

4/27/17

Municipality/Organization: City of Beverly
EPA NPDES Permit Number: MAR041181
MassDEP Transmittal Number: W-040371
Annual Report Number & Reporting Period: Year 14
April 1, 2016 – March 31, 2017

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

Part I. General Information

Contact Person: Roland Adams **Title:** GIS Coordinator
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Mailing Address: 191 Cabot Street Beverly, MA 01915

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: Michael P. Cahill

Title: Mayor

Date: 4/25/17

Part II. Self-Assessment

The Stormwater Committee has completed a self-assessment at the March 23, 2017 committee meeting. Details of the annual report were reviewed and we believe the City is in compliance with the 2003 Permit.

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 (Reliance on non-municipal partners indicated, if any) | Planned Activities |
|----------|--|-------------------------------|---|---|---------------------------------------|
| 1-1 | Article/brochure about stormwater in the Annual Consumer Confidence Report | Engineering Dept. | Article published in the Water Quality Report annually distributed to all residents | Article in the 2015 Water Quality Report distributed summer 2016 | Continue |
| Revised | | | | | |
| 1-2 | Stormwater education program for school children | Engineering Dept. | Greenscapes stormwater program in school curriculum | Four Elementary school programs | Continue |
| Revised | | | | | |
| 1-3 | Public Education and protection | Health Dept. | Beach Sampling report to public | Beach sampling posted on Mass. Dept. of Health City Health Dept. and City web sites | Continue |
| Revised | | | | | |
| 1-4 | Educate dog owners about picking up dog waste | Recreation Dept. | | Recreation Department Brochure article published 3 times per year | Continue |
| Revised | | | | | |
| 1-5 | Install and maintain pet waste clean-up signs at parks | Recreation Dept. | Park Signs | Continue to review and update dog waste signage with dog officer. | Continue |
| Revised | | | | | |
| 1-6 | Annual update of SWMP at televised City Council Meeting | Engineering Dept. | Annual update | Not completed-pending new draft permit | Introduce City Council to new permit. |
| Revised | | | | | |

1a. Additions

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2. Public Involvement and Participation

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any) | Planned Activities |
|----------------|---|-------------------------------|----------------------|---|--------------------|
| 2-1 Revised | Form Stormwater Advisory Committee | Engineering Dept. | Form Committee | Committee formed by City Ordinance | Continue |
| 2-2 Revised | Comply with State public notification guidelines at MGL.Ch 39C23B | Planning Dept. | Public Notice | Public notice-Committee Meetings | Continue |
| 2-3 Revised | Stencil up to 25 catch basins with do not dump message | Public Services | Stencil catch basins | Neighborhood group in the Beverly Cove/Burton Ave area stenciled catch basins | New MS4 Permit |
| Revised | | | | | |

2a. Additions

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3. Illicit Discharge Detection and Elimination

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any) | Planned Activities |
|----------------|--|-------------------------------|-----------------------|--|--------------------|
| 3-1 Revised | Map Stormwater Outfalls | Engineering Dept. | Map Outfalls | Completed-GIS database updated as needed | Continue |
| 3-2 Revised | Review and amend City Ordinance to prohibit illicit discharges and connections and to require inspection of new construction for correction connection | Planning & Engineering Depts. | | Component in the Ordinance-“Stormwater Management and Construction Site Ordinance” | Continue |
| 3-3 Revised | Conduct dry weather outfall screening | Public Services | Sample Outfalls | Salem Sound sampled 3 outfalls during summer 2016 near beaches | New MS4 Plan |
| 3-4 Revised | Develop and implement plan to identify and remove non-stormwater discharges | Public Services | Illicit Connection | Remove as found | New MS4 Plan |
| 3-5 Revised | Create a GIS stormwater collection system | Engineering Dept. | GIS Stormwater System | Completed and updated as required | Continue |
| Revised | | | | | |

3a. Additions

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4. Construction Site Stormwater Runoff Control

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any) | Planned Activities |
|----------|---|-------------------------------|----------------------------------|---|--------------------|
| 4-1 | Erosion Sediment Control (ESC) Ordinance for construction sites greater than 1 acre in area | Planning Dept. | Create and adopt an ordinance | Component in the Ordinance— “Stormwater Management and Construction Site Ordinance” | Continue |
| Revised | | | | | |
| 4-2 | Require a waste management plan at construction sites greater than 1 acre | Planning & Engineering Depts. | Create and adopt an ordinance | Component in the Ordinance— “Stormwater Management and Construction Site Ordinance” | Continue |
| Revised | | | | | |
| 4-3 | Consider public input on project greater than 1 acre | Planning Dept. | | Site plans reviewed | Continue |
| Revised | | | | | |
| 4-4 | Inspect erosion and sediment controls on projects greater than 1 acre | Planning & Engineering Depts. | Inspection of construction sites | Inspections at milestones—continuing on “as need” basis | Continue |
| Revised | | | | | |
| Revised | | | | | |
| Revised | | | | | |

4a. Additions

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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 8 (Reliance on non-municipal partners indicated, if any) | Planned Activities |
|----------|---|------------------------------------|--------------------------------|---|--------------------|
| 5-1 | Develop an ordinance to apply standards 2,3,4,7 and 9 of the Mass. Stormwater Policy to the entire City | Planning Dept. | Develop and adopt an ordinance | Component in the Ordinance— “Stormwater Management and Construction Site Ordinance” | Completed |
| Revised | | | | | |
| 5-2 | Specify a stormwater BMP manual to be used for consistent design and performance standards | Planning & Engineering Depts. | Specify a manual | Completed—Stormwater Management, Stormwater Policy Handbook, Volumes 1&2 | Completed |
| Revised | | | | | |
| 5-3 | Develop an Ordinance that ensures long term maintenance of structural BMP’s | Planning, Health & Public Services | Develop and adopt an Ordinance | Component in the Ordinance— “Stormwater Management and Construction Site Ordinance | Completed |
| Revised | | | | | |

5a. Additions

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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 8 (Reliance on non-municipal partners indicated, if any) | Planned Activities |
|----------------|--|-------------------------------|--------------------|---|--------------------|
| 6-1 Revised | Identify sensitive receptors within the City | Engineering & Public Services | | Completed | New MS4 Permit |
| 6-2 Revised | In house employee training program | Public Services | | Continue to train pesticide licensed employees | New MS4 Permit |
| 6-3 Revised | Hazardous Material Inventory & Training | Public Services | | Motor pool employees trained for housekeeping measures relative to waste oils etc. and operation of fueling depot | New MS4 Permit |
| 6-4 Revised | Street Sweeping | Public Services | | All streets swept 3 times per year with commercial/critical areas swept more frequently | New MS4 Permit |
| 6-5 Revised | Storm Drain Maintenance | Public Services | | Catch basins city wide cleaned once per year | New MS4 Permit |
| 6-6 Revised | Roadway Deicing | Public Services | | Trucks purchased after 2008 with computerized ground speed controlled sander. All trucks as replaced to be fitted with similar units. | New MS4 Permit |
| 6-7 Revised | Minimize impacts from vehicle washing | Public Services | | Facility under consideration-dependent on funding | Continue |

6a. Additions

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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 8 (Reliance on non-municipal partners indicated, if any) | Planned Activities |
|----------|-----------------|-------------------------------|--------------------|---|--------------------|
| Revised | | | | | |

7a. Additions

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7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

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, 2010 through March 31, 2011)

Programmatic

| | (Preferred Units) | Response |
|---|-------------------|---------------------|
| Stormwater management position created/staffed | (y/n) | Y Part Time |
| Annual program budget/expenditures ** | (\$) | In Dept. Budgets |
| Total program expenditures since beginning of permit coverage | (\$) | In Dept. Budgets |
| Funding mechanism(s) (General Fund, Enterprise, Utility, etc) | | Enterprise |
| | | |

Education, Involvement, and Training

| | | |
|--|---------------|------------------------------|
| Estimated number of property owners reached by education program(s) | (# or %) | 100% |
| Stormwater management committee established | (y/n) | Y |
| Stream teams established or supported | (# or y/n) | Y |
| Shoreline clean-up participation or quantity of shoreline miles cleaned ** | (y/n or mi.) | Y-2 Mile |
| Shoreline cleaned since beginning of permit coverage | (mi.) | |
| Household Hazardous Waste Collection Days | | |
| ▪ days sponsored ** | (#) | 2 with Salem |
| ▪ community participation ** | (# or %) | 242 vehicles- Beverly day |
| ▪ material collected ** | (tons or gal) | 3745 Gallon |
| School curricula implemented | (y/n) | Y |

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Legal/Regulatory

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

Mapping and Illicit Discharges

| | (Preferred Units) | Response |
|--|------------------------|--------------|
| Outfall mapping complete | (%) | 100% |
| Estimated or actual number of outfalls—Discharge Points | (#) | 583 |
| System-Wide mapping complete (complete storm sewer infrastructure) | (%) | 100% |
| Mapping method(s) | | |
| ▪ Paper/Mylar | (%) | |
| ▪ CADD | (%) | |
| ▪ GIS | (%) | 100% |
| Outfalls inspected/screened ** | (# or %) | 3 |
| Outfalls inspected/screened (Since beginning of permit coverage) | (# or %) | 37% |
| Illicit discharges identified ** | (#) | 0 |
| Illicit discharges identified (Since beginning of permit coverage) | (#) | 2 |
| Illicit connections removed ** | (#); and (est. gpd) | 0 |
| Illicit connections removed (Since beginning of permit coverage) | (#); and (est. gpd) | 2 |
| % of population on sewer | (%) | 96% (Parcel) |
| % of population on septic systems | (%) | 4% (Parcel) |

Construction

| | (Preferred Units) | Response |
|--|-------------------|----------|
| Number of construction starts (>1-acre) ** | (#) | 4 |
| Estimated percentage of construction starts adequately regulated for erosion and sediment control ** | (%) | 100% |
| Site inspections completed ** | (# or %) | 100% |
| Tickets/Stop work orders issued ** | (# or %) | 0 |
| Fines collected ** | (# and \$) | 0 |
| Complaints/concerns received from public ** | (#) | 0 |
| | | |
| | | |

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 %) | 100% |
| BMP maintenance required through covenants, escrow, deed restrictions, etc. | (y/n) | Y |
| Low-impact development (LID) practices permitted and encouraged | (y/n) | Y |
| | | |
| | | |

Operations and Maintenance

| | | |
|--|----------------|--------------|
| Average frequency of catch basin cleaning (non-commercial/non-arterial streets) ** | (times/yr) | 1 |
| Average frequency of catch basin cleaning (commercial/arterial or other critical streets) ** | (times/yr) | 1 |
| Qty of structures cleaned ** | (#) | 4450 |
| Qty. of storm drain cleaned ** | (%, LF or mi.) | Minor amount |
| Qty. of screenings/debris removed from storm sewer infrastructure ** | (lbs. or tons) | 350 Ton |
| Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) ** | (location) | Landfill |

| | | |
|---|-------------------------|------------|
| Basin Cleaning Costs | | |
| • Annual budget/expenditure (labor & equipment)** | (\$) | N/A |
| • Hourly or per basin contract rate ** | (\$/hr or \$ per basin) | \$14/basin |
| • Disposal cost** | (\$) | |
| Cleaning Equipment | | |
| • Clam shell truck(s) owned/leased | (#) | |
| • Vacuum truck(s) owned/leased | (#) | 1 |
| • Vacuum trucks specified in contracts | (y/n) | N |
| • % Structures cleaned with clam shells ** | (%) | 100% |
| • % Structures cleaned with vactor ** | (%) | |

| | (Preferred Units) | Response |
|---|--------------------|----------|
| Average frequency of street sweeping (non-commercial/non-arterial streets) ** | (times/yr) | 2-3 |
| Average frequency of street sweeping (commercial/arterial or other critical streets) ** | (times/yr) | App. 60 |
| Qty. of sand/debris collected by sweeping ** | (lbs. or tons) | 704 Ton |
| 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** | (\$) | |
| Sweeping Equipment | | |
| • Rotary brush street sweepers owned/leased | (#) | 1 |
| • Vacuum street sweepers owned/leased | (#) | 0 |
| • Vacuum street sweepers specified in contracts | (y/n) | N |
| • % Roads swept with rotary brush sweepers ** | % | 100% |
| • % Roads swept with vacuum sweepers ** | % | |

| | | |
|--|-------------|--|
| Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination) | | |
| ▪ Fertilizers | (lbs. or %) | |

| | | |
|--|-------------|---|
| 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) | Y |

| | (Preferred Units) | Response |
|--|---|----------|
| Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas) | % NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand | |
| Pre-wetting techniques utilized ** | (y/n or %) | Y |
| Manual control spreaders used ** | (y/n or %) | 60% |
| Zero-velocity spreaders used ** | (y/n or %) | N |
| Estimated net reduction or increase in typical year salt/chemical application rate | (±lbs/l _n mi. or %) | |
| Estimated net reduction or increase in typical year sand application rate ** | (±lbs/l _n mi. or %) | |
| % 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 | |
|---|----------|--|

| | | |
|---|----------|----|
| 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 | NA |