Monroe County Stormwater Coalition

Guidance to Developing an Effective Municipal Pollution Prevention and Good Housekeeping Program

June, 2008

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Stormwater Pollution Prevention Planning for Municipal Operations

In this manual a planning process is suggested for municipal operations which allows the Municipal Separate Storm Sewer System (MS4) operators to identify the activities that generate pollutants and the best management practices (BMPs) applicable to the activities. Successful completion of this process will help ensure the MS4 operator is able to meet all State requirements for Minimum Measure 6, Pollution Prevention and Good Housekeeping for Municipal Operations. The recommended process includes the following components:

1. **Understand Permit Requirements:** Review and understand current New York State Department of Environmental Conservation (NYSDEC) permit requirements to help ensure that you are on the path to compliance with the Control Measure. Full permit requirements can be found in Appendix A.

2. **Inventory**: An inventory is developed of all municipal facilities and operations that may be a source of pollutants in stormwater.

3. **Assessment**: Next, using the inventory, facilities and operations are evaluated for their potential to discharge pollutants to storm drains and/or receiving waters. The outcome of this process should be to develop an understanding of BMPs already in place and which areas of facilities and operations are likely sources of stormwater pollution. Priorities are established during the assessment, and pollution generating activities are identified for implementation of additional or new BMPs.

4. **BMP Selection**: BMPs are then selected to deal with the identified sources of stormwater pollution. Emphasis is placed on source control BMPs and proper maintenance of treatment control BMPs. This process will also include development of measurable goals.

5. **Program Implementation**: BMPs are implemented and their effectiveness evaluated. A staff training program is initiated. Periodically record, assess and modify measurable goals as needed and report on the effectiveness of the entire program.

1. Summary of Current Permit Requirements 2008-2010

(for Traditional Land-Use Control MS4s, Complete Regulations in Appendix A)

An MS4 must develop and implement a pollution prevention/good housekeeping program for municipal operations and facilities that:

1. Addresses municipal operations and facilities that contribute or potentially contribute pollutants of concern to the small MS4 system

2. Includes the performance of a self assessment of all municipal operations once every three years

3. Determines management practices, policies, procedures etc. that will be developed and implemented to reduce or prevent the discharge of potential pollutants

4. Prioritizes pollution prevention and good housekeeping efforts

5. Addresses pollution prevention and good housekeeping priorities

6. Includes employee training

7. Requires third party entities performing contracted services to meet permit requirements as applicable

8. Requires municipal operations that would otherwise be subject to coverage by the State Multi-Sector General Permit (MSGP) to prepare and implement provisions in the Stormwater Management Program (SWMP) that comply with applicable sections of the MSGP

9. Develops, records, assesses and modifies as needed, measurable goals

10. Selects appropriate pollution prevention and good housekeeping BMPs and measurable goals to ensure reduction of all pollutants of concern in stormwater discharges to the maximum extent practicable

Reporting:

1. Indicate the municipal operations and facilities that the program assessed.

2. Describe management practices, policies and procedures that have been developed, modified and implemented. Report, at a minimum, on specific items addressed during the reporting year as required in the permit.

3. Staff training events and the number of staff trained.

4. Report on the effectiveness of program, BMP and measurable goal assessment.

2. Inventory

This step involves simply making a list of all Municipal activities. The listed activities will be used later during the assessment. They can be categorized into two groups as described below:

Fixed Facilities: Specific locations that municipalities own and/or operate and at which municipal activities occur. Examples of these facilities are:

Parks, Cemeteries & Golf courses
Public Buildings (police, fire, libraries etc.)
Stadiums
Animal Shelters/Services
Public Parking Facilities
Fairgrounds
Maintenance Yards
Storage Yards for Materials
Vehicle Maintenance and Storage Areas
Solid Waste Transfer Facilities

Operations: A set of related municipal activities that take place throughout the municipality. These types of activities may also be privately contracted. Examples of these activities are:

Road Street and Bridge Maintenance
Drainage System Operation and Maintenance
Waste Handling and Disposal
Landscape Maintenance

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Table 1

Potential Pollutants Likely Associated with Fixed Facility Activities									
Fixed Facility Activity	Potential Pollutants								
	Sediment	Nutrients	Trash	Metals	Bacteria	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances
Building and Grounds Maintenance and Repair	X	X	X	X	X	X	X	X	X
Parking/Storage Area Maintenance	X	X	X	X	X	X	X		X
Waste Handling and Disposal	X	X	X	X	X	X	X	X	X
Vehicle and Equipment Fueling			X	X		X	X		
Vehicle and Equipment Maintenance and Repair				X		X	X		
Vehicle and Equipment Washing and Steam Cleaning	X	X	X	X		X	X		
Outdoor Loading and Unloading of Materials	X	X	X	X		X	X	X	X
Outdoor Container Storage of Liquids		X		X		X	X	X	X
Outdoor Storage of Raw Materials	X	X	X			X	X	X	X
Outdoor Process Equipment	X		X	X		X	X		
Over Water Activities			X	X	X	X	X	X	X
Landscape Maintenance	X	X	X		X			X	X

Adapted for use from the California Stormwater Quality Association Stormwater Best Management Practice Handbook, Municipal, 2003

Table 2

Field Program Activities and Associated Potential Pollutants										
Field Programs	**Activities**	**Potential Pollutants**								
		Sediment	**Nutrients**	**Trash**	**Metals**	**Bacteria**	**Oil & Grease**	**Organics**	**Pesticides**	**Oxygen Demanding Substances**
Roads Streets and Highway Operations and Maintenance	**Sweeping and Cleaning**	X		X	X		X			X
	Street Repair, Maintenance, and Striping/Painting	X		X	X		X	X		
	Bridge and Structure Maintenance	X		X	X		X	X		
Plaza,Sidewalk and Parking Lot Maintenance and Cleaning	**Surface Cleaning**	X	X		X	X				X
	Graffiti Cleaning	X	X		X			X		
	Sidewalk Repair	X		X						
	Controlling Litter	X		X		X	X			X
Fountains,Pools,Lakes and Pond Maintenance	**Fountain and Pool Draining**		X					X		
	Lake and Pond Maintenance	X	X	X		X			X	X
Landscape Maintenance	**Mowing/Trimming/Planting**	X	X	X		X			X	X
	Fertilizer & Pesticide Management	X	X						X	
	Managing Landscape Wastes			X					X	X
	Erosion Control	X	X							
Drainage System Operation and Maintenance	**Inspection and Cleaning of Stormwater Conveyance Structures**	X	X	X		X		X		X
	Controlling Illicit Connections and Discharges	X	X	X	X	X	X	X	X	X
	Controlling Illegal Dumping	X	X	X	X	X	X	X	X	X
	Maintenance of Inlet and Outlet Structures	X		X	X		X			X
Waste Handling and Disposal	**Solid Waste Collection**		X	X	X	X	X	X		X
	Waste Reduction and Recycling			X	X					X
	Household Hazardous Waste Collection			X	X		X	X	X	
	Controlling Litter			X	X	X		X		X
	Controlling Illegal Dumping	X		X		X	X		X	X
Water and Sewer Utility Operation and Maintenance	**Water Line Maintenance**	X				X	X			
	Sanitary Sewer Maintenance	X				X	X			X
	Spill/leak/Overflow Control, Response, and Containment	X	X			X		X		X

Adapted for use from the California Stormwater Quality Association Stormwater Best Management Practice Handbook, Municipal, 2003

3. Assessment

This section outlines the procedures for assessing fixed facilities and operations for BMP selection and implementation. Data gathered during the inventory process should be used to support the assessment process as described below:

Fixed Facilities: The first step in the assessment is to identify the most likely types and source areas of stormwater pollutants associated with the activities conducted at each facility. Refer to **Table 1** on page 5 for examples of various types of activities commonly associated with fixed facilities and the many pollutants associated with them.

Once all the potential stormwater pollutants are identified at a facility, the next step is to identify BMPs already in place at the facility. These may include pavement sweeping, drain inlet cleaning, covered waste storage bins, and spill prevention and cleanup procedures. Other BMPs that were installed for reasons unrelated to stormwater control, such as berming, covered material storage, and designated wash areas should also be identified.

The MS4 staff must then decide whether additional or new BMPs should be implemented to reduce stormwater pollutants to the maximum extent practicable from the site. Stormwater pollutant sources or activities that do not have BMPs are obvious candidates for BMP development. The municipality should consider and evaluate various factors when performing the assessment such as:

- Effectiveness of current BMPs
- Type of activity
- Type and quantities of significant materials handled, produced, stored or disposed of
- History of spill or leak
- Non-stormwater discharges (illicit discharges)
- Size of facility
- Proximity to receiving water and type of receiving water

Operations: Similar to the effort at a fixed facility, the MS4 operator should identify likely types of stormwater pollutants associated with operational activities. Refer to **Table 2** on page 6 for examples of the specific activities associated with these operations and field program activities and the many pollutants commonly associated with each. Next, identify BMPs that are already in place and the extent of their effectiveness. Using this information and the inventory data, the MS4 can identify activities with the potential for discharging pollutants, the type of pollutants being discharged, and the extent that the pollutants are being addressed with current procedures or BMPs. The MS4 can then assess whether additional or new BMPs are necessary. Likely stormwater pollutant operational activities that do not have BMPs are obvious candidates for BMP development. In considering the need for new or additional BMPs an MS4 should consider:

- Effectiveness of current BMPs
- Type of field program and pollutants being discharged
- Exposure of activities to stormwater
- Land use category
- Proximity to receiving water and/or type of receiving water

Using the Assessment Checklist: A checklist has been developed for use during the assessment. It can be found in Appendix B. The checklist will be used to identify existing activities, likely pollutant sources, existing BMPs and needs for new BMPs.

Across the top row, list all municipal facilities and operations such as Municipal Offices, DPW Garage, Solid Waste collection etc. These come from the inventory previously completed in Section 2. The left column of the checklist is divided into 8 categories of municipal operations identified by the NYSDEC:

- Street and Bridge Maintenance
- Winter Road Maintenance
- Stormwater System Maintenance
- Vehicle and Fleet Maintenance
- Parks and Open Space
- Municipal Buildings
- Solid Waste Management
- Streambank and Hydrologic Habitat Maintenance

*Additional categories that might be included would be New Construction and Land Disturbance, and Right of Way Maintenance

Each category of operations is further divided into two sections, **Pollution Generating Activities** and **Current BMPs**. In the first section several typical pollution generating activities are already listed. If you have identified others at your facilities that are not listed, write them on one of the blank lines. Below this section written in bold letters, are the BMPs that you may already perform. If a BMP is performed, but not listed in this column, add the BMP to the column.

To perform the assessment, go down the pollution generating activities in the left column and place and X in the box if that activity occurs at one of your facilities or operations listed to the right. The activities in **Bold** are BMPs. If you are performing one of these BMPs at a facility or for an operation, place an X in the corresponding box. Again, if you are performing an activity or BMP that is not found in the column then add it. Refer to tables 1 & 2 for help identifying activities that may not be listed.

For additional assistance in assessing Vehicle and Fleet Operations refer to Appendix C. Here you will find a Stormwater Pollution Prevention Facility Self Audit that can be used to further assess good housekeeping / pollution generating activities and BMPs

Interpreting the Assessment Interpretation of the assessment provides the foundation for BMP development. At the completion of the assessment you will have uncovered two important components to your program; identification of BMPs that are already in place and pollution generating activities that may require a BMP. All boxes on the checklist that are checked and are not BMPs, are your potential pollution sources. BMPs in bold that are checked show BMPs already in place.

4. BMP Selection

To begin this step you should start by documenting existing BMP activities. Refer to your completed assessment and the lines with BMPs. Complete a BMP summary sheet for each BMP that is checked on the assessment. A Blank Summary Sheet can be found in Appendix D along with several example BMPs. Complete a summary sheet for each existing BMP by describing the BMP, the measurable goals, a timeline/implementation schedule and who is responsible for maintaining the BMP. Where possible, write BMPs so they apply across different municipal operations and departments. This will help streamline the process and provide consistency throughout the MS4.

The next step is to write BMPs for pollution generating activities that you have identified and for which there is no current practice in place. Refer to the activities sections in your assessment and the boxes that have been checked These are areas that might require a new BMP. Appendix D provides many BMPs in that can easily be modified to fit your specific facility or operation. In order to be effective, BMPs must be appropriate to the application and properly implemented. For a more comprehensive listing of potential BMPs refer to the *California Stormwater Quality Association – Best Management Practice Handbook – Municipal.* The handbook has served as a valuable resource for the development of this guidance document and is available on-line at:

http://www.cabmphandbooks.com/municipal.asp

5. Implementation

The final step to a successful program is to implement the BMPs that have been developed. Before beginning, it is important to first set priorities for your pollution prevention and good housekeeping efforts. Such things as geographic area, potential to improve water quality, facilities or operations most in need of modifications or improvement, and the MS4 capabilities are all important factors to consider. For example, your assessment may have uncovered the need for a structural improvement to a fixed facility, but funding considerations may delay the improvement for a period of time. If, however, it is determined that this structural deficiency is resulting in a significant pollution source, the MS4 may prioritize the improvement and find the means necessary to make the repair sooner rather than delaying it.

BMP implementation can begin once priorities are established. Successful implementation is dependent on the following components:

- Effective training of municipal and contract employees working in both fixed facilities and field programs.
- Regular inspections of fixed facilities, field programs, and treatment controls.
- Maintenance of treatment controls as needed to ensure proper functioning.
- Periodic evaluation/monitoring of BMP performance consistent with State permit requirements
- Follow-up action to correct deficiencies in BMP implementation noted during inspections.
- Accurate record keeping to track training, inspections, monitoring, and BMP maintenance.
- Submittal of annual report to NYSDEC regarding the effectiveness of the municipal efforts to reduce pollutants from fixed facilities and field programs.
- Documentation showing how the municipality has met its measurable goals, or revisions to those goals with supporting documentation.

Reporting

As the stormwater pollution prevention plan and best management practices are implemented, it is a good idea to periodically review the section in the State permit on Minimum Measure Six reporting (Appendix A). This section details minimum program implementation and reporting requirements for permit holders. Keeping these reporting requirements in mind while developing BMPs will help ensure that all permit requirements are met annually. Accurate record keeping and documentation are critical to a successful program.

Appendix A
Minimum Measure 6 Permit Requirements
2008-2010 Permit Period
(for Traditional Land-Use Control MS4's)

Pollution Prevention/Good Housekeeping For Municipal Operations - SWMP Development / Implementation

At a minimum, all *permittees* must:

a. *Develop* and *implement* a pollution prevention / good housekeeping program for *municipal* operations and facilities that:

i. addresses *municipal* operations and facilities that contribute or potentially contribute *POCs* to the *small MS4* system. The operations and facilities may include, but are not limited to: street and bridge maintenance; winter road maintenance; stormwater system maintenance; vehicle and fleet maintenance; park and open space maintenance; municipal building maintenance; solid waste management; new construction and land disturbances; right-of-way maintenance; marine operations; hydrologic habitat modification; or other;

ii. at a minimum frequency of once every three years, perform a self assessment of all municipal operations addressed by the SWMP to:
- determine the sources of pollutants potentially generated by the *permittee*'s operations and facilities; and
- identify the *municipal* operations and facilities that will be addressed by the pollution prevention and good housekeeping program, if it is not done already;

iii. determines *management practices*, policies, procedures, etc. that will be *developed* and *implemented* to reduce or prevent the discharge of (potential) pollutants. Refer to management practices identified in the "NYS Pollution Prevention and Good Housekeeping Assistance Document" and other guidance materials available from the EPA, *State*, or other organizations;

iv. prioritizes pollution prevention and good housekeeping efforts based on geographic area, potential to improve water quality, facilities or operations most in need of modification or improvement, and *permittee*'s capabilities;

v. addresses pollution prevention and good housekeeping priorities;

vi. includes an employee pollution prevention and good housekeeping training program and ensures that staff receive and utilize training;

vii. requires third party entities performing contracted services, including but not limited to street sweeping, snow removal, lawn / grounds care, etc., to meet permit requirements as the requirements apply to the activity performed; and

viii. requires *municipal* operations and facilities that would otherwise be subject to the NYS Multisector General Permit (MSGP, GP-0-06-002) for industrial stormwater discharges to prepare and *implement* provisions in the SWMP that comply with Parts III. A, C, D, J, K and L of the MSGP. The permittee must also perform monitoring and record keeping in accordance with Part IV. of the MSGP. Discharge monitoring reports must be attached to MS4 annual report. Those operations or facilities are not required to gain coverage under the MSGP. *Implementation* of the above noted provisions of the SWMP will ensure that MEP is met for discharges from those facilities;

b. *Develop*, record, periodically assess and modify as needed measurable goals; and

c. Select appropriate pollution prevention and good housekeeping *BMPs* and *measurable goals* to ensure the reduction of all *POCs* in *stormwater discharges* to the *MEP*.

Required SWMP Reporting

d. **Program *implementation* reporting** for **continuing *permittees*** (authorized under GP-02-02). *Permittees* are required to report on all *municipal* operations and facilities within their jurisdiction (*urbanized area* and *additionally designated area*) that their program is addressing. The *permittee* shall report at a minimum on the items below:

i. indicate the *municipal* operations and facilities that the pollution prevention and good housekeeping program assessed;

ii. describe, if not done so already, the management practices, polices and procedures that have been developed, modified, and / or implemented and report, at a minimum, on the items below that the *permittee's* pollution prevention and good housekeeping program addressed during the reporting year:

- acres of parking lot swept;
- miles of street swept;
- number of catch basins inspected and, where necessary, cleaned;
- post-construction control stormwater management practices inspected and, where necessary, cleaned;
- pounds of phosphorus applied in chemical fertilizer
- pounds of nitrogen applied in chemical fertilizer; and
- pounds of pesticides / herbicides applied as pure product.

iii. staff training events and number of staff trained; and

iv. report on effectiveness of program, *BMP* and *measurable goal* assessment. If the pollution prevention and good housekeeping program addresses other operations than what is listed above in Part VII.A.6.a(ii), the *permittee* shall report on items that will demonstrate program effectiveness.

e. **Reporting for newly regulated *permittees*** (small MS4s not authorized under GP-02-02). *Permittees* are required to report on all *municipal* operations and facilities within their jurisdiction (*urbanized area* and *additionally designated area*) that their program is addressing. The *permittee* shall report at a minimum on the items below:

i. **program *development* deadlines and reporting** (first three years after authorization is granted):

Complete by end of Year 1:

- identify the municipal operations and facilities that will be considered for inclusion in the pollution prevention and good housekeeping program;
- describe the pollution prevention and good housekeeping program priorities (geographic area, potential to improve water quality; facilities or operations most in need of modification or improvement);
- describe management practices, policies, procedures, etc. that will be developed or modified;
- identify the staff and equipment available;

Initiate by end of Year 2; complete by end of Year 3:

- describe employee pollution prevention and good housekeeping program training program and begin training, report on number of staff trained; and

Complete by end of Year 3:

- description of developed management practices.

ii. **program *implementation* reporting** as set forth in Part VII.A.6.(d) above. Commence reporting after three year *development* permit. *Implementation* reporting may begin earlier if *implementation* begins during *development* period.

Appendix B
Municipal Stormwater Assessment Checklist

Municipal Stormwater Assessment

Place an "X" in the box if the activity occurs at a location.
Items in **BOLD** are **BMP**s. Check all that apply

Examples of Municipal Facilities and Operations, from Inventory

Activity	DOT Garage	Parks and Recreation	Sewer Department	Fire Department	Solid Waste Collection	Waste Transfer Station	Municipal Offices	Community Center	Electric Department				
Street and Bridge Maintenance													
Pollution Generating Activities													
Sidewalks and parking lots cleaned													
Street maintenance													
Striping/painting performed													
Bridge and structure maintenance													
Ditch maintenance													
Maintenance of unpaved roads performed													
Current BMPs in Place													
Staff have been trained re. stormwater mgmt principles													
Street sweeping													

Municipal Stormwater Assessment

Place an "X" in the box if the activity occurs at a location.
Items in **BOLD** are **BMP**s. Check all that apply

Examples of Municipal Facilities and Operations, from Inventory

Activity	DOT Garage	Parks and Recreation	Sewer Department	Fire Department	Solid Waste Collection	Waste Transfer Station	Municipal Offices	Community Center	Electric Department				
Winter Road Maintenance													
Pollution Generating Activities													
Road salting performed													
Salt storage on-site													
Salt vehicle washing													
Current BMPs in Place													
Spreaders calibrated and maintained													
Alternative materials used (ie.sand)													
Sensitive or priority waterbody considerations													

Municipal Stormwater Assessment

Place an "X" in the box if the activity occurs at a location.
Items in **BOLD** are **BMP**s. Check all that apply

Examples of Municipal Facilities and Operations, from Inventory

Activity	DOT Garage	Parks and Recreation	Sewer Department	Fire Department	Solid Waste Collection	Waste Transfer Station	Municipal Offices	Community Center	Electric Department				
Stormwater Drainage and Conveyance System													
Pollution Generating Activities													
Ditch scraping													
Current BMPs in Place													
Inspections of system components													
Record keeping and frequency tracking													
Maintenance,repair cleanout of system components													
Maintenance of open drain ditches													
Staff have been trained re. stormwater mgmt principles													

Municipal Stormwater Assessment

Place an "X" in the box if the activity occurs at a location.
Items in **BOLD** are **BMP**s. Check all that apply

Examples of Municipal Facilities and Operations, from Inventory

Activity	DOT Garage	Parks and Recreation	Sewer Department	Fire Department	Solid Waste Collection	Waste Transfer Station	Municipal Offices	Community Center	Electric Department				
Vehicle Equipment Maintenance (See Also the Facility Self Audit in Appendix C)													
Pollution Generating Activities													
Vehicle washing done outside													
Repairs done outside													
Hazardous material storage													
Current BMPs in Place													
Repairs done inside													
Recyling oil and antifreeze													
Spill prevention and response plan													
Staff have been trained re. stormwater mgmt principles													
Wastewater disposal and treatment from wash water													
Oil water separator on site													

Municipal Stormwater Assessment

Place an "X" in the box if the activity occurs at a location.
Items in **BOLD** are **BMP**s. Check all that apply

Examples of Municipal Facilities and Operations, from Inventory

Activity	DOT Garage	Parks and Recreation	Sewer Department	Fire Department	Solid Waste Collection	Waste Transfer Station	Municipal Offices	Community Center	Electric Department				
Parks & Open Space Maintenance													
Pollution Generating Activities													
Fertilizer application													
Pet waste present													
Pesticide application													
Loading dock													
Hazardous materials storage outside													
Bulk material storage outside													
Current BMPs in Place													
Staff have been trained re. stormwater mgmt principles													
Fertilizer and pesticide usage records													
Integrated pest management use													
Erosion control practices													
Pet waste education													
Litter control													
Spill prevention and response													

Municipal Stormwater Assessment

Place an "X" in the box if the activity occurs at a location.
Items in **BOLD** are **BMP**s. Check all that apply

Examples of Municipal Facilities and Operations, from Inventory

Activity	DOT Garage	Parks and Recreation	Sewer Department	Fire Department	Solid Waste Collection	Waste Transfer Station	Municipal Offices	Community Center	Electric Department				
Municipal Building Maintenance													
Pollution Generating Activities													
Contractor used for maintenance													
Bulk petroleum storage													
Hazardous materials storage													
Outdoor loading and unloading of materials													
Outdoor container storage of liquids													
Outdoor storage of raw materials													
Roof drainage systems													
Building washing performed													
Sidewalk cleaning (powerwashing)													
Sidewalk salting													
On-site septic systems													
Septic inspections and record keeping													
Restaurant location													
Outside dumpster													
Current BMPs in Place													
Erosion control for new construction													
Alternative product usage													
Flourescent light recycling													
Paper/plastic recycling													
Animal waste program													
Household haz. waste collection													
Spill prevention and response													
Staff have been trained re. stormwater mgmt principles													

Municipal Stormwater Assessment

Place an "X" in the box if the activity occurs at a location.
Items in **BOLD** are **BMP**s. Check all that apply

Examples of Municipal Facilities and Operations, from Inventory

Activity	DOT Garage	Parks and Recreation	Sewer Department	Fire Department	Solid Waste Collection	Waste Transfer Station	Municipal Offices	Community Center	Electric Department				
Solid Waste Management													
Pollution Generating Activities													
Illegal dumping occurs													
Solid waste transfer station													
Recycle drop off location													
Current BMPs in Place													
Household hazardous waste collection													
Litter control program													
Pet waste control program													

Municipal Stormwater Assessment

Place an "X" in the box if the activity occurs at a location.
Items in **BOLD** are **BMP**s. Check all that apply

Examples of Municipal Facilities and Operations, from Inventory

Activity	DOT Garage	Parks and Recreation	Sewer Department	Fire Department	Solid Waste Collection	Waste Transfer Station	Municipal Offices	Community Center	Electric Department				
Streambank and Hydrologic Habitat Maint.													
Pollution Generating Activities													
Stream bed dredging													
Creek bottom sediment removal													
Removal of woody debris													
Bank reshaping													
Cleaning culverts and outfalls													
Current BMPs in Place													
Priority setting for streambank stabilization projects													
Use of alternative "soft" engineering approaches													
Inventory of ponds													
Pond maintenance program													

Appendix C

Stormwater Pollution Prevention
Facility Self Audit

Review each question and check the appropriate box to determine if your facility is incorporating stormwater pollution prevention in daily operations. This checklist may be used to identify opportunities for improvement in pollution prevention as well as to document practices that the facility uses to prevent stormwater pollution. It is recommended that a self-audit be conducted twice a year, once during summer operations and once during winter operations.

Facility Operation

	Yes	**No**	**Not Applicable**	**Can't Determine**
Are vehicles parked indoors or under a roof when not in use?				
Are operations such as vehicle washing, vehicle maintenance, draining of fluids, storage of fluids and waste performed under a roof or inside?				
Are vehicles washed regularly to remove contamination and prevent it from polluting stormwater?				
Is wash water treated in an oil-water separator prior to discharge?				
Is process water diverted to a trench drain system to collect contaminated run-off inside work areas?				
Is process water from the trench drain system treated in an oil-water separator prior to discharge?				
Are solids cleaned out of the oil-water separator and trench drain system on a regular basis?				

	Yes	No	Not Applicable	Can't Determine
Are drains inside the facility connected to a sanitary sewer?				
When working outdoors, is contaminated process water and sediment collected to prevent it from mingling with and contaminating stormwater?				

Fluids Management

	Yes	No	Not Applicable	Can't Determine
Are fluids in tanks or drums stored with an appropriate amount of secondary containment, i.e. secondary containment should be able to hold maximum volume spilled from largest container in the area.				
Are drum-top pads used for leaks and spills that occur during transfer of fluids?				
Are funnels or pumps used when transferring fluids?				
Are drip pans placed under leaks?				
Are containers maintained in good condition, closed, covered and away from equipment that can cause them to tip over?				
Are containers stored inside or under a roof?				
Are containers inspected regularly?				
Are fluids stored in appropriate containers and/or storage cabinets?				
Are all containers labeled in a manner that describes the contents adequately?				
Is a closed-loop parts washer system used (contains solvent)?				
Is the parts-washer lid kept closed when not in use?				

	Yes	No	Not Applicable	Can't Determine
Is a contract in place with a parts washer service company to change out spent solvent?				
Has the possibility of using an aqueous-based parts washer been explored?				
Are storage areas kept clean and well organized?				
Are storage areas labeled clearly?				

Leak and Spill Prevention and Control

	Yes	No	Not Applicable	Can't Determine
Are vehicles inspected daily for leaks?				
Is spill control equipment and absorbents readily available?				
Are emergency phone numbers posted in the area?				
Are material safety data sheets (MSDS's) readily available?				
Are spills cleaned up immediately?				
Are employees trained annually on spill prevention?				

Oil Management

	Yes	No	Not Applicable	Can't Determine
Is oil changed over a drip pan or pad?				
Is oil changed indoors over concrete, sloped to a drain or curbed surface?				
Are funnels or pumps used when transferring oil?				
Is waste oil stored indoors when possible and with secondary containment?				
Are waste oil containers in good condition, closed, labeled and inspected regularly?				
Is waste oil stored separately from other substances?				
Is waste oil recycled?				

Antifreeze

	Yes	No	Not Applicable	Can't Determine
Is antifreeze drained over a drip pan or pad?				
Is antifreeze changed indoors over concrete that is sloped to drain or curbed surface?				
Are funnels or pumps used when transferring antifreeze?				
Is waste antifreeze stored indoors when possible with secondary containment?				
Are containers kept in good condition, closed, labeled and inspected regularly?				
Is antifreeze stored separate from other wastes?				
Is waste antifreeze recycled?				

Lead-Acid Batteries

	Yes	No	Not Applicable	Can't Determine
Are lead-acid batteries stored indoors over a curbed impermeable surface or stored on an acid resistant rack or tub?				
Are cracked or leaking batteries stored in closed leak-proof and labeled containers?				
Are batteries stacked in a stable manner?				
Are batteries inspected regularly for leaks?				
Are acid neutralizing agents, such as baking soda, available in case of leaks?				
Are batteries recycled?				
Are batteries recycled within 6 months?				
Is the date each battery was placed into storage tracked by writing it directly on the battery?				
Are lead cable ends left on the batteries to be recycled?				

Tires

	Yes	No	Not Applicable	Can't Determine
Are tires stored in a storage building or under a roof?				
If tires are stored outdoors, is the tire pile covered?				
Are tires recycled frequently to keep the number of tires stored on site low?				

Rags, Oil-Absorbing Pads, Towels and Clothing

	Yes	No	Not Applicable	Can't Determine
Are oil rags and absorbent pads stored in appropriate containers and disposed of properly?				
Are reusable oily materials such as towels and clothing maintained through a commercial laundering service or an in-house washing machine (using no emulsifying detergents) that discharges to a sanitary system through an oil-water separator?				

Salt Storage

Are salt piles stored in a salt storage building or under a roof?				
Are salt spills at a facility cleaned up promptly?				
Does stormwater drain away from the salt pile?				

Miscellaneous Storage Piles

	Yes	No	Not Applicable	Can't Determine
Are piles of spoils, asphalt, street cuts, etc. stored at the facility under a roof or cover?				
Are stored piles of spoils, asphalt, street cuts, etc. located away from storm drain inlets and surface water bodies				
Are spills of miscellaneous debris on facility grounds cleaned up promptly?				

Facility Stormwater Runoff

	Yes	No	Not Applicable	Can't Determine
Is uncontaminated stormwater prevented from mixing with process areas (i.e. roof drains)?				

Comments/Action Items

_____
_____
_____
_____
_____
_____
_____

Inspected by: _____

Date: _____

Appendix D

BMP Summary Sheet, Example BMPs, and Sample BMPs

BMP Summary Sheet

Department Name:
Minimum Control Measure:

BMP Title:
BMP Description:
Measurable Goals:
Timeline/Implementation Schedule:
Specific Components and Notes:
Responsible Party for this BMP *Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.* Name: Department: Phone: E-mail:

BMP Summary Sheet

Department Name: **Facilities**
Minimum Control Measure: **Municipal Pollution Prevention**

BMP Title: **Pressure Washing of Buildings**

BMP Description:
In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a waste water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the run-off and loose material. The collected run-off must be disposed of to the sanitary sewer.

If soaps or detergents are not being used and the surrounding area is paved, wash water runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in the catch basin to trap particles in wash water runoff.

If activity is performed on grass runoff should be dispersed as much as possible and runoff must remain on the grass and not drain in the pavement.

Measurable Goals:
*Determine how many buildings require cleaning, cleaning frequency and if these buildings discharge to a combination or separate sewer.
* Review existing contracts and practices with third parties
*monitor practices when washing is performed

Timeline/Implementation Schedule:
2008 – Delineate buildings that require cleaning and determine frequency
2009 – Begin to incorporate BMP into existing contracts. Educate contractors, review site specific requirements for wash water collection
2010 – Evaluate program effectiveness and recommend changes if needed
2011 – Revise program to include necessary changes and implement these changes

Specific Components and Notes:

Responsible Party for this BMP
Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name: H2O Hero
Department:
Phone:
E-mail:

Example

BMP Summary Sheet

Department Name: **Fleet Center**
Minimum Control Measure: **Pollution Prevention**

BMP Title: **Vehicle Washing**

BMP Description:
Vehicles should be washed inside in an area where the wash water is conveyed to the sanitary sewer.

If washing is done outside it should be done with cold water, without soap, and over a gravel or grassed surface

Measurable Goals:

- Determine the number of vehicles that are housed at this facility and if the current indoor wash area is adequate
- Proper treatment and disposal of wastewater from vehicle washing has been implemented

Timeline/Implementation Schedule:

2008 Begin facility assessment
2009 Full implementation of BMP

Specific Components and Notes:

Responsible Party for this BMP
Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name: H2O Hero
Department:
Phone:
E-mail:

Example

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Street and Bridge Maintenance**

BMP Title: **Graffiti Removal**

BMP Description:

- Graffiti removal activities are to be scheduled during dry weather.
- When graffiti is removed by painting over, implement the procedures under Painting and Paint Removal.
- Nearby storm inlets are to be protected prior to removing graffiti. Run-off from sand blasting and high pressure washing should be directed into a landscaped or dirt area. If such an area is not available filter run-off through an appropriate filtering device (e.g. filter fabric) to keep sand, particles and debris out of storm sewers.
- When power washing using cleaning compounds, nearby storm inlets are to be plugged and water is to be vacuumed/pumped to the sanitary sewer.
- Waterless and non-toxic chemical cleaning methods (e.g. gels or spray compounds) should be used when possible.

Measurable Goals:

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Street and Bridge Maintenance**

BMP Title: **Paint and Paint Removal**

BMP Description:

- Paint and materials are to be transported to and from job sites in containers with secure lids and tied down to the vehicle.
- Do not transfer or load paint near storm drain inlets or waterways.
- Spray equipment is to be tested and inspected prior to starting to paint. Tighten all hoses and connections and do not overfill paint container.
- Nearby storm drain inlets are to be plugged prior to starting painting in areas where there is a significant risk of a spill reaching the drain. Remove plugs when the job is complete.
- Storm drain inlets are to be covered prior to sand blasting.
- If a bridge crosses a waterway work should be performed on a maintenance traveler, platform or over suspended netting or tarps to capture paint, rust, paint removing agents or other materials to prevent discharge of materials to surface waters. If sanding, use a sander with a vacuum filter bag.
- Capture all clean-up water and dispose of properly.
- Unused paint will be taken to the Monroe County Household Hazardous Waste Facility.

Measurable Goals:

- Staff retraining or continuing education activities related to policies and procedures

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Street and Bridge Maintenance**

BMP Title: **Bridge Repair Work**
BMP Description: • Prevent concrete, steel, wood, metal parts, tools and other work materials from entering storm drains or waterbodies. • Thoroughly clean up the job site when repair work is completed. • If surface cleaning, painting and paint removal, and graffiti removal are performed implement the appropriate procedures as outlined in those BMP's.
Measurable Goals: • Number of bridge repair/replacement projects with incorporated pollution prevention or streambank erosion control components • Erosion control and drainage measures implemented for roads.
Timeline/Implementation Schedule:
Specific Components and Notes:
Responsible Party for this BMP *Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.* Name: Department: Phone: E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Street and Bridge Maintenance**

BMP Title:	**Unpaved Roads and Trails**

BMP Description:

- Stabilize exposed soil areas to prevent soil from eroding during rain events. This is particularly important on steep slopes.
- Roadside areas with exposed soils should be vegetated with a mulch or binder that will hold the soils in place while the vegetation is establishing. Native vegetation should be used if possible.
- If vegetation cannot be established immediately, apply temporary erosion control mats/blankets, straw or gravel as appropriate.
- In roadside areas where sediment is already eroded and mobilized temporary controls should be installed. These may include: silt fences, fabric dikes, hay bales staked in place, or any other appropriate measure.

Measurable Goals:

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Street and Bridge Maintenance**

BMP Title: **Roadway Patching, Resurfacing and Surface Sealing**

BMP Description:

- Patching, resurfacing and sealing are to be scheduled for dry weather.
- Material stockpiles are to be kept away from streets, gutter areas, storm drain inlets or waterways. Piles are to be bermed or covered during wet weather to prevent run-off.
- Pre-heating, transfer or loading of hot bituminous material is to be done away from drainage systems or waterways.
- Where applicable, nearby storm drains are to be covered before applying seal coat, slurry seal etc. Covers are to be left in place until job is complete and until all water from emulsified oil sealants has drained or evaporated. Clean any debris from storm drain inlets when the job is complete.
- Excess material is to be prevented from entering streets or storm inlets.
- There shall be a designated area for clean-up and proper disposal of excess material.
- To avoid run-off, only as much water as is necessary will be used for dust control.

Measurable Goals:

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Street and Bridge Maintenance**

BMP Title: **Street Sweeping and Cleaning**

BMP Description:

- A consistent sweeping schedule is to be maintained.
- Street cleaning is only to be performed during dry weather if possible.
- Wet cleaning or flushing of the street is to be avoided where possible.
- When possible, sweeping frequency will be increased based on factors such as traffic volume, land use, field observations of sediment and trash accumulation, proximity to water course.
- Sweepers are to be operated at manufacturer requested optimal speed level to increase effectiveness.
- Vacuum or regenerative air sweepers will be used in the high sediment and trash areas.
- Accurate logs of the number of curb-miles swept and the amount of waste collected are to be kept.
- Dispose of sweeping debris and dirt at a landfill.
- Do not store swept material along the side of the street or near a storm drain inlet.
- Debris storage is to be kept to a minimum during the wet season. Piles will be contained by a berm or covered.

Measurable Goals:

- Approximate quantity (tons or cubic yards) of debris cleaned from streets, sidewalks and parking lots.
- Staff retraining or continuing education activities related to policies & procedures

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Winter Road Maintenance**

BMP Title: **Road Salt Application**

BMP Description:

- Calibrate salt spreaders to ensure proper application.
- Only apply the amount of salt needed to get the job done.
- Follow the proper application guidelines.
- Consider temperature when determining volume of salt to apply.
- Cleanup 'trackout' after a storm event around the storage area.
- Contain wash water from trucks used for salting and sanding in a holding tank for disposal or discharge into sanitary sewers.
- Explore alternative compounds to spread on the roads that have the same effect but are better for surrounding area.
- Store salt properly under cover to make sure salt is not leaving the storage area and draining to a storm drain or water body.
- Place salt piles in areas not subject to flooding.
- Use diversion berms to minimize water runoff from storage areas.

Measurable Goals:

- Salt storage structures have been inspected and necessary repairs have been scheduled or completed.
- All deicing materials have been stored under cover.
- Application components have been tested, calibrated, and maintained at regular intervals.

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Stormwater System Maintenance**

BMP Title: **Catch Basin/ Inlet Structures**

BMP Description:
- Staff should regularly inspect the storm drain system to identify problems.
- Any deterioration threatening structural integrity should be immediately repaired.
- Catch basins should be cleaned before the sump is 40% full. Cleaning frequently should be scheduled as needed to meet this standard.
- Clean catch basins, inlets and other conveyance structures in high pollution load areas before the wet season to remove accumulated sediment and debris.
- Conduct inspections more frequently during wet season for problem areas where sediment or trash accumulates more often.
- Keep accurate logs of the number of catch basins cleaned and record the amount of waste collected.
- Store any collected waste appropriately away from inlets or streams. If waste is collected by vactor follow procedures for dumping of vactor waste.

Measurable Goals:
- Approximate quantity (tons or cubic yards) of material cleaned from structures
- Frequency of scheduled cleaning

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP
Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Stormwater System Maintenance**

BMP Title: **Open Channel, Ditch Maintenance**
BMP Description: • Consider modification of storm channel characteristics to improve channel hydraulics, to increase pollutant removals, and to enhance channel/creek aesthetic and habitat value. • If ditch scraping is necessary do it in patches with vegetated strips left down slope to capture sediments. • Use hydroseeding immediately after scraping. • Hydroseed early in the season to allow sufficient growing time • Do not hydroseed immediately before a rain
Measurable Goals: • Approximate length of open drainage ditches maintained with enhanced implementation of erosion control practices in ditch (e.g. hydroseeding)
Timeline/Implementation Schedule:
Specific Components and Notes:
Responsible Party for this BMP *Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.* Name: Department: Phone: E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Stormwater System Maintenance**

BMP Title:	**Storm Sewer Conveyance System**

BMP Description:
- Locate reaches of storm sewers with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- Collect flushed effluent by vactor or pump to the sanitary sewer
- During routine maintenance field staff should look for evidence of illegal discharges or illicit connections. Any signs of spills, dumping or illicit connections should be followed up according to the illicit discharge program.

Measurable Goals:
- Length of storm drain pipe cleaned or repaired
- Number of outfalls cleaned
- Upgrades or technology improvements implemented in overall system
- Staff training or continuing education activities

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP
Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Vehicle and Fleet Maintenance**

BMP Title: **Vehicle and Equipment Cleaning**

BMP Description:

- Mark the area clearly as a wash area, which should be covered or bermed to collect wash water and direct it to a treatment or disposal facility.
- Use biodegradable, phosphate-free detergents for washing vehicles as appropriate.
- Design wash areas to properly collect and dispose of wash water when engine cleaning is conducted and when chemical additives, solvents, or degreasers are used.
- Consider washing vehicles and equipment inside the building if washing must occur on-site.
- If washing must occur outside, use designated paved wash areas.
- If a paved area is not available for outdoor washing, it should be done over a gravel or grassed area with cold water and no soap.
- Cover the wash area when not in use to prevent contact with rain water.
- Consider filtering and recycling wash water.
- Discharge all wash water to a sanitary sewer, holding tank, or a process treatment system after consulting with the local sewer authority to find out if pretreatment is required.

Measurable Goals:

- Create and mark the wash area in your facility.
- Report number of facilities where proper disposal of wastewater has been implemented.
- Train fleet maintenance staff on policies, procedures, BMPs and stormwater management.

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Vehicle and Fleet Maintenance**

BMP Title: **Vehicle and Equipment Fueling**

BMP Description:

- Spot clean leaks and drip routinely. Leaks are not cleaned up until the absorbent is picked up and disposed of properly.
- Label drains within the facility boundary to indicate whether they flow to an oil/water separator, directly to a sewer, or to a storm drain.
- Post signs to remind employees not to top off the fuel tank when filling and ban employees from changing engine fluids at the same location.
- Report leaking vehicles to fleet maintenance.
- Equip catch basins with chambers to remove large particles from stormwater in impervious areas. Also maintain these devices.
- Release accumulated non-contaminated stormwater prior to next storm.
- Install overflow protection devices on tank systems to warn operator to shutdown transfer pumps when the tank is full.
- Install protective guards around tanks and pipes to prevent damage.
- Clearly tag or label all valves.
- Maintain clean fuel-dispensing areas using dry clean-up methods.
- Use secondary containment when transferring fuel from the truck to the fuel tank, and cover nearby storm drains.
- Design fueling areas to prevent stormwater runoff and spills, such as covering the area with a roof structure, paving the area with concrete rather than asphalt and fitting fuel nozzles with hold automatic shutoffs.
- Apply a suitable sealant that protects the asphalt from spilled fuels in areas where covering is not feasible.

Measurable Goals:

- Clearly label all drains and valves in the facility for employees to know where the water is ending up.

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Vehicle and Fleet Maintenance**

BMP Title: **Vehicle and Equipment Repair**

BMP Description:

- Whenever feasible, move maintenance and repair activities indoors.
- Store idle equipment containing fluids under cover.
- Avoid hosing down work areas, but if work areas are washed, collect the water and direct to sanitary sewer.
- Post signs to indicate storm drains and sinks are not to receive hazardous wastes.
- Designate a special area, with no connections to the storm drain, to drain motor fluids.
- Collect leaking or dripping fluids in drip pans or containers, and drain all fluids immediately.
- Promptly transfer used fluids to proper waste or recycling drums.
- If equipment is to be stored outside, all fluids should be drained first.
- Keep equipment clean, don't allow excess grease and oil buildup.
- If temporary work is being done outside, use a tarp, ground cloth, or drip pans to capture all spills and drips, and dispose of properly.
- Regularly inspect vehicles and equipment for leaks and repair immediately.

Measurable Goals:

- Number of cleanouts of oil and grit separators or similar maintenance operations for site draingage structures
- Recycling program results for oil, antifreeze, other fluids
-

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Parks and Open Space Maintenance**

BMP Title: **Fountain & Pool Maintenance**

BMP Description:

- Use chlorine or other alternatives to control algae, not copper-based algaecides.
- Drain water from fountains and pools to a sanitary sewer or water can be dechlorinated and recycled/reused by draining it gradually onto a landscaped area. Water is tested to ensure no chlorine present.
- Maintain an 'air gap' between the discharge line and the sewer line to prevent backflow to the sanitary sewer.
- Provide drip pans beneath drain pipe connections to prevent leaks.
- Never clean a filter in the street or near a storm drain.
- Rinse cartridge filters onto a dirt area and spade filter residue into soil.
- If there is not a proper dirt area for discharge, filter backwater to the sanitary sewer if permitted.

Measurable Goals:

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Parks and Open Space Maintenance**

BMP Title: **Lakes, Ponds and Lagoon Maintenance**

BMP Description:

- Reduce fertilizer use around the water body.
- Discourage the public from feeding the wildlife to control bacteria.
- Consider introducing fish that eat algae.
- Educate the public on algae and relay that certain types of algae are beneficial to the water.
- Control erosion in many ways such as maintaining vegetative cover on banks, provide riprap along banks so minimize erosion potential, and confine excavated materials away from lakes and keep covered.
- Conduct inspections to detect illegal dumping in or near a lake.
- Pickup landscape waste in and around lakes where feasible.
- Provide and maintain trash cans near recreational water bodies for the public, and increase trash collection during peak visitation.

Measurable Goals:

-

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Parks and Open Space Maintenance**

BMP Title: **Landscape Maintenance**

BMP Description:

- Use mechanical methods of vegetation removal whenever possible.
- Avoid loosening the soil when removing weeds, and use mulch when soils are exposed.
- Collect lawn and grass clippings, pruning waste, tree trimmings and weeds, and compost or dispose of properly.
- Place stockpiles away from water and berm or cover them to prevent releases to the storm drains.
- Consider planting native vegetation where feasible.
- Reduce the use of high nitrogen fertilizers which produce excess growth.
- Avoid placing landscape waste around storm drain inlets.
- Only irrigate when needed and use measures to ensure minimal runoff.
- Utilize a management system that incorporates integrated pest management techniques.
- Use pesticides only if there is an actual problem.
- Do not use pesticides if rain is expected, and do not prepare pesticides near a storm drain.
- Calibrate application equipment to avoid excessive application.
- Fertilizers should be worked into the soil rather than left on the surface, and sweep fertilizer off pavement before watering.
- Dispose of containers accordingly.

Measurable Goals:

- Report percent of staff applying pesticides who are NYS Certified Applicators.
- Reduction in fertilizer usage.
- Reduction in pesticide usage and adoption of alternative pest control approaches.

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Parks and Open Space Maintenance**

BMP Title: **Outdoor Storage of Raw Materials**

BMP Description:

- Store all materials inside. If this is not feasible, then all outside storage areas should be covered with a roof and enclosed to prevent storm water contact.
- Cover and contain stockpiles of raw materials while not in use to prevent storm water from running into the covered piles.
- If stockpiles are to large to be covered and contained, implement erosion control practices at the perimeter of the site.
- Keep liquids in a designated area on a paved impervious surface with secondary containment.
- Keep outdoor storage containers in good condition, and in a clean and dry area.
- Secure drums stored in an area to prevent accidental spillage or stealing.
- Cover wood treated with chromated copper arsenate, ammonical copper zinc arsenate, creosote, or pentachlorophenol with tarps store indoors.
- Store chemicals, drums, or bagged materials in secondary containers if applicable.
- Release accumulated stormwater in petroleum storage areas prior to the next storm. Water should at least pass through an oil/water separator and, if allowed, discharged to a sanitary sewer.

Measurable Goals:

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Parks and Open Space Maintenance**

BMP Title: **Pet Waste Collection**
BMP Description: • Assess municipal parks and open space areas to determine locations with excessive amounts of pet waste. • Prioritize problem areas based upon quantity of pet waste and proximity to waterbodies. • Install pet waste signs or bag stations as necessary.
Measurable Goals:
Timeline/Implementation Schedule:
Specific Components and Notes:
Responsible Party for this BMP *Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.* Name: Department: Phone: E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Municipal Building Maintenance**

BMP Title: **Outdoor Container Storage**

BMP Description:

- Protect materials from rainfall, runon, runoff, and wind dispersal by covering the storage area with a roof.
- Use covered dumpsters for waste containers.
- Use a 'doghouse' structure for storage of liquid containers.
- Berm or surround tank or container with secondary containment system.
- Provide barriers around tanks such as posts to prevent collision damage from vehicles.
- Place tight fitting lids on all containers.
- Raise containers off the ground with provisions for spill control and secondary containment.
- Contain the material in such a way that if a leak or spill occurs, the contents will not drain to the storm drain or other waters.
- Place containers in a lean-to structure or otherwise covered to keep rainfall away.

Measurable Goals:

- Implementation of a recycling program.

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Municipal Building Maintenance**

BMP Title:	**Outdoor Loading and Unloading**

BMP Description:

- Develop an operations plan that describes procedures for loading and unloading.
- Do not conduct loading and unloading during wet weather if possible.
- Cover designated loading areas to reduce exposure of materials to rain.
- Design loading areas to prevent stormwater runon which would include grading or berming the area, and positioning roof downspouts so they direct stormwater away from the loading area.
- Load all materials and equipment in covered areas such as building overhangs at loading docks.
- Pave loading areas with concrete instead of asphalt.
- Avoid placing storm drains in the area.

Measurable Goals:

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Municipal Building Maintenance**

BMP Title: **Plaza and Sidewalk Cleaning**
BMP Description: • Use dry cleaning methods whenever practical for surface cleaning activities. • Use the least toxic materials available (e.g. water based paints, gels or sprays for graffiti removal) • Regularly broom (dry) sweep sidewalks plaza and parking lot areas to minimize cleaning with water • Sweep, collect, and dispose of debris and trash before washing • Block the storm drain or contain runoff when cleaning with water. Discharge wash water to landscaping or collect water and pump to a tank or discharge to the sanitary sewer. • Block storm drain inlets or contain runoff when washing parking areas, driveways or drive-throughs. Use absorbents to pick up oil; then sweep dry. Clean with or without soap. Collect water and pump to a tank or discharge to the sanitary sewer
Measurable Goals: • Report number of alternative products or methods used.
Timeline/Implementation Schedule:
Specific Components and Notes:
Responsible Party for this BMP *Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.* Name: Department: Phone: E-mail:

BMP Summary Sheet

Department Name:
Minimum Control Measure: Municipal Building Maintenance (Also applicable to most operations and facilities)

BMP Title: **Spill Prevention, Control, & Cleanup**

BMP Description:

- Move material handling indoors, under cover, or away from storm drains or sensitive water bodies, if possible.
- Properly label all containers so contents are easily identifiable.
- Berm storage areas so that if a spill of leak occurs, the material is contained.
- Cover outside storage areas either with a permanent structure or a seasonal one so that rain cannot contact materials.
- Check containers often for leaks or spills, and replace deteriorating containers with ones in good condition.
- Store, contain, and transfer liquid materials in such a manner that if the contents spilled, they would not discharge or be washed into the storm drain, surface waters, or groundwater.
- Place drip pans or absorbent materials beneath all mounted taps and all potential drip and spill locations during the filling and unloading of containers.
- For field programs, only transport the minimum amount of material needed for the daily activities and transfer materials between containers at a municipal yard where leaks and spills are easier to control.
- If paved, sweep and clean storage areas monthly. Do not hose down area unless water is being collected and disposed properly.
- Install a spill control device in any catch basins that collect runoff from areas storing materials that separate and float on water.
- Protect catch basins while a conducting field activity so if a spill does occur, the material is contained.

Measurable Goals:

-

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Solid Waste Management**

BMP Title: **Chemical/ Hazardous Waste**
BMP Description: • Store hazardous materials and wastes in covered containers protected from vandalism, and in compliance with fire and hazardous waste codes. • Place hazardous waste containers in secondary containment as necessary • Hazardous waste is to be collected, removed, and disposed of only at authorized disposal areas.
Measurable Goals:
Timeline/Implementation Schedule:
Specific Components and Notes:
Responsible Party for this BMP *Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.* Name: Department: Phone: E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Solid Waste Management**

BMP Title:	**Illegal Dumping and Litter Control**

BMP Description:
- Post no littering signs as necessary.
- Provide litter receptacles in busy, high pedestrian traffic areas of the community at recreational facilities, and at community events.
- Clean out and cover litter receptacles frequently to prevent spillage.
- Post "No Dumping" signs as necessary. Signs should include a phone number to report dumping and disposal.
- Establish a system for tracking incidents. The system should be designed to identify such things as, dumping hotspots, types and quantities of wastes, patterns in time of occurrence, mode of dumping, etc.
- Consider landscaping/beautification of hot spots in order to discourage future dumping.

Measurable Goals:
- Number of sites identified where illegal dumping occurs
- Number of sites that have been modified to discourage illegal dumping
- Number of litter reduction events conducted or endorsed (including stream/streambank cleanup and beach cleanup

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP
Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Solid Waste Management**

BMP Title:	**Runon/ Runoff Prevention**

BMP Description:

- Prevent stormwater runon from entering the waste management area by enclosing the area or building a berm around the area.
- Prevent waste materials from directly contacting rain
- Waste piles are to be covered with a temporary material such as a reinforced tarpaulin, polyethylene, etc.
- If feasible, cover dumpsters to prevent rain from washing waste out of holes or cracks in the bottom of the dumpster.
- Check waste management areas regularly for leaking containers or spills

Measurable Goals:

Timeline/Implementation Schedule:

Specific Components and Notes:

Responsible Party for this BMP

Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.

Name:
Department:
Phone:
E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Solid Waste Management**

BMP Title: **Waste Collection**
BMP Description: • Regularly inspect solid waste containers (dumpsters & garbage cans) for structural damage. Damaged containers are to be repaired or replaced as necessary. • Containers must be closed tightly when not in use • Waste containers should never be filled with washout water or any other liquid • Only appropriate solid wastes are to be added to waste containers. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc. may not be disposed of in solid waste containers. • If feasible, trash storage areas should be covered.
Measurable Goals: • Staff training or continuing education activities related to policies and procedures
Timeline/Implementation Schedule:
Specific Components and Notes:
Responsible Party for this BMP *Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.* Name: Department: Phone: E-mail:

BMP Summary Sheet

Department Name:
Category of Municipal Operations: **Solid Waste Management**

BMP Title: **Waste Reduction and Recycling**
BMP Description: • Wastes are to be recycled whenever possible. Gasoline, antifreeze, waste oil and lead acid batteries can be recycled. Latex and oil-based paint can be reused as well as recycled. Materials that can not be reused or recycled should be disposed of properly. • Recycling bins for glass, newspaper, metal, plastic bottles and other recyclable household solid wastes should be provided at public facilities.
Measurable Goals: • Frequency of hazardous material collection events • Municipal recycling program results (tons or cubic yards) for glass, metal, paper, plastic, organic materials
Timeline/Implementation Schedule:
Specific Components and Notes:
Responsible Party for this BMP *Indicate who specifically is responsible for the implementation and monitoring of this BMP. This should be the individual who is actively involved with the BMP.* Name: Department: Phone: E-mail: