plan.

a. Examples of sensitive receptors are listed below:

(1) Stormwater Quality:

Trout associated waters
Impoundments
Threatened and endangered species habitats
Drinking water supplies
Category One waters
Impaired waterways

(2) Stormwater Quantity:

Inadequate culvert
Property subject to flooding
Eroding streams
Category One waters
Freshwater and Coastal wetlands

(3) Groundwater Reeharge:

Springs, seeps, wetlands
White cedar swamps
Threatened and endangered species sensitive to groundwater changes
Streams with low base flow
Aquifers
Category One waters

C. Design of the Mitigation Project: Provide the design details of the mitigation project. This includes, but is not limited to, drawings, calculations, and other information needed to evaluate the mitigation project.

D. Responsible Party: List the party or parties responsible for the construction and the maintenance of the mitigation project. Documentation must be provided to demonstrate that the responsible party is aware of, has authority to perform, and accepts the responsibility for the construction and maintenance of the mitigation project. Under no cireumstance shall the responsible party be an individual single-family homeowner.

E. Maintenance: Include a maintenance plan that addresses the maintenance criteria at NJAC 7:8-5,8 as part to the mitigation plan. In addition, if the maintenance responsibility is being transferred to the municipality or another entity, the entity responsible for the cost of the maintenance must be identified. The municipality may provide the option for the applicant to convey the mitigation project to the municipality, if the applicant provides for the cost of maintenance in perpetuity.

F. Permits: Obtain any and all necessary local, State, or other applicable permits for the mitigation measure or project. These must be obtained prior to the municipal approval of the project for which mitigation is being provided.

G. Construction: Demonstrate that the construetion of the mitigation project coincides with the construction of the proposed project. A certificate of occupaney or final approval by the municipality for the application project cannot be issued until the mitigation project or measure receives final approval. Any mitigation projects proposed by the municipality to offset the stormwater impacts of that municipality's own projects must be completed within 6 months of the completion of the municipal project, in order to remain in compliance with their NJPDES General Permit.

Section 12: Effective Date

This ordinance shall take effect immediately upon the approval by the county review agency, or sixty (60) days from the receipt of the ordinance by the county review agency if the county review agency should fail to act.

Section 13: Severability

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

SPPP Form 4- Local Public Education Program

Municipality Information

Municipality: *Riverside Township* County *Burlington*

NJPDES # : *0150011* PI ID #: *213691*

Team Member/Title: *Meghan Jack, Administrator*

Effective Date of Permit Authorization (EDPA): *1/1/18*

Date of Completion: *4/1/05* Date of most recent update: *10/03/18*

Local Public Education Program

Describe your Local Public Education Program. Be specific on how you will distribute your educational information, and how you will conduct your annual event. Attach additional pages with the date(s) of your annual mailing and the date and location of your annual event.

For our annual distribution, we distribute a concise, three-page, colored paper packet to our residents and businesses through a mass mailing with the annual tax bills. It includes information on the trash collection procedures, grass clippings, illicit connections, littering, and pet waste.

The brochure is also available in the municipal building.

Our annual event is in conjunction with Community Day, held each September. The Department of Public Works sets up a booth dedicated to stormwater management issues. DEP booklets, including "What's a Watershed", are available at the booth.

All educational activities that are conducted annually will total 12 points and include acticities from three of the fice categories presented. (Point system attached)

The Township advertises public involvement through website notices and newspaper ads.

Attachment B – Points System for Public Education and Outreach Activities

The Tier A Municipality shall implement a Public Education and Outreach Program that focuses on educational and pollution prevention activities about the impacts of stormwater discharges on surface water and groundwater and to involve the public in reducing pollutants in stormwater runoff and mitigating flow.

The Tier A Municipality shall **annually** conduct educational activities that total at least **12 points** and include activities from at least three of the five categories found below. At a minimum, at least one of the activities shall involve educating businesses and the general public of hazards associated with illicit connections and improper disposal of waste. Each approved activity is listed below with an assigned point value. Additional information on how to conduct these Public Education and Outreach activities can be found under Notes and Definitions Part IV.A.3 and 4 of this Tier A MS4 NJPDES permit. Records shall be kept necessary to demonstrate compliance with this requirement, including date of activities and any other relevant documentation.

Category 1: General Public Outreach		
Activity	**Description**	**Points**
Website and Social Media	Maintain a stormwater related page on the municipal website or on a municipal social media site. The web page may include links to other stormwater related resources, including the NJDEP stormwater website (www.njstormwater.org).	1
Newspaper Ad	Use Department created and approved stormwater education materials available on www.cleanwaternj.org to publish an ad in a newspaper or newsletter that serves the municipality.	1
Radio/Television	Broadcast a radio or television public service announcement from www.cleanwaternj.org on a local radio or municipal public service channel.	1
Green Infrastructure Signage	Post signs at municipally-owned green infrastructure sites that describe the function and importance of the infrastructure, contact phone number, municipal identification number, and/or website for more information. *New signs receive 0.5 credits per sign. Existing signs that are maintained or upgraded receive 0.25 credits per sign. A maximum of 5 credits are allowed.	5*
Billboard/Sign	Produce and maintain (for credit in subsequent years) a billboard or sign which can be displayed on a bus, bus stop shelter, recreation field (outfield sign), or other similar public venue.	2
Mural	Produce and maintain (for credit in subsequent years) the planning and painting of a stormwater pollution themed mural, storm drain art or other artwork at a local downtown/commercial area or other similar public venue.	2
Stormwater Facility Signage	Post signs at municipally-owned stormwater management basins or other structural stormwater related facilities that describe the function and importance of the facility, contact phone number, municipal identification number, and/or website for more information. *New signs receive 0.5 credits per sign. Existing signs that are maintained or upgraded receive 0.25 credits per sign. A maximum of 5 credits are allowed.	5*

Category 2: Targeted Audiences Outreach		
Activity	**Description**	**Points**
Stormwater Display	Present a stormwater related display or materials at any municipal event (e.g., Earth Day, town picnic), at the municipal building or other similar public venue.	1
Promotional Item	Distribute an item or items with a stormwater related message (e.g., refrigerator magnets, temporary tattoos, key chains, bookmarks, pet waste bag dispensers, coloring books, and pens or pencils). Municipality must initially have available a minimum number of the items equal to 10% of the municipal population.	2
Mailing or e-Mailing Campaign	Provide information to all known owners of stormwater facilities not owned or operated by the municipality (i.e., privately owned) highlighting the importance of proper maintenance of stormwater measures. For assistance, see information at www.nj.gov/dep/stormwater/maintenance_guidance.htm.	3
Mailing or e-Mailing Campaign	Distribute any of the Department's educational brochures, tip cards, or a municipally produced equivalent (e.g., community calendar, newsletter, or recycling schedule) via a mailing to every resident and business in the municipality.	2
Ordinance Education	Distribute a letter or e-mail from the mayor or municipal official to every resident and business in the municipality highlighting the requirements and environmental benefits of the Pet Waste, Wildlife Feeding, Litter Control, Improper Disposal of Waste, Containerized Waste/Yard Waste Collection, Private Storm Drain Inlet Retrofitting and Illicit Connection ordinances. Provide a link to the municipal website where subject ordinances are posted.	3

Category 3: School / Youth Education and Activities		
Activity	**Description**	**Points**
School Presentations	Provide water-related educational presentation(s) and/or activities to local preschool, elementary, middle, and/or high school classes using municipal staff or local partner organizations. Topics could include stormwater, nonpoint source pollution, watersheds, water conservation and water quality. For ideas, see information at www.nj.gov/dep/seeds. *Presentations receive 1 credit per presentation, with a maximum of 5 credits allowed.	5*
Water Education Workshops	Provide water-related professional development workshops for local teachers from a registered NJ Department of Education Professional Development Provider.	2
Storm Drain Labeling	Organize a project to label and/or maintain storm drain labels (that are not already precast with a message) with a scout troop, local school district, or faith based group, or other community youth group for a minimum of 40 labels. This project could also include stenciling over precast labels to improve legibility.	3
Educational Contest for Schools	Organize an educational contest with a local school district or a local community organization serving youth to design a poster, magnet, rain stick, rain barrel or other craft/art object. Contest themes shall have an appropriate stormwater message. Winning entries are to be displayed at publicly accessible locations within the municipality such as at the town hall, library, post office, or school. The winning design should be shown on the municipality's website or social media site, if practical.	3
AmeriCorps Event	Coordinate an event (e.g. volunteer stream monitoring, educational presentations, or stormwater awareness project) through AmeriCorps NJ Watershed Ambassador Program	4
Clean-up	Sponsor or organize a litter clean up for a scout troop, local school district, faith based group or other community youth group along a local waterway, public park, stormwater facility, or in an area with storm drains that discharge to a local lake or waterway.	3

Category 4: Watershed/Regional Collaboration		
Activity	**Description**	**Points**
Regional Stormwater Collaboration	Participate in a regional stormwater, community collaborative or other watershed-based group on a regular basis to discuss impaired waterbodies, TMDLs, regional stormwater related issues, or watershed restoration plans that address those waterbodies. Evaluate, develop and implement remedies that resolve stormwater-related issues within the affected waterbody or watershed.	3
Green Infrastructure Workshop	Organize or participate in a rain barrel, rain garden or other green infrastructure workshop on a regional or watershed basis. This could be a partnership exercise with a local watershed organization, utility, university, school, youth/faith based group, and/or other organization.	3
Community Activity	Organize or participate in the organization of a regional or watershed based event to carry out stormwater activities such as stormwater facility maintenance or litter clean-up. The municipality may identify and enter into a partnership agreement with a local group such as a watershed organization, utility, university, school, youth/faith based group, and/or other organization to carry out these activities.	3

Category 5: Community Involvement Activities		
Activity	**Description**	**Points**
Volunteer Stormwater Assessment or Stream Monitoring	Establish a volunteer stormwater facility assessment (inspection, inventory and/or mapping) or stream monitoring program for a waterbody within the municipality in order to gauge the health of the waterway through chemical, biological or visual monitoring protocols. Contact NJDEP's AmeriCorps NJ Watershed Ambassador Program or review USEPA National Directory of Volunteer Monitoring Programs.	3
Rain Barrel Workshop	Organize or participate in a rain barrel workshop. This could be a partnership exercise with a local watershed organization, university, school, youth/faith based group, and/or other nonprofit.	3
Rain Garden Workshop	Organize or participate in a rain garden training or installation workshop. This could be a partnership exercise with a local watershed organization, university, school, youth/faith based group, and/or other nonprofit.	3
Community Event	Organize or participate in the organization of a community event to carry out stormwater activities such as stormwater measure maintenance or a stream buffer restoration. The municipality may identify and enter into a partnership agreement with a local group such as a watershed organization, university, utility, school, youth/faith based group, and/or other nonprofit to carry out these activities.	3
Community Involvement	Organize a project with a local organization to create and post signs at either green and/or gray stormwater infrastructure sites or facilities that describe the function and importance of the facility, contact phone number, municipal identification number, and/or website for more information. *Signs receive 0.5 credits per sign. A maximum of 5 credits are allowed.	5*

Public Education Records (Website)

Public Education Records (Newspaper)

Public Education Records (Billboard/Sign)

Public Education Records (Stormwater Display)

Public Education Records (Promotional Item)

Public Education Records (Mailing Campaign)

Public Education Records (Clean-up)

NJDEP Brochures for Annual Distribution

SPPP Form 5 – Storm Drain Inlet Labeling

Municipality Information

Municipality: *Riverside Township* County *Burlington*

NJPDES # : *NJG0150011* PI ID #: *213691*

Team Member/Title: *Meghan Jack, Administrator*

Effective Date of Permit Authorization (EDPA): *1/1/18*

Date of Completion: *4/1/05* Date of most recent update: *10/03/18*

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 storm drain inlet labeling program was coordinated and completed by the Riverside Township Public Works Department. All storm drain inlets that are along municipal streets with sidewalks, within plazas, in parking areas, and maintenance yards operated by Riverside Township will be labeled. For all new development activities,Riverside Township's land use ordinance will require the developer to install storm drain inlet labeling. Labeled inlets are also required on all reconstruction projects.

The Township is divided into two sectors for the purpose of inlet labelling (see attached map).

Storm drain inlet labeling in Sector A was completed by April of 2007. Storm drain inlet labeling in Sector B was completed by April of 2009.

During the annual inlet inspection/cleaning program, the stencils are checked to ensure that they are intact and visible. Stencils that have worn or become illegible will be replaced.

SPPP Form 6 – MS4 Outfall Pipe Mapping

Municipality Information

Municipality: *Riverside Township* County *Burlington*

NJPDES # : *NJG0150011* PI ID #: *213691*

Team Member/Title: *Meghan Jack, Administrator*

Effective Date of Permit Authorization (EDPA): *4/1/04*

Date of Completion: *4/1/05* Date of most recent update: *10/03/18*

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., municipal employees, a consultant, etc.)?

The outfall mapping for the entire township has been completed and is available on a map entitled "Riverside Township Stormwater Management Plan Outfall Pipe Map" dated January 2007. The scale of the map is 1" = 400'.

(See attached map)

The Township's outfall pipe map is updated yearly and includes all known tidal and non-tidal discharges to surface water bodies.

As municipal improvement, development, and redevelopment projects are completed the map will be updated.

The outfall pipe map will be provided to the NJDEP by December 31, 2018 and will be submitted electronically via NJDEP's electronic systm which NJDEP will identify in the future.

RIVERSIDE TOWNSHIP STORMWATER MANAGEMENT PLAN OUTFALL PIPE MAP

LEGEND

- FLARED END SECTION
- HEADWALL
- OUTFALL PIPE

NOTES:

1. THIS MAP WAS DEVELOPED USING DIGITAL DATA FROM THE BURLINGTON COUNTY GEOGRAPHIC INFORMATION SYSTEM. THIS MAP IS A SECONDARY PRODUCT AND HAS NOT BEEN VERIFIED BY THE COUNTY OF BURLINGTON. IT IS NOT AUTHORIZED BY THE COUNTY OF BURLINGTON.
2. PARCEL MAPPING FROM BURLINGTON COUNTY DEPARTMENT OF INFORMATION TECHNOLOGY UPDATED DECEMBER 2001. PARCELS ARE BASED ON TAX MAPS.
3. ROAD NAMES FROM BURLINGTON COUNTY DEARTMENT OF INFORMATION TECHNOLOGY GPS CENTERLINE OF ROADS DATA FILE APRIL 2002.
4. BUILDING FOOTPRINTS FROM BURLINGTON COUNTY ENGINEERING DEPARTMENT 2006 TOPOGRAPHIC INFORMATION.
5. OUTFALL STRUCTURES AND PIPES LOCATED BY RICHARD A. ALAIMO ASSOCIATION OF ENGINEERS USING SUB-METER GPS UNIT, JUNE 2008.

400 0 400 800 1200 1600 2000 Feet

APPROVED: Richard A. Alaimo – P.E. N.J. PROFESSIONAL ENGINEER LICENCE NO. 13155 DATE

REVISIONS | DATE | BY

RICHARD A. ALAIMO ASSOCIATION OF ENGINEERS
Consulting Engineers
220 High Street, 2 Market Street, Mount Holly, N.J., Pennsauken, N.J.

STORMWATER MANAGEMENT PLAN
OUTFALL PIPE MAP
SCALE: 1" = 400'

CLIENT: RIVERSIDE TOWNSHIP
PROJECT LOCATION: RIVERSIDE TOWNSHIP BURLINGTON COUNTY NEW JERSEY
PROJECT NO.: C-979-071-002
CONTRACT NO.:
DATE: JAN. 2007
DESIGNED BY: MAC
DRAWN BY: MAC
CHECKED BY: R.A.

SHT. 1

SPPP Form 7 – Illicit Connection Elimination Program

Municipality Information

Municipality: *Riverside Township* County *Burlington*

NJPDES # : *NJG0150011* PI ID #: *213691*

Team Member/Title: *Meghan Jack, Administrator*

Effective Date of Permit Authorization (EDPA): *1/1/18*

Date of Completion: *4/1/05* Date of most recent update: *10/01/18*

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 Township enforces this Illicit Connection Elimination Program and has adopted an illicit connection ordinance.

The Township will conduct dry weather inspections as part of routine maintenance, The DEP Illicit Connection Inspection Report Form is used to conduct these inspections, and each form will be kept with our SP3 records. Additionally, the Township will conduct visual dry weather inspectiond of outfall pipes owned/operated by the Township at least once every 5 years for signs of dry weather flow.

Any outfall pipes that are found to have a dry weather or intermittent non-storm flow will be further investigated for an illicit connection. If an outfall discharges directly to a water body below the water level, we continue our inspections to the nearest upstream structure that provides evidence of potential dry weather flow. We will inspect the outfalls once per year in the summer. When dry weather flow is observed, the attached Illicit Connection Inspection Report Forms will be completed.

If we are able to locate an illicit connection which is within our Township, we will cite the responsible party and terminate the connection immediately. If we are unable to locate the illicit connection source, we will submit a Closeout Investigation Form with our Annual Inspection and Recertification. If an illicit connection is found which originates from another public entity, we will report the connection to the responsible department.

Within 3 months of a complaint/report of a potential illicit connection, the Township will respond to investigate.

SPPP Form 8 – Illicit Connection Records

Municipality Information

Municipality: *Riverside Township* County *Burlington*

NJPDES # : *0150011* PI ID #: *213691*

Team Member/Title: *Meghan Jack, Administrator*

Effective Date of Permit Authorization (EDPA): *1/1/18*

Date of Completion: *4/1/05* Date of most recent update: *10/12/07*

Prior to May 2, 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? *0*

Number of outfalls found to have a dry weather flow? *n/a*

Number of outfalls found to have an illicit connection? *n/a*

How many illicit connections were eliminated? *n/a*

Of the illicit connections found, how many remain? *n/a*

May 2, 2006 – May 1, 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? *0*

Number of outfalls found to have a dry weather flow? *n/a*

Number of outfalls found to have an illicit connection? *n/a*

How many illicit connections were eliminated? *n/a*

Of the illicit connections found, how many remain? *n/a*

May 2, 2007 – May 1, 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 illicit connections were eliminated? _____

Of the illicit connections found, how many remain? _____

May 2, 2008 – May 1, 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 illicit connections were eliminated? _____

Of the illicit connections found, how many remain? _____

SPPP Form 8 – Illicit Connection Records

Municipality Information

Municipality: *Riverside Township* County *Burlington*

NJPDES # : *0150011* PI ID #: *213691*

Team Member/Title: *Meghan Jack, Administrator*

Effective Date of Permit Authorization (EDPA): *1/1/18*

Date of Completion: *4/1/05* Date of most recent update: *10/3/18*

Prior to May 2, 2017

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? *0*

Number of outfalls found to have a dry weather flow? *0*

Number of outfalls found to have an illicit connection? *0*

How many illicit connections were eliminated? *n/a*

Of the illicit connections found, how many remain? *n/a*

May 2, 2017 – May 1, 2018

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 illicit connections were eliminated? _____

Of the illicit connections found, how many remain? _____

May 2, 2018 – May 1, 2019

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 illicit connections were eliminated? _____

Of the illicit connections found, how many remain? _____

May 2, 2019 – May 1, 2020

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 illicit connections were eliminated? _____

Of the illicit connections found, how many remain? _____

Illicit Connection Forms

Illicit Connection Inspection Report Form

Public Complex Information

Public Complex: _____

NJPDES # : _____ PI ID #: _____

Team Member: _____

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

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 0.6:1, 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 form.

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 form.

9. Was the source of the illicit connection found? Y (☐) N (☐)

   If "**YES**", identify the source (including whether the source is from the Public Complex 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.

If there is not a dry weather flow or evidence of an intermittent flow, this form should be retained with your SPPP.

Closeout Investigation Form

Municipality Information

Municipality: ***Riverside Township*** County ***Burlington***

NJPDES # : **NJG*0150011*** PI ID #: ***213691***

Team Member / Title: _____

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.

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 Report and Certification.

SPPP Form 9 – Yard Waste Ordinance/Collection Program

Municipality Information

Municipality: *Riverside Township* County *Burlington*

NJPDES # : *NJG0150011* PI ID #: *213691*

Team Member/Title: *Meghan Jack, Administrator*

Effective Date of Permit Authorization (EDPA): *4/1/04*

Date of Completion: *4/1/05* Date of most recent update: *10/03/18*

Please describe your yard waste collection program. Be sure to include the collection schedule and how you will notify the residents and businesses of this schedule. Attach additional pages as necessary.

Riverside Township implements daily collection of leaves and grass during the months of November and December, plus one collection in the spring. During the remainder of the year, we may hold additional yard waste collections at our discretion. During the months when we are having collections, we announce our collection schedule and our ordinance requirements in the Burlington County Times.

Riverside Township is enforcing a yard waste ordinance that will prohibit all yard wastes from being placed at the curb or along the street more than seven days prior to our scheduled collections, unless they are bagged or otherwise containerized. The ordinance also prohibits the placing of yard waste closer than 10-feet from any storm sewer inlet along the street, unless they are bagged or otherwise containerized.

SPPP Form 10 - Ordinances

Municipality Information

Municipality: *Riverside Township* County *Burlington*

NJPDES # : *NJG0150011* PI ID #: *213691*

Team Member/Title: *Meghan Jack, Township Administrator*

Effective Date of Permit Authorization (EDPA): *4/1/04*

Date of Completion: *4/1/05* Date of most recent update: *10/03/18*

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

Pet Waste *10/23/95*

Are information sheets regarding pet waste distributed with pet licenses? Y ( ) N ( )

Litter *1967*

Improper Waste Disposal *4/27/05*

Wildlife Feeding *4/27/05*

Yard Waste *4/27/05*

Illicit Connections *4/27/05*

How will these ordinances be enforced?

Riverside Township police officers and code enforcement officers will enforce these ordinances. If someone is found to be in violation of an ordinance, they will be issued a written warning for first time offenses, and penalties will be issued for subsequent offenses.

***Additional Ordinances:*
Refuse Container/Dumpster: 8/16/10
Private Storm Drain Inlet Retrofitting: 8/16/10

Pet Waste Ordinance

Pet Waste

§227-5. Purpose:

An ordinance to establish requirements for the proper disposal of pet solid waste in the Township of Riverside so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

§227-6. Definitions:

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

a. Immediate – shall mean that the pet solid waste is removed at once, without delay.

b. Owner/Keeper – any person who shall possess, maintain, house or harbor any pet or otherwise have custody of any pet, whether or not the owner of such pet.

c. Person – any individual, corporation, company, partnership, firm, association, or political subdivision of this State subject to municipal jurisdiction.

d. Pet – a domesticated animal (other than a disability assistance animal) kept for amusement or companionship.

e. Pet solid waste – waste matter expelled from the bowels of the pet; excrement.

f. Proper disposal – placement in a designated waste receptacle, or other suitable container, and discarded in a refuse container which is regularly emptied by he municipality or some other refuse collector; or disposal into a system designed to convey domestic sewage for proper treatment and disposal.

§227-7. Requirement for Disposal:

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

§227-8. Exemptions:

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

Litter Ordinance

Township of Riverside, NJ
Wednesday, October 3, 2018

Chapter 176. LITTERING

[HISTORY: Adopted by the Township Committee of the Township of Riverside 7-26-1967 by Ord. No. 1967-13 as Section 8:2 of the 1967 Code. Amendments noted where applicable.]

GENERAL REFERENCES
Handbills and circulars — See Ch. **160**.
Solid waste — See Ch. **225**.

§ 176-1. Littering on roadways or sidewalks prohibited.

No person shall throw, cast or lay or direct, suffer or permit any servant, agent or employee to throw, cast or lay any ashes, offal, vegetables, garbage, dross, cinders, shells, straw, shavings, paper, dirt, filth, broken glassware, crockery, bottles or rubbish of any kind whatsoever in any street, either upon the roadway or sidewalk thereof, of the Township of Riverside.

§ 176-2. Sweeping of rubbish into gutters prohibited.

No person shall sweep, place or caused to be swept or placed any ashes, offal, vegetables, garbage, dross, cinders, shells, straw, shavings, paper, dirt, filth, broken glassware, crockery, bottles or rubbish of any kind whatsoever in any gutter of any street in the Township of Riverside.

§ 176-3. Unlawful distribution of advertising matter.

No person shall throw, cast or distribute or cause to be thrown, cast or distributed any handbill, circular, card or other advertising matter whatsoever in or upon any street or public place or in a front yard or in any vehicle or in the vestibule or hall of any building or in any place from which such matter will be blown by the wind onto a street or public place.

§ 176-4. Creation of certain hazardous conditions prohibited.

No person shall cast, throw or deposit on any sidewalk or crosswalk in any street or public place in the township any fruit or vegetable or other substance or any part or portion thereof which is liable to cause or does cause anyone passing along the sidewalk or crosswalk to slip or fall.

§ 176-5. Violations and penalties.

*Editor's Note: Amended at time of adoption of Code; see Ch. **1**, General Provisions, Art. **I**.*
Any person who shall violate any of the provisions of this chapter shall, upon conviction thereof, be subject to one or more of the following: a fine not exceeding $1,000; a term of imprisonment not exceeding 90 days; or a period of community service not exceeding 90 days.

Improper Waste Disposal Ordinance

TOWNSHIP OF RIVERSIDE

ORDINANCE 2005-#08

AMENDING THE TOWNSHIP CODE BY CREATING A NEW CHAPTER 227 ENTITLED "STORMWATER MANAGEMENT"

ARTICLE I

Improper Disposal of Waste

§227-1. Purpose:

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

§227-2. Definitions:

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

a. Municipal separate storm sewer system (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that is owned or operated by the Township of Riverside, and is designed and used for collecting and conveying stormwater.

b. Person - any individual, corporation, company, partnership, firm, association, or political subdivision of this State subject to municipal jurisdiction.

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

§227-3. Prohibited Conduct:

The spilling, dumping, or disposal of materials, other than stormwater, to the municipal separate storm sewer system operated by the Township of Riverside is prohibited. The spilling, dumping, or disposal of materials other than stormwater in such a manner as to cause the discharge of

pollutants to the municipal separate storm sewer system is also prohibited.

§227-4. Exceptions to Prohibition:

The following activities are exempt from the Prohibitions in §227-3:

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 condensation (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:

(i) Beach maintenance equipment immediately following their use for their intended purposes;

(ii) 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; and

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

ARTICLE II

Wildlife Feeding Ordinance

ARTICLE III

Wildlife Feeding

§227-9. Purpose:

An ordinance to prohibit the feeding od unconfined wildlife in any public park or in any other property owned by the Township of Riverside, so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

§227-10. Definitions:

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

a. Feed – to give, place, expose, deposit, distribute, or scatter any edible material with the intention of feeding, attracting or enticing wildlife. Feeding does not include baiting in the legal taking of fish and/or game.

b. Person – any individual, corporation, company, partnership, firm, association or political subdivision of this State subject to municipal jurisdiction.

c. Wildlife – all animals that are neither human nor domesticated.

§227-11. Prohibited Conduct:

No person shall feed, in any public park or on any other property owned or operated by the Township of Riverside, any wildlife, excluding confined wildlife (for example, wildlife confined in zoos, parks or rehabilitation centers, or unconfined wildlife at environmental education centers).

Yard Waste Ordinance

ARTICLE IV

Yard Waste Collection Program

§227-12. Purpose:

An ordinance to establish a yard waste collection and disposal program in the Township of Riverside, so as to protect public health, safety and welfare, and to prescribe penalties for the failure to comply.

§227-13. Definitions:

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

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

b. Person – any individual, corporation, company, partnership, firm, association or political subdivision of this State subject to municipal jurisdiction.

c. Street – means any street, avenue, boulevard, road, parkway, viaduct, drive, or other way, which is an existing State, county, or municipal roadway, and includes the land between the street lines, whether improved or unimproved, and may comprise pavement, shoulders, gutters, curbs, sidewalks, parking areas, and other areas with street lines.

d. Yard Waste – means leaves and grass clippings.

§122.17. Yard Waste Collection

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

Illicit Connection Ordinance

ARTICLE V

Illicit Connection Ordinance

§227-15. Purpose:

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

§227-16. Definitions:

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

a. Domestic Sewage – waste and wastewater from humans or household operations.

b. Illicit Connection – any physical or non-physical connection that discharges domestic sewage, non-contact cooling water, process wastewater, or other industrial waste (other than stormwater) to the municipal separate storm sewer system operated by the Township of Riverside, unless that discharge is authorized under a NJPDES permit other than the Tier A Municipal Stormwater General Permit (NJPDES) Permit Number NJ0141852). Non-physical connections may include, but are not limited to, leaks, flows, or overflows into the municipal separate storm sewer system.

c. Industrial waste – non-domestic waste, including, but not limited to, those pollutants regulated under Section 307(a), (b), or (c) of Federal Clean Water Act (33 U.S.C. §1317(a), (b), (c)).

d. Municipal separate storm sewer system (MS4) – a conveyance or system of basins, curbs, gutters, ditches, manmade channels, or storm drains, that is owned or operated by the Township of Riverside or other public body, and is designed and used for collecting and conveying stormwater.

e. NJPDES permit – a permit issued by the New Jersey Department of Environmental Protection to implement the New Jersey Pollutant Discharge Elimination System (NJPDES) rules at N.J.A.C. 7:14A.

f. Non-contact cooling water – water used to reduce temperature for the purpose of cooling. Such waters do no come into direct contact with any raw material, intermediate product (other than heat) or finished product. Non-contact cooling water may however contain

algaecides, or biocides to control fouling of equipment such as heat exchangers, and/or corrosion inhibitors.

g. Person – any individual, corporation, company, partnership, firm, association or political subdivision of this State subject to municipal jurisdiction.

h. Process wastewater – any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Process wastewater includes, but is not limited to, leachate and cooling water other than non-contact cooling water.

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

§227-17. Prohibited Conduct:

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

Refuse Container/Dumpster Ordinance

ORDINANCE 2010-#15

AN ORDINANCE OF THE TOWNSHIP OF RIVERSIDE REGULATING DUMPSTERS

SECTION I. Purpose:

An ordinance requiring dumpsters and other refuse containers that are outdoors or exposed to stormwater to be covered at all times and prohibits 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 **Township of Riverside** 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.

SECTION II. Definitions:

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

a. Municipal separate storm sewer system (MS4) – a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that is owned or operated by the Township of Riverside or other public body, and is designed and used for collecting and conveying stormwater.

b. Person – any individual, corporation, company, partnership, firm, association, or political subdivision of this State subject to municipal jurisdiction.

c. Refuse container – any waste container that a person controls whether owned, leased, or operated, including dumpsters, trash cans, garbage pails, and plastic trash bags.

d. 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.

e. 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.

SECTION III. Prohibited Conduct:

Any person who controls, whether owned, leased, or operated, a refuse container or dumpster must ensure that such container or dumpster is covered at all times and shall prevent refuse from spilling out or overflowing.

Any person who owns, leases or otherwise uses a refuse container or dumpster must ensure that such container or dumpster does not leak or otherwise discharge liquids, semi-liquids or solids to the municipal separate storm sewer system(s) operated by the Township of Riverside.

SECTION IV. 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)

SECTION V. Enforcement:

This ordinance shall be enforced by the **Township of Riverside** Construction and Police Departments.

SECTION VI. Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine in accordance with Chapter II of the Codes of the Township of Riverside entitled "Violations."

SECTION VII. Severability:

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

SECTION VIII. Effective date:

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

ALL OF WHICH IS ADOPTED this 16th day of August, 2010, by the Township Committee of the Township of Riverside

Retrofitting of Storm Drain Inlets Ordinance

ORDINANCE 2010-#14
AN ORDINANCE OF THE TOWNSHIP OF RIVERSIDE REQURING THE RETROFITTING OF EXISTING STORM DRAIN INLETS

SECTION I. Purpose:

An ordinance requiring the retrofitting of existing storm drain inlets which are in direct contact with repaving, repairing, reconstruction, or resurfacing or alterations of facilities on private property, to prevent the discharge of solids and floatables (such as plastic bottles, cans, food wrappers and other litter) to the municipal separate storm sewer system(s) operated by the **Township of Riverside** so as to protect public health, safety and welfare, and to prescribe penalties for the failure to comply.

SECTION II. Definitions:

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

a. Municipal separate storm sewer system (MS4)– a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that is owned or operated by the Township of Riverside or other public body, and is designed and used for collecting and conveying stormwater.

b. Person – any individual, corporation, company, partnership, firm, association, or political subdivision of this State subject to municipal jurisdiction.

c. Storm drain inlet- an opening in a storm drain used to collect stormwater runoff and includes, but is not limited to, a grate inlet, curb-opening inlet, slotted inlet, and combination inlet.

d. 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.

SECTION III. Prohibited Conduct:

No person in control of private property (except a residential lot with one single family house) shall authorize the repaving, repairing (excluding the repair of individual potholes), resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen), reconstructing or altering any surface that is in direct contact with an existing storm drain inlet on that property unless the storm drain inlet either:

1. Already meets the design standard below to control passage of solid and floatable materials; or
2. Is retrofitted or replaced to meet the standard in Section V below prior to the completion of the project.

SECTION V. Design Standard:

Storm drain inlets identified in Section IV above shall comply with the following standard to control passage of solid and floatable materials through storm drain inlets. For purposes of this paragraph, "solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard see Section V.3 below.

1. 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:

a. 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); or

b. 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.

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.

2. 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.

3. This standard does not apply:

a. Where the municipal engineer agrees that this standard would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets that meet these standards;

b. Where flows 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:

i. 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

ii. A bar screen having a bar spacing of 0.5 inches.

c. Where flows are conveyed through a trash rack that has parallel bars with one-inch (1") spacing between the bars; or

d. Where the New Jersey Department of Environmental Protection 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.

SECTION V. Enforcement:

This ordinance shall be enforced by the **Construction Department.**

SECTION VI. Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed in accordance with Chapter II of the Codes of the Township of Riverside entitled "Violations."

SECTION VII. Severability:

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

SECTION VIII. Effective date:

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

ALL OF WHICH IS ADOPTED this 16th day of August, 2010, by the Township Committee of the Township of Riverside.

Ordinance Enforcement Log

SPPP Form 11 – Storm Drain Inlet Retrofitting

Municipality Information

Municipality: Riverside Township County Burlington

NJPDES # : NJG0150011 PI ID #: 213691

Team Member/Title: Meghan Jack, Administrator

Effective Date of Permit Authorization (EDPA): *1/1/18*

Date of Completion: *4/1/05* Date of most recent update: *10/03/18*

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

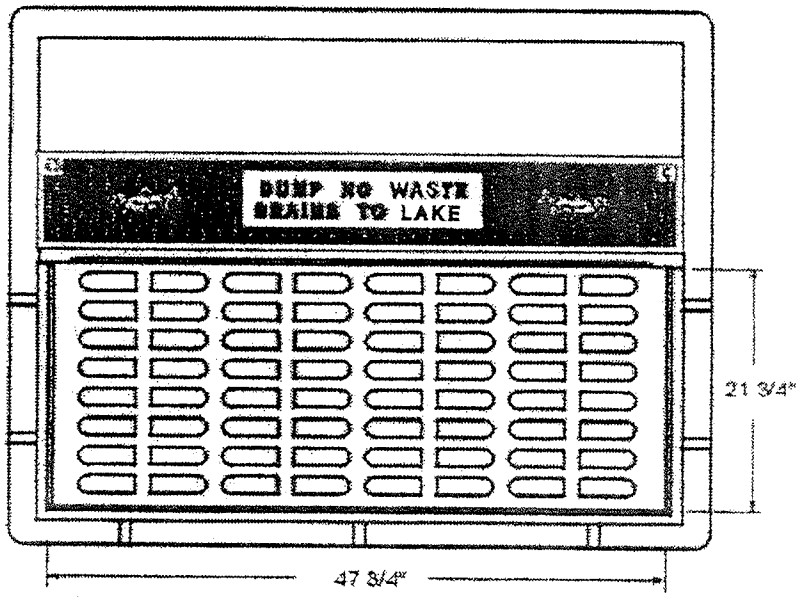
Riverside Township is using the NJDOT bicycle safe grate style of storm drain inlet with a clear space no bigger than two inches across the smallest dimension and cast with "DUMP NO WASTE" and "DISCHARGES TO WATERWAYS" labels. In addition, inlets with curb pieces will have Type N-Eco curb heads.

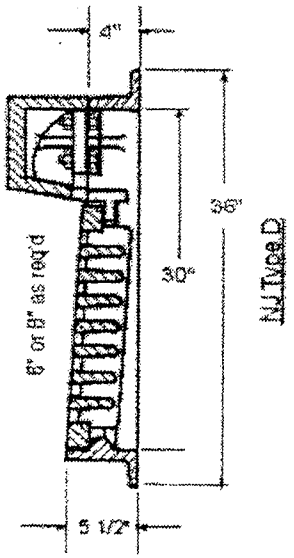
Repaving, repairing,reconstruction or alteration project name	Projected start date	Start date	Date of completion	# of storm drain inlets	# of storm drains w/ hydraulic exemptions

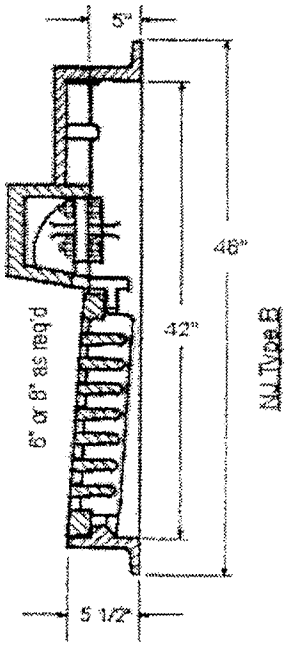
Are you claiming any alternative device exemptions or historic place exemptions for any of the above projects? Please explain:

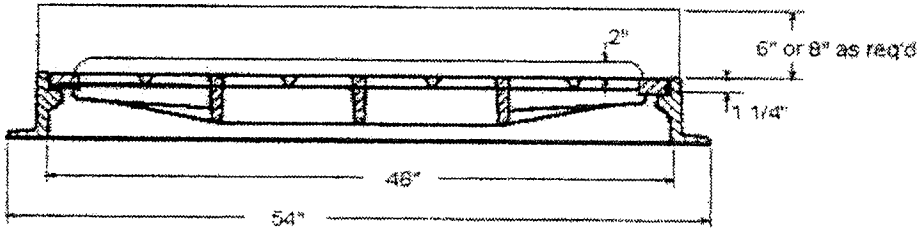
Riverside Township does not plan on installing any alternative devices and does not currently require any exemptions for alternative devices or historic places.

Inlet Details









DRAINS TO BAY
DRAINS TO RIVER
DRAINS TO LAKE
DRAINS TO OCEAN
DRAINS TO WATERWAYS

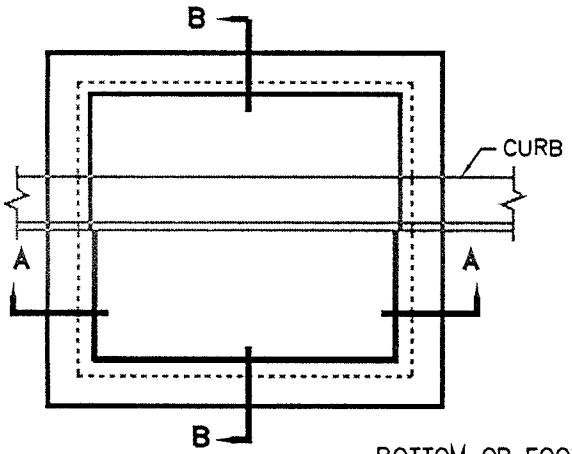
NAME PLATE OPTIONS

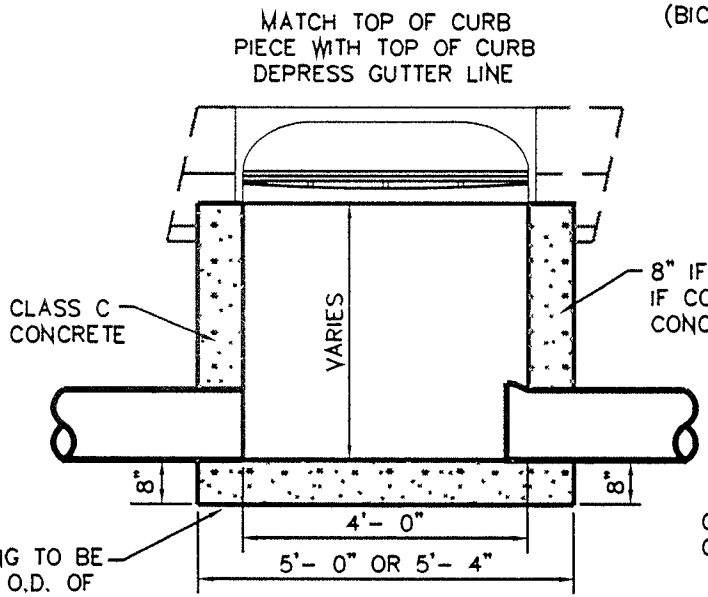
3D BROOK TROUT DESIGN

TYPE P2 – ECO CURB PIECE WITH BICYCLE SAFE GRATE

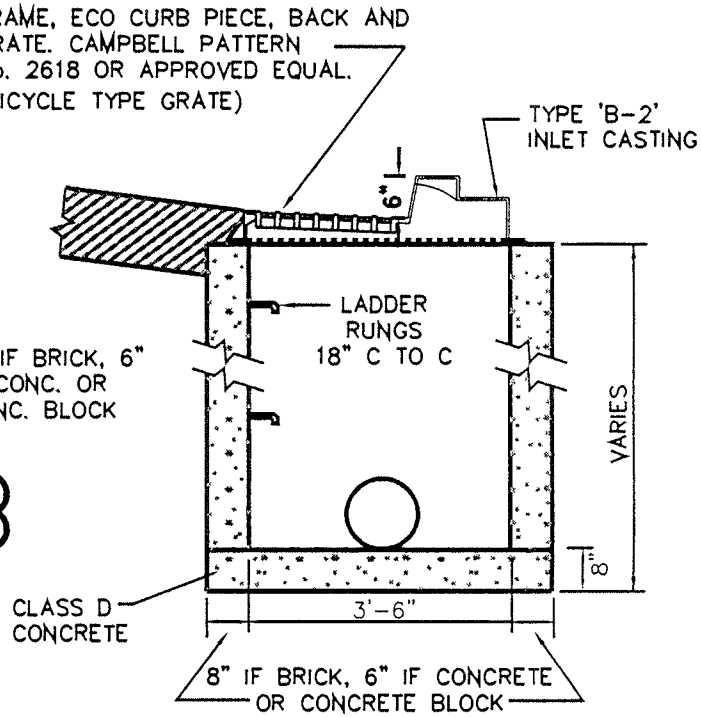
N.T.S.

NOTE:
THE CURB PIECE SHALL BE 6" UNLESS SPECIFIED OTHERWISE.





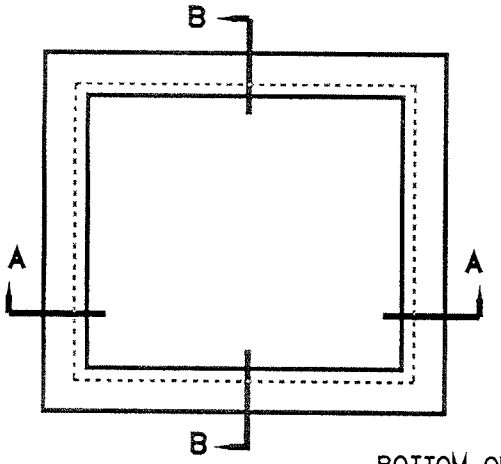
SECTION A-A



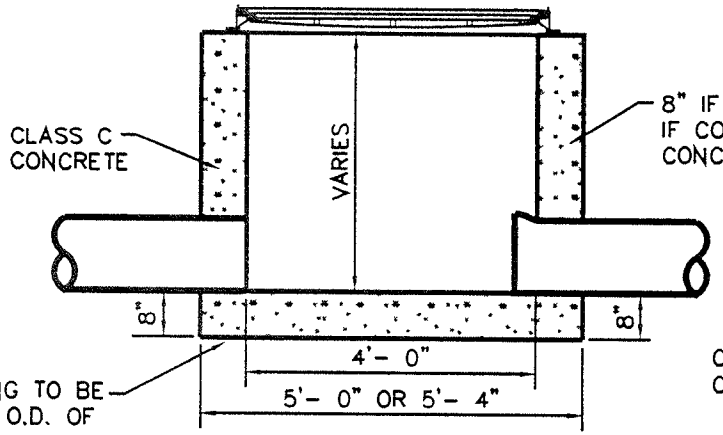
SECTION B-B

TYPE 'B' INLET DETAIL

N.T.S.

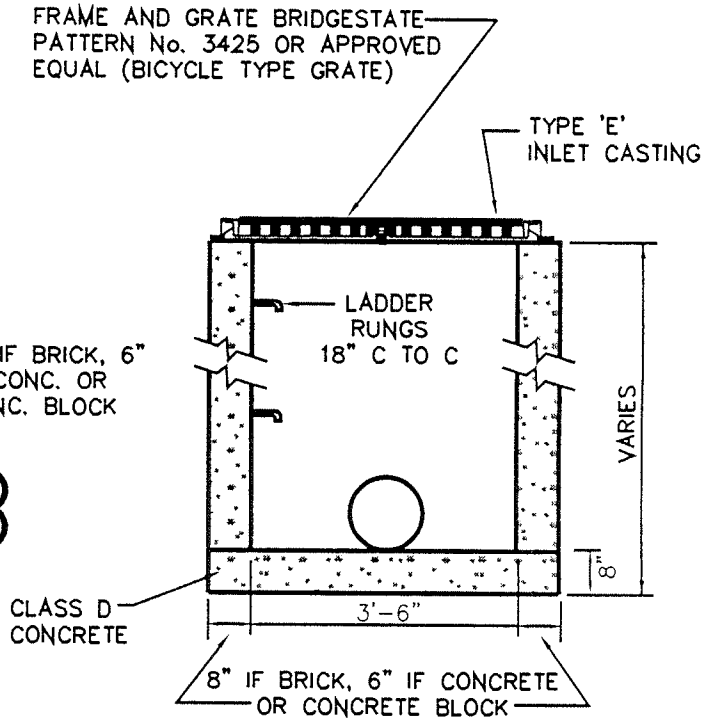


INSTALL POURED CONCRETE INVERT CHANNEL, EXCEPT AT TERMINAL INLETS, WHERE THE BOTTOM WILL BE DISHED AND SLOPED TOWARD THE OUTLET PIPE AT A RATE OF 2" PER FOOT.



BOTTOM OR FOOTING TO BE 8" BELOW BOTTOM O.D. OF LOWEST PIPE.

SECTION A-A



SECTION B-B

TYPE 'E' INLET DETAIL

N.T.S.

SPPP Form 12 – Street Sweeping and Road Erosion Control Maintenance

Municipality Information

Municipality: Riverside Township County: Burlington

NJPDES # : NJG0150011 PI ID #: 213691

Team Member/Title: Meghan Jack, Administrator

Effective Date of Permit Authorization (EDPA): *1/1/18*

Date of Completion: *4/1/05* Date of most recent update: *10/03/18*

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.)

Riverside Township will sweep all municipally-owned, curbed streets with storm drains that have a posted speed limit of 35 MPH or less, in predominantly commercial areas once per month.

Riverside Township will sweep all streets within the Township at least once per year.

Streets will be swept mid-October each year. (See attached log)

Road Erosion Control Maintenance

Describe your Road Erosion Control Maintenance Program, including inspection schedules. 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)

Riverside Township utilizes it Public Works Department to monitor all of their roads and streets for erosion problems on a regular basis. Any problems are reported to the Public Works Director.

Currently there are no embankments or ditches subject to Township jurisdiction. If such conditions arise, they will be monitored.

Repairs will be made in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey. A log will be kept of reported erosion problems and their corresponding repairs. The status of the Road Erosion Control Maintenance Program will be included in the Annual Report and Recertification.

Street Sweeping Log

SPPP Form 12a - Street Sweeping Log

Road Name	# of Miles	Date	Amount of Material Collected
Total Number of Miles			

SPPP Form 13 – Stormwater Facility Maintenance

Municipality Information

Municipality: Riverside Township County: Burlington

NJPDES # : NJG0150011 PI ID #: 213691

Team Member/Title: Andy Holt, Public Works Director

Effective Date of Permit Authorization (EDPA): *4/1/04*

Date of Completion: *4/1/05* Date of most recent update: *10/03/18*

Please describe your annual catch basin cleaning program and schedule. Attach a map/diagram or additional pages as necessary.

The Township will inspect all owned storm drain inlets and catch basins at least once every 5 years.

The Township implements an annual catch basin cleaning program to maintain catch basin function and efficiency. All catch basins are inspected once a year. The catch basin are cleaned if there is sediment, trash, or other debris observed. The amount of material removed from the inlets is recorded.

At the time of cleaning, the catch basins are also inspected for proper function. Maintenance is scheduled and performed for any basins in disrepair. Additionally, the Township responds to the complaints of catch basin "clogging" on a case-by-case basis and clean out debris where identified.

Please describe your stormwater facility maintenance program for cleaning and maintenance of all stormwater facilities operated by the municipality. 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.)

Riverside Township implements a stormwater facility maintenance program to ensure that all stormwater facilities operated by the Township continue to function properly. These facilities will be inspected annually. Preventive maintenance may be performed on those facilities that are in high risk areas to ensure they do not begin to fail (See attached Work Schedule log).

For stormwater facilities not owned and operated by the Township, the owber/operator will be required to report annually on their operations and maintenance plans, the status of their stormwater facilities, and provide their inspection.maintenance logs.

Catch Basin Log

INLET STRUCTURE INSPECTION FORM

Date:_____ Time:_____ AM _____PM

Current Weather Condition (circle one): (Sunny; Overcast)

Inlet Number: _____

Inlet Location (Street/GPS/Other):_____

Inlet Type (grate/curb type/eco-head/bicycle safe/other):_____

Conditions at Inlet:

1. **Debris blocking grate: _____YES _____NO**

2. **Casting damaged: _____YES _____NO**
   - **a. grate: _____YES _____NO**
   - **b. curbpiece: _____YES _____NO**
   - **c. medallion: _____YES _____NO**
   - **d. bolts missing:_____YES _____NO**

3. **Sink hole near inlet: _____YES _____NO**

4. **Debris inside inlet box: _____YES _____NO**

5. **Is inlet box damaged: _____YES _____NO**
   - **a. cracks: _____YES _____NO**
   - **b. open joints: _____YES _____NO**
   - **c. settlement: _____YES _____NO**

6. **Dry Weather Flow: _____YES* _____NO**

(* If YES, schedule follow up inspection using Illicit Connection Inspection Form.)

Observations/comments:

_____

_____

_____

Inspected by:_____

DIVISION

ROADS DEPT.

DATE

WEATHER/TEMPERATURE

SUPERVISOR

	(3)		(5)	(6)	(7)	(8)
TYPE OF WORK						
LOCATION OF WORK						

LABOR

NAME	KEY		HOURS TOTAL FOR DAY		DISTRIBUTION TO KINDS OF WORK OR JOB											
			RT	OT	HOURS RT	HOURS OT	HOURS RT	HOURS OT	HOURS RT	HOURS OT	HOURS RT	HOURS OT	HOURS RT	HOURS OT	HOURS RT	HOURS — OT	HOURS RT	HOURS OT
TOTALS																		

Township Facility Maintenance Log

Stormwater Basin Inspection Program – Inspection Checklist

Date Inspector Organization Current Weather Weather, past 72 hours

Basin Database ID Approximate basin Location (municipality and nearest street)

Basin Type: ☐ Detention ☐ Infiltration ☐ Infiltration/Detention combo ☐ Wet Pond ☐ Subsurface ☐ Other

DEP Item #	Inspection Criteria	✓	Comments	Reinspection Date	Reinspection Comments
Forebay	***Note embankment failure, leakage, excessive deposits etc***				
A1.1	Inlet scour or erosion	☐			
A1.2	Clogged pipes or excessive sediment	☐			
A1.3	Damaged outlet /overflow structure	☐			
MTD (pretreat) A2	***Inspect as able***	☐			
BMP (pretreat) A3	***Inspect as able***	☐			
Pond Area	***Note canditians for wet and dry ponds may differ***				
B1	Standing Water / algae / floatables / mosquitos present	☐			
B2	Excessive Sediment /deltas/emergent vegetation	☐			
B3	Erosion / Channelization/Rip Rap damaged	☐			
B4	Animal Burrows /wildlife/ waterfowl present	☐			
B5	Uneven Bed (dry basin)	☐			
B6	Sink holes or subsidence –dry or wet basin	☐			
B7	Low flow channel damaged or needs cleaning	☐			
B8	Basin liner or aerator damaged	☐			
Vegetatian	***Nate if vegetation is being maintained including desirable spp***				
C1	Excessive bare soil	☐			
C2	Overgrown /invasive / design vegetation present	☐			
C3	Tree growth in basin	☐			
Embankment D1	***Basin side slopes – erosian, slides, seeps, bare sail etc***	☐			
Outlet	***Nate outlet structure and discharge point(s)***				
E1	Outlet trash accumulation (20%+)	☐			
E2	Damaged Trash rack	☐			
E3	Outlet Orifi damaged or non-functioning/ retrofit?	☐			
E4	Outlet COP damaged or erosion below outlet	☐			
ES	Standing water in the outlet structure	☐			
Emergency Spillway	***Nate condition of spillway and spillway lining***				
F1	Trees on spillway	☐			
F2	Damaged/failed/ obstructed /eroded spillway	☐			
Misc.	***Note conditian of appurtenont structures etc.***				
G1	Broken security fence	☐			
G2	Broken/missing Gate	☐			
G3	Damaged/missing sign	☐			
G4	Access to basin blocked (vegetation growth, trash etc)	☐			

Overall Condition: ☐ **Satisfactory** ☐ **Maintenance Required** ☐ **Needs Repair** ☐ **Possible Retrofit Candidate** **Comments:**

Private Facility Maintenance Log

<<Owner Address>>

RE: NJDEP Tier A Municipal Stormwater Discharge Permit
Stormwater Facilities Management
Notification Letter

Dear Private Owner:

This letter is to notify you that beginning in 2019 the City must require that you perform an annual inspection of your stormwater facilities and deliver a copy of the results to _____.

BACKGROUND

On January 1, 2018 the New Jersey Department of Environmental Protection ("NJDEP") Tier A Municipal Stormwater Discharge General Permits ("Permit") became effective. One of the new elements of the Permit requires that municipalities implement a program to ensure adequate long-term cleaning, operation, and maintenance of stormwater facilities not owned and operated by the Tier A Municipality.

REPORTING ELEMENTS

You are responsible for the operation and maintenance of the stormwater facilities on your property. The City is currently requesting that you report to us annually on the status of your facilities. Stormwater facilities include but are not limited to:

- drainage inlets,
- detention basins,
- retention basins,
- infiltration basins,
- wet ponds,
- stormwater conveyances (pipes, swales, channels, ditches),
- sand filters,
- constructed wetlands,
- bioretention systems,
- manufactured treatment devices,
- pervious paving systems.

We have enclosed sample inspection reports for your convenience. Please review your site for these facilities and report to us on the condition of each applicable feature. To obtain additional information regarding the inspection, maintenance, and repair of stormwater facilities, please review the guidance documents which are available through NJDEP at https://www.nj.gov/dep/stormwater/maintenance_guidance.htm.

We request that your first annual inspection report be submitted no later than December 31, 2019. Please feel free to contact us with any questions.

515 Grove Street
Suite 1B
Haddon Heights, NJ 08035
T: 856-547-0505
F: 856-547-9174
www.pennoni.com

Stormwater BMP Inspection Form

Section 1. Preliminary Information

NAME:_____ DATE: _____

ADDRESS:_____ TAX PARCEL #:_____

WEATHER CONDITIONS:_____ LAST RAIN EVENT:_____

INSPECTOR:_____

_____

Section 2. System Conditions

Type of BMP(s): _____

General condition of grounds: Dry Damp Wet Spongy Soggy

Photographs taken: Y/N As-Built Plan available? Y/N

	YES	NO	COMMENTS
DEWATERING			
Standing water observed			
DOWNSPOUTS/ROOF DRAINS			
Roof drains/downspouts clean			
Downspouts in good condition			
Roof drains connected to facility as required			
INLETS/MANHOLES			
Clear of debris			
Good condition			
SEDIMENT TRAPS			
Obviously trapping sediment			
Over 50% of storage volume remaining			
VEGETATION			
Drainage area stabilized			
Evidence of erosion			
OUTLETS/OVERFLOW			
Good condition			
Evidence of erosion			

COMMENTS OF PROPERTY OWNER:

COMMENTS OF INSPECTOR:

INSPECTOR SIGNATURE:

SPPP Form 14 - Outfall Pipe Stream Scouring Remediation

Municipality Information

Municipality: Riverside Township County: Burlington

NJPDES # : NJG0150011 PI ID #: 213691

Team Member/Title: Andy Holt, Public Works Director

Effective Date of Permit Authorization (EDPA): *4/1/04*

Date of Completion: *4/1/05* Date of most recent update: *10/03/18*

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 outfall pipe stream and stream bank scouring, date of anticipated repair, method of repair and date of completion.)

While inspecting for illicit connections, we will also be checking our outfall pipes for signs of scouring. All Township-owned stormwater outfalls will be inspected for localized strem scouring at least once every 5 years. All sites will be placed on a prioritized list and repairs will be made in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey. Repairs that do not need NJDEP permits may be completed first.

All repairs will be checked during an annual inspection of the sites to ensure that scouring has not resumed. A log of all sites with outfall pipe scouring, as well as the dates and methods of corresponding repairs will be maintained.

Outfall Pipe Stream Scouring Log

TOWNSHIP OF RIVERSIDE
DRY WEATHER
OUTFALL INSPECTION FORM

Date:_____ Time:_____ AM _____PM

Current Weather Condition (circle one): (Sunny; Overcast)

Outfall Number: _____

Outfall Location: _____

Existing Conditions at outfall:

1. **Is vegetation blocking outfall: _____YES _____NO**
2. **Is the outfall damaged: _____YES _____NO**
3. **Is there trash at the outfall: _____YES _____NO**

Is there Dry Weather Flow: _____YES* _____NO

(* If YES, schedule follow up inspection using Illicit Connection Inspection Form.)

Comments:

_____

_____

_____

Inspected by:_____

SPPP Form 15 – De-icing Material Storage

Municipality Information

Municipality: *Riverside Township* County *Burlington*

NJPDES # : *NJG0150011* PI ID #: *213691*

Team Member/Title: *Andy Holt, Public Works Director*

Effective Date of Permit Authorization (EDPA): *4/1/04*

Date of Completion: *4/1/05* Date of most recent update: *10/12/07*

De-icing Material Storage

Describe how you currently store your municipality's de-icing materials, and describe your inspection schedule for the storage area. 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.

Riverside Township uses the salt storage facility in neighboring Delran Township and has no de-icing material storage areas within Riverside.

SPPP Form 16 - Standard Operating Procedures

Municipality Information

Municipality: *Riverside Township* County: *Burlington*

NJPDES #: *NJG0150011* PI ID#: *213691*

Team Member/ Title: *Andy Holt, Public Works Director*

Effective Date of Permit Authorization (EDPA): *4/1/2004*

Date of Completion: *4/1/05* Date of most recent update: *10/12/07*

BMP	Date SOP went into effect	Describe your inspection schedule
Fueling Operations (including the required practices listed in Attachment D of the permit)		*Fueling areas and storage tanks are inspected monthly, at a minimum.* *Also see attached SOP.*
Vehicle Maintenance (including the required practices listed in Attachment D of the permit)		*See attached SOP.*
Good Housekeeping Practices (including the required practices listed in Attachment D of the permit) **Attach inventory list required by Attachment D of the permit.**		*See attached SOP and Inventory List.*

Riverside Township
Standard Operating Procedures - Vehicle and Equipment Fueling
SPPP Form 16a

Riverside Township Fueling Operation Locations

- **300 Monroe Street**

Introduction and Purpose

Vehicle and equipment fueling procedures and practices are designed to minimize contamination of surface or ground waters. Fuel is stored above ground in a double wall enclosure. Understanding the procedures for delivering fuel into vehicles, mobile fuel tanks, and storage tanks is critical for this purpose. Safety is always the priority.

Scope

These procedures are to be implemented at all Township owned facilities with fueling operations.

Standards and Specifications (for vehicle and equipment fueling)

- Shut the engine off.
- Ensure that the fuel is the proper type of fuel.
- Absorbent spill clean-up materials and spill kits shall be available in fueling areas and shall be disposed of properly after use.
- Nozzles used in vehicle and equipment fueling shall be equipped with an automatic shut-off to prevent overfill.
- Fuel tanks shall not be "topped off".
- 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.

Standards and Specifications (for bulk fueling)

- Drip pans or absorbent pads shall be used under all hose and pipe connections and other leak-prone areas during bulk fueling.
- Block storm sewer inlets, or contain tank trucks used for bulk transfer, 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 transfer.

Spill Response

- Conduct cleanups of any fuel spills immediately after discovery.
- Uncontained spills are to be cleaned using dry cleaning methods only. Spills shall be cleaned up with a dry, absorbent material (e.g., kitty litter, sawdust, etc.) and absorbent materials shall be swept up.
- Collected waste is to be disposed of properly.
- Contact the Riverside Township Department of Public Works (Eric March, Road Foreman) at 856-461-1534 or 609-781-0909.

Maintenance and Inspection

- Fueling areas and storage tanks shall be inspected monthly.
- Keep an ample supply of spill cleanup material on the site.
- Any equipment, tanks, pumps, piping and fuel dispensing equipment found to be leaking or in disrepair must be repaired or replaced immediately.

Riverside Township
Standard Operating Procedures - Vehicle Maintenance
SPPP Form 16b

Introduction and Purpose

This SOP contains the basic practices of vehicle maintenance to be implemented at all maintenance yards including maintenance activities at ancillary operations in Riverside Township. The purpose of this SOP is to provide a set of guidelines for the Riverside Township vehicle maintenance yards including maintenance activities at ancillary operations.

Scope

This SOP applies to all maintenance yards including maintenance activities at ancillary operations within the Township of Riverside.

Standards and Specifications (for vehicle and equipment fueling)

- Conduct vehicle maintenance operation only in designated areas.
- When possible, perform all vehicle and equipment maintenance at an indoor location with a paved floor.
- Always use drip pans.
- Absorbent spill clean-up materials shall be available in maintenance areas and shall be disposed of properly after use.
- For projects that must be performed outdoors that last more than one day, portable tents or tarps must be placed over exposed equipment or machinery when not being worked on.
- Do not dump or dispose oils, grease, fluids, and lubricants onto the ground.
- Do not dump or dispose batteries, used oils, antifreeze and other toxic fluids into a storm drain or watercourse.
- Do not bury tires.
- Collect waste fluids in properly labeled containers and dispose properly.

Spill Response and Reporting

- Provide spill containment dikes or secondary containment around stored oils and other fluid storage drum(s).
- Conduct cleanups of any fuel spills immediately after discovery.
- Spills are to be cleaned using dry cleaning methods only. Spills shall be cleaned up with a dry, absorbent material (e.g., kitty litter, sawdust, etc.) and the rest of the area is to be swept.
- Collected waste is to be disposed of properly.
- Contact the Riverside Township Department of Public Works (Eric March, Road Foreman) at 856-461-1534 or 609-781-0909.

Maintenance and Inspection

- Periodically check for leaks and damaged equipment and make repairs as necessary.

Riverside Township
Standard Operating Procedures - Good Housekeeping
SPPP Form 16c

Introduction and Purpose

This SOP contains the basic practices of good housekeeping to be implemented at maintenance yards including maintenance activities at ancillary operations in Riverside Township. The purpose of this SOP is to provide a set of guidelines for the employees of Riverside Township for Good Housekeeping Practices at their maintenance yards including maintenance yards at ancillary operations.

Scope

This SOP applies to all maintenance yards including maintenance activities at ancillary operations in Riverside Township.

Standards and Specifications (General)

- All containers should be properly labeled and marked, and the labels must remain clean and visible.
- All containers must be kept in good condition and tightly closed when not in use.
- When practical, chemicals, fluids and supplies should be kept indoors.
- If containers are stored outside, they must be covered and placed on spill platforms.
- Keep storage areas clean and well organized.
- Spill kits and drip pans must be kept near any liquid transfer areas, protected from rainfall.
- Absorbent spill clean-up materials must be available in maintenance areas and shall be disposed of properly after use.
- Collect waste fluids in properly labeled containers and dispose of them properly.

Standards and Specifications (Salt and De-icing Material Handling)

- During loading and unloading of salt and de-icing materials, prevent and/or minimize spills. If salt or de-icing materials are spilled, remove the materials using dry cleaning methods. All collected materials shall be either reused or properly discarded.
- Sweeping should be conducted regularly to get rid of dirt and other debris. Sweeping should also be conducted immediately following, as practicable, loading/unloading activities.
- Minimize the tracking of materials from storage and loading/unloading areas.
- Minimize the distance that salt and de-icing materials are transported during loading/unloading activities.
- Any materials that are stored outside will be tarped when not actively being used.
- If interim seasonal tarping is being implemented, de-icing materials may be stored outdoors only between October 15th through April 30th. No outside storage shall occur between May 1st and October 14th.

Spill Response and Reporting

- Conduct clean up of any spill(s) immediately after discovery.
- Spills are to be cleaned using dry cleaning methods only.
- Contact the Riverside Township Department of Public Works (Eric March, Road Foreman) at 856-461-1534 or 609-781-0909.

Maintenance and Inspection

- Periodically check for leaks and damaged equipment and make repairs as necessary.
- Perform monthly inspections of all (indoor and outdoor if applicable) storage locations.

Riverside Township
Municipal Maintenance Yard Inventory List
SPPP Form 16d

Introduction and Purpose

The following is a list of general categories of all materials or machinery located at the municipal maintenance yard which could be a source of pollutants in a stormwater discharge. Materials or machinery that are not exposed to stormwater are not included on this list.

General Category	Item
Machinery	2004 Chevy Pickup Truck 1992 Dodge Pickup Truck 1991 Chevy Pickup Truck 1989 Ford Dump Truck (small) 1989 GMC Dump Truck (small) 2003 Chevy Dump Truck (large) 1994 GMC Dump Truck (large) 1999 Chevy Dump Truck (large) 1991 Elgin Street Sweeper 2001 Case Front End Loader 1974 Case Back Hoe 1982 Ford Lawn/Form Tractor 1991 Giant Leaf Loader 2000 American Leaf Loader 2001 American Leaf Loader 2000 Bandit Brush/Chipper 2002 Bobcat Riding Lawn Mower 2001 Trailer Landscape Trailer 2003 Bobcat Riding Lawn Mower 1973 Vermeer Stump Cutter 2003 Giant Leaf Loader
Materials	None

Attachment E

Attachment E – Best Management Practices for Municipal Maintenance Yards and Other Ancillary Operations

The Tier A Municipality shall implement the following practices at municipal maintenance yards and other ancillary operations owned or operated by the municipality. Inventory of Materials and Machinery, and Inspections and Good Housekeeping shall be conducted at all municipal maintenance yards and other ancillary operations. All other Best Management Practices shall be conducted whenever activities described below occur. Ancillary operations include but are not limited to impound yards, permanent and mobile fueling locations, and yard trimmings and wood waste management sites.

Inventory of Materials and Machinery

The SPPP shall include a list of all materials and machinery located at municipal maintenance yards and ancillary operations 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 municipal maintenance yard operations and ancillary operations. Materials or machinery that are not exposed to stormwater at the municipal maintenance yard or related to its operations do not need to be included.

Inspections and Good Housekeeping

1. Inspect the entire site, including the site periphery, monthly (under both dry and wet conditions, when possible). Identify conditions that would contribute to stormwater contamination, illicit discharges or negative impacts to the Tier A Municipality's MS4. Maintain an inspection log detailing conditions requiring attention and remedial actions taken for all activities occurring at Municipal Maintenance Yards and Other Ancillary Operations. This log must contain, at a minimum, a record of inspections of all operations listed in Part IV.B.5.c. of this permit including dates and times of the inspections, and the name of the person conducting the inspection and relevant findings. This log must be kept on-site with the SPPP and made available to the Department upon request. See the Tier A Municipal Guidance document (www.nj.gov/dep/dwq/tier_a_guidance.htm) for additional information.

2. Conduct cleanups of spills of liquids or dry materials immediately after discovery. All spills shall be cleaned using dry cleaning methods only. Clean up spills with a dry, absorbent material (i.e., kitty litter, sawdust, etc.) and sweep the rest of the area. Dispose of collected waste properly. Store clean-up materials, spill kits and drip pans near all liquid transfer areas, protected from rainfall.

3. Properly label all containers. Labels shall be legible, clean and visible. Keep containers in good condition, protected from damage and spillage, and tightly closed when not in use. When practical, store containers indoors. If indoor storage is not practical, containers may be stored outside if covered and placed on spill platforms or clean pallets. An area that is graded and/or bermed to prevent run-through of stormwater may be used in place of spill platforms or clean pallets. Outdoor storage locations shall be regularly maintained.

Fueling Operations

1. Establish, maintain and implement standard operating procedures to address vehicle fueling; receipt of bulk fuel deliveries; and inspection and maintenance of storage tanks, including the associated piping and fuel pumps.

    a. Place drip pans under all hose and pipe connections and other leak-prone areas during bulk transfer of fuels.

    b. Block storm sewer inlets, or contain tank trucks used for bulk transfer, with temporary berms or temporary absorbent booms during the transfer process. If temporary berms or booms are being used instead of blocking the storm sewer inlets, all hose connection points associated with the transfer of fuel shall be within the temporarily bermed or boomed area during the loading/unloading of bulk fuels. A trained employee shall be present to supervise the bulk transfer of fuel.

    c. Clearly post, in a prominent area of the facility, instructions for safe operation of fueling equipment. Include all of the following:
        - "Topping off of vehicles, mobile fuel tanks, and storage tanks is strictly prohibited"
        - "Stay in view of fueling nozzle during dispensing"
        - Contact information for the person(s) responsible for spill response.

    d. Immediately repair or replace any equipment, tanks, pumps, piping and fuel dispensing equipment found to be leaking or in disrepair.

Discharge of Stormwater from Secondary Containment

The discharge pipe/outfall from a secondary containment area (e.g. fuel storage, de-icing solution storage, brine solution) shall have a valve and the valve shall remain closed at all times except as described below. A municipality may discharge stormwater accumulated in a 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 municipality shall rely on previous tank inspections to determine with some degree of certainty that the tank has not leaked. If the municipality 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 shall be hauled for proper disposal.

Vehicle Maintenance

1. Operate and maintain equipment to prevent the exposure of pollutants to stormwater.

2. Whenever possible, conduct vehicle and equipment maintenance activities indoors. For projects that must be conducted outdoors, and that last more than one day, portable tents or covers shall be placed over the equipment being serviced when not being worked on, and drip pans shall be used at all times. Use designated areas away from storm drains or block storm drain inlets when vehicle and equipment maintenance is being conducted outdoors.

On-Site Equipment and Vehicle Washing and Wash Wastewater Containment

1. Manage any equipment and vehicle washing activities so that there are no unpermitted discharges of wash wastewater to storm sewer inlets or to waters of the State.

2. Tier A Municipalities which cannot discharge wash wastewater to a sanitary sewer or which cannot otherwise comply with 1, above, may temporarily contain wash wastewater prior to proper disposal under the following conditions:

   a. Containment structures shall not leak. Any underground tanks and associated piping shall be tested for integrity every 3 years using appropriate methods determined by "*The List of Leak Detection Evaluations for Storage Tank Systems"* created by the National Work Group on Leak Detection Evaluations (NWGLDE) or as determined appropriate and certified by a professional engineer for the site specific containment structure(s)**.**

   b. For any cathodically protected containment system, provide a passing cathodic protection survey every three years.

   c. Operate containment structures to prevent overfilling resulting from normal or abnormal operations, overfilling, malfunctions of equipment, and human error. Overfill prevention shall include manual sticking/gauging of the tank before each use unless system design prevents such measurement. Tank shall no longer accept wash wastewater when determined to be at 95% capacity. Record each measurement to the nearest ½ inch.

   d. Before each use, perform inspections of all visible portions of containment structures to ensure that they are structurally sound, and to detect deterioration of the wash pad, catch basin, sump, tank, piping, risers, walls, floors, joints, seams, pumps and pipe connections or other containment devices. The wash pad, catch basin, sump and associated drains should be kept free of debris before each use. Log dates of inspection; inspector's name, and conditions. This inspection is not required if system design prevents such inspection.

   e. Containment structures shall be emptied and taken out of service immediately upon detection of a leak. Complete all necessary repairs to ensure structural integrity prior to placing the containment structure back into service. Any spills or suspected release of hazardous substances shall be immediately reported to the NJDEP Hotline (1-877-927-6337) followed by a site investigation in accordance with N.J.A.C. 7:26C and N.J.A.C 7:26E if the discharge is confirmed.

   f. All equipment and vehicle wash wastewater placed into storage must be disposed of in a legally permitted manner (e.g. pumped out and delivered to a duly permitted and/or approved wastewater treatment facility).

   g. Maintain a log of equipment and vehicle wash wastewater containment structure clean-outs including date and method of removal, mode of transportation (including name of hauler if applicable) and the location of disposal. See Underground Vehicle Wash Water Storage Tank Use Log at end of this attachment.

   h. Containment structures shall be inspected annually by a NJ licensed professional engineer. The engineer shall certify the condition of all structures including: wash pad, catch basin,

sump, tank, piping, risers to detect deterioration in the, walls, floors, joints, seams, pumps and pipe connections or other containment devices using the attached Engineer's Certification of Annual Inspection of Equipment and Vehicle Wash Wastewater Containment Structure. This certification may be waived for self-contained systems on a case-by-case basis. Any such waiver would be issued in writing by the Department.

3. Maintain all logs, inspection records, and certifications on-site. Such records shall be made available to the Department upon request.

Salt and De-icing Material Storage and Handling

1. Store material in a permanent structure.
2. Perform regular inspections and maintenance of storage structure and surrounding area.
3. Minimize tracking of material from loading and unloading operations.
4. During loading and unloading:
    a. Conduct during dry weather, if possible;
    b. Prevent and/or minimize spillage; and
    c. Minimize loader travel distance between storage area and spreading vehicle.
5. Sweep (or clean using other dry cleaning methods):
    a. Storage areas on a regular basis;
    b. Material tracked away from storage areas;
    c. Immediately after loading and unloading is complete.
6. Reuse or properly discard materials collected during cleanup.
7. Temporary outdoor storage is permitted only under the following conditions:
    a. A permanent structure is under construction, repair or replacement;
    b. Stormwater run-on and de-icing material run-off is minimized;
    c. Materials in temporary storage are tarped when not in use;
    d. The requirements of 2 through 6, above are met; and
    e. Temporary outdoor storage shall not exceed 30 days unless otherwise approved in writing by the Department;
8. Sand must be stored in accordance with Aggregate Material and Construction Debris Storage below.

Aggregate Material and Construction Debris Storage

1. Store materials such as sand, gravel, stone, top soil, road millings, waste concrete, asphalt, brick, block and asphalt based roofing scrap and processed aggregate in such a manner as to minimize stormwater run-on and aggregate run-off via surface grading, dikes and/or berms (which may include sand bags, hay bales and curbing, among others) or three sided storage bays. Where possible the open side of storage bays shall be situated on the upslope. The area in front of storage bays and adjacent to storage areas shall be swept clean after loading/unloading.

2. Sand, top soil, road millings and processed aggregate may only be stored outside and uncovered if in compliance with item 1 above and a 50-foot setback is maintained from surface water bodies, storm sewer inlets, and/or ditches or other stormwater conveyance channels.

3. Road millings must be managed in conformance with the "Recycled Asphalt Pavement and Asphalt Millings (RAP) Reuse Guidance" (see www.nj.gov/dep/dshw/rrtp/asphaltguidance.pdf) or properly disposed of as solid waste pursuant to N.J.A.C. 7:26-1 et seq.

4. The stockpiling of materials and construction of storage bays on certain land (including but not limited to coastal areas, wetlands and floodplains) may be subject to regulation by the Division of Land Use Regulation (see www.nj.gov/dep/landuse/ for more information).

Street Sweepings, Catch Basin Clean Out, and Other Material Storage

1. For the purposes of this permit, this BMP is intended for road cleanup materials as well as other similar materials. Road cleanup materials may include but are not limited to street sweepings, storm sewer clean out materials, stormwater basin clean out materials and other similar materials that may be collected during road cleanup operations. These BMPs do not cover materials such as liquids, wastes which are removed from municipal sanitary sewer systems or material which constitutes hazardous waste in accordance with N.J.A.C. 7:26G-1.1 et seq.

2. Road cleanup materials must be ultimately disposed of in accordance with N.J.A.C. 7:26-1.1 et seq. See the "Guidance Document for the Management of Street Sweepings and Other Road Cleanup Materials" (www.nj.gov/dep/dshw/rrtp/sweeping.htm).

3. Road cleanup materials placed into storage must be, at a minimum:

    a. Stored in leak-proof containers or on an impervious surface that is contained (e.g. bermed) to control leachate and litter; and

    b. Removed for disposal (in accordance with 2, above) within six (6) months of placement into storage.

Yard Trimmings and Wood Waste Management Sites

1. These practices are applicable to any yard trimmings or wood waste management site:
   a. Owned and operated by the Tier A Municipality;
      i. For staging, storing, composting or otherwise managing yard trimmings, or
      ii. For staging, storing or otherwise managing wood waste, and
   b. Operated in compliance with the Recycling Rules found at N.J.A.C. 7:26A.
2. Yard trimmings or wood waste management sites must be operated in a manner that:
   a. Diverts stormwater away from yard trimmings and wood waste management operations; and
   b. Minimizes or eliminates the exposure of yard trimmings, wood waste and related materials to stormwater.
3. Yard trimmings and wood waste management site specific practices:
   a. Construct windrows, staging and storage piles:
      i. In such a manner that materials contained in the windrows, staging and storage piles (processed and unprocessed) do not enter waterways of the State;
      ii. On ground which is not susceptible to seasonal flooding;
      iii. In such a manner that prevents stormwater run-on and leachate run-off (e.g. use of covered areas, diversion swales, ditches or other designs to divert stormwater from contacting yard trimmings and wood waste).
   b. Maintain perimeter controls such as curbs, berms, hay bales, silt fences, jersey barriers or setbacks, to eliminate the discharge of stormwater runoff carrying leachate or litter from the site to storm sewer inlets or to surface waters of the State.
   c. Prevent on-site storm drain inlets from siltation using controls such as hay bales, silt fences, or filter fabric inlet protection.
   d. Dry weather run-off that reaches a municipal stormwater sewer system is an illicit discharge. Possible sources of dry weather run-off include wetting of piles by the site operator; uncontrolled pile leachate or uncontrolled leachate from other materials stored at the site.
   e. Remove trash from yard trimmings and wood waste upon receipt.
   f. Monitor site for trash on a routine basis.
   g. Store trash in leak-proof containers or on an impervious surface that is contained (e.g. bermed) to control leachate and litter;
   h. Dispose of collected trash at a permitted solid waste facility.
   i. Employ preventative tracking measures, such as gravel, quarry blend, or rumble strips at exits.

Roadside Vegetation Management

1. Tier A Municipalities shall restrict the application of herbicides along roadsides in order to prevent it from being washed by stormwater into the waters of the State and to prevent erosion caused by de-vegetation, as follows: Tier A Municipalities shall not apply herbicides on or adjacent to storm drain inlets, on steeply sloping ground, along curb lines, and along unobstructed shoulders. Tier A Municipalities shall only apply herbicides within a 2 foot radius around structures where overgrowth presents a safety hazard and where it is unsafe to mow.

ENGINEERS CERTIFICATION OF ANNUAL INSPECTION OF EQUIPMENT AND VEHICLE WASH WASTEWATER CONTAINMENT STRUCTURE

(Complete a separate form for each vehicle wash wastewater containment structure)

Permittee: _____ NJPDES Permit No: _____

Containment Structure Location: _____

The annual inspection of the above referenced vehicle wash wastewater containment structure was conducted on _____ (date). The containment structure and appurtenances have been inspected for:

1. The integrity of the structure including walls, floors, joints, seams, pumps and pipe connections
2. Leakage from the structure's piping, vacuum hose connections, etc.
2 Bursting potential of tank.
3. Transfer equipment
4. Venting
5. Overflow, spill control and maintenance.
6. Corrosion, splits, and perforations to tank, piping and vacuum hoses

The tank and appurtenances have been inspected for all of the above and have been determined to be:

Acceptable _____

Unacceptable _____

Conditionally Acceptable _____

List necessary repairs and other conditions: _____

_____

_____

_____

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment (N.J.A.C. 7:14A-2.4(d)).

Name (print): _____ Seal:

Signature: _____

Date: _____

Underground Vehicle Wash Water Storage Tank Use Log

Name and Address of Facility _____

Facility Permit Number _____

Tank ID Number _____ Tank Location _____

Tank Volume _____ gallons Tank Height _____ inches

95% Volume _____ gallons 95% Volume _____ inches

Date and Time	Inspector	Height of Product Before Introducing Liquid (inches)	Is Tank Less Than 95% Full? (Y/N)	Visual Inspection Pass? (Y/N)	Comments

Notes: The volume of liquid in the tank should be measured **before** each use.

Liquid **should not be introduced** if the tank contains liquid at 95% of the capacity or greater.

A visual inspection of all exposed portions of the collection system should be performed before each use. Use the comments column to document the inspection and any repairs.

Underground Vehicle Wash Water Storage Tank Pump Out Log

Name and Address of Facility _____

Facility Permit Number _____

Tank ID Number _____ Tank Location _____

Tank Volume _____ gallons

Date and Time of Pump Out	Volume of Liquid Removed	Waste Hauler *	Destination of the Liquid Disposal *

*** The Permittee must maintain copies of all hauling and disposal records and make them available for inspection**

Inventory List

Inspection Reports

SPPP Form 17 – Employee Training

Municipality Information

Municipality: *Riverside Township* County *Burlington*

NJPDES # : *NJG0150011* PI ID #: *213691*

Team Member/Title: *Meghan Jack, Administrator*

Effective Date of Permit Authorization (EDPA): *1/1/18*

Date of Completion: *4/1/05* Date of most recent update: *10/03/18*

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 City will train all employees within 3 months of them commencing duty and will maintain sign-in sheets.

Annual Training will include review of this SPPP, applicable recordkeeping, and detailed training as needed.

Bi-Annual Training topics will include Yard Waste collection, Monthly Street Sweeping, Illicit Connection identification, Outfall Pipe mapping, Outfall Scour detection and control, Maintenance Yard operations (and SOP review), Waste Disposal, Municipal Ordinance review, Stormwater Facilities Maintenance, Construction and Development requirements.

Municipal board and governing body members that review and approve projects for new and redevelopment projects will complete the online training tool provided by the NJDEP and will continue to review at least one tool found at <www.nj.gov/dep/stormwater/training.htm> once per term of service.

Public Works Training Log

TOWNSHIP OF RIVERSIDE
NJDEP STORMWATER REGULATIONS
EMPLOYEE TRAINING PROGRAM

SIGN-IN SHEET

NAME	**DATE**

Board and Governing Body Training Log

Municipal board and governing body members that review and approve projects for new and redevelopment projects will complete the online training tool provided by the NJDEP and will continue to review at least one tool found at www.nj.gov/dep/stormwater/trainging.htm once per term of service.

Stormwater Pollution Prevention Annual Report

Instructions for Saving and Submitting the

MS4 Tier A Permit Annual Report - Supplemental Questionnaire

1. Once opened, please save the Questionnaire to your computer, using the "Save As" function. This can be done by going to FILE > then Save As… or Shift + Ctrl + S.
2. Complete the Questionnaire.
3. Once you have completed the Questionnaire, use the "Save" function to save your answers to the Questionnaire to your computer. This can be done by going to FILE > then Save or Ctrl + S.
4. The completed and saved Questionnaire must then be uploaded as an attachment, in Part 7, to your Annual Report before the Annual Report is submitted to the Department.
5. To access the Annual Report, open the link to "NJDEP Online Portal" at http://www.nj.gov/dep/dwq/tier_a.htm. In Part 7, you will be asked to complete information regarding the file(s) to be uploaded. Navigate to your saved Questionnaire and then hit the "Upload" button in the lower right section of Part 7. The Annual Report will indicate if the Questionnaire was successfully uploaded. Then click on the "Continue" button and proceed with finalizing your Annual Report.

Your Annual Report will be considered incomplete if the Supplemental Questionnaire is not attached. If you experience any difficulty in this process, please contact your municipal case manager at 609-633-7021.

Please note that use of Adobe Reader XI is recommended. This free software is available for download at http://get.adobe.com/reader/ . If you have an earlier version of Adobe Reader, please go to the Adobe website at http://tv.adobe.com/watch/acrobat-x-tips-tricks/quick-tip-how-to-save-form-data-in-adobe-reader/ for detailed instructions on how to save your completed Questionnaire.

MS4 Tier A Permit Annual Report - Supplemental Questionnaire

General Information

A. Municipal Information

Municipality: Riverside Township	County: Burlington
1. Has the municipality identified the stormwater team in the SPPP? (•) Yes ( ) No	
2. Municipal Population: 8911	3. Municipal Area (acres/sqm.): 1.56

B. Sharing of Responsibilities – Permit Section D1

1. If the municipality shares services, what requirement do the shared services satisfy?

- [ ] Public Notice
- [ ] Post-Construction Stormwater Management in New Development and Redevelopment
- [ ] Local Public Education
- [ ] Improper Disposal of Waste
- [ ] Illicit Connection Elimination and MS4 Outfall Pipe Mapping
- [ ] Solids and Floatable Controls
- [x] Maintenance Yard Operations
- [x] Employee Training
- [ ] N/A, there are no shared services

Permit Implementation - Ordinances

A. Ordinances - Permit Sections F5 and F6

1. *Pet Waste Ordinance*
Entity responsible for enforcement: Township

2. *Litter Ordinance/State Litter Statute*
Entity responsible for enforcement: Township

3. *Improper Disposal of Waste Ordinance*
Entity responsible for enforcement: Township

4. *Wildlife Feeding Ordinance*
Entity responsible for enforcement: Township

5. *Containerized Yard Waste Ordinance/Collection Program*
Entity responsible for enforcement: Township

6. *Illicit Connection Ordinance*
Entity responsible for enforcement: Township

7. *Refuse Container/Dumpster Ordinance*
Entity responsible for enforcement: Township

8. *Private Storm Drain Inlet Retrofitting Ordinance:*
Entity responsible for enforcement: Township

9a. How many violations of these ordinances were enforced?
Code Enforcement
9b. Which of the above ordinances had the most violations?
Code Enforcement

B. Illicit Connection Elimination Program – Permit Section F6

1. During the past calendar year, has the municipality identified any pipes or discharges with unknown owners entering the MS4? ◯ Yes ◉ No
2. If yes, how many?

C. Storm Drain Inlet Retrofitting – Permit Section F7b

Existing storm drain inlets are required to be retrofitted to meet the design standard (contained in Attachment C of the permit) when such inlets are owned or operated by the Tier A Municipality and 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 Tier A Municipality. For exemptions to this standard, refer to "Exemptions" in Attachment C.

1. At the completion of the above projects, did all of the storm drain inlets meet this standard? ◉ Yes ◯ No

Permit Implementation - Inventory

A. MS4 Outfall Pipe Mapping – Permit Section F6

1. Which map format is used:
◉ Tax Map ◯ SIIA ◯ Electronic (e.g. AutoCAD, Micro Station, GIS) ◯ USGS Quadrangle ◯ Other

1a. If other, what is the format that the municipality uses?

2. Date of last revision: 2007

3. Is the map updated annually? ◯ Yes ◉ No

4. Has the municipality investigated its MS4 for previously unmapped outfalls? ◯ Yes ◯ No DPW

4a. How many outfalls were found? DPW

5. What percentage of mapped outfalls in the municipality have been visually inspected during the last calendar year?
DPW

6. Are the municipality's outfall pipes labelled in the field? ◯ Yes ◯ No DPW

6a. If yes, do the labels match the alphanumeric code in the municipality's map? ◯ Yes ◉ No

7. Does the municipality's map identify outfalls that do not discharge to surface waters? ◉ Yes ◯ No

8. Does the municipality's map identify surface water body names? ◉ Yes ◯ No

9. Does the municipality's map identify streets? ◉ Yes ◯ No

10. Does the municipality's map identify blocks and lots? ◯ Yes ◉ No

11. Does the municipality's map identify MS4 conveyance systems (pipes, swales, ditches)? ◯ Yes ◉ No

12. Does the municipality's map identify other stormwater facilities? ◯ Yes ◉ No

12a. Please identify other stormwater facilities noted on the map (select as many as apply):

- ☐ Bioretention Systems
- ☐ Dry Wells
- ☐ Grass Swales
- ☐ Manufactured Treatment Devices (MTDs)
- ☐ Rooftop Vegetated Cover
- ☐ Vegetative Filters
- ☐ Retrofitted Storm Drain Inlets
- ☐ Constructed Stormwater Wetlands
- ☐ Extended Detention Basins
- ☐ Infiltration Basins
- ☐ Pervious Paving Systems
- ☐ Sand Filters
- ☐ Wet Ponds

13. Does the municipality's map identify areas with scour, erosion, and/or flooding and drainage control issues?
◯ Yes ◉ No

B. Storm Drain Inlet Labeling – Permit Section F4b

1. How many labels have been replaced or repainted during the past calendar year to ensure legibility?
None-All were legible prior to winter.

Permit Implementation - Inventory

A. Stormwater Facility Inspection and Maintenance – Permit Section F7c

Stormwater facilities include, but are not limited to, catch basins, extended detention basins, low flow bypasses, underground detention, dry wells, manufactured treatment devices, pervious paving, riparian buffers, infiltration basins/ trenches, sand filters, constructed wetlands, wet ponds, bioretention, rooftop vegetated cover, vegetative filters, and stormwater conveyance systems. Stormwater facility inventories that indicate the type, function, and location of the facility must be kept onsite and available for inspection or upon request in a format provided by the Department. The format is available as SPPP Form 13 at: http://www.nj.gov/dep/dwq/pdf/Tier_A/A%20-%20pdf%206.pdf

1. Does the municipality's stormwater maintenance program include the following:
1a. An inventory of facilities? ◯ Yes ◯ No DPW
1b. An inspection schedule? ◯ Yes ◯ No DPW
1c. A maintenance schedule? ◯ Yes ◯ No DPW
1d. An inspection log noting when inspections were conducted? ◯ Yes ◯ No DPW
1e. A maintenance log noting any maintenance performed on individual facilities? ◯ Yes ◯ No DPW

2. Does the municipality inspect stormwater facilities that are not owned by the municipality? ◯ Yes ◯ No DPW
2a. Does the municipality review maintenance logs for stormwater facilities that are not owned by the municipality?
◯ Yes ◯ No DPW

3. During the past calendar year, how many stormwater facilities (excluding catch basins) were repaired?
DPW

4. During the past calendar year, how many stormwater facilities (excluding catch basins) were cleaned?
DPW

B. Stormwater Facility Inspection and Maintenance – Permit Section F7c

1. Does the municipality have a stormwater outfall pipe scouring detection, remediation, and maintenance program?
◉ Yes ◯ No
2. How many instances of scour has the municipality found during the past calendar year?
DPW

Permit Implementation - Inventory

A. De-icing Material and Sand Storage – Permit Section F8a

1. What type of de-icing material does the municipality use (select as many as appropriate)? DPW

☐ Sodium Chloride
☐ Calcium Chloride
☐ Potassium Acetate
☐ Brine Solution
☐ Unknown
☐ Other (if other, please specify):

B. Equipment and Vehicle Washing – Permit Section F8b

1. Does the municipality utilize an underground storage tank for managing vehicle wash wastewater? ◯ Yes ◉ No

2. Which of the following options does the municipality use to manage vehicle wash wastewater? (select all that apply)

- ☐ Vehicle wash reclaim system
- ☐ Capture and haul system
- ☐ Discharge to sanitary sewer
- ☐ Discharge to groundwater
- ☑ Washed off site
- ☐ Do not wash vehicles

Permit Implementation – Stormwater Management – Permit Section F3

Note: This portion of the annual report should be completed by a person knowledgeable in post-construction stormwater management project review and approvals.

1. Name of person completing this section: Meghan Jack
2. Title of person completing this section: Township Administrator

A. Municipal Stormwater Management Plan (Plan)

1. Most recent date of re-examination of municipal master plan: 2012
2. Does the plan identify and address water bodies of concern (listed on Impaired Water Bodies List, TMDL, high quality water, existing erosion)? ○ Yes ◉ No
3. Does the plan identify and address areas of inadequate drainage? ○ Yes ◉ No
4. Does the plan include programs or BMPs and associated timeframes specifically addressing these impairments or pollutants? ○ Yes ◉ No
5. Does the plan identify how to incorporate future development pressures on the existing stormwater management infrastructure? ○ Yes ◉ No
6. Are mitigation projects listed in the municipality's mitigation plan? ○ Yes ○ No ◉ No mitigation plan

B. Stormwater Control Ordinance

1. What is the ordinance's definition of major development?

   The Stormwater Management Ordinance applies to land development that will disturb more than one acre or increase impervious surfaces by more than 10,890 square feet.

2. Has the municipality adopted a new stormwater control ordinance during the past year? ○ Yes ◉ No
3. If yes, did the municipality send the adopted municipal stormwater control ordinance to the appropriate county review agency for approval? ○ Yes ◉ No

C. Review of Major Development for Stormwater Management

1. Did the municipality have any agricultural development projects that were granted exemptions under the Right to Farm Act? ○ Yes ◉ No
2. Do any municipal ordinances promote the use of nonstructural strategies? ○ Yes ○ No ◉ Unknown
3. Does the municipality hold pre-application meetings to discuss incorporation of nonstructural strategies for individual projects? ○ Yes ◉ No
4. Does the municipality allow infiltration BMPs to infiltrate during the 2, 10, or 100 year storm events for quantity control? ○ Yes ○ No Planning Board Engineer
5. Does the municipality conduct municipal inspections of sites both during and after the construction is completed to ensure that BMPs function as designed? ◉ Yes ○ No

D. Inventory and Maintenance

Stormwater facility inventories that indicate the type, function, and location of the facility must be kept onsite and available for inspection or upon request in a format provided by the Department. The format is available as SPPP Form 13 at: http://www.nj.gov/dep/dwq/pdf/Tier_A/A%20-%20pdf%206.pdf.

1. Did the municipality update its map and inventory to include newly approved projects constructed within the last calendar year? ◯ Yes ◉ No
2. How many infiltration BMPs were approved during the past calendar year? 0
3. How many subsurface infiltration basins have been constructed during the past calendar year? 0

3a. How many of these subsurface infiltration basins were inspected during construction in the past calendar year?
N/A

3b. Did the final inspection include the following? Mark all that apply:

- ☐ Permeability test
- ☐ Visual inspection
- ☐ Check for drain down time
- ☐ Unknown

4. Select the methods the municipality uses to ensure that stormwater facilities that are **not owned** by the municipality will be properly maintained:

- ☐ Maintained by municipality
- ☑ Inspections
- ☐ Homeowners associations
- ☐ Shared services
- ☐ Fees
- ☐ Surety bonds
- ☐ Other

4a. If other, what are the methods for ensuring stormwater facilities are maintained?

5. In the past calendar year, has the municipality reviewed and approved any major residential developments that place an individual property owner as the responsible entity for the maintenance of any stormwater management facility(ies) that receive drainage from multiple parcels? ◉ Yes ◯ No

E. Stormwater Management Training

1. Have any of the current members of the planning or zoning board taken any NJDEP provided training for board members on the Stormwater Management rules? ◯ Yes ◉ No ◯ Unknown
2. Have the municipality's inspector(s) for stormwater management taken any of the following classes:

2a. Stormwater Management and BMPs for Engineers through Rutgers University or NJDEP : ◉ Yes ◯ No ◯ Unknown

2b. Municipal Engineering Construction Inspection Program, Part 1 through Rutgers University: ◉ Yes ◯ No ◯ Unknown

2c. Municipal Engineering Construction Inspection Program, Part 2 through Rutgers University: ◉ Yes ◯ No ◯ Unknown

2d. Soils & Site Evaluation for Septic Disposal Systems & Stormwater BMPs through Rutgers University:
◯ Yes ◯ No ◯ Unknown

2e. Other stormwater training classes: Certified Floodplain Manager, NJDEP Flood Hazard Area Control Act Rules

3. How many construction inspectors for stormwater management does the municipality have? 1

4.	How many operation and maintenance inspectors for stormwater management does the municipality have? 1
5.	How many plan reviewers for stormwater management does the municipality have? 1
6.	How many municipal engineers/stormwater plan reviewers have taken the NJDEP Stormwater Management and BMP Manual course offered through Rutgers University or NJDEP? Planning Board Engineer

Education

A. Annual Employee Training – Permit Section F9

1. Is the municipality maintaining a record of the dates on which employees have received training? (•) Yes ( ) No
2. Type of training media on those dates: ☐ Video ☑ Mentoring ☐ Vendor Training

This Supplemental Questionnaire must be attached to your Annual Report to be considered complete. If you experience any difficulty in this process, please contact your municipal case manager at 609-633-7021.

1. Once you have completed the Questionnaire, use the "Save" function to save your answers to the Questionnaire to your computer. This can be done by going to FILE > then Save or Ctrl + S.
2. The completed and saved Questionnaire must then be uploaded as an attachment, in Part 7, to your Annual Report before the Annual Report is submitted to the Department.
3. To access the Annual Report, open the link to "NJDEP Online Portal" at http://www.nj.gov/dep/dwq/tier_a.htm. In Part 7, you will be asked to complete information regarding the file(s) to be uploaded. Navigate to your saved Questionnaire and then hit the "Upload" button in the lower right section of Part 7. The Annual Report will indicate if the Questionnaire was successfully uploaded. Then click on the "Continue" button and proceed with finalizing your Annual Report.

SPPP Form 18 – TMDL Information

Municipality Information

Municipality: *Riverside Township* County *Burlington*

NJPDES # : *0150011* PI ID #: *213691*

Team Member/Title: *Meghan Jack, Administrator*

Effective Date of Permit Authorization (EDPA): *01/01/2018*

Date of Completion: *October 2018* Date of most recent update: *10/03/18*

Identify waterbodies with segments that are wholly or partially within or bordering the municipality with approved and/or adopted TMDLs and their related pollutants. Describe any prioritization or strategies that have been developed to address the stormwater related pollutants.

According to the search tool provided by the NJDEP, (found at https://www.nj.gov/dep/dwq/msrp-tmdl-rh.htm) the following waterbodies are subjected to the corresponding TMDLs:

- *Rancocas Creek (below Rt 130); Swede Run – Polychlorinated Biphenyls (PCBs)*

The Township will use the TMDL information to prioritize any stormwater facility maintenance that is required based on the area in which the facilities are located along with other measures mentioned in Form 13.

The Township will address the PCB TMDL by collecting PMP reports form all applicable discharge points and ensure that the PMP reports are updated annually. (See attached)

Total Maximum Daily Load (TMDL) Information

TOTAL MAXIMUM DAILY LOADS FOR POLYCHLORINATED BIPHENYLS (PCBs) FOR ZONES 2 - 5 OF THE TIDAL DELAWARE RIVER

DELAWARE RIVER BASIN COMMISSION
WEST TRENTON, NEW JERSEY

December 2003

Acknowledgements

This report was prepared by the Delaware River Basin Commission staff: Carol R. Collier, Executive Director. Dr. Thomas J. Fikslin and Dr. Namsoo Suk were the principal authors of the report. Dr. Fikslin is the Head of the Commission's Modeling & Monitoring Branch. Dr. Suk is a Water Resources Engineer/Modeler in the Modeling & Monitoring Branch. Significant technical contributions were made by Gregory J. Cavallo, Dr. Daniel S. L. Liao, Dr. Ronald A. MacGillivray, and John R. Yagecic. Richard W. Greene is gratefully acknowledged for his efforts in summarizing fish tissue data for PCBs, and for providing Figures 2 and 3 of the report. Technical recommendations were provided by the Commission's Toxic Advisory Committee and its TMDL Policies and Procedures Subcommittee.

Special acknowledgment is made to the following organizations for their support in development of the report and the studies leading up to it:

Delaware Department of Natural Resources & Environmental Control
New Jersey Department of Environmental Protection
Pennsylvania Department of Environmental Protection
U.S. Environmental Protection Agency, Region II
U.S. Environmental Protection Agency, Region III
Rutgers University
Limno-Tech, Inc.

Suggested Citation

Fikslin, T.J. and N.S. Suk. 2003. Total Maximum Daily Loads for Polychlorinated Biphenyls (PCBs) for Zones 2 - 5 of the Tidal Delaware River. Delaware River Basin Commission. West Trenton, NJ. December 2003.

EXECUTIVE SUMMARY

Introduction

On behalf of the states of Delaware, New Jersey and Pennsylvania, and in cooperation with the Delaware River Basin Commission, the United States Environmental Protection Agency Regions II and III (EPA) establish these total maximum daily loads (TMDLs) for polychlorinated biphenyls (PCBs) in the Delaware River Estuary. EPA establishes these TMDLs in order to achieve and maintain the applicable water quality criteria for PCBs designed to protect human health from the carcinogenic effects of eating the contaminated fish now found in the Delaware Estuary. In accordance with Section 303(d) of the Clean Water Act (CWA) and its implementing regulations, these TMDLs provide allocations to point sources (WLAs) discharging PCBs as well as allocations to nonpoint sources (LAs) of PCBs, and an explicit margin of safety to account for uncertainties. This TMDL report and its appendices set forth the basis for these TMDLs and allocations and discusses follow up strategies that will be necessary to achieve these substantial reductions of PCBs. EPA will continue to work with the Commission and the States to develop enhanced Stage 2 PCB TMDLs based on information to be collected and analyzed over the next several years. While EPA acknowledges that implementation of these TMDLs will be difficult and may take decades to fully achieve, the establishment of these TMDLs sets forth a framework and specific goals to protect human health and restore the Delaware River from the effects of PCB pollution.

Background

The states of Delaware, New Jersey and Pennsylvania have identified the Delaware Estuary as impaired on their respective lists pursuant to Section 303(d) of the CWA. The States identified the impairments based on their findings of elevated levels of polychlorinated biphenyls (PCBs) in the tissue of fish caught in this portion of the Delaware River. The listing was based upon failure to attain one of the estuary's primary designated uses – fishable waters and the inherent protection of human health from consumption of unsafe fish. When water quality standards, including a numeric criterion and a designated use, are not attained despite the technology-based control of industrial and municipal wastewater (point sources), the Clean Water Act requires that the impaired water be identified on the state's Section 303(d) list of impaired waters and that a total maximum daily load (TMDL) be developed. A TMDL expresses the maximum amount of a pollutant that a water body can receive and still attain standards. Once the load is calculated, it is allocated to all sources in the watershed – point and nonpoint – which then must reduce loads to the allocated levels in order to achieve and maintain the applicable water quality standards.

For management purposes, the Delaware River Estuary has been designated by the Delaware River Basin Commission (also referred to in this report as the Commission) as that section of the main stem of the Delaware River and the tidal portions of the tributaries thereto, between the head of Delaware Bay (River Mile 48.2) and the head of the tide at Trenton, New Jersey (River Mile 133.4). The portion of the Delaware where the river meets the sea, the estuary is characterized by varying degrees of salinity and complex water movements affected by river flows, wind and ocean tides. A map of the estuary showing the water quality management zones 2 through 5 that comprise the tidal Delaware River appears on the following page.

In the late 1980s, the states of Delaware, New Jersey and Pennsylvania began issuing fish consumption advisories for portions of the Delaware Estuary due to elevated concentrations of PCBs measured in fish

tissue. Today, the states' advisories cover the entire estuary and bay. The advisories range from a no-consumption recommendation for all species taken between the C&D Canal and the Delaware-Pennsylvania border to consumption of no more than one meal per month of striped bass or white perch in Zones 2 through 4. Why the need for such advisories? PCBs are classified as a probable human carcinogen by the U.S. Environmental Protection Agency (EPA). They also have been shown to have an adverse impact on human reproductive and immune systems and may act as an endocrine disruptor.

PCBs are a class of synthetic compounds that were typically manufactured through the progressive chlorination of batches of biphenyl to achieve a target percentage of chlorine by weight. Individual PCB compounds called congeners can have up to 10 chlorine atoms attached to a basic biphenyl structure consisting of two connected rings of six carbon atoms each. There are 209 patterns in which chlorine atoms may be attached, resulting in 209 possible PCB compounds. These compounds can be grouped into "homologs" defined by the number of chlorine atoms attached to the carbon rings. Thus, for example, PCB compounds that contain five chlorine atoms comprise a homolog referred to as pentachlorobiphenyls or penta-PCBs.


Blue Marsh Reservoir
Reading
Manatawny Cr.
Pottstown
Green Lane
Perkiomen Creek
Lake Galena
Neshaminy Creek
Delaware River
Assunpink Cr.
RM 133.4
Trenton
Crosswicks Creek
Blacks Creek
Wissahickon Cr.
Schuylkill River
RM 108.4
Zone 2
Marsh Creek Reservoir
Pennsylvania
Philadelphia
Rancocas Creek
Pennsauken Cr.
West Br. Brandywine Cr.
Brandywine Creek
Geist
Crum Cr.
RM 95
Camden
Zone 4
RM 78.83
Zone 3
Cooper River
White Clay Cr.
Wilmington
Hoopes Res.
Mantua Cr.
Big Timber Cr.
New Jersey
Raccoon Cr.
Oldmans Cr.
Maryland
Christina River
Salem River
Zone 5
Salem
C & D Canal
Alloway Cr.
Stowe Cr.
Cohansey River
Maurice River
Union Lake
RM 48.23
Zone 6
Smyrna River
Delaware
Leipsic River
Dover
Dennis Cr.
St. Jones River
Delaware Bay
Murderkill River
Mispillion River
Cedar Cr.
Milford
RM 0
Broadkill River
Lewes
Atlantic Ocean
N
0 5 10
Miles

Due to their stable properties, PCBs were used in hundreds of industrial and commercial applications, including electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastics and rubber products; and in pigments, dyes and carbonless copy paper, among other applications. PCB laden oil is often associated with electrical transformers. More than 1.5 billion pounds of PCBs were manufactured in the United States before their manufacture and general use, with a few small exceptions, was banned by the EPA in the late 1970s. Existing uses in some electrical equipment continue to be allowed. PCBs are hydrophobic and thus tend to bind to organic particles in sediment and soils. Their chemical stability allows them to persist in the environment for years. PCBs accumulate in the tissue of fish and other wildlife, entering the organism through absorption or ingestion. As a result, they may be present in fish and marine mammals at levels many times higher than in the surrounding water and at levels unsuitable for human consumption.

The water quality standards that form the basis for the TMDLs are the current Delaware River Basin Commission water quality criteria for total PCBs for the protection of human health from carcinogenic effects. These criteria were identified as the TMDL targets by a letter dated April 16, 2003 from the Regional Administrators of EPA Regions II and III to the Executive Director of the Delaware River Basin Commission. The criteria are 44.4 picograms per liter in Zones 2 and 3, 44.8 picograms per liter in Zone 4 and the upper portion of Zone 5, and 7.9 picograms per liter in lower Zone 5. The more stringent criterion in the lower estuary reflects a higher fish consumption rate utilized by the Commission and the State of Delaware, based upon an evaluation of fish consumption there. A consequence of the inconsistency in criteria is that a critical location occurs at the point between upper and lower Zone 5 where the criteria drop sharply from 44.8 picograms per liter to 7.9 picograms per liter. Achieving the lower standard in a portion of Zone 5 will require much larger reductions in the upper zones than would otherwise be necessary. Significant reductions are required throughout the estuary in any case, as ambient concentrations of PCBs in the water body currently exceed the criteria by two to three orders of magnitude.

PCBs have been dispersed throughout the environment by human activity. They enter the atmosphere as a gas, spill into soils and waterways, and lodge in sediments. They continue to be generated as a byproduct by some industrial processes. Thus, the sources of PCBs to the Delaware Estuary are multiple. They include loadings from the air, the main stem Delaware River above Trenton, tributaries to the Delaware both above and below Trenton, industrial and municipal point source discharges, combined sewer overflows, and storm water runoff, including runoff from seriously contaminated sites. For purposes of these TMDLs, point sources include all municipal and industrial discharges subject to regulation by the NPDES permit program, including combined sewer overflows and stormwater discharges. All other discharges are considered nonpoint sources.

Interagency and Interstate Cooperation

In the latter half of the 1990s, the three estuary states included the portions of Zones 2 through 5 of the Delaware River within their borders on their lists of impaired waters under Section 303(d) of the Clean Water Act, due to elevated levels of PCBs in estuary fish. This action required the states and EPA to agree upon a schedule for establishing TMDLs for PCBs. In order to provide for a single TMDL adoption process for the shared water body, one date for completion of the TMDLs – December 15, 2003 – was established. This is the date set for completion of the PCB TMDLs by a 1997 Consent Decree and Settlement Agreement in an action entitled *American Littoral Society and Sierra Club v. the United States Environmental Protection Agency et al.*, which established dates for adoption of TMDLs in the Delaware

Estuary. Because a unified legal process for issuance of the TMDLs could not be accomplished easily through independent state actions, at the request of the states, EPA agreed to issue the TMDLs for PCBs in the estuary on the states' behalf.

In the spring of 2000, the states and EPA asked the Delaware River Basin Commission to take the lead in developing the technical basis for the estuary PCB TMDLs. In consultation with its Toxics Advisory Committee (TAC), comprised of representatives from the states, EPA Regions II and III, municipal and industrial dischargers, academia, agriculture, public health, environmental organizations and fish and wildlife interests, the Commission undertook to do so. In September of 2000, the Commission established a panel of scientists expert in the modeling of hydrophobic contaminants such as PCBs to advise it and the TAC on the development of the complex hydrodynamic and water quality model required to develop the TMDLs. The Commission also initiated an extensive program of scientific investigations and data collection efforts. In response to a recommendation of the expert panel, in May of 2002 the Commission engaged a consultant experienced in water quality modeling to work closely with Commission staff to develop the model.

In consultation with the TAC, the Commission staff and the Delaware Estuary Program developed a strategy to address contamination of the Delaware Estuary by PCBs (the PCB Strategy). The PCB Strategy includes the following nine components: (1) determination of the water quality targets for PCBs; (2) characterization of PCB concentrations in the estuary ecosystem; (3) identification and quantification of all point and nonpoint sources and pathways of PCBs; (4) determination of the transport and fate of PCB loads to the estuary; (5) calculation of the TMDLs, including the wasteload and load allocations required for a TMDL;(6) development of an implementation plan to reduce PCBs entering the estuary; (7) initiation of an effort to increase public awareness of toxicity issues in the estuary; (8) long-term monitoring of PCB concentrations in air, water and sediments of the estuary; and (9) long-term monitoring of PCB concentrations in living resources of the estuary and impacts upon living resources of the estuary. The PCB Strategy is one component of EPA's reasonable assurance that the allocations of these TMDLs will ultimately be achieved.

In a cooperative effort, EPA, the Commission, the states, municipal and industrial dischargers and other stakeholders, have now completed the PCB Strategy components necessary for issuance of the TMDLs. This TMDL report discusses the identification of water quality targets for the TMDLs and calculation of the TMDLs in more detail below (components 1 and 5). An extensive program of scientific investigations and data collection efforts to further characterize PCB sources, concentrations and pathways in the estuary ecosystem is ongoing (components 2, 3 and 8). To date, studies have been assembled or undertaken on fish tissue, ambient water quality, sediment, air deposition, air-water exchange, bioaccumulation pathways, tributary loading, point source discharges, and stormwater loadings. The transport and fate of PCBs in the estuary ecosystem (component 4) has been established through the development of a complex mathematical model, also discussed below. The Commission has established a TMDL Implementation Advisory Committee (IAC) to develop strategies over the next two years for reducing PCB loads to the estuary and achieving the TMDLs (component 6). An effort to educate the public about toxicity issues in the estuary (component 7) began with a series of public information sessions in February and March of 2001. In October of 2002, a coalition of municipal and industrial dischargers sponsored a science symposium, at which the various scientific investigators presented their findings to date. A meeting among regulators and stakeholders on the TMDLs and their regulatory implications was held in April, 2003 (see Appendix 1).

EPA with assistance from the Commission and the States held three informational meetings about the proposed TMDLs on September 22, 24 and 25, 2003, and conducted a public hearing on the proposed

TMDLs on October 16, 2003. During the public comment period EPA received numerous written comments in addition to the testimony provided at the public hearing. EPA considered those comments in finalizing these TMDLs and prepared a Response to Comments document that is part of the record of this decision. Ongoing education initiatives regarding these issues continue to be carried out through the Delaware Estuary Program and the Partnership for the Delaware Estuary.

Development of the TMDLs

The three-year schedule for development of the estuary TMDLs by December 15, 2003 resulted in a decision to develop the TMDLs using a staged approach. The Stage 1 and Stage 2 TMDLs will each comply fully with EPA requirements and guidance. The staged approach will provide for adaptive implementation through execution of load reduction strategies while additional monitoring and modeling efforts proceed. As discussed below, these Stage 1 TMDLs are based on the best water quality-related monitoring data, modeling and scientific analysis available at this time. EPA expects that additional monitoring data and modeling results will be collected and developed following issuance of the Stage 1 TMDLs. This additional information will enable a more refined analysis to form the basis of the Stage 2 TMDLs. EPA will continue to work with the Commission and the States to develop and complete the Stage 2 TMDLs. Until the Stage 1 TMDLs are amended or replaced, the Stage 1 TMDLs are the final and effective TMDLs for purposes of the CWA.

EPA's regulations implementing Section 303(d) of the Clean Water Act provide that a TMDL must be expressed as the sum of the individual wasteload allocations (WLA) for point sources plus the load allocation (LA) for nonpoint sources plus a margin of safety (MOS). This definition may be expressed as the equation: TMDL = WLA + LA + MOS. A separate TMDL has been developed for each water quality management zone of the estuary. Each of the TMDLs must provide for achievement of the applicable water quality standards within the zone and also must ensure that water quality in downstream zones is adequately protected.

In June of 2002, the expert panel recommended that for the TMDLs to be completed by December 15, 2003, the Commission should develop and calibrate a water quality model for only one of the PCB homologs and use it to develop a set of TMDLs from which TMDLs for total PCBs could be extrapolated. This process became known as Stage 1 of an iterative approach to establishing the TMDLs for PCBs in the estuary. Since pentachlorobiphenyls were the dominant homolog in fish tissue monitored in the estuary, and since ambient data indicated that throughout the estuary this homolog represents approximately 25 percent of the total PCBs present, the pentachlorobiphenyls (penta-PCBs) were selected. Based on these recommendations and a review of the available data, EPA adopted this approach. Thus, based on the best scientific estimates and analysis as discussed further below, the Stage 1 TMDLs, WLAs and LAs for total PCBs were extrapolated, using a factor of 4 to 1, from TMDLs and allocations developed for penta-PCBs. EPA, the Commission and the States expect that the Stage 2 TMDLs, WLAs and LAs will be based on the summation of the PCB homolog groups, without the use of extrapolation. The partners intend that the Stage 2 TMDLs will be developed using all additional data collected and modeling performed after the establishment of these TMDLs. It is anticipated that the Stage 2 WLAs will be based upon an enhanced allocation methodology. When they are developed and established, the partners expect that the Stage 2 TMDLs will replace the Stage 1 TMDLs.

The TMDLs were calculated using both a conservative chemical model and a penta-PCB water quality model run until equilibrium was observed. This procedure was used because hydrophobic contaminants

like PCBs sorb to particulates and interact significantly with the sediments of the estuary. Sediments respond more slowly than the water column to changes in PCB concentrations in either medium, and allowing the water column and sediments to come into equilibrium is necessary to ensure that water quality criteria are met. A modified version of the TOXI5 water quality model was used (DRBC 2003a and 2003b). Both models utilized outputs from a DYNHYD5 hydrodynamic model that was extended from the head of the Delaware Bay to the mouth of the bay (DRBC 2003a). The models cycled inputs from the period February 1, 2002 until January 31, 2003. This one-year period was considered to be representative of long-term hydrological conditions for two important reasons. First, during this period flows of the two main tributaries to the estuary – the main stem Delaware River and the Schuylkill River – reasonably represent the flows during the approximately 90- and 70-year periods of record, respectively, for the two tributaries (see Figures 5 and 6). Precipitation data during the one-year period also is in good agreement with the long-term precipitation record with respect to the number and percentage of days with and without precipitation. Upon the recommendation of the expert panel, in order to maintain hydrological and meteorological relationships between the various inputs to the model, effluent flows were based upon data for the same one-year period, rather than on design flows. The same approach was used for inputs such as air temperature, water temperature and wind speed.

Penta-PCB TMDLs were calculated in a four step procedure. The procedure initially utilized the conservative chemical model to establish contribution factors for two of the major tributaries to the estuary – the Delaware River at Trenton and the Schuylkill River – and each of the four estuary zones. The contribution factor reflects the influence of the loading attributable to each tributary or zone on the PCB concentration at the critical location in Zone 5 where the water quality criterion for PCBs drops from 44.4 picograms per liter to 7.9 picograms per liter. If the criterion at this location is met, then the water quality criteria are met throughout the estuary. Once the contribution factors were established, the TMDLs were calculated over a one-year period to determine an annual median loading. The annual median was used in order to be consistent with the model simulations and the 70-year exposure for human health criteria. A description of the four steps follows:

1. Calculate the contribution factor (CF) for each of the estuary zones and two of the tributary model boundaries to that critical location in Zone 5 where the criterion of 7.9 picograms per liter (approximately 2.0 picograms per liter of penta-PCBs) is controlling.

2. Calculate the allowable loadings from each of these sources that will still ensure that the water quality target is met at the critical location utilizing the CF and the proportion of the assimilative capacity at the critical location allocated to each source. Iteratively determine the amount of assimilative capacity (in picograms per liter) provided by the sediments, and add this concentration to the penta-PCB water quality target. Recalculate the allowable loadings from each of the six sources using this revised water quality target.

3. Utilize the water quality model for penta-PCBs with these allowable loadings to confirm that the sediment concentrations have reached pseudo-steady state, and confirm that the penta-PCB water quality target is met in Zones 2 through 5.

4. Estimate the gas phase concentrations that would be in equilibrium with the penta-PCB water concentrations when the water quality targets are met, include these in the water quality model, and then iteratively adjust the gas phase concentration of penta-PCBs in the air until the water quality target is reached.

For purposes of calculating the TMDLs, EPA notes that the model assumes that PCB loads from the ocean, the C&D Canal, the major tributaries and the air are at levels that ensure that the water quality standards are achieved, rather than at the actual levels, which in every case are higher. Thus, in developing the TMDLs, both the ocean boundary and the C&D Canal boundary were set to an equivalent penta-PCB criterion of 2.0 picograms per liter, corresponding to a total PCB water quality criterion of 7.9 picograms per liter, the criterion in lower Zone 5 where each of these water bodies meets the estuary. Other programs and factors beyond the scope of these TMDLs will be necessary to reduce PCB loads from these sources. The actual concentration at the mouth of the Bay exceeds the water quality criterion by one to two orders of magnitude, while the current concentration at the C&D Canal boundary exceeds this value by almost three orders of magnitude. Similarly, the Schuylkill and Delaware River boundary conditions were set to 9.68 picograms per liter and 10.72 picograms per liter respectively, although the actual concentrations in the two water bodies at the point where they enter the estuary are 1800 and 1600 picograms per liter respectively. The air concentration of PCBs also is considered by the model. When water quality standards are achieved, however, there will be no significant net exchange between dissolved PCBs in water and gas phase PCBs in the air. Because gas phase PCBs do not provide a load to the estuary when the water quality standards are met, they are not allocated any portion of the TMDLs. Actual air concentrations in the estuary region, however, currently exceed the levels required for equilibrium by two orders of magnitude.

The TMDLs for penta-PCBs calculated with the four-step procedure were 64.34 milligrams per day for Zone 2, 4.46 milligrams per day for Zone 3, 14.18 milligrams per day for Zone 4, and 12.02 milligrams per day for Zone 5. The higher TMDLs in Zones 2 and 4 are the result of the assimilative capacity provided by the flows from the main stem Delaware River in Zone 2 and the Schuylkill River in Zone 4.

Each of the zone TMDLs was then apportioned into three components: the WLA, LA and MOS. EPA has based these allocations upon recommendations of the Commission's TAC. The committee recommended that an explicit MOS of 5% be allocated in each estuary zone, and further recommended that for the Stage 1 TMDLs, the proportion of the TMDLs allocated to WLAs and LAs should be based upon the current proportion of loadings from the various PCB source categories to each of the zones during the one-year cycling period of February 1, 2002 to January 31, 2003.

Stage 1 TMDLs were then calculated using the ratio of penta-PCBs to total PCBs observed in ambient water samples collected during five surveys that encompass the range of hydrological conditions typically observed in the estuary. Median penta- to total PCB ratios of 0.23, 0.25, 0.25 and 0.23 were observed in Zones 2 to 5, respectively. For these TMDLs, a fixed value of 0.25 was used for all zones to scale up the zone-specific TMDLs, WLAs, LAs and MOSs. The following table summarizes the TMDLs for each estuary zone for total PCBs as well as the allocations to WLAs, LAs and the MOSs.

Stage 1 TMDLs for Total PCBs

Estuary Zone	TMDL	WLA	LA	MOS
	mg/day	mg/day	mg/day	mg/day
Zone 2	257.36	11.03	233.46	12.87
Zone 3	17.82	5.67	11.26	0.89
Zone 4	56.71	6.54	47.34	2.84
Zone 5	48.06	15.62	30.04	2.40
Sum	379.96	38.86	322.10	19.00

In the proposed PCB TMDLs, the LAs contained the loadings from municipal separate storm sewer systems (MS4s), which are regulated as NPDES point sources. Loadings from MS4s are now identified and included as part of the WLAs with the LAs adjusted accordingly.

The portion of the TMDLs allocated to non-point sources is higher than the portion of the TMDLs allocated to point sources in all four estuary zones when the current loading proportions are used as the basis for allocating the zone TMDLs. This result is not unexpected. Nonpoint sources include, among other sources, contaminated sites, non-point source runoff, and the two main tributaries, which contribute greater loadings to the zones than the NPDES discharges (including stormwater discharges and combined sewer overflows) that comprise the point source contributions. The proportions vary between zones, with Zones 3 and 5 having the highest allocations to point sources (approximately 30%).

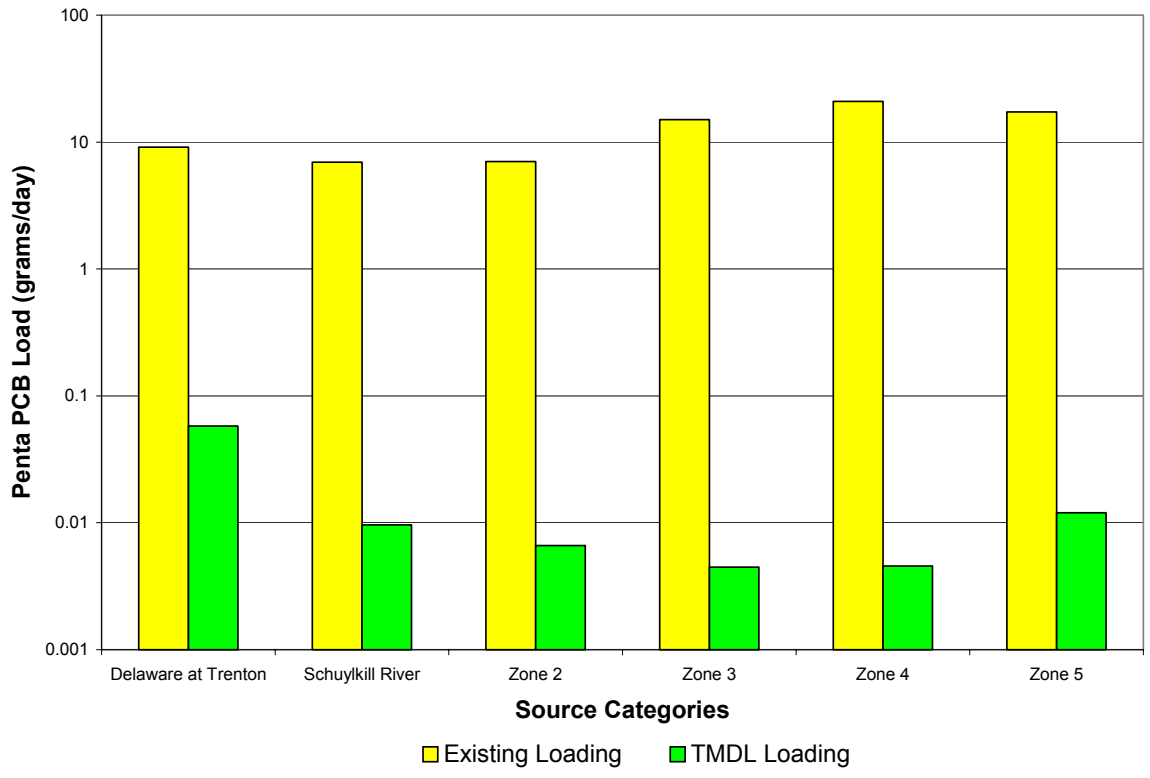
Implementing Load Reductions to Achieve the TMDLs

The following figure compares the current penta-PCB loadings for water quality management Zones 2 through 5 and the Delaware and Schuylkill Rivers to the Stage 1 TMDL penta-PCB loadings:

The chart illustrates that existing loadings are roughly two to three orders of magnitude higher than the TMDLs. Achieving the water quality standards for PCBs in the Delaware Estuary will require significant reductions from current loadings from both point and nonpoint sources. In

addition to reducing PCB loads from sources discharging directly to the estuary, reductions from sources in the non-tidal portion of the river, local and regional air emissions, and sources contributing to elevated PCB concentrations in the Atlantic Ocean will be necessary to achieve and maintain the applicable PCB standards and adequately protect human health.

These TMDLs focus on the instream conditions which need to be met to protect human health and establish individual wasteload allocations (WLAs) for 142 point sources that are deemed to be potential sources of penta-PCBs (see Appendix 2). In order to begin to implement these TMDLs, the NPDES permitting authorities believe that it is appropriate for these discharges to receive non-numeric water quality-based effluent limits (WQBELs) consistent with their



respective individual WLAs when their NPDES permits are reissued or otherwise modified.[1] The Delaware River Basin Commission may also separately require actions to implement these TMDLs. On December 3, 2003, the DRBC passed Resolution 2003-27 authorizing and directing the Executive Director to require dischargers and other responsible parties to conduct monitoring and/or other data collection and analyses to further characterize point and non-point loadings of toxic contaminants, including PCBs, to the Delaware Estuary for purposes of developing and implementing TMDLs or actions under the DRBC Water Quality Regulations. Requirements in NPDES permits or through DRBC regulations may include: (1) the use of Method 1668A, a highly sensitive analytical method capable of detecting very small amounts of PCBs, for any monitoring of influent and effluent to better quantify individual PCB congeners; (2) the development of a PCB minimization plan; and (3) implementation of appropriate PCB minimization measures identified through PCB minimization planning. The respective NPDES permitting authorities will determine the discharge-specific effluent controls consistent with the WLAs, and may consider the following factors: the relative loading of penta-PCBs, the type of discharge, the type of analytical method used to measure the 19 penta-PCB congeners, the number of the penta-PCB congeners that were detected, and the proportion of the zone WLA that is represented by the discharge loading. When Stage 2 TMDLs are issued, it is expected that all NPDES permits issued, reissued or modified will include numeric or non-numeric requirements consistent with the Stage 2 WLAs for each zone. The implementation strategy for the development of NPDES permit effluent limits consistent with the WLAs is discussed at greater length in Appendix 3 of this report.

Reducing point source discharges alone will not be sufficient to achieve the estuary water quality standards. Runoff from contaminated sites is a significant source of PCBs. For these TMDLs, EPA and the states evaluated forty-nine contaminated sites within the estuary watershed (see Appendix 4). The combined loads from these sites are estimated to comprise 57.09% of the loading to Zone 3; 38.04% of the loading to Zone 4 and 46% of the loading to Zone 5 (see Table 7). Contaminated sites make up a much smaller proportion of the loading in Zone 2 – only 0.42% – because of the lack of contaminated sites and the significant influence in this zone of the main stem Delaware River. In order to achieve the reductions required by the TMDLs, EPA and the States would need to undertake a concerted effort using the authorities under CERCLA, RCRA and the related state statutes.

Significant reductions will be required in point and nonpoint sources to the major tributaries. Currently, concentrations of PCBs in the Schuylkill and Delaware Rivers where they discharge to the estuary are approximately 1800 and 1600 picograms per liter, respectively. Even if all the TMDLs are achieved, the water quality criteria in the estuary will not be attained until the

[1]The States have indicated that a typical permit will include, among other requirements, the requirement to monitor the discharge using Method 1668A and to implement a PCB pollutant minimization program. The regulation at 40 CFR 122.44(k) allows the use of non-numeric, BMP-based WQBELs where a BMP is determined to be an appropriate means to control pollutants under specified circumstances. Where a permit uses such BMP WQBELs, compliance may be achieved by implementing such requirements.

concentration in the Schuylkill is reduced to 9.68 picograms per liter and the concentration in the main stem Delaware River falls to 10.72 picograms per liter.

Although the ocean boundary has a less significant influence on Zone 5 than does the main stem Delaware River, sources contributing to elevated PCB concentrations in the Atlantic Ocean also must be reduced. The concentration of PCBs in ocean water at the estuary boundary currently exceeds the water quality criterion for Delaware Bay by one to two orders of magnitude.

Finally, air concentrations of PCBs in the region currently are two orders of magnitude above the concentration required to achieve equilibrium and halt contributions of PCBs from the air to the water. Air monitoring data collected at several sites in New Jersey, Delaware and Pennsylvania suggest that PCB air concentrations primarily result from local sources. Thus, source reductions must focus on PCBs in the local and regional airshed.

These reductions cannot be achieved overnight. The Commission has created a TMDL Implementation Advisory Committee (IAC), with members from each of the estuary states, the major municipal dischargers and two of the smaller ones, industrial dischargers, and fishery, wildlife and environmental organizations. EPA Regions II and III also will participate, in an advisory role. The IAC will meet over a two-year period to develop creative and cost-effective strategies for achieving load reductions in the short term and attaining water quality standards in the longer term. Notably, some large dischargers already have undertaken studies to track down PCBs on a voluntary basis. However, due to the scope and complexity of the problem that has been defined through development of these TMDLs, achieving the estuary water quality standards for PCBs will take decades.

Additional Information

A notice about the proposed TMDLs for PCBs in the Delaware Estuary was published in the *Federal Register* and in each of the estuary states' registers on September 2, 2003. Additional notices were published in regional newspapers. The notices contained details about the comment period which closed on October 21, 2003, informational meetings and the public hearing for these TMDLs. Details about these events were also provided on the Commission's web site, at http://www.drbc.net. EPA received oral testimony from 8 groups or individuals and written comments from 30 groups or individuals from various sectors. After consideration of all data and information contained in the public comments, a document providing responses to these public comments has been prepared and appropriate revisions made to these final TMDLs.

TABLE OF CONTENTS

1. INTRODUCTION
- 1.1 Regulatory Background 1
- 1.2 Study Area 1
- 1.3 Polychlorinated biphenyls (PCBs) 3
- 1.4 Applicable Water Quality Standards and Numerical Target for TMDLs 3
- 1.5 Listing under Section 303(d) 4
- 1.6 Pollutant sources, loadings and ambient data 7
- 1.7 Other Required Elements for Establishing TMDLs 9
  - 1.7.1 Seasonal variation 9
  - 1.7.2 Monitoring Plan 10
  - 1.7.3 Implementation Plan 10
  - 1.7.4 Reasonable Assurance that the TMDLs will be Achieved 11

2. TWO STAGE APPROACH TO ESTABLISHING AND ALLOCATING TMDLs FOR PCBs
- 2.1 Background 12
- 2.2 Staged Approach 12

3. STAGE 1 APPROACH TO ESTABLISHING TMDLs
- 3.1 Background 13
- 3.2 Conceptual Approach 14
  - 3.2.1 Guiding Principles 14
  - 3.2.2 Modeling Approach 16
  - 3.2.3 TMDL Approach 17
  - 3.2.4 Model Descriptions and Inputs 19
- 3.3 Procedure for Establishing TMDLs 23
  - 3.3.1 Summary 23
  - 3.3.2 Step 1 25
  - 3.3.3 Step 2 26
  - 3.3.4 Step 3 31
  - 3.3.5 Step 4 35

4. TMDLs, WLAs and LAs for Total PCBs
- 4.1 TMDLs, WLAs and LAs for Penta- PCBs 39
- 4.2 TMDLs, WLAs and LAs for Total PCBs 45
  - 4.2.1 Extrapolation from Penta to Total PCBs 45
  - 4.2.2 TMDLs, WLAs and LAs for Total PCBs 45
  - 4.2.3 Uncertainty Analysis for TMDLs, WLAs and LAs for Total PCBs 46

5. REFERENCES

Appendix 1 - Reducing PCB Loadings to the Delaware Estuary: A Staged Approach to Establishing TMDLs

Appendix 2 - Individual Wasteload Allocations for NPDES Discharges: Stage 1 TMDLs for Total PCBs for Zones 2 to 5 of the Delaware Estuary

Appendix 3 - Permit Implications for NPDES Dischargers resulting from Stage 1 TMDLs

Appendix 4 - Contaminated Sites and Municipalities with Combined Sewer Overflows (CSOs) that were evaluated as part of the Stage 1 TMDLs

Appendix 5 - Municipalities with Separate Stormwater Sewer Systems (MS4s) that could impact Zones 2 to 5 of the Delaware Estuary

Appendix 6 - Wasteload Allocation Estimates for Municipal Separate Storm Sewer Systems (MS4s)

1. INTRODUCTION

1.1 Regulatory Background

Total Maximum Daily Loads or TMDLs are one of the approaches defined in the Clean Water Act (CWA) for addressing water pollution. The first approach of the CWA that was implemented by the U.S. EPA was the technology-based approach to controlling pollutants (Section 301). This approach was implemented in the mid-1970s through the issuance of permits authorized under Section 402 of the Act. The approach specified minimum levels of treatment for sanitary sewage and for various categories of industries. The other water quality-based approach was implemented in the 1980s. This approach includes water quality-based permitting and planning to ensure that standards of water quality established by States are achieved and maintained.

Section 303(d) of the Act establishes TMDLs as one of the tools to address those situations where the technology-based controls are not sufficient to meet applicable water quality standards for a water body (U.S. EPA, 1991). They are defined as the maximum amount of a pollutant that can be assimilated by a water body without causing the applicable water quality standard to be exceeded. The basis of a TMDLs is thus the water quality standard. This standard may be established for the protection of aquatic life, human health through ingestion of drinking water or resident fish, or wildlife. Under Section 303(d), States are required to identify, establish a priority ranking, and to develop TMDLs for those waters that do not achieve or are not expected to achieve water quality standards approved by the U.S. EPA. Federal regulations implementing Section 303(d) of the Clean Water Act provide that a TMDL must be expressed as the sum of the individual wasteload allocations for point sources (WLA) plus the load allocation for nonpoint sources (LA) plus a margin of safety (MOS). This definition may be expressed as the equation:

$$TMDL = WLA + LA + MOS$$

1.2 Study Area

Zones 2 through 5 of the Delaware River (Figure 1) have been designated by the Delaware River Basin Commission as that section of the mainstem of the Delaware River and the tidal portions of the tributaries thereto, between the head of Delaware Bay (River Mile 48.2) and the head of the tide at Trenton, New Jersey (River Mile 133.4). Zones 2 to 4 are bordered by the State of New Jersey and the Commonwealth of Pennsylvania. Zone 5 is bordered by the States of Delaware and New Jersey. Zone 2 encompasses the area from the head of the tide at Trenton to River Mile 108.4. Zone 3 encompasses the area from River Mile 108.4 to River Mile 95.0. Zone 4 encompasses the area from River Mile 95.0 to River Mile78.8, and Zone 5 encompasses the area from River Mile 78.8 to the head of Delaware Bay.

In 1989, the Delaware River Basin Commission created the Estuary Toxics Management Program to address the impact of toxic pollutants in the tidal Delaware River (also called the Delaware Estuary. The mission of this program was to develop policies and procedures to control the discharge of substances toxic to humans and aquatic biota from point sources discharging to this water body. In 1993, Commission staff identified several classes of pollutants and specific chemicals that were likely to exceed water quality criteria currently being developed under the program. These included polychlorinated biphenyls (PCBs), volatile organics, metals, chlorinated pesticides, chronic toxicity and acute toxicity. This list was subsequently included in the Delaware Estuary Programs's Comprehensive Conservation and Management Plan in 1996.

Beginning in the late 1980's, concern regarding the possible contamination of fish populations that were rebounding as dissolved oxygen levels improved resulted in a number of investigations of contaminant levels

in resident and anadromous fish species. These species included the white perch, channel catfish and striped bass. The studies subsequently identified PCBs and several chlorinated organics at elevated levels (DRBC, 1988; Greene and Miller, 1994; Hauge et al, 1990; U.S. F&WS, 1991 and 1992). These studies and other data collected by DRBC and the states resulted in fish consumption advisories being issued by all three states bordering the Estuary beginning in 1989. These advisories were principally based upon PCB contamination; and to a lesser degree, chlorinated pesticides such as DDT and its metabolites DDE and DDD, and chlordane.

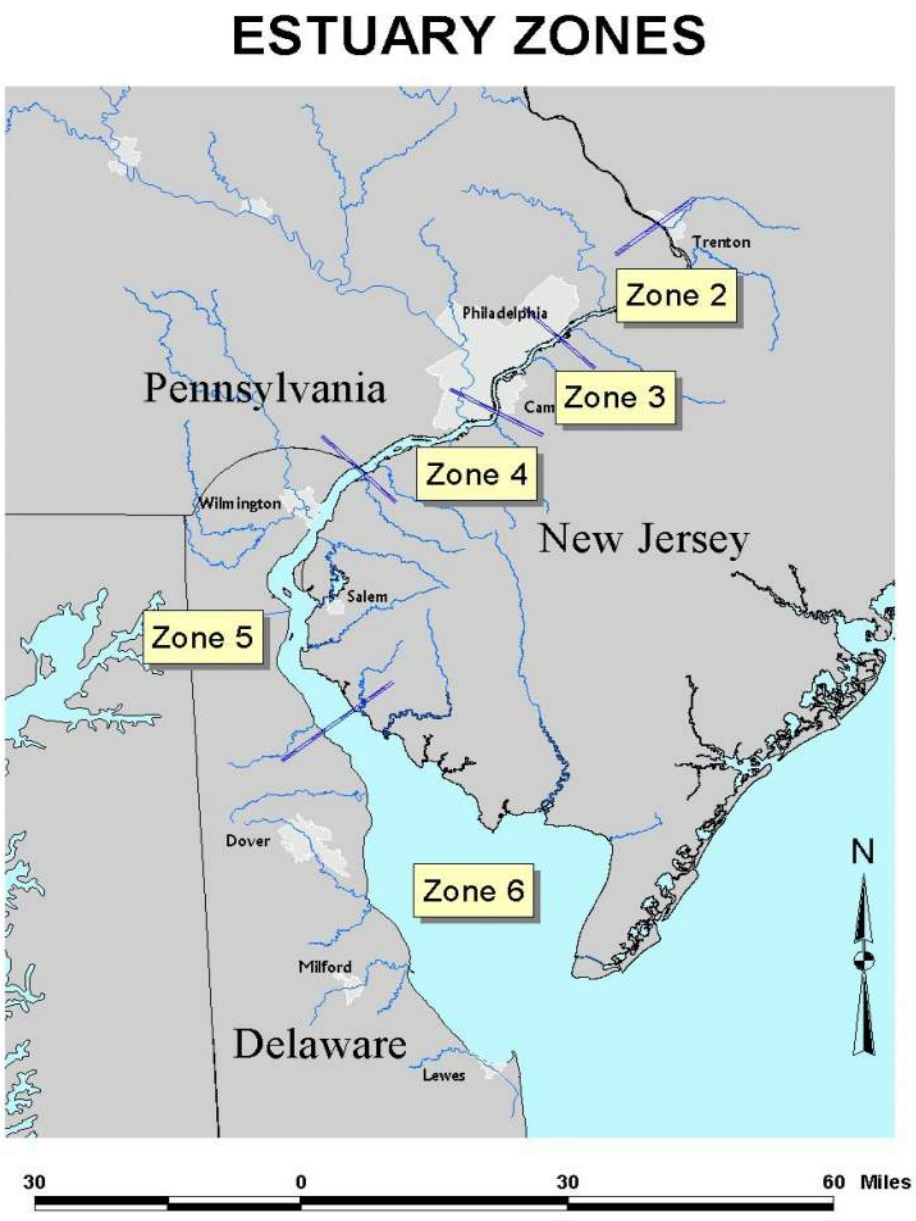
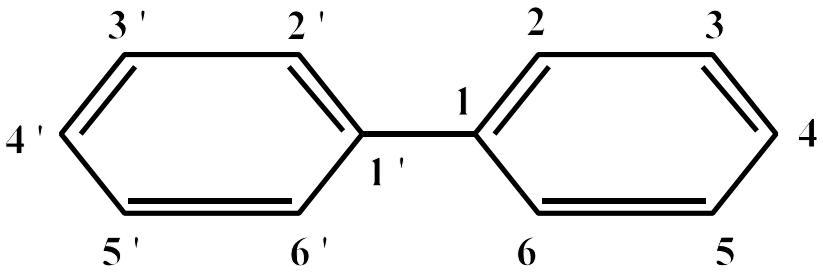


Figure1: Water Quality Zones of the Delaware River.

1.3 Polychlorinated biphenyls (PCBs)

Polychlorinated biphenyls (PCBs) are a class of man-made compounds that were manufactured and used extensively in electrical equipment such as transformers and capacitors, paints, printing inks, pesticides, hydraulic fluids and lubricants. Individual PCB compounds called congeners can have up to 10 chlorine atoms on a basic structure consisting of two connected rings of carbon atoms. There are 209 possible patterns where chlorine atoms can occur resulting in 209 possible PCB compounds. PCB compounds can be grouped by the number of chlorine atoms attached to the carbon rings. These groups are called homologs. PCB compounds containing five chlorine atoms, for example, are referred to as the pentachlorobiphenyls or penta-PCBs.



Although their manufacture and use were generally banned by federal regulations in the late 1970s, existing uses in electrical equipment and certain exceptions to the ban were allowed. In addition, PCBs may also be created as a by-product in certain manufacturing processes such as dye and pigment production. PCBs are hydrophobic, sorbing to organic particles such as soils and sediments and concentrating in the tissues of aquatic biota either directly or indirectly through the food chain.

1.4 Applicable Water Quality Standards and Numerical Target for TMDLs

Water quality criteria for toxic pollutants including Total PCBs were adopted on October 23, 1996 by the Commission and are included in Section 3.30 of Article 3 of the Commission's water quality regulations. The criteria do, however, differ between the zones of the estuary depending on the designated uses of the zone. In Zones 2 and 3, use of the water for public water supply after reasonable treatment is a designated use. In these two zones, human health criteria are based upon exposure to PCBs through ingestion of water and fish taken from these estuary zones. In Zone 4 and upper Zone 5 (above River Mile 68.75), use of the water for public water supply is not a designated use. In these two zones, human health criteria are based solely upon exposure to PCBs through ingestion of fish taken from these estuary zones. Current DRBC criteria assume a consumption rate of 6.5 grams per day (~½ pound meal every 35 days) is used in Zones 2, 3, 4, and the upper portion of Zone 5. This rate was the default national rate for freshwater fish consumption utilized in EPA's 1980 methodology for deriving human health criteria, and was used by the States in developing their freshwater water quality criteria. A consumption rate of 37.0 grams per day (~½ pound meal every 6 days) is used in the lower portion of Zone 5. This consumption rate is consistent with the rate utilized by the State of Delaware following a recent evaluation of available information on consumption rates.

Although criteria to protect aquatic life from acute and chronic effects of PCBs and criteria to protect human health from the carcinogenic and non-carcinogenic of PCBs were adopted, the most stringent standards adopted were based upon protecting human health from the carcinogenic effect of PCBs through ingestion

of water and fish taken from these estuary zones (Table 1). The applicable DRBC water quality criteria are therefore:

Table 1: DRBC Water Qaulity Criteria for Zones 2 to 5 of the Delaware Estuary

Estuary Zone	Exposure Route	
	Water & Fish Consumption	Fish Consumption Only
Zone 2 & 3	44.4 picograms per liter	
Zone 4 and upper Zone 5		44.8 picograms per liter
Lower Zone 5		7.9 picograms per liter

These criteria are currently the same as criteria adopted by State of New Jersey and the Commonwealth of Pennsylvania. The DRBC criteria for the lower portion of Zone 5 is also the same as the water quality criteria adopted by the State of Delaware; however, a slightly higher and therefore less stringent criteria was adopted for the upper portion of Zone 5.

As part of the effort to establish TMDLs for total PCBs and to update adopted water quality standards based upon new information, the Commission's Toxic Advisory Committee did consider adopting wildlife criteria for total PCBs and revising the human health criteria for carcinogens. The latter was necessitated by two actions by the U.S. Environmental Protection Agency: the updating of the cancer potency factor (i.e., slope factor), one of the key elements used to calculate the criterion, in December 1998 (U.S. EPA, 1998); and the issuance of revised guidance on developing human health water quality criteria in October 2000 (U.S. EPA, 2000). In February 2003, the Toxics Advisory Committee recommended adoption of a revised human health criterion for carcinogens Zones 2 through 5, and that the NJ state-wide water quality criterion for total PCBs for the Delaware Estuary (Zones 2 though 6) for the protection of wildlife be adopted following the impending adoption by the New Jersey Department of Environmental Protection. Refinement of the wildlife criterion based upon site-specific data could then proceed. The Committee also recommended that the Commission consider alternatives to the current risk level of 10^{-6} (another element in the calculation of the human health criterion for carcinogens). On March 19, 2003, the Commission passed a resolution authorizing public participation of the revised human health criteria for carcinogens and directing the Toxics Advisory Committee to initiate development of site-specific wildlife criteria for Zones 2 through 6 of the Delaware River. Since the basis for the TMDLs could be affected by criteria adoption by either the NJDEP or the DRBC, and the TMDLs must be based on the water quality criteria in force when the TMDL is approved, the Commission further directed that the Commission's Executive Director request U.S. Environmental Protection Agency Regions II and II to identify which criteria should be the basis for the TMDLs at this time. In a letter dated April 16, 2003, both U.S. EPA regional offices indicated that the current and applicable DRBC water quality criteria should be the basis for the TMDLs being developed by Commission staff for December 2003.

1.5 Listing under Section 303(d)

Until recently, the attainment of water quality standards for total PCBs could not be measured directly in samples of ambient water so States relied on measurements of contaminants in fish fillet samples collected from the estuary. This is possible since the amount in fish tissue is related to the water concentration by a factor known as the bioaccumulation factor or BAF. This factor accounts for the uptake and concentration

of a contaminant in the tissue either directly from the water or through the target species' food chain. Current and historical concentrations of total PCBs in filet samples collected from channel catfish in Zones 2 through 5 and white perch collected in Zones 2 through 6 are shown in Figures 2 and 3. While tissue concentrations have declined since the banning in the late 1970s, current levels in both species are approximately 800 to 1000 parts per billion (ppb), two to three orders of magnitude above the level expected to occur when estuary waters are at the water quality standards for total PCBs.

New Jersey was the first state to issue an advisory recommending no consumption of channel catfish in 1989. This was followed in 1990 by Pennsylvania who recommended no consumption of white perch, channel catfish and American eel caught between Yardley, PA above Trenton to the Pennsylvania/Delaware border.

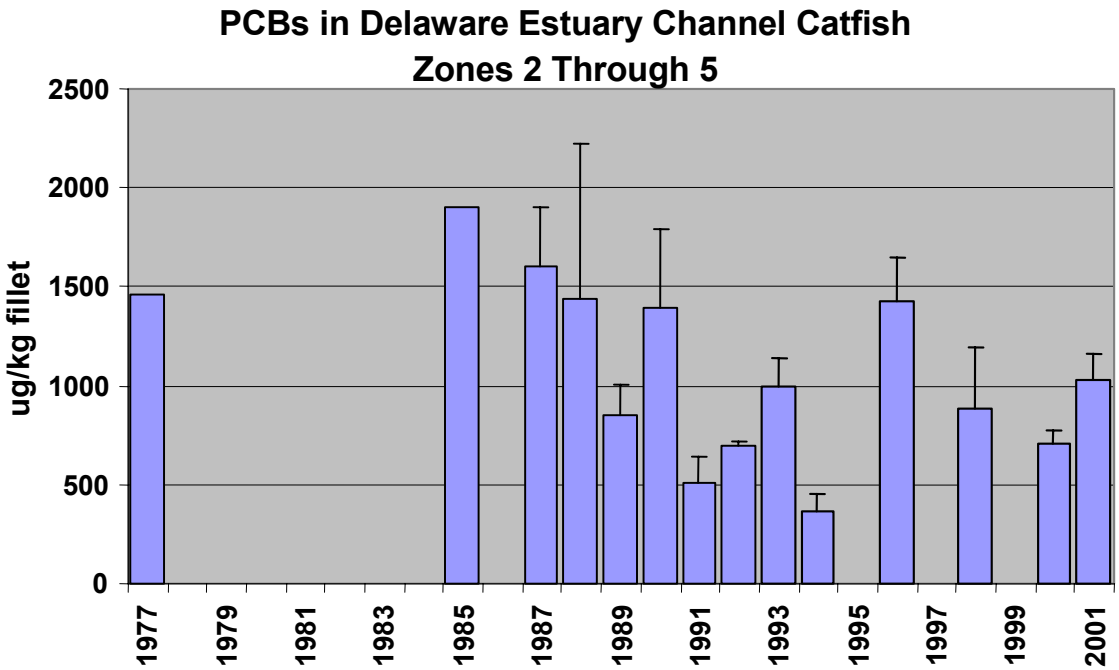


Figure 2: PCB concentrations in fillet samples of channel catfish collected from Zones 2 through 5 of the Delaware Estuary from 1977 to 2001. Units are in micrograms per kilogram or parts per billion (ppb). Graphs provided by Richard Greene, Delaware DNREC.

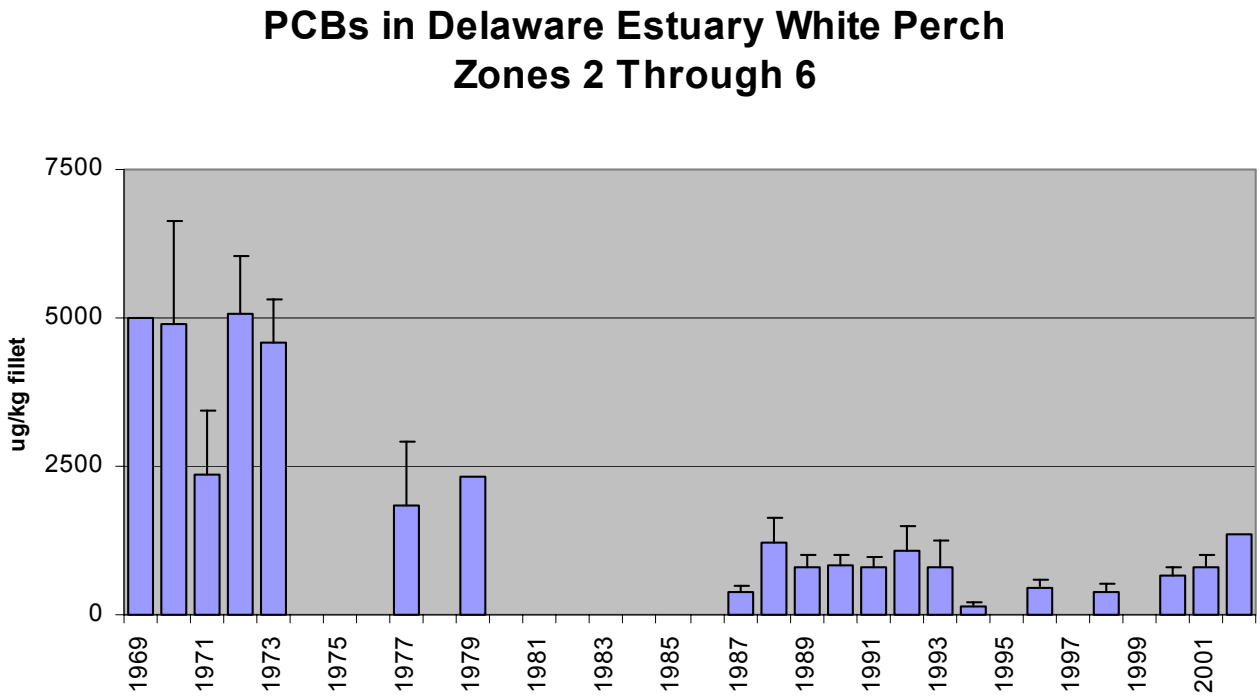


Figure 3: PCB concentrations in fillet samples of white perch collected from Zones 2 through 6 of the Delaware Estuary from 1977 to 2001. Units are in micrograms per kilogram or parts per billion (ppb). Graphs provided by Richard Greene, Delaware DNREC.

After conducting additional sampling in the lower tidal river, Delaware issued an advisory in 1994 recommending no consumption of striped bass, white perch, channel catfish and white catfish caught between the Pennsylvania/Delaware border and the Chesapeake and Delaware Canal (C&D Canal). These advisories remained essentially unchanged until 1999, when Pennsylvania recommended limited consumption (one meal per month) of white perch and striped bass, and one meal every two months for channel catfish in the same advisory area. Delaware meanwhile, increased the restrictions on consuming fish caught between the Pennsylvania/Delaware border and the C&D Canal to all fish species, and reduced the recommended consumption of striped bass, white perch, white catfish, channel catfish and American eel to one meal per year. In January 2003, New Jersey issued updated state-wide and water body-specific advisories due to PCB contamination that included Zones 2 through 5. These advisories contained recommended meal frequencies for two levels of lifetime cancer risk (10^{-5} and 10^{-6}), and for high risk individuals (children, infants, pregnant or nursing women, and women of child-bearing age). Recommended consumption (at a risk level of 10^{-6}) of channel catfish in Zones 2 to 4 is 6 meals per year while no consumption of striped bass in Zone 4 and all finfish in Zone 5 is recommended.

The New Jersey Department of Environmental Protection subsequently included Zones 2 through 5 of the Delaware River for PCBs in a report entitled "1998 Identification and Setting of Priorities for Section 303(d) Water Quality Limited Waters in New Jersey", September 15, 1998. By Memorandum of Agreement between U.S. Environmental Protection Agency, Region II and the New Jersey Department of Environmental Protection dated May 12, 1999, the NJDEP agreed to develop, public notice, respond to comments and submit to EPA, Total Maximum Daily Loads (TMDLs) for PCBs in the Delaware Estuary by September 15, 2003. This date was subsequently extended to December 31, 2003 in a revised Memorandum of Agreement dated September 16, 2002.

The Delaware Department of Natural Resources & Environmental Control (DNREC) first listed Zone 5 of the Delaware River for toxics in 1996. In 1998, DNREC again listed Zone 5 of the Delaware River, but specifically listed PCBs as a pollutant contributing to the impairment. In Attachment B to a Memorandum of Agreement between the Delaware Department of Natural Resources & Environmental Control and the U.S. Environmental Protection Agency, Region III dated July 25, 1997, DNREC agreed to complete the TMDLs for Zone 5 by December 31, 2002 provided that funding and certain other conditions were met. The MOA also provided that EPA Region III establish the TMDLs if DNREC was unable to complete the TMDLs by the date set forth in Attachment B. In a Consent Decree between the American Littoral Society, the Sierra Club, and the U.S. Environmental Protection Agency dated July 31, 1997, the U.S. EPA agreed to establish TMDLs by December 15, 2003 of the year following the state's deadline.

In a Consent Decree between the American Littoral Society and Public Interest Group of Pennsylvania, dated April 9, 1997, EPA agreed to approve or establish TMDLs for all water quality-limited segments listed on the 1996 303(d) list as impaired by sources other than acid mine drainage by April 9, 2007. PADEP listed Zones 2 to 5 of the Delaware River (included in areas E and G of the Pennsylvania State Water Plan) for priority organics including PCBs in both 1996 and 1998. No date has been set by PADEP for completion of the TMDLs for these water quality segments. The TMDLs currently being proposed will satisfy the commitments that resulted from these listings for each respective state.

1.6 Pollutant sources, loadings and ambient data

The basis for the inclusion of Zones 2 through 5 on the Section 303(d) lists of the estuary states was the levels of PCBs observed in fish tissue collected from the estuary. This was necessary since the common analytical method used for ambient water and wastewater had detection limits for total PCBs in the 500 nanogram per liter range. New Jersey was the first state to issue an advisory recommending no consumption of channel catfish in 1989. This was followed in 1990 by Pennsylvania who recommended no consumption of white perch, channel catfish and American eel caught between Yardley, PA above Trenton to the Pennsylvania/Delaware border. After conducting additional sampling in the lower tidal river, Delaware issued an advisory in 1994 recommending no consumption of striped bass, white perch, channel catfish and white catfish caught between the Pennsylvania/Delaware border and the Chesapeake and Delaware Canal C&D Canal.

Loadings of PCBs to the estuary from point sources were first investigated by the Delaware River Basin Commission in 1996 and 1997 (DRBC, 1998a). This study utilized a new analytical methodology (high resolution gas chromatography/high resolution mass spectrometry or HRGC/HRMS) and focused on discharges from five large sewage treatment plants and one industrial facility. The results of the study found effluent concentrations ranging from 1,430 to 45,140 picograms/L during dry weather, and 2,020 to 20,240 pg/L during wet weather. The dry weather sample from the effluent of the industrial facility had a concentration of 10,270 pg/L. In the spring of 2000, the Commission required 94 NPDES permittees to conduct monitoring of their continuous and stormwater discharges for 81 PCB congeners utilizing analytical methods that could achieve picogram per liter detection limits. The results of this monitoring were submitted to the Commission over the next two years, and indicated that loadings to the estuary zones from point sources were significant and of such magnitude to cause the water quality standards to be exceeded. Figures 4 and 5 present the cumulative loadings of total PCBs from continuous point source discharges during dry weather and wet weather, respectively.

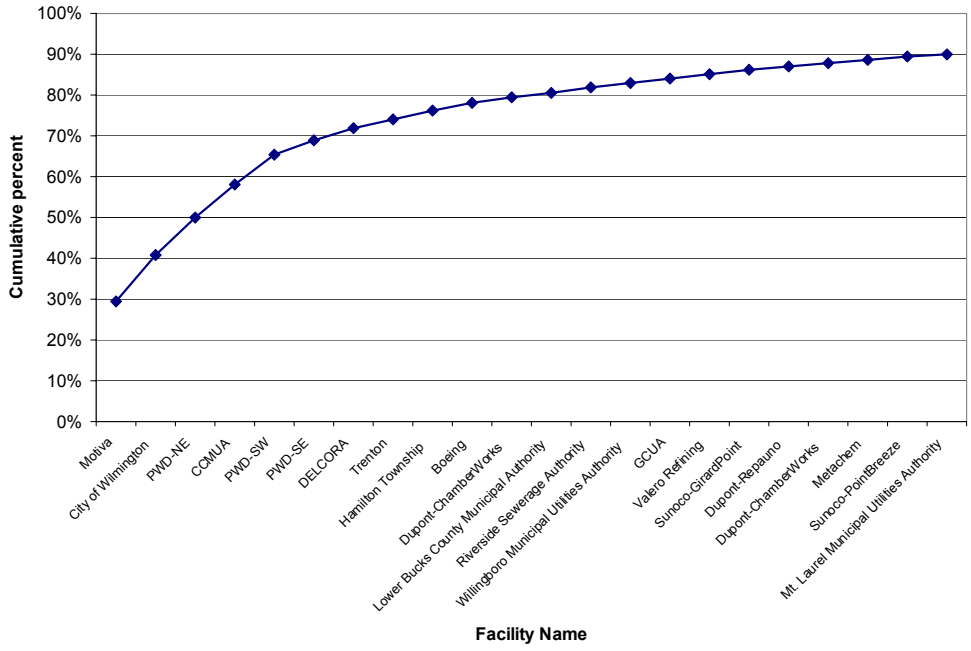


Figure 4: Cumulative loadings from continuous point source dischargers when the discharge was not influenced by precipitation (dry weather loadings).

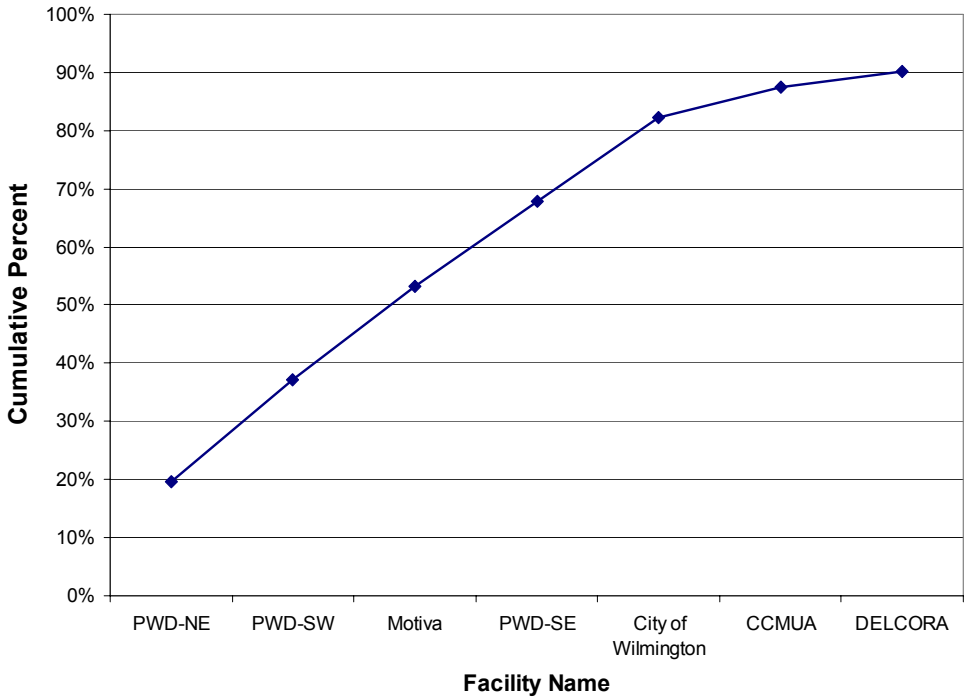


Figure 5: Loadings from continuous point source dischargers when the discharge was influenced by precipitation (wet weather loadings).

Beginning in September 2001, the Commission initiated surveys of the ambient waters of Zones 2 through 5 using the more sensitive HRGC/HRMS method (Method 1668A) and larger sample volumes to obtain data on PCBs adsorbed to particulate matter, PCBs adsorbed to dissolved organic matter and truly dissolved PCBs. Each survey involves sampling on a transect across the river at 15 locations between the C&D Canal and Trenton. A total of nine surveys have been completed to date with a focus on periods of intermediate and high inflows to the estuary. Figure 6 presents the results from surveys conducted in September 2001, May 2002, October 2002 and March 2003. Low flow conditions occurred during the September and October surveys (~3,300 cfs). Intermediate flow conditions (~16,000 cfs) occurred during the May survey, and high flow conditions (36,100 cfs) occurred during the March survey. As indicated in this graph, ambient concentrations of total PCBs based upon the sum of 124 congeners analyzed ranges between 443 and 10,136 pg/L with the highest values generally occurring during lower river inflows.

1.7 Other Required Elements for Establishing TMDLs

1.7.1 Seasonal variation

TMDL regulations at Section 130.32(b)(9) require the consideration of seasonal variation in environmental factors that affect the relationship between pollutant loadings and water quality impacts. Although seasonal variation is usually not as important for TMDLs based upon human health criteria for carcinogens since the duration for this type of criteria is a 70 year exposure, the Stage 1 TMDLs for total PCBs do include seasonal variation in several ways. Due to the interaction of PCBs with the sediments of the estuary, long-term model

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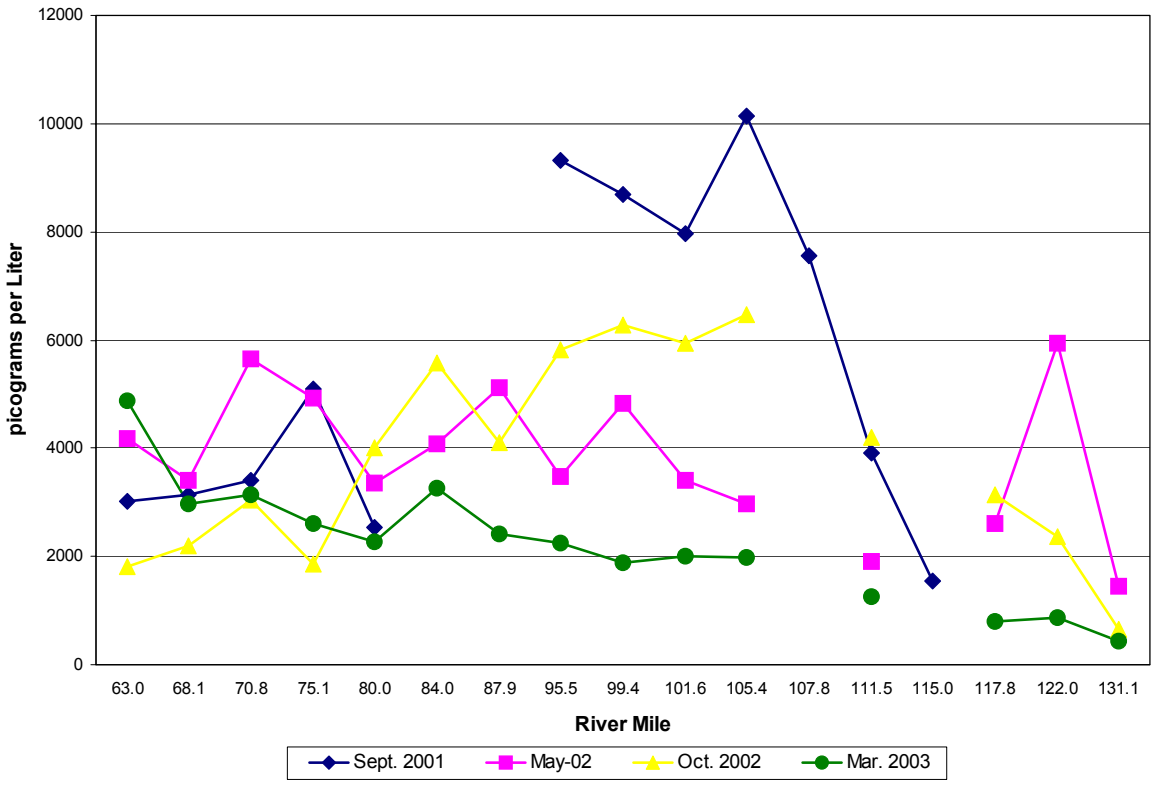


Figure 6: Concentrations of 124 PCB congeners at 15 locations in Zones 2 to 5 of the Delaware Estuary during varying flow conditions.

simulations were necessary to both confirm the model parameters established during the short-term calibration, and evaluate the time required for the sediments to reach pseudo steady-state with the overlying water column as loadings of PCBs were reduced.

The model will cycle model inputs from the period February 1, 2002 until January 31, 2003. This one year period is considered to be representative of long-term conditions (see Section 3.2.3.1), and is the same period utilized for long-term, decadal scale model simulations. Use of this one year cycling period, allowed consideration of seasonal variation in model input parameters such as tributary flows, tidal forcing functions, air and water temperature, wind velocity and loadings of penta-PCBs.

1.7.2 Monitoring Plan

The Delaware River Basin Commission has conducted nine surveys of the ambient waters of the Delaware Estuary between September 2001 and April 2003 to provide data for calibrating the water quality model for penta-PCBs that was used to establish the Stage 1 TMDLs. Samples collected during these surveys were analyzed using a more sensitive HRGC/HRMS method (Method 1668A) and larger sample volumes to obtain data at picogram per liter levels. The Commission plans to conduct additional surveys in both Zones 2 to 5 and in Delaware Bay (Zone 6) as part of the effort to calibrate water quality models for the other PCB homologs, and to establish and refine the TMDLs and associated WLAs and LAs for Stage 2. Contingent on available funding, the Commission plans to continue the ambient water surveys on a yearly basis to track the progress in achieving the load reductions and applicable water quality standards for PCBs.

In the spring of 2000, the Commission required 94 NPDES permittees to conduct monitoring of their continuous and stormwater discharges for 81 PCB congeners utilizing analytical methods that could achieve picogram per liter detection limits. The results of this monitoring indicated that loadings to the estuary zones from point sources were significant and of such magnitude to cause the water quality standards to be exceeded. These results have also be used to determine the need for and the frequency of additional monitoring in NPDES permits have been reissued in the last few years. Following approval of the Stage 1 TMDLs, most of the NPDES permittees included in the 2000 monitoring requirements will be required to conduct some additional monitoring using Method 1668A. These monitoring requirements will provided data in future years to assess the progress in achieving the TMDLs.

The Commission is also planning, contingent on available funding, to work cooperatively with the NJDEP and Rutgers University to continue air monitoring at Lums Pond near the western end of the C&D Canal and at a site in the NJ Pinelands which are located east of the estuary. Monitoring data at these sites and at a long-term site at Rutgers University will provided data to assess the long-term trends in regional background concentrations of PCBs (Lums Pond) and in regional concentrations in the estuary airshed.

1.7.3 Implementation Plan

Current EPA regulations do not require an implementation plan to be included with TMDLs. EPA NPDES regulations do require that effluent limitations must be consistent with approved WLAs [40 CFR Part 122.44(d)(1)(vii)(B)]. EPA regulations allow the use of non-numeric effluent limits in certain circumstances [40 CFR Part 122.44(K)]. In addition to EPA regulations, the Commission and its signatory parties currently have in place an implementation procedure for utilizing wasteload allocations and other effluent requirements formally issued by the Commission's Executive Director. This procedure has been in use for over 25 years with wasteload allocations for carbonaceous oxygen demand and other pollutants that were developed for discharges to the estuary. Section 4.30.7B.2.c.6). of the Commission regulations requires that WLAs developed by the Commission shall be referred to the appropriate state agency for use, as appropriate, in developing effluent limitations, schedules of compliance and other effluent requirements in NPDES permits.

As part of the implementation strategy, the NPDES permitting authorities believe that it is appropriate for 142 NPDES point source discharges to receive non-numeric WQBELs consistent with the WLAs. It is expected that the non-numeric WQBELs resulting from the Stage 1 WLAs require PCB minimization and reduction programs and additional monitoring using Method 1668A consistent with state and federal NPDES regulations. See Appendix 3 for details on the permit implications of this TMDL. These permit requirements are intended to expedite the reduction in PCB loadings to the estuary while Stage 2 TMDLs and WLAs are being completed.

A unique aspect of the implementation of these TMDLs is the establishment of a TMDL Implementation Advisory Committee (IAC)by the DRBC, which shall be asked to develop creative and cost-effective strategies for reducing PCB loadings and achieving the TMDLs for PCBs in the Delaware Estuary. The IAC will be encouraged to engage in creative, collaborative problem-solving. Its recommendations will be submitted to the Commission, which will consider them in consultation with all regulatory agencies whose approval is required to implement them. Each regulatory agency also will be represented on the IAC. The committee is expected to convene six times a year for two years.

1.7.4 Reasonable Assurance that the TMDLs will be Achieved

Data available to assess whether the TMDLs will be achieved include ambient water quality data collected by the Commission during routine surveys of Zones 2 through 6 of the Delaware River. Effluent quality data and source minimization plans required through NPDES permits issued by state permitting authorities will provide the basis for assessments regarding consistency with the WLAs developed or issued in Stage 1 and Stage 2. Commission regulations also require that the WLAs be reviewed and, if required, revised every five years, or as directed by the Commission. This will ensure that additional discharges of the pollutant or increased non-point source loadings in the future will be considered.

Achieving the reductions in the load allocations for tributaries will require the listing of the tributary on future Section 303(d) lists submitted by the estuary states for those tributaries that are not currently listed for impairment by PCBs, and completion and implementation of TMDLs for PCBs for those tributaries that are already listed as impaired by PCBs. Achieving the load reductions required for contaminated sites will require close coordination with the federal CERCLA programs and state programs overseeing the assessment and cleanup of these sites. In addition, the Commission has broad powers under Article 5 of the Delaware River Basin Compact (Public Law 87-328) to control future pollution and abate existing pollution in the waters of the basin including Section 2.3.5B of the Commission's Rules of Practice and Procedure (DRBC, 2002).

Municipal Stormwater Management Plan

Municipal Stormwater Management Plan

Riverside Township
Scott and Pavilion Avenues
Riverside, NJ 08075

April 1, 2005
July 28, 2006 (Revised)

Prepared by
Alaimo Group
200 High Street
Mt. Holly, NJ 08060

Richard A. Alaimo, PE
Township Engineer

File No. C-0570-0071

Table of Contents

Introduction....1
Goals....1
Stormwater Discussion....2
Background....4
Design and Performance Standards....9
Plan Consistency....9
Nonstructural Stormwater Management Strategies....10
Land Use/Build-Out Analysis....12
Mitigation Plans....18
Wellhead Protection....19

List of Tables

Table 1: Build-Out Calculations for Riverside Township HUC14s....15
Table 2: Pollutant Loads by Land Cover....16
Table 3: Riverside Township HUC-14 Nonpoint Source Loads at Build-Out....17

List of Figures

Figure 1: Groundwater Recharge in the Hydrologic Cycle....3
Figure 2: Wellhead Protection Areas, HUC-14s and Waterways....6
Figure 3: Township Boundary on USGS Quadrangle Map....7
Figure 4: Groundwater Recharge Rates and Wetlands....8
Figure 5: Riverside Township Land Use Classification....13
Figure 6: Riverside Township Zoning Map....14

Appendix A: Stormwater Control Ordinance

Introduction

This Munieipal Stormwater Management Plan (MSWMP) documents the strategy for Riverside Township, Burlington County, New Jersey ("the Township") to address stormwater-related impacts. The creation of this plan is required by N.J.A.C. 7:14A-25 Municipal Stormwater Regulations. This plan contains all of the required elements described in N.J.A.C. 7:8 Stormwater Management Rules. The plan addresses groundwater recharge, stormwater quantity, and stormwater quality impacts by incorporating stormwater design and performance standards for new major development, defined as any development that provides for disturbing one or more acres of land or increasing impervious surface by one-quarter acre or more. These standards are intended to minimize the adverse impact of stormwater runoff on water quality and water quantity and the loss of groundwater recharge that provides baseflow in receiving water bodies. The plan describes long-term operation and maintenance measures for existing and future stormwater facilities.

A "build-out" analysis has been included in this plan based upon existing zoning and land available for development. The plan also addresses the review and update of existing ordinances, the Township Master Plan, and other planning documents to allow for project designs that include low impact development techniques. The final component of this plan is a mitigation strategy for when a variance or exemption of the design and performance standards is sought. As part of the mitigation section of the stormwater plan, specific stormwater management measures are identified to lessen the impact of existing development.

Goals

The goals of this Municipal Stormwater Management Plan are to:

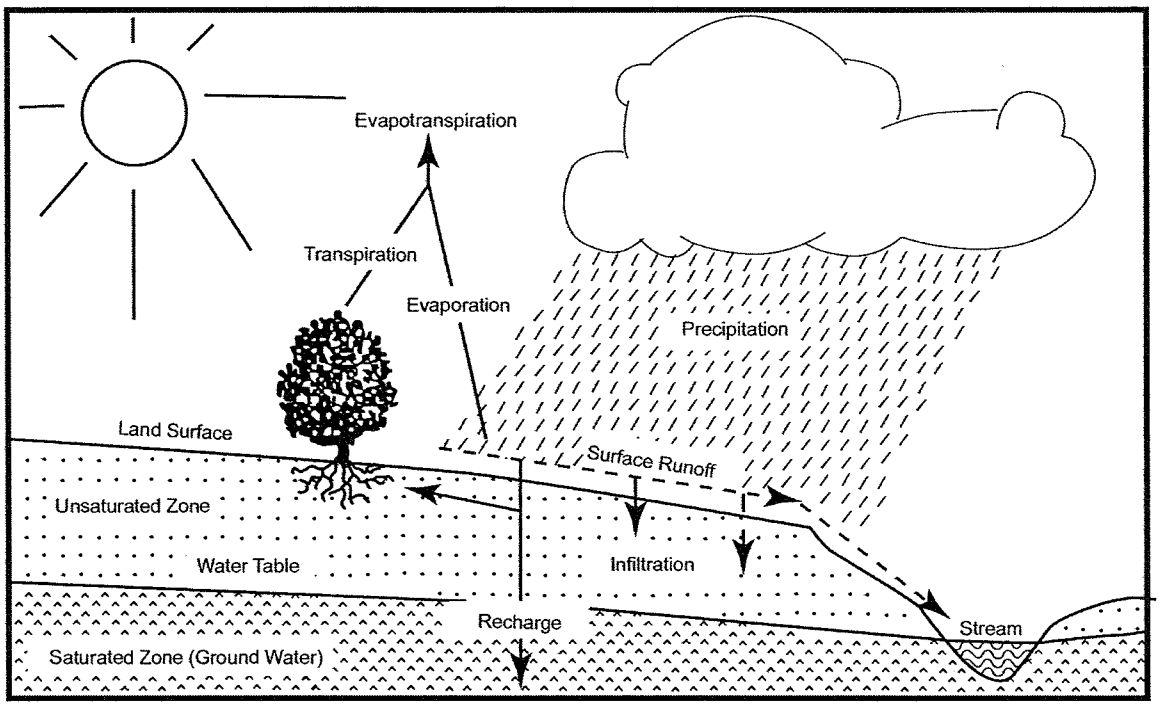
- reduce flood damage, including damage to life and property;
- minimize, to the extent practical, any increase in stormwater runoff from any new development;
- reduce soil erosion from any development or construction project;
- assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures;
- maintain groundwater recharge;
- prevent, to the greatest extent feasible, an increase in nonpoint pollution;
- maintain the integrity of stream channels for their biological functions, as well as for drainage;
- minimize pollutants in stormwater runoff from new and existing development 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
- protect public safety through the proper design and operation of stormwater basins.

To achieve these goals, this plan outlines specific stormwater design and performance standards for new development. Additionally, the plan proposes stormwater management controls to address impacts from existing development. Preventative and corrective maintenance strategies are included in the plan to ensure long-term effectiveness of stormwater management facilities. The plan also outlines safety standards for stormwater infrastructure to be implemented to protect public safety.

Stormwater Discussion

Land development can dramatically alter the hydrologic cycle (See Figure 1) of a site and, ultimately, an entire watershed. Prior to development, native vegetation can either directly intercept precipitation or draw that portion that has infiltrated into the ground and return it to the atmosphere through evapotranspiration. Development can remove this beneficial vegetation and replace it with lawn or impervious cover, reducing the site's evapotranspiration and infiltration rates. Clearing and grading a site can remove depressions that store rainfall. Construction activities may also compact the soil and diminish its infiltration ability, resulting in increased volumes and rates of stormwater runoff from the site. Impervious areas that are connected to each other through gutters, channels, and storm sewers can transport runoff more quickly than natural areas. This shortening of the transport or travel time quickens the rainfall-runoff response of the drainage area, causing flow in downstream waterways to peak faster and higher than natural conditions. These increases can create new and aggravate existing downstream flooding and erosion problems and increase the quantity of sediment in the channel. Filtration of runoff and removal of pollutants by surface and channel vegetation is eliminated by storm sewers that discharge runoff directly into a stream. Increases in impervious area can also decrease opportunities for infiltration which, in turn, reduces stream base flow and groundwater recharge. Reduced base flows and increased peak flows produce greater fluctuations between normal and storm flow rates, which can inerease channel erosion. Reduced base flows can also negatively impact the hydrology of adjacent wetlands and the health of biological communities that depend on base flows. Finally, erosion and sedimentation can destroy habitat from which some species cannot adapt.

Figure 1: Groundwater Recharge in the Hydrologic Cycle



Source: New Jersey Geological Survey Report GSR-32.

In addition to increases in runoff peaks, volumes, and loss of groundwater recharge, land development often results in the accumulation of pollutants on the land surface that runoff can mobilize and transport to streams. New impervious surfaces and cleared areas created by development can accumulate a variety of pollutants from the atmosphere, fertilizers, animal wastes, and leakage and wear from vehicles. Pollutants can include metals, suspended solids, hydrocarbons, pathogens, and nutrients.

In addition to increased pollutant loading, land development can adversely affect water quality and stream biota in more subtle ways. For example, stormwater falling on impervious surfaces or stored in detention or retention basins can become heated and raise the temperature of the downstream waterway, adversely affecting cold water fish species such as trout. Development can remove trees along stream banks that normally provide shading, stabilization, and leaf litter that falls into streams and becomes food for the aquatic community.

Background

Riverside Township encompasses a 1.64 square mile area in Burlington County, New Jersey. The population of the Township increased from 7,941 in 1980, to 7,974 in 1990 and decreased to 7,911 in 2000. The Township is essentially built out, with very few parcels available for future development. Any redevelopment in the future will be at sites already constructed, particularly sites near the NJT River Line and public transportation. Changes in the development landscape are not anticipated. Increased stormwater runoff volumes and pollutant loads to municipal waterways are not expected to occur. Figure 2 illustrates the waterways in the Township. Figure 3 depicts the Township boundary on the USGS Quadrangle Map.

The storm water collection system presently operating in Riverside Township consists of curbed and guttered streets that transport runoff to catch basins and inlets. The catch basins and inlets act as infiltration pits, with storm runoff percolating to groundwater. There are four detention basins throughout the Township that collect stormwater from a piped system. The detention basins are drained by pumping to the creek or river. The detention basins are identified as:

1. Hooton Pond Basins
2. Licenthd Pond Basin
3. Henry Street Pond Basin
4. American Legion Drive Pond Basin

The New Jersey Department of Environmental Protection (NJDEP) has established an Ambient Biomonitoring Network (AMNET) to document the health of the state's waterways. There are over 800 AMNET sites throughout the state of New Jersey. These sites are sampled for benthic macroinvertebrates by NJDEP on a five-year cycle. Streams are classified as non-impaired, moderately impaired, or severely impaired based on the AMNET data. The data is used to generate a New Jersey Impairment Score (NJIS), which is based on a number of biometrics related to benthic macroinvertebrate community dynamies. Riverside Township is bordered on the north by the Rancocas Creek. Although there are no AMNET locations within Riverside Township, segments of the Rancocas Creek outside of Riverside Township has previously been classified as severely impaired. In addition to the AMNET data, the NJDEP and other regulatory agencies collect water quality chemical data on the streams in the state. These data show that the instream total

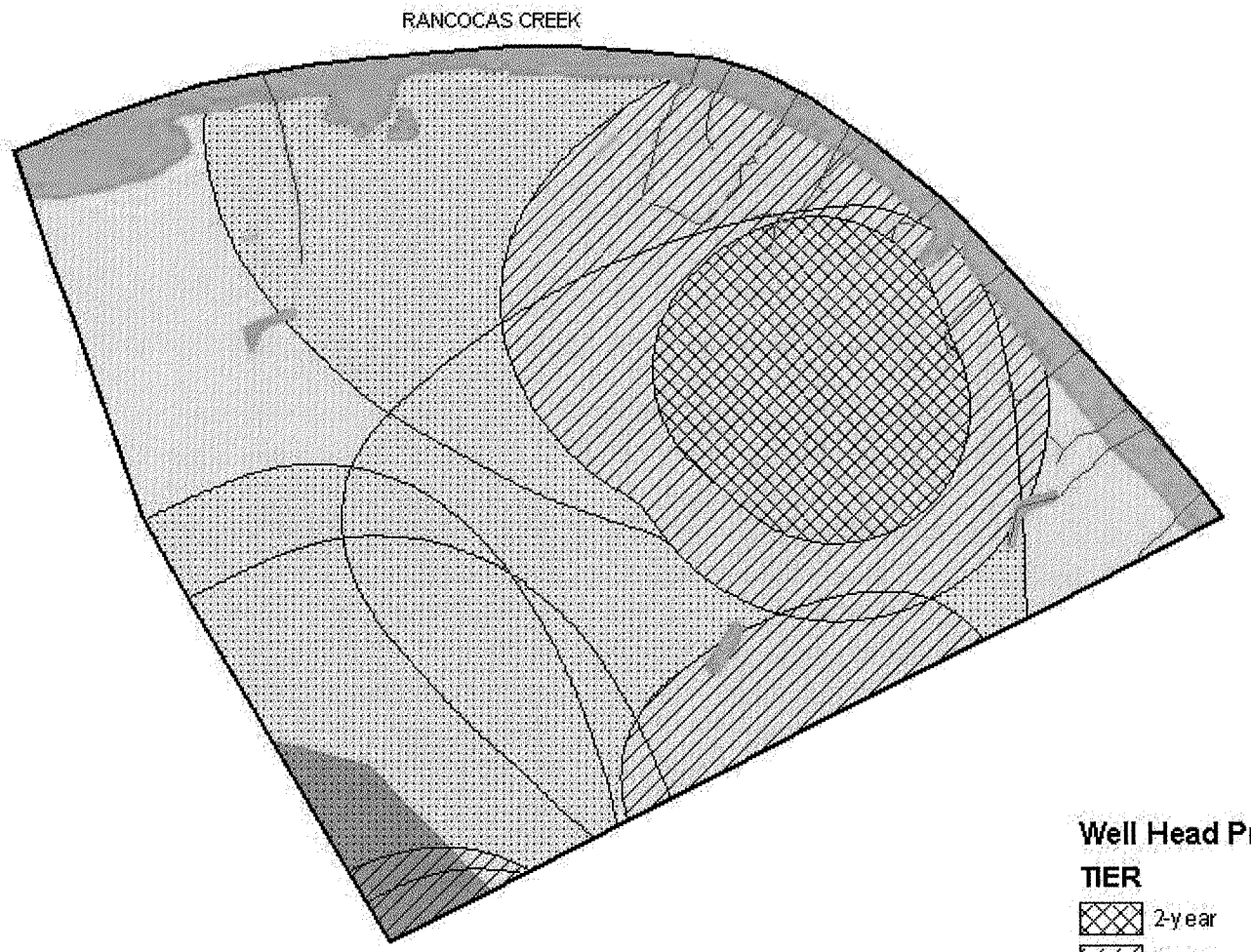
phosphorus concentrations of the Rancocas Creek frequently exceed the states criteria. A Total Maximum Daily Load (TMDL) for total phosphorus is currently under development in the Rancocas Creek by NJDEP. NJDEP is required to develop a Total Maximum Daily Load (TMDL) for the pollutants for each waterway. The Township's goal is to be consistent with the short and long term management strategies adopted by NJDEP in the TDML report. Should future TMDL's be adopted by NJDEP for a watershed located partially or wholly within Riverside Township, appropriate measures will be adopted into the stormwater management plan and ordinances.

A TMDL is the amount of a pollutant that can be accepted by a waterbody without causing a reduction of water quality standards or interference with the ability to use a waterbody for one or more of its designated uses. The allowable load is allocated to the various sources of the pollutant, such as stormwater and wastewater discharges, which require an NJPDES permit to discharge, and nonpoint sources, which include stormwater runoff from agricultural areas and residential areas, along with a margin of safety. Provisions may also be made for future sources in the form of reserve capacity. An implementation plan is developed to identify how the various sources will be reduced to the designated allocations. Implementation strategies may include improved stormwater treatment plants, adoption of restrictive ordinances, reforestation of stream corridors, retrofitting stormwater systems, and other BMPs.

The New Jersey Integrated Water Quality Monitoring and Assessment Report (305(b) and 303(d)) (Integrated List) is required by the Federal Clean Water Act to be prepared biennially and is a valuable source of water quality information. This combined report presents the extent to which New Jersey waters are attaining water quality standards and identifies waters that are impaired. Sublist 5 of the Integrated List constitutes the list of waters impaired or threatened by pollutants, for which one or more TMDLs are needed.

In addition to water quality problems, the Township has observed a minor water quantity problems. During severe storm events, the stream crossing Monroe Street by the DPW yard does not have adequate capacity, thereby causing a backwater effect and flooding at the entrance to the DPW yard. The Township also experiences flooding problems during long duration storm events at scattered locations throughout the Township. Groundwater recharge is accomplished by using the catch basins as infiltration pits throughout the community.

Riverside Township
Well Head Protection Areas
HUC-14's and Waterways



N
W
E
S

Streams

Open Water

HUC-14's

02040202080050

02040202090010

Well Head Protection Areas

TIER

2-year

5-year

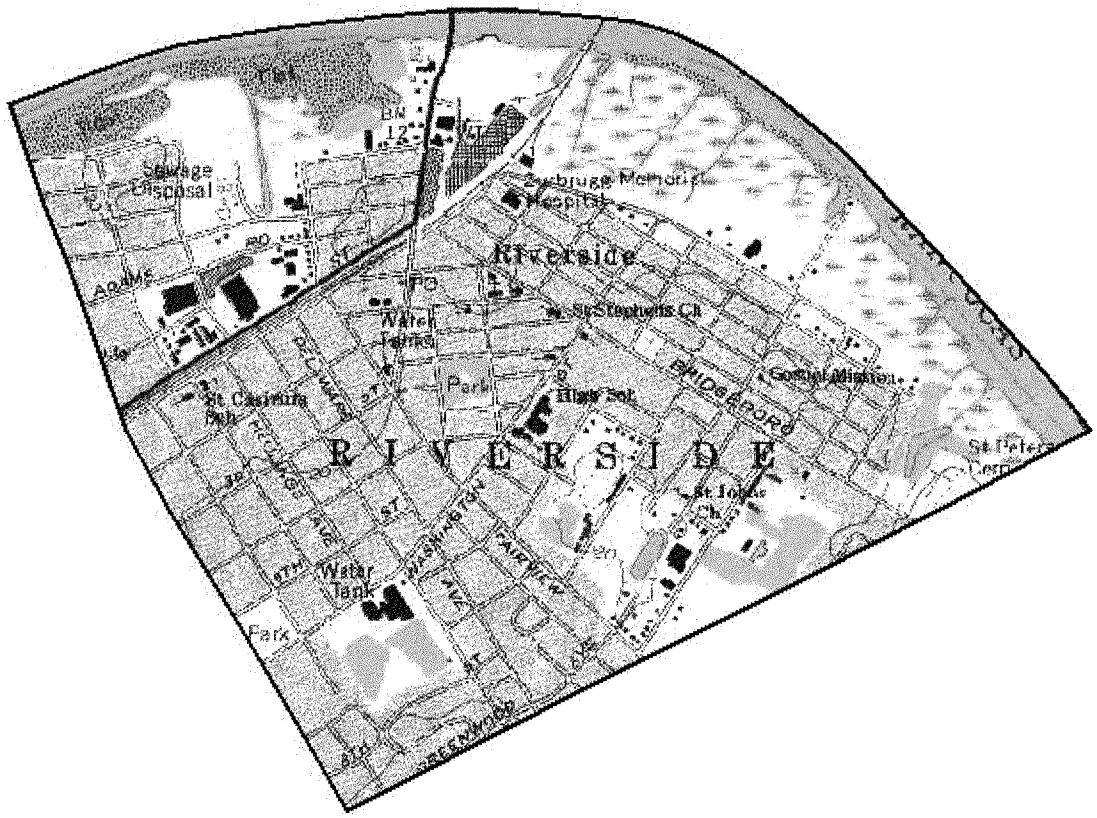
12-year

Created by Burlington County
Office of Resource Conservation
October 2004

FIGURE 2

Sources: Burlington County Engineering municipal boundaries, NJGS Well head protection areas for public community water supply wells, NJDEP HUC-14 boundaries & water features

Riverside Township
USGS Topography

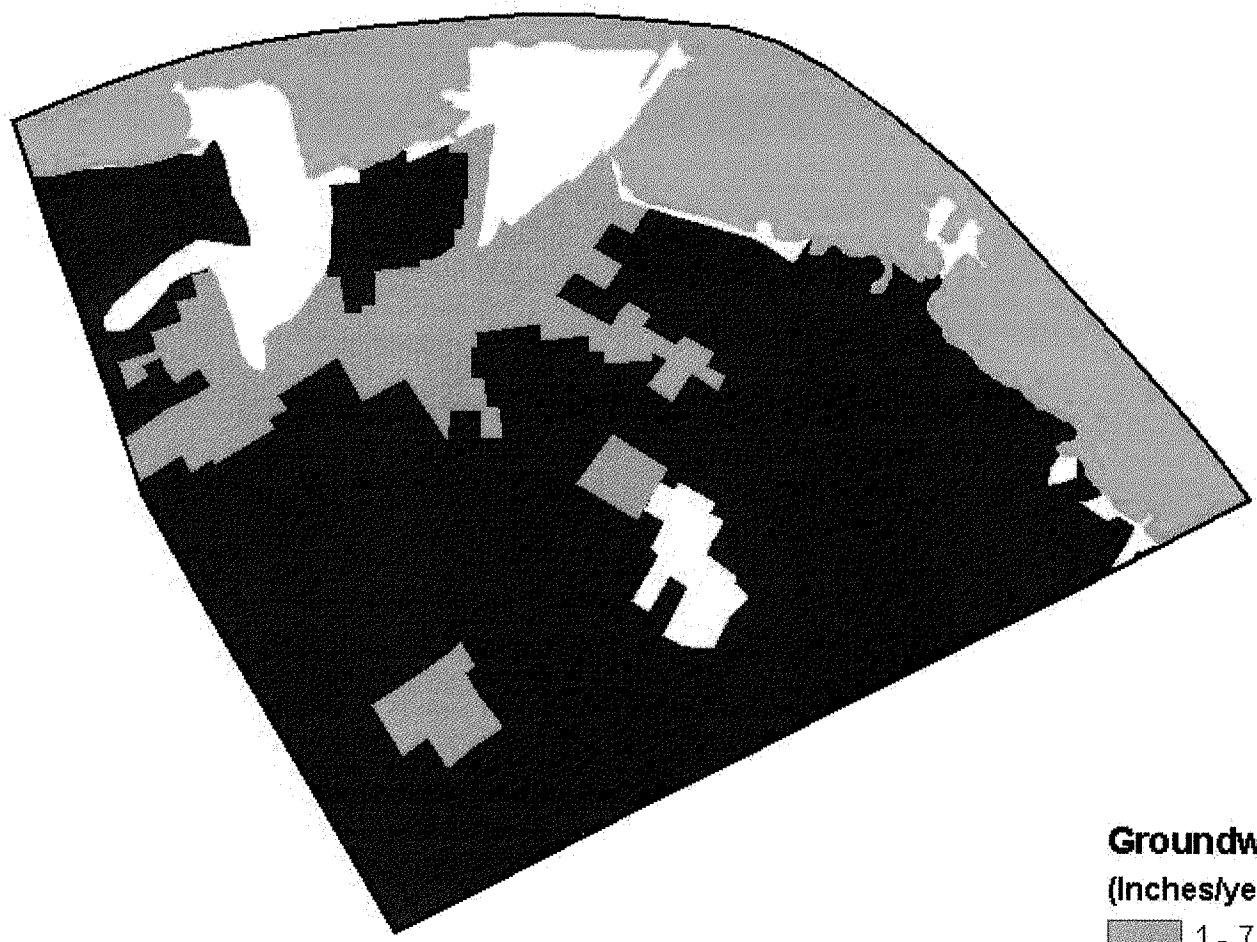


Created by Burlington County
Office of Resource Conservation
October 2004

FIGURE 3

Sources: Burlington County Engineering municipal boundaries, USGS topography

Riverside Township
Groundwater Recharge Rates and Wetlands



Groundwater Recharge
(Inches/year)

- 1 - 7
- 8 - 10
- 11 - 16
- Wetlands

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Office of Resource Conservation
October 2004

Sources: Burlington County Engineering municipal boundaries,
NJDEP wetlands, NJGS groundwater recharge rates.
Breakdown of recharge rates based on state-wide values determined by NJGS.

FIGURE 4

Design and Performance Standards

Stormwater Management Ordinance for the design and performance standards for stormwater management measures as presented in N.J.A.C. 7:8-5 to minimize the adverse impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in receiving water bodies. The design and performance standards include the language for maintenance of stormwater management measures consistent with the stormwater management rules at N.J.A.C. 7:8-5.8 Maintenance Requirements, and language for safety standards consistent with N.J.A.C. 7:8-6 Safety Standards for Stormwater Management Basins. The ordinances will be submitted to the county for review and approval within 24 months of the effective date of the Stormwater Management Rules.

During construction, Township inspectors will observe the construction of the project to verify that the stormwater management measures are constructed in general conformance with approved plans. A copy of the Stormwater Control Ordinance is included in Appendix A.

The Township is in the process of developing Maintenance Plans (in accordance with the BMP) to assure the continued maintenance of its existing stormwater facilities. The Township currently, and will continue to, operate and maintain its existing facilities.

Plan Consistency

The Township is not within a Regional Stormwater Management Planning Area and no TMDLs have been developed for waters within the Township; therefore this plan does not need to be consistent with any Regional Stormwater Management Plans (RSWMPs) nor any TMDLs. The Township is aware a TDML for total phosphorus in the Rancocas Creek is under development. Upon completion, the TDML requirements will be implemented into the Riverside MSWMP and Stormwater Control Ordinance. A Regional Stormwater Management Plan Guidance document was developed by the Soil District(s) dated January, 2005 for Mason Creek. If any RSWMPs or additional TMDLs are developed in the future, the township will participate in the preparation and implementation.

This MSWMP is consistent with the mission statement and goals of the "Management Plan of the Rancocas Creek Watershed," dated March, 2003.

The Municipal Stormwater Management Plan is consistent with the Residential Site Improvement Standards (RSIS) at N.J.A.C. 5:21. The municipality will utilize the most current update of the RSIS in the stormwater management review of residential areas. This Municipal Stormwater Management Plan will be updated to be consistent with any future updates to the RSIS.

The Township's Stormwater Management Ordinance requires all new development and redevelopment plans to comply with New Jersey's Soil Erosion and Sediment Control Standards. During construction, Township inspectors will observe on-site soil erosion and sediment control measures and report inconsistencies to the local Soil Conservation District.

Nonstructural Stormwater Management Strategies

The Township has reviewed the Master Plan and ordinances and has provided a list of the sections in the Township land use and zoning ordinances that are to be modified to incorporate nonstructural stormwater management strategies. These are the ordinances identified for revision. Once the ordinance texts are completed, they will be submitted to the county review agency for review and approval within 24 months of the effective date of the Stormwater Management Rules. A copy will be sent to the Department of Environmental Protection at the time of submission.

Chapter 255 of the Township Code, entitled "Land Development Ordinance" was reviewed with regard to incorporating nonstructural stormwater management strategies. Several changes are proposed to be made to "Part 4: Design Standards" of Chapter 255 to incorporate these strategies.

Section 255-89. Landscaping. The intent and purpose of this article is to "preserve elements of the existing landscape" and "to provide consistent landscaping proposals with existing foliage". The language of this section will be amended to require the use of native vegetation, which requires less fertilization and watering than non-native species. This section will be amended to require the preservation of natural wood tracts and limit land disturbance for new construction.

Section 255-92. Buffering and Screening. The seetion will be amended to allow buffer areas to be used for stormwater management by disconnecting impervious surfaces and treating runoff from these impervious surfaces. Requirements for buffer widths will be added.

Section 255-84. Curbs and Gutters. This section requires that concrete curb, monolithic concrete curbs and gutter or granite block curbing be installed. The section will be amended to allow curb cuts or flush curbs with curb stops to allow vegetated swales to be used for stormwater conveyance and to allow the disconnection of impervious areas.

Section 255-88. Stormwater Management Ordinance. This section establishes minimum stormwater management requirements and controls for land development and incorporates Stormwater Management Regulations (NJAC 7:8 et seq). The regulations require the use of non-structural BMP's in preference to structural solutions. Non-structural, low impact solutions will be emphasized. Groundwater recharge standards are a required element of the Stormwater Management Ordinance.

Section 255-67. Off-Tract Improvements. This section contains wording that requires off-tract improvements to meet the design and performance requirements enumerated in Chapter 255. Land Development Ordinance.

Section 255-83. Off Street Parking and Loading. Paragraphs H. Curbs and I. Drainage require concrete or Belgian block curbing to define the limits of parking, pedestrian access and landscaping as well as control drainage. Paragraph G. Variances permits the applicant to request a variance for the number of parking spaces required, if demonstrated. Item G.4. requires "Landscaped Parking' as compensation. This section will be amended to allow for flush curb with curb stop, or curbing with curb cuts to encourage developers to allow for the discharge of impervious areas into landscaped areas for stormwater management. Also, language will be added to allow for use of natural vegetated swales for the water quality design storm, with overflow for larger storm events

into storm sewers. This section will be amended to allow pervious paving to be used in areas to provide overflow parking, vertical parking structures and shared parking.

Table 1. Riverside Township. Schedule of District Regulations. The Maximum Lot Cover (percent) will be reviewed in an attempt to reduce the percent impervious coverage for each zone, particularly the S-D Special Development District which incorporates the requirements of the other use districts into the guidelines. The permitted maximum lot coverages vary from 70% for the I-1 district, 75% for the I-2 district and 80% for the R-1, R-2, R-3, C-1 and C-2 districts. The SD Zone permitted impervious coverages refer to the Bulk Requirements of the other districts, depending upon the use.

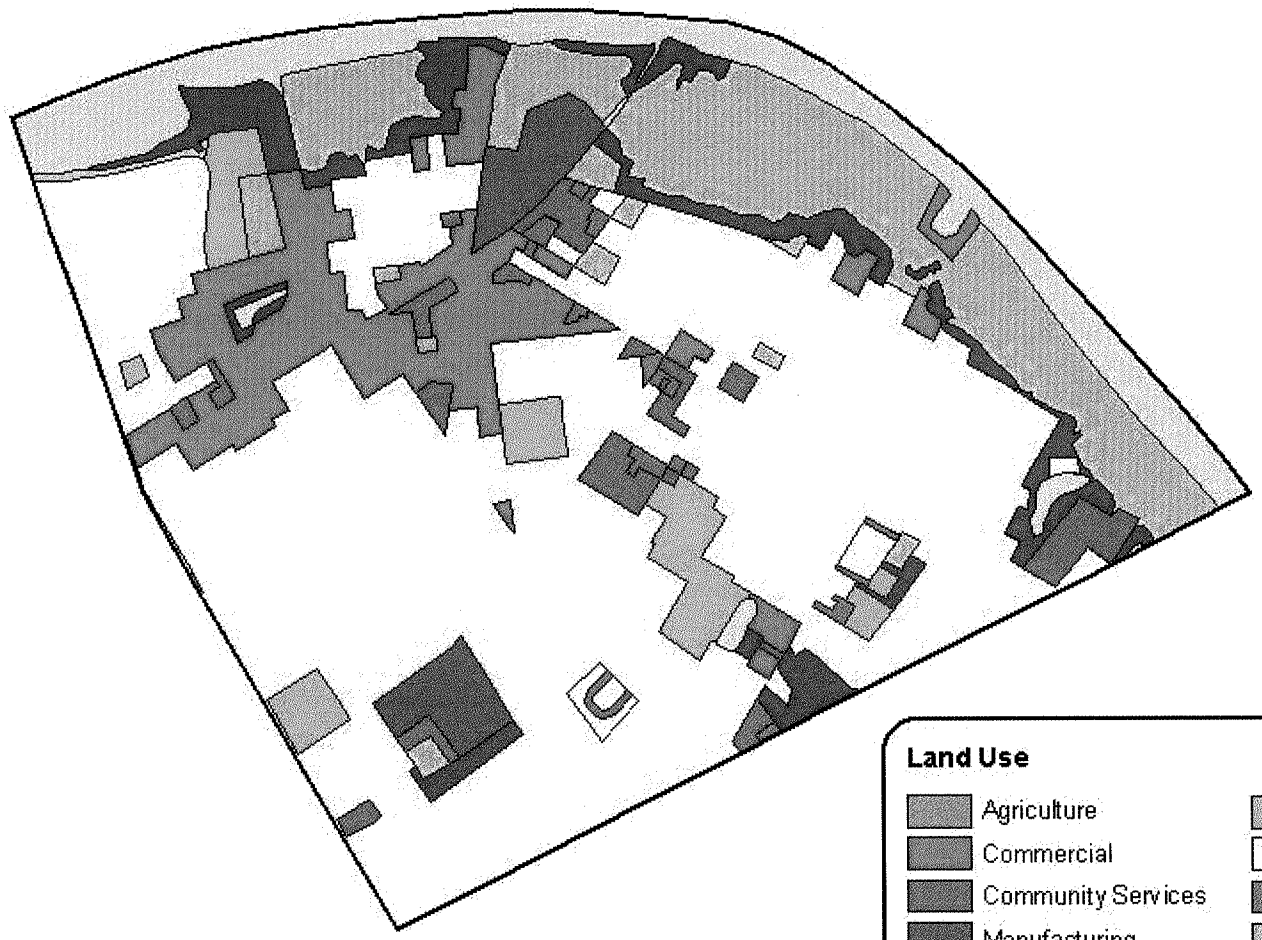
The Ordinance will be amended to notify applicants that compliance with the Design and Performance Standards of the MSWMP is necessary.

Land Use/Build-Out Analysis

A detailed land use analysis for the Township was conducted. Figure 2 illustrates the HUC14s within the Township. Figure 4 illustrates the NJDEP mapped wetlands within the Township. Figure 5 illustrates the existing land use in the Township based on DVRPC 2000 Land Use Data. The Township zoning map is shown in Figure 6. The build-out calculations for impervious cover are shown in Table 1. Table 2 presents the pollutant loading coefficients by land cover. The pollutant loads at full build-out are presented in Table 3.

Since a large quantity of TSS, TN and TP loading occurs from the Non-Point Source loads at Build-Out in the Residential Zones (R-1 particularly), attention will be given to increase quality, decrease surface flow, and increase groundwater recharge in these areas of Riverside Township.

Riverside Township
Land Use Classification



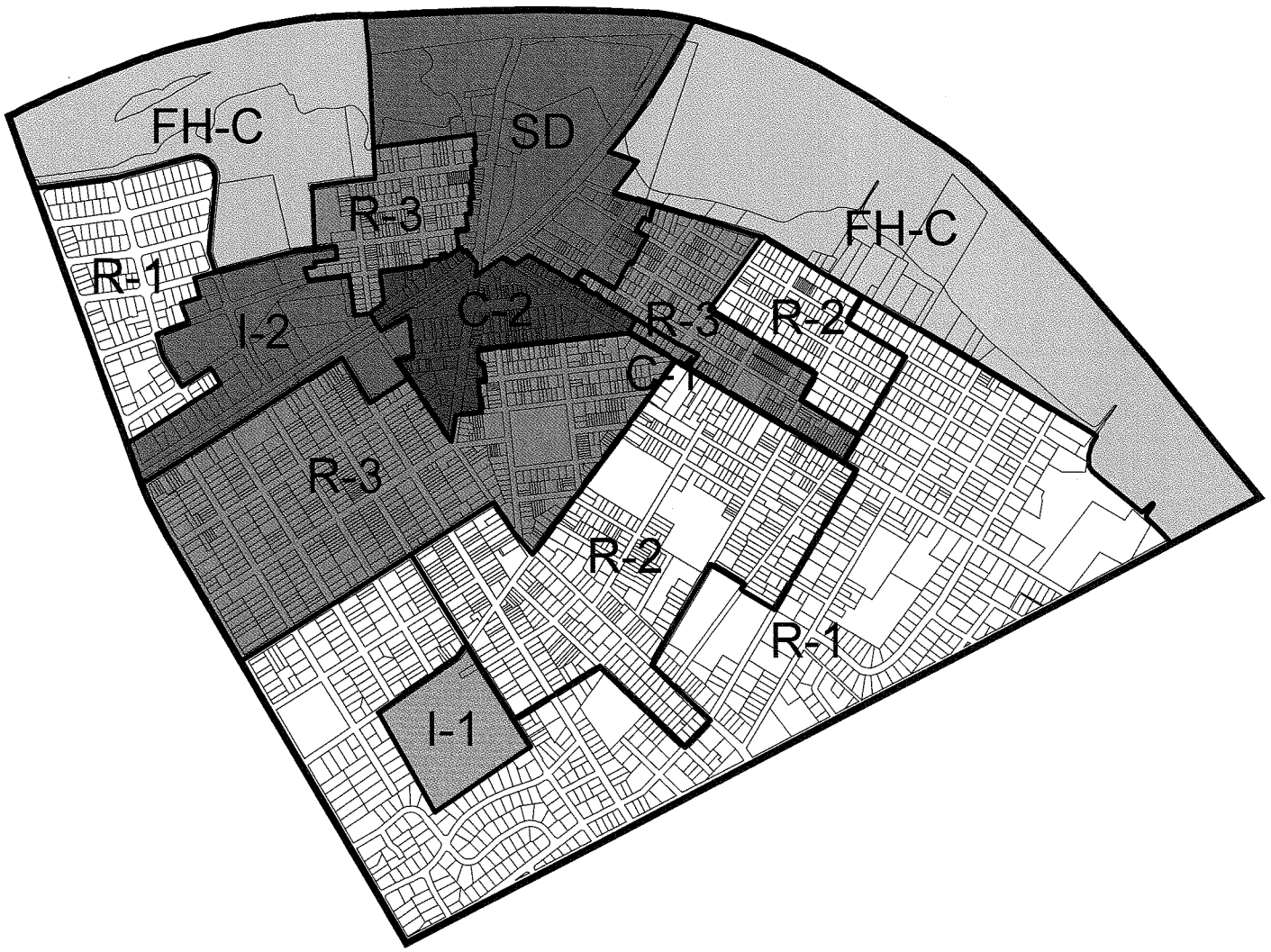
Land Use

- Agriculture
- Commercial
- Community Services
- Manufacturing
- Military
- Mining
- Parking
- Recreation
- Residential
- Transportation
- Utility
- Vacant
- Water
- Wooded

Created by Burlington County
Office of Resource Conservation
October 2004

Sources: Burlington County Engineering municipal boundaries, DVRPC 2000 Land Use Data

FIGURE 5



ZONING LEGEND

- R-1, SINGLE FAMILY RESIDENTIAL
- R-2, SINGLE FAMILY RESIDENTIAL
- R-3, SINGLE FAMILY RESIDENTIAL & TWO FAMILY RESIDENTIAL
- SD, SPECIAL DEVELOPMENT
- C-1, NEIGHBORHOOD COMMERCIAL
- C-2, DOWNTOWN COMMERCIAL
- I-1, GENERAL INDUSTRIAL
- I-2, INDUSTRIAL / COMMERCIAL
- FH-C, FLOOD HAZARD / CONSERVATION

RIVERSIDE TOWNSHIP
ZONING MAP

Prepared By:
Richard A. Alaimo Association of Engineers
N.T.S.
FEBRUARY 2005

FIGURE 6

TABLE 1: BUILD-OUT CALCULATIONS FOR RIVERSIDE TOWNSHIP

HUC14 and Zone	Total Area (Acres)	Wetlands/ Water Area (Acres)	Developable Area (Acres)	Allowable Impervious (%)	Build-Out Impervious (Acres)
02040202090010					
General Industrial (I-1)	11.31	0.00	11.31	75%	8.48
Industrial/Commercial (I-2)	9.18	0.00	9.18	70%	6.43
Single-Family Residential (R-1)	77.24	0.00	77.24	80%	61.79
Single-Family Residential & Two-Family Residential (R-3)	44.82	0.00	44.82	80%	35.86
TOTALS	**142.55**	**0.00**	**142.55**	**79%**	**112.56**
02040202080050					
Neighborhood Commercial (C-1)	1.67	0.00	1.67	80%	1.34
Downtown Commercial (C-2)	32.97	0.00	32.97	95%	31.32
Flood Hazard/Conservation (FH-C)	234.29	116.25	118.04	70%	82.63
General Industrial (I-1)	8.07	0.00	8.07	75%	6.05
Industrial/Commercial (I-2)	35.45	0.00	35.45	70%	24.82
Single-Family Residential (R-1)	229.26	0.60	228.66	80%	182.93
Single-Family Residential (R-2)	139.08	0.00	139.08	80%	111.26
Single-Family Residential & Two-Family Residential (R-3)	139.18	0.63	138.55	80%	110.84
Special Development (SD)	86.88	14.65	72.23	80%	57.78
TOTALS	**906.85**	**132.13**	**774.72**	**79%**	**608.97**

TABLE 2: POLLUTANT LOADS BY LAND COVER

Land Cover	Total Phosphorus Load (lbs/acre/year)	Total Nitrogen Load (lbs/acre/year)	Total Suspended Solids Load (lbs/acre/yr)
High, Medium Density Residential	1.4	15	140
Low Density, Rural Residential	0.6	5	100
Commercial	2.1	22	200
Industrial	1.5	16	200
Urban, Mixed Urban, Other Urban	1.0	10	120
Agricultural	1.3	10	300
Forest, Water, Wetlands	0.1	3	40
Barrenland/Transitional Area	0.5	5	60

TABLE 3: HUC-14 NONPOINT SOURCE LOADS AT BUILD-OUT FOR RIVERSIDE TOWNSHIP

HUC14 and Zone	Build-Out Zoning	Developable Area (Acres)	TP (lbs/acre/yr)	TP (lbs/yr)	TN (lbs/acre/yr)	TN (lbs/yr)	TSS (lbs/acre/yr)	TSS (lbs/yr)
02040202090010								
General Industrial (I-1)	Industrial	11.31	1.5	16.97	16	180.96	200	2,262.00
Industrial/Commercial (I-2)	Commercial	9.18	2.1	19.28	22	201.96	200	1,836.00
Single-Family Residential (R-1)	High, Medium Density Residential	77.24	1.4	108.14	15	1,158.60	140	10,813.60
Single-Family Residential & Two-Family Residential (R-3)	High, Medium Density Residential	44.82	1.4	62.75	15	672.30	140	6,274.80
TOTALS		**142.55**		**207.13**		**2,213.82**		**21,186.40**
02040202080050								
Neighborhood Commercial (C-1)	Commercial	1.67	2.1	3.51	22	36.74	200	334.00
Downtown Commercial (C-2)	High, Medium Density Residential	32.97	1.4	46.16	15	494.55	140	4,615.80
Flood Hazard/Conservation (FH-C)	Barrenland/Transitional Area	118.04	0.5	59.02	5	590.20	60	7,082.40
General Industrial (I-1)	Industrial	8.07	1.5	12.11	16	129.12	200	1,614.00
Industrial/Commercial (I-2)	Commercial	35.45	2.1	74.45	22	779.90	200	7,090.00
Single-Family Residential (R-1)	High, Medium Density Residential	228.66	1.4	320.12	15	3,429.90	140	32,012.40
Single-Family Residential (R-2)	High, Medium Density Residential	139.08	1.4	194.71	15	2,086.20	140	19,471.20
Single-Family Residential & Two-Family Residential (R-3)	High, Medium Density Residential	138.55	1.4	193.97	15	2,078.25	140	19,397.00
Special Development (SD)	High, Medium Density Residential	72.23	1.4	101.12	15	1,083.45	140	10,112.20
TOTALS		**774.72**		**1,005.16**		**10,708.31**		**101,729.00**

Mitigation Plan

This mitigation plan **Mitigation Plan** is provided for a proposed development that is granted a variance or exemption from the stormwater management design and performance standards. Presented is a hierarchy of options.

Mitigation Project Criteria

1. The mitigation project must be implemented in the same drainage area as the proposed development. The project must provide additional groundwater recharge benefits, or protection from stormwater runoff quality or quantity from previously developed property that does not currently meet the design and performance standards outlined in the Municipal Stormwater Management Plan. The developer must ensure the long-term maintenance of the project, including the maintenance requirements under Chapters 8 and 9 of the NJDEP Stormwater BMP Manual.

    a. The applicant can select one of the following projects listed to compensate for the deficit from the performance standards resulting from the proposed project. More detailed information on the projects can be obtained from the Township Engineer. Listed below are specific projects that can be used to address the mitigation requirement.

    Option 1 – Groundwater Recharge

    - Retrofit the existing stormwater management basins under Township jurisdiction to provide groundwater recharge.
    - Retrofit existing Township facilities (ie., municipal building, library, etc.) with dry wells to provide groundwater recharge.

    Option 2 – Water Quality

    - Retrofit the existing stormwater management basin under Township jurisdiction to provide water quality measures.
    - Retrofit the existing parking facilities at the various municipal facilities to provide the removal of 80 percent of the total suspended solids.

    Option 3 – Water Quantity

    - Install stormwater management measures in the open space at various municipal facilities to reduce the peak flow from the upstream development on the receiving streams.

2. If a suitable site cannot be located in the same drainage area as the proposed development, as discussed in Option 1, the mitigation project may provide mitigation that is not equivalent to the impacts for which the variance or exemption is sought, but that addresses the same issue. For example, if a variance or exemption is given because the 80 percent TSS requirement is not met, the selected project may address water quality

impacts due to fecal impairment. Listed below are specific projects that can be used to address the mitigation option.

Groundwater Recharge

- Install measures on other property owned by developer within the Township.

Water Quality

- Provide goose management measures, including public education at Municipal Parks.

Water Quantity

- Provide beaver management measures, including public education.

3. Another source of potential mitigation projects is within the "Prioritization of Potential Streambank Stabilization and Habitat Restoration Projects in the Rancocas Creek Watershed" prepared by the Burlington County Soil Conservation District. Other sources of potential mitigation projects would include Masons Creek Regional Stormwater Management Plan Guidance Document and any future watershed studies done within the municipality.

4. The municipality may allow a developer to provide funding or partial funding to the municipality for an environmental enhancement project that has been identified in a Municipal Stormwater Management Plan, or towards the development of a Regional Stormwater Management Plan. The funding must be equal to or greater than the cost to implement the mitigation outlined above, including costs associated with purchasing the property or easements for mitigation, and the cost associated with the long-term maintenance requirements of the mitigation measure.

Wellhead Protection

The Township is evaluating a number of alternatives to address additional development restrictions in the Wellhead Protection Areas noted in Figure 2.

APPENDIX A

2006- #23

RIVERSIDE TOWNSHIP

STORMWATER CONTROL ORDINANCE

Revised July 28, 2006

Table of Contents

		Page
Section 1:	Scope and Purpose	1
Section 2:	Definitions	2
Section 3:	General Standards	5
Section 4:	Stormwater Management Requirements for Major Development	5
Section 5:	Calculation of Stormwater Runoff and Groundwater Recharge	15
Section 6:	Standards for Structural Stormwater Management Measures	16
Section 7:	Sources for Technical Guidance	17
Section 8:	Safety Standards for Stormwater Management Basins	17
Section 9:	Requirements for a Site Development Stormwater Plan	20
Section 10:	Maintenance and Repair	25
Section 11:	Mitigation Projects	28
Section 12:	Effective Date	30
Section 13:	Severability	30

Section 1: Scope and Purpose

A. Policy Statement

Flood control, groundwater recharge, and pollutant reduction through nonstructural or low impact techniques shall be explored before relying on structural BMPs. Structural BMPs should be integrated with nonstructural stormwater management strategies and proper maintenance plans. Nonstructural strategies include both environmentally sensitive site design and source controls that prevent pollutants from being placed on the site or from being exposed to stormwater. Source control plans should be developed based upon physical site conditions and the origin, nature, and the anticipated quantity or amount of potential pollutants. Multiple stormwater management BMPs may be necessary to achieve the established performance standards for water quality, quantity, and groundwater recharge.

B. Purpose

It is the purpose of this ordinance to establish minimum stormwater management requirements and controls for "major development," as defined in Section 2.

C. Applicability

1. This ordinance shall be applicable to all site plans and subdivisions for the following major developments that require preliminary or final site plan or subdivision review:

   a. Non-residential major developments; and

   b. Aspects of residential major developments that are not pre-empted by the Residential Site Improvement Standards at N.J.A.C. 5:21.

2. This ordinance shall also be applicable to all major developments undertaken by Riverside Township.

D. Compatibility with Other Permit and Ordinance Requirements

Development approvals issued for subdivisions and site plans pursuant to this ordinance are to be considered an integral part of development approvals under the subdivision and site plan review process and do not relieve the applicant of the responsibility to seeure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance. In their interpretation and application, the provisions of this ordinance shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare. This ordinance is not intended to interfere with, abrogate, or annul any other ordinances, rule or regulation, statute, or other provision of law except that, where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, the more restrictive provisions or higher standards shall control.

This ordinance is intended to supercede those paragraphs and standards listed in the Riverside Code where they are in conflict with this ordinance.

Section 2: Definitions

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application. The definitions below are the same as or based on the corresponding definitions in the Stormwater Management Rules at N.J.A.C. 7:8-1.2.

"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 eounty review agency may either be:

A county planning agency; or

A county water resource 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 New Jersey 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, by any person, 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 of agricultural lands, development means: any activity that requires a State permit; any activity reviewed by the County Agricultural Board (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, sediments, or dissolved materials drain to a partieular receiving waterbody or to a particular point along a receiving waterbody.

"Environmentally critical areas" means an area or feature which is of significant environmental value, including but not limited to: stream corridors; natural heritage priority sites; habitat 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 Landscape Project as approved by the Department's Endangered and Nongame Species Program.

"Empowerment Neighborhood" means a neighborhood 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.

"Major development" means any "development" that provides for ultimately disturbing one or more acres of land. 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.

"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, municipality, or political subdivision of this State subject to municipal jurisdiction pursuant to the Municipal Land Use Law , N.J.S.A. 40:55D-1 et seq.

"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, 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 non-stormwater discharges into stormwater conveyances.

"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 Counеil 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 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:

Delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PA1), Designated Centers, Cores or Nodes;

Designated as CAFRA Centers, Cores or Nodes;

Designated as Urban Enterprise Zones; and

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.

Section 3: General Standards

A. Design and Performance Standards for Stormwater Management Measures

1. Stormwater management measures for major development shall be developed to meet the erosion control, groundwater recharge, stormwater runoff quantity, and stormwater runoff quality standards in Section 4. To the maximum extent practicable, these standards shall be met by incorporating nonstructural stormwater management strategies into the design. If these strategies alone are not sufficient to meet these standards, structural stormwater management measures necessary to meet these standards shall be incorporated into the design.

2. The standards in this ordinance apply only to new major development and are intended to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge. The standards do not apply to new major development to the extent that alternative design and performance standards are applicable under a regional stormwater management plan or Water Quality Management Plan adopted in accordance with Department rules.

   Note: Alternative standards shall provide at least as much protection from stormwater-related loss of groundwater recharge, stormwater quantity and water quality impacts of major development projects as would be provided under the standards in N.J.A.C. 7:8-5.

Section 4: Stormwater Management Requirements for Major Development

A. The development shall incorporate a maintenance plan for the stormwater management measures incorporated into the design of a major development in accordance with Section 10. A major development is defined as one which ultimately disturbs one (1) or more acres of land.

B. Stormwater management measures shall avoid adverse impacts of concentrated flow on habitat for threatened and endangered species as documented in the Department' Landscape Projeet 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 muhlnebergi (bog turtle).

C. The following linear development projects are exempt from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements of Sections 4.F and 4.G:

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.

D. A waiver from strict compliance from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements of Sections 4.F and 4.G 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 Sections 4.F and 4.G to the maximum extent practicable;

3. The applicant demonstrates that, in order to meet the requirements of Sections 4.F and 4.G, 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 D.3 above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate the requirements of Sections 4.F and 4.G that were not achievable on-site.

E. Nonstructural Stormwater Management Strategies

1. To the maximum extent practicable, the standards in Sections 4.F and 4.G shall be met by incorporating nonstructural stormwater management strategies set forth at Section 4.E into the design. The applicant shall identify the nonstructural measures 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 measures identified in Paragraph 2 below into the design of a particular project, the applicant shall identify the strategy considered and provide a basis for the contention.

2. Nonstructural stormwater management strategies incorporated into site design shall:

a. Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;

b. Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;

c. Maximize the protection of natural drainage features and vegetation;

d. 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 watershed to the point of interest within a watershed;

e. Minimize land disturbance including clearing and grading;

f. Minimize soil compaction;

g. Provide low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers and pesticides;

h. Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas;

i. 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. Such source controls include, but are not limited to:

(1) Site design features that help to prevent accumulation of trash and debris in drainage systems, including features that satisfy Section 4.E.3. below;

(2) Site design features that help to prevent discharge of trash and debris from drainage systems;

(3) Site design features that help to prevent and/or contain spills or other harmful accumulations of pollutants at industrial or commercial developments; and

(4) 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.

3. Site design features identified under Section 4.E.2.i.(2) above shall comply with the following standard to control passage of solid and floatable materials through storm drain inlets. For purposes of this paragraph, "solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard see Section 4.E.3.c below.
   a. 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); or

(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.

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.

b. 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.

c. This standard does not apply:

(1) 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 drain inlets that meet these standards;

(2) Where flows from the water quality design storm as specified in Section 4.G.1 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.

(3) Where flows are conveyed through a trash rack that has parallel bars with one-ineh (1") spacing between the bars, to the elevation of the water quality design storm as specified in Section 4.G.1; or

(4) Where the New Jersey Department of Environmental Protection 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.

4. Any land area used as a nonstructural stormwater management measure to meet the performance standards in Sections 4.F and 4.G shall be dedicated to a government agency, subjected to a conservation restriction filed with the appropriate County Clerk's office, or subject to an approved equivalent restriction that ensures that measure or an equivalent stormwater management measure approved by the reviewing agency is maintained in perpetuity.

5. Guidance for nonstructural stormwater management strategies is available in the New Jersey Stormwater Best Management Practices Manual. The BMP Manual may be obtained from the address identified in Section 7, or found on the Department's website at www.njstormwater.org.

F. Erosion Control, Groundwater Recharge and Runoff Quantity Standards

1. This subsection 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.

   a. 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.

   b. The minimum design and performance standards for groundwater recharge are as follows:

      (1) The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at Section 5, either:

         (a) 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

         (b) Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from pre-construction to post-construction for the 2-year storm is infiltrated.

      (2) This groundwater recharge requirement does not apply to projects within the "urban redevelopment area," or to projects subject to (3) below.

      (3) The following types of stormwater shall not be recharged:

         (a) 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

         (b) 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.

(4) 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.

c. In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at Section 5, complete one of the following:

(1) 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;

(2) 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 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;

(3) Design stormwater management measures so that the post-construction peak runoff rates for the 2, 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. The percentages shall not be applied to post-construction stormwater runoff into tidal flood hazard areas if the increased volume of stormwater runoff will not increase flood damages below the point of discharge; or

(4) In tidal flood hazard areas, stormwater runoff quantity analysis in accordance with (1), (2) and (3) above shall only be applied if the increased volume of stormwater runoff could increase flood damages below the point of discharge.

2. Any application for a new agricultural development that meets the definition of major development at Section 2 shall be submitted to the appropriate 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 the 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 manufacturing of agriculturally related products.

G. Stormwater Runoff Quality Standards

1. Stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff 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 1/4 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 Pollution 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. 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

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		

2. 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 Section 7, or found on the Department's website at www.njstormwater.org. The BMP Manual and other sources of technical guidance are listed in Section 7. 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. A copy of any approved alternative rate or method of calculating the removal rate shall be provided to the Department at the following address: Division of Watershed Management, New Jersey Department of Environmental Protection, PO Box 418 Trenton, New Jersey, 08625-0418.

3. 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
Constructed Stormwater Wetland	90
Extended Detention Basin	40-60
Infiltration Structure	80
Manufactured Treatment Device	See Section 6.C
Sand Filter	80
Vegetative Filter Strip	60-80
Wet Pond	50-90

4. 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.

5. 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 Sections 4.F and 4.G.

6. Additional information and examples are contained in the New Jersey Stormwater Best Management Practices Manual, which may be obtained from the address identified in Section 7.

7. 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.

8. 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 HUC14 drainage area. 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:

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

        (1) 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 the 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 sueeession is provided.

        (2) Encroachment within the designated special water resource protection area under Subsection (1) 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.

b. All stormwater shall be discharged outside of and 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.

c. 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., 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:

(1) Stabilization measures shall not be placed within 150 feet of the Category One waterway;

(2) Stormwater associated with discharges allowed by this section shall achieve a 95 percent TSS post-construction removal rate;

(3) Temperature shall be addressed to ensure no impact on the receiving waterway;

(4) 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;

(5) A conceptual project design meeting shall be held with the appropriate Department staff and Soil Conservation District staff to identify necessary stabilization measures; and

(6) All encroachments proposed under this section shall be subject to review and approval by the Department.

d. 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 Section 4.G(8) has been approved by the Department of Environmental Protection, 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 G.8 shall maintain or enhance the current functional value and overall condition of the special water resource protection area as defined in G.8.a.(1) above. In no case shall a stream corridor protection plan allow the reduction of the Special Water Resource Protection Area to less than 150 feet as measured perpendicular to the waterway subject to this subsection.

e. Paragraph G.8 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.

Section 5: 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:

   a. The USDA Natural Resources Conservation Service (NRCS) methodology, including the NRCS Runoff Equation and Dimensionless Unit Hydrograph, as described in the NRCS National Engineering Handbook Section 4 – Hydrology and Technical Release 55 – Urban Hydrology for Small Watersheds; or

   b. The Rational Method for peak flow and the Modified Rational Method for hydrograph computations.

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 Section 5.A.1.a and the Rational and Modified Rational Methods at Section 5.A.1.b. 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 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 eondition (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 and 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 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 http://www.state.nj.us/dep/njgs/; or at New Jersey Geological Survey, 29 Arctic Parkway, P.O. Box 427 Trenton, New Jersey 08625-0427; (609) 984-6587.

Section 6: 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).

2. Structural stormwater management measures shall be designed to minimize maintenance, facilitate maintenance and repairs, and ensure proper funetioning. Trash racks shall be installed at the intake to the outlet structure as appropriate, and shall have parallel bars with one-inch (1") spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the parallel bars at the outlet structure shall be spaced no greater than one-third (1/3) the width of the diameter of the orifice or one-third (1/3) the width of the weir, with a minimum spacing between bars of one-inch and a maximum spacing between bars of six inches. In addition, the design of trash racks must comply with the requirements of Section 8.D.

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 Section 8.

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, groundwater recharge and water quality design and performance standards established by Section 4 of this ordinance. Manufactured treatment devices may be used to meet the requirements of Section 4 of this ordinance, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department.

Section 7: Sources for Technical Guidance

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

1. Guidelines for stormwater management measures are contained in the New Jersey Stormwater Best Management Practices Manual, as amended. Information is provided on stormwater management measures such as: bioretention systems, constructed stormwater wetlands, dry wells, extended detention basins, infiltration structures, manufactured treatment devices, pervious paving, sand filters, vegetative filter strips, and wet ponds.

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 eontacting 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.

Section 8: Safety Standards for Stormwater Management Basins

A. This section sets forth requirements to protect public safety through the proper design and operation of stormwater management basins. This section applies to any new stormwater management basin.

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.

B. Requirements for Trash Racks, Overflow Grates and Escape Provisions

1. 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:

a. The trash rack should be constructed primarily of bars aligned in the direction of flow with one (1) inch spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the bars shall be spaced no greater than one-third (1/3) the width of the hydraulic opening it is protecting or six inches, whichever is less. Transverse bars aligned perpendicular to flow should be sized and spaced as necessary for rack stability and strength.

b. The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure.

c. The trash rack shall have sufficient net open area under clean conditions. 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.

d. The trash rack shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs/ft sq.

2. An overflow grate is designed to prevent obstruction of the overflow structure. If an outlet structure has an overflow grate, such grate shall meet the following requirements:

   a. The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance.

   b. The overflow grate spacing shall be no less than two inches across the smallest dimension.

   c. The overflow grate shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs./ft sq.

3. For purposes of this paragraph 3, escape provisions means the permanent installation of ladders, steps, rungs, or other features that provide easily accessible means of egress from stormwater management basins. Stormwater management basins shall include escape provisions as follows:

   a. If a stormwater management measure has an outlet structure, escape provisions shall be incorporated in or on the structure. Escape provisions means the permanent installation of ladders, steps, rungs, or other features that provide readily accessible means of ingress and egress from the outlet structure. With the prior approval of the reviewing agency identified in Section 8.C a free-standing outlet structure may be exempted from this requirement.

   b. 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. Such 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 Section 8.D for an illustration of safety ledges in a stormwater management basin.

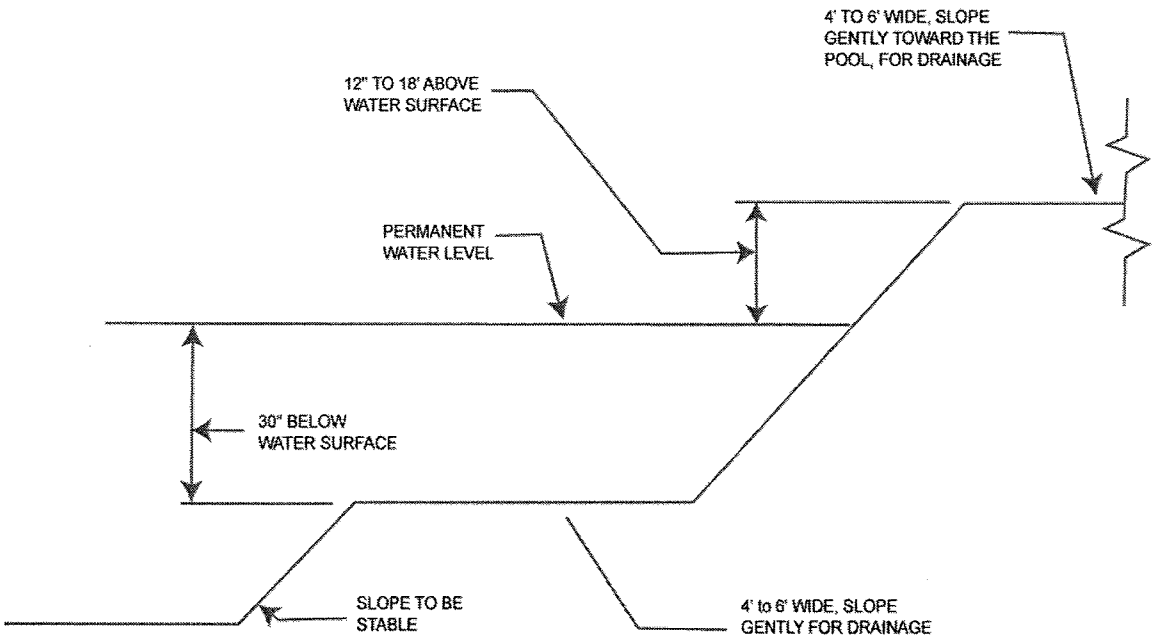
c. In new stormwater management basins, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than 3 horizontal to 1 vertical.

C. Variance or Exemption from Safety Standards

1. 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.

D. Illustration of Safety Ledges in a New Stormwater Management Basin

Depicted is an elevational view.



NOTE: NOT DRAWN TO SCALE

NOTE: FOR BASINS WITH PERMANENT POOL OF WATER ONLY

Section 9: Requirements for a Site Development Stormwater Plan

A. Submission of Site Development Stormwater Plan

1. Whenever an applicant seeks municipal approval of a development subject to this ordinance, the applicant shall submit all of the required components of the Checklist for the Site Development Stormwater Plan at Section 9.C below as part of the submission of the applicant's application for subdivision or site plan approval. These required components are in addition to any other information required under any provisions of Riverside Township's land use ordinance.

2. The applicant shall demonstrate that the project meets the standards set forth in this ordinance.

3. The applicant shall submit three (4) copies of the materials listed in the checklist for site development stormwater plans in accordance with Section 9.C of this ordinance.

B. Site Development Stormwater Plan Approval

1. The applicant's Site Development project shall be reviewed as a part of the subdivision or site plan review process by the municipal board or official from which municipal approval is sought. That municipal board or official shall consult the engineer retained by the Planning and/or Zoning Board (as appropriate) to determine if all of the checklist requirements have been satisfied and to determine if the project meets the standards set forth in this ordinance.

C. Checklist Requirements

Any application for approval of a major development shall include at least the following information. All required engineering plans shall be submitted to the Riverside Township in CAD Format 15 or higher, registered and rectified to NJ State Plane Feet NAD 83 or Shape Format NJ State Plan Feet NAD 83, and all other documents shall be submitted in both paper and commonly used electronic file formats such as PDF, word processing, database or spreadsheet files. Three (3) copies of each item shall be submitted. The municipality may choose to revise these criteria for eonsistency with their own software requirements.

1. Topographic Base Map

The applicant shall submit a topographic base map of the site which extends a minimum of two hundred (200) feet beyond the limits of the proposed development, at a scale of one (1) inch = two hundred (200) feet or greater, showing one (1) foot contour intervals. The map shall indicate the following: existing surface water drainage, shorelines, steep slopes, soils, highly erodible soils, perennial or intermittent streams that drain into or upstream of any Category One Waters, wetlands and floodplains along with their appropriate buffer strips, marshlands and other wetlands, pervious or vegetative surfaces, existing surface and subsurface human-made structures, roads, bearing and distances of property lines, and significant natural and manmade features not otherwise shown. Riverside Township may require upstream tributary drainage system information as necessary.

2. Environmental Site Analysis

The applicant shall submit a written description along with the drawings of the natural and human-made features of the site and its environs. This description should include:

a. A discussion of environmentally critical areas, soil conditions, slopes, wetlands, waterways and vegetation on the site. Particular attention should be given to unique, unusual or environmentally sensitive features and to those that provide particular opportunities for or constraints on development; and

b. Detailed soil and other environmental conditions on the portion of the site proposed for installation of any stormwater BMPs, including, at a minimum: soils report based on onsite soil tests; locations and spot elevations in plan view of test pits and permeability tests; permeability test data and calculations; and any other required soil data (e.g., mounding analyses results) correlated with location and elevation of each test site; cross-section of proposed stormwater BMO with side-by-side depiction of soil profile drawing to scale and seasonal high water table elevation identified; and any other information necessary to demonstrate the suitability of the specific proposed structural and nonstructural stormwater management measures relative to the environmental conditions on the portion(s) of the site proposed for implementation of those measures.

3. Project Description and Site Plan

The applicant shall submit a map (or maps) at the scale of the topographical base map indicating the location of existing and proposed buildings, roads, parking areas, utilities, structural facilities for stormwater management and sediment control, and other permanent structures. The map(s) shall also clearly show areas where alterations occur in the natural terrain and cover, including lawns and other landscaping, and seasonal high ground water elevations. A written description of the site plan and justification of proposed changes in natural conditions may also be provided.

4. Land Use Planning and Source Control Plan

a. The applicant shall submit a detailed Land se Planning and Source Control Plan which provides a description of how the site will be developed to meet the erosion control, groundwater recharge and stormwater runoff quantity and quality standards at Section 4 through use of nonstructural or low impact development techniques and source controls to the maximum extent practicable before relying on structural BMPs. The Land Use Planning and Source Control Plan shall include a detailed narrative and associated illustrative maps and/or plans that specifically address how each of the following nine(9) nonstructural strategies identified in Subchapter 5 of the NJDEP Stormwater Management Rules (N.J.A.C. 7:8-5) and set forth below (4.a.(1). through (9).) will be implemented to the maximum extent practicable to meet the standards at Section IV of this ordinance on the site. If one or more of the nine (9) nonstructural strategies will <u>not</u> be implemented on the site, the applicant shall provide a detailed rationale establishing a basis for the contention that use of the strategy is not practicable on the site.

(1) Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;

(2) Minimize impervious 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 pre-development "time of concentration";

(5) Minimize land disturbance including clearing and grading;

(6) Minimize soil compaction and all other soil disturbance;

(7) Provide low-maintenance landscaping that provides for the retention and planting of native plants 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 shall include, but are not limited to:

i. Site design features that help to prevent accumulation of trash and debris in drainage systems;

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. 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, when establishing vegetation after land disturbance.

b. For sites where stormwater will be generated from "high pollutant loading areas" or where stormwater will be exposed to "source material", the applicant shall also demonstrate in the Land Use Planning and Source Control Plan that the requirements of Section 4 have been met.

c. The use of nonstructural strategies to meet the performance standards in Section 4 of this ordinance is not required for development sites creating less than one (1) acre of disturbance. However, each application for major development and any other application where Riverside Township otherwise requires a landscaping plan shall

contain a landscaping or revegetation plan. In addition, the applicant shall demonstrate that, at a minimum, existing trees and vegetation on the development site will be preserved and protected according to the minimum standards established by provisions of the Riverside Township Land Use Ordinance, Zoning Ordinance or by conditions of zoning or variance approval.

5. Stormwater Management Facilities Map

   The applicant shall submit a map, at the same scale as the topographic base map, depicting the following information:

   a. Total area to be disturbed, paved and/or built upon, proposed surface contours, land area to be occupied by the stormwater management facilities and the type of vegetation thereon, and details of the proposed plan to control and dispose of stormwater.

   b. Details of all stormwater management facility designs, during and after construction, including discharge provisions, discharge capacity for each outlet at different levels of detention and emergency spillway provisions with maximum discharge capacity of each spillway.

6. Calculations

   a. The applicant shall submit eomprehensive hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in Section 5 of this ordinance. The standards for groundwater recharge and stormwater runoff rate, volume and quality required by Section 4 shall be met using the methods, calculations and assumptions provided in Section 5.

   b. When the proposed stormwater management control measures (e.g., infiltration basins) depend on the hydrologic properties of soils, then a soils report shall be submitted. The soils report shall be based on onsite boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soils present at the location of the control measure.

7. Inspection, Maintenance and Repair Plan

   The applicant shall submit a detailed plan describing how the proposed stormwater management measure(s) shall meet the maintenance and repair requirements of Section 10 of this ordinance. Said plan shall include, at a minimum, the following elements:

   a. The frequency with which inspections will be made;

   b. The specific maintenance tasks and requirements for each proposed structural and nonstructural BMP;

   c. The name, address and telephone number for the entity responsible for implementation of the maintenance plan;

   d. The reporting requirements; and

e. Copies of the inspection and maintenance reporting sheets.

8. Waiver from Submission Requirements

The municipal official or board reviewing an application under this ordinance may, in consultation with the municipal engineer, waive submission of any of the requirements in Sections 9.C.1 through 9.C.6 of this ordinance when it can be demonstrated that the information requested is impossible to obtain or it would create a hardship on the applicant to obtain and its absence will not materially affect the review process.

Section 10: Maintenance and Repair

A. Applicability

Projects subject to review pursuant to Section 1.C of this ordinance shall comply with the requirements of Sections 10.B and 10.C below.

B. General Inspection, Maintenance and Repair Plan

1. The design engineer shall prepare an Inspection, Maintenance and Repair Plan for the stormwater management measures, including both structural and nonstructural measures incorporated into the design of a major development. This plan shall be submitted as part of the Checklist Requirements established in Section 9.C. Inspection and maintenance guidelines for stormwater management measures are available in the New Jersey BMP Manual.

2. The Inspection, Maintenance and Repair Plan shall contain the following:

a. Accurate and comprehensive drawings of the site's stormwater management measures;

b. Specific locations of each stormwater management measure identified by means of longitude and latitude as well as block and lot number;

c. Specific preventative and corrective maintenance tasks and schedules for such tasks for each stormwater BMP;

d. Cost estimates, including estimated cost of sediment, debris or trash removal; and

e. The name, address and telephone number of the person or persons responsible for regular inspections and preventative and corrective maintenance (including repair and replacement). If the responsible person or persons is a corporation, company, partnership, firm, association, municipality or political subdivision of this State, the name and telephone number of an appropriate contact person shall also be included.

3. The person responsible for inspection, maintenance and repair identified under Section 10.B.2 above shall maintain a detailed log of all preventative and corrective maintenance performed for the site's stormwater management measures, including a record of all

inspections and copies of all maintenance-related work orders in the Inspection, Maintenance and Repair Plan. Said records and inspection reports shall be retained for a minimum of five (5) years.

4. If the Inspection, Maintenance and Repair Plan identifies a person other than the developer (for example, a public agency or homeowners' association as having the responsibility for inspection and 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 measure to such person under an applicable ordinance or regulation.

5. If the person responsible for inspection, maintenance and repair identified under Section 10.B.3 above is not a public agency, the maintenance plan and any future revisions based on Section 10.B.6 below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan shall be undertaken.

6. The person responsible for inspection, maintenance and repair identified under Section 10.B.2 above shall evaluate the effectiveness of the Inspection, Maintenance and Repair Plan at least once per year and update the plan and the deed as needed.

7. The person responsible for inspection, maintenance and repair identified under Section 10.B.2 above shall submit the updated Inspection, Maintenance and Repair Plan and the documentation required by Sections 10.B.2 and 10.B.3 above to Riverside Township once a year.

8. The person responsible for inspection, maintenance and repair identified under Section 10.B.2 above shall retain and make available, upon request by any public entity with administrative, health, environmental or safety authority over the site Inspection, Maintenance and Repair Plan and the documentation required by Sections 10.B.2 and 10.B.3.

C. Responsibility for inspection, repair and 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. Preventative and corrective maintenance shall be performed to maintain the function of the stormwater management measure, including, but not limited to: repairs or replacement to any associated appurtenance of the measure; removal of sediment, debris or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; repair or replacement of linings; and restoration of infiltration function.

E. Stormwater management measure easements shall be provided by the property owner as necessary for facility inspections and maintenance and preservation of stormwater runoff conveyance, infiltration, and detention areas and facilities. The purpose of the easement shall be specified in the maintenance agreement.

F. In the event that the stormwater management measure becomes a public health nuisance or danger to public safety or public health, or if it is in need of maintenance or repair, Riverside Township shall so notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have fourteen (14) days to effect maintenance and repair of the facility in a manner that is approved by the municipal engineer or the municipal engineer's designee. Riverside Township, at its discretion, may extend the time allowed for effecting maintenance and repair for good cause. If the responsible person fails or refuses to perform such maintenance and repair within the allowable time, Riverside Township may immediately proceed to do so with its own forces and equipment and/or through contractors. The costs and expenses of such maintenance and repair by Riverside Township shall be entered on the tax roll as a special charge against the property and collected with any other taxes levied thereon for the year in which the maintenance and repair was performed.

G. Requirements for Inspection and Repair of Stormwater BMPs that rely on infiltration

If a stormwater infiltration BMP is incorporated into the design of a major development, the applicant shall include the following requirements in its Inspection, Maintenance and Repair Plan:

1. Once per month (if needed): Mow side slopes, remove litter and debris, stabilize eroded bands, repair erosion at inflow structures(s);

2. After every storm exceeding one (1) inch of rainfall: Ensure that infiltration BMPs drain completely within seventy-two (72) hours after the storm event. If stored water fails to infiltrate seventy-two (72) hours after the end of the storm, corrective measures shall be taken. Raking or tilling by light equipment can assist in maintaining infiltration capacity and break up clogged surfaces;

3. Four times per year (quarterly): Inspect stormwater infiltration BMPs for clogging and excessive debris and sediment accumulation with BMP, remove sediment (if needed) when completely dry;

4. Two times per year: Inspect for signs of damage to structures, repair eroded areas, check for signs of petroleum contamination and remediate;

5. Once per year: Inspect BMPs for unwanted tree growth and remove if necessary, disc or otherwise aerate bottom of infiltration basin to a minimum depth of six (6) inches; and

6. After every storm exceeding one (1) inch of rainfall, inspect and, if necessary remove and replace K5 sand layer and accumulated sediment, to restore original infiltration rate.

7. Additional guidance for the inspection, maintenance and repair of stormwater infiltration BMPs can be found in the New Jersey BMP Manual.

H. Maintenance Guarantee

1. The applicant shall provide a maintenance guarantee in accordance with N.J.S.A. 40:55D-53 to ensure that all stormwater management measures required under the provisions of this ordinance will be maintained in accordance with the specifications established herein.

2. Additionally, for those stormwater management measures that are to be inspected, maintained and repaired by a public agency, the Riverside Township shall collect an up-front fee from the applicant in the amount the Riverside Township determines is needed to provide long-term inspection, maintenance and repair of all stormwater management measures. This up-front fee shall be placed in a dedicated cash management account and expended by the Riverside Township for the sole purpose of conducting inspection, maintenance and repair activities for all stormwater management measures required under the applicant's major development application approval. The calculation of the fee shall be based upon the Inspection, Maintenance and Repair Plan (Plan) required to be prepared by the applicant and approved by the Riverside Township. The Plan shall include an estimate of the present value of the cost to inspect, maintain and repair the stormwater management measure(s) in accordance with the Plan for the useful life of those measure(s). The Riverside Township shall furnish the applicant their published hourly rates as prescribed by their salary ordinance for public works' and other personnel having responsibilities associated with stormwater management. Added to this fee shall be an amount mutually determined by the Riverside Township and the applicant to account for the reconstruction of stormwater management measures that are reasonably anticipated to be subject to long term failure. After an agreed number of years, depending on the type of measure(s), the measure(s) will need to be reconstructed. The amount shall be based on the future value of the measure(s) being reconstructed. Both inflation rates and bank interest rates shall be based on the ten year average published in the Wall Street Journal or other approved publication. Interest accruing in the account must also be accounted for at an agreed upon interest rate, to arrive at an amount. The costs for reconstructing the measure9s) shall be taken from the engineer's probable cost estimate that is utilized to determine the amount of the required performance guarantee. It is acceptable to attach a percentage of failure to certain line items in the estimate.

3. Additionally, for those stormwater management measures that are to be inspected, maintained and repaired by a homeowners association, condominium association or some other form of non-public ownership, no fee shall be collected by the Riverside Township. Instead, the ownership entity shall establish and maintain a fund for the annual inspection and testing program, annual maintenance and repair program and annual contribution to a contingency fund for long-term reconstruction.

   The initial costs agreed to for the annual inspection and testing program and annual maintenance and repair program shall be based upon actual itemized proposals offered to the applicant by prospective vendors. The annual cost expended on inspection, testing and maintenance shall be reported to the Riverside Township to verify that maintenance is not being deferred and to inform the Riverside Township on the magnitude of those services.

The contingency fund shall require sufficient funds to be committed for long-term reconstruction of the stormwater management measure(s). Major reconstruction activities will necessitate proper financial planning. After an agreed number of years, depending on the type of measure(s), the measure(s) will need to be reconstructed. The contingency fund in the financial schedule shall be based on the future value of the measure being reconstructed. Both inflation rates and bank interest rates shall be based on the ten year average published in the Wall Street Journal or other approved publication. Interest accruing in the account must also be accounted for at an agreed upon interest rate, to arrive at an annual contribution amount.

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.

J. Violations and Penalties

Any person who violates or neglects to comply with any provision of the ordinance established herein or notice issued pursuant thereto shall, upon conviction, be liable to the penalty established in the Riverside Township code.

Section 11: Mitigation Projects

A "Mitigation" project as may be required by the Riverside Township Municipal Stormwater Management Plan (MSWMP) must satisfy the following requirements. Additional information may be found in the NJDEP "Draft Guidance for the Development of Municipal Mitigation Plans – November 8, 2005":

A. Impact from noncompliance. Provide a table to show the required values, and the values provided in the project, and include an alternatives analysis demonstrating that on-site compliance was maximized.

B. Narrative and supporting information regarding the need for the waiver.

1. The waiver cannot be due to a condition created by the applicant. If the applicant can provide compliance with the Stormwater Management rules through a reduction in the scope of the project, the applicant has created the condition and a waiver cannot be issued.

2. A discussion and supporting information of the site conditions that would not allow the construction of a stormwater management facility to provide compliance with these requirements, AND/OR if the denial of the application would impose an extraordinary hardship on the applicant brought about by circumstances peculiar to the subject property. Site conditions to be considered are soil type, the presence of karst geology, acid soils, a high groundwater table, unique conditions that would create an unsafe design, as well as conditions that may provide a detrimental impact to public health, welfare, and safety.

3. Sensitive Receptor: Identify the sensitive receptor related to the performance standard from which a waiver is sought. Demonstrate that the mitigation site contributes to the same sensitive receptor. Sensitive receptors are areas with specific sensitivity to impacts of stormwater, whether through changes in stormwater runoff quality, stormwater runoff quantity, and groundwater recharge. Within each municipality, a mitigation plan must

identify the sensitive receptors that are critical to accomplishing the goals of the Municipal Stormwater Management Plan.

a. Examples of sensitive receptors are listed below:

(1) Stormwater Quality:

Trout associated waters
Impoundments
Threatened and endangered species habitats
Drinking water supplies
Category One waters
Impaired waterways

(2) Stormwater Quantity:

Inadequate culvert
Property subject to flooding
Eroding streams
Category One waters
Freshwater and Coastal wetlands

(3) Groundwater Recharge:

Springs, seeps, wetlands
White cedar swamps
Threatened and endangered species sensitive to groundwater changes
Streams with low base flow
Aquifers
Category One waters

C. Design of the Mitigation Project: Provide the design details of the mitigation project. This includes, but is not limited to, drawings, calculations, and other information needed to evaluate the mitigation project.

D. Responsible Party: List the party or parties responsible for the construction and the maintenance of the mitigation project. Documentation must be provided to demonstrate that the responsible party is aware of, has authority to perform, and accepts the responsibility for the construction and maintenance of the mitigation project. Under no circumstance shall the responsible party be an individual single-family homeowner.

E. Maintenance: Include a maintenance plan that addresses the maintenance criteria at NJAC 7:8-5,8 as part to the mitigation plan. In addition, if the maintenance responsibility is being transferred to the municipality or another entity, the entity responsible for the cost of the maintenance must be identified. The municipality may provide the option for the applicant to convey the mitigation project to the municipality, if the applicant provides for the cost of maintenance in perpetuity.

F. Permits: Obtain any and all necessary local, State, or other applicable permits for the mitigation measure or project. These must be obtained prior to the municipal approval of the project for which mitigation is being provided.

G. Construction: Demonstrate that the construction of the mitigation project coincides with the construction of the proposed project. A certificate of occupancy or final approval by the municipality for the application project cannot be issued until the mitigation project or measure receives final approval. Any mitigation projects proposed by the municipality to offset the stormwater impacts of that municipality's own projects must be completed within 6 months of the completion of the municipal project, in order to remain in compliance with their NJPDES General Permit.

Section 12: Effective Date

This ordinance shall take effect immediately upon the approval by the county review agency, or sixty (60) days from the receipt of the ordinance by the county review agency if the county review agency should fail to act.

Section 13: Severability

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

Riverside Twp Clerk

From: BCT PublicNotices [bctpublicnotices@phillyburbs.com]
Sent: Monday, November 27, 2006 10:34 AM
To: Riverside Twp Clerk
Subject: RE: Public Notice Introduction of Stormwater Control Ordinance

BCT RECEIVED. PUBLISHING NOV. 28, 06 FOR YOU
THANK YOU, CAROL

-----Original Message-----
From: Riverside Twp Clerk [mailto:riversidetwpclerk@comcast.net]
Sent: Monday, November 27, 2006 10:16 AM
To: BCT PublicNotices
Cc: 'Meghan Jack'; riversidetwpclerk@comcast.net
Subject: Public Notice Introduction of Stormwater Control Ordinance

Hi Carol,

Please publish the attached ASAP

AFFIDAVIT PLEASE.

Thank you,

Susan M. Dydek

State of New Jersey
County of Burlington } SS.

RECEIVED
NOV 30 2006
BY:.....

RIVERSIDE TOWNSHIP
NOTICE OF SECOND READING AND FINAL PASSAGE OF ORDINANCE 2006-23

STORMWATER CONTROL ORDINANCE

Ordinance 2006-23, "Stormwater Control Ordinance" was passed on first reading at the regular public meeting of the Township Committee of the Township of Riverside on November 22, 2006. The Ordinance will be further considered for final passage after second reading and public hearing at the regularly scheduled meeting to be held at 1 Scott Street, Riverside, New Jersey on December 27, 2006 at 7:30 PM, at which time and place any persons desiring to be heard upon the same will be given the opportunity to be heard. This notice is made in summary form in accord with N.J.S.A. 40:49-2(a).

The Ordinance: (1) states a scope and purpose, (2) provides a definition section, (3) creates general stormwater standards, (4) provides stormwater management requirements for major development, (5) provides calculation methods, (6) creates standards for structural stormwater management measures, (7) provides sources for technical guidance, (8) sets forth safety standards for basins, (9) requires site development stormwater plans, (10) provides regulation for maintenance and repair, (11) provides for mitigation projects, (12) establishes an effective date, and (13) provides for severability of provisions.

Copies of this ordinance will be made available at the Municipal Clerk's office to members of the general public who shall request same during nor-

sday, November 28, 2006

Public Notices

mal operating hours starting November 27, 2006 at no charge.

Susan Dydek, RMC
Township Clerk

Adv. Fee: $39.24
BCT: November 28, 2006
Aff. Chg.: $20.00

PATRICIA VIGNEAU being duly sworn or affirmed according to law, deposes and says that she is the BILLING MANAGER
(Manager or designated Agent)
of the BURLINGTON TIMES, INC. Publisher of the "Burlington County Times" a daily newspaper of general circulation, printed in the state of New Jersey and published and having its publication office at 4284 Route 130 N., Willingboro, Burlington County, New Jersey, and entered as second-class mail matter under the postal laws and regulations of the United States in the Post Office at Willingboro, N.J.; that said newspaper was established on October 6, 1958 under the name "Burlington County Times," that since January 15, 1968 said newspaper has been regularly printed and published and entered in said county, and that a facsimile of the notice appears hereto, exactly as published in said newspaper.

November 28, 2006
.....
.....
.....
.....

The a ...d in said subject matter of advertising; and all of the allegations in this statement as to the time, ...of publication are true.

Swor ...ng to law and subscribed to

befor day of November 2006

A.D.

Ann Clark

Ann Clark
My Commission expires on
May 04, 2010

P. Vigneau
BILLING MANAGER

Stormwater Permit

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code - 401-02B
Water Pollution Management Element
Bureau of Nonpoint Pollution Control
P.O. Box 420 – 401 E. State St.
Trenton, NJ 08625-0420
Tel: (609) 633-7021 / Fax: (609) 777-0432
http://www.state.nj.us/dep/dwq/bnpc_home.htm

BOB MARTIN
Commissioner

December 8, 2017

SENT VIA EMAIL to: HDougherty@Pennoni.com

Hugh Dougherty
RIVERSIDE TWP
PO BOX 188 - SCOTT ST & PAVILION AVE
RIVERSIDE, NJ 08075

Re: Stormwater Discharge General Permit Authorization Renewal
Category: R9 -Tier A Municipal Stormwater General Permit
NJPDES: NJG0150011 / PI ID #: 213691
RIVERSIDE TWP
Riverside Twp, Burlington County

Dear Stormwater Program Coordinator:

Enclosed is New Jersey Pollutant Discharge Elimination System (NJPDES) Authorization to Discharge No. NJG0150011 (Category R9 -Tier A Municipal Stormwater General Permit) issued under the authority of Stormwater NJPDES Master General Permit No. NJ0141852 (Tier A Permit).

The permit and associated documents are posted at http://www.nj.gov/dep/dwq/tier_a.htm, where you can find a copy of the Tier A Permit, and a Response to Comments document, which includes a summary of the significant and relevant comments received during the Tier A Permit public comment period, the Department's responses, and an explanation of any changes from the draft action. In addition, you can also find a crosswalk which provides a detailed comparison of changes from 2009 to this 2017 permit, and a Frequently Asked Questions document. These documents will be useful in understanding your renewed Authorization.

If you have any questions or comments regarding the above referenced action, please contact Louisa Lubiak by telephone at 609-633-7021.

Sincerely,

James J. Murphy, Chief
Bureau of Nonpoint Pollution Control

C: Water Compliance and Enforcement Regional Office

New Jersey Department of Environmental Protection
Mail Code - 401-02B
Bureau of Nonpoint Pollution Control
Water Pollution Management Element
PO Box 420
Trenton, NJ 08625-0420
Phone: (609) 633-7021
Fax: (609) 777-0432

AUTHORIZATION TO DISCHARGE
R9 -Tier A Municipal Stormwater General Permit

Facility Name: RIVERSIDE TWP

Permit Number: NJG0150011

Program Interest No.: 213691

Facility Address:
SCOTT ST & PAVILION AVE
RIVERSIDE, NJ 08075-0188

Type of Activity: Stormwater Discharge General Permit Authorization Renewal

Owner:
RIVERSIDE TWP
PO BOX 188 - SCOTT ST & PAVILION AVE
RIVERSIDE, NJ 08075

Operating Entity:
RIVERSIDE TWP
PO BOX 188 - SCOTT ST & PAVILION AVE
RIVERSIDE, NJ 08075

Issuance Date:	**Effective Date:**	**Expiration Date:**
12/08/2017	01/01/2018	12/31/2022

Your Request for Authorization under NJPDES General Permit No. NJ0141852 has been approved by the New Jersey Department of Environmental Protection.

Date: 12/08/2017

James J. Murphy, Chief
Bureau of Nonpoint Pollution Control

(Terms, conditions and provisions attached hereto)

Division of Water Quality

PART I
GENERAL REQUIREMENTS: NJPDES

A. General Requirements of all NJPDES Permits

1. Requirements Incorporated by Reference

a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.

b. General Conditions

Penalties for Violations	N.J.A.C. 7:14-8.1 et seq.
Incorporation by Reference	N.J.A.C. 7:14A-2.3
Toxic Pollutants	N.J.A.C. 7:14A-6.2(a)4i
Duty to Comply	N.J.A.C. 7:14A-6.2(a)1 & 4
Duty to Mitigate	N.J.A.C. 7:14A-6.2(a)5 & 11
Inspection and Entry	N.J.A.C. 7:14A-2.11(e)
Enforcement Action	N.J.A.C. 7:14A-2.9
Duty to Reapply	N.J.A.C. 7:14A-4.2(e)3
Signatory Requirements for Applications and Reports	N.J.A.C. 7:14A-4.9
Effect of Permit/Other Laws	N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
Severability	N.J.A.C. 7:14A-2.2
Administrative Continuation of Permits	N.J.A.C. 7:14A-2.8
Permit Actions	N.J.A.C. 7:14A-2.7(c)
Reopener Clause	N.J.A.C. 7:14A-6.2(a)10
Permit Duration and Renewal	N.J.A.C. 7:14A-2.7(a) & (b)
Consolidation of Permit Process	N.J.A.C. 7:14A-15.5
Confidentiality	N.J.A.C. 7:14A-18.2 & 2.11(g)
Fee Schedule	N.J.A.C. 7:14A-3.1
Treatment Works Approval	N.J.A.C. 7:14A-22 & 23

c. Operation And Maintenance

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

d. Monitoring And Records

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

e. Reporting Requirements

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

PART II

GENERAL REQUIREMENTS: DISCHARGE CATEGORIES

A. Additional Requirements Incorporated By Reference

a. The Stormwater Management rules at N.J.A.C. 7:8.

b. Conditions for General Permits at N.J.A.C. 7:14A-6.13, including the Department's authority to require, for due cause, a Tier A Municipality to apply for and obtain a different stormwater permit for specific activities otherwise authorized under this permit.

c. Additional Conditions applicable to UIC permits at N.J.A.C. 7:14A-8.9, UIC Corrective Action (N.J.A.C. 7:14A-8.11) and UIC Operating Criteria (N.J.A.C. 7:14A-8.16).

d. Conditions for reopening and modification of small MS4 permits at N.J.A.C. 7:14A-16.4(b) and N.J.A.C. 7:14A-25.7(b).

e. Requirements for Discharges to Ground Water at N.J.A.C. 7:14A-7.

f. National Pollutant Discharge Elimination System (NPDES) Electronic Reporting rule at 40 CFR Part 127.

B. General Conditions

1. Notification of Non-Compliance

a. The Tier A Municipality shall notify the Department of any non-compliance when required by N.J.A.C. 7:14A-6.10 by contacting the DEP Hotline at 1-877-WARN-DEP.

2. Discharge of Pollutants

a. For discharges authorized by this permit, the Tier A Municipality 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 this NJPDES permit or listed and quantified in the RFA shall not constitute a violation of the permit.

3. Standard Reporting Requirements – Electronic Reporting of NJPDES Information

a. Unless already required by this permit to be submitted electronically by an earlier date, effective December 21, 2020, the below identified documents and reports shall be electronically submitted via the Department's designated electronic submission service:

i. General permit authorization requests (i.e. RFAs);

ii. General permit termination/revocation requests; and

iii. Municipal separate storm sewer system (MS4) program reports (see Part IV.G).

4. Other Regulatory Requirements

a. Permit conditions remain in effect and enforceable until and unless the permit is modified, renewed or revoked by the Department.

b. The issuance of this permit shall not be considered as a waiver of any applicable federal, State or local rules, regulations and ordinances.

c. 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, N.J.A.C. 7:50 (the Pinelands rules), N.J.A.C. 7:1-E (Discharges of Petroleum and other Hazardous Substances), regulations concerning threatened and endangered species and their designated critical habitat, and 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.

d. While the Tier A Municipality is required to comply with applicable operation and maintenance requirements of N.J.A.C. 7:14A-6.12(a), the Tier A Municipality is exempt from the operations and maintenance manual requirements of N.J.A.C. 7:14A-6.12(c). This exemption applies only to discharges authorized under this permit and does not alter the operation and maintenance requirements for municipally or privately owned stormwater facilities specified in this permit or N.J.A.C. 7:8.

C. Eligibility

1. Permit Scope

a. The Tier A MS4 NJPDES Permit applies to all areas of New Jersey as follows:

i. This permit applies to all municipalities assigned to Tier A under N.J.A.C. 7:14A-25.3(a)1. Tier A Municipalities are generally located within the more densely populated regions of the state or along or near the Atlantic coast.

ii. On a case-by-case basis, the Department may use this permit to regulate municipalities assigned to Tier B under N.J.A.C. 7:14A-25.3(a). As used in this permit, the term "Tier A Municipality" includes Tier B Municipalities that seek or obtain authorization under this provision of this permit.

b. This permit applies to the owner or operator of the Municipal Separate Storm Sewer System (MS4) meaning the Tier A Municipality. The owner or operator is responsible for ensuring compliance with this permit.

c. The short title of this permit is the "Tier A MS4 NJPDES permit."

2. Authorized Discharges Under the Tier A MS4 NJPDES Permit

a. Eligible Stormwater Discharges – Except as provided in Part II.C.3 below, this permit authorizes all new and existing stormwater discharges to surface water and groundwater from:

i. Small MS4s (as defined at N.J.A.C. 7:14A-1.2) owned or operated by Tier A Municipalities; and

ii. Municipal maintenance yards and other ancillary operations (see Part IV.B.5.c) owned or operated by Tier A Municipalities.

b. Eligible Non-Stormwater Discharges – Except as identified in Part II.C.3.e below, the following new and existing non-stormwater discharges from small MS4s owned or operated by Tier A Municipalities and from Municipal maintenance yards and other ancillary operations (see Part IV.B.5.c) owned or operated by Tier A Municipalities are eligible for authorization under this permit:

i. Potable water line flushing and discharges from potable water sources, excluding the discharge of filter backwash and first flush water from potable well development/redevelopment activities utilizing chemicals in accordance with N.J.A.C. 7:9D. The volume of first flush water, which is a minimum of three times the volume of the well water column, shall be handled and disposed of properly;

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; and industrial refrigerant condensate);

iv. Irrigation water (including landscape and lawn watering runoff);

v. Flows from springs, riparian habitats, wetlands, water reservoir discharges and diverted stream flows;

vi. Residential car washing water; and dechlorinated swimming pool discharges from single family residential homes;

vii. Sidewalk, driveway and street wash water;

viii. Flows from firefighting activities including the washing of fire fighting vehicles;

ix. Flows from clean water rinsing of beach maintenance equipment immediately following use and only if the equipment is used for its intended purpose;

x. Flows from clean water rinsing of equipment and vehicles used in the application of salt and de-icing materials. Prior to rinsing, all equipment shall be cleaned using dry methods such as shoveling and sweeping. Recovered materials are to be returned to storage or properly discarded; and

xi. Rinsing of equipment in Part II.C.2.b.ix and x, above is limited to exterior, undercarriage, and exposed parts and does not apply to engines or other enclosed machinery.

3. Discharges Not Authorized Under the Tier A MS4 NJPDES Permit

a. Stormwater Discharges Associated with Industrial Activity

i. The Tier A MS4 NJPDES Permit does not authorize “stormwater discharge associated with industrial activity” as defined in N.J.A.C. 7:14A-1.2 except as otherwise specifically provided in this permit.

ii. Types of facilities that a Tier A Municipality might operate and that are considered to be engaging in “industrial activity” include but are not limited to certain: 1) landfills; 2) transportation facilities (including certain local passenger transit and air transportation facilities); 3) facilities handling domestic sewage or sewage sludge; and 4) steam electric power generating facilities.

iii. Any municipality that operates an industrial facility with such a discharge must submit a separate Request for Authorization (RFA) or individual permit application for that discharge (see www.nj.gov/dep/dwq/forms_storm.htm). An RFA submitted for the Tier A MS4 NJPDES Permit does not qualify as an RFA for such a discharge.

iv. Yard Trimmings and Wood Waste Management Sites that are not owned and operated by the Tier A Municipality.

b. Stormwater Discharges Associated with Construction Activity

i. The Tier A MS4 NJPDES Permit does not authorize "stormwater discharges associated with construction activity" as described in N.J.A.C. 7:14A-24.10(a). In general, this is the discharge to surface water of stormwater from construction activity that disturbs at least one acre.

ii. Any municipality that operates a construction site with such a discharge shall submit a separate RFA under NJPDES Permit No. NJ0088323 (General Stormwater Permit Construction Activity, see www.nj.gov/dep/dwq/5g3.htm), or an application for an individual permit for that discharge. An RFA submitted for the Tier A MS4 NJPDES Permit does not qualify as an RFA for such a discharge. See Part IV.B.3 of the Tier A MS4 NJPDES Permit.

c. Stormwater Discharges Authorized under Another NJPDES Permit

i. The Tier A MS4 NJPDES Permit does not authorize any stormwater discharge that is authorized under another NJPDES permit.

ii. A Tier A Municipality does not have to implement measures contained in this NJPDES permit for stormwater discharges at facilities owned or operated by that municipality that are regulated under a separate NJPDES stormwater permit authorizing those discharges.

d. Stormwater Discharges that Conflict with a Water Quality Management Plan

i. The Tier A MS4 NJPDES Permit does not authorize stormwater discharges from projects or activities that conflict with an adopted Areawide or Statewide Water Quality Management Plan.

e. Non-Stormwater Discharges that are Contributors of Pollutants

i. If any of the discharges listed in Part II.C.2.b above are identified by the Tier A Municipality as a significant contributor of pollutants to or from the MS4, the Tier A Municipality must address the discharge as an illicit connection or as an improper disposal of waste as specified in Part IV.B.6 of this permit.

D. Administrative Process

1. Automatic Renewal of Authorizations

a. Upon reissuance of this general permit, existing authorizations shall be automatically renewed as provided by N.J.A.C. 7:14A-6.13(d)9 and 25.4(a)3 using the information provided in the permittees' most recently submitted RFA.

2. Notification of Changes

a. A Tier A Municipality shall provide a corrected RFA to the Department within 90 days of the effective date of a renewed authorization under this general permit if any information in its most recently submitted RFA is no longer true, accurate, and/or complete.

b. The Tier A Municipality shall notify the Department of any changes of its Municipal Stormwater Program Coordinator information using www.nj.gov/dep/dwq/pdf/msrp_update_form.pdf

c. A Tier A Municipality that already has authorization to discharge from a small MS4 under the Tier A permit does not need to submit an RFA for the expansion (e.g. new residential development) of an existing small MS4.

3. Requests for Authorization (RFA, see www.nj.gov/dep/dwq/forms_storm.htm)

a. New RFAs under the Tier A MS4 permit

i. A single RFA is required for the entire eligible discharge from the small MS4 owned or operated by and located within a single municipality. Multiple RFAs are not required for multiple municipal operations (e.g., municipally owned and operated maintenance yards or other ancillary operations, facilities, garages, and/or offices).

ii. An RFA shall include at a minimum: the name and address of the municipality; the name and address of the Municipal Stormwater Program Coordinator; a certification acknowledging the best management practices and measurable goals specified in the permit; and any other information as required by the Department.

b. Upon receipt of an RFA the Department may, in accordance with N.J.A.C. 7:14A-6.13, do one of the following:

i. Issue notification of authorization under this permit;

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.

c. Reassignment of Municipality to Tier A

i. If a municipality receives notice from the Department (pursuant to N.J.A.C. 7:14A-25.3(a)(3)) that it has been reassigned from Tier B to Tier A (pursuant to N.J.A.C. 7:14A-25.3(a)(1) and (2)), the deadline to submit an RFA is 180 days after the receipt of that notice, unless the Department approves a later date.

PART III
Recordkeeping and Reporting

The Tier A Municipality shall keep records necessary to document, in the Annual Report and Certification, the status of compliance with the conditions of this permit. The requirement to keep records and to submit an Annual Report and Certification is found at Part IV.G of this permit.

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

Notes and Definitions

A. Footnotes

1. Acronyms

a. Stormwater acronyms included in this permit are as follows:

i. "BMP" - Best Management Practice

ii. "CFR" - Code of Federal Regulations

iii. "EDPA" - Effective Date of Permit Authorization

iv. "MS4" - Municipal Separate Storm Sewer System

v. "MSWMP" - Municipal Stormwater Management Plan

vi. "MSRP" - Municipal Stormwater Regulation Program

vii. "MTD" - Manufactured Treatment Device

viii. "N.J.A.C." - New Jersey Administrative Code

ix. "NJPDES" - New Jersey Pollutant Discharge Elimination System

x. "N.J.S.A." - New Jersey Statutes Annotated

xi. "RSIS" - Residential Site Improvement Standards

xii. "SPPP" - Stormwater Pollution Prevention Plan

xiii. "TMDL" - Total Maximum Daily Load

2. Internal Cross References

a. For the purposes of this permit:

i. References to Part IV Notes and Definitions are preceded with the words "Notes and Definitions" (e.g. Notes and Definitions Part IV.A.1 refers to Acronyms).

ii. References to Part IV Tier A MS4 NJPDES Permit are not preceded by descriptive text (e.g. Part IV.A.1 refers to Overview of the Tier A MS4 NJPDES Permit).

3. Department Resources for Guidance Relating to MS4 Issues

a. MS4 main website and related links: www.nj.gov/dep/dwq/msrp_home.htm

b. MS4 Tier A Guidance document: www. nj.gov/dep/dwq/tier_a_guidance.htm

Notes and Definitions

c. Construction Site Stormwater Runoff: www.nj.gov/dep/dwq/5g3.htm

d. Snow Removal and Disposal Policy: www.nj.gov/dep/dwq/bnpc_home.htm

e. Green Infrastructure and related links: www.nj.gov/dep/gi/

f. Stormwater management information and training tools: www.nj.gov/dep/stormwater/

g. Public education for stormwater pollution: www.cleanwaternj.org

h. Clean Communities, a statewide litter abatement program: www.njclean.org

i. Total Maximum Daily Load (TMDL) information: www.nj.gov/dep/dwq/msrp-tmdl-rh.htm

4. EPA Resources for Guidance Relating to MS4 Issues

a. EPA's MS4 website and related links: www.epa.gov/npdes/stormwater-discharges-municipal-sources

b. EPA’s National Menu of Stormwater Best Management Practices: www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater

c. EPA's guidance for Green Infrastructure: http://water.epa.gov/infrastructure/greeninfrastructure/index.cfm

d. Guidance from EPA Region 3 for municipalities that wish to improve their municipal stormwater programs: www.epa.gov/npdes/pubs/region3_factsheet_swmp.pdf

e. EPA's Trash Free Waters resource page: www.epa.gov/trash-free-waters

f. Illicit Discharge Detection and Elimination Guidance www3.epa.gov/npdes/pubs/idde_manualwithappendices.pdf

B. Definitions

1. Definitions

a. All words and terms used in this permit shall have meanings as defined in the "Regulations Concerning the New Jersey Pollutant Discharge Elimination System" (N.J.A.C. 7:14A), unless otherwise stated or unless the context clearly requires a different meaning.

b. "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.

c. "Effective Date of Permit Authorization" means the date the permittee's authorization to discharge under this Tier A MS4 NJPDES permit becomes effective. This date may be found on the permittee's Authorization to Discharge.

d. "Existing permittee" means a municipality that held an authorization to discharge under the Tier A MS4 NJPDES permit on or before December 31, 2017.

e. "Green infrastructure" means methods of stormwater management that reduce wet weather/stormwater volume, flow, or changes the characteristics of the flow into combined or separate sanitary or storm sewers, or surface waters, by allowing the stormwater to infiltrate, to be treated by vegetation or by soils, or to be stored for reuse. Green infrastructure includes, but is not limited to, pervious paving, bioretention basins, vegetated swales, and cisterns.

f. "Illicit connection" means any physical or non-physical (i.e. leak, flow, or overflow into the municipal separate storm sewer system) connection that discharges the following to a municipal separate storm sewer system (unless that discharge is authorized under a NJPDES permit other than this Tier A MS4 NJPDES permit);

   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 permittee for the MS4 identifies as a source or significant contributor of pollutants pursuant to 40 C.F.R. 122.34(b)(3)(iii).

g. "Maintenance plan" means a maintenance plan pursuant to N.J.A.C. 7:8-5.2(b) and 5.8 prepared by the design engineer for the stormwater management measures incorporated into the design of a major development.

h. "Major development" means any development that provides for ultimately disturbing one or more acres of land and any additional development defined as "major development" by a municipality's stormwater control ordinance. Disturbance 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-1et seq., are also considered "major development."

i. "Manufactured treatment device" means a pre-fabricated stormwater treatment structure utilizing settling, filtration, absorptive/adsorptive materials, vortex separation, vegetative components, and/or other appropriate technology to remove pollutants from stormwater runoff.

j. "Municipal separate storm sewer" means a municipal separate storm sewer as defined in N.J.A.C. 7:14A-1.2.

k. "Municipality" means a municipality as defined in the Municipal Land Use Law at N.J.S.A. 40:55D-5, that is, any city, borough, town, township, or village.

l. "New permittee" means a municipality that obtains its first authorization to discharge under the Tier A MS4 NJPDES permit on or after January 1, 2018.

m. "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. Concrete blocks, jersey barriers or other similar material shall be placed around the interior of the structure to protect the side walls during loading and unloading of de-icing materials;

   ii. The design shall prevent stormwater run-on and run through and the fabric cannot leak;

   iii. The structure shall be erected on an impermeable slab;

   iv. The structure cannot be open sided; and

   v. The structure shall have a roll up door or other means of sealing the access way from wind driven rainfall.

n. "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.

   v. Note that all MS4s covered under the Tier A MS4 NJPDES permit are "small MS4s".

o. "Solids and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids as defined at N.J.A.C. 7:14A-25.6(b)3iii.

p. "Storm drain inlet" means the point of entry into the storm drain system and is, where a catch basin is present, the uppermost portion (or cover) of a catch basin.

q. "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.

r. "Stormwater facility" includes, but is not limited to: catch basins, detention basins, retention basins, filter strips, riparian buffers, infiltration trenches, sand filters, constructed wetlands, wet basins, bioretention systems, low flow bypasses, and stormwater conveyances. Stormwater facilities include structural stormwater management measures.

s. "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 wet pond), or be planted mainly with wetland vegetation (most constructed stormwater wetlands).

t. "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 non-stormwater discharges into stormwater conveyances. Stormwater management measures include stormwater facilities.

u. "Stream scouring" means the erosion or removal of streambed or bank material by the physical action of flowing water and the sediment that it carries.

v. "Subsurface infiltration/detention system" means a vault, perforated pipe, and/or stone bed that is located entirely below the ground surface and that temporarily stores and attenuates stormwater runoff."

w. "Tier A Municipality's MS4" means an MS4 owned and operated by a Tier A Municipality.

x. "Wood waste" means source separated whole trees, tree trunks, tree parts, tree stumps, brush and leaves provided that they are not composted, and lumber (non-chemically treated and unpainted);

y. "Yard trimmings" means grass clippings, leaves, wood chips from tree parts, and brush.

z. "Yard waste" means loose leaves and grass clippings.

Tier A Municipal Stormwater General Permit

A. Permit Overview

1. Overview of the Tier A MS4 NJPDES Permit

a. The Tier A Municipality (i.e. the permittee) is required to develop, update, implement and enforce an MS4 stormwater program. A primary objective of the MS4 stormwater program is to implement best management practices and other measures that are designed to achieve the permit's requirement to reduce the discharge of pollutants from the Tier A Municipality's MS4, municipal maintenance yards and other ancillary operations, to the maximum extent practicable pursuant to N.J.A.C. 7:14A-25.6(a)1 and 40 CFR 122.34(a), to protect water quality, and to satisfy the applicable water quality requirements of the Clean Water Act.

2. Primary Plans Required by the Tier A MS4 NJPDES Permit

a. The Stormwater Pollution Prevention Plan (SPPP) documents the Tier A Municipality's stormwater program and describes the measures necessary for compliance with the Statewide Basic Requirements as well as any Other Control Measures, Additional Measures and/or Optional Measures (if deemed appropriate). See Part IV.F (SPPP) and Attachment A (Measurable Goals and Implementation Schedule for Existing Permittees) and Attachment A-1 (Measurable Goals and Implementation Schedule for New Permittees).

b. A significant component of the SPPP is the Municipal Stormwater Management Plan (MSWMP). The MSWMP is also a component of the municipal master plan (N.J.S.A. 40:55D-94). The MSWMP describes the municipality's strategy, structure and process for addressing stormwater runoff from new development and redevelopment to ensure compliance with the Stormwater Management rules (N.J.A.C. 7:8 et seq.). This strategy, structure and process also constitutes much of the post construction stormwater management program in this permit. See Part IV.B.4 (Post Construction). Any MSWMP that complies with N.J.A.C. 7:8 also complies with this condition and Part IV.B.4.f (MSWMP).

3. Summary of Tier A MS4 NJPDES Permit Requirements

a. The Tier A Municipality shall develop, update, implement and enforce a stormwater program as documented in an SPPP to ensure compliance with:

i. The Statewide Basic Requirements. See Part IV.B;

ii. Other Control Measures. See Part IV.C;

iii. Additional Measures. See Part IV.D; and

iv. Optional Measures, if deemed appropriate See Part IV.E.

b. The Tier A Municipality shall develop, update, implement and maintain a written SPPP in conformance with Attachment A (Measurable Goals and Implementation Schedule for Existing Permittees) and Attachment A-1 (Measurable Goals and Implementation Schedule for New Permittees). See Part IV.A.2.a and IV.F (SPPP).

c. The Tier A Municipality shall submit an Annual Report and Certification summarizing the status of compliance with this permit. See Part IV.G (Annual Report and Certification).

d. The Tier A Municipality shall adopt, amend and implement a written MSWMP. See Part IV.A.2.b and B.4.f (MSWMP).

e. The Tier A Municipality shall modify and update its stormwater program (including applicable plans and ordinances) to conform with applicable new legislation; or new or amended regulations. Such modification shall be completed and effective within 12 months of written notification by the Department of the need for modification.

B. Statewide Basic Requirements and Associated Conditions

1. Minimum Standards for Public Involvement and Participation Including Public Notice

a. Tier A Municipalities shall comply with applicable State and local public notice requirements when providing for public participation in the development and implementation of a MS4 stormwater program. Requirements include but are not limited to:

i. The Open Public Meetings Act ("Sunshine Law," N.J.S.A. 10:4-6 et seq.);

ii. Statutory procedures for the enactment of ordinances (N.J.S.A. 40:49-2), including the municipal stormwater control ordinance and other ordinances adopted to comply with Part IV of this permit; and

iii. The Municipal Land Use Law concerning the adoption or amendment of the MSWMP (N.J.S.A. 40:55D-13, 28 and 94), and the review of applications for development (N.J.S.A. 40:55D-12). The Tier A Municipality shall also ensure that applicants for development meet the notice requirements of N.J.S.A. 40:55D-12.

b. Tier A Municipalities shall make elements of its MS4 stormwater program available to the public:

i. Provide the current SPPP upon request as required by Part IV.F.1.g (SPPP);

ii. Post the current SPPP on its website to the extent required by Part IV.F.1.f (SPPP); and

iii. Post the current MSWMP and all ordinances required by this permit on its website or otherwise comply with the notification requirements of N.J.A.C. 7:8-4.4(e). See Part IV.B.4.f (MSWMP), 4.g (Stormwater Control Ordinance), 5.a (Community Wide Ordinances).

c. The Tier A Municipality may involve another entity (e.g. a watershed association) to satisfy one or more of the Tier A Municipality's NJPDES permit condition(s) (or component thereof) through the implementation of one or more best management practices or control measures. See Part IV.F.4 (Implementation of SPPP Conditions through Shared or Contracted Services).

d. The Tier A Municipality shall maintain records necessary to demonstrate compliance with the public participation requirements of a, above.

e. Existing Permittee: An existing permittee shall meet the minimum standards of this permit, and the measurable goals (including any recordkeeping) and implementation schedules for Public Involvement and Participation specified in Attachment A for Existing Permittees (Measurable Goals and Implementation Schedule).

2. Minimum Standards for Local Public Education and Outreach

a. The Tier A Municipality shall implement a Public Education and Outreach Program that focuses on educational and pollution prevention activities about the impacts of stormwater discharges on surface water and groundwater and to involve the public in reducing pollutants in stormwater and mitigating flow. The Tier A Municipality shall annually conduct activities that total at least 12 points and include activities from at least three of the five categories as set forth in Attachment B (Points System for Public Education and Outreach Activities). At a minimum, at least one of the activities shall involve educating businesses and the general public of hazards associated with illicit connections and improper disposal of waste. Records shall be kept necessary to demonstrate compliance with this requirement, including date of activities and any other relevant documentation.

b. The Tier A Municipality shall label all storm drain inlets for those drains that do not have permanent wording cast into the structure of the inlet. The Tier A Municipality shall also maintain the legibility of those labels and replace any labels that are missing or not legible. See the Tier A Municipal Guidance document (www.nj.gov/dep/dwq/tier_a_guidance.htm) for specific measures. This requirement shall include the following:

   i. All storm drain inlets along sidewalks that are adjacent to municipal streets;

   ii. All storm drain inlets within plazas, parking areas or maintenance yards that are operated by the municipality.

c. The Tier A Municipality shall advertise public involvement program(s) pertaining to education and outreach activities on the municipality's website, through a mailing, through newspaper advertisement, or other similar means.

d. Existing Permittee: An existing permittee shall meet the minimum standards of this permit, and the measurable goals (including any recordkeeping) and implementation schedules for Local Public Education and Outreach specified in Attachment A for Existing Permittees (Measurable Goals and Implementation Schedule).

3. Minimum Standards for Construction Site Stormwater Runoff

a. Construction site stormwater runoff activities are authorized under a separate NJPDES permit, generally the Construction Activity Stormwater General Permit No. NJ0088323 pursuant to N.J.A.C. 7:14A-25.6(b)2 (or an individual permit pursuant to N.J.A.C. 7:14A-24.7(a)2). See Part II.C.3.b and www.nj.gov/dep/dwq/5g3.htm. Pursuant to N.J.A.C. 7:14A-25.7(b), the Tier A Municipality is not required to reference construction site stormwater runoff control in its SPPP.

4. Minimum Standards for Post Construction Stormwater Management in New Development and Redevelopment

a. The Tier A Municipality shall develop, update, implement and enforce its stormwater management program to address post construction stormwater runoff in new development and redevelopment and to ensure compliance with the Stormwater Management rules at N.J.A.C. 7:8 et seq. In general, the regulations at N.J.A.C. 7:8:

   i. Contain requirements for stormwater management plans and stormwater control ordinances;

   ii. Provide information for the adoption and implementation of municipal stormwater management plans and regional stormwater management plans; and

   iii. Establish design, performance and maintenance standards for stormwater management measures and establish safety standards for stormwater management basins.

b. The post construction stormwater management program established by the Tier A Municipality shall address stormwater runoff from the following types of major development unless any additional development is defined as "major development" by a municipality's stormwater control ordinance:

   i. New development and redevelopment projects that disturb one acre or more and are not operated by the municipality (e.g. retail stores, residential complexes);

   ii. New development and redevelopment projects that disturb one acre or more and are operated by the municipality itself (e.g. town complex); and

   iii. All new development and redevelopment projects that disturb less than one acre and are part of a larger common plan of development or sale (e.g. phased residential development) that ultimately disturbs one acre or more.

c. The post construction stormwater management program established by the Tier A Municipality shall require compliance with the applicable design, performance and maintenance standards established under N.J.A.C. 7:8 et seq. for major development as defined in this permit.

d. The Tier A Municipality shall review and analyze development applications for compliance with Part IV.B.4 (Post Construction) of this permit even if a separate permit is required by the Department for the same or similar activity (e.g. a Land Use permit).

e. The post construction stormwater management program established by the Tier A Municipality shall ensure that any residential development and redevelopment projects that are subject to the Residential Site Improvement Standards (RSIS) for stormwater management (N.J.A.C. 5:21-7) comply with those standards, including any exception, waiver, or special area standard that was approved under N.J.A.C. 5:21 et seq.

f. The Tier A Municipality shall adopt, amend and implement a written Municipal Stormwater Management Plan (MSWMP), pursuant to N.J.A.C. 7:8 et seq., to describe the framework of the Tier A Municipality's strategy, structure and process for its post construction stormwater management program.

   i. The Tier A Municipality shall submit the adopted plan for approval to the County review agency in accordance with N.J.A.C. 7:8-4;

   ii. The Tier A Municipality shall notify the Department and post the approved plan and any amendments on its website (or otherwise comply with the notification requirements of N.J.A.C. 7:8-4.4(e)) within thirty days of the effective date of the plan. See Part IV.B.1.b.iii (Public Involvement and Participation);

   iii. The Tier A Municipality shall review and update its MSWMP as necessary, and as a part of the reexamination of its municipal master plan in accordance with N.J.A.C. 7:8-4.3(c) and (d).

g. In order to implement the post construction stormwater management program, the Tier A Municipality shall adopt, amend, implement and enforce a municipal stormwater control ordinance. The Tier A Municipality shall develop and adopt the contents of the ordinance in accordance with N.J.A.C. 7:8 et seq. A sample stormwater ordinance consistent with the requirements of the Stormwater Management Rules is posted at www.nj.gov/dep/stormwater/bmp_manual2.htm and a sample stormwater ordinance applicable to Pinelands Area Municipalities is posted at www.nj.gov/dep/stormwater/pinelands.htm. The municipal stormwater control ordinance shall include, at a minimum, the following elements:

i. Control aspects of residential development and redevelopment projects that are not pre-empted by the RSIS;

ii. Control stormwater from non-residential development and redevelopment projects, in accordance with the requirements at N.J.A.C. 7:8 et seq.; and

iii. Set forth special area standards approved by the Site Improvement Advisory Board for residential development or redevelopment projects under N.J.A.C. 5:21-3.5.

h. The Tier A Municipality shall only grant a variance or exemption from the design and performance standards for stormwater management measures if the municipality has a mitigation plan which meets the following requirements:

i. A mitigation plan must be included in an approved MSWMP and stormwater control ordinance(s). The mitigation plan shall identify measures that are necessary to offset the deficit created by granting the variance or exemption, and can be provided through a menu of design and performance standards with corresponding mitigation projects for different drainage areas within the municipality. See Chapter 3 of the NJ Stormwater BMP Manual at www.nj.gov/dep/stormwater/ for guidance; and

ii. The municipality submits, within 30 days after the grant of a variance or exemption, a written report to the county review agency and the Department describing the variance or exemption and the required mitigation. Submit the written report to the Department at:
NJDEP-DWQ-BNPC
Mail Code 401-02B
PO Box 420
Trenton, NJ 08625-0420

i. The Tier A Municipality shall:

i. Enforce, through the stormwater control ordinance(s) or a separate ordinance, compliance with the standards set forth in Attachment C (Design Standards for Storm Drain Inlets) of this permit to control passage of solid and floatable materials through storm drain inlets not installed by the Tier A Municipality; and

ii. Comply with the standards set forth in Attachment C (Design Standards for Storm Drain Inlets) of this permit to control passage of solid and floatable materials through storm drain inlets installed by the municipality.

j. The Tier A Municipality shall ensure adequate long-term cleaning, operation and maintenance of stormwater management measures:

i. Pursuant to Part IV.C.1.a (Stormwater Facilities Maintenance), owned or operated by the Tier A Municipality; and

ii. Pursuant to Part IV.C.1.b (Stormwater Facilities Maintenance), not owned or operated by the Tier A Municipality.

k. For each structural and non-structural stormwater measure (e.g. stormwater management basin, subsurface infiltration/detention system, manufactured treatment device, green infrastructure), the Tier A Municipality shall:

i. Complete a Major Development Stormwater Summary (as posted on the Department's website at www.nj.gov/dep/dwq/tier_a_forms.htm; courtesy copy provided as Attachment D of this permit) when an application is made to the Tier A Municipality after EDPA;

ii. Update the Major Development Stormwater Summary while stormwater measures are being installed;

iii. Finalize the Major Development Stormwater Summary once certificate of occupancy is issued; and

iv. Maintain a completed Major Development Stormwater Summary and make it available to the Department upon request.

l. The Stormwater Management rules (N.J.A.C. 7:8) and the Residential Site Improvement Standards for stormwater management (N.J.A.C. 5:21-7), independently and as implemented in this permit, apply to all areas of the Tier A Municipality.

m. Existing Permittee: An existing permittee shall meet the minimum standards of this permit, and the measurable goals (including any recordkeeping) and implementation schedules for Post Construction Stormwater Management in New Development and Redevelopment specified in Attachment A for Existing Permittees (Measurable Goals and Implementation Schedule).

5. Minimum Standards for Pollution Prevention / Good Housekeeping for Municipal Operators

a. Community Wide Ordinances: The Tier A Municipality shall adopt and enforce the following community wide ordinances to address improper disposal of waste:

i. Pet Waste Ordinance: Adopt and enforce an ordinance that requires pet owners or their keepers to immediately and properly dispose of their pet's solid waste deposited on any property, public or private, not owned or possessed by that person. Information on the Pet Waste Ordinance and the benefits of proper disposal of pet solid waste shall be distributed with pet licenses. See the Tier A Municipal Guidance document (www.nj.gov/dep/dwq/tier_a_guidance.htm) for a sample ordinance.

ii. Wildlife Feeding Ordinance: Adopt and enforce an ordinance that prohibits the feeding of any wildlife (e.g. Canada Geese) in any public park or on any other property owned or operated by the Tier A Municipality. Exclusions include wildlife confined in zoos, parks, or rehabilitation centers as well the following unconfined animals: (1) wildlife at environmental education centers; (2) feral cats as part of an approved Trap-Neuter-Release program; and (3) other kinds of unconfined animals, if any, that the ordinance specifically lists and excludes for reasons set forth in the ordinance. See the Tier A Municipal Guidance document (www.nj.gov/dep/dwq/tier_a_guidance.htm) for a sample ordinance.

iii. Litter Control Ordinance: Adopt and enforce a litter ordinance or enforce the existing State litter statute at N.J.S.A 13:1E-99.3. See the Tier A Municipal Guidance document (www.nj.gov/dep/dwq/tier_a_guidance.htm) for a sample ordinance.

iv. Improper Disposal of Waste Ordinance: Adopt and enforce an ordinance prohibiting the improper spilling, dumping, or disposal of materials other than stormwater into the MS4 system excluding those discharges as allowable under Part II.C.2.b. See the Tier A Municipal Guidance document (www.nj.gov/dep/dwq/tier_a_guidance.htm) for a sample ordinance.

v. Containerized Yard Waste/Yard Waste Collection Program Ordinances: (1) Adopt and enforce an ordinance that prohibits placing non-containerized yard wastes (defined as leaves and/or grass clippings) into the street; or (2) develop and implement a non-containerized yard waste collection and disposal program that includes adoption and enforcement of an ordinance that prohibits placing non-containerized yard waste at the curb or along the street within 10 feet of any storm drain inlet and at any time other than a set yard waste collection schedule. The frequency of yard waste pickups shall be determined at the discretion of the Tier A Municipality but shall be part of a set yard waste collection schedule which is noticed to all municipal residents and businesses. Any area, which the municipality determines to have no yard waste, will be exempt from the collections. See the Tier A Municipal Guidance document (www.nj.gov/dep/dwq/tier_a_guidance.htm) for sample ordinances.

vi. Private Storm Drain Inlet Retrofitting Ordinance: Adopt and enforce an ordinance requiring the retrofitting of existing storm drain inlets on private property to meet the standard in Attachment C (Design Standard for Storm Drain Inlets). Specifically, this ordinance: 1) shall apply to storm drain inlets, on property not owned or operated by the Tier A Municipality (e.g. condominium associations), that are in direct contact (i.e. contiguous) to repaving; repairing (excluding individual pothole repair); resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen); and reconstruction or alteration of facilities; and 2) shall not apply to a residential lot with one single family house. For a sample ordinance see www.nj.gov/dep/dwq/tier_a.htm.

vii. Additional ordinance requirements of this permit are found at Part IV.B.4.g (Stormwater Control Ordinance) above and Part IV.B.6.d (Illicit Connection Ordinance) below.

b. Community Wide Measures: The Tier A Municipality shall develop and continue to implement the following community wide pollution prevention/good housekeeping measures to control solids and floatables:

i. Street Sweeping: Tier A Municipalities shall sweep, at a minimum of once per month (weather and street surface conditions permitting), all streets (including roads or highways) that meet all of the following criteria: (1) the street is owned or operated by the municipality; (2) the street is curbed and has storm drains; (3) the street has a posted speed limit of 35 miles per hour or less; (4) the street is not an entrance or exit ramp; and (5) the street is in a predominantly commercial area.

ii. Catch Basin and Storm Drain Inlet Inspection and Cleaning: The Tier A Municipality shall inspect storm drain inlets and any associated catch basins that it owns or operates and remove sediment, trash, or debris when present. Each catch basin and inlet shall be inspected at least once every five years. The Tier A Municipality shall clean any municipally owned or operated storm drain inlet or catch basin as frequently as necessary to eliminate recurring problems and restore proper function.

iii. Tier A Municipality Storm Drain Inlet Retrofit: The Tier A Municipality shall retrofit existing Tier A Municipality owned or operated storm drain inlets that are: (1) in direct contact with any repaving, repairing (excluding individual pothole repair), or resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen); or (2) in direct contact with any reconstruction or alteration of facilities. Storm drain inlet retrofits shall meet the standard in Attachment C (Design Standards for Storm Drain Inlets).

c. Municipal Maintenance Yards and Other Ancillary Operations: The Tier A Municipality shall implement the best management practices described in Attachment E (Best Management Practices for Municipal Maintenance Yards and Other Ancillary Operations) for municipal maintenance yards and other ancillary operations owned or operated by the Tier A Municipality. Ancillary operations include but are not limited to impound yards, permanent and mobile fueling locations, and yard trimmings and wood waste management sites. The Inventory of Material and Machinery, and Inspections and Good Housekeeping practices specified in Attachment E shall be conducted at all municipal maintenance yards and other ancillary operations. Best Management Practices shall be implemented for the following activities, whenever such activities occur:

   i. Fueling Operations;

   ii. Discharge of Stormwater from Secondary Containment;

   iii. Vehicle Maintenance;

   iv. On-Site Equipment and Vehicle Washing and Wash Wastewater Containment;

   v. Salt and De-icing Material Storage and Handling;

   vi. Aggregate Material and Construction Debris Storage;

   vii. Street Sweepings, Catch Basin Clean Out, and Other Material Storage;

   viii. Yard Trimmings and Wood Waste Management Sites that are owned and operated by the Tier A Municipality; and

   ix. Roadside Vegetation Management.

d. Employee Training: The Tier A Municipality shall develop, update and implement an employee training program to address Tier A MS4 NJPDES permit components and SPPP requirements. All municipal employees shall receive training on those stormwater topics applicable to their title and duties within 3 months of commencement of duties. Records including sign in sheet(s), date(s) of training, and training agenda(s) shall be kept in the SPPP. Training shall occur at least once every two years, unless otherwise specified below:

   i. Yard Waste Collection Program (if applicable) – Provide training on frequency of yard waste pickups and schedule; and policy for how and when yard waste can be placed curbside. See Part IV.B.5.a.v (Yard Waste Ordinance).

   ii. Monthly Sweeping of Certain Streets in Predominantly Commercial Areas - Provide training on sweeping schedules and proper management of materials collected. See Part IV.B.5.b.i (Street Sweeping).

   iii. Illicit Connection Elimination and Outfall Pipe Mapping - Provide training on the impacts associated with illicit connections and details of the program including investigation techniques, physical observations, field sampling, and mapping procedures. See Part IV.B.6 (MS4 Outfall Pipe Mapping, and Illicit Discharge) and the National Menu of Stormwater Best Management Practices at www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater.

   iv. Outfall Pipe Stream Scouring Detection and Control - Provide training on how to identify outfall pipe stream scouring and contributing factors. See Part IV.B.6.b (Stream Scouring).

v. Maintenance Yard Operations (including Ancillary Operations) - Provide training annually on inventory of materials and machinery, inspections and good housekeeping; fueling operations; discharge of stormwater from secondary containment; vehicle maintenance; on-site equipment and vehicle washing and wash wastewater containment; salt and de-icing material storage and handling; aggregate material and construction debris storage; street sweeping, catch basin clean out, and other material storage; yard trimmings and wood waste management sites. See Part IV.B.5.c (Municipal Maintenance Yards and Other Ancillary Operations).

vi. Waste Disposal Education - Provide training on the impacts associated with improper waste disposal, how to respond to inquiries regarding improper waste disposal, and appropriate enforcement authority.

vii. Municipal Ordinances - Provide training on the following ordinances: Pet Waste Ordinance; Wildlife Feeding Ordinance; Litter Control Ordinance; Improper Disposal of Waste Ordinance; Containerized Yard Waste/Yard Waste Collection Ordinance; and the Private Storm Drain Inlet Ordinance. Training shall include an overview of these ordinance requirements, enforcement policies and the repercussions of non-compliance with these ordinances. See Part IV.B.5.a (Community Wide Ordinances).

viii. Stormwater Facility Maintenance – Provide training annually on maintenance of stormwater facilities, and catch basin and inlet cleaning methods. See Part IV.C.1 (Stormwater Facilities Maintenance), and Part IV.B.5.b.ii (Catch Basin and Storm Drain Inlets).

ix. Construction Activity/Post-Construction Stormwater Management in New Development and Redevelopment - Provide general training on the permitting requirements for construction activity and Post-Construction Stormwater Management in New Development and Redevelopment. See Part IV.B.3 (Construction Site Runoff) and B.4 (Post Construction).

x. Provide general training annually on the Tier A Municipality's SPPP, applicable recordkeeping requirements, and detailed training on any component applicable to an employee's title and duties. See Part IV.F (SPPP).

xi. Training may also be conducted on stormwater-related topics that serve an educational purpose for employees.

e. Stormwater Management Design Review Training: The Tier A Municipality shall ensure that all design engineers, municipal engineers and other individuals that review the stormwater management design for development and redevelopment projects on behalf of the municipality, complete the Department approved Stormwater Management Design Review Course (see www.nj.gov/dep/stormwater/training.htm) once every five years. This includes those individuals that review any projects that are subject to the Tier A Municipality's municipal stormwater management plan and control ordinance as described in Part IV.B.4 (Post Construction). Individuals that will review stormwater management design and have not completed this course within the past five years must attend the next scheduled course offering. If unable to attend, the Tier A Municipality must notify the Department in writing no later than thirty days after the missed course offering explaining why attendance was not possible and what alternate arrangements are being made. Training completed within five calendar years prior to EDPA qualifies towards this requirement. The Tier A Municipality is required to maintain a list of the dates and names of training program participants in its SPPP.

f. Municipal Board and Governing Body Member Related Training: The Tier A Municipality shall ensure that municipal board and governing body members that review and approve applications for development and redevelopment projects, complete the "Asking the Right Questions in Stormwater Review Training Tool" posted at www.nj.gov/dep/stormwater/training.htm. This includes those individuals that review any projects for compliance with Part IV.B.4 (Post Construction) of this permit. Training must be completed by current municipal board and governing body members on or before EDPA + 6 months and by new members within six months of commencing duties. Once per term of service thereafter, municipal board and governing body members must review at least of one of the tools offered under Post-Construction Stormwater Management found at the website above. The Tier A Municipality is required to maintain a list of the dates and names of training program participants in its SPPP.

g. Existing Permittee: An existing permittee shall meet the minimum standards of this permit, and the measurable goals (including any recordkeeping) and implementation schedules for Pollution Prevention / Good Housekeeping for Municipal Operators specified in Attachment A for Existing Permittees (Measurable Goals and Implementation Schedule).

6. Minimum Standards for MS4 Outfall Pipe Mapping, and Illicit Discharge and Scouring Detection and Control

a. Outfall Pipe Mapping: Tier A Municipalities shall develop, update and maintain an outfall pipe map showing the location of the end of all MS4 outfall pipes (tidal and non-tidal) owned or operated by the Tier A Municipality which discharge to a surface water body. The outfall pipe map shall:

i. Be current at the end of each calendar year;

ii. Show the location (and name, where known to the municipality) of all surface water bodies receiving discharges from those outfall pipes;

iii. Be included in the SPPP;

iv. Be provided to the Department by Existing Permittees on or before EDPA + 12 months and by New Permittees on or before EDPA + 36 months. New data points subsequently added to the map shall be provided to the Department annually thereafter; and

v. Be submitted electronically by December 21, 2020 via the Department's designated electronic submission service.

b. Stream Scouring: Tier A Municipalities shall develop, update and implement a program to detect, investigate and control any localized stream scouring from stormwater outfall pipes owned or operated by the municipality. See the Tier A Municipal Guidance document (www.nj.gov/dep/dwq/tier_a_guidance.htm) for specific measures. The Tier A Municipality shall, at a minimum:

i. Inspect each outfall pipe which discharges to a stream for localized stream scouring in the vicinity of the outfall pipe. Each outfall pipe shall be inspected at least once every five years;

ii. Inspect any outfall pipes newly identified in compliance with Part IV.B.6.a for localized stream scouring in the vicinity of the outfall pipe;

iii. When localized stream scouring is detected, document sources of stormwater that contribute to the outfall pipes identified in i and ii, above. Each identified source shall be investigated; and (1) where identified sources are located on property owned or operated by the Tier A Municipality, corrective action to reduce stormwater rate or volume shall be taken by the municipality when feasible, or (2) where identified sources are within the jurisdiction of but not located on property owned or operated by the Tier A Municipality, the municipality shall ensure proper operation and maintenance of stormwater facilities located thereon pursuant to Part IV.C.1.b (Stormwater Facilities Maintenance), below;

iv. Prioritize, schedule and complete remediation of identified localized stream scouring and take action based upon the requirements of Part IV.B.6.b.iii(1) and (2), above. If not completed, a schedule for completion shall be maintained as required in Part IV.C.1.a.iv (Stormwater Facilities Maintenance); and

v. All stream scouring restoration 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) and the requirements for bank stabilization and channel restoration found at N.J.A.C. 7:13 et seq. All associated maintenance or repairs to stormwater facilities shall be made in accordance N.J.A.C 7:8.

c. Illicit Discharge Detection and Elimination: The Tier A Municipality shall develop, update, implement and enforce an ongoing Illicit Discharge Detection and Elimination Program in accordance with this permit. This program shall be documented in the written SPPP, as required in Part IV.F.1.a.iii (SPPP). See the Tier A Municipal Guidance document (www.nj.gov/dep/dwq/tier_a_guidance.htm) for specific measures. See also USEPA Guidance at www3.epa.gov/npdes/pubs/idde_manualwithappendices.pdf. The Tier A Municipality shall, at a minimum:

i. Conduct visual dry weather inspection of all outfall pipes owned or operated by the municipality at least once every five years to determine if dry weather flow or other evidence of illicit discharge is present. Dry weather flow is flow occurring 72 hours after a rain event.

ii. Investigate the source if evidence of illicit discharge is found;

iii. Eliminate non-stormwater discharges that are traced to their source and found to be illicit connections;

iv. Document investigations and actions taken using the Department's Illicit Connection Inspection Report Form. See www.nj.gov/dep/dwq/tier_a_forms.htm;

v. Inspect any outfall pipes newly identified in compliance with Part IV.B.6.a for illicit discharges;

vi. Investigate dry weather flows discovered during routine inspection and maintenance of other elements of the MS4; and

vii. Investigate, within three months of receipt, complaints and reports of illicit connections, including those from operating entities of interconnected MS4s.

d. The Tier A Municipality shall adopt and enforce an ordinance that prohibits illicit connections to the municipal separate storm sewer system operated by the Tier A Municipality. See the Tier A Municipal Guidance document (www.nj.gov/dep/dwq/tier_a_guidance.htm) for a sample ordinance.

e. Existing Permittee: An existing permittee shall meet the minimum standards of this permit, and the measurable goals (including any recordkeeping) and implementation schedules for MS4 Outfall Pipe Mapping, and Illicit Discharge and Scouring Detection and Control specified in Attachment A for Existing Permittees (Measurable Goals and Implementation Schedule).

C. Other Control Measures

1. Minimum Standards for Stormwater Facilities Maintenance

a. The Tier A Municipality shall develop, update and implement a program to ensure adequate long-term cleaning, operation and maintenance of all municipally owned or operated stormwater facilities.

i. Stormwater facility inspection and maintenance must be performed pursuant to any maintenance plans, or more frequently as needed, to ensure the proper function and operation of the stormwater facility. See www.nj.gov/dep/stormwater/maintenance_guidance.htm.

ii. The Tier A Municipality shall maintain a log sufficient to demonstrate compliance with this section; including but not limited to the stormwater facility inspected, location information of the facility inspected (location information must be specific enough to locate and identify the stormwater facility in the field; e.g. geographic coordinates), name of inspector, date of inspection, findings, and any preventative and corrective maintenance performed. Example Maintenance Logs and Inspection Records forms which are sufficient to demonstrate compliance with this section are available at www.nj.gov/dep/stormwater/maintenance_guidance.htm.

iii. The Tier A Municipality shall certify annually that municipally owned or operated stormwater facilities are properly functioning.

iv. If stormwater facilities were found not to be functioning properly and repairs were not made, then necessary preventive and corrective maintenance shall be documented and prioritized, and a schedule for such repairs shall be maintained. The Tier A Municipality shall prioritize this schedule based upon but not limited to: (1) environmental, health and safety concerns; (2) the findings of catch basin and storm drain inlet inspections performed pursuant to Part IV.B.5.b.ii, above; (3) the findings of stream scouring inspections performed pursuant to Part IV.B.6.b, above; and (4) to incorporate the findings pursuant to Part IV.C.2 (TMDL Information), below.

b. The Tier A Municipality shall develop, update, implement and enforce a program to ensure adequate long-term cleaning, operation and maintenance of stormwater facilities not owned or operated by the Tier A Municipality, not subject to the conditions of another NJPDES stormwater permit and constructed after February 7, 1984.

i. The Tier A Municipality shall ensure that stormwater facility maintenance is performed pursuant to any maintenance plans, or more frequently as needed to ensure the proper function and operation of the stormwater facility. See www.nj.gov/dep/stormwater/maintenance_guidance.htm.

ii. The Tier A Municipality shall maintain a log sufficient to demonstrate compliance with this section; including but not limited to the actions taken by the municipality to enforce compliance with the long-term cleaning, operation and maintenance program; the stormwater facility that was the subject of the action; location information of the facility that was the subject of the action (location information must be specific enough to locate and identify the stormwater facility in the field; e.g. geographic coordinates); the name of person taking the action; the date of the action; and the findings. Example Maintenance Logs and Inspection Records forms which are sufficient to demonstrate compliance with this section are available at www.nj.gov/dep/stormwater/maintenance_guidance.htm.

c. The Tier A Municipality shall maintain copies of all maintenance plans, as defined in Notes and Definitions Part IV.B.1.g of this permit, for stormwater facilities approved by the municipality. The Tier A municipality shall make copies of these maintenance plans available to the Department upon request.

d. Existing Permittee: An existing permittee shall meet the minimum standards of this permit, and the measurable goals (including any recordkeeping) and implementation schedules for Stormwater Facilities Maintenance specified in Attachment A for Existing Permittees (Measurable Goals and Implementation Schedule).

2. Minimum Standards for Total Maximum Daily Load (TMDL) Information

a. Incorporation of TMDL Information Into the SPPP

i. The Tier A Municipality shall annually review approved or adopted TMDL reports to identify stormwater related pollutants listed therein and associated with any segment of surface water wholly or partially within or bordering the Tier A Municipality. This information may be accessed at www.nj.gov/dep/dwq/msrp-tmdl-rh.htm;

ii. The Tier A Municipality shall use TMDL information identified in i, above to, at a minimum, (1) assist in the prioritization of stormwater facility maintenance including schedules for repairs required at Part IV.B.6.b.iv (Stream Scouring) and IV.C.1.a.iv (Stormwater Facilities Maintenance), above; and (2) identify and develop strategies to address specific sources of stormwater related pollutants contributing to discharges authorized under this Tier A MS4 NJPDES permit. Strategies may include but are not limited to those found in the implementation section of approved or adopted TMDL reports (for examples see "Total Maximum Daily Load (TMDL) Guidance for Tier A MS4 Permittees" found at www.nj.gov/dep/dwq/msrp-tmdl-rh.htm); and

iii. The Tier A Municipality shall annually update its SPPP to list information identified in i and ii, above; and

iv. The Tier A Municipality shall incorporate any strategies identified in ii(2), above as an Optional Measure. See Part IV.E (Optional Measures) and Part IV.F.1.c (SPPP), below.

b. Existing Permittee: An existing permittee shall meet the minimum standards of this permit, and the measurable goals (including any recordkeeping) and implementation schedules for Total Maximum Daily Load (TMDL) Information specified in Attachment A for Existing Permittees (Measurable Goals and Implementation Schedule).

D. Additional Measures

1. Incorporation of Additional Measures

a. Additional Measures are non-numeric (e.g., best management practices) or numeric effluent limitations that are expressly required to be included in a Tier A Municipality's stormwater program by a TMDL; a regional stormwater management plan; other elements of an adopted areawide Water Quality Management Plan; or the adopted Statewide Water Quality Management Plan.

b. The Department will provide written notice of the adoption of any Additional Measure(s) to any affected Tier A Municipality. The Department will list each adopted Additional Measure in a minor modification to the Tier A MS4 NJPDES permit. For any required Additional Measure(s) other than numeric effluent limitations, the required Additional Measure(s) will specify the best management practices that shall be implemented and the measurable goals. The required Additional Measure(s) will also specify the implementation schedule.

E. Optional Measures

1. Incorporation of Optional Measures

a. Optional Measures are BMPs, developed by the Tier A Municipality, that extend beyond the requirements of the Tier A MS4 NJPDES permit and that prevent or reduce pollution to waters of the State.

b. The Tier A Municipality may, at its own discretion, incorporate Optional Measures into its MS4 stormwater program. Such BMPs shall be identified in the SPPP as Optional Measures.

c. Failure to implement an Optional Measure identified in the SPPP shall not be considered a violation of the NJPDES permit.

2. Refuse Container / Dumpster Ordinance

a. Tier A Municipalities have the option of adopting and enforcing an ordinance requiring dumpsters and other refuse containers that are outdoors or exposed to stormwater to be covered at all times. This ordinance serves to prevent the spilling, dumping, leaking, or otherwise discharge of liquids, semi-liquids or solids from the containers. This ordinance is not intended for litter receptacles; individual homeowner trash and recycling containers; containers that hold large bulky items (e.g., furniture, bound carpet and padding); permitted temporary demolition containers; and refuse containers at industrial facilities authorized to discharge stormwater under a valid NJPDES permit. For a sample ordinance see www.nj.gov/dep/dwq/tier_a.htm.

F. Stormwater Pollution Prevention Plan (SPPP)

1. SPPP Requirements

a. The Tier A Municipality shall develop, update, implement, and maintain a written SPPP (see the Tier A Municipal Guidance document www.nj.gov/dep/dwq/tier_a_guidance.htm) that:

i. Identifies the person designated as the Municipal Stormwater Program Coordinator (Stormwater Coordinator) per Part IV.F.2, below and the members of the SPPP Team.

ii. Documents the municipality's Tier A MS4 Stormwater Program including a description of shared or contracted services as allowed under Part IV.F.4, below.

iii. Describes the measures necessary for compliance with all components of the Tier A MS4 NJPDES permit including all measures described in Part IV.B, C, D and E above.

iv. Reflects the measurable goals, implementation schedules, record keeping and other requirements in Attachment A for Existing Permittees and Attachment A-1 for New Permittees (Measurable Goals and Implementation Schedule).

b. The Tier A Municipality's Stormwater Coordinator shall sign and date the SPPP per Part IV.F.3, below.

c. The Tier A Municipality shall review the SPPP at least annually and update it as often as necessary to reflect changes related to the municipality's Tier A MS4 Stormwater Program. Any amendments to the SPPP:

i. Shall continue to meet the requirements of this permit;

ii. Shall be signed and dated by the Stormwater Coordinator; and

iii. Shall be retained for a period of at least five years from the date of amendment unless the Department issues a written notice to extend the retention period.

d. The SPPP shall include any records required by this Tier A MS4 NJPDES permit. See Attachment A for Existing Permittees and Attachment A-1 for New Permittees (Measurable Goals and Implementation Schedule) for additional detail.

e. The Department may notify the Tier A Municipality at any time that the SPPP does not meet one or more of the minimum requirements. Within thirty (30) days after receiving such notification unless otherwise specified by the Department, the Tier A Municipality shall amend the SPPP to adequately address all deficiencies, and written certification of such amendments shall be submitted to the Department.

f. The current SPPP shall be posted on the Tier A Municipality's website no later than EDPA + 90 days with updates posted annually thereafter. The version posted on the website can exclude:

i. Inspection logs and other required record keeping; and

ii. The names of SPPP Team members but must include the name of the Stormwater Coordinator.

g. The SPPP shall be made available to the Department and public upon request pursuant to N.J.A.C. 7:14A-25.6(j)2.

2. Designation of the Municipal Stormwater Program Coordinator (Stormwater Coordinator)

a. Each Tier A Municipality shall designate a Stormwater Coordinator.

b. The Stormwater Coordinator shall be either a principal executive officer or a ranking elected official as required at N.J.A.C. 7:14A-4.9(a)3;

c. A principal executive officer or ranking elected official of the Tier A Municipality may assign this responsibility, as allowed at N.J.A.C. 7:14A-4.9(b), to a duly authorized representative who has overall responsibility for the operation of municipal stormwater facilities or municipal environmental matters;

d. If an assignment under b or c, above changes, then a new assignment of responsibility shall be submitted to the Department. This is accomplished through completion of the online MSRP Annual Report (see Part IV.G Annual Report and Certification below) or the Stormwater Program Coordinator Information Update Sheet posted at www.nj.gov/dep/dwq/pdf/msrp_update_form.pdf. This information shall be submitted to the Department within 30 days of such change taking place.

3. Responsibilities of the Municipal Stormwater Program Coordinator (Stormwater Coordinator)

a. The Tier A Municipality shall designate a Municipal Stormwater Program Coordinator (Stormwater Coordinator). The Stormwater Coordinator is responsible for:

i. Coordinating the permittee's implementation of the SPPP and Tier A MS4 NJPDES permit conditions;

ii. Signing and dating the SPPP;

iii. Coordinating the completion and submittal of the Annual Report and Certification; and

iv. Certifying, signing and dating the Annual Report.

4. Implementation of SPPP Conditions through Shared or Contracted Services

a. The Tier A Municipality may rely on another governmental, private, or nonprofit entity to satisfy one or more of the Tier A Municipality's MS4 NJPDES permit conditions, or component thereof, through the implementation of best management practices or control measures. This is only allowable provided the following conditions are met:

i. The other entity implements the best management practice(s) or control measure(s);

ii. The particular best management practice(s) or control measure(s), or component(s) thereof, is at least as stringent or as frequent 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, in such a manner that is in compliance with the Tier A MS4 NJPDES permit on the Tier A Municipality's behalf; and

iv. The Tier A Municipality specifies in its SPPP (1) which NJPDES permit conditions will be implemented by another entity and (2) the name of the responsible entity.

b. For any projects or activities which the Tier A Municipality assigns to another entity which is a private contractor, the awarded contract shall require the contractor to conduct such projects or activities in such a manner that is in compliance with the Tier A MS4 NJPDES permit.

c. The Tier A Municipality is responsible for compliance with this permit if the other entity fails to implement the measure(s) or component(s), thereof.

G. Annual Report and Certification

1. Reporting Requirements

a. The Tier A Municipality shall complete an Annual Report, including any Supplemental Questions, using the electronic format provided by the Department via the MSRP Annual Report service accessed through the Regulatory Services Portal (www.njdeponline.com). The Annual Report shall summarize the status of compliance with the conditions of this permit. Specifically, this includes compliance for the subject year between January 1 and December 31 with the Statewide Basic Requirements (Part IV.B), Other Control Measures (Part IV.C), Additional Measures (Part IV.D), Optional Measures (Part IV.E), Stormwater Pollution Prevention Plan (Part IV.F), and any other Tier A MS4 NJPDES permit conditions listed on the Annual Report form, including Supplemental Questions.

b. The Stormwater Coordinator shall certify, sign and date the Annual Report.

c. Submit an Annual Report and Certification: on or before May 1st annually to the Department through the Regulatory Services Portal (instructions at www.nj.gov/dep/dwq/tier_a.htm).

d. 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.

e. The Tier A Municipality shall retain the Annual Report and Certification as well as any records required to be kept by this permit for a period of at least five years.

f. The Tier A Municipality shall document in the Annual Report (1) if it relies on another entity to satisfy one or more of the Tier A Municipality's MS4 NJPDES permit conditions as described in Part IV.F.4.a (Implementation of SPPP Conditions through Shared or Contracted Services), above; (2) which NJPDES permit conditions will be satisfied by another entity; and (3) the name of the governmental, private, or nonprofit entity.

Attachment A – Measurable Goals and Implementation Schedule for Existing Permittees

General

The following table specifies the Measurable Goals and Implementation Schedule of this Tier A MS4 NJPDES Permit for Existing Permittees. Each Measurable Goal and Implementation Schedule is associated with a permit citation and a summary of the associated Minimum Standard. The summary of Minimum Standard column represents a paraphrase of permit conditions. Actual Minimum Standards are found in Part IV of the permit.

An indication of whether the cited Minimum Standard is a new requirement is provided in the last column. Where a requirement is not new and not modified (and for some that are modified), the Existing Permittee is expected to be in compliance on the Effective Date of Permit Authorization (EDPA). For most new requirements (and for some modified requirements), additional time is provided for achieving compliance.

See below for specific Measurable Goals that shall be documented in the SPPP. **The SPPP shall be updated as required by Part IV.F.1.c, above.** The Implementation Schedule refers to the date that a Minimum Standard must be incorporated into the Tier A Municipality's stormwater program, along with any ongoing requirements. In addition to the requirements of Part IV.F.1 above, the SPPP shall identify and discuss the Minimum Standard of each Statewide Basic Requirement (Part IV.B, above) and Other Control Measures (Part IV.C, above) where the following information is required for each item:

- Describe the method of implementation;
- Include required recordkeeping;
- Include an implementation schedule, consistent with permit requirements, including interim milestones;
- Include any special diagrams required by the permit (e.g., stormwater facilities map); and
- Include inspection and maintenance schedules, as appropriate.

This table does not include Measurable Goals and an Implementation Schedule for the Notes and Definitions Part IV, Part IV.A (Permit Overview), Part IV.D (Additional Measures), IV.E (Optional Measures), IV.F (SPPP), and IV.G (Annual Report and Certification) because these are not Statewide Basic Requirements or Other Control Measures (see N.J.A.C. 7:14A-25.6). While not included in this table, Notes and Definitions Part IV, Part IV.A, D, E, F, and G are permit requirements and compliance is required.

Measurable Goals for Statewide Basic Requirements and Other Conditions of this Permit for Existing Permittees				
Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Public Involvement and Participation Including Public Notice				
Provide for public notice under the Open Public Meetings Act, statutory procedures for enactment of ordinances, and Municipal Land Use Law when providing for public participation in the development and implementation of a stormwater program, and maintain records necessary to demonstrate compliance.	IV.B.1.a & d	Certify in each annual report that all public notice requirements have been met and relevant records kept. Reference in the SPPP the location of associated municipal records.	EDPA	No
Provide the current SPPP to the public upon request.	IV.B.1.b.i	Certify in each annual report that the SPPP was made available to the public.	EDPA	No
Post the current SPPP on the municipality's website.	IV.B.1.b.ii	Certify in each annual report that the SPPP has been posted on the municipality's website (to the extent required by Part IV.F.1.f) and that the posted SPPP is current.	EDPA + 90 days	Yes
Post the current Municipal Stormwater Management Plan (MSWMP) and related ordinances on the municipality's website.	IV.B.1.b.iii	Certify in each annual report that the MSWMP and related ordinances have been posted on the municipality's website and that the posted documents are current.	EDPA + 90 days	Yes
Local Public Education and Outreach				
Implementation of a Public Education and Outreach Program by conducting activities that total a minimum of 12 points on an annual basis.	IV.B.2.a	Certify in each annual report that the minimum point value has been met and report point totals in the Annual Report. Maintain records of materials and activities from Attachment B, including dates of activities and any other relevant documentation (e.g. brochures, pictures, sign-in sheets, press clippings).	EDPA	Modified
Label storm drain inlets, maintain the legibility of those labels, and replace labels that are missing or not legible along sidewalks that are adjacent to municipal streets; and within plazas, parking areas or maintenance yards operated by the municipality.	IV.B.2.b	Certify in each annual report that storm drains have been properly labeled and/or maintained. Records tracking storm drain inlet label status shall be kept with the SPPP.	EDPA	No

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Advertise public involvement program(s) pertaining to education and outreach activities.	IV.B.2.c	Certify in each annual report that public involvement program(s) have been properly advertised on the website, through a mailing, through newspaper advertisement, or other similar means. Public advertisement records shall be kept with the SPPP.	EDPA + 12 months	Yes
Post Construction Stormwater Management in New Development and Redevelopment				
Develop, update, implement and enforce its post construction stormwater management program in new development and redevelopment to ensure compliance with the Stormwater Management rules (N.J.A.C. 7:8).	IV.B.4.a, b, c, d, e, f, g, h, i, j, l	Certify in each annual report that the Tier A Municipality has developed, and is implementing and enforcing a program to address stormwater runoff from new development and redevelopment projects. Records demonstrating compliance with Part IV.B.4 shall be kept, or their location shall be referenced, in the SPPP.	EDPA	No
For each structural and non-structural stormwater measure (e.g. basins), for which an application is made to the municipality after EDPA, the municipality shall complete, update, finalize and maintain a Major Development Stormwater Summary.	IV.B.4.k	Certify in each annual report that Major Development Stormwater Summaries (Attachment D) have been completed and records have been maintained by the Tier A municipality. Records demonstrating compliance with Part IV.B.4 shall be kept, or their location shall be referenced, in the SPPP.	EDPA	Yes
Pollution Prevention/Good Housekeeping - Community Wide Ordinances				
Adopt and enforce a pet waste ordinance. Distribute pet waste ordinance information with pet licenses.	IV.B.5.a.i	Certify in each annual report the date the ordinance was adopted, that it is being enforced and that pet waste ordinance information is distributed with pet licenses. A log of enforcement actions and information distribution dates shall be kept in the SPPP.	EDPA	No
Adopt and enforce a wildlife feeding ordinance.	IV.B.5.a.ii	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA	No

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Adopt and enforce a litter control ordinance.	IV.B.5.a.iii	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA	No
Adopt and enforce an improper disposal of waste ordinance.	IV.B.5.a.iv	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA	No
Adopt and enforce a containerized yard waste / yard waste collection program ordinance.	IV.B.5.a.v	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA	No
Adopt and enforce a private storm drain inlet retrofitting ordinance	IV.B.5.a.vi	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA	No
Pollution Prevention/Good Housekeeping - Community Wide Measures				
Develop and continue to implement street sweeping measures as specified at Part IV.B.5.b.i.	IV.B.5.b.i	Certify in each annual report that a street sweeping schedule is being maintained as well as records including the date and areas swept, number of miles of streets swept, and the total amount of materials collected in wet tons. Include totals in the Annual Report and keep records in the SPPP.	EDPA	No
Develop and continue to implement catch basin and storm drain inlet inspection and cleaning measures as specified at Part IV.B.5.b.ii.	IV.B.5.b.ii	Certify in each annual report that a catch basin and storm drain inlet inspection and cleaning schedule is being maintained, and a log indicating the number of municipally owned and operated catch basins and inlets within the municipality, the number of catch basins and inlets inspected, and the number cleaned is being maintained. Maintain records documenting the amount of materials collected in wet tons during cleaning activities in the SPPP. Include totals in the Annual Report.	EDPA	Modified

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Develop and continue to implement storm drain inlet retrofit measures as specified at Part IV.B.5.b.iii.	IV.B.5.b.iii	Certify in each annual report that a record of the number and location of storm drain inlets retrofitted as well as the number and location of storm drain inlets exempted is being maintained. Include totals in the Annual Report and keep records in the SPPP.	EDPA	No
Pollution Prevention/Good Housekeeping - Municipal Maintenance Yards and Other Ancillary Operations				
Implement the BMP's found in Attachment E, including the Inventory of Materials and Machinery, and Inspections and Good Housekeeping practices, at Municipal Maintenance Yards and Other Ancillary Operations.	IV.B.5.c	Certify in each annual report that the SPPP includes all applicable requirements and that the requirements (including maintenance of inspection logs and tracking forms) of Attachment E have been met. Keep records required by Attachment E in the SPPP.	EDPA	No
BMPs shall be implemented for fueling operations.	IV.B.5.c.i	Certify in each annual report that BMPs in Attachment E have been implemented for fueling operations.	EDPA	No
BMPs shall be implemented for discharge of stormwater from secondary containment.	IV.B.5.c.ii	Certify in each annual report that BMPs in Attachment E have been implemented for discharge of stormwater from secondary containment.	EDPA	No
BMPs shall be implemented for vehicle maintenance.	IV.B.5.c.iii	Certify in each annual report that BMPs in Attachment E have been implemented for vehicle maintenance.	EDPA	No
BMPs shall be implemented for on-site equipment and vehicle washing and wash wastewater containment.	IV.B.5.c.iv	Certify in each annual report that BMPs in Attachment E have been implemented for on-site equipment and vehicle washing and wash wastewater containment.	EDPA	Modified
BMPs shall be implemented for salt and de-icing material storage and handling.	IV.B.5.c.v	Certify in each annual report that BMPs in Attachment E have been implemented for salt and de-icing material storage and handling.	EDPA	No
BMPs shall be implemented for aggregate material and construction debris storage.	IV.B.5.c.vi	Certify in each annual report that BMPs in Attachment E have been implemented for aggregate material and construction debris storage.	EDPA + 12 months	Yes

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
BMPs shall be implemented for street sweepings and catch basin clean-out material storage.	IV.B.5.c.vii	Certify in each annual report that BMPs in Attachment E have been implemented for street sweepings and catch basin clean-out material storage.	EDPA + 12 months	Yes
BMPs shall be implemented for yard trimmings and wood waste management sites.	IV.B.5.c.viii	Certify in each annual report that BMPs in Attachment E have been implemented for yard trimmings and wood waste management sites.	EDPA + 12 months	Yes
BMPs shall be implemented for roadside vegetation management.	IV.B.5.c.ix	Certify in each annual report that BMPs in Attachment E have been implemented for roadside vegetation management.	EDPA + 12 months	Yes
Pollution Prevention/Good Housekeeping - Training Program				
Provide training to municipal employees within 3 months of commencement of duties, and at least once every two years thereafter, to address all required components. The exceptions are Part IV.B.5.d.v, viii, and x which require annual training instead of once every two years.	IV.B.5.d	Certify in each annual report that employee training has been conducted, and maintain records including sign in sheet(s), date(s) of training, and training agenda(s). These records shall be kept in the SPPP.	EDPA + 12 months	Modified
Ensure that individuals that review development and redevelopment projects for compliance with N.J.A.C. 7:8 on behalf of the municipality complete Department approved training once every five years.	IV.B.5.e	Certify in each annual report that individuals reviewing projects have completed the required training, and maintain a list of the names and dates that individuals received training. This list shall be kept in the SPPP.	EDPA + 12 months	Yes
Ensure that current Municipal Board and Governing Body Members that review and approve applications for development and redevelopment projects complete the "Training Tool" on or before EDPA + 6 months, and by new members within 6 months of commencement of duties. Once per term of service thereafter, Municipal Board and Governing Body Members must review at least one of the tools offered under the Post-Construction Stormwater Management website.	IV.B.5.f	Certify in each annual report that municipal board and governing body members have completed the necessary training, and maintain a list of the names and dates that individuals completed training. This list shall be kept in the SPPP.	EDPA + 6 months	Yes

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
MS4 Outfall Pipe Mapping and Illicit Discharge and Scouring Detection and Control				
Develop, update and maintain an MS4 Outfall Pipe Map showing the location of the end of all outfall pipe which discharge to a surface water body.	IV.B.6.a.i	Certify in each annual report that the outfall pipe map is current at the end of the calendar year.	EDPA	No
Show the location (and name where known) of all surface water bodies receiving discharges from those outfall pipes.	IV.B.6.a.ii	Certify in each annual report that the surface water bodies associated with each outfall pipe end is located on the map.	EDPA	No
Include Outfall Pipe map in the SPPP	IV.B.6.a.iii	Certify in each annual report following the implementation deadline that the Outfall Pipe Map is included in the SPPP.	EDPA +12 months	Yes
Provide Outfall Pipe Map to the Department	IV.B.6.a.iv	Certify in each annual report following the implementation deadline that the Outfall Pipe Map and any new data points subsequently added to the map have been provided to the Department.	EDPA +12 months	Yes
Submitted the Outfall Pipe Map information to the Department electronically by December 21, 2020	IV.B.6.a.v	Submit the Outfall Pipe Map information to the Department using Department's designated electronic submission service by December 21, 2020.	12/21/2020	Yes
Develop, update and implement a program to detect, investigate and control localized stream scouring from stormwater outfall pipes.	IV.B.6.b	Certify in each annual report that municipally owned outfall pipes have received the required visual inspection at least once every five years and maintain a log indicating the number and location of outfall pipes inspected, repairs prioritized, and repairs scheduled or performed. Certify in the annual report that a repair schedule has been prepared for those that have not been completed. Keep records required by Part IV.B.6.b in the SPPP.	EDPA + 12 months	Modified

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Develop, update, implement and enforce an ongoing Illicit Discharge Detection and Elimination Program.	IV.B.6.c	Certify in each annual report that the municipality has developed a program to detect and eliminate illicit discharges and has conducted inspections required at Part IV.B.6.c at least once every five years. Document all investigations and actions taken on the Department's Illicit Connection Inspection Report Form. Keep records required by Part IV.B.6.c in the SPPP.	EDPA	Modified
Adopt and enforce an ordinance that prohibits illicit connections to the MS4 operated by the Tier A Municipality.	IV.B.6.d	Certify in each annual report that the ordinance is being maintained and the date it was adopted. A log of enforcement actions shall be kept in the SPPP.	EDPA	No
Stormwater Facilities Maintenance				
Develop, update and implement a program to ensure adequate long-term cleaning, operation and maintenance of all stormwater facilities owned or operated by the Tier A Municipality.	IV.C.1.a	Certify in each annual report that the municipality has developed, updated and implemented a program to ensure adequate long-term cleaning, operation and maintenance of all municipally owned stormwater facilities. Records required by Part IV.C.1.a, a.i, a.ii, a.iii and a.iv shall be kept, or their location shall be referenced, in the SPPP.	EDPA	Modified
Inspect and maintain stormwater facilities pursuant to any maintenance plans, or more frequently as needed, to ensure proper function and operation of each stormwater facility.	IV.C.1.a.i	Certify in each annual report that inspections and maintenance was performed pursuant to any maintenance plans, or more frequently as needed, to ensure proper function and operation of stormwater facilities.	EDPA	Modified

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Maintain a log sufficient to demonstrate compliance with this section; including but not limited a list of inspections and preventative and corrective maintenance performed, and a schedule for repairs to be made.	IV.C.1.a.ii	Certify in each annual report that a maintenance log is kept that, at a minimum, records the stormwater facility inspected, location information of the facility inspected (location information must be specific enough to locate and identify the stormwater facility in the field; e.g. geographic coordinates), name of inspector, date of inspection, findings, and any preventative and corrective maintenance performed.	EDPA	Modified
Certify annually that municipally owned or operated stormwater facilities are properly functioning.	IV.C.1.a.iii	Certify in each annual report that all municipally owned or operated stormwater facilities are properly functioning.	EDPA	No
If stormwater facilities were found not to be functioning properly and repairs not made, then necessary preventative and corrective maintenance shall be documented and prioritized and a schedule for maintenance shall be maintained.	IV.C.1.a.iv	Certify in each annual report that a prioritized schedule of necessary preventive and corrective maintenance exists for stormwater facilities inspected and found not to be functioning properly. The municipality shall prioritize this schedule as specified in Part IV.C.1.iv.	EDPA	Modified
Develop, update, implement and enforce a program to ensure adequate long-term cleaning, operation and maintenance of stormwater facilities not owned or operated by the Tier A Municipality, not subject to the conditions of another NJPDES stormwater permit and constructed after February 7, 1984.	IV.C.1.b	Certify in each annual report that the municipality has developed, updated, implemented and enforced a program to ensure adequate long-term cleaning, operation and maintenance of stormwater facilities not owned and operated by the municipality, not subject to the conditions of another NJPDES stormwater permit and constructed after February 7, 1984. Records required by Part IV.C.1.b, b.i and b.ii shall be kept, or their location shall be referenced, in the SPPP.	EDPA + 12 months	Modified

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Ensure that stormwater facility inspection and maintenance is performed pursuant to any maintenance plans, or more frequently as needed to ensure proper function and operation of each stormwater facility.	IV.C.1.b.i	Certify in each annual report that maintenance was performed pursuant to any maintenance plans, or more frequently, to ensure proper function and operation of stormwater facilities not owned and operated by the municipality.	EDPA + 12 months	Modified
Maintain a log sufficient to demonstrate compliance with this section; including but not limited actions taken by the municipality to enforce compliance with the long-term cleaning, operation and maintenance program.	IV.C.1.b.ii	Certify in each annual report that a log is being kept that, at a minimum, records the actions taken by the municipality to enforce compliance with the long-term cleaning, operation and maintenance program; the stormwater facility that was the subject of the action; location information of the facility that was the subject of the action (location information must be specific enough to locate and identify the stormwater facility in the field; e.g. geographic coordinates); the name of person taking the action; the date of the action; and the findings.	EDPA + 12 months	Modified
Maintain copies of all maintenance plans for stormwater facilities approved by the municipality, and make them available to the Department upon request.	IV.C.1.c	Certify in each annual report that copies of all maintenance plans are kept on file. Records required by Part IV.C.1.c shall be kept, or their location shall be referenced, in the SPPP.	EDPA + 12 months	Yes
Total Maximum Daily Load (TMDL) Info.				
Annually review approved or adopted TMDL reports to identify stormwater related pollutants listed therein and associated with any segment of surface water wholly or partially within or bordering the Tier A Municipality.	IV.C.2.a.i	Certify in each annual report that approved or adopted TMDLs have been identified and reviewed and stormwater related pollutants identified. Records required by Part IV.C.2.a.i, a.ii and a.iii shall be kept in the SPPP.	EDPA + 12 months	Yes

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**	**New Requirement?**
Use TMDL information identified in compliance with Part IV.C.2.a.i to: (1) assist in the prioritization of stormwater facility maintenance including schedules for repairs related to Stream Scouring and Stormwater Facilities Maintenance; and (2) identify and develop strategies to address specific sources of stormwater related pollutants contributing to discharges authorized under this Tier A MS4 NJPDES permit.	IV.C.2.a.ii	Certify in each annual report that the municipality has used information identified in compliance with Part VI.C.2.a.i to (1) assist in the prioritization of repairs as required at Part IV.B.6.b.iv (Stream Scouring) and IV.C.31.a.iv (Stormwater Facilities Maintenance); and (2) identify and develop strategies to address specific sources of stormwater related pollutants contributing to discharges authorized under this Tier A MS4 NJPDES permit.	EDPA + 12 months	Yes
Update SPPP to list information identified in Part VI.C.2.a.i and ii.	IV.C.2.a.iii	Certify in each annual report that the municipality has updated its SPPP to list information identified in Part VI.C.2.a.i and ii.	EDPA + 12 months	Yes
Incorporate any strategies identified in Part VI.C.2.a.ii(2) as an Optional Measure	IV.C.2.a.iv	Certify in each annual report that the municipality has incorporated any strategies identified in Part VI.C.2.a.ii(2) as an Optional Measure.	EDPA + 12 months	Yes

Attachment A-1 – Measurable Goals and Implementation Schedule for New Permittees

General

The following table specifies the Measurable Goals and Implementation Schedule of this Tier A MS4 NJPDES Permit for New Permittees. Each Measurable Goal and Implementation Schedule is associated with a permit citation and a summary of the associated Minimum Standard. The summary of Minimum Standard column represents a paraphrase of permit conditions. Actual Minimum Standards are found in Part IV of the permit.

See below for specific Measurable Goals that shall be documented in the SPPP. **The SPPP shall be created by EDP + 12 months and updated on annual basis thereafter as required by Part IV.F.** The Implementation Schedule refers to the date that a Minimum Standard must be incorporated into the Tier A Municipality's stormwater program, along with any ongoing requirements. In addition to the requirements of Part IV.F above, the SPPP shall identify and discuss the Minimum Standard of each Statewide Basic Requirement (Part IV.B, above) and Other Control Measures (Part IV.C, above) where the following information is required for each item:

- Describe the method of implementation;
- Include required recordkeeping;
- Include an implementation schedule, consistent with permit requirements, including interim milestones;
- Include any special diagrams required by the permit (e.g., stormwater facilities map); and
- Include inspection and maintenance schedules, as appropriate.

This table does not include Measurable Goals and an Implementation Schedule for the Notes and Definitions Part IV, Part IV.A (Permit Overview), Part IV.D (Additional Measures), IV.E (Optional Measures), IV.F (SPPP), and IV.G (Annual Report and Certification) because these are not Statewide Basic Requirements or Other Control Measures (see N.J.A.C. 7:14A-25.6). While not included in this table, Notes and Definitions Part IV, Part IV.A, D, E, F, and G are permit requirements and compliance is required.

Measurable Goals for Statewide Basic Requirements and Other Conditions of this Permit for New Permittees			
Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**
Public Involvement and Participation Including Public Notice			
Provide for public notice under the Open Public Meetings Act, statutory procedures for enactment of ordinances, and Municipal Land Use Law when providing for public participation in the development and implementation of a stormwater program, and maintain records necessary to demonstrate compliance.	IV.B.1.a & d	Certify in each annual report that all public notice requirements have been met and relevant records kept. Reference in the SPPP the location of associated municipal records.	EDPA
Provide the current SPPP to the public upon request.	IV.B.1.b.i	Certify in each annual report that the SPPP was made available to the public.	EDPA + 12 months
Post the current SPPP on the municipality's website.	IV.B.1.b.ii	Certify in each annual report that the SPPP has been posted on the municipality's website (to the extent required by Part IV.F.1.f) and that the posted SPPP is current.	EDPA + 12 months)
Post the current Municipal Stormwater Management Plan (MSWMP) and related ordinances on the municipality's website.	IV.B.1.b.iii	Certify in each annual report that the MSWMP and related ordinances have been posted on the municipality's website and that the posted documents are current.	EDPA + 90 days
Local Public Education and Outreach			
Implementation of a Public Education and Outreach Program by conducting activities that total a minimum of 12 points on an annual basis.	IV.B.2.a	Certify in each annual report that the minimum point value has been met and report point totals in the Annual Report. Maintain records of materials and activities from Attachment B, including dates of activities and any other relevant documentation (e.g. brochures, pictures, sign-in sheets, press clippings).	EDPA

Summary of Minimum Standard (See Part IV for specific permit requirements)	**Permit Cite**	**Measurable Goal** (See Part IV for specific permit requirements)	**Implementation Schedule**
Label storm drain inlets, maintain the legibility of those labels, and replace labels that are missing or not legible along sidewalks that are adjacent to municipal streets; and within plazas, parking areas or maintenance yards operated by the municipality.	IV.B.2.b	Certify in each annual report that storm drains have been properly labeled and/or maintained. Records tracking storm drain inlet label status shall be kept with the SPPP.	EDPA
Advertise public involvement program(s) pertaining to education and outreach activities.	IV.B.2.c	Certify in each annual report that public involvement program(s) have been properly advertised on the website, through a mailing, through newspaper advertisement, or other similar means. Public advertisement records shall be kept with the SPPP.	EDPA + 12 months
Post Construction Stormwater Management in New Development and Redevelopment			
Develop, update, implement and enforce its post construction stormwater management program in new development and redevelopment to ensure compliance with the Stormwater Management rules (N.J.A.C. 7:8).	IV.B.4.a, b, c, d, e, f, g, h, i, j, l	Certify in each annual report that the Tier A Municipality has developed, and is implementing and enforcing a program to address stormwater runoff from new development and redevelopment projects. Records demonstrating compliance with Part IV.B.4 shall be kept, or their location shall be referenced, in the SPPP.	EDPA
For each structural and non-structural stormwater measure (basins), for which an application is made to the municipality after EDPA, the municipality shall complete, update, finalize and maintain a Major Development Stormwater Summary.	IV.B.4.k	Certify in each annual report that Major Development Stormwater Summaries (Attachment D) have been completed and records have been maintained by the Tier A municipality. Records demonstrating compliance with Part IV.B.4 shall be kept, or their location shall be referenced, in the SPPP.	EDPA

Pollution Prevention/Good Housekeeping - Community Wide Ordinances			
Adopt and enforce a pet waste ordinance. Distribute pet waste ordinance information with pet licenses.	IV.B.5.a.i	Certify in each annual report the date the ordinance was adopted, that it is being enforced and that pet waste ordinance information is distributed with pet licenses. A log of enforcement actions and information distribution dates shall be kept in the SPPP.	EDPA + 12 months
Adopt and enforce a wildlife feeding ordinance.	IV.B.5.a.ii	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA + 12 months
Adopt and enforce a litter control ordinance.	IV.B.5.a.iii	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA + 12 months
Adopt and enforce an improper disposal of waste ordinance.	IV.B.5.a.iv	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA + 12 months
Adopt and enforce a containerized yard waste / yard waste collection program ordinance.	IV.B.5.a.v	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA + 12 months
Adopt and enforce a private storm drain inlet retrofitting ordinance	IV.B.5.a.vi	Certify in each annual report the date the ordinance was adopted and that it is being enforced. A log of enforcement actions shall be kept in the SPPP.	EDPA + 12 months
Pollution Prevention/Good Housekeeping - Community Wide Measures			
Develop and continue to implement street sweeping measures as specified at Part IV.B.5.b.i.	IV.B.5.b.i	Certify in each annual report that a street sweeping schedule is being maintained as well as records including the date and areas swept, number of miles of streets swept, and the total amount of materials collected in wet tons. Include totals in the Annual Report and keep records in the SPPP.	EDPA + 24 months

Develop and continue to implement catch basin and storm drain inlet inspection and cleaning measures as specified at Part IV.B.5.b.ii.	IV.B.5.b.ii	Certify in each annual report that a catch basin and storm drain inlet inspection and cleaning schedule is being maintained, and a log indicating the number of municipally owned and operated catch basins and inlets within the municipality, the number of catch basins and inlets inspected, and the number cleaned is being maintained. Maintain records documenting the amount of materials collected in wet tons during cleaning activities in the SPPP. Include totals in the Annual Report.	EDPA + 24 months
Develop and continue to implement storm drain inlet retrofit measures as specified at Part IV.B.5.b.iii.	IV.B.5.b.iii	Certify in each annual report that a record of the number and location of storm drain inlets retrofitted as well as the number and location of storm drain inlets exempted is being maintained. Include totals in the Annual Report and keep records in the SPPP.	EDPA + 12 months
Pollution Prevention/Good Housekeeping - Municipal Maintenance Yards and Other Ancillary Operations			
Implement the BMP's found in Attachment E, including the Inventory of Materials and Machinery, and Inspections and Good Housekeeping practices, at Municipal Maintenance Yards and Other Ancillary Operations.	IV.B.5.c	Certify in each annual report that the SPPP includes all applicable requirements and that the requirements (including maintenance of inspection logs and tracking forms) of Attachment E have been met. Keep records required by Attachment E in the SPPP.	EDPA + 12 months
BMPs shall be implemented for fueling operations.	IV.B.5.c.i	Certify in each annual report that BMPs in Attachment E have been implemented for fueling operations.	EDPA + 12 months
BMPs shall be implemented for discharge of stormwater from secondary containment.	IV.B.5.c.ii	Certify in each annual report that BMPs in Attachment E have been implemented for discharge of stormwater from secondary containment.	EDPA + 12 months
BMPs shall be implemented for vehicle maintenance.	IV.B.5.c.iii	Certify in each annual report that BMPs in Attachment E have been implemented for vehicle maintenance.	EDPA + 12 months

BMPs shall be implemented for on-site equipment and vehicle washing and wash wastewater containment.	IV.B.5.c.iv	Certify in each annual report that BMPs in Attachment E have been implemented for on-site equipment and vehicle washing and wash wastewater containment.	EDPA + 60 months
BMPs shall be implemented for salt and de-icing material storage and handling.	IV.B.5.c.v	Certify in each annual report that BMPs in Attachment E have been implemented for salt and de-icing material storage and handling.	EDPA + 60 months
BMPs shall be implemented for aggregate material and construction debris storage.	IV.B.5.c.vi	Certify in each annual report that BMPs in Attachment E have been implemented for aggregate material and construction debris storage.	EDPA + 18 months
BMPs shall be implemented for street sweepings and catch basin clean-out material storage.	IV.B.5.c.vii	Certify in each annual report that BMPs in Attachment E have been implemented for street sweepings and catch basin clean-out material storage.	EDPA + 18 months
BMPs shall be implemented for yard trimmings and wood waste management sites.	IV.B.5.c.viii	Certify in each annual report that BMPs in Attachment E have been implemented for yard trimmings and wood waste management sites.	EDPA + 18 months
BMPs shall be implemented for roadside vegetation management.	IV.B.5.c.ix	Certify in each annual report that BMPs in Attachment E have been implemented for roadside vegetation management.	EDPA + 18 months
Pollution Prevention/Good Housekeeping - Training Program			
Provide training to municipal employees within 3 months of commencement of duties, and at least once every two years thereafter, to address all required components. The exceptions are Part IV.B.5.d.v, viii, and x which require annual training instead of once every two years.	IV.B.5.d	Certify in each annual report that employee training has been conducted, and maintain records including sign in sheet(s), date(s) of training, and training agenda(s). These records shall be kept in the SPPP.	EDPA + 12 months
Ensure that individuals that review development and redevelopment projects for compliance with N.J.A.C. 7:8 on behalf of the municipality complete Department approved training once every five years.	IV.B.5.e	Certify in each annual report that individuals reviewing projects have completed the required training, and maintain a list of the names and dates that individuals received training. This list shall be kept in the SPPP.	EDPA + 12 months

Ensure that current Municipal Board and Governing Body Members that review and approve applications for development and redevelopment projects complete the "Training Tool" on or before EDPA + 6 months, and by new members within 6 months of commencement of duties. Once per term of service thereafter, Municipal Board and Governing Body Members must review at least one of the tools offered under the Post-Construction Stormwater Management website.	IV.B.5.f	Certify in each annual report that municipal board and governing body members have completed the necessary training, and maintain a list of the names and dates that individuals completed training. This list shall be kept in the SPPP.	EDPA + 6 months
MS4 Outfall Pipe Mapping and Illicit Discharge and Scouring Detection and Control			
Develop, update and maintain an MS4 Outfall Pipe Map showing the location of the end of all outfall pipe which discharge to a surface water body.	IV.B.6.a.i	Certify in each annual report following the implementation deadline that the outfall pipe map is current at the end of the calendar year.	EDPA + 36 months
Show the location (and name where known) of all surface water bodies receiving discharges from those outfall pipes.	IV.B.6.a.ii	Certify in each annual report following the implementation deadline that the surface water bodies associated with each outfall pipe end is located on the map.	EDPA + 36 months
Include Outfall Pipe map in the SPPP	IV.B.6.a.iii	Certify in each annual report following the implementation deadline that the Outfall Pipe Map is included in the SPPP.	EDPA + 36 months
Provide Outfall Pipe Map to the Department	IV.B.6.a.iv	Certify in each annual report following the implementation deadline that the Outfall Pipe Map and any new data points subsequently added to the map have been provided to the Department.	EDPA + 36 months
Submitted the Outfall Pipe Map information to the Department electronically by December 21, 2020	IV.B.6.a.v	Submit the Outfall Pipe Map information to the Department using Department's designated electronic submission service by December 21, 2020.	12/21/2020

Develop, update and implement a program to detect, investigate and control localized stream scouring from stormwater outfall pipes.	IV.B.6.b	Certify in each annual report that municipally owned outfall pipes have received the required visual inspection at least once every five years and maintain a log indicating the number and location of outfall pipes inspected, repairs prioritized, and repairs scheduled or performed. Certify in the annual report that a repair schedule has been prepared for those that have not been completed. Keep records required by Part IV.B.6.b in the SPPP.	EDPA + 60 months
Develop, update, implement and enforce an ongoing Illicit Discharge Detection and Elimination Program.	IV.B.6.c	Certify in each annual report that the municipality has developed a program to detect and eliminate illicit discharges and has conducted inspections required at Part IV.B.6.c at least once every five years. Document all investigations and actions taken on the Department's Illicit Connection Inspection Report Form. Keep records required by Part IV.B.6.c in the SPPP.	EDPA + 60 months
Adopt and enforce an ordinance that prohibits illicit connections to the MS4 operated by the Tier A Municipality.	IV.B.6.d	Certify in each annual report that the ordinance is being maintained and the date it was adopted. A log of enforcement actions shall be kept in the SPPP.	EDPA + 12 months
Stormwater Facilities Maintenance			
Develop, update and implement a program to ensure adequate long-term cleaning, operation and maintenance of all stormwater facilities owned or operated by the Tier A Municipality.	IV.C.1.a	Certify in each annual report that the municipality has developed, updated and implemented a program to ensure adequate long-term cleaning, operation and maintenance of all municipally owned stormwater facilities. Records required by Part IV.C.1.a, a.i, a.ii, a.iii and a.iv shall be kept, or their location shall be referenced, in the SPPP.	EDPA + 18 months

Inspect and maintain stormwater facilities pursuant to any maintenance plans, or more frequently as needed, to ensure proper function and operation of each stormwater facility.	IV.C.1.a.i	Certify in each annual report that inspections and maintenance was performed pursuant to any maintenance plans, or more frequently as needed, to ensure proper function and operation of stormwater facilities.	EDPA + 18 months
Maintain a log sufficient to demonstrate compliance with this section; including but not limited a list of inspections and preventative and corrective maintenance performed, and a schedule for repairs to be made.	IV.C.1.a.ii	Certify in each annual report that a maintenance log is kept that, at a minimum, records the stormwater facility inspected, location information of the facility inspected (location information must be specific enough to locate and identify the stormwater facility in the field; e.g. geographic coordinates), name of inspector, date of inspection, findings, and any preventative and corrective maintenance performed.	EDPA + 18 months
Certify annually that municipally owned or operated stormwater facilities are properly functioning.	IV.C.1.a.iii	Certify in each annual report that all municipally owned or operated stormwater facilities are properly functioning.	EDPA + 18 months
If stormwater facilities were found not to be functioning properly and repairs not made, then necessary preventative and corrective maintenance shall be documented and prioritized and a schedule for maintenance shall be maintained.	IV.C.1.a.iv	Certify in each annual report that a prioritized schedule of necessary preventive and corrective maintenance exists for stormwater facilities inspected and found not to be functioning properly. The municipality shall prioritize this schedule as specified in Part IV.C.1.iv.	EDPA + 18 months
Develop, update, implement and enforce a program to ensure adequate long-term cleaning, operation and maintenance of stormwater facilities not owned or operated by the Tier A Municipality, not subject to the conditions of another NJPDES stormwater permit and constructed after February 7, 1984.	IV.C.1.b	Certify in each annual report that the municipality has developed, updated, implemented and enforced a program to ensure adequate long-term cleaning, operation and maintenance of stormwater facilities not owned and operated by the municipality, not subject to the conditions of another NJPDES stormwater permit and constructed after February 7, 1984. Records required by Part IV.C.1.b, b.i and b.ii shall be kept, or their location shall be referenced, in the SPPP.	EDPA + 18 months

Ensure that stormwater facility inspection and maintenance is performed pursuant to any maintenance plans, or more frequently as needed to ensure proper function and operation of each stormwater facility.	IV.C.1.b.i	Certify in each annual report that maintenance was performed pursuant to any maintenance plans, or more frequently, to ensure proper function and operation of stormwater facilities not owned and operated by the municipality.	EDPA + 18 months
Maintain a log sufficient to demonstrate compliance with this section; including but not limited actions taken by the municipality to enforce compliance with the long-term cleaning, operation and maintenance program.	IV.C.1.b.ii	Certify in each annual report that a log is being kept that, at a minimum, records the actions taken by the municipality to enforce compliance with the long-term cleaning, operation and maintenance program; the stormwater facility that was the subject of the action; location information of the facility that was the subject of the action (location information must be specific enough to locate and identify the stormwater facility in the field; e.g. geographic coordinates); the name of person taking the action; the date of the action; and the findings.	EDPA + 18 months
Maintain copies of all maintenance plans for stormwater facilities approved by the municipality, and make them available to the Department upon request.	IV.C.1.c	Certify in each annual report that copies of all maintenance plans are kept on file. Records required by Part IV.C.1.c shall be kept, or their location shall be referenced, in the SPPP.	EDPA + 12 months
Total Maximum Daily Load (TMDL) Info.			
Annually review approved or adopted TMDL reports to identify stormwater related pollutants listed therein and associated with any segment of surface water wholly or partially within or bordering the Tier A Municipality.	IV.C.2.a.i	Certify in each annual report that approved or adopted TMDLs have been identified and reviewed and stormwater related pollutants identified. Records required by Part IV.C.2.a.i, a.ii and a.iii shall be kept in the SPPP.	EDPA + 12 months

Use TMDL information identified in compliance with Part IV.C.2.a.i to: (1) assist in the prioritization of stormwater facility maintenance including schedules for repairs related to Stream Scouring and Stormwater Facilities Maintenance; and (2) identify and develop strategies to address specific sources of stormwater related pollutants contributing to discharges authorized under this Tier A MS4 NJPDES permit.	IV.C.2.a.ii	Certify in each annual report that the municipality has used information identified in compliance with Part VI.C.2.a.i to (1) assist in the prioritization of repairs as required at Part IV.B.6.b.iv (Stream Scouring) and IV.C.31.a.iv (Stormwater Facilities Maintenance); and (2) identify and develop strategies to address specific sources of stormwater related pollutants contributing to discharges authorized under this Tier A MS4 NJPDES permit.	EDPA + 12 months
Update SPPP to list information identified in Part VI.C.2.a.i and ii.	IV.C.2.a.iii	Certify in each annual report that the municipality has updated its SPPP to list information identified in Part VI.C.2.a.i and ii.	EDPA + 12 months
Incorporate any strategies identified in Part VI.C.2.a.ii(2) as an Optional Measure	IV.C.2.a.iv	Certify in each annual report that the municipality has incorporated any strategies identified in Part VI.C.2.a.ii(2) as an Optional Measure.	EDPA + 12 months

Attachment B – Points System for Public Education and Outreach Activities

The Tier A Municipality shall implement a Public Education and Outreach Program that focuses on educational and pollution prevention activities about the impacts of stormwater discharges on surface water and groundwater and to involve the public in reducing pollutants in stormwater runoff and mitigating flow.

The Tier A Municipality shall **annually** conduct educational activities that total at least **12 points** and include activities from at least three of the five categories found below. At a minimum, at least one of the activities shall involve educating businesses and the general public of hazards associated with illicit connections and improper disposal of waste. Each approved activity is listed below with an assigned point value. Additional information on how to conduct these Public Education and Outreach activities can be found under Notes and Definitions Part IV.A.3 and 4 of this Tier A MS4 NJPDES permit. Records shall be kept necessary to demonstrate compliance with this requirement, including date of activities and any other relevant documentation.

Category 1: General Public Outreach		
Activity	**Description**	**Points**
Website and Social Media	Maintain a stormwater related page on the municipal website or on a municipal social media site. The web page may include links to other stormwater related resources, including the NJDEP stormwater website (www.njstormwater.org).	1
Newspaper Ad	Use Department created and approved stormwater education materials available on www.cleanwaternj.org to publish an ad in a newspaper or newsletter that serves the municipality.	1
Radio/Television	Broadcast a radio or television public service announcement from www.cleanwaternj.org on a local radio or municipal public service channel.	1
Green Infrastructure Signage	Post signs at municipally-owned green infrastructure sites that describe the function and importance of the infrastructure, contact phone number, municipal identification number, and/or website for more information. *New signs receive 0.5 credits per sign. Existing signs that are maintained or upgraded receive 0.25 credits per sign. A maximum of 5 credits are allowed.	5*
Billboard/Sign	Produce and maintain (for credit in subsequent years) a billboard or sign which can be displayed on a bus, bus stop shelter, recreation field (outfield sign), or other similar public venue.	2
Mural	Produce and maintain (for credit in subsequent years) the planning and painting of a stormwater pollution themed mural, storm drain art or other artwork at a local downtown/commercial area or other similar public venue.	2
Stormwater Facility Signage	Post signs at municipally-owned stormwater management basins or other structural stormwater related facilities that describe the function and importance of the facility, contact phone number, municipal identification number, and/or website for more information. *New signs receive 0.5 credits per sign. Existing signs that are maintained or upgraded receive 0.25 credits per sign. A maximum of 5 credits are allowed.	5*

Category 2: Targeted Audiences Outreach		
Activity	**Description**	**Points**
Stormwater Display	Present a stormwater related display or materials at any municipal event (e.g., Earth Day, town picnic), at the municipal building or other similar public venue.	1
Promotional Item	Distribute an item or items with a stormwater related message (e.g., refrigerator magnets, temporary tattoos, key chains, bookmarks, pet waste bag dispensers, coloring books, and pens or pencils). Municipality must initially have available a minimum number of the items equal to 10% of the municipal population.	2
Mailing or e-Mailing Campaign	Provide information to all known owners of stormwater facilities not owned or operated by the municipality (i.e., privately owned) highlighting the importance of proper maintenance of stormwater measures. For assistance, see information at www.nj.gov/dep/stormwater/maintenance_guidance.htm.	3
Mailing or e-Mailing Campaign	Distribute any of the Department's educational brochures, tip cards, or a municipally produced equivalent (e.g., community calendar, newsletter, or recycling schedule) via a mailing to every resident and business in the municipality.	2
Ordinance Education	Distribute a letter or e-mail from the mayor or municipal official to every resident and business in the municipality highlighting the requirements and environmental benefits of the Pet Waste, Wildlife Feeding, Litter Control, Improper Disposal of Waste, Containerized Waste/Yard Waste Collection, Private Storm Drain Inlet Retrofitting and Illicit Connection ordinances. Provide a link to the municipal website where subject ordinances are posted.	3

Category 3: School / Youth Education and Activities		
Activity	**Description**	**Points**
School Presentations	Provide water-related educational presentation(s) and/or activities to local preschool, elementary, middle, and/or high school classes using municipal staff or local partner organizations. Topics could include stormwater, nonpoint source pollution, watersheds, water conservation and water quality. For ideas, see information at www.nj.gov/dep/seeds. *Presentations receive 1 credit per presentation, with a maximum of 5 credits allowed.	5*
Water Education Workshops	Provide water-related professional development workshops for local teachers from a registered NJ Department of Education Professional Development Provider.	2
Storm Drain Labeling	Organize a project to label and/or maintain storm drain labels (that are not already precast with a message) with a scout troop, local school district, or faith based group, or other community youth group for a minimum of 40 labels. This project could also include stenciling over precast labels to improve legibility.	3
Educational Contest for Schools	Organize an educational contest with a local school district or a local community organization serving youth to design a poster, magnet, rain stick, rain barrel or other craft/art object. Contest themes shall have an appropriate stormwater message. Winning entries are to be displayed at publicly accessible locations within the municipality such as at the town hall, library, post office, or school. The winning design should be shown on the municipality's website or social media site, if practical.	3
AmeriCorps Event	Coordinate an event (e.g. volunteer stream monitoring, educational presentations, or stormwater awareness project) through AmeriCorps NJ Watershed Ambassador Program	4
Clean-up	Sponsor or organize a litter clean up for a scout troop, local school district, faith based group or other community youth group along a local waterway, public park, stormwater facility, or in an area with storm drains that discharge to a local lake or waterway.	3

Category 4: Watershed/Regional Collaboration		
Activity	**Description**	**Points**
Regional Stormwater Collaboration	Participate in a regional stormwater, community collaborative or other watershed-based group on a regular basis to discuss impaired waterbodies, TMDLs, regional stormwater related issues, or watershed restoration plans that address those waterbodies. Evaluate, develop and implement remedies that resolve stormwater-related issues within the affected waterbody or watershed.	3
Green Infrastructure Workshop	Organize or participate in a rain barrel, rain garden or other green infrastructure workshop on a regional or watershed basis. This could be a partnership exercise with a local watershed organization, utility, university, school, youth/faith based group, and/or other organization.	3
Community Activity	Organize or participate in the organization of a regional or watershed based event to carry out stormwater activities such as stormwater facility maintenance or litter clean-up. The municipality may identify and enter into a partnership agreement with a local group such as a watershed organization, utility, university, school, youth/faith based group, and/or other organization to carry out these activities.	3

Category 5: Community Involvement Activities		
Activity	**Description**	**Points**
Volunteer Stormwater Assessment or Stream Monitoring	Establish a volunteer stormwater facility assessment (inspection, inventory and/or mapping) or stream monitoring program for a waterbody within the municipality in order to gauge the health of the waterway through chemical, biological or visual monitoring protocols. Contact NJDEP's AmeriCorps NJ Watershed Ambassador Program or review USEPA National Directory of Volunteer Monitoring Programs.	3
Rain Barrel Workshop	Organize or participate in a rain barrel workshop. This could be a partnership exercise with a local watershed organization, university, school, youth/faith based group, and/or other nonprofit.	3
Rain Garden Workshop	Organize or participate in a rain garden training or installation workshop. This could be a partnership exercise with a local watershed organization, university, school, youth/faith based group, and/or other nonprofit.	3
Community Event	Organize or participate in the organization of a community event to carry out stormwater activities such as stormwater measure maintenance or a stream buffer restoration. The municipality may identify and enter into a partnership agreement with a local group such as a watershed organization, university, utility, school, youth/faith based group, and/or other nonprofit to carry out these activities.	3
Community Involvement	Organize a project with a local organization to create and post signs at either green and/or gray stormwater infrastructure sites or facilities that describe the function and importance of the facility, contact phone number, municipal identification number, and/or website for more information. *Signs receive 0.5 credits per sign. A maximum of 5 credits are allowed.	5*

Attachment C - Design Standards for Storm Drain Inlets

Application of Design Standard

The below design standard applies to the following types of storm drain inlet installation or retrofit projects unless a more stringent standard is specified by the municipality's stormwater control ordinance:

- Storm drain inlets installed as part of new development and redevelopment (public or private) that disturb one acre or more;
    - Storm drain inlets installed as part of new development and redevelopment (public or private) that disturb less than one acre that are part of a larger common plan of development or sale (e.g. phased residential development) that ultimately disturbs one acre or more;
- Tier A Municipality owned or operated storm drain inlets must be retrofitted where the storm drains are (1) in direct contact with any repaving, repairing (excluding individual pothole repair), or resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen); or (2) in direct contact with any reconstruction or alteration of facilities; and
- Privately owned or operated storm drain inlets (e.g. condomium association) must be retrofitted where the storm drains are (1) in direct contact with anyrepaving, repairing (excluding individual pothole repair), or resurfacing (including top coating or chip sealing with asphalt emulsion or a thin base of hot bitumen); or (2) in direct contact with any reconstruction or alteration of facilities. This does not include single family homes.

Design Standard

Grates in pavement or other ground surfaces shall meet either of the following standards:

- The New Jersey Department of Transportation (NJDOT) bicycle safe grate standards described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines (see www.nj.gov/transportation/publicat/pdf/BikeComp/introtofac.pdf); or
- A grate where each individual clear space in that grate has an area of no more than seven (7.0) square inches, or is not greater than 0.5 inches across the smallest dimension. Note that the Residential Site Improvement Standards at N.J.A.C. 5:21include 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 used to collect stormwater from the surface into a storm drain or surface water body.

For curb-openings inlets, including curb-opening inlets in combination inlets, the clear space in the 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 from the Design Standard

- Where each individual clear space in the curb opening in existing curb-opening inlets does not have an area of more than nine (9.0) square inches;

- Where the review agency determines that the standards would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets;

- 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 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

  A bar screen having a bar spacing of 0.5 inches;

  Note that these 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).

- 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; or

- 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 the standard is an undertaking that constitutes an encroachment or will damage or destroy the New Jersey Register listed historic property.

Attachment D – Major Development Stormwater Summary

General Information	
1.	Project Name:
2.	Municipality: County: Block(s): Lot(s):
3.	Site Location (State Plane Coordinates – NAD83): E: N:
4.	Date of Final Approval for Construction by Municipality: Date of Certificate of Occupancy:
5.	Project Type (circle all that apply): Residential Commercial Industrial Other (please specify) _____
6.	Soil Conservation District Project Number:
7.	Did project require NJDEP Land Use Permit? Yes No Land Use Permit #:
8.	Did project require the use of any mitigation measures? Yes No If yes, which standard was mitigated?

Site Design Specifications	
1.	Area of Disturbance (acres): Area of Proposed Impervious (acres):
2.	List all Hydrologic Soil Groups:
3.	Please Identify the Amount of Each Best Management Practices (BMPs) Utilized in Design Below: Bioretention Systems ___ Constructed Wetlands ___ Dry Wells ___ Extended Detention Basins ___ Infiltration Basins ___ Combination Infiltration/Detention Basins ___ Manufactured Treatment Devices___ Pervious Paving Systems ___ Sand Filters ___ Vegetative Filter Strips ___ Wet Ponds ___ Grass Swales ___ Subsurface Gravel Wetlands ___ Other _____

Storm Event Information	
Storm Event: Rainfall (inches and duration)	2 yr.: _____ 10 yr.: _____ 100 yr.: _____ WQ DS: _____
Runoff Computation Method (circle one):	NRCS: Dimensionless Unit Hydrograph NRCS: Delmarva Unit Hydrograph Rational Modified Rational Other: _____

Basin Specifications (answer all that apply) *If more than one basin, attach multiple sheets*	
1.	Type of Basin: Surface/Subsurface (circle one)
2.	Owner (circle one): Public Private: If so, Name: Phone number:
3.	Basin Construction Completion Date:
4.	Drain Down Time (hr.):
5.	Design Soil Permeability (in./hr.):
6.	Seasonal High Water Table Depth from Bottom of Basin (ft.): Date Obtained:
7.	Groundwater Recharge Methodology (circle one): 2 Year Difference NJGRS Other NA
8.	Groundwater Mounding Analysis (circle one): Yes No If, Yes Methodology Used:
9.	Maintenance Plan Submitted: Yes No Is the Basin Deed Restricted: Yes No

Comments:_____

_____

_____

Name of Person Filling Out This Form: _____ Signature: _____

Title: _____ Date: _____

Basin Specifications (answer all that apply) *If more than one basin, attach multiple sheets*
10. Type of Basin: Surface/Subsurface (circle one)
11. Owner (circle one): Public Private: If so, Name: Phone number:
12. Basin Construction Completion Date:
13. Drain Down Time (hr.):
14. Design Soil Permeability (in./hr.):
15. Seasonal High Water Table Depth from Bottom of Basin (ft.): Date Obtained:
16. Groundwater Recharge Methodology (circle one): 2 Year Difference NJGRS Other NA
17. Groundwater Mounding Analysis (circle one): Yes No If, Yes Methodology Used:
18. Maintenance Plan Submitted: Yes No Is the Basin Deed Restricted: Yes No

Basin Specifications (answer all that apply) *If more than one basin, attach multiple sheets*
19. Type of Basin: Surface/Subsurface (circle one)
20. Owner (circle one): Public Private: If so, Name: Phone number:
21. Basin Construction Completion Date:
22. Drain Down Time (hr.):
23. Design Soil Permeability (in./hr.):
24. Seasonal High Water Table Depth from Bottom of Basin (ft.): Date Obtained:
25. Groundwater Recharge Methodology (circle one): 2 Year Difference NJGRS Other NA
26. Groundwater Mounding Analysis (circle one): Yes No If, Yes Methodology Used:
27. Maintenance Plan Submitted: Yes No Is the Basin Deed Restricted: Yes No

Basin Specifications (answer all that apply) *If more than one basin, attach multiple sheets*
28. Type of Basin: Surface/Subsurface (circle one)
29. Owner (circle one): Public Private: If so, Name: Phone number:
30. Basin Construction Completion Date:
31. Drain Down Time (hr.):
32. Design Soil Permeability (in./hr.):
33. Seasonal High Water Table Depth from Bottom of Basin (ft.): Date Obtained:
34. Groundwater Recharge Methodology (circle one): 2 Year Difference NJGRS Other NA
35. Groundwater Mounding Analysis (circle one): Yes No If, Yes Methodology Used:
36. Maintenance Plan Submitted: Yes No Is the Basin Deed Restricted: Yes No

Name of Person Filling Out This Form: _____ Signature: _____

Title: _____ Date: _____

Attachment E – Best Management Practices for Municipal Maintenance Yards and Other Ancillary Operations

The Tier A Municipality shall implement the following practices at municipal maintenance yards and other ancillary operations owned or operated by the municipality. Inventory of Materials and Machinery, and Inspections and Good Housekeeping shall be conducted at all municipal maintenance yards and other ancillary operations. All other Best Management Practices shall be conducted whenever activities described below occur. Ancillary operations include but are not limited to impound yards, permanent and mobile fueling locations, and yard trimmings and wood waste management sites.

Inventory of Materials and Machinery

The SPPP shall include a list of all materials and machinery located at municipal maintenance yards and ancillary operations 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 municipal maintenance yard operations and ancillary operations. Materials or machinery that are not exposed to stormwater at the municipal maintenance yard or related to its operations do not need to be included.

Inspections and Good Housekeeping

1. Inspect the entire site, including the site periphery, monthly (under both dry and wet conditions, when possible). Identify conditions that would contribute to stormwater contamination, illicit discharges or negative impacts to the Tier A Municipality's MS4. Maintain an inspection log detailing conditions requiring attention and remedial actions taken for all activities occurring at Municipal Maintenance Yards and Other Ancillary Operations. This log must contain, at a minimum, a record of inspections of all operations listed in Part IV.B.5.c. of this permit including dates and times of the inspections, and the name of the person conducting the inspection and relevant findings. This log must be kept on-site with the SPPP and made available to the Department upon request. See the Tier A Municipal Guidance document (www.nj.gov/dep/dwq/tier_a_guidance.htm) for additional information.

2. Conduct cleanups of spills of liquids or dry materials immediately after discovery. All spills shall be cleaned using dry cleaning methods only. Clean up spills with a dry, absorbent material (i.e., kitty litter, sawdust, etc.) and sweep the rest of the area. Dispose of collected waste properly. Store clean-up materials, spill kits and drip pans near all liquid transfer areas, protected from rainfall.

3. Properly label all containers. Labels shall be legible, clean and visible. Keep containers in good condition, protected from damage and spillage, and tightly closed when not in use. When practical, store containers indoors. If indoor storage is not practical, containers may be stored outside if covered and placed on spill platforms or clean pallets. An area that is graded and/or bermed to prevent run-through of stormwater may be used in place of spill platforms or clean pallets. Outdoor storage locations shall be regularly maintained.

Fueling Operations

1. Establish, maintain and implement standard operating procedures to address vehicle fueling; receipt of bulk fuel deliveries; and inspection and maintenance of storage tanks, including the associated piping and fuel pumps.

    a. Place drip pans under all hose and pipe connections and other leak-prone areas during bulk transfer of fuels.

    b. Block storm sewer inlets, or contain tank trucks used for bulk transfer, with temporary berms or temporary absorbent booms during the transfer process. If temporary berms or booms are being used instead of blocking the storm sewer inlets, all hose connection points associated with the transfer of fuel shall be within the temporarily bermed or boomed area during the loading/unloading of bulk fuels. A trained employee shall be present to supervise the bulk transfer of fuel.

    c. Clearly post, in a prominent area of the facility, instructions for safe operation of fueling equipment. Include all of the following:
        - "Topping off of vehicles, mobile fuel tanks, and storage tanks is strictly prohibited"
        - "Stay in view of fueling nozzle during dispensing"
        - Contact information for the person(s) responsible for spill response.

    d. Immediately repair or replace any equipment, tanks, pumps, piping and fuel dispensing equipment found to be leaking or in disrepair.

Discharge of Stormwater from Secondary Containment

The discharge pipe/outfall from a secondary containment area (e.g. fuel storage, de-icing solution storage, brine solution) shall have a valve and the valve shall remain closed at all times except as described below. A municipality may discharge stormwater accumulated in a 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 municipality shall rely on previous tank inspections to determine with some degree of certainty that the tank has not leaked. If the municipality 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 shall be hauled for proper disposal.

Vehicle Maintenance

1. Operate and maintain equipment to prevent the exposure of pollutants to stormwater.

2. Whenever possible, conduct vehicle and equipment maintenance activities indoors. For projects that must be conducted outdoors, and that last more than one day, portable tents or covers shall be placed over the equipment being serviced when not being worked on, and drip pans shall be used at all times. Use designated areas away from storm drains or block storm drain inlets when vehicle and equipment maintenance is being conducted outdoors.

On-Site Equipment and Vehicle Washing and Wash Wastewater Containment

1. Manage any equipment and vehicle washing activities so that there are no unpermitted discharges of wash wastewater to storm sewer inlets or to waters of the State.

2. Tier A Municipalities which cannot discharge wash wastewater to a sanitary sewer or which cannot otherwise comply with 1, above, may temporarily contain wash wastewater prior to proper disposal under the following conditions:

   a. Containment structures shall not leak. Any underground tanks and associated piping shall be tested for integrity every 3 years using appropriate methods determined by "*The List of Leak Detection Evaluations for Storage Tank Systems"* created by the National Work Group on Leak Detection Evaluations (NWGLDE) or as determined appropriate and certified by a professional engineer for the site specific containment structure(s)**.**

   b. For any cathodically protected containment system, provide a passing cathodic protection survey every three years.

   c. Operate containment structures to prevent overfilling resulting from normal or abnormal operations, overfilling, malfunctions of equipment, and human error. Overfill prevention shall include manual sticking/gauging of the tank before each use unless system design prevents such measurement. Tank shall no longer accept wash wastewater when determined to be at 95% capacity. Record each measurement to the nearest ½ inch.

   d. Before each use, perform inspections of all visible portions of containment structures to ensure that they are structurally sound, and to detect deterioration of the wash pad, catch basin, sump, tank, piping, risers, walls, floors, joints, seams, pumps and pipe connections or other containment devices. The wash pad, catch basin, sump and associated drains should be kept free of debris before each use. Log dates of inspection; inspector's name, and conditions. This inspection is not required if system design prevents such inspection.

   e. Containment structures shall be emptied and taken out of service immediately upon detection of a leak. Complete all necessary repairs to ensure structural integrity prior to placing the containment structure back into service. Any spills or suspected release of hazardous substances shall be immediately reported to the NJDEP Hotline (1-877-927-6337) followed by a site investigation in accordance with N.J.A.C. 7:26C and N.J.A.C 7:26E if the discharge is confirmed.

   f. All equipment and vehicle wash wastewater placed into storage must be disposed of in a legally permitted manner (e.g. pumped out and delivered to a duly permitted and/or approved wastewater treatment facility).

   g. Maintain a log of equipment and vehicle wash wastewater containment structure clean-outs including date and method of removal, mode of transportation (including name of hauler if applicable) and the location of disposal. See Underground Vehicle Wash Water Storage Tank Use Log at end of this attachment.

   h. Containment structures shall be inspected annually by a NJ licensed professional engineer. The engineer shall certify the condition of all structures including: wash pad, catch basin,

sump, tank, piping, risers to detect deterioration in the, walls, floors, joints, seams, pumps and pipe connections or other containment devices using the attached Engineer's Certification of Annual Inspection of Equipment and Vehicle Wash Wastewater Containment Structure. This certification may be waived for self-contained systems on a case-by-case basis. Any such waiver would be issued in writing by the Department.

3. Maintain all logs, inspection records, and certifications on-site. Such records shall be made available to the Department upon request.

Salt and De-icing Material Storage and Handling

1. Store material in a permanent structure.
2. Perform regular inspections and maintenance of storage structure and surrounding area.
3. Minimize tracking of material from loading and unloading operations.
4. During loading and unloading:
    a. Conduct during dry weather, if possible;
    b. Prevent and/or minimize spillage; and
    c. Minimize loader travel distance between storage area and spreading vehicle.
5. Sweep (or clean using other dry cleaning methods):
    a. Storage areas on a regular basis;
    b. Material tracked away from storage areas;
    c. Immediately after loading and unloading is complete.
6. Reuse or properly discard materials collected during cleanup.
7. Temporary outdoor storage is permitted only under the following conditions:
    a. A permanent structure is under construction, repair or replacement;
    b. Stormwater run-on and de-icing material run-off is minimized;
    c. Materials in temporary storage are tarped when not in use;
    d. The requirements of 2 through 6, above are met; and
    e. Temporary outdoor storage shall not exceed 30 days unless otherwise approved in writing by the Department;
8. Sand must be stored in accordance with Aggregate Material and Construction Debris Storage below.

Aggregate Material and Construction Debris Storage

1. Store materials such as sand, gravel, stone, top soil, road millings, waste concrete, asphalt, brick, block and asphalt based roofing scrap and processed aggregate in such a manner as to minimize stormwater run-on and aggregate run-off via surface grading, dikes and/or berms (which may include sand bags, hay bales and curbing, among others) or three sided storage bays. Where possible the open side of storage bays shall be situated on the upslope. The area in front of storage bays and adjacent to storage areas shall be swept clean after loading/unloading.

2. Sand, top soil, road millings and processed aggregate may only be stored outside and uncovered if in compliance with item 1 above and a 50-foot setback is maintained from surface water bodies, storm sewer inlets, and/or ditches or other stormwater conveyance channels.

3. Road millings must be managed in conformance with the "Recycled Asphalt Pavement and Asphalt Millings (RAP) Reuse Guidance" (see www.nj.gov/dep/dshw/rrtp/asphaltguidance.pdf) or properly disposed of as solid waste pursuant to N.J.A.C. 7:26-1 et seq.

4. The stockpiling of materials and construction of storage bays on certain land (including but not limited to coastal areas, wetlands and floodplains) may be subject to regulation by the Division of Land Use Regulation (see www.nj.gov/dep/landuse/ for more information).

Street Sweepings, Catch Basin Clean Out, and Other Material Storage

1. For the purposes of this permit, this BMP is intended for road cleanup materials as well as other similar materials. Road cleanup materials may include but are not limited to street sweepings, storm sewer clean out materials, stormwater basin clean out materials and other similar materials that may be collected during road cleanup operations. These BMPs do not cover materials such as liquids, wastes which are removed from municipal sanitary sewer systems or material which constitutes hazardous waste in accordance with N.J.A.C. 7:26G-1.1 et seq.

2. Road cleanup materials must be ultimately disposed of in accordance with N.J.A.C. 7:26-1.1 et seq. See the "Guidance Document for the Management of Street Sweepings and Other Road Cleanup Materials" (www.nj.gov/dep/dshw/rrtp/sweeping.htm).

3. Road cleanup materials placed into storage must be, at a minimum:

    a. Stored in leak-proof containers or on an impervious surface that is contained (e.g. bermed) to control leachate and litter; and

    b. Removed for disposal (in accordance with 2, above) within six (6) months of placement into storage.

Yard Trimmings and Wood Waste Management Sites

1. These practices are applicable to any yard trimmings or wood waste management site:
   a. Owned and operated by the Tier A Municipality;
      i. For staging, storing, composting or otherwise managing yard trimmings, or
      ii. For staging, storing or otherwise managing wood waste, and
   b. Operated in compliance with the Recycling Rules found at N.J.A.C. 7:26A.
2. Yard trimmings or wood waste management sites must be operated in a manner that:
   a. Diverts stormwater away from yard trimmings and wood waste management operations; and
   b. Minimizes or eliminates the exposure of yard trimmings, wood waste and related materials to stormwater.
3. Yard trimmings and wood waste management site specific practices:
   a. Construct windrows, staging and storage piles:
      i. In such a manner that materials contained in the windrows, staging and storage piles (processed and unprocessed) do not enter waterways of the State;
      ii. On ground which is not susceptible to seasonal flooding;
      iii. In such a manner that prevents stormwater run-on and leachate run-off (e.g. use of covered areas, diversion swales, ditches or other designs to divert stormwater from contacting yard trimmings and wood waste).
   b. Maintain perimeter controls such as curbs, berms, hay bales, silt fences, jersey barriers or setbacks, to eliminate the discharge of stormwater runoff carrying leachate or litter from the site to storm sewer inlets or to surface waters of the State.
   c. Prevent on-site storm drain inlets from siltation using controls such as hay bales, silt fences, or filter fabric inlet protection.
   d. Dry weather run-off that reaches a municipal stormwater sewer system is an illicit discharge. Possible sources of dry weather run-off include wetting of piles by the site operator; uncontrolled pile leachate or uncontrolled leachate from other materials stored at the site.
   e. Remove trash from yard trimmings and wood waste upon receipt.
   f. Monitor site for trash on a routine basis.
   g. Store trash in leak-proof containers or on an impervious surface that is contained (e.g. bermed) to control leachate and litter;
   h. Dispose of collected trash at a permitted solid waste facility.
   i. Employ preventative tracking measures, such as gravel, quarry blend, or rumble strips at exits.

Roadside Vegetation Management

1. Tier A Municipalities shall restrict the application of herbicides along roadsides in order to prevent it from being washed by stormwater into the waters of the State and to prevent erosion caused by de-vegetation, as follows: Tier A Municipalities shall not apply herbicides on or adjacent to storm drain inlets, on steeply sloping ground, along curb lines, and along unobstructed shoulders. Tier A Municipalities shall only apply herbicides within a 2 foot radius around structures where overgrowth presents a safety hazard and where it is unsafe to mow.

ENGINEERS CERTIFICATION OF ANNUAL INSPECTION OF EQUIPMENT AND VEHICLE WASH WASTEWATER CONTAINMENT STRUCTURE

(Complete a separate form for each vehicle wash wastewater containment structure)

Permittee: _____ NJPDES Permit No: _____

Containment Structure Location: _____

The annual inspection of the above referenced vehicle wash wastewater containment structure was conducted on _____ (date). The containment structure and appurtenances have been inspected for:

1. The integrity of the structure including walls, floors, joints, seams, pumps and pipe connections
2. Leakage from the structure's piping, vacuum hose connections, etc.
2 Bursting potential of tank.
3. Transfer equipment
4. Venting
5. Overflow, spill control and maintenance.
6. Corrosion, splits, and perforations to tank, piping and vacuum hoses

The tank and appurtenances have been inspected for all of the above and have been determined to be:

Acceptable _____

Unacceptable _____

Conditionally Acceptable _____

List necessary repairs and other conditions: _____

_____

_____

_____

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment (N.J.A.C. 7:14A-2.4(d)).

Name (print): _____ Seal:

Signature: _____

Date: _____

Underground Vehicle Wash Water Storage Tank Use Log

Name and Address of Facility _____

Facility Permit Number _____

Tank ID Number _____ Tank Location _____

Tank Volume _____ gallons Tank Height _____ inches

95% Volume _____ gallons 95% Volume _____ inches

Date and Time	Inspector	Height of Product Before Introducing Liquid (inches)	Is Tank Less Than 95% Full? (Y/N)	Visual Inspection Pass? (Y/N)	Comments

Notes: The volume of liquid in the tank should be measured **before** each use.

Liquid **should not be introduced** if the tank contains liquid at 95% of the capacity or greater.

A visual inspection of all exposed portions of the collection system should be performed before each use. Use the comments column to document the inspection and any repairs.

Underground Vehicle Wash Water Storage Tank Pump Out Log

Name and Address of Facility _____

Facility Permit Number _____

Tank ID Number _____ Tank Location _____

Tank Volume _____ gallons

Date and Time of Pump Out	Volume of Liquid Removed	Waste Hauler *	Destination of the Liquid Disposal *

*** The Permittee must maintain copies of all hauling and disposal records and make them available for inspection**