



# Stormwater Management in the New Jersey Pinelands

Draft Rule Proposal to amend the  
Pinelands Comprehensive Management Plan  
in response to the NJDEP's recent stormwater rule adoption



**Pinelands Orientation for  
Newly Elected Officials  
July 27, 2021**

# We Manage Stormwater Runoff To Remove Waterborne Pollution ...



Trash

Nitrogen

Phosphorus

Bacterial pathogens

Deicing salts

Heavy metals

Oil

Gasoline

Sediment

# ... and to Minimize Local Flooding



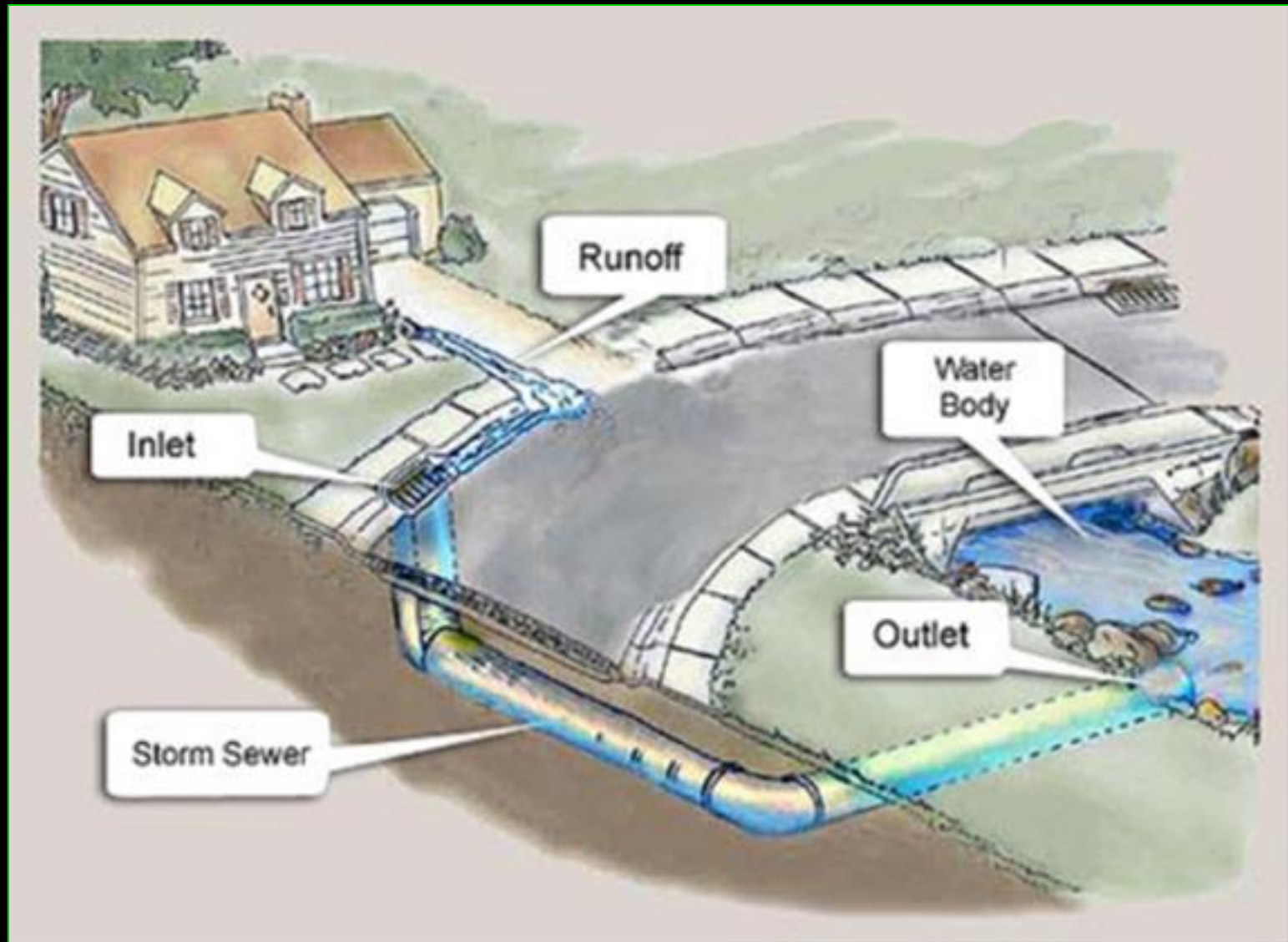
<https://nj1015.com/flood-risk-burlington-county-flooding/>

## Top rainfall totals

- **7.63** inches in Florence, Burlington County
- **5.50** inches in Delanco, Burlington County
- **5.00** inches in Beverly, Burlington County
- **4.93** inches in Riverton, Burlington County
- **4.65** inches in Riverside, Burlington County
- **4.41** inches in Bordentown, Burlington County
- **4.01** inches in Charlotteburg, Passaic County
- **3.92** inches in Burlington, Burlington County
- **3.47** inches in West Milford, Passaic County
- **3.46** inches in Ringwood, Passaic County
- **3.45** inches in Palmyra, Burlington County
- **3.45** inches in Pennsauken, Camden County
- **2.95** inches in Montague, Sussex County
- **2.74** inches in Cinnaminson, Burlington County
- **2.71** inches in Wantage, Sussex County

<https://www.nj.com/weather/2021/07/nj-weather-these-15-towns-got-drenched-by-mondays-super-soaker-thunderstorms.html>

# Stormwater Management using Grey Infrastructure



# Effective March 2021, NJDEP requires **Green Infrastructure** to manage stormwater

The proposed Pinelands Stormwater Rule Amendments follow suit

1. Manage the stormwater close to the source



2. Treat stormwater through infiltration into the subsoil



3. Treat stormwater through filtration by vegetation or soil



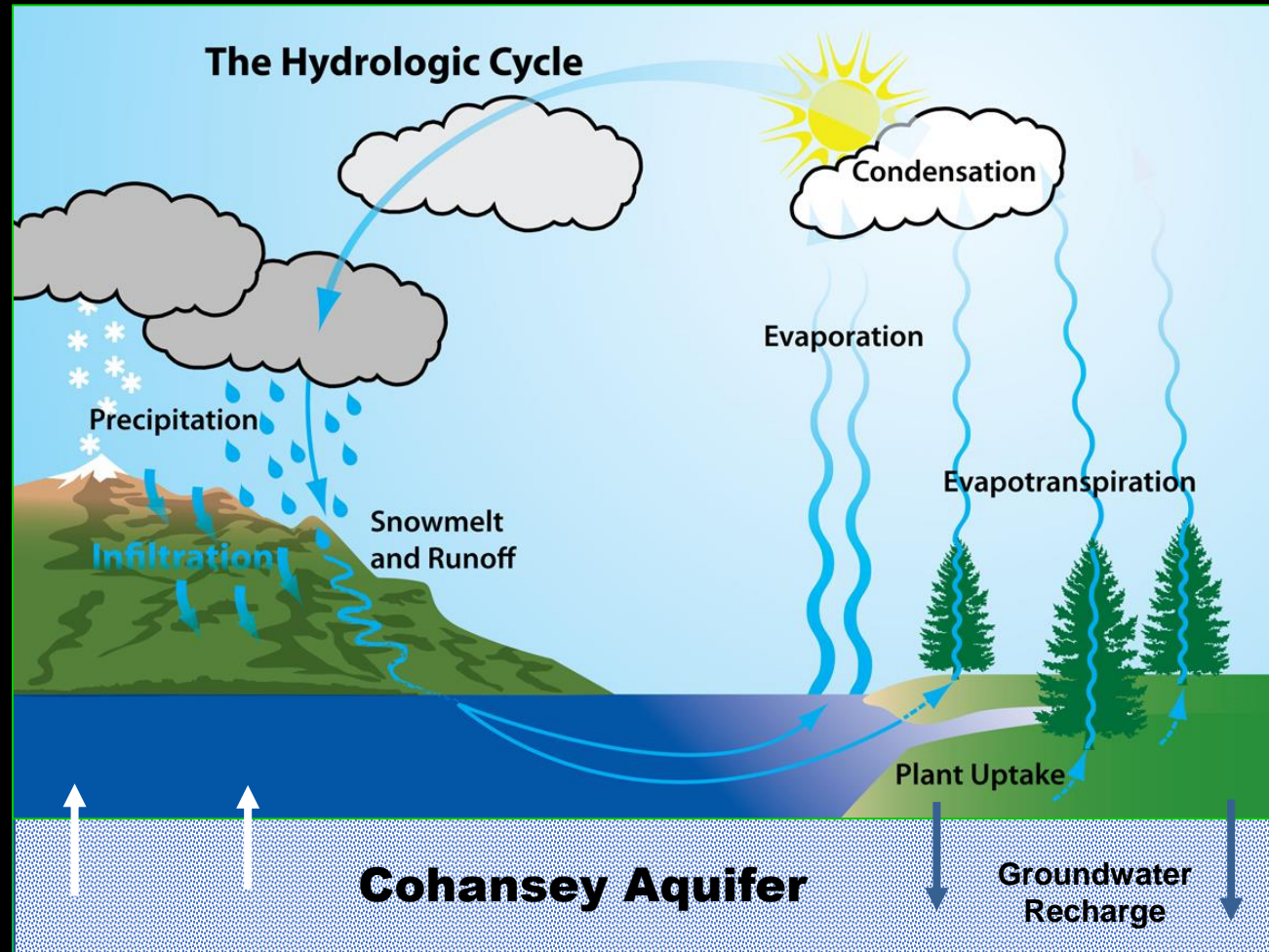
4. Store stormwater runoff for reuse



# Goal of the New Stormwater Management Rules

## Use of **Green infrastructure**

To create hydrologically functional landscapes to maintain or reproduce the natural hydrologic cycle for the developed area.



Adapted from USGS graphic

# Long-standing Pinelands Stormwater Regulations

Stormwater management is required for all “Major Development”  
(disturbance of >5,000 SF)

## Volume Control

All major development must retain and infiltrate rainfall from the net increase in impervious surfaces from the 10-year storm of 24-hour duration:  
~ 5”+ rainfall.

This rule ensures that almost all stormwater is recharged to the Kirkwood Cohansey Aquifer.

## Runoff Rate Control

Rate of runoff generated on the parcel by the 2-yr, 10-yr and 100-yr storm of 24-hour duration shall not increase post development.

This rule ensures that flooding is minimized.



# Policy Goals for Pinelands Stormwater Amendments

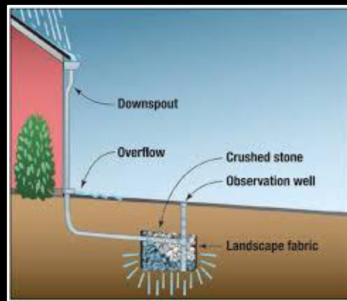
- Harmonize Pinelands and NJDEP's stormwater rules - in a manner best suited for the Pinelands Area
- Minimize impacts of increased stormwater runoff due to climate change – likely to bring more intense storm events
- Strengthen and enhance stormwater management in the Pinelands Area while establishing reasonable requirements for home builders and developers



# Minor Residential Development

- New requirement to retain and infiltrate **clean** stormwater generated by the 10-year storm (~5") from **the roof** of a house through use of **green infrastructure** measures, including:

- Dry wells



- Pervious paving systems



- Small scale bioretention (rain gardens)

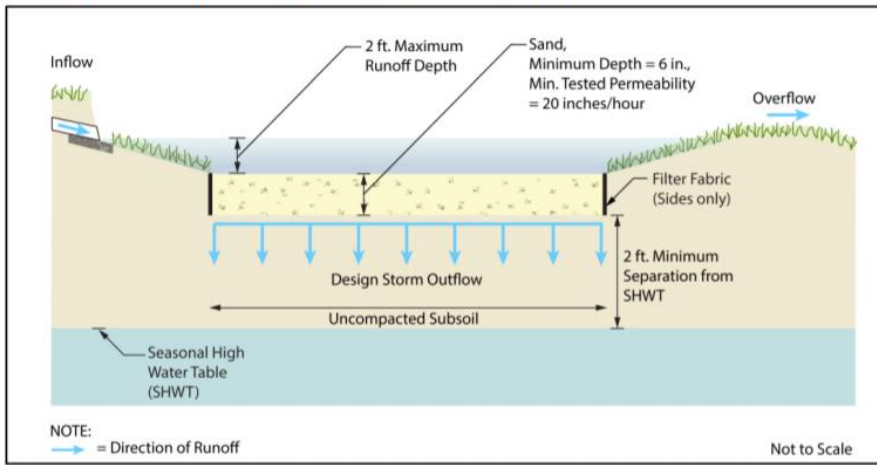


Photo courtesy of  
Rain Dog Designs,  
Gig Harbor, WA

# Minor Non-residential Development

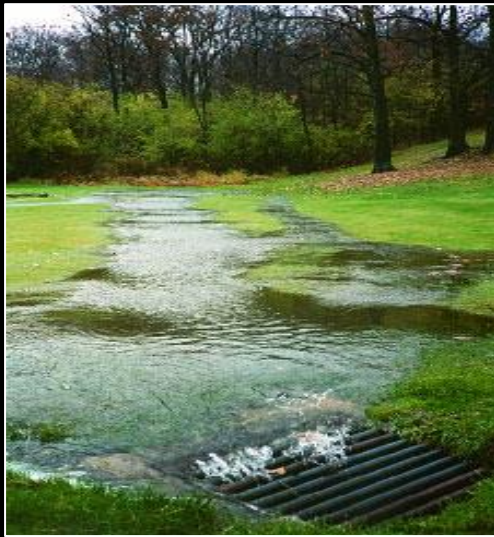
- Requires on-site treatment, infiltration and recharge of stormwater generated from motor vehicle surfaces by the water quality storm (1.25") from non-residential development with an increase of 1,000 square feet or more of regulated motor vehicle surface.

Small-Scale Surface Infiltration Basin – Profile View



# Stricter Treatment Standard for Nitrogen Removal

- For new major development, require reduction of total nitrogen load in stormwater runoff by a minimum of 65% including permanent lawn and turf areas intended for active human use.

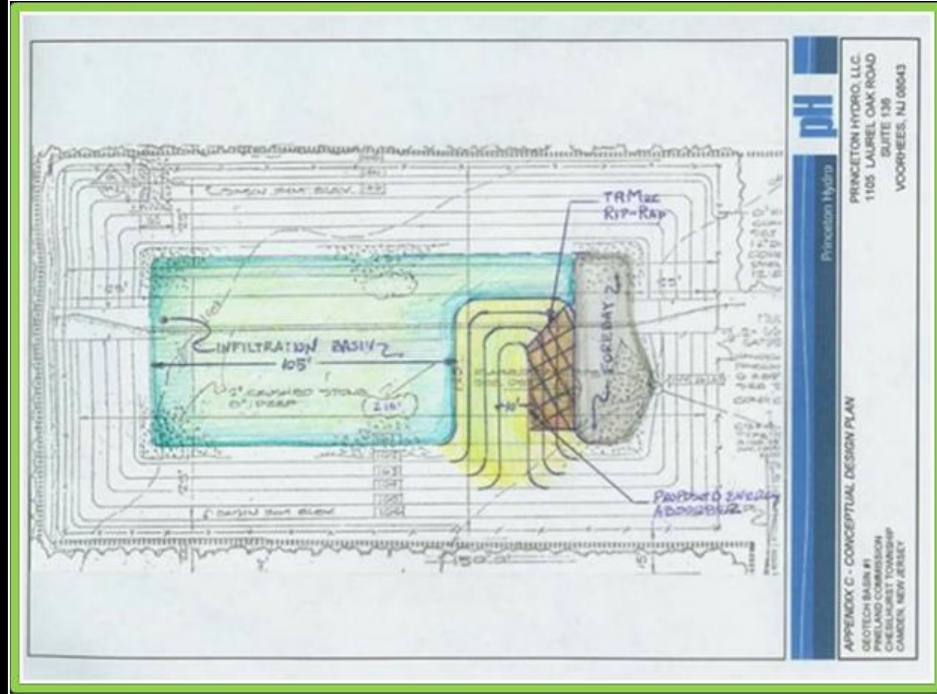


This protects surface water bodies from algal blooms, low DO, and invasive species that result from nutrient inputs

# Exceptions and Mitigation

If stormwater management requirements cannot be met on-site, based on NJDEP standards, applicants may request:

- A municipal variance (for private development)
- An exception from the Pinelands Commission (for public development)



# Exceptions and Mitigation

- Variances and exceptions may only be granted from the on-site design and performance standards for **green infrastructure**, the standards for **groundwater recharge**, **stormwater runoff quality**, and **stormwater runoff quantity**.
- No decrease in the total volume of stormwater required to be infiltrated is permitted.
- No variance or exception may be granted from the CMP's prohibition on direct discharge of runoff of wetlands, wetlands transition areas or surface water bodies.

# Off-site Mitigation Requirements

- If a variance or exception is approved, an off-site mitigation project must also be identified and approved.
- All mitigation projects must be in the same HUC-14 drainage area as the proposed development. Sites in the larger HUC-11 drainage area may be approved if necessary.
- All mitigation projects must be in the Pinelands Area.
- The same requirements will be applied to all public and private development.

# Summary of Provisions of Draft Amendments

- Require use of Green Infrastructure in managing stormwater
- Extend stormwater management requirements to minor residential development (roof top recharge) and some minor non-residential development (regulated motor vehicle surfaces > 1,000 s.f.)
- Add specific percent removal standard (65%) for nitrogen
- Clarify standards for variances, exceptions and mitigation

# **Pinelands CMP Will Continue to Exceed NJDEP Standards**

## **Current CMP:**

- Greater volume recharge requirement than is required by DEP
- Prohibition on discharging stormwater to wetlands/streams
- Special treatment of runoff from high pollutant areas (90% TSS removal)
- Emphasis on soil testing and as-built certification of stormwater management measures
- No outright exemptions to any of the stormwater standards.

## **Proposed CMP Amendments:**

- Stormwater management will be required for more development: all minor residential development and some minor non-residential development
- More stringent conditions for off-site recharge of stormwater
- More stringent recharge standard for nitrogen removal



# Next Steps

July 19, 2021	Rule published in New Jersey Register
September 1, 2021	Public hearing on the rule proposal
September 17, 2021	End of 60-day comment period
October 2021	P&I Committee reviews rule adoption
November 2021	Commission reviews public comment and adopts rules
November 2021	Adoption notice filed with Office of Administrative Law
December 2021	Amendments take effect

# Questions?

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WHEN YOU'RE FERTILIZING THE LAWN,  
REMEMBER YOU'RE NOT JUST  
FERTILIZING THE LAWN.

