

Municipality/Organization: Medford

EPA NPDES Permit Number: MA041049

MassDEP Transmittal Number: W228064

Annual Report Number Year 12
& Reporting Period: April 1, 2014 – March 31, 2015

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2015)

Part I. General Information

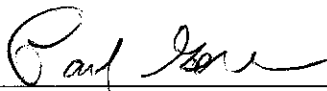
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Certification:

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: Paul Gere

Title: Commissioner of Public Works

Date: April 29, 2015

Part II. Self-Assessment

During the 2014-2015 permit year, the City of Medford continued implementation of the tasks outlined in the 5-Year Plan under the 2003 NPDES Small Municipal Separate Storm Sewer Systems (MS4) permit. Numerous BMPs were attained prior to this period and have been continued, including updating stormwater related information on the City's website and making it available in the DPW office, hazardous and yard waste collection activities, maintaining signs, and holding public meetings in which stormwater related activities are discussed. In addition, the City continues to follow good housekeeping and pollution prevention procedures with street sweeping, catch basin cleaning, and other municipal operations.

2014-2015 Accomplishments:

The City's Stormwater System Ordinance continues to be in effect. The City is working on towards finalizing the Stormwater Rules and Regulations, including work on construction and post-construction BMPs.

One illicit connection was removed.

Public education informational posters are on display at City Hall, High School and River's Edge development. 500 "Do Dumping - Drains to River" decals at catch basins in close proximity to the river, at business districts and at areas with known litter problems. The City's stormwater webpage was updated <http://www.medfordma.org/departments/energy-and-environment/storm-water-management/> and a new webpage was put up <http://medfordenergy.org/gogreen/storm-water-specific/>

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 12	Planned Activities for Subsequent Years
1A	Recycling/household hazardous waste information on website.	DPW	Update website throughout year.	Website was updated with new links and the collection dates for the 2014/2015 permit year. Information about the new recycling/trash program is included on the website. http://www.medfordma.org/departments/recycling/	Continue to update website with event dates.
1B	Recycling/household hazardous waste information on pamphlet in DPW Office.	DPW	Make pamphlet available daily in the DPW Office.	Pamphlet is available in the DPW Office and on the City's website. http://www.medfordma.org/departments/recycling/	Continue to display pamphlet in DPW Office.
1C	Recycling/household hazardous waste information on pamphlet to be mailed.	DPW	Mail pamphlet to 75% of residents.	Measure Complete. Information available on City website http://www.medfordma.org/departments/recycling/	Continue to update recycling and hazardous waste information on website.
1D	Bilingual Education Information	DPW, High School translator	Translate recycling pamphlet into Spanish and make available in DPW office	Recycling information is available on City of Medford website. http://www.medfordma.org/departments/recycling/	Continue to display pamphlet in DPW Office and on website.
1E	Arbor Day Celebration	DPW, Tree Warden	One talk will be given to one school per year.	Activities included tree pruning and new trees planting at Medford High School.	Continue to include stormwater information in an event related to Arbor Day or Earth Day.
1F	"No Dumping Allowed" Signs	DPW, Parks Department	Existing signs in parks.	Existing signs were maintained.	Existing signs will be maintained.
1G	"No Dogs or Animals Allowed" Signs	DPW, Parks Department	Existing signs in parks.	Existing signs were maintained.	Existing signs will be maintained.
1H	"Do not feed the Geese" Signs	DPW, Board of Health	Design and install one sign at Wright's Pond.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. "Do not feed the Geese" signs, procedures, and fines will be determined during this review.	Design and install "Do not feed the Geese" signs. Establish fines in upcoming year as Rules and Regulations are finalized.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 12	Planned Activities for Subsequent Years
1I	“No Littering” signs	DPW, Parks	Design and Install “No Littering” signs in Permit	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. “No Littering” signs, procedures, and fines will be determined during this review.	Design and install “No Littering” signs. Establish fines in upcoming year as Rules and Regulations are finalized.
1J	“No Household Trash” signs	DPW, Parks	Install City owned barrels that read “No household Trash”	Stormwater Rules and Regulations have been drafted. “No Household Trash” signs, procedures, and fines will be determined during this review.	Design and install “No Household Trash” signs. Establish fines in upcoming year as Rules and Regulations are finalized.
1K	Geese Dropping Article in Newspaper	DPW, Environmental Agent	Place one article in the paper Years 1, 3, and 5.	None required.	Completed.
1L	Pet Waste Article in Newspaper	DPW, Environmental Agent	Place one article in the paper Years 1, 3 and 4	None required. Pet waste information is also available on the City’s website at: http://www.medfordma.org/departments/energy-and-environment/storm-water-management/ In addition, Medford implemented a targeted Public Education Campaign throughout 2014.	Completed.
1M	Stormwater Video on Local Cable Channel	DPW, Local Cable Access Staff	City will buy a stormwater educational video and play on a regular basis the third year.	None required. Stormwater pollution information is also available on the City’s website at: http://www.medfordma.org/departments/energy-and-environment/storm-water-management/ In addition, Medford implemented a targeted Public Education Campaign throughout 2014.	Play stormwater video on Public Access channel once per year.
1O	Publicize fines for littering, illegal dumping and failure to pick up pet waste in newspaper	DPW, Stormwater Advisory Committee	Publish fines in paper when Ordinances are approved and established.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Signs, procedures, and fines will be determined during this review. In addition, Medford implemented a targeted Public Education Campaign throughout 2014.	Establish and publicize fines in upcoming year as Rules and Regulations are finalized. Implement new Public Education Campaign.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 12	Planned Activities for Subsequent Years
Revised		DPW, Stormwater Board			
1P	Educate Local Businesses	DPW, Environmental Agent	Distribute flyers to 75% of businesses in the third year.	None required.	Invite City Businesses to annual meetings.
1Q	Assess stormwater information at existing City Events.	DPW	Assess one existing City event for opportunities to include stormwater information.	Provided stormwater information at City Hall. Regular Conservation Commission meetings are held at City Hall and are open to the public. Stormwater issues are routinely discussed at these meetings. In addition, Medford implemented a targeted Public Education Campaign throughout 2014.	Continue to provide stormwater information at City Hall and for local events and implement new Public Education Campaign.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 12	Planned Activities for Subsequent Years
2A	Oil-Based Paint Collection at DPW Yard	DPW, Recycling	DPW to accept Latex/oil-based paint from residents at DPW Yard once a month between May and October.	Residents were able to bring latex and oil-based paint to the DPW Yard (see Part V).	DPW will continue to collect these materials at the DPW Yard.
2B	Hazardous Waste Drop-off in Lexington	DPW, Recycling	Advertise the hazardous waste drop-off in Lexington in mailer and daily in DPW office as a pamphlet.	Advertised this service in the recycling/HHW pamphlet and on the City website. Medford relies on the Town of Lexington to collect these materials at the Minuteman Hazardous Household Products Facility.	Continue to advertise this service.
2C	Curbside recycling	DPW, Recycling	DPW to pick up recyclables once every two weeks year-round.	The DPW picked up recyclables every other week (see Part V).	Continue to provide this service.
2D	Mercury Exchange	DPW, Recycling, Board of Health	DPW to accept mercury at the DPW Yard once/month May-October.	Residents were allowed to drop off mercury products at the DPW Yard on specified days.	Continue to provide this service.
2E	Nickel-Cadmium Recycling	DPW, Recycling	DPW to accept rechargeable nickel-cadmium batteries in the DPW office.	Residents were allowed to drop off batteries at the DPW office daily during regular office hours.	Continue to provide this service.
2F	Leaf and yard waste collection	DPW, Recycling	DPW to collect leaf and yard waste every other week curbside from May to November.	DPW collected leaf and yard waste every other week April through November (see Part V). Schedule posted on website.	Continue to provide this service.
2G	Mystic River Cleanup	Friends of the Mystic River Watershed Association, DPW	DPW to collect trash volunteers pick up at the Mystic River Clean up Day.	"Mystic Community Earth Day" events included clean-up along the River at Condon Shell Park and MacDonald Park, trail clearings and plantings.	Continue to provide cleanup and disposal services for Mystic River Watershed Events.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 12	Planned Activities for Subsequent Years
2H	Public Meetings/Notification	DPW	Hold one public meeting to present stormwater program progress.	Targeted Public Education Campaign was implemented in 2014.	Hold a public meeting in Year 13.
2I	Stormwater Contact to receive and address public complaints or concerns	DPW	Establish a Stormwater Contact	Stormwater contact established, (Alicia Hunt, Energy and Environment Dept., 781-293-2137) identified at public meetings, in newspaper, and on website.	Continue to expand publicity for this contact through newspaper, etc.
2J	Earth Day Activity	DPW – Energy and Environment Department	Include a stormwater activity in Earth Day Events	No stormwater activities included in Earth Day events. Mystic Community Earth Day included clean-up, trail clearings and plantings along the Mystic River.	Continue to include stormwater activity/information at Earth Day and Clean Energy Events organized by the City. Evaluate new opportunities for including stormwater outreach at these events.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 12	Planned Activities for Subsequent Years
3A	Fines for Illegal Dumping	DPW	Establish fines for illegal dumping.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Signs, procedures, and fines will be determined during this review.	Establish and publicize fines in upcoming year as Rules and Regulations are finalized.
3B	Enforcement of Fines for Littering and Pet Waste	Police	More stringent enforcement of Fines for Littering and Pet Waste	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Signs, procedures, and fines will be determined during this review.	Establish and publicize fines in upcoming year as Rules and Regulations are finalized. Implement stringent enforcement program with Police.
3C	Expand storm sewer map to include all outfalls.	DPW, Engineering	Finish mapping by Year 5.	The City of Medford finalized their stormwater GIS mapping in 2011.	Continue to update stormwater system in GIS, as needed.
3D	Illicit Discharge Ordinance	DPW, Engineering, Building, Law	Float new Ordinance, one year of comment period, continue education.	Measure completed.	Measure completed.
3E	Detection and Elimination Plan	DPW, Engineering	Trace the Source of the Illicit Discharges.	IDDE work commenced again in summer 2011 in accordance with the City's IDDE Plan and the Clean Water Act Administrative Order issued by the EPA in August 2009. Detailed compliance reports were submitted to the EPA in July 2014 and January 2015 regarding IDDE work. Manholes were inspected, buildings dye tested. This year, the City identified 2 illicit discharges and has removed 1. A table summarizing this year's IDDE investigations is included in Appendix A to this report.	Complete work according to IDDE Plan implementation schedule.
3F	Illicit Discharge Education for Public	DPW, Engineering	Included in Measure 1	Included In Measure 1	Included In Measure 1
3G	Illicit Discharge Education for Municipal Employees	DPW	Included in Measure 6	Staff received updates as needed.	Continue to update staff on IDDE Program goals, procedures, and status.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 12	Planned Activities for Subsequent Years
4A	Erosion and Sediment Control Ordinance “Construction Ordinance”	DPW, Engineering, Building, Legal	Float new Ordinance, one year of comment period, continue education.	Measure completed.	Measure completed.
4B	Erosion and Sediment Control BMPs/ Requirements	DPW, Engineering, Building, Legal	Prepare Draft requirements to be referenced or incorporated into the Construction Ordinance.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Erosion and sediment control BMPs and requirements will be established during the review process.	Finalize Erosion and Sediment Control BMPs/Requirements in upcoming year as Rules and Regulations are finalized.
4C	Construction Site Plan Review Procedures	DPW, Engineering, Building, Legal	Prepare draft Construction Site Plan Review Procedure to be included or referenced Ordinance.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Construction site plan review procedures will be established during the review process.	Finalize Construction Site Plan Review Procedures in upcoming year as Rules and Regulations are finalized.
4D	Construction Site Inspection and Enforcement Procedures	DPW, Engineering, Building, Legal	Prepare draft Site Inspection and Enforcement Procedure to be included or referenced in Ordinance.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Inspection and Enforcement procedures for construction sites will be established during the review process.	Finalize Site Inspection and Enforcement Procedures in upcoming year as Rules and Regulations are finalized.
4E	Stormwater Contact to receive and address public complaints or concerns	DPW	Expand publicity regarding stormwater contact (paper, etc.)	Stormwater contact has been established: Alicia Hunt, 781-293-2137. Contact information has been provided at public meetings, on website, and in articles published in the Medford newspaper.	Update and maintain contact information on website and distributed pamphlets.
4F	Minimum BMPs to Consider and thresholds	Stormwater Advisory Committee	Finalize City’s decision on thresholds and minimum BMP requirements and include information in Draft Ordinances.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Thresholds and minimum BMP requirements will be established during the review process.	Finalize thresholds and minimum BMP requirements in upcoming year as Rules and Regulations are finalized.

Revised		DPW, Engineering, Stormwater Board			
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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 12	Planned Activities for Subsequent Years
5A	Encouragement of "Better Site Design"	DPW, Engineering, Building, Law	Formal document on better site design by the end of Year 5	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Better site design practices will be established during the review process.	Finalize better site design practices in upcoming year as Rules and Regulations are finalized.
5B	Post-Construction Runoff Ordinance	DPW, Engineering, Building, Law	Float new ordinance, one year of comment period, continue education.	Measure completed.	Measure completed.
5C	Choose Structural and Non-Structural BMPs	DPW, Engineering	Prepare final procedures.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Procedures for choosing structural and non-structural BMPs will be established during the review process.	Finalize procedures for choosing structural and non-structural BMPs in upcoming year as Rules and Regulations are finalized.
5E	Procedures for Implementation of Structural BMPs	DPW, Engineering	Prepare final procedures.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Procedures for the implementation of structural BMPs will be established during the review process.	Finalize structural BMPs implementation procedures in upcoming year as Rules and Regulations are finalized.

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 12	Planned Activities for Subsequent Years
6A	Regular Street Sweeping	DPW, Highway	Sweep main Streets year-round; Sweep all streets and municipal lots twice per year.	DPW swept all streets twice (spring and fall) and swept main streets weekly throughout the year.	Continue existing sweeping schedule.
6B	Regular Catch Basin Cleaning	DPW, Highway	Cleaned catch basins once per year as stated in the revisions for the 2003/2004 Annual Report.	No catch basins were cleaned. 12,950 linear feet of drain pipes were cleaned.	Continue cleaning catch basins annually. Developing targeted informational mailing for the neighborhoods associated with problematic catch basins.
6D	Employee Training	DPW, Engineering	Continue existing training; determine necessary personnel and topics; schedule training.	Employee training updates to employees as needed.	Continue annual training.
6E	Municipal O&M	DPW, Highway, Parks, Engineering	Develop Draft BMPs for Pollution Source Reduction/Elimination from Municipal Activities including waste disposal procedures.	Design for salt shed design in new DPW facility completed.	Construction of salt shed in new DPW yard to be completed.
6H	Geese Maintenance Contract	DPW, Engineering	Reduce permanent geese populations near water bodies.	Geese maintenance contract was not continued.	Continue discouraging geese; evaluate effectiveness of geese maintenance program.

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 12 (Reliance on non-municipal partners indicated, if any)	Planned Activities – for Subsequent Years
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

The City of Medford keeps records of operation and maintenance activities, such as catch basin cleaning and street sweeping. A summary of these records is below. See Appendix B for list of sewer and drain repairs.

- The City collected 826 tons of street sweepings between April 11, 2014 and March 31, 2015. The sweepings were hauled away by contractor W. L. French. The cost of the collection and disposal was approximately \$31,430.
- Waste Management collected 1,310 tons of residential yard waste between July 2014 and February 2015. The cost of disposal was \$34.80/ton.
- The City did not clean any catch basins during Permit Year 12.
- The City repaired, replaced or installed 3 catch basins, 1 drain manhole, and 9 sewer manholes during Permit Year 12. 14,180 feet of sewer and 12,950 feet of drain were inspected and cleaned. 1,613 feet of drain were installed. Additionally, the MBTA installed 1,145 l.f. of drain pipe. 385 linear feet of sewer main and 608 linear feet of sewer service pipe were replaced or installed. 1,524 linear feet of sewer main were lined.

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, 2014 through March 31, 2015)

Programmatic

		Response
Stormwater management position created/staffed	(y/n)	No
Annual program budget/expenditures **	(Preferred Units)	\$720,000 (est.)
Total program expenditures since beginning of permit coverage	(\$)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	Not Known
Stormwater management committee established	(y/n)	Yes. Stormwater Board
Stream teams established or supported	(# or y/n)	Yes – supported
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	None – no event this year
Shoreline cleaned since beginning of permit coverage	(mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	
▪ community participation **	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	No

Legal/Regulatory

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

Mapping and Illicit Discharges

		Response
Outfall mapping complete	(%)	100
Estimated or actual number of outfalls	(Preferred Units)	111
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	100
Mapping method(s)		
▪ Paper/Mylar	(%)	95
▪ CADD	(%)	80 (est.)
▪ GIS	(%)	100
Outfalls inspected/screened **	(# or %)	
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	111 (92%)
Illicit discharges identified **	(#)	2
Illicit discharges identified (Since beginning of permit coverage)	(#)	16
Illicit connections removed **	(#); and (est. gpd)	1; 14,850
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	13, est. 3,675 gpd
% of population on sewer	(%)	>99
% of population on septic systems	(%)	<1

Construction

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

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	
Site inspections (for proper BMP installation & operation) completed **	(# or %)	
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	No
Low-impact development (LID) practices permitted and encouraged	(y/n)	Yes

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)	1
Qty of structures cleaned **	(#)	0
Qty. of storm drain cleaned **	(%, LF or mi.)	12,950 feet
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	3 cu yd
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill
Basin Cleaning Costs		
Annual budget/expenditure (labor & equipment)**	(\$)	\$78,262 contract
Hourly or per basin contract rate **	(\$/hr or \$ per basin)	N/A

• Disposal cost**	(\$)	Included in contract cleaning cost
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	
• Vacuum truck(s) owned/leased	(#)	
• Vacuum trucks specified in contracts	(y/n)	
• % Structures cleaned with clam shells **	(%)	
• % Structures cleaned with vactor **	(%)	

		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) ** (Preferred Units)	(times/yr)	~29
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Compost
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	In house
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	
• Disposal cost**	(\$)	
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	1
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	No
• % 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 %)	

▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Integrated Pest Management (IPM) Practices Implemented	(y/n)	No

		Response
Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	(Preferred Units) % NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	NaCl and sand only. Percent varies by storm requirements.
Pre-wetting techniques utilized **	(y/n or %)	No
Manual control spreaders used **	(y/n or %)	Yes
Zero-velocity spreaders used **	(y/n or %)	No
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)	(%)	0
Storage shed(s) in design or under construction	(y/n or #)	One in design
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	0

Water Supply Protection

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

Appendix A:
Illicit Discharge Detection and Elimination Summary
Table

Illicit Discharge Detection & Elimination Summary Table for Year 12

Item	Total
Outfalls Inspected (dry weather)	
Outfalls Sampled (dry weather)	
Manholes Inspected	23
Manholes Sampled	2
Catch Basins Inspected	0
Catch Basins Sampled	0
Buildings Dye-tested	3
Drainage Structures Dye-tested	0
Closed-circuit Television Inspection (LF)	Drain: 12,950 Sanitary Sewer: 14,180
Illicit Discharges Identified	2
Illicit Discharges Removed	1
Estimated Amount of Illicit Flow Removed (gpd)	14,850

Appendix B:
Pollution Prevention and Good Housekeeping in
Municipal Operations

2014-2015 Sewer and Storm Drain Repairs

City of Medford, Massachusetts
2014-2015 Storm Drain and Sewer Repairs

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System	Date	Location	Company	Field Work Completed	Length of Pipe (linear feet)	Size of Pipe	Illicit Discharge Removed	Comments
Drain	4/3/2014	249 Gaston St	City Forces	Repaired DMH				
Drain	6/30/2014	Winchester St	MBTA	Installed drain main	1145	30		from Granville Ave to Harvard St
Drain	Jan-June 2014	Winthrop St	Caliacco Corp	Installed drain main	235	48"		
Drain	Jan-June 2014	Winthrop St	Caliacco Corp	Installed drain main	138	12"		
Drain	Jan-June 2014	Winthrop St	Caliacco Corp	Installed drain main	60	24"		
Drain	Jan-June 2014	Winthrop St	Caliacco Corp	Installed drain main	95	4'x6' box culvert		
Drain	8/1/2014	Middlesex Ave - DMH 1403 - 1405	Rapid Flow	Clean & CCTV	883	12"		
Drain	8/4/2014	99 Riverside Ave - Drain @ Senior Center	Rapid Flow	Clean & CCTV	12	8"		
Drain	8/5/2014	Brewster Rd - DMH 233 - 251	Rapid Flow	Clean & CCTV	372	12" & 15"		
Drain	8/6/2014	Samson Rd. - DMH 250 - 238	Rapid Flow	Clean & CCTV	182	15"		
Drain	8/6/2014	Hutchins Rd. - DMH 238 - 230 to outlet	Rapid Flow	Clean & CCTV	277	15"		
Drain	8/6/2014	Upton Terr. CB1 to outlet	Rapid Flow	Clean & CCTV	76	10"		
Drain	8/6/2014	Ash St. - DMH 761 - 761A - 759	Rapid Flow	Clean & CCTV	169	15" & 18"		
Drain	8/11/2014	McNally Park Drain - Ash to Brookside	Rapid Flow	Clean & CCTV	145	18"		
Drain	8/11/2014	Brookside Pkwy DMH 7 - 8	Rapid Flow	Clean & CCTV	38	18"		
Drain	8/11/2014	Gorham St & easement	Rapid Flow	Clean & CCTV	760	10" - 15"		
Drain	8/12/2014	Ridgeway Rd. & Leonard Cir	Rapid Flow	Clean & CCTV	182	12"		
Drain	8/12/2014	Middlesex Ave - 1st - 2nd St CB	Rapid Flow	Clean & CCTV	152	12"		
Drain	8/13/2014	Forest St. - Lawrence to Webster	Rapid Flow	Clean & CCTV	744	18" & 24"		
Drain	8/13/2014	Lawrence Rd. - Ashcroft to Forest	Rapid Flow	Clean & CCTV	320	12" & 24"		
Drain	8/14/2014	Boston Ave. Tontine St. - river	Rapid Flow	Clean & CCTV	809	15"		
Drain	8/14/2014	Lawrence Rd. - Clifton to Forest	Rapid Flow	Clean & CCTV	362	10", 12", 24"		
Drain	8/18/2014	Thatcher St. DMH 1201 - 1203	Rapid Flow	Clean & CCTV	375	12"		
Drain	8/18/2014	Cushing St. - DMH	Rapid Flow	Clean & CCTV	558	12"		
Drain	8/18/2014	Pembroke St. & Magoun Park	Rapid Flow	Clean & CCTV	558	6" & 12"		
Drain	8/19/2014	Morton Ave. - Tufts Park	Rapid Flow	Clean & CCTV	1198	30" & 42"		
Drain	8/19/2014	Granville Ave	Rapid Flow	Clean & CCTV	131	30"		
Drain	8/21/2014	Swan St	Rapid Flow	Clean & CCTV	159	18"		
Drain	8/21/2014	Mystic Valley Pkwy @ City Yard	Rapid Flow	Clean & CCTV	397	24" & 30'		
Drain	8/21/2014	Pembroke St.	Rapid Flow	Clean & CCTV	461	15"		
Drain	8/27/2014	2500 Mystic Valley Parkway	City Forces	Plugged OF pipe connecting sewer & drain				
Drain	8/27/2014	Pembroke St. - DMH 1194 - 1209	Rapid Flow	Clean & CCTV	287	12"		
Drain	8/27/2014	Cook Cir. - into easement	Rapid Flow	Clean & CCTV	100	12"		
Drain	8/27/2014	Lawrence Ave. - DMH 1731 into easement	Rapid Flow	Clean & CCTV	179	12"		
Drain	8/27/2014	Playstead Rd. - DMH 441	Rapid Flow	Clean & CCTV	17	48"		
Drain	8/30/2014	Salem St @ Cherry	City Forces	Replaced drain main section	2	15"		
Drain	9/3/2014	Spring St. - K014 - K007	Rapid Flow	Clean & CCTV	1618	18"		
Drain	9/8/2014	2500 Mystic Valley Parkway	EST	Clean & CCTV From DMH 2753 OF to sewer	35	10"		mech. plug installed @ OF pipe @ DMH
Drain	9/8/2014	3920 Mystic Valley Parkway	EST	Clean & CCTV From OF to CB	53	24		

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System	Date	Location	Company	Field Work Completed	Length of Pipe (linear feet)	Size of Pipe	Illicit Discharge Removed	Comments
Drain	9/15/2014	200 Rivers Edge Drive	EST	Clean & CCTV At Cooper St DMH 2032 to 2023	196	16"		
Drain	9/16/2014	Sydney St. Pump Sta.	Rapid Flow	Vacuum Debris				
Drain	9/23/2014	Paris St.	Rapid Flow	Clean & CCTV	291	10", 12", 15"		
Drain	9/26/2014	Paris St.	Rapid Flow	Clean & CCTV	213	8" & 10"		
Drain	10/6/2014	Paris St.	Rapid Flow	Clean & CCTV DMH 1073 - 1075 w/CBs	37	8"		
Drain	10/6/2014	Lawrence Street	Rapid Flow	Clean & CCTV - int w/Pinkert	216	8" - 12"		
Drain	10/7/2014	Pinkert St	Rapid Flow	Clean & CCTV	388	8" - 15"		
Drain	July-Dec 2014	Winthrop St	Caliacco Corp	Installed drain main	968	48"		
Drain	July-Dec 2014	Winthrop St	Caliacco Corp	Installed drain main	115	12"		
Dr/Sr	9/8/2014	Winchester St	EST	Plugged open underdrain in SMH A-067		4"		at Somerville City Line
Sewer	4/2/2014	55 Exeter St	City Forces	Replaced sewer service section	12	6"		
Sewer	5/1/2014	95/97 Fulton St	City Forces	Replaced sewer service section	5	6"		
Sewer	5/2/2014	7 Brogan Rd	City Forces	Replaced sewer service section	5	6"		
Sewer	5/5/2014	9 Brogan Rd	City Forces	Replaced sewer service section	5	6"		
Sewer	5/6/2014	11 Brogan Rd	City Forces	Replaced sewer service section	5	6"		
Sewer	5/7/2014	15 Brogan Rd	City Forces	Replaced sewer service section	5	6"		
Sewer	5/8/2014	19 Brogan Rd	City Forces	Replaced sewer service section	5	6"		
Sewer	5/9/2014	21 Brogan Rd	City Forces	Replaced sewer service section	5	6"		
Sewer	5/12/2014	25 Brogan Rd	City Forces	Replaced sewer service section	5	6"		
Sewer	5/13/2014	84/86 Court St	City Forces	Replaced sewer service section	5	6"		
Sewer	6/23/2014	Lila Ave.	D'Allessandro	Replaced 3 MH Frame & Cover				
Sewer	6/23/2014	Gaston Street	D'Allessandro	Replaced sewer	45	8"		N-388 to N-141
Sewer	6/24/2014	Morrison/Winslow/McCormack Sts.	D'Allessandro	Replaced 5 MH Frame & Cover				
Sewer	6/24/2014	Lincoln Road	D'Allessandro	Replaced sewer section	14.5	8"		Between P-109 & P-127
Sewer	6/24/2014	18 Windsor Rd	City Forces	Replaced sewer service section	12	6"		
Sewer	6/25/2014	Russell/Gaston Streets	D'Allessandro	Replaced 4 MH Frame & Cover				
Sewer	6/27/2014	Grant Ave	D'Allessandro	Point Repairs	18	8"		Between N-189 & N-190
Sewer	6/30/2014	Andrews Street	D'Allessandro	Replaced sewer	296	8"		Between K-055 & K-056
Sewer	7/11/2014	Andrews Street	D'Allessandro	Replace Sewer Service Ties	13	6"		Between K-055 & K-056
Sewer	7/30/2014	Middlesex Ave - H014 - H005	Rapid Flow	Clean & CCTV	1265	12" & 15"		
Sewer	7/31/2014	2500 Mystic Valley Parkway	Rapid Flow	Clean & CCTV	165	8"		
Sewer	8/4/2014	Walnut & South Streets	Rapid Flow	Clean & CCTV	1262	8" & 10"		
Sewer	8/4/2014	Palmer St - N110 - N076	Rapid Flow	Clean & CCTV	279	8"		
Sewer	8/5/2014	Palmer St - N109 - N075	Rapid Flow	Clean & CCTV	199	8"		
Sewer	8/5/2014	Elm St.	D'Allessandro	Line N030 - N030A	262	12"		
Sewer	8/5/2014	Gaston Street	D'Allessandro	Line N132 - N131	118	8"		
Sewer	8/7/2014	Frye Rd.	D'Allessandro	Line K106 - K105	205	8"		
Sewer	8/7/2014	Grant Ave	D'Allessandro	Line K058 - K023	741	8"		

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System	Date	Location	Company	Field Work Completed	Length of Pipe (linear feet)	Size of Pipe	Illicit Discharge Removed	Comments
Sewer	8/11/2014	Main St. V002 - V002A	Rapid Flow	Clean & CCTV	177	8"		
Sewer	8/12/2014	40 Baxter St	City Forces	Replaced sewer service section	20	6"		
Sewer	8/21/2014	High School (Winthrop St)	Caliacco Corp	Replaced sewer sections	10	6"		
Sewer	8/22/2014	Andrews Street	D'Allessandro	Line N188 - N189	198	8"		
Sewer	8/27/2014	2500 Mystic Valley Parkway	City Forces	Replaced sewer main section	11	8"		
Sewer	8/28/2014	Spring St.- K003 - K002	Rapid Flow	Clean & CCTV	150	18"		
Sewer	9/3/2014	46 Boynton Rd	City Forces	Replaced sewer service section	35	6"		
Sewer	9/5/2014	Golden Ave - D290 - D287	Rapid Flow	Clean & CCTV	721	10"		
Sewer	9/10/2014	Pinkert St.	Rapid Flow	Clean & CCTV	1123	8"		
Sewer	9/10/2014	Evans St	Rapid Flow	Clean & CCTV	871	8"		
Sewer	9/11/2014	Paris St.	Rapid Flow	Clean & CCTV	1301	8" & 10"		
Sewer	9/11/2014	Fern/Fellsway - L011	Rapid Flow	Vacuum Debris				
Sewer	9/14/2014	119 Spring St	City Forces	Replaced sewer service	21	6"		
Sewer	9/15/2014	Fern Rd. - L012 - L011	Rapid Flow	Clean & CCTV	169	8"		
Sewer	9/15/2014	Fellsway West - L011 - L105	Rapid Flow	Clean & CCTV	393	10"		
Sewer	9/15/2014	Central Ave. - L047 - L043	Rapid Flow	Clean & CCTV	882	10"		
Sewer	9/22/2014	Central Ave. - Poole to Fellsway	Rapid Flow	Clean & CCTV	882	8"		
Sewer	9/22/2014	Fellsway - Malden St. - Central	Rapid Flow	Clean & CCTV	547	10"		
Sewer	9/29/2014	Grant Ave at Lambert St	City Forces	Plugged old line				
sewer	10/10/2014	99 Riverside Ave.	Rapid Flow	Clean & CCTV - site sewer	374	8"		
Sewer	10/10/2014	Joan Road	Rapid Flow	Clean & CCTV - R190 - R189	128	8"		
Sewer	10/28/2014	Fern Road	Rapid Flow	Clean & CCTV - L019 - l013	813	8"		
Sewer	10/28/2014	Eugene Road	Rapid Flow	Clean & CCTV -R189 - R188	218	8"		
Sewer	10/28/2014	Smith Lane	Rapid Flow	Clean & CCTV - R189 - R155	288	8"		
Sewer	11/7/2014	131 Mystic St	City Forces	Replaced sewer service section	7	6"		
sewer	11/19/2014	Bowen Ave	Rapid Flow	Clean & CCTV - All	1030	8"		
sewer	11/19/2014	Wright Ave	Rapid Flow	Clean & CCTV - Willis to Pierce	422	8"		
sewer	11/19/2014	Willis Ave	Rapid Flow	Clean & CCTV - Bowen to Golden	226	8"		
Sewer	12/20/2014	34 Summit Road	City Forces	Replaced sewer service section	8	6"		
Sewer	1/17/2015	Cedar Road North	City Forces	Replaced sewer main section	9	8"		
Sewer	3/17/2015	20 Higgins Ave	CJ Doherty	Replaced sewer service section	20	6"		
Sewer	3/18/2015	93-95 Windsor Rd	City Forces	Replaced sewer service section	10	6"		
Sewer	3/24/2015	8/10 Brooks Ave	City Forces	Replaced sewer service section	10	6"		
Sewer	3/25/2015	14/16 Brooks Ave. (Hammond Pl.)	City Forces	Replaced sewer service section	10	6"		
Sewer	10/10/2014	Winthrop St	Rapid Flow	Clean & CCTV - P250 - P277	445	8"		

CCTV (closed circuit TV): pipe was cleaned and televised