

**Municipality/Organization: Hanscom Air Force Base**

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**EPA NPDES Permit Number:**

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**MaDEP Transmittal Number: W-041288**

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**Annual Report Number  
& Reporting Period:**

**No. 3: 1 May 05 – 30 April 06**

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## **NPDES PII Small MS4 General Permit Annual Report**

### **Part I. General Information**

**Contact Person: DONALD C. MORRIS, PE**

**Title: Environmental Director**

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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:**



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**Printed Name: CHRIS PERKINS, PE**

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**Title: Base Civil Engineer, Government Organization**

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**Date: 28 April 2006**

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

Hanscom Air Force Base (AFB) has completed the required self-assessment and has determined that our base is in compliance with all permit conditions, except for the following provisions:

Part I.B.2 (1) A TMDL has been established but not approved by the EPA. The TMDL Report MA83-08-2003-01, dated 9 June 2003, DWM Control Number CN: 168.00 is for Segment MA83-08 of the Shawshen River. The Storm Water Pollutant TMDL identifies storm water pollutants (sediment as reflected in suspended solids, metals, excessive storm water flow rates and insufficient stream flow rates) as impairing aquatic life uses and impacting river habitat. Implementing BMPs addressing storm water detention and groundwater recharge over several years is required however measurable progress is being achieved.

Part IV.B.9 Hanscom AFB has not determined the applicability of the Stressed Basins in Massachusetts report. We plan to document its applicability and take appropriate action if Hanscom is in a high or medium area.

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 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities -- Permit Year 4
3.1a Revised	Partnering w/Massport, Towns	66 MSG/CEV	1 partnering event per year	Meeting with Massport and DEP was held on 5 Oct 05. Storm water improvements hearing 16 Aug 05 with Bedford Conservation Commission on building construction near Shawshen River.	Complete similar effort.
3.1b Revised	Partnering w/Base Organizations	66 MSG/CEV	1 partnering event per year	Multiple undocumented meetings with all levels of Roads & Grounds Department. EPA Stormwater movie "After the Storm" presented to Civil Engineering staff on 22 Mar 06.	Complete similar effort and document more formal meeting with managers, foremen.
3.1c Revised	Educational Materials, Base	66 MSG/CEV	Pamphlets, flyers, electronic messages	Wetland resource pamphlet was created and distributed to select organizations on base. Shawshen River article in Base newspaper on 21 April 06.	Complete similar effort.
3.1d Revised	Educational Displays, Notices	66 MSG/CEV	1 display event per year	Storm water, watershed educational info was displayed at the base Earth Day activities on 21 Apr 06.	Complete similar effort.
3.1e Revised	Pollution Prevention Events	66 MSG/CEV	1 P2 event per week	Hazardous Household Waste and Materials Drop-off Day are held each week, on Tuesday at 8-9 AM. Housing contractor has sponsored separate collection events on Sundays.	Complete similar effort
Revised					

1a. Additions


**2. Public Involvement and Participation**

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
3.2a Revised	Public Stakeholder Meeting	MSG/CEV	1 stakeholder meeting per year	Hanscom AFB and Executive Office of Environmental Affairs, MEPA met to review stormwater program and discuss MEPA applicability on 17 Jan 06	Complete similar effort.
3.2b Revised	Annual MS4 Public Notice	MSG/CEV	1 notice per year and document responses	A specific MS4 advertisement was not performed; however the public was informed about storm water improvements at Hanscom AFB during Bedford, Lexington and Lincoln Conservation Commission public hearings.	Complete similar effort.
3.2c Revised	Oil, Vehicle Fluid Disposal Info	MSG/CEV	Document distributed info & waste turn-ins	Info posted on base environmental web site, in housing info packets and at auto hobby shop.	Complete similar effort.
Revised					
Revised					
Revised					

**2a. Additions**


### 3. Illicit Discharge Detection and Elimination

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
3.3a Revised	Update Storm Water & Sewer Maps on CAD	66 MSG/CE	Update as changes occur.	Weekly meetings with implementing contractor document updating as changes occur.	Complete similar effort.
3.3b Revised	Inspect Sewer By-pass Valve, Train Personnel	66 MSG/CE	Sewer valves operate, zero sewer discharge.	Training of implementing contractor is performed continuously. Hired two licensed base waster operators 20 Feb 06 which has increased management awareness.	Provide additional effort to assure full compliance.
3.3c Revised	Inspect, Clean Oil/Water Separators	66MSG/CE	Document conditions, verify connections	All base oil/water separators were cleaned on 2 Nov 05 and documented in a report. Oil/water separators at Heat Plant and Snow Barn cleaned again on 28 Apr 06.	Complete similar effort.
3.3d Revised	Inspect for Non-Storm Water Connections	66 MSG/CE	Document findings, eliminate connections	One non-stormwater connection found at Shawshen River culvert in Jan 06. Corrective action planned for June 06.	Complete similar effort.
3.3e Revised	Sample, Analyze Storm Water	66 MSG/CEV	Sample 2 events per year	Hanscom AFB partnered with DEP and completed a storm water sampling program for May - Sep 05 covering the entire Shawshen River main stem.	Complete similar but localized effort.
Revised					

#### 3a. Additions

4. Construction Site Storm water Runoff Control

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
3.4a Revised	Stabilize Drainage, Exposed Soil	66 MSG/CEV	Approve construction P2 plans, inspect sites	P2 plans for most small and all large construction sites (Housing Privatization and Fitness Center) were reviewed and compliance assured.	Complete similar effort.
3.4b Revised	Sediment Control	66 MSG/CEV	Inspect before, during and after	Government and implementing contractor continuously inspected construction sites on base. Extra emphasis and success in installing hay bales and silt fence at temporary soil piles.	Complete similar effort.
3.4c Revised	Protect Wetlands, Buffer Zones	66 MSG/CEV	Approve staging, storage, access	Kept and used backup supply of hay bales for quick fixes. Construction in base housing area involved extensive wetland protection materials.	Complete similar effort.
3.4d Revised	Sequence Construction Activity	66 MSG/CEV	Approve job sequence, minimize impact	Hanscom AFB participation in housing privatization contract planning resulted in project phasing and design of flow control device and low impact development BMPs. Design includes greater than 30% reduction in flow rate into the receiving water (Shawsheen River) and in groundwater recharge.	Complete similar effort.
3.4e Revised	Implement Good Housekeeping	66 MSG/CEV	No-notice site inspections	Fitness Center dewatering activity in Nov 05 – Jan 06 was inspected and proper collection of suspended solids was assured.	Complete similar effort.
Revised					

4a. Additions


**5. Post-Construction Storm Water 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
3.5a Revised	Structural Controls	66 MSG/CE	Design to 5 year watershed action plan	Housing Privatization design was modified and approved by the Lincoln Conservation Commission to incorporate storm water detention and groundwater recharge at a 190-acre site. (32% runoff reduction, recharge gain)	Achieve greater groundwater recharge by implementing FY06 Structural BMP project.
3.5b Revised	Non-Structural Controls	66 MSG/CEV	Link Watershed goals to planning	Planning process now includes storm water element maximizing progress toward TMDL flow & recharge targets	Complete similar effort.
3.5c Revised	Natural Controls	66 MSG/CEV	Maintain vegetation buffers	Existing buffers were improved by expanding no-cut zones base wide and reducing grass cutting in many areas.	Complete similar effort. Golf course buffer zones to be studied.
Revised					
Revised					

Revised				
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**5a. Additions**


**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 3 (Reliance on non-municipal partners indicated, if any)	Planned Activities - Permit Year 4
3.6a Revised	Catch Basin Cleaning	66 MSG/CE	Sweep streets, clean catch basins	Regular street sweeping after winter sanding and in Spring. Catch basin cleaning greatly improved.	Sustain sweeping and improved catch basin effort.
3.6b Revised	Vehicle Wash Controls	66 MSG/CEV	Inspect wash facilities, discharges to sewer	Inspections performed, Structural BPM planned for base car wash.	Complete similar effort.
3.6c Revised	Organic Runoff Controls	66 MSG/CE	Inspect hydro-seeding, composting areas	Hydro-seed mixing area revised to keep organics from entering storm drain. Improved overspray control and reduced hydro-seeding activities continued.	Complete similar effort.
3.6d Revised	Spill Response Procedure, Plan	66 MSG/CEV	Inspect, train, assure on-call spill response	Spill Response Plan updated Feb 06 and elevated to base level document reviewed and approved by Commander.	Complete similar effort.
3.6e Revised	Conduct Environmental Audits	66 MSG/CEV	Annual audit & report	Environmental compliance audit was conducted by 18 person team for 5-days (13-17 June 05)	Complete similar effort. The next compliance audit is scheduled for 12-16 June 06.

Revised					
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**6a. Additions**


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

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
Revised				NO APPROVED TMDL	
Revised					

Revised					
Revised					

**7a. Additions**


**7b. WIA Assessment**

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

N/A

**Part V. Program Outputs & Accomplishments (OPTIONAL)**

**Programmatic**

Storm water management position created/staffed	(y/n)	Y
Annual program budget/expenditures	(\$)	~\$80.0 K

**Education, Involvement, and Training**

	(# or %)	2,500
Estimated number of residents reached by education program(s)	(# or %)	N
Storm water management committee established	(# or y/n)	Y, Shawsheen
Stream teams established or supported	(# or y/n)	Y, 0.5 mi.
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	56
▪ community participation	(%)	35%
▪ material collected	(tons or gal)	2.8 tons
School curricula implemented	(y/n)	N

### Legal/Regulatory

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

### Mapping and Illicit Discharges

Outfall mapping complete	(%)	100
Estimated or actual number of outfalls	(#)	12
System-Wide mapping complete	(%)	100
Mapping method(s)		
▪ Paper/Mylar	(%)	100

▪ CADD	(%)	100
▪ GIS	(%)	33
Outfalls inspected/screened	(# or %)	100
Illicit discharges identified	(#)	0
Illicit connections removed	(#) (est. gpd)	0
% of population on sewer	(%)	100
% of population on septic systems	(%)	0

**Construction**

Number of construction starts (>1-acre)	(#)	4
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100%
Site inspections completed	(# or %)	100%
Tickets/Stop work orders issued	(# or %)	1
Fines collected	(# and \$)	0
Complaints/concerns received from public	(#)	0

**Post-Development Storm Water Management**

Estimated percentage of development/redevelopment projects adequately regulated for post-construction storm water control	(%)	100
Site inspections completed	(# or %)	100
Estimated volume of storm water recharged	(gpy)	

**Operations and Maintenance**

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	0.5
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	0.5
Total number of structures cleaned	(#)	318
Storm drain cleaned	(LF or mi.)	0
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	20 tons
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		recycle
Cost of screenings disposal	(\$)	

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	15
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	15
Qty. of sand/debris collected by sweeping	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Compost
Cost of sweepings disposal	(\$)	
Vacuum street sweepers purchased/leased	(#)	0
Vacuum street sweepers specified in contracts	(y/n)	Y

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
<ul style="list-style-type: none"> <li>▪ Fertilizers</li> <li>▪ Herbicides</li> <li>▪ Pesticides</li> </ul>	(lbs. or %)	decreased
	(lbs. or %)	decreased
	(lbs. or %)	decreased

Anti-/De-Icing products and ratios	% NaCl	25%
	% CaCl <sub>2</sub>	0
	% MgCl <sub>2</sub>	0
	% CMA	0
	% Kac	0
	% KCl	0
	% Sand	75%
Pre-wetting techniques utilized	(y/n)	Y
Manual control spreaders used	(y/n)	Y
Automatic or Zero-velocity spreaders used	(y/n)	N
Estimated net reduction in typical year salt application	(lbs. or %)	Decreased
Salt pile(s) covered in storage shed(s)	(y/n)	Y
Storage shed(s) in design or under construction	(y/n)	N