

4/14/14

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**Municipality/Organization:** Town of Essex

**EPA NPDES Permit Number:** MA041239

**MaDEP Transmittal Number:** W-035216

**Annual Report Number  
& Reporting Period:** No. 11: April 13 - April 14

## NPDES PII Small MS4 General Permit Annual Report

### Part I. General Information

**Contact Person:** Paul Goodwin **Title:** Superintendent

**Telephone #:** (978)-768-6262 **Email:** pgoodwin@essexma.org

Certification:

I certify under penalty of law that this document and d 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 Goodwin

**Title:** Superintendent

**Date:** April 11, 2014

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

The Town of Essex continues our good housekeeping practices for all municipal operations. All town roads are swept and catch basins are cleaned annually by outside contractors. Public Works employees inspect all stormwater outfalls annually. The town has a vacator truck we use as needed. This year certain basins were “vactored” and inspected. Also all of Desoto Road was cleaned, inspected and jetted before paving. The Essex sewer collection system is now 8 years old and continues to work effectively, efficiently and is monitored for flows daily.

Greenscapes North Shore Coalition mailed educational brochures to Essex residents as part of our public outreach and also provided pamphlets on proper dog waste removal. The town hired Coneco Engineers to update/provide drainage mapping system for roughly half the town’s drainage system.

**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 11</b><br>(Reliance on non-municipal partners indicated, if any)  | <b>Planned Activities –</b>                              |
|-----------------|------------------------|--------------------------------------|---------------------------|--|--|
| SX1<br>Revised  | Hazardous Waste Day    | DPW<br>Paul Goodwin                  | See Attachment 1          | HHWD was held on May 18, 2013 and run by Clean Harbors and DPW personnel.  | HHWD is scheduled for May 17, 2014                       |
| SX2<br>Revised  | Water Conservation     | Water Dept.<br>Paul Goodwin          | See Attachment 1          | Part of Public Outreach that was posted on the Dept. of Public Works website was updated.  | Update website as needed.                                |
| SX3<br>Revised  | Lawn & Garden          | Wastewater                           | See Attachment 1          | For second year town provided saplings for Earth Day and resident worked with Great American Rain Barrel to offer rain barrels to residents. | Offer rain barrels and saplings again in 2014.           |
| SX4<br>Revised  | Classroom Education    | Wastewater<br>Paul Goodwin           | See Attachment 1          | Greenscapes North Shore Coalition educational brochures.   | Greenscapes North Shore Coalition educational brochures. |
| Revised         |                        |                                      |                           |  |  |
| 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 11<br>(Reliance on non-municipal partners indicated, if any)    | Planned Activities –   |
|----------------|----------------------------|-------------------------------|--------------------|---|--|
| SX5<br>Revised | Drain Stencils             | Wastewater<br>Paul Goodwin    | See Attachment 1   | No stenciling this year.  | If no volunteer comes forward will try to accomplish with seasonal help as time permits. |
| SX6<br>Revised | Elementary School Projects | Wastewater<br>Paul Goodwin    | See Attachment 1   | Hired Greenscapes Representative to do public education projects geared toward Elementary School. | “Keeping water clean” school program planned by Greenscapes.                             |
| SX7<br>Revised | Hazardous Waste Day        | DPW<br>Paul Goodwin           | See Attachment 1   | Mercury shed in place for mercury containing items at the town’s Transfer Station.                | Continue with current practices.   |
| Revised        |                            |                               |                    |   |  |
| Revised        |                            |                               |                    |   |  |
| 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 11 (Reliance on non-municipal partners indicated, if any) | Planned Activities –   |
|--------------|---------------------------------|-------------------------------|--------------------|---|--|
| SX8 Revised  | Identify Failing Septic Systems | Board of Health Elaine Wozny  | See Attachment 1   | All occupied mandatory/failed systems are connected to the Town Sewer System.               | Continue to identify and work together with the local Board of Health agent. |
| SX9 Revised  | Drain Connection Permit         | DPW Paul Goodwin              | See Attachment 1   | Local MS-4 by-law in place.   | Continue to identify and require permits as needed.                          |
| SX10 Revised | Stormwater Sampling             | Wastewater Paul Goodwin       | See Attachment 1   | Satisfied DEP requirement for Storm Water sampling.   | Program ended.   |
| SX11 Revised | Outfall Inspections             | Wastewater Paul Goodwin       | See Attachment 1   | Inspected annually and cleaned/maintained as needed by Public works employees.              | Maintain current inspection process.   |
| SX24 Revised | Illicit Discharge Enforcement   | Wastewater Paul Goodwin       | See Attachment 2   | IDDE plan complete utilizing town staff and outside engineers.                              | Updated IDDE plan if needed.   |
| 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 11 (Reliance on non-municipal partners indicated, if any) | Planned Activities –  |
|-----------------|----------------------------|---|--------------------|---|---|
| SX12<br>Revised | Inspection and Maintenance | Conservation Commission                   | See Attachment 1   | Construction plan review by various Town Boards.<br>Site plan review by law.                | Continue with current practices.  |
| SX13<br>Revised | Construction Entrances     | DPW<br>Paul Goodwin                       | See Attachment 1   | Address construction site maintenance, as needed. Have contractor clean street if needed.   | Keep local contractors informed about accountability of site maintenance. |
| SX14<br>Revised | Silt Fence                 | Conservation Commission                   | See Attachment 1   | Con Com inspects and requires upkeep/maintenance and proper silt fence installation.        | Continue with current practices.  |
| SX25<br>Revised | Enforcement                | Conservation Commission<br>Planning Board | See Attachment 2   | Work with local town departments.   | Continue with current practice.   |
|                 |                            |   |                    |   |   |
|                 |                            |   |                    |   |   |

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 11<br>(Reliance on non-municipal partners indicated, if any)                             | Planned Activities –                |
|-----------------|--------------------|---|--------------------|--|-------------------------------------|
| SX15<br>Revised | Alternative Pavers | Planning Board                            | See Attachment 1   | Planning board has made this a suggestion.   | Continue with current practices.    |
| SX16<br>Revised | Catch Basins       | DPW<br>Paul Goodwin                       | See Attachment 1   | Planning Board sends the DPW plans of proposed drainage work for new developments, for our input.                          | Continue with current practices.    |
| SX17<br>Revised | Street Curbing     | Planning Board                            | See Attachment 1   | Mass Highway installing new side walks, curbing etc, along a 1 mile stretch of Route #133, project completed November 2011 | No current plans for street curbing |
| SX26<br>Revised | Enforcement        | Conservation Commission<br>Planning Board | See Attachment 2   | Work with town departments on new development.   | Continue current practice.          |
| Revised         |                    |   |                    |  |                                     |
| Revised         |                    |   |                    |  |                                     |

### 5a. Additions

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**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 11</b><br>(Reliance on non-municipal partners indicated, if any)                  | <b>Planned Activities –</b>                                   |
|-----------------|----------------------------|--------------------------------------|---------------------------|--|---|
| SX18<br>Revised | Truck Wash Bay             | DPW<br>Paul Goodwin                  | See Attachment 1          | Highway garage completed. Gas/sand trap installed for floor drains. Oil/sand tank pumped 3 years ago by Clean Harbors. | Maintain good housekeeping practices. Plan to pump this year. |
| SX19<br>Revised | Street Cleaning            | DPW<br>Paul Goodwin                  | See Attachment 1          | Annual sweeping of all streets. Town purchased a broom attachment to clean sidewalks and other small areas.            | Continue current practices.                                   |
| SX20<br>Revised | Catch Basin Cleaning       | DPW<br>Paul Goodwin                  | See Attachment 1          | Have all town catch basins cleaned annually.   | Continue current practices                                    |
| SX21<br>Revised | Drain Repair / Replacement | DPW<br>Paul Goodwin                  | See Attachment 1          | 5 more culverts lined on Southern Ave. Basin and new drain installed on Apple Street. Many catch basins were repaired. | Continue annual inspections and repairs.                      |
| SX22<br>Revised | Salt Storage               | DPW<br>Paul Goodwin                  | See Attachment 1          | Maintain good housekeeping practices.  | Maintain good housekeeping practices.                         |
|                 |                            |                                      |                           |  |   |

**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 11 (Reliance on non-municipal partners indicated, if any)         | Planned Activities –   |
|-----------------|---------------------|-------------------------------|--------------------|---|--|
| SX23<br>Revised | Public Sewer System | Wastewater<br>Paul Goodwin    | See Attachment 1   | New Sewer collection system finished September 2006.  | Maintain good housekeeping practices.                            |
| SX27<br>Revised | Outfall Map         | Wastewater<br>Paul Goodwin    | See Attachment 2   | Outfall map was completed in 2011. Outside engineer performed drainage system map of half the town. | Look to have remainder of the town drainage system mapping done. |
| Revised         |                     |                               |                    |   |  |
| Revised         |                     |                               |                    |   |  |
| Revised         |                     |                               |                    |   |  |
| Revised         |                     |                               |                    |   |  |
| Revised         |                     |                               |                    |   |  |

7a. Additions

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7b. WLA Assessment

**Part IV. Summary of Information Collected and Analyzed**

**Part V. Program Outputs & Accomplishments (OPTIONAL)**

**Programmatic**

|  |       |  |
|--|-------|--|
| Stormwater management position created/staffed | (y/n) |  |
| Annual program budget/expenditures             | (\$)  |  |
|  |       |  |
|  |       |  |

**Education, Involvement, and Training**

|   |               |  |
|---|---------------|--|
| Estimated number of residents reached by education program(s)           | (# or %)      |  |
| Stormwater management committee established                             | (y/n)         |  |
| Stream teams established or supported                                   | (# or y/n)    |  |
| Shoreline clean-up participation or quantity of shoreline miles cleaned | (y/n or mi.)  |  |
| Household Hazardous Waste Collection Days                               |               |  |
| ▪ days sponsored  | (#)           |  |
| ▪ community participation   | (%)           |  |
| ▪ material collected  | (tons or gal) |  |
| School curricula implemented  | (y/n)         |  |
|   |               |  |
|   |               |  |

**Legal/Regulatory**

|  | In Place<br>Prior to<br>Phase II | Under<br>Review | Drafted | Adopted |
|--|----------------------------------|-----------------|---------|---------|
| Regulatory Mechanism Status (indicate with "X")    |                                  |                 |         |         |
| ▪ Illicit Discharge Detection & Elimination        |                                  |                 |         |         |
| ▪ Erosion & Sediment Control                       |                                  |                 |         |         |
| ▪ Post-Development Stormwater Management           |                                  |                 |         |         |
| Accompanying Regulation Status (indicate with "X") |                                  |                 |         |         |
| ▪ Illicit Discharge Detection & Elimination        |                                  |                 |         |         |
| ▪ Erosion & Sediment Control                       |                                  |                 |         |         |
| ▪ Post-Development Stormwater Management           |                                  |                 |         |         |

**Mapping and Illicit Discharges**

|  |            |  |  |  |
|--|------------|--|--|--|
| Outfall mapping complete               | (%)        |  |  |  |
| Estimated or actual number of outfalls | (#)        |  |  |  |
| System-Wide mapping complete           | (%)        |  |  |  |
| Mapping method(s)                      |            |  |  |  |
| ▪ Paper/Mylar                          | (%)        |  |  |  |
| ▪ CADD                                 | (%)        |  |  |  |
| ▪ GIS                                  | (%)        |  |  |  |
| Outfalls inspected/screened            | (# or %)   |  |  |  |
| Illicit discharges identified          | (#)        |  |  |  |
| Illicit connections removed            | (#)        |  |  |  |
|  | (est. gpd) |  |  |  |
| % of population on sewer               | (%)        |  |  |  |
| % of population on septic systems      | (%)        |  |  |  |
|  |            |  |  |  |
|  |            |  |  |  |

**Construction**

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

**Post-Development Stormwater Management**

|  |          |
|--|----------|
| Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control | (%)      |
| Site inspections completed   | (# or %) |
| Estimated volume of stormwater recharged   | (gpy)    |
|  |          |
|  |          |

**Operations and Maintenance**

|  |                |
|--|----------------|
| Average frequency of catch basin cleaning (non-commercial/non-arterial streets)                | (times/yr)     |
| Average frequency of catch basin cleaning (commercial/arterial or other critical streets)      | (times/yr)     |
| Total number of structures cleaned   | (#)            |
| Storm drain cleaned  | (LF or mi.)    |
| Qty. of screenings/debris removed from storm sewer infrastructure                              | (lbs. or tons) |
| Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.) |                |
| Cost of screenings disposal  | (\$)           |
|  |                |
|  |                |

|  |            |
|--|------------|
| Average frequency of street sweeping (non-commercial/non-arterial streets) | (times/yr) |
|--|------------|

|  |                |
|--|----------------|
| Average frequency of street sweeping (commercial/arterial or other critical streets) | (times/yr)     |
| Qty. of sand/debris collected by sweeping  | (lbs. or tons) |
| Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)                | (location)     |
| Cost of sweepings disposal   | (\$)           |
| Vacuum street sweepers purchased/leased  | (#)            |
| Vacuum street sweepers specified in contracts  | (y/n)          |
|  |                |
|  |                |

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

|  |   |
|--|---|
| Anti-/De-Icing products and ratios                       | % NaCl<br>% CaCl <sub>2</sub><br>% MgCl <sub>2</sub><br>% CMA<br>% Kac<br>% KCl<br>% Sand |
| Pre-wetting techniques utilized                          | (y/n)   |
| Manual control spreaders used                            | (y/n)   |
| Automatic or Zero-velocity spreaders used                | (y/n)   |
| Estimated net reduction in typical year salt application | (lbs. or %)   |
| Salt pile(s) covered in storage shed(s)                  | (y/n)   |
| Storage shed(s) in design or under construction          | (y/n)   |
|  |   |
|  |   |

# **ATTACHMENT 1**

## **MEASURABLE GOALS**

**SX1** – Distribute flyers with information about what hazardous waste day is about and what it hopes to accomplish. Post banners around town to inform the public of dates and locations.

**SX2** – Send out flyers with water bills informing the public of the benefits of water conservation.

**SX3** – Distribute flyers to home owners and business owners on the effects of fertilizers and chemical lawn and garden products.

**SX4** – Work with Elementary School to develop a classroom education program.

**SX5** – Work with local girl and boy scouts on a drain stenciling program.

**SX6** – Work with the Elementary School with poster drawing and getting the children out into Town to see where the drains start and where they end.

**SX7** – Add more programs to the current hazardous waste day to increase amounts of materials.

**SX8** – Work with Board of Health to make sure we are made aware of all failing septic systems.

**SX9** – Continue to issue permits for all connections to the Towns storm drain systems.

**SX10** – Continue with the current storm water sampling program implemented in 1996.

**SX11** – Periodic inspections of outfalls to determine if street sweeping and catch basin cleaning is adequate.

**SX12** – Work with Conservation Commission to ensure construction site inspections are being performed and that the contractors are maintaining all barriers.

**SX13** – Visually inspect construction site entrances and exits to ensure streets are clean.

**SX14** – Work with Conservation Commission to ensure correct and proper placement of silt fences.

**SX15** – Work with the Planning Board to look at alternative pavers as an option for developments.

**SX16** – Visually inspect catch basins on private roads and work with homeowners to develop a plan that addresses cleaning and maintenance.

**SX17** – Work with Planning Board to reduce the amount of street curbing used in new developments.

**SX18** – Build a truck wash bay for cleaning Town vehicles. The Town has completed a new highway garage.

**SX19** – Look at current street sweeping schedule and determine if it is adequate.

**SX20** – Look at current cleaning schedule and inspect basins in between cleanings to determine if it is adequate.

**SX21** – Repair broken drain lines and catch basins that may have collapsed.

**SX22** – Build a new salt storage facility. Complete.

**SX23** – Install a public sewer system. The Town of Essex has completed the process of installing a public sewer system.

## **ATTACHMENT 2**

### **MEASURABLE GOALS**

**SX24** – Created a Town wide Bylaw allowing fines for illicit discharges to the storm drain system. Work with Conservation Commission and Board of Health to enforce Bylaw.

**SX25** – Create a Town wide Bylaw allowing fines for construction site runoff violations. Work with Conservation Commission and Planning Board to create and enforce Bylaw outside of the wetlands protection area.

**SX26** – Create a Town wide Bylaw allowing fines for post construction site runoff violations. Work with Conservation Commission and Planning Board to create and enforce Bylaw outside of the wetlands protection area.

**SX27** – Maintain current outfall map and update when needed.