CLEAN WATER ACT’S STORMWATER PROGRAM
Stormwater is a leading cause of water quality impairment and its impact is growing

- Urban stormwater is a leading source of impairment
- Fast growing water quality concern
  - Approximately 800,000 acres being developed every year, growing to over 1.0 million acres by 2039
- Development increases the amount of impervious cover in the landscape
- Small increase in impervious cover leads to big impacts in receiving waters
- Development upstream can cause downstream impacts in communities

About 60% of regulated MS4s with discharge to impaired waters
Stormwater Impacts:
Pollution, Flooding, and Property Losses

- **Stormwater pollutants**
  - Cause beach closures and swimming illnesses through bacterial contamination and algal blooms
  - Impact fisheries and shellfish harvesting through excess sedimentation, nutrients, bacteria, metals, and temperature
  - Increase the costs of treating drinking water supplies

- **Stream impacts**
  - Increase stormwater volume and velocity causing flooding, scouring and sewer overflows
  - Reduce groundwater recharge impacting water supplies
Current coverage
• Primarily in urbanized area
• Accounts for much of the population
• Only about 2% of the land area

Existing Program

- Many communities have waterbodies that are already polluted by stormwater discharges from impervious areas
- Communities are working hard to address stormwater and are looking for cost-effective solutions moving forward
- Developers play an important role in finding these cost-effective stormwater solutions
Changing the Paradigm of Stormwater Management

Traditional approach

- Convey stormwater quickly from site to waterbody or detention ponds
- Manage peak flows for flood control, drainage and large scale downstream erosion.

New approach - Integrate green infrastructure in the design of the project

- View stormwater as a resource
- Slow down the flow, allow to infiltrate
- Manage stormwater on-site
- Reduces pollutant loads to waterbodies
New Directions

- Incorporate green infrastructure into sites as they are being developed and redeveloped
  - Provides most cost-effective opportunity to control stormwater at its source
  - Prevents water quality degradation in healthy waters
  - Helps restore impaired waters

- Looking at the problem on a watershed basis will be more cost effective

- Incentives for sustainable practices that provide numerous other economic and quality of life benefits to communities
If We Don’t Take This New Direction – It Will Cost a Lot More

- If sites do not incorporate sustainable stormwater controls in growing communities, waterbodies will become impaired and these communities will face extremely high costs to restore the waters.

- If sites do not incorporate sustainable stormwater controls in growing communities, the quality of our urban waters will worsen and the cities will be less appealing places to live.

- Communities will not realize the many other benefits of green infrastructure, including:
  - Reduced flooding
  - More liveable communities
  - Increased property values
Establish performance standards for discharges from newly developed and redeveloped sites

- Builds upon innovative approaches developed by many communities and developers already
- Helps to revive urban streams
- Creates level playing field
- Prevents pollution
- Avoids costly stream restoration
- Reduces flooding
- Creates local jobs
Potential Focus of a Proposed Stormwater Rule (Cont’d)

Encourage watershed approaches for managing municipal stormwater discharges

Helps ensure stormwater controls are properly implemented which could reduce the need for expensive retrofits later
Considerations

Performance Standards

- Considering a retention-based performance standard to require that sustainable stormwater controls be incorporated into sites as they are developed and redeveloped
  - Reduce pollutants
  - Reduce volume and velocity of discharges

- Considering a standard that varies according to an area’s climate and other location-specific characteristics
  - e.g. certain percentile storm event

- Considering many flexibilities
  - For sites
  - For alternative local programs

- There are cost-effective ways to meet the standard
  - Incorporate controls in the site design by preserving vegetation and/or reducing impervious cover
  - Integrate green infrastructure practices into landscape or other common areas

About 1/3 of states and many local communities already have some sort of treatment or retention-based performance standard
Performance Standards (Cont’d)

- Considering relaxed standard for redevelopment
  - Recognizes site constraints and benefits to reusing already developed site
  - Encourages redevelopment to revitalize urban communities
  - Considering additional incentives for smart growth and brownfields development

- The standard could be directly applied to newly developed and redeveloped sites nationwide or only those sites discharging to regulated MS4s or watersheds including MS4s

Applying the standard nationwide would create a level playing field for developers among municipalities and protect downstream communities from upstream development.

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<tr>
<th>Now</th>
<th>With Changes</th>
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<tbody>
<tr>
<td>Stormwater Pond</td>
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<td>Rain Gardens</td>
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Performance Standards (Cont’d)

- Could accommodate site constraints (including water rights laws)
  - Managed through treatment
  - Off-site mitigation
  - Payment-in-lieu
  - Banking or trading programs
- Allow sites to do their own analyses based on site-specific information
- Allow phased implementation
- Allow watershed plans that control pollutants/flows
- Would credit alternative programs that are better suited to their needs, but that are as protective as the national standard
- Allow alternative green infrastructure plan in-lieu-of a new and/or redevelopment standard
Encourage Watershed Approaches

- Encourage MS4s in same watershed to work together
  - Watersheds surrounding existing regulated MS4s
- Encourage sound stormwater programs as growth occurs
- Population threshold 10,000
- MS4 light, watershed permits, guidelines, recognition/certification
Innovative communities across the U.S. already have on-site retention standards in place and are seeing the benefits.

**Water-Based Benefits**
- Improved recreational, aesthetic and non-use values
- Lower drinking water treatment costs
- Lower dredging costs for navigational channels
- Reduced siltation of water storage reservoirs
- Reduced downstream flooding damage
- Groundwater recharge
- Small stream erosion and water quality impacts

**Vegetation-Based Benefits**
- Improved air quality and reduced human health impacts
- Higher off-site property values associated with green infrastructure
- Carbon uptake by plants
- Reduced energy use by buildings and associated air quality and carbon footprint benefits

**Benefits of a Proposed Stormwater Rule**
Cost-Effective Solutions in Residential Areas

- Pervious pavement
- Bioswales, raingardens
- Curb cuts, green streets
- Downspout disconnection
- Narrower streets, driveways, roads
Integrate curb cuts into parking islands to allow water to infiltrate

- Smaller parking lots
- Pervious pavement
- Cisterns
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