

Received  
5/3/10

**Municipality/Organization:** Lexington

**EPA NPDES Permit Number:** BRP-WM-08A

**MaDEP Transmittal Number:** \_\_\_\_\_

**Annual Report Number  
& Reporting Period:** No. 7 April 2009 to March 2010

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## NPDES Phase II Small MS4 General Permit Annual Report

### Part I. General Information

**Contact Person:** John R. Livsey, PE **Title:** Town Engineer

**Telephone #:** 781-274-8305 **Email:** jlivsey@lexingtonma.gov

#### 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:** John R. Livsey

**Title:** Town Engineer

**Date:** 4/30/10

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

The Town of Lexington is in compliance with its NPDES Phase II Stormwater General Permit.

At Town Meeting on March 31, 2008, the Town passed a stormwater management bylaw. The bylaw is designed to comply with the EPA requirements for permitting of project disturbing greater than one acre of land. In addition, the bylaw addresses larger single-family residential projects involving demolition of existing structures and replacement.

The town is moving forward with implementation of stormwater regulations. The regulations need to be adopted by the Town Selectmen. The Selectmen held a public hearing on the proposed regulations on April 26, 2010. Public comments are now being taken.

Draft regulations are Enclosure A.



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5/3/10

MEMORANDUM

TO: Ms Thelma Murphy  
USEPA Region 1  
Five Post Office Square  
Boston, MA 02109

FROM: Michael Flamang  
Lexington DPW  
201 Bedford Street  
Lexington, MA 02420

Phone 781-274-8308

DATE: April 30, 2010

SUBJECT: Transmittal NPDES Annual Report Year 2009-2010

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NPDES Report and enclosures transmitted herewith.

**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 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
1C	Household hazardous waste collection days	DPW/ R. Beaudoin	Schedule, publicize and execute collections of household hazardous waste	Completed 8 drop collection days.	Repeat.
1D	Water bill inserts	Engineering / D. Pavlik Conservation/ E. Schadler	A stormwater information leaflet inserted into water bills.	Completed. Leaflet was prepared and inserted into all water bills in Sept 2009. (Encl B)	Place and maintain leaflets in public kiosks
1 A  Revised 2010	Classroom Education	Engineering/ M. Flamang  Conservation/ E. Schadler	Design and present elementary-school level session explaining stormwater system Support the public school environmental curriculum with specific information about stormwater	Teachers have environmental curriculum.  Held meetings with the school science coordinator to formulate curriculum. Sample of Grade 3 teacher guide is enclosed. (Encl C)	Continue to support school science coordinators.

IE	Make use of available media to disseminate information on stormwater	Conservation/ E. Schadler Engineering/ D. Pavlik	Write and publish article of general interest on stormwater	Town Engineer, a Selectman, Conservation Assistant and Town Planner held Q&A session on stormwater and sewage collection that was viewed on Local Access Cable. Other short pieces appeared periodically in local publications.	Continue to distribute information to the media.
IF	Create and Maintain Stormwater Web Site	Conservation/ E. Schadler Engineering/ D. Pavlik	Up-to-date web site <a href="http://www.lexingtonma.gov/conservation/watersheds.cfm">http://www.lexingtonma.gov/conservation/watersheds.cfm</a>	Web site is operating. Includes a link for questions and comments.	Maintain the site and respond to queries.
IG	Newsletter for watershed stewards program	Conservation/ E. Schadler	Publish newsletter biennially.	Two newsletters published and distributed. One attached. (Encl D)	Continue publication



## 2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
2B	Water quality monitoring Old Res	Recreation Dept/ Karen Simmons	Sanitary survey of drain outlets in to Old Res Recreation Area	Public swimming. This area is regularly tested by the Town Health Department.	Continue sampling and reporting as necessary to assure safe recreational uses.
2B	Water Quality Monitoring Town wide	Engineering/ M. Flamang	Meet with watershed caretakers to support sampling programs	Participated in stormwater workshops with watershed groups to share water quality information.	Continue to participate in workshops and forums to share stormwater information.
2D	Septic Systems Tracking Management	Health Dept/ K. Fox	Transfer data to electronic media, maintain and upgrade data	Maintained database.	Maintain database

2E	Public Involvement	Conservation/ E. Schadler Engineering/ D. Pavlik	Create and sustain a program of staff and volunteers to clean streams and monitor outfalls	Town Conservation and Engineering Staff have started a Watershed Stewards program. The volunteer stewards and others conducted work days and stream surveys. One sample report is Enclosure E	Continue to grow the program and mobilize volunteers for at least 2 work days.
2F	Public Involvement	Conservation/ E. Schadler Engineering/ D. Pavlik	Data base of stream quality reports by volunteers	Individual survey reports have been compiled into reports.	Maintain file of surveys and other stream observations.

### 3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
3A	Locate and map outfalls	DPW/ M. Flamang	Complete GIS mapping of town drainage system	Town has drainage system in digital form showing outfalls.	Maintain drainage mapping data.
3A	Locate outfalls	Engineering/ D. Pavlik Conservation/ E. Shadler	Field survey to locate all drainage structures	Located outfalls in Vine Brook channel. Approximately 25% of townwide total.	Continue survey.
3C	Stormwater Bylaw	Conservation/ K. Mullins Engineering/ J. Livsey	Write and implement stormwater regulations.	Bylaw has been passed. Regulations have been presented to Selectmen and public for comment.	Pass and implement regulations.
3D	Locate and remediate potential sources of pollution	Engineering/ M. Flamang	Repair deficient sanitary sewers to reduce infiltration and exfiltration	Weston and Sampson retained to design sewer improvements, Basin 6, 7 and 10. Bids due June 2010 for rehabilitation contract.	Complete rehabilitation contract, Basins 6, 7, 10. Design improvements for Basins 3 and 9.

3D	Locate and remediate potential sources of pollution	Engineering/ M. Flamang	Design and carry out stream sampling town-wide to aid in identification of pollution hot spots	Performed dry weather sampling of eight streams at strategic locations. Used results to disclose one source of pollution. Investigated further to find one illicit connection and remove it, rerouting to sanitary sewer.	Continue sampling and investigation to find other illicit connections.
3E	Locate and remediate potential sources of pollution	Engineering/ M.Flamang and Recreation/ K.Simmons	Improve stormwater system in vicinity of Old Res to reduce wet weather contamination.	Completed study of alternatives for treatment of stormwater runoff into Old Res facility. Finalized selection and design of BMP. Town Meeting has approved funding for completion of design and construction.	Secure funding and proceed with design and construction of stormwater treatment for street runoff and other pollution at Old Res.
3E	Locate and remediate potential sources of pollution	Engineering/ D.Pavlik	Upgrade stormwater collection to include treatment where town is doing major maintenance.	Completed construction of BMP's at Ross Road and Ivan St.	Proceed with stream survey program in Charles Riv Basin. Secure Conservation Commission and other permits to execute recommendations for stream and culvert cleaning.

### 3. Addition to Illicit Discharge Detection and Elimination

3E	Locate and remediate potential sources of pollution	Engineering/ M. Flamang	Locate and remove illicit connections to storm drains for approximately 10% of town.	Weston and Sampson retained to design house to house inspection and inflow removal program, Basin 6, 7 and 10.	Inspections scheduled for July-August 2010.
Revised 2010					



**4. Construction Site Stormwater Runoff Control**

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
4C	Inspection and reporting	Building/ G. Rhodes Engineering/ M Flamang	Train personnel to inspect for runoff issues	Inspection staff of community departments have been trained and look for construction site erosion.	Update and deliver training to reflect complete stormwater bylaw and regulations.
4C	Inspection and reporting	Engineering/ M. Flamang Conservation/ K. Mullins	Design and distribute handout for permits	During this year, the town staff consistently referred contractors to the EPA construction permit program. Engineering permits have been annotated to require as-builts of privately owned treatment facilities.	Continue to refer applicants for Building Permits to EPA permit program

### 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 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
5B	Develop BMP's list	Engineering/ M. Flamang	Develop list of BMP's that are appropriate for Lexington public and private projects	Staff has studied State DEP Stormwater Handbook. BMP's are described in the Handbook, now State policy.	Finalize stormwater management regulations to work with state policy.
5D	Runoff Operation and Maintenance Plan	Conservation/ K. Mullins	Require in-house reviewers to screen permit applications for O&M plans	Staff screens permit applications for O&M plans.	Insure that review process is incorporated into town stormwater regulations.

### 5a. Additions to Post-Construction Stormwater Management

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
5E	Stream Restoration	Engineering and Conservation/ J. Livsey and K. Mullins	Develop and Implement a Program of Waterway Maintenance and Restoration	Town has funded for a Stream Restoration Program which includes a study, permitting and program execution.	The effort this year will be to quantify the length and numbers of streams needing restoration and to develop scope for contractors to implement restoration in compliance with applicable regulations.
5F	Stream Restoration	DPW/ J. Livsey	Implement segments of Stream Restoration Program	Retained Woodard and Curran Eng to survey streams and prepare a stream restoration plans specific to each selected stream.	Develop procedures, obtain all necessary permits and carry out restoration of four segments of streams deemed of highest priority.

### 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 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
6A	Employee training	Public Works/ W. Brooks	Conduct toolbox session to refresh on BMP's	Operations personnel have been recently relocated into the central DPW maintenance facility. Staff training took place in other locations, including attendance at seminars and on-line classes.	Resume tool box training now that Public Works staff occupies new facility.
6B	Municipal pollution prevention	Public Works/ W. Brooks	Schedule street cleaning	Continued program	Continue program
6C	Vehicle washing	Public Works/ W. Brooks	Wash indoors to keep solids from stream	Continued program	Continue program
6D	Used oil recycling	Public Works Operations/ W. Brooks and Public Works Solid Waste/ R. Beaudoin	Collect used oil PW maintenance garage and make used oil recycling available at Town Recycling facility.	Contracted for maintenance garage recycling and offered household waste recycling townwide eight times per year.	Continue program
6B	Municipal pollution prevention	Public Works/ W. Brooks	Incorporate BMP's into design of new PW garage facility	Moved into new DPW facility with stormwater BMP's.	Maintain BMP's.



### **Part III Summary of Minimum Control Measures**

Additional comments regarding Item 6B, the new Public Works facility

The Town's new public works facility is complete. The designer has selected and utilized technology for the facility to minimize the environmental effects as far as possible.

Measures that are in the design include the following.

- Inside vehicle wash bays with wash water containment and treatment
- Dedicated chemical storage areas with spill containment
- Stormwater infiltration through bioretention swales and basins
- Riparian restoration, including selected removal of invasive plant species and supplemental planting
- Stream bank restoration, including stabilizing North Lexington Brook stream banks through regrading and revegetating
- Improved quality of open space by selectively removing unhealthy/invasive tree species and replacing with non-invasive specimen trees
- Reduction of glare, spillover, and atmospheric light pollution onto adjacent properties and natural areas
- Maximized lighting efficiency include compact fluorescent lamps, motion-sensitive systems

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

Enclosure F (Item 3G) sample results.

Stream sampling results attached. Using staff and consultants, town sampled 11 streams one time and one stream, Vine Brook three times. These results and other previous sampling from Vine Brook are tabulated in Enclosure F. The data show inconsistent high e-coli results in Vine Brook. Other streams seem to be consistently below action levels.

After removal of one illicit connection into the Vine Brook culvert, on Oct 30, 2009, the e-coli result dropped. Counts in upper Vine Brook also show occasional high levels. These results suggest that sources are dispersed and erratic. The investigation into the sources of these pollutants will continue.

The Watershed Stewards, in a survey of the banks of Vine Brook and a cleanup workday on May 9, 2009 reported extensively on invasive plant and some deteriorated structures along the stream (Enclosure E). On that day, there were no reports of suspicious inflow or odors.



Enclosures

- A. Draft Stormwater Regulations
- B. Water Bill Insert "Stormwater Runoff"
- C. Teacher's Guide to Stormwater, Lexington Public Schools
- D. Lexington Conservation Stewards Newsletter, Winter 2010
- E. Vine Brook and Willard's Brook Stream Shoreline Survey Report, May 9, 2009
- F. Stream Sampling Reports and summary table