

**Municipality/Organization:** City of Melrose  
**EPA NPDES Permit Number:** MA041050  
**MassDEP Transmittal Number:** X-270568  
**Annual Report Number & Reporting Period:** Year 13  
April 1, 2015 – March 31, 2016

## NPDES PII Small MS4 General Permit Annual Report

### Part I. General Information

Contact Person: Elena Proakis Ellis, P.E., BCEE Title: City Engineer  
Telephone #: 781-979-4171 Email: [eproakis@cityofmelrose.org](mailto:eproakis@cityofmelrose.org)  
Mailing Address: 562 Main Street, Melrose, MA 02176

#### 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: Robert J. Dolan

Title: Mayor

Date: 4/28/16

## **Part II. Self-Assessment**

The City of Melrose has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions upon submission of this permit report.

## Part III. Summary of Minimum Control Measures

### 1. Public Education and Outreach

| <b>BMP ID #</b> | <b>BMP Description</b>   | <b>Responsible Dept./Person Name</b>                          | <b>Measurable Goal(s)</b>  | <b>Progress on Goal(s) – Permit Year 13</b><br>(Reliance on non-municipal partners indicated, if any)   | <b>Planned Activities – Upcoming Permit Year</b>   |
|-----------------|--|---|--|---|--|
| 1-1             | Message with water sewer bills on stormwater topic                           | Department of Public Works                                    | Message distributed with water and sewer bills twice in permit term                      | Message was distributed in Water/Sewer bills in Year 7. Illicit discharge flyer sent out in bills during Year 4. Messages also distributed in Year 9.   | Continue printed message as needed.  |
| 1-2             | Select and stock brochures on stormwater topics at various locations in City | Department of Public Works                                    | Brochures selected and stocked in Years 2 through 5                                      | Maintained supply of brochures and restocked as needed. Brochures handed out at the Department of Public Works Day. “Dwayne the Storm Drain” coloring book handed out to students at DPW Day. | Maintain supply of brochures and restock as needed. Continue to distribute Dwayne the Storm Drain as available.  |
| 1-3             | Update City website to include information on stormwater management          | Department of Public Works                                    | City website updated to include information on stormwater management issues              | City developed a separate stormwater web page linked to DPW web page in Year 4, although its use has been discontinued. The Mayor’s Blog was used to promote stormwater initiatives.          | Update the City’s website and post informational links on stormwater management issues. Other forms of social media may also be utilized such as the Mayor’s blog and DPW Twitter. |
| 1-4             | Staff a booth at the annual Victorian Fair                                   | Department of Public Works                                    | Booth staffed annually starting in Year 2  | The DPW did not have a booth at the Victorian Fair in Year 13.  | Continue to staff booth at Victorian Fair when feasible and discuss stormwater management and pollution prevention.  |
| 1-5             | Install and maintain signs at athletic fields                                | Parks Department/School Department/Department of Public Works | Signs installed at athletic fields near Ell Pond by end of Year 1 and inspected annually | Signs have been installed and are being maintained at all City fields and parks.  | Continue to maintain signs and install new signs as needed.  |

| <b>BMP ID #</b> | <b>BMP Description</b>  | <b>Responsible Dept./Person Name</b> | <b>Measurable Goal(s)</b>  | <b>Progress on Goal(s) – Permit Year 13</b><br>(Reliance on non-municipal partners indicated, if any) | <b>Planned Activities – Upcoming Permit Year</b>   |
|-----------------|---|--------------------------------------|--|---|--|
| 1-6             | Post information on stormwater management issues on local access TV | Department of Public Works           | Stormwater information posted and updated on local access cable television channel during periods of non-programming | No stormwater programming was aired in Year 13.   | Continue to post stormwater informational programs on local access cable channel as needed.    |
| 1-7             | Provide Stormwater information at City's DPW Day                    | Department of Public Works           | Continue to staff booth at future DPW events   | Staffed booth at annual DPW Day   | Continue to staff booth at DPW Day and discuss stormwater management and pollution prevention. |

## 2. Public Involvement and Participation

| <b>BMP ID #</b> | <b>BMP Description</b>  | <b>Responsible Dept./Person Name</b> | <b>Measurable Goal(s)</b>  | <b>Progress on Goal(s) – Permit Year 13</b><br>(Reliance on non-municipal partners indicated, if any)  | <b>Planned Activities – Upcoming Permit Year</b>                               |
|-----------------|---|--------------------------------------|--|--|--|
| 2-1             | Comply with state public notification laws at MGL Chapter 30A Section 18-25 | City Clerk                           | Notices posted in designated locations                                 | Posted notices announcing upcoming meetings.   | Post notices announcing upcoming meetings. Ongoing throughout the permit term. |
| 2-2             | Stencil catch basins with “don’t dump” message                              | Department of Public Works           | 25 catch basins stenciled per year, in Years 2 through 5 of the permit | The City assisted a boy scout-organized stenciling event by providing equipment and guidance. 94 catch basins were stenciled and a detailed related article was posted on the Mayor's Blog.  | The stenciling program will be continued to the greatest extent possible.      |
| 2-3             | Assist in clean-up events   | Department of Public Works           | Assist the Ell Pond Committee on its annual clean-up events            | Assisted in Ell Pond annual clean-up and tree planting with the Ell Pond Restoration Committee and Swains Pond clean-up with the Cub Scouts and Girl Scouts. Performed additional Ell Pond clean-up when pond level was low and debris was more apparent in fall 2015. | Assist in at least one annual clean-up event.                                  |

### 3. Illicit Discharge Detection and Elimination

| <b>BMP ID #</b> | <b>BMP Description</b>  | <b>Responsible Dept./Person Name</b>         | <b>Measurable Goal(s)</b>                                     | <b>Progress on Goal(s) – Permit Year 13</b><br>(Reliance on non-municipal partners indicated, if any)   | <b>Planned Activities – Upcoming Permit Year</b>  |
|-----------------|---|--|---|---|---|
| 3-1             | Conduct dry weather outfall screening   | Department of Public Works                   | Percent of outfalls screened in Years 1 and 5                 | Performed two rounds of sampling at 11 locations in conjunction with an Ell Pond Stormwater Study funded in part through a 604b grant from MassDEP.                                     | Continue sampling drainage areas as needs are identified and funding is available.  |
| 3-2             | Map stormwater outfalls   | Department of Public Works                   | Map showing all known stormwater outfalls in Year 1           | Stormwater GIS mapping has been updated throughout the year as changes or errors were located in the existing data.   | Implement a new protocol for GIS data updates to further data accuracy.   |
| 3-3             | Map stormwater collection system in GIS   | Department of Public Works                   | GIS of stormwater system by end of Year 2                     | Stormwater GIS mapping has been updated throughout the year as changes or errors were located in the existing data.   | Implement a new protocol for GIS data updates to further data accuracy.   |
| 3-4             | Develop and implement a plan to identify and remove non-stormwater discharges to the MS4      | Department of Public Works                   | Number of illicit connections investigated, found and removed | During this permit year, sampling associated with the Ell Pond 604b study concluded that no illicit discharges appeared to be present in the areas investigated.                        | Continue to remove and redirect illicit discharge if they are found.  |
| 3-4             | Develop and implement a plan to identify and remove non-stormwater discharges to the MS4      | Department of Public Works                   | Number of illicit connections investigated, found and removed | TV inspection of over 40 sections of storm drain piping have been completed during the permit year to check existing conditions in areas that may have damage or other drainage issues. | Study, design, and repair of these areas will be considered and/or performed. Additional investigations may be performed as needed. |
| 3-5             | Strengthen ordinance for access to buildings and requiring redirection of illicit connections | City Solicitor<br>Department of Public Works | Draft ordinance developed and presented to Aldermen           | Ordinance approved by Alderman 4/7/08.  | Continue to enforce ordinance.  |

| <b>BMP ID #</b> | <b>BMP Description</b>  | <b>Responsible Dept./Person Name</b>         | <b>Measurable Goal(s)</b>                       | <b>Progress on Goal(s) – Permit Year 13</b><br>(Reliance on non-municipal partners indicated, if any) | <b>Planned Activities – Upcoming Permit Year</b> |
|-----------------|---|--|---|---|--|
| 3-6             | Develop bylaw requiring inspection of new construction for correct connection to sanitary sewer | City Solicitor<br>Department of Public Works | Draft bylaw developed and presented to Aldermen | Ordinance approved by Alderman 4/7/08.  | Continue to enforce ordinance.                   |

*Additional:*

|     |  |                            |  |   |  |
|-----|--|----------------------------|--|---|--|
| 3-7 | 604B Water Quality Planning Grant to study Ell Pond watershed. | Department of Public Works | Investigate and plan BMP strategies for implementation | Work associated with implementing this grant has been ongoing throughout the permit term. | Completion of a final report and preliminary design documents and construction estimates for the implementation of proposed BMPs.. |
|-----|--|----------------------------|--|---|--|

#### **4. Construction Site Stormwater Runoff Control**

| <b>BMP ID #</b> | <b>BMP Description</b>  | <b>Responsible Dept./Person Name</b>   | <b>Measurable Goal(s)</b>                           | <b>Progress on Goal(s) – Permit Year 13</b><br>(Reliance on non-municipal partners indicated, if any)  | <b>Planned Activities – Upcoming Permit Year</b> |
|-----------------|---|--|---|--|--|
| 4-1             | Develop a Construction Site Erosion and Sediment Control ordinance for construction sites greater than 1 acre in area                           | Planning Board<br>Zoning Board of Appeals<br>Department of Public Works<br>Inspection Services | Draft ordinance developed and presented to Aldermen | Ordinance approved by Alderman 4/7/08.   | Continue to enforce ordinance.                   |
| 4-2             | Require construction site operators to submit monthly erosion and sediment control inspection reports to the City for sites greater than 1 acre | Department of Public Works<br>Zoning Board of Appeals<br>Inspection Services                   | Inspection reports submitted to the City            | All reviews of proposed new developments going before the Planning Board or Zoning Board of Appeals have been reviewed with regards to the adequacy of both construction and post-construction stormwater quantity and quality considerations. | BMP to continue.                                 |

| <b>BMP ID #</b> | <b>BMP Description</b>                   | <b>Responsible Dept./Person Name</b>                                | <b>Measurable Goal(s)</b>  | <b>Progress on Goal(s) – Permit Year 13</b><br>(Reliance on non-municipal partners indicated, if any)   | <b>Planned Activities – Upcoming Permit Year</b>  |
|-----------------|--|---|--|---|---|
| 4-3             | Review site plans for stormwater impacts | Planning Board<br>Department of Public Works<br>Inspection Services | Site plans for construction impacts triggering planning or zoning review are reviewed for erosion and sediment control | Continued following internal protocol for reviewing plans going through the Site Plan Review or Zoning Board of Appeals processes.  | Continue development reviews for stormwater impacts.                                    |
| 4-4             | Consideration of public input            | Department of Public Works<br>Inspection Services                   | Public review and comment periods held; signs posted at each construction site   | Conducted public outreach meeting for various Public Works projects. Any project larger than one acre requires a NPDES Permit. The City maintains communication with residents throughout the duration of projects at hearings and neighborhood meetings. | Hearings and neighborhood meetings to continue as needed on City construction projects. |

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

| <b>BMP ID #</b> | <b>BMP Description</b>   | <b>Responsible Dept./Person Name</b>   | <b>Measurable Goal(s)</b>                                | <b>Progress on Goal(s) – Permit Year 13</b><br>(Reliance on non-municipal partners indicated, if any)  | <b>Planned Activities – Upcoming Permit Year</b> |
|-----------------|--|--|--|--|--|
| 5-1             | Develop a bylaw to apply standards 2,3,4,7 and 9 for the Massachusetts Stormwater Policy (MSP) to the developments disturbing more than 1 acre throughout City | Planning Board<br>Zoning Board of Appeals<br>Department of Public Works<br>Inspection Services | Draft bylaw developed and presented to Board of Aldermen | Ordinance approved by Alderman 4/7/08.   | Continue to enforce ordinance.                   |
| 5-2             | Specify a stormwater BMP manual to be used for consistent design and performance standards   | Planning Board<br>Department of Public Works Inspection Services<br>Conservation Commission    | BMP manual selected by end of Year 1                     | The Site Plan Review ordinance references a requirement for consistency with the MassDEP Stormwater Management Policy (Ordinance #235-16.1). | BMP completed                                    |

| <b>BMP ID #</b> | <b>BMP Description</b>   | <b>Responsible Dept./Person Name</b>              | <b>Measurable Goal(s)</b>                                | <b>Progress on Goal(s) – Permit Year 13</b><br>(Reliance on non-municipal partners indicated, if any) | <b>Planned Activities – Upcoming Permit Year</b> |
|-----------------|--|---|--|---|--|
| 5-3             | Develop draft bylaw to ensure long-term maintenance of structural BMPs | Department of Public Works<br>Inspection Services | Draft bylaw developed and presented to Board of Aldermen | Ordinance approved by Alderman 4/7/08.  | Continue to enforce ordinance.                   |

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

| <b>BMP ID #</b> | <b>BMP Description</b>           | <b>Responsible Dept./Person Name</b> | <b>Measurable Goal(s)</b>  | <b>Progress on Goal(s) – Permit Year 13</b><br>(Reliance on non-municipal partners indicated, if any)      | <b>Planned Activities – Upcoming Permit Year</b>   |
|-----------------|----------------------------------|--------------------------------------|--|--|--|
| 6-1             | Employee Training Program        | Department of Public Works           | Number/percent of Department of Public Works employees who receive stormwater training each year                           | No stormwater-specific training was conducted in Permit Year 13.   | Provide stormwater-related training once per permit term for the three DPW Foremen (water, sewer, and drainage) who oversee DPW employees whose day-to-day activities include maintenance of the stormwater system, street cleaning, snow removal operations, or similar activities. |
| 6-2             | Continue street sweeping program | Department of Public Works           | During non-winter months, commercial streets swept twice per week, all streets swept twice annually in the spring and fall | Continued street sweeping program, maintained records of schedule and daily volume of residuals collected. | Continue street sweeping program; maintain records of schedule and daily volume of residuals collected.  |



| <b>BMP ID #</b> | <b>BMP Description</b>                                      | <b>Responsible Dept./Person Name</b> | <b>Measurable Goal(s)</b>                | <b>Progress on Goal(s) – Permit Year 13</b><br>(Reliance on non-municipal partners indicated, if any)   | <b>Planned Activities – Upcoming Permit Year</b>  |
|-----------------|---|--------------------------------------|--|---|---|
| 6-3             | Storm drain maintenance                                     | Department of Public Works           | Percent of catch basins cleaned annually | One half of the City's catch basins were cleaned. Cleaning was performed in house and with a private vendor. Cleaned drain pipes as necessary using both in-house and contracted resources. Kept records of residual volumes on a daily basis and prioritized those with the largest for frequent cleaning. Insured proper disposal of residuals.   | Clean at least 1/3 of the City's catch basins. Clean prioritized catch basins and clean drain pipes as necessary. Insure proper disposal of residuals.  |
| 6-4             | Evaluate street sweeping and catch basin cleaning equipment | Department of Public Works           | Evaluation of existing equipment         | Evaluated equipment to determine if replacement or upgrades would improve efficiency via weekly maintenance reports – last purchase was a new vacator truck in 2016.  | Evaluate equipment to determine if replacement or upgrades would improve efficiency.  |
| 6-5             | Roadway deicing   | Department of Public Works           | Amount and type of deicers used          | Continued existing roadway deicing procedures: <ul style="list-style-type: none"> <li>• Used appropriate sand/salt mixture</li> <li>• Calibrated spreaders at beginning of each winter (at least once a year)</li> <li>• Maintained calibration and deicer volume records after each storm</li> <li>• Kept salt stored in enclosed shed. It is never stored outside.</li> <li>• Minimized time salt/sand uncovered</li> </ul> | Continue existing roadway deicing procedures. <ul style="list-style-type: none"> <li>• Use appropriate sand/salt mixture</li> <li>• Calibrate spreaders at beginning of each winter</li> <li>• Maintain calibration and deicer volume records</li> <li>• Keep salt stored</li> <li>• Minimize time salt/sand uncovered</li> </ul> |

| <b>BMP ID #</b> | <b>BMP Description</b>                         | <b>Responsible Dept./Person Name</b> | <b>Measurable Goal(s)</b>   | <b>Progress on Goal(s) – Permit Year 13</b><br>(Reliance on non-municipal partners indicated, if any)   | <b>Planned Activities – Upcoming Permit Year</b>  |
|-----------------|--|--------------------------------------|---|---|---|
| 6-6             | Minimize impacts from vehicle maintenance      | Department of Public Works           | Training of Department of Public Works employees once per permit term; hazardous material usage tracked                                     | <ul style="list-style-type: none"> <li>• Mechanics have previously been trained in the use and disposal of motor vehicle gasoline and oil, solvents, diesel, etc.</li> <li>• Hazardous materials were properly managed</li> <li>• Hazardous material usage was tracked</li> <li>• All vehicle maintenance was done inside the garage</li> <li>• Annual hazardous waste removal from DPW is performed by a licensed company</li> </ul> | Before the end of the permit term: Conduct employee training, proper hazardous materials management and use reduction, track material usage, and limit vehicle maintenance activities to the DPW garage or other contained areas. |
| 6-7             | Minimize impacts from vehicle washing          | Department of Public Works           | Small vehicles washed at commercial car wash, use of biodegradable phosphate free soap, implemented new outdoor vehicle washing procedures. | Instituted the use of biodegradable phosphate free soap in previous permit years. Installed a gas/oil and silt separator at City Yard to catch washing runoff from all vehicles per MA DEP requirements during a previous permit year. The separators have been cleaned annually, and all catch basins on the DPW site are cleaned 2x/year, including in Permit Year 13.  | Continue to use biodegradable phosphate free soap, wash small vehicles at commercial car washes. Continue to maintain gas/oil separators at City Yard and clean DPW catch basins.   |
| 6-8             | Continue tree planting and maintenance program | Department of Public Works           | Number of trees planted per year  | Planted about 75 trees and maintained all City trees.   | Plant a minimum of 75 trees and maintain all City trees.  |
| 6-9             | Illegal dumping control                        | Department of Public Works           | Signs posted at dead end streets and other possible illegal dumping locations; sites where illegal dumping is identified are cleaned up     | Illegal dumping signs were posted during a prior permit term. They are monitored regularly.   | If needed, post additional signs at dead end streets and other possible illegal dumping locations. Continue to monitor sites.   |

| <b>BMP ID #</b> | <b>BMP Description</b>        | <b>Responsible Dept./Person Name</b> | <b>Measurable Goal(s)</b>                              | <b>Progress on Goal(s) – Permit Year 13</b><br>(Reliance on non-municipal partners indicated, if any)   | <b>Planned Activities – Upcoming Permit Year</b>  |
|-----------------|-------------------------------|--------------------------------------|--|---|---|
| 6-10            | Household Hazardous Waste Day | Department of Public Works           | Household Hazardous Waste Collection Day held annually | Held two Household Hazardous Waste collection days – 5/30/15 and 10/24/15 – one of which is held in Stoneham in conjunction with Melrose, and the other in Melrose in conjunction with Stoneham.                | Hold two Hazardous Waste Collection Days annually |
| 6-11            | City Yard Drainage            | Department of Public Works           |  | A third in-line stormwater oil/water separator was installed at City Yard as part of new fuel pump system installation in a prior permit year. This separator is cleaned annually, including in Permit Year 13. | Maintain separators.                              |