

# MS4 Permit

Stormwater Management in New Development and Redevelopment

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## Stormwater Management in New Development and Redevelopment (Part 2.4.6)

- Permittees shall develop, implement and enforce a program, to the extent allowable under Commonwealth of Puerto Rico and local law, to control stormwater discharges from **new development and redeveloped** sites that discharge into the small MS4 that **disturb one acre or more**.
- The program requires to include projects of less than 1 acre if they are part of a larger or common development of one or more acres.



# MS4 Permit Requirements

- **Ordinance or other regulatory mechanism** to address post-construction runoff.
- Owners or operators of new development and redeveloped sites **design, install, implement, and maintain** a combination of structural and non-structural BMPs appropriate for the community and to protect water quality.



Integrating Green  
Infrastructure:  
Infiltrate, evapotranspire and  
harvest and use stormwater



Chicago City Hall

Permeable pavement and  
bioretention in Albuquerque, NM  
*Photo courtesy of AridLID.org*



Bioretention Cell in El Monte, CA  
*Photo Credit: Bill DePoto*



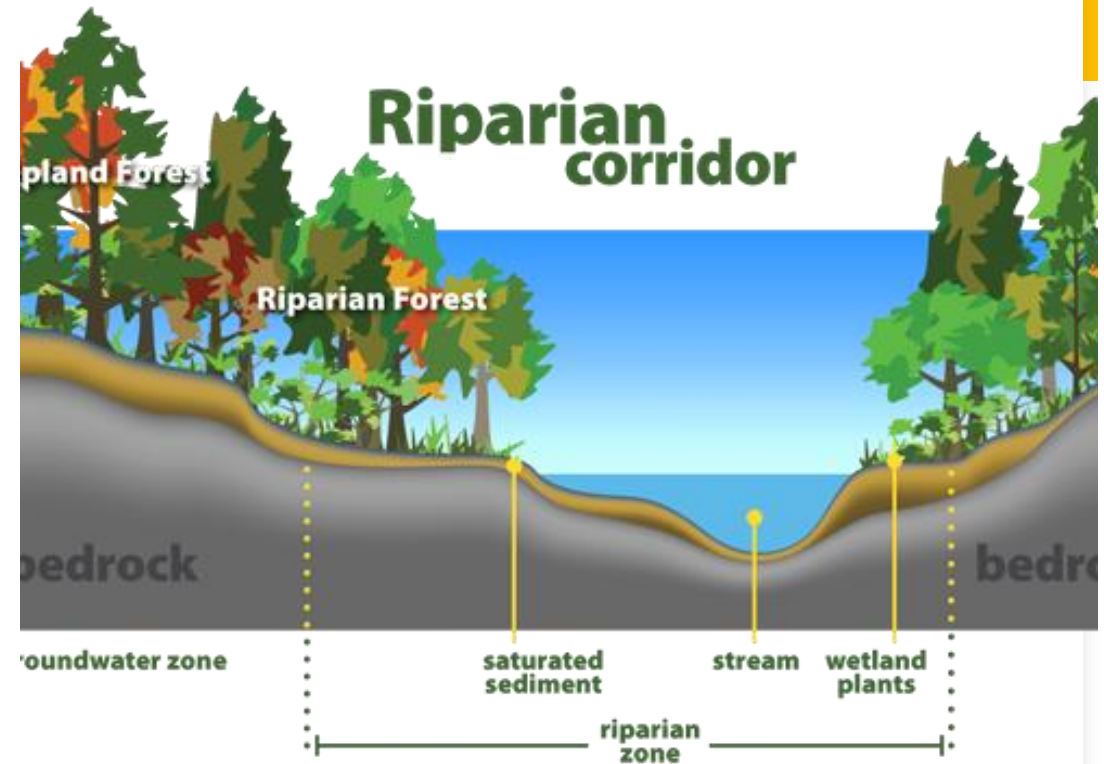
Structural  
BMPs

# Non-Structural BMPs

- **Planning Procedures.**
  - Local and comprehensive plans
  - Zoning ordinances
- **Site-Based BMPs.**
  - Buffer strip and riparian zone preservation
  - Minimization of disturbance and imperviousness
  - Maximization of open space

# MS4 Permit Requirements

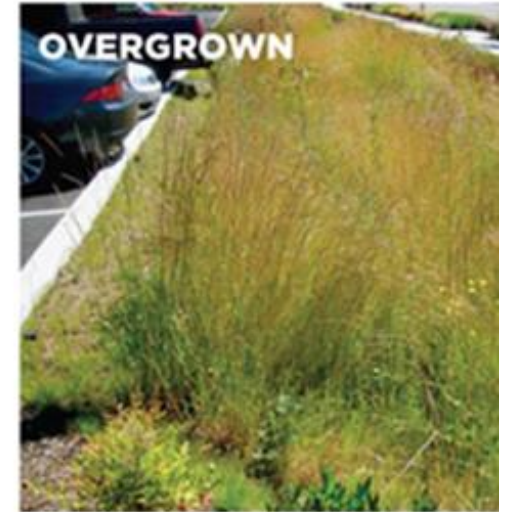
- The program shall include procedures to ensure that any stormwater controls or management practices for new development and redevelopment will prevent or minimize impacts to water quality.
- These procedures may include requirements to:
  - avoid disturbance of areas susceptible to erosion and sediment loss;
  - preserve areas in the municipality that provide important water quality benefits;
  - implement measures for flood control; and
  - protect the integrity of natural resources.



# MS4 Permit Requirements

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- Long-term operation and maintenance of structural stormwater control measures.
- Inspection Program



# Guidance Documents

Green Infrastructure Modeling Toolkit

<https://www.epa.gov/water-research/green-infrastructure-modeling-toolkit>

Stormwater Discharges from Municipal Sources

<https://www.epa.gov/npdes/stormwater-discharges-municipal-sources>

National Menu of Best Management Practices (BMPs) for Stormwater

<https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#post>

Stormwater Discharges from Municipal Sources-Developing an MS4 Program

<https://www.epa.gov/npdes/stormwater-discharges-municipal-sources-developing-ms4-program#postconstruction>





Thank You!

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