

**Municipality/Organization:** City of Salem, Massachusetts

**EPA NPDES Permit Number:** MA041219

**MassDEP Transmittal Number:** W-040844

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

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

### Part I. General Information

Contact Person: Dominick Pangallo Title: Chief Administrative Aide

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#### Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: 

Printed Name: Kimberley Driscoll

Title: Mayor

Date: 4/15/15

## Part II. Self-Assessment

**As of the end of Permit Year 12, the City has achieved all of the measurable goals for the BMPs selected in the 2003 Notice of Intent and those added in subsequent years to reflect additional stormwater management activities by the City and Salem Sound Coastwatch.** As required by Part II.D.1 of the 2003 *NPDES General Permit for Stormwater Discharges from Small MS4s*, as part of developing this annual report, the City has evaluated compliance of its stormwater management program with the conditions of the permit and determined it is in compliance with the permit conditions. Also, as required by Part II.D.2 of the General Permit, the City evaluated the appropriateness of selected BMPs in efforts towards achieving the defined measurable goals and has determined that BMPs and measurable goals continue to be appropriate.

Planned activities for the next permit term have not been designated unless a BMP under this permit term was not completed or is still in progress for completion. Once the General Permit for the next five years is available from EPA, the City will prepare and submit a Notice of Intent for compliance with the new General Permit. Nevertheless, the City would like to highlight the following program accomplishments:

The City continues to stay fully involved with Salem Sound Coastwatch (SSCW). SSCW is a non-profit coastal watershed organization that works with government agencies, businesses, other non-profit organizations and citizens, through municipal partnering, scientific investigation, education, and stewardship. The SSCW organization strives for restoring and protecting coastal waters, beaches, salt marshes, and marine habitats of Salem Sound and its tributary rivers and streams.

In the spring, the City participated in clean ups at the following locations: Salem Willows, North River, Forest River Park and Furlong Park, and in the fall these following locations: Collins Cove, Salem Willows, North River, Forest River Park, Forest River Bike Trail and Furlong Park. On September 19, 2014, the City advertised beach cleanups for CoastSweep.

The City maintains a strong Illicit Discharge Detection and Elimination (IDDE) program. Outfall screening and sampling is the primary step in eliminating illicit discharges into municipal drainage systems. In 2014, several areas where illicit discharges were detected are now eliminated.

The City participated in the development of the *Coastal Stormwater Management Through Green Infrastructure, A Handbook for Municipalities*, which can be found on <http://www.mass.gov/eea/docs/mbp/publications/massbays-green-infrastructure-handbook.pdf>

### Part III. Summary of Minimum Control Measures

#### 1. Public Education and Outreach

| BMP ID # | BMP Description         | Responsible Dept./Person Name                                                 | Measurable Goal(s)                                                                                                    | Progress on Goal(s) – Permit Year 12<br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Planned Activities – Next Permit Term                   |
|----------|-------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 1        | Website                 | Dept. of Public Services through the efforts of Salem Sound Coastwatch (SSCW) | Maintain and update website (provided funding is available).                                                          | The SSCW website continues to be updated with information on stormwater runoff/pollution and provides volunteering opportunities, community events, and water quality monitoring results. The SSCW also continued to update Facebook with events and information.                                                                                                                                                                                                                                                                                        | Measurable goals for 2003 General Permit have been met. |
| Revised  |                         |                                                                               |                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                         |
| 2        | Informational brochures | Dept. of Public Services (through the efforts of SSCW)                        | Provide and maintain brochures at SSCW office. Distribute brochures at public events (provided funding is available). | The SSCW continued to provide and maintain brochures at the office and at public events. Brochures were also made available at the City of Salem offices on the 4 <sup>th</sup> floor at 120 Washington Street. Brochures included <i>Make the Stormwater Connection</i> , <i>Salem Sound – A Sound Investment</i> , <i>Don't Trash Grass</i> , <i>Water Conservation</i> , and brochures about recycling and other brochures from Greenscapes. During Permit Year 12, additional brochures on pet waste, "Scoop It" is still available at City offices. | Measurable goals for 2003 General Permit have been met. |
| Revised  |                         |                                                                               |                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                         |

| <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 12</b><br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                                                                                      | <b>Planned Activities – Next Permit Term</b>            |
|-----------------|------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 3               | Social Media           | Dept. of Public Services (through the efforts of SSCW) | Provide information about SSCW events and other related information using Facebook                                   | SSCW previously emailed monthly e-newsletters, <i>SoundNet</i> , which were available at <a href="http://www.salemsound.org/archivesSoundNet.html">http://www.salemsound.org/archivesSoundNet.html</a><br>SSCW now provides information and relevant links to those interested in SSCW activities via Facebook. SSCW's page has 569 "Likes."                                               | Measurable goals for 2003 General Permit have been met. |
| Revised         |                        |                                                        |                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                            |                                                         |
| 4               | Public event displays  | Dept. of Public Services (through the efforts of SSCW) | Post display annually at the Maritime Festival, and other public events if possible (provided funding is available). | The Clean Salem/Green Salem event on May 3 <sup>th</sup> , 2014, the Maritime Festival (August 1-3, 2014), included environmental displays. These included Greenscapes material and six different handouts with information on water conservation, proper recycling, etc. In addition, water conservation devices were handed out, including showerheads and nozzles for outdoor watering. | Measurable goals for 2003 General Permit have been met. |
| Revised         |                        |                                                        |                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                            |                                                         |

| <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 12</b><br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                             | <b>Planned Activities – Next Permit Term</b>            |
|-----------------|---------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 5               | Local newspaper articles                    | Dept. of Public Services (through the efforts of SSCW)                     | One article per year.                                                                                 | Salem News continues to publish articles regarding water resources management.                                                                                                                                                                                                                    | Measurable goals for 2003 General Permit have been met. |
| Revised         |                                             |                                                                            |                                                                                                       | There were two PSA's on stormwater quality utilized in 2014 on local TV (SATV).                                                                                                                                                                                                                   |                                                         |
| 6               | Training of volunteers                      | Dept. of Public Services (through the efforts of SSCW)                     | Annually (provided funding is available).                                                             | The SSCW continued to hold the Clean Beaches and Streams Program, training volunteers to collect water quality samples. Sampling took place from June to August, 2014.                                                                                                                            | Measurable goals for 2003 General Permit have been met. |
| Revised         |                                             |                                                                            |                                                                                                       | In addition, SSCW continued to implement its "Adopt a Beach" program which included training sessions for volunteers on May 22 & 27, 2014.                                                                                                                                                        |                                                         |
| 7               | Publish results of water quality monitoring | Dept. of Public Services (through the efforts of SSCW) and Board of Health | Year 1 – Publish upon receipt of results;<br>Years 2 through 9 – Continue based on available funding. | SSCW's Clean Beaches and Streams program continued to publish results of the water quality monitoring conducted during Permit Year 12 on its website ( <a href="http://www.salemsound.org/CB&amp;S.html">http://www.salemsound.org/CB&amp;S.html</a> )<br><br>The Board of Health 2014 monitoring | Measurable goals for 2003 General Permit have been met. |

| <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 12</b><br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                 | <b>Planned Activities – Next Permit Term</b>           |
|-----------------|----------------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Revised         |                            |                                                        |                                                                                                                                       | results for 15 beaches in Salem are published on the Massachusetts Department of Public Health – Bureau of Environmental Health website at: <a href="http://mass.digitalhealthdepartment.com/public_21/beaches.cfm">http://mass.digitalhealthdepartment.com/public_21/beaches.cfm</a> |                                                        |
| 31              | North River Awareness Week | Dept. of Public Services (through the efforts of SSCW) | SSCW will sponsor the North River Awareness Week annually (provided funding is available) and discuss stormwater impacts on the river | The North River Awareness week has been discontinued.<br><br>SSCW continued to participate in the 2014 COASTSWEEP beach cleanups in Salem, which included Baker's Island.                                                                                                             | Measurable goals for 2003 General Permit have been met |

| BMP ID # | BMP Description                       | Responsible Dept./Person Name                          | Measurable Goal(s)                                                                                                           | Progress on Goal(s) – Permit Year 12<br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Planned Activities – Next Permit Term                   |
|----------|---------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 32       | Low Impact Development (LID) Outreach | Dept. of Public Services (through the efforts of SSCW) | Year 3 – SSCW Speakers Series will focus on LID<br>Year 4 & 5 – Continue to promote LID techniques for stormwater management | <p>The City of Salem’s website continues to provide a Water Conservation Brochure that offers water conservation tips and interesting water facts and statistics. Brochure is available at <a href="http://www.salem.com/Pages/SalemMA_Water/waterconservationflyer.pdf">http://www.salem.com/Pages/SalemMA_Water/waterconservationflyer.pdf</a></p> <p>The City also continued to provide rain barrels at discounted prices to Salem Residents (<a href="http://salem.com/Pages/SalemMA_Water/rainbarrels">http://salem.com/Pages/SalemMA_Water/rainbarrels</a>).</p> <p>The Department of Publics Services hands out a variety of brochures covering the topics of nonpoint source pollution, water conservation, recycling, LID, and composting.</p> <p>Salem maintained its membership with Greenscapes in 2014. Greenscapes presentation of “<i>Soaking Up the Rain</i>” was presented at the Salem Garden Club.</p> <p>Greenscapes is a collaborative outreach effort that seeks to educate people about landscaping practices that have less impact on the environment, create environmental stewards, and generate support for water resources management.</p> <p>City staff and Salem Sound Coast Watch were involved in the development of Coastal Stormwter Management Through Green Infrastructure manual released in December 2014.</p> | Measurable goals for 2003 General Permit have been met. |

|    |                            |                                                                             |                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                         |
|----|----------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 35 | No Discharge Area Outreach | Dept. of Public Services (through the efforts of Salem Sound Working Group) | <p>Year 4 – Use information from the 2005 survey to Improve Salem Sound</p> <p>Year 5 – Continue to promote Salem Sound Improvements</p> | <p>As of June 23, 2008, Salem Sound is a No Discharge Area (NDA). EPA Region 1 designated Salem Sound as an area where boaters with Marine Sanitation Device (MSD) type I &amp; II no longer dump within 3 miles of shore.</p> <p>The Salem Harbormaster's website contains information about pump out stations. In Salem, the pump out boat operates 8 a.m. to 4 p.m. on weekends and holidays from Memorial Day to Columbus Day. There is a self service automated pump-out station at the Congress Street float open 24/7.</p> <p>Information about what boaters need to know, as well as information on pump out services, is available on SSCW's website<br/> <a href="http://www.salemsound.org/NDA.html">http://www.salemsound.org/NDA.html</a></p> <p>In addition, information is available on EPA's website at<br/> <a href="http://www.epa.gov/region1/eco/nodiscrg/ma.html">http://www.epa.gov/region1/eco/nodiscrg/ma.html</a></p> | Measurable goals for 2003 General Permit have been met. |
|----|----------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|



## 2. Public Involvement and Participation

| BMP ID # | BMP Description                  | Responsible Dept./Person Name                                                                                                 | Measurable Goal(s)                                                          | Progress on Goal(s) – Permit Year 12<br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                                                                                     | Planned Activities – Next Permit Term                   |
|----------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| 8        | Water quality monitoring program | Dept. of Public Services (through the efforts of SSCW)                                                                        | Annually (provided funding is available).                                   | Under SSCW's Clean Beaches and Streams Program, trained volunteers collected samples from prioritized sites and performed testing every two weeks during summer 2014. Results are available on the SSCW website: <a href="http://www.salemsound.org/CB&amp;S.html">http://www.salemsound.org/CB&amp;S.html</a>                                                                     | Measurable goals for 2003 General Permit have been met. |
| Revised  |                                  |                                                                                                                               |                                                                             |                                                                                                                                                                                                                                                                                                                                                                                    |                                                         |
| 9        | Beach cleanup program            | Dept. of public Services (through the efforts of SSCW)                                                                        | Conduct once per year, each summer (provided funding is available).         | In the spring, the City and SSCW participated in clean ups at the following locations: Salem Willows, North River, Forest River Park and Furlong Park, and in the fall these following locations: Collins Cove, Salem Willows, North River, Forest River Park, Forest River Bike Trail and Furlong Park. On September 19, 2014, the City advertised beach cleanups for CoastSweep. | Measurable goals for 2003 General Permit have been met. |
| Revised  |                                  |                                                                                                                               |                                                                             |                                                                                                                                                                                                                                                                                                                                                                                    |                                                         |
| 10       | Storm drain stenciling           | Dept. of Public Services (through the efforts of SSCW); Salem State College (through the efforts of MA Community Water Watch) | Evaluate once per year. Perform stenciling (provided funding is available). | Stenciling of storm drains has been done in previous permit years. No additional storm drain stenciling was conducted this permit year due to constraints of budget and staff time.                                                                                                                                                                                                | Measurable goals for 2003 General Permit have been met. |
| Revised  |                                  |                                                                                                                               |                                                                             |                                                                                                                                                                                                                                                                                                                                                                                    |                                                         |

|         |                                             |                                                        |                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                        |                                                                                                                                                           |
|---------|---------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 30      | Coastal Habitat Invasive Monitoring Program | Dept. of Public Services (through the efforts of SSCW) | Annually (provided funding is available).                                                                                                                                                                   | Volunteers can be trained under SSCW's Coastal Habitat Invasive Monitoring Program to collect information on location and amount of invasive species.                                                                                                                  | Measurable goals for 2003 General Permit have been met.                                                                                                   |
| Revised |                                             |                                                        |                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                        |                                                                                                                                                           |
| 33      | North River Clean-up                        | Dept. of Public Services (through the efforts of SSCW) | Year 3 – Remove trash and other debris from the river and banks.                                                                                                                                            | SSCW participated in the 2014 COASTSWEEP clean-ups in Salem, including the North River cleanup (3 days). See BMP 9.<br><br>In addition, throughout 2014, SSCW held numerous clean-up trainings for volunteers as part of the Adopt a Beach program.                    | Measurable goals for 2003 General Permit have been met.                                                                                                   |
| 37      | South River Drainage Improvement Project    | City of Salem                                          | Year 4 – Collect information regarding the South River Basin.<br><br>Year 6 – No additional public participation goals this year<br><br>Moved next phase of this BMP to Good Housekeeping Section as BMP 38 | The City continues to implement several measures for the South River Drainage Project. See BMP 38.<br>The City's Engineering website contains information on public meetings. Two public education meetings about the project are being held in April 16 & 30 of 2015. | Measurable goals for 2003 General Permit have been met. The City plans to keep the public informed and seek input as needed regarding project activities. |
| Revised |                                             |                                                        |                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                        |                                                                                                                                                           |

### 3. Illicit Discharge Detection and Elimination

| BMP ID # | BMP Description                                        | Responsible Dept./Person Name | Measurable Goal(s)                                                                               | Progress on Goal(s) – Permit Year 12<br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                                                                                                              | Planned Activities – Next Permit Term                                                                                                                                                                           |
|----------|--------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11       | Develop GIS database of the drainage system            | Dept. of Public Services      | Continue to improve the GIS database and mapping                                                 | 100% of the City's outfalls and the water bodies into which the outfalls discharge are located in GIS or on paper/mylar maps. City maps show catch basins, drainage manholes, siphons, and some connectivity. City uses GIS as a tool to identify and track flooding problems. As part of ongoing IDDE field work, changes are noted and updates to the database are made, including drainage connectivity. | Measurable goals for 2003 General Permit have been met. City continues to GPS locate catch basins, drainage manholes, and other structures, and will refine connectivity to develop a full drainage system map. |
| Revised  |                                                        |                               |                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                 |
| 12       | Salem Sound Shoreline Survey (Project No. 2002–01/604) | Health Dept.                  | Obtain copies of the quarterly progress reports, as well as other information pertinent to Salem | There were no activities planned for Permit Year 12. BMP completed in a prior permit year.                                                                                                                                                                                                                                                                                                                  | Measurable goals for 2003 General Permit have been met.                                                                                                                                                         |
| Revised  |                                                        |                               |                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                 |

| <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 12</b><br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Planned Activities – Next Permit Term</b>                                                                     |
|-----------------|--------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| 13              | Visually inspect outfalls for dry weather flows        | Dept. of Public Services (through the efforts of SSCW) | Inspect a representative number of outfalls annually (provided funding is available).                                     | In Permit Year 11 into Permit Year 12, the city completed dry-weather screening and sampling of 50 outfalls, wet-weather screening and sampling of 10 outfalls, conducted 8 follow-on investigations, conducted CCTV pipeline inspection of approximately 11,100-feet of drain line and 10,300-feet of sanitary line and addressed 5 illicit connections or sanitary sewer leaks.<br><br>Further information can be found in the Annual Report submitted to EPA under Administrative Order No. 11-021. | Measurable goals for 2003 General Permit have been met.<br><br>Confirmatory sampling is planned for spring 2014. |
| Revised         |                                                        |                                                        |                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                  |
| 14              | Conduct water quality sampling at stormwater outfalls. | Dept. of Public Services (through the efforts of SSCW) | Year 1 – Publish results of sampling.<br>Years 2 through 9 – Perform additional sampling (provided funding is available). | In addition to the description in BMP 13, SSCW performed sampling every two weeks at various outfalls during the 2014 swimming season (June through the end of August). Results are published on SSCW's website ( <a href="http://www.salemsound.org/CB&amp;S.html">http://www.salemsound.org/CB&amp;S.html</a> ).                                                                                                                                                                                     | Measurable goals for 2003 General Permit have been met.                                                          |
| Revised         |                                                        |                                                        |                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                  |
| 15              | Conduct water quality sampling at beaches              | Health Dept.                                           | Perform weekly beach sampling during summer months in accordance with DEP criteria                                        | Weekly beach sampling was performed at multiple locations during the period from June 17 to August 20, 2014. Health Department keeps records of results. Results are also published on the MA Department of Public Health (DPH) website. See BMP 7.                                                                                                                                                                                                                                                    | Measurable goals for 2003 General Permit have been met.                                                          |
| Revised         |                                                        |                                                        |                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                  |

| <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 12</b><br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                          | <b>Planned Activities – Next Permit Term</b>                 |
|-----------------|----------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| 16              | Develop Stormwater Ordinance                       | Dept. of Public Services             | Year 1 – Review existing bylaws & regulations; Year 2 – Propose changes; Year 3 – Implement changes, subject to City approval             | The City determined it has adequate legal authority to effectively prohibit non-stormwater discharges to the MS4 and illegal dumping, and enforce violations. No further action is necessary to fulfill the requirements of the General Permit under this BMP. | Measurable goals for 2003 General Permit have been met.      |
| Revised         |                                                    |                                      |                                                                                                                                           | On January 30, 2012, City Council vote approved the Stormwater Management Ordinance which regulates new/redevelopment and storm sewer connections.                                                                                                             |                                                              |
| 29              | Perform study to identify contamination sources(s) | Dept. of Public Services             | Year 1 – Submit grant application to CZM; Year 2 – Initiate study (provide funding is available). Year 3 to 5 – Implement Recommendations | In Permit Year 12, the City continued to monitor the effectiveness of the Juniper Beach outfall duckbill through beach and outfall water quality monitoring. See BMP 13 for information on City-wide IDDE monitoring efforts.                                  | Measurable goals for 2003 General Permit have been met.      |
| Revised         | <i>... at Juniper Beach and Willows Park</i>       |                                      |                                                                                                                                           | The City continued trash collection at Willows Park. Trash receptacles throughout the City are emptied once per week.                                                                                                                                          | Additional confirmatory sampling is planned for spring 2014. |

#### 4. Construction Site Stormwater Runoff Control

| BMP ID # | BMP Description                                                                                                                      | Responsible Dept./Person Name                                           | Measurable Goal(s)                                                                                                                         | Progress on Goal(s) – Permit Year 12<br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                                                                                                                                                                                                                                               | Planned Activities – Next Permit Term                                                                                     |
|----------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| 17       | Develop an ordinance requiring developers to prepare an Erosion & Sediment Control Plan for all sites disturbing one acre or greater | Dept. of Public Services;<br>Planning Board;<br>Conservation Commission | Year 1 – Review existing bylaws and regulations.<br>Year 3 – Develop Ordinance.<br>Year 4&5 – Implement changes, subject to City approval. | On January 30, 2012, City Council vote approved the Stormwater Management Ordinance. This ordinance regulates erosion and sediment controls at construction sites that ultimately disturb one or more acres of land. This ordinance includes sanctions to ensure compliance and includes the Massachusetts Stormwater Management Standards and Handbook as performance standards for projects subject to the ordinance.                                                                                                                      | Measurable goals for 2003 General Permit have been met. Implement ordinance and develop regulations supporting ordinance. |
| Revised  |                                                                                                                                      |                                                                         |                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                           |
| 18       | Periodically check erosion control measures and construction material management on site inspections                                 | Dept. of Public Services;<br>Planning Board,<br>Conservation Commission | Monitor and track violations                                                                                                               | Construction sites, erosion control measures, and construction material management practices throughout the City were monitored and inspected as part of Conservation and/or Engineer inspections. Planning department maintains documentation of inspections.<br><br>The City has obtained the services of an outside engineer to conduct peer reviews for larger projects. State projects are reviewed by the Engineering Department.<br><br>Salem’s Conservation Commission conducts inspections on projects disturbing more than 1-acre. | Measurable goals for 2003 General Permit have been met.                                                                   |
| Revised  |                                                                                                                                      |                                                                         |                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                           |

## 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 12</b><br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                                                                                                                                                      | <b>Planned Activities – Next Permit Term</b>                                                                              |
|-----------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| 19              | Develop an ordinance requiring stormwater controls for all new and redevelopment projects disturbing one acre or greater | Dept. of Public Services;<br>Planning Board;<br>Conservation Commission | Year 1 – Review existing bylaws & regulations;<br>Year 2 – Propose changes;<br>Year 3 – Develop Ordinance.<br>Year 4&5 – Implement changes, subject to City approval | On January 30, 2012, City Council vote approved the Stormwater Management Ordinance. This ordinance regulates post-construction stormwater management on new development and re-development projects that ultimately disturb one or more acres of land. This ordinance includes sanctions to ensure compliance and includes the Massachusetts Stormwater Management Standards and Handbook as performance standards for projects subject to the ordinance. | Measurable goals for 2003 General Permit have been met. Implement ordinance and develop regulations supporting ordinance. |
| Revised         |                                                                                                                          |                                                                         |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                           |

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

| BMP ID # | BMP Description      | Responsible Dept./Person Name | Measurable Goal(s)                                                                            | Progress on Goal(s) – Permit Year 12<br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                 | Planned Activities – Next Permit Term                                                                                              |
|----------|----------------------|-------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 20       | Street Sweeping      | Dept. of Public Services      | Sweep streets between April & November (provided funding is available)                        | Entrance corridors (major routes) were partially swept in 2014 (April/May, July, and September). City uses rotary brush sweepers for all sweeping conducted. Residential streets were also partially swept due to equipment damage.                                                                            | Measurable goals for 2003 General Permit have been met. Continue street sweeping as budget allows.                                 |
| Revised  |                      |                               |                                                                                               |                                                                                                                                                                                                                                                                                                                |                                                                                                                                    |
| 21       | Clean Sweep Program  | Dept. of Public Services      | Conduct sidewalk cleanup program each year for 1 week in May (provided funding is available). | City of Salem Beautification Committee and Salem Recycles held the annual Clean Sweeps. Clean Sweeps includes volunteer teams that clean various locations throughout the City and separate recyclable materials which are picked up by Northside Carting and are delivered to the City's recycling processor. | Measurable goals for 2003 General Permit have been met. Continue program as budget allows.                                         |
| Revised  |                      |                               |                                                                                               |                                                                                                                                                                                                                                                                                                                |                                                                                                                                    |
| 22       | Catch basin cleaning | Dept. of Public Services      | Inspect problem areas annually, and clean as needed (provided funding is available).          | The Division of Public Works continued to implement its catch basin cleaning program. Catch basin cleaning is contracted, and daily records are kept noting condition of catch basins.                                                                                                                         | Measurable goals for 2003 General Permit have been met.<br><br>The City plans to continue this practice and use the information to |
|          |                      |                               |                                                                                               |                                                                                                                                                                                                                                                                                                                |                                                                                                                                    |



| <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 12</b><br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                  | <b>Planned Activities – Next Permit Term</b>                                                          |
|-----------------|--------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Revised         |                          |                                                            |                                                                                                                                                 | <p>Approximately 2,049 catch basins were cleaned during Permit Year 12. Focus was on areas with flooding issues and poor drainage.</p> <p>In addition, the City has three Stormceptors. The City inspects and performs maintenance as necessary to keep BMPs properly functioning.</p> | optimize the catch basin cleaning program and identify problem areas in the system.                   |
| 23              | Trash collection program | Health Dept.; Dept. of Public Services; Parks & Recreation | Weekly curbside pickup (provided funding is available).                                                                                         | The City continued its weekly curbside trash collection program through Permit Year 12.                                                                                                                                                                                                | Measurable goals for 2003 General Permit have been met. Continue trash collection as budget allows.   |
| Revised         |                          |                                                            |                                                                                                                                                 | The City has over 90 solar bins in parks, near beaches, and pedestrian area. The City also has at least 40 recycling stations.                                                                                                                                                         |                                                                                                       |
| 24              | Recycling Program        | Dept. of Public Services                                   | Bi-weekly curbside pickup (provided funding is available).                                                                                      | The City continued its weekly curbside pickup recycling program.                                                                                                                                                                                                                       | Measurable goals for 2003 General Permit have been met. Continue recycling program as budget allows.  |
| Revised         |                          |                                                            |                                                                                                                                                 |                                                                                                                                                                                                                                                                                        |                                                                                                       |
| 25              | Yard Waste Program       | Dept. of Public Services                                   | Curbside pickup 5 times per year (provided funding is available). Allow residents to drop off yard waste at City's transfer station year round. | The City continued its yard waste collection program in 2014. Yard waste is picked up five times per year. Residents may also drop off yard waste at the transfer station on Swampscott Road Monday through Friday during normal business hours and Saturday mornings.                 | Measurable goals for 2003 General Permit have been met. Continue yard waste program as budget allows. |
| Revised         |                          |                                                            |                                                                                                                                                 |                                                                                                                                                                                                                                                                                        |                                                                                                       |

| <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 12</b><br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                 | <b>Planned Activities – Next Permit Term</b>                                                                     |
|-----------------|-----------------------------------|--------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| 26              | Household hazardous waste program | Health Dept.                         | Hold twice over the 5-year permit term (provided funding is available).             | Starting in 2009, the City of Salem and the Town of Beverly have continued to hold alternating, annual Household Hazardous Waste Days. The Household Hazardous Waste Day was held on September 27, 2014 at Salem High School. Salem residents had access to the Town of Beverly's HHWD in April 2014 at Beverly High. | Measurable goals for 2003 General Permit have been met. Continue HHW program as budget allows.                   |
| Revised         |                                   |                                      |                                                                                     | During Permit Year 11, the City began to allow residents to drop off electronic waste at the DPW.                                                                                                                                                                                                                     | The City plans to implement a pilot program for composting during Spring 2014.                                   |
| 27              | Animal Control Program            | Police Dept. Animal control Officer  | Track the number of animals collected (provided funding is available).              | The Animal Control officer continued to handle stray dogs, neighborhood nuisance problems, injured animals, and rabies concerns. If the Animal Control officer is unavailable, the Police Department responds. The Animal Control officer continued to track the number of animals collected.                         | Measurable goals for 2003 General Permit have been met.                                                          |
| Revised         |                                   |                                      |                                                                                     |                                                                                                                                                                                                                                                                                                                       |                                                                                                                  |
| 28              | Beach Cleanup Program             | Parks & Recreation                   | Clean Beaches every week between May and September (provided funding is available). | Beaches were cleaned several times during the spring and summer of 2014 by Parks and Recreation and numerous volunteers. Cleanups were also sponsored by SSCW throughout 2014. The DPW supports cleanups by removing trash collected during cleanups.                                                                 | Measurable goals for 2003 General Permit have been met. Continue beach cleanups as budgets and staff time allow. |
| Revised         |                                   |                                      |                                                                                     |                                                                                                                                                                                                                                                                                                                       |                                                                                                                  |

| <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 12</b><br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Planned Activities – Next Permit Term</b>                                                                                     |
|-----------------|-----------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 34              | Appliance Sticker Program for Curbside Pickup | Dept. of Public Services             | Conduct curbside pickup of appliances twice per month (provided funding is available). | <p>Residents continue to be able to purchase stickers for curbside collection of computer monitors, TVs, light ballasts and Freon-based appliances such as air conditioners, dehumidifiers, and refrigerators. Items are collected on the second and fourth Saturday of each month. White goods such as washers/dryers, stoves, microwaves, hot water heaters, dishwashers, and trash compactors are picked up free of charge by Northside Carting. Pickups are scheduled weekly.</p> <p>The City continued its e-cycling program. E-cycling containers are available at DPS-5 Jefferson Avenue, City Hall- 93 Washington Street; City Hall Annex -120 Washington Street, 4th floor, and the Senior Center- 5 Broad Street.</p> | Measurable goals for 2003 General Permit have been met. Continue appliance sticker program for curbside pickup as budget allows. |

| <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 12</b><br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Planned Activities – Next Permit Term</b>                                                       |
|-----------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 38              | South River Drainage Improvement Project                                                                              | City of Salem                        | Year 5 – Begin implementation of the short-term measures for the Phase I South River Drainage Improvement Project (if funding is available) | Also, in 2012, the City funded the preliminary design of the Canal Street Flood Mitigation Project and final design of the first phase of the project. Phase I of the project included the installation of a new drainage system as well as repairs to a portion of the sanitary sewer, South River Conduit, and water distribution system. The new drainage system will redirect stormwater runoff from approximately 70 acres to an underground storage facility and pump station to be constructed in Phase 2. Additionally, stormwater treatment devices will be installed for enhanced water quality treatment. | Project is ongoing. Measurable goals for 2003 General Permit have been met.                        |
| Revised         |                                                                                                                       |                                      |                                                                                                                                             | Phase 2 is anticipated to begin construction in 2016. A stipulation of the FEMA grant is to complete construction (Phase 1 and Phase 2) by 2017.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                    |
| 39              | Public Works Facility Environmental Compliance Assessment, Stormwater Pollution Prevention Plan (SWPPP), and Training | City of Salem                        | Year 5 – Conduct public works assessment, prepare SWPPP, and provide staff training                                                         | In April 2008, a DPW Facility assessment was conducted, and based on the assessment a SWPPP was prepared in June 2008. Staff were trained on the SWPPP. Periodically, the City reviews the SWPPP with DPW employees and refreshed employees on SWPPP activities and obligations.                                                                                                                                                                                                                                                                                                                                     | Measurable goals for 2003 General Permit have been met. Continue to implement SWPPP and SPCC Plan. |

| <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 12</b><br>(Reliance on non-municipal partners indicated, if any)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Planned Activities – Next Permit Term</b>                                                                    |
|-----------------|------------------------------------------------------|--------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| 40              | Ongoing Drain and Culvert Evaluation and Maintenance | Engineering Department               | Continue ongoing maintenance of storm drain system and culverts | <p>The City continued its maintenance of the drainage system and culverts in Permit Year 12. The City cleaned drain lines, catch basins (see BMP 22), and CCTV'd drain line in various portions of the City in association with IDDE. See also BMPs 13 and 38.</p> <p>City continues to use the Northeast Massachusetts Mosquito Control District to clean sediment from culverts, and has a standing permit with the Salem Conservation Commission for drainage system and culvert cleaning.</p> <p>New and redevelopment projects in Salem are required to clean municipal drainage system where private drainage connects prior to sign-off on completion of the development project.</p> | Measurable goals for 2003 General Permit have been met. Continue drain and culvert evaluations and maintenance. |

## **7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA)**

Final Pathogen TMDL for the North Coastal Watershed approved by EPA in 2012. To address impairments, Salem will continue to implement extensive IDDE efforts as described above, require stormwater treatment under Stormwater Management Ordinance and through good housekeeping street sweeping and catch basin cleaning activities.

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

- Salem Sound Coastwatch's Clean Beaches and Streams sampling results (BMP#14) are available at their website at <http://www.salemsound.org/CB&S.html>
- City of Salem Board of Health (BMP #15) maintains records of sampling results and beach closings.
- Results of illicit discharge investigations conducted by the Engineering Department and MassDEP, and subsequent work to correct the identified illicit discharges, is available at the Engineering Office at 120 Washington Street.