

MS4 MINIMUM CONTROL MEASURE #3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

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By now, your municipality should know whether it is required to follow the National Pollutant Discharge Elimination System (NPDES), General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4), Notice of Intent (NOI). To verify, check to see if your municipality is within an Urbanized Area (UA) as indicated on Census 2010 Urban Area Reference Maps at the following link: www.census.gov/geo/maps-data/maps/2010ua.html

What are minimum control measures?

Municipalities are required to comply with best management practices (BMPs) listed under each of the following six minimum control measures (MCMs):

- 1) Public education and outreach
- 2) Public participation and involvement
- 3) Illicit discharge detection and elimination*
- 4) Construction site stormwater runoff control
- 5) Post-construction stormwater management in new development and redevelopment
- 6) Pollution prevention/good housekeeping

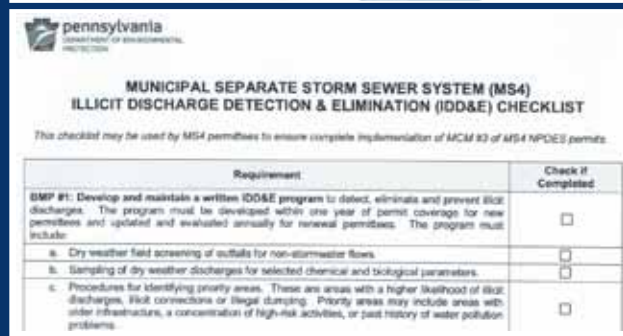
*This tech sheet explores changes to this MCM.

Under a federal mandate administered in Pennsylvania by the state Department of Environmental Protection (DEP), certain municipalities are required to obtain an NPDES permit for their stormwater discharge and develop a stormwater management program to keep pollutants out of stormwater.

After rainwater hits the ground, it picks up pollutants in its path and flows through MS4s, which are the systems of drains, ditches, and pipes that transport the stormwater into a body of water. Municipalities seeking an NPDES permit are required to map the MS4, adopt a stormwater management ordinance, and put in place a stormwater management program consisting of six minimum control measures.

MS4 municipalities should be familiar with the changes DEP made to the General Permit PAG-13 in May 2016. Among the updates were changes to minimum control measure (MCM) #3 of the MS4 permit that deals with illicit discharge detection and elimination. Under the permit requirements of MCM #3, six best management practices (BMPs) are to be implemented:

- BMP 1 requires MS4s to develop and implement a written illicit discharge detection and elimination program.
- BMPs 2 & 3 require MS4s to develop and maintain a map.
- BMP 4 requires MS4s to conduct outfall field screening.
- BMP 5 requires MS4s to enact a stormwater management ordinance.
- BMP 6 requires MS4s to provide educational outreach to detect and eliminate illicit discharges.



The illicit discharges form checklist is available from the DEP website. Go to www.dep.pa.gov and select "Water" from the drop-down menu under "Business" at the top of the page. Next, select "Bureau of Clean Water," then "Stormwater Management," "Municipal Stormwater," and finally "Minimum Control Measures." From that page, you can select among the six MCMs you want to explore. Under MCM #3, you will find a model map, resources, and forms for tracking illicit discharge.

BMP 1: Detection and elimination program

Under BMP 1 of MCM #3, municipalities must develop and maintain a written illicit discharge detection and elimination program to detect, eliminate, and prevent illicit discharges. The program must include the following:

- a) Dry-weather field screening of outfalls for non-stormwater flows.
- b) Sampling of dry-weather discharges for select chemicals and biological parameters.
- c) Procedures for identifying priority areas with a higher likelihood of illicit discharges, illicit connections, or illegal dumping. Priority areas may include areas with older infrastructure, a concentration of high-risk activities, or a history of water pollution problems.
- d) Procedures for screening outfalls in priority areas during varying seasonal and meteorological conditions.
- e) Procedures for identifying the source of an illicit discharge when a contaminated flow is detected at a regulated small MS4 outfall.
- f) Procedures for eliminating an illicit discharge.
- g) Procedures for assessing the potential for illicit discharges caused by the interaction of sewage disposal systems (e.g., on-lot septic systems, sanitary piping) with storm drain systems.
- h) Mechanisms for gaining access to private property to inspect outfalls (e.g., land easements, consent agreements, search warrants).
- i) Procedures for program documentation, evaluation, and assessment.
- j) Records that must be kept of all outfall inspections, flows observed, results of field screening and testing, and other follow-up investigation and corrective action work performed under this program.

BMPs 2 & 3: Maps of MS4s

These two best management practices require municipalities to develop and maintain map(s) of their regulated small MS4. The maps must be updated as needed and must depict the following:

- a) Locations of all outfalls directly or indirectly discharging stormwater from an MS4.
- b) Locations and names of all surface waters that receive discharges from those outfalls.
- c) The entire storm sewer collection system, including roads, inlets, piping, swales, catch basins, channels, basins, etc.
- d) Municipal and/or watershed boundaries.

An example map developed by York Township in York County is available online from DEP at http://files.dep.state.pa.us/Water/BPNPSM/StormwaterManagement/MunicipalStormwater/MuniSWResources/DEP_Model_Map_Final.pdf. This map illustrates the details necessary to meet the basic requirements of MCM #3 as well as the advanced requirements for pollutant

reduction plans, total maximum daily load (TMDL) plans, and pollutant control measures for the upcoming NPDES permit term.



BMP 4: Outfall field screening

Under this BMP, municipalities must conduct outfall field screening, identify the source of any illicit discharges, and remove or correct any illicit discharges using procedures developed under their written illicit discharge detection and elimination program (BMP 1). Specific requirements include the following:

- a) New permittees must screen all identified MS4 outfalls at least twice in dry weather during the permit term and must screen at least 40 percent of the total number of outfalls per year.
- b) Renewal permittees must screen all identified MS4 outfalls at least once during each permit coverage term. Outfalls must be screened annually in areas where past problems have been reported or known sources of dry weather flows occur on a continual basis.
- c) If screening reveals dry-weather flow, the discharge and area around the outfall must be inspected visually for color, turbidity, sheen, and floating or submerged solids; for adverse effects on plants or animals in proximity to the outfall; and for odor. If the outfall produces any odor or if the visual inspection indicates that the discharge may contain pollutants, samples of the discharge must be collected for field and/or lab testing of selected chemical and biological parameters as part of a process to determine if the dry-weather flow is illicit. An example screening form is available from DEP at www.elibrary.dep.state.pa.us/dsweb/View/Collection-12798.
- d) Outfall screenings must be prioritized according to the perceived chance of illicit discharges within the outfall's contributing drainage area.
- e) Inspections must be recorded on the outfall reconnaissance inventory/sample collection field sheet.
- f) Adequate written documentation must justify a determination that an outfall flow is not illicit. If an outfall flow is illicit, the actions taken to identify and eliminate the illicit flow must be documented.
- g) The results of outfall inspections and actions taken to remove or correct illicit discharges must be summarized in periodic reports.

BMP 5: Stormwater management ordinance

Municipalities must enact an ordinance to implement and enforce a stormwater management program that prohibits non-stormwater discharges to the regulated small MS4. Specific requirements include the following:

- a) Within the first year of coverage under the permit, new permittees must enact and implement an ordinance from an Act 167 plan approved by DEP in 2005 or later, an MS4 stormwater management ordinance, or an ordinance that satisfies all applicable requirements in a completed and signed MS4 stormwater management ordinance checklist.
- b) New permittees must submit a letter signed by a municipal official, engineer, or solicitor as an attachment to the first-year report certifying the enactment of an ordinance that meets all applicable requirements of this permit.
- c) Renewal permittees must continue to maintain, update, implement, and enforce a stormwater management ordinance that satisfies all applicable requirements.



Stormwater runoff from a construction site.

BMP 6: Educational outreach

This best management practice requires municipalities to provide educational outreach to target audiences, including public employees, business owners and employees, property owners, the public, and elected officials, about the program to detect and eliminate illicit discharges. Specific requirements include the following:

- a) During each year of permit coverage, appropriate educational information concerning illicit discharges must be distributed to the target audiences using methods outlined under MCM #1 of the MS4 NPDES permit.
- b) By the end of the first year of permit coverage, a municipality must establish and promote a stormwater pollution reporting mechanism (e.g., a complaint line with message recording) so that the public can report illicit discharges, illegal dumping, or outfall pollution. An example citizen complaint illicit discharge reporting form is available from DEP at http://files.dep.state.pa.us/Water/BPNPSM/StormwaterManagement/MunicipalStormwater/MCM3_Illicit_Discharges/iddcomplaintform.doc.

- c) Municipalities must respond to all complaints in a timely and appropriate manner and document all responses, including the action taken, the time required for the action, and whether the complaint was resolved successfully.

Municipalities have an important responsibility to protect the state's waters. Several LTAP courses, including Salt & Snow Management, Bridge Management, Drainage, Roadside Vegetation Control, Unpaved & Gravel Roads, and Stormwater Facility Operations & Maintenance, can help municipalities to satisfy their MS4 training requirements.



Leaking septic system adjacent to stormwater drainage pipe.



A municipal storm sewer outfall enters a stream that shows signs of contaminants.

*Photographs obtained from ISMF LLC,
and Department of Environmental Protection.*

