

Municipality/Organization: Town of Bedford, Massachusetts
EPA NPDES Permit Number: MAR 041028
MassDEP Transmittal Number: W041280
Annual Report Number Year 10
& Reporting Period: April 1, 2012 – March 31, 2013

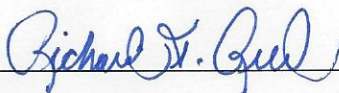
**NPDES PII Small MS4 General Permit
Annual Report
(Due: May 1, 2013)**

Part I. General Information

Contact Person: Adrienne St. John **Title:** Public Works Engineer
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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: Richard Reed
Title: Town Manager
Date: April 29, 2013

Part II. Self-Assessment

The Town of Bedford continues to manage stormwater impacts from design, project review, maintenance and educational aspects. The combined efforts of the Town's Department of Public Works, Conservation Commission, Health Department, Planning and Zoning Boards have pushed to mitigate stormwater pollution and reduce flooding due to uncontrolled sources. Two DPW employees were awarded the Bedford River Steward Award by the LWV and SuAsCo River Stewardship Council in June 2012 for efforts related to stormwater awareness.

As part of developing this annual report, the Town evaluated compliance of its stormwater management program with the conditions of the 2003 *NPDES General Permit for Stormwater Discharges from Small MS4s*, as required by Part II.D.1 of the permit. During Permit Year 10, the Town continued to implement its stormwater management program and meet measurable goals of BMPs. This year, the Town targeted residents and persons who travel through Bedford about the value of our natural resources by marking all our local river and stream crossings with "Protect Our Water" signs. The logo was similar to signs posted in other SuAsCo communities. As a follow up, the Town's on-line newspaper ran a byline of the project, noting the importance of public awareness and attention to the environment.

The Town also addresses pollution prevention with the installation of solar powered trash receptacles at many public sites. Not only does this reduce waste via compaction, but also provides convenient trash disposal in high use areas. The program has been found to eliminate loose paper and empty bottles from overflowing trash cans which had been blowing into adjacent resource areas.

In accordance with Part II.D.2 of the permit, the Town also evaluated the appropriateness of all BMPs in efforts towards achieving the defined measurable goals. BMPs and measurable goals continue to be appropriate for the community.

Bedford continues to be aware of the Estimated and Priority Habitat for Rare Species but has not determined that any Town activities or discharges have had a negative impact on a designated species. According to a respected herpetologist who does extensive work with endangered species, the Vine Brook in this area has a pristine fish community with respect to the protected Bridle Shiner minnow.

The Bedford Department of Public Works filed a MESA Project Review checklist for installation of bog bridges along wet sections of existing walking trails. MESA's finding was that there would be no impact on the designated habitat.

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 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1-1 Revised	Residential Flyer	DPW/SuAsCo	Distribute to 75% of homes	Measurable goal met in early part of permit and reiterated with second mailing in Year 9.	Produce and distribute meaningful information to target audiences as required by new NPDES permit.
1-2 Revised	Education Program	DPW/SuAsCo	Teach in 1 5 th grade class	The Town's Recycling Coordinator visited both elementary schools to teach students about recycling efforts and conservation methods.	Reassess education programs for compliance with requirements of new NPDES permit.
1-3 Revised	Develop web site	DPW	Have in place by 7/05	Website contains links to brochures, Town projects, federal programs, and helpful tips related to stormwater pollution prevention.	Continue to add pertinent information and links.
1-4 Revised	Stormwater flyer to businesses	DPW/SuAsCo	Distribute to 50% of businesses	Measurable goal previously met. See BMP ID 1-1.	Continue public education as directed by new NPDES permit.
1-5 Revised	Stormwater video	DPW	Show video on local cable station.	Measurable goal met with several different educational videos shown on local cable channel. New in Year 10 was the "Think Blue Massachusetts" Public Service Announcement.	Reassess value of showing stormwater videos for compliance with public education and outreach requirements of new NPDES permit.
1a-6 Revised	Pet Waste Dispensers <i>Pet Waste Disposal Education</i>	DPW	Distribute to 75% of local dog owners <i>Distribute to 75% of local dog owners; increase public awareness for proper pet waste disposal practices.</i>	Redesigned the pet waste bag containers. Handed out 200 new containers and 480 rolls of refill bags at Bedford Day. Town Clerk distributes bags as dogs are licensed. Town maintains information on Animal control bylaw on Town website.	Continue popular program.

1a. Additions

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
2-1 Revised	Stormwater Display	DPW/SuAsCo	3mos. at library, Town Hall, Schools	Measurable goals met in prior permit years. No measurable goals planned for Permit Year 10. Distributed SuAsCo stormwater cards for proper pet waste disposal at Bedford Day to promote good housekeeping habits to prevent pollution.	Continue to mark catch basins and deliver door hangers to explain benefits of keeping stormwater clean.
2-2 Revised	Local Stormwater Committee	Selectmen, DPW, Cons. Comm., Planning	Form committee by 12/04	DPW functions as core Stormwater Committee and communicates with other Town Boards and Commissions about stormwater as needed throughout the year.	Gather additional stakeholders to work on stormwater regulations.
2-3 Revised	Stormwater meetings	DPW/SW Committee	Meet 3x/year	Good communication between Conservation Commission, Administrator, Planning and Code Enforcement as needed to provide unified response to stormwater issues as needed.	Continue to communicate about stormwater throughout the year.
2-4 Revised	Attend Stormwater Summit	SuAsCo/ SW Committee	Share information	No measurable goals planned for Permit Year 10. The intent of this BMP is being met by the Stormwater Committee's local coordination (BMPs 2-2 and 2-3). Town staff attended stormwater related training including EPA Sourcewater Protection Workshop, SuAsCo Watershed network meeting on MA Stormwater Handbook and vendor seminar on erosion control methods.	Assess value and need of BMP once EPA issues next General Permit. Continue to attend stormwater meetings and trainings as staff time and budget allow.

2a. Additions

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3-1 Revised	Purchase GPS Equipment	DPW	In place by 7/04	Original GPS equipment purchased in Permit Year 2, replaced in Year 9 and in Year 10, the Town purchased additional software to download information from paper maps to located outlets directly in the field.	No activities planned- measurable goal met.
3-2 Revised	Map SW outlets	DPW	75% capture rate	Original goal of 75% capture rate has been met, but Town continues to collect field data. GIS layers show outlets, receiving water bodies, catch basins, manholes and pipe network.	Continue to GPS outlets and note condition of pipe and if any dry weather flow is present.
3-3 Revised	Identify critical resources	DPW, Cons Comm	Map, notify abutters, develop BMP	The Town keeps track of identified critical resources and sensitive areas, such as vernal pools, priority habitats, well head protection areas, and areas of flooding. To address these critical resources, the Town required rain gardens for private driveways in new development. In addition, draft IDDE Plan includes priority areas, including areas of high environmental value, recreational value, and drinking water sources.	Promote construction of more rain gardens.
3-4 Revised	Perform water quality testing	DPW	3 sites-residential, municipal, commercial	As part of Town's mapping efforts, outfalls are visually screened for dry weather flow (see BMP ID 3-2). No measurable goals were planned for permit Year 10. BMP completed in prior permit years.	Revised BMP to address monitoring requirements included in new NPDES Permit.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3-5	Local bylaw-illicit discharges	DPW/Selectmen, Planning	Adopt bylaw	Town has adopted a Bylaw prohibiting non-stormwater discharges (illicit discharges and illegal dumping) to the drainage system. Bylaw includes appropriate enforcement procedures and actions.	Establish corresponding regulations.
Revised					

3a. Additions

3a-6	Develop and implement an IDDE Plan	DPW	Develop written plan Implement plan	New draft IDDE Plan has been developed to formalize process for detecting and addressing non-stormwater discharges, including illegal dumping, into the drainage system. Plan meets requirements of 2003 Phase II Small MS4 General Permit and includes components of proposed IDDE requirements of next General Permit. Plan also includes assessment of non-stormwater discharges. Plan is under review by Town Staff.	Finalize IDDE Plan Continue IDDE activities
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4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
4-1 Revised	Develop awareness of construction site issues	DPW, Code, Cons Comm.	Write guidelines, distribute to builders	Bylaw to control Construction Site Runoff adopted. Bylaw requires erosion and sediment controls at construction sites disturbing one or more acres or less if part of common plan of development.	Continue to require Erosion and Sedimentation controls in place for site work. Require stone entrances for construction sites, infiltration of roof runoff on all new buildings. Use hydro excavations for DPW projects.
4-2 Revised	Control construction site waste	DPW, Code, Cons Comm.	Reduce litter, erosion, dust, sediment	Require weekly trench paving on utility and road projects to maintain cleaner job sites and reduce erosion. New Stormwater Bylaw helps control wastes such as discarded building materials, truck washout, chemicals, litter, and sanitary waste at construction sites.	Continue as directed by new NPDES permit.
4-3 Revised	ESC plans for disturbances >5,000 s.f.	Code, DPW, Cons Comm.	Draft bylaw by 7/07	New bylaw requires permit from Stormwater Authority for projects disturbing greater than 1 acre or less than one acre if part of a common plan of development.	Continue
4-4 Revised	Develop O&M plan for existing Town-owned systems	DPW	In place by 7/08	The BMP has been met through operation and maintenance of Town owned facilities, drain system cleaning and street sweeping operations. Town follows Stormwater Pollution Prevention Plans under the Construction General Permit for municipal projects.	Continue operations and maintenance of Town-owned systems.
Revised					

4a. Additions

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 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5-1	Develop bylaw to address stormwater impacts	Selectmen, Planning, DPW, Cons. SW Comm.	In place by 12/05	Adopted Stormwater Management Bylaw that regulates post-construction stormwater runoff from new development and redevelopment projects disturbing one or more acres.	Develop Stormwater Management regulations to accompany bylaw. Implement bylaw.
Revised					
5-2	Promote infiltration in new developments	Planning, DPW, Code, Cons Comm	No increase in flood levels or locations	Continue to require infiltration of roof runoff on new structures. Bylaw sets performance standards for new projects by requiring compliance with the Mass. Stormwater Management Standards.	Continue to promote infiltration in new developments.
Revised					
5-3	Expand grass plots, reduce pavement widths	DPW, Planning	Improve infiltration	Still require LID techniques during plan review. Removed approximately 2,000 square feet of pavement during road reconstruction project in Elm Brook watershed.	Continue program.
Revised					
5-4	Research rain barrels	DPW	Distribute to 10 households for pilot program	Measurable goal met - Program complete in Year 8.	BMP complete. May continue in future years depending on interest, and available staff time and budget.
Revised					
5a-5	Keep current with regulations	Cons. Comm, Planning Board, DPW		Continued to attend workshops, seminars, trade shows to understand and follow DEP and EPA regulations	Continue
Revised					
5a-6	Organize local stormwater permits	Cons. Comm, DPW		Maintaining data base of stormwater management plans for Cons. Comm. to track maintenance and reporting.	Continue
Revised					

5a-7	Repair failing catch basin	DPW		Rebuilt 38 catch basins in Year 10 to address sink holes around structures which cause additional sediment in drain system.	Continue to have catch basin cleaning crew mark which basins need repair and rebuilt as needed.
Revised					

5a. Additions

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 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6-1 Revised	Street sweeping, CB cleaning	DPW	2x per year in critical areas	Swept all roadways in the spring; Great Road, industrial areas and municipal properties swept monthly. All roads swept after Hurricane Sandy. All CB's cleaned. Removed trash and pallets from ditches at end of Elm Street.	Continue as directed by new NPDES permit.
6-2 Revised	Inspect older sewer mains	DPW, MWRA	TV 1 mile per year	TV inspection of 7,896 lf of sewer mains and 39 sewer manholes.	Continue I/I removal projects to eliminate sewer surcharge situations during heavy rain events.
6-3 Revised	Promote/use alternative fertilizers & pesticides	DPW, Cons Comm.	Reduce nitrogen loading	DPW uses fertilizers on an As-Needed basis. Conservation Commission prohibits salts, herbicides and blanket fertilizers on projects adjacent to resource areas.	Continue policy.
6-4 Revised	Develop spill prevention plan	DPW, Fire, DEP	Purchase spill control equipment	Spill prevention plan has been developed and is in place.	Regularly check inventory.
6-5 Revised	Site better snow dump	DPW	Locate site by 12/05	Goal met – snow dump site in place. Did not use snow dump in Year 10. Switched to magnesium chloride for ice control to reduce impacts from corrosive calcium chloride.	BMP complete – goal met.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6a-6	Provide yard waste disposal opportunities	DPW	Provide opportunities	Town landfill open bi-weekly from April thru November to bring yard waste to municipal compost site. Provided additional days after Hurricane Sandy. The Town initiated a new program to sell compost bins at reduced cost to promote reuse of yard waste and food scraps into beneficial product. Sold 50 bins in Year 10.	Continue
Revised					
6a-7	Provide Town Sewer	DPW	Install new sewer mains to reduce # of septic systems.	Goal has been achieved. Extending sewer service to last 10 +/- properties is cost prohibitive.	BMP complete. Town will continue to administer Title V and to operate and maintain the sewer system.
Revised					
6a-8	Geese Management	DPW	Reduce geese feces in areas along public water supply and open bodies of water	Used dogs to chase geese away from Shawsheen Wellfield, Fawn Lake and Springs Brook Park.	Continue to control geese waste near waterways as needed. Support local industries that also use dogs to control geese gatherings.
Revised					

6a. Additions

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

Portions of the Town of Bedford's MS4 discharge into the Shawsheen River, which has a Final Bacteria TMDL. The *Final Bacteria TMDL for the Shawsheen River Basin* is being met by BMP ID # 1-1, 1-4, 1a-6, 3-2, 3-3, 3-4, 3-5, 3a-6, 4-1, 4-3, 5-1, 5-2, 6-1, 6-2, 6a-7 and 6a-8.

The Town's MS4 also discharges stormwater to the Concord River. The *Draft Pathogen TMDL for the Concord River Watershed* is not yet finalized and therefore the addition of BMPs to address the TMDL is not necessary at this time. The Town will assess TMDL requirements once the final IMS General Permit is issued.

7b. WLA Assessment

Water bodies within Town that are covered by the Shawsheen River Bacteria TMDL are listed below and shown on EPA's map at http://www.epa.gov/region1/npdes/stormwater/ma/305b303dMaps/Bedford_MA.pdf :

- Kiln Brook (MA83-10)
- Vine Brook (MA83-06),
- Spring Brook (MA83-14)
- Elm Brook (MA 83-05); and
- Shawsheen River (MA83-01, MA83-08 and MA83-17)

The following table summarizes the WLA and LA for the TMDL:

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

Because the TMDL is for a pollutant potentially found in stormwater discharges from the Town's MS4, the Stormwater Management Program includes BMPs that address the waste load allocation (WLA) from point sources that include illicit connections to the drainage system and urban stormwater runoff. Bedford continues to make progress on meeting the WLAs through implementing BMPs listed above and further described in the annual report.

To address Illicit Sewer Connections WLA, the Town has implemented the following BMPs:

- Drainage system Mapping (BMPs 3-1 and 3-2);
- Stormwater Management By-law that prohibits illicit discharges and illegal dumping (BMP 3-5);
- Ongoing water quality monitoring and outfall inspections (BMPs 3-2 and 3-4);
- Inspection of and improvement to old sewer mains (BMP 6-2); and
- Education of Residents and Businesses (BMPs 1-1 and 1-4).

To address the Urban Stormwater Runoff WLA, the Town has implemented the following BMPs in the Stormwater Management Program:

- Education on proper pet waste disposal and distribution of pet waste bags (BMP 1a-6);
- Construction Site Runoff Control through the Stormwater Management Bylaw (BMPs 4-1 and 4-3);
- Post-construction Stormwater Management through the Stormwater Management Bylaw (BMP 5-1); and
- Catch basin cleaning & street sweeping to keep debris from filling catch basins and maintain proper drainage system function (BMP 6-1).

In addition, the Board of Health regulates the design, construction, and inspection of the few septic systems and leach fields in Town (Town is 95% sewerred).

Part IV. Summary of Information Collected and Analyzed

N/A

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, 2012 through March 31, 2013)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	Y
Annual program budget/expenditures **	(\$)	\$100,000
Total program expenditures since beginning of permit coverage	(\$)	\$250,000
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		General Fund

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	95%
Stormwater management committee established	(y/n)	Yes
Stream teams established or supported	(# or y/n)	Yes
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	0
Shoreline cleaned since beginning of permit coverage	(mi.)	3,170 ft
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	8
▪ community participation **	(# or %)	196 drop-offs
▪ material collected **	(tons or gal)	2.4 tons
School curricula implemented – with respect to recycling efforts	(y/n)	yes

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	x	
▪ Erosion & Sediment Control			x	x	
▪ Post-Development Stormwater Management			x	x	

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	90%
Estimated or actual number of outfalls <i>*805 of which 366 are Town owned. 281 are defined by the Permit. Need to field check 37 known outlets.</i>	(#)	805*
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	95%
Mapping method(s)		
▪ Paper/Mylar	(%)	10
▪ CADD	(%)	5
▪ GIS	(%)	85
Outfalls inspected/screened **	(# or %)	8
Outfalls inspected/screened (Since beginning of permit coverage) <i>413 outlets checked. Of those, 281 are Town owned as defined by the Permit.</i>	(# or %)	281*
Illicit discharges identified **	(#)	0
Illicit discharges identified (Since beginning of permit coverage)	(#)	1
Illicit connections removed **	(# and gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(# and gpd)	1
% of population on sewer	(%)	95%
% of population on septic systems	(%)	5%
<i>* Reported numbers have been fluctuating as proper database queries are being refined each year.</i>		

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	3
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	95%
Site inspections completed **	(# or %)	25 inspections
Tickets/Stop work orders issued **	(# or %)	1
Fines collected **	(# and \$)	0
Complaints/concerns received from public **	(#)	2

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	98%
Site inspections (for proper BMP installation & operation) completed **	(# or %)	10 inspections
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	Y
Low-impact development (LID) practices permitted and encouraged	(y/n)	Y

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	1
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	2
Qty of structures cleaned **	(#)	1748
Qty. of storm drain cleaned **	(%, LF or mi.)	500 lf
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	25 ton
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	compost

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$16,588
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	\$9.49/basin
• Disposal cost**	(\$)	0
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	0
• Vacuum truck(s) owned/leased	(#)	1
• Vacuum trucks specified in contracts	(y/n)	0
• % Structures cleaned with clam shells **	(%)	98
• % Structures cleaned with vactor **	(%)	2

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	1
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	12
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	100 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	compost
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$12,000
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	\$82.00/hr
• Disposal cost**	(\$)	0
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	1

• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	N
• % Roads swept with rotary brush sweepers **	%	100
• % Roads swept with vacuum sweepers **	%	0

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	25%
▪ Herbicides	(lbs. or %)	N/A
▪ Pesticides	(lbs. or %)	25%
Integrated Pest Management (IPM) Practices Implemented	(y/n)	Y

	(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 % Sand	85% 10% 5%
Pre-wetting techniques utilized **	(y/n or %)	Y
Manual control spreaders used **	(y/n or %)	Y
Zero-velocity spreaders used **	(y/n or %)	Y
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	0
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	0
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	N
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	Y

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	0
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	0
• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	N