# Stormwater Management In the New Jersey Pinelands

Pinelands Policy & Implementation Committee

May 29, 2020

New Jersey Pinelands

# Comprehensive Management Plan

**Original CMP adopted November 21, 1980**

- Stormwater
  - A valuable natural resource
    - Aquifer recharge
    - Wetlands
    - Stream flow
  - A source of water-borne pollution
    - Turf and agricultural fertilizers
    - Petroleum hydrocarbons
    - De-icing salts (Na, Ca, Cl ions)
    - Heavy metals (Lead & Zinc)
    - Bacteria
  - A contributor to soil erosion
    - Development sites and stream banks
  - Cause of localized flooding
    - Roads, bridges and structures

New Jersey Pinelands

# Comprehensive Management Plan

## Introduced Modern Concepts in Stormwater Management

- Minimize non-point pollution by eliminating direct discharge to wetlands and surface water bodies.
- Recharge stormwater to the K/C aquifer to maintain groundwater supplies, wetlands, and stream and river flow.
- Separate pollutant-free stormwater from rooftops for direct discharge to dry wells.
- Stormwater runoff contaminated by oils, grease, metals or animal waste to be pretreated by vegetal filtration prior to groundwater recharge.
- Do not recharge in areas underlain by excessively or somewhat excessively drained soils.

# Pollutants carried in stormwater

**Nitrogen**

**Phosphorous**

**Bacterial pathogens**

**Deicing salts**

**Heavy metals**

**Oil**

**Gasoline**

**Sediment**

**Trash & Floatables**

## Since the mid 1990's- The CMP has required :

Stormwater runoff from new impervious surfaces from the 10-year storm event ( 5+ inch rainfall) to be recharged to groundwater.

No increase in the rates of runoff leaving the site from the 2-year, 10-year, and 100-year storm event.

In April 2003, DEP grant funding for the Commission to evaluate stormwater basins in the Mullica Watershed.

This study found that 70% of infiltration basins were not functioning as intended – still holding water 3 days after the storm event.

Lessons learned in the Mullica Watershed study were incorporated in the May 1, 2006 CMP stormwater rule amendments.

# Advances in Stormwater Management Standards

http://www.northescambia.com/2016/08/escambia-county-to-host-low-impact-design-workshops

DEP amended N.J.A.C. 7:8 in Feb. 2004 & Published the NJ Stormwater BMP Manual in April 2004.

Introduced Low Impact Design and Non-Structural Strategies:

Protect areas that provide water quality benefits;
Minimize impervious cover , disconnect impervious surfaces;

Protect natural drainage features;

Slow down the time of concentration of stormwater runoff;

Minimize land disturbance;

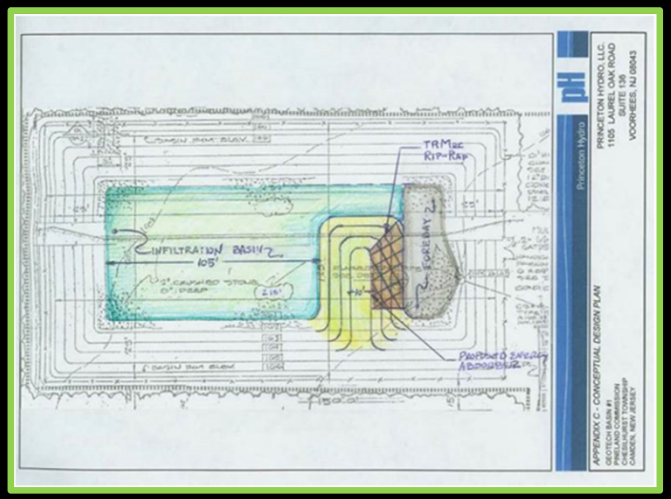
Minimize soil compaction;

Use native vegetation;

Use vegetated open-channel conveyances;

Provide preventive source controls.

# Advances in Stormwater Management Standards




Commission amended N.J.A.C. 7:50-6.84 in 2006

The work to amend the CMP stormwater rules was funded by NJDEP grant.

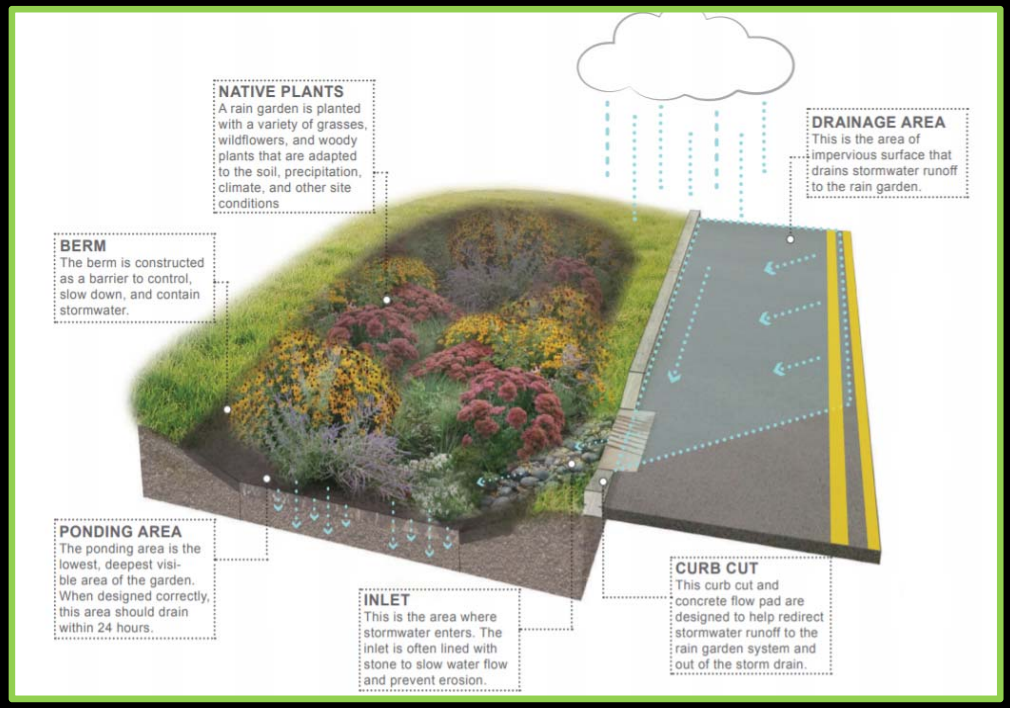
Retained Stormwater Management Consulting and Princeton Hydro to assist in rule development and to develop a Model Stormwater Control Ordinance for Pinelands Area Municipalities

Adopted relevant sections of NJDEP's Stormwater Rules

Enhanced those rules by incorporating special protection standards in the CMP:

- 10-year storm recharge requirement
- Prohibition on discharging stormwater to wetlands/streams
- Special treatment of runoff from HPLA
- Emphasis on soil testing and as-built certifications

# Advances in Stormwater Management Standards




https://issuu.com/rutgerswater/docs/gi-brochure_web-view

DEP has recently amended N.J.A.C 7:8 Operative March 3, 2021

Mandatory use of Green Infrastructure BMPs

- Treat stormwater runoff through infiltration into the subsoil;
- Treat stormwater through filtration by vegetation or soil; or
- Storing stormwater runoff for reuse.
- Goal is to create hydrologically functional landscapes to maintain or reproduce the natural hydrologic cycle for the developed area.
- Commission's rules will need to be amended to harmonize with DEP's rules and to retain the desired enhanced protections in the current standards.


Guest presenter:

Gabriel Mahon, Chief
Bureau of Nonpoint Pollution Control
Division of Water Quality

N.J.A.C. 7:8
STORMWATER MANAGEMENT
Statutory Authority: N.J.S.A. 12:5-3, 13:1D-1 et seq., 13:9A-1 et seq., 13:19-1 et seq., 40:55D-93 to 99, 58:4-1 et seq., 58:10A-1 et seq., 58:11A-1 et seq. and 58:16A-50 et seq.

Date last amended: March 2, 2020