

Phase II Components

The work required for the overall Phase II compliance program includes six components. These are described briefly below:

1. Public education and outreach on stormwater impacts

- Distribute educational materials to the community or conduct equivalent outreach activities on impacts of stormwater discharges and steps to reduce stormwater pollution. It should include information for individuals and households about the problem and steps they can take to reduce or prevent stormwater pollution, and should be tailored and include a mix of locally appropriate strategies including:
 - Distributing brochures or fact sheets
 - Sponsoring speaking engagements before community groups
 - Providing public service announcements
 - Implementing education programs targeted at school-age children
 - Conducting community based projects such as storm drain stenciling
 - Watershed and beach cleanups
- *Household information* should include:
 - Ensuring proper septic system maintenance
 - Ensuring proper use and disposal of landscape and garden chemicals including fertilizers and pesticides
 - Protecting and restoring riparian vegetation
 - Properly disposing of used motor oil or household hazardous wastes
- *Commercial, industrial, and institutional entities* likely to have significant stormwater impacts should also be given information including:
 - Information to restaurants on grease clogging
 - Information to auto garages on impacts of used oil discharges

EPA intends to provide a toolbox containing fact sheets, guidance documents, and information clearinghouse, and training and outreach efforts.

2. Public involvement/participation

The public participation should begin before submitting an NOI. EPA encourages early and frequent public involvement and expects that opportunities for the public to participate in could include:

- Serving as citizen representatives on local stormwater management panel
- Attending public hearings
- Working as citizen volunteers to educate other individuals about the program
- Assisting in program coordination with other preexisting programs, or
- Participating in volunteer monitoring efforts

EPA intends to provide technical support as part of a toolbox, for example, model public involvement programs, conduct the public workshops, etc.

3. Illicit discharge detection and elimination

This component of the program should include the following:

- Develop a storm sewer system map showing the location of all outfalls and receiving waters at a minimum, and include:
 - Complete a sitewalk around each outfall and designate a name and number
 - This component should include procedures for:
 - Locating priority areas
 - Tracing the source of an illicit discharge
 - Removing the source of the discharge
 - Program evaluation and assessment
 - More detailed screening of priority systems based on higher likelihood of illicit connections or by conducting ambient sampling to locate impacted reaches. Outfalls should be visually screened during dry weather with field tests conducted (where flow occurs) of selected chemical parameters including specific conductivity; ammonia nitrogen; surfactants and pH.
 - EPA also recommended sampling for fecal coliform and E. coli. Flow rate, temperature, odor, color, turbidity, floatable matter, deposits and stained vegetation should be observed.
 - The program should also include procedures for tracing the source of illicit discharges by:
 - +Following the flow up the storm drainage system via observations or testing
 - +Television inspection of storm sewers
 - +Using infrared and thermal photography
 - +Conducting smoke or dye tests

-- Program should also include procedures for eliminating or removing illicit discharges, including:

- +Notification to property owners
- +Specification of length of time for elimination of discharge
- +Additional notification procedures
- +Legal actions and how they would take place.

- Map portions of the storm sewer system leading to the outfalls where illicit discharges are identified
- Document actions taken and how this will occur will be part of the implementation plan in terms of program evaluation and assessment. This could be, for example, number of outfalls screened or complaints received and corrected; and feet of storm sewers televised, etc.
- Develop ordinances or other regulatory mechanisms to prohibit illicit discharges into the separate storm sewer system and to implement appropriate enforcement procedures and actions;
- Develop and implement a plan to address illicit discharges, including illegal dumping, to the storm drain system
- Inform public employees, businesses, and the general public of the hazards of illegal discharges and improper waste disposal. Illicit discharges should address the following categories *only if they are significant contributors* of pollutants:
 - Water line flushing
 - Landscape irrigation
 - Diverted stream flows
 - Rising groundwater
 - Uncontaminated groundwater infiltration
 - Uncontaminated pumped groundwater
 - Discharges from potable water sources
 - Foundation drains

- Air conditioning condensation
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential car washing
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Street wash water
- Fire flows

4. Construction site stormwater runoff control

Operators of regulated small MS4s must develop, implement and enforce a pollutant control program from any construction action that results in land disturbance of one or more acres. Also regulates construction activity onsite disturbing < one acre if the activity is part of a larger plan of development. The program must include:

- An ordinance or other regulatory mechanism to require erosion and sediment controls
- Sanctions to ensure compliance such as non-monetary penalties, fines, bonding requirements and or permit denials for noncompliance
- Requirements for construction site operators to implement appropriate erosion and sediment control BMPs (silt fences, temporary detention ponds and diversions, etc.)
- Procedures for site plan review that incorporate consideration of potential water quality impacts
- Requirements to control other waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste at the construction site
- Procedures for receipt and consideration of information submitted by the public to the MS4
- Procedures for site inspection and enforcement of control measures by the small MS4

Although EPA notes that only sites discharging to a regulated MS4 must be controlled by the MS4, they also suggest that regulated MS4's may wish to set up broader controls for simplicity.

5. Post construction stormwater management in new development and redevelopment

Operators of small MS4's must develop, implement and enforce a program to address stormwater runoff from new development and redevelopment projects where land disturbance of one acre or more is involved. EPA focuses on pollution prevention measures such as minimization of impervious areas; maintenance or restoration of natural infiltration; wetland protection; use of vegetated drainage ways; and use of riparian buffers to reduce pollutant loadings in stormwater runoff from developed areas. Small MS4 operators are required to:

- Develop and implement strategies that include a combination of structural and or non-structural best management practices (BMPs);
- Use an ordinance or other regulatory mechanism to address post construction runoff from new development and redevelopment projects to the extent allowable;
- Ensure adequate long-term operation and maintenance of BMPs; and
- Ensure that controls are in place to minimize water quality impacts.

Redevelopment refers to property alterations that change the "footprint "of a site or building that disturbs one or more acres of land. EPA expects that MS4's will use a combination of BMPs that should include both structural and non-structural BMPs. EPA defines non-structural BMPs as preventative actions that involve management and source controls such as:

1. Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation;

2. Policies or ordinances that encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure;
3. Education programs for developers and public about project designs that minimize water quality impacts; and
4. Other measures such as minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, and source control measures often thought of as good housekeeping, preventive maintenance and spill prevention.

Non-Structural Examples:

1. Preservation of open space planning and acquisition programs.
2. Use of cluster development to protect sensitive areas and reduce impervious surfaces.
3. Minimization of directly connected impervious areas (DCIAs).

Structural BMPs Examples:

1. Storage practices such as wet ponds and extended detention outlet structures.
2. Filtration practices such as grassed swales, sand filters and filter strips.
3. Infiltration practices such as infiltration basins and infiltration trenches.

Small MS4 operators are expected to ensure the appropriate implementation of structural BMPs by considering:

- Pre-construction review of BMPs designs;
- Inspections during construction to verify BMPs are built as designed;
- Post-construction inspection and maintenance of BMPs; and
- Sanctions to ensure compliance with designed, construction or operation and maintenance requirements of the program.

To address O&M, small MS4 operators should evaluate O&M management agreement options such as those with homeowners associations, office park owners other government departments or entities or regional authorities. Conditions might include:

- Allowance for the MS4 operator to be reimbursed for O&M performed by the MS4 operator that is the responsibility of the property owner but is not performed.
- Allowance of the MS4 operator onto the property for inspection purposes.
- In some cases the requirement that the property owner submit periodic reports.

6. Pollution Prevention/Good Housekeeping for Municipal Operations

Small MS4 operators must develop and implement O&M programs that include government employee training to address prevention measures and has the ultimate goal of preventing or reducing stormwater from municipal operations. Municipal operations such as parks, golf courses and open space maintenance, fleet maintenance, new construction or land disturbance, building oversight, planning and stormwater system maintenance are covered. The program should:

- Implement maintenance activities, schedules and inspection procedures for structural and non-structural stormwater controls to reduce floatables and other pollutants;
- Implement controls to reduce or eliminate discharges from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt/sand storage locations and snow dumps;
- Adopt procedures for proper disposal of catch basin cleanings, material dredged from detention basins and the like;
- Adopt procedures to ensure that new flood management projects are assessed for water quality impacts and that existing projects are assessed for incorporation of additional water quality protection devices or practices.

Maintenance of structural BMPs could include activities such as replacing upper levels of gravel; detention pond dredging; retention basin repair; etc.. Maintenance of nonstructural BMPs could include updating educational materials. EPA expects that small MS4 operators will serve as a model for the rest of the regulated community.