

4/29/11

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Municipality/Organization: North Andover, MA
EPA NPDES Permit Number: MAR041214
MassDEP Transmittal Number: W-034970
Annual Report Number & Reporting Period: Year 8
April 1, 2010 – March 31, 2011

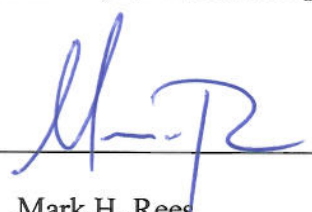
NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2011)

Part I. General Information

Contact Person: Eugene P. Willis, P.E. **Title:** Town Engineer
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Mailing Address: 384 Osgood Street, North Andover, MA 01845

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: 
Printed Name: Mark H. Rees
Title: Town Manager
Date: 4-27-11

Part II. Self-Assessment

As of the end of Year 8, the Town has achieved nearly all of the measurable goals for the BMPs selected in the 2003 Notice of Intent and those added in subsequent years to reflect unplanned stormwater activities by the Town.

Stormwater management activities to note include:

- As part of the Waverly Road Sewer Replacement Project a 21' sewer line was replaced with a 30" sewer line from Greene Street to Turnpike Street. This project will relieve surcharging on the Shawsheen River. Drainage related improvements include:
 - 5 new drainage manholes
 - 14 new catchbasins
 - 20 catchbasins cleaned of debris
 - 1000 LF of existing drain line cleaning
 - 1150 LF of new 12" drain pipe
- Brookside Condominium storm drain maintenance project was completed.
 - This project involved cleaning 15 structures and 2 outfalls which were plugged solid after 30 years of no maintenance.
 - Mass Highway rehabilitated a runoff swale on the east side of RT. 125 at Brookside Condominiums.
- The Town has established pet waste stations at the North Andover Beach at Stevens Pond in the Pleasant Street parking lot, Memorial Park, Gallagher Field and at the trail head to Weir Hill.
- The Town completed the written Illicit Discharge Detection and Elimination (IDDE) Plan. The plan establishes actions, procedures, and a timeline for IDDE activities to comply with both the 2003 General Permit and many of the anticipated 2011 North Coastal Small MS4 General Permit requirements.
- The Town has formed a NPDES Subcommittee, which is comprised of members of the Planning, Conservation, Water & Sewer, and School Department.
- The Town is in the process of creating a brochure which will notify residents of the Dog Waste Bylaw along with a schedule of fines. Brochures regarding the Bylaw will be mailed to dog owners along with their dog license renewal forms.

Planned activities for the next permit term have not been designated unless a BMP under this permit was not completed or is still under progress for completion. Once the General Permit for the next five years is available from EPA, the Town will prepare and submit a Notice of Intent to MassDEP and EPA for compliance with the new General Permit.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1a Revised	Air stormwater messages on local cable	Division of Public Works	Air one new message for two weeks quarterly	The Town set up a list of 11 stormwater water messages to air on the local cable access channel. These 11 messages are broken down into 1-2 public service announcements which air throughout the day. The messages, which are targeted at homeowners, inform homeowners what they can do to prevent nonpoint source pollution.	Measurable goals for 2003 General Permit have been met. The Town plans to continue airing the nonpoint source pollution public service announcements on the local cable access channel.
1b Revised	Add stormwater information to Town's website	Division of Public Works	Complete update by end of second permit year	Links to information about stormwater included on the Town website during Permit Year 1 were maintained throughout Permit Year 8. This information is directed at adults, educators, and kids, and also includes links to local watershed websites. Information about protecting lakes from nonpoint source pollution included during Permit Year 1 also remains on the Town website. The stormwater messages that were prepared for the local cable access channel and were added to the Town website in Year 3 were maintained throughout Year 8.	Measurable goals for 2003 General Permit have been met.
1c Revised	Distribute/post non point source pollution posters	Division of Public Works	Post in all school and Town-owned buildings	Posters were distributed to and posted in the Town Library, Office of Community Development, Town Hall, and the Water Treatment Plant during Permit Year 1. No further activities were planned for subsequent years.	Measurable goals for 2003 General Permit have been met.

Id	Inform Residents of Town's recycling programs/schedules	Division of Public Works	Distribute information to all residents by website, mailings, etc.	The Town's website contains information on Town's recycling programs and schedules. Mixed stream, curb-side pickup is now available throughout the Town. The DPW publishes a quarterly newsletter, <i>One Person's Trash</i> , which provides information on reducing, reusing and recycling. In permit year 8 the Town implemented a rain barrel program. The North Andover Public School system offers an extensive recycling program. Information on the school recycling program is located on the Town's website at: http://www.northandoverpublicschools.com/sargent/pto/sargpto_collection_programs.cfm	Measurable goals for 2003 General Permit have been met.
	Revised				

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
2a	Collect household hazardous waste from residents	Division of Public Works	Hold household hazardous waste collection day twice per year.	North Andover held Household Hazardous Waste Collection Days twice this year on April 17, 2010 and October 16, 2010 from 9am to 1pm at the DPW garage. The Town holds a general household hazardous waste collection day on the third Saturday of each month from 9am to noon.	The North Andover Household Hazardous Waste Collection Day was held on April 16, 2011 and will be held again in October 2011.
Revised					

2b	Collect & Recycle waste oil	Division of Public Works	Collect waste oil from residents twice per month	The DPW collects waste oil for recycling on the first and third Saturday of every month from 9am to noon at the DPW garage.	North Andover continues to collect waste oil from residents twice per month.
Revised					
2c	Develop Stormwater Hotline	Division of Public Works	Create phone number(s) & inform residents of hotline	The Town continued to have in place a stormwater hotline to track illegal dumping, with information included on the Town website. The Town wants residents to be able to call the hotline and obtain information, ask questions, provide feedback, and report illegal dumping.	Measurable goals for 2003 General Permit have been met. North Andover continues to use the stormwater hotline.
Revised					
2d	Coordinate an annual, voluntary waterways cleanup day	Division of Public Work/Con Com	Hold waterways cleanup day once per year beginning in the Spring of 2005 (Permit Year 3)	North Andover held their 8th annual Town-wide Earth Day Clean-up on May 1, 2010 from 8:30am to 3:30pm. Residents volunteered to pick up litter and were allowed to focus their efforts in a part of Town of their choosing. This year volunteers picked up more than 4,000 lbs of trash. The Shawsheen River Watershed Association held several river clean up trips from April through September.	Measurable goals for 2003 General Permit have been met. The 9th annual Town-wide Earth Day Clean-up will be held on April 30, 2011 from 8:30 am to 3:30 pm.
Revised					
2e	Make SWMP available for public review/comment	Division of Public Works	Post SWMP on Town website, in library, in DPW office	Copies of the SWMP created for the Town were placed in the Town Library, at the DPW office, and the SWMP was posted on the Town website during Permit Year 1. The SWMP remained available at these locations through Permit Year 5 and is still available on the Town's website.	Measurable goals for 2003 General Permit have been met. The SWMP is available on the Town's website.
Revised					

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3a	Map outfalls, receiving waters and storm drains	Division of Public Works	Complete mapping by end of fourth permit year	Outfall mapping in urbanized areas was completed in 2008.	Measurable goals for 2003 General Permit have been met.
Revised					
3b	Develop illicit discharge detection & elimination	Division of Public Works	Make recommendations for proposed plan	The Final IDDE Plan was completed in October 2010 by a working group comprised of multiple Town departments. The plan establishes actions, procedures, and a timeline for IDDE activities to comply with both the 2003 General Permit and many of the anticipated 2011 North Coastal Small MS4 General Permit requirements.	Measurable goals for 2003 General Permit have been met.
Revised					
3c	Review existing bylaws and regulations	Division of Public Works	Determine whether existing bylaws/regulations are adequate	The Town finished reviewing their existing regulations with regard to illicit discharge detection and elimination in the third permit year. No goals related to this item were planned for Permit Year 8.	Measurable goals for 2003 General Permit have been met.
Revised					
3d	Develop/modify general illicit discharge bylaw	Division of Public Works	If necessary, propose recommendation for bylaw updates.	The Town developed a general illicit discharge bylaw that meets USEPA requirements during the fourth permit year. The Stormwater Management & Erosion Control Bylaw was adopted on May 12, 2009	Measurable goals for 2003 General Permit have been met.
Revised					
3e	Present bylaw for Town meeting action	Division of Public Works	Make presentations for Town meeting action, if necessary.	North Andover adopted the Stormwater Management & Erosion Control Bylaw on May 12, 2009. The Regulations were adopted on February 15, 2011.	Measurable goals for 2003 General Permit have been met.
Revised					The DPW and WTP requested \$90,000 in FY12 for tasks identified in the new permit, including sampling and analysis of stormwater outfalls. The budget is contingent on Town Meeting approval.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
4a	Review existing bylaws and regulations	DPW/Planning/Con Com	Determine whether existing bylaws/regulations are adequate	The Town finished reviewing the relevant sections of their Rules and Regulations governing the Subdivision of Land and the Zoning Bylaws in fourth year of the permit. North Andover adopted the Stormwater Management & Erosion Control Bylaw on May 12, 2009. The Regulations were adopted on February 15, 2011.	Measurable goals for 2003 General Permit have been met.
Revised					
4b	Develop/modify bylaws for construction site runoff	DPW/Planning/Con Com	If necessary, propose recommendations for bylaw updates	In the fourth year of the permit, the Town completed the development of a bylaw for the control of construction site runoff. The Town adopted the Stormwater Management & Erosion Control Bylaw on May 12, 2009.	Measurable goals for 2003 General Permit have been met.
Revised					
4c	Present bylaw for Town meeting action	DPW/Planning/Con Com	Make presentations for Town Meeting action, if necessary.	The Town adopted the Stormwater Management & Erosion Control Bylaw on May 12, 2009.	Measurable goals for 2003 General Permit have been met.
Revised					
4d	Review existing site inspection practices	DPW/Planning/Con Com	Determine whether existing practices are adequate	During the fourth permit year, the Town completed the development of a bylaw for the control of construction site runoff.	Measurable goals for 2003 General Permit have been met.
Revised					
4e	Develop/modify site inspection practices	DPW/Planning/Con Com	If necessary, make recommendations. for updating existing practices	During the fifth permit year, the Town made any necessary changes to their erosion/sedimentation control and drainage submittal requirements, as well as their site inspection practices.	Measurable goals for 2003 General Permit have been met.
Revised					

5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5a Revised	Review existing bylaws and regulations	DPW/Planning/ Con Com	Determine whether existing bylaws/regs are adequate	The Town finished reviewing the relevant sections of their Rules and Regulations governing the Subdivision of Land and the Zoning Bylaws during the third permit year. No goals related to this item were planned for Permit Year 8.	Measurable goals for 2003 General Permit have been met.
5b Revised	Develop/modify bylaws for post-construction runoff	DPW/Planning/ Con Com	If necessary, propose recommen. for bylaw updates	During the fourth permit year, the Town developed a post-construction site runoff control bylaw that meets USEPA requirements and considers MA DEP Stormwater Management Standards.	Measurable goals for 2003 General Permit have been met.
5c Revised	Present bylaw for Town meeting action	DPW/Planning/ Con Com	Make presentations for Town meeting action, if necessary	During the fourth permit year, the post-construction site runoff control bylaw was presented for Town Meeting action. However, the bylaw did not pass. During the fifth permit year, the bylaw was revised and selected information was pulled out to include in a separate regulation. The bylaw was revised with input provided from the Planning Department and Conservation Commission. The Town adopted the Stormwater Management & Erosion Control Bylaw on May 12, 2009. The Regulations were adopted on February 15, 2011.	Measurable goals for 2003 General Permit have been met.

5d	Review existing site inspection practices	DPW/Planning/ Con Com	Determine whether existing practices are adequate	During the fourth permit year, the Town completed review of their existing site inspection and maintenance practices to determine whether they comply with USEPA's stormwater management plan requirements.	Measurable goals for 2003 General Permit have been met.
Revised					
5e	Develop/modify site inspection practices	DPW/Planning/ Con Com	If necessary, make recommendations for updating existing practices	During the fifth permit year, the Town made any necessary changes to their existing site inspection and maintenance practices to bring them into compliance with the USEPA's stormwater management plan requirements.	Measurable goals for 2003 General Permit have been met.
Revised					

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6a	Sweep streets	Division of Public Works	Sweep all Town streets once per year; Stevens Pond 2/yr.	During Permit Year 8, 290 lane miles of roadway were swept of winter sand and Stevens Pond was swept twice. Ground speed controls were installed on sanders and the Town switched from sand to total salt, which has reduced the amount of sediment on the roads. The Town is also doing more pre-treating and has installed pavement sensors in their anti-icing vehicles to make salt use more efficient.	Continue to sweep all Town street once per year and Stevens Pond two times per year.
Revised					
6b	Clean catch basins	Division of Public Works	Develop & implement cleaning schedule; Stevens Pond 1/yr.	During Permit Year 8, approximately 300 catch basins were cleaned mechanically or by hand. Material from the catch basin cleaning is disposed of at the Cyr Recycle Center on Sharpener's Pond Rd.	Continue to clean catch basins as needed.
Revised					

6c	Revised	Train municipal employees at each facility	Division of Public Works	Target all applicable municipal facilities	The Town started to train employees at all applicable municipal facilities during the fourth permit year. During the fifth permit year, the Town completed the required training, which included holding a training session with municipal employees from the Fire Department, School Department, Department of Public Works, and Youth Services. During permit year 8, DPW employees attended a Street Sweeping and Catch Basin Cleaning Training and a Stormwater Phase 2 presentation at the MVPC, a Municipal Stormwater Utility Seminar sponsored by SuAsCo and a Center for Watershed Protection webcast on 3/16/2011. At the January 25, 2011 BOS meeting, DPW staff presented a slideshow on stormwater utilities to the BOS. The Town has formed a NPDES Subcommittee, which is comprised of members of the Planning, Conservation, Water & Sewer, and School Department. The Town is currently in the process of performing follow-ups with the Fire Department, School Department, Department of Public Works, and Youth Services to ensure that those items covered in the municipal employee training program are being adhered to.	Measurable goals for 2003 General Permit have been met. DPW employees will continue to attend the Center for Watershed 2011 webcast series.
6d	Revised	Perform follow-ups to ensure required practices are met	Division of Public Works	Target all applicable municipal facilities	The Town plans to periodically check with the Fire Department, School Department, Department of Public Works, and Youth Services to ensure that those items covered in the municipal employee training program are being adhered to.	

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
TMDL-1	Check current impairments	Division of Public Works	Check current MA Integrated List of Waters each year for newly listed or delisted receiving waters in North Andover	The Bacteria TMDL for the Shawsheen River Basin {MA83-01-2002-24} has been in effect since August 2002. See WLA Assessment below for BMPs that will reduce North Andover's bacteria contribution to the watershed. Other waters in North Andover listed as Category 5 on the MA 2010 Integrated List of Waters include: • Salem Pond (turbidity) • Lake Cochichewick (metals) • Stevens Pond (metals) • Merrimack River (nutrients, pathogens, priority organics)	Measurable goals for 2003 General Permit have been met. The Town will continue to monitor the status of receiving waters and pursue projects that aid the reduction of pollutants of concern, particularly bacteria levels in the Shawsheen River.
Revised					

7b. WLA Assessment

The Report "Bacteria TMDL for the Shawsheen River Basin {MA83-01-2002-24; August 2002}" is final and was approved in 2002; there was only one monitoring station indicated for the Town of North Andover- SH17.8 The Shawsheen River just downstream of Massachusetts Avenue and had high fecal coliform counts during both dry & wet weather sampling in 1997.

TMDL sets allowable bacteria levels for urban runoff and point sources equivalent to the water quality standard; for sewer leaks, sanitary sewer overflows, illicit connections and failing septic systems are set equal to zero

The TMDL does not dictate or require any specific individual controls at a particular outfall or site in North Andover.

The following activities and BMPs will help reduce North Andover's bacteria contribution to the Shawsheen watershed and meet WLAs:

- As part of the Waverly Road Sewer Replacement Project a 21' sewer line was replaced with a 30" sewer line from Greene Street to Turnpike Street. This project will relieve surcharging on the Shawsheen River. Drainage related improvements include:
 - 5 new drainage manholes
 - 14 new catchbasins
 - 20 catchbasins cleaned of debris
 - 1000 LF of existing drain line cleaning
 - 1150 LF of new 12" drain pipe
- Brookside Condominium storm drain maintenance project was completed.
 - This project involved cleaning 15 structures and 2 outfalls which were plugged solid after 30 years of no maintenance.
 - Mass Highway rehabilitated a runoff swale on the east side of RT. 125 at Brookside Condominiums.
- The Town has established pet waste stations at the North Andover Beach at Stevens Pond in the Pleasant Street parking lot, Memorial Park, Gallagher Field and at the trail head to Weir Hill.
- Completed the written Illicit Discharge Detection and Elimination (IDDE) Plan. The plan establishes actions, procedures, and a timeline for IDDE activities to comply with both the 2003 General Permit and many of the anticipated 2011 North Coastal Small MS4 General Permit requirements.
- The Town has formed a NPDES Subcommittee, which is comprised of members of the Planning, Conservation, Water & Sewer, and School Department.
- The Town is in the process of creating a brochure which will notify residents of the Dog Waste Bylaw along with a schedule of fines. Brochures regarding the Bylaw will be mailed to dog owners along with their dog license renewal forms.

The following table summarizes the WLA for the Shawsheen River:

Fecal Coliform Wasteload Allocations (WLAs) and Load Allocations (LAs) for the Shawsheen River and Identified Tributary Streams		
Bacteria Source Category	WLA (organisms/100ml)	LA (organisms/100ml)
Point Source	Geomean $\leq$ 200 10% $\leq$ 400	
Sewer leaks	0	0
Sanitary Sewer Overflow	0	0
Illicit Sewer Connections	0	
Failing Septic Systems	0	0
Direct Wildlife		Geomean $\leq$ 200 10% $\leq$ 400
Urban Stormwater Runoff	Geomean $\leq$ 200 10% $\leq$ 400	Geomean $\leq$ 200 10% $\leq$ 400

Part IV. Summary of Information Collected and Analyzed

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2010 through March 31, 2011)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	
Annual program budget/expenditures **	(\$)	
Total program expenditures since beginning of permit coverage	(\$)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	
Stormwater management committee established	(y/n)	
Stream teams established or supported	(# or y/n)	
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	
Shoreline cleaned since beginning of permit coverage	(mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	
▪ community participation **	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	

Legal/Regulatory

In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted
Regulatory Mechanism Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination				X
▪ Erosion & Sediment Control				X
▪ Post-Development Stormwater Management				X
Accompanying Regulation Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination				X
▪ Erosion & Sediment Control				X
▪ Post-Development Stormwater Management				X

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	
Estimated or actual number of outfalls	(#)	
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	
Outfalls inspected/screened **	(# or %)	
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	
Illicit discharges identified **	(#)	
Illicit discharges identified (Since beginning of permit coverage)	(#)	
Illicit connections removed **	(#); and (est. gpd)	
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	
% of population on sewer	(%)	
% of population on septic systems	(%)	

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	
Site inspections completed **	(# or %)	
Tickets/Stop work orders issued **	(# or %)	
Fines collected **	(# and \$)	
Complaints/concerns received from public **	(#)	

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	
Site inspections (for proper BMP installation & operation) completed **	(# or %)	
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	
Low-impact development (LID) practices permitted and encouraged	(y/n)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	
Qty of structures cleaned **	(#)	
Qty. of storm drain cleaned **	(%, LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**		(\$)
• Hourly or per basin contract rate **		(\$/hr or \$ per basin)
• Disposal cost**		(\$)
Cleaning Equipment		
• Clam shell truck(s) owned/leased		(#)
• Vacuum truck(s) owned/leased		(#)
• Vacuum trucks specified in contracts		(y/n)
• % Structures cleaned with clam shells **		(%)
• % Structures cleaned with vacor **		(%)

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	
• Hourly or lane mile contract rate **	(\$/hr. or In mi.)	
• Disposal cost**	(\$)	
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	
• Vacuum street sweepers owned/leased	(#)	
• Vacuum street sweepers specified in contracts	(y/n)	
• % Roads swept with rotary brush sweepers **	%	
• % Roads swept with vacuum sweepers **	%	

Reduction (since beginning of permit coverage) in application on public land of:
 ("N/A" = never used; "100%" = elimination)

▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Integrated Pest Management (IPM) Practices Implemented	(y/n)	

(Preferred Units)		Response
Average Ratio of Anti-/De-Icing products used **		
(also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)		
	% NaCl	
	% CaCl ₂	
	% MgCl ₂	
	% CMA	
	% Kac	
	% KCl	
	% Sand	
Pre-wetting techniques utilized **	(y/n or %)	
Manual control spreaders used **	(y/n or %)	
Zero-velocity spreaders used **	(y/n or %)	
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	
% of salt/chemical pile(s) covered in storage shed(s)	(%)	
Storage shed(s) in design or under construction	(y/n or #)	
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	

• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	
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