

**Municipality/Organization:** Town of North Attleborough

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**EPA NPDES Permit Number:** MAR041142

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**MADEP Transmittal Number:** W-041030

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**Annual Report Number  
& Reporting Period:** **No. 8: May 1, 2010 to April 30, 2011**

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## NPDES PII Small MS4 General Permit Annual Report

### Part I. General Information

Contact Person: Tom McCarthy Title: Highway Superintendent

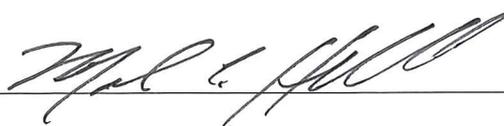
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#### Certification:

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: 

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Printed Name: Mr. Mark Hollowell

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Title: Director of Public Works

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Date: 05/09/11

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**Part II. Self-Assessment**

The Town of North Attleborough has completed the required assessment and determined that our municipality is in compliance with the permit conditions.

**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 Continuation	Planned Activities – Next Permit Round
1-1 Revised	Stormwater flyer to community residents	Board of Public Works Board of Public Works (BPW), Planning Board (PB), Conservation Commission (CC), ZBA	Distribute to at least 75% of residents.	Consistent with Permit Year 4, flyers were placed on display and made available to residents at the Town Hall, Library, Water Department, and the DPW office. A stormwater survey was distributed to residents and 8 surveys were returned. Stormwater cards were hand delivered to residents in neighborhood with issues of dog waste in catch basins.	Continue displaying flyers at public places. Incorporate the results of the stormwater survey into the stormwater public education program work towards providing more information about how residents can assist in stormwater quality.
1-2 Revised	Stormwater lesson plan for fifth grade students	Board of Public Works BPW, PB, CC, ZBA	Lesson plan taught at one or more grade 5 classes.	Alternate BMP will be determined. Presentation at “Touch the Trucks” annual event (3 years), including flyers, stickers and stormwater public education video. Over 200 children in attendance each year.	Develop and implement an alternative BMP to address public education for students.
1-3 Revised	Stormwater flyer to community businesses	Board of Public Works BPW, PB, CC, ZBA	Distribute to a minimum of 50% of businesses with storm water logo displayed by half of the businesses receiving the flyer.	Business flyer have been distributed to approximately 500 businesses.	BMP Completed.

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1-4	Storm water media campaign	Board of Public Works	Four press releases generated and issued to local media.	The Stormwater Committee began providing a stormwater education table for the National Public Works Week events in May 2008 -2010, including flyers, handouts and a video presentation. This event was advertised to the public. This is an annual event where over 300 people (including 200 children) are in attendance.	Display stormwater education materials (handouts, fact sheets, brochures, video, etc.) at a table for the May 2011 event for “National Public Works Week”. Utilize materials from the SuAsCo media kit.
Revised		BPW, PB, CC, ZBA			
1-5	Stormwater video	Board of Public Works	Show a stormwater video at least one public meeting & show stormwater video at least once on local cable channel.	A stormwater video was obtained and presented at a Board of Public Works Meeting in 2008, and at 2009 and 2009/2010 National Public Works Week events.	The stormwater video will be played at the stormwater education table for the May 2011 public event for “National Public Works Week”. Will continue to seek additional events and the local cable channel to show the video.
Revised		BPW, PB, CC, ZBA			

### 1a. Additions.

1-6	Community participation/Household hazardous waste collection	Board of Public Works	Annual Hazardous waste day (depends on funding).	Two Hazardous Waste Collection Events are held annually (typically in September and April). The events are advertised in the local paper, on the website and on the Town cable channel.	Continue advertising and hold at least one Hazardous Waste Collection Event.
Revised		BPW, PB, CC, ZBA			
1-7	Community yard waste composting	Board of Public Works	Volume of yard waste composted.	Over 2,000 cubic yards of yard waste was accepted from residents for composting. The composting service was advertised in the local paper and on the Town website.	Continue accepting, composting and tracking the volume of yard waste. Continue to advertise the program through press releases and local cable.
Revised		BPW, PB, CC, ZBA			

### 2. Public Involvement and Participation

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 8 Continuation</b>	<b>Planned Activities – Next Permit Round</b>
2-1 Revised	Form a stormwater Committee	Board of Public Works BPW, PB, CC, ZBA	Establish committee and meet quarterly.	Meetings with Public Works staff to outline the program needs and address BMP requirements of program	Continue holding Committee meetings and evaluate the progress of the SWMP.
2-2 Revised	Community Hotline	Board of Public Works BPW, PB, CC, ZBA	Hotline established, record of calls and problems remedied.	The Town received approximately 30 calls related to storm water and 21 issues were addressed. Most calls were related to flooding or drainage system repairs. Calls were tracked using a DPW Work Order Form.	Continue logging calls to address stormwater issues.
2-3 Revised	Stormwater traveling display	Board of Public Works BPW, PB, CC, ZBA	Display circulated for at least 3 months and to at a least 3 public places.	The display was maintained at the Water Treatment Plant and Public Works Administration Building.	Continue to post the display at various locations.
2-4 Revised	Stormwater poster contest for fifth grade students	Board of Public Works BPW, PB, CC, ZBA	Contest held, entries received, judged & displayed.	This activity was completed in Permit Year 3.	No further action is planned at this time.
2-5 Revised	Stormwater photo contest for high school students	Board of Public Works BPW, PB, CC, ZBA	Contest held, entries received, judged & displayed.	No significant progress has occurred on this task during this permit year.	Develop and implement an alternative BMP to involve students.
2-6 Revised	Hold a local multi-community stormwater summit special event and advertise	Board of Public Works BPW, PB, CC, ZBA	Summit held, attendance records, agenda and resulting action items.	No significant progress has occurred on this task during this permit year.	Evaluate resources to conduct a local stormwater event.

<b>BMP</b>	<b>BMP Description</b>	<b>Responsible</b>	<b>Measurable</b>	<b>Progress on Goal(s) –</b>	<b>Planned Activities –</b>
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ID #		Dept./Person Name	Goal(s)	Permit Year 7 Continuation	Next Permit Round
2-7	Participate in SuAsCo stormwater super summit & evaluate public awareness of stormwater	Board of Public Works	Participate; distribute stormwater self-test to 75% of town residents, compile and consider test results.	Attended the SuAsCo Stormwater Work Shop on March 26, 2010	Coordinate with SuAsCo and evaluate resources to conduct a stormwater super summit or other public involvement activity.
Revised		BPW, PB, CC, ZBA			

### 2a. Addition.

2-8	Stream Cleanup Activities Along the Ten Mile River	Board of Public Works	Amount of trash/debris removed.	Cleanup activities for the Ten Mile River from Whittings Pond to Falls Pond consisted of debris removal and sediment cleaning at outfalls. Town resources were dedicated to other stormwater problems throughout the year. An advertised Earth Day Event was held on April 16, 2011 which included a Ten Mile River Clean Up. This event will be held annually. Worked with Regional agency to move forward with long-term projects for river quality improvements.	Continue improvements to the stormwater discharges to Falls Pond. Review and update the Ten Mile River cleanup plan and schedule. Pursue additional projects and develop an annual maintenance plan. Update residents with the progress of the project continue annual river cleanup event to maintain the restored areas with community participation once the annual maintenance plan is developed.
Revised		BPW, PB, CC, ZBA			

### 3. Illicit Discharge Detection and Elimination

3-1	Illicit discharge bylaw	Planning Board, Conservation Commission, ZBA, Board of Public Works	Present bylaw to Town Meeting in year 3.	The draft proposed amendments to the Town's Sewer Use Regulations were reviewed by the BPW and Town Counsel. However, the amendments have not been finalized and approved.	Finalize and adopt the proposed amendments to the Sewer Use Regulations.
Revised					

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 7 Continuation</b>	<b>Planned Activities – Next Permit Round</b>
3-2	System mapping development	Board of Public Works	Locate all discharges, complete system map & databases, and add soil and land use data to base maps.	The drainage mapping database was updated with ongoing inspection results related to drainage structure maintenance (e.g., catch basin, manhole & pipe conditions). The drainage system in Route 1 (owned by MassHighway) was field verified and the GIS map was updated to better understand the Town’s drainage system in this area.	Evaluate maintenance requirements (see BMPs 6-1 & 6-2) and update maintenance schedules. Continue updating map as new drainage system information becomes available.
Revised					
3-3	Inspect & sample town drainage system discharges	Board of Public Works	Inspect all discharges, sample and test flows that indicate an illicit discharge may be present.	Routine outfall inspections were completed for maintenance purposes. GPS equipment was obtained, but no specific outfall screening and/or testing for illicit discharges happened.	Dry weather outfall inspections and flow sampling will begin, as weather permits, until all outfalls have been properly screened. Outfalls will be sampled as budget is available.
Revised			Train Public Works employees to inspect outfalls.		
3-4	Illegal dumping education	Board of Public Works	# of illegal dumps reported, # of penalties, # of rewards to citizens who reported, # of dumps cleaned.	The Town has coordinated between Public Works, Landfill and Police to track, investigate and remediate illegal dumping. 7 instances of illegal dumping were reported.	Continue logging calls to address illegal dumping and stormwater issues as they arise.
Revised					

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 Continuation	Planned Activities – Next Permit Round
3-5	Septic system controls	Board of Health	# and location of systems, # inspected regularly, # of people trained to inspect, # of failed systems.	Septic system maintenance was mandated in permit year 1. The Board of Health continued to inspect septic systems. A base map of septic systems and data summary (e.g., age, # pumpouts, Title 5 failures) were developed as part of the CWMP developed in Town. The Board of Public Works has instituted a betterment program for tying septic systems into sewer.	Evaluate inspection data and septic system locations with respect to water quality concerns at receiving waters and identify potentially failed systems. Develop and implement a strategy to address failed systems. Continue septic management program.
Revised					

**3a. No additions at this time.**

**4. Construction Site Stormwater Runoff Control**

4-1	Soil and erosion control bylaw	Planning Board, Conservation Commission, ZBA, Board of Public Works	Present bylaw to Town Meeting in year 3.	The draft bylaw was previously presented to the Board of Selectmen on March 14, 2007 to receive input. However, the draft bylaw and regulations have not been finalized .	Update the Stormwater Regulations as appropriate to accompany the finalized bylaw.
Revised			Bylaw to Town Meeting in year 5.		
4-2	Construction Inspections	Planning Board, Conservation Commission, Zoning Board of Appeals, Board of Public Works	Frequent inspections and # of inadequate sites/plans reported.	The Conservation Commission conducted erosion control inspections that resulted in 1 enforcement action. A consultant was engaged to do subdivision inspections for permit compliance.	Continue tracking & inspecting construction sites.
Revised					

**4a. Addition.**

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 7 Continuation</b>	<b>Planned Activities – Next Permit Round</b>
4-3	Establish a Procedure for the Receipt of Information Submitted by the Public	Board of Public Works	# of issues reported, record of enforcement actions	The DPW did receive a calls regarding a construction site and the Conservation Commission conducted a site inspections to address construction site erosion issues (refer to BMP 4-2). The information was tracked through email.	Continue logging calls to address construction site erosion issues.
Revised					

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

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)</b>	<b>Planned Activities – Next Permit Round</b>
5-1	Bylaw for post construction runoff	Planning Board, Conservation Commission, ZBA, Board of Public Works	Present bylaw to Town Meeting in year 3.	The draft bylaw was previously presented to the Board of Selectmen on March 14, 2007 to receive input. However, the draft bylaw and regulations have not been finalized.	A final meeting and public input hearing will be held with the Bylaw Study Committee to finalize the bylaw. Update the Stormwater Regulations as appropriate to accompany the finalized bylaw.
Revised			Bylaw to Town Meeting in year 4.	The Town continues to review subdivision plans for the most appropriate stormwater BMPs that will be protective of water quality.	
5-2	Inspect all Town maintained structural BMPs. Document problems	Board of Public Works	Inspect all structural BMPs annually, # of problems identified and remedied, changes in water quality.	Town owned/operated BMPs were inspected and findings recorded. Appropriate maintenance schedules were established based on findings and data was recorded for future use in the Town’s GIS system to prioritize and track drainage system maintenance. DPW evaluated maintenance needs at outfalls to the Ten Mile River and repaired or replaced 8 headwalls.	Continue inspection program of all Town owned/operated BMPs and update database to prioritize areas of concern. Evaluate maintenance needs and access for BMPs on privately owned land without easements.
Revised					

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 Continuation	Planned Activities – Next Permit Round
5-3	Update Zoning Regulations	Planning Board, Conservation Commission, Zoning Board of Appeals, Board of Public Works	Update zoning bylaws, track effectiveness of changes, # of new stormwater treatment areas expected under new codes, projected # of upgrades of existing stormwater facilities.	Updates to the zoning regulations were not pursued since the proposed stormwater bylaw and regulations have not undergone final review.	The need for updates to the zoning regulations will be discussed at future scheduled meetings .
Revised					

**5a. No additions at this time.**

**6. Pollution Prevention and Good Housekeeping in Municipal Operations**

6-1	Predictive catch basin program	Board of Public Works	Develop program, collect data & refine program.	50% of catch basins were cleaned based on sediment accumulation rates from previous years to target areas with the most sediment. Sediment volumes were tracked by catch basin cleaning routes to update accumulation areas based on quantity versus location and the GIS database for the Predictive Catch Basin Program was updated with new data. The Town purchased a truck to clean catch basins based on sediment accumulation rates and are tracking through worksheets for each location.	Continue inspection and cleaning program and update database. Continue to evaluate cleaning locations and schedules to prioritize accumulation areas based on quantity versus location. Utilize the new truck to clean catch basins at an appropriate frequency.
Revised		Consultant			
6-2	Street cleaning	Board of Public Works	Sweep all roads once-years 1 & 2, twice-years 3-5, all parking lots-years 4-5, # lbs. debris collected.	All roads were swept at least once and sediment volumes were tracked by street to evaluate quantities generated per location. The GIS database was updated with new data from 2007. The Town began to evaluate accumulation areas based on quantity versus location. The Town utilized the new street sweeper purchased to sweep streets within a shorter time period.	Continue entering sweeping data into the GIS database and evaluate priority sweeping needs based on quantity versus location. Continue road sweeping program and increase sweeping frequencies as appropriate and as budget and staff time allows.
Revised					

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 7 Continuation</b>	<b>Planned Activities – Next Permit Round</b>
6-3 Revised	Investigate Town owned BMPs for retrofit opportunities	Board of Public Works	Inspect 3 structural BMPs per year.	All outfalls/culverts in Town were inspected for maintenance issues. BMPs were not inspected for retrofit opportunities; however, a storm drain system retrofit was completed at Charles Street to install a deep sump catch basin and swale to remove the pipe discharge to the nearby water body. Chapter 90 funding was approved for storm drain system repairs at 15 sites. Three (3) Stormceptors were installed on Fisher Street. Improvements to the drainage system to the Abbott Run River have been designed and bid.	Complete improvements to stormwater discharges along the Ten Mile River and Falls Pond. Implement retrofits of the existing storm drain system as opportunities arise. Inspect BMPs for retrofit/improvement opportunities and incorporate information from BMP 5-2. Evaluate potential BMP retrofits with existing maintenance needs and prioritize e the most cost-effective activities for maintaining or enhancing water quality.

**6a. Additions**

6-4 Revised	DPW stormwater training for illicit discharges, pollution prevention and good housekeeping	Board of Public Works	Attendance sheet and copy of program.	A stormwater pollution prevention and good housekeeping training program was reviewed by the Town. No funding was available to complete training efforts.	GPS equipment and outfall inspections training for Public Works employees is scheduled to occur in 2012. Conduct a training session for pollution prevention and good housekeeping as funding is available.
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<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 7 Continuation</b>	<b>Planned Activities – Next Permit Round</b>
6-5 Revised	Develop an Inspection and Maintenance Plan for the Drainage System	Board of Public Works	Database Program, Records of inspections and maintenance.	The town inspected all outfalls/culverts using the standard inspection forms previously developed. The GIS database was updated with recent inspection data related to drainage system structures and catch basin and street sweeping data. The Town continued to evaluate drainage system maintenance data based on quantity of materials (i.e., catch basin cleanings and street sweepings) versus location. Based on inspection results and maintenance needs funding was obtained to address stormwater discharges to Falls Pond and Chapter 90 funding was approved for storm drain system repairs at 15 sites. Funding for Brook and Culvert Maintenance was approved in 2009 and 2010.	Continue to maintain the storm drain system based on inspection results. Continue to evaluate and prioritize maintenance needs with emphasis on water quality benefits. Incorporate procedures for addressing water quality improvements for flood control projects.
6-6 Revised	Evaluate Town-wide Municipal Operations for Pollution Prevention Options	Board of Public Works	Evaluation completed in year 4 and recommendations implemented in year 5.	DPW requested funding for a larger salt storage shed and two additional vehicle storage/maintenance bays at the Public Works Facility. These improvements were proposed to minimize potential stormwater impacts at the site due to salt and vehicle storage, as well as assist with facility operation. An indoor vehicle washing bay was designed as part of the Town's Wastewater Treatment Facility upgrade.	Pending approval of funding, construct improvements at the Public Works Facility. Conduct self-evaluation and develop BMPs, as appropriate, to address potential stormwater impacts.

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

No TMDLs have been established so far for North Attleborough 303(d) waters.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 Continuation (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Round
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**7a. Additions**

7-1	Develop a Water Quality Strategy for 303(d) Waters.	Board of Public Works	Summary of pollution prevention efforts, future needs, and responsible parties. Copy of surface water quality strategic plan.	No significant progress has occurred on this task during this permit year.	Begin evaluating the status of BMPs and pollution prevention efforts with respect to 303d waters.
7-2	Implement water quality strategy for discharges to 303(d) waters.	Board of Public Works	Photographs, logs, and BMP descriptions for completed efforts and water quality improvements.	N/A	To be determined.

**7b. WLA Assessment**

Currently, there are no Waste Load Allocations (WLAs) for receiving waters in North Attleborough. As required by the general permit, N. Attleborough will give priority to impaired waters for BMP implementation. Years 1-5 served as a building period to implement basic BMPs, generate data and establish a solid stormwater management program. The Town did not begin evaluating the effectiveness of BMPs and stormwater discharges into 303(d) waters due to staff turnover that occurred during Permit Year 5. Some staff positions have been filled and the Stormwater Committee is being reformed. Once the Stormwater Committee is better formed, a staff member will be appointed to begin evaluating data related to existing impaired waters. This task relies on the progress of other SWMP tasks such as at outfall screening. However, some tasks have been completed, such as a base map of septic systems and data summary (e.g., age, # pump outs, system maintenance) that was developed as part of the CWMP in Town. The Town anticipates significant progress with these tasks in the beginning of the next round of permitting.

**Part IV. Summary of Information Collected and Analyzed**

All outfalls and culverts have been field verified and inventoried for maintenance needs. Six years worth of street sweeping and catch basin cleaning data has been compiled and the Town modified the catch basin cleaning frequency based on sediment accumulation areas. The Town continued to evaluate maintenance priorities based on quantity versus location. Funding was obtained to complete improvements and repairs to outfalls that discharge to Falls Pond and the Ten Mile River, as well as 15 other storm drain system repair sites. The drainage system in Route 1 (owned by MassHighway) was field verified and the GIS map was updated to better understand the Town’s drainage system in this area.

**Part V. Program Outputs & Accomplishments (OPTIONAL)**

**Programmatic**

Stormwater management position created/staffed	(y/n)	
Annual program budget/expenditures	(\$)	

**Education, Involvement, and Training**

Estimated number of residents 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.)	
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	
▪ community participation	(%)	
▪ material collected	(tons or gal)	
School curricula implemented	(y/n)	

**Legal/Regulatory**

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

**Mapping and Illicit Discharges**

Outfall mapping complete	(%)	
Estimated or actual number of outfalls	(#)	
System-Wide mapping complete	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	
Outfalls inspected/screened	(# or %)	
Illicit discharges identified	(#)	
Illicit connections removed	(#) (est. gpd)	
% of population on sewer	(%)	
% of population on septic systems	(%)	

## Construction

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 completed	(# or %)	
Estimated volume of stormwater recharged	(gpy)	

## 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)	
Total number of structures cleaned	(#)	
Storm drain cleaned	(LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		
Cost of screenings disposal	(\$)	
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)	
Cost of sweepings disposal	(\$)	
Vacuum street sweepers purchased/leased	(#)	
Vacuum street sweepers specified in contracts	(y/n)	
Reduction in application on public land of: (“N/A” = never used; “100%” = elimination)		
▪ Fertilizers	(lbs. or %)	

▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Anti-/De-Icing products and ratios	% NaCl % CaCl <sub>2</sub> % MgCl <sub>2</sub> % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized	(y/n)	
Manual control spreaders used	(y/n)	
Automatic or Zero-velocity spreaders used	(y/n)	
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	
Storage shed(s) in design or under construction	(y/n)	