PennDOT LTAP
technical
INFORMATION
SHEET #180
WINTER / 2016

MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4)

Minimum Control Measure #6 — Pollution Prevention / Good Housekeeping

by Michael H. Fleming, ISMF LLC

Unless you are new to your municipal position or a newly elected official, you should have been already notified if your municipality 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). If you are unaware if your municipality is within an Urbanized Area (UA) as indicated on Census 2010 Urban Area Reference Maps, you can go to the following link to check: www.census.gov/geo/maps-data/maps/2010ua.html.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

pennsylvania

PAG-13
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORMWATER DISCHARGES FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS
NOTICE OF INTENT (NOI)

Before completing this form, read the step-by-step instructions provided in this NOI package.

Related ID#s (If Known)
Client ID#
Site ID#
Facility ID#
APS ID#
Auth ID#

DEP USE ONLY
Date Received
PAG_____
PDG?

GENERAL INFORMATION

Type of Permit: ☐ New Coverage ☐ Renewal of Coverage Permit No. / PA

Is a waiver of coverage being requested and is a waiver application attached to this NOI? ☐ Yes ☐ No

Is PAG-13 General Permit coverage requested for more than one MS4 applicant? ☐ Yes ☐ No

If Yes, submit this NOI for each co-applicant and complete the information below (see instructions):

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) #6, best management practice (BMP) #1, which requires MS4s to prepare an inventory of municipal facilities and activities, and BMP #2, which requires a stormwater operations and maintenance plan (O&M plan) for each facility/activity on the inventory.

There is no particular required format for the inventory or the O&M plan, and the specific content of both will vary depending on the particular facilities/activities within your municipality. The updates within BMP #3 cover training requirements for public works, zoning and codes enforcement, engineering, police, fire, and emergency management services (EMS) staff.

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.*

Acronym	Meaning
MS4	Municipal Separate Storm Sewer Systems
MCM	Minimum Control Measures
UA	Urbanized Area
NPDES	National Pollutant Discharge Elimination System
NOI	Notice of Intent
O & M	Operation and Maintenance
EPA	U.S. Environmental Protection Agency
BMP	Best Management Practices
TMDL	Total Maximum Daily Loads
DEP	Pennsylvania Department of Environmental Protection

To understand the MS4 mandates from the U.S. Environmental Protection Agency, it helps to become familiar with the acronyms you will encounter.

pennsylvania
DEPARTMENT OF TRANSPORTATION
LOCAL TECHNICAL ASSISTANCE PROGRAM

400 North Street, 6th Floor
Harrisburg, PA 17120
1-800-FOR-LTAP • FAX (717) 783-9152
www.ltap.state.pa.us

Best Management Practice #1

BMP #1 requires municipalities to identify and document all operations owned or operated by the municipality that have the potential for generating stormwater runoff to the regulated MS4. Begin by preparing an inventory of municipal facilities and land uses that contribute to stormwater runoff.

> **BMP #1**: Identify and document all operations that are owned or operated by the permittee and have the potential for generating pollution in stormwater runoff to the regulated small MS4. This includes activities conducted by contractors for the permittee. Activities may include the following: street sweeping; snow removal/deicing; inlet/outfall cleaning; lawn/grounds care; general storm sewer system inspections and maintenance/repairs; park and open space maintenance; municipal building maintenance; new construction and land disturbances; right-of-way maintenance; vehicle operation, fueling, washing and maintenance; and material transfer operations, including leaf/yard debris pickup and disposal procedures. Facilities can include streets; roads; highways; parking lots and other large paved surfaces; maintenance and storage yards; waste transfer stations; parks; fleet or maintenance shops; wastewater treatment plants; stormwater conveyances (open and closed pipe); riparian buffers; and stormwater storage or treatment units (e.g., basins, infiltration/filtering structures, constructed wetlands, etc.).

Text from the MCM 6, BMP #1, General Permit.

This inventory of facilities and activities should include all municipal-owned or -leased properties. A spreadsheet should identify the property address, tax parcel number, acreage, and/or activity occurring at that location (i.e., wastewater treatment plant, municipal garage, or streets and highways).

Then, identify stormwater facilities such as storm inlets, pipes, basins, swales, and rain gardens on each property, and list the stormwater discharges from them (e.g., roadside swale leading to an unknown tributary of Fox Run, direct outfall and discharge to Beaver Creek, or discharge to neighboring municipality prior to entering the Susquehanna River).

Your inventory could include a list of attachments for each location identifying a responsible person for that facility and siting specific conditions about those operations, including how stormwater runoff could be affected if something goes wrong. These attachments could include photographs, drainage maps, or safety data sheets for chemicals used or stored at that location.

BMP #1: Inventory of Facilities/Activities

Facility/Activity	Storm Sewer System impact	Discharge To	O&M Responsibilities (all include "signage")	Attachment
Public works yard	inlets, piping, basin	Spring Creek	oil management, inlets, fueling, vehicle wash water	1
Streets	inlets, swales	*Spring and Trout Creek*	sweeping, inlets	2
SW conveyances	pipes, swales, ditches	*Spring and Trout Creek*	cleaning	3
Buildings	inlets, rain gardens	Spring Creek	inlets, rain gardens	4
Parking lots	inlets	Spring and Trout Creek	inlets	5
Parks	inlets	Spring and Trout Creek	inlets	6
Wastewater plant	swale	Spring Creek	chemicals, vehicles, maintenance area, sludge	7
Transfer station	***N/A outside the Borough: Provide information to Clearview Township***			

The following link is to a DEP MS4 resources site: www.dep.pa.gov/Business/Water/PointNonPointMgmt/StormwaterMgmt/Stormwater/Pages/MS4-Resources.aspx. Here, you will find helpful materials on MCM 6 and a sample inventory/activities spreadsheet.

Best Management Practice #2

BMP #2 requires municipalities to develop, implement, and maintain a written O&M plan addressing housekeeping for municipal facilities, including streets, parking lots, maintenance or storage yards, waste transfer areas, parks, public works garages, wastewater treatment plants, public water systems, and stormwater conveyance or treatment facilities.

At a municipal garage, you may need to account for fueling stations, waste oil management, storm inlets, vehicle wash-down areas, or storage areas for road salt, liquid deicing products, aggregates, and yard waste drop-off. When it comes to O&M for streets or highways, you should include street sweeping and inlet cleaning. Municipal-owned parking lots or garages have O&M responsibilities for inlets and other stormwater facilities at that location. A wastewater or public water facility could have O&M responsibilities involving chemical use or storage, maintenance areas, floor drain discharge, or storage of sludge.

BMP #2: Develop, implement and maintain a written O&M program for all operations that could contribute to the discharge of pollutants from the regulated small MS4, as identified under BMP #1. This program shall address stormwater collection or conveyance systems within the regulated MS4. The written O&M program shall stress pollution prevention and good housekeeping measures, contain site-specific information, and include the following:

- Management practices, policies, and procedures shall be developed and implemented to reduce or prevent the discharge of pollutants to the regulated small MS4s. The permittee shall consider eliminating maintenance area discharges from floor drains and other drains if they have the potential to discharge to storm sewers.
- Maintenance activities, maintenance schedules, and inspection procedures to reduce the potential for pollutants to reach the regulated small MS4s.
- Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, salt / sand (anti-skid) storage locations and snow disposal areas. Controls for solid chemical products stored and utilized for the principal purpose of deicing roadways for public safety must be consistent with the BMPs for existing salt storage and distribution sites contained in the PAG-03 NPDES General Permit for Stormwater Discharges Associated with Industrial Activity.
- Procedures for the proper disposal of waste, including dredge spoil, accumulated sediments, trash, household hazardous waste, used motor oil, street sweepings, and other debris.

Text from the MCM 6, BMP #2, General Permit.

The following facilities and activities could contribute to stormwater runoff. Included are examples of ways to reduce or eliminate MS4 impacts:

Streets & Parking Lots – The O&M plan should address regular street sweeping and proper use of BMPs during street or parking lot maintenance activities. This could include the use of 100% salt (sodium chloride) for winter maintenance without the application of anti-skid, sand, or other abrasives. Disposal or reuse of street-sweeping debris and anti-skid must comply with the following policy: http://boroughs.org/ckfinder/userfiles/files/Street%20Sweepings%208-19-2015%20(1).pdf

Municipalities are able to reuse anti-skid that has been screened to separate all non-reusable debris, such as silt, trash, litter, leaves, etc., from the reusable anti-skid material and visually checked for contaminants, staining, or odors. All non-reusable debris removed from the anti-skid, as well as catch-basin material, must be disposed of at a landfill.

Maintenance, Storage, and Waste Transfer Yards – The O&M plan should include a mechanism to inventory and assess the impact of the stormwater runoff from paved or unpaved storage yards. Priorities should be established based upon potential impacts on water quality. A storage yard that drains toward a detention basin or rain garden will have less impact than a paved area that drains directly to a stream or creek. Storage of stockpiles of topsoil, aggregate, mulch, street sweepings, or yard waste material should have BMPs in place to reduce or eliminate their impacts.

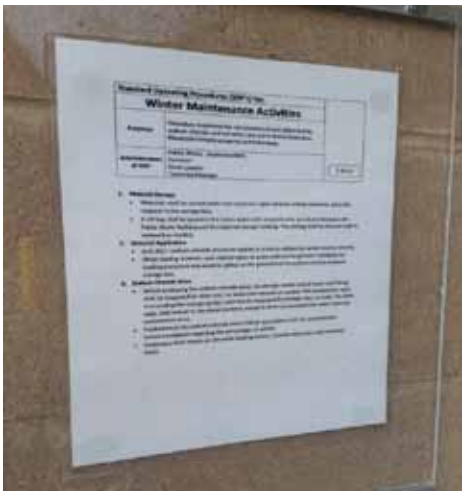
Parks – The O&M plan should address park operations and maintenance, including trash containers provided for park use and how often

they are emptied. Along with trash receptacles, consider providing recycling containers and pet waste disposal stations with baggies and signage to encourage use within the park area.

Your park could include raingardens for stormwater control with educational signage. The plan should also encompass the cleaning and maintenance of public restrooms, including what chemicals are used and how waste disposal is handled and whether through public sewer or on-site disposal.

If you have a public pool, how is the chlorinated water disposed of? The proper use of fertilizers, pesticides, or herbicides should be included with your plan. Turf management is also important to consider. The collection and disposal of grass clipping should be considered against mulching it. Also consider the implementation of water-conservation measures within your park facilities.

Public Works Garages – The O&M plan should address how often exterior areas are cleaned or swept and how oil drippings inside or outside are cleaned up and rags disposed of after a spill cleanup. If you have a major spill, do you have absorbents readily available to contain it before it enters a storm inlet or waterbody?



The proper storage and use of winter road salt and deicing chemicals must be part of the plan. If a liquid deicing chemical tank leaks, where will the product drain toward? Is everyone that uses your fuel-dispensing system aware of what to do if something goes wrong while filling a vehicle?

The proper disposal of old oil filters and waste oil must be addressed. Do you allow residents to recycle their waste oil and filters at your facility? Are your underground or aboveground storage tanks inspected and in compliance?

When you wash municipal vehicles, do you use degreasers or biodegradable soap products? Does the washwater run to a floor drain and then into an oil-water separator before draining into the public sewer system? Are containers of degreaser, soap, antifreeze, motor oil etc. within the garage area clearly marked? Do you provide for containment of storage drums holding pesticides, oil, or hydraulic products?

Wastewater – The O&M plan should address sanitary sewer overflows and how to eliminate or mitigate them. What do your sanitary sewer overflows drain toward — inlets or surface water areas? Your plan should cover how overflows or spills are cleaned up and who is notified if an event occurs. Do your employees know whom to contact if they notice an onlot septic overflow while performing roadside mowing or any other work function?

Public Water Systems – The O&M plan should address source water protection, stormwater runoff, and how your department flushes fire hydrants. Equally important, how do you flush newly constructed water mains and/or services? Is the water drained into a stormwater facility before it enters a creek, or is chlorinated water allowed to drain directly into a stream? What BMPs are implemented to address repairing water main breaks or major service line leaks? How is chlorine or other chemicals stored in well houses, and what happens if there is a leak? Do your employees know where the floor drains lead to in a well house?

Stormwater Conveyance Systems - The O&M plan should address inlet, pipe, outfall, and channel maintenance. Are inlets marked so that the public knows they drain to surface waters? The plan could cover how vegetation is maintained in grass-lined swales, raingardens, pond perimeters, and other vegetated stormwater control areas.

Are records kept on how much material is removed and where it is disposed of? Are systems mapped, including municipal-owned, PennDOT, or private? How often are conveyance systems inspected and dry weather flows tested? What procedures are in place to inspect private or homeowner association stormwater systems?

Emergency Services – A written O&M plan is important for reducing or eliminating pollutants from your MS4 area when police, fire, and ambulance staff respond to an emergency. Standard operating procedures must be in place on how to handle cleanup from vehicle accidents, removal of spilled cargo, removal of vehicle parts and/or fluids, leaks from heating systems, hazardous material spills, blood-borne pathogens, and second-due emergency responding units.

Pa. Code, Title 75, Section 3709(c), specifies who is responsible for removing material following an accident: "Any person removing a wrecked, damaged or disabled vehicle from a highway shall remove from the highway or neutralize any glass, oil or other injurious substance resulting from the accident or disablement."

If your police officers are dispatched to remove spilled cargo from a road, Pa. Code, Title 75, Section 3743.1(a), specifies "immediately following an accident, a police officer may remove or direct removal of spilled cargo from any roadway to the nearest point off the roadway where the spilled cargo will not interfere with or obstruct traffic."

Equally important is the cleaning up of blood-borne pathogens, vomit, etc. from a roadway following an accident. These items should also be addressed within your response plans.

Another emergency response scenario that should be addressed is how to deal with fuel spills or leaks from vehicles or heating systems within your MS4 area when no motor vehicle accident has occurred. An example would be overfilling a heating oil tank inside or outside of a private residence. This type of spill could be detrimental to the operation of your sanitary or storm sewer systems.

Many motor vehicle accidents involve fluids on the roadway. Typically, fire company personnel assist with containment and cleanup of vehicle parts and fluids, while the person towing the vehicle from the scene is responsible for the proper removal and disposal of those items.

Your written procedures for first responders should be provided to neighboring municipalities in the event they are dispatched to your area as second due on accidents or incident cleanups. Those responders need to be familiar with your system and response plans to prevent pollutants from entering your MS4.

Best Management Practice #3

BMP #3 requires municipalities to develop and implement an employee training program.

> **BMP #3**: Develop and implement an employee training program that addresses appropriate topics to further the goal of preventing or reducing the discharge of pollutants from operations to the regulated small MS4. The program may be developed and implemented using guidance and training materials that are available from federal, state or local agencies, or other organizations. All relevant employees and contractors shall receive training (i.e., public works staff, building, zoning, and code enforcement staff, engineering staff, police and fire responders, etc.). Training topics shall include operation, inspection, maintenance and repair activities associated with any of the operations identified under BMP #1. Training must cover all relevant parts of the permittee's overall stormwater management program that could affect operations, such as illicit discharge detection and elimination, construction sites, and ordinance requirements.

Text from the MCM 6, BMP #3, General Permit.

A municipality must develop and implement a training program that identifies the topics to be covered and what training methods and materials will be used. Review and update the training program each year, as necessary. This annual training must be documented in writing and reported in the municipality's Annual MS4 Status Reports. Include the date(s) of the training, the names of the attendees, the topics covered, and the training presenter(s). Keep in mind this training is for all municipal employees, both those in the office and those working on the streets, including police, fire, and EMS personnel.

For efficiency and cost savings, consider arranging and scheduling joint training events with neighboring operators of regulated MS4s.

Keep in mind that several LTAP courses, such as Salt & Snow Management, Bridge Management, Drainage, Roadside Vegetation Control, Unpaved & Gravel Roads, and Stormwater Facility Operations & Maintenance, could help to satisfy MS4 training requirements.

Photographs in tech sheet obtained from ISMF LLC; Ferguson Township, Centre County; and Manchester and Dover Townships, York County.

BMPS IN ACTION

Municipalities must identify and document all operations owned or operated by the municipality that have the potential for generating stormwater runoff and then develop and implement a written operations and maintenance plan addressing housekeeping for these identified facilities.

Contractors working within a municipality should follow the MS4 requirements even on a county- or state-owned bridge.

Stormwater inlet with filtering devices to trap fine sediment.

Yard waste drop-off facility.

Stormwater pipe replacement project along township road.

Boy Scouts planting shrubs in rainwater garden at a township park.

Riprap-lined swale draining toward outfall into a stream.

If you have any questions, you can call LTAP at 1-800-FOR-LTAP for assistance.