

Greening Up Stormwater Management: Green Infrastructure in Columbia County New York State Stormwater Permits & Regulations

**September 15, 2012
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River Watershed Alliance**

Stormwater Requirements:

Three General NYSDEC Permits

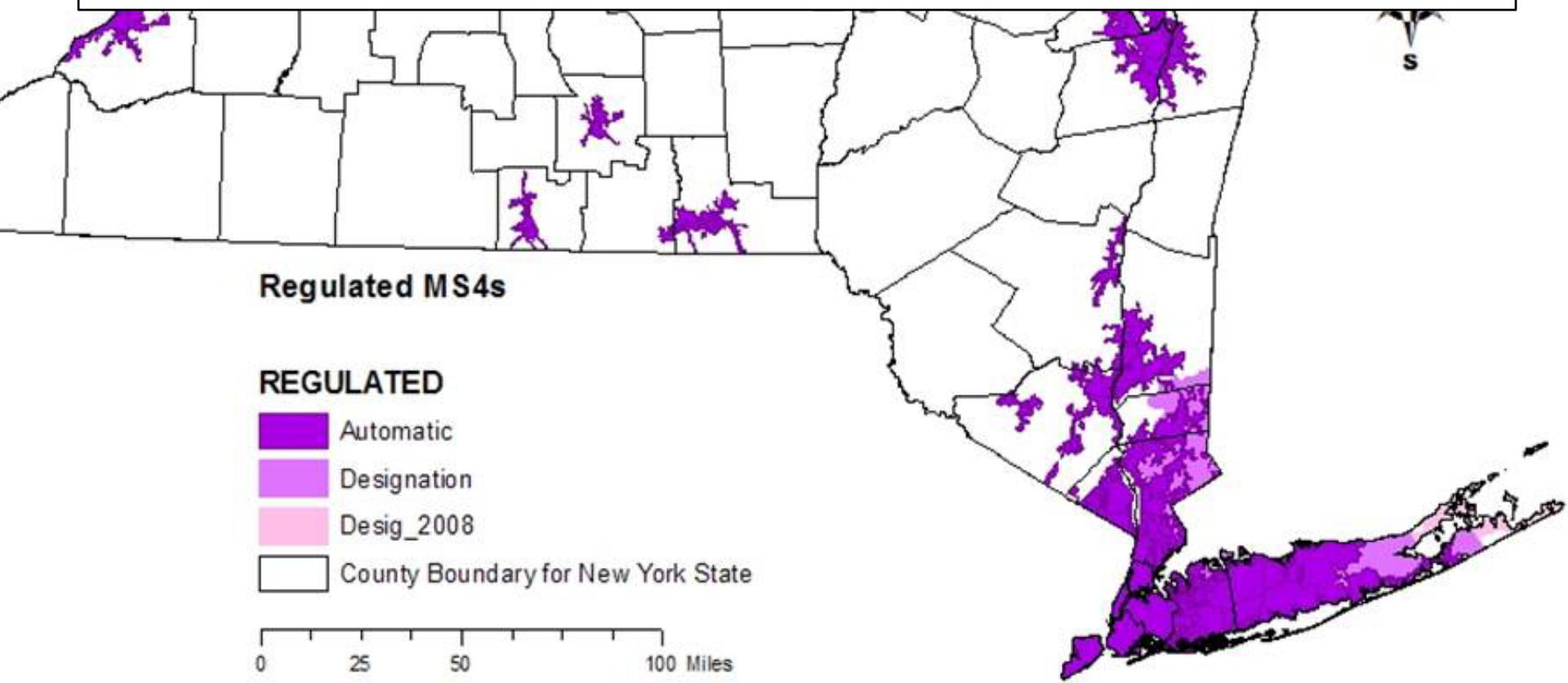
1. MS4 Permit GP-0-10-002

- Municipal Separate Storm Sewer Systems (MS4's) in an urbanized area
- 2003 - 2008, municipalities developed a community-wide Stormwater Management Program



MS4 Permit Applies to Certain Areas:

Population Center of 50,000 with surrounding area of 1,000 people per square mile or more



Stormwater Requirements: Three General NYSDEC Permits

2. Industrial or Multisector General Permit

- GP-0-06-002

- Certain industrial facilities
- Use Standard Industrial Code (SIC)
- Facility-based Stormwater Pollution Prevention Plan



Contents of the Industrial SWPPP

- 1. Pollution Prevention Team**
- 2. Site description**
 - a. Industrial activity description**
 - b. General location map**
 - c. Site map**
 - i. Pollutant sources**
 - ii. Maintenance areas**
 - iii. Stormwater practices**
 - iv. Streams, lakes, rivers**
 - d. Monitoring: Quarterly, annual**



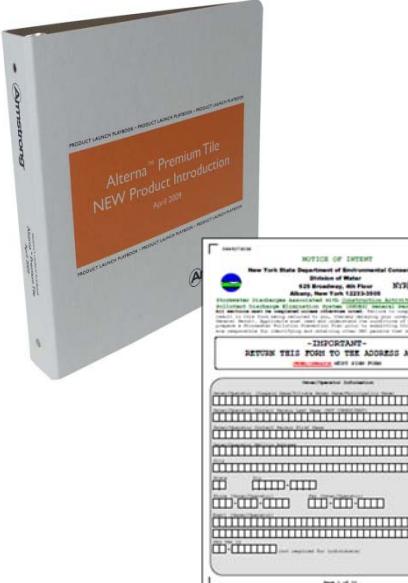
Stormwater Requirements:

Three General NYSDEC Permits

- 3. Construction Permit (SPDES General Permit for Construction Activities)**
- GP-0-10-001**

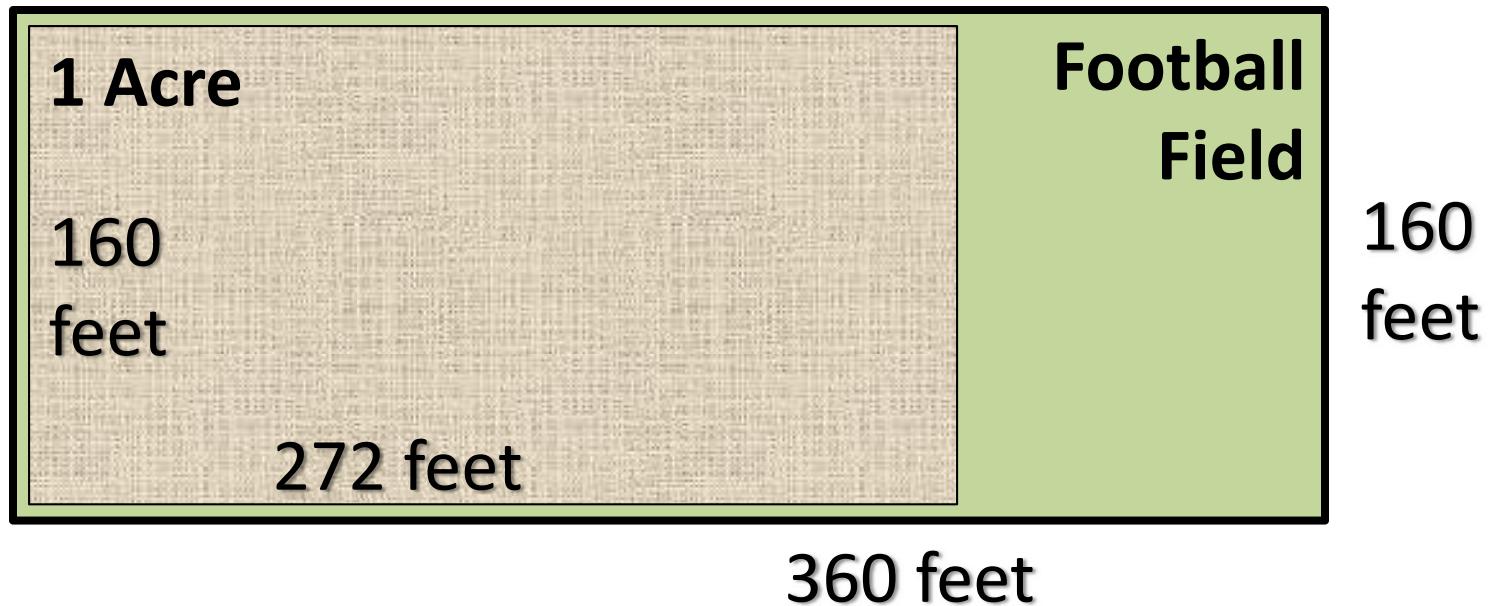


General Permit GP-0-10-001

- All construction activities disturbing 1 acre or more of soil (about 208' x 208')
 - Owner/operator must:
 - Prepare Stormwater Pollution Prevention Plan (SWPPP)
 - File NOI (Notice of Intent) to DEC
 - Install erosion and sediment control practices
- 
- 

General Permit GP-0-10-001

- All construction activities disturbing 1 acre or more of soil (about 208' x 208')



- Owner or operator must prepare a Stormwater Pollution Prevention Plan (SWPPP)

Applies to ALL of New York State



The Stormwater Pollution Prevention Plan (SWPPP)

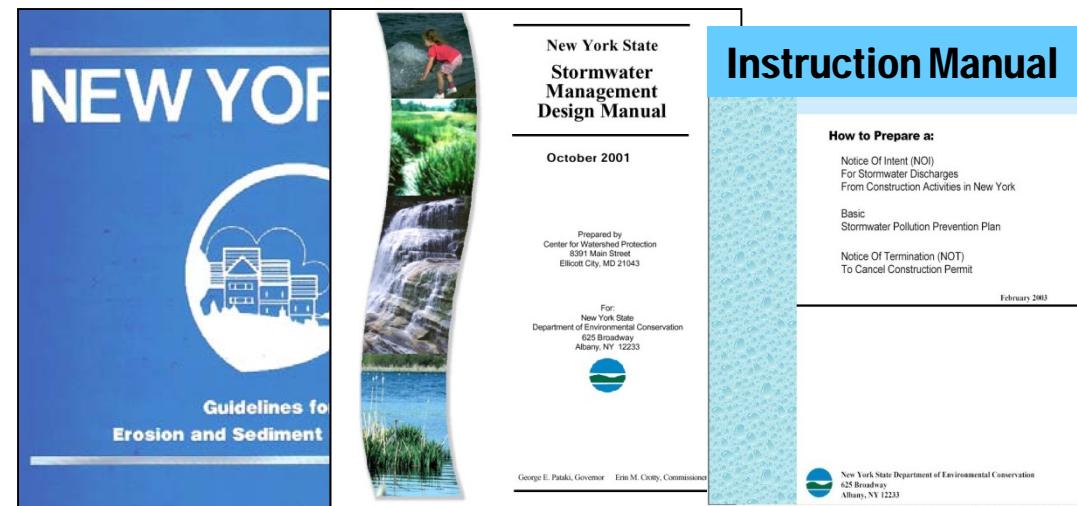
Your planning tool

What's in a Stormwater Pollution Prevention Plan (SWPPP)?

2 Parts -

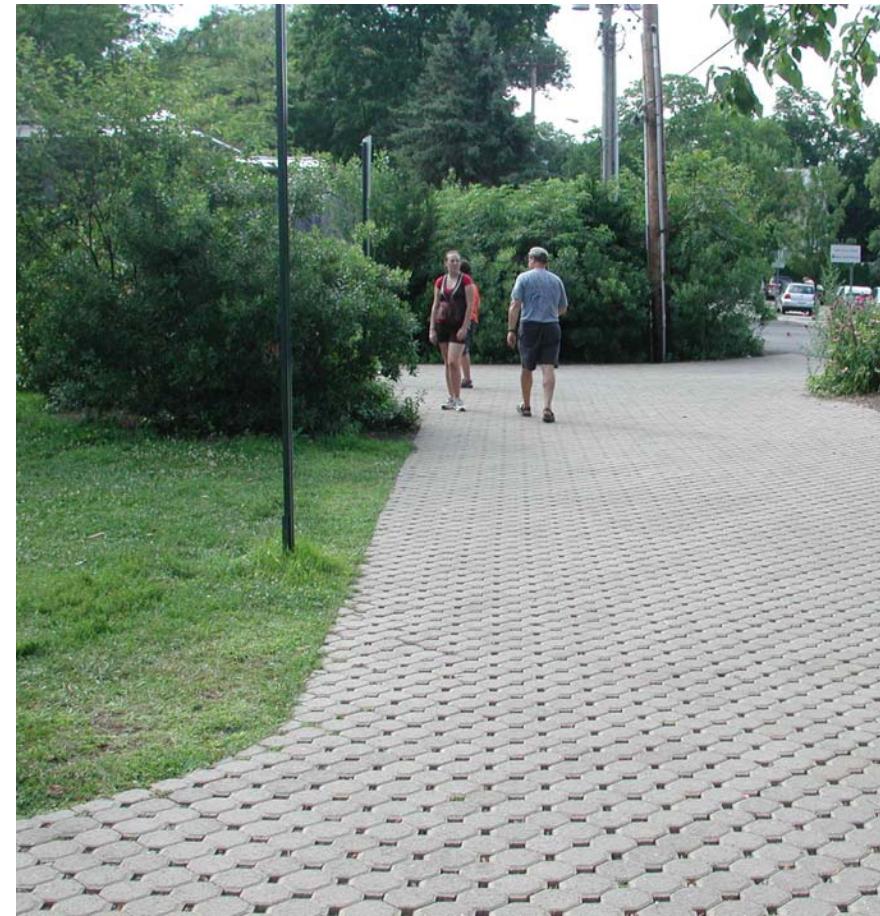
- 1) All projects - Erosion and Sediment Control Plan (Part I / Basic SWPPP)
- 2) Some projects - Full SWPPP: Part I + Part II
- Water Quality & Quantity Plan

▪ DEC Standards:



SWPPP Part 1 - When?

- Construction Permit GP-0-10-001: Appendix B
 - Table 1 – Erosion and Sediment control only:
 - Certain utilities
 - Stream and wetland restoration
 - Bike paths and trails
 - Sidewalks not part of road project
 - Slope stabilization, spoil areas



SWPPP Part 1 - When?

– Table 1 – Erosion and Sediment control only:

- Creation of vegetated open space**
- Natural grass athletic fields**
- Demolition with no redevelopment**
- Agricultural best management practices**



SWPPP Part 1 or Part 1 & 2?

Single Family Residential

How large is the project?

1. Small Projects 1-5 acres soil disturbance:

A. 25% or less impervious area: Basic SWPPP (Part 1)

B. More than 25% impervious area: must do a Full SWPPP (Parts 1 & 2)



SWPPP Part 1 or Part 1 & 2?

Single Family Residential

How large is the project?

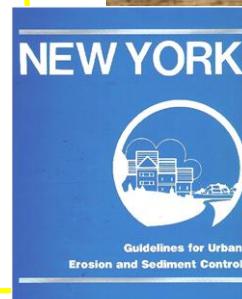
2. Large
Projects 5 acres
or more soil
disturbance:
Full SWPPP
(Parts 1 & 2)



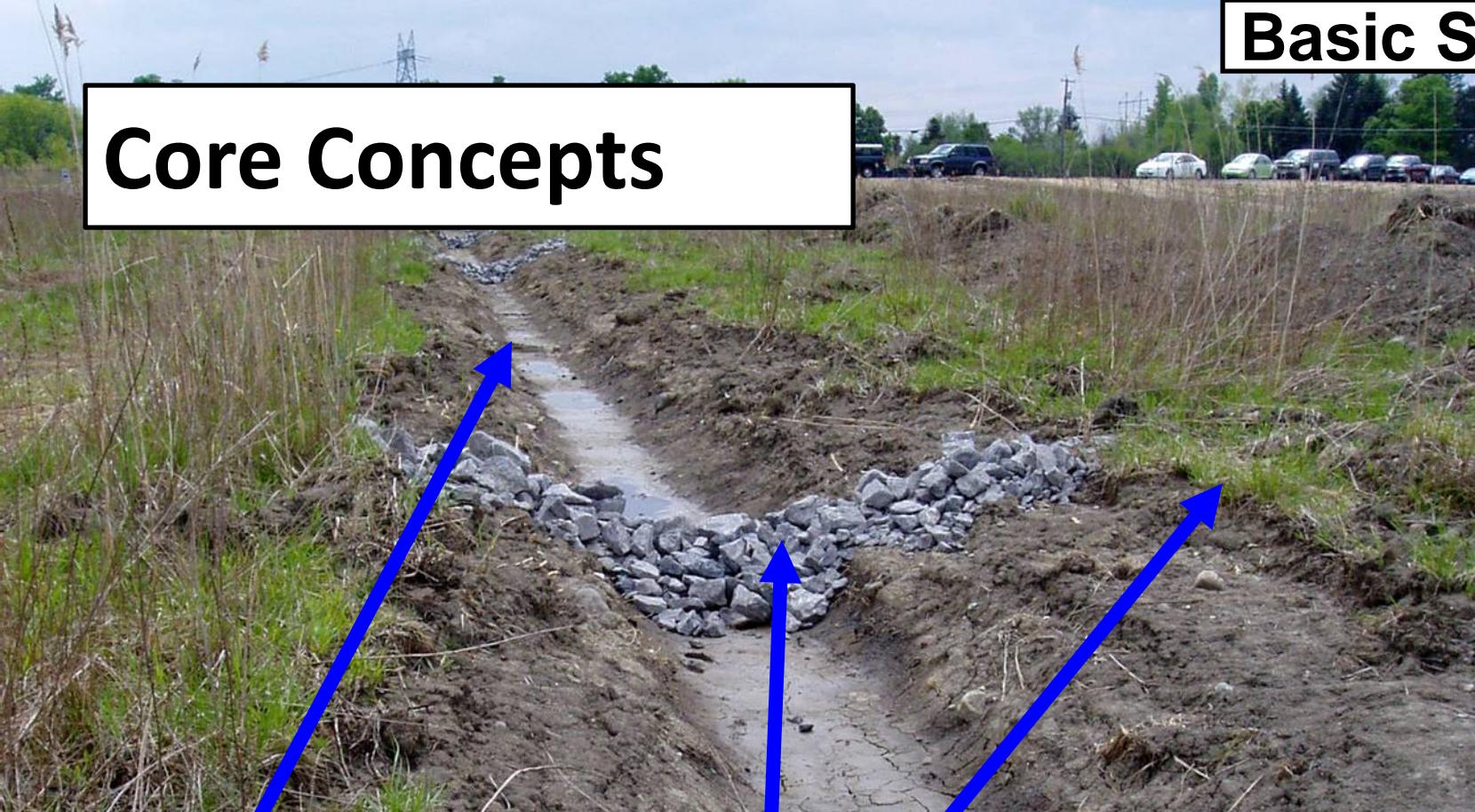
Part I / Basic SWPPP: Erosion & Sediment Control Plan - Controlling stormwater DURING construction:



- All construction projects disturbing 1 acre or more of soil**



Core Concepts



1. Divert water
2. Prevent Erosion
3. Control Sediment



SWPPP Contents:

- Written description of site**
- Maps**
- Stormwater Practice locations**
- Stormwater Practice Details**
- Construction Sequence Schedule**
- Maintenance Schedule**
- Maintenance Responsibility**



Site Planning

Protect:

- Streams
- Stream buffers
- Public water supplies
- Beaches
- Wetlands
- Steep slopes
- Trees



Site Planning - Identify Potential *problem* areas

- Slopes
 - stockpile areas
 - cut or fill slopes
- Graded areas
- Drainage ways –
natural or artificial



Phase Construction Operations

- Avoid tearing up the entire site
- Develop and restore in phases
- More than 5 acres: Written authorization from DEC



Disturbing more than 5 acres

- **DEC/MS4 Requirements:**
 - Prepare phasing plan/ cuts and fills
 - Additional inspections (2 per week)
 - Stabilize soil within 7 days



Applicants: Show Practices on Plans

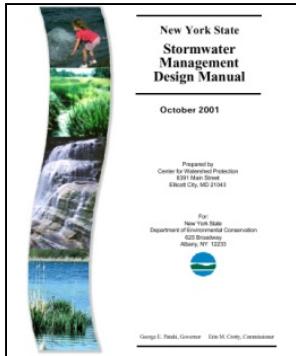
Municipalities: ENFORCE Plans

(MS4s: Use Stormwater Local Law)



Part 2 of SWPPP – Water Quality & Quantity – controlling stormwater after development is complete

(Parts 1 + 2 =
Full SWPPP)

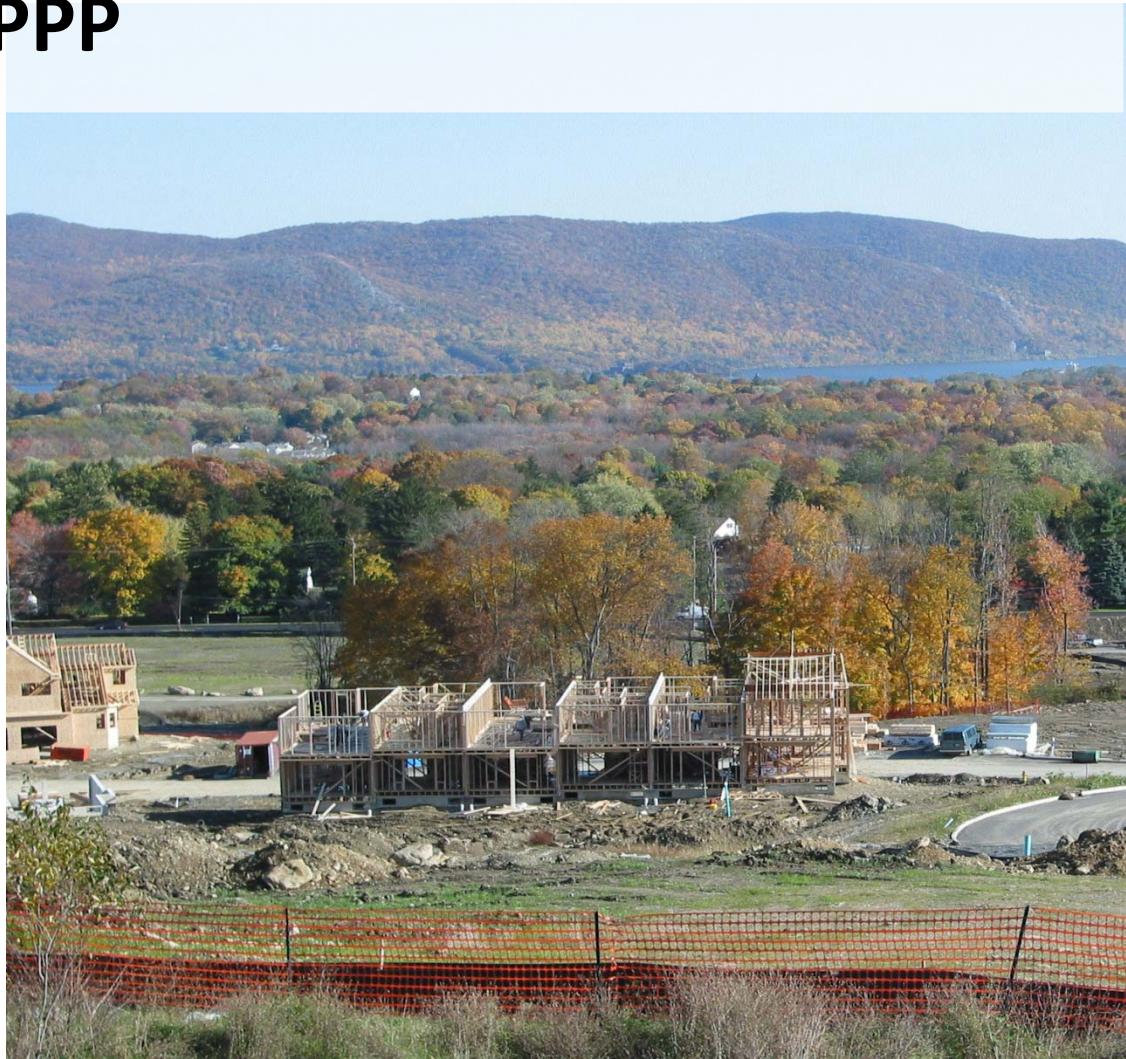


SWPPP Part 2 – When?

Construction Permit GP-0-10-001: Appendix B

- Table 2 – Full SWPPP

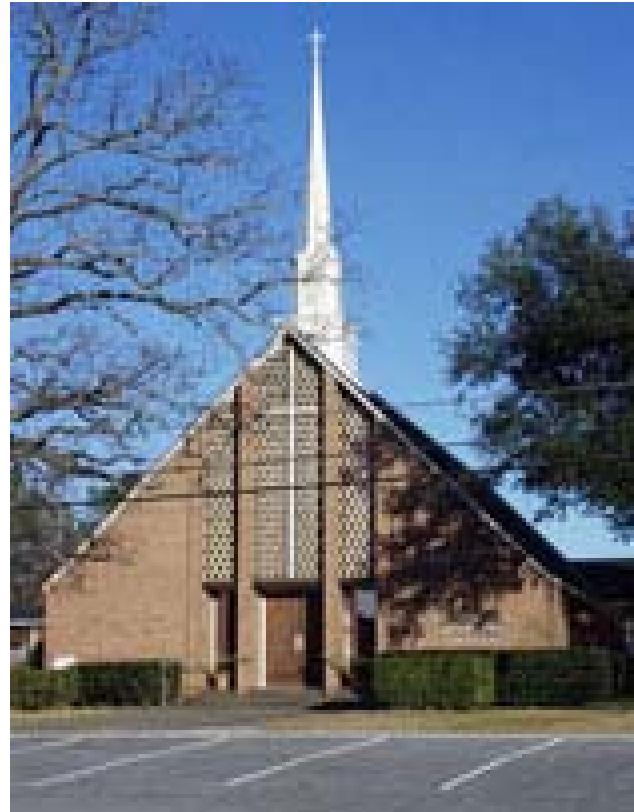
- Residential more than 5 acres soil disturbance
- Resid. less than 5 ac., more than 25% impervious
- Multifamily, Commercial, Industrial



SWPPP Part 2 – When?

Construction Permit GP-0-10-001: Appendix B - Table 2 – Full SWPPP (cont.)

- Airports
- Amusement parks & campgrounds
- Cemeteries w/impervious area
- Churches



SWPPP Part 2 – When?

Construction Permit GP-0-10-001: Appendix B - Table 2 – Full SWPPP

- Agricultural construction greater than 5 ac.
- Golf courses
- Sports complexes & race tracks
- Landfills
- Municipal facilities



SWPPP Part 2 – When?

Construction Permit GP-0-10-001: Appendix B - Table 2 – Full SWPPP

- Road construction
- Parking lots
- Athletic fields w/
impervious area or
artificial Turf
- Projects draining
to 303(d) listed
(impaired) waters



Core Concept

We no longer want to pave over as much as possible and send water down the pipe as fast as we can



**Capture and treat water on-site before
discharging to local waterways**



**Stormwater Pond
Rain Garden**



Required: Five-Step Planning Process

1. Site Planning (soils, drainage areas, etc.)
2. Determine Water Quality Volume
3. Apply **Green Infrastructure** techniques to achieve Runoff Reduction
4. Apply standard stormwater management practices to address remaining Water Quality Volume
5. Apply water quantity control practices if still needed to meet volume requirements

Goal of Green Infrastructure

- **Use plants & soil to:**
 - Improve water quality
 - Manage water quantity
 - Absorb carbon dioxide
 - Reduce urban heat island effect
 - Enhance quality of life



Green Infrastructure Approach - Ch. 3-5 of the NYS Stormwater Design Manual

- 1. Preserve Natural Features
and Use Conservation
Design**
- 2. Reduce Impervious Cover**
- 3. Use Natural Features and
Source Control for
Stormwater
Management**



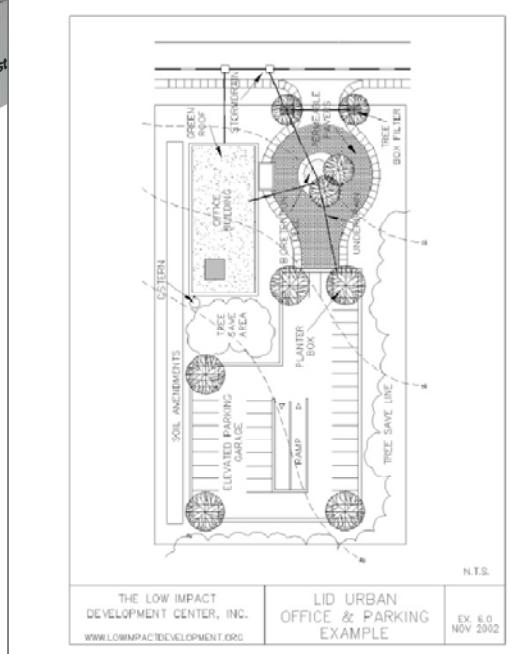
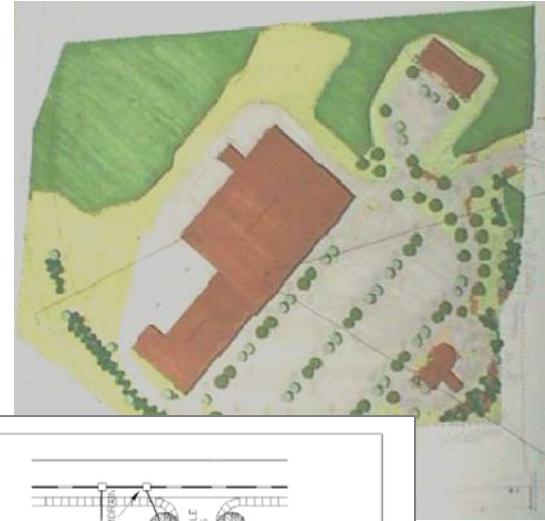
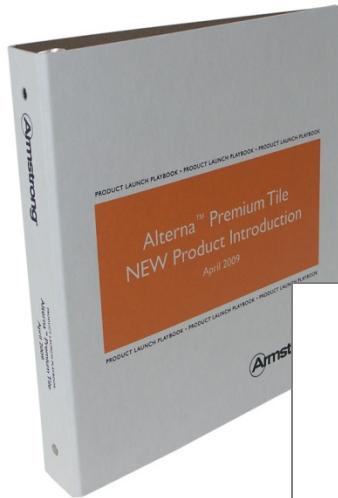
Local SWPPP Review

- Owner/operator must submit SWPPP to local government
- SWPPP certifies E&SC control measures will be in place —————→



Local SWPPP Review

- Local Board Engineer reviews SWPPP
- Gives recommendations to Planning Board, ZBA, Code Enforcement Officer



Once SWPPP is complete

- Notice of Intent (NOI) prepared by applicant
 - 10-pg form – project data, stormwater practices proposed
 - Certifies that SWPPP meets DEC's technical standards
- Applicant sends NOI and SWPPP acceptance form to DEC – 5 day review

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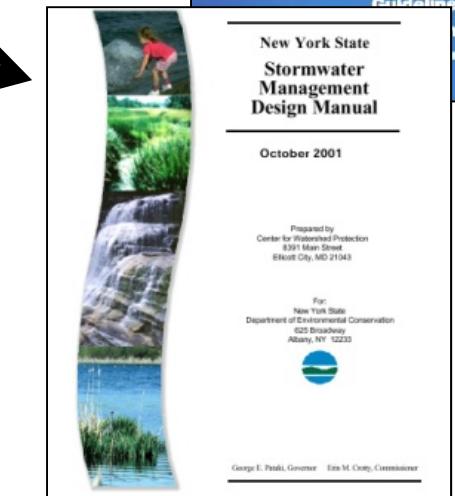
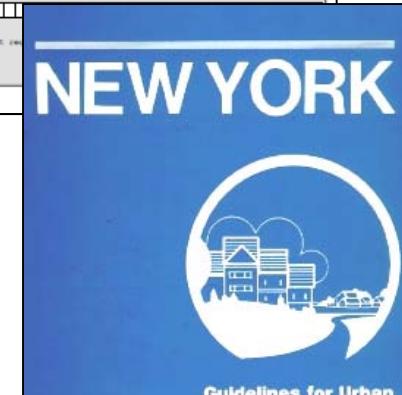
NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor **NYR**
Albany, New York 12223-3505

Stormwater Discharges must be treated in accordance with the State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-10-001. All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this permit. You must submit a valid SPDES permit application before you can begin to prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicable law is responsible for identifying and obtaining other DEC permits that may be required.

- IMPORTANT -
RETURN THIS FORM TO THE ADDRESS ABOVE
MAIL/EMAIL MUST SIGN FORM

Owner/Operator Name/Address:
Owner/Operator Contact Person:
Owner/Operator Contact Phone:
Owner/Operator Mailing Address:
City:
State: Zip:
Phone: Fax:
Email:



During Construction: Inspection

1. Contractor – daily monitoring by Trained Contractor
2. Owner/operator – Weekly inspection by Qualified Inspector for sites requiring Full SWPPP
3. Municipality - Inspections for compliance with local laws



Breakin' the Law!

Problem:

**Even if a site
doesn't need
any permit, it
can cause a
water quality
violation.**

Clean Water Act /

NYSDEC:

\$37,500 per day



**DEC Violation: “Substantial visible
contrast to natural conditions”**

Breakin' the Law!

Bottom line:

**All sites
should
practice
erosion and
sediment
control and
“good
house-
keeping.”**



Termination of Stormwater Permit

- Final stabilization
(80 % density)
- Final site inspection
- Identify/certify
permanent structures
- Manual for operation
and maintenance
- File NOT (Notice of
Termination)



After Construction

***All Stormwater Facilities
Must Be Maintained***



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SWPPP:

- Responsible party must be identified**
- Maintenance schedule must be in place**
- Access easements should be on plans**



**Green Infrastructure Benefit – Reduced
Maintenance Costs - \$500 / Year**

SUMMARY

- 3 General Stormwater Permits
- Construction Permit: SWPPP is Site Planning Tool
- Use 5-step planning process to reduce runoff at the source by:
 - ✓ Protecting natural areas
 - ✓ Reducing impervious surfaces
 - ✓ Using green stormwater management practices



Instead of down the drain –



- Get water back in the ground
- Recharge our drinking water supplies
- Maintain practices long term



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*Watershed Planning and
Stormwater Management
Training and Assistance*

