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Municipality/Organization: City of Waltham, MA

EPA NPDES Permit Number: MA0410066

MassDEP Transmittal Number: W-041267

Annual Report Number & Reporting Period: **Year 8** **April 1, 2010 – March 31, 2011**

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2011)

Part I. General Information

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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: Stephen A. Casazza

Printed Name: Stephen A. Casazza, P.E.

Title: City Engineer

Date: 04/29/2011

Part II. Self-Assessment

The City of Waltham has completed a self-evaluation regarding its stormwater management activities for Permit Year 8. The City of Waltham continues to be fully engaged with its stormwater management program and is in compliance with the 2003 NPDES Phase II Small MS4 General Permit. The City of Waltham acknowledges that some aspects of its stormwater management program can be improved and the implementation of some of the Best Management Practices (BMPs) proposed for Permit Year 8 requires additional time for full implementation. A brief evaluation of each minimum control measure is as follows:

1) Public Education and Outreach

The City of Waltham continues to publicize information about its stormwater program mainly on the City's web-site. A new stormwater site has been created within the Engineering Department web-site and contains links to related documents such as the City's Stormwater Ordinance, the stormwater brochure, and activities associated with the Illicit Discharge Detection and Elimination (IDDE) Program.

2) Public Involvement and Participation

The City of Waltham performed several stormwater-related activities in collaboration with residents. An example is the annual cleanup of Hardy Pond and catch basin stenciling in the watershed area. Collaboration with educational entities continued this year in the form of co-op students in the Engineering and Recycling Department.

3) Illicit Discharge Detection & Elimination (IDDE)

The City of Waltham is successfully implementing its IDDE Program. Identified sources of contamination are being removed from the City's storm system.

As of March 14th of 2011, the City of Waltham has completed the inventory and sampling of all outfalls in the Charles River (43 outfalls), Beaver Brook (34 outfalls), Inter-Municipal Connections (17 IMCs), Chester Brook (46 outfalls), and West Chester Brook (19 outfalls). The Phase I of the IDDE Program is almost complete pending a few second round junction manhole construction repairs scheduled for completion this summer. In Phase I, a total of twelve illicit flow sources were eliminated which represented approximately 2.5 million gallons per year of polluted flow. Phase II is on-going and the construction package associated with this phase of work has been released to the contractor. During Phase II (first round of junction manhole investigations), a total of twelve illicit sources of flow were identified and have been included in the construction work package scheduled for completion this summer.

During Permit Year 9, the City of Waltham will fully complete Phase I and most of Phase II. The IDDE Program Phase III is scheduled to start this fall and will consist of inventorying and sampling all outfalls along Clematis, Masters, and Sibley Brook. These new outfall sampling results will be

added to the outfall database and ranked against all previously sampled outfalls based on their pollution potential. Phase III junction manhole investigations and subsequent construction work is scheduled to start in late 2011 or early 2012.

4) Construction Site Stormwater Runoff Control

The City of Waltham continues to perform construction erosion control management inspection and enforcement activities as mandated in its Stormwater Ordinance. Draft Rules and Regulations describing clear requirements for construction projects of different size have been clearly specified in this document which is being reviewed by the City's Law Department and will go in front of the City Council for promulgation.

5) Post-Construction Stormwater Management in New Development and Redevelopment

The City of Waltham has continued to implement its stormwater, on-site treatment policy for new development and redevelopment. In an attempt to make this policy a firm rule, the City of Waltham has drafted post-construction stormwater management Rules and Regulations that are being reviewed by the Law Department and will go in front of the City Council for promulgation..

6) Pollution Prevention and Good Housekeeping in Municipal Operations

All the proposed measures for Permit Year 8 were executed by the City of Waltham. These activities will be continued during Permit Year 9 to guarantee proper stormwater management and avoid stormwater pollution. Additional written O&M procedures for stormwater-related municipal operations will be developed during Permit Year 9.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1.1 Revised by: Stormwater Subcommittee members Recycling Coordinator	Recycling Department Web-Site	Recycling Coordinator	**Goal in PY8:** To have an operational web-site with similar number of hits per year as PY7 **Goal in PY9:** Continue to have an operational web-site and achieve a similar number of hits with respect to PY8	**Planned Activity:** Continue to make recycling brochures available at all municipal departments and buildings. **Status:** Completed **Planned Activity:** Continue to e-mail quarterly newsletters during 2011. **Status:** This activity has been discontinued due to staffing limitations. **Planned Activity:** Evaluate the need of translating the recycling brochures into other languages if communities with a significant presence within Waltham are identified. **Status:** Other major non-English speaking communities were not identified.	Continue to make recycling brochures available at all municipal departments and buildings. Continue to have an operational web-site where all information is available to the general public.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1.2 Revised by: Stormwater Subcommittee members	Targeted Communications	Engineering	**Goal in PY 8:** Keep web-links active during PY8 Have at least 250 hits to the stormwater brochure **Goal in PY9:** Keep web-links active during PY9 Have at least 250 hits to the stormwater brochure	**Planned Activity:** Post stormwater brochure on the City's web-site. **Status:** Completed. **Planned Activity:** Include links to EPA and DEP websites at the CPW website **Status:** Link to MassDEP is available in the Recycling Department web-site, which is s a division of CPW	Keep links active during PY9
1.3 Revised by: Stormwater Subcommittee members	NPDES Phase II Brochure	Engineering	**Goal in PY 8:** Achieve at least 300 hits to the new stormwater brochure **Goal in PY9:** Achieve at least 300 hits to the new stormwater brochure	**Planned Activity:** The brochure will be updated and distributed as necessary and/or posted on the City's web-site after the 2010 NPDES PII Small MS4 General Permit is issued. **Status:** The new NPDES PII Small MS4 General Permit has not been issued to date. Therefore, the stormwater brochure has not been updated.	The brochure will be updated and distributed as necessary and/or posted on the City's web-site after the 2010 NPDES PII Small MS4 General Permit is issued.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1.4 Revised by: Stormwater Subcommittee members	Watershed Signage	Engineering in cooperation with the City of Cambridge	**Goal in PY8:** Keep adequate level of signage in Cambridge Reservoir Area (as needed) **Goal in PY9:** Same as PY8	**Planned Activity:** Continue to install watershed signs in coordination with Cambridge as needed. **Status:** A total of 27 watershed signs for the Cambridge Reservoir have been made and installed to promote watershed protection awareness among local residents.	Continue to install watershed signs as necessary
1.5 Revised by: Stormwater Subcommittee members	Recycling Department Initiatives	Recycling Department	**Goal in PY8:** Distribute at least 40 rain barrels during PY8 **Goal in PY9:** Distribute at least 20 rain barrels during PY9	**Planned Activity:** Continue the rain barrel campaign and continue to distribute the rain barrel brochure through the Department's web-site. **Status:** A total of 17 rain barrels were sold during PY8 which represents 43% of the original goal. **Planned Activity:** Continue hosting students from local universities or high schools to provide them with environmental learning experiences. **Status:** Six students from Brandeis University were hosted by the Recycling Dept. **Planned Activity:** Continue to offer recycling bins at a $5 cost. **Status:** Completed	Continue to implement activities in PY8

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1.6 Revised by: Stormwater Subcommittee members	Other Targeted Communications	Engineering	**Goal in PY8:** Send at least 1,000 brochures to residents or get at least 200 hits to the brochure posted on the City's web-site during PY8. Send an educational message to at least 70% of businesses, institutions and commercial spaces during PY8. **Goal in PY9:** If the business brochure is approved, send an educational message via hard copy or through the City's web-site to at least 70% of businesses, institutions and commercial spaces during PY9.	**Planned Activity:** Send to residents or post on the City's web-site a brochure talking about the importance of not dumping into catch basins and proper pet waste disposal. The brochure will focus on explaining the potential detrimental effects of such activities on receiving waterbodies. **Status:** Pet waste management brochures were distributed in the Copeland Street neighborhood, which is an area with high density of pet owners. **Planned Activity:** Send one message (brochure or letter) to businesses, institutions, and commercial spaces about the importance of proper storage of chemicals and other materials, lawn maintenance (use of fertilizers and pesticides), parking lot sweeping, management of waste materials and dumpsters, proper car care activities, and use of de-icing or anti-icing materials. **Status:** A brochure for businesses has been created and it will be sent to businesses after review and approval by the City.	If the business brochure is approved, send an educational message via hard copy or through the City's web-site to at least 70% of businesses, institutions and commercial spaces during PY9.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
2.1 Revised by: Stormwater Subcommittee members	Stream Cleanup	CPW	**Goal in PY8:** Cleanup at least 2 stream sections per year **Goal in PY9:** Perform watershed maintenance and cleanup along Chester Brook. Hardy Pond annual weed harvesting in collaboration with the Hardy Pond Association	**Planned Activities:** Cleanup of a section of Chester Brook between 900 Lexington Street and Trapelo Road in collaboration with local universities, schools and other institutions. **Status:** Partnering with local educational institutions could not be performed this year. Debris cleanup of West Chester Brook and other locations listed in Attachment I was performed by CPW. Cleanup of Hardy Pond with the Hardy Pond Association was performed in summer of 2010. **Planned Activities:** Continue to perform cleanup of the Chester Brook banks behind the City Yard as indicated in the City Yard's SWPPP. **Status:** Completed several times in 2010. Once prior to the Conservation Commission walk-thru on August 16th, 2010 and a second one during the Environmental Committee visit in September 22nd, 2010.	The Engineering Department and CPW are evaluating the need to perform a comprehensive maintenance and cleaning effort along Chester Brook. At the same time, feasibility of flooding mitigation alternatives are being evaluated. Participate in the annual weed harvesting at Hardy Pond with the Hardy Pond Association

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
2.2 Revised by: Stormwater Subcommittee members	Clear Racks of Debris	CPW	**Goal in PY8:** Maintain racks frequently **Goal in PY9:** Inspect and clear if necessary hydraulic bottlenecks twice a year	**Planned Activity:** Continue cleaning debris from the racks before forecasted heavy storms. **Status:** Debris racks as well as other hydraulic bottlenecks were inspected and maintained in 2010 (see attached list of locations in Attachment II) **Planned Activity:** Develop a routine cleaning schedule and record dates and staff performing the cleanings tasks as well as an estimation of the mass of debris removed from each rack **Status:** This was done in PY8 (see attached schedule and estimated amount of debris at each location in Attachment II) **Planned Activity:** Continue to update the City's GIS system with information from routine rack cleaning and installation of new racks. **Status:** Routine rack and stream cleanings were uploaded to the City's GIS system	Continue maintaining racks to prevent debris from blocking the drainage pipes.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3.1 Revised by: Stormwater Subcommittee members	Mapping	Engineering & GIS Coordinator	**Goal in PY8:** Update GIS map as necessary based on findings from the outfall inventory for the next phase of the IDDE program. **Goal in PY9:** Update GIS map as necessary based on findings from the outfall inventory for phase III of the IDDE program.	**Planned Activity:** All outfalls in the Chester and West Chester Brook watersheds will be inventoried, located using GPS equipment, and added to the City's GIS system. Privately-owned stormwater structures identified during the outfall inventory will be located and added to the GIS system. Discrepancies found during field investigations between the existing GIS maps and the actual field conditions will be recorded and the GIS layers modified accordingly. **Status:** A total of 65 stormwater outfalls in the Chester and West Chester Brook watersheds were inventoried using GPS and entered in the GIS system. Mapped stormwater utilities for the Brandeis and Bentley campuses as well as several new office buildings and office parks. The City of Waltham also continued to expand the number of different features included in its drainage inventory to include drainage galleries and underground stormwater storage features.	Execute second IDDE construction package. Execute round 2 of investigations for Phase II junction manholes Start Phase III of the IDDE Program (outfall sampling and outfall area ranking) Map locations of drywells and add to the GIS system

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3.2 Revised by: Stormwater Subcommittee members	Illicit Discharge Ordinance	Engineering & Law Department	**Goal in PY8:** Promulgation of Rules & Regulations **Goal in PY9:** Implementation of Rules & Regulations in new projects, if promulgated by the City Council.	**Planned Activity:** Promulgate Rules & Regulations and include them in the City of Waltham's legal code and/or in the Stormwater Management Plan. **Status:** Rules & Regulations for stormwater management in new development or redevelopment have been created and are being reviewed by the City's Law Department	If promulgated by the City Council, implement Rules and Regulations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3.3 Revised by: Stormwater Subcommittee members	Illicit Discharge Detection and Elimination Program	Engineering	**Goal in PY8:** Sample 40 new outfalls and include them in the outfall ranking list Investigate most polluting outfalls and respective catchment areas up to 50 junction manholes. Eliminate identified sources of illicit flows **Goal in PY9:** Sample IDDE Phase III outfalls and include them in the outfall ranking list Investigate most polluting outfalls and respective catchment areas up to 50 junction manholes. Eliminate identified sources of illicit flows	**Planned Activity:** All active outfalls in Chester and West Chester Brook will be inventoried and sampled. **Status:** All active outfalls in Chester and West Chester Brook have been inventoried and sampled in dry and wet weather conditions. **Planned Activity:** Results from the sampling will be used to prioritize the outfalls with respect to the previously sampled outfalls in the Charles River and Beaver Brook. **Status:** Sampling results from Chester and West Chester Brook were included in the outfall database. Outfalls were ranked based on pollutant contribution.	Sample outfalls in Clematis Masters, and Sibley Brook (Phase III outfalls). Include results in outfall database and continue junction manhole investigations of most polluted areas. Eliminate identified sources of illicit flows

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3.3 (continued) Revised by: Stormwater Subcommittee members	Illicit Discharge Detection and Elimination Program	Engineering	**Goal in PY8:** Sample 40 new outfalls and include them in the outfall ranking list Investigate most polluting outfalls and respective catchment areas up to 50 junction manholes. Eliminate identified sources of illicit flows **Goal in PY9:** Sample 40 new outfalls and include them in the outfall ranking list Investigate most polluting outfalls and respective catchment areas up to 50 junction manholes. Eliminate identified sources of illicit flows	**Planned Activity:** The top priority areas (up to 50 junction manholes) will be investigated for the detection of illicit connections and contaminated flows. Mitigation and corrective actions will be executed based on results from the priority area investigations. **Status:** The updated top 8 priority areas were investigated. Two direct illicit connections were removed at 5 Brookway Road and 12 Calvary Street. Other sources of contamination such as leaking sewers were identified and recommendations were provided in the IDDE Construction Package #2. The preliminary construction package was delivered to the contractor on 01/31/2011 and construction is scheduled to start in Spring 2011.	The top priority areas (up to 50 junction manholes) will be investigated to identify illicit connections and contaminated flows entering the storm system. Adopt mitigation and corrective measures whenever new illicit connections are identified.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3.4 Revised by: Stormwater Subcommittee members	Testing of All Interior Floor Drains in Municipal Buildings	Engineering & Building Department	**Goal in PY8:** Inspection of 4 municipal buildings **Goal in PY9:** Execute floor drain inspections of all pre-1950 municipal buildings	**Planned Activity:** Continue floor-drain inspections in municipally-owned buildings and installation of gas/oil separators. Continue to update inventory of floor drains in municipal buildings. Dye-testing of floor drains and reconnection of those connected to the stormwater system in pre-1950 municipal buildings will be subcontracted. **Status:** The City of Waltham retained the services of a Consultant to inventory and dye-test floor and roof drains in all pre-1950 municipal buildings.	Investigation of municipal buildings will be completed
3.5 Revised by: Stormwater Subcommittee members	Employee Training	CPW & Engineering	**Goal in PY8:** Participation of 5 to 10 field staff members **Goal in PY9:** Perform one training session with participation of CPW and Engineering staff	**Planned Activity:** Perform one training sessions for personnel in the Water, Sewer & Drain Division, CPW, and the Building Department with direct or indirect roles in stormwater management. The training session will focus on the identification of illicit discharges and SSOs and their negative impacts. **Status:** Stormwater quality training was provided to two key staff members on February 17, 2011. The training focused on pesticide and fertilizer application and management and review of available erosion and sediment control measures. Trench safety training was provided to field staff in the Water and Sewer Division in the Eng. Dept. A seminar and field demonstration on the operation and maintenance of sedimentation basins was conducted on March 30th, 2011. The City's storm drain cleaning crew attended. This seminar was organized by the developer of a site installing new sedimentation basins and was executed by the manufacturer's staff members.	Continue to provide IDDE and stormwater quality management training to staff members with a direct or indirect role in stormwater.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
4.1 Revised by: Stormwater Subcommittee members	Construction Site Runoff Control Ordinance	Engineering & Law Department	**Goal in PY8:** Promulgation of Rules & Regulations for the Stormwater Management Ordinance –Ord. No. 30916- **Goal in PY9:** Start implementation of the Rules and Regulations if approved by the City Council	**Planned Activity:** Promulgate Rules & Regulations and include them in the City of Waltham's legal code and/or in the Stormwater Management Plan. **Status:** Draft R&R have been created and are being reviewed by the City of Waltham's legal department. After review by the legal department they will be presented to the City Council for promulgation.	Implementation of proposed Rules and Regulations if promulgated by the City Council
4.2 Revised by: Stormwater Subcommittee members	Conservation Commission Rules & Regulations	Conservation Commission	**Goal in PY8:** Perform project review as needed **Goal in PY9:** Perform project review as needed	**Planned Activity:** The City of Waltham's Conservation Commission reviews proposed mitigation measures for construction projects and activities located in areas affected by the *Massachusetts Wetlands Protection Act.* **Status:** A total of 20 Notices of Intent (NOI) were submitted and reviewed by the Conservation Commission during Permit Year 8.	Continue activity during PY9

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
4.3 Revised by: Stormwater Subcommittee members	Plan Review Process	Engineering, CPW, Bldg. Department	**Goal in PY8:** Review projects as needed **Goal in PY9:** Review projects as needed and according to protocol established in the proposed stormwater Rules and Regulations	**Planned Activity:** The City will asses the need to develop a detailed written protocol for the site-plan review process which will incorporate requirements for the Stormwater Management Plan, Waste Management & Erosion and Sediment Control Plan, as well as the long-term O&M Plan for new private stormwater facilities. **Status:** The proposed Stormwater Rules and Regulations include detailed information dealing with stormwater project requirements and review process. **Planned Activity:** Request submission of as-built plans from private developers depicting stormwater BMPs. **Status:** The current City's policy requests as-built plans for any stormwater BMP installed. The proposed Rules and Regulations require as-built plans of any installed structural BMP.	Implement activities proposed in the Rules and Regulations if promulgated by the City Council

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
4.4 Revised by: Stormwater Subcommittee members	Develop City Guidelines on Construction-Site Management and Erosion and Sediment Control Measures	Engineering	**Goal in PY8:** If adopted, distribute to current developers and contractors prior to site-plan review **Goal in PY9:** N/A	**Planned Activity:** Investigate the need for development of a set of guidelines to be followed by developers with detailed information about required minimum measures to prevent damage from excessive sediment loading and erosion during construction. These guidelines will be based on the recommendations set forth in the EPA's *Stormwater Management for Construction Activities* report and Mass DEP's *Erosion and Sediment Control Guidelines in Urban and Suburban Areas* report. **Status:** The proposed Rules and Regulations require a Waste, Erosion, and Sediment Control Plan for projects larger than 1 acre of land disturbance and adheres to the official guidelines since the SWPPP is approved by MassDEP. Therefore, at this time the City of Waltham deemed it was unnecessary to develop its own guidelines.	N/A

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

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5.1 Revised by: Stormwater Subcommittee members	Post-construction Rules & Regulations	Engineering & Law Department	**Goal in PY8:** Promulgation of Rules & Regulations for post-construction stormwater management **Goal in PY9:** Implementation of activities described in the Rules and Regulations	**Planned Activity:** Promulgate Rules & Regulations specifying minimum requirements for proper long-term O&M of private stormwater structures and include them in the City of Waltham's legal code and/or in the Stormwater Management Plan. **Status:** Rules and Regulations are being reviewed by the Law Department. The proposed Rules and Regulations include operation, maintenance, and reporting requirements of newly built stormwater structures.	Implementation of activities described in the Rules and Regulations if promulgated by the City Council.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5.2 Revised by: Stormwater Subcommittee members	Enhancement of Engineering Design Guidelines	Engineering	**Goal in PY8:** Two meetings among staff members of the Engineering Department involved in stormwater management **Goal in PY9:** Same as PY8	**Planned Activity:** Investigate the need for an evaluation of potential enhancements to the City of Waltham Engineering Design Guidelines following issuance of requirements and deadlines in the 2010 NPDES Phase II Small MS4 General Permit. The evaluation of potential changes in the engineering guidelines will be geared towards reduction of impervious surfaces in new construction projects and retrofitting existing areas whenever possible. **Status:** On hold since the new NPDES Permit Phase II Small MS4 General Permit has not been issued to date. However, current policy and proposed Rules and Regulations require on-site treatment of stormwater in newly paved areas over 150 square feet.	Same as PY8

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5.3 Revised by: Stormwater Subcommittee members	BMP Monitoring & Maintenance Plan	Engineering and GIS Coordinator	**Goal in PY8:** Receive stormwater O&M plans for all projects that need site-plan review after promulgation of Rules & Regulations **Goal in PY9:** Same as PY8	**Planned Activity:** Request a long-term O&M Plan for privately operated stormwater structures as part of the site-plan review process after promulgation of Rules & Regulations. Perform inspection and enforcement activities to secure proper O&M of private stormwater infrastructure to ensure compliance with promulgated Rules & Regulations. Continue to update the City's GIS system with private stormwater structures. **Status:** Rules and Regulations pending review by the Law Department and approval by the City Council. Stormwater utilities for both the Brandeis and Bentley campuses as well as several new office buildings and office parks were updated to the City's GIS. The City of Waltham continued to expand the number of different features included in the drainage inventory to include drainage galleries and underground stormwater storage features.	Implementation after promulgation of Stormwater Rules and Regulations if promulgated by the City Council. Map locations of drywells and add to the GIS system

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5.4 Revised by: Stormwater Subcommittee members	Develop Long-Term O&M Requirements	Engineering	**Goal in PY8:** If adopted, distribute to current City developers and contractors prior to site plan review **Goal in PY9:** N/A	**Planned Activity:** The Engineering Department will assess the need to create a document listing the minimum O&M requirements for different types of structures used for stormwater control **Status:** Complete. Due to the vast amount of potential stormwater control structures, the Engineering Department decided that the creation of a comprehensive list of O&M activities would not bring much added value to stormwater quality control. Upon approval of the Stormwater Rules and Regulations, the Engineering Department will perform a thorough review of the proposed structures and recommended O&M activities by the manufacturer or the developer prior to issuing any new permit.	N/A

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6.1 Revised by: Stormwater Subcommittee members	Catch Basin Cleaning	Engineering	**Goal in PY8:** Improve the quality of information collected for future prioritization of catch basin cleanings **Goal in PY9:** Continue maintenance and sediment monitoring	**Planned Activity:** Continue catch basin cleaning and repair activities as needed. **Status:** A total of 1,358 catch basins were cleaned during this reporting period **Planned Activity:** A log indicating date, time, crew member, operations performed, mass of sediment or debris removed, date of last inspection, and percentage of sump full of debris will be completed during each inspection. This information will then be added to the City's GIS system. **Status:** Completed. The depth of sediment removed is recorded and updated to the GIS system. An average of 30" of sediment per catch basin was removed.	Use the information collected and uploaded to the GIS system to prioritize areas to be maintained and cleaned more frequently.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6.2 Revised by: Stormwater Subcommittee members	Stormwater Manhole and Pipe Cleaning	Engineering	**Goal in PY8:** Address emerging issues throughout the year Improve quality of information collected for future prioritization of municipal drain & sewer cleaning operations **Goal in PY9:** Continue collecting information for future area prioritization	**Planned Activity:** Continue cleaning activities as needed. **Status:** Approximately, 11,000LF of drains and drain laterals as well as 45 drain manholes were cleaned in PY8. Approximately 63,000 LF of sanitary sewer were cleaned and inspected in PY8. **Planned Activity:** A log indicating date, time, crew member, operations performed, and mass of sediment or debris removed will be completed during each inspection. This information will then be added to the City's GIS system. **Status:** Linear feet of pipe cleaned and number of manholes cleaned are being recorded in the GIS system.	Use information collected in the GIS system to prioritize areas around the City that may require more frequent cleaning.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6.3 Revised by: Stormwater Subcommittee members	Watershed Maintenance Program	CPW	**Goal in PY8:** Perform two watershed maintenance or cleanup activities per year **Goal in PY9:** Same as PY8	**Planned Activity:** Continue to perform the annual weed harvesting in collaboration with the Hardy Pond Association. **Status:** In Summer of 2010 the annual weed harvesting in Hardy Pond was performed in collaboration with the Hardy Pond Association. **Planned Activity:** Cleanup of a section of Chester Brook between 900 Lexington Street and Trapelo Road will be performed. **Status:** This section of Chester Brook was not maintained during PY8. Many other brook sections were maintained (see Attachment I for a list of locations). West Chester Brook culvert across Lexington Street was also inspected and cleaned of large debris during 2010.	The Engineering Department and CPW are evaluating the need to perform a comprehensive maintenance and cleaning effort along Chester Brook. At the same time, flooding mitigation alternatives are being evaluated in Chester Brook.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6.4 Revised by: Stormwater Subcommittee members	BMP Maintenance	Engineering	**Goal in PY8:** Clean particle separators once a year **Goal in PY9:** Same as PY8	**Planned Activity:** Clean 10 particle separators located near Hardy Pond and various public schools. **Status:** This activity could not be performed during PY8 but it is scheduled for May, 2011. **Planned Activity:** Record mass of sediment removed, BMP condition at time of cleanup, dates, location, and crew members. **Status:** This information will be collected during cleaning operations.	The City of Waltham will inherit more particles separators installed by private developers and will be in charge of operating and maintaining them. A detailed inspection and maintenance schedule for these devices will be created and executed on an on-going basis.
6.5 Revised by: Stormwater Subcommittee members	City Yard Drainage Study and Improvements	CPW, Engineering and Environmental Specialist	**Goal in PY8:** Zero spills to the City Yard's stormwater system **Goal in PY9:** Same as PY8	**Planned Activity:** Continue to implement proper O&M maintenance and implementation of the City Yard's SWPPP. Monthly walk-throughs by the Pollution Prevention (P2) team Staff training on pollution prevention will be performed. **Status:** Completed.	Continue activity
6.6 Revised by: Stormwater Subcommittee members	Idling Reduction Initiative	Recycling Department	**Goal in PY8:** Distribute at least one hundred (100) brochures in municipal buildings **Goal in PY9:** N/A	**Planned Activity:** Continue distribution of idling-reduction information via web-site and distributing brochures in municipal offices, buildings, and schools. **Status:** Completed.	N/A

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6.7 Revised by: Stormwater Subcommittee members Recycling Coordinator	City of Waltham Energy Efficiency Initiative (WEAC)	Waltham Energy Action Committee	**Goal in PY8:** Continue promoting energy savings initiatives within the City **Goal in PY9:** Same as PY8	**Planned Activity:** Develop Energy Efficiency (EE) Public Education and Outreach Programs. **Status:** Outreach included organizing House Info Parties, Info Meetings sponsored by the Waltham Conservation Commission, Churches, Senior Center, and Waltham City Councilors. WEAC has partnered with Green Enterprise Training institute (GETI) Director, Dr. Phillip Jutras, who trains underemployed experienced workers in green technology. GETI is sponsored by the Charles River Museum of Industry and Innovation and the Waltham Chamber of Commerce. GETI trainees assist as speakers for information sessions. **Planned Activity:** Continue work to meet criteria to become a Green Community and thereby qualify for the Department of Energy Resources (DOER) grants **Status:** The Waltham Energy Action Committee (WEAC) is working with the Mayor and City officials to become a Green Community. Once Waltham has achieved that status, the City will be eligible for DOER grants.	Continue PY8 activities as needed

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6.7 (continued) Revised by: Stormwater Subcommittee members Recycling Coordinator	City of Waltham Energy Efficiency Initiative	Waltham Energy Action Committee (WEAC)	**Goal in PY8:** Continue promoting energy savings initiatives within the City **Goal in PY9:** Same as PY8	**Planned Activity:** Develop Clearing House of Information about past, present, and future municipal energy initiatives. This information will be used to identify and recommend energy efficiency (EE) projects/funding for cost saving to the city of Waltham. **Status:** That project is on-hold. Currently, the Committee is focused on 3 major projects: Green Communities application; Photo-voltaic installation on municipal office buildings, public schools, and the ice skating rink; implementation of a small NSTAR grant to reduce energy use and green house gases by informing residents about opportunity for Free Home Energy Assessments through the MASS Save Program. **Planned Activity:** Develop Waltham Energy Action Plan utilizing the Waltham Energy Inventory, 2008, as a baseline to measure reductions in emissions **Status:** The Energy Action Plan is currently on hold, as the City focuses on other top priorities, indicated above.	Continue PY8 activities as needed

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6.8 Revised by: Stormwater Subcommittee members	Develop an Inventory of Municipally-Owned Facilities	CPW & Engineering	**Goal in PY8:** Inventory all municipal facilities and buildings **Goal in PY9:** N/A	**Planned Activity:** Perform inventory of municipally-owned facilities including parks and open spaces, schools, town offices, police, and fire stations, pools, parking garages and other permittee-owned or operated buildings or utilities, as well as parking and fueling areas for municipal vehicles. **Status:** Completed and updated in the City's GIS system	N/A
6.9 Revised by: Stormwater Subcommittee members	O&M Procedures for Municipal Housekeeping Activities and Facilities	CPW & Engineering	**Goal in PY8:** Creation of O&M municipal procedures **Goal in PY9:** Continue activity	**Planned Activity:** Develop municipal O&M procedures for at least one of these municipal properties: parks and open space, buildings and facilities, and vehicles and equipment **Status:** Standard Operating Procedure (SOP) -CPW01, Vehicle & Equipment Washing has been created and being implemented.	Develop municipal O&M procedures for at least one of these municipal properties: parks and open space, buildings and facilities.

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

N/A

7a. Additional BMP for Permit Year 8

N/A

7b. WLA Assessment
N/A

Part IV. Summary of Information Collected and Analyzed

The City of Waltham has inventoried and sampled all stormwater outfalls in the Charles River (48 outfalls), Beaver Brook (34 outfalls), Chester Brook (46 outfalls), West Chester Brook (19 outfalls) as well as all Inter-Municipal Connections (17 IMCs). Polluted outfalls and IMCs were prioritized based on their pollutant contribution.

To date, the top sixteen stormwater catchment areas with the highest dry weather pollutant loads have been investigated for illicit connections. Sources of illicit flows have been identified and construction work to eliminate these sources has either been executed (phase I construction package) or is currently being executed (phase II construction package). Approximately 2.5 million gallons per year of polluted flow were removed during phase I of the IDDE Program. An additional 8.7 MGY will be removed upon completion of the construction work included under phase II of the IDDE Program. Additional outfall sampling, illicit flow detection and elimination of stormwater contamination sources will be performed during 2011 and 2012 under phase III of the IDDE Program.

Part V. Program Outputs & Accomplishments (OPTIONAL)
(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2010 through March 31, 2011)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	y
Annual program budget/expenditures **	($)	--
Total program expenditures since beginning of permit coverage	($)	--
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		General Fund

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	60%
Stormwater management committee established	(y/n)	y
Stream teams established or supported	(# or y/n)	n
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	n
Shoreline cleaned since beginning of permit coverage	(mi.)	--
Household Hazardous Waste Collection Days	One day per month April through November	
▪ days sponsored **	(#)	8 days
▪ community participation **	(# or %)	269

▪ material collected **	(tons or gal)	--
School curricula implemented	(y/n)	n

Legal/Regulatory

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

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	100
Estimated or actual number of outfalls	(#)	~200
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	100
Mapping method(s)		
▪ Paper/Mylar	(%)	N/A
▪ CADD	(%)	N/A
▪ GIS	(%)	100
Outfalls inspected/screened **	(# or %)	65
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	159
Illicit discharges identified **	(#)	12
Illicit discharges identified (Since beginning of permit coverage)	(#)	24
Illicit connections removed **	(#); and (est. gpd)	10

Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	12
% of population on sewer	(%)	99.9
% of population on septic systems	(%)	<1%

Construction

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

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100
Site inspections (for proper BMP installation & operation) completed **	(# or %)	100
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	n
Low-impact development (LID) practices permitted and encouraged	(y/n)	y

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	<1
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	1
Qty of structures cleaned **	(#)	1,358
Qty. of storm drain cleaned **	(%, LF or mi.)	~11,000LF
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	30" per catch basin in average
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	($)	---
• Hourly or per basin contract rate **	($/hr or $ per basin)	---
• Disposal cost**	($)	---
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	1
• Vacuum truck(s) owned/leased	(#)	1
• Vacuum trucks specified in contracts	(y/n)	---
• % Structures cleaned with clam shells **	(%)	99% of cleaned catch basins; 1% of cleaned manholes
• % Structures cleaned with vactor **	(%)	1% of cleaned catch basins and 99% of cleaned manholes

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	2
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	6
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	700 CY

Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	($)	----
• Hourly or lane mile contract rate **	($/hr. or ln mi.)	----
• Disposal cost**	($)	---
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	4 owned
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	0
• % Roads swept with rotary brush sweepers **	%	100
• % Roads swept with vacuum sweepers **	%	0

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	0
▪ Herbicides	(lbs. or %)	Not used
▪ Pesticides	(lbs. or %)	Not used
Integrated Pest Management (IPM) Practices Implemented	(y/n)	N

	(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used **	% NaCl	50
	% $CaCl_2$	10
(also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% $MgCl_2$	0
	% CMA	0
	% Kac	0
	% KCl	0
	% Sand	40
Pre-wetting techniques utilized **	(y/n or %)	n
Manual control spreaders used **	(y/n or %)	y

Zero-velocity spreaders used **	(y/n or %)	n
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	0%
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	0%
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100
Storage shed(s) in design or under construction	(y/n or #)	n
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	--

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	
• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	