

**Municipality/Organization:** Town of Essex

**EPA NPDES Permit Number:** MA041239

**MaDEP Transmittal Number:** W- 035216

**Annual Report Number**

**& Reporting Period:** No. 3: April 07 - April 08

8  
4/20/08

## **NPDES PII Small MS4 General Permit Annual Report**

### **Part I. General Information**

**Contact Person:** Erik G Mansfield

**Title:** Wastewater Technician

**Telephone #:** (978)-768-6262

**Email:** emansfield@essexma.org

### **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:** Erik G Mansfield

**Printed Name:** Erik G Mansfield

**Title:** Wastewater Technician

**Date:** 04/17/2008

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

**The Town has now completed our storm water sampling project as required by the DEP. With our sewer project completed, we have been working with the Board of Health, mandating failed septic systems be hooked into sewer. Several catch basins have been replaced or rebuilt and several outfall pipes have been repaired. I have some funds available for mailings and we have set up a flyer board at the Water Filtration Plant. We have again been working with Greenscapes on public education and mailings. I have had no progress on the elementary school education as I have had little time to deal with this issue this year. I have been working with an Eagle Scout on drain stenciling and he is going to use this to achieve one of his badges. We have identified several illicit connections to our storm drain system. These residents were required to file the appropriate paper work with the DPW. As in past years funding is a concern as well as limited manpower.**

### 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 5<br>(Reliance on non-municipal partners indicated, if any)                           | Planned Activities – Permit Year 6                          |
|----------|---------------------|-------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| SX1      | Hazardous Waste Day | DPW<br>Paul Goodwin           | See Attachment 1   | HHWD is scheduled to be held on May10, 2008.                                                                            | We are planning to continue with HHWD around the same time. |
| Revised  |                     |                               |                    |                                                                                                                         |                                                             |
| SX2      | Water Conservation  | Water Dept.<br>Paul Goodwin   | See Attachment 1   | Set up a flyer board at the Water Filtration Plant with conservation information. Working with Greenscapes on mailings. | Continue with current practice.                             |
| Revised  |                     |                               |                    |                                                                                                                         |                                                             |
| SX3      | Lawn & Garden       | Wastewater<br>Erik Mansfield  | See Attachment 1   | Set up a flyer board at the Water Filtration Plant with conservation information. Working with Greenscapes on mailings. | Continue with current practice.                             |
| Revised  |                     |                               |                    |                                                                                                                         |                                                             |
| SX4      | Classroom Education | Wastewater<br>Erik Mansfield  | See Attachment 1   | No action taken.                                                                                                        | Work with Elementary school.                                |
| Revised  |                     |                               |                    |                                                                                                                         |                                                             |
|          |                     |                               |                    |                                                                                                                         |                                                             |
| 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 5<br>(Reliance on non-municipal partners indicated, if any) | Planned Activities – Permit Year 6                |
|----------|----------------------------|-------------------------------|--------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------|
| SX5      | Drain Stencils             | Wastewater<br>Erik Mansfield  | See Attachment 1   | Working with an Eagle Scout so that he can achieve a badge for project.                       | Continue with program.                            |
| Revised  |                            |                               |                    |                                                                                               |                                                   |
| SX6      | Elementary School Projects | Wastewater<br>Erik Mansfield  | See Attachment 1   | No action taken.                                                                              | Will talk with Principal about appropriate grade. |
| Revised  |                            |                               |                    |                                                                                               |                                                   |
| SX7      | Hazardous Waste Day        | DPW<br>Paul Goodwin           | See Attachment 1   | Tire collection and a battery collection.                                                     | See what else is out there.                       |
| Revised  |                            |                               |                    |                                                                                               |                                                   |
| 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 5<br>(Reliance on non-municipal partners indicated, if any)  | Planned Activities – Permit Year 6                       |
|----------|---------------------------------|----------------------------------|--------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| SX8      | Identify Failing Septic Systems | Board of Health<br>Elaine Wozney | See Attachment 1   | Notices were sent to any owner of a failed septic system to hook into the Town's sewer system. | Continue to identify.                                    |
| Revised  |                                 |                                  |                    |                                                                                                |                                                          |
| SX9      | Drain Connection Permit         | DPW<br>Paul Goodwin              | See Attachment 1   | Have had a few connection permits issued.                                                      | Continue to identify and require permits by residents.   |
| Revised  |                                 |                                  |                    |                                                                                                |                                                          |
| SX10     | Stormwater Sampling             | Wastewater<br>Erik Mansfield     | See Attachment 1   | Continued with current program.                                                                | Program has ended.                                       |
| Revised  |                                 |                                  |                    |                                                                                                |                                                          |
| SX11     | Outfall Inspections             | Wastewater<br>Erik Mansfield     | See Attachment 1   | Inspected a few basins after cleaning. Found that most met expectations.                       | Do a Fall inspection to see if twice a year is required. |
| Revised  |                                 |                                  |                    |                                                                                                |                                                          |
| SX24     | Illicit Discharge Enforcement   | Wastewater<br>Erik Mansfield     | See Attachment 2   | Enforcement of by-law.                                                                         | Enforcement of by-law.                                   |
| Revised  |                                 |                                  |                    |                                                                                                |                                                          |
| 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 5<br>(Reliance on non-municipal partners indicated, if any) | Planned Activities – Permit Year 6                                     |
|----------|----------------------------|-------------------------------|--------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| SX12     | Inspection and Maintenance | Conservation Commission       | See Attachment 1   | ConCom has been very good about inspections.                                                  | Continue with current practices.                                       |
| Revised  |                            |                               |                    |                                                                                               |                                                                        |
| SX13     | Construction Entrances     | DPW<br>Paul Goodwin           | See Attachment 1   | No action taken.                                                                              | Continue to be a nuisance to contractors about keeping roadways clean. |
| Revised  |                            |                               |                    |                                                                                               |                                                                        |
| SX14     | Silt Fence                 | Conservation Commission       | See Attachment 1   | ConCom has been very good about silt-fence inspections.                                       | Continue with current practices.                                       |
| Revised  |                            |                               |                    |                                                                                               |                                                                        |
| SX25     | Enforcement                | Conservation Commission       | See Attachment 2   | No progress at this time.                                                                     | Talk to ConCom about By-Law.                                           |
| 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 5<br>(Reliance on non-municipal partners indicated, if any) | Planned Activities – Permit Year 6                                 |
|----------|--------------------|-------------------------------|--------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| SX15     | Alternative Pavers | Planning Board                | See Attachment 1   | Planning board has made this a suggestion.                                                    | Continue with current practices.                                   |
| Revised  |                    |                               |                    |                                                                                               |                                                                    |
| SX16     | Catch Basins       | Wastewater Erik Mansfield     | See Attachment 1   | No action taken.                                                                              | Set up meetings with private road associations to work on details. |
| Revised  |                    |                               |                    |                                                                                               |                                                                    |
| SX17     | Street Curbing     | Planning Board                | See Attachment 1   | Planning board has made this a suggestion.                                                    | Continue with current practices.                                   |
| Revised  |                    |                               |                    |                                                                                               |                                                                    |
| SX26     | Enforcement        | Conservation Commission       | See Attachment 2   | No action taken.                                                                              | Work with ConCom to come up with a By-Law.                         |
| Revised  |                    |                               |                    |                                                                                               |                                                                    |
| Revised  |                    |                               |                    |                                                                                               |                                                                    |
| 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 5<br>(Reliance on non-municipal partners indicated, if any)                                                                                       | Planned Activities – Permit Year 6                       |
|----------|----------------------------|-------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| SX18     | Truck Wash Bay             | DPW<br>Paul Goodwin           | See Attachment 1   | Highway garage completed. Gas/sand trap installed for floor drains.                                                                                                                 | Maintain good housekeeping practices.                    |
| Revised  |                            |                               |                    |                                                                                                                                                                                     |                                                          |
| SX19     | Street Cleaning            | DPW<br>Paul Goodwin           | See Attachment 1   | We feel that at this time our street sweeping is adequate.                                                                                                                          | Continue to review.                                      |
| Revised  |                            |                               |                    |                                                                                                                                                                                     |                                                          |
| SX20     | Catch Basin Cleaning       | DPW<br>Paul Goodwin           | See Attachment 1   | Had the catch basins cleaned in May.                                                                                                                                                | Do a Fall inspection to see if twice a year is required. |
| Revised  |                            |                               |                    |                                                                                                                                                                                     |                                                          |
| SX21     | Drain Repair / Replacement | DPW<br>Paul Goodwin           | See Attachment 1   | Found a few outfalls that need repair. A few drains were also identified as needing repair. Three catch basins were repaired. Three basins were replaced. Two drain lines replaced. | Work on funding repairs and identifying more.            |
| Revised  |                            |                               |                    |                                                                                                                                                                                     |                                                          |
| SX22     | Salt Storage               | DPW<br>Paul Goodwin           | See Attachment 1   | Maintain good housekeeping practices.                                                                                                                                               | Maintain good housekeeping practices.                    |
| Revised  |                            |                               |                    |                                                                                                                                                                                     |                                                          |
|          |                            |                               |                    |                                                                                                                                                                                     |                                                          |
| Revised  |                            |                               |                    |                                                                                                                                                                                     |                                                          |

### 6a. Additions

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**7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>**

| <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 5<br/>(Reliance on non-municipal partners indicated, if any)</b> | <b>Planned Activities – Permit Year 6</b> |
|-----------------|------------------------|--------------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------|
| SX23            | Public Sewer System    | Wastewater<br>Erik Mansfield         | See Attachment 1          | Maintain good housekeeping practices.                                                                 | Maintain good housekeeping practices.     |
| Revised         |                        |                                      |                           |                                                                                                       |                                           |
| SX27            | Outfall Map            | Wastewater<br>Erik Mansfield         | See Attachment 2          | Maintain and re-evaluate current map.                                                                 | Maintain and re-evaluate current map.     |
| 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            | (# )<br>(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**

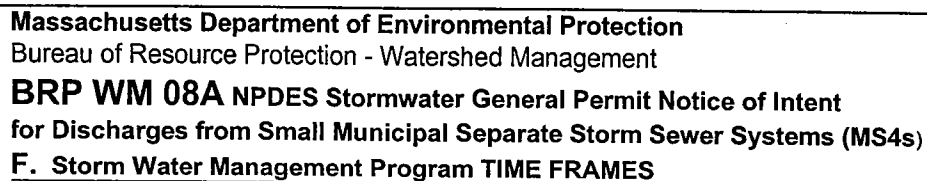
### **MEASURABLE GOALS**

**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.



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