Municipality/Organization: Town of Durham, NH

EPA NPDES Permit Number: NHR041006

MaDEP Transmittal Number: W-

Annual Report Number & Reporting Period: **No. 4: May 1, 2006 to April 30, 2007**

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: David Cedarholm Title: Town Engineer

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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: David Cedarholm

Title: Town Engineer

Date: April 30, 2007

Part II. Self-Assessment

The Town of Durham, New Hampshire has complied with its 2006 goals with the exception of a few items which were adjusted to Town conditions. The following is an overview of all six minimum control measures.

Public Education and Outreach - Over the passed year the Town has continued to take an active role in educating local government staff and citizens about stormwater management, and public responsibility with regard to Stormwater II regulations. The Town initiated the construction of a demonstration rain garden on Town Property using resident volunteers and locally donation materials to promote innovative ways of managing stormwater. The special page on Town website is under construction to provide the capability for residents to submit web based online reports of their observations of stormwater runoff and illicit discharges. The Town continues to team with the University of New Hampshire (UNH) on the distribution of public information, and educating residents, local contractors and developers, and student populations through a biannual newsletter.

Public Participation/Involvement – The Town has become more involved with local watershed associations, committees, conservation commissions, and regional planning commissions that review and report on conditions and status of stormwater management within the Town and region. These groups are instrumental in monitoring the watersheds that encompass the Town. As described above, the construction of a demonstration rain garden and our efforts to provide web based online stormwater reporting capability were directed toward creating opportunities for public participation and involvement.

Illicit Discharge Detection and Elimination – Durham continues to develop and update the Town's stormwater collection system mapping. A major effort was conducted this past year to locate and preliminary assess the condition of the all the stormwater outfalls within the MS4 area. The outfalls were roughly located on the Town GIS map based on terrain association. In association with the Seacoast Stormwater Coalition and the New Hampshire Department of Environmental Services (NHDES), the Town helped to develop and finalize a Stormwater Management SOP Manual entitled "Guidelines and SOPs for Illicit discharge Detection and Elimination and Pollution Prevention/Good Housekeeping for Storm Water Phase II Communities in New Hampshire." This document is currently being used as a guide to identify and evaluate suspected illicit discharges.

Construction Site Storm Water Runoff Control – Durham continues to develop and update its GIS based stormwater management program and advancing its capabilities to track construction related stormwater controls, catch basin cleanings, and other stormwater management activities. A consultant was hired (funded in part by a grant from NHDES) to review Town ordinances and regulations relative to stormwater management. The Town is in the process of incorporating the consuctant's recommendations into the draft stormwater management ordinance. We continue to look for opportunities to evaluate the effectiveness of the draft ordinance on new

development. Training of Town staff on best management practices (BMPs) and the proper implementation of stormwater controls is ongoing. The stormwater management ordinance is on schedule to be finalized and adopted before March 2008.

Post-Construction Runoff Control – Durham continues to have great success collaborating with the UNH Stormwater Center which is performing innovative research on multiple types of construction BMPs and evaluating there performances. Many local developers are taking the Town's advice and partnering with the Stormwater Center's researchers on implementing BMPs and innovative stormwater management controls.

Pollution Prevention/Good Housekeeping – The Town is following through with our three year rotating maintenance plan in which approximately one-third of our stormwater collection system is cleaned and maintained each year. The final 1/3 of the approximate 525 catch basins were cleaned in 2006 and the portion of the collection system that was cleaned is in 2004 is now scheduled for repeated cleaning cycle in 2007. The Town maintains an aggressive street sweeping program in which all streets within the MS4 area are swept at least quarterly; numerous high traffic streets are swept weekly. In addition, all repairs and maintenance of stormwater structures within the MS4 area are performed with update to date BMPs and modern materials.

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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
1 Revised X	Develop Educational Resources	Michael Lynch Public Works Director	Publish stormwater awareness information in biannual newsletter	A regular column entitled "Stormwater Tips" now appears in the newsletter published by the Town and sent out to all Town residents approximately 4 times per year.	Continuation of publishing "Stormwater Tips" in DPW Newsletter
2 Revised X	Implement Educational Activities	Michael Lynch Public Works Director	Construct a demonstration rain garden with volunteers	A demonstration rain garden constructed at the Town DPW with 100% volunteer labor showed residents how to build on of their own.	Install more rain gardens and promote the use of rain barrels.
3 Revised	Storm Drain Stenciling	Michael Lynch Public Works Director	Apply labels or stencils on or near catch basins.	Do to the lack of longevity on the stenciling, Durham experiment with attaching 3" diameter aluminum "No Dumping-Drains to River" medallions to a dozen catch basins grates.	Due to the success of the medallion experiment, the Town plans to install more medallions on catch basins throughout Town and possibly organize a new stenciling effort.
4 Revised	Stormwater II Informational Flier	Michael Lynch Public Works Director	Stormwater article as part of newsletter	A regular column entitled "Stormwater Tips" now appears in the newsletter published by the Public Works and sent out to all Town residents at least 2 times per year	Continue to publish "Stormwater Tips" in the DPW Newsletter.
5 Revised	Stormwater presentations shown on Town's Cable Access Channel	David Cedarholm Town Engineer	Show stormwater management videos on local cable access channel	Videos were aired on Town funded local cable access channel during at least two rounds or showings that last approximately 1 week each round	Continue to air videos over the next year and seek out new videos.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
1 Revised X	Create Citizen Committee/Organization	David Cedarholm Town Engineer	Actively participate in local Watershed and Stormwater Mngt Associations	Town Engineer participates in local citizen groups: Oyster River Watershed Association (ORWA), Bellamy-Oyster River Watershed Partnership (BORWP) and the Seacoast Stormwater Coalition.	Continue to play active roles in ORWA and BORWP
2 Revised X	Maintain Working Relationship with UNH and Town Residents	Michael Lynch Public Works Director	Work with UNH and residents on catch basin identification	Durham and UNH is experimenting with attaching 3" diameter aluminum "No Dumping-Drains to River" medallions to a dozen catch basins grates.	The Town and UNH plan to install more medallions on catch basins throughout Town and possibly organize a new stenciling effort.
3 Revised X	Establish Public Storm Water Literature for Public Distribution	David Cedarholm Town Engineer	Include Stormwater articles in newsletter	A regular column entitled "Stormwater Tips" appears in the newsletter published by the Public Works and sent to all Town residents 2 times per year.	Continue to publish "Stormwater Tips" and other related notices in the DPW Newsletter.
4 Revised X	Public Meeting – Town Council or Board Presentation	David Cedarholm Town Engineer	Town Council Presentation	No presentation this year	Organize stormwater ordinance presentation this coming year.
5 Revised	Community Watershed Monitoring Clean-ups	David Cedarholm Town Engineer	Coordinate watershed walks and clean-ups	The ORWA performs monthly river walks along some portion of the Oyster River to monitor conditions. River and coastal clean-ups sponsored by various groups are held as annual events.	Continue to support local organizations that sponsor cleanups.
6	Construct a Rain Garden	David Cedarholm Town Engineer	Utilize citizen volunteers to construct a demonstration rain garden	A demonstration rain garden was constructed at a Town facility using citizen volunteers and donated materials	Promote the installation of more rain gardens and rain barrels.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
1 Revised X	Stormwater Mapping	David Cedarholm Town Engineer	Complete map implement within GIS system.	This goal is 97% complete. Catch Basins and almost all outfalls are located within the MS4 area.	Complete locating all outfalls this year.
2 Revised X	Stormwater Ordinance	David Cedarholm Town Engineer	The draft ordinance final review and adoption.	The draft ordinance and existing Town regulation were reviewed for redundancy by a consultant.	Finalize and approve ordinance at Town Council level.
3 Revised X	Implement an Information Management System for Tracking Illicit Discharges	David Cedarholm Town Engineer	Continue stormwater mapping inventory and track illicit discharges	Monitoring of illicit discharges was conducted during system maintenance and catch basins cleanings and outfall mapping. To date there has been minimal evident of illicit discharges within Town's MS4 area.	Continue assessing the condition of catch basins and outfalls for indications of illicit discharges.
4 Revised X	Training of Employees	David Cedarholm Town Engineer	BMP implementation training of staff	Ongoing training of personnel on the implementation of stormwater BMPs and illicit detection methods.	Attend workshops coordinated by the Seacoast Stormwater Coalition to educate Public Works personnel.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
1 Revised X	Collect Ordinance / Regulatory Information	Jim Campbell Town Planner	Draft ordinance has been developed and is under Legal review	Encouraged Town Boards and officials to accept draft ordinance.	Plan to finalize ordinance and gain acceptance by the Town Boards.
2 Revised X	Informational Management System	David Cedarholm Town Engineer	Maintain and update GIS based mapping and track catch basin cleaning and street sweeping.	Expanded our data input to our system regarding catch basins cleaning and maintaining stormwater controls.	Continue to use our data based GIS system to locate and track possible illicit discharge locations.
2 Revised X	Finalize Ordinance/Regulatory Mechanism	Jim Campbell Town Planner	Draft ordinance has been developed and is under Legal review	Encouraged Town Boards and officials to accept draft ordinance.	Plan to finalize ordinance and gain acceptance by the Town Boards.
4 Revised X	Staff Training	David Cedarholm Town Engineer	Have Town officials and Public Works staff attend stormwater training workshops	Town staff and Planning Board attended stormwater educational workshops at UNH Stormwater Center as well as informal on-the-job training of Public Works staff.	Continue to educate Town staff BS attend training opportunities to stay current with new developments in stormwater management.

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 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 4
1 Revised X	Identification of BMPs	David Cedarholm Town Engineer	Develop possible BMPs for use within the Town	Implemented a variety of BMPs on Town projects and evaluate the efficiency of each. Push for adoption of Stormwater Ordinance	Continue to evaluate BMPs that are effective in our geographical area and push for adoption of Stormwater Ordinance.

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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
1 Revised X	Pollution Prevention Plan (PPP)	Doug Bullen Director for Operations & David Cedarholm Town Engineer	Regularly review and update Recycling & Transfer Station PPP for effectiveness, and	• Implement BMPs from NH Stormwater Management SOP Manual published by Seacoast Stormwater Coalition and NHDES. • .Maintain active recycling efforts with oversight from an advisory committee that reviews transfer station practices.	• Develop PPP for unregulated Town Facilities. • Continue to implement BMPs from NH Stormwater Management SOP Manual.
2 Revised X	Employee Training Materials	Doug Bullen Director for Operations	Provide Pubic Works staff with educational materials	Made available recently published NH Stormwater Management SOP Manual to Public Works staff	Obtain updated materials through the NH Stormwater Center here in Durham, and send Public Works staff to stormwater management workshops.
3 Revised	Informational Management Systems	David Cedarholm Town Engineer	Maintain a stormwater management library and GIS track structure maintenance and BMPs.	Expand our data input to our system this year to complete it in regards to catch basins and outfalls.	We will continue to use our data based GIS system to locate and define possible illicit discharge locations.
4 Revised	Employee Training	David Cedarholm Town Engineer	Provide staff with more educational opportunities	Continued collecting and distributing stormwater information and provide ongoing in-house staff training educational opportunities on good housekeeping and BMP implementation	Take part in workshops through the NH Stormwater Center here in Durham, and supply Public Works staff with good housekeeping educational opportunities.

Part IV. Summary of Information Collected and Analyzed

The State of Estuaries Report for New Hampshire Coastal Watersheds indicated a general declining trend of fecal coliform bacteria concentrations, and an increase in dissolved organic nitrogen and suspended solids in the water of the Great Bay. The report suggested that the source of approximately 49 percent of the nitrogen loading is from tributaries that deliver stormwater runoff to the estuary. The report also suggested that the area covered by impervious surfaces in the coastal watersheds has increased from 4.8 percent in 2000 to 5.6 percent in 2005.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n)	n
Annual program budget/expenditures	($)	10,000

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	80 %
Stormwater management committee established	(y/n)	N
Stream teams established or supported	(# or y/n)	Y
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	Y Not logged
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	1
▪ community participation	(%)	60+ house holds
▪ material collected	(tons or gal)	Not available
School curricula implemented	(y/n)	N.

Legal/Regulatory

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

Mapping and Illicit Discharges

Outfall mapping complete	(%)	90
Estimated or actual number of outfalls	(#)	150
System-Wide mapping complete	(%)	97
Mapping method(s)		
▪ Paper/Mylar	(%)	0
▪ CADD	(%)	0
▪ GIS	(%)	100
Outfalls inspected/screened	(# or %)	0
Illicit discharges identified	(#)	0
Illicit connections removed	(#) (est. gpd)	0
% of population on sewer	(%)	30
% of population on septic systems	(%)	70

Construction

Number of construction starts (>1-acre)	(#)	Not available
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	Not available
Site inspections completed	(# or %)	80%
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	(%)	0
Site inspections completed	(# or %)	0
Estimated volume of stormwater recharged	(gpy)	0

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	1 every 3rd yr
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	1 every 3rd yr
Total number of structures cleaned	(#)	350
Storm drain cleaned	(LF or mi.)	600 LF
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	75
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		beneficial use
Cost of screenings disposal	($)	N/A

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	3+
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	3
Qty. of sand/debris collected by sweeping	(lbs. or tons)	Not available
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	beneficial use
Cost of sweepings disposal	($)	N/A
Vacuum street sweepers purchased/leased	(#)	1 owned
Vacuum street sweepers specified in contracts	(y/n)	

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	0
▪ Herbicides	(lbs. or %)	0
▪ Pesticides	(lbs. or %)	0

Anti-/De-Icing products and ratios	% NaCl % Sand	20 80
Pre-wetting techniques utilized	(y/n)	N
Manual control spreaders used	(y/n)	N
Automatic or Zero-velocity spreaders used	(y/n)	Y
Estimated net reduction in typical year salt application	(lbs. or %)	Not available
Salt pile(s) covered in storage shed(s)	(y/n)	Y