



Guidelines for Reviewing and Commenting on Municipal Separate Storm Sewer System Minimum Control Measures





About PennFuture

PennFuture works to protect Pennsylvanian's air, water, and land by empowering citizens to build sustainable communities for future generations. We protect your health, your environment, your climate, and your access to natural land. We enforce environmental laws with a team of lawyers to protect your right to clean air and clean water and work in Harrisburg to defend and support laws that protect the environment and public health.

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Reviewing and Commenting on Municipal Separate Storm Sewer System Minimum Control Measures

Overview

In order to comply with MS4 (municipal separate storm sewer system) permit requirements, regulated municipalities must develop a stormwater management plan (SWMP), which outlines the development and implementation of six minimum control measures (MCMs). The purpose of each MCM is to reduce polluted stormwater being introduced into our waterways to the “maximum extent practicable,” protect water quality, and meet applicable water quality standards. The six MCMs are:

1. Public Education and Outreach.

Offer educational materials to community members, and conduct effective outreach to inform the municipality’s citizens of the hazards caused by polluted stormwater, its potential effect on the community’s water quality, and ways to prevent or mitigate such impacts.

2. Public Participation and Involvement

Offer opportunities for community members to actively participate in the development and implementation of the municipality’s SWMP.

3. Illicit Discharge Detection and Elimination.

Develop a plan of action to detect, alert appropriate personnel, and eliminate prohibited discharges into storm sewer systems.

4. Construction Site Runoff Control.

Develop, implement, and enforce a plan to control erosion and sediment from construction activities.

5. Post-Construction Runoff Control.

Develop, implement, and enforce a plan to control runoff of polluted stormwater in new development and redevelopment areas.

6. Pollution Prevention and Good Housekeeping.

Develop and implement a plan to prevent runoff pollution from municipal operations.



Best Management Practices (BMPs)

For each of the MCMs, the municipality will typically develop and implement Best Management Practices (BMPs). The municipality will then need to make sure each BMP is effective at reducing the discharge of pollutants from the municipality’s system to the “maximum extent practicable,” and determine whether the BMP mix is satisfying the water quality requirements of the Clean Water Act.

There are two major types of BMPs that are to be implemented: non-structural and structural. Non-structural BMPs involve designing plans to mitigate potential harms caused by polluted stormwater entering the receiving waterway or water body. Examples of effective non-structural BMPs include developing a master plan or zoning ordinance that reduces the impact of polluted stormwater by (e.g.) providing incentives to concentrate development and preserve natural features, or establishing an ordinance to encourage behavior to reduce stormwater pollution. Structural BMPs are practices that involve the physical placement of preventative measures to mitigate potential harms caused by polluted stormwater entering the receiving water. Examples of effective structural BMPs include infiltration basins (which aim to filter the water through soil to reduce the amount of polluted stormwater), and retention basins (which collect polluted stormwater in basins instead of allowing it to run off into clean water sources).

Areas to Comment on for the Six MCMs

There are opportunities for watershed groups, organizations, and individuals both to engage with the municipality’s development of MCMs in order to make them more protective of local waters, and to assist the municipality in implementation of the BMPs and compliance with permit requirements.

1. Public Education and Outreach

Public Education and Outreach plays an essential role in informing the community about a SWMP. In educating the public about a proposed SWMP, the municipality may garner more support for the plan, as critical points may be better understood by the community-at-large through outreach and discussion. An informed public may also be more willing to support the municipality's overall vision as community members become more aware of what is expected of them in order to comply with the SWMP. Likewise, an informed public is likely to submit better comments and ideas to the municipality in developing the SWMP (see the next MCM).

Requirements

To comply with the MCM of Public Education and Outreach, the municipality must:

1. Establish a written program to inform the community about stormwater pollution, required actions by the municipality, and opportunities to engage.
2. Develop a list of target audiences in order to tailor messaging and education to those audiences.
3. Publish at least one newsletter on stormwater.
4. Distribute educational materials on stormwater pollution impacts and solutions.
5. Determine additional appropriate BMPs for public education and outreach to reduce pollution to the maximum extent practicable.

Determining Effectiveness

Within the MCM, the municipality should outline how it aims to distribute educational materials to the community regarding stormwater management. For example, the BMPs should address through which channel(s) the municipality will be distributing the material. A municipality must also, at a minimum, indicate actions it will take to connect with members of the community to achieve the goal of educating them about the proposed plan. Examples of effective public outreach programming include providing a stormwater hotline, and building an education taskforce.

To best assess whether the municipality's SWMP meets the Public Education and Outreach MCM requirements, ask yourself the following questions:

- *Does the information the municipality provides comply with the minimum requirements?*
- *Is the municipality's plan reaching out to different constituents of the community? For example, is there a plan to reach out to watershed groups, businesses, homeowners associations, etc...? Are there important audiences missing from the plan?*
- *Is the municipality's outreach mechanism accessible to different groups in the community? For example, are public meetings only held during work hours during which many community members may not be able to participate?*
- *What are the anticipated results from outreach programs?*
- *What metrics has the municipality established to gauge program success?*

2. Public Participation and Involvement

Related to, but distinct from Public Education and Outreach, the MCM of Public Participation and Involvement allows members of the community to be involved in the decision-making process as it relates to the municipality's SWMP. The public can play an essential role in complying with MS4 requirements. Through this MCM, the community can participate in activities and programs to learn about, inform the development of, and support the municipality's plan. Community members may have expertise and knowledge of local conditions and projects that the municipality can utilize.

Requirements

To comply with the MCM of Public Participation and Involvement, the municipality must:

1. Establish a written plan to engage with citizens, including routine communication to groups such as watershed associations, environmental advisory committees, and other environmental organizations.
2. Make available (and advertise the availability of) and solicit public comment on stormwater management ordinance, operating procedures, and pollution reduction plans.
3. Determine additional appropriate BMPs related to public participation and involvement to reduce pollution by the maximum extent practicable.



Additionally, the SWMP must comply with local rules on providing public notice. The BMPs should address programs and activities in which community members can actively engage in informing and becoming involved in the decision-making process alongside the municipality.

Determining Effectiveness

The MCM implementation should address opportunities for the community to become involved in the development and implementation of the SWMP. The program should be accessible to all members of the community and seek out members from diverse backgrounds. Examples of effective public engagement activities include creating citizen watch groups, volunteer speaking events, and community clean-up events.

To best assess whether the municipality’s SWMP meets the Public Participation and Involvement MCM requirements, ask yourself the following questions:

- *Do all members of the community have the opportunity to get involved?*
- *Is the community given proper notice of opportunities to get involved?*
- *Are existing groups engaged in activities that further the goals of the Public Participation and Involvement plan that have not been identified? Is there interest by groups to take on this work? For example, watershed groups frequently organize river cleanups or water quality monitoring programs.*

3. Illicit Discharge Detection and Elimination

Illicit discharges are discharges to storm sewer systems that are not composed of stormwater, with some exceptions. For example, sanitary wastewater connections, improper oil disposal, laundry wastewater disposal, and improper disposal of auto and household toxics are all illicit discharges to the MS4 system. These discharges are considered “illicit” because MS4s are not designed to accept, process, or treat such non-stormwater wastes, which make their way untreated to local waterways, where they pose significant risk to both human and ecological health. The creation of a detection, detention, and elimination program is essential to preventing these pollutants from entering the water without any treatment.

Requirements

To comply with the MCM of Illicit Discharge Detection and Elimination, the municipality must:

1. Develop and implement a plan to detect illicit discharges and report concerns.
2. Create a storm sewer map that highlights all outfalls and the area of runoff that contributes to each outfall.
3. Draft and implement an ordinance that prohibits illicit discharges and provides appropriate enforcement procedures.
4. Check all stormwater outfalls during dry weather and document findings.
5. Provide training for municipal employees, business owners and employees, and citizens about the potential hazards or other threats that stem from illicit discharge of polluted waters into an MS4.
6. Determine additional appropriate BMPs related to illicit discharge detection and elimination to reduce pollution by the maximum extent practicable.

Determining Effectiveness

Implementation of the MCM should effectively address how illicit discharges will be discovered, reported, and removed. The SWMP should include the specific procedures that would be triggered upon discovery of such an illicit discharge.

To best assess whether the municipality's SWMP meets the Illicit Discharge Detection and Elimination MCM requirements, ask yourself the following questions:

- *Is a map provided that details all outfalls and delineates the area of runoff that contributes to each outfall?*
- *What is the process for reporting illicit discharge, and who can make such reports?*
- *What is the municipality's plan for investigating a report and, if verified, eliminating the illicit discharge? Is there a timeframe in which reported issues will be investigated and remedied? How will someone who has reported a problem know that the municipality has taken the appropriate steps and remedied the problem?*

- *Are there ways watershed organizations or outside groups could assist the municipality in meeting these requirements? For example, organizing volunteers to place drain stencils at storm drain inlets (and possibly to document the coordinates of each location), or ensuring that stream-watch programs have a pathway to report signs of pollution that may be the result of illicit discharges.*
- *What information will be presented to public employees, businesses, and citizens? How will it be provided?*

4. Construction Site Runoff Control

Construction activities are a leading cause of sediment pollution (silt, sand, clay, and soil particles) in stormwater runoff. Although stormwater exposure to pollution at these sites may be limited to the duration of construction, the amount of sediment and other pollutants exposed during that time can be significant.

Requirements

To comply with the MCM of Construction Site Runoff Control, the municipality must:

1. Draft and implement an ordinance requiring implementation and maintenance of erosion and sediment control BMPs, including sanctions for non-compliance.
2. Establish a plan that considers the impact of construction sites on the surrounding waterways.
3. Establish a procedure for construction site inspection and control, and possible sanctions to support compliance with the measures.
4. Determine additional appropriate BMPs related to construction site runoff controls to reduce pollution by the maximum extent practicable.



Determining Effectiveness

An effective plan to control construction runoff should implement measures to reduce stormwater runoff from a construction site for the entire duration of activity at the site. Examples of effective construction stormwater plans include a description of activities that should not occur at construction sites, and possible sanctions to encourage and support compliance.

To best assess whether the municipality’s SWMP meets the Construction Site Runoff Control MCM requirements, ask yourself the following questions:

- *Has the municipality defined sediment pollution and erosion control, and if so, can the terms “sediment pollution” and “erosion control” be identified?*
- *What type of oversight will be in place to ensure construction site compliance? Who conducts inspections of construction sites? How frequently will construction sites be inspected? What is the remedy if stormwater violations are noted (i.e. does the construction site operator have a designated time to bring the site into compliance?)*
- *What penalties, if any, are there for violations?*
- *How will the public be informed of these measures?*
- *Is there a mechanism for the public to report stormwater concerns at construction sites?*





5. Post-Construction Runoff Control

New development and redevelopment can affect waterways both through increased pollutants picked up by stormwater runoff (e.g., oil drippings on a parking lot) as well as the volume of stormwater runoff from impervious surfaces (which can, for example, cause or contribute to streambank erosion and associated sediment pollution). Controls for post-construction runoff encourage effective pre-planning efforts and reduce the costs associated with eliminating such discharges from waterways.

Requirements

To comply with the MCM of Post-Construction Runoff Control, the municipality must:

1. Draft and implement ordinances requiring post-construction runoff controls to be in place in accordance with state, local, or tribal law, including sanctions for violations, and encouraging land planning and design approaches to manage stormwater runoff as part of green infrastructure, also known as Low Impact Development (LID). Examples of LID practices include green roofs and rain gardens, and more can be found in [DEP's Pennsylvania Stormwater Best Management Practices Manual](#).
2. Ensure adequate operation and maintenance measures are in place for post-construction stormwater management BMPs that have been installed at development or redevelopment projects.
3. Determine additional appropriate BMPs related to post-construction controls to reduce pollution by the maximum extent practicable.

Determining Effectiveness

Effective implementation of post-construction controls should focus on the use of LID. LID design and practice seeks to reduce infrastructure costs, while maintaining the integrity of natural resource systems.

To best assess whether the municipality's SWMP meets the Post-Construction Runoff Control MCM requirements, ask yourself the following questions:

- *Have potential areas of discharge of polluted stormwater been identified?*
- *Does the plan encourage low impact development? Does the plan miss opportunities to implement low impact development practices?*
- *Does the plan include a balance of both non-structural and structural practices for reducing pollution to the maximum extent practicable?*
- *Does the plan consider how costs can be minimized while maintaining the integrity of the physical project?*
- *Does the plan have a sufficient operations and maintenance plan? Does it include the frequency at which sites will be inspected? Who is responsible for inspections and maintenance? Is there a mechanism for the municipality to direct maintenance when required, or enforce against owners of sites that do not properly maintain sites?*

6. Pollution Prevention and Good Housekeeping

MS4 municipalities are required to reduce polluted stormwater from municipal operations by evaluating and, if necessary, altering structures or practices, and by providing education about proper operations to employees.

Requirements

To comply with the MCM of Pollution Prevention and Good Housekeeping, the municipality must:

1. Identify all municipal operations that have the potential to generate pollution from stormwater runoff.
2. Develop, implement, and maintain operations and maintenance plan designed to reduce or prevent additional polluted runoff from surfaces into storm sewer systems.
3. Provide training and development to public employees to demonstrate how to implement pollution prevention and good housekeeping measures throughout municipal operations.
4. Determine additional appropriate BMPs to reduce pollution by the maximum extent practicable.

Detecting Effectiveness

This MCM should detail the processes the municipality will take to regularly inspect and maintain its facilities, such as municipal administrative buildings, police stations, libraries, and their surrounding areas where vehicles are stored and repaired, trash is collected, or stormwater can be exposed to pollutants. The plan should also include a mechanism to educate public employees about the importance of reducing stormwater pollution and the procedures that are to be followed at each facility.

To best assess whether the municipality's SWMP meets the Pollution Prevention and Good Housekeeping MCM requirements, ask yourself the following questions:

- *How frequently will the municipality inspect and maintain its implemented controls?*
- *Has the municipality identified all of its facilities at which stormwater pollution prevention procedures must be implemented? Are there others that you know of that should be included?*
- *Are the procedures that the municipality has identified sufficient to reduce stormwater exposure to pollution at these facilities? For example, is vehicle maintenance taking place in an enclosed area not exposed to rain, and are employees directed to dispose of refuse oil appropriately? Are dumpsters covered and regularly emptied?*
- *Where will the operations and maintenance plan be kept? Will there be a copy accessible to employees at each facility? How can the public access and review the plan?*
- *How will public employees be informed of requirements on a regular basis? With what frequency will these trainings take place? How will the municipality document their occurrence, and municipal employees' understanding of these principles?*
- *Do the municipality's plans aim to curb actions that would otherwise endanger MS4 systems? If so, in what ways does the municipality address these concerns?*

For more information on MS4s, please see our dedicated blog post, ["Managing Stormwater: A Leading Cause of Pollution."](#)





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