

Municipality/Organization: Town of Plymouth

EPA NPDES Permit Number: MAR 041150

MaDEP Transmittal Number: W-40949

**Annual Report Number
& Reporting Period:** No.11: March16 – March17

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Jonathan Beder **Title:** DPW Director

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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: Jonathan Beder

Title: DPW Director

Date: 5/16/2017

Part II. Self-Assessment

The Town of Plymouth has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions, except for the following provisions:

- Part 1.B.2 (e) (Vi)** The Town of Plymouth's permit eligibility with regard to the Endangered Species Act is still pending at the time of our NOI submission. Our MS4 discharges will have the potential to impact the existence of specific species protected under the Endangered Species Act. We will investigate more on this issue of concern.
- Part 1.B.2 (k)** Some discharges have been determined (through DMF Sanitary Survey) to be contributing to exceedance of water quality standards in Plymouth Harbor. These discharges have been made priorities in our NPS Pollution Grant Program.

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
1-1	Educational Flyer	Town Engineer/ Town Manager	Post in all schools & Town buildings	The Town's Department of Marine & Environmental Affairs created an educational watershed management brochure containing tips on reducing pollutants in stormwater runoff. This brochure is made available at Town Hall. The Department of Marine & Environmental Affairs is active in updating the stormwater management webpage which includes interactive computer games for children, educational information on stormwater and background of stormwater permit with reports available for download. The SuAsCo stormwater display have been rotated in various locations through Town Hall and also displayed at Department of Public Works Educational Day.
1-2	Form Public Education Task Force	Town Engineer/ Environmental Manager	Participation in town wide events & schools	The Department of Marine & Environmental Affairs actively participates in educational opportunities with local watershed groups and citizens concerning stormwater issues. The Town worked with the Herring Ponds Association in the continuation of the distribution of watershed management postcards for the Herring Pond Watershed. In addition, The Herring Pond Association created and distributed watershed books.
Revised	Educational Workshops	Town Engineer/ Environmental Manager	Schedule Workshops	The Herring Ponds Watershed Association and the Six Ponds Watershed Association has held Association meetings to discuss and review stormwater issues in their watershed. DMEA held an educational public meeting with the UMASS Dartmouth-SMAST to discuss water quality in the ponds and activities which impair water quality - there were over 40 residents in attendance.
1-3	Air stormwater message on local cable access channel	Town Engineer	Post one message every month	Service announcements for the Town's Household Hazardous Waste Days are broadcasted spring and fall.
Revised				
1-4	Storm Drain Stenciling	Town Engineer/Conse rvation Comm./Environmental Manager	Stencil Storm Drains with Messages (25% each year)	The Town continues to utilize watershed groups, volunteers as well as staff to continue the ongoing storm drain marker program.

Revised	Storm drain Markers	Environmental Manager	50 per year	
1-5	Map outfalls and receiving waters	Town Engineer	Map of discharge pipes to waters & wetland (20%/yr.)	Completed
Revised				
Revised				

1a. Additions

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 10
1a.	Media coverage	Town Engineer	Story coverage on NPS Pollution Projects.	The bioretention and rain garden projects the Town DPW has completed have become an educational piece for various workshops held in the area. These bioretention areas, which are in or close to downtown Plymouth, have become destinations for educational workshops.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goals – Permit Year 10
2-1	Hazardous waste collection	DPW Recycling Coordinator	Twice/yr. (min.)	Two events were held in this permit period.
Revised		DPW		
2-2	Volunteer Water Quality Monitoring	Marine and Environmental Affairs	Level of participation	The Town continues to work with several Watershed Associations and volunteers in collecting water quality data as part of the regular monitoring program. In addition DMEA received grant funding from the Massachusetts Environmental Trust for the implementation of a larger education and monitoring project, Plymouth Ponds and Lakes Stewardship (PALS) Project This funding enable's the Town and Consultant UMASS Dartmouth-SMAST to conduct water sample collection, cover laboratory fees, compile data and analyze with a final report atlas. The PALS project kicked off in August of 2014 with over 50 volunteers from project partners as well as residents who live on or nearby ponds. Due to the substantial volunteer efforts, we were able to add an additional 4 ponds to the list, totaling 39 for sampling and analysis. UMASS Dartmouth-SMAST has completed the PALS Atlas report, available on the Town DMEA website. In addition DMEA held an educational public meeting with UMASS Dartmouth-SMAST to discuss water quality in the ponds and activities which impair water quality - there were over 40 residents in attendance. Each year the Town collects samples for approximately 5-10 new ponds as well as continued sampling at several other ponds.
Revised	Rain Barrel Program			
2-3	Citizen Stormwater Committee/Lake Associations	Town Engineer/Natural Resources Officer	Hold meeting to plan for stormwater issues/mgmt.	The Town continues to work closely with the Herring Ponds Association whom holds numerous meetings regarding water quality and stormwater management issues in the watershed. The Town also works closely with 3 other Watershed Associations and assists on remediating stormwater issues to the best ability. The Town received Coastal Pollution Remediation grant funding to design stormwater remediation at two outfalls on Great Herring Pond. The Town reached out to the watershed group and abutters as well as held an educational meeting to describe the issues and design.

Revised		Town Engineer/Environmental Manager		
2-4	“Adopt a Storm Drain Program”	Town Engineer/Natural Resources Officer	Participation in Community Cleanups	Several community based cleanups were held during this permit year. Over 1,020 30 gallon bags were collected for spring and fall 2016 cleanups.
Revised				
2-5	Citizen watch Groups	Town Engineer/Natural Resource Officer	Aid Local Enforcement author. In the identification of polluters	The Town Conservation and Planning Department as well as the Department of Marine & Environmental Affairs continue to work closely with the Network of Open Space Friends in coordinating cleanups, stewardship as well as many other activities. The Department of Marine & Environmental Affairs has a Natural Resource Warden whom has walked and evaluated land issues including dumping and ATV use which causes erosion. In addition, DMEA now has 2 Natural Resource Wardens whom monitor and evaluate land issues.
Revised				
Revised				

3. Elicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10
3-1	Develop illicit dischg. id. & elim. plan	Town Engineer/BOH/ Environmental Manager/ Planning Bd.	Make recommendations for the plan	The Town DPW Sewer Division utilizes the Illicit Discharge and Elimination Plan under the Sewer Division Rules & Regulations.
Revised	Screen outfalls for Illicit connections	Public Works	Screen outfalls by Winter 07-08	
3-2	Drainage Network Mapping	Town Engineer	Drainage of urbanized areas	Mapping of outfalls and catch basins were completed in previous years.
Revised				
3-3	Public Info. on illicit connections/illegal discharges	Town Engineer/Board of Health	Educating the public-hazards associated with these activities	Section twelve of the Sewer Division Rules & Regulations has been approved and states that surface runoff is prohibited.
Revised				
3-4	Develop/Modify general illicit discharge bylaw	BOH/Planning Board	Developing/modifying the plan	The guide for Storm Drainage Facilities that address illicit discharges is now being utilized.
Revised				

3-5	Present Bylaw for town meeting action	BOH/Planning Board	Make presentations for town Meeting action	Section twelve of the Sewer Division Rules & Regulations has been approved in previous years and states that surface runoff is prohibited. The Guide for Storm Drainage Facilities was adopted in 2008 by Planning Board, DPW & Inspectional Services and is being utilized.
Revised				

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10
4-1	Wetlands by-law for stormwater management	Conservation Commission	Town Meeting Action	This by-law is now being enforced by the Conservation Commission. The 10ft no-touch buffer approved as part of the Towns Wetland Protection Act Bylaw was increased to a 35ft no-touch buffer.
Revised				

4-2	Subdivision regulations for stormwater management	Planning Board	Change subdivision Rules and Regulations	<p>The Guide for Storm Drainage Facilities was adopted in 2008 by Planning Board, DPW & Inspectional Services and is now being utilized.</p> <p>The DPW Engineering and Planning Departments worked in cooperation to complete the “Guide for the Design of Storm Drainage Facilities in the Town of Plymouth, Massachusetts”. The guide is now part of the Planning Subdivision Regulations as well as DPW policy. The guidelines include, but are not limited to, the following items:</p> <ul style="list-style-type: none"> • Acceptable Best management Practices with specific reference to State of Massachusetts BMP standards including Low Impact Standards and Conventional Standards for various structures and functions including nutrient removal in harbors and ponds, total suspended solids(TSS) removal in streams, ground water recharge, resource crossing regulations and standards including fish passage and openness ratios, and removal rates; • Plant selection guidelines for vegetated BMPs; • Water quality and water quantity management guidelines; • Design guidelines for BMPs Low Impact Design (LID) standards and Conventional Standard Design standards for various structures including those functions listed above; • Selection criteria for BMPs; • Incentives for implementing LID practices.
Revised				
4-3	Erosion control by-law	Planning/Zoning Board of Appeals	Town Meeting Action	The Guide for Storm Drainage Facilities was adopted in 2008 by Planning Board, DPW & Inspectional Services and is now being utilized.
Revised				
4-4	Reporting hotline	Town Engineer/Planning Board	Set up procedures in response to info submitted by public	Residents contact DPW Highway Administration. The information is submitted to the Highway Superintendent for remediation.
Revised				
4-5	Site plan review/constr. Site inspection program	Town Engineer, Planner/Building Inspector	Review all plans, inspect, & visit construction site	These regulations are now being utilized.
Revised				

4a. Additions – Projects

4a-1	Drainage Project – Bay Colony Drive	DPW	The existing drainage infiltration system was failed. We constructed a new infiltration system with a forebay system to provided adequate TSS Removal prior to infiltration. The area needs to be re-seeded in a few areas to stabilize disturbed soil. Project 95% Complete.
4a-2	Drainage Project – Curtis Drive	DPW – Private Contractor	The roadway is constantly flooded and the existing drainage systems have failed. The proposed drainage systems were installed, deep sump hooded catch basins, forebay and infiltration systems last summer/fall. The roadway will receive any necessary slope stabilization that did not take last fall, this spring. Project 95% Complete.
4a-3	Drainage Project – George St	DPW	Drainage project currently under construction. The roadway is constantly flooded and the existing drainage systems have failed. The proposed drainage systems were installed, deep sump hooded catch basins and infiltration systems last summer/fall. The roadway is currently in asphalt binder. The roadway will receive the top coat of asphalt and slope stabilization will take place this summer Project 100% Complete.
4a-4	Drainage Project – Buzzard Bay Drive	DPW	Drainage project currently under design. The roadway is constantly flooded and no existing drainage systems exist The proposed drainage systems will consist of deep sump catch basins, water quality units and underground infiltration systems. Design 50% Complete.
4a-5	Drainage Project – Water Street State Pier to Rotary	DPW	The Town will be improving the existing drainage system by replacing existing catch basins that have little to no sumps with deep sump catch basins with hooded outlets where existing utilities allow. The installation of water quality inlets and reduction in impervious area will promote improved water quality to Plymouth Harbor. Project Design 90% Complete
4a-6	Project – Stephens Field Building Demolition and Soil Excavation	Department of Marine & Environmental Affairs	The Town completed the demolition of the former DPW A.K Finney building and removed 880 tons of petroleum impacted soil (380 tons more than expected). There is an estimated 400-500 additional tons to be removed due to unknown soil impact underneath the building. The Town DMEA applied for Brownfield funding to complete the soil excavation, however, the project was not eligible for funding. The Town will utilize the Stephens Field Rehabilitation funding prior to project construction for the soil excavation.

4a-7	Taylor Avenue Dune Restoration	Department of Marine & Environmental Affairs	The Town DMEA removed two structures and septic system within a dune system abutting Bartlett Brook/White Horse Beach, thereby removing the nutrient load to the resource areas. DMEA has restored the dune in this area and installed sand fence and additional plantings in the spring of 2016.
4a-8	Drainage Project – Stephens Field	DPW	The Town is in the design process of the Stephens Field Rehabilitation Project. The project will include upgrading the existing and providing new drainage systems. The project will include the installation of Tree Box Filters for Stormwater treatment and a detention system.
4a-9	Intensive Stormwater Assessment at Great Herring Pond	Department of Marine & Environmental Affairs	In the Fall/Winter of 2015-2016, DMEA and UMASS Dartmouth-SMAST conducted an intensive Stormwater assessment and nutrient loading to Great Herring Pond. Assessments were performed through the duration of three separate storms and samples/flow measurements collected at intervals during each storm. From the assessment DMEA was able to prioritize Stormwater sites for design and implementation. DMEA received grant funding to assist with two of the top priority outfalls along Eagle Hill Drive. The project is currently in final design phase. DMEA is applying for construction funding to implement the project
4a-10	Samoset St Re-Construction	DPW/State TIP Project	The roadway is being planned to be re-constructed and drainage improvements provided to properly treat stormwater prior to discharge to existing outfalls in Plymouth Harbor. Drainage project to install deep sump catch basins with eliminator hooded outlets. Drainage systems and new roadway/sidewalks have been installed. Project 100% Complete.
4a-11	Drainage Project – Florence Street & Janet Street		Drainage project currently under design. The roadway is constantly flooded and the existing drainage systems have failed. The proposed drainage systems will consist of deep sump catch basins and underground infiltration units Design 50% Complete.
4a-12	Holmes Dam Removal and Newfield Street Bridge Replacement	Department of Marine & Environmental Affairs	Both the Holmes Dam Removal and Newfield Street Bridge projects are in the final design phase. DMEA is applying for grant funding for construction of the project. Anticipated construction start date is October 2017, dependent on grant funding.
4a-13	Tidmarsh Farms West – Acquisition and Restoration	Department of Marine & Environmental Affairs	The Town DMEA is working with Community Preservation Committee to acquire the retired 80+ acre bog property west of Beaver Dam Road as well as purchase the lot up into the pinehills. This will be completed by June 2017. In addition, DMEA is working with the State and USDA to restore the former cranberry bogs into wetland habitat. This is expected to be completed end of 2018-2019.

4a-14	Town Hall Project Russell and South Russell Street	DPW – Private Contractor	The Town will be removing existing portions of the 1820 Court House and be reconstructing a new Town Hall Facility. The project will include roadway and drainage improvements for Russell & South Russell Street which currently drain to Town Brook and Plymouth Harbor. The current drainage system consists of 4 catch basins to serve approximately 1800 feet of roadway and parking areas. The improvements will include the installation of deep sump catch basins with hooded outlets (16 basins), water quality units (3 units) and underground infiltration systems (2 systems). The new Town Hall Building will also be provided with a roof drain recharge system also. The project will also result in a net decrease in impervious area. Project under construction. 95% Percent of drainage systems installed but not on-line yet.
4a-15	Water Street – Sandwich Street to State Pier	DPW	The Town will be improving the existing drainage system by replacing existing catch basins that have little to no sumps with deep sump catch basins with hooded outlets where existing utilities allow. The installation of water quality inlets and the use of perforated drain drainage pipes to promote infiltration will be incorporated into the design. Project Under Construction 60% Complete
4a-16	Birch Street & Worcester Street	DPW – Private Contractor	The existing gravel roadway is prone to flooding abutting properties. The Town plans to install deep sump hooded catch basins, water quality units and infiltration system. The Town also plans to pave a portion of the existing gravels ways. Construction 100% Complete
4a-17	William Ave & Homer Ave	DPW - Private Contractor	The existing paved roadway currently has no drainage systems and the roadway surface is in poor condition. The existing roadways drain directly to Bartlett Pond. Due to high groundwater and poor soil material the installation of upstream infiltration systems is not possible. The Town will repave/regrade the existing roadways and provide a water quality swale/sediment forebay adjacent to the roadway to treat Stormwater prior to discharging to Bartlett Pond. Project Design – 100% Complete. Construction to start this summer
4a-18	Drainage		

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
5-1	Stormwater Mange. By-law- Development Construction Site Runoff Control and Pretreatment	Planning/Zoning Bd. & Conservation Commission	Strategies to be developed	The Guide for Storm Drainage Facilities is now being utilized by Planning Board, DPW & Inspectional Services.
Revised				
5-2	Stormwater Mange. By-law Development Post Construction Stormwater Management	Planning/Zoning Bd. & Conservation Commission	Formulation of the By-law	The Guide for Storm Drainage Facilities is now being utilized by Planning Board, DPW & Inspectional Services.
Revised				
5-3	Conservation Comm. Wetlands By-law	Planning/Zoning Bd. & Conservation Commission	Presentation for Town Meeting Action	These regulations are now being utilized.
Revised				
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 10
6-1	Street sweeping program	Highway	Spring annual sweeping record sweeping as needed	Completed annual sweeping program. Sweeping program is now in place.
Revised				
6-2	Catch basin/drain cleaning	Highway	The Town has purchased a new jet rod/vactor truck for the drainage maintenance	Catch basins were cleaned during the permit period.
Revised			Clean all catch basins once every 3 years.	
6-3	Annual training at town facilities	Town Engineer	Various Work Shops were attended	
Revised				
6-4	Policy Guide	Town Engineer	Developing the Policy Guide	The Guide for Storm Drainage Facilities was adopted in 2008 by Planning Board, DPW & Inspectional Services and is being utilized.
Revised	O & M program for town-owned structural BMP's		Implement O & M program by Spring 06	<p>The Town rehabilitated an existing jet rod/vactor truck for use in O & M of stormwater structures. This allows the Town to have two such pieces of equipment. Along with a clamshell bucket truck for sediment removal from catch basins.</p> <p>The Town has purchased a new jet rod/vactor truck and street sweeper for the DPW drainage and roadway maintenance.</p>
6-5	Permit filing for the town's activities related to Phase II	Town Engineer	Permits Filed as needed	The Town has developed a general stormwater operation and maintenance permit in coordination with Engineering and the Conservation Commission.

6a. Additions

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s)- Permit Year 10
6.6	Vehicle washing	Public Works	Implemented washing policy	Continuing program.
6.7	Implement Integrated Pest Management (IPM) at Town Facilities	Parks & Recreation	Train facility employees and practice IPM town-wide by Summer 2008.	Inventory current chemicals, quantities, and practices used on town parcels. Training has not been completed.
6.8	Development of Spill Prevention, Control and Countermeasure Plan (SPCC)	DPW	Complete a SPCC plan.	The SPCC for the DPW facility has been completed.
6.9	Environmental Audit at DPW Facility	DPW/Environmental Management	Complete the Environmental Audit of the DPW Facility.	The Environmental Audit of the DPW Facility at Camelot Park has been completed.
6.10	UST for oil and waste at DPW Facility	DPW	Installation of UST	Installation of UST's for oil and waste oil at DPW Facility.

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Planned Activities – Permit Year 10
	<p align="center">319 NONPOINT SOURCE POLLUTION GRANT PROGRAM Approximately \$250,000 awarded</p>	<p>DPW – Department of Marine & Environmental Affairs</p>	<p>Water Street Stormwater Implementation to Improve Water Quality in Plymouth Harbor, a Category 5 Waterbody.</p>	<p>PROJECT SUMMARY/OBJECTIVES – The proposed project will improve water quality in Town Brook, Plymouth Harbor (Category 5 Water) and adjacent Plymouth Bay by mitigating Stormwater pollution (specifically suspended sediments, VOC’s and bacteria) through the design and implementation of a Stormwater Best Management Practices (BMPs) on Water Street. It is anticipated that this Stormwater pollution remediation project, coupled with several other pollution remediation projects along the waterfront, Town Brook an in Plymouth Harbor, will significantly improve water quality in the Harbor as well as protect, enhance, and restore sensitive coastal resources such as shell fish beds and recreational beaches.</p> <p>This project is working site for the CZM Shellfish Clean Waters Initiative. The components of this project will support TMDL implementation efforts by reducing pollutant loadings to Plymouth Harbor and Plymouth Bay, which are on the state’s 303(d) list of impaired waters for nutrients and pathogens.</p>

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

As noted in the Mapping Section below and in the attached map the town has completed the outfall mapping and is 100% complete with the catch basin mapping.

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	(7 mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored	(2 days)	
▪ community participation	352 vehicles	
▪ material collected	(tons or gal)	
School curricula implemented	(y/n)	

Legal/Regulatory

	In Place Phase II	Prior to Review	Prior to Drafted	Under 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				
▪ Erosion & Sediment Control				
▪ Post-Development Stormwater Management				

Mapping and Illicit Discharges

Outfall mapping complete	(100%)	
Estimated or actual number of outfalls	(#350)	
System-Wide mapping complete	(100%)	
Mapping method(s)		
▪ Paper/Mylar	(NA)	
▪ CADD	(NA)	
▪ GIS	(100%)	
Outfalls inspected/screened	(100%) mapped and conditions noted	
Illicit discharges identified	(#0)	
Illicit connections removed	(#0) (est. gpd)	

% of population on sewer	(5%)	
% of population on septic systems	(95%)	

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 ₂ % MgCl ₂ % 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)	

