Municipality/Organization: **DOVER, MASSACHUSETTS**

EPA NPDES Permit Number: **MAR041107**

MassDEP Transmittal Number: **W-X280300**

Annual Report Number & Reporting Period: **Year 15** **April 1, 2017 – March 31, 2018**

NPDES PII Small MS4 General Permit Annual Report
(Due: May 1, 2018)

Part I. General Information

Contact Person: Craig S. Hughes Title: Superintendent of Streets

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Mailing Address: 2 Dedham Street, P.O. Box 250, Dover, MA 02030

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: David W. Ramsay

Printed Name: David W. Ramsay

Title: Town Administrator

Date 4/23/18

Part II. Self-Assessment

During Year 15, the Town of Dover continued the good housekeeping and operational procedures that were implemented during (or prior to) previous Permit years, such as street sweeping, sidewalk sweeping, catch basin cleaning, and paved drainage swale cleaning. During Year 15, the Town cleaned all 1,029 catch basins and cleaned 800 catch basins a second time, swept all Town streets at least twice, swept all Town sidewalks, and cleaned approximately 1,200 linear feet of paved drainage swales.

The Town continues to minimize the tonnage of salt (sodium chloride) used on roadways by blending it with sand.

The Town continues to approach stormwater management and protection from new developments by using a Comprehensive Permit process. As part of this, the Town inspects constructed stormwater structures (such as detention basins) as well as stormwater management from areas currently under construction.

The Town will continue to look for available public education and outreach materials, as well as additional training opportunities in the next Permit year. The Town will continue to proactively engage in activities to meet the requirements in Year 1 of the new Massachusetts MS4 General Permit and beyond.

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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1.1	Press Releases	Engineering/BOH	None	None	Draft and distribute a flyer identifying how improper disposal of pet waste can pollute waters and how to properly dispose of pet waste.
Revised					
1.2	Groundwater	Engineering	Locating wells and septic systems	None	None
Revised					
1.3	Hazardous Waste Collection	Volunteers	Places, dates, & time of pickups	The Town hosted a Household Hazardous Waste Collection event in April 2017.	The Town will continue annual Household Hazardous Waste Collection event in coming years.
Revised					
1.4	Watershed Management	Engineering	Part of Planning Board R&R	Two groundwater protection agents were appointed prior to this Permit year.	The Town will continue to fund and support the groundwater protection agent position.
Revised					
Revised					

1a. Additions

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
2.1	Storm Committee	None	None	None	None planned.
Revised					
2.2	Adopt-A-Stream	None	None	None	None planned.
Revised					
2.3	Stormwater Management Plan	Engineering	Completed	Components of the Stormwater Management Plan have been incorporated into the Town's Comprehensive Permit.	Continue to require Comprehensive Permit for developments and construction in Town. Update the Stormwater Management Plan to meet the requirements of the new Massachusetts MS4 Permit.
Revised					
Revised					
Revised					

2a. Additions

2.5	Dover Cleanup	Dover Recycling Committee	Yearly Event	Annual Dover cleanup day is scheduled for April 28, 2018.	Annual Dover cleanup scheduled for early spring.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3.1	Map Drain Systems	Engineering	Show on street maps	Outfalls and drainage structures were mapped prior to Year 15 by a Highway Department intern.	Expand mapping program to include all Town outfalls including those located outside of the MS4 regulated area, outfall delineation, and additional requirements of the new Massachusetts MS4 Permit.
Revised					
3.2	Capital Budget and Planning	Superintendent of Streets	Inspect Outfalls and other components of drainage system.	Three existing detention basins within the Town are inspected during and after each storm event. Approximately 1,200 linear feet of paved drainage swale was cleaned in Year 15 by Strawberry Hill Landscaping, of Medfield, MA. The Town requests contractors to report observed signs of illicit discharges during catch basin cleaning.	The Town will continue to inspect detention basins and has a goal to clean up to 2,000 feet of storm drain pipe/paved drainage swales each year. Catch basin cleaning will continue to be used for locating illicit discharges. Outfall inspections were completed in the spring and fall of 2017.
Revised					
Revised					

3a. Additions

3.3	Illicit Discharge Education	Superintendent of Street	Education of Town Department Heads	Town held public meetings with Department Heads on stormwater management practices prior to appropriation of funding for an illicit discharge by-law.	Continue education on stormwater management and illicit discharges.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
4.1 Revised	Town Regulations	Superintendent of Streets	Control Runoff	The Town implemented an Illicit Connection by-law in Year 13. It is currently in effect. The Town has several Chapters of Code in place which address water resources and/or stormwater. These include: o Chapter 116 (Groundwater Protection Districts): Requires that road salt, pesticides, and fertilizers be stored inside to prevent a release, and also requires that new lots that propose more than 10% impervious surface provide on-site recharge. o Chapter 181 (Dover Wetlands Protection): Protection of wetlands and surface water bodies o Chapter 248 (Subdivision of Land), Article V: Establishes standards for new storm drain construction, including pre-and post-development flow calculations; requires Stormwater Management Plan for new development; establishes erosion and sedimentation control standards; o Chapter 263: Rules and Regulations supporting Chapter 181, the Wetland Bylaw. No changes were made to any of these Chapters during this Permit year.	Continue to review building permit plans against established checklist and enforce existing Code with Town's Comprehensive Permit. Review all bylaws and Codes for compliance with IDDE, construction site stormwater runoff control, post-construction stormwater management, and other requirements in the new Massachusetts MS4 Permit. Revise and update bylaws as needed.
4.2	Site Plan Review	Engineering	Send checklist comments to designers	Require designers to use the checklist before submitting permit plans. 16 site	Continue Process

Revised				plans were reviewed in Year 15 by the Town Engineer and/or Superintendent of Streets.	
4.3	Site Inspections	Engineering & Superintendent of Streets	Foundation inspection for foundation drain and outlet	Contractors will continue to be required by the Town to call for an inspection prior to backfilling. Four developments under construction were inspected during Year 15. No fines or stop work orders were issued for the development projects.	Continue Process
Revised					
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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5.1	By-laws and Planning Board R&R	Engineer & Planner	Adopt By-Laws and Regulations	As noted, all Code related to stormwater was adopted prior to this Permit year. Implemented an Illicit Connection bylaw.	Continue to enforce existing Code. Enforce Illicit Connection bylaw. Review all bylaws and Codes for compliance with IDDE, construction site stormwater runoff control, post-construction stormwater management, and other requirements in the new Massachusetts MS4 Permit. Revise and update bylaws as needed.
Revised					
5.2	Design Standards	Planning Board ZBA	Check Infrastructure Construction	16 new building foundations were inspected by the Town Engineer or Superintendent of Streets in Year 15 to observe the nature of the foundation drain and outlet.	Continue to administer existing inspection program.
Revised					
5.3	Final Inspection	Engineer	Inspection of Infrastructure	16 final inspections were completed in Year 15.	Continue to inspect developments upon construction completion.
Revised					
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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6.1	Coordination of Town Departments	Selectmen	Compliance with Phase II	Interdepartmental communication was practiced. There have been no events of non-compliance.	Develop written operations and maintenance procedures for municipal activities. Complete an inventory of all Town owned facilities exposed to stormwater. Town will develop a new Stormwater Management Plan in compliance with the new MS4 permit.
Revised					
6.2	Questionnaire on Department Activities	Engineering	Review of Answered Questionnaire	Volumes of deicing materials used were monitored. A mix of sand and salt was used for deicing. In Year 15, the Town used 2,024 tons of salt and 868 tons of sand. Environmentally safe and pet-friendly de-icing pellets of calcium chloride were used on sidewalks around public buildings. No liquid calcium was used. All Town lawns were treated with organic fertilizers.	Continue monitoring storage and use of products or materials that can potentially cause stormwater pollution.
Revised					
6.3	Street Cleaning	Superintendent of Streets	Schedule Operations	Each street in town was swept twice using Town equipment and personnel. Street sweeping occurred year-round and primarily in the spring and fall. High-traffic areas such as main roads were swept more frequently as needed. Sidewalks were swept once during the year by the Town's power broom. The street and sidewalk sweepings are hauled to an approved disposal site.	Continue annual cleaning efforts.
Revised					
6.4	Catch Basin Cleaning	Superintendent of Streets	Street Schedule	Each of the Town's 1,029 catch basins was cleaned in Year 15 and	The Town plans to continue cleaning all catch basins.

Revised				approximately 800 were cleaned twice. The removed materials were initially stored at the Highway Department then removed by a private contractor and disposed of at an approved disposal site.	
6.5	Employee Training	Superintendent of Streets; Director of Parks & Recreation	Training for Equipment Operation	In a previous year, several interdepartmental personnel (Building Commissioner, Conservation Commission, Board of Health, Water Agent, Planning Board, Town Engineer, and Town Administrator) attended continuing education seminars on stormwater management practices. The Town Engineer attended stormwater seminars during Year 15.	In coming years, the Town will continue to look for additional training options, such as equipment manufacturers, insurance companies, and consulting firms.
Revised					

6a. Additions

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)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities
7.1	Check Outfalls	Superintendent of Streets	Schedule Dates	The Town of Dover previously located, mapped and inspected outfalls located within the MS4 urbanized area. All outfalls were inspected in Year 15. Outfalls were monitored during storm events in Year 15.	Town will continue monitoring outfall locations.
Revised					
7.2	Identify Illicit Discharges	Engineer	Gather Samples for Lab Tests	No illicit discharges were located during this Permit year.	Continue IDDE program and enforcement of by-law.
Revised					
7.3	Establish TMDL's	Engineer	Identify Pollutant Source, if any	None.	Meet the requirements in the new Massachusetts MS4 Permit.
Revised					
7.4	Pollutant Removal	Engineer	Treatment Units at Key Locations	Infiltration-based stormwater units were installed in previous Permit years to prevent runoff into a pond. The Town continues to require installation of stormwater recharge units associated with new construction in areas with proposed imperious surfaces.	Town will continue to require infiltration and treatment based on % impervious surface proposed.
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

No analytical samples were collected during this Permit year.

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, 2017 through March 31, 2018)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	n
Annual program budget/expenditures **	($)	$45,000
Total program expenditures since beginning of permit coverage	($)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		Engineering budget

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	
Stormwater management committee established	(y/n)	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 **	(#)	1
▪ community participation **	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	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					
▪ Post-Development Stormwater Management					
Accompanying Regulation Status (indicate with "**X**")					
▪ Illicit Discharge Detection & Elimination					X
▪ Erosion & Sediment Control					
▪ Post-Development Stormwater Management					

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	100
Estimated or actual number of outfalls	(#)	136 (including outfalls outside of MS4 reg. area)
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	100
Outfalls inspected/screened **	(# or %)	136
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	
Illicit discharges identified **	(#)	0
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	(%)	0%
% of population on septic systems	(%)	100%

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	16
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	100
Site inspections completed **	(# or %)	16
Tickets/Stop work orders issued **	(# or %)	2 (temporary)
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	(%)	100%
Site inspections (for proper BMP installation & operation) completed **	(# or %)	16
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	n
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)	2
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	2
Qty of structures cleaned **	(#)	Approx. 1,800

Qty. of storm drain cleaned **	(%, LF or mi.)	1,200 LF (paved drainage swale)
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	Approx. 225 tons
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	($)	$40,000
• Hourly or per basin contract rate **	($/hr or $ per basin)	$21/basin
• Disposal cost**	($)	See cost per basin above
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 vactor **	(%)	

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	2
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	2
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	Approx. 400 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	($)	
• Hourly or lane mile contract rate **	($/hr. or ln mi.)	
• Disposal cost**	($)	$10,000
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	1

• Vacuum street sweepers owned/leased	(#)	
• Vacuum street sweepers specified in contracts	(y/n)	n
• % Roads swept with rotary brush sweepers **	%	100%
• % 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 %)	0 lbs.
▪ Pesticides	(lbs. or %)	0 lbs.
Integrated Pest Management (IPM) Practices Implemented	(y/n)	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	60% 40%
Pre-wetting techniques utilized **	(y/n or %)	n
Manual control spreaders used **	(y/n or %)	n
Zero-velocity spreaders used **	(y/n or %)	y
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	-10%
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	+10%
% 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	n
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	n
• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	n