

Municipality/Organization: Town of Lincoln

EPA NPDES Permit Number: MAR041043

MaDEP Transmittal Number: W-035460

Annual Report Number

& Reporting Period: No. 9: May 2011 – May 2012

5/2/12

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NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Timothy Higgins

Title: Town Administrator

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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: Timothy S. Higgins

Title: Town Administrator

Date: April 27, 2012

Part II. Self-Assessment

The Town of Lincoln has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions, except for the following provisions:

The initial 5-year NPDES MS4 General Permit is expired and the Town understands that the renewal of this Permit (for Massachusetts North Coastal Small MS4 communities) is going to be issued. We realize that we need to make a strong attempt to establish bylaws and regulations for construction site stormwater management and for illicit discharge detection and elimination. The new Permit will help facilitate this course of action. The new TMDL for the Charles River Watershed will give us extra incentive to control sources of phosphorus and we will look to establish a Phosphorus Reduction Plan. We need to reinvigorate our educational outreach and again this will be spurred on the issuance of the new Permit. We attended the June 3, 2011 MS4 Workshop in Franklin, MA.

Attached is the initial mapping for determining MS4 Phase II geographic areas and it is worth noting that the majority of the mapped area in Lincoln is part of Hanscom Air Force Base. Fortunately they implemented excellent stormwater bmps with their recent housing redevelopment project but they are outside of our direct municipal jurisdiction. Most of Lincoln was located outside the MS4 area except a small area along the Wayland boundary. However, we still do our best to have clean stormwater discharges to the receiving waters throughout Lincoln. Our biggest contribution to water quality is in land preservation and nearly half of our community is permanently preserved open space. A synopsis of this protection is also attached to this report.

Being a small community we have limited staff and with the issuance of the coming NPDES Permit we will retain the professional services of Beals and Thomas (or similar firm) to help us as we develop our Notice of Intent.

We have made considerable headway on creating a new Groundwater Protection Bylaw for our Zone II Aquifer Protection Zones and expect this to be brought before our next Town Meeting. These represent a significant percentage of the Town's surface area. Stormwater management and clean discharges, both surface and subsurface will certainly be a major component of this bylaw. In March 2012 we passed a new Surface Water Supply Protection Bylaw that fully meets all MA DEP standards.

Several major projects are coming up soon and these will incorporate significant improvements to stormwater management. These include a full reconstruction of the Lincoln Public School complex, the Hanscom AFB Schools, and the Lincoln Town Office Building. Recent road work projects have incorporated deep-sump catch basins and utilized extensive amounts of country drainage into vegetated catchment areas.

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 9 (Reliance on non-municipal partners indicated, if any)
1-C	Lincoln Specific Stormwater Flyers	ConCom	Distribute at Town Hall and public events.	Lincoln has several brochures relating to stormwater awareness and healthy lawns and landscapes available at Town Hall. These are also made available at the annual Town Meeting
1-D	Education via Newspaper Articles	ConCom	Write at least one article per year	Article on stormwater in Lincoln Journal not submitted.
1-E	Education via the Internet	ConCom	Provide stormwater information and links on Town website	NPDES MS4 Information posted on Town Website. Links to other websites including EPA's site also posted.
1-F	Homeowner and Contractor BMP Manuals	ConCom	Provide new manuals with best current methods.	These are in development and should be out this coming year.

1a. Additions

1-F	Open Space Plan	Open Space Committee	State approved Open Space Plan	Permanent Preservation of 55 acres of land, primarily Zone A, for protection of the Cambridge Reservoir was completed during this period.
1-G	New Homeowner Information Packet	ConCom	Provide property information to new homeowners.	Distributed packets including Lincoln specific fliers and return postcard to new homeowners. Work is ongoing and effective
1-H	Municipal GIS Website	ConCom	Offer public free GIS website with datalayers for Town.	The revised GIS system is functioning effectively. Layers include wetlands, buffer zone, & floodplain. It has been very well received and is used extensively by residents, realtors etc.

1-I	Conservation Walk Series	ConCom	Provide educational outings for the public.	Spring and fall series of walks to get people on land and educated about conservation issues with a concentration on watershed activities. This is an annual series that is well attended and connects residents to the Town's natural resources.
1-J	Healthy Lawn and Landscape Brochures	ConCom Garden Club	Distribute to residents.	This brochure was fully revised and updated in 2011 and is being distributed at Town Hall and at municipal events. Minimizing or eliminating fertilizer and pesticides are the key components discussed.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)
2-B	Annual Meeting on NPDES Plan and Report	Town Administrator	Hold Committee meeting each year	NPDES meeting Including Town Planner, Conservation Director, and Public Works Director.
2-C	Watershed Group Involvement	ConCom Local Groups	Continue ongoing activities to protect the health of our wetlands & watersheds.	We are working closely with the City of Cambridge's Water Department on stormwater issues. ConCom partnered with Concord for 12 th consecutive year on water chestnut removal. ConCom representatives active with the Suasco River Stewardship Council. We also continue to participate in the newly formed Suasco CISMA.
2-D	Involve Lincoln Children's Groups	ConCom	Involve Lincoln Children's Groups in watershed clean-up and other activities.	Worked with various classes and groups on local ecological issues, including teaching importance of stormwater management for drinking water quality.

2a. Additions

2-E	Wetland buffer restoration through invasive species removal	ConCom	Work once per year with community and/or school group to restore wetland habitat.	Third annual Garlic Mustard pull day held with excellent community participation. This is critical work for maintaining the health of native plant ecosystems.
2-F	Open Space Plan	ConCom Open Space Committee	State Approved Plan with 5-year Action Plan	Following through with 5-year Action Plan for the Open Space and Recreation Plan.
2-G	Elm Brook Stream Restoration	ConCom Minute Man National Historical Park	Stream daylighting with natural stream-bed construction and native plantings	This is a Shawshen River watershed project. Stream is healthy with native plants and abundant macro-invertebrate and amphibian life.
2-H	Habitat inventory and monitoring	ConCom	Conduct habitat inventories	Baseline monitoring of all conservation lands and holdings is completed.
2-I	Comprehensive Plan (Town's Master Plan)	Planning Board	Work to achieve goals outlined in plan, which include open space preservation and ecological protection.	Work on implementing plan just started. Open space goals mirror what is in the Open Space Plan.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)
3-A	Illicit Discharge Bylaw	Highway Board of Health	Discussions and review of regulations	Board of Health continues to review and permit all septic system maintenance and construction. Conservation permitting is done for all systems within 100 feet of wetlands or 200 feet to perennial streams.

3-B	Storm Drain Map	Highway Town Administrator	Field-verify and map storm drains and outfalls	Used GPS to field-verify and map outfalls. Lincoln has purchased a new Trimble GPS/computer/receiver unit and after a long learning curve we are using it to get accurate field data for all stormwater infrastructure. This work is ongoing.
3-C	Illicit Discharge Detection and Elimination Plan	Highway	Visually screen outfalls during dry weather.	Priority areas are the Tower Road wellhead protection zones A and B and Flint's Pond and Cambridge Reservoir surface water protection Zones 1 and 2. Household hazardous waste coordinated with the Town of Lexington.
3-D	Illicit Discharge Education for General Public and Businesses	ConCom Planning	Include illicit discharge education information in fliers.	ConCom brochures distributed on how to reduce lawn and yard pesticide and chemical fertilizer use. DPW maintains metal "No Dumping – Drains to River" catchbasin markers.
3-E	Illicit Discharge Education for Municipal Employees	Highway Fire Department	Municipal training for Town.	Fire Department continues their training in spill prevention and containment. DPW employees trained on spill prevention and containment.

3a. Additions

3-F	Annual Monitoring of all public and private Conservation Land.	ConCom Lincoln Land Conservation Trust	Inspect boundaries and interiors of all permanently protected open space	Work completed by LLCT interns and ConCom staff. Any violations, including illicit discharges, are searched for. This includes 2901 acres which is 31% of the Town and in increase in acreage from earlier years.
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4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)
4-A	Construction Site Runoff Bylaw	Planning ConCom	Initial Discussions and review of existing and model bylaws	Construction site runoff is adequately managed through wetlands permitting and site-plan review. Due to nature of Lincoln's character, no bylaw is necessary at this time.
4-B	BMPs for Construction Site Erosion, Sediment, and Waste Controls	Planning ConCom	Stay current with construction-site BMP's	DEP Stormwater Regulations are administered by the Conservation Commission. BMP's required through wetland and site-plan permitting.
4-C	Construction Site Plan Review Procedures	Planning ConCom	Maintain review and communication between land-use boards	Planning Board and ConCom both currently review construction site plans.
4-D	Construction Site Inspection and Enforcement Procedures	Planning ConCom	Inspect and Enforce Construction Site through local boards	Planning and Conservation staff monitor construction sites as does the Building Inspector.
4-E	Response to Public Stormwater Hotline	Highway ConCom	Maintain Stormwater Hotline	Conservation Department phone is the Hotline during working hours and Public Safety Dispatcher during other hours.

4a. Additions

4-F	Zoning Bylaw Revisions for FEMA Floodplain Requirements	Planning Board ConCom	Revise floodplain regulations and get approved by Town Meeting.	In 2010 Town Meeting approved the changes that strengthen regulatory authority to limit floodplain alteration, thus protecting this resource area that is critical to stormwater management.
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5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)
5-A	Post-Construction Site Runoff Bylaw	Planning ConCom	Initial discussions; review current local/state regulations; review proposed samples	Post-Construction site runoff is adequately managed through wetlands permitting and site-plan review. We are now exploring the establishment of a new bylaw to meet this requirement.
5-B	Choose Structural and Non-structural BMPs	Planning ConCom	Stay current with construction-site BMP's	Continued enforcing current BMPs as shown on 5-year NPDES Stormwater Phase II Compliance Plan.
5-C	Long-Term BMP Operation and Maintenance Procedures	Planning ConCom	Require Operation and Maintenance Plan Procedures for single-family through Bylaw.	OMPs are required under DEP Stormwater Management Regulations for projects requiring a Stormwater Management Plan. General review provided through existing permitting.
5-D	Structural BMP Implementation Procedures	Planning ConCom	Outline structural BMP requirements in Bylaw	Review structural stormwater management controls through existing permitting process. Where possible require low-impact development strategies and non-structural components.

5a. Additions

5-E	Permits Issued for Major Projects with Drainage Improvements	ConCom	Work with applicants to ensure proper stormwater BMPs are used during and after construction.	Major projects that are still ongoing include: Hanscom Air Force Base Housing Redevelopment which incorporates significant upgrades for retaining and infiltrating stormwater. Crosby's Corner/Route 2 Project with extensive stormwater management BMPs and wetlands habitat restoration. Hanscom AFB School reconstruction and Lincoln Public School reconstruction. Old pavement removed and 15 parking spaces with porous paving were created at the Public Schools on Ballfield Road.
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6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
6-A	Employee Training to Prevent/Reduce Stormwater Pollution	Highway Fire Department	Municipal training for Public Works and Fire Department employees.	Fire Department and Public Works Department continues ongoing spill prevention and cleanup training. Containment booms have been placed in the DPW garage. These booms will be available to be placed around catch basins in the event of a fluid spill.	Continue Fire and Public Works Dept. training to prevent any stormwater pollution.

6-B	Maintenance/Inspection of Storm Sewers and Structural/Non-Structural Controls	Highway	Assess existing controls, maintenance activities, schedules, and long-term inspection procedures	• The Town of Lincoln annually cleans approx. 510 catch basins. Continued assessment of existing maintenance/inspection of storm drainage system. • The Public Works Department continued to clean the Town's road shoulder areas to remove built-up material and improve natural drainage runoff. Much of this work was completed during the Town's 2011 Phase 2 Paving Project. • The Public Works Department continued to clean and maintain the newly constructed sedimentation basins, which were very successful in trapping sediment and keeping it out of the Cambridge water supply system. These newly constructed sediment basins work extremely well in reducing sediment flow into wetland areas. • Installed new grate at Cemetery Pond to prevent debris flow. • Further research was performed in regards to the best practices regarding the Town's snow and ice control. Presentations and other supporting research & data were presented in previous NPDES submittals. • The Town completed work on its Phase 2 Paving Project. Included in the project was: ○ A Storm Water Pollution Prevention Plan. ○ Cleaning of roadway shoulders for better road drainage. ○ Replacing outdated catch basins with newer catch basins with sumps.	Continue to develop new and improved activities, schedules, and procedures.
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6-C	Pollutant Source Reduction/Elimination from Municipal Facilities and Activities	Highway	Assess existing facilities, activities, and BMPs and continue additional or improved BMPs	The Public Works Dept. continues review of a 1971 Town regulation that restricts the snow & ice removal to 10% salt, 90% sand.	- Review of 1971 Town regulation that restricts the snow & ice removal procedures to 10% salt and 90% sand - Public Works Roadside Maintenance Program - Commence Public Works materials handling procedures - Continue roadside sweeping activities - Continue sweeping and maintenance of Public Works Barn - A New leaf vacuum was delivered and was used in 2011. This machine facilitates road & roadside leaf removal to help reduce non-point phosphorus discharge.
6-D	Waste Disposal Procedures from Storm Sewers and Municipal Facilities/Activities	Highway	Assess existing waste disposal procedures, review MA guidelines, brainstorm improved and new procedures	Proper disposal methods as approved by DEP on the material are undertaken each year.	A comprehensive materials handling program will be developed for the Public Works site.

Part IV. Summary of Information Collected and Analyzed

Incorporation of watershed, stream, wetland and other water related layers in GIS database	yes	Now accessible to public via web-based GIS viewer
GPS identification of storm drains, outfalls and other water-related information	(85%)	
Water quality data	(10%)	Cambridge

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	no	
Annual program budget/expenditures	(\$0)	

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(70%)	
Stormwater management committee established	(no)	
Stream teams established or supported	non active	
Household Hazardous Waste Collection Days		
▪ days sponsored	(8)	
▪ community participation	(60%+/-)	
▪ material collected		
School curricula implemented	(provided)	
On-going open space and watershed planning, education and outreach	(yes)	
Habitat, wetland, stream and biological inventory and monitoring	(yes)	

Legal/Regulatory

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

Mapping and Illicit Discharges

Outfall mapping complete	(85%)	
Estimated or actual number of outfalls	(200)	
System-wide mapping complete	(85%)	
Mapping method(s)		
▪ Paper/Mylar	(80%)	
▪ CADD	(0%)	
▪ GIS	(85%)	
Outfalls inspected/screened	(0)	
Illicit discharges identified	(1)	
Illicit connections removed	(0)	
% of population on sewer	(0)	
% of population on septic systems	(100%)	

Construction

Number of construction starts (>1-acre)	(0)	redevelopment
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(75%)	all w/wetlands
Site inspections completed	(90%)	
Tickets/Stop work orders issued	(2)	
Fines collected	(0)	
Complaints/concerns received from public	(2)	

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(100%)	
Site inspections completed	100%	
Estimated volume of stormwater recharged		

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(1 time/yr)
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(1 time/yr)
Total number of structures cleaned	(510)
Storm drain cleaned	(500 LF)
Qty. of screenings/debris removed from storm sewer infrastructure	(0)
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)	Hwy yard
Cost of screenings disposal	TBD

Average frequency of street sweeping (non-commercial/non-arterial streets)	(1 time/yr)
Average frequency of street sweeping (commercial/arterial or other critical streets)	(1 time/yr)
Qty. of sand/debris collected by sweeping	(2,300 tons)
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	Hwy yard
Cost of sweepings disposal	TBD
Vacuum street sweepers purchased/leased	0
Vacuum street sweepers specified in contracts	No

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)	
▪ Fertilizers	Not used
▪ Herbicides	Not used
▪ Pesticides	Not used
Elimination of chemical pesticides and fertilizers on lawn	All OOC's
Require organic practices on licensed conservation lands	initiated
Anti-/De-Icing products and ratios	10% NaCl
	90% Sand
Pre-wetting techniques utilized	no
Manual control spreaders used	yes
Automatic or Zero-velocity spreaders used	no
Estimated net reduction in typical year salt application	(lbs. or %)
Salt pile(s) covered in storage shed(s)	yes
Storage shed(s) in design or under construction	n/a